MOJAVE RIVER WATERSHED

Water Quality Management Plan

For:

Adelanto Industrial Park

LOCATION AND DEVELOPMENT PLAN NO. 24-04

TPM 20837

APNS: 0459-841-01 THRU 0459-841-15 AND 0459-451-51 THRU 0459-451-62

Prepared for:

Mileski Living Trust & Adelanto Industrial 1-7, LLCs

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Submittal Date: May 2025

Revision No. and Date: _____

Revision No. and Date: _____

Revision No. and Date: _____

Revision No. and Date: _____

Revision No. and Date: _____

Final Approval Date:_____

Project Owner's Certification

This Mojave River Watershed Water Quality Management Plan (WQMP) has been prepared for Adelanto Industrial Park Project by Albert A. Webb Associates. The WQMP is intended to comply with the requirements of the City of Adelanto and the Phase II Small MS4 General Permit for the Mojave River Watershed. The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the Phase II Small MS4 Permit and the intent of San Bernardino County (unincorporated areas of Phelan, Oak Hills, Spring Valley Lake and Victorville) and the incorporated cities of Hesperia and Victorville and the Town of Apple Valley. Once the undersigned transfers its interest in the property, its successors in interest and the city/county/town shall be notified of the transfer. The new owner will be informed of its responsibility under this WQMP. A copy of the approved WQMP shall be available on the subject site in perpetuity.

"I certify under a penalty of law that the provisions (implementation, operation, maintenance, and funding) of the WQMP have been accepted and that the plan will be transferred to future successors."

Project Data			
Permit/Application Number(s):	LDP 24-04	Grading Permit Number(s):	N/A
Tract/Parcel Map Number(s):	TPM 20837	Building Permit Number(s):	N/A
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):			0459-841-01 THRU 0459-841-15 AND 0459-451-51 THRU 0459-451-62

Owner's Signature			
Owner Name: Mileski Living Trust & Adelanto Industrial 1-7, LLC			
Title			
Company	Mileski Holdings		
Address	1971 W. 190th Street, Suite 100, Torrance, CA 90504		
Email	michael@mileskiholdings.com		
Telephone #	(310) 715-1300		
Signature	DRAFT	Date	DRAFT

Preparer's Certification

Project Data			
Permit/Application Number(s):	LDP 24-04	Grading Permit Number(s):	
Tract/Parcel Map Number(s):	TPM 20837	Building Permit Number(s):	
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):			0459-841-01 THRU 0459-841-15 AND 0459-451-51 THRU 0459-451-62

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan were prepared under my oversight and meet the requirements of the California State Water Resources Control Board Order No. 2013-0001-DWQ.

Engineer: Sarah Kowalski		PE Stamp Below
Title	Senior Engineer	
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Date		

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Section I – Introduction

This WQMP template has been prepared specifically for the Phase II Small MS4 General Permit in the Mojave River Watershed. This location is within the jurisdiction of the Lahontan Regional Water Quality Control Board (LRWQCB). This document should not be confused with the WQMP template for the Santa Ana Phase I area of San Bernardino County.

WQMP preparers must refer to the MS4 Permit for the Mojave Watershed WQMP template and Technical Guidance (TGD) document found at: http://cms.sbcounty.gov/dpw/Land/NPDES.aspx to find pertinent arid region and Mojave River Watershed specific references and requirements.

Section 1 Discretionary Permit(s)

Form 1-1 Project Information

Project Name	Adelanto Industrial Park				
Project Owner Contact Name:	David Mileski				
Mailing Address:	1971 W. 190th Street Suite 100, Torrance, CA 90504	E-mail Address:	michael@mileskiholdings.com	Telephone:	(310) 715-1300
Permit/Application Number(s):	LDP 24-04		Tract/Parcel Map Number(s):	TPM 20837	
Additional Information/ Comments:					
Description of Project:	The Adelanto Industrial Park project is located in the City of Adelanto, County of San Bernardino, California. The project site is located south of the Southern California Logistics Airport. The project is bounded by Air Expressway to the north, the Victorville Federal Correctional Complex to the east, Powerline Road to the South, and Adelanto Road to the west. The project proposes to build seven (7) industrial buildings on approximately 450 acres.				
Provide summary of Conceptual WQMP conditions (if previously submitted and approved). Attach complete copy.	Note: There are no water quality conditions. This is a PWQMP that has not been approved. The project site is intended to be treated via infiltration through a combination of underground infiltration chambers as well as typical infiltration basins. There are a total of 25 DMAs that are split between Drainage Areas 1-5. Each drainage area flows to different outlets as outlined in Form 3-1. There are 25 onsite BMPs to treat the 25 DMAs. As mentioned, all BMPs treat water quality through infiltration, whether in an underground chamber or a typical basin. For this preliminary design, all BMPs are sized to handle the 100-year 24-hour storm, providing mitigation for increased runoff as well as mitigation for hydromodification.				

Section 2 Project Description

2.1 Project Information

The WQMP shall provide the information listed below. The information provided for Conceptual/ Preliminary WQMP should give sufficient detail to identify the major proposed site design and LID BMPs and other anticipated water quality features that impact site planning. Final Project WQMP must specifically identify all BMP incorporated into the final site design and provide other detailed information as described herein.

The purpose of this information is to help determine the applicable development category, pollutants of concern, watershed description, and long term maintenance responsibilities for the project, and any applicable water quality credits. This information will be used in conjunction with the information in Section 3, Site Description, to establish the performance criteria and to select the LID BMP or other BMP for the project or other alternative programs that the project will participate in, which are described in Section 4.

2.1.1 Project Sizing Categorization

If the Project is greater than 5,000 square feet, and not on the excluded list as found on Section 1.4 of the TGD, the Project is a Regulated Development Project.

If the Project is creating and/or replacing greater than 2,500 square feet but less than 5,000 square feet of impervious surface area, then it is considered a Site Design Only project. This criterion is applicable to all development types including detached single family homes that create and/or replace greater than 2,500 square feet of impervious area and are not part of a larger plan of development.

Form 2.1-1 Description of Proposed Project

1 Regulated Development Project Category (Select all that apply):			
☒ #1 New development involving the creation of 5,000 ft^2 or more of impervious surface collectively over entire site	☐ #2 Significant re-development involving the addition or replacement of 5,000 ft^2 or more of impervious surface on an already developed site	☒ #3 Road Project – any road, sidewalk, or bicycle lane project that creates greater than 5,000 square feet of contiguous impervious surface	☐ #4 LUPs – linear underground/overhead projects that has a discrete location with 5,000 sq. ft. or more new constructed impervious surface
☐ Site Design Only (Project Total Square Feet > 2,500 but < 5,000 sq.ft.) *Will require source control Site Design Measures. Use the "PCMP" Template. Do not use this WQMP Template.*			

2 Project Area (ft2):	21,131,233	**3** Number of Dwelling Units:	N/A	**4** SIC Code:	1541 (General Contractor-Industrial Building) 4225 (General Warehousing & Storage)

5 Is Project going to be phased? Yes ☒ No ☐ *If yes, ensure that the WQMP evaluates each phase as a distinct DA, requiring LID BMPs to address runoff at time of completion.*

2.2 Property Ownership/Management

Describe the ownership/management of all portions of the project and site. State whether any infrastructure will transfer to public agencies (City, County, Caltrans, etc.) after project completion. State if a homeowners or property owners association will be formed and be responsible for the long-term maintenance of project stormwater facilities. Describe any lot-level stormwater features that will be the responsibility of individual property owners.

Form 2.2-1 Property Ownership/Management

Describe property ownership/management responsible for long-term maintenance of WQMP stormwater facilities:
Individual property owners will be responsible for their parcel's onsite water quality BMPs, whether above gound infiltration basin or underground infiltration chambers. Property owners will be responsible for maintaining basins and potential stormwater pumps for optimal performance.

2.3 Potential Stormwater Pollutants

Best Management Practices (BMP) measures for pollutant generating activities and sources shall be designed consistent with recommendations from the CASQA Stormwater BMP Handbook for New Development and Redevelopment (or an equivalent manual). Pollutant generating activities must be considered when determining the overall pollutants of concern for the Project as presented in Form 2.3-1.

Determine and describe expected stormwater pollutants of concern based on land uses and site activities (refer to Table 3-2 in the TGD for WQMP).

Form 2.3-1 Pollutants of Concern

Pollutant	Please check: E=Expected, N=Not Expected		Additional Information and Comments
Pathogens (Bacterial / Virus)	E ☒	N ☐	Inlcuding petroluem hydrocarbons
Nutrients - Phosphorous	E ☒	N ☐	
Nutrients - Nitrogen	E ☒	N ☐	
Noxious Aquatic Plants	E ☒	N ☐	
Sediment	E ☒	N ☐	
Metals	E ☒	N ☐	
Oil and Grease	E ☒	N ☐	
Trash/Debris	E ☒	N ☐	
Pesticides / Herbicides	E ☒	N ☐	
Organic Compounds	E ☒	N ☐	
Other: TSS / pH	E ☒	N ☐	Expected if landscaping exists onsite
Other: Oxygen Demanding Compounds	E ☒	N ☐	Expected if landscaping exists onsite
Other:	E ☐	N ☐	

Section 3 Site and Watershed Description

Describe the project site conditions that will facilitate the selection of BMPs through an analysis of the physical conditions and limitations of the site and its receiving waters. Identify distinct drainage areas (DA) that collect flow from a portion of the site and describe how runoff from each DA (and sub-watershed Drainage Management Areas (DMAs)) is conveyed to the site outlet(s). Refer to Section 3.2 in the TGD for WQMP. The form below is provided as an example. Then complete Forms 3.2 and 3.3 for each DA on the project site. **If the project has more than one drainage area for stormwater management, then complete additional versions of these forms for each DA / outlet. A map presenting the DMAs must be included as an appendix to the WQMP document.**

Form 3-1 Site Location and Hydrologic Features

Site coordinates *takes GPS measurement at approximate center of site*	Latitude	Longitude	Thomas Map Page
	34°34'4"N	117°23'6"W	Pg 4114 Grid C7, D7, E7 Pg 4295 Grid C1, D1, E1

1. San Bernardino County climatic region: ☒ Desert

2. Does the site have more than one drainage area (DA): ☒ Yes ☐ No *if no, proceed to Form 3-2. If yes, then use this form to show a conceptual schematic describing DMAs and hydrologic feature connecting DMAs to the site outlet(s). An example is provided below that can be modified project or a drawing clearly showing DMA and flow routing may be attached*

A Drainage Area and Drainage Management Area layout exhibit is provided as Sheet 1 of the WQMP Exhibit.

There are a total of 25 DMAs that are split between Drainage Areas 1-5. The Drainage Area outlets are described below. Please also refer to the DMA and BMP Site Plan Exhibit in Appendix 1.

Conveyance	Briefly describe on-site drainage features to convey runoff that is not retained within a DMA
DA-1 flows to Ex Culvert #2	*Onsite flows conveyed to underground infiltration chambers for water quality treatment. Mitigated flows are conveyed from the chambers through storm drains to the existing Culvert #2.*
DA-2 flows to Ex Culvert #3	*Onsite flows conveyed to underground infiltration chambers for water quality treatment. Mitigated flows are conveyed from the chambers through storm drains to the existing Culvert #3.*
DA-3 flows to Ex Culvert #5	*Onsite flows conveyed to underground infiltration chambers or above ground infiltration basins for water quality treatment. Mitigated flows are conveyed from the chambers through storm drains to the existing Culvert #5.*
DA-4 flows to MPD Channel & Ex Culvert #7	*Onsite flows conveyed to underground infiltration chambers or above ground infiltration basins for water quality treatment. Mitigated flows are conveyed from the chambers through storm drains to the MPD Channel which drains to the existing Culvert #7.*
DA-5 flows to Ex Culvert #8	*Onsite flows conveyed to underground infiltration chambers for water quality treatment. Mitigated flows are conveyed from the chambers through storm drains to the existing Culvert #8.*

Form 3-2 Existing Hydrologic Characteristics for Drainage Area 1			
For Drainage Area 1's sub-watershed DMA, provide the following characteristics	DMA-1A	DMA-2A	DMA-2C
1. DMA drainage area (ft^2)	438,100	974,800	798,300
2. Existing Site impervious area (ft^2)	0	0	0
3. Antecedent moisture condition *For desert areas, use http://www.sbcounty.gov/dpw/foodcontrol/pdf/20100412_map.pdf*	2	2	2
4. Hydrologic soil group *Refer to County Hydrology Manual Addendum for Arid Regions- http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_addendum.pdf*	C	C	C
5. Longest flowpath length (ft)	570	769	607
6. Longest flowpath slope (ft/ft)	1/121	1/113	1/105
7. Current land cover type(s) *Select from Fig C-3 of Hydrology Manual*	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial
8. Pre-developed pervious area condition: *Based on the extent of wet season vegetated cover good > 75%; Fair 50-75%; Poor <50%* ***Attach photos of site to support rating***	Poor	Poor	Poor

Note: Please refer to accompanying Drainage Report for further information regarding hydrologic conditions of the site.

Form 3-2 Existing Hydrologic Characteristics for Drainage Area 2		
For Drainage Area 1's sub-watershed DMA, provide the following characteristics	DMA-2B	DMA-2D
1. DMA drainage area (ft^2)	475,700	451,400
2. Existing Site impervious area (ft^2)	0	0
3. Antecedent moisture condition *For desert areas, use http://www.sbcounty.gov/dpw/foodcontrol/pdf/20100412_map.pdf*	2	2
4. Hydrologic soil group *Refer to County Hydrology Manual Addendum for Arid Regions- http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_addendum.pdf*	C	C
5. Longest flowpath length (ft)	723	607
6. Longest flowpath slope (ft/ft)	1/111	1/105
7. Current land cover type(s) *Select from Fig C-3 of Hydrology Manual*	Grass, Annual, or Perennial	Grass, Annual, or Perennial

8. Pre-developed pervious area condition: *Based on the extent of wet season vegetated cover good > 75%; Fair 50-75%; Poor <50%* ***Attach photos of site to support rating***	Poor	Poor

Note: Please refer to accompanying Drainage Report for further information regarding hydrologic conditions of the site.

Form 3-2 Existing Hydrologic Characteristics for Drainage Area 3

For Drainage Area 1's sub-watershed DMA, provide the following characteristics	DMA-3A	DMA-3C	DMA-4A	DMA-4C
1. DMA drainage area (ft^2)	994,500	915,000	932,800	939,300
2. Existing Site impervious area (ft^2)	0	0	0	0
3. Antecedent moisture condition *For desert areas, use http://www.sbcounty.gov/dpw/foodcontrol/pdf/20100412_map.pdf*	2	2	2	2
4. Hydrologic soil group *Refer to County Hydrology Manual Addendum for Arid Regions- http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_addendum.pdf*	C	C	C	C
5. Longest flowpath length (ft)	537	602	516	569
6. Longest flowpath slope (ft/ft)	1/94	1/94	1/87	1/89
7. Current land cover type(s) *Select from Fig C-3 of Hydrology Manual*	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial
8. Pre-developed pervious area condition: *Based on the extent of wet season vegetated cover good > 75%; Fair 50-75%; Poor <50%* ***Attach photos of site to support rating***	Poor	Poor	Poor	Poor

Note: Please refer to accompanying Drainage Report for further information regarding hydrologic conditions of the site.

Form 3-2 Existing Hydrologic Characteristics for Drainage Area 4

For Drainage Area 1's sub-watershed DMA, provide the following characteristics	DMA-3B	DMA-3D	DMA-4B	DMA-4D	DMA-5A
1. DMA drainage area (ft^2)	908,000	849,000	902,300	792,000	1,011,900
2. Existing Site impervious area (ft^2)	0	0	0	0	0
3. Antecedent moisture condition *For desert areas, use http://www.sbcounty.gov/dpw/foodcontrol/pdf/20100412_map.pdf*	2	2	2	2	2

4.	Hydrologic soil group *Refer to County Hydrology Manual Addendum for Arid Regions- http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_addendum.pdf*	C	C	C	C	C
5.	Longest flowpath length (ft)	537	602	516	569	675
6.	Longest flowpath slope (ft/ft)	1/94	1/94	1/87	1/89	1/92
7.	Current land cover type(s) *Select from Fig C-3 of Hydrology Manual*	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial
8.	Pre-developed pervious area condition: *Based on the extent of wet season vegetated cover good > 75%; Fair 50-75%; Poor <50%* ***Attach photos of site to support rating***	Poor	Poor	Poor	Poor	Poor

Note: Please refer to accompanying Drainage Report for further information regarding hydrologic conditions of the site.

Form 3-2 Existing Hydrologic Characteristics for Drainage Area 4, cont.

For Drainage Area 1's sub-watershed DMA, provide the following characteristics		DMA-5C	DMA-6A	DMA-6C	DMA-7A	DMA-7C
1.	DMA drainage area (ft^2)	565,300	912,300	827,300	933,900	1,131,600
2.	Existing Site impervious area (ft^2)	0	0	0	0	0
3.	Antecedent moisture condition *For desert areas, use http://www.sbcounty.gov/dpw/foodcontrol/pdf/20100412_map.pdf*	2	2	2	2	2
4.	Hydrologic soil group *Refer to County Hydrology Manual Addendum for Arid Regions- http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_addendum.pdf*	C	C	C	C	C
5.	Longest flowpath length (ft)	606	645	507	555	492
6.	Longest flowpath slope (ft/ft)	1/90	1/88	1/86	1/85	1/83
7.	Current land cover type(s) *Select from Fig C-3 of Hydrology Manual*	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial
8.	Pre-developed pervious area condition: *Based on the extent of wet season vegetated cover good > 75%; Fair 50-75%; Poor <50%* ***Attach photos of site to support rating***	Poor	Poor	Poor	Poor	Poor

Note: Please refer to accompanying Drainage Report for further information regarding hydrologic conditions of the site.

Form 3-2 Existing Hydrologic Characteristics for Drainage Area 5

For Drainage Area 1's sub-watershed DMA, provide the following characteristics	DMA-5B	DMA-5D	DMA-6B	DMA-6D	DMA-7B	DMA-7D
1. DMA drainage area (ft^2)	1,609,500	1,240,300	831,600	753,300	389,200	554,100
2. Existing Site impervious area (ft^2)	0	0	0	0	0	0
3. Antecedent moisture condition *For desert areas, use http://www.sbcounty.gov/dpw/foodcontrol/pdf/20100412_map.pdf*	2	2	2	2	2	2
4. Hydrologic soil group *Refer to County Hydrology Manual Addendum for Arid Regions- http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_addendum.pdf*	C	C	C	C	C	C
5. Longest flowpath length (ft)	671	606	645	507	555	492
6. Longest flowpath slope (ft/ft)	1/92	1/90	1/88	1/86	1/85	1/83
7. Current land cover type(s) *Select from Fig C-3 of Hydrology Manual*	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial	Grass, Annual, or Perennial
8. Pre-developed pervious area condition: *Based on the extent of wet season vegetated cover good > 75%; Fair 50-75%; Poor <50%* ***Attach photos of site to support rating***	Poor	Poor	Poor	Poor	Poor	Poor

Note: Please refer to accompanying Drainage Report for further information regarding hydrologic conditions of the site.

Form 3-3 Watershed Description for Drainage Area

Receiving waters Refer to SWRCB site: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml	Mojave River (below Lower Narrows)
Applicable TMDLs *http://www.waterboards.ca.gove/water_issues/programs/tmdl/intefeated2010.shtml*	N/A
303(d) listed impairments *http://www.waterboards.ca.gove/water_issues/programs/tmdl/intefeated2010.shtml*	N/A

Environmentally Sensitive Areas (ESA) *Refer to Watershed Mapping Tool-* *http://sbcounty.permitrack.com/WAP*	N/A
Hydromodification Assessment	☒ Yes *Complete Hydromodification Assessment. Include Forms 4.2-2 through Form 4.2-5 and hydromodification BMP Form 4.39 in submittal* ☐ No

Section 4 Best Management Practices (BMP)

4.1 Source Control BMPs and Site Design BMP Measures

The information and data in this section are required for both Regulated Development and Site Design Only Projects. Source Control BMPs and Site Design BMP Measures are the basis of site-specific pollution management.

4.1.1 Source Control BMPs

Non-structural and structural source control BMP are required to be incorporated into all new development and significant redevelopment projects. Form 4.1-1 and 4.1-2 are used to describe specific source control BMPs used in the WQMP or to explain why a certain BMP is not applicable. Table 7-3 of the TGD for WQMP provides a list of applicable source control BMP for projects with specific types of potential pollutant sources or activities. The source control BMP in this table must be implemented for projects with these specific types of potential pollutant sources or activities.

The preparers of this WQMP have reviewed the source control BMP requirements for new development and significant redevelopment projects. The preparers have also reviewed the specific BMP required for project as specified in Forms 4.1-1 and 4.1-2. All applicable non-structural and structural source control BMP shall be implemented in the project.

The identified list of source control BMPs correspond to the CASQA Stormwater BMP Handbook for New Development and Redevelopment.

Form 4.1-1 Non-Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
N1	Education of Property Owners, Tenants and Occupants on Stormwater BMPs	☒	☐	Property owners, tenants, and occupants will be trained on stormwater BMPs.
N2	Activity Restrictions	☒	☐	Certain activity restrictions will be implemented so as to not encourage stormwater pollution.
N3	Landscape Management BMPs	☒	☐	Landscape will be regularly managed.
N4	BMP Maintenance	☒	☐	BMPs will be regularly maintained.
N5	Title 22 CCR Compliance (How development will comply)	☐	☒	The proposed project is not a facility regulated by the Community Care Licensing Division.
N6	Local Water Quality Ordinances	☒	☐	All local water quality ordinances will be complied with.
N7	Spill Contingency Plan	☐	☒	Industrial warehousing is proposed for logistics use. No oil will be stored of used onsite.
N8	Underground Storage Tank Compliance	☐	☒	Industrial warehousing is proposed for logistics use. No hazardous substances will be stored underground.
N9	Hazardous Materials Disclosure Compliance	☐	☒	Industrial warehousing is proposed for logistics use.

Form 4.1-1 Non-Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
N10	Uniform Fire Code Implementation	☒	☐	The Uniform Fire Code will be implemented.
N11	Litter/Debris Control Program	☒	☐	Trash enclosures are provided for each building.
N12	Employee Training	☒	☐	Employees will be trained on source control measures.
N13	Housekeeping of Loading Docks	☒	☐	Loading Docks will be kept tidy so as to not encourage pollution.
N14	Catch Basin Inspection Program	☒	☐	Catch basins will be inspected annually, at minimum.
N15	Vacuum Sweeping of Private Streets and Parking Lots	☒	☐	Private streets and parking lots will be vacuum swept regularly.
N16	Other Non-structural Measures for Public Agency Projects	☐	☒	The proposed development is not a Public Agency project.
N17	Comply with all other applicable NPDES permits	☒	☐	Any other applicable NPDES permits will be complied with.

Form 4.1-2 Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, If not applicable, state reason
		Included	Not Applicable	
S1	Provide storm drain system stencilling and signage (CASQA New Development BMP Handbook SD-13)	☒	☐	Storm drain stenciling and signage to be provided at all inlets.
S2	Design and construct outdoor material storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-34)	☐	☒	Industrial warehousing is proposed for logistics use. No materials will be stored outside.
S3	Design and construct trash and waste storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-32)	☒	☐	Trash enclosures are provided for each building.
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control (Statewide Model Landscape Ordinance; CASQA New Development BMP Handbook SD-12)	☒	☐	Irrigation systems will be efficient.
S5	Finish grade of landscaped areas at a minimum of 1-2 inches below top of curb, sidewalk, or pavement	☒	☐	Landscaped areas will be 1-2" depressed from hardscape surfaces.
S6	Protect slopes and channels and provide energy dissipation (CASQA New Development BMP Handbook SD-10)	☒	☐	Slopes and channels will have energy dissipating devices where appropriate.
S7	Covered dock areas (CASQA New Development BMP Handbook SD-31)	☒	☐	Dock areas will be covered.
S8	Covered maintenance bays with spill containment plans (CASQA New Development BMP Handbook SD-31)	☐	☒	Industrial warehousing is proposed for logistics use. Trucks will not be maintained at project site.
S9	Vehicle wash areas with spill containment plans (CASQA New Development BMP Handbook SD-33)	☐	☒	Industrial warehousing is proposed for logistics use. Trucks will not be maintained at project site.
S10	Covered outdoor processing areas (CASQA New Development BMP Handbook SD-36)	☐	☒	Industrial warehousing is proposed for logistics use. Trucks will not be maintained at project site.

Form 4.1-2 Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, If not applicable, state reason
		Included	Not Applicable	
S11	Equipment wash areas with spill containment plans (CASQA New Development BMP Handbook SD-33)	☐	☒	Industrial warehousing is proposed for logistics use. Trucks will not be maintained at project site.
S12	Fueling areas (CASQA New Development BMP Handbook SD-30)	☐	☒	Industrial warehousing is proposed, not commercial
S13	Hillside landscaping (CASQA New Development BMP Handbook SD-10)	☐	☒	Hillside landscaping is not proposed
S14	Wash water control for food preparation areas	☐	☒	Industrial warehousing is proposed, not commercial
S15	Community car wash racks (CASQA New Development BMP Handbook SD-33)	☐	☒	Industrial warehousing is proposed, not commercial

4.1.2 Site Design BMPs

As part of the planning phase of a project, the site design practices associated with new LID requirements in the Phase II Small MS4 Permit must be considered. Site design BMP measures can result in smaller Design Capture Volume (DCV) to be managed by both LID and hydromodification control BMPs by reducing runoff generation.

As is stated in the Permit, it is necessary to evaluate site conditions such as soil type(s), existing vegetation and flow paths will influence the overall site design.

Describe site design and drainage plan including:

- A narrative of site design practices utilized or rationale for not using practices
- A narrative of how site plan incorporates preventive site design practices
- Include an attached Site Plan layout which shows how preventative site design practices are included in WQMP

Refer to Section 5.2 of the TGD for WQMP for more details.

Form 4.1-3 Site Design Practices Checklist

Site Design Practices *If yes, explain how preventative site design practice is addressed in project site plan. If no, other LID BMPs must be selected to meet targets*
Minimize impervious areas: Yes ☒ No ☐ Explanation: Where possible the site will minimize impervious areas, but the assumption is that the site will follow the typical industrial site with an impervious percentage of 90%.
Maximize natural infiltration capacity; Including improvement and maintenance of soil: Yes ☒ No ☐ Explanation: Onsite infiltration is being utilized for water quality treatment.
Preserve existing drainage patterns and time of concentration: Yes ☒ No ☐ Explanation: Drainage areas to existing culverts are generally being preserved across the site. Time of concentration change is being mitigated by detaining the 100-year 24-hour storm event onsite and releasing to match pre-developed characteristics.
Disconnect impervious areas. Including rerouting of rooftop drainage pipes to drain stormwater to storage or infiltration BMPs instead of to storm drain : Yes ☒ No ☐ Explanation: Onsite impervious areas are routed to water quality BMPs.
Use of Porous Pavement.: Yes ☐ No ☒ Explanation:
Protect existing vegetation and sensitive areas: Yes ☐ No ☒ Explanation:
Re-vegetate disturbed areas. Including planting and preservation of drought tolerant vegetation. : Yes ☐ No ☒ Explanation: Onsite landscape will meet minimum 10% landscape percentage in accordance with typical industrial development.

Minimize unnecessary compaction in stormwater retention/infiltration basin/trench areas: Yes ☒ No ☐ Explanation: Infiltration basin areas will not have unecessary compaction.
Utilize naturalized/rock-lined drainage swales in place of underground piping or imperviously lined swales: Yes ☐ No ☒ Explanation:
Stake off areas that will be used for landscaping to minimize compaction during construction : Yes ☒ No ☐ Explanation: Landscape areas will be staked off to minimize compaction and preserve natural infiltration.
Use of Rain Barrels and Cisterns, Including the use of on-site water collection systems.: Yes ☐ No ☒ Explanation:
Stream Setbacks. Includes a specified distance from an adjacent steam: : Yes ☐ No ☒ Explanation:

It is noted that, in the Phase II Small MS4 Permit, site design elements for green roofs and vegetative swales are required. Due to the local climatology in the Mojave River Watershed, proactive measures are taken to maximize the amount of drought tolerant vegetation. It is not practical in this region to have green roofs or vegetative swales. As part of site design the project proponent should utilize locally recommended vegetation types for landscaping. Typical landscaping recommendations are found in following local references:

San Bernardino County Special Districts:

Guide to High Desert Landscaping -
http://www.specialdistricts.org/Modules/ShowDocument.aspx?documentid=795

Recommended High-Desert Plants -
http://www.specialdistricts.org/modules/showdocument.aspx?documentid=553

Mojave Water Agency:

Desert Ranch: http://www.mojavewater.org/files/desertranchgardenprototype.pdf

Summertree: http://www.mojavewater.org/files/Summertree-Native-Plant-Brochure.pdf

Thornless Garden: http://www.mojavewater.org/files/thornlessgardenprototype.pdf

Mediterranean Garden: http://www.mojavewater.org/files/mediterraneangardenprototype.pdf

Lush and Efficient Garden: http://www.mojavewater.org/files/lushandefficientgardenprototype.pdf

Alliance for Water Awareness and Conservation (AWAC) outdoor tips – http://hdawac.org/save-outdoors.html

4.2 Treatment BMPs

After implementation and design of both Source Control BMPs and Site Design BMP measures, any remaining runoff from impervious DMAs must be directed to one or more on-site, treatment BMPs (LID or biotreatment) designed to infiltrate, evaportranspire, and/or bioretain the amount of runoff specified in Permit Section E.12.e (ii)(c) Numeric Sizing Criteria for Storm Water Retention and Treatment.

4.2.1 Project Specific Hydrology Characterization

The purpose of this section of the Project WQMP is to establish targets for post-development hydrology based on performance criteria specified in Section E.12.e.ii.c and Section E.12.f of the Phase II Small MS4 Permit. These targets include runoff volume for water quality control (referred to as LID design capture volume), and runoff volume, time of concentration, and peak runoff for protection from hydromodification.

If the project has more than one outlet for stormwater runoff, then complete additional versions of these forms for each DA / outlet.

It is noted that in the Phase II Small MS4 Permit jurisdictions, the LID BMP Design Capture Volume criteria is based on the 2-year rain event. The hydromodification performance criterion is based on the 10-year rain event.

Methods applied in the following forms include:

- For LID BMP Design Capture Volume (DCV), San Bernardino County requires use of the P_6 method (Form 4.2-1) For pre- and post-development hydrologic calculation, San Bernardino County requires the use of the Rational Method (San Bernardino County Hydrology Manual Section D). Forms 4.2-2 through Form 4.2-5 calculate hydrologic variables including runoff volume, time of concentration, and peak runoff from the project site pre- and post-development using the Hydrology Manual Rational Method approach. For projects greater than 640 acres (1.0 mi^2), the Rational Method and these forms should not be used. For such projects, the Unit Hydrograph Method (San Bernardino County Hydrology Manual Section E) shall be applied for hydrologic calculations for hydromodification performance criteria.

Refer to Section 4 in the TGD for WQMP for detailed guidance and instructions.

Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume (DA-1)

1 Project Area DA-1 (ft^2) **2,211,200**	2 Imperviousness after applying preventative site design practices (Imp%): **90%**	3 Runoff Coefficient (Rc): **0.73** *$R_c = 0.858\ (Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$*

4 Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in): **0.34**
http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

5 Compute P_6, Mean 6-hr Precipitation (inches): **0.42**
*P_6 = Item 4 * C_1 where C_1 is a function of site climatic region specifies in Form 3-1 Item 1 (Desert = 1.2371)*

6 Drawdown Rate *Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced*	24-hrs ☐ 48-hrs ☒

7 Compute design capture volume, DCV (ft^3): **111,107**
*DCV= 1/12 * [Item 1 * Item 3 * Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*
Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2

Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume (DA-2)

1 Project Area DA-2 (ft^2) **927,100**	2 Imperviousness after applying preventative site design practices (Imp%): **90%**	3 Runoff Coefficient (Rc): **0.73** *$R_c = 0.858\ (Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$*

4 Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in): **0.34**
http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

5 Compute P_6, Mean 6-hr Precipitation (inches): **0.42**
*P_6 = Item 4 * C_1 where C_1 is a function of site climatic region specifies in Form 3-1 Item 1 (Desert = 1.2371)*

6 Drawdown Rate *Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced*	24-hrs ☐ 48-hrs ☒

7 Compute design capture volume, DCV (ft^3): **46,584**
*DCV= 1/12 * [Item 1 * Item 3 * Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*
Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2

Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume (DA-3)

1 Project Area DA-3 (ft^2) **3,781,600**	2 Imperviousness after applying preventative site design practices (Imp%): **90%**	3 Runoff Coefficient (Rc): **0.73** *$R_c = 0.858\ (Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$*

4 Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in): **0.34**
http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

5 Compute P_6, Mean 6-hr Precipitation (inches): **0.42**
*P_6 = Item 4 * C_1 where C_1 is a function of site climatic region specifies in Form 3-1 Item 1 (Desert = 1.2371)*

6 Drawdown Rate *Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced*	24-hrs ☐ 48-hrs ☒

7 Compute design capture volume, DCV (ft^3): **190,015**
*DCV= 1/12 * [Item 1 * Item 3 * Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*
Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2

Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume (DA-4)

1 Project Area DA-4 (ft^2) **8,833,600**	2 Imperviousness after applying preventative site design practices (Imp%): **90%**	3 Runoff Coefficient (Rc): **0.73** *$R_c = 0.858\ (Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$*

4 Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in): **0.34**
http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

5 Compute P_6, Mean 6-hr Precipitation (inches): **0.42**
*P_6 = Item 4 * C_1 where C_1 is a function of site climatic region specifies in Form 3-1 Item 1 (Desert = 1.2371)*

6 Drawdown Rate *Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced*	24-hrs ☐ 48-hrs ☒

7 Compute design capture volume, DCV (ft^3): **443,865**
*DCV= 1/12 * [Item 1 * Item 3 * Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*
Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2

Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume (DA-5)

1 Project Area DA-5 (ft^2)	2 Imperviousness after applying preventative site design practices (Imp%):	3 Runoff Coefficient (Rc): **0.73**
5,378,000	**90%**	*$R_c = 0.858\ (Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$*

4 Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in): **0.34**
http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

5 Compute P_6, Mean 6-hr Precipitation (inches): **0.42**
*P_6 = Item 4 * C_1 where C_1 is a function of site climatic region specifies in Form 3-1 Item 1 (Desert = 1.2371)*

6 Drawdown Rate *Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced*	24-hrs ☐ 48-hrs ☒

7 Compute design capture volume, DCV (ft^3): **270,230**
*DCV= 1/12 * [Item 1 * Item 3 * Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*
Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2

Form 4.2-2 Summary of Hydromodification Assessment (DA-1)

Is the change in post- and pre- condition flow captures on-site? : Yes ☒ No ☐
If "Yes", then complete Hydromodification assessment of site hydrology for 10yr storm event using Forms 4.2-3 through 4.2-5 and insert results below *(Forms 4.2-3 through 4.2-5 may be replaced by computer software analysis based on the San Bernardino County Hydrology Manual-Addendum 1)*
If "No", then proceed to section 4.3 BMP Selection and Sizing

Condition	Runoff Volume (ft^3)	Time of Concentration (min)	Peak Runoff (cfs)
Pre-developed	**1[1]** **188,918** *Form 4.2-3 Item 12*	**2** **55.3** *Form 4.2-4 Item 13*	**3[1]** **10.4** *Form 4.2-5 Item 10*
Post-developed	**4[2]** **326,290** *Form 4.2-3 Item 13*	**5[3]** **11.2** *Form 4.2-4 Item 14*	**6[2]** **71.1** *Form 4.2-5 Item 14*
Difference	**7** **137,372** *Item 4-Item 1*	**8** **44.1** *Item 2- Item 5*	**9** **60.7** *Item 6- Item 3*
Difference (as % of pre-developed)	**10** **72.7%** *Item 7 / Item 1*	**11** **79.7%** *Item 8 / Item 2*	**12** **584%** *Item 9 / Item 3*

1. Because the pre-developed runoff volume and peak runoff include offsite tributary area, this number has been proportioned to the onsite post-developed area for a like comparison. (DA-1=22.7% adjustment to proportion to onsite.)

2. Because the post-developed unit hydrographs are analyzed per drainage management area, both the individual DMA runoff volumes and the peak runoffs are summed to total the drainage area post-developed runoff volume and peak runoff.
3. Because the post-developed unit hydrographs are analyzed per building the longest time of concentration is chosen to represent each drainage area in the post-developed condition.

Form 4.2-2 Summary of Hydromodification Assessment (DA-2)

Is the change in post- and pre- condition flow captures on-site? : Yes ☒ No ☐
If "Yes", then complete Hydromodification assessment of site hydrology for 10yr storm event using Forms 4.2-3 through 4.2-5 and insert results below *(Forms 4.2-3 through 4.2-5 may be replaced by computer software analysis based on the San Bernardino County Hydrology Manual-Addendum 1)*
If "No", then proceed to section 4.3 BMP Selection and Sizing

Condition	Runoff Volume (ft^3)	Time of Concentration (min)	Peak Runoff (cfs)
Pre-developed	**1[1]** **57,520** *Form 4.2-3 Item 12*	**2** **31.9** *Form 4.2-4 Item 13*	**3[1]** **7.6** *Form 4.2-5 Item 10*
Post-developed	**4[2]** **137,084** *Form 4.2-3 Item 13*	**5[3]** **11.5** *Form 4.2-4 Item 14*	**6[2]** **29.6** *Form 4.2-5 Item 14*
Difference	**7** **79,564** *Item 4-Item 1*	**8** **20.4** *Item 2- Item 5*	**9** **22** *Item 6- Item 3*
Difference (as % of pre-developed)	**10** **138%** *Item 7 / Item 1*	**11** **63.9%** *Item 8 / Item 2*	**12** **289%** *Item 9 / Item 3*

1. Because the pre-developed runoff volume and peak runoff include offsite tributary area, this number has been proportioned to the onsite post-developed area for a like comparison. (DA-2=53.2% adjustment to proportion to onsite.)
2. Because the post-developed unit hydrographs are analyzed per drainage management area, both the individual DMA runoff volumes and the peak runoffs are summed to total the drainage area post-developed runoff volume and peak runoff.
3. Because the post-developed unit hydrographs are analyzed per building the longest time of concentration is chosen to represent each drainage area in the post-developed condition.

Form 4.2-2 Summary of Hydromodification Assessment (DA-3)

Is the change in post- and pre- condition flow captures on-site? : Yes ☒ No ☐
If "Yes", then complete Hydromodification assessment of site hydrology for 10yr storm event using Forms 4.2-3 through 4.2-5 and insert results below *(Forms 4.2-3 through 4.2-5 may be replaced by computer software analysis based on the San Bernardino County Hydrology Manual-Addendum 1)*
If "No", then proceed to section 4.3 BMP Selection and Sizing

Condition	Runoff Volume (ft^3)	Time of Concentration (min)	Peak Runoff (cfs)

Pre-developed	**1[1]** **266,475** *Form 4.2-3 Item 12*	**2** **64.9** *Form 4.2-4 Item 13*	**3[1]** **9.7** *Form 4.2-5 Item 10*
Post-developed	**4[2]** **557,970** *Form 4.2-3 Item 13*	**5[3]** **11.4** *Form 4.2-4 Item 14*	**6[2]** **130.2** *Form 4.2-5 Item 14*
Difference	**7** **291,495** *Item 4-Item 1*	**8** **53.5** *Item 2- Item 5*	**9** **120.5** *Item 6- Item 3*
Difference (as % of pre-developed)	**10** **109%** *Item 7 / Item 1*	**11** **82.4%** *Item 8 / Item 2*	**12** **1,242%** *Item 9 / Item 3*

1. Because the pre-developed runoff volume and peak runoff include offsite tributary area, this number has been proportioned to the onsite post-developed area for a like comparison. (DA-2=53.2% adjustment to proportion to onsite.)
2. Because the post-developed unit hydrographs are analyzed per drainage management area, both the individual DMA runoff volumes and the peak runoffs are summed to total the drainage area post-developed runoff volume and peak runoff.
3. Because the post-developed unit hydrographs are analyzed per building the longest time of concentration is chosen to represent each drainage area in the post-developed condition.

Form 4.2-2 Summary of Hydromodification Assessment (DA-4)

Is the change in post- and pre- condition flow captures on-site? : Yes ☒ No ☐
If “Yes”, then complete Hydromodification assessment of site hydrology for 10yr storm event using Forms 4.2-3 through 4.2-5 and insert results below *(Forms 4.2-3 through 4.2-5 may be replaced by computer software analysis based on the San Bernardino County Hydrology Manual-Addendum 1)*
If “No”, then proceed to section 4.3 BMP Selection and Sizing

Condition	Runoff Volume (ft^3)	Time of Concentration (min)	Peak Runoff (cfs)
Pre-developed	**1[1]** **534,952** *Form 4.2-3 Item 12*	**2** **65.0** *Form 4.2-4 Item 13*	**3[1]** **35.3** *Form 4.2-5 Item 10*
Post-developed	**4[2]** **1,307,728** *Form 4.2-3 Item 13*	**5[3]** **12.1** *Form 4.2-4 Item 14*	**6[2]** **283.8** *Form 4.2-5 Item 14*
Difference	**7** **772,776** *Item 4-Item 1*	**8** **52.9** *Item 2- Item 5*	**9** **248.5** *Item 6- Item 3*
Difference (as % of pre-developed)	**10** **144%** *Item 7 / Item 1*	**11** **81.2%** *Item 8 / Item 2*	**12** **704%** *Item 9 / Item 3*

1. Because the pre-developed runoff volume and peak runoff include offsite tributary area, this number has been proportioned to the onsite post-developed area for a like comparison. (DA-2=53.2% adjustment to proportion to onsite.)
2. Because the post-developed unit hydrographs are analyzed per drainage management area, both the individual DMA runoff volumes and the peak runoffs are summed to total the drainage area post-developed runoff volume and peak runoff.

3. Because the post-developed unit hydrographs are analyzed per building the longest time of concentration is chosen to represent each drainage area in the post-developed condition.

Form 4.2-2 Summary of Hydromodification Assessment (DA-5)

Is the change in post- and pre- condition flow captures on-site? : Yes ☒ No ☐
If "Yes", then complete Hydromodification assessment of site hydrology for 10yr storm event using Forms 4.2-3 through 4.2-5 and insert results below *(Forms 4.2-3 through 4.2-5 may be replaced by computer software analysis based on the San Bernardino County Hydrology Manual-Addendum 1)*
If "No", then proceed to section 4.3 BMP Selection and Sizing

Condition	Runoff Volume (ft^3)	Time of Concentration (min)	Peak Runoff (cfs)
Pre-developed	**1[1]** **333,482** *Form 4.2-3 Item 12*	**2** **30.2** *Form 4.2-4 Item 13*	**3[1]** **19.1** *Form 4.2-5 Item 10*
Post-developed	**4[2]** **794,787** *Form 4.2-3 Item 13*	**5[3]** **13.4** *Form 4.2-4 Item 14*	**6[2]** **169.6** *Form 4.2-5 Item 14*
Difference	**7** **461,305** *Item 4-Item 1*	**8** **16.8** *Item 2- Item 5*	**9** **150.5** *Item 6- Item 3*
Difference (as % of pre-developed)	**10** **138%** *Item 7 / Item 1*	**11** **55.6%** *Item 8 / Item 2*	**12** **788%** *Item 9 / Item 3*

1. Because the pre-developed runoff volume and peak runoff include offsite tributary area, this number has been proportioned to the onsite post-developed area for a like comparison. (DA-2=53.2% adjustment to proportion to onsite.)
2. Because the post-developed unit hydrographs are analyzed per drainage management area, both the individual DMA runoff volumes and the peak runoffs are summed to total the drainage area post-developed runoff volume and peak runoff.
3. Because the post-developed unit hydrographs are analyzed per building the longest time of concentration is chosen to represent each drainage area in the post-developed condition.

Note: Forms 4.2-3, 4.2-4, and 4.2-5 will be replaced by applicable computer software outputs provided in Appendix 5.

4.3 BMP Selection and Sizing

Complete the following forms for each project site DA to document that the proposed treatment (LID/Bioretention) BMPs conform to the project DCV developed to meet performance criteria specified in the Phase II Small MS4 Permit (WQMP Template Section 4.2). For the LID DCV, the forms are ordered according to hierarchy of BMP selection as required by the Phase II Small MS4 Permit (see Section 5.3 in the TGD for WQMP). The forms compute the following for on-site LID BMP:

- Site Design Measures (Form 4.3-2)
- Retention and Infiltration BMPs (Form 4.3-3) or
- Biotreatment BMPs (Form 4.3-4).

> Please note that the selected BMPs may also be used as dual purpose for on-site, hydromodification mitigation and management.

At the end of each form, additional fields facilitate the determination of the extent of mitigation provided by the specific BMP category, allowing for use of the next category of BMP in the hierarchy, if necessary.

The first step in the analysis, using Section 5.3.2 of the TGD for WQMP, is to complete Forms 4.3-1 and 4.3-3) to determine if retention and infiltration BMPs are infeasible for the project. For each feasibility criterion in Form 4.3-1, if the answer is "Yes," provide all study findings that includes relevant calculations, maps, data sources, etc. used to make the determination of infeasibility.

Next, complete Form 4.3-2 to determine the feasibility of applicable Site Design BMPs, and, if their implementation is feasible, the extent of mitigation of the DCV.

If no site constraints exist that would limit the type of BMP to be implemented in a DA, evaluate the use of combinations of LID BMPs, including all applicable Site Design BMPs to maximize on-site retention of the DCV. If no combination of BMP can mitigate the entire DCV, implement the single BMP type, or combination of BMP types, that maximizes on-site retention of the DCV within the minimum effective area.

If the combination of site design, retention and/or infiltration BMPs is unable to mitigate the entire DCV, then the remainder of the volume-based performance criteria that cannot be achieved with site design, retention and/or infiltration BMPs must be managed through biotreatment BMPs. If biotreatment BMPs are used, then they must be sized to provide equivalent effectiveness based on Template Section 4.3.4.

4.3.1 Exceptions to Requirements for Bioretention Facilities

Contingent on a demonstration that use of bioretention or a facility of equivalent effectiveness is infeasible, other types of biotreatment or media filters (such as tree-box-type biofilters or in-vault media filters) may be used for the following categories of Regulated Projects:

1) Projects creating or replacing an acre or less of impervious area, and located in a designated pedestrian-oriented commercial district (i.e., smart growth projects), and having at least 85% of the entire project site covered by permanent structures;

2) Facilities receiving runoff solely from existing (pre-project) impervious areas; and

3) Historic sites, structures or landscapes that cannot alter their original configuration in order to maintain their historic integrity.

Form 4.3-1 Infiltration BMP Feasibility (DA-1)

Feasibility Criterion – Complete evaluation for each DA on the Project Site

[1]Would infiltration BMP pose significant risk for groundwater related concerns? ☐ Yes ☒ No
Refer to Section 5.3.2.1 of the TGD for WQMP

If Yes, Provide basis: (attach)

[2] ☐ Yes ☒ No

Would installation of infiltration BMP significantly increase the risk of geotechnical hazards?
(Yes, if the answer to any of the following questions is yes, as established by a geotechnical expert):

- The location is less than 50 feet away from slopes steeper than 15 percent
- The location is less than ten feet from building foundations or an alternative setback
- A study certified by a geotechnical professional or an available watershed study determines that stormwater infiltration would result in significantly increased risks of geotechnical hazards.

If Yes, Provide Basis: (attach)

[3] Would infiltration of runoff on a Project site violate downstream water rights? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[4] Is proposed infiltration facility located on hydrologic soil group (HSG) D soils or does the site geotechnical investigation indicate presence of soil characteristics, which support categorization as D soils? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[5] Is the design infiltration rate, after accounting for safety factor of 2.0, below proposed facility less than 0.3 in/hr (accounting for soil amendments)? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[6] Would on-site infiltration or reduction of runoff over pre-developed conditions be partially or fully inconsistent with watershed management strategies as defined in the WAP, or impair beneficial uses?
See Section 3.5 of the TGD for WQMP and WAP ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[7] Any answer from Item 1 through Item 3 is "Yes": ☐ Yes ☒ No
If yes, infiltration of any volume is not feasible onsite. Proceed to Form 4.3-4, Selection and Evaluation of Biotreatment BMP.
If no, then proceed to Item 8 below.

[8] Any answer from Item 4 through Item 6 is "Yes": ☐ Yes ☒ No
If yes, infiltration is permissible but is not required to be considered. Proceed to Form 4.32, Site Design BMP.
If no, then proceed to item 9, below

[9] All answers to item 1 through Item 6 are "No":
Infiltration of the full DCV is potentially feasible, LID infiltration BMP must be designated to infiltrate the full DCV to MEP. Proceed to Form 4.3-2, Site Design BMPs.

Form 4.3-1 Infiltration BMP Feasibility (DA-2)

Feasibility Criterion – Complete evaluation for each DA on the Project Site

[1]Would infiltration BMP pose significant risk for groundwater related concerns? ☐ Yes ☒ No
Refer to Section 5.3.2.1 of the TGD for WQMP

If Yes, Provide basis: (attach)

[2] ☐ Yes ☒ No

Would installation of infiltration BMP significantly increase the risk of geotechnical hazards?
(Yes, if the answer to any of the following questions is yes, as established by a geotechnical expert):

- The location is less than 50 feet away from slopes steeper than 15 percent
- The location is less than ten feet from building foundations or an alternative setback
- A study certified by a geotechnical professional or an available watershed study determines that stormwater infiltration would result in significantly increased risks of geotechnical hazards.

If Yes, Provide Basis: (attach)

[3] Would infiltration of runoff on a Project site violate downstream water rights? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[4] Is proposed infiltration facility located on hydrologic soil group (HSG) D soils or does the site geotechnical investigation indicate presence of soil characteristics, which support categorization as D soils? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[5] Is the design infiltration rate, after accounting for safety factor of 2.0, below proposed facility less than 0.3 in/hr (accounting for soil amendments)? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[6] Would on-site infiltration or reduction of runoff over pre-developed conditions be partially or fully inconsistent with watershed management strategies as defined in the WAP, or impair beneficial uses?
See Section 3.5 of the TGD for WQMP and WAP ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[7] Any answer from Item 1 through Item 3 is "Yes": ☐ Yes ☒ No
If yes, infiltration of any volume is not feasible onsite. Proceed to Form 4.3-4, Selection and Evaluation of Biotreatment BMP.
If no, then proceed to Item 8 below.

[8] Any answer from Item 4 through Item 6 is "Yes": ☐ Yes ☒ No
If yes, infiltration is permissible but is not required to be considered. Proceed to Form 4.32, Site Design BMP.
If no, then proceed to item 9, below

[9] All answers to item 1 through Item 6 are "No":
Infiltration of the full DCV is potentially feasible, LID infiltration BMP must be designated to infiltrate the full DCV to MEP.
Proceed to Form 4.3-2, Site Design BMPs.

Form 4.3-1 Infiltration BMP Feasibility (DA-3)

Feasibility Criterion – Complete evaluation for each DA on the Project Site

[1]Would infiltration BMP pose significant risk for groundwater related concerns? ☐ Yes ☒ No
Refer to Section 5.3.2.1 of the TGD for WQMP

If Yes, Provide basis: (attach)

[2] ☐ Yes ☒ No

Would installation of infiltration BMP significantly increase the risk of geotechnical hazards?
(Yes, if the answer to any of the following questions is yes, as established by a geotechnical expert):

- The location is less than 50 feet away from slopes steeper than 15 percent
- The location is less than ten feet from building foundations or an alternative setback
- A study certified by a geotechnical professional or an available watershed study determines that stormwater infiltration would result in significantly increased risks of geotechnical hazards.

If Yes, Provide Basis: (attach)

[3] Would infiltration of runoff on a Project site violate downstream water rights? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[4] Is proposed infiltration facility located on hydrologic soil group (HSG) D soils or does the site geotechnical investigation indicate presence of soil characteristics, which support categorization as D soils? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[5] Is the design infiltration rate, after accounting for safety factor of 2.0, below proposed facility less than 0.3 in/hr (accounting for soil amendments)? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[6] Would on-site infiltration or reduction of runoff over pre-developed conditions be partially or fully inconsistent with watershed management strategies as defined in the WAP, or impair beneficial uses?
See Section 3.5 of the TGD for WQMP and WAP ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[7] Any answer from Item 1 through Item 3 is "Yes": ☐ Yes ☒ No
If yes, infiltration of any volume is not feasible onsite. Proceed to Form 4.3-4, Selection and Evaluation of Biotreatment BMP.
If no, then proceed to Item 8 below.

[8] Any answer from Item 4 through Item 6 is "Yes": ☐ Yes ☒ No
If yes, infiltration is permissible but is not required to be considered. Proceed to Form 4.32, Site Design BMP.
If no, then proceed to item 9, below

[9] All answers to item 1 through Item 6 are "No":
Infiltration of the full DCV is potentially feasible, LID infiltration BMP must be designated to infiltrate the full DCV to MEP.
Proceed to Form 4.3-2, Site Design BMPs.

Form 4.3-1 Infiltration BMP Feasibility (DA-4)

Feasibility Criterion – Complete evaluation for each DA on the Project Site

[1]Would infiltration BMP pose significant risk for groundwater related concerns? ☐ Yes ☒ No
Refer to Section 5.3.2.1 of the TGD for WQMP

If Yes, Provide basis: (attach)

[2] ☐ Yes ☒ No

Would installation of infiltration BMP significantly increase the risk of geotechnical hazards?
(Yes, if the answer to any of the following questions is yes, as established by a geotechnical expert):

- The location is less than 50 feet away from slopes steeper than 15 percent
- The location is less than ten feet from building foundations or an alternative setback
- A study certified by a geotechnical professional or an available watershed study determines that stormwater infiltration would result in significantly increased risks of geotechnical hazards.

If Yes, Provide Basis: (attach)

[3] Would infiltration of runoff on a Project site violate downstream water rights? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[4] Is proposed infiltration facility located on hydrologic soil group (HSG) D soils or does the site geotechnical investigation indicate presence of soil characteristics, which support categorization as D soils? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[5] Is the design infiltration rate, after accounting for safety factor of 2.0, below proposed facility less than 0.3 in/hr (accounting for soil amendments)? ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[6] Would on-site infiltration or reduction of runoff over pre-developed conditions be partially or fully inconsistent with watershed management strategies as defined in the WAP, or impair beneficial uses?
See Section 3.5 of the TGD for WQMP and WAP ☐ Yes ☒ No

If Yes, Provide Basis: (attach)

[7] Any answer from Item 1 through Item 3 is "Yes": ☐ Yes ☒ No
If yes, infiltration of any volume is not feasible onsite. Proceed to Form 4.3-4, Selection and Evaluation of Biotreatment BMP.
If no, then proceed to Item 8 below.

[8] Any answer from Item 4 through Item 6 is "Yes": ☐ Yes ☒ No
If yes, infiltration is permissible but is not required to be considered. Proceed to Form 4.32, Site Design BMP.
If no, then proceed to item 9, below

[9] All answers to item 1 through Item 6 are "No":
Infiltration of the full DCV is potentially feasible, LID infiltration BMP must be designated to infiltrate the full DCV to MEP.
Proceed to Form 4.3-2, Site Design BMPs.

Form 4.3-1 Infiltration BMP Feasibility (DA-5)	
Feasibility Criterion – Complete evaluation for each DA on the Project Site	
[1]Would infiltration BMP pose significant risk for groundwater related concerns? *Refer to Section 5.3.2.1 of the TGD for WQMP*	☐ Yes ☒ No
If Yes, Provide basis: (attach)	
[2] Would installation of infiltration BMP significantly increase the risk of geotechnical hazards? (Yes, if the answer to any of the following questions is yes, as established by a geotechnical expert): • The location is less than 50 feet away from slopes steeper than 15 percent • The location is less than ten feet from building foundations or an alternative setback • A study certified by a geotechnical professional or an available watershed study determines that stormwater infiltration would result in significantly increased risks of geotechnical hazards.	☐ Yes ☒ No
If Yes, Provide Basis: (attach)	
[3] Would infiltration of runoff on a Project site violate downstream water rights?	☐ Yes ☒ No
If Yes, Provide Basis: (attach)	
[4] Is proposed infiltration facility located on hydrologic soil group (HSG) D soils or does the site geotechnical investigation indicate presence of soil characteristics, which support categorization as D soils?	☐ Yes ☒ No
If Yes, Provide Basis: (attach)	
[5] Is the design infiltration rate, after accounting for safety factor of 2.0, below proposed facility less than 0.3 in/hr (accounting for soil amendments)?	☐ Yes ☒ No
If Yes, Provide Basis: (attach)	
[6] Would on-site infiltration or reduction of runoff over pre-developed conditions be partially or fully inconsistent with watershed management strategies as defined in the WAP, or impair beneficial uses? *See Section 3.5 of the TGD for WQMP and WAP*	☐ Yes ☒ No
If Yes, Provide Basis: (attach)	
[7] Any answer from Item 1 through Item 3 is “Yes”: *If yes, infiltration of any volume is not feasible onsite. Proceed to Form 4.3-4, Selection and Evaluation of Biotreatment BMP. If no, then proceed to Item 8 below.* [8] Any answer from Item 4 through Item 6 is “Yes”: *If yes, infiltration is permissible but is not required to be considered. Proceed to Form 4.32, Site Design BMP. If no, then proceed to item 9, below* [9] All answers to item 1 through Item 6 are “No”: *Infiltration of the full DCV is potentially feasible, LID infiltration BMP must be designated to infiltrate the full DCV to MEP. Proceed to Form 4.3-2, Site Design BMPs.*	☐ Yes ☒ No ☐ Yes ☒ No

4.3.2 Site Design BMP

Section E.12.e. of the Small Phase II MS4 Permit emphasizes the use of LID preventative measures; and the use of Site Design Measures reduces the portion of the DCV that must be addressed in downstream BMPs. Therefore, all applicable Site Design Measures shall be provided except where they are mutually exclusive with each other, or with other BMPs. Mutual exclusivity may result from overlapping BMP

footprints such that either would be potentially feasible by itself, but both could not be implemented. Please note that while there are no numeric standards regarding the use of Site Design BMPs. If a project cannot feasibly meet BMP sizing requirements or cannot fully address hydromodification, feasibility of all applicable Site Design BMPs must be part of demonstrating that the BMP system has been designed to retain the maximum feasible portion of the DCV. Complete Form 4.3-2 to identify and calculate estimated retention volume from implementing site design BMP. Refer to Section 5.4 in the TGD for more detailed guidance.

Form 4.3-2 Site Design BMPs (DA-1)

1Implemention of Impervious Area Dispersion BMP (i.e. routing from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP: ☐ Yes ☒ No *if yes, complete items 2-5; if no, proceed to item 6*	DA -1 DMA-1A BMP Type: N/A	DA-1 DMA-2A BMP Type: N/A	DA-1 DMA-2C BMP Type: N/A
2Total impervious area draining to pervious area (ft^2)			
3Ratio of pervious area receiving runoff to impervious area			
4Retention volume achieved from impervious area dispersion (ft^3) *V= Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of run off*			
5Sum of retention volume achieved from impervious area dispersion (ft^3): *$V_{retention}$ = Sum of Item 4 for all BMPs*			
6 Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens): ☐ Yes ☒ No *if yes, complete items 7-13 for aggregate of all on-lot infiltration BMP in each DA; if no proceed to item 14*	DA -1 DMA-1A BMP Type: N/A	DA-1 DMA-2A BMP Type: N/A	DA-1 DMA-2C BMP Type: N/A
7Ponding surface area (ft^2)			
8Ponding depth (ft) (min. 0.5 ft.)			
9Surface area of amended soil/gravel (ft^2)			
10Average depth of amended soil/gravel (ft) (min. 1 ft.)			
11Average porosity of amended soil/gravel			
12Retention volume achieved from on-lot infiltration (ft^3) *$V_{retention}$ = (Item 7 * Item 8) + (Item 9 * Item 10 * Item 11)*			
13Runoff volume retention from on-lot infiltration (ft^3): *$V_{retention}$ = Sum of Item 12 for all BMPs*			

Form 4.3-2 cont. Site Design BMPs (DA-1)

	DA -1 DMA-1A BMP Type: N/A	DA-1 DMA-2A BMP Type: N/A	DA-1 DMA-2C BMP Type: N/A
14 Implementation of Street Trees: ☐ Yes ☒ No *if yes, complete items 14-18; if no proceed to item 19*			
15 Number of Street Trees			
16 Average canopy cover over impervious areas (ft^2)			
17 Runoff volume retention from street trees (ft^3) $V_{retention}$ *= Item 15 * Item 16 * (O.05/12) assume runoff retention of 0.05 inches*			
18 Runoff volume retention from street trees BMPs (ft^3):	$V_{retention}$ *= Sum of Item 17 for all BMPs*		
19 Total Retention Volume from Site Design BMPs: **0**	*Sum of items 5, 13 and 18*		

Form 4.3-2 Site Design BMPs (DA-2)

1Implemention of Impervious Area Dispersion BMP (i.e. routing from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP: ☐ Yes ☒ No *if yes, complete items 2-5; if no, proceed to item 6*	DA -2 DMA-2B BMP Type: N/A	DA-2 DMA-2D BMP Type: N/A
2Total impervious area draining to pervious area (ft^2)		
3Ratio of pervious area receiving runoff to impervious area		
4Retention volume achieved from impervious area dispersion (ft^3) *V= Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of run off*		
5Sum of retention volume achieved from impervious area dispersion (ft^3): *$V_{retention}$ = Sum of Item 4 for all BMPs*		
6 Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens): ☐ Yes ☒ No *if yes, complete items 7-13 for aggregate of all on-lot infiltration BMP in each DA; if no proceed to item 14*	DA -2 DMA-2B BMP Type: N/A	DA-2 DMA-2D BMP Type: N/A
7Ponding surface area (ft^2)		
8Ponding depth (ft) (min. 0.5 ft.)		
9Surface area of amended soil/gravel (ft^2)		
10Average depth of amended soil/gravel (ft) (min. 1 ft.)		
11Average porosity of amended soil/gravel		
12Retention volume achieved from on-lot infiltration (ft^3) *$V_{retention}$ = (Item 7 * Item 8) + (Item 9 * Item 10 * Item 11)*		
13Runoff volume retention from on-lot infiltration (ft^3): *$V_{retention}$ = Sum of Item 12 for all BMPs*		
14 Implementation of Street Trees: ☐ Yes ☒ No *if yes, complete items 14-18; if no proceed to item 19*	DA -2 DMA-2B BMP Type: N/A	DA-2 DMA-2D BMP Type: N/A
15 Number of Street Trees		
16 Average canopy cover over impervious areas (ft^2)		
17 Runoff volume retention from street trees (ft^3) *$V_{retention}$ = Item 15 * Item 16 * (O.05/12) assume runoff retention of 0.05 inches*		
18 Runoff volume retention from street trees BMPs (ft^3): *$V_{retention}$ = Sum of Item 17 for all BMPs*		
19 Total Retention Volume from Site Design BMPs: **0** *Sum of items 5, 13 and 18*		

Form 4.3-2 Site Design BMPs (DA-3)

1Implemention of Impervious Area Dispersion BMP (i.e. routing from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP: ☐ Yes ☒ No *if yes, complete items 2-5; if no, proceed to item 6*	DA -3 DMA-3A BMP Type: N/A	DA-3 DMA-3C BMP Type: N/A	DA-3 DMA-4A BMP Type: N/A	DA-3 DMA-4C BMP Type: N/A
2Total impervious area draining to pervious area (ft^2)				
3Ratio of pervious area receiving runoff to impervious area				
4Retention volume achieved from impervious area dispersion (ft^3) *V= Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of run off*				
5Sum of retention volume achieved from impervious area dispersion (ft^3): *$V_{retention}$ = Sum of Item 4 for all BMPs*				
6 Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens): ☐ Yes ☒ No *if yes, complete items 7-13 for aggregate of all on-lot infiltration BMP in each DA; if no proceed to item 14*	DA -3 DMA-3A BMP Type: N/A	DA-3 DMA-3C BMP Type: N/A	DA-3 DMA-4A BMP Type: N/A	DA-3 DMA-4C BMP Type: N/A
7Ponding surface area (ft^2)				
8Ponding depth (ft) (min. 0.5 ft.)				
9Surface area of amended soil/gravel (ft^2)				
10Average depth of amended soil/gravel (ft) (min. 1 ft.)				
11Average porosity of amended soil/gravel				
12Retention volume achieved from on-lot infiltration (ft^3) *$V_{retention}$ = (Item 7 * Item 8) + (Item 9 * Item 10 * Item 11)*				
13Runoff volume retention from on-lot infiltration (ft^3): *$V_{retention}$ = Sum of Item 12 for all BMPs*				
14 Implementation of Street Trees: ☐ Yes ☒ No *if yes, complete items 14-18; if no proceed to item 19*	DA -3 DMA-3A BMP Type: N/A	DA-3 DMA-3C BMP Type: N/A	DA-3 DMA-4A BMP Type: N/A	DA-3 DMA-4C BMP Type: N/A
15 Number of Street Trees				
16 Average canopy cover over impervious areas (ft^2)				
17 Runoff volume retention from street trees (ft^3) *$V_{retention}$ = Item 15 * Item 16 * (O.05/12) assume runoff retention of 0.05 inches*				
18 Runoff volume retention from street trees BMPs (ft^3): *$V_{retention}$ = Sum of Item 17 for all BMPs*				
19 Total Retention Volume from Site Design BMPs: **0** *Sum of items 5, 13 and 18*				

Form 4.3-2 Site Design BMPs (DA-4)

1Implemention of Impervious Area Dispersion BMP (i.e. routing from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP: ☐ Yes ☒ No *if yes, complete items 2-5; if no, proceed to item 6*	DA -4 DMA-3B BMP Type: N/A	DA-4 DMA-3D BMP Type: N/A	DA-4 DMA-4B BMP Type: N/A	DA-4 DMA-4D BMP Type: N/A
2Total impervious area draining to pervious area (ft^2)				
3Ratio of pervious area receiving runoff to impervious area				
4Retention volume achieved from impervious area dispersion (ft^3) *V= Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of run off*				
5Sum of retention volume achieved from impervious area dispersion (ft^3): *$V_{retention}$ = Sum of Item 4 for all BMPs*				
6 Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens): ☐ Yes ☒ No *if yes, complete items 7-13 for aggregate of all on-lot infiltration BMP in each DA; if no proceed to item 14*	DA -4 DMA-3B BMP Type: N/A	DA-4 DMA-3D BMP Type: N/A	DA-4 DMA-4B BMP Type: N/A	DA-4 DMA-4D BMP Type: N/A
7Ponding surface area (ft^2)				
8Ponding depth (ft) (min. 0.5 ft.)				
9Surface area of amended soil/gravel (ft^2)				
10Average depth of amended soil/gravel (ft) (min. 1 ft.)				
11Average porosity of amended soil/gravel				
12Retention volume achieved from on-lot infiltration (ft^3) *$V_{retention}$ = (Item 7 * Item 8) + (Item 9 * Item 10 * Item 11)*				
13Runoff volume retention from on-lot infiltration (ft^3): *$V_{retention}$ = Sum of Item 12 for all BMPs*				
14 Implementation of Street Trees: ☐ Yes ☒ No *if yes, complete items 14-18; if no proceed to item 19*	DA -4 DMA-3B BMP Type: N/A	DA-4 DMA-3D BMP Type: N/A	DA-4 DMA-4B BMP Type: N/A	DA-4 DMA-4D BMP Type: N/A
15 Number of Street Trees				
16 Average canopy cover over impervious areas (ft^2)				
17 Runoff volume retention from street trees (ft^3) *$V_{retention}$ = Item 15 * Item 16 * (O.05/12) assume runoff retention of 0.05 inches*				
18 Runoff volume retention from street trees BMPs (ft^3): *$V_{retention}$ = Sum of Item 17 for all BMPs*				
19 Total Retention Volume from Site Design BMPs: **0** *Sum of items 5, 13 and 18*				

Form 4.3-2 Site Design BMPs (DA-4) cont.

1Implemention of Impervious Area Dispersion BMP (i.e. routing from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP: ☐ Yes ☒ No *if yes, complete items 2-5; if no, proceed to item 6*	DA -4 DMA-5A BMP Type: N/A	DA-4 DMA-5C BMP Type: N/A	DA-4 DMA-6A BMP Type: N/A	DA-4 DMA-6C BMP Type: N/A
2Total impervious area draining to pervious area (ft^2)				
3Ratio of pervious area receiving runoff to impervious area				
4Retention volume achieved from impervious area dispersion (ft^3) *V= Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of run off*				
5Sum of retention volume achieved from impervious area dispersion (ft^3): *$V_{retention}$ = Sum of Item 4 for all BMPs*				
6 Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens): ☐ Yes ☒ No *if yes, complete items 7-13 for aggregate of all on-lot infiltration BMP in each DA; if no proceed to item 14*	DA -4 DMA-5A BMP Type: N/A	DA-4 DMA-5C BMP Type: N/A	DA-4 DMA-6A BMP Type: N/A	DA-4 DMA-6C BMP Type: N/A
7Ponding surface area (ft^2)				
8Ponding depth (ft) (min. 0.5 ft.)				
9Surface area of amended soil/gravel (ft^2)				
10Average depth of amended soil/gravel (ft) (min. 1 ft.)				
11Average porosity of amended soil/gravel				
12Retention volume achieved from on-lot infiltration (ft^3) *$V_{retention}$ = (Item 7 * Item 8) + (Item 9 * Item 10 * Item 11)*				
13Runoff volume retention from on-lot infiltration (ft^3): *$V_{retention}$ = Sum of Item 12 for all BMPs*				
14 Implementation of Street Trees: ☐ Yes ☒ No *if yes, complete items 14-18; if no proceed to item 19*	DA -4 DMA-5A BMP Type: N/A	DA-4 DMA-5C BMP Type: N/A	DA-4 DMA-6A BMP Type: N/A	DA-4 DMA-6C BMP Type: N/A
15 Number of Street Trees				
16 Average canopy cover over impervious areas (ft^2)				
17 Runoff volume retention from street trees (ft^3) *$V_{retention}$ = Item 15 * Item 16 * (O.05/12) assume runoff retention of 0.05 inches*				
18 Runoff volume retention from street trees BMPs (ft^3): *$V_{retention}$ = Sum of Item 17 for all BMPs*				
19 Total Retention Volume from Site Design BMPs: **0** *Sum of items 5, 13 and 18*				

Form 4.3-2 Site Design BMPs (DA-4) cont.

[1]Implemention of Impervious Area Dispersion BMP (i.e. routing from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP: ☐ Yes ☒ No *if yes, complete items 2-5; if no, proceed to item 6*	DA -4 DMA-7A BMP Type: N/A	DA-4 DMA-7C BMP Type: N/A
[2]Total impervious area draining to pervious area (ft^2)		
[3]Ratio of pervious area receiving runoff to impervious area		
[4]Retention volume achieved from impervious area dispersion (ft^3) *V= Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of run off*		
[5]Sum of retention volume achieved from impervious area dispersion (ft^3): *$V_{retention}$ = Sum of Item 4 for all BMPs*		
[6] Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens): ☐ Yes ☒ No *if yes, complete items 7-13 for aggregate of all on-lot infiltration BMP in each DA; if no proceed to item 14*	DA -4 DMA-7A BMP Type: N/A	DA-4 DMA-7C BMP Type: N/A
[7]Ponding surface area (ft^2)		
[8]Ponding depth (ft) (min. 0.5 ft.)		
[9]Surface area of amended soil/gravel (ft^2)		
[10]Average depth of amended soil/gravel (ft) (min. 1 ft.)		
[11]Average porosity of amended soil/gravel		
[12]Retention volume achieved from on-lot infiltration (ft^3) *$V_{retention}$ = (Item 7 * Item 8) + (Item 9 * Item 10 * Item 11)*		
[13]Runoff volume retention from on-lot infiltration (ft^3): *$V_{retention}$ = Sum of Item 12 for all BMPs*		
[14] Implementation of Street Trees: ☐ Yes ☒ No *if yes, complete items 14-18; if no proceed to item 19*	DA -4 DMA-7A BMP Type: N/A	DA-4 DMA-7C BMP Type: N/A
[15] Number of Street Trees		
[16] Average canopy cover over impervious areas (ft^2)		
[17] Runoff volume retention from street trees (ft^3) *$V_{retention}$ = Item 15 * Item 16 * (O.05/12) assume runoff retention of 0.05 inches*		
[18] Runoff volume retention from street trees BMPs (ft^3): *$V_{retention}$ = Sum of Item 17 for all BMPs*		
[19] Total Retention Volume from Site Design BMPs: **0** *Sum of items 5, 13 and 18*		

Form 4.3-2 Site Design BMPs (DA-5)

1Implemention of Impervious Area Dispersion BMP (i.e. routing from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP: ☐ Yes ☒ No *if yes, complete items 2-5; if no, proceed to item 6*	DA -5 DMA-5B BMP Type: N/A	DA-5 DMA-5D BMP Type: N/A	DA-5 DMA-6B BMP Type: N/A
2Total impervious area draining to pervious area (ft^2)			
3Ratio of pervious area receiving runoff to impervious area			
4Retention volume achieved from impervious area dispersion (ft^3) *V= Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of run off*			
5Sum of retention volume achieved from impervious area dispersion (ft^3): *$V_{retention}$ = Sum of Item 4 for all BMPs*			
6 Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens): ☐ Yes ☒ No *if yes, complete items 7-13 for aggregate of all on-lot infiltration BMP in each DA; if no proceed to item 14*	DA -5 DMA-5B BMP Type: N/A	DA-5 DMA-5D BMP Type: N/A	DA-5 DMA-6B BMP Type: N/A
7Ponding surface area (ft^2)			
8Ponding depth (ft) (min. 0.5 ft.)			
9Surface area of amended soil/gravel (ft^2)			
10Average depth of amended soil/gravel (ft) (min. 1 ft.)			
11Average porosity of amended soil/gravel			
12Retention volume achieved from on-lot infiltration (ft^3) *$V_{retention}$ = (Item 7 * Item 8) + (Item 9 * Item 10 * Item 11)*			
13Runoff volume retention from on-lot infiltration (ft^3): *$V_{retention}$ = Sum of Item 12 for all BMPs*			
14 Implementation of Street Trees: ☐ Yes ☒ No *if yes, complete items 14-18; if no proceed to item 19*	DA -5 DMA-5B BMP Type: N/A	DA-5 DMA-5D BMP Type: N/A	DA-5 DMA-6B BMP Type: N/A
15 Number of Street Trees			
16 Average canopy cover over impervious areas (ft^2)			
17 Runoff volume retention from street trees (ft^3) *$V_{retention}$ = Item 15 * Item 16 * (O.05/12) assume runoff retention of 0.05 inches*			
18 Runoff volume retention from street trees BMPs (ft^3): *$V_{retention}$ = Sum of Item 17 for all BMPs*			
19 Total Retention Volume from Site Design BMPs: **0** *Sum of items 5, 13 and 18*			

Form 4.3-2 Site Design BMPs (DA-5) cont.

1Implemention of Impervious Area Dispersion BMP (i.e. routing from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP: ☐ Yes ☒ No *if yes, complete items 2-5; if no, proceed to item 6*	DA -5 DMA-6D BMP Type: N/A	DA-5 DMA-7B BMP Type: N/A	DA-5 DMA-7D BMP Type: N/A
2Total impervious area draining to pervious area (ft^2)			
3Ratio of pervious area receiving runoff to impervious area			
4Retention volume achieved from impervious area dispersion (ft^3) *V= Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of run off*			
5Sum of retention volume achieved from impervious area dispersion (ft^3): $V_{retention}$ = *Sum of Item 4 for all BMPs*			
6 Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens): ☐ Yes ☒ No *if yes, complete items 7-13 for aggregate of all on-lot infiltration BMP in each DA; if no proceed to item 14*	DA -5 DMA-6D BMP Type: N/A	DA-5 DMA-7B BMP Type: N/A	DA-5 DMA-7D BMP Type: N/A
7Ponding surface area (ft^2)			
8Ponding depth (ft) (min. 0.5 ft.)			
9Surface area of amended soil/gravel (ft^2)			
10Average depth of amended soil/gravel (ft) (min. 1 ft.)			
11Average porosity of amended soil/gravel			
12Retention volume achieved from on-lot infiltration (ft^3) $V_{retention}$ = *(Item 7 * Item 8) + (Item 9 * Item 10 * Item 11)*			
13Runoff volume retention from on-lot infiltration (ft^3): $V_{retention}$ = *Sum of Item 12 for all BMPs*			
14 Implementation of Street Trees: ☐ Yes ☒ No *if yes, complete items 14-18; if no proceed to item 19*	DA -5 DMA-6D BMP Type: N/A	DA-5 DMA-7B BMP Type: N/A	DA-5 DMA-7D BMP Type: N/A
15 Number of Street Trees			
16 Average canopy cover over impervious areas (ft^2)			
17 Runoff volume retention from street trees (ft^3) $V_{retention}$ = *Item 15 * Item 16 * (O.05/12) assume runoff retention of 0.05 inches*			
18 Runoff volume retention from street trees BMPs (ft^3): $V_{retention}$ = *Sum of Item 17 for all BMPs*			
19 Total Retention Volume from Site Design BMPs: **0** *Sum of items 5, 13 and 18*			

4.3.3 Infiltration BMPs

Use Form 4.3-3 to compute on-site retention of runoff from proposed retention and infiltration BMPs. Volume retention estimates are sensitive to the percolation rate used, which determines the amount of runoff that can be infiltrated within the specified drawdown time. The infiltration safety factor reduces field measured percolation to account for potential inaccuracy associated with field measurements, declining BMP performance over time, and compaction during construction. Appendix C of the TGD for WQMP provides guidance on estimating an appropriate safety factor to use in Form 4.3-3.

If site constraints limit the use of BMPs to a single type and implementation of retention and infiltration BMPs mitigate no more than 40% of the DCV, then they are considered infeasible and the Project Proponent may evaluate the effectiveness of BMPs lower in the LID hierarchy of use (Section 5.5 of the TGD for WQMP)

If implementation of infiltrations BMPs is feasible as determined using Form 4.3-1, then LID infiltration BMPs shall be implemented to the MEP (section 4.1 of the TGD for WQMP).

4.3.3.1 Allowed Variations for Special Site Conditions

The bioretention system design parameters of this Section may be adjusted for the following special site conditions:

1) Facilities located within 10 feet of structures or other potential geotechnical hazards established by the geotechnical expert for the project may incorporate an impervious cutoff wall between the bioretention facility and the structure or other geotechnical hazard.

2) Facilities with documented high concentrations of pollutants in underlying soil or groundwater, facilities located where infiltration could contribute to a geotechnical hazard, and facilities located on elevated plazas or other structures may incorporate an impervious liner and may locate the underdrain discharge at the bottom of the subsurface drainage/storage layer (this configuration is commonly known as a “flow-through planter”).

3) Facilities located in areas of high groundwater, highly infiltrative soils or where connection of underdrain to a surface drain or to a subsurface storm drain are infeasible, may omit the underdrain.

4) Facilities serving high-risk areas such as fueling stations, truck stops, auto repairs, and heavy industrial sites may be required to provide adequate pretreatment to address pollutants of concern unless these high-risk areas are isolated from storm water runoff or bioretention areas with no chance of spill migration.

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Form 4.3-3 Infiltration LID BMP – including underground BMPs (DA-1)

1 Remaining LID DCV not met by site design BMP (ft^3): **111,107** *V_{unmet} = Form 4.2-1 Item 7 – Form 4.3-2 Item19*

BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) – Use addition forms for more BMPs*	DA-1 DMA-1A BMP Type Infiltration Chamber	DA-1 DMA-2A BMP Type Infiltration Chamber	DA-1 DMA-2C BMP Type Infiltration Chamber
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix C of the TGD for WQMP for minimum requirements for assessment methods*	15	15	15
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*	4.4	4.4	4.4
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*	3.4	3.4	3.4
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*	48	48	48
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*	8	8	8
7 Ponding Depth (ft) *d_{BMP} =Minimum of (1/12*Item 4*Item 5) or Item 6*	8	8	8
8 Infiltrating surface area, *SA_{BMP}* (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*	16,830	37,620	30,745
9 Amended soil depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	-	-	-
10 Amended soil porosity	-	-	-
11 Gravel depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	0.5	0.5	0.5
12 Gravel porosity	40%	40%	40%
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	3	3	3
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item 7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4/12))]*	-	-	-
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*	110,007	246,010	201,036

16 Total Retention Volume from LID Infiltration BMP: **557,053** (*Sum of Items 14 and 15 for all infiltration BMP included in plan)*

17 Fraction of DCV achieved with Infiltration BMP: **501%** *% Retention% = Item 16 / Form 4.2-1 Item 7*

18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs?
☒ Yes ☐ No
If yes, demonstrate conformance using Form 4.3-10; if no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations

Note: BMP sizing information can be found in Appendix 4.

Form 4.3-3 Infiltration LID BMP – including underground BMPs (DA-2)

1 Remaining LID DCV not met by site design BMP (ft^3): **46,584** *V_{unmet} = Form 4.2-1 Item 7 – Form 4.3-2 Item19*

BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) – Use addition forms for more BMPs*	DA-2 DMA-2B BMP Type Infiltration Chamber	DA-2 DMA-2D BMP Type Infiltration Chamber
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix C of the TGD for WQMP for minimum requirements for assessment methods*	15	15
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*	4.4	4.4
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*	3.4	3.4
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*	48	48
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*	8	8
7 Ponding Depth (ft) *d_{BMP} =Minimum of (1/12*Item 4*Item 5) or Item 6*	8	8
8 Infiltrating surface area, *SA_{BMP}* (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*	21,120	14,850
9 Amended soil depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	-	-
10 Amended soil porosity	-	-
11 Gravel depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	0.5	0.5
12 Gravel porosity	40%	40%
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	3	3
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item 7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4/12))]*	-	-
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*	138,071	97,055

16 Total Retention Volume from LID Infiltration BMP: **235,126** (*Sum of Items 14 and 15 for all infiltration BMP included in plan)*

17 Fraction of DCV achieved with Infiltration BMP: **505%** *% Retention% = Item 16 / Form 4.2-1 Item 7*

18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs? ☒ Yes ☐ No

If yes, demonstrate conformance using Form 4.3-10; if no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations

Note: BMP sizing information can be found in Appendix 4.

Form 4.3-3 Infiltration LID BMP – including underground BMPs (DA-3)

1 Remaining LID DCV not met by site design BMP (ft^3): **190,015** *V_{unmet} = Form 4.2-1 Item 7 – Form 4.3-2 Item19*

BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) – Use addition forms for more BMPs*	DA-3 DMA-3A BMP Type Infiltration Chamber	DA-3 DMA-3C BMP Type Infiltration Chamber	DA-3 DMA-4A BMP Type Infiltration Basin	DA-3 DMA-4C BMP Type Infiltration Chamber
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix C of the TGD for WQMP for minimum requirements for assessment methods*	15	15	15	15
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*	4.4	4.4	4.4	4.4
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*	3.4	3.4	3.4	3.4
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*	48	48	48	48
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*	8	6	7.5	5
7 Ponding Depth (ft) *d_{BMP} =Minimum of (1/12*Item 4*Item 5) or Item 6*	8	6	7.5	5
8 Infiltrating surface area, *SA_{BMP}* (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*	38,280	46,980	14,012	57,021
9 Amended soil depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	-	-	-	-
10 Amended soil porosity	-	-	-	-
11 Gravel depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	0.5	0.5	-	0.5
12 Gravel porosity	40%	40%	-	40%
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	3	3	3	3
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item 7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4/12))]*	-	-	208,955 (from Basin 4A stage storage)	-
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*	250,328	229,444	-	237,189

16 Total Retention Volume from LID Infiltration BMP: **925,916** (*Sum of Items 14 and 15 for all infiltration BMP included in plan)*

17 Fraction of DCV achieved with Infiltration BMP: **487%** *% Retention% = Item 16 / Form 4.2-1 Item 7*

18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs?
☒ Yes ☐ No

If yes, demonstrate conformance using Form 4.3-10; if no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations

Note: BMP sizing information can be found in Appendix 4.

Form 4.3-3 Infiltration LID BMP – including underground BMPs (DA-4)

1 Remaining LID DCV not met by site design BMP (ft^3): **443,865** *V_{unmet} = Form 4.2-1 Item 7 – Form 4.3-2 Item19*

BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) – Use addition forms for more BMPs*	DA-4 DMA-3B BMP Type Infiltration Chamber	DA-4 DMA-3D BMP Type Infiltration Chamber	DA-4 DMA-4B BMP Type Infiltration Basin	DA-4 DMA-4D BMP Type Infiltration Chamber
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix C of the TGD for WQMP for minimum requirements for assessment methods*	15	15	15	15
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*	4.4	4.4	4.4	4.4
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*	3.4	3.4	3.4	3.4
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*	48	48	48	48
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*	8	8	7	6
7 Ponding Depth (ft) *d_{BMP} =Minimum of (1/12*Item 4*Item 5) or Item 6*	8	8	7	6
8 Infiltrating surface area, *SA_{BMP}* (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*	35,090	32,802	13,429	40,743
9 Amended soil depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	-	-	-	-
10 Amended soil porosity	-	-	-	-
11 Gravel depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	0.5	0.5	-	0.5
12 Gravel porosity	40%	40%	-	40%
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	3	3	3	3
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item 7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4/12))]*	-	-	213,225	-
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*	229,460	214,492	-	198,977

16 Total Retention Volume from LID Infiltration BMP: **See total on last DA-4 Form 4.3-3** (*Sum of Items 14 and 15 for all infiltration BMP included in plan)*

17 Fraction of DCV achieved with Infiltration BMP: **See last DA-4 Form 4.3-3** *% Retention% = Item 16 / Form 4.2-1 Item 7*

18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs?

☒ Yes ☐ No

If yes, demonstrate conformance using Form 4.3-10; if no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations

Note: BMP sizing information can be found in Appendix 4.

Form 4.3-3 Infiltration LID BMP – including underground BMPs (DA-4) cont.

1 Remaining LID DCV not met by site design BMP (ft^3): **443,865** *V_{unmet} = Form 4.2-1 Item 7 – Form 4.3-2 Item19*

BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) – Use addition forms for more BMPs*	DA-4 DMA-5A BMP Type Infiltration Basin	DA-4 DMA-5C BMP Type Infiltration Chamber	DA-4 DMA-6A BMP Type Infiltration Chamber	DA-4 DMA-6C BMP Type Infiltration Chamber
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix C of the TGD for WQMP for minimum requirements for assessment methods*	15	15	15	15
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*	4.4	4.4	4.4	4.4
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*	3.4	3.4	3.4	3.4
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*	48	48	48	48
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*	7.5	6	8	8
7 Ponding Depth (ft) *d_{BMP} =Minimum of (1/12*Item 4*Item 5) or Item 6*	7.5	6	8	8
8 Infiltrating surface area, *SA_{BMP}* (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*	24,104	29,232	35,420	30,580
9 Amended soil depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	-	-	-	-
10 Amended soil porosity	-	-	-	-
11 Gravel depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	-	0.5	0.5	0.5
12 Gravel porosity	-	40%	40%	40%
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	3	3	3	3
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item 7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4/12))]*	266,500	-	-	-
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*	-	143,102	231,618	199,956

16 Total Retention Volume from LID Infiltration BMP: **See total on last DA-4 Form 4.3-3** (*Sum of Items 14 and 15 for all infiltration BMP included in plan)*

17 Fraction of DCV achieved with Infiltration BMP: **See last DA-4 Form 4.3-3** *% Retention% = Item 16 / Form 4.2-1 Item 7*

18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs?
☒ Yes ☐ No
If yes, demonstrate conformance using Form 4.3-10; if no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations

Note: BMP sizing information can be found in Appendix 4.

Form 4.3-3 Infiltration LID BMP – including underground BMPs (DA-4) cont.

1 Remaining LID DCV not met by site design BMP (ft^3): **443,865** *V_{unmet} = Form 4.2-1 Item 7 – Form 4.3-2 Item19*

BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) – Use addition forms for more BMPs*	DA-4 DMA-7A BMP Type Infiltration Chamber	DA-4 DMA-7C BMP Type Infiltration Chamber
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix C of the TGD for WQMP for minimum requirements for assessment methods*	15	15
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*	4.4	4.4
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*	3.4	3.4
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*	48	48
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*	8	6
7 Ponding Depth (ft) *d_{BMP} =Minimum of (1/12*Item 4*Item 5) or Item 6*	8	6
8 Infiltrating surface area, *SA_{BMP}* (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*	37,785	58,176
9 Amended soil depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	-	-
10 Amended soil porosity	-	-
11 Gravel depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	0.5	0.5
12 Gravel porosity	40%	40%
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	3	3
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item 7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4/12))]*	-	-
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*	247,090	284,136

16 Total Retention Volume from LID Infiltration BMP: **2,228,556** (*Sum of Items 14 and 15 for all infiltration BMP included in plan)*

17 Fraction of DCV achieved with Infiltration BMP: **502%** *% Retention% = Item 16 / Form 4.2-1 Item 7*

18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs?
☒ Yes ☐ No
If yes, demonstrate conformance using Form 4.3-10; if no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations

Note: BMP sizing information can be found in Appendix 4.

Form 4.3-3 Infiltration LID BMP – including underground BMPs (DA-5)

1 Remaining LID DCV not met by site design BMP (ft^3): **270,230** *V_{unmet} = Form 4.2-1 Item 7 – Form 4.3-2 Item19*

BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) – Use addition forms for more BMPs*	DA-5 DMA-5B BMP Type Infiltration Chamber	DA-5 DMA-5D BMP Type Infiltration Chamber	DA-5 DMA-6B BMP Type Infiltration Chamber
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix C of the TGD for WQMP for minimum requirements for assessment methods*	15	15	15
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*	4.4	4.4	4.4
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*	3.4	3.4	3.4
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*	48	48	48
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*	8	8	8
7 Ponding Depth (ft) *d_{BMP} =Minimum of (1/12*Item 4*Item 5) or Item 6*	8	8	8
8 Infiltrating surface area, *SA_{BMP}* (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*	61,985	47,850	32,065
9 Amended soil depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	-	-	-
10 Amended soil porosity	-	-	-
11 Gravel depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	0.5	0.5	0.5
12 Gravel porosity	40%	40%	40%
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	3	3	3
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item 7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4/12))]*	-	-	-
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*	405,943	312,932	209,671

16 Total Retention Volume from LID Infiltration BMP: **See total on last DA-5 Form 4.3-3** (*Sum of Items 14 and 15 for all infiltration BMP included in plan)*

17 Fraction of DCV achieved with Infiltration BMP: **See last DA-5 Form 4.3-3** *% Retention% = Item 16 / Form 4.2-1 Item 7*

18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs?
☒ Yes ☐ No
If yes, demonstrate conformance using Form 4.3-10; if no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations

Note: BMP sizing information can be found in Appendix 4.

Form 4.3-3 Infiltration LID BMP – including underground BMPs (DA-5) cont.

1 Remaining LID DCV not met by site design BMP (ft^3): **270,230** *V_{unmet} = Form 4.2-1 Item 7 – Form 4.3-2 Item19*

BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) – Use addition forms for more BMPs*	DA-5 DMA-6D BMP Type Infiltration Chamber	DA-5 DMA-7B BMP Type Infiltration Chamber	DA-5 DMA-7D BMP Type Infiltration Chamber
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix C of the TGD for WQMP for minimum requirements for assessment methods*	15	15	15
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*	4.4	4.4	4.4
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*	3.4	3.4	3.4
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*	48	48	48
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*	6	8	8
7 Ponding Depth (ft) *d_{BMP} =Minimum of (1/12*Item 4*Item 5) or Item 6*	6	8	8
8 Infiltrating surface area, *SA_{BMP}* (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*	37,098	15,840	21,846
9 Amended soil depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	-	-	-
10 Amended soil porosity	-	-	-
11 Gravel depth, *d_{media}* (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*	0.5	0.5	0.5
12 Gravel porosity	40%	40%	40%
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	3	3	3
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item 7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4/12))]*	-	-	-
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*	181,171	103,531	142,821

16 Total Retention Volume from LID Infiltration BMP: **1,356,069** (*Sum of Items 14 and 15 for all infiltration BMP included in plan)*

17 Fraction of DCV achieved with Infiltration BMP: **502%** *% Retention% = Item 16 / Form 4.2-1 Item 7*

18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs?
☒ Yes ☐ No
If yes, demonstrate conformance using Form 4.3-10; if no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations

Note: BMP sizing information can be found in Appendix 4.

4.3.4 Biotreatment BMP

Biotreatment BMPs may be considered if the full LID DCV cannot be met by maximizing retention and infiltration. A key consideration when using biotreatment BMP is the effectiveness of the proposed BMP in addressing the pollutants of concern for the project (see Table 5-5 of the TGD for WQMP).

Use Form 4.3-4 to summarize the potential for volume based and/or flow based biotreatment options to biotreat the remaining unmet LID DCV. Biotreatment computations are included as follows:

- Use Form 4.3-5 to compute biotreatment in small volume based biotreatment BMP (e.g. bioretention w/underdrains);
- Use Form 4.3-6 to compute biotreatment in large volume based biotreatment BMP (e.g. constructed wetlands);
- Use Form 4.3-7 to compute sizing criteria for flow-based biotreatment BMP (e.g. bioswales)

Form 4.3-4 Selection and Evaluation of Biotreatment BMP (DA 1)

1 Remaining LID DCV not met by site design , or infiltration, BMP for potential biotreatment (ft^3): 0 *Form 4.2-1 Item 7 - Form 4.3-2 Item 19 – Form 4.3-3 Item 16*	List pollutants of concern *Copy from Form 2.3-1.*	
2 Biotreatment BMP Selected *(Select biotreatment BMP(s) necessary to ensure all pollutants of concern are addressed through Unit Operations and Processes, described in Table 5-5 of the TGD for WQMP)*	Volume-based biotreatment *Use Forms 4.3-5 and 4.3-6 to compute treated volume*	Flow-based biotreatment *Use Form 4.3-7 to compute treated flow*
	☐ Bioretention with underdrain ☐ Planter box with underdrain ☐ Constructed wetlands ☐ Wet extended detention ☐ Dry extended detention	☐ Vegetated swale ☐ Vegetated filter strip ☐ Proprietary biotreatment
3 Volume biotreated in volume based biotreatment BMP (ft^3): *Form 4.3-5 Item 15 + Form 4.3-6 Item 13*	**4** Compute remaining LID DCV with implementation of volume based biotreatment BMP (ft^3): *Item 1 – Item 3*	**5** Remaining fraction of LID DCV for sizing flow based biotreatment BMP: % *Item 4 / Item 1*
6 Flow-based biotreatment BMP capacity provided (cfs): *Use Figure 5-2 of the TGD for WQMP to determine flow capacity required to provide biotreatment of remaining percentage of unmet LID DCV (Item 5), for the project's precipitation zone (Form 3-1 Item 1)*		
7 Metrics for MEP determination: • Provided a WQMP with the portion of site area used for suite of LID BMP equal to minimum thresholds in Table 5-7 of the TGD for WQMP for the proposed category of development: ☐ *If maximized on-site retention BMPs is feasible for partial capture, then LID BMP implementation must be optimized to retain and infiltrate the maximum portion of the DCV possible within the prescribed minimum effective area. The remaining portion of the DCV shall then be mitigated using biotreatment BMP.*		

Form 4.3-5 Volume Based Biotreatment (DA 1) – Bioretention and Planter Boxes with Underdrains

Biotreatment BMP Type *(Bioretention w/underdrain, planter box w/underdrain, other comparable BMP)*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
1 Pollutants addressed with BMP *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP*	N/A		
2 Amended soil infiltration rate *Typical ~ 5.0*	N/A		
3 Amended soil infiltration safety factor *Typical ~ 2.0*	N/A		
4 Amended soil design percolation rate (in/hr) P_{design} *= Item 2 / Item 3*	N/A		
5 Ponded water drawdown time (hr) *Copy Item 6 from Form 4.2-1*	N/A		
6 Maximum ponding depth (ft) *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A		
7 Ponding Depth (ft) d_{BMP} *= Minimum of (1/12 * Item 4 * Item 5) or Item 6*	N/A		
8 Amended soil surface area (ft^2)	N/A		
9 Amended soil depth (ft) *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A		
10 Amended soil porosity, *n*	N/A		
11 Gravel depth (ft) *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A		
12 Gravel porosity, *n*	N/A		
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*	N/A		
14 Biotreated Volume (ft^3) $V_{biotreated}$ *= Item 8 * [(Item 7/2) + (Item 9 * Item 10) +(Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]*	N/A		
15 Total biotreated volume from bioretention and/or planter box with underdrains BMP: N/A *Sum of Item 14 for all volume-based BMPs included in this form*			

Form 4.3-6 Volume Based Biotreatment (DA 1) – Constructed Wetlands and Extended Detention

Biotreatment BMP Type *Constructed wetlands, extended wet detention, extended dry detention, or other comparable proprietary BMP. If BMP includes multiple modules (E.g. forebay and main basin), provide separate estimates for storage and pollutants treated in each module.*	DA DMA BMP Type		DA DMA BMP Type *(Use additional forms for more BMPs)*	
	Forebay	Basin	Forebay	Basin
1 Pollutants addressed with BMP forebay and basin *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP*	N/A	N/A		
2 Bottom width (ft)	N/A	N/A		
3 Bottom length (ft)	N/A	N/A		
4 Bottom area (ft^2) A_{bottom} = *Item 2 * Item 3*	N/A	N/A		
5 Side slope (ft/ft)	N/A	N/A		
6 Depth of storage (ft)	N/A	N/A		
7 Water surface area (ft^2) $A_{surface}$ =*(Item 2 + (2 * Item 5 * Item 6)) * (Item 3 + (2 * Item 5 * Item 6))*	N/A	N/A		
8 Storage volume (ft^3) *For BMP with a forebay, ensure fraction of total storage is within ranges specified in BMP specific fact sheets, see Table 5-6 of the TGD for WQMP for reference to BMP design details* V =*Item 6 / 3 * [Item 4 + Item 7 + (Item 4 * Item 7)^0.5]*	N/A	N/A		
9 Drawdown Time (hrs) *Copy Item 6 from Form 2.1*	N/A			
10 Outflow rate (cfs) Q_{BMP} = *(Item* $8_{forebay}$ *+ Item* 8_{basin}*) / (Item 9 * 3600)*	N/A			
11 Duration of design storm event (hrs)	N/A			
12 Biotreated Volume (ft^3) $V_{biotreated}$ = *(Item* $8_{forebay}$ *+ Item* 8_{basin}*) +(Item 10 * Item 11 * 3600)*	N/A			
13 Total biotreated volume from constructed wetlands, extended dry detention, or extended wet detention : N/A *(Sum of Item 12 for all BMP included in plan)*				

Form 4.3-7 Flow Based Biotreatment (DA 1)

Biotreatment BMP Type *Vegetated swale, vegetated filter strip, or other comparable proprietary BMP*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
1 Pollutants addressed with BMP *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in TGD Table 5-5*	N/A		
2 Flow depth for water quality treatment (ft) *BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A		
3 Bed slope (ft/ft) *BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A		
4 Manning's roughness coefficient	N/A		
5 Bottom width (ft) b_w = *(Form 4.3-5 Item 6 * Item 4) / (1.49 * Item 2^1.67 * Item 3^0.5)*	N/A		
6 Side Slope (ft/ft) *BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A		
7 Cross sectional area (ft^2) *A = (Item 5 * Item 2) + (Item 6 * Item 2^2)*	N/A		
8 Water quality flow velocity (ft/sec) *V = Form 4.3-5 Item 6 / Item 7*	N/A		
9 Hydraulic residence time (min) *Pollutant specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	N/A		
10 Length of flow based BMP (ft) *L = Item 8 * Item 9 * 60*	N/A		
11 Water surface area at water quality flow depth (ft^2) SA_{top} = *(Item 5 + (2 * Item 2 * Item 6)) * Item 10*	N/A		

4.3.5 Conformance Summary

Complete Form 4.3-8 to demonstrate how on-site LID DCV is met with proposed site design, infiltration, and/or biotreatment BMP. The bottom line of the form is used to describe the basis for infeasibility determination for on-site LID BMP to achieve full LID DCV, and provides methods for computing remaining volume to be addressed in an alternative compliance plan. If the project has more than one outlet, then complete additional versions of this form for each outlet.

Form 4.3-8 Conformance Summary and Alternative Compliance Volume Estimate (DA-1)

1 Total LID DCV for the Project DA-1 (ft^3): **111,107** *Copy Item 7 in Form 4.2-1*

2 On-site retention with site design BMP (ft^3): **0** *Copy Item18 in Form 4.3-2*

3 On-site retention with LID infiltration BMP (ft^3): **557,053** *Copy Item 16 in Form 4.3-3*

4 On-site biotreatment with volume based biotreatment BMP (ft^3): **N/A** *Copy Item 3 in Form 4.3-4*

5 Flow capacity provided by flow based biotreatment BMP (cfs): **N/A** *Copy Item 6 in Form 4.3-4*

6 LID BMP Performance criteria are achieved if answer to any of the following is "Yes":

- Full retention of LID DCV with site design or infiltration BMP: ☒ Yes ☐ No
  If yes, sum of items 2, 3, and 4 is greater than 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: ☐ Yes ☒ No
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3—5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible; therefore biotreatment BMP provides biotreatment for all pollutants of concern for full LID DCV: ☐ Yes ☒ No
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

7 If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which cause the need for alternative compliance:

- Combination of Site Design, retention and infiltration, and biotreatment BMPs provide less than full LID DCV capture: ☐
  *Checked yes if Form 4.3-4 Item 7 is checked yes, Form 4.3-4 Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} = (Item 1 – Item 2- Item 3 – Item 4 – Item 5) * (100 – Form 2.4-1 Item 2)%*
- Facilities, or a combination of facilities, of a different design than in Section E.12.e(ii)(f) may be permitted if all the following Phase II Small MS4 General Permit 2013-0001-DWQ 55 February 5, 2013 measures of equivalent effectiveness are demonstrated:

1) Equal or greater amount of runoff infiltrated or evaportranspired; ☐
2) Equal or lower pollutant concentration in runoff that is discharged after biotreatment; ☐
3) Equal or greater protection against shock loadings and spills; ☐
4) Equal or greater accessibility and ease of inspection and maintenance. ☐

Form 4.3-8 Conformance Summary and Alternative Compliance Volume Estimate (DA-2)

1 Total LID DCV for the Project DA-1 (ft^3): **46,584** *Copy Item 7 in Form 4.2-1*

2 On-site retention with site design BMP (ft^3): **0** *Copy Item18 in Form 4.3-2*

3 On-site retention with LID infiltration BMP (ft^3): **235,126** *Copy Item 16 in Form 4.3-3*

4 On-site biotreatment with volume based biotreatment BMP (ft^3): **N/A** *Copy Item 3 in Form 4.3-4*

5 Flow capacity provided by flow based biotreatment BMP (cfs): **N/A** *Copy Item 6 in Form 4.3-4*

6 LID BMP Performance criteria are achieved if answer to any of the following is "Yes":

- Full retention of LID DCV with site design or infiltration BMP: ☒ Yes ☐ No
  If yes, sum of items 2, 3, and 4 is greater than 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: ☐ Yes ☒ No
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3—5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible; therefore biotreatment BMP provides biotreatment for all pollutants of concern for full LID DCV: ☐ Yes ☒ No
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

7 If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which cause the need for alternative compliance:

- Combination of Site Design, retention and infiltration, and biotreatment BMPs provide less than full LID DCV capture: ☐
  *Checked yes if Form 4.3-4 Item 7 is checked yes, Form 4.3-4 Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} = (Item 1 – Item 2- Item 3 – Item 4 – Item 5) * (100 – Form 2.4-1 Item 2)%*
- Facilities, or a combination of facilities, of a different design than in Section E.12.e(ii)(f) may be permitted if all the following Phase II Small MS4 General Permit 2013-0001-DWQ 55 February 5, 2013 measures of equivalent effectiveness are demonstrated:

5) Equal or greater amount of runoff infiltrated or evaportranspired; ☐
6) Equal or lower pollutant concentration in runoff that is discharged after biotreatment; ☐
7) Equal or greater protection against shock loadings and spills; ☐
8) Equal or greater accessibility and ease of inspection and maintenance. ☐

Form 4.3-8 Conformance Summary and Alternative Compliance Volume Estimate (DA-3)

1 Total LID DCV for the Project DA-1 (ft^3): **190,015** *Copy Item 7 in Form 4.2-1*

2 On-site retention with site design BMP (ft^3): **0** *Copy Item18 in Form 4.3-2*

3 On-site retention with LID infiltration BMP (ft^3): **925,916** *Copy Item 16 in Form 4.3-3*

4 On-site biotreatment with volume based biotreatment BMP (ft^3): **N/A** *Copy Item 3 in Form 4.3-4*

5 Flow capacity provided by flow based biotreatment BMP (cfs): **N/A** *Copy Item 6 in Form 4.3-4*

6 LID BMP Performance criteria are achieved if answer to any of the following is "Yes":

- Full retention of LID DCV with site design or infiltration BMP: ☒ Yes ☐ No
  If yes, sum of items 2, 3, and 4 is greater than 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: ☐ Yes ☒ No
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3—5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible; therefore biotreatment BMP provides biotreatment for all pollutants of concern for full LID DCV: ☐ Yes ☒ No
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

7 If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which cause the need for alternative compliance:

- Combination of Site Design, retention and infiltration, and biotreatment BMPs provide less than full LID DCV capture: ☐
  *Checked yes if Form 4.3-4 Item 7 is checked yes, Form 4.3-4 Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} = (Item 1 – Item 2- Item 3 – Item 4 – Item 5) * (100 – Form 2.4-1 Item 2)%*
- Facilities, or a combination of facilities, of a different design than in Section E.12.e(ii)(f) may be permitted if all the following Phase II Small MS4 General Permit 2013-0001-DWQ 55 February 5, 2013 measures of equivalent effectiveness are demonstrated:

9) Equal or greater amount of runoff infiltrated or evaportranspired; ☐
10) Equal or lower pollutant concentration in runoff that is discharged after biotreatment; ☐
11) Equal or greater protection against shock loadings and spills; ☐
12) Equal or greater accessibility and ease of inspection and maintenance. ☐

Form 4.3-8 Conformance Summary and Alternative Compliance Volume Estimate (DA-4)

1 Total LID DCV for the Project DA-1 (ft^3): **443,865** *Copy Item 7 in Form 4.2-1*

2 On-site retention with site design BMP (ft^3): **0** *Copy Item18 in Form 4.3-2*

3 On-site retention with LID infiltration BMP (ft^3): **2,228,556** *Copy Item 16 in Form 4.3-3*

4 On-site biotreatment with volume based biotreatment BMP (ft^3): **N/A** *Copy Item 3 in Form 4.3-4*

5 Flow capacity provided by flow based biotreatment BMP (cfs): **N/A** *Copy Item 6 in Form 4.3-4*

6 LID BMP Performance criteria are achieved if answer to any of the following is "Yes":

- Full retention of LID DCV with site design or infiltration BMP: ☒ Yes ☐ No
  If yes, sum of items 2, 3, and 4 is greater than 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: ☐ Yes ☒ No
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3—5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible; therefore biotreatment BMP provides biotreatment for all pollutants of concern for full LID DCV: ☐ Yes ☒ No
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

7 If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which cause the need for alternative compliance:

- Combination of Site Design, retention and infiltration, and biotreatment BMPs provide less than full LID DCV capture: ☐
  *Checked yes if Form 4.3-4 Item 7 is checked yes, Form 4.3-4 Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} = (Item 1 – Item 2- Item 3 – Item 4 – Item 5) * (100 – Form 2.4-1 Item 2)%*
- Facilities, or a combination of facilities, of a different design than in Section E.12.e(ii)(f) may be permitted if all the following Phase II Small MS4 General Permit 2013-0001-DWQ 55 February 5, 2013 measures of equivalent effectiveness are demonstrated:

13) Equal or greater amount of runoff infiltrated or evaportranspired; ☐
14) Equal or lower pollutant concentration in runoff that is discharged after biotreatment; ☐
15) Equal or greater protection against shock loadings and spills; ☐
16) Equal or greater accessibility and ease of inspection and maintenance. ☐

Form 4.3-8 Conformance Summary and Alternative Compliance Volume Estimate (DA-5)

1 Total LID DCV for the Project DA-1 (ft^3): **270,230** *Copy Item 7 in Form 4.2-1*

2 On-site retention with site design BMP (ft^3): **0** *Copy Item18 in Form 4.3-2*

3 On-site retention with LID infiltration BMP (ft^3): **1,356,069** *Copy Item 16 in Form 4.3-3*

4 On-site biotreatment with volume based biotreatment BMP (ft^3): **N/A** *Copy Item 3 in Form 4.3-4*

5 Flow capacity provided by flow based biotreatment BMP (cfs): **N/A** *Copy Item 6 in Form 4.3-4*

6 LID BMP Performance criteria are achieved if answer to any of the following is "Yes":

- Full retention of LID DCV with site design or infiltration BMP: ☒ Yes ☐ No
  If yes, sum of items 2, 3, and 4 is greater than 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: ☐ Yes ☒ No
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3—5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible; therefore biotreatment BMP provides biotreatment for all pollutants of concern for full LID DCV: ☐ Yes ☒ No
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

7 If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which cause the need for alternative compliance:

- Combination of Site Design, retention and infiltration, and biotreatment BMPs provide less than full LID DCV capture: ☐
  *Checked yes if Form 4.3-4 Item 7 is checked yes, Form 4.3-4 Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} = (Item 1 – Item 2- Item 3 – Item 4 – Item 5) * (100 – Form 2.4-1 Item 2)%*
- Facilities, or a combination of facilities, of a different design than in Section E.12.e(ii)(f) may be permitted if all the following Phase II Small MS4 General Permit 2013-0001-DWQ 55 February 5, 2013 measures of equivalent effectiveness are demonstrated:

17) Equal or greater amount of runoff infiltrated or evaportranspired; ☐
18) Equal or lower pollutant concentration in runoff that is discharged after biotreatment; ☐
19) Equal or greater protection against shock loadings and spills; ☐
20) Equal or greater accessibility and ease of inspection and maintenance. ☐

4.3.6 Hydromodification Control BMP

Use Form 4.3-9 to compute the remaining runoff volume retention, after Site Design BMPs are implemented, needed to address hydromodification, and the increase in time of concentration and decrease in peak runoff necessary to meet targets for protection of waterbodies with a potential hydromodification. Describe the proposed hydromodification treatment control BMP. Section 5.6 of the TGD for WQMP provides additional details on selection and evaluation of hydromodification control BMP.

Form 4.3-9 Hydromodification Control BMPs (DA-1)

1Volume reduction needed for hydromodification performance criteria (ft^3): **121,058** *(Form 4.2-2 Item 4 * 0.95) – Form 4.2-2 Item 1*	**2**On-site retention with site design and infiltration, BMP (ft^3): **557,053** *Sum of Form 4.3-8 Items 2, 3, and 4. Evaluate option to increase implementation of on-site retention in Forms 4.3-2, 4.3-3, and 4.3-4 in excess of LID DCV toward achieving hydromodification volume reduction*
3Remaining volume for hydromodification volume capture (ft^3): **-435,995** *Item 1 – Item 2*	**4**Volume capture provided by incorporating additional on-site BMPs (ft^3): **N/A**

5Is Form 4.2-2 Item 11 less than or equal to 5%: ☐ Yes ☒ No
If yes, hydromodification performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate increase in time of concentration achieved by proposed LID site design, LID BMP, and additional on-site BMP ☒
- Increase time of concentration by preserving pre-developed flow path and/or increase travel time by reducing slope and increasing cross-sectional area and roughness for proposed on-site conveyance facilities ☐

6Form 4.2-2 Item 12 less than or equal to 5%: ☐ Yes ☒ No
If yes, hydromodification performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate reduction in peak runoff achieved by proposed LID site design, LID BMPs, and additional on-site retention BMPs ☒

Note: LID BMPs are sized to detain the 100-year 24-hour storm volume. This conservative approach fully accommodates the water quality volume DCV as well as the HCOC volume.

Form 4.3-9 Hydromodification Control BMPs (DA-2)

1Volume reduction needed for hydromodification performance criteria (ft^3): **72,710** *(Form 4.2-2 Item 4 * 0.95) – Form 4.2-2 Item 1*	**2**On-site retention with site design and infiltration, BMP (ft^3): **235,126** *Sum of Form 4.3-8 Items 2, 3, and 4. Evaluate option to increase implementation of on-site retention in Forms 4.3-2, 4.3-3, and 4.3-4 in excess of LID DCV toward achieving hydromodification volume reduction*
3Remaining volume for hydromodification volume capture (ft^3): **-162,416** *Item 1 – Item 2*	**4**Volume capture provided by incorporating additional on-site BMPs (ft^3): **N/A**

5Is Form 4.2-2 Item 11 less than or equal to 5%: ☐ Yes ☒ No
If yes, hydromodification performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate increase in time of concentration achieved by proposed LID site design, LID BMP, and additional on-site BMP ☒
- Increase time of concentration by preserving pre-developed flow path and/or increase travel time by reducing slope and increasing cross-sectional area and roughness for proposed on-site conveyance facilities ☐

6Form 4.2-2 Item 12 less than or equal to 5%: ☐ Yes ☒ No
If yes, hydromodification performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate reduction in peak runoff achieved by proposed LID site design, LID BMPs, and additional on-site retention BMPs ☒

Note: LID BMPs are sized to detain the 100-year 24-hour storm volume. This conservative approach fully accommodates the water quality volume DCV as well as the HCOC volume.

Form 4.3-9 Hydromodification Control BMPs (DA-3)

1Volume reduction needed for hydromodification performance criteria (ft^3): **263,597** *(Form 4.2-2 Item 4 * 0.95) – Form 4.2-2 Item 1*	**2**On-site retention with site design and infiltration, BMP (ft^3): **925,916** *Sum of Form 4.3-8 Items 2, 3, and 4. Evaluate option to increase implementation of on-site retention in Forms 4.3-2, 4.3-3, and 4.3-4 in excess of LID DCV toward achieving hydromodification volume reduction*
3Remaining volume for hydromodification volume capture (ft^3): **-662,319** *Item 1 – Item 2*	**4**Volume capture provided by incorporating additional on-site BMPs (ft^3): **N/A**

5Is Form 4.2-2 Item 11 less than or equal to 5%: ☐ Yes ☒ No

If yes, hydromodification performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate increase in time of concentration achieved by proposed LID site design, LID BMP, and additional on-site BMP ☒
- Increase time of concentration by preserving pre-developed flow path and/or increase travel time by reducing slope and increasing cross-sectional area and roughness for proposed on-site conveyance facilities ☐

6Form 4.2-2 Item 12 less than or equal to 5%: ☐ Yes ☒ No

If yes, hydromodification performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate reduction in peak runoff achieved by proposed LID site design, LID BMPs, and additional on-site retention BMPs ☒

Note: LID BMPs are sized to detain the 100-year 24-hour storm volume. This conservative approach fully accommodates the water quality volume DCV as well as the HCOC volume.

Form 4.3-9 Hydromodification Control BMPs (DA-4)

1Volume reduction needed for hydromodification performance criteria (ft^3): **707,390** *(Form 4.2-2 Item 4 * 0.95) – Form 4.2-2 Item 1*	**2**On-site retention with site design and infiltration, BMP (ft^3): **2,228,556** *Sum of Form 4.3-8 Items 2, 3, and 4. Evaluate option to increase implementation of on-site retention in Forms 4.3-2, 4.3-3, and 4.3-4 in excess of LID DCV toward achieving hydromodification volume reduction*
3Remaining volume for hydromodification volume capture (ft^3): **-1,521,166** *Item 1 – Item 2*	**4**Volume capture provided by incorporating additional on-site BMPs (ft^3): **N/A**

5Is Form 4.2-2 Item 11 less than or equal to 5%: ☐ Yes ☒ No
If yes, hydromodification performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate increase in time of concentration achieved by proposed LID site design, LID BMP, and additional on-site BMP ☒
- Increase time of concentration by preserving pre-developed flow path and/or increase travel time by reducing slope and increasing cross-sectional area and roughness for proposed on-site conveyance facilities ☐

6Form 4.2-2 Item 12 less than or equal to 5%: ☐ Yes ☒ No
If yes, hydromodification performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate reduction in peak runoff achieved by proposed LID site design, LID BMPs, and additional on-site retention BMPs ☒

Note: LID BMPs are sized to detain the 100-year 24-hour storm volume. This conservative approach fully accommodates the water quality volume DCV as well as the HCOC volume.

Form 4.3-9 Hydromodification Control BMPs (DA-5)

1Volume reduction needed for hydromodification performance criteria (ft^3): **421,566** *(Form 4.2-2 Item 4 * 0.95) – Form 4.2-2 Item 1*	**2**On-site retention with site design and infiltration, BMP (ft^3): **1,356,069** *Sum of Form 4.3-8 Items 2, 3, and 4. Evaluate option to increase implementation of on-site retention in Forms 4.3-2, 4.3-3, and 4.3-4 in excess of LID DCV toward achieving hydromodification volume reduction*
3Remaining volume for hydromodification volume capture (ft^3): **-934,503** *Item 1 – Item 2*	**4**Volume capture provided by incorporating additional on-site BMPs (ft^3): **N/A**

5Is Form 4.2-2 Item 11 less than or equal to 5%: ☐ Yes ☒ No
If yes, hydromodification performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate increase in time of concentration achieved by proposed LID site design, LID BMP, and additional on-site BMP ☒
- Increase time of concentration by preserving pre-developed flow path and/or increase travel time by reducing slope and increasing cross-sectional area and roughness for proposed on-site conveyance facilities ☐

6Form 4.2-2 Item 12 less than or equal to 5%: ☐ Yes ☒ No
If yes, hydromodification performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate reduction in peak runoff achieved by proposed LID site design, LID BMPs, and additional on-site retention BMPs ☒

Note: LID BMPs are sized to detain the 100-year 24-hour storm volume. This conservative approach fully accommodates the water quality volume DCV as well as the HCOC volume.

4.4 Alternative Compliance Plan (if applicable)

Describe an alternative compliance plan (if applicable) for projects not fully able to infiltrate, or biotreat the DCV via on-site LID practices. A project proponent must develop an alternative compliance plan to address the remainder of the LID DCV. Depending on project type some projects may qualify for water quality credits that can be applied to reduce the DCV that must be treated prior to development of an alternative compliance plan (see Form 2.4-1, Water Quality Credits). Form 4.3-9 Item 8 includes instructions on how to apply water quality credits when computing the DCV that must be met through alternative compliance.

Alternative Designs — Facilities, or a combination of facilities, of a different design than in Permit Section E.12.e.(ii)(f) may be permitted if all of the following measures of equivalent effectiveness are demonstrated:

1) Equal or greater amount of runoff infiltrated or evapotranspired;

2) Equal or lower pollutant concentrations in runoff that is discharged after biotreatment;

3) Equal or greater protection against shock loadings and spills;

4) Equal or greater accessibility and ease of inspection and maintenance.

The Project Proponent will need to obtain written approval for an alternative design from the Lahontan Regional Water Board Executive Officer (see Section 6 of the TGD for WQMP).

Section 5 Inspection and Maintenance Responsibility for Post Construction BMP

All BMPs included as part of the project WQMP are required to be maintained through regular scheduled inspection and maintenance (refer to Section 8, Post Construction BMP Requirements, in the TGD for WQMP). Fully complete Form 5-1 summarizing all BMP included in the WQMP. Attach additional forms as needed. The WQMP shall also include a detailed Operation and Maintenance Plan for all BMP and a Maintenance Agreement. The Maintenance Agreement must also be attached to the WQMP.

Note that at time of Project construction completion, the Maintenance Agreement must be completed, signed, notarized and submitted to the County Stormwater Department

Form 5-1 BMP Inspection and Maintenance (use additional forms as necessary)

BMP	Reponsible Party(s)	Inspection/ Maintenance Activities Required	Minimum Frequency of Activities
All onsite BMPS 1A-7D	Owner	Per O&M Plan	Annually

Section 6 WQMP Attachments

6.1. Site Plan and Drainage Plan

Include a site plan and drainage plan sheet set containing the following minimum information:

- Project location
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural Source Control BMP locations
- Site Design Hydrologic Source Control BMP locations
- LID BMP details
- Drainage delineations and flow information
- Drainage connections

6.2 Electronic Data Submittal

Minimum requirements include submittal of PDF exhibits in addition to hard copies. Format must not require specialized software to open. If the local jurisdiction requires specialized electronic document formats (as described in their Local Implementation Plan), this section will describe the contents (e.g., layering, nomenclature, geo-referencing, etc.) of these documents so that they may be interpreted efficiently and accurately.

6.3 Post Construction

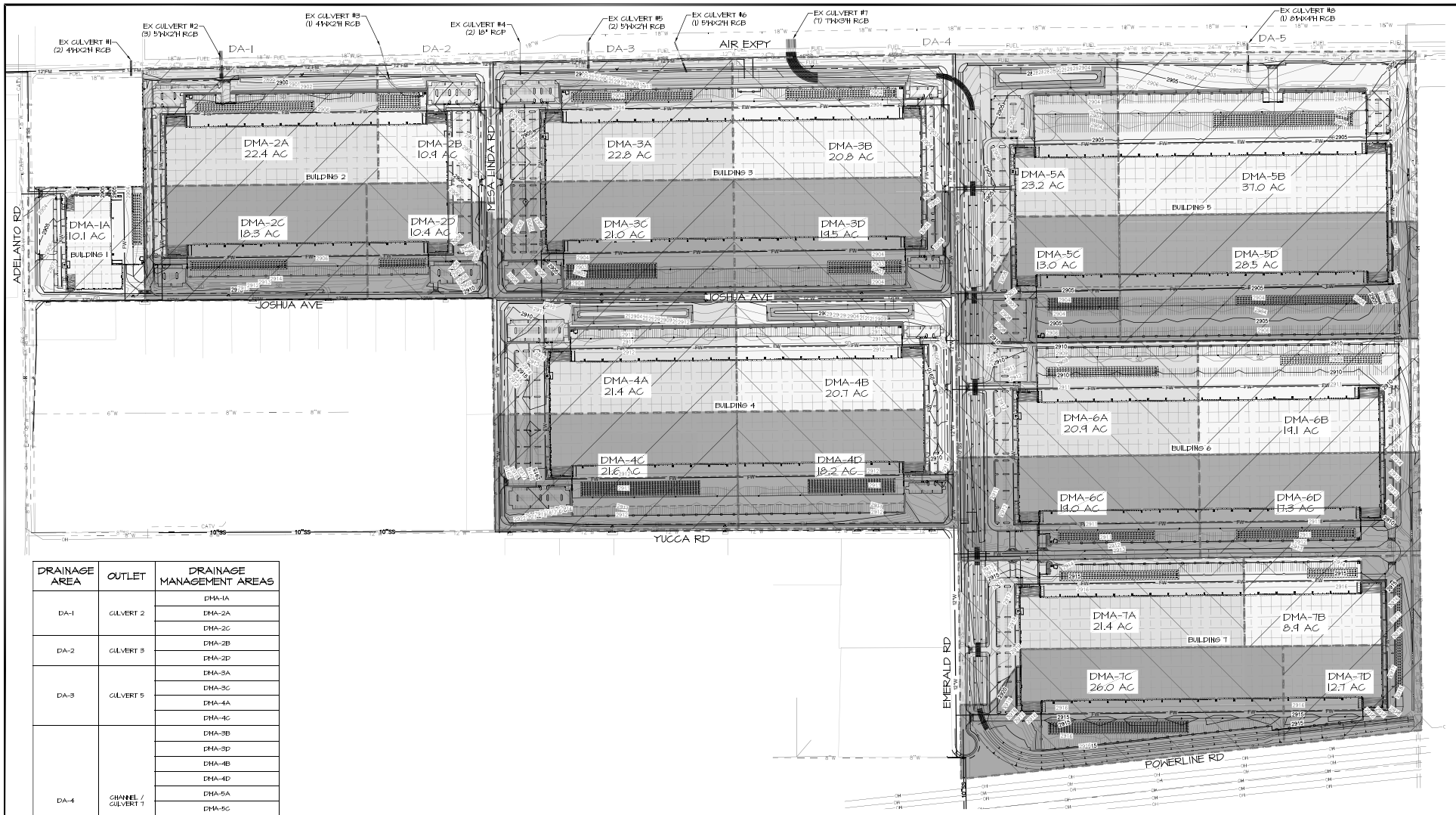
Attach all O&M Plans and Maintenance Agreements for BMP to the WQMP.

6.4 Other Supporting Documentation

- BMP Educational Materials
- Activity Restriction – C,C&R's & Lease Agreements

Appendix 1

Maps and Site Plans



DRAINAGE AREA	OUTLET	DRAINAGE MANAGEMENT AREAS
DA-1	CULVERT 2	DMA-1A
		DMA-2A
		DMA-2C
DA-2	CULVERT 3	DMA-2B
		DMA-2D
DA-3	CULVERT 5	DMA-3A
		DMA-3C
		DMA-4A
		DMA-4C
DA-4	CHANNEL / CULVERT 7	DMA-3B
		DMA-3D
		DMA-4B
		DMA-4D
		DMA-5A
		DMA-5C
		DMA-6A
		DMA-6C
		DMA-7A
		DMA-7C
DA-5	CULVERT 8	DMA-5B
		DMA-5D
		DMA-6B
		DMA-6D
		DMA-7B
		DMA-7D

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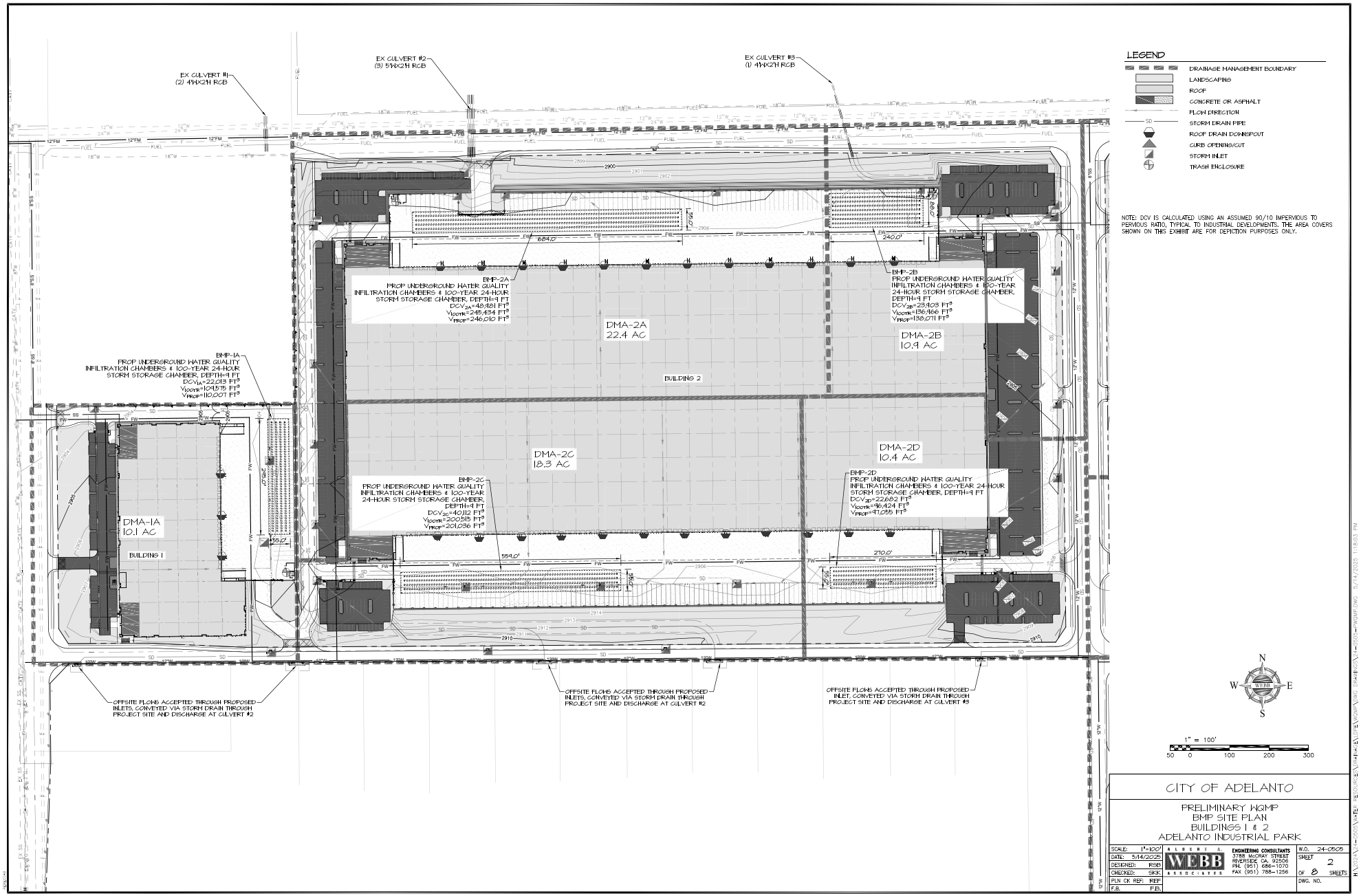
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DMA SITE PLAN
ADELANTO INDUSTRIAL PARK

SCALE:	1"=250'
DATE:	5/14/2025
DESIGNED:	RSB
CHECKED:	SKK
PLN CK REP:	REP
F.B.	F.B.

WEBB ASSOCIATES
ENGINEERING CONSULTANTS
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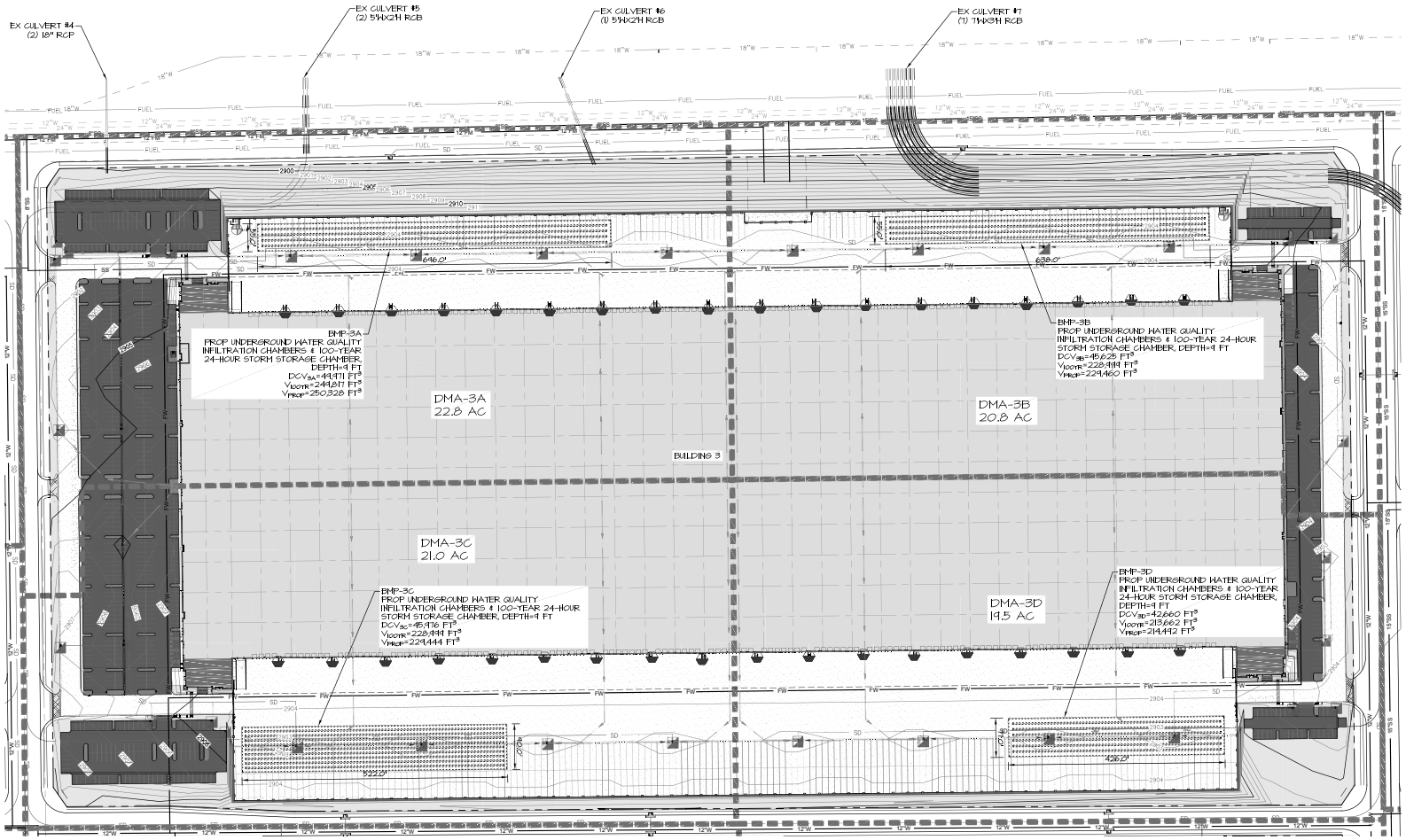
PRELIMINARY WQMP
BMP SITE PLAN
BUILDINGS 1 & 2
ADELANTO INDUSTRIAL PARK

SCALE:	1"=100'
DATE:	5/14/2025
DESIGNED:	RSB
CHECKED:	SKK
PLN CK REF:	REF
F.B.	F.B.

ALBERT A. WEBB ASSOCIATES
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3788 McCRAY STREET
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LEGEND

- DRAINAGE MANAGEMENT BOUNDARY
- LANDSCAPING
- ROOF
- CONCRETE OR ASPHALT
- FLOW DIRECTION
- SD — STORM DRAIN PIPE
- ROOF DRAIN DOWNSPOUT
- CURB OPENING/CUT
- STORM INLET
- TRASH ENCLOSURE

NOTE: DCV IS CALCULATED USING AN ASSUMED 90/10 IMPERVIOUS TO PERVIOUS RATIO, TYPICAL TO INDUSTRIAL DEVELOPMENTS. THE AREA COVERS SHOWN ON THIS EXHIBIT ARE FOR DEPICTION PURPOSES ONLY.

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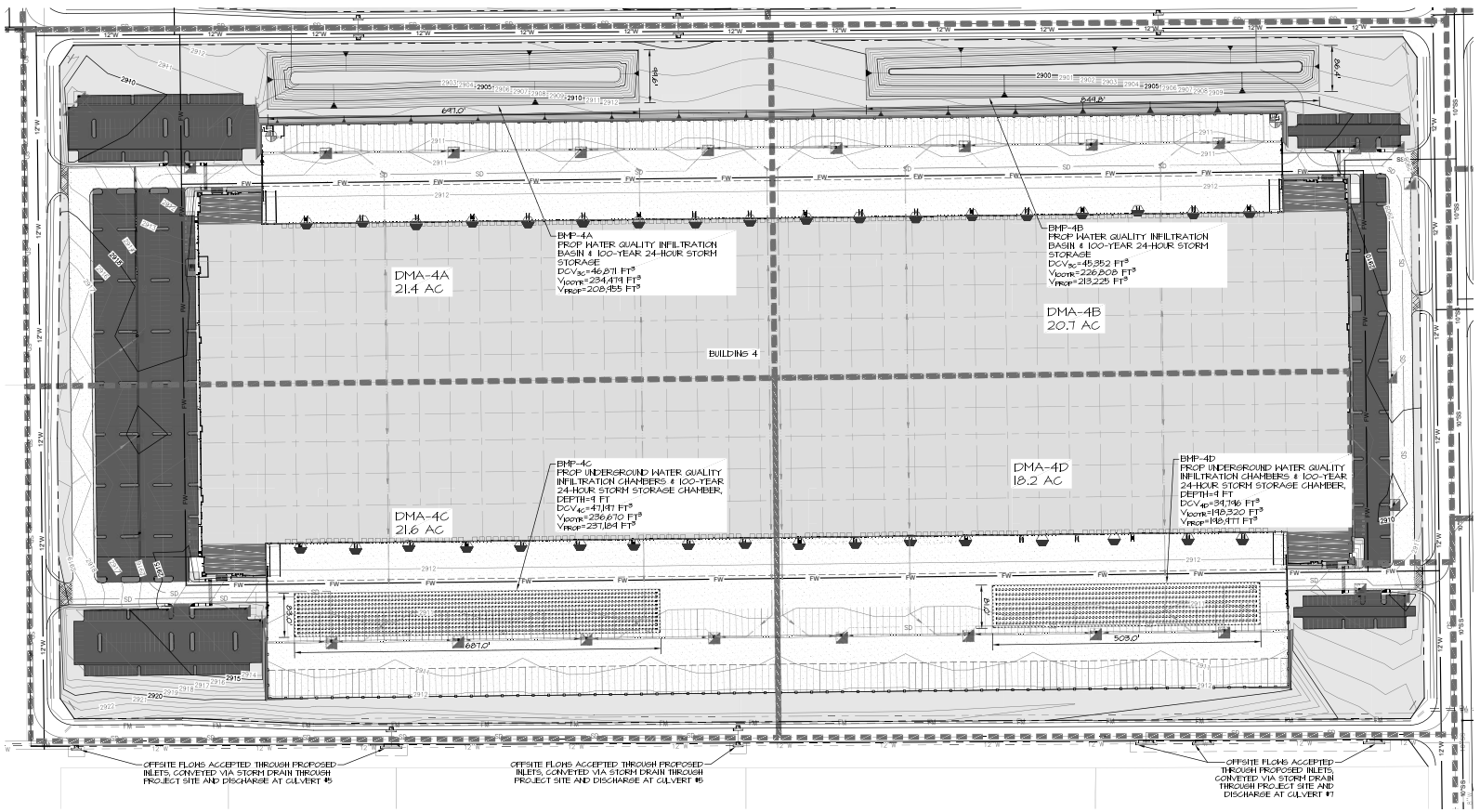
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PRELIMINARY WQMP
BMP SITE PLAN
BUILDING 3
ADELANTO INDUSTRIAL PARK

SCALE:	1"=100'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256
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- DRAINAGE MANAGEMENT BOUNDARY
- LANDSCAPING
- ROOF
- CONCRETE OR ASPHALT
- FLOW DIRECTION
- SD — STORM DRAIN PIPE
- ROOF DRAIN DOWNSPOUT
- CURB OPENING/CUT
- STORM INLET
- TRASH ENCLOSURE

NOTE: DCV IS CALCULATED USING AN ASSUMED 90/10 IMPERVIOUS TO PERVIOUS RATIO, TYPICAL TO INDUSTRIAL DEVELOPMENTS. THE AREA COVERS SHOWN ON THIS EXHIBIT ARE FOR DEPICTION PURPOSES ONLY.

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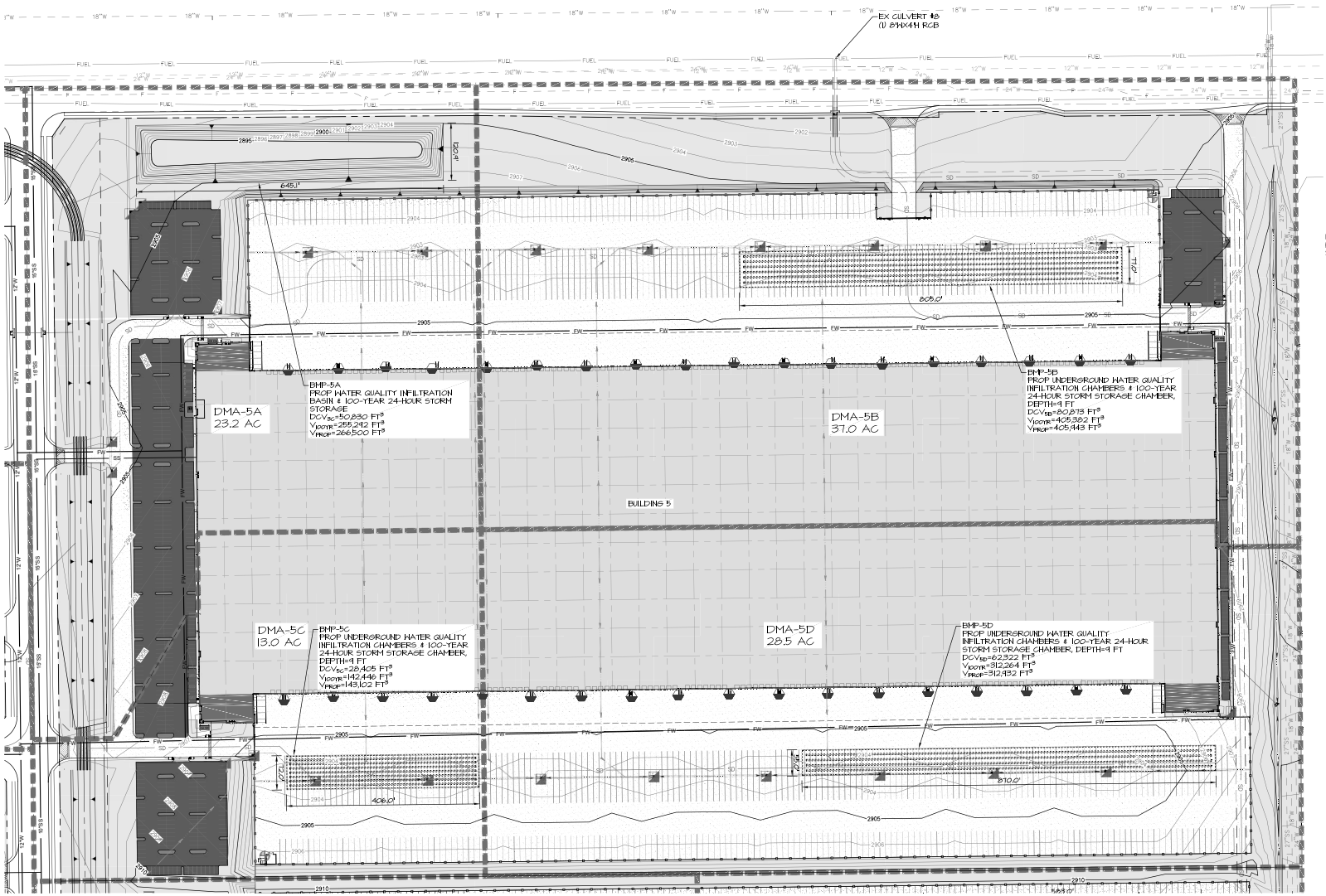
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BMP SITE PLAN
BUILDING 4
ADELANTO INDUSTRIAL PARK

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- DRAINAGE MANAGEMENT BOUNDARY
- LANDSCAPING
- ROOF
- CONCRETE OR ASPHALT
- FLOW DIRECTION
- SD STORM DRAIN PIPE
- ROOF DRAIN DOWNSPOUT
- CURB OPENING/CUT
- STORM INLET
- TRASH ENCLOSURE

NOTE: DCV IS CALCULATED USING AN ASSUMED 90/10 IMPERVIOUS TO PERVIOUS RATIO, TYPICAL TO INDUSTRIAL DEVELOPMENTS. THE AREA COVERS SHOWN ON THIS EXHIBIT ARE FOR DEPICTION PURPOSES ONLY.

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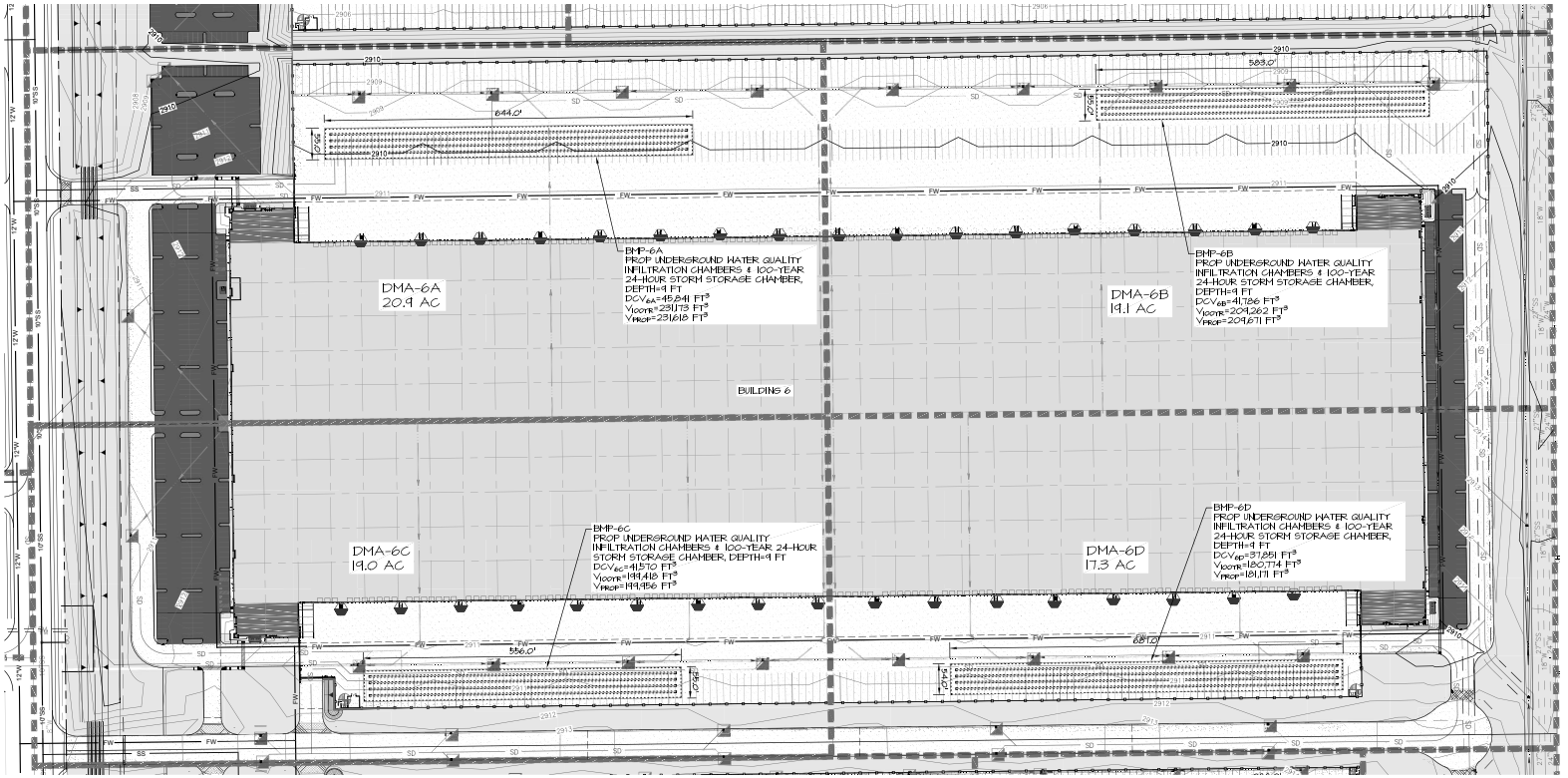
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BUILDING 5
ADELANTO INDUSTRIAL PARK

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ALBERT A. WEBB ASSOCIATES
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- DRAINAGE MANAGEMENT BOUNDARY
- LANDSCAPING
- ROOF
- CONCRETE OR ASPHALT
- FLOW DIRECTION
- SD — STORM DRAIN PIPE
- ROOF DRAIN DOWNSPOUT
- CURB OPENING/CUT
- STORM INLET
- TRASH ENCLOSURE

NOTE: DCV IS CALCULATED USING AN ASSUMED 90/10 IMPERVIOUS TO PERVIOUS RATIO, TYPICAL TO INDUSTRIAL DEVELOPMENTS. THE AREA COVERS SHOWN ON THIS EXHIBIT ARE FOR DEPICTION PURPOSES ONLY.

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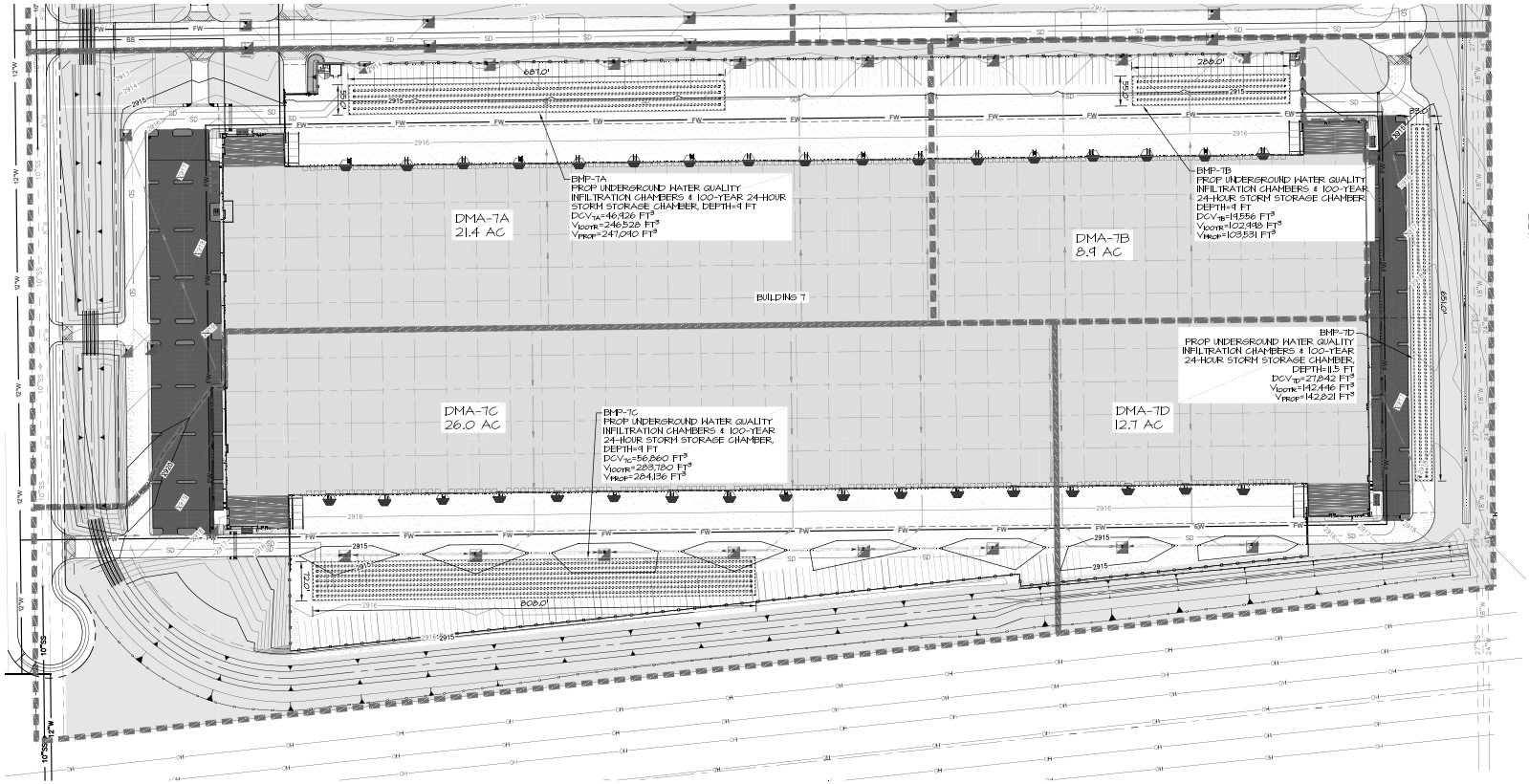
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PRELIMINARY WQMP
BMP SITE PLAN
BUILDING 6
ADELANTO INDUSTRIAL PARK

SCALE: 1"=100'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH: (951) 686-1070 FAX (951) 788-1256	W.O. 24-0505
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- LANDSCAPING
- ROOF
- CONCRETE OR ASPHALT
- FLOW DIRECTION
- SD — STORM DRAIN PIPE
- ROOF DRAIN DOWNSPOUT
- CURB OPENING/CUT
- STORM INLET
- TRASH ENCLOSURE

NOTE: DCV IS CALCULATED USING AN ASSUMED 90/10 IMPERVIOUS TO PERVIOUS RATIO, TYPICAL TO INDUSTRIAL DEVELOPMENTS. THE AREA COVERS SHOWN ON THIS EXHIBIT ARE FOR DEFICTION PURPOSES ONLY.

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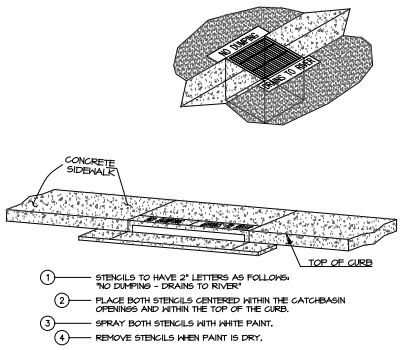
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BUILDING 7
ADELANTO INDUSTRIAL PARK

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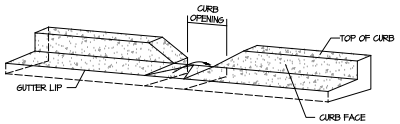
ALBERT A. WEBB ASSOCIATES
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FAX (951) 788-1256

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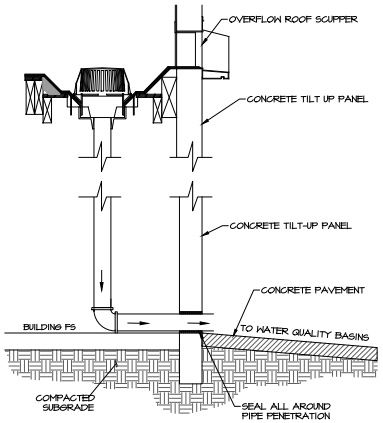
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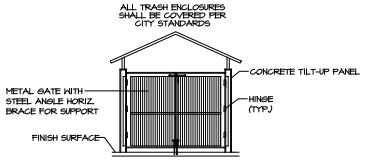
CATCH BASIN STENCILING DETAIL
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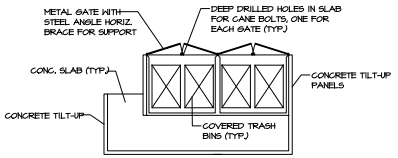
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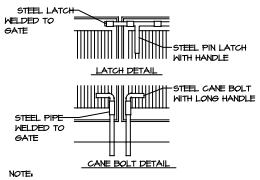
ROOF DRAIN DETAIL
N.T.S.



TRASH ENCLOSURE GATE ELEVATION
N.T.S.



TRASH ENCLOSURE PLAN DETAIL
N.T.S.



NOTE:
LATCH AND CANE TO BE AT EXTERIOR SIDE OF GATES

TRASH ENCLOSURE GATE LATCHES DETAIL
N.T.S.

CITY OF ADELANTO

PRELIMINARY WQMP
DETAILS
ADELANTO INDUSTRIAL PARK

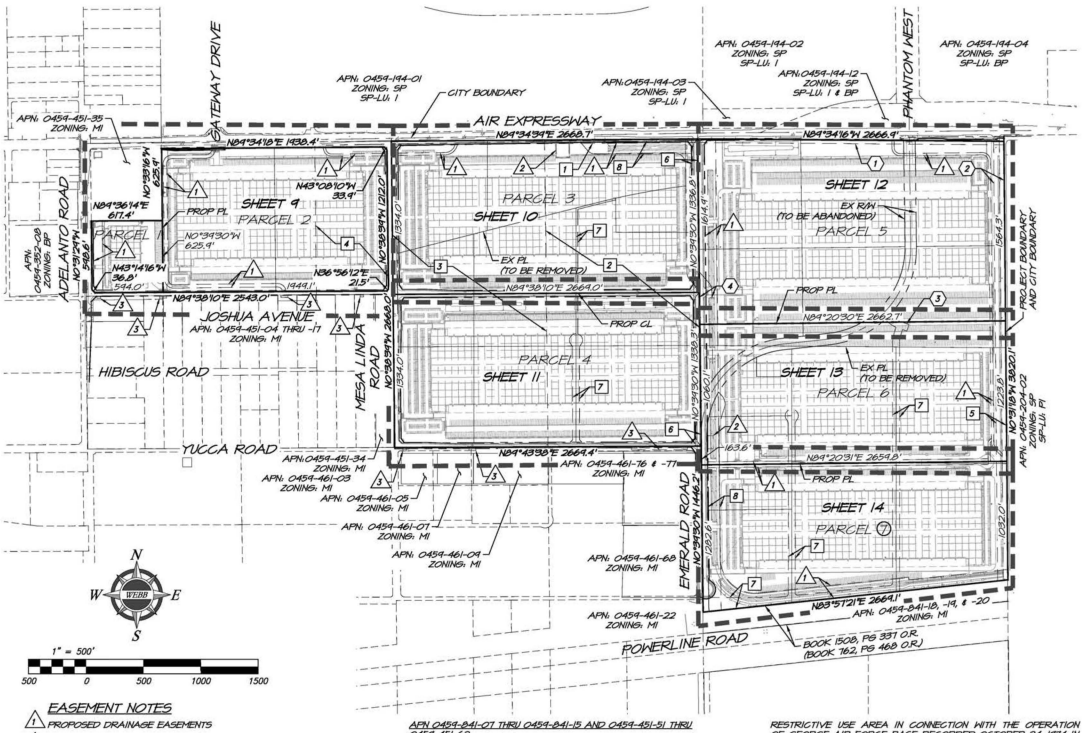
SCALE: N/A	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 24-0505
DATE: 5/14/2025			SHEET 8
DESIGNED: RSB			OF 8 SHEETS
CHECKED: SKK			
PLN CK REF:			DWG. NO.
F.B.			

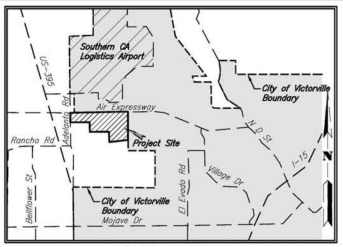
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IN THE CITY OF ADELANTO, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA

LOCATION AND DEVELOPMENT PLAN NO. 24-04

LOCATED IN SECTIONS 34 & 35, T. 6 N., R. 5 W., S.B.M.





VICINITY MAP
NTS

OWNER
MILESKI HOLDINGS
14711 W 190TH STREET, SUITE 100
TORRANCE, CA 90504
CONTACT: MICHAEL MILESKI
PHONE: (310) 715-1300

APPLICANT/DEVELOPER
MILESKI HOLDINGS
14711 W 190TH STREET, SUITE 100
TORRANCE, CA 90504
CONTACT: MICHAEL MILESKI
PHONE: (310) 715-1300

ARCHITECT
SKH ARCHITECT INC.
4000 WESTERLY PLACE, SUITE 100
NEWPORT BEACH, CA 92660
CONTACT: STEVE HONG
PHONE: (714) 822-1711
EMAIL: STEVE@SKHARCHITECT.COM

SOILS ENGINEER
LEIGHTON CONSULTING, INC.
10532 ACACIA STREET, SUITE B-6
RANCHO CUCAMONGA, CA 91730
CONTACT: JASON D. HERTZBERG
PHONE: (909) 484-2205
PROJ. NO: CLC00082328.0

ENGINEER
ALBERT A. WEBB ASSOCIATES
3788 MCCRAY STREET
RIVERSIDE, CA 92506
CONTACT: SARAH KOHALSKI
PHONE: (951) 686-1070
EMAIL: SARAH.KOHALSKI@WEBBASSOCIATES.COM

UTILITY PROVIDERS
WATER: CITY OF ADELANTO WATER DEPARTMENT
PHONE: (760) 246-2300
SEWER: CITY OF ADELANTO WATER DEPARTMENT
PHONE: (760) 246-2300
ELECTRICAL: SOUTHERN CALIFORNIA EDISON
PHONE: (800) 684-8123
GAS: SOUTHWEST GAS CORPORATION
PHONE: (877) 860-6020
TELEPHONE: VERIZON
PHONE: (760) 249-3801
CABLE T.V.: SPECTRUM
PHONE: (951) 406-1666

SCHOOL DISTRICT
ADELANTO ELEMENTARY SCHOOL DISTRICT

LAND USE
EX LAND USE: VACANT LOT
EX GPLU AND ZONING: MI (MANUFACTURING/INDUSTRIAL)

PROP GPLU AND ZONING: MI (MANUFACTURING/INDUSTRIAL)

EARTHWORK ESTIMATE

RAH CUT:	717,500 CY.
RAH FILL:	253,800 CY.
RAH TOTAL:	(D.222,100 CY. (IMPORT)

PROJECT DESCRIPTION
ADELANTO INDUSTRIAL PARK LOCATED AT THE SOUTHEAST CORNER OF ADELANTO ROAD AND AIR EXPRESSWAY IN THE CITY OF ADELANTO, CA. (APN 0454-451-51 THRU -62, AND 0454-841-01 THRU -15) WILL CONSIST OF 7 INDUSTRIAL SPEC BUILDINGS TOTALING 8.61 MILLION SF. THE 450± ACRE SITE IS CURRENTLY ZONED AND GENERAL PLANNED FOR MANUFACTURING/INDUSTRIAL (MI) WHICH WOULD ALLOW THE PROPOSED USE.

LEGAL DESCRIPTION
PER PRELIMINARY TITLE REPORT DATED 10/30/2024 PREPARED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY.

PARCEL 1
LOTS 1, 2, 3, 4, 5, AND 6 OF TRACT NO. 17008, IN THE CITY OF ADELANTO, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 333, PAGES 1 THROUGH 8, INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.
APN 0454-841-01 THRU 0454-841-06

PARCEL 2
LOTS 7 THROUGH 15, INCLUSIVE, AND LOT 18 THROUGH 29, INCLUSIVE, OF TRACT NO. 17008, IN THE CITY OF ADELANTO, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 333, PAGES 1 THROUGH 8, INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.
APN 0454-841-07 THRU 0454-841-15, AND 0454-451-51 THRU 0454-451-62

A.P.N.
0454-841-01 THRU 0454-841-15 AND 0454-451-51 THRU 0454-451-62

SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	CONCEPTUAL STREET SECTIONS
3	CONCEPTUAL SITE PLAN, OVERALL
4-7	CONCEPTUAL STRIPING
8	CONCEPTUAL TRUCK TURNING
9-14	CONCEPTUAL GRADING
15-16	CONCEPTUAL GRADING SECTIONS
17	CONCEPTUAL UTILITIES, OVERALL
18	CONCEPTUAL UTILITY SECTIONS
19-24	CONCEPTUAL UTILITIES

ACREAGE

PARCEL	1	2	3	4	5	6	7	TOTAL
GROSS SITE AREA (AC):	8.87	56.42	81.82	81.87	97.24	74.76	70.69	470.61
ROAD DED.	0.44	1.12	6.99	7.23	1.90	1.51	1.71	21.02
NET SITE AREA:	8.43	55.30	74.83	74.64	95.34	73.14	68.86	450.54

PROJECT DATA

BUILDING	1	2	3	4	5	6	7	TOTAL
BUILDING AREA								
WAREHOUSE (SF)	144,186	1,119,727	1,485,304	1,311,746	1,473,134	1,328,811	1,266,311	8,124,214
OFFICE (SF)	3,500	10,000	10,000	10,000	10,000	10,000	10,000	63,500
2ND FLOOR OFFICE (SF)	3,500	10,000	10,000	10,000	10,000	10,000	10,000	63,500
TOTAL AREA:	151,186	1,139,727	1,505,304	1,331,746	1,493,134	1,348,811	1,286,311	8,256,214
PARKING REQUIREMENTS								
OFFICE	28	80	80	80	80	80	80	508
WAREHOUSE (1ST 20K SF)	20	20	20	20	20	20	20	140
WAREHOUSE (2ND 20K SF)	10	10	10	10	10	10	10	70
WAREHOUSE (OVER 40K SF)	27	270	362	318	359	323	307	1,966
TOTAL PARKING REQ'D:	85	380	472	428	469	433	417	2,684
PARKING PROVIDED								
STANDARD (9'X18')	86	716	845	840	720	521	405	4,293
TOTAL PARKING PROVIDED:	86	716	845	840	720	521	405	4,293
TRAILER STALLS PROVIDED:	33	209	485	464	455	481	721	3,348

GENERAL INFORMATION
1. ALL IMPROVEMENTS SHALL BE PER CITY OF ADELANTO ORDINANCE 211 AND THE SUBDIVISION MAP ACT.
2. THOMAS BROS. MAP BOOK PAGE 4114 GRID: C1, D1 & E1 AND PAGE 4245 GRID: C1, D1, E1.
3. THIS MAP INCLUDES THE ENTIRE CONTIGUOUS OWNERSHIP OF THE LAND DIVIDER.
4. PROJECT IS NOT WITHIN A SPECIFIC PLAN.
5. EASEMENTS OF RECORD ARE PLOTTED HEREON.
6. PROJECT IS NOT WITHIN A COMMUNITY SERVICES DISTRICT.
7. LAND IS NOT WITHIN A SPECIAL STUDIES ZONE.
8. LAND IS NOT SUBJECT TO LIQUEFACTION.
9. NO SUBSURFACE SEPTIC SEWAGE DISPOSAL IS INTENDED.
10. NO EXISTING STRUCTURES OR DWELLINGS ON SITE.
11. THERE ARE EXISTING WET WELLS ON THE PROPERTY.
12. TOPOGRAPHY PROVIDED BY: BLUE ENGINEERING & CONSULTING, INC. CONTOUR INTERVAL - 1-FT.
13. GRADIENTS OF SLOPES TO PROPERTY LINES SHALL CONFORM TO CITY OF ADELANTO ORDINANCE 696 AND CALIFORNIA BUILDING CODE REQUIREMENTS.
14. ALL SLOPES ARE 2:1 RATIO, UNLESS OTHERWISE NOTED.
15. THE PROJECT WILL COMPLY WITH NPDES REQUIREMENTS AS REQUIRED BY CITY OF ADELANTO AND THE MOJAVE RIVER WATERSHED.
16. FLOOD ZONES X AND D, AREA OF LOW OR INDETERMINATE FLOODING PER FEMA PANELS 06071C5785H AND 06071C5805H.

EASEMENT NOTES

1. PROPOSED DRAINAGE EASEMENTS
2. PROPOSED SEWER EASEMENTS
3. PROPOSED OFFSITE DRAINAGE EASEMENTS

APN 0454-841-01 THRU 0454-841-06
AN EASEMENT FOR TELEGRAPH AND TELEPHONE LINES AND APPURTENANCES, RECORDED FEBRUARY 21, 1913 IN BOOK 521 OF DEEDS, PAGE 4, IN FAVOR OF INTERSTATE TELEPHONE COMPANY. THE EXTENT AND LOCATION OF SAID EASEMENT IS NOT ASCERTAINABLE FROM THE RECORD.

AN EASEMENT FOR TELEGRAPH AND TELEPHONE LINES AND APPURTENANCES, RECORDED FEBRUARY 21, 1913 IN BOOK 521, PAGE 240 OF OFFICIAL RECORDS, IN FAVOR OF INTERSTATE TELEGRAPH COMPANY. THE EXTENT AND LOCATION OF SAID EASEMENT IS NOT ASCERTAINABLE FROM THE RECORD.

1. THE CENTERLINE OF AN UNDETERMINED WIDTH EASEMENT TO INTERSTATE TELEGRAPH COMPANY FOR PUBLIC UTILITIES, RECORDED SEPTEMBER 4, 1941 IN BOOK 1446, PAGE 174 OF OFFICIAL RECORDS. (TO REMAIN)

2. A 40' WIDE UNDERGROUND WATER PIPELINE EASEMENT (TO REMAIN) AND A 50' WIDE TEMPORARY CONSTRUCTION EASEMENT TO VICTOR VALLEY WATER DISTRICT, BOTH RECORDED FEBRUARY 25, 2002 AS INSTRUMENT NO. 2002-0088833 OF OFFICIAL RECORDS.
(SAID EASEMENT IS ALSO DESCRIBED IN THAT CERTAIN ORDER OF CONDEMNATION RECORDED NOVEMBER 28, 2005 AS INSTRUMENT NO. 2005-0861571, OF OFFICIAL RECORDS.)

3. ACCESS EASEMENTS FOR "INGRESS AND EGRESS PURPOSES," RESERVED TO HEADLANDS REALTY CORPORATION, RECORDED DECEMBER 17, 2008 INCLUSIVE OF MAP, TRACT NO. 17008, BOOK 333, PAGES 1 THROUGH 8. (TO BE ABANDONED)

4. AN EASEMENT FOR DRAINAGE PURPOSES DEDICATED TO THE CITY OF ADELANTO, RECORDED DECEMBER 17, 2008 INCLUSIVE OF MAP, TRACT NO. 17008, BOOK 333, PAGES 1 THROUGH 8. (TO BE REPLACED)

APN 0454-841-07 THRU 0454-841-15 AND 0454-451-51 THRU 0454-451-62
A RESERVATION BY THE UNITED STATES OF AMERICA, HOLDER OF A RIGHT-OF-WAY FOR DITCHES AND CANALS, AS RESERVED IN THE PATENT RECORDED IN BOOK "K" OF PATENTS, PAGE 367. SAID RESERVATION IS NOT PLOTTABLE BY RECORD.

AN EASEMENT FOR TELEGRAPH AND TELEPHONE LINES AND APPURTENANCES, RECORDED FEBRUARY 21, 1913 IN BOOK 521, PAGE 240 OF OFFICIAL RECORDS, IN FAVOR OF INTERSTATE TELEGRAPH COMPANY. THE EXTENT AND LOCATION OF SAID EASEMENT IS NOT ASCERTAINABLE FROM THE RECORD.

AN EASEMENT FOR TELEGRAPH AND TELEPHONE LINES AND APPURTENANCES, RECORDED FEBRUARY 21, 1913 IN BOOK 521 OF DEEDS, PAGE 4, IN FAVOR OF INTERSTATE TELEPHONE COMPANY. THE EXTENT AND LOCATION OF SAID EASEMENT IS NOT ASCERTAINABLE FROM THE RECORD.

AN EASEMENT FOR TELEGRAPH AND TELEPHONE LINES AND APPURTENANCES RECORDED FEBRUARY 21, 1913 IN BOOK 581 OF DEEDS, PAGE 240, IN FAVOR OF INTERSTATE TELEGRAPH COMPANY. THE EXTENT AND LOCATION OF SAID EASEMENT IS NOT ASCERTAINABLE FROM THE RECORD.

7. THE CENTERLINE OF AN UNDETERMINED WIDTH EASEMENT TO INTERSTATE TELEGRAPH COMPANY FOR PUBLIC UTILITIES, RECORDED SEPTEMBER 4, 1941 IN BOOK 1446, PAGE 174 OF OFFICIAL RECORDS. (TO REMAIN)

AN 185' WIDE EASEMENT FOR TRANSMISSION LINES, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS, RECORDED ON DECEMBER 4, 1941 IN BOOK 1508, PAGE 337 OF OFFICIAL RECORDS (SAME AS BOOK 1624, PAGE 468), IN FAVOR OF THE DEPARTMENT OF WATER AND POWER OF THE CITY OF LOS ANGELES. (OUTSIDE OF PROJECT BOUNDARY)

2. AN EASEMENT IN FAVOR OF THE UNITED STATES OF AMERICA FOR A PERPETUAL AND ASSIGNABLE EASEMENT FOR THE ESTABLISHMENT, MAINTENANCE, AND OPERATION OF A RESTRICTIVE USE AREA IN CONNECTION WITH THE OPERATION OF GEORGE AIR FORCE BASE RECORDED APRIL 30, 1973 IN BOOK 9172, PAGE 1 OF OFFICIAL RECORDS. (TO REMAIN)

3. AN EASEMENT IN FAVOR OF THE UNITED STATES OF AMERICA FOR A PERPETUAL AND ASSIGNABLE EASEMENT FOR THE ESTABLISHMENT, MAINTENANCE, AND OPERATION OF A RESTRICTIVE USE AREA IN CONNECTION WITH THE OPERATION OF GEORGE AIR FORCE BASE RECORDED OCTOBER 24, 1974 IN BOOK 8543, PAGE 12 OF OFFICIAL RECORDS. (TO REMAIN)

4. AN EASEMENT TO THE UNITED STATES OF AMERICA FOR A RESTRICTED USE AREA, RECORDED MAY 3, 1973 IN BOOK 8610, PAGE 34 OF OFFICIAL RECORDS. (TO REMAIN)

A 40' WIDE UNDERGROUND WATER PIPELINE EASEMENT AND A 50' WIDE TEMPORARY CONSTRUCTION EASEMENT TO VICTOR VALLEY WATER DISTRICT, BOTH RECORDED FEBRUARY 25, 2002 AS INSTRUMENT NO. 2002-0088832 OF OFFICIAL RECORDS. (OUTSIDE OF PROJECT BOUNDARY)
SAID EASEMENT IS ALSO DESCRIBED IN THAT CERTAIN ORDER OF CONDEMNATION RECORDED NOVEMBER 28, 2005 AS INSTRUMENT NO. 2005-0861571, OF OFFICIAL RECORDS.

5. A 40' WIDE UNDERGROUND WATER PIPELINE EASEMENT (TO REMAIN) AND A 50' WIDE TEMPORARY CONSTRUCTION EASEMENT TO VICTOR VALLEY WATER DISTRICT, BOTH RECORDED FEBRUARY 25, 2002 AS INSTRUMENT NO. 2002-0088833 OF OFFICIAL RECORDS.
(SAID EASEMENT IS ALSO DESCRIBED IN THAT CERTAIN ORDER OF CONDEMNATION RECORDED NOVEMBER 28, 2005 AS INSTRUMENT NO. 2005-0861571, OF OFFICIAL RECORDS.)

6. AN EASEMENT IN FAVOR OF THE CITY OF ADELANTO FOR PUBLIC ROADWAY (TO REMAIN) AND TEMPORARY CONSTRUCTION RECORDED SEPTEMBER 30, 2003 AS INSTRUMENT NO. 2003-0736838 OF OFFICIAL RECORDS.
SAID TEMPORARY CONSTRUCTION EASEMENT SHALL EXIST ONLY FOR SO LONG AS NECESSARY TO COMPLETE THE INITIAL CONSTRUCTION AND INSTALLATION OF THE ROADWAY, AND IN ALL EVENTS SHALL IMMEDIATELY AND AUTOMATICALLY TERMINATE ONE (1) YEAR FROM THE DATE OF RECORDATION OF THIS AGREEMENT.

7. ACCESS EASEMENTS FOR "INGRESS AND EGRESS PURPOSES," RESERVED TO HEADLANDS REALTY CORPORATION, RECORDED DECEMBER 17, 2008 INCLUSIVE OF MAP, TRACT NO. 17008, BOOK 333, PAGES 1 THROUGH 8. (TO BE ABANDONED)

8. AN EASEMENT FOR DRAINAGE PURPOSES DEDICATED TO THE CITY OF ADELANTO, RECORDED DECEMBER 17, 2008 INCLUSIVE OF MAP, TRACT NO. 17008, BOOK 333, PAGES 1 THROUGH 8. (TO BE QUITCLAIMED)

REVISIONS	DATE	BY

PRELIMINARY

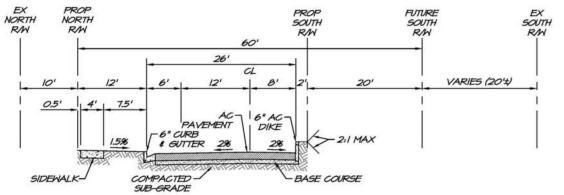
CITY OF ADELANTO

ADELANTO INDUSTRIAL PARK
LDP 24-04

TITLE SHEET

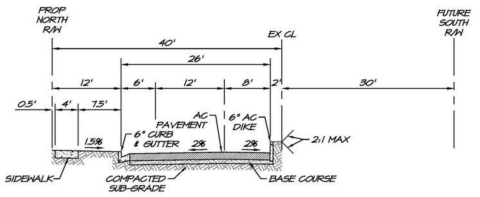
SCALE: 1" = 500'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 2024-0505
DATE: 5/30/2025			SHEET 1
DESIGNED: ABE			OF 22 SHEETS
CHECKED: SKK			DWG. NO.
PLN CK REF:			
F.B.			

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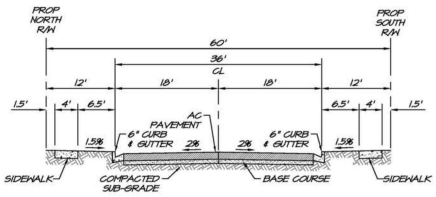
YUCCA ROAD - HALF-WIDTH

HALF-WIDTH LOCAL STREET
PER SAN BERNARDINO COUNTY STANDARD III
(T1=7.5, PER CITY OF ADELANTO PUBLIC WORKS)
NTS



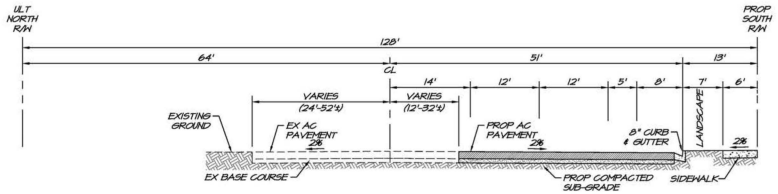
JOSHUA AVENUE - HALF-WIDTH

HALF-WIDTH LOCAL STREET
PER SAN BERNARDINO COUNTY STANDARD III
(T1=7.5, PER CITY OF ADELANTO PUBLIC WORKS)
NTS



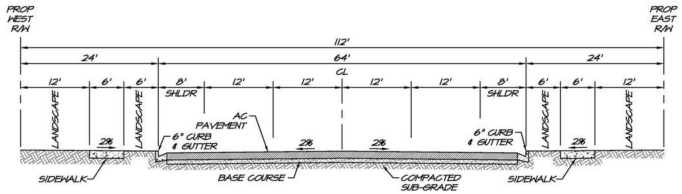
JOSHUA AVENUE - TYPICAL

LOCAL STREET
PER SAN BERNARDINO COUNTY STANDARD 104
(T1=7.5, PER CITY OF ADELANTO PUBLIC WORKS)
NTS



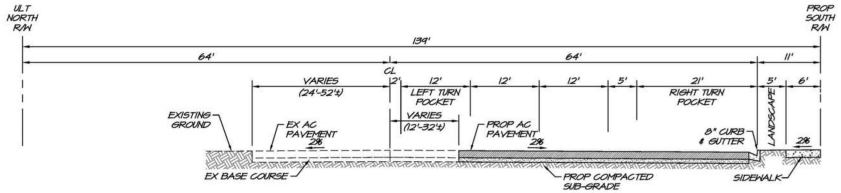
AIR EXPRESSWAY - TYPICAL

SUPER ARTERIAL (6-LANE)
PER SOUTHERN CALIFORNIA LOGISTICS AIRPORT (SCLA) SPECIFIC PLAN (SP) AND CITY OF VICTORVILLE GENERAL PLAN
(T1=10.5, PER CITY OF ADELANTO PUBLIC WORKS)
NTS



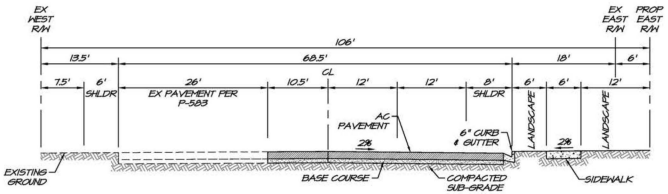
MESA LINDA ROAD AND EMERALD ROAD - TYPICAL

COLLECTOR (4-LANE)
PER CITY OF ADELANTO GENERAL PLAN
(T1=10, PER CITY OF ADELANTO PUBLIC WORKS)
NTS



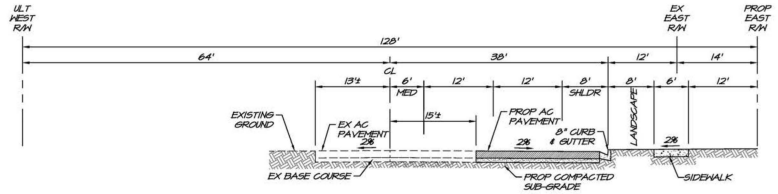
AIR EXPRESSWAY - RIGHT TURN LANE

SUPER ARTERIAL (6-LANE)
PER SOUTHERN CALIFORNIA LOGISTICS AIRPORT (SCLA) SPECIFIC PLAN (SP) AND CITY OF VICTORVILLE GENERAL PLAN
NTS



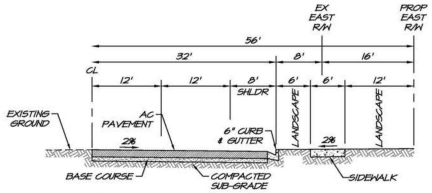
EMERALD ROAD - HALF-WIDTH

COLLECTOR (4-LANE)
PER CITY OF ADELANTO GENERAL PLAN
(T1=10, PER CITY OF ADELANTO PUBLIC WORKS)
NTS



ADELANTO ROAD - TYPICAL

MAJOR BOULEVARD
PER CITY OF ADELANTO GENERAL PLAN
(T1=11, PER CITY OF ADELANTO PUBLIC WORKS)
NTS



MESA LINDA ROAD - HALF-WIDTH

COLLECTOR (4-LANE)
PER CITY OF ADELANTO GENERAL PLAN
(T1=10, PER CITY OF ADELANTO PUBLIC WORKS)
NTS

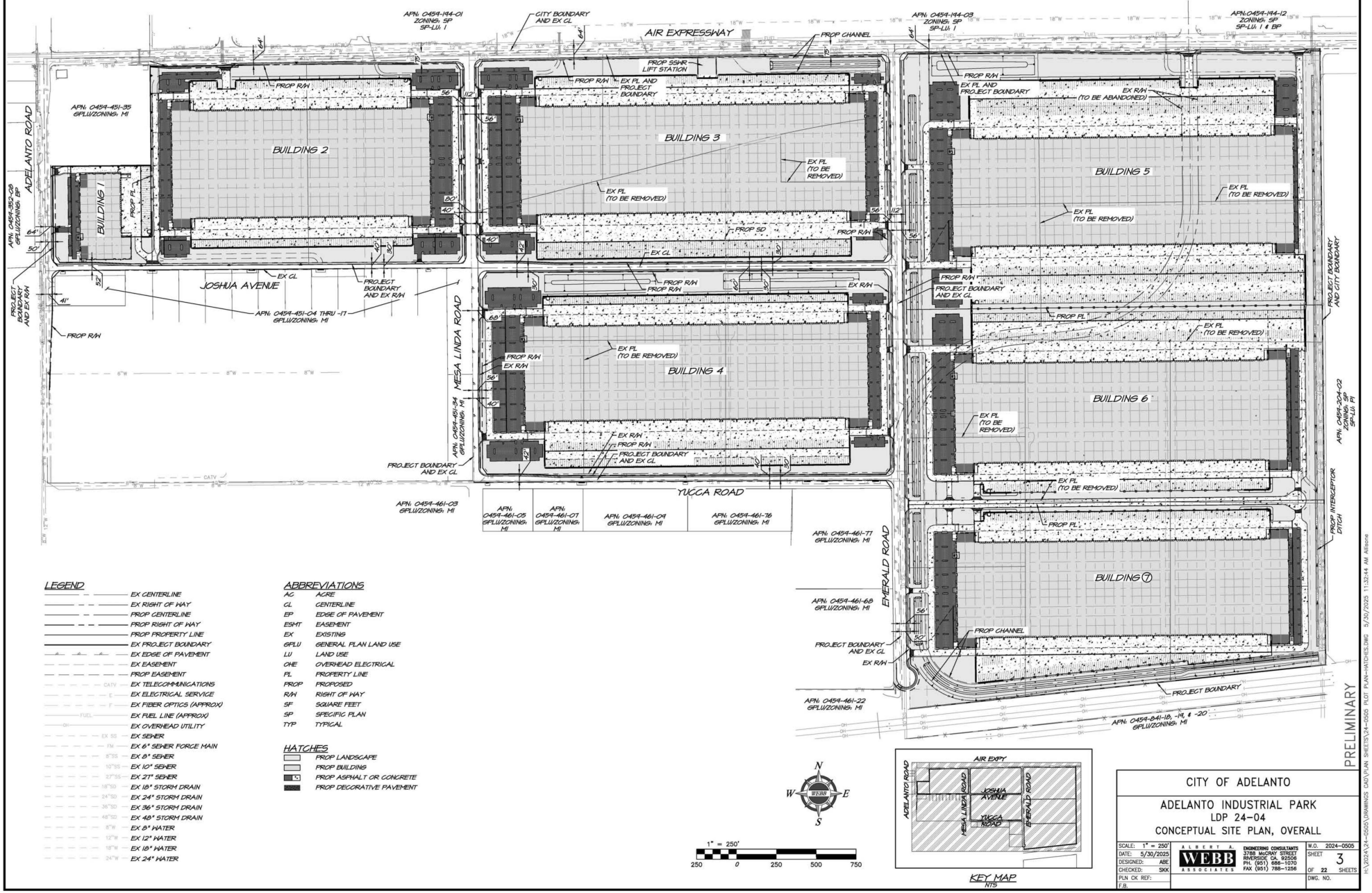
PRELIMINARY

CITY OF ADELANTO

ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL STREET SECTIONS

SCALE: NTS	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 2024-0505
DATE: 5/30/2025			SHEET 2
DESIGNED: ABE			OF 22 SHEETS
CHECKED: SKK			DWG. NO.
PLN CK REF: F.B.			

H:\2024\24-0505\DRAWINGS CAD\PLAN SHEETS\24-0505 PLOT PLAN-TITLE.DWG 5/30/2025 10:54:24 AM Arlene



LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- PROP CENTERLINE
- PROP RIGHT OF WAY
- PROP PROPERTY LINE
- EX PROJECT BOUNDARY
- EX EDGE OF PAVEMENT
- EX EASEMENT
- PROP EASEMENT
- CATV — EX TELECOMMUNICATIONS
- E — EX ELECTRICAL SERVICE
- F — EX FIBER OPTICS (APPROX)
- FUEL — EX FUEL LINE (APPROX)
- OH — EX OVERHEAD UTILITY
- EX SS — EX SEWER
- FM — EX 6" SEWER FORCE MAIN
- 8"SS — EX 8" SEWER
- 10"SS — EX 10" SEWER
- 27"SS — EX 27" SEWER
- 18"SD — EX 18" STORM DRAIN
- 24"SD — EX 24" STORM DRAIN
- 36"SD — EX 36" STORM DRAIN
- 48"SD — EX 48" STORM DRAIN
- 8"W — EX 8" WATER
- 12"W — EX 12" WATER
- 18"W — EX 18" WATER
- 24"W — EX 24" WATER

ABBREVIATIONS

AC	ACRE
CL	CENTERLINE
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX	EXISTING
GPLU	GENERAL PLAN LAND USE
LU	LAND USE
OHE	OVERHEAD ELECTRICAL
PL	PROPERTY LINE
PROP	PROPOSED
R/W	RIGHT OF WAY
SF	SQUARE FEET
SP	SPECIFIC PLAN
TYP	TYPICAL

HATCHES

- PROP LANDSCAPE
- PROP BUILDING
- PROP ASPHALT OR CONCRETE
- PROP DECORATIVE PAVEMENT

N W E S

1" = 250'
250 0 250 500 750

KEY MAP
NTS

CITY OF ADELANTO

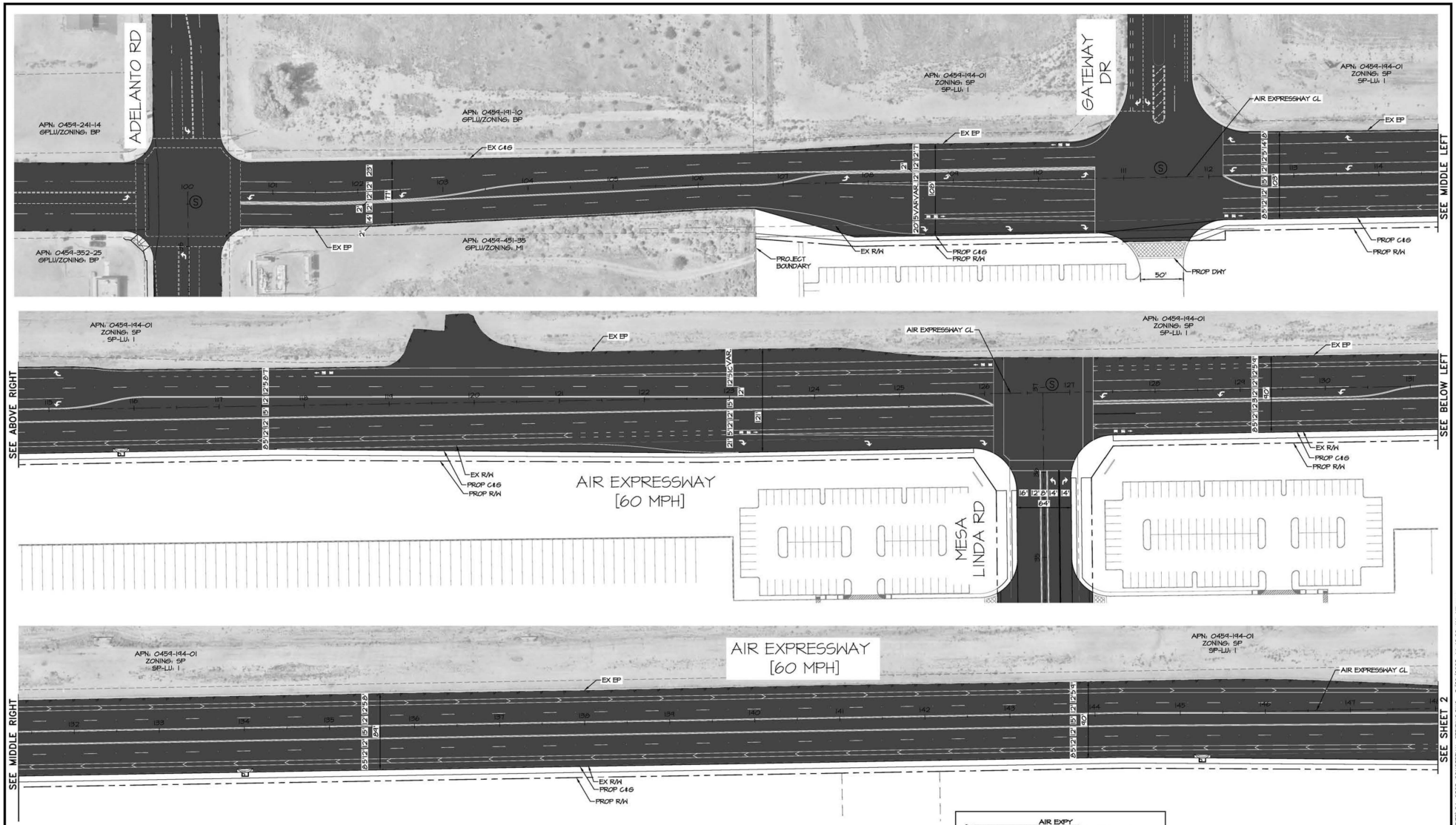
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL SITE PLAN, OVERALL

SCALE:	1" = 250'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN CK REF:	
F.B.	

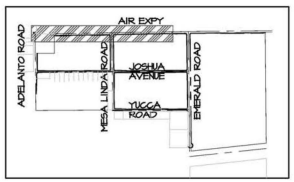
ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O. 2024-0505
SHEET 3
OF 22 SHEETS
DWG. NO.

H:\2024\24-0505\DRAWINGS CAD\PLAN SHEETS\24-0505 PLOT PLAN-HATCHED.DWG 5/30/2025 11:32:44 AM Alliance



(S) – SIGNALIZED INTERSECTION



KEY MAP
NTS

CITY OF ADELANTO

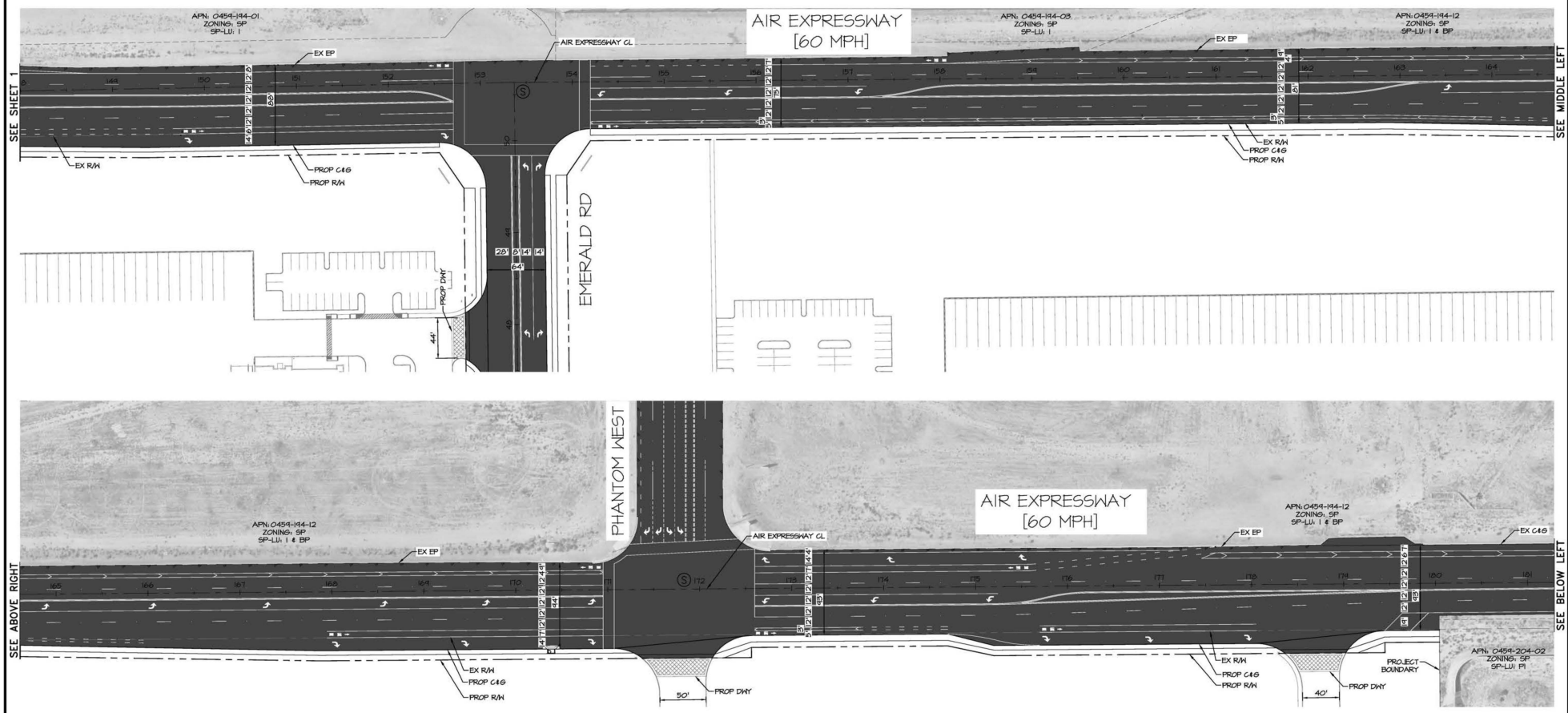
ADELANTO INDUSTRIAL PARK
BETWEEN ADELANTO RD AND 1000' EAST OF PHANTOM WEST
AIR EXPRESSWAY – CONCEPTUAL STRIPING

SCALE:	1" = 50'
DATE:	5/30/2025
DESIGNED:	ITM
CHECKED:	NRL
PLN CK REF:	
F.B.	

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE, CA. 92506
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FAX (951) 788-1256

W.O.	2024-0505
SHEET	4
OF	22 SHEETS
DWG. NO.	

H:\2024\24-0505\DRAWINGS CAD\EXHIBITS\24-0505 CONCEPTUAL STRIPING.DWG 5/30/2025 11:49:06 AM Alleone



CITY OF ADELANTO

ADELANTO INDUSTRIAL PARK
BETWEEN ADELANTO RD AND 1000' EAST OF PHANTOM WEST
AIR EXPRESSWAY – CONCEPTUAL STRIPING

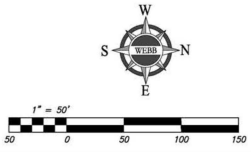
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DATE:	5/30/2025
DESIGNED:	ITM
CHECKED:	NRL
PLN CK REF:	
F.B.	

ALBERT A. WEBB ASSOCIATES
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W.O.	2024-0505
SHEET	5
OF	22 SHEETS
DWG. NO.	

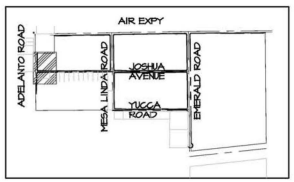
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1" = 50'

50 0 50 100 150



KEY MAP
NTS

CITY OF ADELANTO

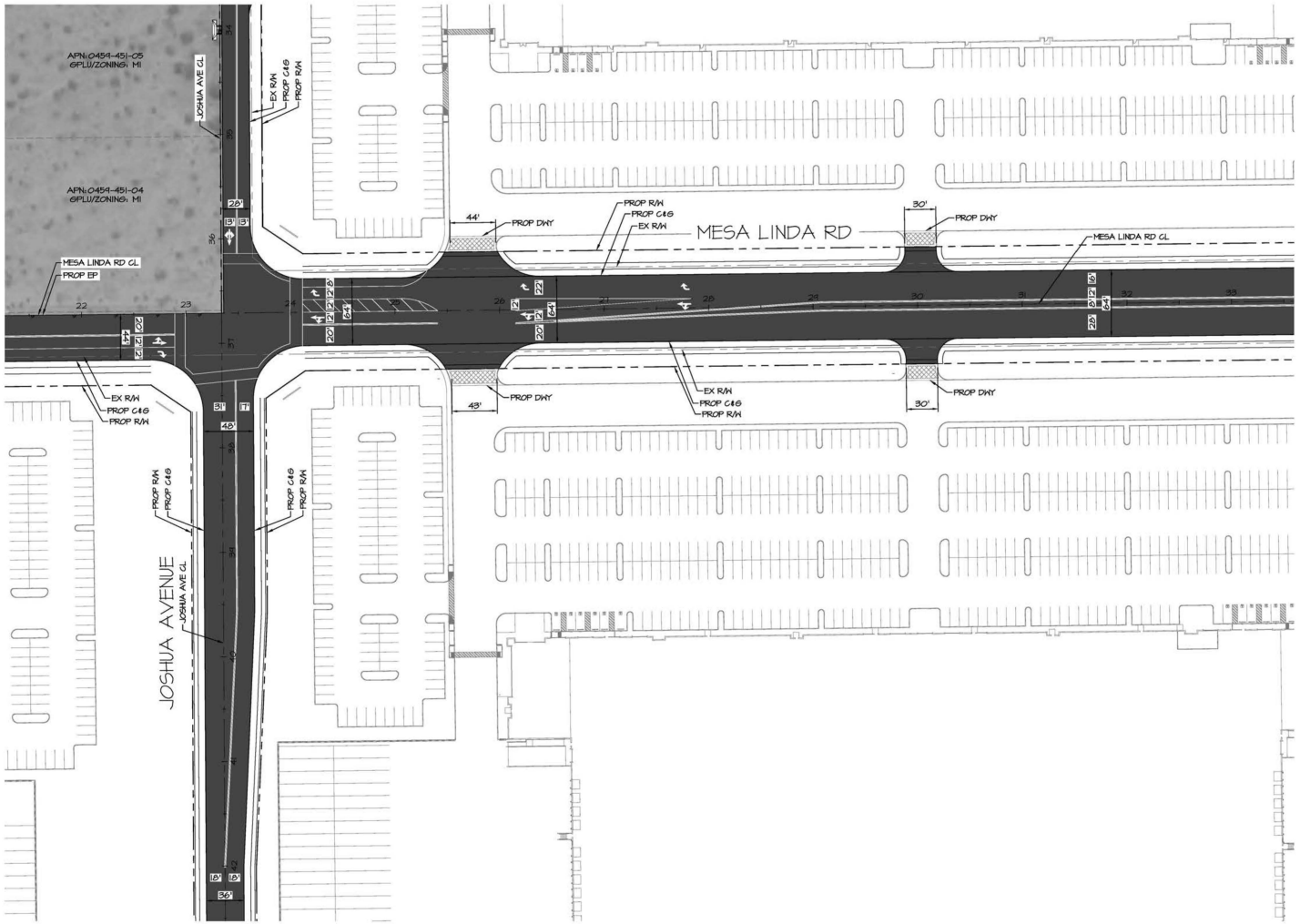
ADELANTO INDUSTRIAL PARK
LDP 24-04
ADELANTO & JOSHUA – CONCEPTUAL STRIPING

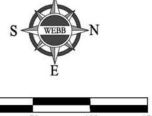
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DATE:	5/30/2025
DESIGNED:	ITM
CHECKED:	NRL
PLN CK REF:	
F.B.	

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RIVERSIDE, CA. 92506
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W.O.	2024-0505
SHEET	6
OF	22 SHEETS
DWG. NO.	

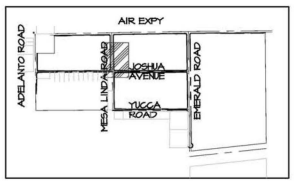
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1" = 50'

50 0 50 100 150



KEY MAP
NTS

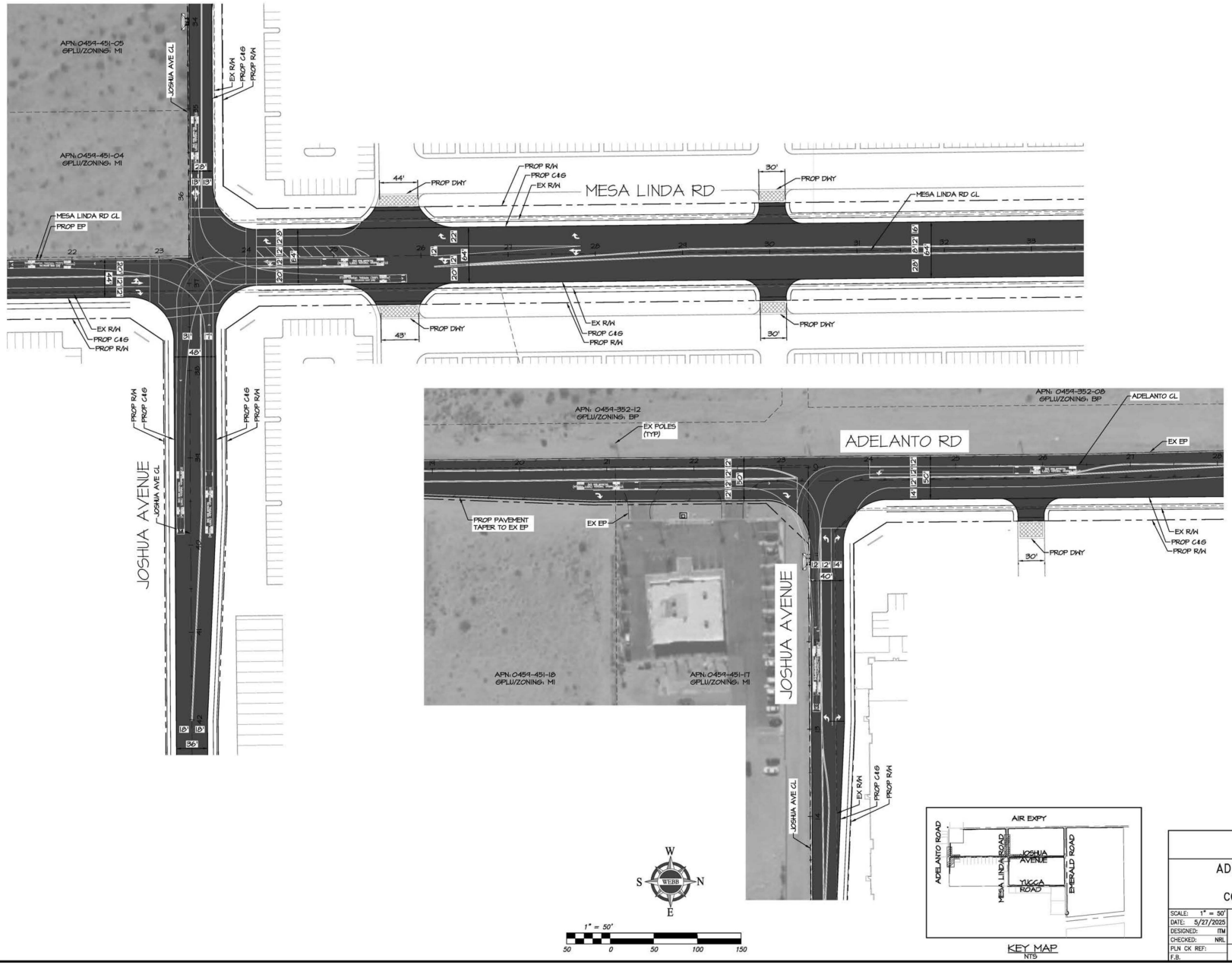
CITY OF ADELANTO

ADELANTO INDUSTRIAL PARK
LDP 24-04
MESA LINDA & JOSHUA – CONCEPTUAL STRIPING

SCALE:	1" = 50'	W.O.	2024-0505
DATE:	5/30/2025	SHEET	7
DESIGNED:	ITM	OF	22 SHEETS
CHECKED:	NRL	DWG. NO.	
PLN CK REF:			
F.B.			

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RIVERSIDE, CA. 92506
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FAX (951) 788-1256

H:\2024\24-0505\DRAWINGS\CAD\EXHIBITS\24-0505 CONCEPTUAL STRIPING.DWG 5/30/2025 11:49:06 AM Alleone



CITY OF ADELANTO

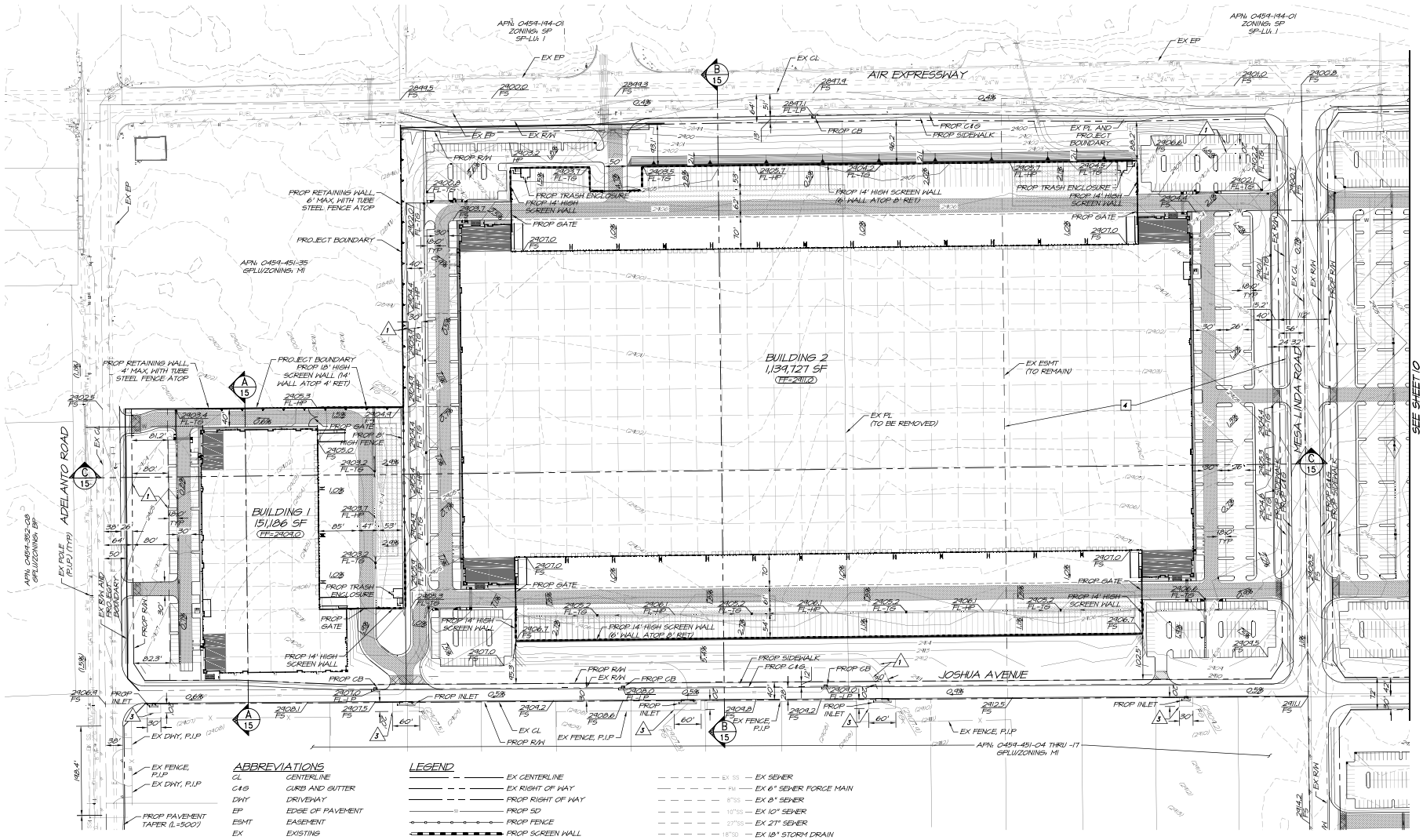
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL TRUCK TURNING

SCALE:	1" = 50'
DATE:	5/27/2025
DESIGNED:	ITM
CHECKED:	NRL
PLN CK REF:	
F.B.	

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W.O.	2024-0505
SHEET	8
OF	22 SHEETS
DWG. NO.	

H:\2024\24-0505\DRAWINGS CAD\EXHIBITS\24-0505 CONCEPTUAL STRIPING.DWG 5/27/2025 8:05:11 AM Hgraft



ABBREVIATIONS

CL	CENTERLINE
C&G	CURB AND GUTTER
DWY	DRIVEWAY
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX	EXISTING
FF	FINISHED FLOOR
FG	FINISHED GROUND
FL	FLOW LINE
FS	FINISHED SURFACE
GB	GRADE BREAK
HP	HIGH POINT
LP	LOW POINT
PL	PROPERTY LINE
PROP	PROPOSED
P.I.P	PROTECT IN PLACE
R/W	RIGHT OF WAY
TYP	TYPICAL

LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- PROP RIGHT OF WAY
- PROP SD
- PROP FENCE
- PROP SCREEN WALL
- PROP EASEMENT
- EX OVERHEAD UTILITY
- PROP FIRE LANE
- PROP DECORATIVE PAVEMENT
- PROP OFFICE
- PROP GRADE BREAK
- PROP FLOWLINE
- EX SS — EX SEWER
- FM — EX 6" SEWER FORCE MAIN
- 8"SS — EX 8" SEWER
- 10"SS — EX 10" SEWER
- 27"SS — EX 27" SEWER
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- 24"SD — EX 24" STORM DRAIN
- 36"SD — EX 36" STORM DRAIN
- 48"SD — EX 48" STORM DRAIN
- 8"W — EX 8" WATER
- 12"W — EX 12" WATER
- 18"W — EX 18" WATER
- 24"W — EX 24" WATER

EASEMENT NOTE

PROPOSED AND EXISTING EASEMENT INFORMATION IS LISTED ON SHEET 1.

HIBISCUS RD

1" = 100'

KEY MAP
NTS

PRELIMINARY

CITY OF ADELANTO

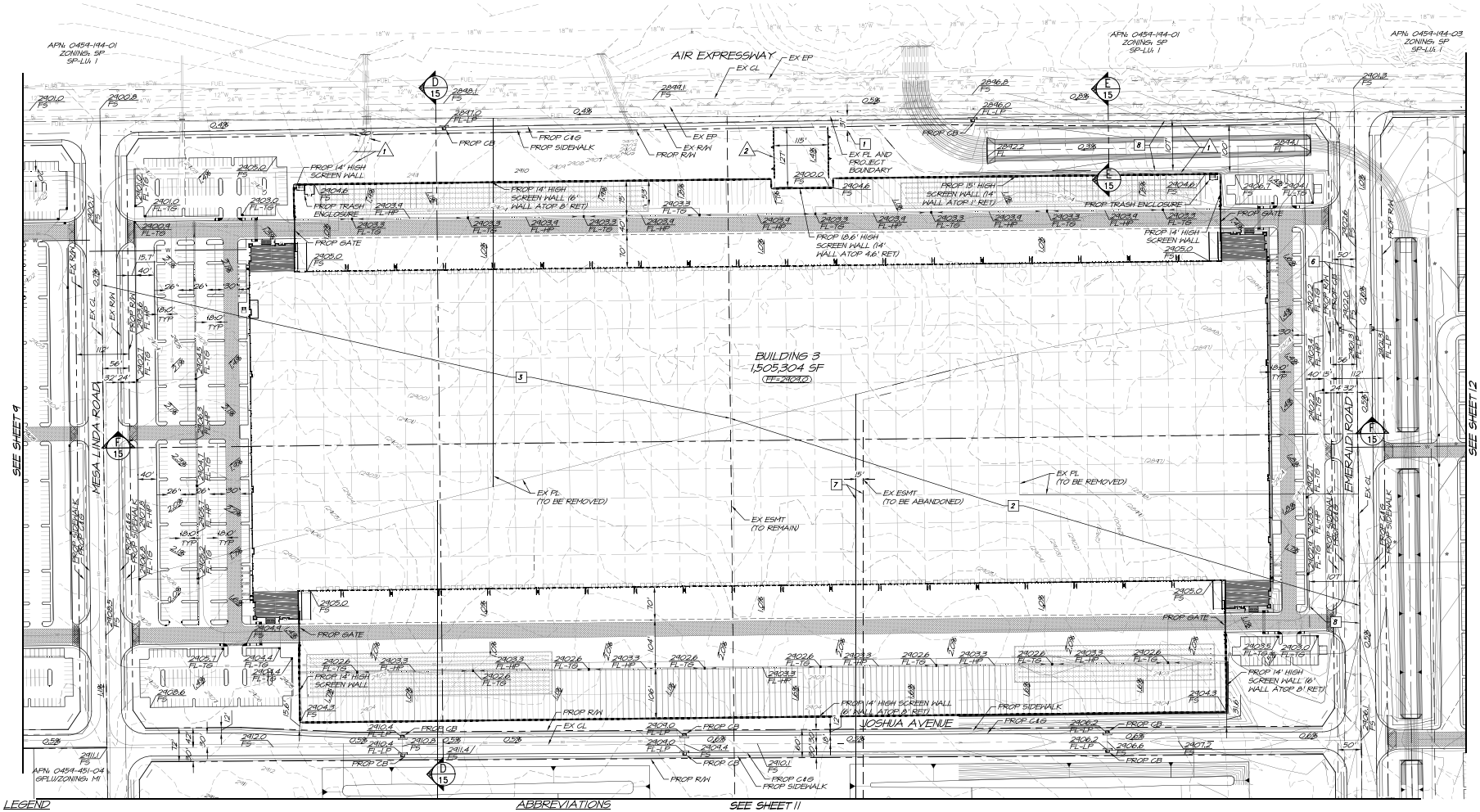
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL GRADING

SCALE:	1" = 100'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN. CK. REP:	
P.E.	

A L T A. WEBB
ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O. 2024-0505
SHEET 9
OF 22 SHEETS
DWG. NO.

H:\2024\2024-0505 PLAT PLAN\PLAN\DWG\2024-0505 PLAT PLAN.dwg 5/30/2025 4:05:00 PM rdavid



LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- PROP RIGHT OF WAY
- PROP SD
- PROP FENCE
- PROP SCREEN WALL
- PROP EASEMENT
- EX OVERHEAD UTILITY
- PROP FIRE LANE
- PROP DECORATIVE PAVEMENT
- PROP OFFICE
- PROP GRADE BREAK
- PROP FLOWLINE

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- 27"SS — EX 27" SEWER
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- 24"SD — EX 24" STORM DRAIN
- 36"SD — EX 36" STORM DRAIN
- 48"SD — EX 48" STORM DRAIN
- 8"W — EX 8" WATER
- 12"W — EX 12" WATER
- 18"W — EX 18" WATER
- 24"W — EX 24" WATER

ABBREVIATIONS

CL	CENTERLINE
C&G	CURB AND GUTTER
DWY	DRIVEWAY
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
EX	EXISTING
FF	FINISHED FLOOR
FG	FINISHED GROUND
FL	FLOW LINE
FS	FINISHED SURFACE
GB	GRADE BREAK
HP	HIGH POINT
LP	LOW POINT
PL	PROPERTY LINE
PROP	PROPOSED
P.I.P.	PROTECT IN PLACE
R/W	RIGHT OF WAY
TYP	TYPICAL

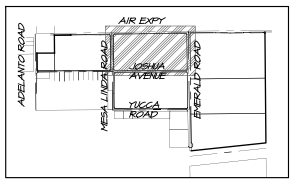
EASEMENT NOTE

PROPOSED AND EXISTING EASEMENT INFORMATION IS LISTED ON SHEET 1.

N W E S

1" = 100'

100 0 100 200 300



KEY MAP
NTS

PRELIMINARY

CITY OF ADELANTO

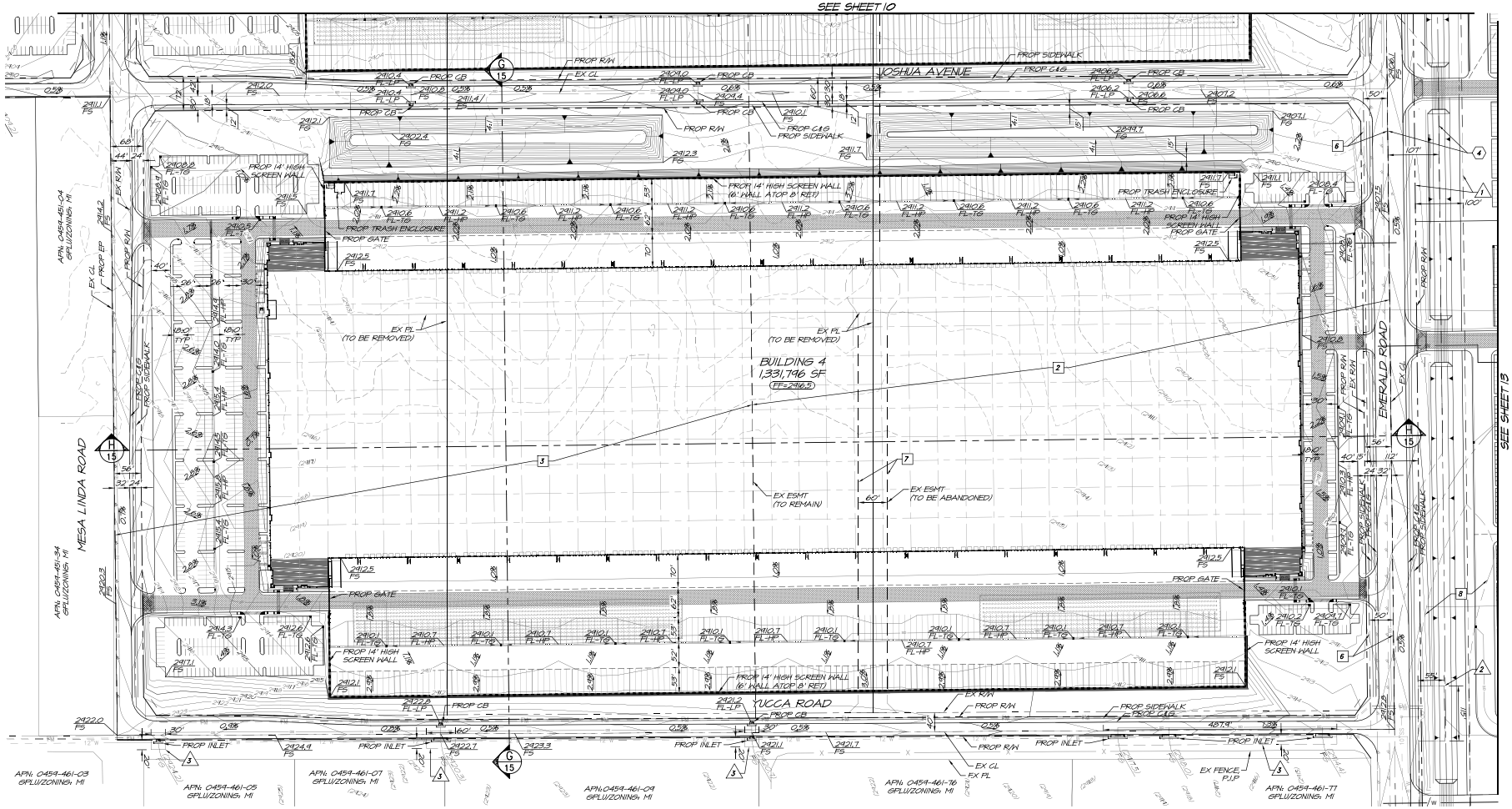
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL GRADING

SCALE:	1" = 100'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN. CK. REP:	
P.E.	

T. A. WEBB ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE, CA. 92506
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FAX (951) 788-1256

W.O. 2024-0505
SHEET 10
OF 22 SHEETS
DWG. NO.

H:\2024\2024-0505 PLAT PLAN\PLAN\2024-0505 PLAT PLAN.dwg 5/30/2025 4:09:58 PM Harold



LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- PROP RIGHT OF WAY
- PROP SD
- PROP FENCE
- PROP SCREEN WALL
- PROP EASEMENT
- EX OVERHEAD UTILITY
- PROP FIRE LANE
- PROP DECORATIVE PAVEMENT
- PROP OFFICE
- PROP GRADE BREAK
- PROP FLOWLINE
- EX SS — EX SEWER
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- 24"SD — EX 24" STORM DRAIN
- 36"SD — EX 36" STORM DRAIN
- 48"SD — EX 48" STORM DRAIN
- 8"W — EX 8" WATER
- 12"W — EX 12" WATER
- 18"W — EX 18" WATER
- 24"W — EX 24" WATER

EASEMENT NOTE

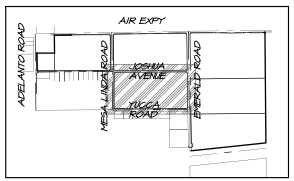
PROPOSED AND EXISTING EASEMENT INFORMATION IS LISTED ON SHEET 1.

ABBREVIATIONS

CL	CENTERLINE
C&G	CURB AND GUTTER
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FL	FLOW LINE
FS	FINISHED SURFACE
GB	GRADE BREAK
HP	HIGH POINT
LP	LOW POINT
PL	PROPERTY LINE
PROP	PROPOSED
P.I.P	PROTECT IN PLACE
R/W	RIGHT OF WAY
TYP	TYPICAL

N W E S

1" = 100'
100 0 100 200 300



KEY MAP
NTS

PRELIMINARY

CITY OF ADELANTO

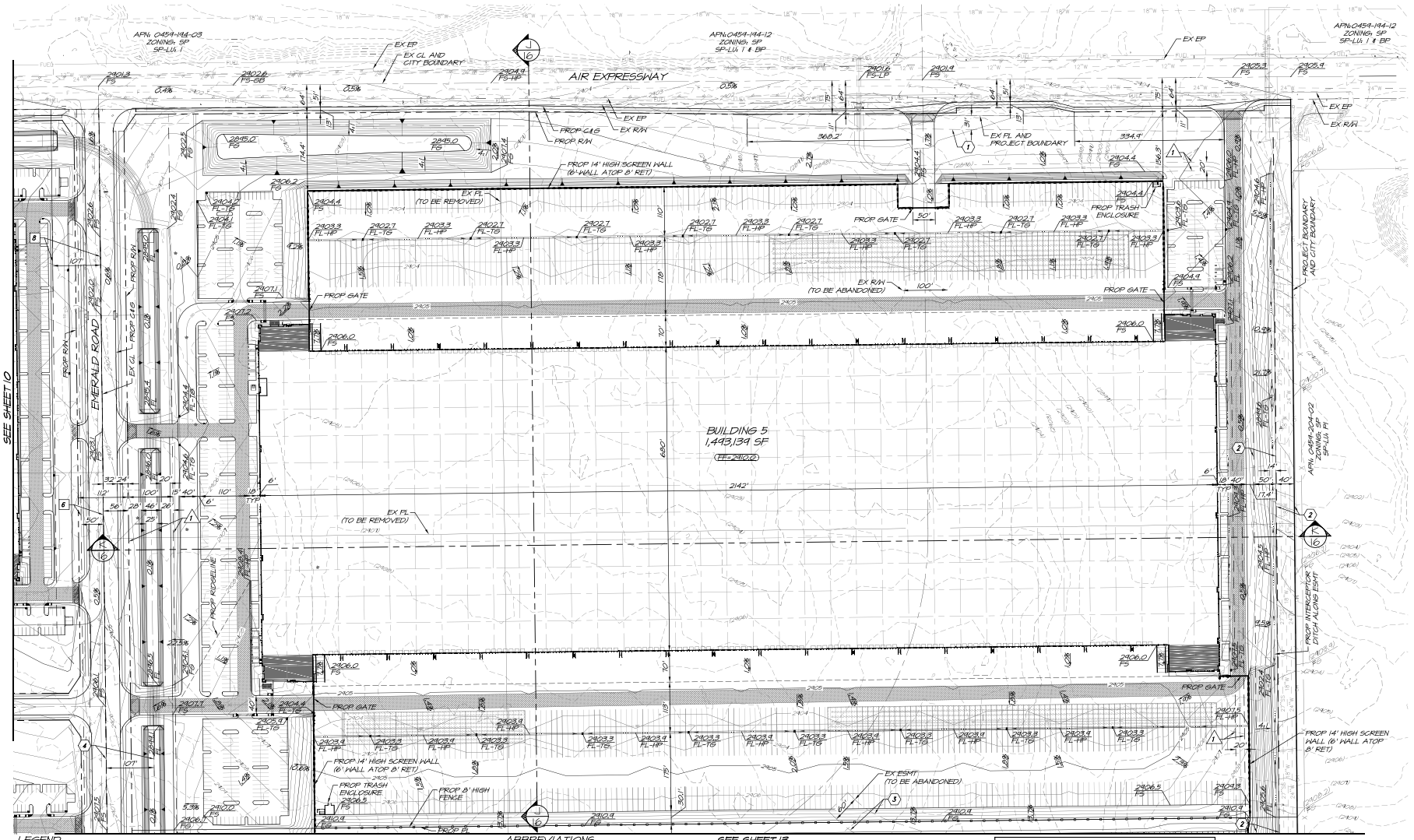
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL GRADING

SCALE:	1" = 100'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN. CK. REP:	
P.E.	

T. A. WEBB ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE, CA. 92506
PH: (951) 686-1070
FAX (951) 788-1256

W.O. 2024-0505
SHEET 11
OF 22 SHEETS
DWG. NO.

H:\2024\2024-0505 PLAT PLAN\PLAN\2024-0505 PLAT PLAN.dwg 5/30/2025 4:05:05 PM Harold



LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- PROP RIGHT OF WAY
- PROP SD
- PROP FENCE
- PROP SCREEN WALL
- PROP EASEMENT
- EX OVERHEAD UTILITY
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- 48"SD — EX 48" STORM DRAIN
- 8"W — EX 8" WATER
- 12"W — EX 12" WATER
- 18"W — EX 18" WATER
- 24"W — EX 24" WATER

ABBREVIATIONS

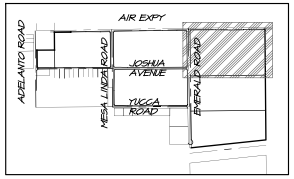
CL	CENTERLINE
C&G	CURB AND GUTTER
DWY	DRIVEWAY
EP	EDGE OF PAVEMENT
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FS	FINISHED SURFACE
GB	GRADE BREAK
HP	HIGH POINT
LP	LOW POINT
PL	PROPERTY LINE
PROP	PROPOSED
P.I.P	PROTECT IN PLACE
R/W	RIGHT OF WAY
TYP	TYPICAL

EASEMENT NOTE

PROPOSED AND EXISTING EASEMENT INFORMATION IS LISTED ON SHEET 1.

1" = 100'

100 0 100 200 300



KEY MAP
NTS

PRELIMINARY

CITY OF ADELANTO

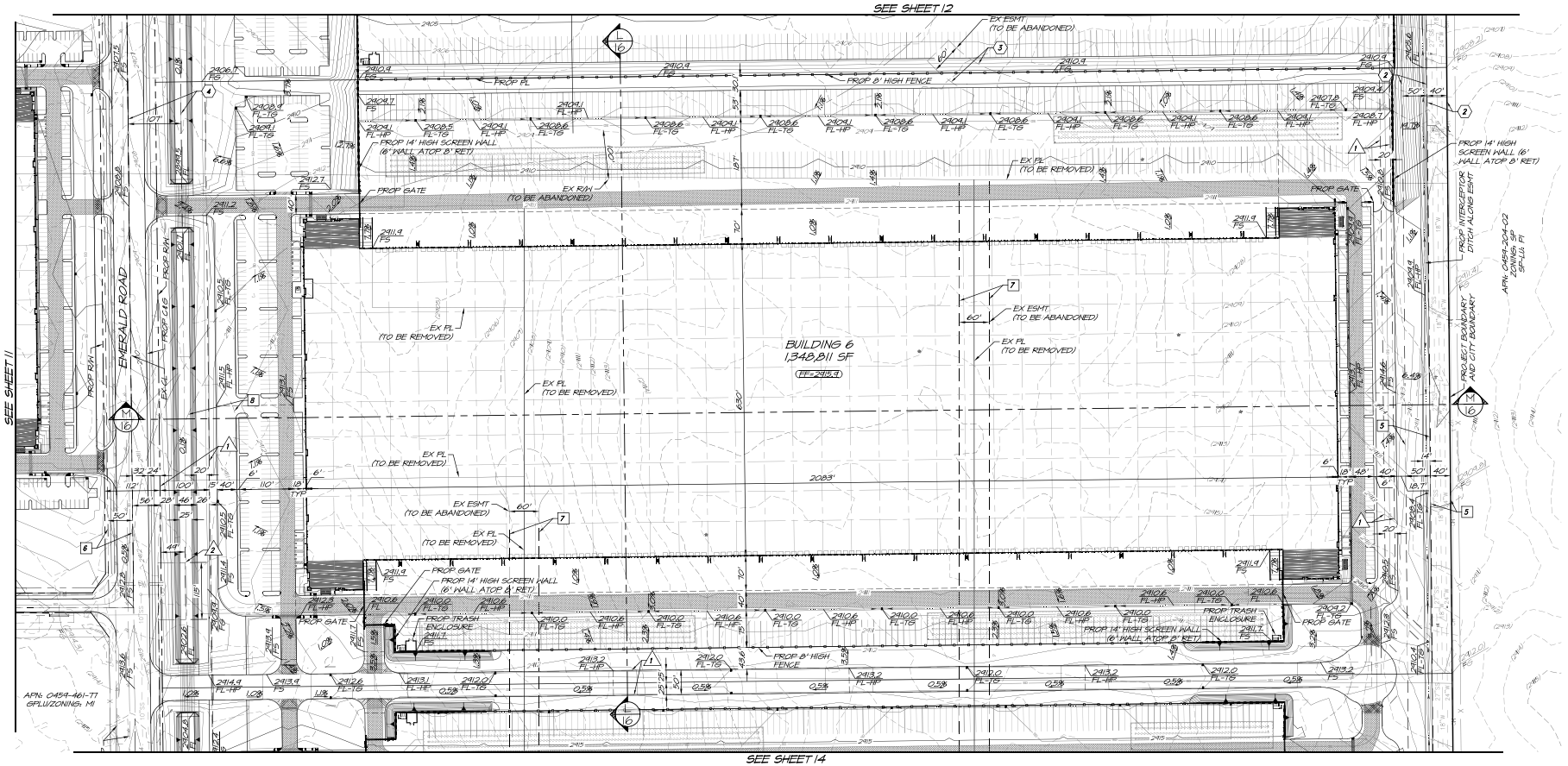
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL GRADING

SCALE:	1" = 100'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN. CK. REP:	
P.E.	

T. A. WEBB ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O. 2024-0505
SHEET 12
OF 22 SHEETS
DWG. NO.

H:\2024\2024-0505 PLOT PLAN-CUP\CAD\SHEETS\2024-0505 PLOT PLAN-CUP-GRADING 5.30.2025 11:10:18 AM.dwg



LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- PROP RIGHT OF WAY
- PROP SD
- PROP FENCE
- PROP SCREEN WALL
- PROP EASEMENT
- EX OVERHEAD UTILITY
- PROP FIRE LANE
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- 18"W — EX 18" WATER
- 24"W — EX 24" WATER

EASEMENT NOTE

PROPOSED AND EXISTING EASEMENT INFORMATION IS LISTED ON SHEET 1.

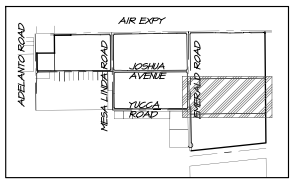
ABBREVIATIONS

CL	CENTERLINE
C&G	CURB AND GUTTER
DWY	DRIVEWAY
EP	EDGE OF PAVEMENT
ESMT	EASEMENT
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FS	FINISHED SURFACE
GB	GRADE BREAK
HP	HIGH POINT
LP	LOW POINT
PL	PROPERTY LINE
PROP	PROPOSED
P.I.P.	PROTECT IN PLACE
R/W	RIGHT OF WAY
TYP	TYPICAL

N W E S

1" = 100'

100 0 100 200 300



KEY MAP
NTS

PRELIMINARY

CITY OF ADELANTO

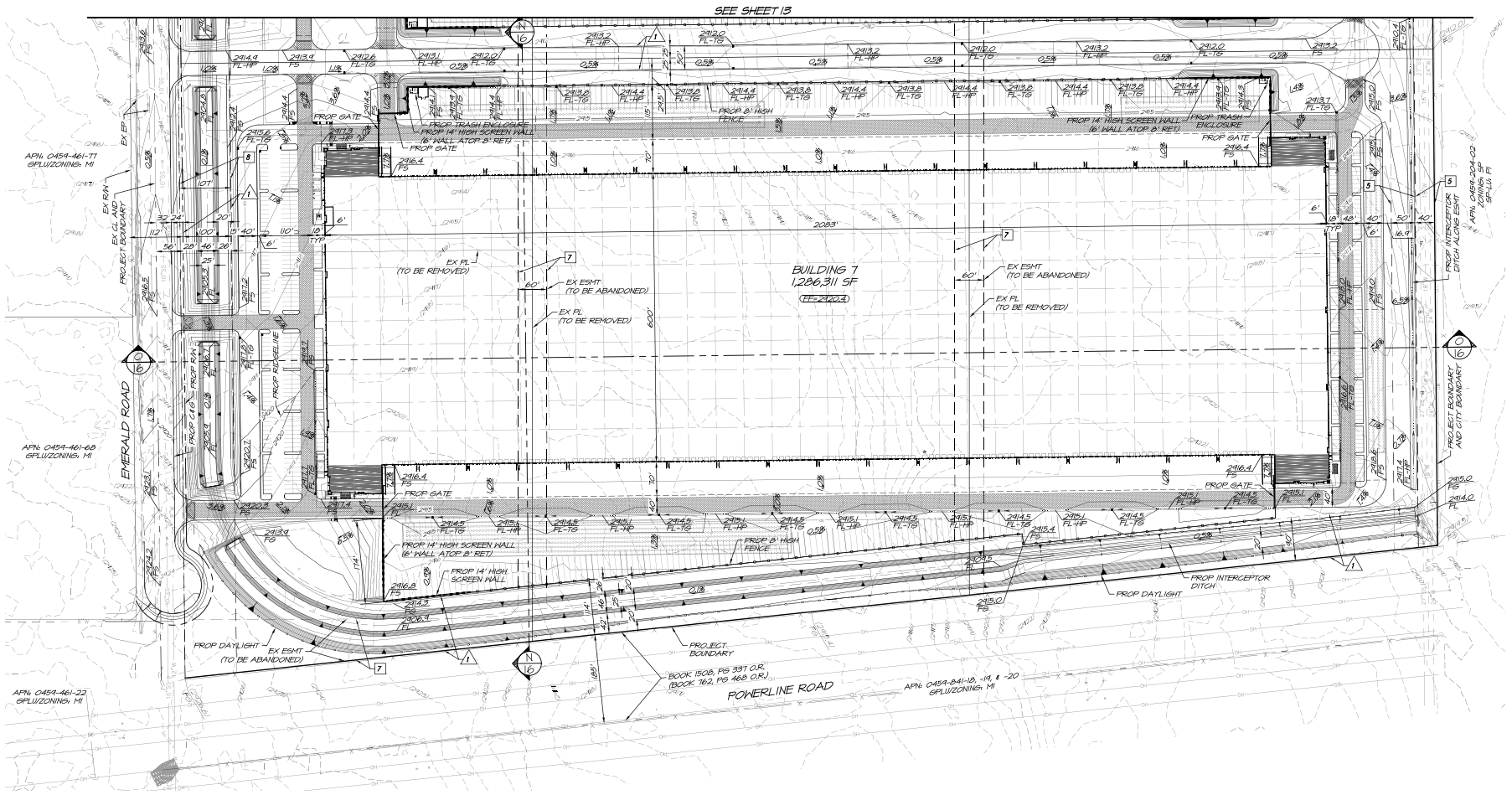
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL GRADING

SCALE:	1" = 100'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN CK REP:	
P.E.	

T & B WEBB ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE, CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O. 2024-0505
SHEET 13
OF 22 SHEETS
DWG. NO.

H:\ADAL_ENGR\DRAWINGS\ADAL_HEET\ADAL-GRD PLOT PLAN-HATCH-GRD PLAN.DWG 5/30/2025 11:10:18 AM Albert



LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- PROP RIGHT OF WAY
- PROP SD
- PROP FENCE
- PROP SCREEN WALL
- PROP EASEMENT
- EX OVERHEAD UTILITY
- PROP FIRE LANE
- PROP DECORATIVE PAVEMENT
- PROP OFFICE
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- 48"SD — EX 48" STORM DRAIN
- 8"W — EX 8" WATER
- 12"W — EX 12" WATER
- 18"W — EX 18" WATER
- 24"W — EX 24" WATER

EASEMENT NOTE

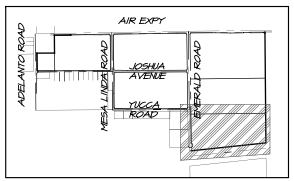
PROPOSED AND EXISTING EASEMENT INFORMATION IS LISTED ON SHEET 1.

ABBREVIATIONS

CL	CENTERLINE
C&G	CURB AND GUTTER
DWY	DRIVEWAY
EP	EDGE OF PAVEMENT
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R/W	RIGHT OF WAY
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N W E S

1" = 100'
100 0 100 200 300



KEY MAP
NTS

PRELIMINARY

CITY OF ADELANTO

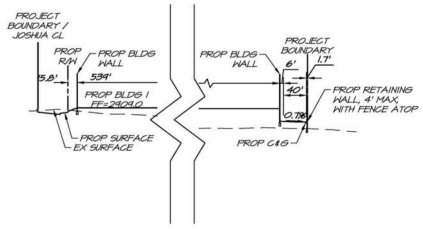
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL GRADING

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DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN CK REP:	
P.E.	

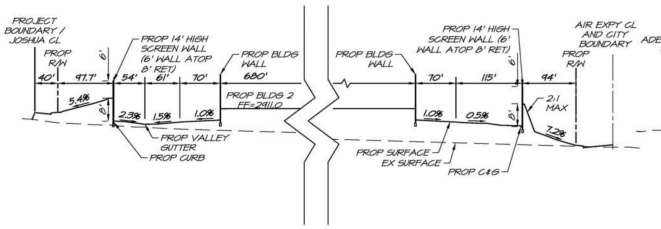
T. A. WEBB ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE CA. 92506
PH: (951) 686-1070
FAX (951) 788-1256

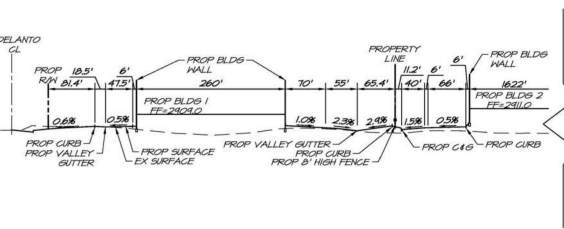
W.O. 2024-0505
SHEET 14
OF 22 SHEETS
DWG. NO.

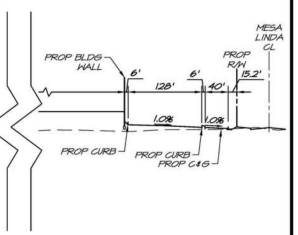
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SECTION A-A
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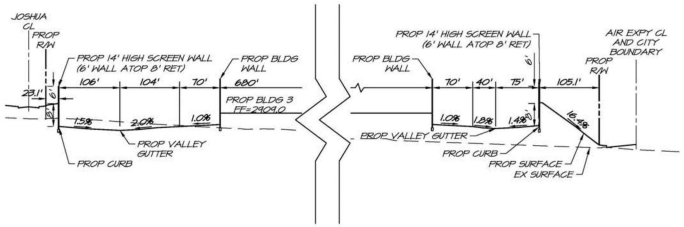


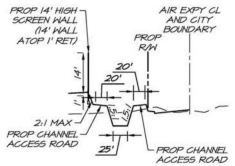


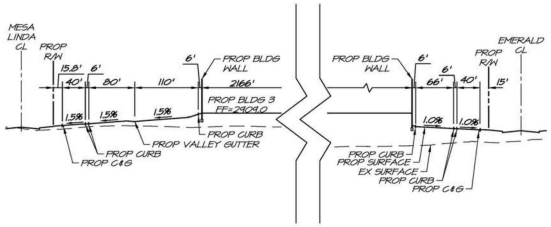


SECTION B-B
NOT TO SCALE

SECTION C-C
NOT TO SCALE



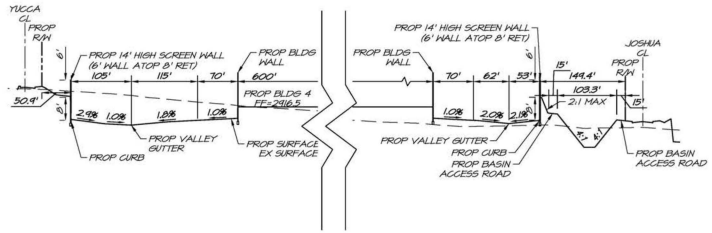


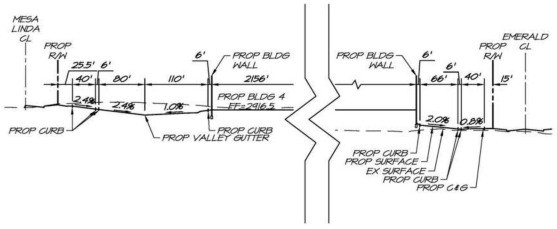


SECTION D-D
NOT TO SCALE

SECTION E-E
NOT TO SCALE

SECTION F-F
NOT TO SCALE





SECTION G-G
NOT TO SCALE

SECTION H-H
NOT TO SCALE

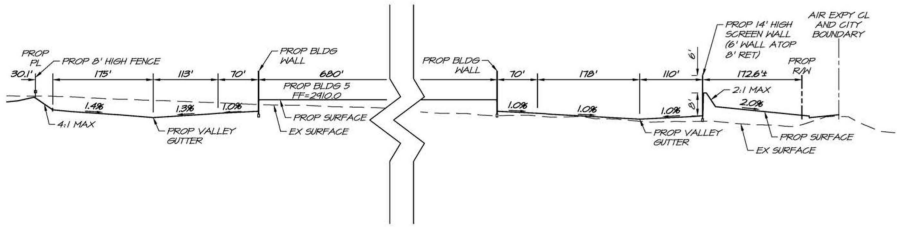
PRELIMINARY

CITY OF ADELANTO

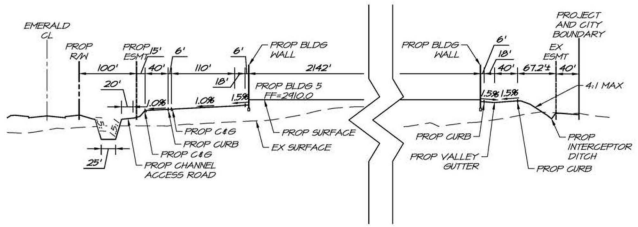
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL GRADING SECTIONS

SCALE: NTS	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 2024-0505
DATE: 5/30/2025			SHEET 15
DESIGNED: ABE			OF 22 SHEETS
CHECKED: SKK			DWG. NO.
PLN CK REF:			
F.B.			

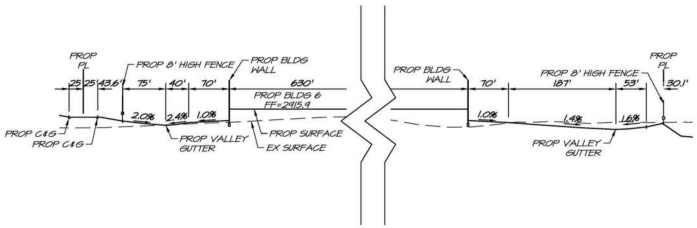
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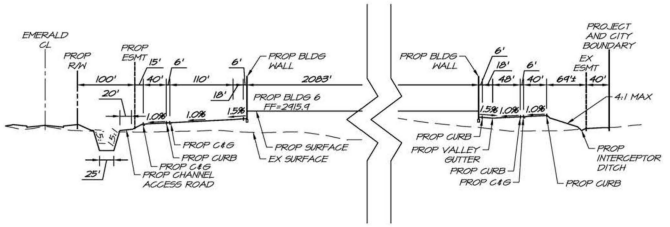
SECTION J-J
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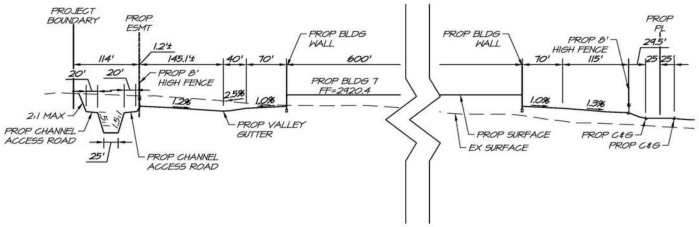
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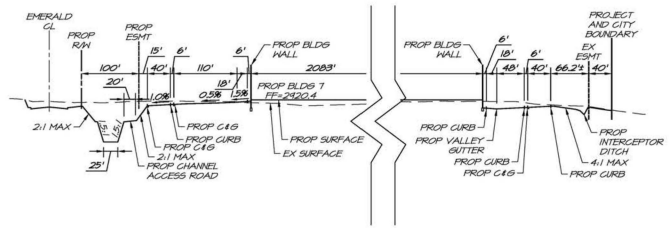
SECTION L-L
NOT TO SCALE



SECTION M-M
NOT TO SCALE



SECTION N-N
NOT TO SCALE



SECTION O-O
NOT TO SCALE

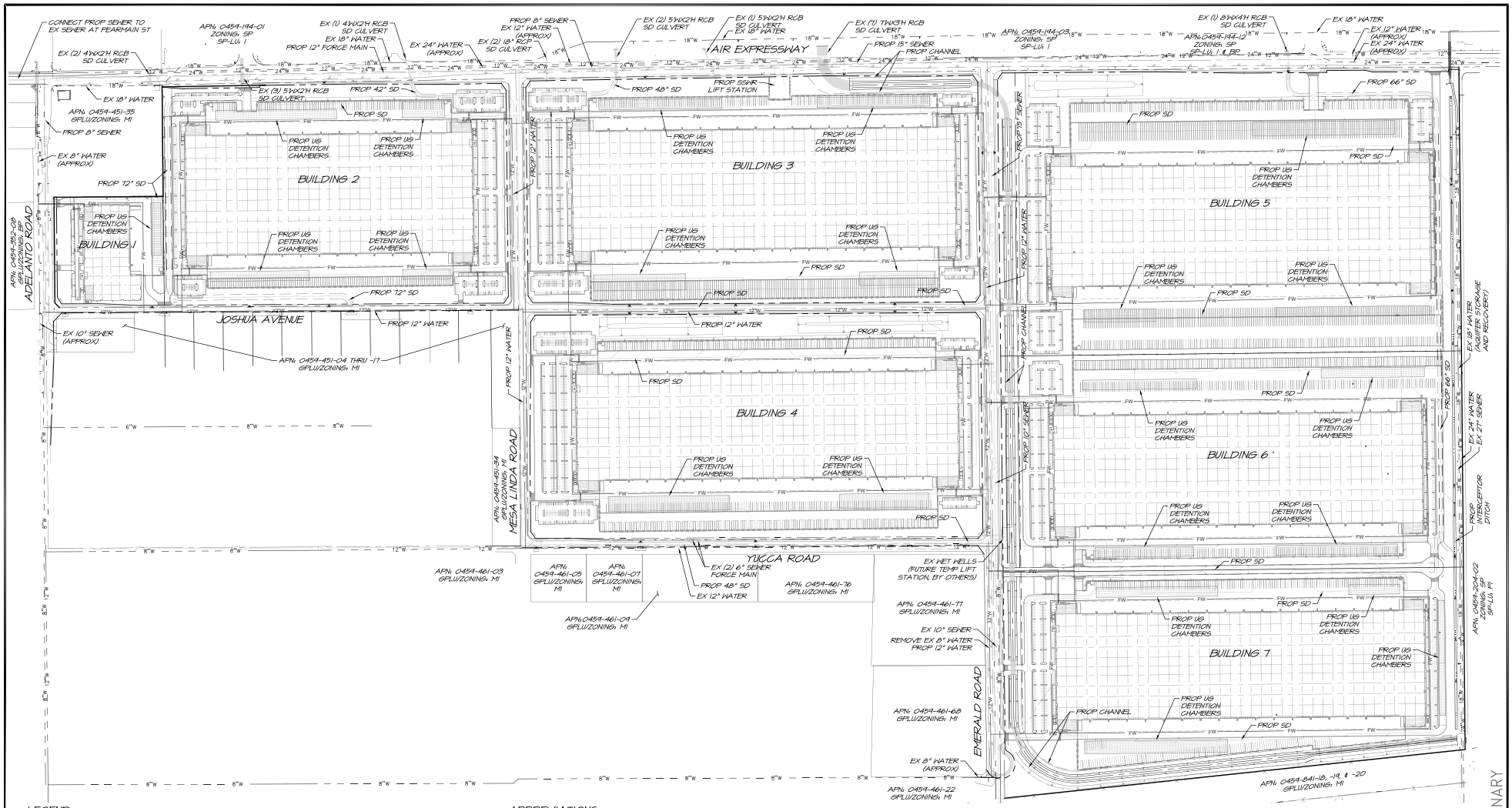
PRELIMINARY

CITY OF ADELANTO

ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL GRADING SECTIONS

SCALE: NTS	ALBERT A. WEBB ASSOCIATES	W.O. 2024-0505
DATE: 5/30/2025	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	SHEET 16
DESIGNED: ABE		OF 22 SHEETS
CHECKED: SKK		
PLN CK REF:		DWG. NO.
F.B.		

H:\2024\24-0505\DRAWINGS CAD\PLAN SHEETS\24-0505 PLOT PLAN-GRADING-BLDG 5-7.DWG 5/30/2025 11:10:19 AM Alisonw



LEGEND

EX CENTERLINE	PROP RIGHT OF WAY
EX RIGHT OF WAY	PROP SEWER
EX SS	PROP 8" SEWER
EX 6" SEWER FORCE MAIN	PROP 10" SEWER
EX 8" SEWER	PROP 15" SEWER
EX 10" SEWER	PROP 12" FORCE MAIN
EX 27" SEWER	PROP WATER
EX 18" STORM DRAIN	PROP 12" WATER
EX 24" STORM DRAIN	PROP FIRE LINE
EX 36" STORM DRAIN	PROP STORM DRAIN
EX 48" STORM DRAIN	
EX 8" WATER	
EX 12" WATER	
EX 18" WATER	
EX 24" WATER	

ABBREVIATIONS

CL	CENTERLINE
EP	EDGE OF PAVEMENT
EX	EXISTING
PL	PROPERTY LINE
PROP	PROPOSED
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
SD	STORM DRAIN
UG	UNDERGROUND

PROPOSED UTILITY NOTE

PROPOSED PIPE SIZES ARE PRELIMINARY AND WILL BE DETERMINED IN FINAL DESIGN.

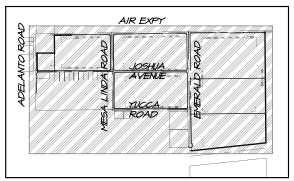
EXISTING UTILITY NOTE

EXISTING UNDERGROUND FACILITIES ARE SHOWN ON THE PLAN BASED ON THE BEST INFORMATION AVAILABLE. IN MANY CASES, THE BEST INFORMATION AVAILABLE IS GIS MAPPING. POTHOLING IS RECOMMENDED TO CONFIRM THE LOCATION AND ELEVATION OF ALL EXISTING FACILITIES.

N W E S

1" = 250'

250 0 250 500 750



KEY MAP

PRELIMINARY

CITY OF ADELANTO

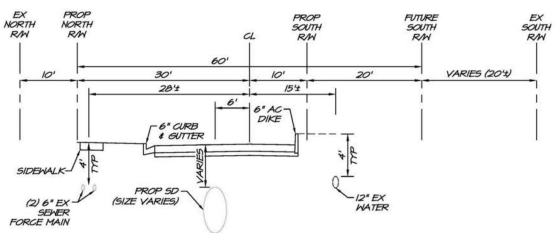
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL UTILITIES, OVERALL

SCALE:	1" = 250'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN. CK. REP:	
P.E.	

A L T A. WEBB
ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

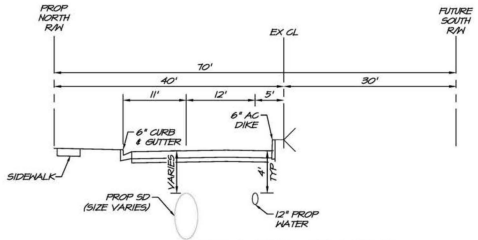
W.O. 2024-0505
SHEET 17
OF 22 SHEETS
DWG. NO.

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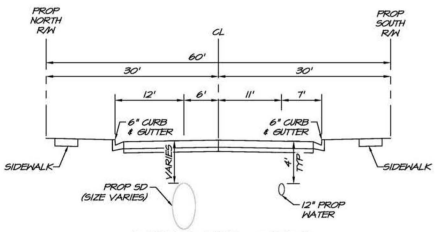
YUCCA ROAD - HALF-WIDTH

NTS



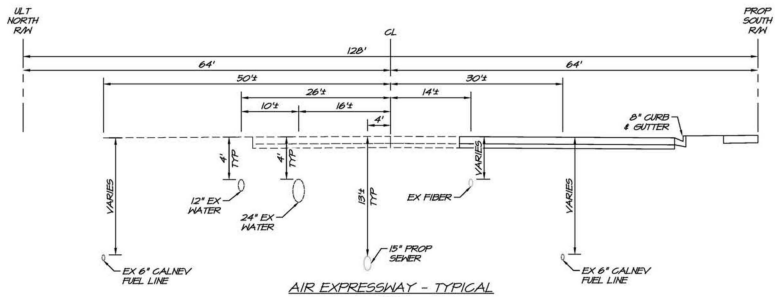
JOSHUA AVENUE - HALF-WIDTH

NTS



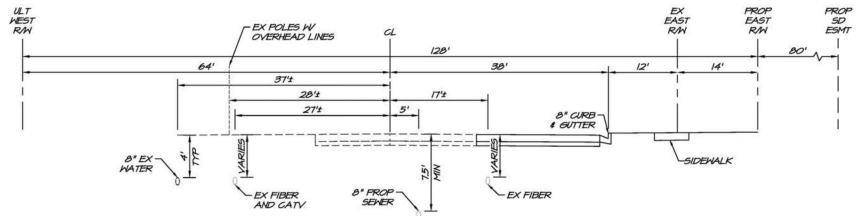
JOSHUA AVENUE - TYPICAL

NTS



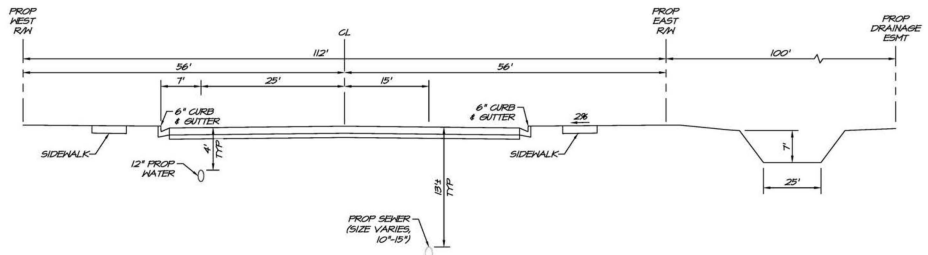
AIR EXPRESSWAY - TYPICAL

NTS



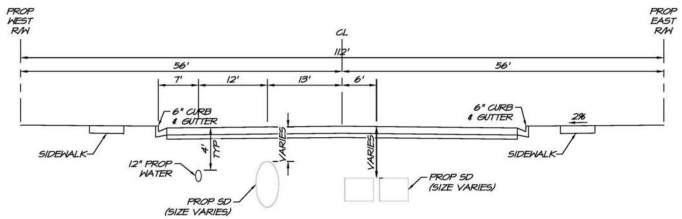
ADELANTO ROAD - TYPICAL

NTS



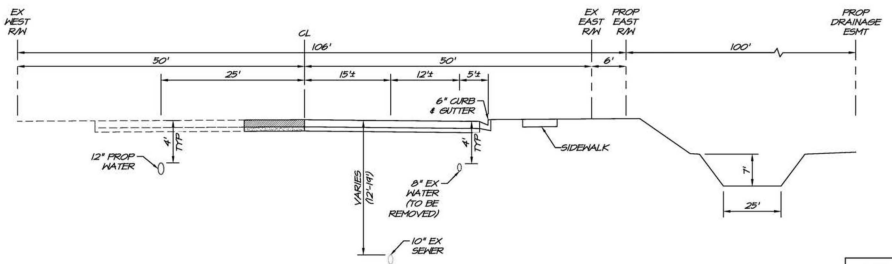
EMERALD ROAD - TYPICAL

NTS



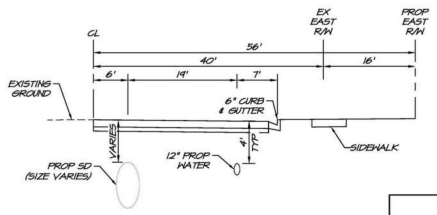
MESA LINDA ROAD - TYPICAL

NTS



EMERALD ROAD - HALF-WIDTH

NTS



MESA LINDA ROAD - HALF-WIDTH

NTS

EXISTING UTILITY NOTE

EXISTING UNDERGROUND FACILITIES ARE SHOWN ON THE PLAN BASED ON THE BEST INFORMATION AVAILABLE. IN MANY CASES, THE BEST INFORMATION AVAILABLE IS GIS MAPPING. POTHOLING IS RECOMMENDED TO CONFIRM THE LOCATION AND ELEVATION OF ALL EXISTING FACILITIES.

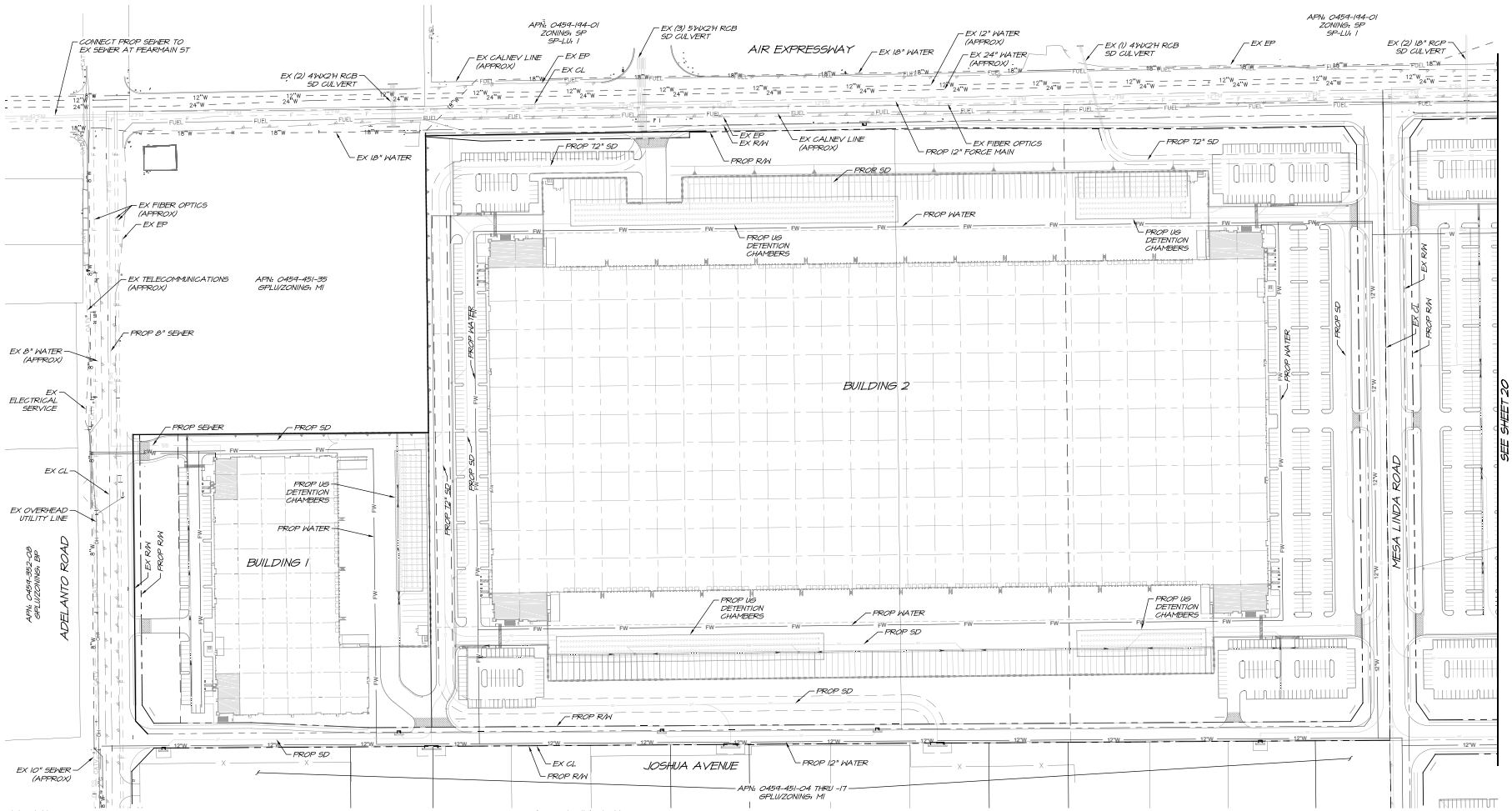
PRELIMINARY

CITY OF ADELANTO

ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL UTILITY SECTIONS

SCALE: NTS	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McCRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256	W.O. 2024-0505
DATE: 5/30/2025			SHEET 18
DESIGNED: ABE			OF 22 SHEETS
CHECKED: SKK			DWG. NO.
PLN CK REF:			
F.B.			

H:\2024\24-0505\DRAWINGS CAD\PLAN SHEETS\24-0505 PLOT PLAN-TITLE.DWG 5/30/2025 10:54:24 AM Alexane



LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- EX TELECOMMUNICATIONS
- EX ELECTRICAL SERVICE
- EX FIBER OPTICS
- EX FUEL LINE
- EX OVERHEAD UTILITY
- EX SEWER
- EX 8" SEWER FORCE MAIN
- EX 8" SEWER
- EX 10" SEWER
- EX 27" SEWER
- EX 18" STORM DRAIN
- EX 24" STORM DRAIN
- EX 36" STORM DRAIN
- EX 48" STORM DRAIN
- EX 8" WATER
- EX 12" WATER
- EX 18" WATER
- EX 24" WATER
- PROP RIGHT OF WAY
- PROP SEWER
- PROP 8" SEWER
- PROP 10" SEWER
- PROP 15" SEWER
- PROP 12" FORCE MAIN
- PROP WATER
- PROP 12" WATER
- PROP FIRE LINE
- PROP STORM DRAIN

PROPOSED UTILITY NOTE

PROPOSED PIPE SIZES ARE PRELIMINARY AND WILL BE DETERMINED IN FINAL DESIGN.

ABBREVIATIONS

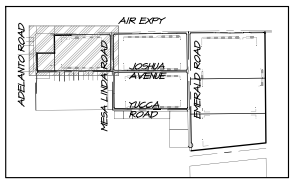
CL	CENTERLINE
EP	EDGE OF PAVEMENT
EX	EXISTING
PL	PROPERTY LINE
PROP	PROPOSED
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
SD	STORM DRAIN
UG	UNDERGROUND

EXISTING UTILITY NOTE

EXISTING UNDERGROUND FACILITIES ARE SHOWN ON THE PLAN BASED ON THE BEST INFORMATION AVAILABLE. IN MANY CASES, THE BEST INFORMATION AVAILABLE IS GIS MAPPING. POTHOLING IS RECOMMENDED TO CONFIRM THE LOCATION AND ELEVATION OF ALL EXISTING FACILITIES.

N W E S

1" = 100'
100 0 100 200 300



KEY MAP

PRELIMINARY

CITY OF ADELANTO

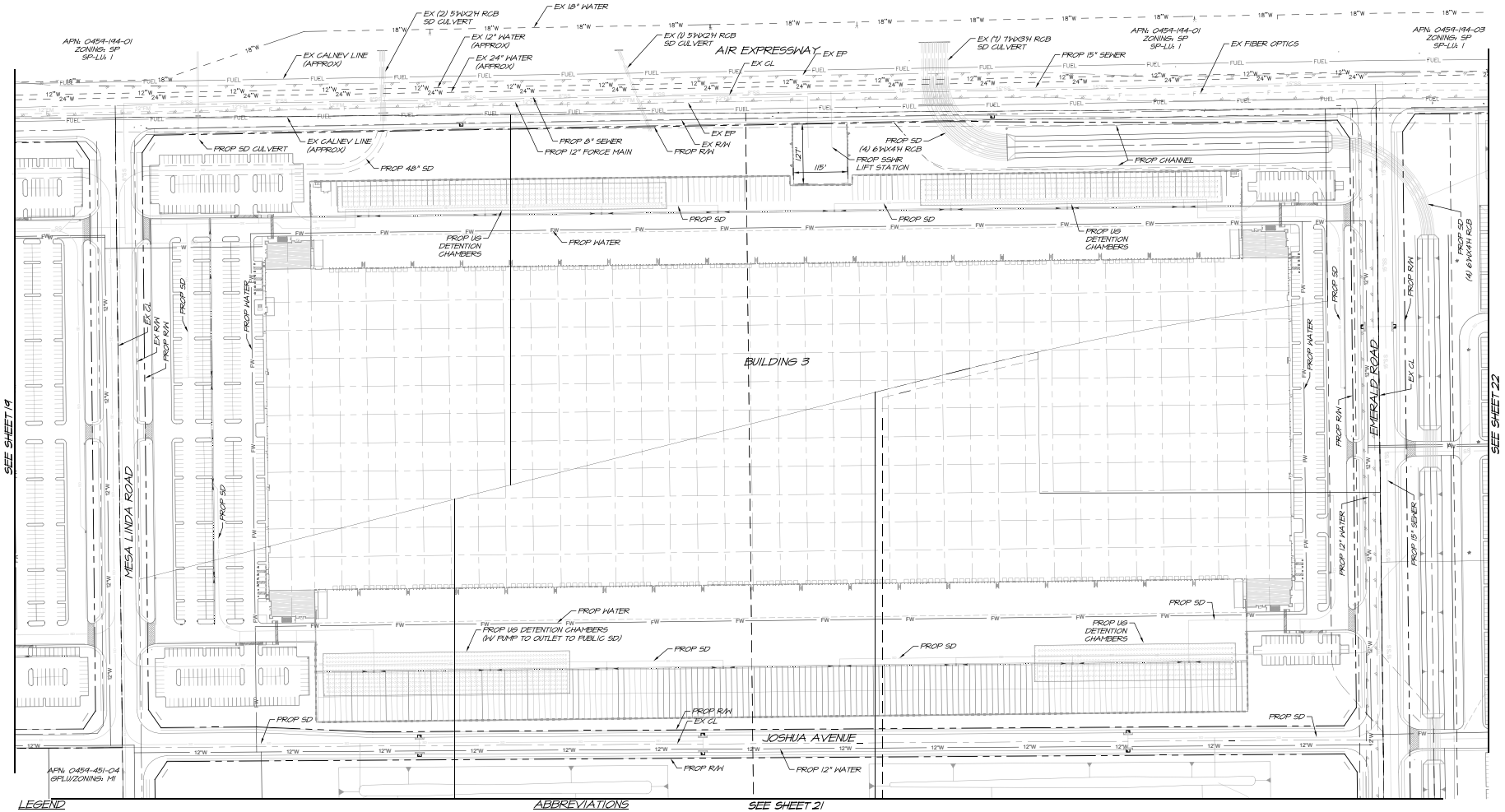
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL UTILITIES

SCALE:	1" = 100'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN CK REP:	
P.E.	

ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE CA, 92506
PH: (951) 686-1070
FAX (951) 788-1256

W.O.	2024-0505
SHEET	19
OF	22 SHEETS
DWG. NO.	

H:\JOBS__ENGINEERING__\2024\24-0505 PLOT PLAN - TITLE.DWG 5/28/2025 3:09:02 PM Richard



LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- CATV — EX TELECOMMUNICATIONS
- E — EX ELECTRICAL SERVICE
- F — EX FIBER OPTICS
- FUEL — EX FUEL LINE
- OH — EX OVERHEAD UTILITY
- EX SS — EX SEWER
- FM — EX 6" SEWER FORCE MAIN
- 8"SS — EX 8" SEWER
- 10"SS — EX 10" SEWER
- 27"SS — EX 27" SEWER
- 18"SD — EX 18" STORM DRAIN
- 24"SD — EX 24" STORM DRAIN
- 36"SD — EX 36" STORM DRAIN
- 48"SD — EX 48" STORM DRAIN
- 6"W — EX 6" WATER
- 12"W — EX 12" WATER
- 18"W — EX 18" WATER
- 24"W — EX 24" WATER
- PROP RIGHT OF WAY
- SS — PROP SEWER
- 8"SS — PROP 8" SEWER
- 10"SS — PROP 10" SEWER
- 15"SS — PROP 15" SEWER
- 12"FM — PROP 12" FORCE MAIN
- W — PROP WATER
- 12"W — PROP 12" WATER
- FW — PROP FIRE LINE
- SD — PROP STORM DRAIN

PROPOSED UTILITY NOTE

PROPOSED PIPE SIZES ARE PRELIMINARY AND WILL BE DETERMINED IN FINAL DESIGN.

ABBREVIATIONS

CL	CENTERLINE
EP	EDGE OF PAVEMENT
EX	EXISTING
PL	PROPERTY LINE
PROP	PROPOSED
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
SD	STORM DRAIN
US	UNDERGROUND

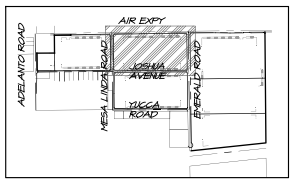
EXISTING UTILITY NOTE

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N W E S

1" = 100'

100 0 100 200 300



KEY MAP

PRELIMINARY

CITY OF ADELANTO

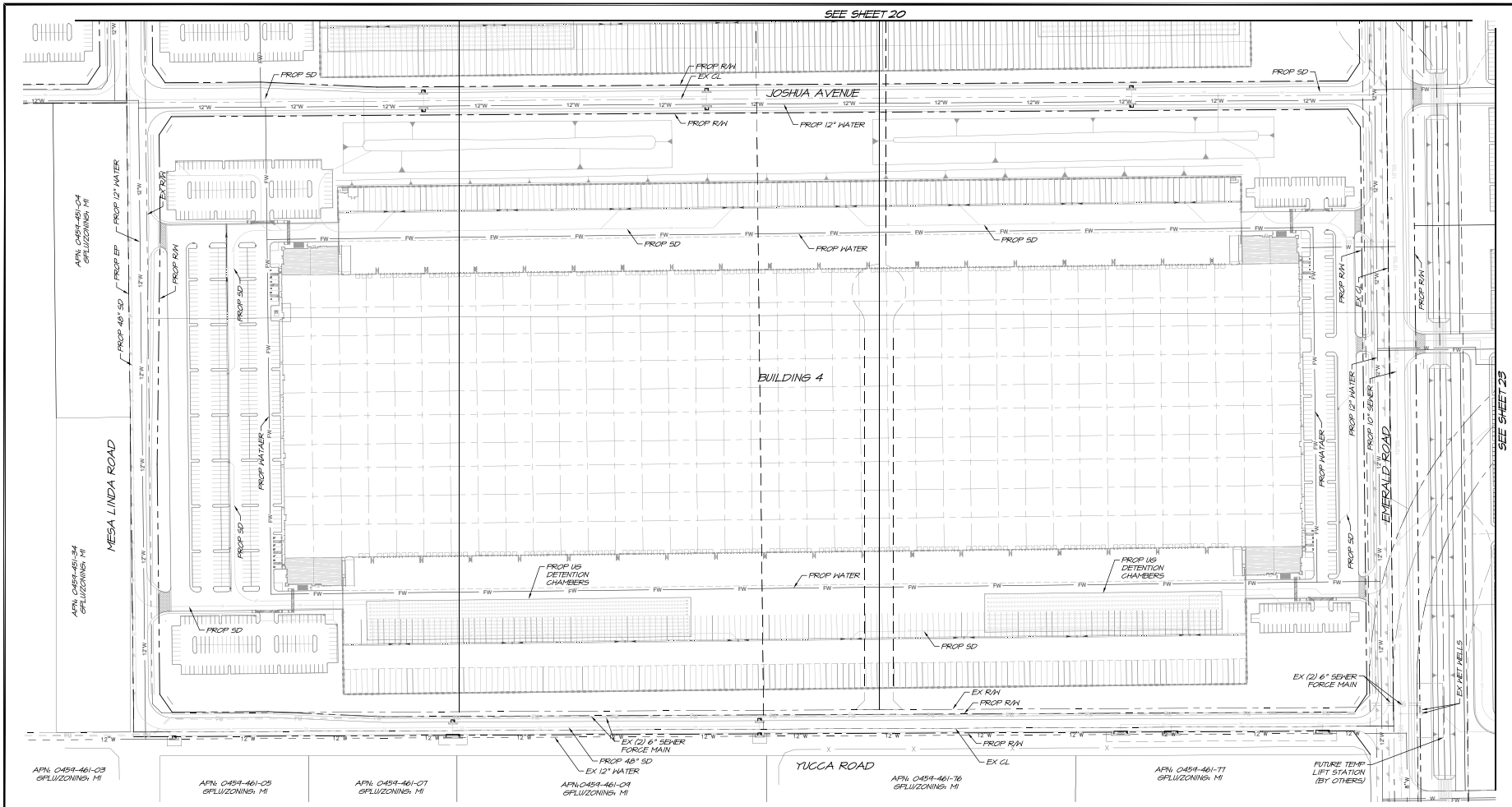
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL UTILITIES

SCALE:	1" = 100'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN. CK. REP:	
P.E.	

T. A. WEBB ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE CA, 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O.	2024-0505
SHEET	20
OF	22 SHEETS
DWG. NO.	

H:\2024\2024-0505 PLOT PLAN - TITLE.DWG 5/28/2025 3:09:02 PM Rebecca



LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- CATV — EX TELECOMMUNICATIONS
- E — EX ELECTRICAL SERVICE
- F — EX FIBER OPTICS
- FUEL — EX FUEL LINE
- OH — EX OVERHEAD UTILITY
- EX SS — EX SEWER
- FM — EX 6" SEWER FORCE MAIN
- 8"SS — EX 8" SEWER
- 10"SS — EX 10" SEWER
- 27"SS — EX 27" SEWER
- 18"SD — EX 18" STORM DRAIN
- 24"SD — EX 24" STORM DRAIN
- 36"SD — EX 36" STORM DRAIN
- 48"SD — EX 48" STORM DRAIN
- 8"W — EX 8" WATER
- 12"W — EX 12" WATER
- 18"W — EX 18" WATER
- 24"W — EX 24" WATER
- PROP RIGHT OF WAY
- SS — PROP SEWER
- 8"SS — PROP 8" SEWER
- 10"SS — PROP 10" SEWER
- 15"SS — PROP 15" SEWER
- 12"FM — PROP 12" FORCE MAIN
- W — PROP WATER
- 12"W — PROP 12" WATER
- FW — PROP FIRE LINE
- SD — PROP STORM DRAIN

PROPOSED UTILITY NOTE

PROPOSED PIPE SIZES ARE PRELIMINARY AND WILL BE DETERMINED IN FINAL DESIGN.

ABBREVIATIONS

CL	CENTERLINE
EP	EDGE OF PAVEMENT
EX	EXISTING
PL	PROPERTY LINE
PROP	PROPOSED
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
SD	STORM DRAIN
UG	UNDERGROUND

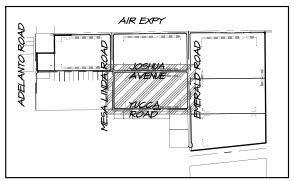
EXISTING UTILITY NOTE

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N W E S

1" = 100'

100 0 100 200 300



KEY MAP

CITY OF ADELANTO

ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL UTILITIES

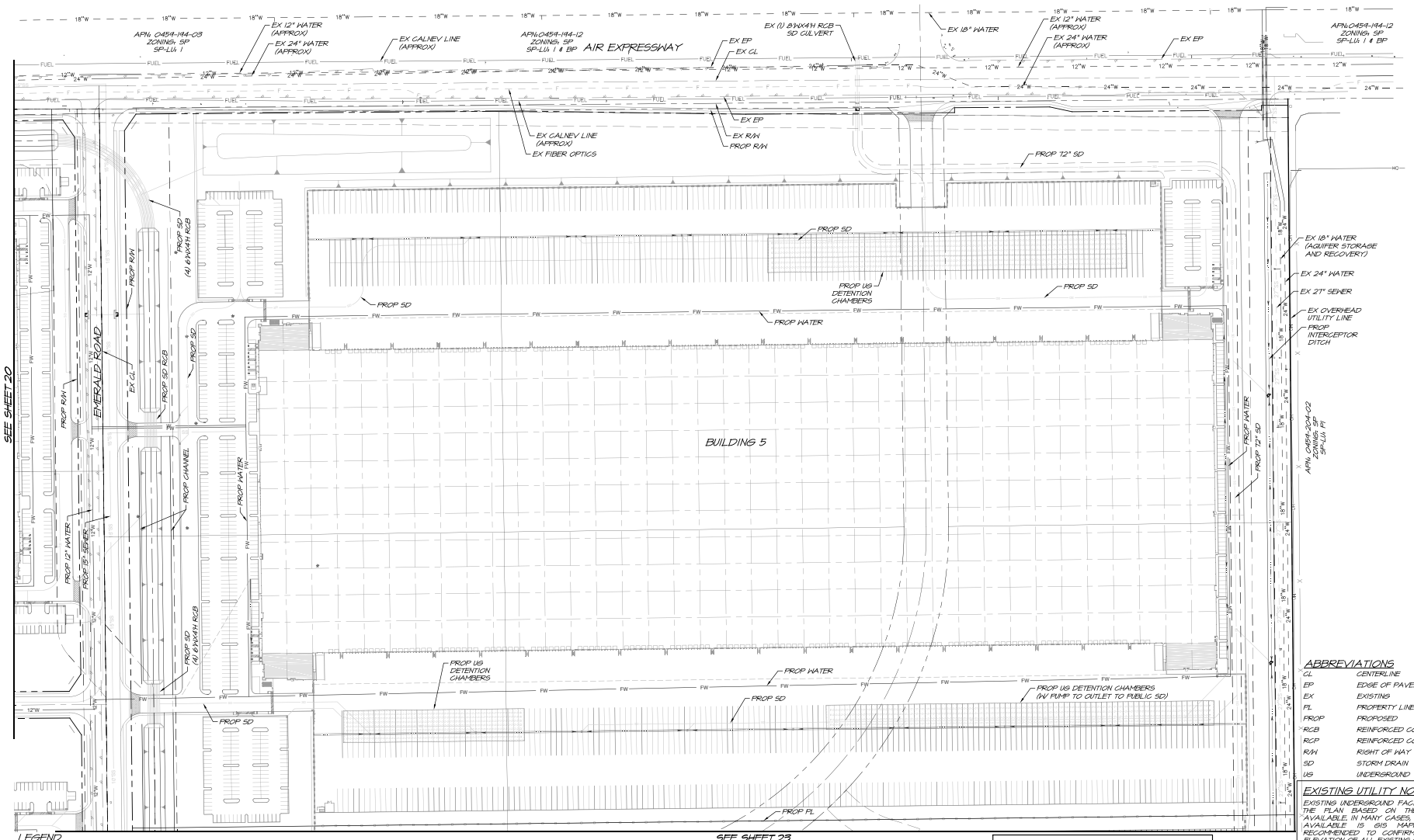
SCALE:	1" = 100'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN. CK. REP:	
P.E.	

T & B WEBB ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE CA. 92506
PH: (951) 686-1070
FAX (951) 788-1256

W.O. 2024-0505
SHEET 21
OF 22 SHEETS
DWG. NO.

PRELIMINARY

H:\JOBS\...\ENGR\DRAWINGS\CAD\A1 SHEET\V1-CDS PLOT PLAN - TITLE.DWG 5/28/2025 3:09:02 PM Edward



LEGEND

- EX CENTERLINE
- EX RIGHT OF WAY
- EX TELECOMMUNICATIONS
- EX ELECTRICAL SERVICE
- EX FIBER OPTICS
- EX FUEL LINE
- EX OVERHEAD UTILITY
- EX SEWER
- EX 6" SEWER FORCE MAIN
- EX 8" SEWER
- EX 10" SEWER
- EX 27" SEWER
- EX 18" STORM DRAIN
- EX 24" STORM DRAIN
- EX 36" STORM DRAIN
- EX 48" STORM DRAIN
- EX 8" WATER
- EX 12" WATER
- EX 18" WATER
- EX 24" WATER
- PROP RIGHT OF WAY
- PROP SEWER
- PROP 8" SEWER
- PROP 10" SEWER
- PROP 15" SEWER
- PROP 12" FORCE MAIN
- PROP WATER
- PROP 12" WATER
- PROP FIRE LINE
- PROP STORM DRAIN

PROPOSED UTILITY NOTE

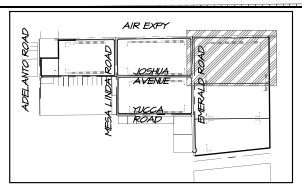
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N W E S

1" = 100'

100 0 100 200 300

KEY MAP



ABBREVIATIONS

CL	CENTERLINE
EP	EDGE OF PAVEMENT
EX	EXISTING
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RCB	REINFORCED CONCRETE BOX
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U/G	UNDERGROUND

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PRELIMINARY

CITY OF ADELANTO

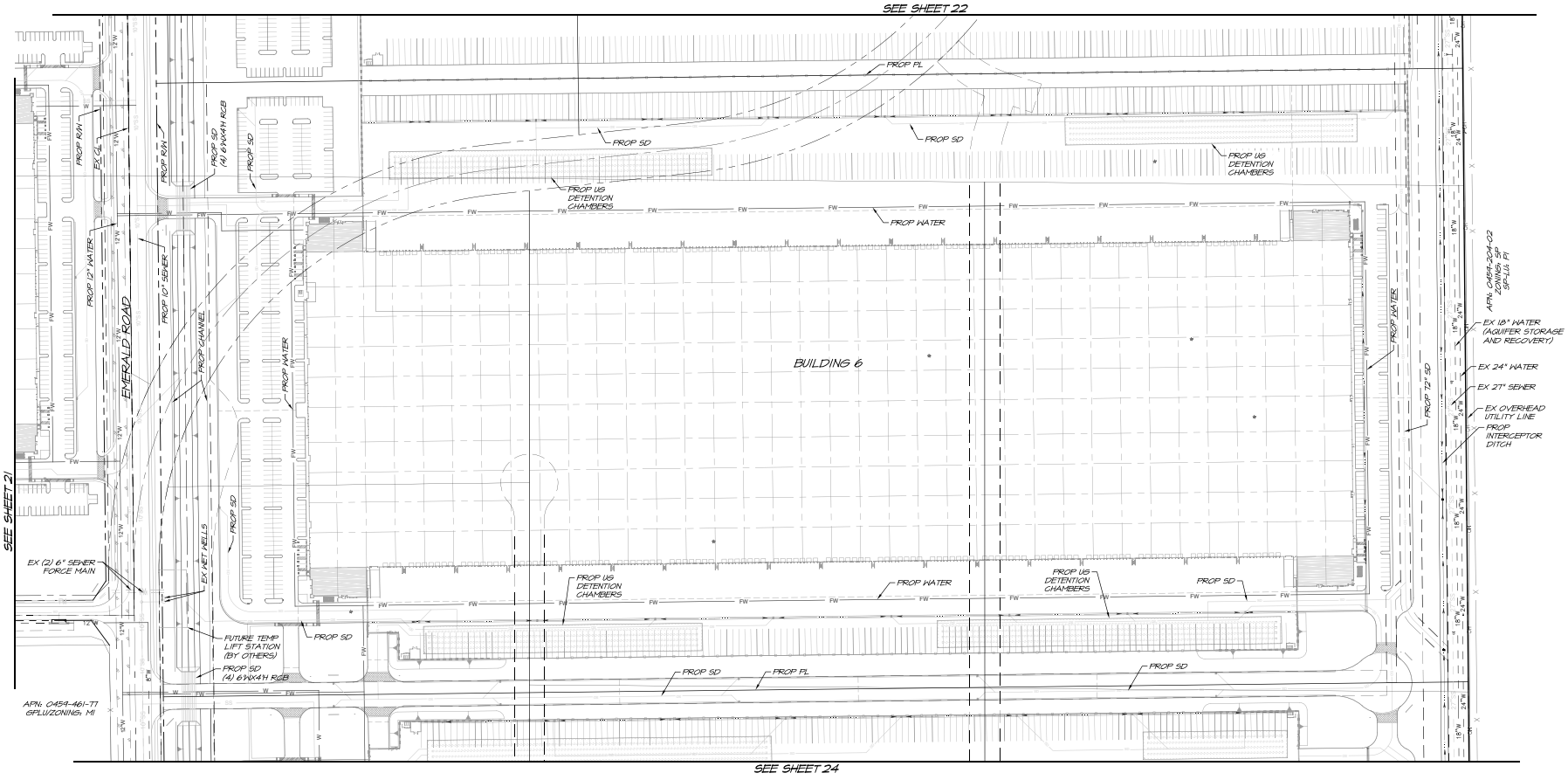
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL UTILITIES

SCALE:	1" = 100'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN. CK. REP:	
P.E.	

T. & B. WEBB
ENGINEERING CONSULTANTS
3788 MCRAY STREET
RIVERSIDE CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256

W.O.	2024-0505
SHEET	22
OF	22 SHEETS
DWG. NO.	

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LEGEND

	EX CENTERLINE
	EX RIGHT OF WAY
CATV	EX TELECOMMUNICATIONS
E	EX ELECTRICAL SERVICE
F	EX FIBER OPTICS
FUEL	EX FUEL LINE
OH	EX OVERHEAD UTILITY
EX SS	EX SEWER
FM	EX 6" SEWER FORCE MAIN
8"SS	EX 8" SEWER
10"SS	EX 10" SEWER
27"SS	EX 27" SEWER
18"SD	EX 18" STORM DRAIN
24"SD	EX 24" STORM DRAIN
36"SD	EX 36" STORM DRAIN
48"SD	EX 48" STORM DRAIN
8"W	EX 8" WATER
12"W	EX 12" WATER
18"W	EX 18" WATER
24"W	EX 24" WATER
	PROP RIGHT OF WAY
SS	PROP SEWER
8"SS	PROP 8" SEWER
10"SS	PROP 10" SEWER
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12"W	PROP 12" WATER
FW	PROP FIRE LINE
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PROPOSED UTILITY NOTE

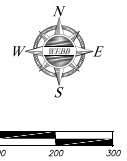
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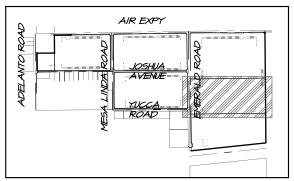
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KEY MAP

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CITY OF ADELANTO

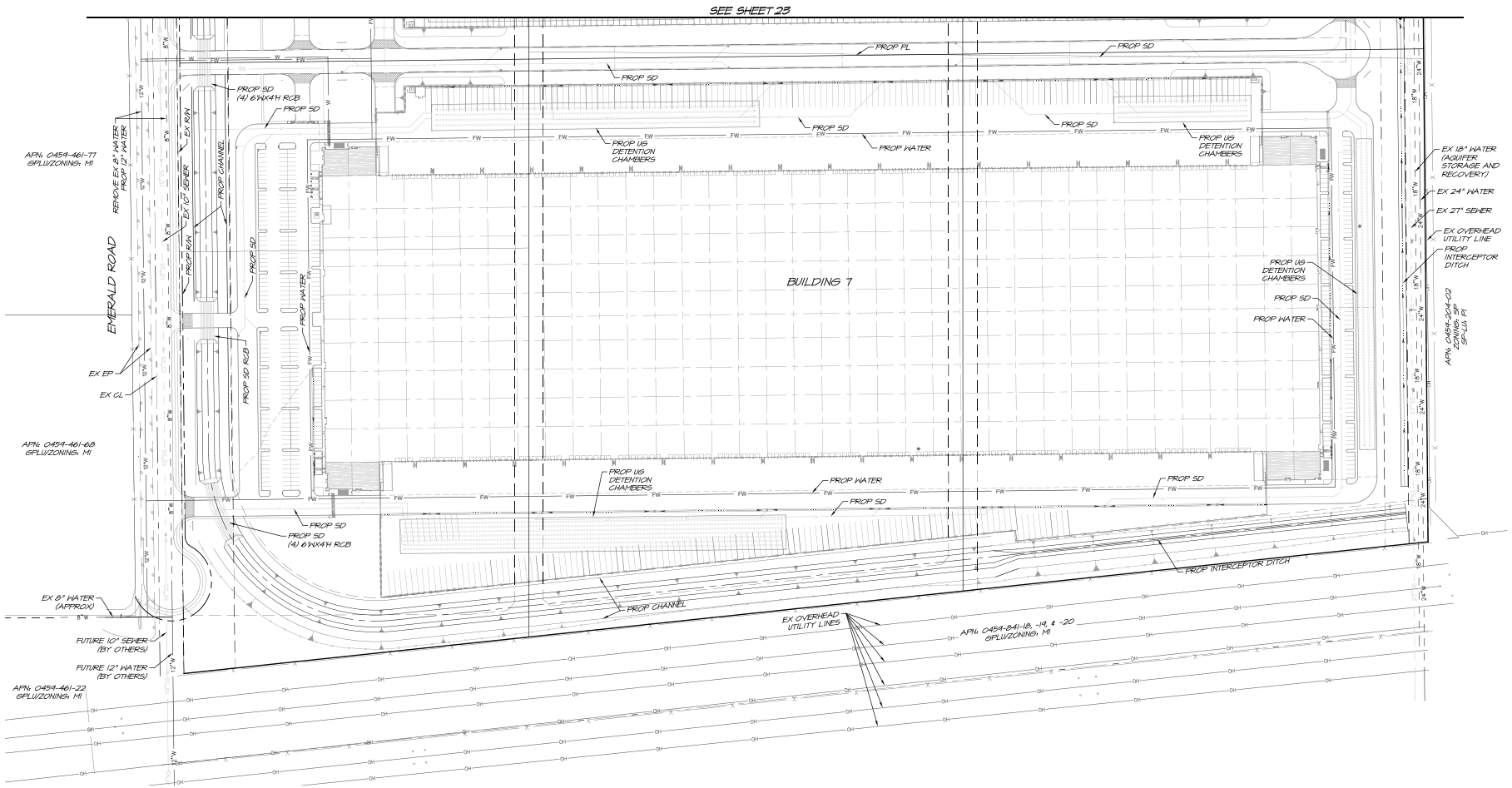
ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL UTILITIES

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PLN CK REF:	
F.B.	

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FAX (951) 788-1256

W.O.	2024-0505
SHEET	23
OF	22 SHEETS
DWG. NO.	

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LEGEND

	EX CENTERLINE
	EX RIGHT OF WAY
CATV	EX TELECOMMUNICATIONS
E	EX ELECTRICAL SERVICE
F	EX FIBER OPTICS
FUEL	EX FUEL LINE
OH	EX OVERHEAD UTILITY
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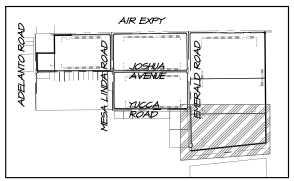
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KEY MAP

PRELIMINARY

CITY OF ADELANTO

ADELANTO INDUSTRIAL PARK
LDP 24-04
CONCEPTUAL UTILITIES

SCALE:	1" = 100'
DATE:	5/30/2025
DESIGNED:	ABE
CHECKED:	SKK
PLN CK REF:	
F.B.	

T & B WEBB ENGINEERING CONSULTANTS
3788 MCRAY STREET
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W.O.	2024-0505
SHEET	24
OF	22 SHEETS
DWG. NO.	

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IN THE CITY OF ADELANTO, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA

TENTATIVE PARCEL MAP NO. 20837

LOCATED IN SECTIONS 34 & 35, T. 6 N., R. 5 W., S.B.M.

OWNER

MILESKI HOLDINGS
14711 W 190TH STREET, SUITE 100
TORRANCE, CA 90504
CONTACT: MICHAEL MILESKI
PHONE: (310) 715-1300

APPLICANT/DEVELOPER

MILESKI HOLDINGS
14711 W 190TH STREET, SUITE 100
TORRANCE, CA 90504
CONTACT: MICHAEL MILESKI
PHONE: (310) 715-1300

ARCHITECT

SKH ARCHITECT INC.
4000 WESTERLY PLACE, SUITE 100
NEWPORT BEACH, CA 92660
CONTACT: STEVE HONG
PHONE: (714) 822-1171
EMAIL: STEVE@SKHARCHITECT.COM

SOILS ENGINEER

LEIGHTON CONSULTING, INC.
12393 ACACIA STREET, SUITE B-6
RANCHO CUCAMONGA, CA 91730
CONTACT: JASON D. HERTZBERG
PHONE: (909) 484-2205
PROJ. NO: CLC00061.232280

ENGINEER

ALBERT A. WEBB ASSOCIATES
3788 MCGRAY STREET
RIVERSIDE, CA 92506
CONTACT: SARAH KOWALSKI
PHONE: (951) 686-1070
EMAIL: SARAH.KOWALSKI@WEBBASSOCIATES.COM

PROJECT DESCRIPTION

ADELANTO INDUSTRIAL PARK LOCATED AT THE SOUTHEAST CORNER OF ADELANTO ROAD AND AIR EXPRESSWAY IN THE CITY OF ADELANTO, CA. (APN 0434-451-51 THRU -62, AND 0434-841-01 THRU -15) WILL CONSIST OF 7 INDUSTRIAL SPEC BUILDINGS TOTALING 8.6± MILLION SF, THE 450± ACRE SITE IS CURRENTLY ZONED AND GENERAL PLANED FOR MANUFACTURING/INDUSTRIAL (MI) WHICH WOULD ALLOW THE PROPOSED USE.

ACREAGE

PARCEL	1	2	3	4	5	6	7	TOTAL
GROSS SITE AREA (AC):	8.87	56.42	81.82	81.87	97.24	74.76	70.63	471.61
ROAD DED:	0.44	1.12	6.91	7.23	1.90	1.57	1.72	21.02
NET SITE AREA:	8.43	55.30	74.93	74.64	95.34	73.19	68.86	450.59

LEGAL DESCRIPTION

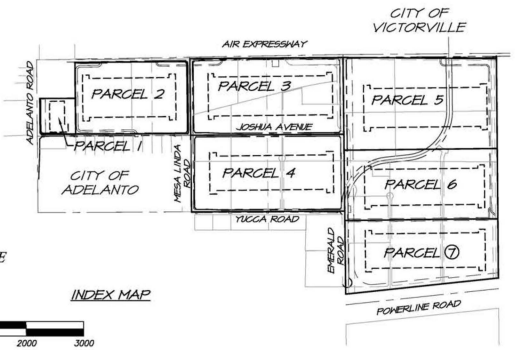
PER PRELIMINARY TITLE REPORT DATED 10/30/2024 PREPARED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY:

PARCEL 1
LOTS 1, 2, 3, 4, 5, AND 6 OF TRACT NO. 17008, IN THE CITY OF ADELANTO, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 333, PAGES 1 THROUGH 8, INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY
APN 0434-841-01 THRU 0434-841-06

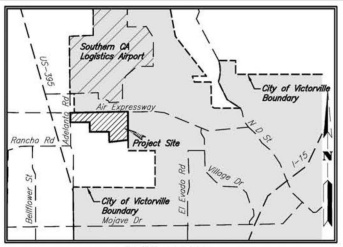
PARCEL 2
LOTS 7 THROUGH 15, INCLUSIVE, AND LOT 18 THROUGH 29, INCLUSIVE, OF TRACT NO. 17008, IN THE CITY OF ADELANTO, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 333, PAGES 1 THROUGH 8, INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.
APN 0434-841-07 THRU 0434-841-15, AND 0434-451-51 THRU 0434-451-62

UTILITY PROVIDERS

WATER	CITY OF ADELANTO WATER DEPARTMENT PHONE: (760) 246-2300
SEWER	CITY OF ADELANTO WATER DEPARTMENT PHONE: (760) 246-2300
ELECTRICAL	SOUTHERN CALIFORNIA EDISON PHONE: (800) 684-8123
GAS	SOUTHWEST GAS CORPORATION PHONE: (877) 860-6020
TELEPHONE	VERIZON PHONE: (760) 243-3801
CABLE T.V.	SPECTRUM PHONE: (951) 406-1666



INDEX MAP



VICINITY MAP
NTS

SCHOOL DISTRICT

ADELANTO ELEMENTARY SCHOOL DISTRICT

A.P.N.

0434-841-01 THRU 0434-841-15 AND
0434-451-51 THRU 0434-451-62

LAND USE

EX LAND USE: VACANT LOT
EX GPLU AND ZONING: MI (MANUFACTURING/INDUSTRIAL)

PROP GPLU AND ZONING: MI (MANUFACTURING/INDUSTRIAL)

GENERAL INFORMATION

1. ALL IMPROVEMENTS SHALL BE PER CITY OF ADELANTO ORDINANCE 2711 AND THE SUBDIVISION MAP ACT.
2. THOMAS BROS. MAP BOOK PAGE 4114 GRID: C1, D1, E1 & E7 AND PAGE 4295 GRID: C1, D1, E1.
3. THIS MAP INCLUDES THE ENTIRE CONTIGUOUS OWNERSHIP OF THE LAND DIVIDED.
4. PROJECT IS NOT WITHIN A SPECIFIC PLAN.
5. EASEMENTS OF RECORD ARE PLOTTED HEREON.
6. PROJECT IS NOT WITHIN A COMMUNITY SERVICES DISTRICT.
7. LAND IS NOT WITHIN A SPECIAL STUDIES ZONE.
8. LAND IS NOT SUBJECT TO LIQUEFACTION.
9. NO SUBSURFACE SEPTIC SEWAGE DISPOSAL IS INTENDED.
10. NO EXISTING STRUCTURES OR DWELLINGS ON SITE.
11. THERE ARE EXISTING HET WELLS ON THE PROPERTY.
12. TOPOGRAPHY PROVIDED BY BLUE ENGINEERING & CONSULTING, INC. CONTOUR INTERVAL= 1-FT.
13. SETBACKS OF SLOPES TO PROPERTY LINES SHALL CONFORM TO CITY OF ADELANTO ORDINANCE 836 AND CALIFORNIA BUILDING CODE REQUIREMENTS.
14. ALL SLOPES ARE 2:1 RATIO, UNLESS OTHERWISE NOTED.
15. THE PROJECT WILL COMPLY WITH NPDES REQUIREMENTS AS REQUIRED BY CITY OF ADELANTO AND THE MOJAVE RIVER WATERSHED.
16. FLOOD ZONES X AND D, AREA OF LOW OR INDETERMINATE FLOODING PER FEMA PANELS 06071C5785H AND 06071C5805H.

EASEMENT NOTES

1. PROPOSED DRAINAGE EASEMENTS
2. PROPOSED SEWER EASEMENTS
3. PROPOSED OFFSITE DRAINAGE EASEMENTS

APN 0434-841-01 THRU 0434-841-06
AN EASEMENT FOR TELEGRAPH AND TELEPHONE LINES AND APPURTENANCES, RECORDED FEBRUARY 21, 1913 IN BOOK 521 OF DEEDS, PAGE 4, IN FAVOR OF INTERSTATE TELEPHONE COMPANY. THE EXTENT AND LOCATION OF SAID EASEMENT IS NOT ASCERTAINABLE FROM THE RECORD.

AN EASEMENT FOR TELEGRAPH AND TELEPHONE LINES AND APPURTENANCES, RECORDED FEBRUARY 21, 1913 IN BOOK 521, PAGE 240 OF OFFICIAL RECORDS, IN FAVOR OF INTERSTATE TELEGRAPH COMPANY. THE EXTENT AND LOCATION OF SAID EASEMENT IS NOT ASCERTAINABLE FROM THE RECORD.

(1) THE CENTERLINE OF AN UNDETERMINED WIDTH EASEMENT TO INTERSTATE TELEGRAPH COMPANY FOR PUBLIC UTILITIES, RECORDED SEPTEMBER 4, 1941 IN BOOK 1446, PAGE 174 OF OFFICIAL RECORDS. (TO REMAIN)

(2) A 40' WIDE UNDERGROUND WATER PIPELINE EASEMENT (TO REMAIN) AND A 50' WIDE TEMPORARY CONSTRUCTION EASEMENT TO VICTOR VALLEY WATER DISTRICT, BOTH RECORDED FEBRUARY 25, 2002 AS INSTRUMENT NO. 2002-0088833 OF OFFICIAL RECORDS.
(SAID EASEMENT IS ALSO DESCRIBED IN THAT CERTAIN ORDER OF CONDEMNATION RECORDED NOVEMBER 28, 2005 AS INSTRUMENT NO. 2005-0881571, OF OFFICIAL RECORDS.)

(3) ACCESS EASEMENTS FOR "INGRESS AND EGRESS PURPOSES," RESERVED TO HEADLANDS REALTY CORPORATION, RECORDED DECEMBER 17, 2008 INCLUSIVE OF MAP, TRACT NO. 17008, BOOK 333, PAGES 1 THROUGH 8. (TO BE ABANDONED)

(4) AN EASEMENT FOR DRAINAGE PURPOSES DEDICATED TO THE CITY OF ADELANTO, RECORDED DECEMBER 17, 2008 INCLUSIVE OF MAP, TRACT NO. 17008, BOOK 333, PAGES 1 THROUGH 8. (TO BE REPLACED)

APN 0434-841-07 THRU 0434-841-15 AND 0434-451-51 THRU 0451-451-62
A RESERVATION BY THE UNITED STATES OF AMERICA, HOLDER OF A RIGHT-OF-WAY FOR DITCHES AND CANALS, AS RESERVED IN THE PATENT RECORDED IN BOOK "K" OF PATENTS, PAGE 367. SAID RESERVATION IS NOT PLOTTABLE BY RECORD.

AN EASEMENT FOR TELEGRAPH AND TELEPHONE LINES AND APPURTENANCES, RECORDED FEBRUARY 21, 1913 IN BOOK 521, PAGE 240 OF OFFICIAL RECORDS, IN FAVOR OF INTERSTATE TELEGRAPH COMPANY. THE EXTENT AND LOCATION OF SAID EASEMENT IS NOT ASCERTAINABLE FROM THE RECORD.

AN EASEMENT FOR TELEGRAPH AND TELEPHONE LINES AND APPURTENANCES, RECORDED FEBRUARY 21, 1913 IN BOOK 527 OF DEEDS, PAGE 4, IN FAVOR OF INTERSTATE TELEPHONE COMPANY. THE EXTENT AND LOCATION OF SAID EASEMENT IS NOT ASCERTAINABLE FROM THE RECORD.

AN EASEMENT FOR TELEGRAPH AND TELEPHONE LINES AND APPURTENANCES RECORDED FEBRUARY 21, 1913 IN BOOK 581 OF DEEDS, PAGE 240, IN FAVOR OF INTERSTATE TELEGRAPH COMPANY. THE EXTENT AND LOCATION OF SAID EASEMENT IS NOT ASCERTAINABLE FROM THE RECORD.

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AN 185' WIDE EASEMENT FOR TRANSMISSION LINES, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS, RECORDED ON DECEMBER 4, 1941 IN BOOK 1508, PAGE 337 OF OFFICIAL RECORDS (SAME AS BOOK 1624, PAGE 468), IN FAVOR OF THE DEPARTMENT OF WATER AND POWER OF THE CITY OF LOS ANGELES. (OUTSIDE OF PROJECT BOUNDARY)

(2) AN EASEMENT IN FAVOR OF THE UNITED STATES OF AMERICA FOR A PERPETUAL AND ASSIGNABLE EASEMENT FOR THE ESTABLISHMENT, MAINTENANCE AND OPERATION OF A RESTRICTIVE USE AREA IN CONNECTION WITH THE OPERATION OF GEORGE AIR FORCE BASE RECORDED APRIL 30, 1973 IN BOOK 8172, PAGE 1 OF OFFICIAL RECORDS. (TO REMAIN)

(3) AN EASEMENT IN FAVOR OF THE UNITED STATES OF AMERICA FOR A PERPETUAL AND ASSIGNABLE EASEMENT FOR THE ESTABLISHMENT, MAINTENANCE AND OPERATION OF A RESTRICTIVE USE AREA IN CONNECTION WITH THE OPERATION OF GEORGE AIR FORCE BASE RECORDED OCTOBER 24, 1974 IN BOOK 8543, PAGE 12 OF OFFICIAL RECORDS. (TO REMAIN)

(4) AN EASEMENT TO THE UNITED STATES OF AMERICA FOR A RESTRICTED USE AREA, RECORDED MAY 5, 1975 IN BOOK 8610, PAGE 34 OF OFFICIAL RECORDS. (TO REMAIN)

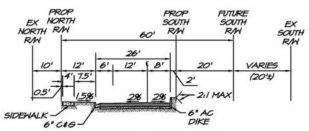
A 40' WIDE UNDERGROUND WATER PIPELINE EASEMENT AND A 50' WIDE TEMPORARY CONSTRUCTION EASEMENT TO VICTOR VALLEY WATER DISTRICT, BOTH RECORDED FEBRUARY 25, 2002 AS INSTRUMENT NO. 2002-0088833 OF OFFICIAL RECORDS. (OUTSIDE OF PROJECT BOUNDARY)
SAID EASEMENT IS ALSO DESCRIBED IN THAT CERTAIN ORDER OF CONDEMNATION RECORDED NOVEMBER 28, 2005 AS INSTRUMENT NO. 2005-0881571, OF OFFICIAL RECORDS.

(5) A 40' WIDE UNDERGROUND WATER PIPELINE EASEMENT (TO REMAIN) AND A 50' WIDE TEMPORARY CONSTRUCTION EASEMENT TO VICTOR VALLEY WATER DISTRICT, BOTH RECORDED FEBRUARY 25, 2002 AS INSTRUMENT NO. 2002-0088833 OF OFFICIAL RECORDS.
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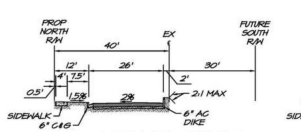
(6) AN EASEMENT IN FAVOR OF THE CITY OF ADELANTO FOR PUBLIC ROADWAY (TO REMAIN) AND TEMPORARY CONSTRUCTION RECORDED SEPTEMBER 30, 2003 AS INSTRUMENT NO. 2003-0736838 OF OFFICIAL RECORDS.
SAID TEMPORARY CONSTRUCTION EASEMENT SHALL EXIST ONLY FOR SO LONG AS NECESSARY TO COMPLETE THE INITIAL CONSTRUCTION AND INSTALLATION OF THE ROADWAY, AND IN ALL EVENTS SHALL IMMEDIATELY AND AUTOMATICALLY TERMINATE ONE (1) YEAR FROM THE DATE OF RECORDATION OF THIS AGREEMENT.

(7) ACCESS EASEMENTS FOR "INGRESS AND EGRESS PURPOSES," RESERVED TO HEADLANDS REALTY CORPORATION, RECORDED DECEMBER 17, 2008 INCLUSIVE OF MAP, TRACT NO. 17008, BOOK 333, PAGES 1 THROUGH 8. (TO BE ABANDONED)

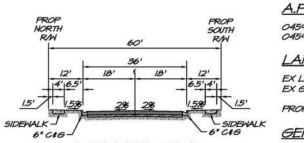
(8) AN EASEMENT FOR DRAINAGE PURPOSES DEDICATED TO THE CITY OF ADELANTO, RECORDED DECEMBER 17, 2008 INCLUSIVE OF MAP, TRACT NO. 17008, BOOK 333, PAGES 1 THROUGH 8. (TO BE QUITCLAIMED)



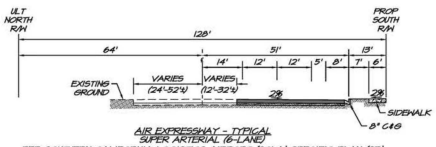
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PER SAN BERNARDINO COUNTY STANDARD 111
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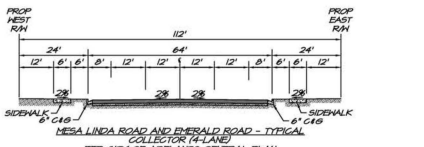
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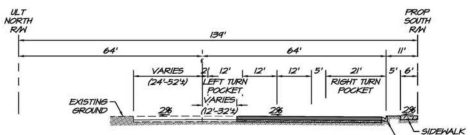
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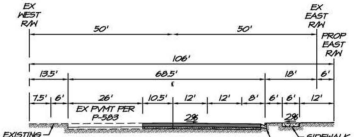
AIR EXPRESSWAY - TYPICAL
SUPER ARTERIAL (6-LANE)
PER SOUTHERN CALIFORNIA LOGISTICS AIRPORT (SCLA) SPECIFIC PLAN (SP)
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(T1=10.5, PER CITY OF ADELANTO PUBLIC WORKS)
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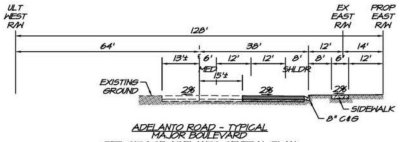
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COLLECTOR (4-LANE)
PER CITY OF ADELANTO GENERAL PLAN
(T1=10, PER CITY OF ADELANTO PUBLIC WORKS)
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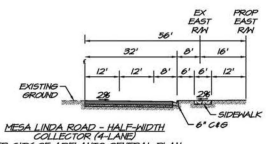
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SUPER ARTERIAL (6-LANE)
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AND CITY OF VICTORVILLE GENERAL PLAN
NTS



EMERALD ROAD - HALF-WIDTH
COLLECTOR (4-LANE)
PER CITY OF ADELANTO GENERAL PLAN
(T1=10, PER CITY OF ADELANTO PUBLIC WORKS)
NTS



ADELANTO ROAD - TYPICAL
MAJOR BOULEVARD
PER CITY OF ADELANTO GENERAL PLAN
(T1=11, PER CITY OF ADELANTO PUBLIC WORKS)
NTS



MESA LINDA ROAD - HALF-WIDTH
COLLECTOR (4-LANE)
PER CITY OF ADELANTO GENERAL PLAN
(T1=10, PER PER CITY OF ADELANTO PUBLIC WORKS)
NTS

REVISIONS	DATE	BY

CITY OF ADELANTO

ADELANTO INDUSTRIAL PARK

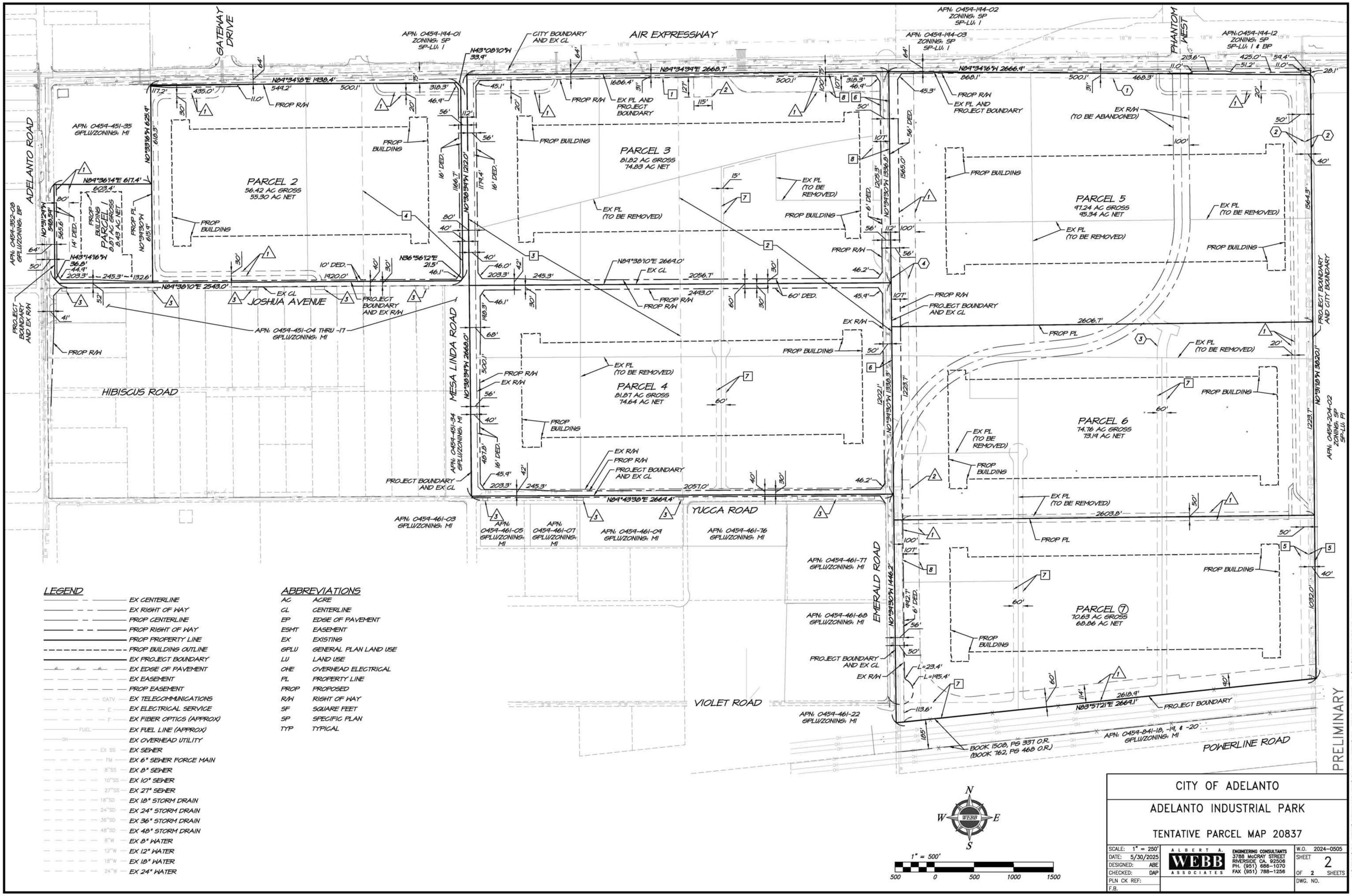
TENTATIVE PARCEL MAP 20837

SCALE: 1" = 1000'	ALBERT A. WEBB ASSOCIATES	ENGINEERING CONSULTANTS 3788 McGRAY STREET RIVERSIDE, CA. 92506 PH. (951) 686-1070 FAX (951) 788-1256
DATE: 5/30/2025		
DESIGNED: ABE		
CHECKED: DAP		
PLN CK REF:		
F.B.		

W.O. 2024-0505
SHEET 1
OF 2 SHEETS
DWG. NO.

PRELIMINARY

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AIR EXPRESSWAY
GATEWAY DRIVE
ADELANTO ROAD
PHANTOM WEST
MESA LINDA ROAD
EMERALD ROAD
JOSHUA AVENUE
HIBISCUS ROAD
YUCCA ROAD
VIOLET ROAD
POWERLINE ROAD
PARCEL 1
8.87 AC GROSS
8.43 AC NET
PARCEL 2
56.42 AC GROSS
55.30 AC NET
PARCEL 3
81.82 AC GROSS
74.83 AC NET
PARCEL 4
81.87 AC GROSS
74.64 AC NET
PARCEL 5
97.24 AC GROSS
95.34 AC NET
PARCEL 6
74.76 AC GROSS
73.14 AC NET
PARCEL 7
70.63 AC GROSS
68.86 AC NET
PROP BUILDING
EX PL (TO BE REMOVED)
PROJECT BOUNDARY AND EX CL
APN: 0454-144-01 ZONING: SP SP-LU: I
APN: 0454-144-02 ZONING: SP SP-LU: I
APN: 0454-144-03 ZONING: SP SP-LU: I
APN: 0454-144-12 ZONING: SP SP-LU: I & BP
APN: 0454-451-35 GPLU/ZONING: MI
APN: 0454-451-04 THRU -17 GPLU/ZONING: MI
APN: 0454-461-03 GPLU/ZONING: MI
APN: 0454-461-09 GPLU/ZONING: MI
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APN: 0454-461-68 GPLU/ZONING: MI
APN: 0454-461-22 GPLU/ZONING: MI
APN: 0454-841-18, -19, & -20 GPLU/ZONING: MI
BOOK 1508, PG 337 O.R. (BOOK 762, PG 468 O.R.)
LEGEND
EX CENTERLINE
EX RIGHT OF WAY
PROP CENTERLINE
PROP RIGHT OF WAY
PROP PROPERTY LINE
PROP BUILDING OUTLINE
EX PROJECT BOUNDARY
EX EDGE OF PAVEMENT
EX EASEMENT
PROP EASEMENT
EX TELECOMMUNICATIONS
EX ELECTRICAL SERVICE
EX FIBER OPTICS (APPROX)
EX FUEL LINE (APPROX)
EX OVERHEAD UTILITY
EX SEWER
EX 6" SEWER FORCE MAIN
EX 8" SEWER
EX 10" SEWER
EX 27" SEWER
EX 18" STORM DRAIN
EX 24" STORM DRAIN
EX 36" STORM DRAIN
EX 48" STORM DRAIN
EX 8" WATER
EX 12" WATER
EX 18" WATER
EX 24" WATER
ABBREVIATIONS
AC ACRE
CL CENTERLINE
EP EDGE OF PAVEMENT
ESMT EASEMENT
EX EXISTING
GPLU GENERAL PLAN LAND USE
LU LAND USE
OHE OVERHEAD ELECTRICAL
PL PROPERTY LINE
PROP PROPOSED
R/W RIGHT OF WAY
SF SQUARE FEET
SP SPECIFIC PLAN
TYP TYPICAL
1" = 500'
PRELIMINARY
CITY OF ADELANTO
ADELANTO INDUSTRIAL PARK
TENTATIVE PARCEL MAP 20837
SCALE: 1" = 250'
DATE: 5/30/2025
DESIGNED: ABE
CHECKED: DAP
ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS
3788 McCRAY STREET
RIVERSIDE CA. 92506
PH. (951) 686-1070
FAX (951) 788-1256
W.O. 2024-0505
SHEET 2 OF 2 SHEETS

Appendix 2

Construction Plans

To be included in Final Engineering

Appendix 3

Soils Information

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GEOTECHNICAL EXPLORATION, PROPOSED APPROXIMATELY 450-ACRE INDUSTRIAL PARK WAREHOUSE DEVELOPMENT, SOUTH OF AIR BASE ROAD AND EAST OF ADELANTO ROAD, ASSESSOR'S PARCEL NUMBERS (APNS) 0459-451-51 THROUGH 62, 0459-841-01 THROUGH 15, AND 0459-841-18, CITY OF ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

Prepared For **MILESKI LIVING TRUST**
1971 W 190TH STREET
TORRANCE, CALIFORNIA 90504
C/O SYNERGY CONSULTING

Prepared By **LEIGHTON CONSULTING, INC.**
10532 ACACIA STREET, SUITE B-6
RANCHO CUCAMONGA, CA 91730

Project No. CLC000RC23280

February 5, 2024

Leighton
a verdantas company

Leighton Consulting, Inc.

February 5, 2024

Project No. CLC.000RC23280

Mileski Living Trust
1971 W 190th Street
Torrance, California 90504
c/o Synergy Consulting

Attention: Dave Mileski, Trustee

Subject: Geotechnical Exploration Proposed Approximately 450-Acre Industrial Park Warehouse Development, South of Air Base Road and East of Adelanto Road, Assessor's Parcel Numbers (APNs) 0459-451-51 through 62, 0459-841-01 through 15, and 0459-841-18, City of Adelanto, San Bernardino County, California

In accordance with your authorization, Leighton Consulting, Inc. (Leighton) has conducted geotechnical exploration for the proposed industrial park warehouse development within Assessor's Parcel Numbers (APNs) 0459-451-51 through 62, 0459-841-01 through 15, and 0459-841-18, located in the City of Adelanto, San Bernardino County, California. The project site is currently undeveloped and has an area of approximately 450 acres. The proposed development includes seven (7) warehouse buildings. Existing unpaved roadways are located between the proposed warehouses. The purpose of this study has been to collect surface and subsurface geotechnical data at the site with regards to the proposed development, to evaluate the proposed development with respect to site geotechnical conditions, and to provide geotechnical recommendations for design and construction.

Based on our geotechnical exploration, construction of the proposed warehouse development is feasible from a geotechnical standpoint. The most significant geotechnical issues at the site are those related to the potential for strong seismic shaking and potentially near-surface compressible soils. Good planning and design of the project can limit the impact of these constraints. This report presents our findings, conclusions, and geotechnical recommendations for the project.

We appreciate the opportunity to work with you on the development of this project. If you have any questions regarding this report, please call us at your convenience.

Respectfully submitted,
LEIGHTON CONSULTING, INC.

Luis Perez-Milicua, PE 89389
Associate Engineer

Steven G. Okubo, CEG 2706
Associate Geologist

Jason D. Hertzberg, GE 2711
Principal Engineer

AA/LPM/SGO/JDH/rsm

Distribution: Addressee

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1.0 INTRODUCTION

1.1 Site Location and Description

The site is approximately 450 acres in area. The irregular-shaped site is located south of Air Base Road, east of Adelanto Road, north of Powerline Road and existing industrial developments, and west of a federal correctional institution, in the City of Adelanto, San Bernardino County, California. The project is within Assessor's Parcel Numbers (APNs) 0459-451-51 through -62, 0459-841-01 through -15, and 0459-841-18.

These parcels contain undeveloped, relatively flat terrain, covered with sparse vegetation. Based on our review of available historical aerial imagery, the area has been undeveloped since 1952, with the surrounding developments nearby being constructed sometime between 1985 and 1994.

Based on the Preliminary Grading Plans prepared by Blue Engineering and Consulting, Inc., dated January 4, 2024, existing site elevations (El.) range from approximate El. 2,920 feet above mean sea level (msl) at the southeast portion of the site to approximately El. 2,895 msl at the northwest portion of the site. The site is relatively flat overall, with local variations in topography from channels and bars typical of alluvial fans.

1.2 Proposed Development

Our understanding of this project is based on email correspondence with Jessica Haughton from Synergy Consulting on August 11, 2023, the proposed *Adelanto Industrial Park* site plan (version 2) prepared by SKH dated September 15, 2023, and the preliminary grading plans prepared by Blue Engineering & Consulting, Inc., dated January 4, 2024. Based on these, we understand that the proposed approximately 450-acre development consists of seven (7) new proposed warehouse buildings (Buildings 1 through 7) with building footprints ranging between 195,391 to 1,574,820 square feet (SF). Building 1 located towards the northwest end of the site adjacent to Adelanto Road has a planned footprint of 195,391 SF, while the rest of the warehouse buildings range between 1,145,728 SF to 1,574,820 SF.

The proposed warehouse building footprints are approximately rectangular in shape, with loading docks on the north and south of each building. The site plan displays various infiltration basins, primarily located north and south of each building. Also planned are drive isles, truck docking areas, parking areas, landscaping, and utilities.

Based on the provided preliminary grading plans, we understand that earthwork to meet proposed warehouse building pad grades range from cuts of approximately 5 feet to fills of approximately 9 feet from existing ground surface. Significant retaining walls are not anticipated based on the preliminary grading plans. Open infiltration basins are planned throughout the development, with basin bottom depths ranging from approximately 5 to 12 feet below existing grade. Structural loading was not available for our review during this time. We anticipate that the warehouses will be composed of concrete tilt-up walls of loading typical for standard warehouse buildings.

1.3 Previous Work

We were provided a copy of the *Environmental Impact Report (EIR) Package (Sch. No. 2008071129)* prepared by RBF Consulting dated January 2009 for a former proposed development at this site (RBF, 2009). A geotechnical investigation report for the then-proposed project at the site prepared by Norcal Engineering (Norcal) dated August 15, 2007 was included in the EIR package; that geotechnical investigation included thirty-eight (38) backhoe test pits and forty-two (42) hand auger borings, however a geotechnical exploration map showing the locations of the previous exploration was not available. Based on the field investigation by Norcal, disturbed topsoil (undocumented artificial fill) was encountered within the upper 12 to 18 inches below ground surface (bgs) consisting of silty sands with gravel and roots. Native soils were noted to primarily consist of clayey sands and silty sands. Groundwater was not encountered in any of the test excavations. Norcal reported that the proposed warehouse development was acceptable from a geotechnical standpoint. Earthwork recommendations included soil removal and replacement to accommodate a minimum 3 feet of compacted fill below proposed building foundations.

1.4 Purpose of Investigation

The purpose of this study has been to evaluate the geotechnical conditions of the property with respect to the proposed development and to provide geotechnical recommendations for design and construction of the development.

1.5 Scope of Investigation

Our geotechnical exploration included hollow-stem auger soil borings, infiltration testing, laboratory testing, surface geologic mapping, seismic refraction surveys, and geotechnical analysis to evaluate existing geotechnical conditions and to develop the conclusions and recommendations contained in this report. The scope of our study has included the following tasks:

- Background Review: We reviewed available, relevant geotechnical and geologic maps and reports and aerial photographs available from our in-house library, available online, or those provided by you.

- Utility Coordination: We contacted Dig Alert (811) prior to excavating borings so that utility companies could mark public utilities onsite. We coordinated our work with you and a site representative.

- Field Exploration: A total of seventy-five (75) hollow-stem auger borings (LB 1-1 through LB 7-10, and LI-1 through LI-12) were logged and sampled onsite on October 26, 2023 through November 8, 2023, to evaluate subsurface conditions. These borings were drilled by a subcontracted truck-mounted drill rig to depths ranging from approximately 8 to 51½ feet bgs. Relatively undisturbed soil samples were obtained at select intervals within the borings using a Modified California split-barrel sampler lined with rings. Standard Penetration Tests (SPT) were conducted at select depths and samples were obtained at those intervals. Representative bulk soil samples were also collected at shallow depths from the borings.

  Excavations were backfilled with onsite soil cuttings generated from drilling activities. Logs of the geotechnical borings are presented in Appendix B. Approximate boring locations are shown on the accompanying Figure 2, *Exploration Location Map*.

We conducted well permeameter tests at twelve locations (LI-1 through LI-12) to evaluate general infiltration rates of the subsurface soils at the depth and location tested. Well permeameter test locations were adjusted based on equipment access. The well permeameter tests were conducted based on the USBR 7300-89 method and in general accordance with San Bernardino County guidelines. Tests consisted of constant head infiltration using a water truck to transport water to each test location. A 2-inch diameter slotted PVC pipe was used within each boring, with sand backfilled around the pipe within the test zone. The tests were conducted at depths ranging from 8 to 15 feet bgs. Infiltration test logs are included in Appendix B.

Multichannel Analysis of Surface Wave (MASW) geophysical surveys were performed along three arrays located within the site to evaluate the Shear Wave Velocity (V_s) distribution within the subsurface strata for the purposes of site characterization.

- Geotechnical Laboratory Testing: We conducted geotechnical laboratory tests on selected relatively undisturbed and bulk soil samples obtained during our field investigation. This laboratory testing program was designed to evaluate engineering characteristics of site soils. Laboratory tests conducted during this investigation include:

  - Maximum dry density and optimum moisture content
  - In situ moisture content and density
  - Sieve analysis for grain-size distribution
  - Expansion Index
  - Atterberg Limits
  - Direct Shear
  - Collapse/ swell-settlement
  - R-Value
  - Water-soluble sulfate concentration in the soil
  - Resistivity, chloride content and pH

  Laboratory tests are provided in Appendix C, Laboratory Test Results.

- Engineering Analysis: Data obtained from our background review, along with data from our field exploration and geotechnical laboratory testing was evaluated and analyzed to develop geotechnical conclusions and provide preliminary recommendations presented in this report.

- Report Preparation: Results of our geotechnical exploration have been summarized in this report, presenting our findings, conclusions and preliminary geotechnical recommendations for design and construction of the proposed development.

2.0 FINDINGS

2.1 Regional Geologic Conditions

The site is located in the western Mojave Desert, in San Bernardino County California, and is part of the Mojave Desert geomorphic province, a broad interior region of isolated mountain ranges separated by broad desert plains and deep alluvial valleys. The Mojave province is wedged and rotates between the Garlock fault (southern boundary of the Sierra Nevada) and the San Andreas fault, where it bends northerly from its northwest trend.

The geology of the region consists primarily of Quaternary-age alluvial deposits, with sediments derived from surrounding mountain ranges. The site is underlain by alluvial sediments of tributaries to the Mojave River, consisting of loose to well-consolidated fine to coarse-grained sand, silt, and gravel. Figure 3, *Regional Geology Map*, presents the site location in relation to the predominate geologic materials (alluvium) of the area. Figure 4, *Regional Fault and Historical Seismicity Map*, presents the site location in relation to active faults and epicenters of relatively large (> M_w 4.0) historical earthquakes.

2.2 Subsurface Soil Conditions

Based upon our review of pertinent geotechnical literature and our subsurface exploration, the site is underlain by Quaternary alluvium (Qa) (see Figure 3, *Regional Geology Map*). Encountered near-surface soils generally consisted of poorly graded sands (SP), poorly graded sands with silt (SP-SM), and silty sands (SM).

Alluvial soils encountered generally consisted of Silty Sand (SM), Sand with Silt (SP-SM), and Sands (SP) down to approximately 20 feet below ground surface (bgs), with a few samples containing an estimated 5 to 20 percent gravel. From 20 feet to 50 feet bgs, the soils encountered were predominantly fine-grained (mostly silts and sandy silts), with interbedded layers of coarse-grained soils (sands to silty sands). The soil profile observed was relatively consistent across the project site. Undocumented artificial fill was not observed at the site. Multiple samples throughout the site were slightly cemented from carbonates, which is common in arid environments. Alluvial soils encountered generally had a medium dense to very dense (mostly very dense) consistency for coarse-grained soils, and

stiff to hard for fine-grained soils based on field Standard Penetration Test (SPT) blow counts.

2.2.1 Compressible and Collapsible Soil

Soil compressibility refers to a soil's potential for settlement when subjected to increased loads as from a fill surcharge. Based on this study, the upper portion of alluvial soils are considered moderately compressible. Complete removal of undocumented fill (if encountered) and partial removal of near surface alluvium will be needed to reduce the potential for adverse total and differential settlement of the proposed improvements.

Collapse potential refers to the potential settlement of a soil under existing stresses upon being wetted. Laboratory tests performed on representative soil samples did not indicate significant collapse. Soil collapse and consolidation are not a significant issue considering the dense, granular nature of the on-site soils.

2.2.2 Expansive Soils

Expansive soils contain significant amounts of clay particles that swell considerably when wetted and shrink when dried. Foundations constructed on these soils are subjected to large uplifting forces caused by the swelling. Without proper measures taken, heaving and cracking of building foundations and slabs-on-grade could result.

Near-surface soils in our exploratory borings predominately consisted of granular silty sand soils, although select locations encountered sandy clays in the upper 5 feet.

Expansion index (EI) tests performed on near-surface representative soil samples and resulted in a value of 11 to 24. Based on the laboratory test result, the predominantly coarse-grained nature of encountered near-surface soils, and our experience with similar sites, the onsite soils are considered to have “very low” to “ low” expansion potential.

2.2.3 Sulfate Content

Water-soluble sulfates in soil can react adversely with concrete. However, concrete in contact with soil containing sulfate concentrations of less than 0.1 percent by weight is considered to have negligible sulfate exposure based on American Concrete Institute (ACI) provisions, adopted by the 2022 CBC (CBC, 2022, Chapter 19, and ACI 318, 2014).

Six (6) near-surface soil samples throughout the project site were tested for soluble sulfate content, yielding sulfate contents of less than 0.01 percent by weight. Based on the current laboratory test results, the sulfate content of onsite soils is anticipated to be negligible (Exposure Class S0). Recommendations for concrete in contact with the soil are provided in Section 3.11.

2.2.4 Resistivity, Chloride and pH

Soil corrosivity to ferrous metals can be estimated by the soil's electrical resistivity, chloride content and pH. In general, soil having a minimum resistivity less than 1,000 ohm-cm is considered severely corrosive. Soil with a chloride content of 500 parts-per-million (ppm) or more is considered corrosive to ferrous metals.

As a screening for potentially corrosive soil, six (6) representative soil samples were tested to determine minimum resistivity, chloride content, and pH. The tests indicated a minimum resistivity ranging from 2,100 to of 3,990 ohm-cm, chloride content of 140 to 420 ppm, and pH of 7.8 to 8.2. Based on these results, the onsite soil is considered to be moderately corrosive.

2.3 Groundwater

Groundwater was not encountered within our exploratory borings to a maximum depth of approximately 51 feet bgs performed between October 26, 2023, and November 8, 2023.

Review *of California Department of Water Resources Groundwater Wells* indicated from multiple wells surrounding the site that groundwater depths were deeper than 100 feet bgs during the period of groundwater measurements from 1915 to 1958 and 1995 to 2016.

Based on our review of available groundwater data, groundwater is not a significant constraint for this project.

2.3.1 Regional Subsidence

Regional ground subsidence generally occurs due to rapid and intensive removal of subterranean fluids, typically water or oil. It is generally attributed to the consolidation of sediments as the fluid in the sediment is removed. The total load of the soils in partially saturated or saturated deposits is born by their granular structure and the fluid. When the fluid is removed, the load is born by the sediment alone and it settles.

The project site has been mapped by the U.S. Geological Society (2022) to be outside of an area of land subsidence from removals of significant quantities of water, peat, or oil extraction in the area. Based on this and no known reports indicating land subsidence of the site's area, the potential for significant ground subsidence is considered very low and less than a significant impact.

2.4 Faulting and Seismicity

In general, primary seismic hazards for sites in the region include surface rupture along active faults and strong ground shaking. The potential for fault rupture and seismic shaking are discussed below.

2.4.1 Surface Faulting

Based on our review of available fault maps, no active faults appear to have been mapped on or trending towards the site. The closest mapped active or potentially active faults are presented in the following table.

Table 1. Fault and Distance to Site

Fault Name	Approximate Distance from Site
Mirage Valley fault	8.7 miles to the northwest
Helendale-South Lockhart fault zone	12.2 miles to the northeast
North Frontal thrust	14.3 miles to the southeast
Blake Ranch fault	14.5 miles to the northwest
San Andreas fault	19.2 miles to the southwest

Based on our understanding of the current geologic framework, the potential for future surface rupture of active faults onsite is considered very low.

2.4.2 Seismic Design Parameters

The site is anticipated to experience strong ground shaking during the life of the project resulting from an earthquake occurring along one or more of the major active or potentially active faults in southern California. Accordingly, the project should be designed in accordance with applicable current codes and standards utilizing the appropriate seismic design parameters to reduce seismic risk as defined by California Geological Survey (CGS) Chapter 2 of Special Publication 117a (CGS, 2008). Through compliance with these regulatory requirements and the utilization of appropriate seismic design parameters selected by the design professionals, potential effects relating to seismic shaking can be reduced.

The following seismic parameters should be considered for design under the 2022 edition of the California Building Code (CBC). The following table lists seismic design parameters based on the 2022 CBC and ASCE 7-16 methodology:

Table 2 . 2022 CBC Site-Specific Seismic Parameters

Site Seismic Coefficients / Coordinates			Value (g)
	Latitude: 34.568	Longitude: -117.386	
Site-Specific Analysis (ASCE 7-16)	Spectral Response – Class C (short), S_S		1.10
	Spectral Response – Class C (1 sec), S_1		0.43
	Site Modified Peak Ground Acceleration, PGA_M		0.57
	Max. Considered Earthquake Spectral Response Acceleration (short), S_{MS}		1.39
	Max. Considered Earthquake Spectral Response Acceleration – (1 sec), S_{M1}		0.95
	5% Damped Design Spectral Response Acceleration (short), S_{DS}		0.93
	5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}		0.63
	Maximum Considered Earthquake Geometric Mean MCE_G PGA		0.47

The project structural engineer should review the seismic parameters. Site-specific analyses are presented in Appendix D.

As an added check, hazard deaggregation was estimated using the USGS Interactive Deaggregations utility using a Site Class C/D boundary. The results of this analysis indicate that the predominant modal earthquake has a magnitude of approximately 7.9 (M_W) at a distance on the order of 32 kilometers for the Maximum Considered Earthquake (2% probability of exceedance in 50 years), with a corresponding peak ground acceleration of 0.58g.

2.4.5 Site Class

Geophysical survey lines (Arrays 1, 2, and 3) utilizing Multi-channel Analysis of Surface Wave (MASW) methodology were performed towards the western, central, and eastern portions of the site (line locations shown in Figure 2) and yielded a weighted average shear wave to a depth of 100 feet (V_{S100ft}) of 1,191 ft/s to 1,249 ft/s. Two of the three arrays resulted in average shear waves greater than 1,200 ft/s, indicating Site Class C per ASCE 7-16 *Table 20.3-1 Site Classification*.

In addition, we performed an analysis with field Standard Penetration Blowcounts (SPT) from the geotechnical borings that extended to a

maximum depth of 50 feet, which yielded a weighted average N-Value of approximately 63 (with blowcount assumptions for soils below 50 feet). Therefore, based on the criteria in the 2022 CBC and ASCE 7-16, the site is classified as Site Class C, *very dense soil and soft rock*. A summary of Site Class evaluation is included in Appendix D. Geophysical survey data is included in Appendix E.

2.5 Secondary Seismic Hazards

In general, secondary seismic hazards for sites in the region could include soil liquefaction, earthquake-induced settlement, lateral displacement, landslides, and earthquake-induced flooding. The potential for secondary seismic hazards at the site is discussed below.

2.5.1 Liquefaction Potential

Liquefaction is the loss of soil strength due to a buildup of excess pore-water pressure during strong and long-duration ground shaking. Liquefaction is associated primarily with loose (low density), saturated, relatively uniform fine- to medium-grained, clean cohesionless soils. As shaking action of an earthquake progresses, soil granules are rearranged, and the soil densifies within a short period. This rapid densification of soil results in a buildup of pore-water pressure. When the pore-water pressure approaches the total overburden pressure, soil shear strength reduces abruptly and temporarily behaves similar to a fluid. For liquefaction to occur there must be:

(1) loose, clean granular soils,
(2) shallow groundwater, and
(3) strong, long-duration ground shaking

The State of California has not evaluated the property for liquefaction hazards. The site is outside of a zone of liquefaction susceptibility based on mapping from the San Bernardino County General Plan (San Bernardino, 2009).

Due to the dense nature of the granular soils encountered and lack of shallow groundwater, liquefaction is not a significant hazard at this site.

2.5.2 Seismically Induced Settlement

During a strong seismic event, seismically induced settlement can occur within loose to moderately dense, dry or saturated granular soil. Settlement caused by ground shaking is often nonuniformly distributed, which can result in differential settlement.

We have performed analyses to estimate the potential for seismically induced settlement using the method of Tokimatsu and Seed (1987), and based on Martin and Lew (1999), considering the maximum considered earthquake (MCE) peak ground acceleration (PGA_M). Design/historic high groundwater levels of 100 feet below ground surface were used in the analysis. Based on our preliminary analysis, a potential for approximately 1.9 inches of seismic settlement is estimated at the site. Seismic settlement within the upper 40 feet is generally negligible (less than ½ inch). The seismic settlement is primarily due to a relatively loose granular layer encountered consistently in our borings at a depth of approximately 45 feet bgs. Results of our seismic settlement analysis is presented in Appendix D.

If the potential differential settlement is estimated as half of the total seismic settlement over a horizontal distance of 30 feet, this would result in a maximum 1-inch differential settlement in 30 feet, or angular distortion of 0.0027L. The structural engineer should determine Structure Type and Risk Category and evaluate whether the differential settlement estimates described above are tolerable. A copy of ASCE 7-16 Table 12.13-3 is provided as follows for reference.

Table 12.13-3 Differential Settlement Threshold

Structure Type	Risk Category		
	I or II	III	IV
Single-story structures with concrete or masonry wall systems	0.0075L	0.005L	0.002L
Other single-story structures	0.015L	0.010L	0.002L
Multistory structures with concrete or masonry wall systems	0.005L	0.003L	0.002L
Other multistory structures	0.010L	0.006L	0.002L

2.5.3 Lateral Spread

Lateral spread is liquefaction-induced lateral ground movement limited to only a few feet, and, thus, smaller than flow failures. A consideration in lateral spread analysis is to evaluate whether laterally continuous liquefiable layers exist. Due to the lack of shallow groundwater (≤50 feet bgs), lateral spread is considered to be less than significant.

2.5.4 Flow Failures

Based on $(N_1)_{60}$ values from the borings, lack of liquefiable soils, and the relatively flat nature of the site, the site is not considered susceptible to flow slides (large transitional or rotational failures).

2.6 Infiltration Testing

Twelve (12) well permeameter tests (LI-1 through LI-12) were conducted to estimate the infiltration rate at specific locations of the site. Tests LI-1 and LI-2 were located directly north of Building 2; tests LI-3 and LI-4 were located just north of Building 3; tests LI-5 and LI-6 were located just north of Building 4; tests LI-7 and LI-8 were located just north of Building 5; LI-9 was located northwest of Building 6; LI-10 was located northeast of Building 6; LI-11 was located northwest of Building 7; and LI-12 was located directly southwest of Building 7. The locations and depths of the infiltration tests are based on the approximate locations and depths of the proposed infiltration facilities, which you have provided. Tests were performed at different depths to evaluate the differing conditions of subsurface soils. The well permeameter tests were conducted inside the drilled borings at depths of approximately 8, 10, and 15 feet bgs.

A well permeameter test is useful for field measurements of soil infiltration rates, and is suited for testing when the design depth of the basin or chamber is deeper than current existing grades. The test consists of excavating a boring to the depth of the test zone. A layer of clean sand is placed in the boring bottom to support temporary perforated well casing pipe. In addition, sand is poured around the outside of the well casing within the test zone to prevent the boring from caving/collapsing or eroding when water is added. The volume of water percolated during timed intervals is converted into an incremental infiltration rate, which is defined as flow divided by infiltration surface area, in inches per hour. The test was conducted based on the USBR 7300-89 test method.

Small-scale infiltration rates as summarized in the following table. Results of the infiltration testing are provided in Appendix B, and summarized in the table below.

Table 3 . Infiltration Test Data

Boring	Test Depth (ft)	Soil Classification (percent fines)	Raw Infiltration Rates (in./hr) [1]
LI-1	3 to 8	Poorly Graded Sand (4% fines)	81
LI-2	10 to 15	Silty Sand (25-30% fines)	3
LI-3	3 to 8	Well Graded Sand w/ Silt and Gravel (6% fines)	53
LI-4	10 to 15	Well Graded Sand w/ Silt and Gravel (10% fines) and Sandy Lean Clay (58% fines)	9.7
LI-5	3 to 8	Well Graded Sand w/ Silt (5% fines)	94
LI-6	10 to 15	Well Graded Sand (5% fines) and Silty Sand (12% fines)	70
LI-7	10 to 15	Poorly Graded Sand w/ Silt (11% fines)	58
LI-8	3 to 8	Poorly Graded Sand w/ Silt (6% fines) and Silty Sand (20% fines)	38
LI-9	3 to 8	Poorly Graded Sand (4% fines)	85
LI-10	5 to 10	Well Graded Sand w/ Silt (6% fines)	50
LI-11	3 to 8	Poorly Graded Sand w/ Silt (9% to 5% fines)	80
LI-12	10 to 15	Well Graded Sand w/ Silt (6% fines)	68

[1] Factor of Safety should be applied to raw rates

As shown in the table above, the infiltration tests generally yielded relatively high infiltration rates. In general, raw infiltration rates were greater than 38 inches per hour, with the exception of tests LI-2 and LI-4 tested at depths of 10 to 15 feet bgs.

At these two test areas, the soils were fine grained (silts and clays) with some sand layers. In general, infiltration is considered feasible at this site. Infiltration recommendations are included in Section 3.7 of this report.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on this study, construction of the proposed warehouse development is feasible from a geotechnical standpoint. No severe geologic or soils related issues were identified that would preclude development of the site for the proposed warehouses. The most significant geotechnical issues at the site are those related to the potential for strong seismic shaking and potentially compressible soils in the near-surface. Good planning and design of the project can limit the impact of these constraints. Remedial recommendations for these and other geotechnical issues are provided in the following sections.

Compressible undocumented fill (if encountered) should be completely removed and properly compacted during earthwork construction. Localized exposures of encountered fill material can be evaluated during grading on a case-by-case basis, and may be left in place if documentation is available and the material appears to be competent based on our field evaluation.

3.1 General Earthwork and Grading

All grading should be performed in accordance with the General Earthwork and Grading Specifications presented in Appendix F, unless specifically revised or amended below or by future recommendations based on final development plans.

3.1.1 Site Preparation

Prior to construction, the site should be cleared of debris, which should be disposed of offsite. Any underground obstructions should be removed. Resulting cavities should be properly backfilled and compacted. Efforts should be made to locate existing utility lines. Those lines should be removed or rerouted if they interfere with the proposed construction, and the resulting cavities should be properly backfilled and compacted.

3.1.2 Removal of Uncontrolled Artificial Fill

Prior to overexcavation and recompaction of the onsite alluvial soil, any uncontrolled artificial fill should be removed and may be reused as compacted fill for the project, provided any oversized rock is suitably handled and any deleterious materials are removed from the site.

3.1.3 Overexcavation and Recompaction

To reduce the potential for adverse total and differential settlement of the proposed structures, the underlying subgrade soil should be prepared in such a manner that a uniform response to the applied loads is achieved.

All undocumented artificial fill (if encountered) within proposed building pads should be removed. Due to the potential for near-surface compressive soils observed in our borings, we recommend that onsite soils in the proposed building pad area, site walls taller than 8 feet, and retaining walls taller than 3 feet, be overexcavated to a depth of 3 feet bgs, or a depth of 2 feet below the bottoms of proposed footings, whichever is deeper.

Where possible, the removal bottom should extend horizontally a minimum of 5 feet from the outside edges of the building footprint and footings (including columns connected to the buildings), or a distance equal to the depth of overexcavation below the footings, whichever is farther. Where this is not achievable, this should be reviewed on a case-by-case basis.

During overexcavation, the soil conditions should be observed by Leighton to further evaluate these recommendations based on actual field conditions encountered. A firm removal bottom should be established across the building footprint to provide uniform foundation support for the proposed structure. Leighton should observe and test the removal bottom prior to placing fill. Deeper overexcavation and recompaction may be recommended locally until a firm removal bottom is achieved.

Areas outside of proposed structures and planned for new asphalt or concrete pavement (such as parking areas or fire lanes), flatwork (such as sidewalks), site walls up to 8 feet tall and retaining walls retaining up to 3 feet of soil, areas to receive fill, and other improvements, should be overexcavated to a minimum depth of 2 feet below existing grade or 18 inches below proposed subgrade (including the footing subgrade for walls), whichever is deeper.

After completion of the overexcavation, and prior to fill placement, the exposed surfaces should be scarified to a minimum depth of 6 inches, moisture conditioned to or slightly above optimum moisture content, and

recompacted to a minimum 90 percent relative compaction, relative to the ASTM D1557 laboratory maximum density.

3.1.4 Fill Placement and Compaction

Onsite soil to be used for compacted structural fill should also be free of organic material debris and oversized material (greater than 8 inches in largest dimension). Any soil to be placed as fill, whether onsite or imported material, should be reviewed and possibly tested by Leighton.

All fill soil should be placed in thin, loose lifts, moisture conditioned, as necessary to at least 2 percentage points above optimum moisture content and compacted to a minimum 90 percent relative compaction. However, the upper 18 inches of fill under the building pads should be compacted to a minimum of 95 percent relative compaction. Relative compaction should be determined in accordance with ASTM Test Method D1557. Aggregate base for pavement should be compacted to a minimum of 95 percent relative compaction.

3.1.5 Import Fill Soil

Import soil to be placed as fill should be geotechnically accepted by Leighton. Preferably at least 3 working days prior to proposed import to the site, the contractor should provide Leighton pertinent information of the proposed import soil, such as location of the soil, whether stockpiled or native in place, and pertinent geotechnical reports if available. We recommend that a Leighton representative visit the proposed import site to observe the soil conditions and obtain representative soil samples. Potential issues may include soil that is more expansive than onsite soil, soil that is too wet, soil that is too rocky or too dissimilar to onsite soils, oversize material, organics, debris, etc.

3.1.6 Shrinkage and Subsidence

The change in volume of excavated and recompacted soil varies according to soil type and location. This volume change is represented as a percentage increase (bulking) or decrease (shrinkage) in volume of fill after removal and recompaction. This value does not factor in removal of debris

or other materials. Subsidence occurs as in-place soil (e.g., natural ground) is moisture-conditioned and densified to receive fill, such as in processing an overexcavation bottom. Subsidence is in addition to shrinkage due to recompaction of fill soil. Field and laboratory data used in our calculations included laboratory-measured maximum dry densities for soil types encountered at the subject site, the measured in-place densities of soils encountered and our experience. We preliminarily estimate the following earth volume changes will occur during grading:

Table 4 . Estimated Shrinkage and Subsidence

Shrinkage	Approximately 8 +/- 3 percent
Subsidence (overexcavation bottom processing)	Approximately 0.15 foot

The level of fill compaction, variations in the dry density of the existing soils and other factors influence the amount of volume change. Some adjustments to earthwork volume should be anticipated during grading of the site.

3.1.7 Rippability and Oversized Material

Oversized material (rock or rock fragments greater than 8 inches in dimension) was not observed at the surface during field exploration. Oversize rock, if encountered during grading, should be placed in deeper fills (deeper than 5 feet below finish grade) or removed from structural fill areas. All rocks larger than 24 inches in dimension should be placed in windrows, surrounded by sandy soils, and placed with copious amounts of water. The rock windrows should be placed such that individual rocks are not nested and sandy soil can be worked completely around the rocks. It is imperative that the contractor use copious amounts of water during these operations.

Excavations for proposed utilities can be very difficult in the presence of large (greater than 24 inches) rocks. To facilitate utility construction (but not a geotechnical requirement), removing rocks larger than 24 inches in the upper 5 feet below the rough graded surface or 1 foot below the deepest utility may be considered.

3.2 Shallow Foundation Recommendations

Overexcavation and recompaction of the footing subgrade should be performed as detailed in Section 3.1. The following recommendations are based on the onsite soil conditions and soils with a very low expansion potential.

3.2.1 Minimum Embedment and Width

Based on our preliminary investigation, footings should have a minimum embedment per code requirements, with a minimum width of 24 and 12 inches for isolated and continuous footings, respectively.

3.2.2 Allowable Bearing

An allowable bearing pressure of 3,000 pounds-per-square-foot (psf) may be used, based on an assumed embedment depth of 18 inches and minimum width described above. This allowable bearing value may be increased by 300 psf per foot increase in depth or width to a maximum allowable bearing pressure of 4,500 psf. If higher bearing pressures are required, this should be reviewed on a case-by-case basis and may include additional overexcavation and/or soil reinforcement. These allowable bearing pressures are for total dead load and sustained live loads. Footing reinforcement should be designed by the structural engineer.

3.2.3 Lateral Load Resistance

Soil resistance available to withstand lateral loads on a shallow foundation is a function of the frictional resistance along the base of the footing and the passive resistance that may develop as the face of the structure tends to move into the soil. The frictional resistance between the base of the foundation and the subgrade soil may be computed using a coefficient of friction of 0.40. The passive resistance may be computed using an allowable equivalent fluid pressure of 270 pounds per cubic foot (pcf), assuming there is constant contact between the footing and undisturbed soil. The coefficient of friction and passive resistance may be combined without further reduction.

3.2.4 Increase in Bearing and Friction - Short Duration Loads

The allowable bearing pressure and coefficient of friction values may be increased by one-third when considering loads of short duration, such as those imposed by wind and seismic forces.

3.2.5 Settlement Estimates

The recommended allowable bearing pressure is generally based on a total allowable, post-construction static settlement of 1 inch. Differential settlement due to static loading is estimated at 1 inch over a horizontal distance of 30 feet. Since settlement is a function of footing sustained load, size and contact bearing pressure, differential settlement can be expected between adjacent columns or walls where a large differential loading condition exists.

Seismic differential settlement is assumed to be 1 inch over a horizontal distance of 30 feet for the design-level earthquake, or angular distortion of less than 0.0027L.

3.3 Recommendations for Slabs-On-Grade

Concrete slabs-on-grade should be designed by the structural engineer in accordance with the current CBC for soil with a “very low” expansion potential and considering the potential for liquefaction and seismic settlement. Where conventional light floor loading conditions exist, the following minimum recommendations should be used. More stringent requirements may be required by local agencies, the structural engineer, the architect, or the CBC. Laboratory testing should be conducted at finish grade to evaluate the expansion index of near-surface subgrade soils. In addition, slabs-on-grade should have the following minimum recommended components:

- Subgrade Moisture Conditioning: The subgrade soil should be moisture conditioned to at least 2 percentage points above optimum moisture content to a minimum depth of 12 inches prior to placing the moisture vapor retarder, steel or concrete.

- Moisture Retarder: A minimum of 10-mil moisture retarder should be placed below slabs where moisture-sensitive floor coverings or equipment is planned. The structural engineer should specify pertinent concrete design parameters and moisture migration prevention measures, such as whether a capillary break should be placed under the vapor retarder and whether or not a sand blotter layer should be placed over the vapor retarder. The moisture barrier may be placed directly on subgrade provided gravel or other protruding objects that could puncture the moisture retarder are removed from the subgrade prior to placement. A heavier vapor retarder (such as 15 mil Stego Wrap) placed directly on prepared subgrade may also be used. Moisture retarders can reduce, but not eliminate moisture vapor rise from the underlying soils up through the slab. Moisture retarders should be designed and constructed in accordance with applicable American Concrete Institute, Portland Cement Association, Post-Tensioning Institute, ASTM International, and California Building Code requirements and guidelines.

  Leighton does not practice in the field of moisture vapor transmission evaluation, since this is not specifically a geotechnical issue. Therefore, we recommend that a qualified person, such as the flooring subcontractor and/or structural engineer, be consulted with to evaluate the general and specific moisture vapor transmission paths and any impact on the proposed construction. That person should provide recommendations for mitigation of potential adverse impact of moisture vapor transmission on various components of the structures as deemed appropriate.

- Concrete Thickness and Reinforcement in Warehouse/Industrial Areas: Warehouse/industrial slabs-on-grade should be designed by the structural engineer based on anticipated wheel, equipment, and storage loads. Considering the site conditions, we recommend a minimum slab thickness of 6 inches typical light warehouse loads. Crack control joints should be provided at a maximum spacing of 14 feet on center.

  The structural engineer should consider the following parameters.

  Provided that the slab subgrade soils are compacted to a minimum of 95 percent relative compaction at 1 to 2 percentage points above optimum (as measured by ASTM D 1557), an average subgrade spring constant (modulus of subgrade reaction, k) of 200 pci (with linear deflections up to ¾ inch and a

non-linear response for larger deflections) may be assumed for analysis of loading on slabs-on-grade. This value should not be used for estimation of actual settlements, but is intended to estimate shears, moments, and local distortions. An alternate check may be used by assuming an allowable bearing pressure of 1,100 psf (though the modulus of subgrade reaction method is the preferred method). If soils are allowed to dry out prior to placing concrete, the upper 9 inches should be scarified, moisture conditioned to 1 to 2 percentage points above optimum moisture content, and recompacted to a minimum of 95 percent relative compaction (based on ASTM D1557) prior to placing steel or concrete.

- Concrete Thickness--Office Areas: Slabs-on-grade for office space should be at least 4 inches thick (this is referring to the actual minimum thickness, not the nominal thickness). Reinforcing steel should be designed by the structural engineer, but as a minimum (for conventionally reinforced, 4-inch-thick slabs) should be No. 4 rebar placed at 18 inches on center, each direction, mid-depth in the slab. Crack control joints should be provided at a maximum spacing of 15 feet on center for office areas.

Minor cracking of the concrete as it cures, due to drying and shrinkage, is normal and should be expected. However, cracking is often aggravated by a high water/cement ratio, high concrete temperature at the time of placement, small nominal aggregate size, and rapid moisture loss due to hot, dry, and/or windy weather conditions during placement and curing. Cracking due to temperature and moisture fluctuations can also be expected. Low slump concrete can reduce the potential for shrinkage cracking. Additionally, our experience indicates that reinforcement in slabs and foundations can generally reduce the potential for concrete cracking. The structural engineer should consider these components in slab design and specifications.

3.4 Seismic Design Parameters

Seismic parameters presented in this report should be considered during project design. In order to reduce the effects of ground shaking produced by regional seismic events, seismic design should be performed in accordance with the current CBC. The CBC seismic design parameters listed in Section 2.4.2 of this report should be considered for the seismic analysis of the subject site.

3.5 Retaining Walls

We recommend that retaining walls be backfilled with "very low" expansive soil and constructed with a backdrain in accordance with the recommendations provided on Figure 5 (rear of text). Using expansive soil as retaining wall backfill will result in higher lateral earth pressures exerted on the wall. Based on these recommendations, the following parameters may be used for the design of conventional retaining walls:

Table 5 . Lateral Earth Pressures

Static Equivalent Fluid Weight (pcf)	
Condition	Level Backfill
Active	35 pcf
At-Rest	55 pcf
Passive	270 pcf (allowable) (Maximum of 3,000 psf)

The above values do not contain an appreciable factor of safety unless noted, so the structural engineer should apply the applicable factors of safety and/or load factors during design, as specified by the California Building Code.

Cantilever walls that are designed to yield at least 0.001H, where H is equal to the wall height, may be designed using the active condition. Rigid walls and walls braced at the top should be designed using the at-rest condition.

Passive pressure is used to compute soil resistance to lateral structural movement. In addition, for sliding resistance, a frictional resistance coefficient of 0.35 may be used at the concrete and soil interface. The lateral passive resistance should be taken into account only if it is ensured that the soil providing passive resistance, embedded against the foundation elements, will remain intact with time.

In addition to the above lateral forces due to retained earth, surcharge due to improvements, such as an adjacent structure or traffic loading, should be considered in the design of the retaining wall. Loads applied within a 1:1 projection from the surcharging structure on the stem of the wall should be considered in the design.

For retaining walls with a retained height of more than 6 feet, an incremental seismic load applied as a uniform additive pressure of 24 pcf should be considered for a cantilever (unrestrained) wall with level backfill, and 38 pcf for a basement wall (restrained) with level backfill. This pressure is in addition to the static active earth pressures presented above. Earthquake and at-rest earth pressures need not be combined for analyses.

A soil unit weight of 120 pcf may be assumed for calculating the actual weight of the soil over the wall footing.

3.6 Pavement Design

Flexible Pavement: Laboratory R-Value testing was performed on four (4) near-surface samples throughout the project site, which yielded results of 26, 50, 59, and 66. Based on the design procedures outlined in the 2017 Caltrans Highway Design Manual, and using a design R-value of 40, flexible pavement sections may consist of the following for the Traffic Index indicated. Final pavement design should be based on the Traffic Index determined by the project civil engineer and R-value testing provided near the end of grading.

Table 6 . Asphalt Pavement Sections

Traffic Index	Asphaltic Concrete (AC) Thickness (inches)	Class 2 Aggregate Base Thickness (inches)
5 or less (auto access)	3.0	4.0
7 (light truck access)	4.0	7.0
8	5.0	8.0
9	5.5	9.5
10	6.5	10.5

If the pavement is to be constructed prior to construction of the structures, we recommend that the full depth of the pavement section be placed in order to support heavy construction traffic. Based on the provided plans, we understand

that proposed streets to be paved include Mesa Linda Road, from Air Expressway to Joshua Avenue; Emerald Road, from Air Expressway to Powerline Road; Joshua Avenue, from Mesa Linda Road to Emerald Road, and Yucca Road, from Mesa Linda Road to Emerald Road.

***Rigid Pavements*:** For onsite Portland Cement Concrete (PCC) pavement in truck drive aisles and parking areas, we recommend a minimum of 7-inch-thick concrete with dowels at construction joints, placed on compacted fill subgrade, with the upper 8 inches compacted to a minimum of 95 percent relative compaction. In areas with car traffic only, we recommend a minimum of 5-inch-thick concrete, placed on compacted fill subgrade with the upper 8 inches compacted to a minimum of 95 percent relative compaction.

The PCC pavement sections should be provided with crack-control joints spaced no more than 14 feet on center each way for 7-inch-thick concrete, and 12 feet for 5-inch-thick concrete. If sawcuts are used, they should have a minimum depth of ¼ of the slab thickness and made within 24 hours of concrete placement.

***Other Pavement Recommendations*:** Irrigation adjacent to pavements without a deep curb or other cutoff to separate landscaping from the paving may result in premature pavement failure.

All pavement construction should be performed in accordance with the Standard Specifications for Public Works Construction or Caltrans Specifications. Field observations and periodic testing, as needed during placement of the base course materials, should be undertaken to ensure that the requirements of the standard specifications are fulfilled.

Prior to placement of aggregate base, the subgrade soil should be processed to a minimum depth of 6 inches, moisture-conditioned, as necessary, and recompacted to a minimum of 95 percent relative compaction. Aggregate base should be moisture conditioned, as necessary, and compacted to a minimum of 95 percent relative compaction.

3.7 Infiltration Recommendations

In general, our geotechnical exploration encountered alluvial soil deposits generally uniform consisting of granular materials including Poorly Graded Sand with Silt (SP-SM) and Silty Sand (SM). Alluvial soils were relatively uniform throughout the project site. Gravels were observed within the exploratory borings, with variable percentages throughout the site. At our test locations, soil samples taken from the infiltration test zone generally showed a percent fines (% silt and clay) ranging from 4 to 20 percent, with the exception of locations at the northwestern portion of the site (LI-2) and north-central portion of the site (LI-4) which contained approximately 30% and 70% fines, respectively. LI-4 encountered a Sandy Clay layer at a depth of approximately 13 feet bgs. A high fines silt layer was generally encountered in our geotechnical borings throughout the site at depths of approximately 15 to 25 feet, therefore infiltration is not recommended at depths deeper than 15 feet below existing ground.

Based on our infiltration testing, field observations and laboratory testing, the project site is considered to be feasible for storm water infiltration. Due to the underlying layer with low infiltration properties, we have evaluated the infiltration rates using a weighted average which considers the yielded infiltration rates of the upper granular layer and the low rates of the underlying cohesive soils. A raw infiltration rate of 15 inches per hour can be utilized for infiltration system design with a maximum bottom depth of 13 feet. If deeper infiltration systems are required, these can be reviewed on a case by case basis for further infiltration recommendations. As site layout and infiltration system design progresses, supplemental infiltration testing could be performed to further refine our infiltration system recommendations.

For the two locations with relatively low infiltration rates (LI-2 and LI-4), soil conditions should be carefully reviewed during construction to ensure that granular layers with good infiltration properties are encountered within the proposed basin bottoms. All basin areas should be observed by a geotechnical representative during construction to confirm presence of granular soils with good infiltration characteristics.

We recommend that a correction factor/safety factor be applied to the infiltration rate in conformance with San Bernardino County guidelines, since monitoring of actual facility performance has shown that actual infiltration rates are lower than

measured in small-scale tests. Infiltration basins are subject to siltation, which can result in reduced infiltration rates. *This small-scale infiltration rate should be divided by a design factor of at least 3 for buried chambers and at least 4 for open basins; although the design/safety factor may be higher based on project-specific aspects.* It should be noted that during periods of prolonged precipitation, underlying soils tend to become saturated to greater depths/extent. Therefore, infiltration rates tend to decrease with prolonged rainfall.

Some design considerations are presented in the following paragraphs:

- **Adjacent Structure Impact**: As infiltrating water can seep within soil strata partially horizontally, it is important to consider impact that infiltration facilities can play on nearby subterranean structures, such as basement walls or open excavations, whether onsite or offsite, and whether existing or planned. Any such nearby features should be identified and evaluated as to whether infiltrating water can impact these facilities. Infiltration facilities should not be constructed adjacent to or under buildings. Setbacks should be discussed with Leighton during the planning process, but a building setback of at least 15 feet horizontally is initially suggested.

- **Infiltration Basins Type and Geometry**: Further testing may be required depending on final design of infiltration facilities. Infiltration rates are anticipated to vary based on location and depth. Infiltration concepts should be discussed with Leighton as infiltration plans are being developed. We should review all infiltration plans, including locations and depths of proposed facilities. Further testing may be required depending on infiltration facilities design details, particularly considering type, depth and location.

- **Siltation and Soil Changes**: These infiltration rates are for a clean, un-silted infiltration surface in native, sandy alluvial soil. These values may be reduced over time as silting of the basin or chamber occurs. Furthermore, if the basin or chamber bottom is allowed to be compacted by heavy equipment, this value is expected to be reduced. Infiltration of water through soil is highly dependent on such factors as grain size distribution of soil particles, gradation (uniform versus well graded), particle shape, fines content and density. Small changes in soil conditions, including density, can cause large differences in observed infiltration rates. Infiltration is not suitable in compacted fill. For open basins

and swales, vegetation within the basin bottoms and sides is expected to help reduce erosion and help maintain infiltration rates.

- **De-silting Weir/Facilities**: Periodic flow of water carrying sediments into the basin or chamber, plus deposition of fine wind-blown sediments and sediments from erosion of basin side walls, will eventually cause the basin bottom or chamber to accumulate a layer of silt, which has the potential to significantly reducing the overall infiltration rate of the basin or chamber. Therefore, we recommend that significant amounts of silt/sediment not be allowed to flow into the facility within stormwater, especially during construction of the project and prior to achieving a mature landscape onsite. We recommend that an easily maintained, robust silt/sediment removal system be installed to pretreat storm water before it enters the infiltration facility. Infiltration facilities should be constructed with spillways or other appropriate means that would prevent overfilling that could damage the facility or adjacent improvements.

- **Drainage/Infiltration Time Cycle**: In general, the rate of infiltration reduces as the head of water in the infiltration facility reduces, and it also reduces with prolonged periods of infiltration. As such, water typically infiltrates much faster near the beginning of and/or immediately after storm events than at times well after a storm when the water level in the facility has receded, since the infiltration rate is then slower due to both lower head and longer overall duration of infiltration. In open basins with compacted or silty bottoms, this could be problematic, in that even if the basin had already infiltrated significant amounts of storm water, the lower several inches or feet of water could remain in the basin for an extended period of time, creating prolonged open-water safety concern (such as potential for mosquitos and waterborne diseases, algae odor, etc.). In a buried/cover infiltration chamber, these conditions would be of less concern.

- **Maintenance**: Infiltration facilities should be routinely monitored, especially before and during the rainy season, and corrective measures should be implemented if and as needed. Things to check for include removal of trash or dumping, proper infiltration, absence of accumulated silt, and that de-silting filters/features are clean and functioning. Pretreatment desilting features should be cleaned and maintained as recommended by the manufacturer or designer. Even with measures to prevent silt from flowing into the infiltration facility, accumulated silt may need to be removed.

3.8 Temporary Excavations

All temporary excavations, including utility trenches, retaining wall excavations and other excavations should be performed in accordance with project plans, specifications and all OSHA requirements.

No surcharge loads should be permitted within a horizontal distance equal to the height of cut or 5 feet, whichever is greater from the top of the slope, unless the cut is shored appropriately. Excavations that extend below an imaginary plane inclined at 45 degrees below the edge of any adjacent existing site foundation should be properly shored to maintain support of the adjacent structures.

Cantilever shoring should be designed based on an active equivalent fluid pressure of 35 pcf. If excavations are braced at the top and at specific design intervals, the active pressure may then be approximated by a rectangular soil pressure distribution with the pressure per foot of width equal to 25H, where H is equal to the depth of the excavation being shored.

During construction, the soil conditions should be regularly evaluated to verify that conditions are as anticipated. The contractor should be responsible for providing the "competent person" required by OSHA, standards to evaluate soil conditions. Close coordination between the competent person and the geotechnical engineer should be maintained to facilitate construction while providing safe excavations.

3.9 Trench Backfill

Utility-type trenches onsite can be backfilled with the onsite material, provided it is free of debris, organic and oversized material. Prior to backfilling the trench, pipes should be bedded and shaded in a granular material that has a sand equivalent of 30 or greater and will allow water to sufficiently permeate. Gravel or rock cannot be used for trench backfill without written approval by Leighton. If gravel or open-graded rock is approved and used as bedding or shading, it should be wrapped in Mirafi 140N filter fabric, or equivalent, to prevent surrounding soil from washing into the pore spaces in the gap graded rock. Shading should extend at least 12 inches above the top of the pipe. The bedding/shading materials should be densified in-place by mechanical means, or in accordance with Greenbook specifications.

Subsequent to pipe bedding and shading, backfill soils should be placed in loose layers, moisture conditioned, as necessary, and mechanically compacted using a minimum standard of 90 percent relative compaction (ASTMS D1557). The thickness of layers should be based on the compaction equipment used in accordance with the Standard Specifications for Public Works Construction (Greenbook). The upper 6 inches in pavement areas should be compacted to 95 percent compaction.

3.10 Surface Drainage

Inadequate control of runoff water and/or poorly controlled irrigation can cause the onsite soils to expand and/or shrink, producing heaving and/or settlement of foundations, flatwork, walls, and other improvements. Maintaining adequate surface drainage, proper disposal of runoff water, and control of irrigation should help reduce the potential for future soil moisture problems.

Positive surface drainage should be designed to be directed away from foundations and toward approved drainage devices, such as gutters, paved drainage swales, or watertight area drains and collector pipes.

Surface drainage should be provided to prevent ponding of water adjacent to the structures. In general, the area around the buildings should slope away from the building. We recommend that unpaved landscaped areas adjacent to the buildings be avoided. Roof runoff should be carried to suitable drainage outlets by watertight drain pipes or over paved areas.

3.11 Sulfate Attack and Corrosion Protection

Based on the results of our laboratory testing and our experience with similar soils, concrete structures in contact with the onsite soil will have negligible exposure to water-soluble sulfates in the soil. Therefore, common Type II cement may be used for concrete construction. The concrete should be designed in accordance with Table 19.3.2.1 of the American Concrete Institute ACI 318-14 provisions (ACI, 2014).

The onsite soil is considered to be moderately corrosive to ferrous metals. It is recommended that any buried pipe be made of non-ferrous material, or that any ferrous pipe be protected by dielectric tape, polyethylene sleeves and/or other

methods, with recommendations from a corrosion engineer. Corrosion information presented in this report should be provided to your underground utility subcontractors. Additional testing and evaluation by a corrosion engineer may be warranted if metallic utilities are planned.

3.12 Additional Geotechnical Services

The preliminary geotechnical recommendations presented in this report are based on subsurface conditions as interpreted from limited subsurface explorations and limited laboratory testing. Our supplemental geotechnical recommendations provided in this report are based on information available at the time the report was prepared and may change as plans are developed. Additional geotechnical investigation and analysis may be required based on final improvement plans. Leighton should review the site and grading plans when available and comment further on the geotechnical aspects of the project. Geotechnical observation and testing should be conducted during excavation and all phases of grading operations. Our conclusions and preliminary recommendations should be reviewed and verified by Leighton during construction and revised accordingly if geotechnical conditions encountered vary from our preliminary findings and interpretations.

Geotechnical observation and testing should be provided:

- After completion of site clearing.
- During overexcavation of compressible soil.
- During compaction of all fill materials.
- After excavation of all footings and prior to placement of concrete.
- During utility trench backfilling and compaction.
- During pavement subgrade and base preparation.
- When any unusual conditions are encountered.

4.0 LIMITATIONS

This report was based in part on data obtained from a limited number of observations, site visits, soil excavations, samples, and tests. Such information is, by necessity, incomplete. The nature of many sites is such that differing soil or geologic conditions can be present within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. Therefore, our findings, conclusions, and recommendations presented in this report are based on the assumption that Leighton Consulting, Inc. will provide geotechnical observation and testing during construction.

This report was prepared for the sole use of Mileski Living Trust, for application to the design of the proposed warehouse buildings development in accordance with generally accepted geotechnical engineering practices at this time in California.

See the GBA insert on the following page for important information about this geotechnical engineering report.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Geotechnical-Engineering Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled*. No one except authorized client representatives should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you – should apply this report for any purpose or project except the one originally contemplated.*

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

You Need to Inform Your Geotechnical Engineer about Change

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

This Report May Not Be Reliable

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be*, and, in general, *if you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying it. A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed*. The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation*.

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old.*

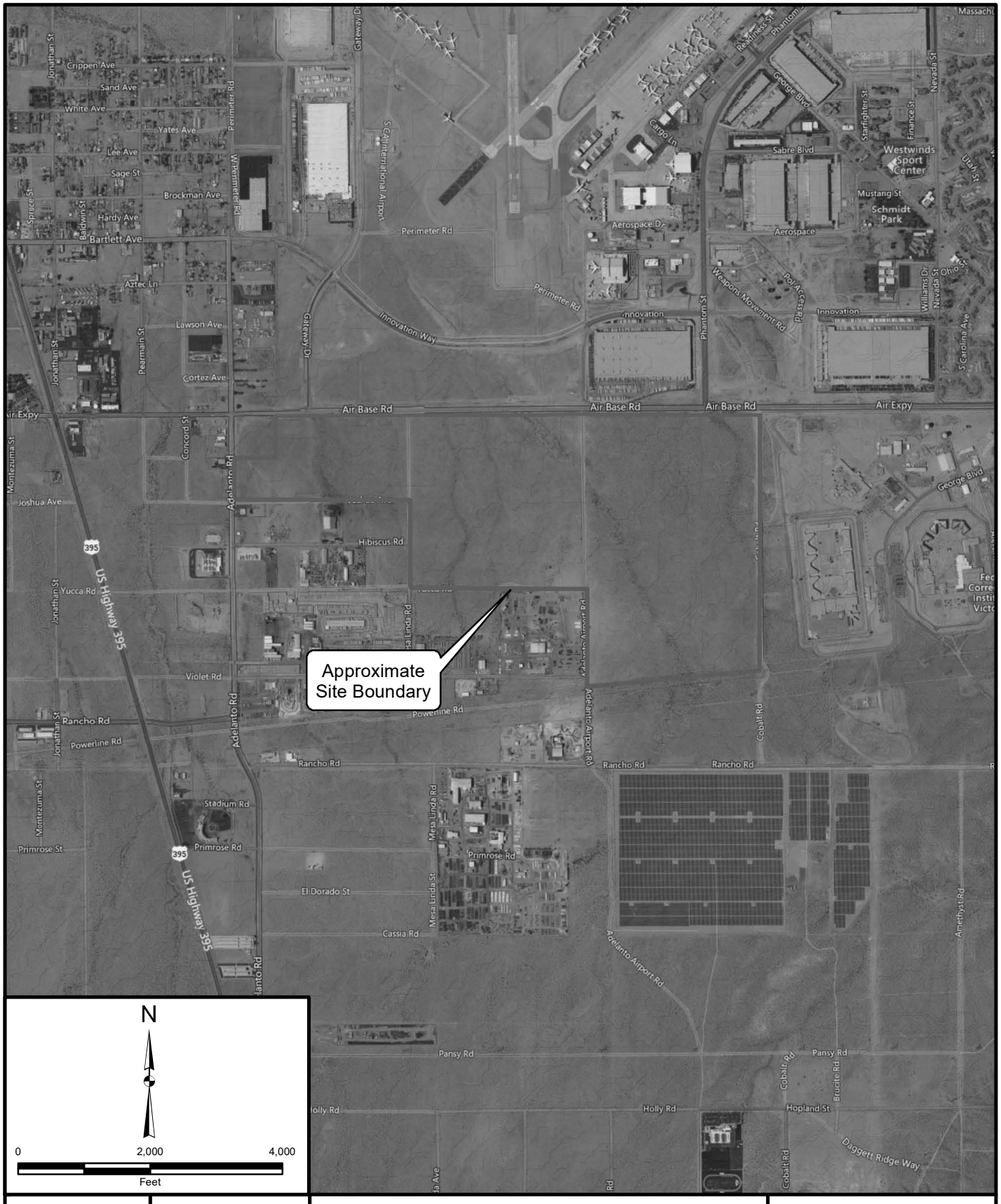
Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration.*** Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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Project: CLC.000RC23280	Eng/Geol: JDH/PB
Scale: 1 " = 2,000 '	Date: November 2023

Reference: © 2023 Microsoft Corporation © 2023 Maxar ©CNES (2023) Distribution Airbus

Author: (mmurphy)

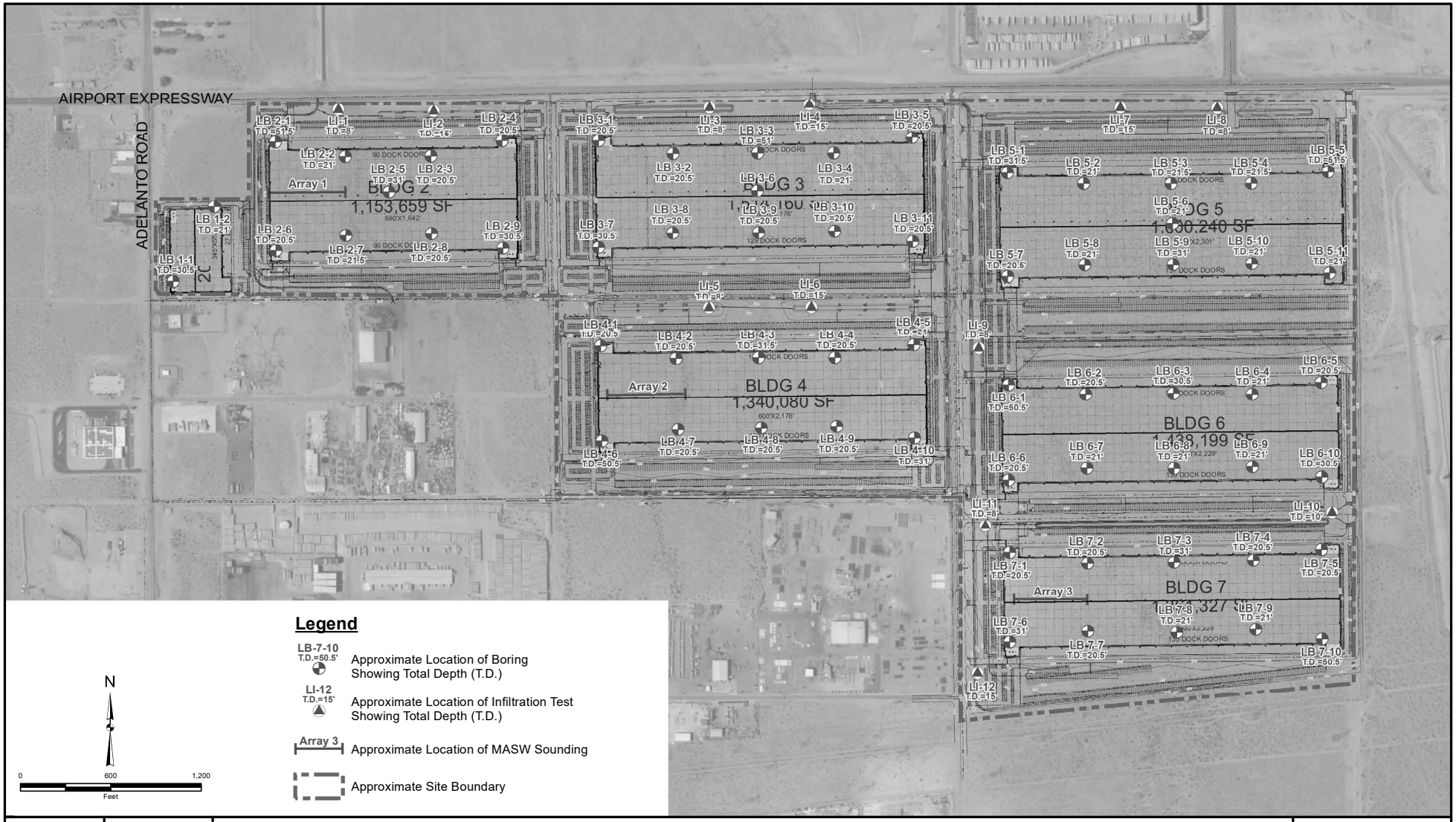
SITE LOCATION MAP

APN 0459-451-51 through 62, 0459-841-01 through 15, and 0459-841-18
City of Adelanto, California

FIGURE 1

Leighton

Map Saved as P:\Drafting\23280\Maps\23280_F01_SLM_2023-11-28.mxd on 11/28/2023 2:08:17 PM



Project: 23280	Eng/Geol: JDH/PB
Scale: 1 " = 600 '	Date: February 2024
Base Map: BLUE Enginering & Consulting, 1/4/2024.	
Author: (mmurphy)	

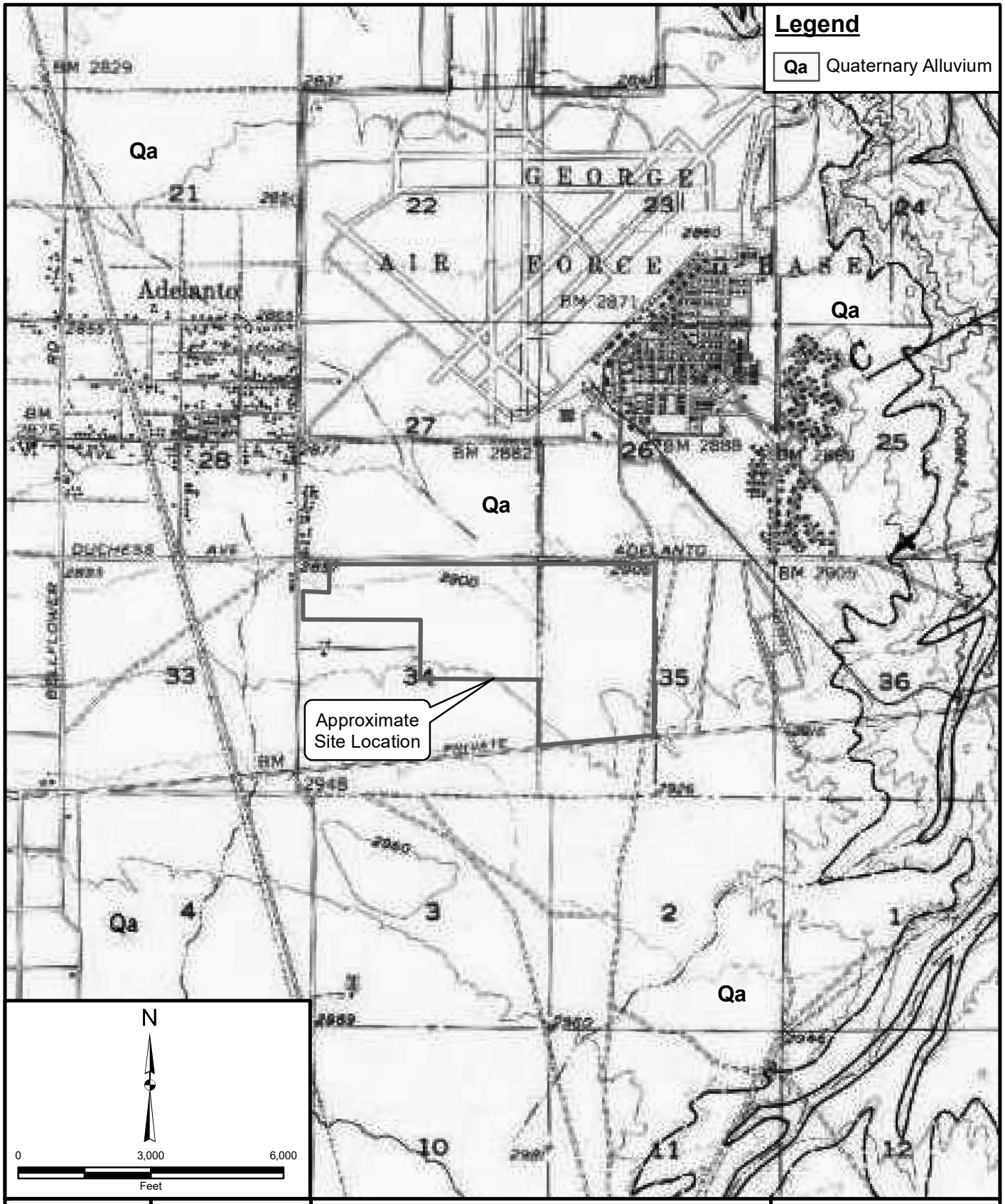
EXPLORATION LOCATION MAP

APN 0459-451-51 through 62, 0459-841-01
through 15, and 0459-841-18
City of Adelanto, California

FIGURE 2

Leighton

Map Saved as Z:\Project Files\MA-NZ\Mileski.L\RC23280 Adelanto Warehouses\Maps\23280_F02b_ELM_2024-02-05.mxd on 2/5/2024 11:25:14 AM



Project: CLC.000RC23280	Eng/Geol: JDH/PB
Scale: 1 " = 3,000 '	Date: November 2023
Base Map: USGS, AASG, 2017.	
Author: Leighton Geomatics (mmurphy)	

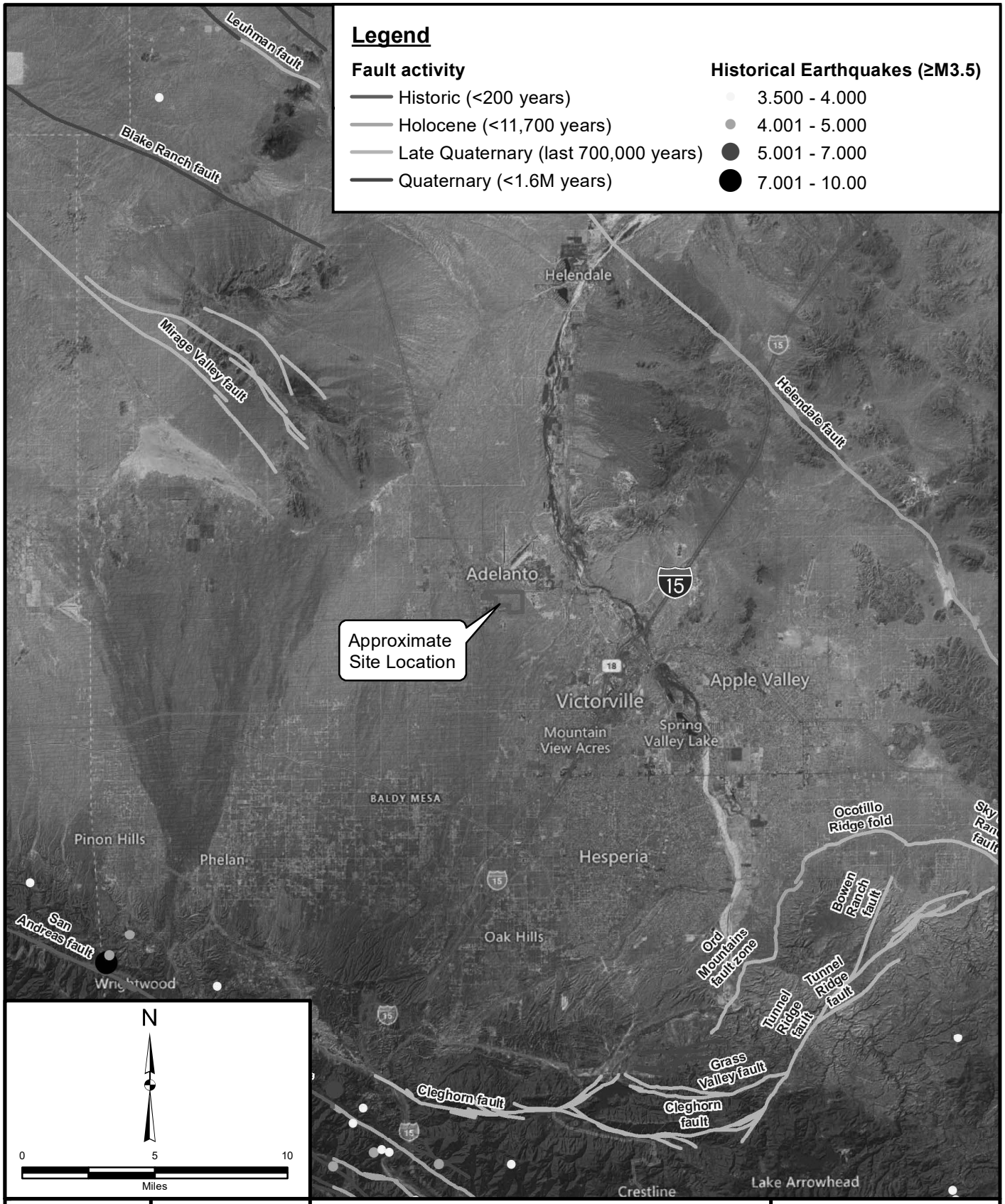
REGIONAL GEOLOGY MAP

APN 0459-451-51 through 62, 0459-841-01 through 15, and 0459-841-18
City of Adelanto, California

FIGURE 3

Leighton

Map Saved as P:\Drafting\23280\Maps\23280_F03_RGM_2023-11-28.mxd on 11/28/2023 3:19:31 PM



Project: CLC.000RC23280	Eng/Geol: JDH/PB
Scale: 1 " = 5 miles	Date: November 2023
Base Map: ESRI ArcGIS Online 2023 Reference: maps.conservation.ca.gov	

REGIONAL FAULTS AND HISTORIC SEISMICITY MAP

APN 0459-451-51 through 62, 0459-841-01 through 15, and 0459-841-18
City of Adelanto, California

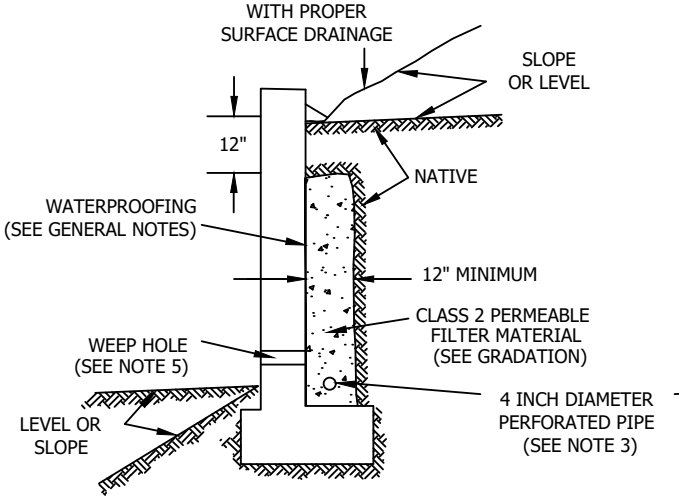
FIGURE 4

Leighton

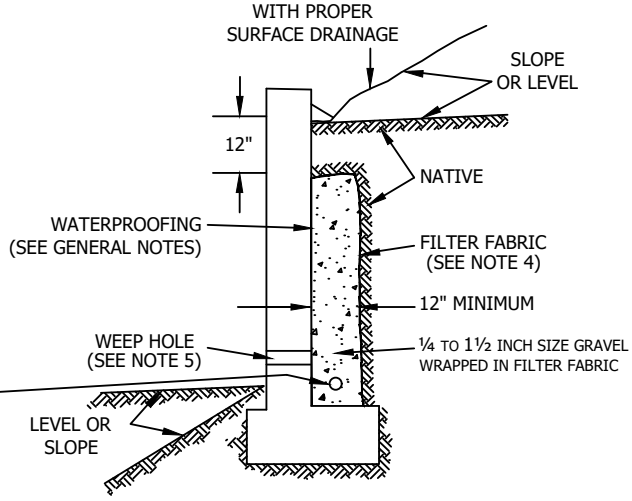
Map Saved as P:\Drafting\23280\Maps\23280_F04_RFHSM_2023-11-28.mxd on 11/28/2023 3:30:08 PM Author: KVM (mmurphy)

SUBDRAIN OPTIONS AND BACKFILL WHEN NATIVE MATERIAL HAS EXPANSION INDEX OF ≤50

OPTION 1: PIPE SURROUNDED WITH CLASS 2 PERMEABLE MATERIAL



OPTION 2: GRAVEL WRAPPED IN FILTER FABRIC



Class 2 Filter Permeable Material Gradation
Per Caltrans Specifications

Sieve Size	Percent Passing
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

GENERAL NOTES:

* Waterproofing should be provided where moisture nuisance problem through the wall is undesirable.
* Water proofing of the walls is not under purview of the geotechnical engineer
* All drains should have a gradient of 1 percent minimum
*Outlet portion of the subdrain should have a 4-inch diameter solid pipe discharged into a suitable disposal area designed by the project engineer. The subdrain pipe should be accessible for maintenance (rodding)
*Other subdrain backfill options are subject to the review by the geotechnical engineer and modification of design parameters.

Notes:
1) Sand should have a sand equivalent of 30 or greater and may be densified by water jetting.
2) 1 Cu. ft. per ft. of 1/4- to 1 1/2-inch size gravel wrapped in filter fabric
3) Pipe type should be ASTM D1527 Acrylonitrile Butadiene Styrene (ABS) SDR35 or ASTM D1785 Polyvinyl Chloride plastic (PVC), Schedule 40, Armco A2000 PVC, or approved equivalent. Pipe should be installed with perforations down. Perforations should be 3/8 inch in diameter placed at the ends of a 120-degree arc in two rows at 3-inch on center (staggered)
4) Filter fabric should be Mirafi 140NC or approved equivalent.
5) Weephole should be 3-inch minimum diameter and provided at 10-foot maximum intervals. If exposure is permitted, weepholes should be located 12 inches above finished grade. If exposure is not permitted such as for a wall adjacent to a sidewalk/curb, a pipe under the sidewalk to be discharged through the curb face or equivalent should be provided. For a basement-type wall, a proper subdrain outlet system should be provided.
6) Retaining wall plans should be reviewed and approved by the geotechnical engineer.
7) Walls over six feet in height are subject to a special review by the geotechnical engineer and modifications to the above requirements.

RETAINING WALL BACKFILL AND SUBDRAIN DETAIL FOR WALLS 6 FEET OR LESS IN HEIGHT

WHEN NATIVE MATERIAL HAS EXPANSION INDEX OF ≤50

Leighton

Figure 5

V:\DRAFTING\TEMPLATES\STANDARD-FIGURES\ALL-STANDARD-FIGURES.DWG (08-02-21 9:07:30AM) Plotted by: brian

APPENDIX A

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APPENDIX A

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APPENDIX B

GEOTECHNICAL LOGS

APPENDIX B

FIELD EXPLORATION

Our field investigation consisted of a surface reconnaissance and a subsurface exploration. Approximate exploration locations are shown on Figure 2, *Exploration Location Map*.

Borings: On October 26, 2023 through November 8, 2023, 75 hollow-stem-auger borings (LB 1-1 through LB 7-10 and LI-1 through LI-12) were drilled, logged and sampled to depths ranging from 8 feet to 51 feet below the ground surface. Encountered soils were logged in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D 2488). Relatively undisturbed soil samples were obtained at selected intervals within these borings using both a Modified California ring-lined and Standard Penetration Test (SPT) split-spoon sampler. Standard Penetration Test (SPT) resistance blow counts were obtained by dropping a 140-pound hammer through a 30-inch free fall. The 2-inch outside diameter split-spoon sampler was driven 18 inches and the number of blows was recorded for each 6 inches of penetration (ASTM D 1586). In addition, 2.4-inch inside diameter brass ring samples were obtained using a Modified California sampler driven into the soil with the 140-pound hammer. Near surface bulk soil samples were also collected from the borings. Representative earth-material samples obtained from these subsurface explorations were transported to our geotechnical laboratory for evaluation and appropriate testing.

GEOTECHNICAL BORING LOG LB-1-1

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), reddish brown, dry, fine to medium sand, 20% fines (field estimate)	-200, SE
2910				R-1	40 50/2"	126	3	SM	@2.5': SILTY SAND (SM), very dense, white and brown, cemented, fine to coarse sand, 15% fines (field estimate)	CR
	5			R-2	50/4"			SM	@5': SILTY SAND (SM), very dense, white and brown, cemented, fine to coarse sand, 15% fines (field estimate)	
2905				R-3	50/6"	113	2	SP	@7.5': Poorly graded SAND (SP), very dense, brown and white, slightly moist, slightly cemented, medium and coarse sand, trace gravel, 5% fines (field estimate)	
	10			R-4	50/6"			SP	@10': Poorly graded SAND (SP), very dense, pinkish brown, slightly moist, slightly cemented, coarse sand, trace gravel, 5% fines (field estimate)	
2900										
	15			S-1	12 16 24			ML	@15': SANDY SILT (ML), hard, brown, slightly moist, slightly cemented, 60% fines (lab), low-plasticity	-200
2895										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM), very dense, light brown, slightly moist, micaceous, fine sand, 20% fines (field estimate)	
2890										
	25			S-2	25 23 31			SP	@25': Poorly graded SAND (SP), very dense, olive brown, slightly moist, medium sand, 5% fines (field estimate)	
2885										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-1-1

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	50/4"			SM	@30': SILTY SAND (SM), very dense, olive brown, slightly moist, fine sand, 20% fines (field estimate)	
2880									**Total Depth: 30.33' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	35									
2875										
	40									
2870										
	45									
2865										
	50									
2860										
	55									
2855										
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-1-2

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), reddish brown, dry, fine to medium sand, 15% fines (field estimate)	
				R-1	50/6"	116	5	ML	@2.5': SILT with SAND (ML), very hard, white and brown, dry, fine to medium sand, cemented, 72% fines (lab), low plasticity	-200
2905										
	5			R-2	50/4"			SP	@5': Poorly graded SAND wilt Silt (SP-SM), very dense, brown and white, slightly moist, coarse sand, cemented, 10% fines (field estimate)	
				R-3	50/4"			SP	@7.5': Poorly graded SAND wilt Silt (SP-SM), very dense, brown and white, slightly moist, coarse sand, trace gravel, cemented, 10% fines (field estimate)	
2900										
	10			R-4	50/5"			SM	@10': SILTY SAND (SM), very dense, olive brown, very fine sand, slightly moist, 20% fines (field estimate)	
2895										
	15			S-1	15 38 50/4"			SM	@15': SILTY SAND (SM), very dense, olive brown, very fine sand, slightly moist, 25% fines (field estimate)	
2890										
	20			R-5	24 50/5"			ML	@20': SILT (ML), hard, brown, slightly moist, low toughness, 90% fines (field estimate), low plasticity	
									Total Depth: 20.91' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885										
	25									
2880										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2-1

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2905	0			B-1				SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, meidum sand, 10% fines (field estimate)	
				R-1	26 27 27	112	4	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), dense, pinkish brown, dry, medium sand, slightly cemented, 10% fines (field estimate)	
2900	5			R-2	11 17 20	124	1	SP-SM	@5': Poorly graded SAND with Silt (SP-SM), dense, pinkish brown, dry, medium sand, slightly cemented, 10% fines (field estimate)	
				R-3	30 50/4"	124	4	SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM), very dense, pinkish brown, dry, medium sand, cemented, 10% fines (field estimate)	
2895	10			R-4	50/5.5"			SP	@10': Poorly graded SAND (SP), very dense, brown, slightly moist, coarse sand, slightly cemented, 5% fines (field estimate)	
2890	15			S-1	19 28 26			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 22% fines (lab)	-200
2885	20			R-5	50/4"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 35% fines (field estimate)	
2880	25			S-2	20 50/6"			ML	@25': SILT (ML), hard, brown, slightly moist, low toughness, 40% fines (field estimate), low plasticity	
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-2-1

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	50/5"			ML	@30': SILT (ML), hard, brown, slightly moist, low toughness, 40% fines (field estimate), low plasticity @31': layer in sample SILTY SAND (SM), fine sand, gray	
2875										
	35			S-3	19 29 37		3	SM	@35': SILTY SAND (SM), very dense, orange and brown, variegated, very fine sand, 22% fines (lab)	-200, AL
2870										
	40			R-7	9 9 11	109	1	SP	@40': Poorly graded SAND (SP), medium dense, pinkish gray, slightly moist, coarse sand, 5% fines (field estimate)	
2865										
	45			S-4	21 50/3"			ML	@45': SILT with Sand (ML), hard, brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity @46': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, slightly cemented, 30% fines (field estimate)	
2860										
	50			R-8	23 36 50/4"			CL	@50': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine sand, high toughness, 70% fines (field estimate), medium plasticity	
2855										
									Total Depth: 51.33' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	55									
2850										
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-2-2

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to coarse sand, 30% fines (field estimate)	
2905				R-1	12 8 9	118	5	SM	@2.5': SM SAND with Gravel (SM), medium dense, tan, slightly moist, fine to coarse sand, slightly cemented, 15% gravel (field estimate), 15% fines (lab)	-200
	5			R-2	13 18 20	111	1	SP	@5': Poorly graded SAND (SP), medium dense, grayish brown, coarse sand, 5% fines (field estimate)	
2900				R-3	18 25 34	120	2	SP	@7.5': Poorly graded SAND (SP), dense, grayish brown, coarse sand, 5% fines (field estimate)	
	10			R-4	18 25 50			SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), dense, grayish brown, coarse sand, 15% gravel, 5% fines (field estimate)	
2895										
	15			S-1	16 18 14			SP-SM	@15': Poorly graded SAND with Silt (SP-SM), dense, brown and white, slightly moist, slightly cemented, medium sand, 10% fines (field estimate) lower 2": SILTY SAND (SM), brown, fine sand, 25% fines (field estimate)	
2890										
	20			R-5	25 50/6"			ML	@20': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2885									**Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2880										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

GEOTECHNICAL BORING LOG LB-2-3

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2901'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	15 19 19	125	2	SP	@2.5': Poorly graded SAND (SP), medium dense, olive, dry, fine to medium sand, 5% fines (field estimate)	
2905										
	5			R-2	12 14 20				@5': No Recovery	
				R-3	20 40 39	124	1	SP-SM	@7.5': Poorly graded SAND with Silt and Gravel (SP-SM), dense, white, slightly moist, fine to coarse sand, 15% gravel (field estimate), 11% fines (lab)	-200
2900										
	10			R-4	20 28 22	136	1	SP	@10': Poorly graded SAND (SP), medium dense, white, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
2895										
	15			S-1	22 24 24			SP	@15': Poorly graded SAND (SP), dense, white, slightly moist, medium to coarse sand, 5% fines (field estimate)	
2890										
	20			R-5	50/5"			ML	@20': SILT with Sand (ML), hard, tan, slightly moist, fine sand, 80% fines (field estimate), low plasticity	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885										
	25									
2880										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
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- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2-4

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to medium sand, trace of gravel, 20% fines (field estimate)	
2905				R-1	19 21 21	115	2	SP	@2.5': Poorly graded SAND (SP), medium dense, light brown/white, slightly moist, fine to medium sand, 5% fines (field estimate)	
	5			R-2	10 21 22	116	1	SP	@5': Poorly graded SAND (SP), medium dense, light brown/white, slightly moist, fine to medium sand, 5% fines (field estimate)	CO
2900				R-3	17 22 30				@7.5': No Recovery	
	10			R-4	22 39 50/5"			SP	@10': Poorly graded SAND (SP), very dense, light brown/white, slightly moist, fine to coarse sand, trace of caliche and gravel, 5% fines (field estimate)	
2895										
	15			S-1	39 50/6"			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 35% fines (field estimate)	
2890										
	20			R-5	50/4"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 35% fines (lab)	-200
2885									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2880										
	30									

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SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-2-5

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2904'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
2910	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to medium sand, 15% fines (field estimate)	
				R-1	30 50/6"			SM	@2.5': SILTY SAND (SM), very dense, light brown and white, dry, medium to coarse sand, slightly cemented 15% fines (field estimate)	
2905	5			R-2	17 22 25			SP	@5': Poorly graded SAND with Gravel (SP-GP), dense, light brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
				R-3	18 24 29				No Recovery	
2900	10			R-4	25 35 43			SP	@10': Poorly graded SAND (SP), dense, pinkish white, slightly moist, coarse sand, trace gravel, subangular, 5% fines (field estimate)	
2895	15			S-1	13 3 50/6"			SM	@15': SILTY SAND (SM), dense, tan, slightly moist, fine sand, 25% fines (field estimate)	
2890	20			R-5	50/3"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 25% fines (field estimate)	
2885	25			S-2	16 21 27			CL	@25': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine to medium sand, cemented, 62% fines (lab), medium plasticity	-200
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2-5

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2904'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	30			R-6	43 50/4"			SP	@30': Poorly graded SAND (SP), very dense, orange brown, slightly moist, coarse sand, 5% fines (field estimate)	
2880									**Total Depth: 30.83' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	35									
2875										
	40									
2870										
	45									
2865										
	50									
2860										
	55									
2855										
	60									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2-6

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2910				R-1	7 9 11	115	3	SP-SM	@2.5': Poorly graded SAND withSilt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
	5			R-2	15 22 31				No Recovery	
2905				R-3	15 24 50	125	1	SP	@7.5': Poorly graded SAND (SP), dense, olive brown, slightly moist, coarse sand, 5% fines (field estimate)	
	10			R-4	50/6"			SP-SM	@10': Poorly graded SAND with Silt (SP-SM), very dense, tan, slightly moist, fine sand, 7% fines (lab)	-200
2900										
	15			S-1	15 28 50			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 15% fines (field estimate) sample shoe: SILT (ML), brown, cemented	
2895										
	20			R-5	50/5"			ML	@20': SILT (ML), hard, tan, slightly moist, low toughness, 90% fines (field estimate), low plasticity	
2890									**Total Depth: 20.41' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2885										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-2-7

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2903'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 25% fines (field estimate)	DS, MD, SA
				R-1	14 50/6"	126	6	SM	@2.5': SILTY SAND (SM), very dense, white and brown, slightly moist, fine to coarse sand, slightly cemented 20% fines (field estimate)	
2905	5			R-2	23 32 50	130	2	SM	@5': SILTY SAND (SM) (SM), dense, white and brown, slightly moist, coarse sand, slightly cemented, 15% fines (field estimate)	
				R-3	32 50/4"			SM	@7.5': SILTY SAND (SM), very dense, white and brown, slightly moist, coarse sand, slightly cemented, 16% fines (lab)	-200
2900	10			R-4	50/5"			SM	@10': SILTY SAND (SM), dense, white and brown, slightly moist, coarse sand, slightly cemented, 15% fines (field estimate)	
2895	15			S-1	12 18 38			ML	@15': SILT (ML), hard, tan, slightly moist, 90% fines (field estimate), low plasticity	
2890	20			R-5	24 30 42	105	23	ML	@20': SILT (ML), hard, tan, slightly moist, 90% fines (field estimate), low plasticity	
2885	25								**Total Depth: 21.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
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- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-2-8

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2908
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2915	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to medium sand, 35% fines (field estimate)	
				R-1	11 18 30	126	2	SP-SM	@2.5': Poorly graded SAND with Sily (SP-SM), medium dense, white, slightly moist, fine to coarse sand, slightly cemented, trace of gravel, 10% fines (field estimate)	
2910	5			R-2	19 31 44	105	5	SM	@5': SILTY SAND (SM), dense, white, slightly moist, fine to coarse sand, slightly cemented, 46% fines (lab)	-200
				R-3	50/4"			SM	@7.5': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, 44% fines (lab)	-200
2905	10			R-4	34			SM	@10': SILTY SAND (SM), very dense, olive brown, slightly moist, fine sand, 30% fines (field estimate)	
2900	15			S-1	50/3"			SM	@15': SILTY SAND (SM), very dense, olive brown, slightly moist, fine sand, 35% fines (field estimate)	
2895	20			R-5	25 50/6"			SM	@20': SILTY SAND (SM), very dense, olive brown, slightly moist, fine sand, 35% fines (field estimate)	
2890	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
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- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
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GEOTECHNICAL BORING LOG LB-2-9

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2906'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), brown, dry, fine to coarse sand, trace of gravel, 30% fines (field estimate)	
2910				R-1	50/6"	119	4	SM	@2.5': SILTY SAND (SM), very dense, reddish brown and white variegated, slightly moist, fine to coarse sand, slightly cemented, 20% fines (field estimate)	
	5			R-2	25 50/5"			SM	@5': SILTY SAND (SM), very dense, reddish brown and white variegated, slightly moist, fine to coarse sand, slightly cemented, 20% fines (field estimate)	
2905				R-3	50/6"	113	2	SP	@7.5': Poorly graded SAND with Gravel (SP), very dense, reddish brown, slightly moist, medium to coarse sand, 20% fine to coarse gravel, 5% fines (field estimate)	
	10			R-4	50/6"			SP	@10': SILTY SAND (SM), very dense, brown, slightly moist, fine to coarse sand, trace of gravel, 20% fines (field estimate)	
2900										
	15			S-1	31 5.5"			SP	@15': SILTY SAND (SM), very dense, olive, slightly moist, fine sand, 30% fines (field estimate)	
2895										
	20			R-5	50/5"			SP	@20': SILTY SAND (SM), very dense, olive, slightly moist, fine sand, 30% fines (field estimate)	
2890										
	25			S-2	5.5"			ML	@25': SANDY SILT (ML), hard, olive, slightly moist, fine to medium sand, 70% fines (field estimate), low plasticity	
2885										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-2-9

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2906'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	33 50/5"			ML	@30': No Recovery	
2880									**Total Depth: 31' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	35									
2875										
	40									
2870										
	45									
2865										
	50									
2860										
	55									
2855										
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

GEOTECHNICAL BORING LOG LB-3-1

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2901'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2905				R-1	11 14 16	110	2	SP-SM	@2.5': Poorly graded SAND with silt (SP-SM), medium dense, olive brown, slightly moist, fine to coarse sand, slightly cemented, 10% fines (field estimate)	
	5			R-2	18 32 50/5"	123	3	SP-SM	@5': Poorly graded SAND with Silt (SP-SM), very dense, olive brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
2900				R-3	16 50/6"			SP	@7.5': Poorly graded SAND (SP), very dense, white/ light brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
	10			R-4	18 50/5.5"			SP	@10': Poorly graded SAND (SP), very dense, white/ light brown, slightly moist, fine to coarse sand, slightly cemented, 5% fines (field estimate)	
2895										
	15			S-1	18 24 40			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 35% fines (field estimate)	
2890										
	20			R-5	50/6"			ML	@20': SANDY SILT (ML), hard, brown, slightly moist, fine to medium sand, 70% fines (field estimate), low plasticity	
2885									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2880										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-2

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2901'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2905	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 15% fines (field estimate)	
				R-1	7 13 16			SP	@2.5': Poorly graded SAND (SP), medium dense, orange brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2900	5			R-2	10 16 22	114	2		@5': No Recovery	
				R-3	18 22 30	141	1	SP	@7.5': Poorly graded SAND (SP), dense, white, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
2895	10			R-4	18 50/6"			SP	@10': Poorly graded SAND (SP), very dense, white, slightly moist, fine to coarse sand, slightly cemented, 5% fines (field estimate)	
2890	15			S-1	22 26 31			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 40% fines (field estimate)	
2885	20			R-5	50/4"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 40% fines (field estimate)	
2880	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-3

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2905	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	CR, SA
				R-1	15 15 16			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, grayish brown, slightly moist, coarse sand, 10% fines (field estimate), loose sample	
2900	5			R-2	13 20 23				@5': Auger slight grinding, no recovery	
				R-3	30 50/4"	121	2	SM	@7.5': SILTY SAND (SM), very dense, grayish brown, slightly moist, fine to coarse sand, 20% fines (field estimate)	
2895	10			R-4	35 50/5"				@10': No recovery	
2890	15			S-1	16 32 33			SM	@15': SILTY SAND (SM), very dense, light brown, slightly moist, medium to coarse sand, 15% fines (field estimate)	
2885	20			R-5	50/6"	103	3	SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, medium to coarse sand, 20% fines (lab)	-200
2880	25			S-2	27 50/7"			SM	@25': SILTY SAND (SM), very dense, tan, slightly moist, medium to coarse sand, 35% fines (field estimate)	
2875	30									

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SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-3

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2875	30			R-6	50/4"			SM	@30': SILTY SAND (SM), very dense, tan, slightly moist, medium to coarse sand, 45% fines (field estimate)	
2870	35			S-3	24 50/5 1/2"			ML	@35': SANDY SILT (ML), hard, tan, slightly moist, fine sand, 65% fines (field estimate), low plasticity	
2865	40			R-7	50/5"			ML	@40': SANDY SILT (ML), hard, tan, slightly moist, fine sand, 70% fines (field estimate), low plasticity	
2860	45			S-4	22 36 50			ML	@45': SILT with sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2855	50			R-8	31 50/6"			ML	@50': SILT with sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
									Total Depth: 30.33' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2850	55									
2845	60									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-4

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2895'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2900				R-1	13 9 8	101	5	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), loose, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
	5			R-2	9 16 22			SP	@5': Poorly graded SAND (SP), medium dense, grayish brown, slightly moist, coarse sand, trace gravel, 2% fines (lab)	CO, -200
2895				R-3	16 27 38	131	1	SP	@7.5': Poorly graded SAND (SP), dense, grayish brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
	10			R-4	38 50/5 1/2"			SP	@10': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate) Shoe of sampler: SILTY SAND (SM), tan, slightly moist, fine sand, 30% fines (field estimate)	
2890										
	15			S-1	30 30 50/5 1/2"			ML	@15': SILT with Sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2885										
	20			R-5	28 32			CL	@20': SILT with Sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2880									@20.5': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine to medium sand, high dry strength, 70% fines (field estimate), medium plasticity **Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2875										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-5

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2905	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	RV, -200
				R-1	50/5"			SC	@2.5': CLAYEY SAND (SC), very dense, yellowish brown, slightly moist, fine to medium sand, 40% fines (field estimate)	
2900	5			R-2	50/5"	103	11	SM	@5': SILTY SAND (SM), very dense, olive brown,	
				R-3	33 50/6"	109	1	SW	@7.5': Well graded SAND with Gravel (SW), very dense, pinkish white, slightly moist, coarse sand, 15% gravel (field estimate), 3% fines (lab)	-200
2895	10			R-4	36 50/6"			SP	@10': Poorly graded SAND (SP), very dense, pinkish white, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2890	15			S-1	28 31 32			SP	@15': Poorly graded SAND (SP), very dense, pinkish white, slightly moist, coarse sand, 5% fines (field estimate)	
2885	20			R-5	50/6"				@20': No Recovery	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	25									
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-6

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	
				R-1	14 8 8			GP	@2.5': Poorly graded GRAVEL with Sand (GP), loose, white, slightly moist, fine to coarse sand, coarse gravel, 30% sand, 5% fines (field estimate)	
2905										
	5			R-2	8 14 18			SM	@5': SILTY SAND (SM), medium dense, grayish white, slightly moist, fine to coarse sand, trace gravel, 20% fines (field estimate)	
				R-3	20 50/6"			SM	@7.5': No Recovery	
2900										
	10			R-4	40 50/4"	109	3	SM	@10': SILTY SAND (SM), very dense, grayish white, slightly moist, fine to coarse sand, slightly cemented, 30% fines (field estimate)	
2895										
	15			S-1	12 23 24			SP	@15': Poorly graded SAND (SP), dense, light brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate) @16': Sand becomes fine	
2890										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, 15% fines (field estimate)	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885										
	25									
2880										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-7

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2908'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Grass over SILTY SAND (SM), light brown, dry, fine to medium sand, 20% fines (field estimate)	
				R-1	16 16 23	119	1	SP	@2.5': Poorly graded SAND (SP), medium dense, white/ light brown, slightly moist, medium to coarse sand, 5% fines (field estimate)	
2910										
	5			R-2	18 24 36	119	1		@5': Poorly graded SAND (SP), dense, white/ light brown, slightly moist, fine to medium sand, trace of gravel, 5% fines (field estimate)	
2905										
	10			R-3	26 50/6"				@10': Poorly graded SAND with Gravel (SP), very dense, white/ light brown, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2900										
	15			S-1	36 42 50/5"			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 18% fines (lab)	-200
2895										
	20			R-4	50/4"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 40% fines (field estimate)	
2890										
	25			S-2	18 25 50			SM SM	@25': SILTY SAND (SM), dense, brown, slightly moist, medium to coarse sand, cemented, 25% fines (field estimate) @26': SILTY SAND (SM), very dense, light brown, slightly moist, fine sand, 37% fines (lab)	 -200
2885										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-7

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2908'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-5	50/6"			SM	@30': SILTY SAND (SM), very dense, light brown, slightly moist, fine sand, 45% fines (field estimate)	
									Total Depth: 30.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	35									
2875	40									
2870	45									
2865	50									
2860	55									
2855	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-8

Project No.	RC23280	**Date Drilled**	10-27-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2903'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), light brown, dry, fine to medium sand, 30% fines (field estimate)	
2905				R-1	7 50/6"			SP-SC	@2.5': Poorly graded SAND with Clay and Gravel (SP-SC), very dense, pinkish brown, slightly moist, medium to coarse sand, cemented, 15% GRAVEL, 8% fines (lab)	-200
	5			R-2	27 28 38	121	2	SP	@5': Poorly graded SAND with Gravel (SP), dense, white/ light brown, slightly moist, medium to coarse sand, 15% gravel, 5% fines (field estimate)	
2900				R-3	50/6"			SP	@7.5': Poorly graded SAND with Gravel (SP), dense, white/ light brown, slightly moist, medium to coarse sand, 20% gravel, 5% fines (field estimate) -Auger slightly grinding, gravel gets coarser	
	10			R-4	50/5.5"			SP-SM	@10': Poorly graded SAND with Silt (SP-SM), very dense, brown and white, slightly moist, medium to coarse sand, trace of gravel, 10% fines (field estimate)	
2895										
	15			S-1	30 36 50			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 45% fines (field estimate)	
2890										
	20			R-5	50/6"			SP-SM	@20': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, medium to coarse sand, 10% fines (field estimate)	
2885									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2880										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-9

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2904'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	
				R-1	16 15 12	134	1	SP	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, coarse sand, 10% fines (field estimate)	
2905										
	5			R-2	9 12 14				@5': No Recovery, slight grinding	
				R-3	15 50/6"				@7.5': Soil cuttings: Poorly graded SAND with Silt (SP-SM), medium dense, light brown, coarse sand, 10% fines (field estimate), cobbles in cuttings	
2900										
	10			R-4	36 50/6"	120	1		@10': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, coarse sand, 10% fines (field estimate), slight grinding	
2895										
	15			S-1	15 27 34				@15': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, 30% fines (field estimate)	
2890										
	20			R-5	50/6"				@20': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, 30% fines (field estimate)	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885										
	25									
2880										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-3-10

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2903'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
				R-1	18 17 22	122	1	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, coarse sand, trace gravel, 5% fines (field estimate)	
2905										
	5			S-1	5 4 7			SP-SM	@5': No Recovery	
				S-2	14 17 17			SP	@7.5': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, 5% fines (field estimate)	
2900										
	10			R-2	24 50/6"			SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), very dense, light brown, slightly moist, 20% gravel, 5% fines (field estimate), pieces of cobble in sampler (approximately 1 1/2-inches in diameter)	
2895										
	15			S-3	14 27 50			SP-GP	@15': Poorly graded SAND with Gravel (SP-GP), very dense, light brown, slightly moist, 20% gravel, 5% fines (field estimate) @20': SILTY SAND (SM), very dense, tan, slightly moist, fine to medium sand, 35% fines (field estimate)	
2890										
	20			R-3	50/3"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 45% fines (field estimate)	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885										
	25									
2880										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
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- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-11

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
				R-1	37 50/5"	124	1	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, coarse sand, trace gravel, 10% fines (field estimate)	
2900										
	5			S-1	37 50/6"			SM	@5': SILTY SAND (SM), very dense, white and brown, slightly moist, fine to coarse sand, 20% fines (field estimate), cemented, slight auger grinding	
				S-2	35 50/6"			SM	@7.5': SILTY SAND (SM), very dense, white and brown, slightly moist, fine to coarse sand, 15% fines (field estimate), cemented	-200
2895										
	10			R-2	50/3"	119	3	SM	@10': SILTY SAND (SM), very dense, white and brown, slightly moist, medium to coarse sand, 15% fines (field estimate), slightly cemented	
2890										
	15			S-3	20 50/4"			SM	@15': SILTY SAND (SM), very dense, white and brown, slightly moist, very fine sand, 15% fines (field estimate), slightly cemented	
2885										
	20			R-3	50/5"			SM	@20': SILTY SAND (SM), very dense, light brown, slightly moist, coarse sand, slightly cemented, 33% fines (lab)	-200
2880										
	25			S-4	44 50/5"			SM	@25': SILTY SAND (SM), very dense, light brown, slightly moist, coarse sand, slightly cemented, 30% fines (field estimate)	
2875										
	30									

Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-3-11

Project No.	RC23280	**Date Drilled**	10-30-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-4	50/6"			SM	@30': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 45% fines (field estimate)	
2870	35								**Total Depth: 30.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2865	40									
2860	45									
2855	50									
2850	55									
2845	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-1

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2915'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2920	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	RV, EI, -200
				R-1	13 14 20	102	2	SM	@2.5': SILTY SAND (SM), medium dense, yellowish brown, dry, fine to coarse sand, 25% fines (field estimate)	
2915	5			R-2	14 17 25			SM	@5': SILTY SAND (SM), medium dense, yellowish brown, dry, fine to to coarse sand, 20% fines (field estimate)	
				R-3	17 29 32				@7.5': No recovery	
2910	10			R-4	28 35 50	124	1	SP	@10': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2905	15			S-1	13 14 20			SP	@15': Poorly graded SAND (SP), dense, grayish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2900	20			R-5	50/4"			ML	@20': SILT (ML), hard, tan, slightly moist, 90% fines (field estimate), low plasticity	
2895	25								**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2890	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-2

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2915				R-1	9 7 10			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, brown, slightly moist, medium sand, 10% fines (field estimate)	
	5			R-2	14 18 19	115	2	SP-SM	@5': Poorly graded SAND with Silt (SP-SM), medium dense, brown, slightly moist, medium sand, 5.1% fines (lab)	-200
2910				R-3	50/6"			SM	@7.5': SILTY SAND (SM), very dense, light brown, sligtly moist, very fine sand, 45% fines (field estimate)	
	10			R-4	50/6"	99	6	SM	@10': SILTY SAND (SM), very dense, light brown, sligtly moist, very fine sand, 45% fines (field estimate)	
2905										
	15			S-1	33 40 46			SM	@15': SILTY SAND (SM), very dense, white and light gray, sligtly moist, very fine sand, 40% fines (field estimate)	
2900										
	20			R-5	50/5"			SP-SM	@20': Poorl graded SAND with Silt (SP-SM), very dense, brown, slightly moist, medium sand, 10% fines (field estimate)	
2895									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2890										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-4-3

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
									This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.	
2915	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
				R-1	50/6"	105	4	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), very dense, pinkish brown, slightly moist, medium sand, slightly cemeted, 10% fines (field estimate)	
2910	5			R-2	31 50/6"			SP-SM	@5': Poorly graded SAND with Silt (SP-SM), very dense, pinkish brown, slightly moist, medium sand, slightly cemeted, 10% fines (field estimate)	
				R-3	32 50/3"			SP	@7.5': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2905	10			R-4	33 50/6"	139	1	SP	@10': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2900	15			S-1	45 50/5"			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 35% fines (field estimate)	
2895	20			R-5	50/3"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 16% fines (lab)	-200
2890	25			S-2	21 30 50/3"			SM	@25': SILTY SAND (SM), very dense, grayish brown, fine to medium sand, 15% fines (field estimate)	
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-3

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2885	30			R-6	32 24 50			SP	@30': Poorly graded SAND (SP), very dense, gray, slightly moist, fine sand, 5% fines (field estimate)	
									Total Depth: 31.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	35									
2875	40									
2870	45									
2865	50									
2860	55									
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-4-4

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, fine to coarse sand, 10% fines (field estimate)	
2915				R-1	15 17 23	118	1	SP	@2.5': Poorly graded SAND (SP), medium dense, light brown, slightly moist, coarse sand, 5% fines (field estimate)	
	5			R-2	15 22 44	114	2	SP-GP	@5': Poorly graded SAND with Gravel (SP-GP), dense, light brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2910										
	10			R-3	50/6"				@10': No recovery	
2905										
	15			S-1	15 16 21			SP-GP	@15': Poorly graded SAND with Gravel (SP-GP), dense, light brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2900										
	20			R-4	50/4"			SC	@20': CLAYEY SAND (SC), very dense, tan, slightly moist, fine sand, trace of caliche, 46% fines (lab)	-200, AL
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2895										
	25									
2890										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-5

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0			B-1				SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, fine to medium sand, 10% fines (field estimate)	
				R-1	8 14 12			SP-GP	@2.5': Poorly graded SAND with Gravel (SP-GP), medium dense, brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2905	5			R-2	12 18 27				@5': No recovery	
				R-3	27 50/6"	117	1	SP-GP	@7.5': Poorly graded SAND with Gravel (SP-GP), very dense, white and gray, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2900	10			R-4	50/6"			SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), very dense, white and gray, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2895	15			S-1	20 25 35			ML	@15': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2890	20			R-5	39 50/4"			ML	@20': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
									Total Depth: 21' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	25									
2880	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-6

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2920'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
2925	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	8 10 11				@2.5': No recovery	
2920	5			R-2	17 21 30	116	1	SP-GP	@5': Poorly graded SAND with Gravel (SP-GP), dense, olive brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
				R-3	30 40 50			SP-GP	@7.5': Well graded SAND with Silt and Gravel (SW-SM), very dense, olive brown, slightly moist, coarse sand, 15% gravel (field estimate), 6% fines (lab)	-200
2915	10			R-4	30 50/6"	114	1	SP-GP	@10': Well graded SAND with Silt and Gravel (SW-SM), very dense, olive brown, slightly moist, coarse sand, 15% gravel, 10% fines (field estimate)	
2910	15			S-1	44 50/3"			CL	@15': LEAN CLAY with Sand (CL), hard, tan, slightly moist, 75% fines (field estimate), medium plasticity	
2905	20			R-5	50/6"	104	8	CL	@20': LEAN CLAY with Sand (CL), hard, tan, slightly moist, 76% fines (lab), medium plasticity	-200, AL
2900	25			S-2	37 50/4"			CL	@25': LEAN CLAY with Sand (CL), hard, tan, slightly moist, 75% fines (field estimate), medium plasticity	
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-6

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2920'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	50/6"			SM	@30': SILTY SAND (SM), very dense, grayish brown, slightly moist, fine sand, 35% fines (field estimate)	
2895										
	35			S-3	38 50/3"			ML	@35': SANDY SILT (ML), hard, tan, slightly moist, fine sand, 64% fines (lab), low plasticity	-200
2890										
	40			R-7	50/4"			ML	@40': SANDY SILT (ML), hard, light brown, slightly moist, fine to coarse sand, 60% fines (field estimate)	
2885										
	45			S-4	20 36 50			SP	@45': Poorly graded Sand (SP), very dense, light brown, slightly moist, coarse sand, 5% fines (field estimate)	
2880										
	50			R-8	50/6"			SP-SM	@50': Poorly graded Sand with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2875									**Total Depth: 50.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	55									
2870										
	60									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-7

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2915'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	CR, DS, MD
2920				R-1	7 10 14	122	1	SP	@2.5': Poorly graded SAND (SP), medium dense, olive brown, slightly moist, coarse sand, 5% fines (field estimate)	
	5			R-2	15 20 23			SP-GP	@5': Poorly graded SAND with Gravel (SP-GP), medium dense, olive brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2915				R-3	28 50/6"			SP-GP	@7.5': Poorly graded SAND with Gravel (SP-GP), very dense, olive brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
	10			R-4	25 30 50/5"	116	1	SP	@10': Poorly graded SAND (SP), very dense, olive brown, moist, coarse sand, 5% fines (field estimate)	
2910										
	15			S-1	27 36 38			SM	@15': SILTY SAND (SM), very dense, white and light tan, slightly moist, very fine sand, 45% fines (field estimate)	
2905										
	20			R-5	50/5"			ML	@20': SANDY SILT (ML), hard, dark brown, slightly moist, fine to coarse sand, 70% fines (field estimate), low plasticity	
2900									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-8

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2917'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	7 15 13	106	2	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, brown, slightly moist, medium sand, 10% fines (field estimate)	
2920										
	5			R-2	9 10 10				@5': No recovery	
				R-3	13 18 40				@7.5': No recovery Soil cuttings: Poorly graded SAND with Silt (SP-SM), dense, brown, mediun sand, 105 fines (field estimate)	
2915										
	10			R-4	22 35 50/6"	91	0	SP	@10': Poorly graded SAND (SP), very dense, grayish white, slightly moist, coarse sand, 5% fines (field estimate)	
2910										
	15			S-1	50/6"			SM	@15': SILTY SAND (SM), very dense, tan, slightly moist, very fine sand, 45% fines (field estimate)	
2905										
	20			R-5	50/6"			CL	@20': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine to coarse sand, 70% fines (field estimate), medium plasticity	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2900										
	25									
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-9

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2914'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 15% fines (field estimate)	
2920				R-1	14 16 21	100	3	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, brown and white, slightly moist, coarse sand, 10% fines (field estimate)	
	5			R-2	16 21 28			SP-SM	@5': Poorly graded SAND with Silt (SP-SM), medium dense, brown and white, slightly moist, coarse sand, trace gravel, 10% fines (field estimate), approximately 2 1/2-inch diameter cobble stuck in shoe of sampler	
2915				R-3	15 39 50	126	0	SP	@7.5': Poorly graded SAND (SP), very dense, grayish white, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	CO
	10			R-4	40 50/5"			SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), very dense, grayish white, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2910										
	15			S-1	19 34 50			ML	@15': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2905										
	20			R-5	50/4"			ML	@20': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2900									**Total Depth: 20.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-10

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2920	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine and medium sand, 15% fines (field estimate)	
				S-1	5 3 4			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), loose, brown, slightly moist, medium sand, 10% fines (field estimate)	
2915	5			R-1	10 13 27	121	1	SP-SM	@5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
				R-2	20 36 33			SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2910	10			R-3	28 40 50	99	1	SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), very dense, light brown, sligtly moist, coarse sand, 20% gravel, 5% fines (field estimate)	
2905	15			S-1	22 36 38			CL	@15': LEAN CLAY with Sand (CL), hard, brown, slightly moist, fine sand, 70% fines (field estimate), medium plasticity	
2900	20			R-4	40 50/4"	124	11	CL	@20': LEAN CLAY with Sand (CL), hard, brown and white, slightly moist, fine sand, 72% fines (lab), medium plasticity	-200
2895	25			S-2	38 40 50/5"			CL	@25': LEAN CLAY with Sand (CL), hard, tan, slightly moist, fine sand, 85% fines (field estimate), medium plasticity	
2890	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-4-10

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2911'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2890	30			R-5	30 50/4"			SM	@30': SILTY SAND (SM), very dense, light brown, slightly moist, fine sand, 35% fines (field estimate)	
									Total Depth: 31' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	35									
2880	40									
2875	45									
2870	50									
2865	55									
2860	60									

Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
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Leighton

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GEOTECHNICAL BORING LOG LB-5-1

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2904'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to coarse sand, 30% fines (field estimate)	
				R-1	11 17 21	125	2	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, grayish brown, slightly moist, coarse sand, 10% fines (field estimate)	
2905	5			S-1	8 10 12				@5': No recovery	
				R-2	20 50/5"	112	4	SP-SM	@7.5': Poorly graded SAND (SP), dense, pinkish white, slightly moist, coarse sand, 5% fines (field estimate) @8.5': SILT (ML), hard, tan, slightly moist, low toughness, 90% fines (field estimate), low plasticity	
2900	10			S-2	28 50/5"			CL-ML	@10': SILTY CLAY with Sand (CL-ML), hard, tan, slightly moist, low toughness, 74% fines (lab), low to medium plasticity	-200
2895	15			R-3	50/5"			SP-GP	@15': Poorly graded SAND with Gravel (SP-GP), very dense, grayish brown, slightly moist, coarse sand, 20% gravel, 5% fines (field estimate)	
2890	20			S-3	28 50/6"			SP-GP	@20': Poorly graded SAND with Gravel (SP-GP), very dense, grayish brown, slightly moist, coarse sand, 25% gravel (field estimate), 5% fines (lab)	-200
2885	25			R-4	50/6"			SP-GP	@25': Poorly graded SAND with Gravel (SP-GP), very dense, grayish brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-1

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2904'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2880	30			S-4	20 36 40			SM	@30': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 35% fines (field estimate)	
									Total Depth: 31.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2875	35									
2870	40									
2865	45									
2860	50									
2855	55									
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-2

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 30% fines (field estimate)	
2910				S-1	10 13 13			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
	5			R-1	16 20 29	120	1	SP-SM	@5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2905				S-2	9 10 19			SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
	10			R-2	19 23 33			SP-SM	@10': Poorly graded SAND with Silt (SP-SM), medium dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2900										
	15			S-3	19 23 25			SM	@15': SILTY SAND (SM), dense, light brown, slightly moist, fine to coarse sand, 20% fines (field estimate)	
2895										
	20			R-3	35 50/6"			SP-GP	@20': Poorly graded SAND with Gravel (SP-GP), very dense, grayish white, slightly moist, coarse sand, 5% fines, 15% gravel (field estimate)	
2890									**Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2885										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
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- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

GEOTECHNICAL BORING LOG LB-5-3

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	
				R-1	15 19 25	115	2	SP	@2.5': Poorly graded SAND (SP), medium dense, pinkish brown, slightly moist, coarse sand, slightly cemented, 5% fines (field estimate)	
2905										
	5			S-1	9 15 14			SW-SM	@5': Well graded SAND with Silt and Gravel (SW-SM), medium dense, pinkish brown, slightly moist, coarse sand, slightly cemented, 15% gravel (field estimate), 7% fines (lab)	-200
				R-2	18 50/6"	120	1	SW-SM	@7.5': Well graded SAND with Silt and Gravel (SW-SM), very dense, pinkish brown, slightly moist, coarse sand, slightly cemented, 10% fines, 20% gravel (field estimate)	
2900										
	10			S-2	17 18 22			SP-SM	@10': Poorly graded SAND with Silt (SP-SM), dense, grayish white, slightly moist, coarse sand, 10% fines (field estimate)	
2895										
	15			R-3	32 50/5"			SP-SM	@15': Poorly graded SAND with Silt (SP-SM), very dense, grayish white, slightly moist, coarse sand, 10% fines (field estimate)	
2890										
	20			S-3	19 25 28			SP-SM	@20': Poorly graded SAND with Silt (SP-SM), very dense, grayish white, slightly moist, coarse sand, 10% fines (field estimate)	
2885									**Total Depth: 21.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	25									
2880										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-4

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	CR, DS
				R-1	18 23 27	125	1	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), dense, grayish brown, medium sand, 10% fines (field estimate)	
2905	5			S-1	8 5 6			SP-SM	@5': Poorly graded SAND with Silt (SP-SM), dense, grayish brown, medium sand, 10% fines (field estimate)	
				R-2	18 36 25	125	1	SP	@7.5': Poorly graded SAND (SP), dense, olive brown, slightly moist, coarse sand, 5% fines (field estimate)	
2900	10			S-2	8 10 12			SP	@10': Poorly graded SAND (SP), medium dense, olive brown, slightly moist, coarse sand, 5% fines (field estimate)	
2895	15			R-3	15 50/5"			SP-SM	@15': No Recovery	
2890	20			S-3	25 34 46			SP-SM	@20': Poorly graded SAND with Silt (SP-SM), very dense, grayish white, slightly moist, coarse sand, 10% fines (field estimate)	
2885	25								**Total Depth: 21.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2880	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-5

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2905	0							SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, coarse sand, 10% fines (field estimate)	
				R-1	40 50/4"	113	12	CL	@2.5': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine sand, high dry strength, 70% fines (field estimate), medium plasticity	
2900	5			R-2	50/6"			CL	@5': SANDY LEAN CLAY (CL), hard, brown, slightly moist, fine sand, high dry strength, 55% fines (field estimate), medium plasticity	
				R-3	21 32 40	118	1	SP	@7.5': Poorly graded SAND (SP), dense, orange brown, slightly moist, coarse sand, 5% fines (field estimate)	
2895	10			R-4	19 25 37			SP-SM	@10': Poorly graded SAND with Silt (SP-SM), dense, orange brown, slightly moist, coarse sand, 6% fines (lab)	-200
2890	15			S-1	10 17 19			SP	@15': Poorly graded SAND (SP), dense, orange brown, slightly moist, coarse sand, 5% fines (field estimate)	
2885	20			R-5	27 50/6"				@20': No recovery	
2880	25			S-2	27 36 32			SP-SM	@25': Poorly graded SAND with Silt (SP-SM), very dense, grayish white, slightly moist, coarse sand, 10% fines (field estimate)	
2875	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
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- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
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- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
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GEOTECHNICAL BORING LOG LB-5-5

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2875	30			R-6	37 50/4"			CL	@30': SANDY LEAN CLAY (CL), hard, brown, slightly moist, low toughness, 70% fines (lab), medium plasticity	-200, AL
2870	35			S-3	26 40 50/4"			SP	@35': SILTY SAND (SM), very dense, olive brown, slightly moist, fine to coarse sand, 20% fines (field estimate)	
2865	40			R-7	50/6"			SM	@40': SILTY SAND (SM), very dense, light brown, slightly moist, fine to coarse sand, 20% fines (field estimate)	
2860	45			S-4	24 50/6"			CL-ML	@45': SANDY SILTY CLAY (CL-ML), hard, brown, slightly moist, fine sand, 60% fines (lab), low to medium plasticity	-200
2855	50			R-8	50/5"			CL-ML	@50': SANDY SILTY CLAY (CL-ML), hard, brown, slightly moist, fine sand, 70% fines (field estimate), low to medium plasticity	
2850	55								**Total Depth: 50.5' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2845	60									

The Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
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- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
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GEOTECHNICAL BORING LOG LB-5-6

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, trace gravel, 20% fines (field estimate)	
				S-1	19 20 15			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), dense, brown and white, slightly moist, medium sand, 10% fines (field estimate)	
2905	5			R-1	40 50/5"	124	3	SM	@5': SILTY SAND (SM), very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, 20% fines (field estimate)	
				S-2	14 15 15			SM	@7.5': SILTY SAND (SM), very dense, pinkish brown, slightly moist, fine to coarse sand, slightly cemented, 20% fines (field estimate)	
2900	10			R-2	15 36 50	125	1	SP-SM	@10': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2895	15			S-3	15 19 26			SP-SM	@15': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2890	20			R-3	26 50/4"			SP-SM	@20': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, coarse sand, 10% fines (field estimate)	
2885	25								**Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
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GEOTECHNICAL BORING LOG LB-5-7

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2903'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	19 44 50/5"			ML	@2.5': SILT with Sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2905	5			R-2	50/6"	108	7	SC	@5': CLAYEY SAND (SC), very dense, tan, slightly moist, fine to coarse sand, 49% fines (lab)	-200
				R-3	29 50/6"				@7.5': No recovery	
2900	10			R-4	39 50/6"			SW-SM	@10': Soil cuttings: Well graded SAND with Silt and Gravel (SW-SM), light brown, slightly moist, fine to coarse sand, 15% gravel (field estimate), 6% fines (lab)	
2895	15			S-1	20 29 36			SW-SM	@15': Well graded SAND with Silt and Gravel (SW-SM), very dense, grayish white, slightly moist, coarse sand, 15% gravel, 10% fines (field estimate)	-200
2890	20			R-5	50/6"			ML	@20': SILT with Sand (ML), hard, light brown, slightly moist, fine sand, 80% fines (field estimate), low plasticity	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	25									
2880	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
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- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
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GEOTECHNICAL BORING LOG LB-5-8

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2907'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to coarse sand, 30% fines (field estimate)	
				R-1	14 22 34	136	2	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
2910										
	5			R-2	35 35 36			SP-SM	@5': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
				R-3	25 50/6"			SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
2905										
	10			R-4	18 36 50			SP	@10': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2900										
	15			S-1	14 20 21			SP	@15': Poorly graded SAND (SP), dense, grayish brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2895										
	20			R-5	29 50/6"			SP-GP	@20': Poorly graded SAND with Gravel (SP-GP), very dense, grayish brown, slightly moist, coarse sand, trace gravel, 5% fines, 15% gravel (field estimate)	
									Total Depth: 21' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2890										
	25									
2885										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
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- PP POCKET PENETROMETER
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- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

GEOTECHNICAL BORING LOG LB-5-9

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2906'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, medium sand, 10% fines (field estimate)	
2910				R-1	34 50/6"	127	4	SP-SM	@2.5': Poorly graded SAND with silt (SP-SM), very dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
	5			R-2	25 50/6"				@5': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
2905				S-1	33 21 31			SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, slightly cemented, 10% fines (field estimate)	
	10			R-3	41 50/4"	131	2	SP	@10': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2900										
	15			S-2	21 22 35			SP	@15': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2895										
	20			R-4	50/5"			SP	@20': Poorly graded SAND (SP), very dense, grayish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2890										
	25			S-3	22 41 50/4"			ML	@25': SANDY SILT (ML), hard, tan, slightly moist, fine sand, 60% fines (field estimate), low plasticity	
2885										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
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- RV R VALUE
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- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-5-9

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2906'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-5	40 50/3"			CL	@30': LEAN CLAY (CL), hard, dark brown, slightly moist, high strength and toughness, 90% fines (field estimate), medium plasticity	
2880									**Total Depth: 31' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
	35									
2875										
	40									
2870										
	45									
2865										
	50									
2860										
	55									
2855										
	60									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
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- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-5-10

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2907'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with silt (SP-SM), brown, dry, fine to medium sand, 10% fines (field estimate)	RV, MD, SA
				R-1	36 31 42	99	8	SM	@2.5': SILTY SAND (SM), dense, light brown, fine to coarse sand, slightly cemented, 15% fines (field estimate)	
2910	5			R-2	26 32 44			SM	@5': SILTY SAND (SM), dense, light brown, fine to coarse sand, slightly cemented, 15% fines (field estimate)	
				R-3	29 50/6"	120	2	SP	@7.5': Poorly graded SAND (SP), very dense, olive brown, coarse sand, slightly moist, 5% fines (field estimate)	
2905	10			R-4	39 43 50			SP	@10': Poorly graded SAND (SP), very dense, olive brown, coarse sand, slightly moist, 5% fines (field estimate)	
2900	15			S-1	10 12 13			SP	@15': Poorly graded SAND (SP), very dense, olive brown, coarse sand, slightly moist, 5% fines (field estimate)	
2895	20			R-5	39 50/6"			SP	@20': Poorly graded SAND (SP), very dense, olive brown, coarse sand, slightly moist, 5% fines (field estimate)	
2890	25								**Total Depth: 21' bgs** **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
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GEOTECHNICAL BORING LOG LB-5-11

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with silt (SP-SM), brown, dry, fine to medium sand, 10% fines (field estimate)	
				R-1	21 40 50/5"			ML	@2.5': SILT with Sand (ML), hard, tan, slightly moist, fine sand, 85% fines (field estimate), low plasticity	
2905										
	5			R-2	21 38 34	121	6	SP	@5': Poorly graded SAND (SP), dense, gray, slightly moist, fine sand, 5% fines (field estimate)	
				R-3	17 34 50			SP	@7.5': Poorly graded SAND (SP), dense, gray, slightly moist, coarse sand, 5% fines (field estimate)	
2900										
	10			R-4	34 50/6"				@10': No recovery	
2895										
	15			S-1	15 18 31			SP	@15': Poorly graded SAND (SP), dense, gray white, slightly moist, coarse sand, 5% fines (field estimate)	
2890										
	20			R-5	35 50/4"			SP	@20': Poorly graded SAND (SP), dense, olive brown, slightly moist, coarse sand, 5% fines (field estimate)	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2885										
	25									
2880										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

GEOTECHNICAL BORING LOG LB-6-1

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2910				R-1	50/5"			SC	@2.5': CLAYEY SAND (SC): very dense, white and brown, slightly moist, medium to coarse sand, cemented, 40% fines (field estimate)	
	5			R-2	50/6"			SP-SM	@5': Poorly graded SAND with Silt (SP-SM): very dense, reddish brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
2905				R-3	28 27 42			SP	@7.5': Poorly graded SAND with Gravel (SP): dense, brown/white variegated, slightly moist, medium to coarse sand, 15% gravel, 5% fines (field estimate) -1 inch diameter cobbles in sampler	
	10			R-4	26 50/6"			SP	@10': Poorly graded SAND with Gravel (SP): very dense, light brown, slightly moist, medium to coarse sand, 15% gravel, 5% fines (field estimate)	
2900										
	15			S-1	26 38 50			SP	@15': Poorly graded SAND with Gravel (SP): very dense, white/gray, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2895										
	20			R-5	50/6"			SC	@20': CLAYEY SAND (SC): very dense, dark brown, slightly moist, fine to coarse sand, cemented, 45% fines (field estimate)	
2890										
	25			S-2	29 37 50/4"			ML	@25': SILT with SAND (ML): hard, tan, slightly moist, fine sand, slight oxidation, 85% low plasticity fines (field estimate)	
2885										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-1

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	50/4"			SC	@30': SILT with SAND (ML): hard, tan, slightly moist, fine sand, slight oxidation, 85% low plasticity fines (field estimate)	
2880										
	35			S-3	15 29 38			SC	@35': SILT with SAND (ML): hard, tan, slightly moist, fine sand, slight oxidation, 85% low plasticity fines (field estimate)	
2875										
	40			R-7	36 50/3"			SC	@40': SILT with SAND (ML): hard, olive, slightly moist, fine sand, slight oxidation, 80% low plasticity fines (field estimate)	
2870										
	45			S-4	10 4 5			SP	@45': Poorly graded SAND (SP): loose, olive brown, slightly moist, fine to medium sand, 5% fines (field estimate) @shoe of sampler: SILT (ML): brown and white, slightly moist, 90% low plasticity fines	
2865										
	50			R-8	50/5"			SM	@50': SILTY SAND (SM): very dense, pinkish brown, slightly moist, fine to coarse sand, slightly cemented, 25% fines (field estimate)	
2860									Total Depth: 50.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	55									
2855										
	60									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-6-2

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2910'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	50/6"	112	5	SM	@2.5': SILTY SAND (SM), very dense, brown, dry, fine to coarse sand, slightly cemented, 45% fines (field estimate)	
2910										
	5			R-2	40 50/4"	116	3	SM	@5': SILTY SAND (SM), very dense, brown, dry, fine to coarse sand, slightly cemented, 40% fines (field estimate)	
				R-3	34 50/6"			SP	@7.5': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, slightly cemented, 5% fines (field estimate)	
2905										
	10			R-4	40 50/6"			SP	@10': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, slightly cemented, 5% fines (field estimate)	
									@12': Auger grinding to 15'	
2900										
	15			S-1	50/6"			SP	@15': Poorly graded SAND (SP), very dense, light brown, slightly moist, coarse sand, slightly cemented, 5% fines (field estimate)	
2895										
	20			R-5	50/5"			ML	@20': SILT (ML), hard, tan, slightly moist, 90% fines (field estimate), low plasticity	
									Total Depth: 21.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2890										
	25									
2885										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-3

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2913'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2920	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	EI, CR, RV
				R-1	16 14 16	112	1	SP	@2.5': Poorly graded SAND with Gravel (SP): medium dense, light brown, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2915	5			R-2	9 11 17		2	SP-SM	@5': Poorly graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, fine sand, trace of gravel, 10% fines (field estimate)	
2910	10			R-3	24 50/5"			SP	@10': Poorly graded SAND with Gravel (SP): very dense, light brown, slightly moist, coarse sand, 35% gravel, 5% fines (field estimate) -2 inch diameter cobble in show	
2905	15			S-1	18 27 34			SP	@15': Poorly graded SAND (SP): very dense, light brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2900	20			R-4	25 50/6"			SP	@20': Poorly graded SAND (SP): very dense, light brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate) -1.5 inch cobble found in shoe	
2895	25			S-2	25 50/6"			ML	@25': SANDY SILT (ML): hard, tan, slightly moist, fine sand, 60% low plasticity fines (field estimate)	
2890	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-3

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2913'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2890	30			R-5	50/6"			SM	@30': SILTY SAND (SM): very dense, tan, slightly moist, fine sand, 35% fines (field estimate)	
									Total Depth: 30.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
2885	35									
2880	40									
2875	45									
2870	50									
2865	55									
2860	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-4

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2910'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2915				R-1	17 20 22			SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, medium to coarse sand, 10% fines (field estimate)	
	5			R-2	13 13 22	96	1	SP-SM	@5': Poorly graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, medium to coarse sand, trace of gravel and fine cobbles, 10% fines (field estimate)	
2910				R-3	50/4"			SP-SM	@7.5': Poorly graded SAND with Silt (SP-SM): very dense, white/ brown, slightly moist, medium to coarse sand, trace of gravel, 10% fines (field estimate)	
	10			R-4	30 42 50/5"	98	1	SP	@10': Poorly graded SAND (SP): very dense, grayish brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2905										
	15			S-1	17 25 32			SP	@15': Poorly graded SAND (SP): very dense, grayish brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2900										
	20			R-5	25 50/6"				@20': NO RECOVERY	
2895									Total Depth: 21' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2890										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
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- H HYDROMETER
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- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-5

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2908'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2910				R-1	42 50/4"	121	7	SM	@2.5': SILTY SAND (SM): very dense, white and brown, slightly moist, medium to coarse sand, slightly cemented, 20% fines (field estimate)	
	5			R-2	50/5"			SM	@5': SILTY SAND (SM): very dense, white and brown, slightly moist, medium to coarse sand, slightly cemented, 25% fines (field estimate)	
2905				R-3	29 50/5"	109	9	CL	@7.5': Sandy LEAN CLAY (CL): hard, tan, slightly moist, low toughness, 60% fines (lab)	-200, AL
	10			R-4	50/6"			ML	@10': SANDY SILT (ML): hard, tan, slightly moist, fine sand, 65% low plasticity fines (field estimate)	
2900										
	15			S-1	15 23 26			ML	@15': SANDY SILT (ML): hard, tan, slightly moist, fine sand, 55% low plasticity fines (field estimate)	
2895										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM): very dense, white and brown, slightly moist, fine sand, slightly cemented, 30% fines (field estimate)	
2890									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2885										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-6

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2909'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
				R-1	7 9 12	106	2	SW	@2.5': Well graded SAND (SW), medium dense, reddish brown, slightly moist, medium sand, slightly cemented, 5% fines (field estimate)	
2915										
	5			R-2	7 12 15			SW	@5': Well graded SAND (SW), medium dense, yellowish brown, slightly moist, medium sand, slightly cemented, 10% fines (field estimate)	
				R-3	17 24 27			SW	@7.5': Well graded SAND (SW), medium dense, reddish brown, slightly moist, medium sand, slightly cemented, trace gravel, 10% fines (field estimate)	CO
2910										
	10			R-4	17 25 50	108	1	SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), dense, grayish light brown, slightly moist, coarse sand, 20% gravel, 5% fines (field estimate)	
2905										
	15			S-1	25 30 27			SW-SM	@15': Well graded SAND with Silt (SW-SM), very dense, white, slightly moist, fine to coarse sand, trace gravel, 6% fines (lab)	-200
2900										
	20			R-5	50/6"			SM	@20': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, trace gravel, 30% fines (field estimate)	
									Total Depth: 20.5' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2895										
	25									
2890										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
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- CR CORROSION
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Leighton

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GEOTECHNICAL BORING LOG LB-6-7

Project No.	RC23280	**Date Drilled**	11-3-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2907'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2915	0			B-1				SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND with Silt (SP-SM), brown, dry, medium sand, 10% fines (field estimate)	
				R-1	50/5"	122	2	SP-SM	@2.5': Poorly graded SAND with Silt (SP-SM), very dense, reddish brown, dry, coarse sand, slightly cemented, 10% fines (field estimate)	
2910	5			R-2	50/6"			SP-SM	@5': Poorly graded SAND with Silt (SP-SM), very dense, reddish brown, dry, coarse sand, slightly cemented, 10% fines (field estimate)	
				R-3	38 50/5"	120	3	SP-GP	@7.5': Poorly graded SAND with Gravel (SP-GP), very dense, reddish brown, slightly moist, coarse sand, 20% gravel, 5% fines (field estimate), approximately 2-inch cobble found in shoe of sampler	
2905	10			R-4	26 34 50			SP-GP	@10': Poorly graded SAND with Gravel (SP-GP), very dense, reddish brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2900	15			S-1	26 33 45			ML	@15': SANDY SILT (ML), hard, brown, slightly moist, fine to coarse sand, 70% fines (field estimate), low plasticity	
2895	20			R-5	38 50/5"			CL	@20': LEAN CLAY (CL), hard, brown, slightly moist, high toughness and dry strength, 40% fines (field estimate), medium plasticity	
									Total Depth: 21' bgs **No groundwater encountered during drilling** **Boring backfilled with soil cuttings to surface.**	
2890	25									
2885	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-8

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2916'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2920				R-1	7 7 8	108	1	SP	@2.5': Poorly Graded SAND (SP): loose, light brown, slightly moist, coarse sand, 5% fines (field estimate)	
	5			R-2	8 17 18	116	1	SP	@5': Poorly Graded SAND (SP): medium dense, light brown, slightly moist, coarse sand, trace of gravel, 5% fines (field estimate)	
2915				R-3	18 50/6"			SP-SM	@7.5': Poorly Graded SAND with Silt (SP-SM): very dense, light brown, slightly moist, coarse sand, trace of gravel and fine cobbles, 5% fines (field estimate)	-200
	10			R-4	20 50/6"			SP	@10': Poorly Graded SAND (SP): very dense, light brown, slightly moist, coarse sand, trace of gravel, 5% fines (field estimate)	
2910										
	15			S-1	17 15 30			SP	@15': Poorly Graded SAND (SP): dense, light brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
2905										
	20			R-5	36 50/6"				@20': NO RECOVERY	
2900									Total Depth: 21' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-9

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2914'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2920				R-1	26 35 44	119	3	SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, 10% fines (field estimate)	
	5			R-2	28 44 34			SP	@5': Poorly Graded SAND with Gravel (SP): dense, grayish brown, slightly moist, fine to coarse sand, 15% gravel, 5% fines (field estimate)	
2915				R-3	17 50/6"	106	1	SP	@7.5': Poorly Graded SAND with Gravel (SP): very dense, grayish brown, slightly moist, fine to coarse sand, 15% gravel, 5% fines (field estimate) -2.5 inch diameter cobble stuck in shoe of sampler	
	10			R-4	26 50/6"			SP	@10': Poorly Graded SAND with Gravel (SP): very dense, grayish brown, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2910										
	15			S-1	15 22 35			SP	@15': Poorly Graded SAND (SP): very dense, grayish brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
2905										
	20			R-5	35 50/5"			SM	@20': SILTY SAND (SM): hard, tan, slightly moist, fine sand, 23% fines (lab)	-200
2900									Total Depth: 21' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
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- DS DIRECT SHEAR
- EI EXPANSION INDEX
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- PP POCKET PENETROMETER
- RV R VALUE
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- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-10

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2912'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
				R-1	40 50/4"			SP-SM	@2.5': Poorly graded SAND with silt (SP-SM): very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, 10% fines (field estimate)	
2915	5			R-2	50/6"	107	2	SP-SM	@5': Poorly graded SAND with silt (SP-SM): very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, trace of gravel and cobble, 10% fines (field estimate)	
				R-3	50/6"			SP-SM	@7.5': Poorly graded SAND with silt (SP-SM): very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, trace of gravel and cobble, 10% fines (field estimate)	
2910	10			R-4	50/6"			SP-SM	@10': Poorly graded SAND with silt (SP-SM): very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, trace of gravel and cobble, 10% fines (field estimate)	
2905	15			S-1	20 33 32			SM	@15': SILTY SAND (SM): very dense, tan, slightly moist, fine sand, 18% fines (lab)	-200
2900	20			R-5	25 50/5"			SP	@20': Poorly graded SAND (SP): very dense, grayish brown, slightly moist, fine to medium sand, 5% fines (field estimate)	
2895	25			S-2	34 50/6"			ML SP	@25': SILT with SAND (ML): light brown, slightly moist, fine sand, 85% low plasticity fines (field estimate) @25.5': Poorly graded SAND (SP): very dense, grayish brown, slightly moist, fine sand, 5% fines (field estimate)	
2890	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
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- RV R VALUE
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- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-6-10

Project No.	RC23280	**Date Drilled**	11-6-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2912'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	50/6"			CL-ML	@30': SANDY SILTY CLAY (CL-ML): hard, tan, slightly moist, fine sand, 52% fines (lab)	-200
									Total Depth: 30.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
2885	35									
2880	40									
2875	45									
2870	50									
2865	55									
2860	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
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- CR CORROSION
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Leighton

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GEOTECHNICAL BORING LOG LB-7-1

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2916'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	RV
2920				R-1	20 25 24	100	6	SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
	5			R-2	12 19 30			SP-SM	@5': Poorly Graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, fine to coarse sand, trace of gravel, 7% fines (lab)	-200
2915				R-3	12 19 24			SP-SM	@7.5': Poorly Graded SAND with Silt (SP-SM): very dense, grayish brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	CO
	10			R-4	18 50/6"			GP	@10': Poorly Graded GRAVEL with Sand (GP): very dense, light brown, slightly moist, fine to coarse gravel, 30% coarse sand, 5% fines (field estimate) -Cobbles present in sampler	
2910										
	15			S-1	18 24 31			SP	@15': Poorly Graded SAND with Gravel (SP): very dense, grayish brown, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2905										
	20			R-5	50/5"			ML	@20': SILT with Sand (ML): hard, brown, slightly moist, fine sand, 80% low plasticity fines (field estimate)	
2900									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
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Leighton

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GEOTECHNICAL BORING LOG LB-7-2

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2910'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2915				R-1	12 16 19	114	3	SM	@2.5': SILTY SAND (SM): medium dense, brown, slightly moist, fine to coarse sand, 30% fines (field estimate)	
	5			R-2	19 30 50			SM	@5': SILTY SAND (SM): dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, 15% fines (field estimate)	
2910				R-3	50/5"				@7.5': NO RECOVERY	
	10			R-4	50/6"			SM	@10': SILTY SAND (SM): very dense, pinkish brown, slightly moist, medium to coarse sand, slightly cemented, 20% fines (field estimate)	
2905										
	15			S-1	15 31 40			ML	@15': SILT with Sand (ML): hard, tan, slightly moist, fine sand, 80% low plasticity fines (field estimate)	
2900										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM): very dense, brown, slightly moist, medium to coarse sand, slightly cemented, 25% fines (field estimate)	
2895									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2890										
	30									

SOIL DESCRIPTION: This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
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- DS DIRECT SHEAR
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- PP POCKET PENETROMETER
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- SE SAND EQUIVALENT
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Leighton

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GEOTECHNICAL BORING LOG LB-7-3

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2918'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 20% fines (lab)	DS, MD, SA
				R-1	10 19 40	120	4	SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): dense, grayish brown, slightly moist, fine to coarse sand, slightly cemented, 10% fines (field estimate)	
2920										
	5			R-2	24 25 34			SP-SM	@5': Poorly Graded SAND with Silt (SP-SM): dense, grayish brown, slightly moist, fine to coarse sand, slightly cemented, trace of gravel, 10% fines (field estimate)	
				R-3	50/3"				@7.5': NO RECOVERY	
2915										
	10			R-4	50/3"			SW-SM	@10': NO RECOVERY From Cuttings: Well-graded SAND with Gravel (SW-SM): very dense, light brown, slightly moist, coarse sand, trace of gravel, 5% fines (field estimate)	
2910										
	15			S-1	50/6"			SW-SM	@15': Well-graded SAND with Gravel (SW-SM): very dense, grayish white, slightly moist, fine to medium sand, trace of gravel, 7% fines (lab)	SA
2905										
	20			R-5	29 50/6"			SW-SM	@20':Well-graded SAND with Gravel (SW-SM): very dense, gray, slightly moist, fine to coarse sand, 20% gravel, 5% fines (field estimate)	
2900										
	25			S-2	40 50/3"			SM	@25': SILTY SAND (SM): hard, tan, slightly moist, fine sand, 45% fines (lab)	SA
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
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- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-3

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2918'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	38 50/6"			SM	@30': SILTy SAND (SM): hard, brown, slightly moist, fine sand	
2890	35								Total Depth: 31' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
2885	40									
2880	45									
2875	50									
2870	55									
2865	60									

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SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
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- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
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- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
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Leighton

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GEOTECHNICAL BORING LOG LB-7-4

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2919'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2925				R-1	20 34 47			SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): dense, light brown, slightly moist, medium to coarse sand, slightly cemented, 10% fines (field estimate)	
	5			R-2	27 50/6"	111	2	SP-SM	@5': Poorly Graded SAND with Silt (SP-SM): very dense, light brown, slightly moist, medium to coarse sand, slightly cemented, 10% fines (field estimate)	
2920				R-3	23 50/6"			SP	@7.5': Poorly Graded SAND (SP): very dense, tannish brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
	10			R-4	16 43 50			SP	@10': Poorly Graded SAND with Gravel (SP): very dense, tannish brown, slightly moist, coarse sand, 20% gravel, 5% fines (field estimate)	
2915										
	15			S-1	18 27 35			SP	@15': Poorly Graded SAND (SP): very dense, tannish brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2910										
	20			R-5	50/4"			ML	@20': SILT (ML): hard, tan, slightly moist, 90% low plasticity fines (field estimate)	
2905									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2900										
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-5

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2916'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 40% fines (field estimate)	
2920				R-1	27 50/5"	97	3	SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): very dense, pinkish brown, slightly moist, medium to coarse sand, 10% fines (field estimate)	
	5			R-2	36 50/5"	120	3	SM	@5': SILTY SAND (SM): very dense, pinkish brown, slightly moist, fine to coarse sand, 20% fines (field estimate)	
2915				R-3	33 50/4"			SP-SM	@7.5': Poorly Graded SAND with Silt (SP-SM): very dense, light brown, slightly moist, medium to coarse sand, slightly cemented, trace of gravel, 10% fines (field estimate)	
	10			R-4	50/6"			GP	@10': Poorly Graded GRAVEL with Sand (GP): very dense, white and ligh brown variegated, slightly moist, fine to coarse gravel, 20% medium to coarse sand, 5% fines (field estimate)	
2910										
	15			S-1	22 50/5"			ML	@15': SILT with Sand (ML): hard, tan, slightly moist, fine sand, 80% low plasticity fines (field estimate)	
2905										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM): very dense, grayish brown, slightly moist, fine sand, 35% fines (field estimate)	
2900									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
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- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-6

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2921'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2925				R-1	10 21 24			SP	@2.5': Poorly Graded SAND (SP): dense, light brown, slightly moist, medium to coarse sand, 5% fines (field estimate)	
	5			R-2	14 27 32				@5': NO RECOVERY	
2920				R-3	40 50/6"			SM	@7.5': SILTY SAND (SM): very dense, light brown, slightly moist, medium to coarse sand, 13% fines (lab)	-200
	10			R-4	32 50/3"			SM	@10': SILTY SAND (SM): very dense, brown, slightly moist, medium to coarse sand, 10% fines (field estimate)	
2915										
	15			S-1	29 50/6"			ML	@15': SILT with Sand (ML): hard, tan, slightly moist, fine sand, 80% low plasticity fines (field estimate)	
2910										
	20			R-5	50/5"			SM	@20': SILTY SAND (SM): hard, tan, slightly moist, fine sand, 49% fines (lab)	-200
2905										
	25			S-2	39 50/6"			ML	@25': SILT with Sand (ML): hard, tan, slightly moist, fine sand, 85% low plasticity fines (field estimate)	
2900										
	30									

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SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
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- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-6

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2921'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R-6	29 50/6"				@30': NO RECOVERY	
2895									Total Depth: 31' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	35									
2890										
	40									
2885										
	45									
2880										
	50									
2875										
	55									
2870										
	60									

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SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
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Leighton

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GEOTECHNICAL BORING LOG LB-7-7

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2915'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B-1				SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	CR, RV
2920				R-1	28 42 50	111	3	SM	@2.5': SILTY SAND (SM): very dense, brown and white, slightly moist, medium to coarse sand, slightly cemented, 20% fines (field estimate)	
	5			R-2	28 50/6"			SM	@5': Poorly Graded SAND (SP): very dense, brown, slightly moist, medium to coarse sand, trace of gravel, 5% fines (field estimate)	
2915				R-3	22 50/6"				@7.5': NO RECOVERY	
	10			R-4	43 50/4"			SM	@10': Poorly Graded SAND with Gravel and Cobble (SP): very dense, light brown, slightly moist, fine to coarse sand, 30% gravel and cobble (up to 1.5 inches diameter), 5% fines (field estimate)	
2910										
	15			S-1	44 50/6"			ML	@15': SILT with Sand (ML): hard, tannish brown, slightly moist, fine sand, 85% low plasticity fines (field estimate)	
2905										
	20			R-5	50/6"			SM	@20': SILT with Sand (ML): hard, tannish brown, slightly moist, fine sand, 85% low plasticity fines (field estimate)	
2900									Total Depth: 20.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LB-7-8

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2914'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SP-SM	**Quaternary Alluvium(Qa)** @Surface: Poorly graded SAND (SP-SM): brown, dry, fine to medium sand	
2920				R-1	10 14 17			SP-SM	@2.5': Poorly graded SAND (SP-SM): medium dense, brown, slightly moist, fine to coarse sand	
	5			R-2	11 16 30	117	2	SP-SM	@5': Poorly graded SAND (SP-SM): medium dense, brown and white, slightly moist, fine to coarse sand, slightly cemented, 10% fines (lab)	-200
2915				R-3	50/6"			SP-SM	@7.5': Poorly graded SAND (SP-SM): very dense, brown and white, slightly moist, fine to coarse sand, slightly cemented	
	10			R-4	50/4"			SP-SM	@10': Poorly graded SAND (SP-SM): very dense, brown and white, slightly moist, fine to coarse sand, slightly cemented	
2910										
	15			S-1	31 44 40			ML	@15': SILT (ML): hard, tannish brown, slightly moist, 90% low plasticity fines (field estimate)	
2905										
	20			R-5	40 50/3"			ML	@20': SILT (ML): hard, tannish brown, slightly moist, 90% low plasticity fines (field estimate)	
2900									Total Depth: 21' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2895										
	30									

SAMPLE TYPES:
B BULK SAMPLE
C CORE SAMPLE
G GRAB SAMPLE
R RING SAMPLE
S SPLIT SPOON SAMPLE
T TUBE SAMPLE

TYPE OF TESTS:
-200 % FINES PASSING
AL ATTERBERG LIMITS
CN CONSOLIDATION
CO COLLAPSE
CR CORROSION
CU UNDRAINED TRIAXIAL
DS DIRECT SHEAR
EI EXPANSION INDEX
H HYDROMETER
MD MAXIMUM DENSITY
PP POCKET PENETROMETER
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UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-9

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2921'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
2925				R-1	40 50/2"	106	3	SM	@2.5': SILTY SAND (SM): very dense, grayish brown, slightly moist, fine to medium sand, slightly cemented, trace of gravel, 15% fines (field estimate)	
	5			R-2	50/6"	116	3	SP-SM	@5': Poorly Graded SAND with Silt (SP-SM): very dense, brown, slightly moist, fine to coarse sand, 10% fines (field estimate)	
2920				R-3	50/6"			SP-SM	@7.5': Poorly Graded SAND with Silt (SP-SM): very dense, brown, slightly moist, medium to coarse sand, trace of gravel, 10% fines (field estimate)	
	10			R-4	38 50/5.5"			SP	@10': Poorly Graded SAND with Gravel (SP): very dense, grayish brown, slightly moist, coarse sand, 20% gravel, 5% fines (field estimate)	
2915										
	15			S-1	18 21 40			SP-SM	@15': Poorly Graded SAND with Silt (SP-SM): very dense, grayish white, slightly moist, fine to coarse sand, trace of gravel, 10% fines (field estimate)	
2910										
	20			R-5	40 50/5"			SP	@20': Poorly Graded SAND (SP): very dense, light brown, slightly moist, medium to coarse sand, 5% fines (field estimate)	
2905									Total Depth: 21' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
	25									
2900										
	30									

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SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LB-7-10

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2920'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2925	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 40% fines (field estimate)	
				R-1	10 12 12			SP-SM	@2.5': Poorly Graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, fine to coarse sand, 5% fines (field estimate)	
2920	5			R-2	6 12 20	115	2	SP-SM	@5': Poorly Graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, coarse sand, 5% fines (field estimate)	
				R-3	15 32 38			SP-SM	@7.5': Poorly Graded SAND with Silt (SP-SM): dense, light brown, slightly moist, medium to coarse sand, slightly cemented, trace of gravel, 5% fines (lab)	-200
2915	10			R-4	28 50/6"	114	1	SP	@10': Poorly Graded SAND with Gravel (SP): very dense, grayish brown, slightly moist, coarse sand, 15% gravel, 5% fines (field estimate)	
2910	15			S-1	38 32 34			SP-SM	@15': Poorly Graded SAND with Silt (SP-SM): very dense, grayish brown, slightly moist, fine to coarse sand, trace of gravel, 10% fines (field estimate)	
2905	20			R-5	50/5"			SC	@20': CLAYEY SAND (SC): hard, tan, slightly moist, fine sand, 48% (lab)	-200, AL
2900	25			S-2	40 50/3"			SC	@25': CLAYEY SAND (SC): hard, tan, slightly moist,	
2895	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
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Leighton

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GEOTECHNICAL BORING LOG LB-7-10

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2920'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2895	30			R-6	50/4"			SM	@30': SILTY SAND (SM): very dense, grayish brown, slightly moist, fine to coarse sand, slightly cemented, 40% fines (field estimate)	
2890	35			S-3	20 45 50/5"			ML	@35': SILT (ML): hard, tan, slightly moist, slight oxidation present, 90% low plasticity fines (field estimate)	
2885	40			R-7	50/5"			SM	@40': SILTY SAND (SM): very dense, light gray, slightly moist, fine to medium sand, 35% fines (field estimate)	
2880	45			S-4	30 34 40			SM	@45': SILTY SAND (SM): very dense, orange/ light brown, slightly moist, fine to medium sand, 35% fines (field estimate)	
2875	50			R-8	50/6"			CL	@50': LEAN CLAY (CL): hard, brown, slightly moist, high dry strength, 95% medium plasticity fines (field estimate)	
2870	55								Total Depth: 50.5' bgs No groundwater encountered during drilling Boring backfilled with soil cuttings to surface.	
2865	60									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
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- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-1

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2898'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 35% fines (field estimate)	
2900				S-1	10 11 11			SP	@3': Poorly graded SAND (SP), medium dense, orange brown, slightly moist, coarse sand, 5% fines (field estimate)	
	5			S-2	7 6 8			SP	@6': Poorly graded SAND (SP), medium dense, orange brown, slightly moist, coarse sand, 4% fines (lab)	-200
2895									**Total Depth: 8' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
	10									
2890										
	15									
2885										
	20									
2880										
	25									
2875										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-2

Project No.	RC23280	**Date Drilled**	10-26-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2899'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2900	5								@5': Poorly graded SAND with Silt (SP-SM), reddish brown, slightly moist, coarse sand, 5% fines (field estimate)	
2895	10			S-1	50/6"			SM	@10': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 30% fines (field estimate)	
2890	15			S-2	32 50/6"			SM	@13.5': SILTY SAND (SM), very dense, tan, slightly moist, fine sand, 6% fines (field estimate)	SA
									Total Depth: 15' bgs **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2885	20									
2880	25									
2875	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-3

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2898'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2900	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
				S-1	15 16 23			SP-SM	@3': Poorly graded SAND with Silt (SP-SM), dense, light brown, slightly moist, coarse sand, trace gravel, 10% fines (field estimate)	
	5									
2895				S-2	11 15 21			SW-SM	@6': Well graded SAND with Silt and Gravel (SW-SM), dense, light brown, slightly moist, coarse sand, 24% gravel, 6% fines (lab)	
									Total Depth: 8' bgs **No groundwater encountered during drilling** **Converted to infiltration boring.**	
	10									
2890										
	15									
2885										
	20									
2880										
	25									
2875										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-4

Project No.	RC23280	**Date Drilled**	10-31-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2900'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
2895										
	5								@5': Poorly graded SAND (SP), brown, slightly moist, coarse sand, trace gravel, 5% fines (field estimate)	
2890										
	10			S-1	30 28 40			SW-SM	@10': Well graded SAND with Silt and Gravel (SW-SM), very dense, light brown, slightly moist, coarse sand, slightly cemented, 15% gravel (field estimate), 10% fines (lab)	-200
2885				S-2	10 15 28			CL	@13': SANDY LEAN CLAY (CL), hard, tan, slightly moist, fine sand, 58% fines (lab), medium plasticity	-200
	15								**Total Depth: 15' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2880										
	20									
2875										
	25									
2870										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LI-5

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2915	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
				S-1	3 5 8			SP-SM	@3': Poorly graded SAND with Silt (SP-SM), medium dense, brown, slightly moist, coarse sand, 10% fines (field estimate)	
2910	5			S-2	7 9 13			SW-SM	@6': Well graded SAND with Silt (SW-SM), medium dense, gray, slightly moist, medium sand, 5% fines (lab)	SA
2905	10								**Total Depth: 8' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2900	15									
2895	20									
2890	25									
2885	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LI-6

Project No.	RC23280	**Date Drilled**	11-2-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2903'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
2910	5							SP-SM	@5': Poorly graded SAND with Silt (SP-SM), grayish brown, slightly moist, coarse sand, trace gravel, 10% fines (field estimate)	
2905	10			S-1	11 22 15			SP	@10': Poorly graded SAND (SP), dense, olive brown, slightly moist, medium sand, 5% fines (field estimate)	
2900	15			S-2	15 22 40			SW-SM	@13': Well graded SAND with Silt and Gravel (SW-SM), very hard, slightly moist, fine sand, 15% gravel (field estimate), 12% fines (lab)	-200
									Total Depth: 15' bgs **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2895	20									
2890	25									
2885	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

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GEOTECHNICAL BORING LOG LI-7

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2902'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 20% fines (field estimate)	
2905										
	5								@5': Poorly graded SAND with Silt (SP-SM), brown, slightly moist, coarse sand, 10% fines (field estimate)	
2900										
	10			S-1	10 13 26			SP-SM	@10': Poorly graded SAND with Silt (SP), dense, light brown, slightly moist, coarse sand	
2895				S-2	25 28 46			SP-SM	@13': Poorly graded SAND with Silt (SP-SM), very dense, light brown, slightly moist, coarse sand, 11% fines (lab)	SA
	15								**Total Depth: 15' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2890										
	20									
2885										
	25									
2880										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-8

Project No.	RC23280	**Date Drilled**	11-1-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2901'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM), brown, dry, fine to medium sand, 30% fines (field estimate)	
2900				S-1	8 20 18			SM	@3': @Surface: SILTY SAND (SM), medium dense, brown, dry, fine to coarse sand, slightly cemented, 20% fines (field estimate)	
	5									
				S-2	8 14 19			SP-SM	@6': Poorly graded SAND with Silt and Gravel (SP-SM), dense, brown, slightly moist, coarse sand, 6% fines (lab)	-200
2895										
	10								**Total Depth: 8' bgs** **No groundwater encountered during drilling** **Converted to infiltration boring.**	
2890										
	15									
2885										
	20									
2880										
	25									
2875										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-9

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2905'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2910	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 35% fines (field estimate)	
				S-1	11 16 9			SP	@3': Poorly Graded SAND (SP): medium dense, light brown, slightly moist, fine to coarse sand, trace of gravel, 5% fines (field estimate)	
	5									
2905				S-2	12 12 15			SP	@6': Poorly Graded SAND with Gravel (SP): medium dense, light brown, slightly moist, coarse sand, trace of gravel, 4% fines (lab)	-200
	10								Total Depth: 8' bgs No groundwater encountered during drilling Infiltration Test Performed at 3 to 8' bgs Boring backfilled with soil cuttings to surface.	
2900										
	15									
2895										
	20									
2890										
	25									
2885										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-10

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2910'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2920	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 35% fines (field estimate)	
2915	5			S-1	16 18 21			SW-SM	@5': Well graded SAND with Silt (SW-SM): dense, light brown, slightly moist, medium to coarse sand, trace of gravel, 10% fines (field estimate)	
				S-2	14 18 22			SW-SM	@7.5': Well graded SAND with Silt (SW-SM): dense, light brown, slightly moist, fine to coarse sand, trace of gravel, 6% fines (lab)	SA
2910	10								Total Depth: 10' bgs No groundwater encountered during drilling Infiltration Test Performed at 5 to 10' bgs Boring backfilled with soil cuttings to surface.	
2905	15									
2900	20									
2895	25									
2890	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-11

Project No.	RC23280	**Date Drilled**	11-8-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2912'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
2920	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 30% fines (field estimate)	
				S-1	6 9 12			SP-SM	@3': Poorly graded SAND with Silt (SP-SM): medium dense, white and brown, slightly moist, medium to coarse sand, slightly cemented, 9% fines (lab)	-200
2915	5			S-2	9 13 14			SP-SM	@6': Poorly Graded SAND with Silt (SP-SM): medium dense, light brown, slightly moist, medium to coarse sand, 5% fines (lab)	-200
2910	10								Total Depth: 8' bgs No groundwater encountered during drilling Infiltration Test Performed at 3 to 8' bgs Boring backfilled with soil cuttings to surface.	
2905	15									
2900	20									
2895	25									
2890	30									

Exploration Location Map

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

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GEOTECHNICAL BORING LOG LI-12

Project No.	RC23280	**Date Drilled**	11-7-23
Project	Synergy Adelanto Warehouse	**Logged By**	AA
Drilling Co.	2R Drilling, Inc.	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	2922'
Location	See Figure 2 -*Exploration Location Map*	**Sampled By**	AA

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**Quaternary Alluvium(Qa)** @Surface: SILTY SAND (SM): brown, dry, fine to medium sand, 35% fines (field estimate)	
2930										
	5							SM	@5': SILTY SAND (SM): brown, slightly moist, fine to coarse sand, 25% fines (field estimate)	
2925										
	10			S-1	19 22 40			SP-SM	@10': Well Graded SAND with Silt and Gravel (SW-SM): very dense, olive brown, slightly moist, fine sand, micaceous, 10% fines (field estimate)	
2920				S-2	22 40 42			SP-SM	@13': Well Graded SAND with Silt and Gravel (SW-SM): very dense, olive brown, slightly moist, medium to coarse sand, 6% fines (lab)	SA
	15								Total Depth: 15' bgs No groundwater encountered during drilling Infiltration Test Performed at 10 to 15' bgs Boring backfilled with soil cuttings to surface.	
2915										
	20									
2910										
	25									
2905										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

Results of Well Permeameter, from USBR 7300-89 Method

Leighton 60th Anniversary

Project:	RC23280	Initial estimated Depth to Water Surface (in.):	88
Exploration #/Location:	*LI-1*	Average depth of water in well, "h" (in.):	8
Depth Boring drilled, bgs (ft):	8	approx. h/r:	2.1
Tested by:	JP	Tu (Fig. 8) (ft):	92.7
USCS Soil Type in test zone:	SP-SM	Tu>3h?:	yes, OK
Weather (start to finish):	Overcast		
Water Source/pH:	Tap		
Measured boring diameter:	8 in.	4 in. Well Radius	
Depth to GW or aquitard, bgs:	100 ft		
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area		

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	*in.*	*Total (in.)*	
Depth to bottom of well measured from top of auger (or ground surfac	8. ft	0. in.	96	Depth of well bottom below top of casing (in): 96
Casing stickup measured above top of auger (or ground surface) (+ is	0. ft	0. in.	0	
Depth to top of sand from top of casing	3. ft	0. in.		

Flow Meter ID: SN2000249 er Units: Gallons 0.05 gallons/pulse Data logger ID:

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

Field Data **Calculations**

Date	Time	Data from Flow Meter		Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date	Start time:	Reading (gallons)	Interval Pulse Count											from supply	from Δh	Total						
11/13/2023	13:00	Gallons		ft	in.																	
11/13/23	13:10	344.7		7.30					10	87.6	8.4											
11/13/23	13:12	348.82		7.30				2	12	87.6	8.4	0	8	952	0	952	476	28552	261	0.9	50.82	100.70
11/13/23	13:14	351.37		7.30				2	14	87.6	8.4	0	8	589	0	589	295	17671	261	0.9	31.46	62.33
11/13/23	13:16	355.12		7.30				2	16	87.6	8.4	0	8	866	0	866	433	25988	261	0.9	46.26	91.66
11/13/23	13:18	358.24		7.30				2	18	87.6	8.4	0	8	721	0	721	360	21622	261	0.9	38.49	76.26
11/13/23	13:20	361.4		7.30				2	20	87.6	8.4	0	8	730	0	730	365	21899	261	0.9	38.98	77.24
11/13/23	13:25	370.16		7.30				5	25	87.6	8.4	0	8	2024	0	2024	405	24283	261	0.9	43.23	85.64
11/13/23	13:30	379.03		7.30				5	30	87.6	8.4	0	8	2049	0	2049	410	24588	261	0.9	43.77	86.72
11/13/23	13:35	388.05		7.30				5	35	87.6	8.4	0	8	2084	0	2084	417	25003	261	0.9	44.51	88.19
11/13/23	13:40	396.67		7.30				5	40	87.6	8.4	0	8	1991	0	1991	398	23895	261	0.9	42.53	84.27
11/13/23	13:45	405.31		7.30				5	45	87.6	8.4	0	8	1996	0	1996	399	23950	261	0.9	42.63	84.47
11/13/23	13:50	414.4		7.30				5	50	87.6	8.4	0	8	2100	0	2100	420	25197	261	0.9	44.85	88.87
11/13/23	13:55	423.15		7.30				5	55	87.6	8.4	0	8	2021	0	2021	404	24255	261	0.9	43.18	85.55
11/13/23	14:00	432.03		7.30				5	60	87.6	8.4	0	8	2051	0	2051	410	24615	261	0.9	43.82	86.82
11/13/23	14:05	441.09		7.30				5	65	87.6	8.4	0	8	2093	0	2093	419	25114	261	0.9	44.71	88.58
11/13/23	14:10	450.07		7.30				5	70	87.6	8.4	0	8	2074	0	2074	415	24893	261	0.9	44.31	87.79
11/13/23	14:15	459.2		7.30				5	75	87.6	8.4	0	8	2109	0	2109	422	25308	261	0.9	45.05	89.26
11/13/23	14:20	468.06		7.30				5	80	87.6	8.4	0	8	2047	0	2047	409	24560	261	0.9	43.72	86.62
11/13/23	14:25	476.31		7.30				5	85	87.6	8.4	0	8	1906	0	1906	381	22869	261	0.9	40.71	80.66
11/13/23	14:30	484.6		7.30				5	90	87.6	8.4	0	8	1915	0	1915	383	22980	261	0.9	40.91	81.05
11/13/23	14:35	493.48		7.30				5	95	87.6	8.4	0	8	2051	0	2051	410	24615	261	0.9	43.82	86.82
11/13/23	14:40	502.53		7.30				5	100	87.6	8.4	0	8	2091	0	2091	418	25087	261	0.9	44.66	88.48
11/13/23	14:45	512.11		7.30				5	105	87.6	8.4	0	8	2213	0	2213	443	26556	261	0.9	47.27	93.66
11/13/23	14:50	521.3		7.30				5	110	87.6	8.4	0	8	2123	0	2123	425	25475	261	0.9	45.35	89.85
11/13/23	14:55	530.44		7.30				5	115	87.6	8.4	0	8	2111	0	2111	422	25336	261	0.9	45.10	89.36
11/13/23	15:00	539.32		7.30				5	120	87.6	8.4	0	8	2051	0	2051	410	24615	261	0.9	43.82	86.82
11/13/23	15:05	548.51		7.30				5	125	87.6	8.4	0	8	2123	0	2123	425	25475	261	0.9	45.35	89.85
11/13/23	15:10	557.68		7.30				5	130	87.6	8.4	0	8	2118	0	2118	424	25419	261	0.9	45.25	89.65
																			Minimum Rate:			62.33
																					Raw Rate for design, prior to application of adjustment factors:	**81.00**

Results of Falling Head Infiltration Test

Project:	RC23280
Exploration #/Location:	*LI-2*
Depth Boring drilled, bgs (ft):	15
Tested by:	JP
USCS Soil Type in test zone:	SM
Weather (start to finish):	Overcast
Water Source/pH:	Tap
Measured boring diameter:	8 in.
Depth to GW or aquitard, bgs:	100 ft
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

4 in. Well Radius

	ft	in.	Total (in.)
Depth to bottom of well measured from top of a	15. ft	4. in.	184
Casing stickup measured above top of auger (	0. ft	6. in.	6
Depth to top of sand from top of casing	10. ft	0. in.	

Depth of well bottom below top of casing (in): 190

Initial estimated Depth to Water Surface (in.):	155
Average depth of water in well, "h" (in.):	23
approx. h/r:	5.7
Tu (Fig. 8) (ft):	87.1
Tu>3h?:	yes, OK

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

Use of Barrels:	No
Use of Flow Meter:	No
Test Type:	Falling Head

Field Data **Calculations**

Date	Time	Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date	Start time:											from supply	from Δh	Total						
11/13/2023	10:00	ft	in.																	
11/13/23	10:01	13.75					1	159.0	25.0											
11/13/23	10:02	14.25				1	2	165.0	19.0	-6	22	0	104	104	104	6227	603	0.9	3.98	9.52
11/13/23	10:03	14.45				1	3	167.4	16.6	-2.4	18	0	42	42	42	2491	498	0.9	1.85	4.61
11/13/23	10:04	14.65				1	4	169.8	14.2	-2.4	15	0	42	42	42	2491	437	0.9	2.33	5.25
11/13/23	10:05	14.80				1	5	171.6	12.4	-1.8	13	0	31	31	31	1868	385	0.9	2.09	4.48
11/13/23	10:11	13.1					11	151.2	32.8											
11/13/23	10:12	13.6				1	12	157.2	26.8	-6	30	0	104	104	104	6227	799	0.9	2.33	7.18
11/13/23	10:13	13.9				1	13	160.8	23.2	-3.6	25	0	62	62	62	3736	679	0.9	1.71	5.08
11/13/23	10:14	14.3				1	14	165.6	18.4	-4.8	21	0	83	83	83	4981	573	0.9	3.29	8.01
11/13/23	10:33	12.7					33	146.4	37.6											
11/13/23	10:34	12.9				1	34	148.8	35.2	-2.4	36	0	42	42	42	2491	965	0.9	0.59	2.38
11/13/23	10:35	13.1				1	35	151.2	32.8	-2.4	34	0	42	42	42	2491	905	0.9	0.66	2.54
11/13/23	10:36	13.3				1	36	153.6	30.4	-2.4	32	0	42	42	42	2491	844	0.9	0.74	2.72
11/13/23	10:37	13.5				1	37	156.0	28.0	-2.4	29	0	42	42	42	2491	784	0.9	0.85	2.93
11/13/23	10:38	13.65				1	38	157.8	26.2	-1.8	27	0	31	31	31	1868	731	0.9	0.70	2.35
11/13/23	10:39	13.8				1	39	159.6	24.4	-1.8	25	0	31	31	31	1868	686	0.9	0.78	2.51
11/13/23	10:40	14.1				1	40	163.2	20.8	-3.6	23	0	62	62	62	3736	618	0.9	2.02	5.57
11/13/23	10:41	14.25				1	41	165.0	19.0	-1.8	20	0	31	31	31	1868	550	0.9	1.13	3.13
11/13/23	10:42	14.35				1	42	166.2	17.8	-1.2	18	0	21	21	21	1245	513	0.9	0.82	2.24
11/13/23	10:43	14.5				1	43	168.0	16.0	-1.8	17	0	31	31	31	1868	475	0.9	1.45	3.63
11/13/23	10:44	14.6				1	44	169.2	14.8	-1.2	15	0	21	21	21	1245	437	0.9	1.07	2.63
11/13/23	10:45	14.7				1	45	170.4	13.6	-1.2	14	0	21	21	21	1245	407	0.9	1.21	2.82
11/13/23	10:50	13					50	150.0	34.0											
11/13/23	10:51	13.3				1	51	153.6	30.4	-3.6	32	0	62	62	62	3736	860	0.9	1.13	4.01
11/13/23	10:52	13.55				1	52	156.6	27.4	-3	29	0	52	52	52	3113	777	0.9	1.10	3.70
11/13/23	10:53	13.8				1	53	159.6	24.4	-3	26	0	52	52	52	3113	701	0.9	1.31	4.09
11/13/23	10:54	14.05				1	54	162.6	21.4	-3	23	0	52	52	52	3113	626	0.9	1.60	4.59
11/13/23	10:55	14.3				1	55	165.6	18.4	-3	20	0	52	52	52	3113	550	0.9	2.01	5.21
11/13/23	10:56	14.45				1	56	167.4	16.6	-1.8	18	0	31	31	31	1868	490	2.9	4.32	11.01
11/13/23	10:57	14.65				1	57	169.8	14.2	-2.4	15	0	42	42	42	2491	437	2.9	7.29	16.45
11/13/23	11:02	12.9					62	148.8	35.2											
11/13/23	11:03	13.2				1	63	152.4	31.6	-3.6	33	0	62	62	62	3736	890	2.9	3.32	12.13
11/13/23	11:04	13.6				1	64	157.2	26.8	-4.8	29	0	83	83	83	4981	784	2.9	5.78	18.35
11/13/23	11:05	13.7				1	65	158.4	25.6	-1.2	26	0	21	21	21	1245	709	2.9	1.50	5.08
11/13/23	11:06	14				1	66	162.0	22.0	-3.6	24	0	62	62	62	3736	648	2.9	5.81	16.64
11/13/23	11:07	14.2				1	67	164.4	19.6	-2.4	21	0	42	42	42	2491	573	2.9	4.55	12.56
11/13/23	11:08	14.4				1	68	166.8	17.2	-2.4	18	0	42	42	42	2491	513	0.9	1.76	4.48
11/13/23	11:09	14.6				1	69	169.2	14.8	-2.4	16	0	42	42	42	2491	452	0.9	2.19	5.08
11/13/23	11:10	14.8				1	70	171.6	12.4	-2.4	14	0	42	42	42	2491	392	0.9	2.83	5.86
																	Minimum Rate:			2.24
																	Raw Rate for design, prior to application of adjustment factors:			**3.00**

Results of Falling Head Infiltration Test

Project:	RC23280
Exploration #/Location:	*LI-2*
Depth Boring drilled, bgs (ft):	15
Tested by:	JP
USCS Soil Type in test zone:	SM
Weather (start to finish):	Overcast
Water Source/pH:	Tap
Measured boring diameter:	8 in.
Depth to GW or aquitard, bgs:	100 ft
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

4 in. Well Radius

Initial estimated Depth to Water Surface (in.):	155
Average depth of water in well, "h" (in.):	23
approx. h/r:	5.8
Tu (Fig. 8) (ft):	87.1
Tu>3h?:	yes, OK

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	in.	Total (in.)
Depth to bottom of well measured from top of a	15. ft	4. in.	184
Casing stickup measured above top of auger (	0. ft	6. in.	6
Depth to top of sand from top of casing	10. ft	0. in.	

Depth of well bottom below top of casing (in): 190

Use of Barrels:	No
Use of Flow Meter:	No
Test Type:	Falling Head

Field Data **Calculations**

Date	Time	Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date	Start time:											from supply	from Δh	Total						
11/13/2023	10:00	ft	in.																	
11/13/23	11:18	12.85					78	148.2	35.8											
11/13/23	11:19	13.15				1	79	151.8	32.2	-3.6	34	0	62	62	62	3736	905	0.9	1.03	3.81
11/13/23	11:20	13.35				1	80	154.2	29.8	-2.4	31	0	42	42	42	2491	829	0.9	0.77	2.77
11/13/23	11:21	13.65				1	81	157.8	26.2	-3.6	28	0	62	62	62	3736	754	0.9	1.42	4.57
11/13/23	11:22	13.85				1	82	160.2	23.8	-2.4	25	0	42	42	42	2491	679	0.9	1.08	3.38
11/13/23	11:23	14.05				1	83	162.6	21.4	-2.4	23	0	42	42	42	2491	618	0.9	1.27	3.71
11/13/23	11:24	14.25				1	84	165.0	19.0	-2.4	20	0	42	42	42	2491	558	0.9	1.52	4.12
11/13/23	11:25	14.4				1	85	166.8	17.2	-1.8	18	0	31	31	31	1868	505	0.9	1.31	3.41
11/13/23	11:26	14.6				1	86	169.2	14.8	-2.4	16	0	42	42	42	2491	452	0.9	2.19	5.08
11/13/23	11:27	14.7				1	87	170.4	13.6	-1.2	14	0	21	21	21	1245	407	0.9	1.21	2.82
11/13/23	11:30	12.65					90	145.8	38.2											
11/13/23	11:31	13				1	91	150.0	34.0	-4.2	36	0	73	73	73	4359	958	0.9	1.11	4.20
11/13/23	11:32	13.3				1	92	153.6	30.4	-3.6	32	0	62	62	62	3736	860	0.9	1.13	4.01
11/13/23	11:33	13.5				1	93	156.0	28.0	-2.4	29	0	42	42	42	2491	784	0.9	0.85	2.93
11/13/23	11:34	13.7				1	94	158.4	25.6	-2.4	27	0	42	42	42	2491	724	0.9	0.97	3.17
11/13/23	11:35	13.9				1	95	160.8	23.2	-2.4	24	0	42	42	42	2491	664	0.9	1.13	3.46
11/13/23	11:36	14.15				1	96	163.8	20.2	-3	22	0	52	52	52	3113	596	0.9	1.75	4.82
11/13/23	11:37	14.35				1	97	166.2	17.8	-2.4	19	0	42	42	42	2491	528	0.9	1.67	4.35
11/13/23	11:38	14.45				1	98	167.4	16.6	-1.2	17	0	21	21	21	1245	483	0.9	0.91	2.38
11/13/23	11:39	14.6				1	99	169.2	14.8	-1.8	16	0	31	31	31	1868	445	0.9	1.63	3.87
11/13/23	11:40	14.75				1	100	171.0	13.0	-1.8	14	0	31	31	31	1868	400	0.9	1.96	4.31
11/13/23	11:43	12.7					103	146.4	37.6											
11/13/23	11:44	13				1	104	150.0	34.0	-3.6	36	0	62	62	62	3736	950	0.9	0.95	3.63
11/13/23	11:45	13.25				1	105	153.0	31.0	-3	33	0	52	52	52	3113	867	0.9	0.91	3.31
11/13/23	11:46	13.45				1	106	155.4	28.6	-2.4	30	0	42	42	42	2491	799	0.9	0.82	2.87
11/13/23	11:47	13.65				1	107	157.8	26.2	-2.4	27	0	42	42	42	2491	739	0.9	0.94	3.11
11/13/23	11:48	13.85				1	108	160.2	23.8	-2.4	25	0	42	42	42	2491	679	0.9	1.08	3.38
11/13/23	11:49	14.05				1	109	162.6	21.4	-2.4	23	0	42	42	42	2491	618	0.9	1.27	3.71
11/13/23	11:50	14.3				1	110	165.6	18.4	-3	20	0	52	52	52	3113	550	0.9	2.01	5.21
11/13/23	11:51	14.4				1	111	166.8	17.2	-1.2	18	0	21	21	21	1245	498	2.9	2.71	7.23
11/13/23	11:52	14.6				1	112	169.2	14.8	-2.4	16	0	42	42	42	2491	452	2.9	6.87	15.90
11/13/23	11:53	14.7				1	113	170.4	13.6	-1.2	14	0	21	21	21	1245	407	2.9	3.78	8.84
11/13/23	11:54	14.8				1	114	171.6	12.4	-1.2	13	0	21	21	21	1245	377	2.9	4.30	9.54
11/13/23	11:58	13					118	150.0	34.0											
11/13/23	11:59	13.25				1	119	153.0	31.0	-3	33	0	52	52	52	3113	867	2.9	2.84	10.37
11/13/23	12:00	13.45				1	120	155.4	28.6	-2.4	30	0	42	42	42	2491	799	2.9	2.56	9.00
11/13/23	12:01	13.7				1	121	158.4	25.6	-3	27	0	52	52	52	3113	731	2.9	3.82	12.30
11/13/23	12:02	13.8				1	122	159.6	24.4	-1.2	25	0	21	21	21	1245	679	0.9	0.52	1.69
11/13/23	12:03	14				1	123	162.0	22.0	-2.4	23	0	42	42	42	2491	633	0.9	1.22	3.63
11/13/23	12:04	14.25				1	124	165.0	19.0	-3	21	0	52	52	52	3113	565	0.9	1.91	5.08
11/13/23	12:05	14.35				1	125	166.2	17.8	-1.2	18	0	21	21	21	1245	513	0.9	0.82	2.24
11/13/23	12:06	14.5				1	126	168.0	16.0	-1.8	17	0	31	31	31	1868	475	0.9	1.45	3.63
11/13/23	12:07	14.65				1	127	169.8	14.2	-1.8	15	0	31	31	31	1868	430	0.9	1.72	4.01
11/13/23	12:08	14.75				1	128	171.0	13.0	-1.2	14	0	21	21	21	1245	392	0.9	1.29	2.93
																	Minimum Rate:			1.69
												Raw Rate for design, prior to application of adjustment factors:								**3.00**

Results of Falling Head Infiltration Test

Project:	RC23280
Exploration #/Location:	*LI-2*
Depth Boring drilled, bgs (ft):	15
Tested by:	JP
USCS Soil Type in test zone:	SM
Weather (start to finish):	Overcast
Water Source/pH:	Tap
Measured boring diameter:	8 in.
Depth to GW or aquitard, bgs:	100 ft
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

4 in. Well Radius

	ft	in.	Total (in.)
Depth to bottom of well measured from top of a	15. ft	4. in.	184
Casing stickup measured above top of auger (	0. ft	6. in.	6
Depth to top of sand from top of casing	10. ft	0. in.	

Depth of well bottom below top of casing (in): 190

Initial estimated Depth to Water Surface (in.):	157
Average depth of water in well, "h" (in.):	21
approx. h/r:	5.3
Tu (Fig. 8) (ft):	86.9
Tu>3h?:	yes, OK

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

Use of Barrels:	No
Use of Flow Meter:	No
Test Type:	Falling Head

Field Data **Calculations**

Date	Time	Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date	Start time:											from supply	from Δh	Total						
11/13/2023	10:00	ft	in.																	
11/13/23	12:12	12.85					132	148.2	35.8											
11/13/23	12:14	13.35				2	134	154.2	29.8	-6	33	0	104	104	52	3113	875	0.9	0.99	3.28
11/13/23	12:16	13.65				2	136	157.8	26.2	-3.6	28	0	62	62	31	1868	754	0.9	0.71	2.28
11/13/23	12:18	14.00				2	138	162.0	22.0	-4.2	24	0	73	73	36	2179	656	0.9	1.09	3.06
11/13/23	12:20	14.35				2	140	166.2	17.8	-4.2	20	0	73	73	36	2179	550	0.9	1.50	3.65
11/13/23	12:22	14.55				2	142	168.6	15.4	-2.4	17	0	42	42	21	1245	467	0.9	1.03	2.46
11/13/23	12:24	14.75				2	144	171.0	13.0	-2.4	14	0	42	42	21	1245	407	0.9	1.32	2.82
11/13/23	12:26	14.9				2	146	172.8	11.2	-1.8	12	0	31	31	16	934	354	0.9	1.21	2.43
																	Minimum Rate:			2.28
																	Raw Rate for design, prior to application of adjustment factors:			**3.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project: RC23280
Exploration #/Location: *LI-3*
Depth Boring drilled, bgs (ft): 8
Tested by: JP
USCS Soil Type in test zone: SP-SM
Weather (start to finish): Overcast
Water Source/pH: Tap
Measured boring diameter: 8 in. 4 in. Well Radius
Depth to GW or aquitard, bgs: 100 ft
Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

Initial estimated Depth to Water Surface (in.): 86
Average depth of water in well, "h" (in.): 10
approx. h/r: 2.4
Tu (Fig. 8) (ft): 92.8
Tu>3h?: yes, OK

Cross-sectional area for flow calcs based on Δh
Well pack sand porosity: 0.3
Casing outer diameter, in.: 2.3
Casing inner diameter, in.: 2.1
Cross-sectional area, in.^2: 17.3

Use of Barrels: No
Use of Flow Meter: Yes
Test Type: Constant Head

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surfac	8. ft	0. in.	96
Casing stickup measured above top of auger (or ground surface) (+ is	0. ft	0. in.	0
Depth to top of sand from top of casing	3. ft	0. in.	

Depth of well bottom below top of casing (in): 96

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse
Data logger ID:

Field Data / **Calculations**

Date Start Date 11/14/2023	Time Start time: 8:00	Data from Flow Meter: Reading (gallons) Gallons	Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
11/14/23	8:00	575.3		7.20					0	86.4	9.6											
11/14/23	8:05	582.05		7.20				5	5	86.4	9.6	0	10	1559	0	1559	312	18711	292	0.9	28.08	59.17
11/14/23	8:10	588.6		7.20				5	10	86.4	9.6	0	10	1513	0	1513	303	18157	292	0.9	27.25	57.41
11/14/23	8:15	595.17		7.20				5	15	86.4	9.6	0	10	1518	0	1518	304	18212	292	0.9	27.33	57.59
11/14/23	8:20	602.02		7.20				5	20	86.4	9.6	0	10	1582	0	1582	316	18988	292	0.9	28.50	60.04
11/14/23	8:25	608.4		7.20				5	25	86.4	9.6	0	10	1474	0	1474	295	17685	292	0.9	26.54	55.92
11/14/23	8:30	615.22		7.20				5	30	86.4	9.6	0	10	1575	0	1575	315	18905	292	0.9	28.37	59.78
11/14/23	8:35	621.63		7.20				5	35	86.4	9.6	0	10	1481	0	1481	296	17769	292	0.9	26.67	56.19
11/14/23	8:40	627.8		7.20				5	40	86.4	9.6	0	10	1425	0	1425	285	17103	292	0.9	25.67	54.08
11/14/23	8:45	634.26		7.20				5	45	86.4	9.6	0	10	1492	0	1492	298	17907	292	0.9	26.88	56.62
11/14/23	8:50	640.39		7.20				5	50	86.4	9.6	0	10	1416	0	1416	283	16992	292	0.9	25.50	53.73
11/14/23	8:55	647.62		7.20				5	55	86.4	9.6	0	10	1670	0	1670	334	20042	292	0.9	30.08	63.37
11/14/23	9:00	654.2		7.20				5	60	86.4	9.6	0	10	1520	0	1520	304	18240	292	0.9	27.38	57.68
11/14/23	9:05	661.11		7.20				5	65	86.4	9.6	0	10	1596	0	1596	319	19155	292	0.9	28.75	60.57
11/14/23	9:10	667.82		7.20				5	70	86.4	9.6	0	10	1550	0	1550	310	18600	292	0.9	27.92	58.81
11/14/23	9:15	673.02		7.20				5	75	86.4	9.6	0	10	1201	0	1201	240	14414	292	0.9	21.63	45.58
11/14/23	9:20	679.36		7.20				5	80	86.4	9.6	0	10	1465	0	1465	293	17574	292	0.9	26.38	55.57
11/14/23	9:25	685.13		7.20				5	85	86.4	9.6	0	10	1333	0	1333	267	15994	292	0.9	24.01	50.58
11/14/23	9:30	692.36		7.20				5	90	86.4	9.6	0	10	1670	0	1670	334	20042	292	0.9	30.08	63.37
11/14/23	9:35	699.8		7.20				5	95	86.4	9.6	0	10	1719	0	1719	344	20624	292	0.9	30.95	65.21
11/14/23	9:40	705.46		7.20				5	100	86.4	9.6	0	10	1307	0	1307	261	15690	292	0.9	23.55	49.61
11/14/23	9:45	712.1		7.20				5	105	86.4	9.6	0	10	1534	0	1534	307	18406	292	0.9	27.63	58.20
11/14/23	9:50	718.52		7.20				5	110	86.4	9.6	0	10	1483	0	1483	297	17796	292	0.9	26.71	56.27
11/14/23	9:55	725.14		7.20				5	115	86.4	9.6	0	10	1529	0	1529	306	18351	292	0.9	27.54	58.03
11/14/23	10:00	731.26		7.20				5	120	86.4	9.6	0	10	1414	0	1414	283	16965	292	0.9	25.46	53.64
																				Minimum Rate:		45.58
													Raw Rate for design, prior to application of adjustment factors:									**53.00**

Results of Well Permeameter, from USBR 7300-89 Method

Leighton 60th Anniversary

Project:	RC23280	Initial estimated Depth to Water Surface (in.):	129
Exploration #/Location:	*LI-4*	Average depth of water in well, "h" (in.):	48
Depth Boring drilled, bgs (ft):	15	approx. h/r:	11.9
Tested by:	JP	Tu (Fig. 8) (ft):	89.3
USCS Soil Type in test zone:	SP-SM	Tu>3h?:	yes, OK
Weather (start to finish):	Sunny		
Water Source/pH:	Tap		
Measured boring diameter:	8 in.	4 in. Well Radius	
Depth to GW or aquitard, bgs:	100 ft		
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area		

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	*in.*	*Total (in.)*	
Depth to bottom of well measured from top of auger (or ground surfac	15. ft	4. in.	184	Depth of well bottom below top of casing (in): 192
Casing stickup measured above top of auger (or ground surface) (+ is	0. ft	7.6 in.	7.6	
Depth to top of sand from top of casing	10. ft	0. in.		

Flow Meter ID: SN2000249 er Units: Gallons 0.05 gallons/pulse Data logger ID:

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

Field Data **Calculations**

Date	Time	Data from Flow Meter		Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled?	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
		Reading (gallons)	Interval Pulse Count				(or Comments)							from supply	from Δh	Total						
Start Date	Start time:	Gallons		ft	in.																	
11/14/23	10:00																					
11/14/23	10:20	748.09		12.20					20	138.8	45.2											
11/14/23	10:25	753.36		12.20				5	25	138.8	45.2	0	45	1217	0	1217	243	14608	1186	0.9	2.31	11.35
11/14/23	10:30	758.42		12.20				5	30	138.8	45.2	0	45	1169	0	1169	234	14026	1186	0.9	2.22	10.90
11/14/23	10:35	763.5		12.20				5	35	138.8	45.2	0	45	1173	0	1173	235	14082	1186	0.9	2.23	10.94
11/14/23	10:40	768.4		12.20				5	40	138.8	45.2	0	45	1132	0	1132	226	13583	1186	0.9	2.15	10.56
11/14/23	10:45	773.71		12.20				5	45	138.8	45.2	0	45	1227	0	1227	245	14719	1186	0.9	2.33	11.44
11/14/23	10:50	777.19		12.20				5	50	138.8	45.2	0	45	804	0	804	161	9647	1186	0.9	1.53	7.50
11/14/23	10:55	781.08		12.20				5	55	138.8	45.2	0	45	899	0	899	180	10783	1186	0.9	1.71	8.38
11/14/23	11:00	785.1		12.20				5	60	138.8	45.2	0	45	929	0	929	186	11143	1186	0.9	1.76	8.66
11/14/23																						
11/14/23	11:05	788.54		11.95					65	135.8	48.2											
11/14/23	11:10	793.61		11.95				5	70	135.8	48.2	0	48	1171	0	1171	234	14054	1262	0.9	2.01	10.27
11/14/23	11:15	798.73		11.95				5	75	135.8	48.2	0	48	1183	0	1183	237	14193	1262	0.9	2.03	10.37
11/14/23	11:20	804.3		11.95				5	80	135.8	48.2	0	48	1287	0	1287	257	15440	1262	0.9	2.21	11.28
11/14/23	11:25	809.51		11.95				5	85	135.8	48.2	0	48	1204	0	1204	241	14442	1262	0.9	2.06	10.55
11/14/23	11:30	814.63		11.95				5	90	135.8	48.2	0	48	1183	0	1183	237	14193	1262	0.9	2.03	10.37
11/14/23	11:35	819.52		11.95				5	95	135.8	48.2	0	48	1130	0	1130	226	13555	1262	0.9	1.94	9.90
11/14/23	11:40	824.8		11.95				5	100	135.8	48.2	0	48	1220	0	1220	244	14636	1262	0.9	2.09	10.69
11/14/23	11:45	830.35		11.95				5	105	135.8	48.2	0	48	1282	0	1282	256	15385	1262	0.9	2.20	11.24
11/14/23	11:50	835.41		11.95				5	110	135.8	48.2	0	48	1169	0	1169	234	14026	1262	0.9	2.01	10.25
11/14/23	11:55	840.7		11.95				5	115	135.8	48.2	0	48	1222	0	1222	244	14664	1262	0.9	2.10	10.71
11/14/23	12:00	845.66		11.95				5	120	135.8	48.2	0	48	1146	0	1146	229	13749	1262	0.9	1.97	10.05
11/14/23	12:05	850.42		11.90				5	125	135.2	48.8	0.6	49	1100	-10	1089	218	13070	1269	0.9	1.83	9.49
11/14/23	12:10	855.64		11.90				5	130	135.2	48.8	0	49	1206	0	1206	241	14470	1277	0.9	2.03	10.45
11/14/23	12:15	860.55		11.90				5	135	135.2	48.8	0	49	1134	0	1134	227	13611	1277	0.9	1.91	9.83
11/14/23	12:20	865.47		11.90				5	140	135.2	48.8	0	49	1137	0	1137	227	13638	1277	0.9	1.91	9.85
11/14/23	12:25	870.52		11.90				5	145	135.2	48.8	0	49	1167	0	1167	233	13999	1277	0.9	1.96	10.11
11/14/23	12:30	875.49		11.90				5	150	135.2	48.8	0	49	1148	0	1148	230	13777	1277	0.9	1.93	9.95
11/14/23	12:35	880.36		11.90				5	155	135.2	48.8	0	49	1125	0	1125	225	13500	1277	0.9	1.89	9.75
11/14/23	12:40	884.7		11.90				5	160	135.2	48.8	0	49	1003	0	1003	201	12030	1277	0.9	1.69	8.69
11/14/23	12:45	889.62		11.90				5	165	135.2	48.8	0	49	1137	0	1137	227	13638	1277	0.9	1.91	9.85
11/14/23	12:50	894.54		11.90				5	170	135.2	48.8	0	49	1137	0	1137	227	13638	1277	0.9	1.91	9.85
11/14/23	12:55	899.37		11.90				5	175	135.2	48.8	0	49	1116	0	1116	223	13389	1277	0.9	1.88	9.67
11/14/23	13:00	904.46		11.90				5	180	135.2	48.8	0	49	1176	0	1176	235	14109	1277	0.9	1.98	10.19
																			Minimum Rate:			7.50
														Raw Rate for design, prior to application of adjustment factors:								**9.70**

Results of Well Permeameter, from USBR 7300-89 Method

Project: RC23280
Exploration #/Location: *LI-5*
Depth Boring drilled, bgs (ft): 8
Tested by: JP
USCS Soil Type in test zone: SP-SM
Weather (start to finish): Sunny
Water Source/pH: Tap
Measured boring diameter: 8 in. 4 in. Well Radius
Depth to GW or aquitard, bgs: 100 ft
Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

Initial estimated Depth to Water Surface (in.): 88
Average depth of water in well, "h" (in.): 8
approx. h/r: 2.1
Tu (Fig. 8) (ft): 92.7
Tu>3h?: yes, OK

Cross-sectional area for flow calcs based on Δh
Well pack sand porosity: 0.3
Casing outer diameter, in.: 2.3
Casing inner diameter, in.: 2.1
Cross-sectional area, in.^2: 17.3

Use of Barrels: No
Use of Flow Meter: Yes
Test Type: Constant Head

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surfac	8. ft	0. in.	96
Casing stickup measured above top of auger (or ground surface) (+ is	0. ft	0. in.	0
Depth to top of sand from top of casing	3. ft	0. in.	

Depth of well bottom below top of casing (in): 96

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data / **Calculations**

Date	Time	Data from Flow Meter: Reading (gallons)	Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date	Start time:																					
11/14/2023	13:00	Gallons		ft	in.																	
11/14/23	13:20	913.78		7.30					20	87.6	8.4											
11/14/23	13:25	924.06		7.30				5	25	87.6	8.4	0	8	2375	0	2375	475	28496	261	0.9	50.73	100.50
11/14/23	13:30	934.32		7.30				5	30	87.6	8.4	0	8	2370	0	2370	474	28441	261	0.9	50.63	100.31
11/14/23	13:35	944.15		7.30				5	35	87.6	8.4	0	8	2271	0	2271	454	27249	261	0.9	48.51	96.10
11/14/23	13:40	954.2		7.30				5	40	87.6	8.4	0	8	2322	0	2322	464	27859	261	0.9	49.59	98.25
11/14/23	13:45	964.18		7.30				5	45	87.6	8.4	0	8	2305	0	2305	461	27665	261	0.9	49.25	97.57
11/14/23	13:50	974.32		7.30				5	50	87.6	8.4	0	8	2342	0	2342	468	28108	261	0.9	50.04	99.13
11/14/23	13:55	984.25		7.30				5	55	87.6	8.4	0	8	2294	0	2294	459	27526	261	0.9	49.00	97.08
11/14/23	14:00	994.51		7.30				5	60	87.6	8.4	0	8	2370	0	2370	474	28441	261	0.9	50.63	100.31
11/14/23	14:05	1004.3		7.30				5	65	87.6	8.4	0	8	2266	0	2266	453	27193	261	0.9	48.41	95.91
11/14/23	14:10	1014.8		7.30				5	70	87.6	8.4	0	8	2421	0	2421	484	29051	261	0.9	51.71	102.46
11/14/23	14:15	1024.7		7.30				5	75	87.6	8.4	0	8	2294	0	2294	459	27526	261	0.9	49.00	97.08
11/14/23	14:20	1035		7.30				5	80	87.6	8.4	0	8	2363	0	2363	473	28358	261	0.9	50.48	100.01
11/14/23	14:25	1044.9		7.30				5	85	87.6	8.4	0	8	2294	0	2294	459	27526	261	0.9	49.00	97.08
11/14/23	14:30	1054.8		7.30				5	90	87.6	8.4	0	8	2285	0	2285	457	27415	261	0.9	48.80	96.69
11/14/23	14:35	1064.6		7.30				5	95	87.6	8.4	0	8	2261	0	2261	452	27138	261	0.9	48.31	95.71
11/14/23	14:40	1074.2		7.30				5	100	87.6	8.4	0	8	2222	0	2222	444	26667	261	0.9	47.47	94.05
11/14/23	14:45	1084.4		7.30				5	105	87.6	8.4	0	8	2359	0	2359	472	28302	261	0.9	50.38	99.82
11/14/23	14:50	1094.8		7.30				5	110	87.6	8.4	0	8	2393	0	2393	479	28718	261	0.9	51.12	101.29
11/14/23	14:55	1104.5		7.30				5	115	87.6	8.4	0	8	2245	0	2245	449	26944	261	0.9	47.96	95.03
11/14/23	15:00	1114.6		7.30				5	120	87.6	8.4	0	8	2326	0	2326	465	27914	261	0.9	49.69	98.45
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11/14/23																						
																			Minimum Rate:			94.05
													Raw Rate for design, prior to application of adjustment factors:									**94.00**

Results of Well Permeameter, from USBR 7300-89 Method

Leighton 60th Anniversary

Project:	RC23280	Initial estimated Depth to Water Surface (in.):	136
Exploration #/Location:	*LI-6*	Average depth of water in well, "h" (in.):	31
Depth Boring drilled, bgs (ft):	8	approx. h/r:	7.6
Tested by:	JP	Tu (Fig. 8) (ft):	88.6
USCS Soil Type in test zone:	SP-SM	Tu>3h?:	yes, OK
Weather (start to finish):	Sunny		
Water Source/pH:	H2O		
Measured boring diameter:	8 in.	4 in. Well Radius	
Depth to GW or aquitard, bgs:	100 ft		
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area		

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	*in.*	*Total (in.)*	
Depth to bottom of well measured from top of auger (or ground surfac	14. ft	6.5 in.	175	Depth of well bottom below top of casing (in): 182
Casing stickup measured above top of auger (or ground surface) (+ is	0. ft	7.5 in.	7.5	
Depth to top of sand from top of casing	3. ft	0. in.		

Use of Barrels: No
Use of Flow Meter: Yes
Test Type: Constant Head

Flow Meter ID: SN2000249 Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data **Calculations**

Date	Time	Data from Flow Meter		Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date	Start time:	Reading (gallons)	Interval Pulse Count											from supply	from Δh	Total						
11/16/23	13:52	Gallons		ft	in.																	
11/16/23	14:11	3275.4		12.90					19	147.3	27.2											
11/16/23	14:16	3300.5		12.86				5	24	146.8	27.7	0.48	27	5805	-8	5797	1159	69561	740	0.9	23.44	86.67
11/16/23	14:21	3326		12.82				5	29	146.3	28.2	0.48	28	5886	-8	5878	1176	70531	752	0.9	23.15	86.47
11/16/23	14:26	3351.3		12.78				5	34	145.9	28.6	0.48	28	5835	-8	5827	1165	69921	764	0.9	22.38	84.37
11/16/23	14:31	3376.7		12.75				5	39	145.5	29.0	0.36	29	5879	-6	5873	1175	70473	775	0.9	22.15	83.87
11/16/23	14:36	3402		12.72				5	44	145.1	29.4	0.36	29	5842	-6	5836	1167	70029	784	0.9	21.61	82.38
11/16/23	14:41	3427.2		12.69				5	49	144.8	29.7	0.36	30	5821	-6	5815	1163	69780	793	0.9	21.14	81.15
11/16/23	14:46	3452.5		12.67				5	54	144.5	30.0	0.24	30	5844	-4	5840	1168	70082	800	0.9	20.99	80.73
11/16/23	14:51	3477.9		12.65				5	59	144.3	30.2	0.24	30	5863	-4	5859	1172	70304	806	0.9	20.80	80.38
11/16/23	14:56	3503		12.63				5	64	144.1	30.4	0.204	30	5803	-4	5799	1160	69590	812	0.9	20.39	79.02
11/16/23	15:01	3528.3		12.61				5	69	143.8	30.7	0.276	31	5844	-5	5840	1168	70074	818	0.9	20.24	78.98
11/16/23	15:06	3553.4		12.60				5	74	143.7	30.8	0.12	31	5800	-2	5798	1160	69580	823	0.9	20.00	77.95
11/16/23	15:11	3578.6		12.59				5	79	143.6	30.9	0.12	31	5824	-2	5821	1164	69857	826	0.9	19.96	77.98
11/16/23	15:16	3603.5		12.57				5	84	143.3	31.2	0.24	31	5754	-4	5750	1150	69001	830	0.9	19.47	76.60
11/16/23	15:21	3628.8		12.56				5	89	143.2	31.3	0.12	31	5835	-2	5833	1167	69996	835	0.9	19.65	77.29
11/16/23	15:26	3653.9		12.54				5	94	143.0	31.5	0.24	31	5798	-4	5794	1159	69527	839	0.9	19.27	76.36
11/16/23	15:31	3678.7		12.53				5	99	142.9	31.6	0.12	32	5733	-2	5731	1146	68776	844	0.9	18.97	75.13
11/16/23	15:36	3704		12.52				5	104	142.7	31.8	0.12	32	5847	-2	5845	1169	70134	847	0.9	19.23	76.34
11/16/23	15:41	3729.1		12.51				5	109	142.6	31.9	0.12	32	5791	-2	5789	1158	69469	850	0.9	18.94	75.34
11/16/23	15:46	3754.2		12.50				5	114	142.5	32.0	0.12	32	5800	-2	5798	1160	69580	853	0.9	18.86	75.20
11/16/23	15:51	3779.1		12.49				5	119	142.4	32.1	0.12	32	5754	-2	5752	1150	69026	856	0.9	18.61	74.34
11/16/23	15:56	3804.1		12.48				5	124	142.3	32.2	0.12	32	5773	-2	5771	1154	69247	859	0.9	18.56	74.31
11/16/23	16:01	3829		12.48				5	129	142.3	32.2	0	32	5752	0	5752	1150	69023	861	0.9	18.51	73.94
11/16/23	16:06	3853.8		12.47				5	134	142.1	32.4	0.12	32	5729	-2	5727	1145	68721	862	0.9	18.31	73.49
																			Minimum Rate:			73.49
																					Raw Rate for design, prior to application of adjustment factors:	**70.00**

Results of Well Permeameter, from USBR 7300-89 Method

Leighton 60th Anniversary

Project:	RC23280	Initial estimated Depth to Water Surface (in.):	150
Exploration #/Location:	***LI-7***	Average depth of water in well, "h" (in.):	23
Depth Boring drilled, bgs (ft):	15	approx. h/r:	5.8
Tested by:	JP	Tu (Fig. 8) (ft):	87.5
USCS Soil Type in test zone:	SP-SM	Tu>3h?:	yes, OK
Weather (start to finish):	Overcast		
Water Source/pH:	H2O		
Measured boring diameter:	8 in.	4 in. Well Radius	
Depth to GW or aquitard, bgs:	100 ft		
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area		

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	*in.*	*Total (in.)*
Depth to bottom of well measured from top of auger (or ground surface)	14. ft	10.5 in.	179
Casing stickup measured above top of auger (or ground surface) (+ is up	0. ft	5.5 in.	5.5
Depth to top of sand from top of casing	10. ft	0. in.	

Depth of well bottom below top of casing (in): 184

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data **Calculations**

Date	Time	Data from Flow Meter: Reading (gallons)	Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
Start Date	Start time:	Gallons		ft	in.																	
11/15/2023	8:20																					
11/15/23	8:25	1151.30		13.52					5	156.7	21.8											
11/15/23	8:30	1167.21		13.50				5	10	156.5	22.0	0.24	22	3675	-4	3671	734	44053	600	0.9	20.92	67.67
11/15/23	8:35	1182.99		13.51				5	15	156.6	21.9	-0.12	22	3645	2	3647	729	43767	602	0.9	21.05	67.06
11/15/23	8:40	1198.90		13.51				5	20	156.6	21.9	0	22	3675	0	3675	735	44103	600	0.9	21.18	67.74
11/15/23	8:45	1214.82		13.51				5	25	156.6	21.9	0	22	3678	0	3678	736	44130	600	0.9	21.19	67.78
11/15/23	8:50	1230.69		13.45				5	30	155.9	22.6	0.72	22	3666	-12	3654	731	43842	609	0.9	19.91	66.34
11/15/23	8:55	1246.51		13.46				5	35	156.0	22.5	-0.12	23	3654	2	3656	731	43878	617	0.9	20.28	65.58
11/15/23	9:00	1262.10		13.46				5	40	156.0	22.5	0	22	3601	0	3601	720	43215	615	0.9	19.94	64.75
11/15/23	9:05	1278.31		13.42				5	45	155.5	23.0	0.48	23	3745	-8	3736	747	44834	621	0.9	19.95	66.53
11/15/23	9:10	1294.11		13.41				5	50	155.4	23.1	0.12	23	3650	-2	3648	730	43773	629	0.9	19.40	64.17
11/15/23	9:15	1310.10		13.35				5	55	154.7	23.8	0.72	23	3694	-12	3681	736	44175	639	0.9	18.59	63.69
11/15/23	9:20	1325.99		13.35				5	60	154.7	23.8	0	24	3671	0	3671	734	44047	648	0.9	18.68	62.62
11/15/23	9:25	1341.70		13.35				5	65	154.7	23.8	0	24	3629	0	3629	726	43548	648	0.9	18.47	61.91
11/15/23	9:30	1357.42		13.35				5	70	154.7	23.8	0	24	3631	0	3631	726	43576	648	0.9	18.48	61.95
11/15/23	9:35	1373.30		13.36				5	75	154.8	23.7	-0.12	24	3668	2	3670	734	44044	647	0.9	18.85	62.76
11/15/23	9:40	1389.30		13.36				5	80	154.8	23.7	0	24	3696	0	3696	739	44352	645	0.9	18.95	63.35
11/15/23	9:45	1404.89		13.35				5	85	154.7	23.8	0.12	24	3601	-2	3599	720	43191	647	0.9	18.30	61.55
11/15/23	9:50	1421.10		13.34				5	90	154.6	23.9	0.12	24	3745	-2	3742	748	44909	650	0.9	18.88	63.70
11/15/23	9:55	1436.41		13.33				5	95	154.5	24.0	0.12	24	3537	-2	3535	707	42414	653	0.9	17.70	59.88
11/15/23	10:00	1451.96		13.33				5	100	154.5	24.0	0	24	3592	0	3592	718	43105	654	0.9	18.01	60.72
11/15/23	10:05	1467.69		13.31				5	105	154.2	24.3	0.24	24	3634	-4	3629	726	43554	657	0.9	17.89	61.07
11/15/23	10:10	1483.20		13.31				5	110	154.2	24.3	0	24	3583	0	3583	717	42994	660	0.9	17.70	60.01
11/15/23	10:15	1498.92		13.31				5	115	154.2	24.3	0	24	3631	0	3631	726	43576	660	0.9	17.94	60.82
11/15/23	10:20	1514.72		13.16				5	120	152.4	26.1	1.8	25	3650	-31	3619	724	43424	683	0.9	15.79	58.60
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																			Minimum Rate:			58.60
													Raw Rate for design, prior to application of adjustment factors:									**58.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project: RC23280
Exploration #/Location: *LI-8*
Depth Boring drilled, bgs (ft): 8
Tested by: JP
USCS Soil Type in test zone: SP-SM
Weather (start to finish): Overcast
Water Source/pH: H2O
Measured boring diameter: 8 in. 4 in. Well Radius
Depth to GW or aquitard, bgs: 100 ft
Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

Initial estimated Depth to Water Surface (in.): 69
Average depth of water in well, "h" (in.): 24
approx. h/r: 6.0
Tu (Fig. 8) (ft): 94.2
Tu>3h?: yes, OK

Cross-sectional area for flow calcs based on Δh
Well pack sand porosity: 0.3
Casing outer diameter, in.: 2.3
Casing inner diameter, in.: 2.1
Cross-sectional area, in.^2: 17.3

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surface)	7. ft	9. in.	93
Casing stickup measured above top of auger (or ground surface) (+ is up	0. ft	0. in.	0
Depth to top of sand from top of casing	3. ft	0. in.	

Depth of well bottom below top of casing (in): 93

Use of Barrels: No
Use of Flow Meter: Yes
Test Type: Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse
Data logger ID:

Field Data / **Calculations**

Date	Time	Data from Flow Meter: Reading (gallons)	Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date	Start time:	Gallons																				
11/15/2023	11:05																					
11/15/23	11:23	1552.18		6.10					18	73.2	19.8											
11/15/23	11:28	1561.59		6.05				5	23	72.6	20.4	0.6	20	2174	-10	2163	433	25960	555	0.9	13.70	43.09
11/15/23	11:33	1571.08		6.00				5	28	72.0	21.0	0.6	21	2192	-10	2182	436	26182	571	0.9	13.25	42.31
11/15/23	11:38	1580.64		5.95				5	33	71.4	21.6	0.6	21	2208	-10	2198	440	26376	586	0.9	12.81	41.52
11/15/23	11:43	1591.50		5.80			Began Raining	5	38	69.6	23.4	1.8	23	2509	-31	2478	496	29730	616	0.9	12.67	44.51
11/15/23	11:53	1612.99		5.83				10	48	70.0	23.0	-0.36	23	4964	6	4970	497	29823	634	0.9	13.33	43.37
11/15/23	12:03	1634.77		5.78				10	58	69.4	23.6	0.6	23	5031	-10	5021	502	30125	637	0.9	12.82	43.61
11/15/23	12:13	1656.88		5.72				10	68	68.6	24.4	0.72	24	5107	-12	5095	509	30570	653	0.9	12.43	43.13
11/15/23	12:23	1678.64		5.71				10	78	68.5	24.5	0.12	24	5027	-2	5024	502	30147	664	0.9	12.25	41.85
11/15/23	12:33	1700.65		5.65				10	88	67.8	25.2	0.72	25	5084	-12	5072	507	30431	675	0.9	11.77	41.59
11/15/23	12:43	1722.04		5.65				10	98	67.8	25.2	0	25	4941	0	4941	494	29647	684	0.9	11.55	39.98
11/15/23	12:53	1743.85		5.61				10	108	67.3	25.7	0.48	25	5038	-8	5030	503	30179	690	0.9	11.38	40.34
11/15/23	13:03	1765.11		5.50				10	118	66.0	27.0	1.32	26	4911	-23	4888	489	29329	712	0.9	10.18	37.96
11/15/23	13:13	1787.01		5.50				10	128	66.0	27.0	0	27	5059	0	5059	506	30353	729	0.9	10.66	38.39
11/15/23	13:23	1808.79		5.50				10	138	66.0	27.0	0	27	5031	0	5031	503	30187	729	0.9	10.60	38.18
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11/15/23																						
																			Minimum Rate:			37.96
													Raw Rate for design, prior to application of adjustment factors:									**38.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project:	RC23280	Initial estimated Depth to Water Surface (in.):	77
Exploration #/Location:	***LI-9***	Average depth of water in well, "h" (in.):	19
Depth Boring drilled, bgs (ft):	8	approx. h/r:	4.6
Tested by:	JP	Tu (Fig. 8) (ft):	93.5
USCS Soil Type in test zone:	SP-SM	Tu>3h?:	yes, OK
Weather (start to finish):	Overcast		
Water Source/pH:	H2O		
Measured boring diameter:	8 in.	4 in. Well Radius	
Depth to GW or aquitard, bgs:	100 ft		

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

	ft	*in.*	*Total (in.)*
Depth to bottom of well measured from top of auger (or ground surface)	8. ft	0. in.	96
Casing stickup measured above top of auger (or ground surface) (+ is up	0. ft	0. in.	0
Depth to top of sand from top of casing	3. ft	0. in.	

Depth of well bottom below top of casing (in): 96

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data **Calculations**

Date	Time	Data from Flow Meter: Reading (gallons)	Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date 11/16/2023	Start time: 10:50	Gallons																				
11/16/23	11:15	2745.49		6.75					25	81.0	15.0											
11/16/23	11:20	2764.97		6.70				5	30	80.4	15.6	0.6	15	4500	-10	4490	898	53874	435	0.9	41.55	114.23
11/16/23	11:25	2784.42		6.67				5	35	80.0	16.0	0.36	16	4493	-6	4487	897	53841	447	0.9	40.41	111.07
11/16/23	11:30	2803.90		6.64				5	40	79.7	16.3	0.36	16	4500	-6	4494	899	53924	456	0.9	39.23	109.04
11/16/23	11:35	2823.39		6.60				5	45	79.2	16.8	0.48	17	4502	-8	4494	899	53927	466	0.9	37.59	106.57
11/16/23	11:40	2842.87		6.56				5	50	78.7	17.3	0.48	17	4500	-8	4492	898	53899	479	0.9	36.11	103.83
11/16/23	11:45	2862.40		6.52				5	55	78.2	17.8	0.48	18	4511	-8	4503	901	54038	491	0.9	34.83	101.54
11/16/23	11:50	2881.75		6.50				5	60	78.0	18.0	0.24	18	4470	-4	4466	893	53588	500	0.9	34.02	98.87
11/16/23	11:55	2902.04		6.45				5	65	77.4	18.6	0.6	18	4687	-10	4677	935	56119	510	0.9	33.81	101.40
11/16/23	12:00	2922.10		6.43				5	70	77.2	18.8	0.24	19	4634	-4	4630	926	55557	521	0.9	33.04	98.35
11/16/23	12:05	2942.08		6.41				5	75	76.9	19.1	0.24	19	4615	-4	4611	922	55335	527	0.9	32.32	96.84
11/16/23	12:10	2962.36		6.40				5	80	76.8	19.2	0.12	19	4685	-2	4683	937	56191	531	0.9	32.58	97.50
11/16/23	12:15	2982.12		6.39				5	85	76.7	19.3	0.12	19	4565	-2	4562	912	54750	534	0.9	31.46	94.46
11/16/23	12:20	3002.00		6.37				5	90	76.4	19.6	0.24	19	4592	-4	4588	918	55058	539	0.9	31.03	94.19
11/16/23	12:25	3022.09		6.35				5	95	76.2	19.8	0.24	20	4641	-4	4637	927	55640	545	0.9	30.81	94.14
11/16/23	12:30	3041.88		6.35				5	100	76.2	19.8	0	20	4571	0	4571	914	54858	548	0.9	30.48	92.30
11/16/23	12:35	3062.00		6.34				5	105	76.1	19.9	0.12	20	4648	-2	4646	929	55748	549	0.9	30.65	93.54
11/16/23	12:40	3081.13		6.34				5	110	76.1	19.9	0	20	4419	0	4419	884	53028	551	0.9	29.20	88.74
11/16/23	12:45	3101.84		6.33				5	115	76.0	20.0	0.12	20	4784	-2	4782	956	57383	552	0.9	31.27	95.76
11/16/23	12:50	3121.66		6.33				5	120	76.0	20.0	0	20	4578	0	4578	916	54941	554	0.9	29.99	91.44
11/16/23	12:55	3142.01		6.31				5	125	75.7	20.3	0.24	20	4701	-4	4697	939	56360	557	0.9	30.14	93.29
11/16/23	13:00	3161.75		6.31				5	130	75.7	20.3	0	20	4560	0	4560	912	54719	560	0.9	29.36	90.09
11/16/23																						
																			Minimum Rate:			88.74
													Raw Rate for design, prior to application of adjustment factors:									**85.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project:	RC23280
Exploration #/Location:	*LI-10*
Depth Boring drilled, bgs (ft):	10
Tested by:	JP
USCS Soil Type in test zone:	SP-SM
Weather (start to finish):	Overcast
Water Source/pH:	H2O
Measured boring diameter:	8 in.
Depth to GW or aquitard, bgs:	100 ft
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

4 in. Well Radius

	ft	in.	Total (in.)
Depth to bottom of well measured from top of auger (or ground surface)	9. ft	8. in.	116
Casing stickup measured above top of auger (or ground surface) (+ is up	0. ft	4. in.	4
Depth to top of sand from top of casing	3. ft	0. in.	

Initial estimated Depth to Water Surface (in.): 87
Average depth of water in well, "h" (in.): 25
approx. h/r: 6.2
Tu (Fig. 8) (ft): 92.7
Tu>3h?: yes, OK

Depth of well bottom below top of casing (in): 120

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

Use of Barrels:	No
Use of Flow Meter:	Yes
Test Type:	Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data **Calculations**

Date	Time	Data from Flow Meter		Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
Start Date	Start time:	Reading (gallons)	Interval Pulse Count	ft	in.									from supply	from Δh	Total						
11/15/2023	14:05	Gallons																				
11/15/23	14:21	1864.70		8.12					16	93.4	22.6											
11/15/23	14:26	1880.01		8.11				5	21	93.3	22.7	0.12	23	3537	-2	3535	707	42414	619	0.9	19.29	63.19
11/15/23	14:31	1896.00		8.04				5	26	92.5	23.5	0.84	23	3694	-15	3679	736	44150	631	0.9	18.88	64.52
11/15/23	14:36	1912.10		8.02				5	31	92.2	23.8	0.24	24	3719	-4	3715	743	44579	644	0.9	18.91	63.77
11/15/23	14:41	1928.41		8.02				5	36	92.2	23.8	0	24	3768	0	3768	754	45211	647	0.9	19.22	64.38
11/15/23	14:46	1943.92		7.98				5	41	91.8	24.2	0.48	24	3583	-8	3575	715	42894	653	0.9	17.62	60.51
11/15/23	14:51	1959.01		7.94				5	46	91.3	24.7	0.48	24	3486	-8	3477	695	41730	666	0.9	16.65	57.80
11/15/23	14:56	1974.33		7.93				5	51	91.2	24.8	0.12	25	3539	-2	3537	707	42442	673	0.9	16.87	58.13
11/15/23	15:06	2004.00		7.90				10	61	90.8	25.2	0.36	25	6854	-6	6848	685	41085	679	0.9	15.95	55.77
11/15/23	15:16	2033.53		7.87				10	71	90.4	25.6	0.36	25	6821	-6	6815	682	40891	688	0.9	15.54	54.78
11/15/23	15:26	2061.10		7.82				10	81	89.8	26.2	0.6	26	6369	-10	6358	636	38150	700	0.9	13.97	50.23
11/15/23	15:36	2092.56		7.79				10	91	89.5	26.5	0.36	26	7267	-6	7261	726	43566	712	0.9	15.67	56.39
11/15/23	15:46	2121.99		7.75				10	101	89.0	27.0	0.48	27	6798	-8	6790	679	40740	723	0.9	14.25	51.96
11/15/23	15:56	2151.58		7.70				10	111	88.4	27.6	0.6	27	6835	-10	6825	682	40949	736	0.9	13.84	51.26
11/15/23																						
																			Minimum Rate:			50.23
																			Raw Rate for design, prior to application of adjustment factors:			**50.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project:	RC23280	Initial estimated Depth to Water Surface (in.):	78
Exploration #/Location:	*LI-11*	Average depth of water in well, "h" (in.):	18
Depth Boring drilled, bgs (ft):	8	approx. h/r:	4.6
Tested by:	JP	Tu (Fig. 8) (ft):	93.5
USCS Soil Type in test zone:	SP-SM	Tu>3h?:	yes, OK
Weather (start to finish):	Overcast		
Water Source/pH:	H2O		
Measured boring diameter:	8 in.	4 in. Well Radius	
Depth to GW or aquitard, bgs:	100 ft		
Well Prep:	2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area		

Cross-sectional area for flow calcs based on Δh

Well pack sand porosity	0.3
Casing outer diameter, in.	2.3
Casing inner diameter, in.	2.1
Cross-sectional area, in.^2	17.3

	ft	*in.*	*Total (in.)*	
Depth to bottom of well measured from top of auger (or ground surface)	8. ft	0.5 in.	96.5	Depth of well bottom below top of casing (in): 97
Casing stickup measured above top of auger (or ground surface) (+ is up	0. ft	0. in.	0	
Depth to top of sand from top of casing	3. ft	0. in.		

Use of Barrels: No
Use of Flow Meter: Yes
Test Type: Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data | **Calculations**

Date	Time	Data from Flow Meter		Depth to WL in Boring (measured from top of casing)		Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3)			Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	**Infiltration Rate [flow/surf area] (in./hr) (FS=1)**
		Reading (gallons)	Interval Pulse Count											from supply	from Δh	Total						
Start Date	Start time:																					
11/16/2023	7:50	Gallons		ft	in.																	
11/16/23	8:19	2244.31		6.73					29	80.8	15.7											
11/16/23	8:24	2262.20		6.70				5	34	80.4	16.1	0.36	16	4133	-6	4126	825	49516	450	0.9	36.72	101.35
11/16/23	8:29	2280.31		6.66				5	39	79.9	16.6	0.48	16	4183	-8	4175	835	50101	461	0.9	35.58	100.20
11/16/23	8:34	2298.35		6.64				5	44	79.7	16.8	0.24	17	4167	-4	4163	833	49957	470	0.9	34.91	97.99
11/16/23	8:39	2316.22		6.63				5	49	79.6	16.9	0.12	17	4128	-2	4126	825	49511	475	0.9	34.33	96.19
11/16/23	8:44	2334.37		6.61				5	54	79.3	17.2	0.24	17	4192	-4	4188	838	50259	479	0.9	34.09	96.72
11/16/23	8:49	2352.20		6.58				5	59	79.0	17.5	0.36	17	4119	-6	4113	823	49353	487	0.9	32.44	93.51
11/16/23	8:54	2370.29		6.55				5	64	78.6	17.9	0.36	18	4179	-6	4173	835	50071	496	0.9	31.98	93.13
11/16/23	8:59	2388.50		6.52				5	69	78.2	18.3	0.36	18	4207	-6	4200	840	50403	505	0.9	31.29	92.07
11/16/23	9:04	2406.37		6.51				5	74	78.1	18.4	0.12	18	4128	-2	4126	825	49511	511	0.9	30.56	89.37
11/16/23	9:09	2424.30		6.50				5	79	78.0	18.5	0.12	18	4142	-2	4140	828	49677	514	0.9	30.38	89.15
11/16/23	9:14	2442.31		6.49				5	84	77.9	18.6	0.12	19	4160	-2	4158	832	49899	517	0.9	30.24	89.02
11/16/23	9:19	2460.11		6.47				5	89	77.6	18.9	0.24	19	4112	-4	4108	822	49292	521	0.9	29.27	87.18
11/16/23	9:24	2478.25		6.45				5	94	77.4	19.1	0.24	19	4190	-4	4186	837	50234	527	0.9	29.29	87.83
11/16/23	9:29	2496.20		6.45				5	99	77.4	19.1	0	19	4146	0	4146	829	49757	530	0.9	29.12	86.50
11/16/23	9:34	2514.28		6.44				5	104	77.3	19.2	0.12	19	4176	-2	4174	835	50093	532	0.9	29.00	86.83
11/16/23	9:39	2532.16		6.44				5	109	77.3	19.2	0	19	4130	0	4130	826	49563	533	0.9	28.74	85.67
11/16/23	9:44	2550.10		6.43				5	114	77.2	19.3	0.12	19	4144	-2	4142	828	49705	535	0.9	28.52	85.68
11/16/23	9:49	2568.30		6.43				5	119	77.2	19.3	0	19	4204	0	4204	841	50450	536	0.9	29.00	86.72
11/16/23	9:54	2586.09		6.41				5	124	76.9	19.6	0.24	19	4109	-4	4105	821	49264	539	0.9	27.72	84.20
11/16/23	9:59	2604.12		6.40				5	129	76.8	19.7	0.12	20	4165	-2	4163	833	49954	544	0.9	27.91	84.67
11/16/23	10:04	2622.00		6.40				5	134	76.8	19.7	0	20	4130	0	4130	826	49563	545	0.9	27.74	83.78
11/16/23	10:09	2639.99		6.40				5	139	76.8	19.7	0	20	4156	0	4156	831	49868	545	0.9	27.91	84.29
																			Minimum Rate:			83.78
																Raw Rate for design, prior to application of adjustment factors:						**78.00**

Results of Well Permeameter, from USBR 7300-89 Method

Project: RC23280
Exploration #/Location: ***LI-10***
Depth Boring drilled, bgs (ft): 15
Tested by: JP
USCS Soil Type in test zone: SP-SM
Weather (start to finish): Sunny
Water Source/pH: H2O
Measured boring diameter: 8 in. 4 in. Well Radius
Depth to GW or aquitard, bgs: 100 ft
Well Prep: 2" diameter pipe, lower 5' slotted. #3 Sand placed around slotted area

Initial estimated Depth to Water Surface (in.): 135
Average depth of water in well, "h" (in.): 37
approx. h/r: 9.3
Tu (Fig. 8) (ft): 88.8
Tu>3h?: yes, OK

Cross-sectional area for flow calcs based on Δh
Well pack sand porosity: 0.3
Casing outer diameter, in.: 2.3
Casing inner diameter, in.: 2.1
Cross-sectional area, in.^2: 17.3

	ft	*in.*	*Total (in.)*
Depth to bottom of well measured from top of auger (or ground surface)	14. ft	10. in.	178
Casing stickup measured above top of auger (or ground surface) (+ is up	0. ft	6. in.	6
Depth to top of sand from top of casing	10. ft	0. in.	

Depth of well bottom below top of casing (in): 184

Use of Barrels: No
Use of Flow Meter: Yes
Test Type: Constant Head

Flow Meter ID: SN2000249 Meter Units: Gallons 0.05 gallons/pulse Data logger ID:

Field Data **Calculations**

Date / Start Date	Time / Start time:	Data from Flow Meter: Reading (gallons)	Interval Pulse Count	Depth to WL in Boring (measured from top of casing) ft	in.	Water Temp (deg F)	Refilled? (or Comments)	Δt (min)	Total Elapsed Time (min)	Depth to WL in well (in.)	h, Height of Water in Well (in.)	Δh (in.)	Avg. h	Vol Change (in.^3) from supply	from Δh	Total	Flow (in^3/ min)	q, Flow (in^3/ hr)	Average Infiltration Surface Area, (in^2)	V (Fig 9)	K20, Coef. Of Perme-ability at 20 deg C (in./hr)	Infiltration Rate [flow/surf area] (in./hr) (FS=1)
11/17/2023	7:40	Gallons		ft	in.																	
11/17/23	8:07	3990.67		12.64					27	145.7	32.3											
11/17/23	8:12	4020.21		12.60				5	32	145.2	32.8	0.48	33	6824	-8	6815	1363	81785	869	0.9	21.29	86.80
11/17/23	8:17	4049.80		12.56				5	37	144.7	33.3	0.48	33	6835	-8	6827	1365	81924	881	0.9	20.86	85.76
11/17/23	8:22	4079.51		12.51				5	42	144.1	33.9	0.6	34	6863	-10	6853	1371	82232	894	0.9	20.35	84.77
11/17/23	8:27	4109.07		12.46				5	47	143.5	34.5	0.6	34	6828	-10	6818	1364	81816	909	0.9	19.71	82.95
11/17/23	8:32	4138.70		12.43				5	52	143.2	34.8	0.36	35	6845	-6	6838	1368	82060	921	0.9	19.49	82.10
11/17/23	8:37	4168.25		12.41				5	57	142.9	35.1	0.24	35	6826	-4	6822	1364	81863	929	0.9	19.25	81.24
11/17/23	8:42	4197.98		12.39				5	62	142.7	35.3	0.24	35	6868	-4	6863	1373	82362	935	0.9	19.16	81.21
11/17/23	8:47	4227.27		12.36				5	67	142.3	35.7	0.36	36	6766	-6	6760	1352	81117	942	0.9	18.57	79.34
11/17/23	8:52	4256.89		12.33				5	72	142.0	36.0	0.36	36	6842	-6	6836	1367	82032	952	0.9	18.49	79.48
11/17/23	8:57	4286.11		12.31				5	77	141.7	36.3	0.24	36	6750	-4	6746	1349	80948	959	0.9	18.07	77.81
11/17/23	9:02	4315.63		12.30				5	82	141.6	36.4	0.12	36	6819	-2	6817	1363	81805	964	0.9	18.18	78.26
11/17/23	9:07	4345.01		12.28				5	87	141.4	36.6	0.24	37	6787	-4	6783	1357	81392	968	0.9	17.89	77.50
11/17/23	9:12	4374.62		12.26				5	92	141.1	36.9	0.24	37	6840	-4	6836	1367	82029	974	0.9	17.85	77.63
11/17/23	9:17	4404.00		12.24				5	97	140.9	37.1	0.24	37	6787	-4	6783	1357	81392	980	0.9	17.53	76.55
11/17/23	9:22	4433.33		12.22				5	102	140.6	37.4	0.24	37	6775	-4	6771	1354	81253	986	0.9	17.33	75.95
11/17/23	9:27	4462.69		12.20				5	107	140.4	37.6	0.24	37	6782	-4	6778	1356	81336	992	0.9	17.17	75.57
11/17/23	9:32	4491.95		12.18				5	112	140.2	37.8	0.24	38	6759	-4	6755	1351	81059	998	0.9	16.95	74.85
11/17/23	9:37	4521.40		12.17				5	117	140.0	38.0	0.12	38	6803	-2	6801	1360	81610	1003	0.9	16.99	75.02
11/17/23	9:42	4550.63		12.15				5	122	139.8	38.2	0.24	38	6752	-4	6748	1350	80976	1007	0.9	16.68	74.11
11/17/23	9:47	4580.00		12.13				5	127	139.6	38.4	0.24	38	6784	-4	6780	1356	81364	1013	0.9	16.60	74.02
11/17/23	9:52	4609.13		12.12				5	132	139.4	38.6	0.12	39	6729	-2	6727	1345	80723	1018	0.9	16.40	73.11
11/17/23	9:57	4638.44		12.11				5	137	139.3	38.7	0.12	39	6771	-2	6769	1354	81222	1021	0.9	16.42	73.34
11/17/23	10:02	4667.70		12.10				5	142	139.2	38.8	0.12	39	6759	-2	6757	1351	81084	1024	0.9	16.31	73.00
11/17/23	10:07	4696.95		12.09				5	147	139.1	38.9	0.12	39	6757	-2	6755	1351	81056	1027	0.9	16.23	72.76
11/17/23	10:12	4726.12		12.07				5	152	138.8	39.2	0.24	39	6738	-4	6734	1347	80809	1031	0.9	16.01	72.22
11/17/23	10:17	4755.30		12.06				5	157	138.7	39.3	0.12	39	6741	-2	6739	1348	80862	1036	0.9	15.96	71.96
11/17/23	10:22	4784.60		12.05				5	162	138.6	39.4	0.12	39	6768	-2	6766	1353	81195	1039	0.9	15.95	72.04
11/17/23	10:27	4813.70		12.03				5	167	138.4	39.6	0.24	40	6722	-4	6718	1344	80615	1044	0.9	15.67	71.22
11/17/23	10:32	4842.81		12.01				5	172	138.1	39.9	0.24	40	6724	-4	6720	1344	80643	1050	0.9	15.53	70.83
11/17/23	10:37	4872.00		12.00				5	177	138.0	40.0	0.12	40	6743	-2	6741	1348	80890	1054	0.9	15.52	70.74
11/17/23	10:42	4901.11		11.99				5	182	137.9	40.1	0.12	40	6724	-2	6722	1344	80668	1057	0.9	15.40	70.35
11/17/23	10:47	4930.10		11.98				5	187	137.8	40.2	0.12	40	6697	-2	6695	1339	80335	1060	0.9	15.27	69.86
11/17/23																						
11/17/23																						
11/17/23																						
																			Minimum Rate:			69.86
													Raw Rate for design, prior to application of adjustment factors:									**68.00**

APPENDIX C

LABORATORY TEST RESULTS

APPENDIX C

GEOTECHNICAL LABORATORY TESTING

The geotechnical laboratory testing program was directed toward a quantitative and qualitative evaluation of the physical and mechanical properties of the soils underlying the site and to aid in verifying soil classification.

In-Situ Moisture and Density: The natural water content (ASTM D 2216) and in-situ dry density (ASTM D 2937) were determined for recovered relatively undisturbed ring-lined barrel drive samples, from our subsurface explorations. Results of these tests are shown on the logs at the appropriate sample depths, in Appendix B.

Expansion Index: An Expansion Index (EI) test was performed on a bulk sample of the site soils, in general accordance with the ASTM D 4829 Standard Test Method. Results of this test are presented on the "Expansion Index" sheet in this appendix.

Sieve Analysis: Sieve analyses (ASTM D 422) were performed on selected subsurface soil samples. These tests were performed to assist in the classification of the soil. Results of these tests are presented on the "*Particle Size Analysis of Soils*" figures.

Collapse Potential: Collapse potential tests were performed on selected soil samples in general accordance with ASTM Standard Test Method D 5333. Test results are presented on the "*One Dimensional Swell or Settlement*" figure.

Modified Proctor Compaction Curve: A laboratory modified Proctor compaction test (ASTM D 1557) was performed on a bulk soil sample to determine maximum laboratory dry density and optimum moisture content. Result of this test is presented on the following "*Modified Proctor Compaction Test*" plot in this appendix.

Percent Passing No. 200 Sieve: Percent fines (silt and clay) passing the No. 200 U.S. Standard Sieve was determined for soil samples in accordance with ASTM D1140 Standard Test Method. Samples were dried and passed through a No. 4 sieve, then a No. 200 sieve. Result of grain size analyses, as percent by dry weight passing the No. 200 U.S. Standard Sieve, is tabulated in this appendix and entered on our boring logs.

R-value Test: One R-value test was performed on collected bulk soil sample to evaluate pavement support characteristics of the near-surface soils. R-value test was performed in accordance with Caltrans Standard Test Method 301. The test result is presented in this appendix.

Remolded Direct Shear: One Remolded Direct Shear test was performed on a collected bulk soil sample to determine the shear strength of soils at sloped areas. Direct Shear test was performed in accordance with ASTM D3080-04. The test result is presented in this appendix.

Corrosivity Tests: To evaluate the corrosion potential of the subsurface soils at the site, we tested representative bulk samples collected during our subsurface investigation for pH, resistivity and soluble sulfate and chloride content testing. Results of these tests are presented at the end of this appendix.

MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	K. Jumig	Date:	11/21/23
Project No.:	RC23280	Checked By:	A. Santos	Date:	11/28/23
Boring No.:	LB-2-7	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Yellowish brown silty sand (SM)				

Note: Corrected dry density calculation assumes specific gravity of 2.70 and moisture content of 1.0% for oversize particles

Preparation Method:	X	Moist	
		Dry	
Compaction Method	X	Mechanical Ram	
		Manual Ram	

Scalp Fraction (%)	
#3/4	
#3/8	
#4	12.7

Rammer Weight (lb.) = 10.0

Height of Drop (in.) = 18.0

Mold Volume (ft³) 0.03320

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3896	3982	3995			
Weight of Mold (g)	1808	1808	1808			
Net Weight of Soil (g)	2088	2174	2187			
Wet Weight of Soil + Cont. (g)	951.7	937.0	899.8			
Dry Weight of Soil + Cont. (g)	902.1	869.6	819.4			
Weight of Container (g)	89.0	89.3	88.5			
Moisture Content (%)	6.10	8.64	11.00			
Wet Density (pcf)	138.6	144.4	145.2			
Dry Density (pcf)	130.7	132.9	130.8			

Maximum Dry Density (pcf) **132.9**

Optimum Moisture Content (%) **8.6**

Corrected Dry Density (pcf) **136.6**

Corrected Moisture Content (%) **7.6**

[X] Procedure A
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

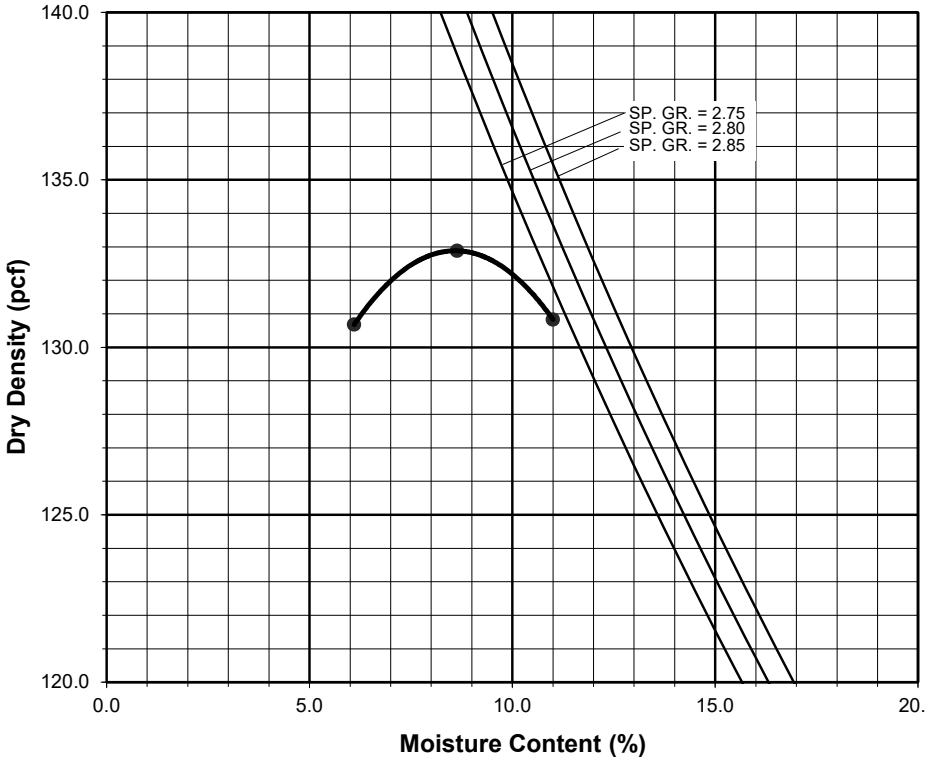
[ ] Procedure B
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

[ ] Procedure C
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
13:66:21
GR:SA:FI

Atterberg Limits:

LL,PL,PI



MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	K. Jumig	Date:	11/30/23
Project No.:	RC23280	Checked By:	A. Santos	Date:	12/13/23
Boring No.:	LB-3-3	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Pale brown silty sand (SM)				

Preparation Method: [X] Moist [ ] Dry

[X] Mechanical Ram [ ] Manual Ram

Mold Volume (ft³) 0.03320 *Ram Weight = 10 lb.; Drop = 18 in.*

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3841	3934	3879			
Weight of Mold (g)	1808	1808	1808			
Net Weight of Soil (g)	2033	2126	2071			
Wet Weight of Soil + Cont. (g)	866.8	977.1	892.8			
Dry Weight of Soil + Cont. (g)	810.5	895.3	801.4			
Weight of Container (g)	88.4	89.3	76.9			
Moisture Content (%)	7.80	10.15	12.62			
Wet Density (pcf)	135.0	141.2	137.5			
Dry Density (pcf)	125.2	128.2	122.1			

Maximum Dry Density (pcf) **128.3** **Optimum Moisture Content (%)** **9.8**

PROCEDURE USED

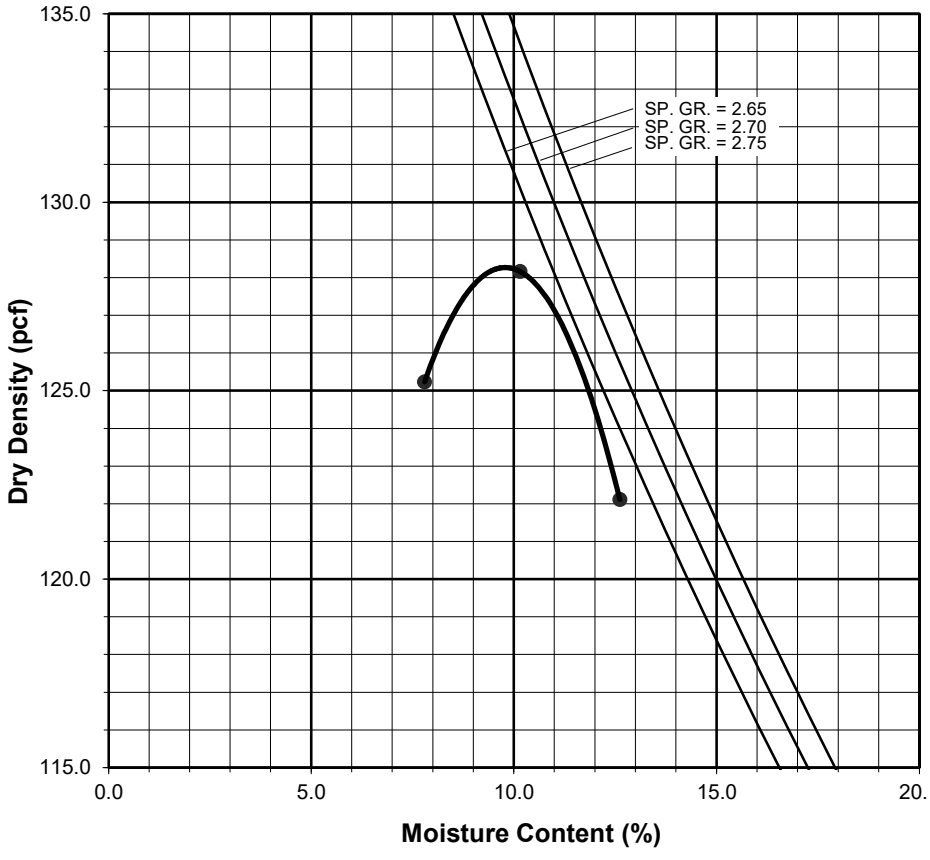
[X] **Procedure A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

[ ] **Procedure B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

[ ] **Procedure C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
1:62:37
GR:SA:FI

Atterberg Limits:
LL,PL,PI



MX LB-3-3, B-1 @ 0-5

MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	K. Jumig	Date:	11/29/23
Project No.:	RC23280	Checked By:	A. Santos	Date:	12/01/23
Boring No.:	LB-4-7	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Dark yellowish brown clayey sand (SC)				

Note: Corrected dry density calculation assumes specific gravity of 2.70 and moisture content of 1.0% for oversize particles

Preparation Method:	X	Moist	
		Dry	
Compaction Method	X	Mechanical Ram	
		Manual Ram	

Scalp Fraction (%)	
#3/4	
#3/8	
#4	7.3

Rammer Weight (lb.) = 10.0

Height of Drop (in.) = 18.0

Mold Volume (ft^3) 0.03320

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3890	3943	3858			
Weight of Mold (g)	1808	1808	1808			
Net Weight of Soil (g)	2082	2135	2050			
Wet Weight of Soil + Cont. (g)	926.2	971.8	874.6			
Dry Weight of Soil + Cont. (g)	863.7	889.8	784.0			
Weight of Container (g)	76.1	76.0	77.1			
Moisture Content (%)	7.94	10.08	12.82			
Wet Density (pcf)	138.3	141.8	136.1			
Dry Density (pcf)	128.1	128.8	120.7			

Maximum Dry Density (pcf)	**129.3**	**Optimum Moisture Content (%)**	**9.3**
Corrected Dry Density (pcf)	**131.5**	**Corrected Moisture Content (%)**	**8.7**

[X] Procedure A
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

[ ] Procedure B
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

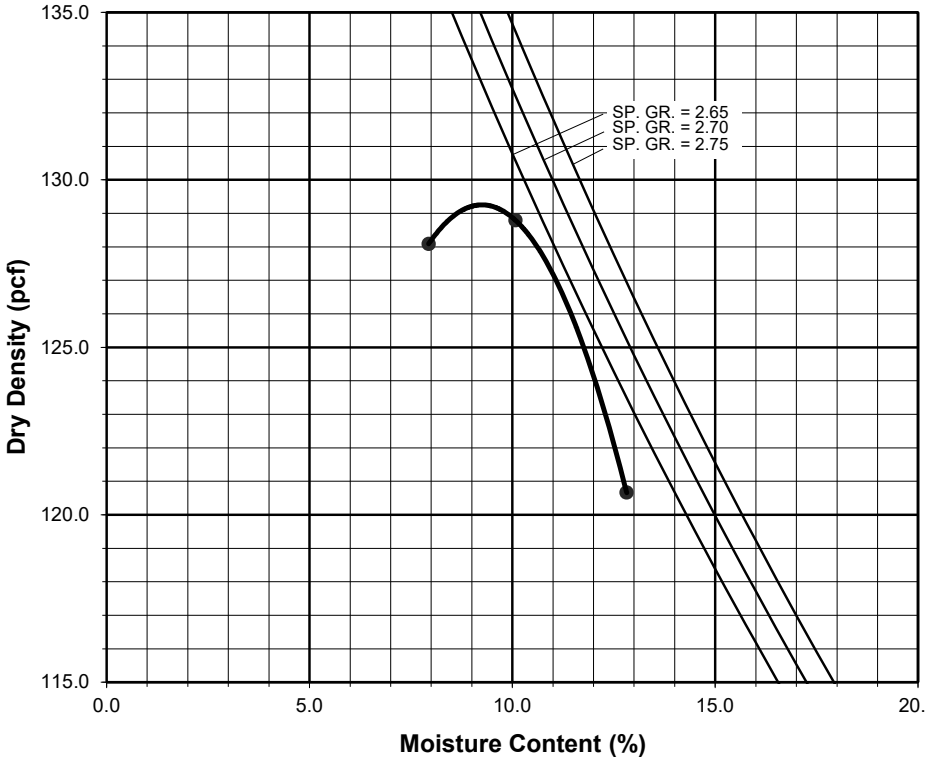
[ ] Procedure C
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:

GR:SA:FI

Atterberg Limits:

LL,PL,PI



MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	K. Jumig	Date:	11/29/23
Project No.:	RC23280	Checked By:	A. Santos	Date:	12/04/23
Boring No.:	LB-5-10	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Yellowish brown silty sand (SM)				

Preparation Method: [X] Moist [ ] Dry

[X] Mechanical Ram [ ] Manual Ram

Mold Volume (ft³) 0.03320 *Ram Weight = 10 lb.; Drop = 18 in.*

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3806	3928	3926			
Weight of Mold (g)	1808	1808	1808			
Net Weight of Soil (g)	1998	2120	2118			
Wet Weight of Soil + Cont. (g)	802.2	935.0	826.1			
Dry Weight of Soil + Cont. (g)	766.2	874.3	756.7			
Weight of Container (g)	75.7	78.0	75.6			
Moisture Content (%)	5.21	7.62	10.19			
Wet Density (pcf)	132.7	140.8	140.6			
Dry Density (pcf)	126.1	130.8	127.6			

Maximum Dry Density (pcf) **130.9** **Optimum Moisture Content (%)** **8.0**

PROCEDURE USED

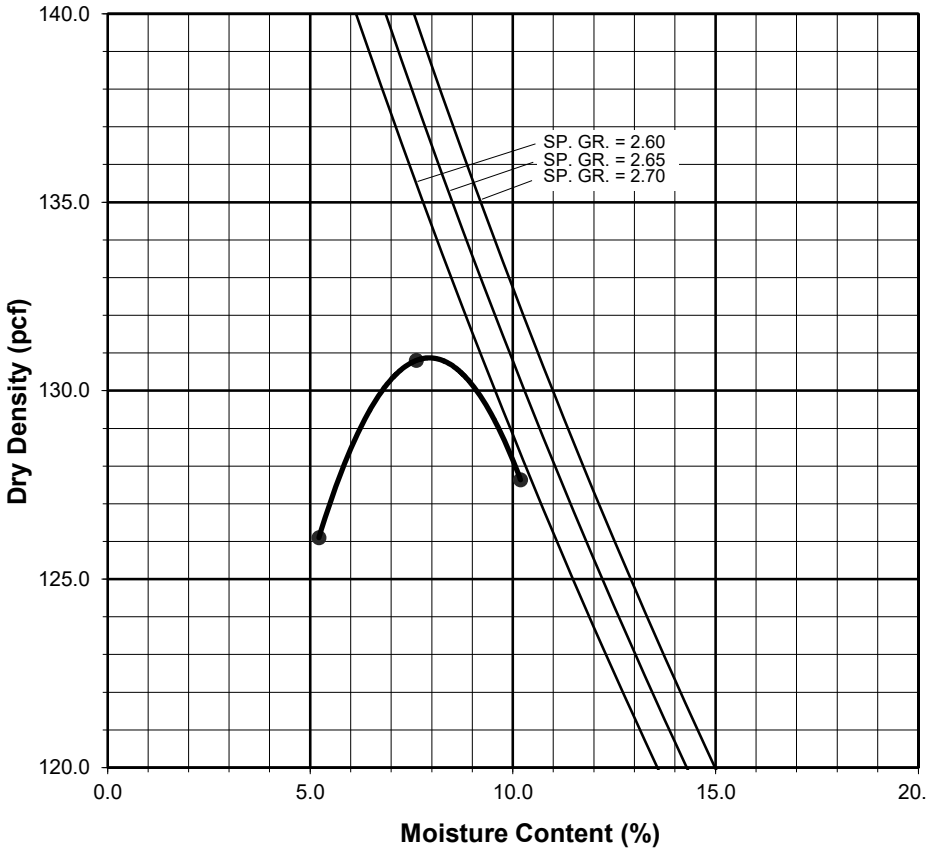
[X] **Procedure A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

[ ] **Procedure B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

[ ] **Procedure C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
2:72:26
GR:SA:FI

Atterberg Limits:
LL,PL,PI



MX LB-5-10, B-1 @ 0-5

MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	RMC/KJ	Date:	11/30/23
Project No.:	RC23280	Checked By:	A. Santos	Date:	12/01/23
Boring No.:	LB-7-3	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Yellowish brown silty sand (SM)				

Note: Corrected dry density calculation assumes specific gravity of 2.70 and moisture content of 1.0% for oversize particles

Preparation Method:	X	Moist	
		Dry	
Compaction Method	X	Mechanical Ram	
		Manual Ram	

Scalp Fraction (%)	
#3/4	
#3/8	
#4	6.6

Rammer Weight (lb.) = 10.0

Height of Drop (in.) = 18.0

Mold Volume (ft³) 0.03320

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	3917	3987	3981			
Weight of Mold (g)	1808	1808	1808			
Net Weight of Soil (g)	2109	2179	2173			
Wet Weight of Soil + Cont. (g)	833.0	926.2	1076.6			
Dry Weight of Soil + Cont. (g)	790.9	860.9	978.3			
Weight of Container (g)	74.4	77.1	74.4			
Moisture Content (%)	5.88	8.33	10.88			
Wet Density (pcf)	140.0	144.7	144.3			
Dry Density (pcf)	132.3	133.6	130.1			

Maximum Dry Density (pcf) **133.7**

Corrected Dry Density (pcf) **135.5**

Optimum Moisture Content (%) **7.8**

Corrected Moisture Content (%) **7.4**

[X] Procedure A
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

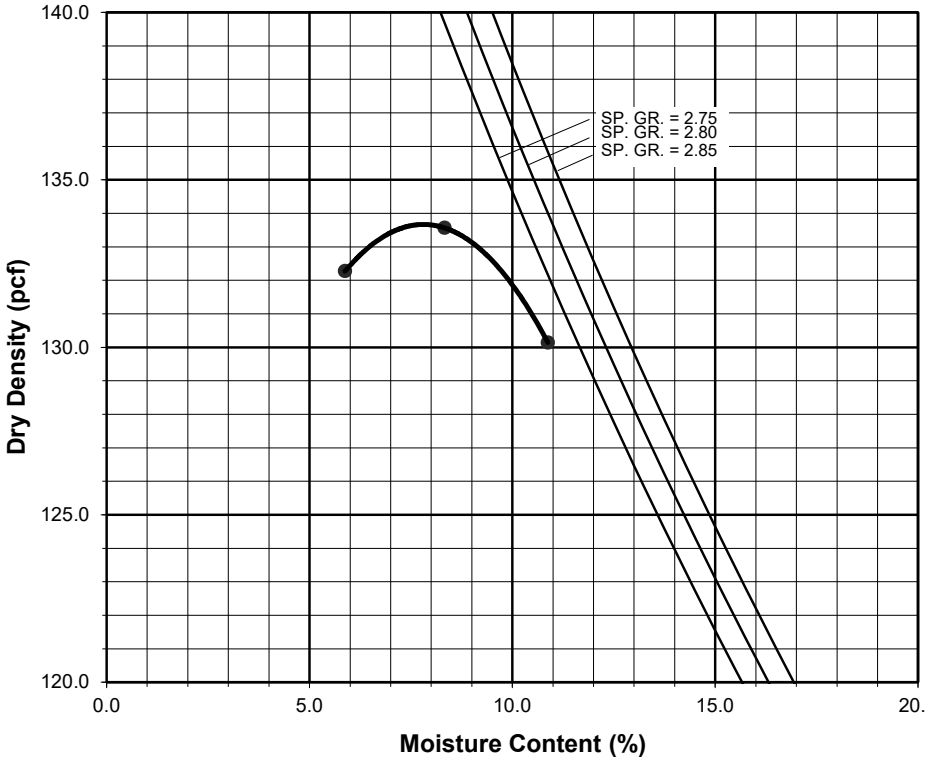
[ ] Procedure B
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

[ ] Procedure C
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
7:73:20
GR:SA:FI

Atterberg Limits:

LL,PL,PI



Boring No.	LB-1-1	LB-1-2	LB-2-1	LB-2-1	LB-2-2	LB-2-3	LB-2-4	LB-2-5
Sample No.	S-1	R-1	S-1	S-3	R-1	R-3	R-5	S-2
Depth (ft.)	15.0	2.5	15.0	35.0	2.5	7.5	20.0	25.0
Sample Type	SPT	Ring	SPT	SPT	Ring	Ring	Ring	SPT
Soil Identification	Brown sandy silt s(ML)	Dark reddish brown silt with sand (ML)s	Light brown silty sand (SM)	Light brown silty sand (SM)	Dark yellowish brown silty sand with gravel (SM)g	Very light brown poorly-graded sand with silt and gravel (SP-SM)g	Light brown silty sand (SM)	Light brown sandy lean clay s(CL)
Moisture Correction								
Wet Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weight of Container (g)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Moisture Content (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sample Dry Weight Determination								
Weight of Sample + Container (g)	501.1	927.6	581.0	650.1	1164.5	1003.0	614.2	528.8
Weight of Container (g)	109.4	300.2	76.7	236.6	300.3	108.5	107.3	107.3
Weight of Dry Sample (g)	391.7	627.4	504.3	413.5	864.2	894.5	506.9	421.5
Container No.:								
After Wash								
Method (A or B)	A	A	A	A	A	A	A	A
Dry Weight of Sample + Cont. (g)	272.0	475.9	469.5	556.2	1036.2	907.5	441.0	269.0
Weight of Container (g)	109.4	300.2	76.7	236.6	300.3	108.5	107.3	107.3
Dry Weight of Sample (g)	162.6	175.7	392.8	319.6	735.9	799.0	333.7	161.7
% Passing No. 200 Sieve	**58.5**	**72.0**	**22.1**	**22.7**	**14.8**	**10.7**	**34.2**	**61.6**
% Retained No. 200 Sieve	41.5	28.0	77.9	77.3	85.2	89.3	65.8	38.4

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280

Tested By: ACS/JD Date: 11/16/23

Boring No.	LB-2-6	LB-2-7	LB-2-8	LB-2-8	LB-3-7	LB-3-7	LB-3-8	LI-1
Sample No.	R-4	R-3	R-2	R-3	S-1	S-2b	R-1	S-2
Depth (ft.)	10.0	7.5	5.0	7.5	15.0	26.0	2.5	6.0
Sample Type	Ring	Ring	Ring	Ring	SPT	SPT	Ring	SPT
Soil Identification	Light brown poorly-graded sand with silt (SP-SM)	Reddish brown silty sand (SM)	Light brown silty sand (SM)	Light brown silty sand (SM)	Light brown silty sand (SM)	Light brown silty sand (SM)	Yellowish brown poorly-graded sand with clay and gravel (SP-SC)g	Yellowish brown poorly-graded sand (SP)
Moisture Correction								
Wet Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weight of Container (g)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Moisture Content (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sample Dry Weight Determination								
Weight of Sample + Container (g)	725.3	846.1	622.8	582.8	566.5	374.4	789.7	518.3
Weight of Container (g)	243.8	236.7	108.0	107.4	75.3	76.2	234.4	77.0
Weight of Dry Sample (g)	481.5	609.4	514.8	475.4	491.2	298.2	555.3	441.3
Container No.:								
After Wash								
Method (A or B)	A	A	A	A	A	A	A	A
Dry Weight of Sample + Cont. (g)	690.1	748.7	384.1	373.9	479.7	263.7	743.5	502.0
Weight of Container (g)	243.8	236.7	108.0	107.4	75.3	76.2	234.4	77.0
Dry Weight of Sample (g)	446.3	512.0	276.1	266.5	404.4	187.5	509.1	425.0
% Passing No. 200 Sieve	**7.3**	**16.0**	**46.4**	**43.9**	**17.7**	**37.1**	**8.3**	**3.7**
% Retained No. 200 Sieve	92.7	84.0	53.6	56.1	82.3	62.9	91.7	96.3

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Tested By: ACS/JD Date: 11/16/23

Boring No.	LB-1-1							
Sample No.	B-1							
Depth (ft.)	0-5							
Sample Type	Bulk							
Soil Identification	Strong brown silty sand (SM)							
No Moisture Correction; ASTM D 1140 modified to include splitting the sample on the #4 sieve								
Total Sample Dry Weight Determination								
Dry Weight of Soil + Container (g)	5702.7							
Weight of Container (g)	222.7							
Dry Weight of Soil (g)	5480.0							
Sample Dry Weight Determination, Retained on Sieve #4								
Dry Weight of Sample + Cont. (g)	513.1							
Weight of Container (g)	77.0							
Weight of Dry Sample (g)	436.1							
Sample Dry Weight Determination, Passing Sieve #4								
Dry Weight of Sample + Cont. (g)	669.7							
Weight of Container (g)	107.5							
Weight of Dry Sample (g)	562.2							
After Wash								
Method (A or B)	A							
Dry Weight of Sample + Cont. (g)	503.4							
Weight of Container (g)	107.5							
Weight of Dry Sample (g)	395.9							
% Passing No. 4 Sieve	92.0							
% Retained No. 4 Sieve	8.0							
% Passing No. 200 Sieve	**27.2**							

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280

Tested By: ACS/JD Date: 11/16/23

Boring No.	LB-3-3	LB-3-4	LB-3-5	LB-3-11	LB-3-11	LB-4-2	LB-4-3	LB-4-4
Sample No.	R-5	R-2	R-3	S-2	R-3	R-2	R-5	R-4
Depth (ft.)	20.0	5.0	7.5	7.5	20.0	5.0	20.0	20.0
Sample Type	Ring	Ring	Ring	SPT	Ring	Ring	Ring	Ring
Soil Identification	Light brown silty sand (SM)	Light yellowish brown poorly-graded sand (SP)	Light yellowish brown well-graded sand with gravel (SW)g	Light yellowish brown well-graded sand with clay and gravel (SW-SC)g	Light olive brown silty sand (SM)	Light yellowish brown poorly-graded sand with silt (SP-SM)	Yellowish brown silty sand (SM)	Gray clayey sand (SC), caliche noted
Moisture Correction								
Wet Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dry Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Weight of Container (g)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Moisture Content (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample Dry Weight Determination								
Weight of Sample + Container (g)	442.40	537.95	561.20	491.10	397.10	837.50	861.50	411.27
Weight of Container (g)	107.42	76.06	76.45	72.35	78.86	75.41	159.53	76.41
Weight of Dry Sample (g)	334.98	461.89	484.75	418.75	318.24	762.09	701.97	334.86
Container No.:								
After Wash								
Method (A or B)	A	A	A	A	A	A	A	B
Dry Weight of Sample + Cont. (g)	375.35	530.83	546.52	446.52	291.12	798.82	752.32	254.85
Weight of Container (g)	107.42	76.06	76.45	72.35	78.86	75.41	159.53	76.41
Dry Weight of Sample (g)	267.93	454.77	470.07	374.17	212.26	723.41	592.79	178.44
% Passing No. 200 Sieve	**20.0**	**1.5**	**3.0**	**10.6**	**33.3**	**5.1**	**15.6**	**46.7**
% Retained No. 200 Sieve	80.0	98.5	97.0	89.4	66.7	94.9	84.4	53.3

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Tested By: G. Bathala Date: 12/06/23

Boring No.	LB-4-6	LB-4-6	LB-4-6	LB-4-10	LB-5-1	LB-5-1	LB-5-3	LB-5-5
Sample No.	R-3	R-5	S-3	R-4	S-2	S-3	S-1	R-4
Depth (ft.)	7.5	20.0	35.0	20.0	10.0	20.0	5.0	10.0
Sample Type	Ring	Ring	SPT	Ring	SPT	SPT	SPT	Ring
Soil Identification	Light yellowish brown well-graded sand with silt and gravel (SW-SM)g	Light gray lean clay with sand (CL)s	Gray sandy silt s(ML), caliche noted	Gray lean clay with sand (CL)s	Yellowish brown silty clay with sand (CL-ML)s	Light yellowish brown well-graded sand with gravel (SW)g	Yellowish brown well-graded sand with silt and gravel (SW-SM)g	Light brown poorly-graded sand with silt (SP-SM)
Moisture Correction								
Wet Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dry Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Weight of Container (g)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Moisture Content (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample Dry Weight Determination								
Weight of Sample + Container (g)	1004.80	434.42	422.00	387.00	343.90	511.50	601.20	950.70
Weight of Container (g)	107.54	107.38	82.24	75.79	74.04	76.42	72.34	110.65
Weight of Dry Sample (g)	897.26	327.04	339.76	311.21	269.86	435.08	528.86	840.05
Container No.:								
After Wash								
Method (A or B)	A	B	A	B	B	A	A	A
Dry Weight of Sample + Cont. (g)	955.49	185.61	205.10	164.30	145.54	492.35	565.92	905.45
Weight of Container (g)	107.54	107.38	82.24	75.79	74.04	76.42	72.34	110.65
Dry Weight of Sample (g)	847.95	78.23	122.86	88.51	71.50	415.93	493.58	794.80
% Passing No. 200 Sieve	**5.5**	**76.1**	**63.8**	**71.6**	**73.5**	**4.4**	**6.7**	**5.4**
% Retained No. 200 Sieve	94.5	23.9	36.2	28.4	26.5	95.6	93.3	94.6

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280

Tested By: G. Bathala Date: 12/06/23

Boring No.	LB-5-5	LB-5-5	LB-5-7	LB-5-7	LB-6-6	LI-4	LI-4	LI-6
Sample No.	R-6	S-4	R-2	S-1	S-1	S-1	S-2	S-2
Depth (ft.)	30.0	45.0	5.0	15.0	15.0	10.0	13.0	13.0
Sample Type	Ring	SPT	Ring	SPT	SPT	SPT	SPT	SPT
Soil Identification	Olive brown sandy lean clay s(CL)	Olive sandy silty clay s(CL-ML)	Yellowish brown clayey sand (SC)	Light gray well-graded sand with silt and gravel (SW-SM)g	Light gray well-graded sand with silt and gravel (SW-SM)g	Yellowish brown poorly-graded sand with silt and gravel (SW-SM)g	Gray sandy lean clay s(CL), caliche noted	Light gray well-graded sand with silt and gravel (SW-SM)g
Moisture Correction								
Wet Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dry Weight of Soil + Container (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Weight of Container (g)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Moisture Content (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample Dry Weight Determination								
Weight of Sample + Container (g)	382.67	387.60	389.32	695.20	714.70	700.70	388.10	961.20
Weight of Container (g)	74.01	78.90	76.42	75.40	75.42	73.46	76.55	109.83
Weight of Dry Sample (g)	308.66	308.70	312.90	619.80	639.28	627.24	311.55	851.37
Container No.:								
After Wash								
Method (A or B)	B	B	B	A	A	A	B	A
Dry Weight of Sample + Cont. (g)	168.14	206.09	235.34	659.73	678.90	637.22	209.04	863.16
Weight of Container (g)	74.01	78.90	76.42	75.40	75.42	73.46	76.55	109.83
Dry Weight of Sample (g)	94.13	127.19	158.92	584.33	603.48	563.76	132.49	753.33
% Passing No. 200 Sieve	**69.5**	**58.8**	**49.2**	**5.7**	**5.6**	**10.1**	**57.5**	**11.5**
% Retained No. 200 Sieve	30.5	41.2	50.8	94.3	94.4	89.9	42.5	88.5

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PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280

Tested By: G. Bathala Date: 12/08/23

Boring No.	LB-3-5	LB-4-1						
Sample No.	B-1	B-1						
Depth (ft.)	0-5	0-5						
Sample Type	Bulk	Bulk						
Soil Identification	Brown silty sand (SM)	Dark yellowish brown silty sand (SM)						
No Moisture Correction; ASTM D 1140 modified to include splitting the sample on the #4 sieve								
Total Sample Dry Weight Determination								
Dry Weight of Soil + Container (g)	2928.9	3401.8						
Weight of Container (g)	230.3	280.2						
Dry Weight of Soil (g)	2698.6	3121.6						
Sample Dry Weight Determination, Retained on Sieve #4								
Dry Weight of Sample + Cont. (g)	320.1	169.0						
Weight of Container (g)	229.9	76.1						
Weight of Dry Sample (g)	90.2	92.9						
Sample Dry Weight Determination, Passing Sieve #4								
Dry Weight of Sample + Cont. (g)	579.0	627.7						
Weight of Container (g)	77.6	109.2						
Weight of Dry Sample (g)	501.4	518.5						
After Wash								
Method (A or B)	A	A						
Dry Weight of Sample + Cont. (g)	403.8	486.1						
Weight of Container (g)	77.6	109.2						
Weight of Dry Sample (g)	326.2	376.9						
% Passing No. 4 Sieve	96.7	97.0						
% Retained No. 4 Sieve	3.3	3.0						
% Passing No. 200 Sieve	**33.8**	**26.5**						

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PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280

Tested By: K. Jumig Date: 12/04/23

Boring No.	LB-6-5	LB-6-8	LB-6-9	LB-6-10	LB-6-10	LB-7-1	LB-7-6	LB-7-6
Sample No.	R-3	R-3	R-5	S-1	R-6	R-2	R-3	R-5
Depth (ft.)	7.5	7.5	20.0	15.0	30.0	5.0	7.5	20.0
Sample Type	Ring	Ring	Ring	SPT	Ring	Ring	Ring	Ring
Soil Identification	Olive brown sandy lean clay s(CL)	Pale brown poorly-graded sand with silt (SP-SM)	Pale brown silty sand (SM)	Pale brown silty sand (SM)	Pale brown sandy silty clay s(CL-ML)	Pale brown poorly-graded sand with silt (SP-SM)	Pale brown silty sand (SM)	Pale brown silty sand (SM)
Moisture Correction								
Wet Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dry Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weight of Container (g)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Moisture Content (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sample Dry Weight Determination								
Weight of Sample + Container (g)	637.6	847.7	686.5	782.8	761.4	840.3	779.4	607.4
Weight of Container (g)	109.8	74.7	110.9	220.2	249.7	110.4	110.1	107.1
Weight of Dry Sample (g)	527.8	773.0	575.6	562.6	511.7	729.9	669.3	500.3
Container No.:								
After Wash								
Method (A or B)	A	A	A	A	A	A	A	A
Dry Weight of Sample + Cont. (g)	323.6	809.5	551.1	679.7	495.1	789.1	692.9	364.2
Weight of Container (g)	109.8	74.7	110.9	220.2	249.7	110.4	110.1	107.1
Dry Weight of Sample (g)	213.8	734.8	440.2	459.5	245.4	678.7	582.8	257.1
% Passing No. 200 Sieve	**59.5**	**4.9**	**23.5**	**18.3**	**52.0**	**7.0**	**12.9**	**48.6**
% Retained No. 200 Sieve	40.5	95.1	76.5	81.7	48.0	93.0	87.1	51.4

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Tested By: JD/KJ Date: 12/08/23

Boring No.	LB-7-8	LB-7-10	LB-7-10	LI-8	LI-9	LI-11	LI-11	
Sample No.	R-2	R-3	R-5	S-2	S-2	S-1	S-2	
Depth (ft.)	5.0	7.5	20.0	6.0	6.0	3.0	6.0	
Sample Type	Ring	Ring	Ring	SPT	SPT	SPT	SPT	
Soil Identification	Pale brown poorly-graded sand with silt and gravel (SP-SM)g	Pale brown poorly-graded sand with silt (SP-SM)	Yellowish brown clayey sand (SC)	Yellowish brown poorly-graded sand with silt and gravel (SP-SM)g	Light yellowish brown poorly-graded sand with gravel (SP)g	Yellowish brown poorly-graded sand with silt (SP-SM)	Light yellowish brown poorly-graded sand with silt (SP-SM)	
Moisture Correction								
Wet Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Dry Weight of Soil + Container (g)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Weight of Container (g)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Moisture Content (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sample Dry Weight Determination								
Weight of Sample + Container (g)	939.1	1065.7	558.3	651.2	387.1	817.9	900.6	
Weight of Container (g)	107.2	302.0	82.4	107.3	76.7	77.1	76.1	
Weight of Dry Sample (g)	831.9	763.7	475.9	543.9	310.4	740.8	824.5	
Container No.:								
After Wash								
Method (A or B)	A	A	A	A	A	A	A	
Dry Weight of Sample + Cont. (g)	853.5	1023.9	326.2	617.5	374.6	750.0	856.5	
Weight of Container (g)	107.2	302.0	82.4	107.3	76.7	77.1	76.1	
Dry Weight of Sample (g)	746.3	721.9	243.8	510.2	297.9	672.9	780.4	
% Passing No. 200 Sieve	**10.3**	**5.5**	**48.8**	**6.2**	**4.0**	**9.2**	**5.3**	
% Retained No. 200 Sieve	89.7	94.5	51.2	93.8	96.0	90.8	94.7	

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280

Tested By: JD/KJ Date: 12/08/23

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-2-7
Sample No.: B-1
Soil Identification: Yellowish brown silty sand (SM)

Tested By: K. Jumig Date: 11/21/23
Checked By: J. Ward Date: 12/11/23
Depth (feet): 0-5

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	CP-17	4-C	Wt. of Air-Dry Soil + Cont.(g)	0.0	0.0
Wt. Air-Dried Soil + Cont.(g)	4647.9	683.8	Wt. of Dry Soil + Cont. (g)	0.0	0.0
Wt. of Container (g)	222.9	108.4	Wt. of Container No._____(g)	1.0	1.0
Dry Wt. of Soil (g)	4425.0	575.4	Moisture Content (%)	0.0	0.0

Passing #4 Material After Wet Sieve		
	Container No.	4-C
	Wt. of Dry Soil + Container (g)	555.4
	Wt. of Container (g)	108.4
	Dry Wt. of Soil Retained on # 200 Sieve (g)	447.0

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
3"	75.0			
1 1/2"	37.5	0.0		100.0
1"	25.0	104.3		97.6
3/4"	19.0	165.5		96.3
1/2"	12.5	289.9		93.4
3/8"	9.5	371.8		91.6
#4	4.75	560.3		87.3
#8	2.36		38.6	81.4
#16	1.18		99.2	72.2
#30	0.600		173.9	60.9
#50	0.300		252.0	49.1
#100	0.150		342.3	35.4
#200	0.075		436.3	21.1
PAN				

GRAVEL: **13 %**
SAND: **66 %**
FINES: **21 %**
GROUP SYMBOL: **SM**

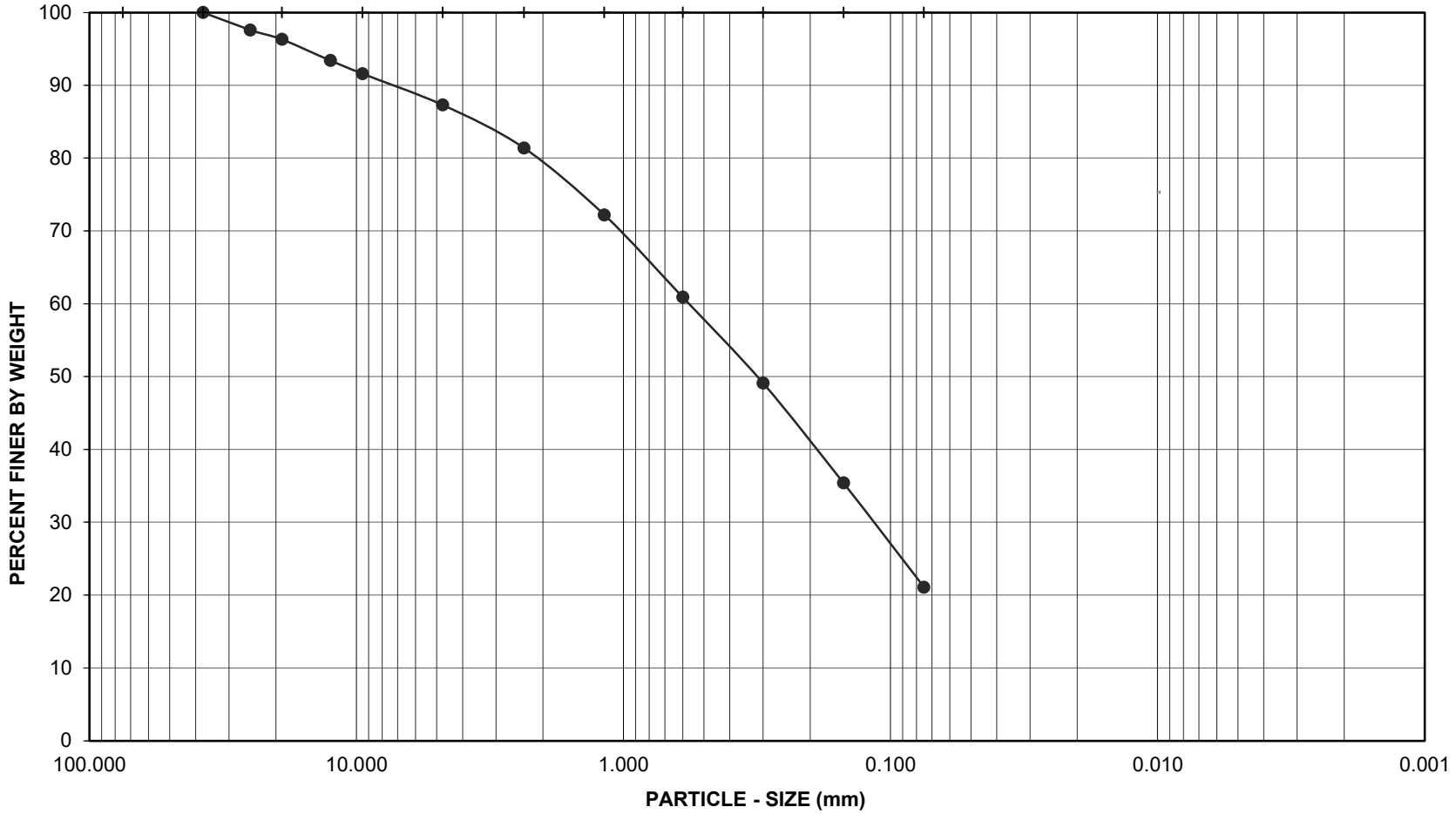
Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

Remarks: _____

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LB-2-7 Sample No.: B-1

Depth (feet): 0-5 Soil Type : SM

Soil Identification: Yellowish brown silty sand (SM)

GR:SA:FI : (%) 13 : 66 : 21

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Dec-23

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-3-3
Sample No.: B-1
Soil Identification: Pale brown silty sand (SM)

Tested By: K. Jumig Date: 12/04/23
Checked By: J. Ward Date: 12/27/23
Depth (feet): 0-5

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	A12	923	Wt. of Air-Dry Soil + Cont.(g)	0.0	0.0
Wt. Air-Dried Soil + Cont.(g)	3356.8	608.2	Wt. of Dry Soil + Cont. (g)	0.0	0.0
Wt. of Container (g)	231.9	107.8	Wt. of Container No._____(g)	1.0	1.0
Dry Wt. of Soil (g)	3124.9	500.4	Moisture Content (%)	0.0	0.0

Passing #4 Material After Wet Sieve		
	Container No.	923
	Wt. of Dry Soil + Container (g)	432.4
	Wt. of Container (g)	107.8
	Dry Wt. of Soil Retained on # 200 Sieve (g)	324.6

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
1 1/2"	37.5			
1"	25.0			
3/4"	19.0	0.0		100.0
1/2"	12.5	5.6		99.8
3/8"	9.5	8.5		99.7
#4	4.75	17.3		99.4
#8	2.36		8.9	97.6
#16	1.18		40.2	91.4
#30	0.600		91.4	81.2
#50	0.300		160.7	67.5
#100	0.150		243.6	51.0
#200	0.075		314.8	36.9
PAN				

GRAVEL: **1 %**
SAND: **62 %**
FINES: **37 %**
GROUP SYMBOL: **SM**

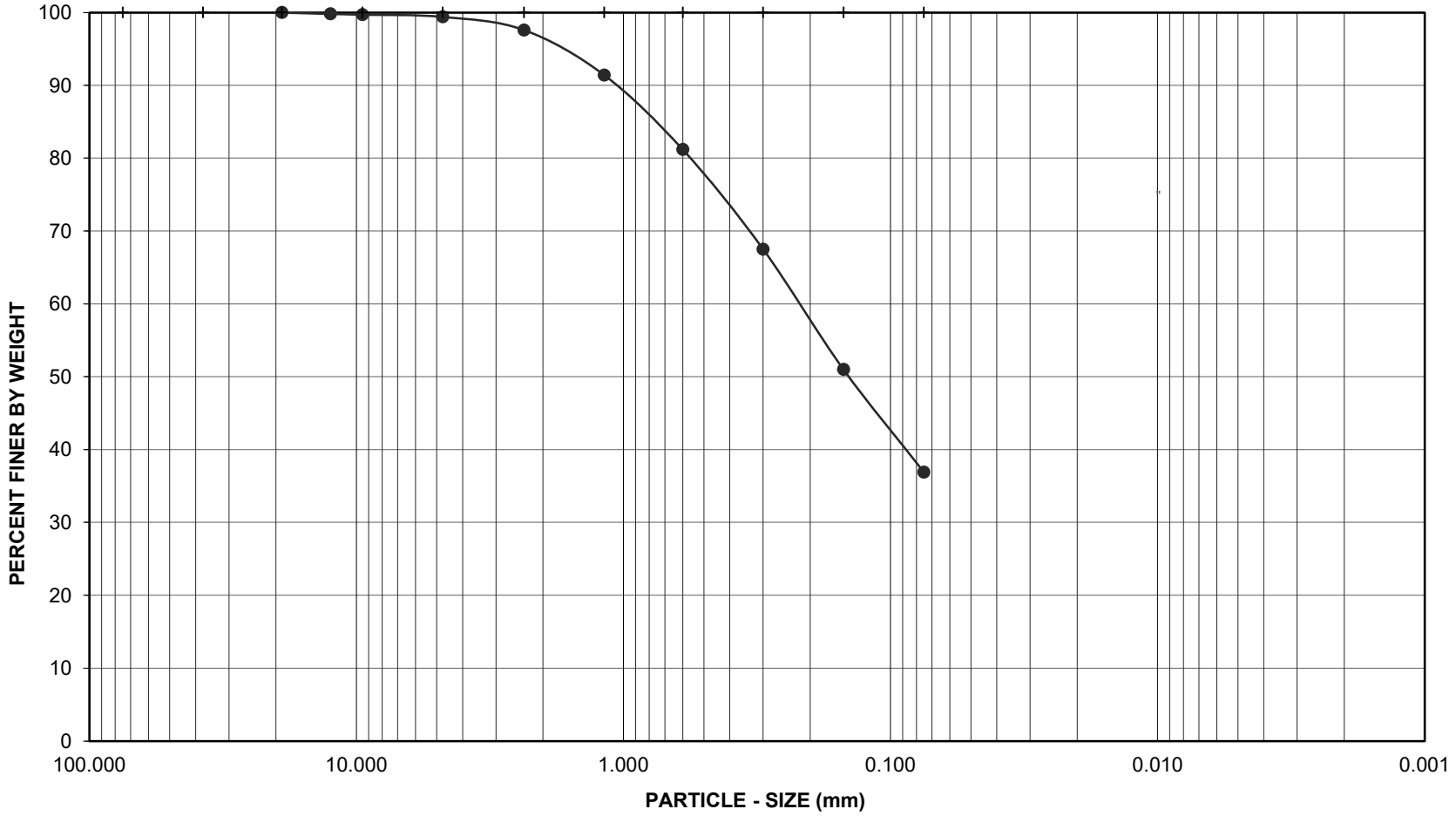
Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

Remarks: _____

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING | U.S. STANDARD SIEVE NUMBER | HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LB-3-3 Sample No.: B-1

Depth (feet): 0-5 Soil Type : SM

Soil Identification: Pale brown silty sand (SM)

GR:SA:FI : (%) 1 : 62 : 37

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Dec-23

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-5-10
Sample No.: B-1
Soil Identification: Yellowish brown silty sand (SM)

Tested By: K. Jumig Date: 12/01/23
Checked By: J. Ward Date: 12/27/23
Depth (feet): 0-5

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	918A	IMC-1	Wt. of Air-Dry Soil + Cont.(g)	0.0	0.0
Wt. Air-Dried Soil + Cont.(g)	2257.6	801.9	Wt. of Dry Soil + Cont. (g)	0.0	0.0
Wt. of Container (g)	105.3	300.1	Wt. of Container No._____(g)	1.0	1.0
Dry Wt. of Soil (g)	2152.3	501.8	Moisture Content (%)	0.0	0.0

Passing #4 Material After Wet Sieve		
	Container No.	IMC-1
	Wt. of Dry Soil + Container (g)	685.1
	Wt. of Container (g)	300.1
	Dry Wt. of Soil Retained on # 200 Sieve (g)	385.0

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
1 1/2"	37.5			
1"	25.0			
3/4"	19.0	0.0		100.0
1/2"	12.5	2.3		99.9
3/8"	9.5	18.3		99.1
#4	4.75	47.3		97.8
#8	2.36		25.0	92.9
#16	1.18		84.7	81.3
#30	0.600		150.3	68.5
#50	0.300		212.2	56.4
#100	0.150		281.7	42.9
#200	0.075		367.9	26.1
PAN				

GRAVEL: **2 %**
SAND: **72 %**
FINES: **26 %**
GROUP SYMBOL: **SM**

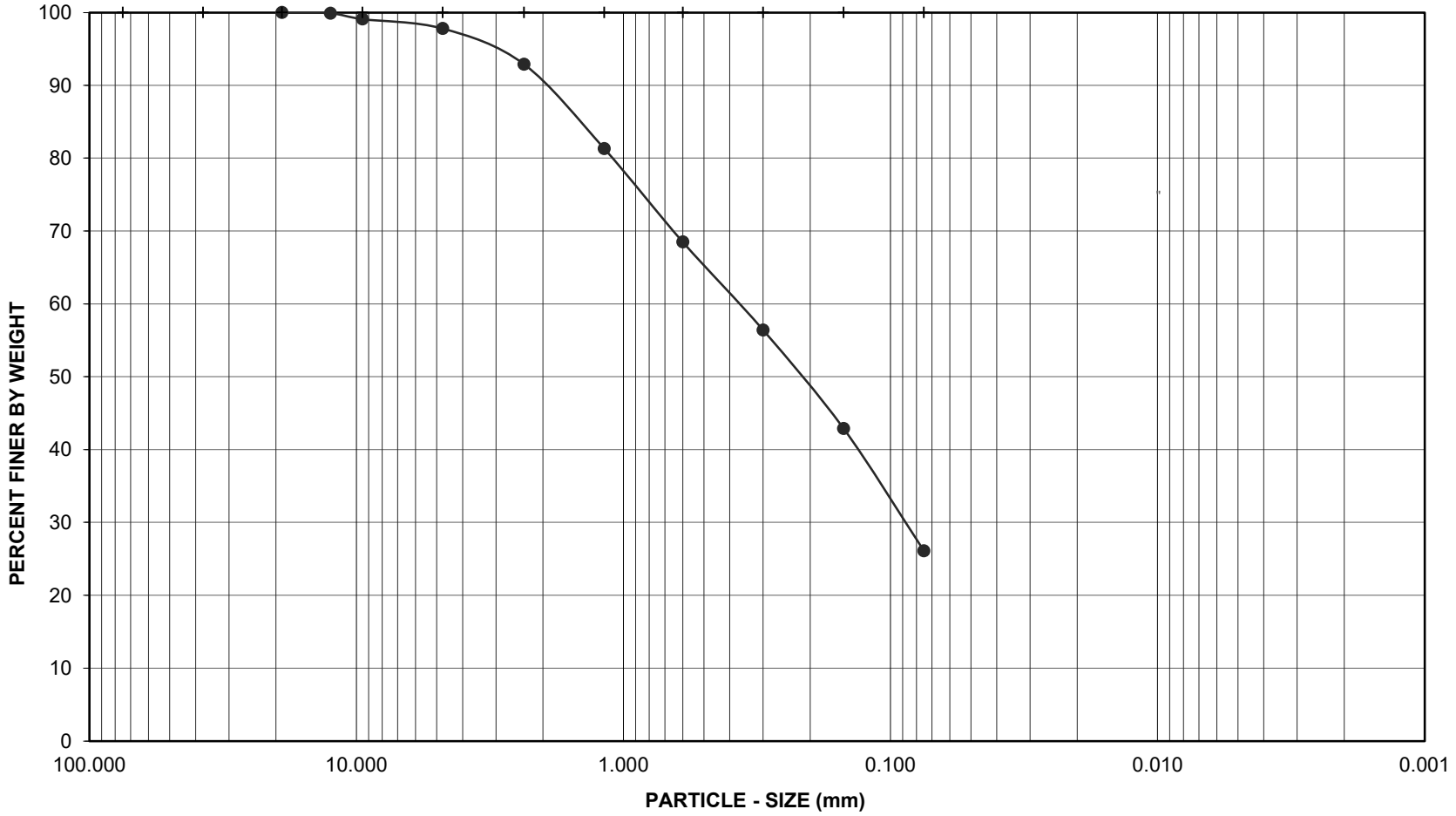
Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

Remarks: _____

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LB-5-10 Sample No.: B-1

Depth (feet): 0-5 Soil Type : SM

Soil Identification: Yellowish brown silty sand (SM)

GR:SA:FI : (%) 2 : 72 : 26

Dec-23

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-7-3
Sample No.: B-1
Soil Identification: Yellowish brown silty sand (SM)

Tested By: K. Jumig Date: 12/04/23
Checked By: J. Ward Date: 01/19/24
Depth (feet): 0-5

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	P-10	D-81	Wt. of Air-Dry Soil + Cont.(g)	0.0	0.0
Wt. Air-Dried Soil + Cont.(g)	3154.4	619.7	Wt. of Dry Soil + Cont. (g)	0.0	0.0
Wt. of Container (g)	277.4	107.9	Wt. of Container No._____(g)	1.0	1.0
Dry Wt. of Soil (g)	2877.0	511.8	Moisture Content (%)	0.0	0.0

Passing #4 Material After Wet Sieve		
	Container No.	D-81
	Wt. of Dry Soil + Container (g)	523.1
	Wt. of Container (g)	107.9
	Dry Wt. of Soil Retained on # 200 Sieve (g)	415.2

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
3"	75.0			
1 1/2"	37.5			
1"	25.0	0.0		100.0
3/4"	19.0	10.5		99.6
1/2"	12.5	54.0		98.1
3/8"	9.5	68.9		97.6
#4	4.75	191.2		93.4
#8	2.36		67.7	81.0
#16	1.18		154.3	65.2
#30	0.600		217.8	53.7
#50	0.300		279.5	42.4
#100	0.150		345.0	30.4
#200	0.075		402.1	20.0
PAN				

GRAVEL: **7 %**
SAND: **73 %**
FINES: **20 %**
GROUP SYMBOL: **SM**

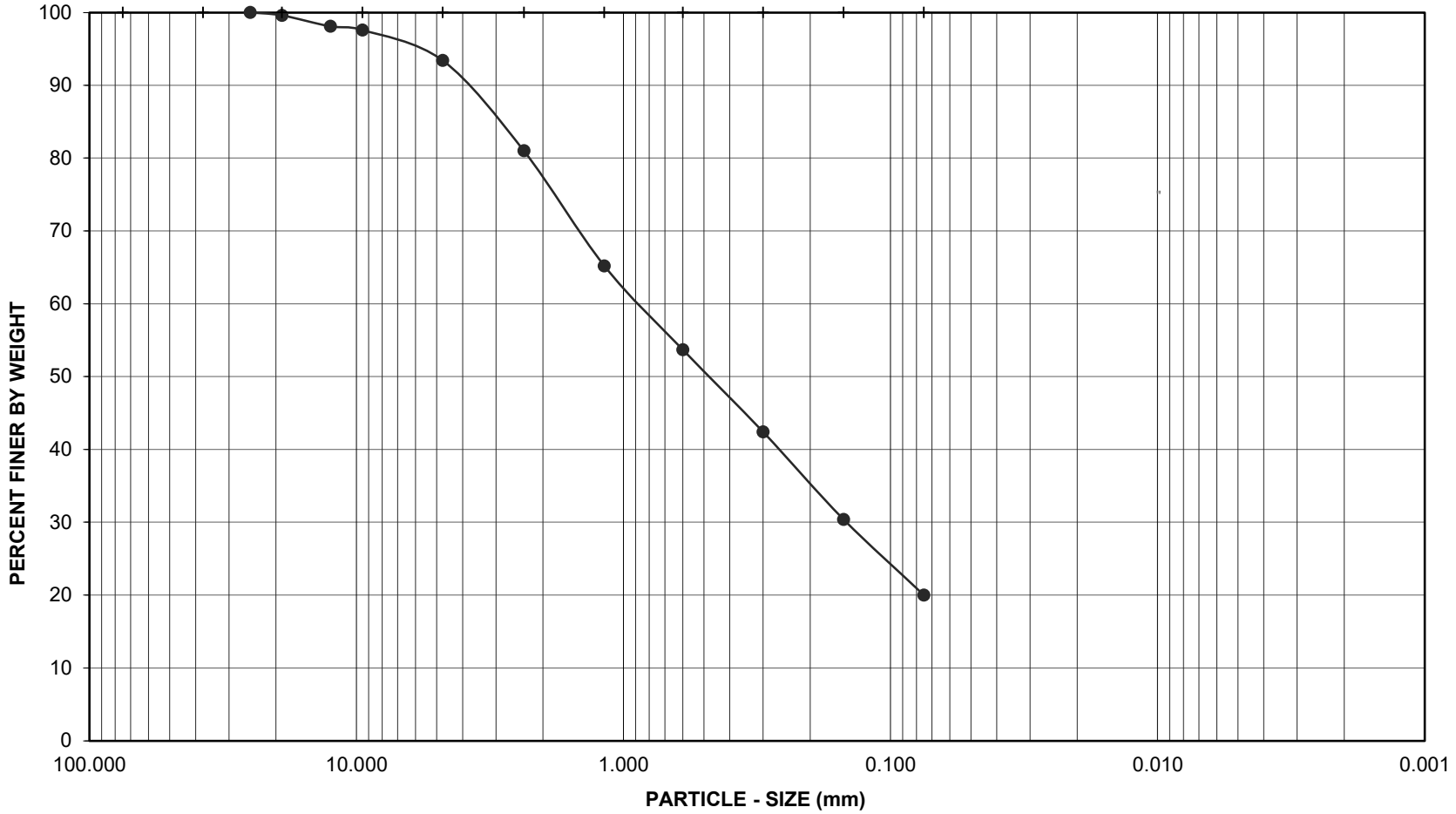
Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

Remarks: _____

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING | U.S. STANDARD SIEVE NUMBER | HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LB-7-3 Sample No.: B-1

Depth (feet): 0-5 Soil Type : SM

Soil Identification: Yellowish brown silty sand (SM)

GR:SA:FI : (%) 7 : 73 : 20

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jan-24

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-7-3
Sample No.: S-1
Soil Identification: Pale brown well-graded sand with silt and gravel (SW-SM)g

Tested By: K. Jumig Date: 01/08/24
Checked By: J. Ward Date: 01/19/24
Depth (feet): 15.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	610	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	422.9	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	89.2	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	333.7	Moisture Content (%)	0.0

After Wet Sieve	Container No.	610
	Wt. of Dry Soil + Container (g)	402.7
	Wt. of Container (g)	89.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	313.5

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0	0.0	100.0
3/4"	19.0	21.0	93.7
1/2"	12.5	50.4	84.9
3/8"	9.5	72.4	78.3
#4	4.75	98.6	70.5
#8	2.36	135.8	59.3
#16	1.18	196.5	41.1
#30	0.600	249.1	25.4
#50	0.300	279.3	16.3
#100	0.150	297.8	10.8
#200	0.075	310.6	6.9
PAN			

GRAVEL: **30 %**
SAND: **63 %**
FINES: **7 %**
GROUP SYMBOL: **(SW-SM)g**

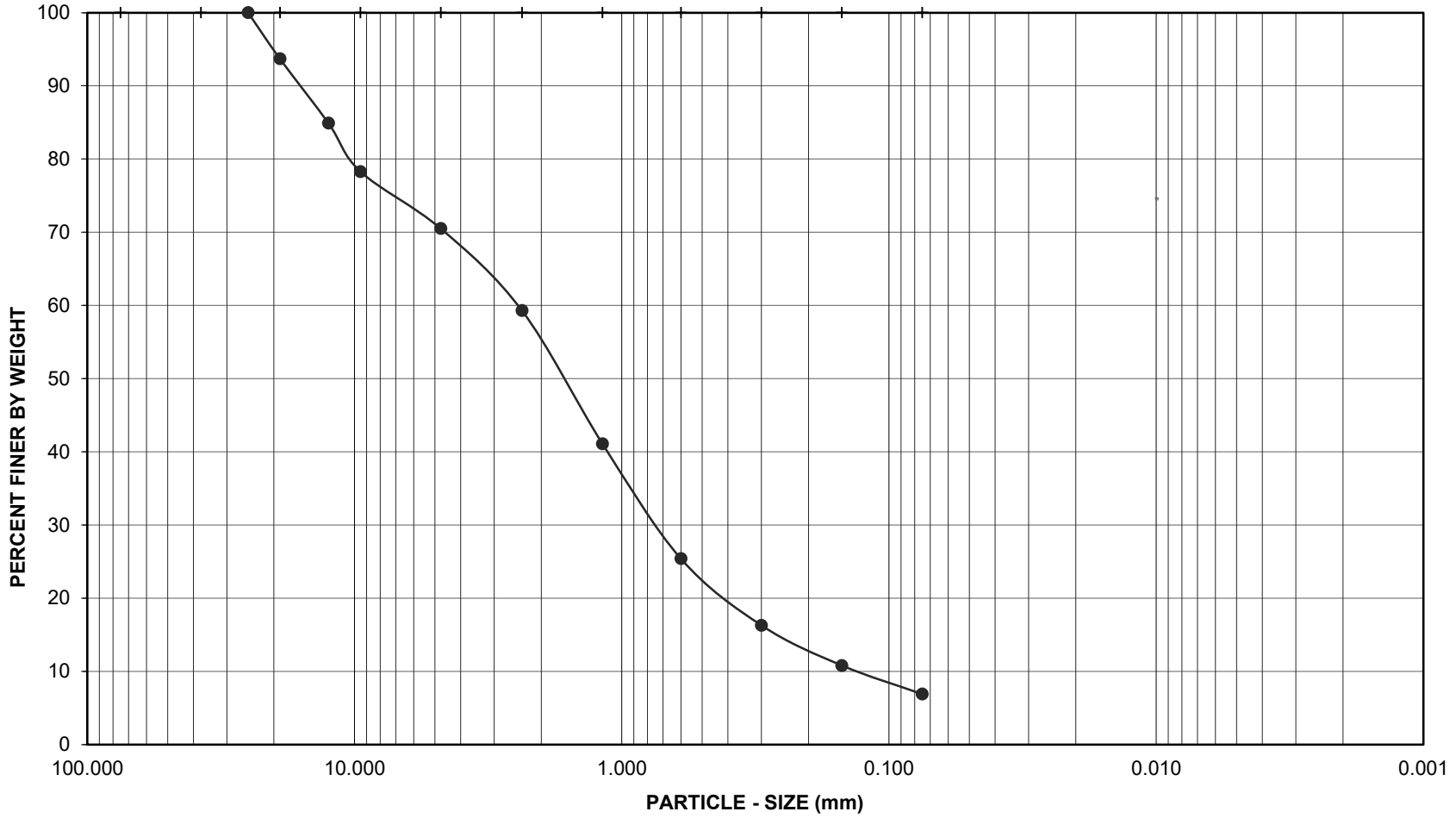
Cu = D60/D10 = 17.86
Cc = $(D30)^2/(D60*D10)$ = 1.61

Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING | U.S. STANDARD SIEVE NUMBER | HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LB-7-3 Sample No.: S-1

Depth (feet): 15.0 Soil Type : (SW-SM)g

Soil Identification: Pale brown well-graded sand with silt and gravel (SW-SM)g

GR:SA:FI : (%) 30 : 63 : 7

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jan-24

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LB-7-3
Sample No.: S-2
Soil Identification: Grayish brown silty sand (SM)

Tested By: K. Jumig Date: 01/08/24
Checked By: J. Ward Date: 01/19/24
Depth (feet): 25.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	749	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	369.0	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	77.2	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	291.8	Moisture Content (%)	0.0

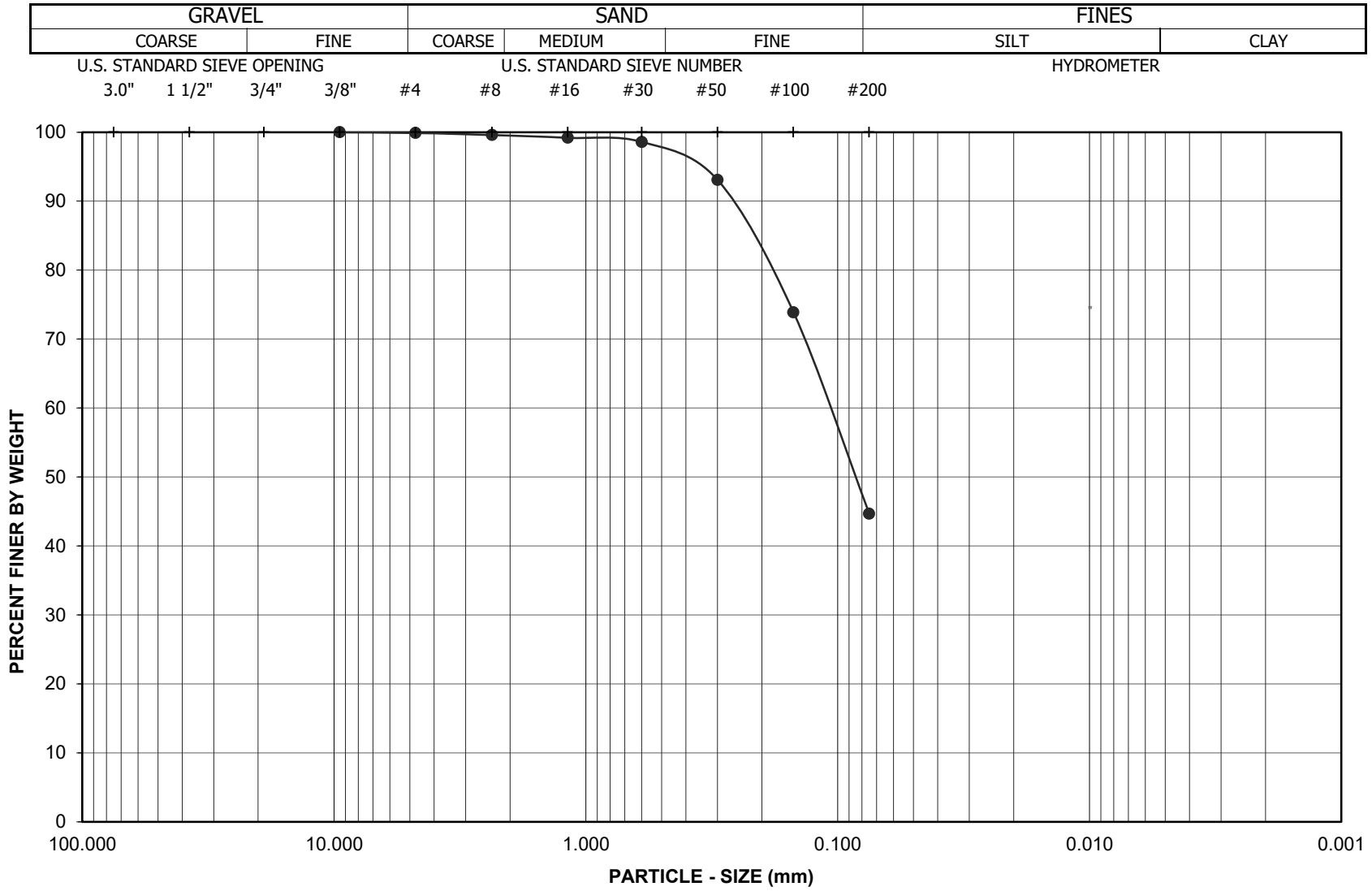
After Wet Sieve	Container No.	749
	Wt. of Dry Soil + Container (g)	251.2
	Wt. of Container (g)	77.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	174.0

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	0.2	99.9
#8	2.36	1.3	99.6
#16	1.18	2.2	99.2
#30	0.600	4.0	98.6
#50	0.300	20.0	93.1
#100	0.150	76.2	73.9
#200	0.075	161.4	44.7
PAN			

GRAVEL: **0 %**
SAND: **55 %**
FINES: **45 %**
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____
Cc = $(D30)^2/(D60*D10)$ = _____

Remarks: _____



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LB-7-3 Sample No.: S-2

Depth (feet): 25.0 Soil Type : SM

Soil Identification: Grayish brown silty sand (SM)

GR:SA:FI : (%) 0 : 55 : 45

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jan-24

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LI-3
Sample No.: S-2
Soil Identification: Light yellowish brown well-graded sand with silt and gravel (SW-SM)g

Tested By: G. Bathala Date: 12/08/23
Checked By: J. Ward Date: 12/27/23
Depth (feet): 6.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	CP	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	638.6	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	74.8	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	563.8	Moisture Content (%)	0.0

After Wet Sieve	Container No.	CP
	Wt. of Dry Soil + Container (g)	605.5
	Wt. of Container (g)	74.8
	Dry Wt. of Soil Retained on # 200 Sieve (g)	530.7

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0	0.0	100.0
3/4"	19.0	40.1	92.9
1/2"	12.5	87.6	84.5
3/8"	9.5	98.7	82.5
#4	4.75	136.2	75.8
#8	2.36	201.1	64.3
#16	1.18	298.7	47.0
#30	0.600	398.7	29.3
#50	0.300	475.1	15.7
#100	0.150	511.4	9.3
#200	0.075	529.0	6.2
PAN			

GRAVEL: **24 %**
SAND: **70 %**
FINES: **6 %**
GROUP SYMBOL: **(SW-SM)g**

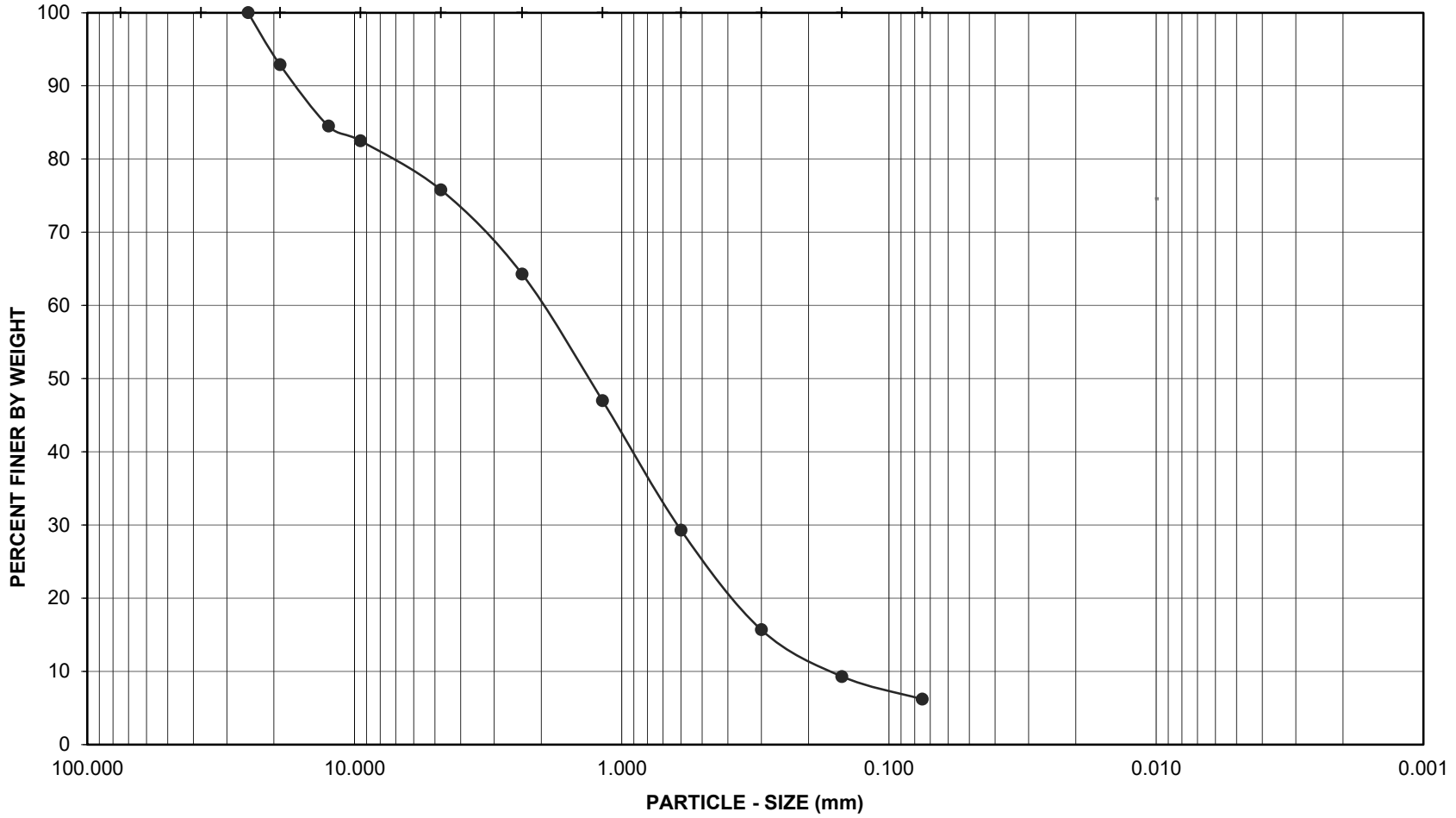
Cu = D60/D10 = 11.76
Cc = $(D30)^2/(D60*D10)$ = 1.09

Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LI-3 Sample No.: S-2

Depth (feet): 6.0 Soil Type : (SW-SM)g

Soil Identification: Light yellowish brown well-graded sand with silt and gravel (SW-SM)g

GR:SA:FI : (%) 24 : 70 : 6

Dec-23

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LI-5
Sample No.: S-2
Soil Identification: Light yellowish brown well-graded sand with silt and gravel (SW-SM)g

Tested By: G. Bathala Date: 12/08/23
Checked By: J. Ward Date: 12/27/23
Depth (feet): 6.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	923	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	861.0	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	107.9	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	753.1	Moisture Content (%)	0.0

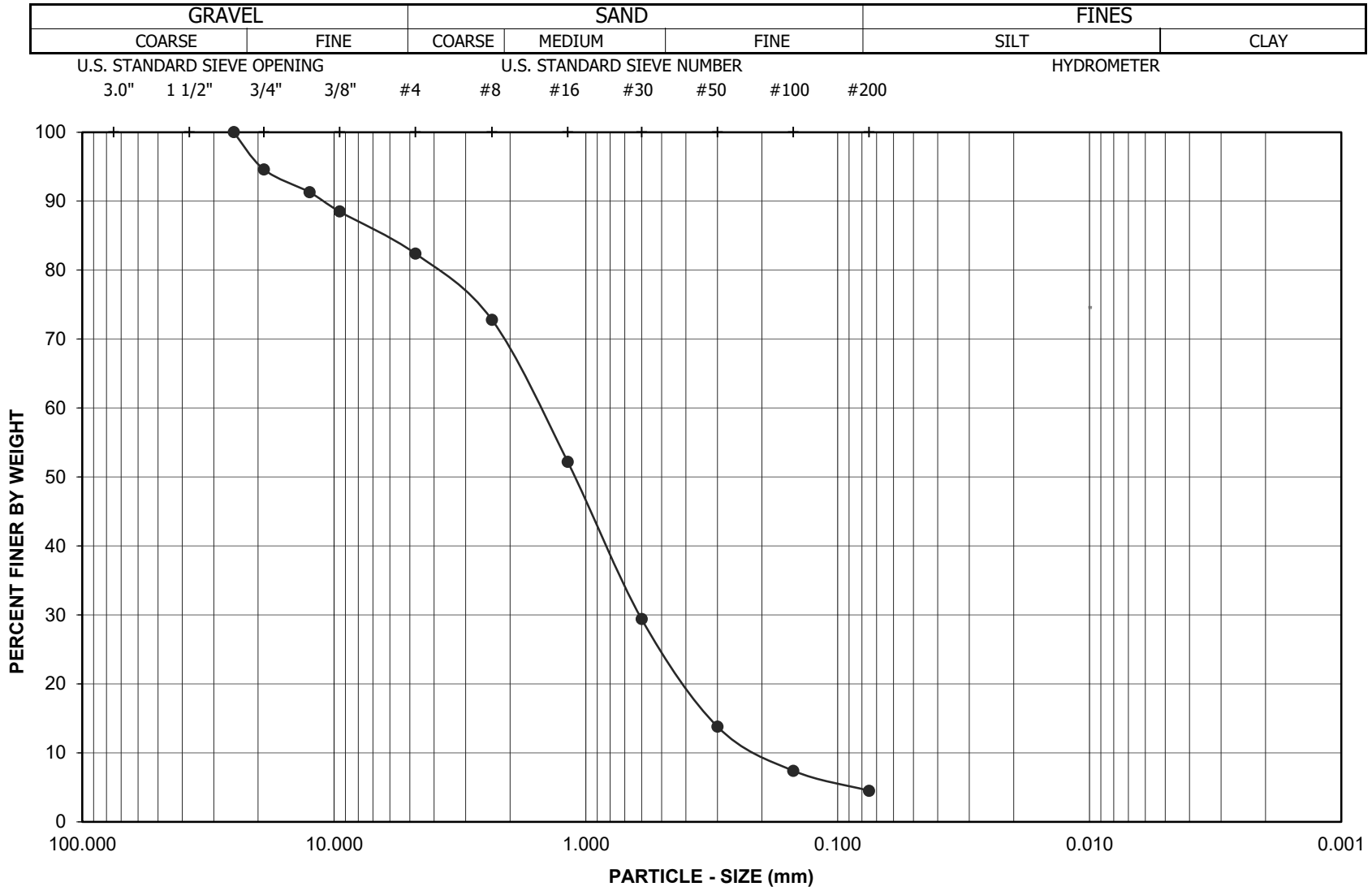
After Wet Sieve	Container No.	923
	Wt. of Dry Soil + Container (g)	829.3
	Wt. of Container (g)	107.9
	Dry Wt. of Soil Retained on # 200 Sieve (g)	721.4

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0	0.0	100.0
3/4"	19.0	41.0	94.6
1/2"	12.5	65.3	91.3
3/8"	9.5	86.4	88.5
#4	4.75	132.5	82.4
#8	2.36	205.0	72.8
#16	1.18	360.3	52.2
#30	0.600	531.7	29.4
#50	0.300	649.2	13.8
#100	0.150	697.4	7.4
#200	0.075	719.5	4.5
PAN			

GRAVEL: **18 %**
SAND: **77 %**
FINES: **5 %**
GROUP SYMBOL: **(SW-SM)g**

Cu = D60/D10 = 6.52
Cc = $(D30)^2/(D60*D10)$ = 1.08

Remarks:



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LI-5 Sample No.: S-2

Depth (feet): 6.0 Soil Type : (SW-SM)g

Soil Identification: Light yellowish brown well-graded sand with silt and gravel (SW-SM)g

GR:SA:FI : (%) 18 : 77 : 5

Dec-23

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LI-7
Sample No.: S-2
Soil Identification: Yellowish brown poorly-graded sand with silt (SP-SM)

Tested By: J. Domingo Date: 01/10/24
Checked By: J. Ward Date: 01/19/24
Depth (feet): 13.5

		Moisture Content of Total Air - Dry Soil	
Container No.:	936	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	1239.8	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	107.1	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	1132.7	Moisture Content (%)	0.0

After Wet Sieve	Container No.	936
	Wt. of Dry Soil + Container (g)	1130.1
	Wt. of Container (g)	107.1
	Dry Wt. of Soil Retained on # 200 Sieve (g)	1023.0

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0	0.0	100.0
3/4"	19.0	13.3	98.8
1/2"	12.5	59.1	94.8
3/8"	9.5	83.8	92.6
#4	4.75	144.8	87.2
#8	2.36	273.2	75.9
#16	1.18	496.3	56.2
#30	0.600	715.2	36.9
#50	0.300	880.9	22.2
#100	0.150	964.5	14.8
#200	0.075	1010.7	10.8
PAN			

GRAVEL: **13 %**
SAND: **76 %**
FINES: **11 %**
GROUP SYMBOL: **SP-SM**

Cu = D60/D10 = 25.93
Cc = $(D30)^2/(D60*D10)$ = 2.56

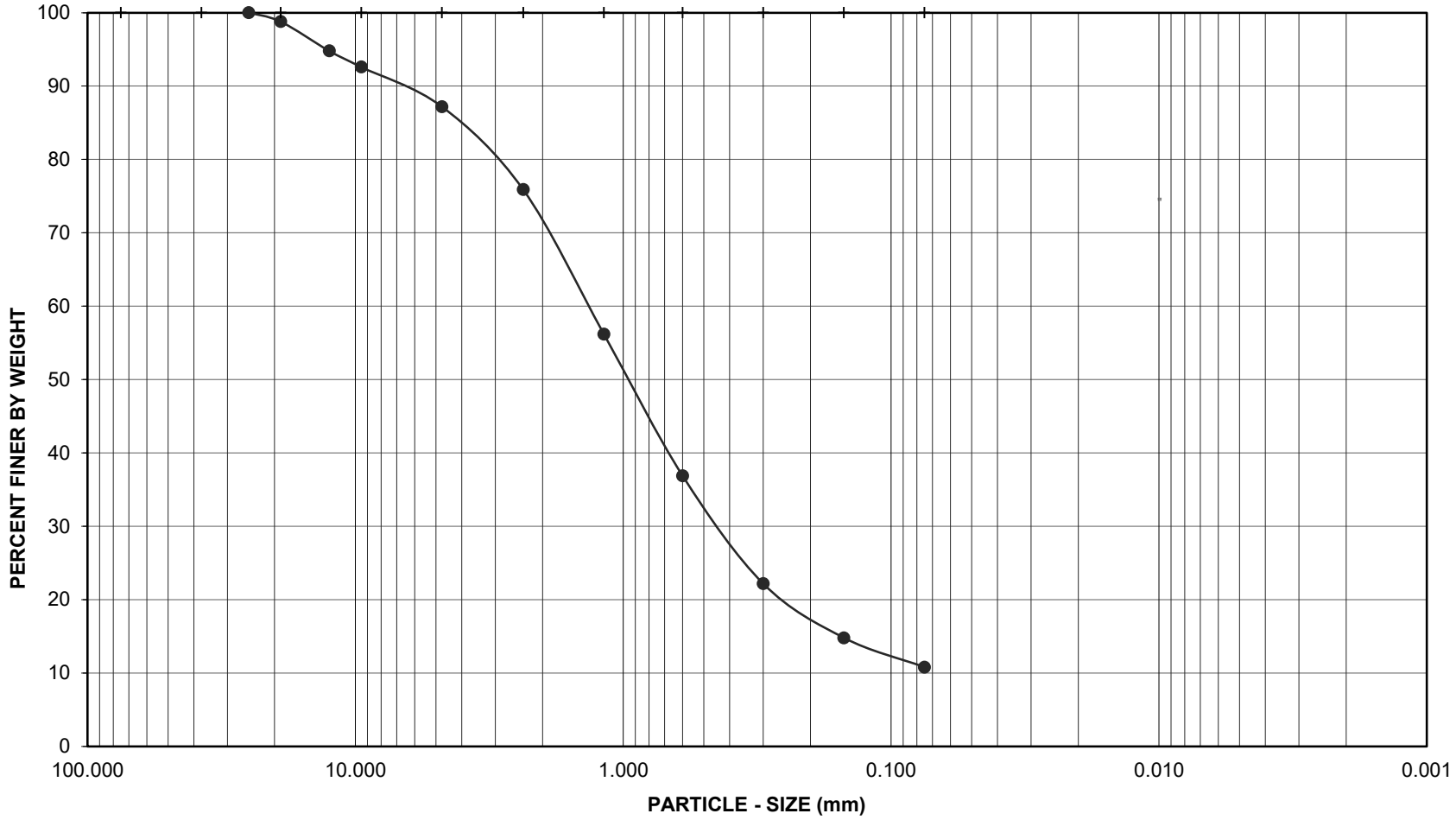
Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8" #4

U.S. STANDARD SIEVE NUMBER: #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Boring No.: LI-7 Sample No.: S-2

Depth (feet): 13.5 Soil Type : SP-SM

Soil Identification: Yellowish brown poorly-graded sand with silt (SP-SM)

GR:SA:FI : (%) 13 : 76 : 11

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Jan-24

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LI-10
Sample No.: S-2
Soil Identification: Light yellowish brown well-graded sand with silt (SW-SM)

Tested By: J. Domingo Date: 12/07/23
Checked By: J. Ward Date: 01/19/24
Depth (feet): 7.5

		Moisture Content of Total Air - Dry Soil	
Container No.:	537	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	694.2	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	82.5	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	611.7	Moisture Content (%)	0.0

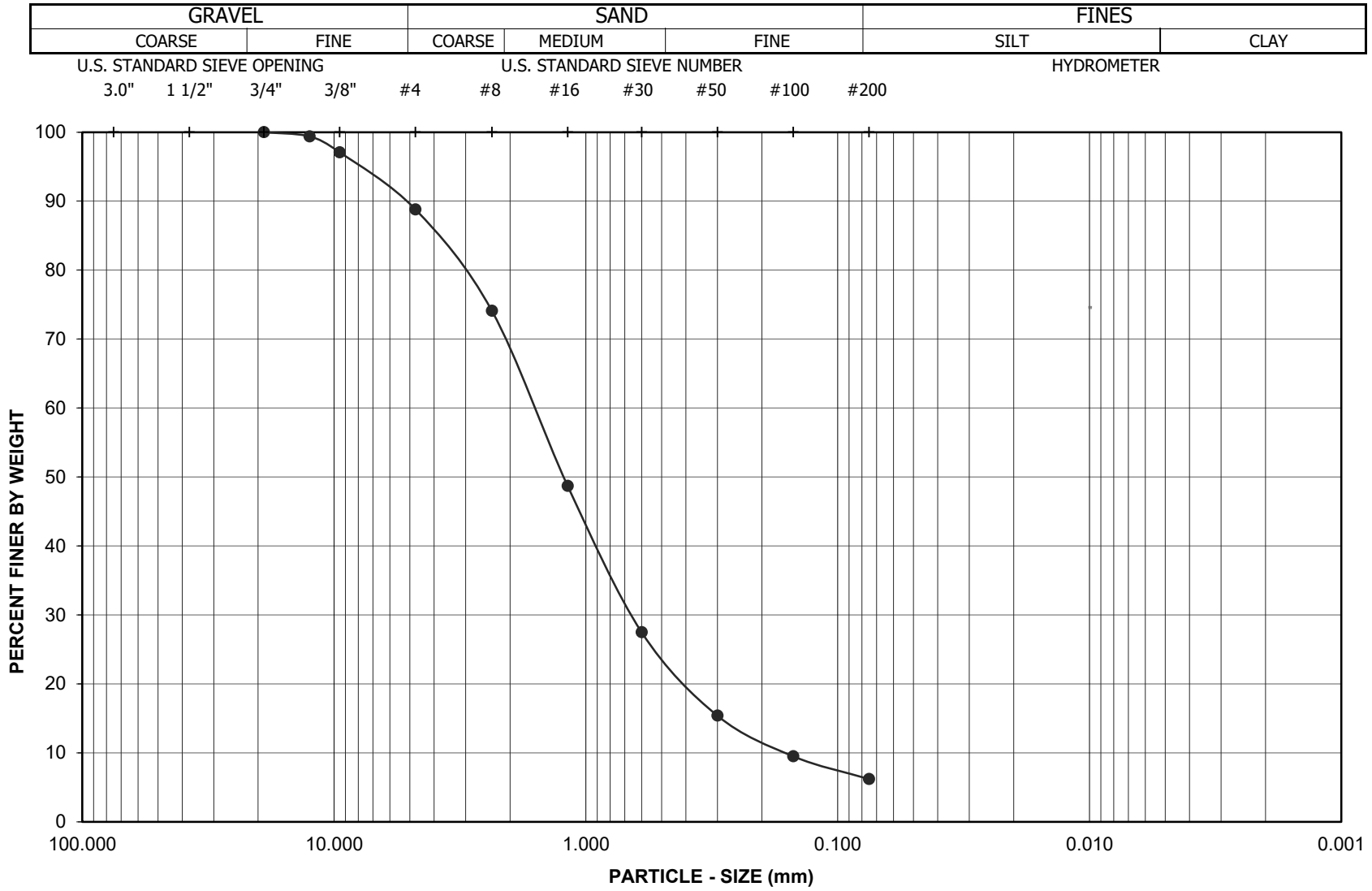
After Wet Sieve	Container No.	537
	Wt. of Dry Soil + Container (g)	658.8
	Wt. of Container (g)	82.5
	Dry Wt. of Soil Retained on # 200 Sieve (g)	576.3

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5		
1"	25.0		
3/4"	19.0	0.0	100.0
1/2"	12.5	3.5	99.4
3/8"	9.5	17.6	97.1
#4	4.75	68.5	88.8
#8	2.36	158.7	74.1
#16	1.18	313.5	48.7
#30	0.600	443.2	27.5
#50	0.300	517.8	15.4
#100	0.150	553.7	9.5
#200	0.075	573.7	6.2
PAN			

GRAVEL: **11 %**
SAND: **83 %**
FINES: **6 %**
GROUP SYMBOL: **SW-SM**

Cu = D60/D10 = 9.38
Cc = $(D30)^2/(D60*D10)$ = 1.93

Remarks:



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LI-10 Sample No.: S-2

Depth (feet): 7.5 Soil Type : SW-SM

Soil Identification: Light yellowish brown well-graded sand with silt (SW-SM)

GR:SA:FI : (%) 11 : 83 : 6

Jan-24

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: MileskiL/Adelanto Warehouses
Project No.: RC23280
Boring No.: LI-12
Sample No.: S-2
Soil Identification: Pale brown well-graded sand with silt and gravel (SW-SM)g

Tested By: J. Domingo Date: 12/07/23
Checked By: J. Ward Date: 01/19/24
Depth (feet): 13.0

		Moisture Content of Total Air - Dry Soil	
Container No.:	723	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	821.6	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	77.4	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	744.2	Moisture Content (%)	0.0

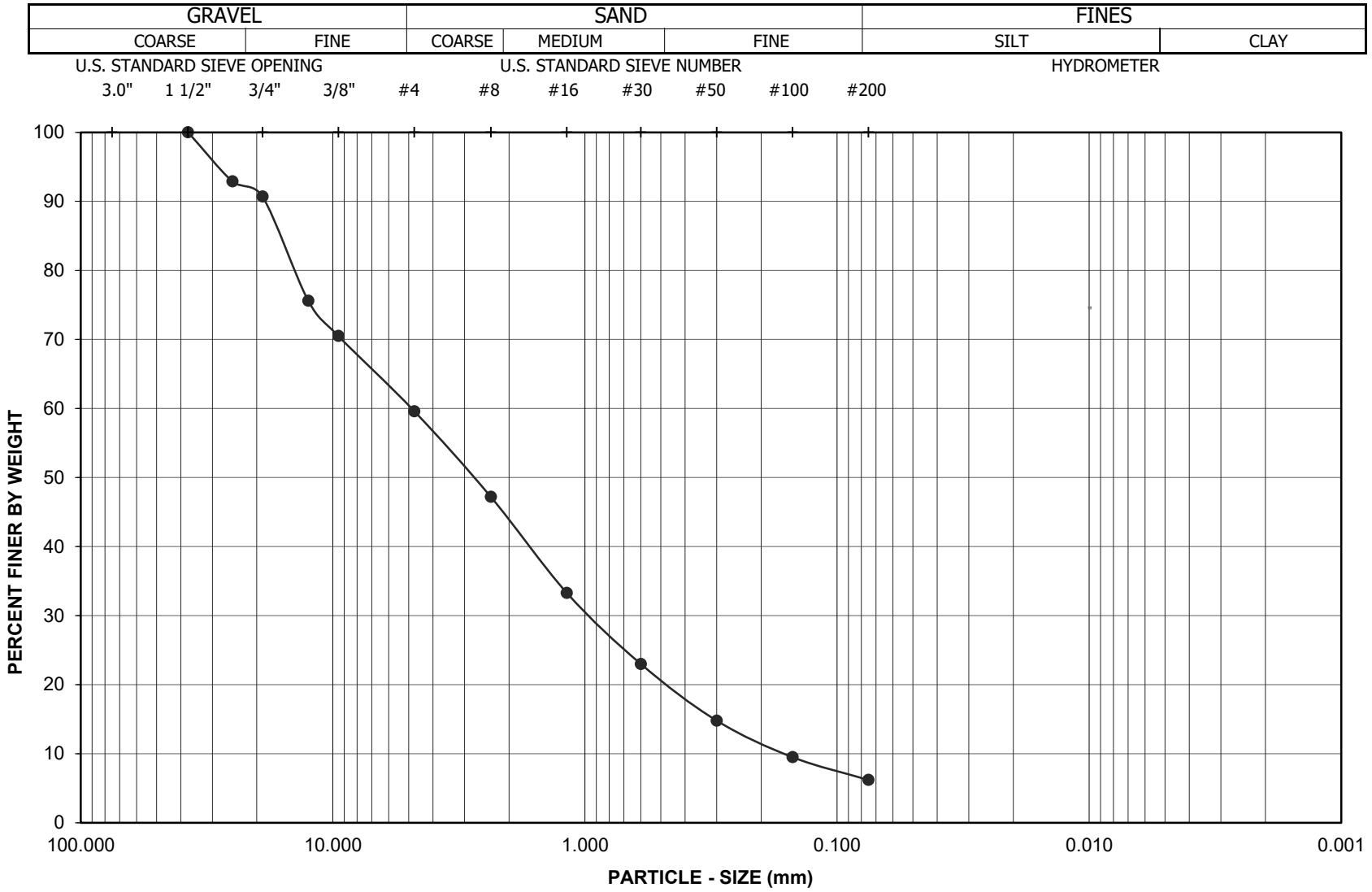
After Wet Sieve	Container No.	723
	Wt. of Dry Soil + Container (g)	779.9
	Wt. of Container (g)	77.4
	Dry Wt. of Soil Retained on # 200 Sieve (g)	702.5

U. S. Sieve Size (in.)	U. S. Sieve Size (mm.)	Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
1 1/2"	37.5	0.0	100.0
1"	25.0	52.8	92.9
3/4"	19.0	68.9	90.7
1/2"	12.5	181.9	75.6
3/8"	9.5	219.3	70.5
#4	4.75	300.6	59.6
#8	2.36	393.0	47.2
#16	1.18	496.2	33.3
#30	0.600	573.2	23.0
#50	0.300	634.2	14.8
#100	0.150	673.7	9.5
#200	0.075	698.0	6.2
PAN			

GRAVEL: **40 %**
SAND: **54 %**
FINES: **6 %**
GROUP SYMBOL: **(SW-SM)g**

Cu = D60/D10 = 30.63
Cc = $(D30)^2/(D60*D10)$ = 1.23

Remarks:



Project Name: MileskiL/Adelanto Warehouses

Project No.: RC23280

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LI-12 Sample No.: S-2

Depth (feet): 13.0 Soil Type : (SW-SM)g

Soil Identification: Pale brown well-graded sand with silt and gravel (SW-SM)g

GR:SA:FI : (%) 40 : 54 : 6

Jan-24

Leighton

SAND EQUIVALENT TEST

DOT CA Test 217

Project Name: MileskiL/Adelanto Warehouses Tested By: J. Domingo Date: 11/27/23

Project No. : RC23280 Input By: J. Ward Date: 12/11/23

Boring No.	Sample No.	Depth (ft.)	Soil Type	T1	T2	T3	T4	R1	R2	SE	Average SE
LB-1-1	B-1	0-5	Strong brown silty sand (SM)	08:24	08:34	08:37	08:57	11.4	2.1	19	**20**
				08:28	08:38	08:41	09:01	11.5	2.3	20	
				08:32	08:42	08:45	09:05	11.6	2.1	19	

T1 = Starting Time

T2 = (T1 + 10 min) Begin Agitation

(131 cycles in 45 sec)

T3 = Settlement Starting Time

T4 = (T3 + 20 min) Take Clay Reading (R1)

and Sand Reading (R2)

Sand Equivalent = R2 / R1 * 100

Record SE as Next Higher Integer

EXPANSION INDEX of SOILS
ASTM D 4829

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	GEB/ACS	Date:	12/04/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-4-1	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Dark yellowish brown silty sand (SM)				

Dry Wt. of Soil + Cont. (g)	1000.00
Wt. of Container No. (g)	0.00
Dry Wt. of Soil (g)	1000.00
Weight Soil Retained on #4 Sieve	0.00
Percent Passing # 4	100.00

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0235
Wt. Comp. Soil + Mold (g)	605.40	442.70
Wt. of Mold (g)	191.40	0.00
Specific Gravity (Assumed)	2.70	2.70
Container No.	O	O
Wet Wt. of Soil + Cont. (g)	819.60	634.10
Dry Wt. of Soil + Cont. (g)	751.90	571.20
Wt. of Container (g)	0.00	191.40
Moisture Content (%)	9.00	16.56
Wet Density (pcf)	124.9	130.5
Dry Density (pcf)	114.6	111.9
Void Ratio	0.472	0.506
Total Porosity	0.320	0.336
Pore Volume (cc)	66.3	71.2
Degree of Saturation (%) [S_{meas}]	**51.6**	88.4

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
12/04/23	11:00	1.0	0	0.4345
12/04/23	11:10	1.0	10	0.4340
Add Distilled Water to the Specimen				
12/04/23	11:36	1.0	26	0.4500
12/05/23	9:00	1.0	1310	0.4580
12/05/23	11:30	1.0	1460	0.4580

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**24**

EXPANSION INDEX of SOILS
ASTM D 4829

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Berdy	Date:	12/01/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	01/19/24
Boring No.:	LB-6-3	Depth (ft.):	0-5		
Sample No.:	B-1				
Soil Identification:	Yellowish brown silty sand (SM)				

Dry Wt. of Soil + Cont.	(g)	1000.00
Wt. of Container No.	(g)	0.00
Dry Wt. of Soil	(g)	1000.00
Weight Soil Retained on #4 Sieve		0.00
Percent Passing # 4		100.00

MOLDED SPECIMEN		Before Test	After Test
Specimen Diameter	(in.)	4.01	4.01
Specimen Height	(in.)	1.0000	1.0100
Wt. Comp. Soil + Mold	(g)	603.80	441.99
Wt. of Mold	(g)	191.40	0.00
Specific Gravity (Assumed)		2.70	2.70
Container No.		O	O
Wet Wt. of Soil + Cont.	(g)	819.60	633.39
Dry Wt. of Soil + Cont.	(g)	751.90	569.79
Wt. of Container	(g)	0.00	191.40
Moisture Content	(%)	9.00	16.81
Wet Density	(pcf)	124.4	132.0
Dry Density	(pcf)	114.1	113.0
Void Ratio		0.477	0.492
Total Porosity		0.323	0.330
Pore Volume	(cc)	66.9	68.9
Degree of Saturation (%) [S_{meas}]		**50.9**	92.3

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
12/01/23	10:53	1.0	0	0.5100
12/01/23	11:03	1.0	10	0.5090
Add Distilled Water to the Specimen				
12/01/23	12:03	1.0	60	0.5175
12/04/23	6:09	1.0	4026	0.5200
12/04/23	7:23	1.0	4100	0.5200

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**11**

Leighton

ATTERBERG LIMITS

ASTM D 4318

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	J. Domingo	Date:	11/20/23
Project No. :	RC23280	Input By:	J. Ward	Date:	12/11/23
Boring No.:	LB-2-1	Checked By:	J. Ward		
Sample No.:	S-3	Depth (ft.)	35.0		
Soil Identification:	Light brown silty sand (SM)				

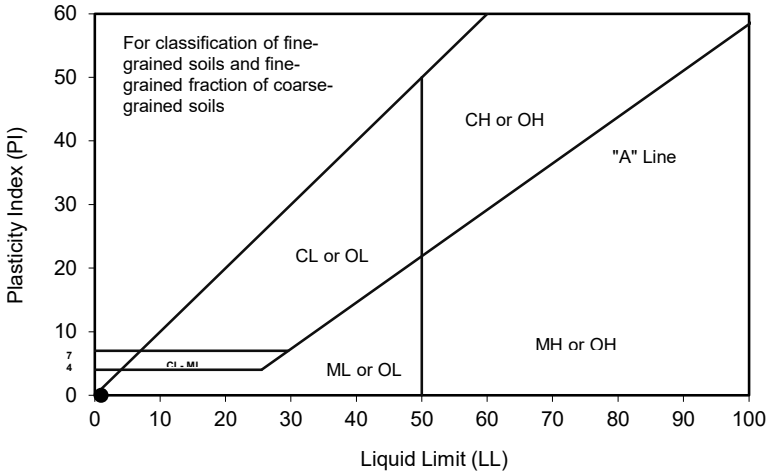
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			6			
Wet Wt. of Soil + Cont. (g)	**Cannot be rolled:**		27.43	**Cannot get more than 6 blows:**		
Dry Wt. of Soil + Cont. (g)	**NonPlastic**		23.04	**NonPlastic**		
Wt. of Container (g)			1.05			
Moisture Content (%) [Wn]			19.96			

Liquid Limit	**NP**
Plastic Limit	**NP**
Plasticity Index	**NP**
Classification	**NP**

PI at "A" - Line = 0.73(LL-20) =

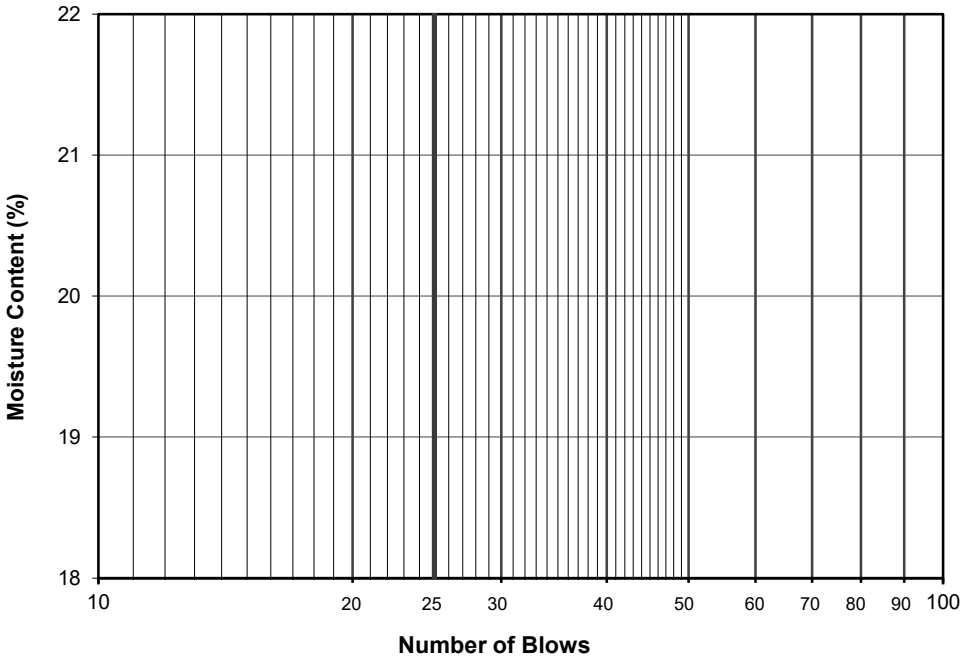
One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



PROCEDURES USED

- [ ] Wet Preparation
  Multipoint - Wet
- [X] Dry Preparation
  Multipoint - Dry
- [X] Procedure A
  Multipoint Test
- [ ] Procedure B
  One-point Test



Leighton

ATTERBERG LIMITS

ASTM D 4318

Project Name:	MileskiL/Adelando Warehouses	Tested By:	J. Domingo	Date:	12/11/23
Project No. :	RC23280	Input By:	G. Bathala	Date:	12/13/23
Boring No.:	LB-4-4	Checked By:	J. Ward		
Sample No.:	R-4	Depth (ft.)	20.0		
Soil Identification:	Gray clayey sand (SC), caliche noted				

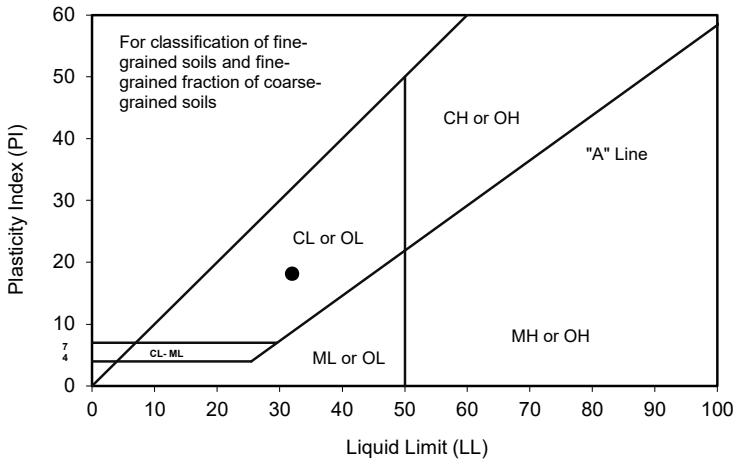
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			30	24	17	
Wet Wt. of Soil + Cont. (g)	9.12	9.39	22.62	22.34	22.73	
Dry Wt. of Soil + Cont. (g)	8.13	8.38	17.52	17.18	17.17	
Wt. of Container (g)	1.01	1.09	1.05	1.06	1.12	
Moisture Content (%) [Wn]	13.90	13.85	30.97	32.01	34.64	

Liquid Limit	**32**
Plastic Limit	**14**
Plasticity Index	**18**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 8.76

One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



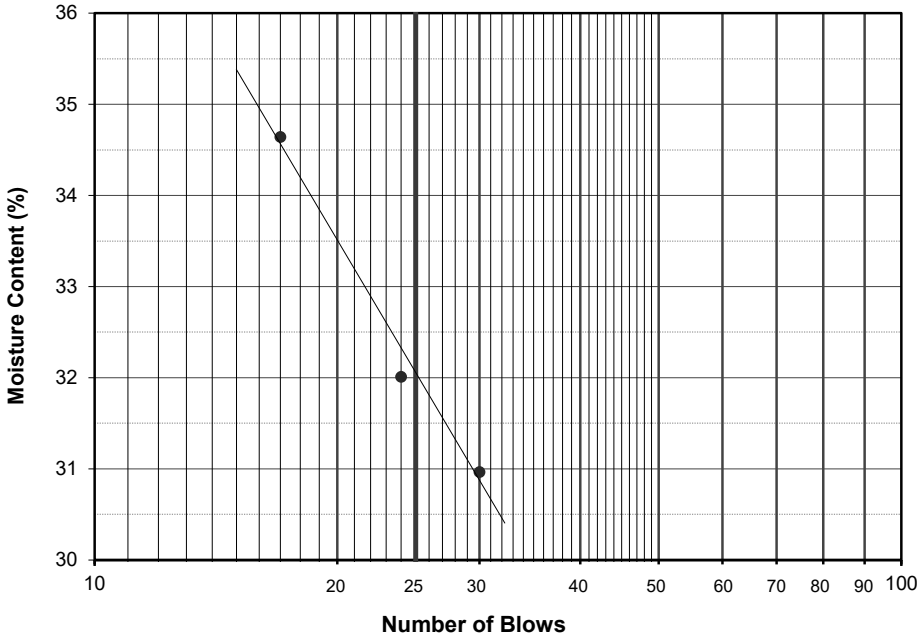
PROCEDURES USED

☐ Wet Preparation
Multipoint - Wet

☒ Dry Preparation
Multipoint - Dry

☒ Procedure A
Multipoint Test

☐ Procedure B
One-point Test



Leighton

ATTERBERG LIMITS

ASTM D 4318

Project Name:	MileskiL/Adelando Warehouses	Tested By:	J. Domingo	Date:	12/12/23
Project No. :	RC23280	Input By:	G. Bathala	Date:	12/13/23
Boring No.:	LB-4-6	Checked By:	J. Ward		
Sample No.:	R-5	Depth (ft.)	20.0		
Soil Identification:	Light gray lean clay with sand (CL)s				

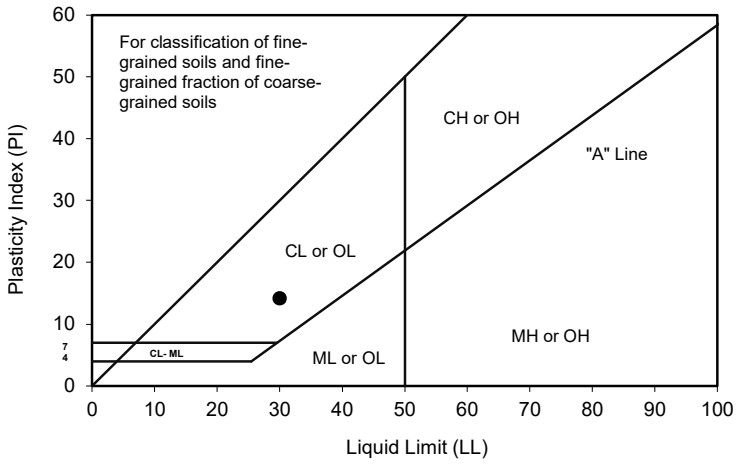
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			30	24	18	
Wet Wt. of Soil + Cont. (g)	9.29	9.40	23.58	23.06	23.16	
Dry Wt. of Soil + Cont. (g)	8.17	8.26	18.45	17.87	17.85	
Wt. of Container (g)	1.07	1.08	1.05	1.10	1.05	
Moisture Content (%) [Wn]	15.77	15.88	29.48	30.95	31.61	

Liquid Limit	**30**
Plastic Limit	**16**
Plasticity Index	**14**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 7.3

One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



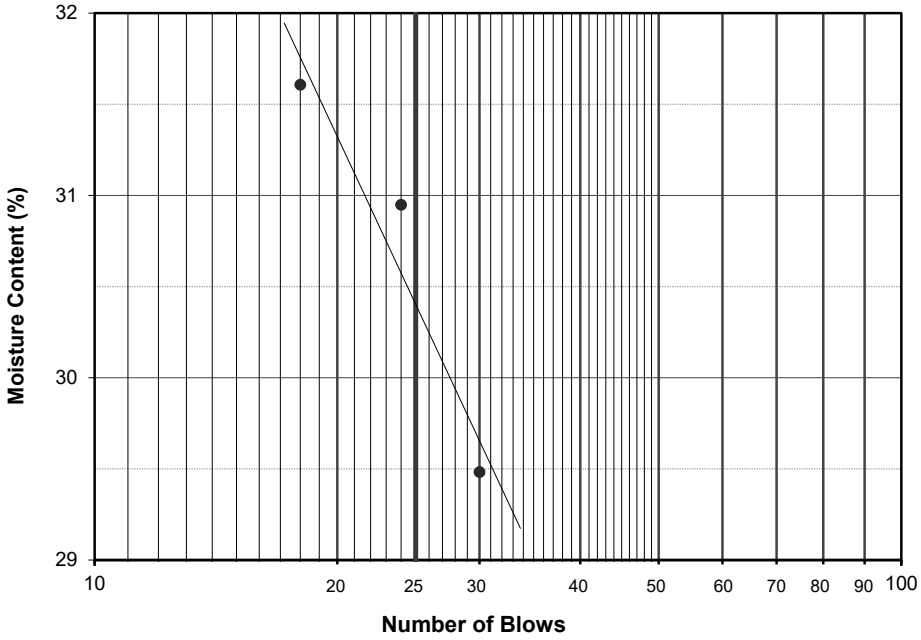
PROCEDURES USED

☐ Wet Preparation
Multipoint - Wet

☒ Dry Preparation
Multipoint - Dry

☒ Procedure A
Multipoint Test

☐ Procedure B
One-point Test



Leighton

ATTERBERG LIMITS

ASTM D 4318

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	J. Domingo	Date:	11/28/23
Project No. :	RC23280	Input By:	G. Bathala	Date:	12/13/23
Boring No.:	LB-5-5	Checked By:	J. Ward		
Sample No.:	R-6	Depth (ft.)	30.0		
Soil Identification:	Olive brown sandy lean clay s(CL)				

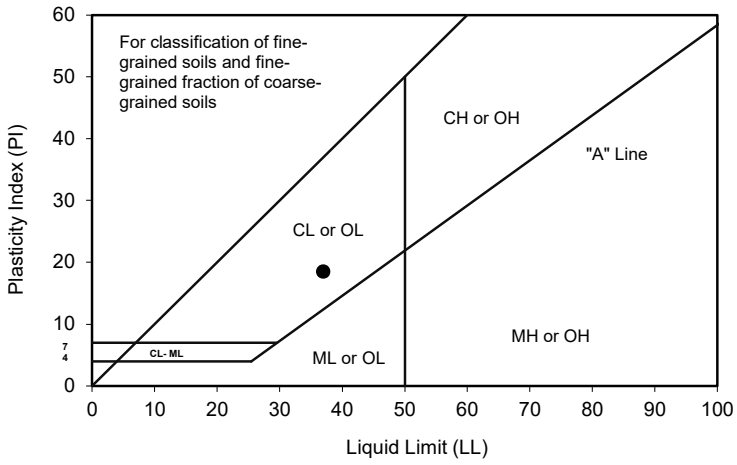
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			32	25	19	
Wet Wt. of Soil + Cont. (g)	9.79	9.70	23.68	23.88	23.28	
Dry Wt. of Soil + Cont. (g)	8.43	8.35	17.80	17.72	17.15	
Wt. of Container (g)	1.07	1.08	1.06	1.02	1.05	
Moisture Content (%) [Wn]	18.48	18.57	35.13	36.89	38.07	

Liquid Limit	**37**
Plastic Limit	**19**
Plasticity Index	**18**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 12.41

One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



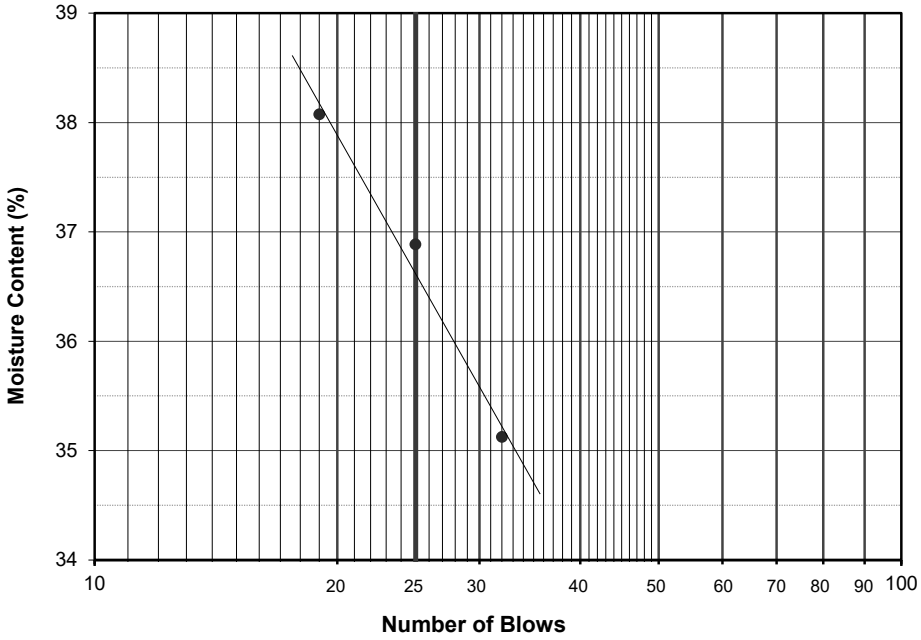
PROCEDURES USED

☐ Wet Preparation
Multipoint - Wet

☒ Dry Preparation
Multipoint - Dry

☒ Procedure A
Multipoint Test

☐ Procedure B
One-point Test



Leighton

ATTERBERG LIMITS

ASTM D 4318

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	J. Domingo	Date:	01/09/23
Project No. :	RC23280	Input By:	J. Domingo	Date:	01/10/23
Boring No.:	LB-6-5	Checked By:	J. Ward		
Sample No.:	R-3	Depth (ft.)	7.5		
Soil Identification:	Olive brown sandy lean clay s(CL)				

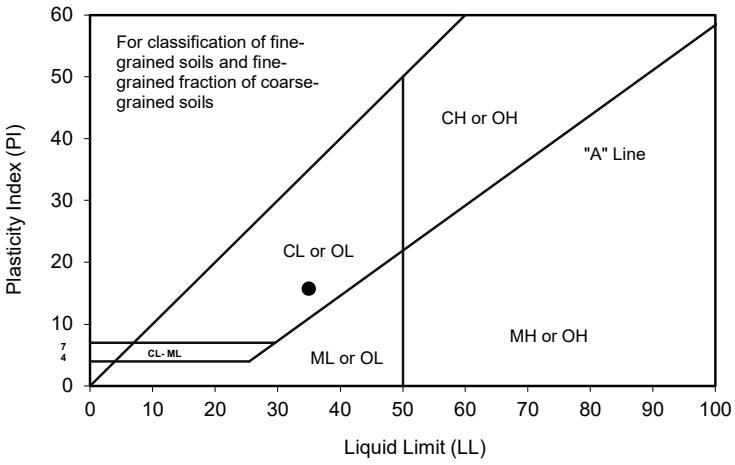
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			30	24	17	
Wet Wt. of Soil + Cont. (g)	9.84	9.79	22.80	22.55	22.46	
Dry Wt. of Soil + Cont. (g)	8.42	8.39	17.27	16.95	16.75	
Wt. of Container (g)	1.07	1.11	1.06	1.03	1.00	
Moisture Content (%) [Wn]	19.32	19.23	34.11	35.18	36.25	

Liquid Limit	**35**
Plastic Limit	**19**
Plasticity Index	**16**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 10.95

One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



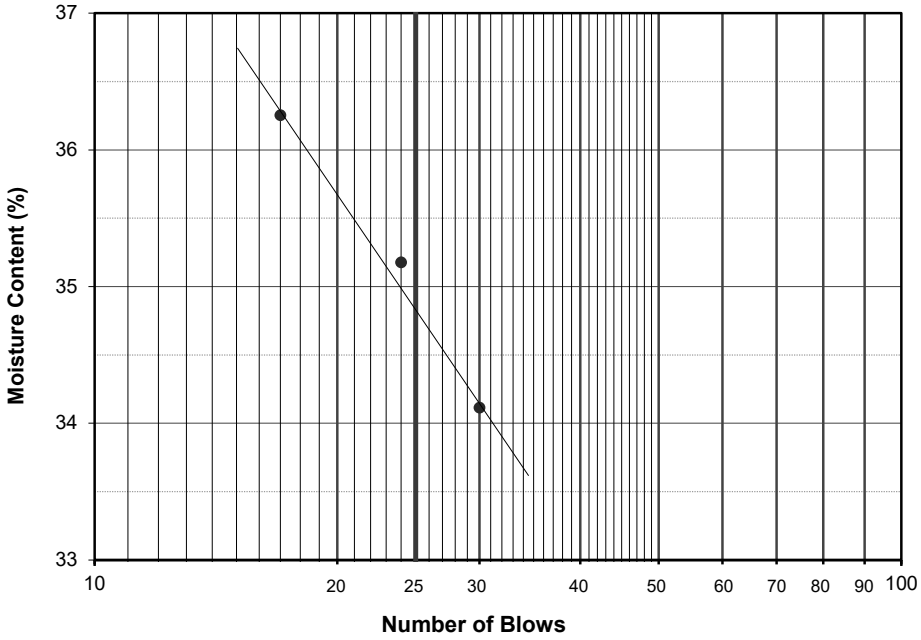
PROCEDURES USED

☐ Wet Preparation
Multipoint - Wet

☒ Dry Preparation
Multipoint - Dry

☒ Procedure A
Multipoint Test

☐ Procedure B
One-point Test



Leighton

ATTERBERG LIMITS

ASTM D 4318

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	J. Domingo	Date:	12/13/23
Project No. :	RC23280	Input By:	J. Domingo	Date:	12/14/23
Boring No.:	LB-7-10	Checked By:	J. Ward		
Sample No.:	R-5	Depth (ft.)	20.0		
Soil Identification:	Yellowish brown clayey sand (SC)				

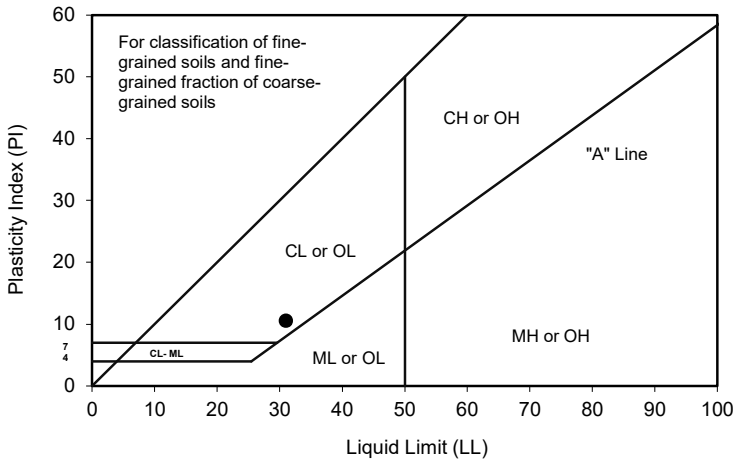
TEST	PLASTIC LIMIT		LIQUID LIMIT			
NO.	1	2	1	2	3	4
Number of Blows [N]			33	27	18	
Wet Wt. of Soil + Cont. (g)	9.56	9.65	23.79	23.07	23.26	
Dry Wt. of Soil + Cont. (g)	8.13	8.17	18.61	17.84	17.74	
Wt. of Container (g)	1.02	1.06	1.06	1.04	1.16	
Moisture Content (%) [Wn]	20.11	20.82	29.52	31.13	33.29	

Liquid Limit	**31**
Plastic Limit	**20**
Plasticity Index	**11**
Classification	**CL**

PI at "A" - Line = 0.73(LL-20) 8.03

One - Point Liquid Limit Calculation

$LL = Wn(N/25)^{0.121}$



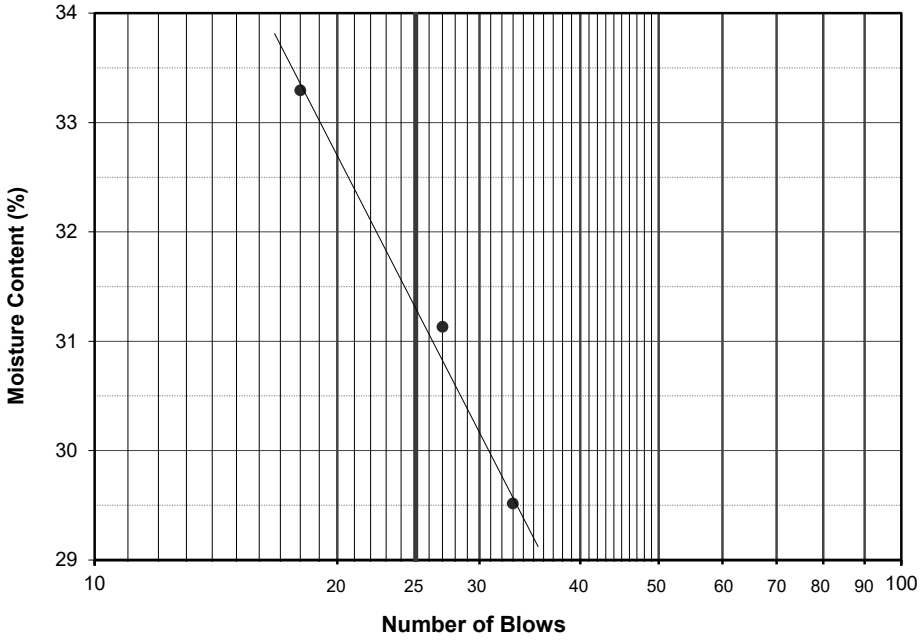
PROCEDURES USED

☐ Wet Preparation
Multipoint - Wet

☒ Dry Preparation
Multipoint - Dry

☒ Procedure A
Multipoint Test

☐ Procedure B
One-point Test



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	11/21/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/11/23
Boring No.:	LB-2-4	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	5.0		
Sample Description:	Light brown poorly-graded sand (SP)				

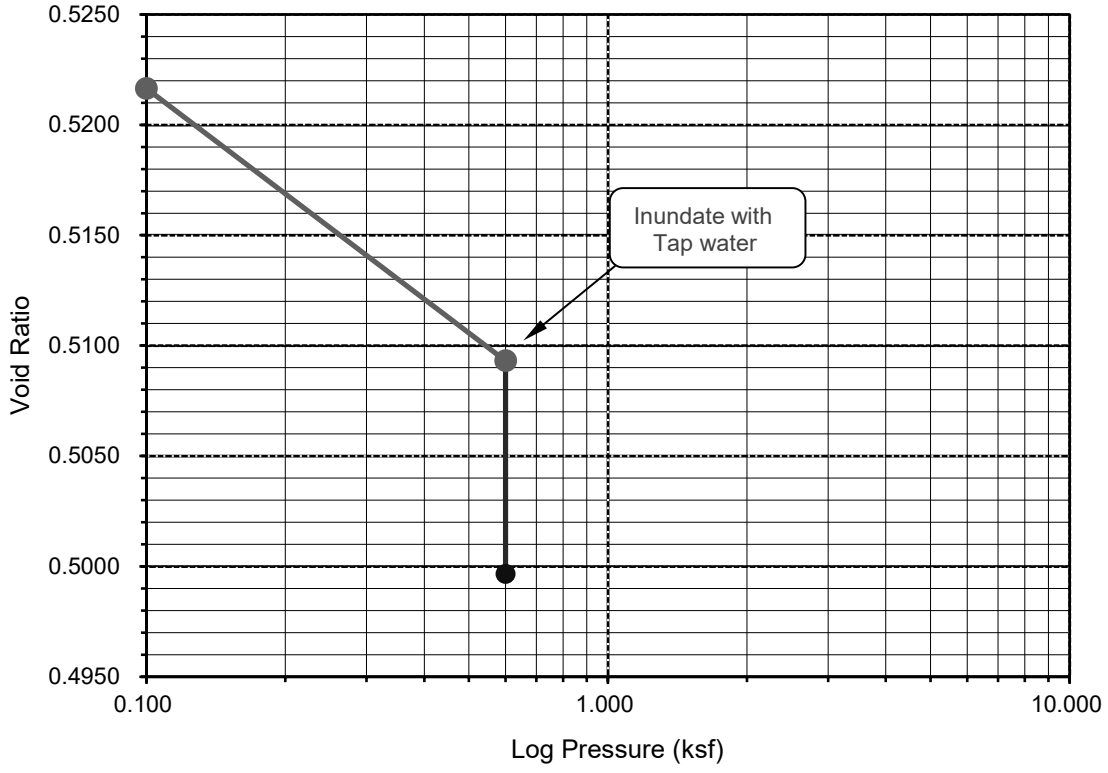
Initial Dry Density (pcf):	110.7
Initial Moisture (%):	0.90
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0435
Diameter(in):	2.415

Final Dry Density (pcf):	112.7
Final Moisture (%) :	14.7
Initial Void ratio:	0.5223
Specific Gravity(assumed):	2.70
Initial Saturation (%)	4.6

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0439	0.9996	0.00	-0.04	0.5217	-0.04
0.600	0.0535	0.9900	0.15	-1.00	0.5093	-0.85
H2O	0.05985	0.9837	0.15	-1.64	0.4997	-1.49

Percent Swell (+) / Settlement (-) After Inundation = -0.64

Void Ratio - Log Pressure Curve



Leighton

ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/04/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-3-4	Sample Type:	Ring		
Sample No.:	R-2	Depth (ft.)	5.0		
Sample Description:	Light yellowish brown poorly-graded sand (SP)				

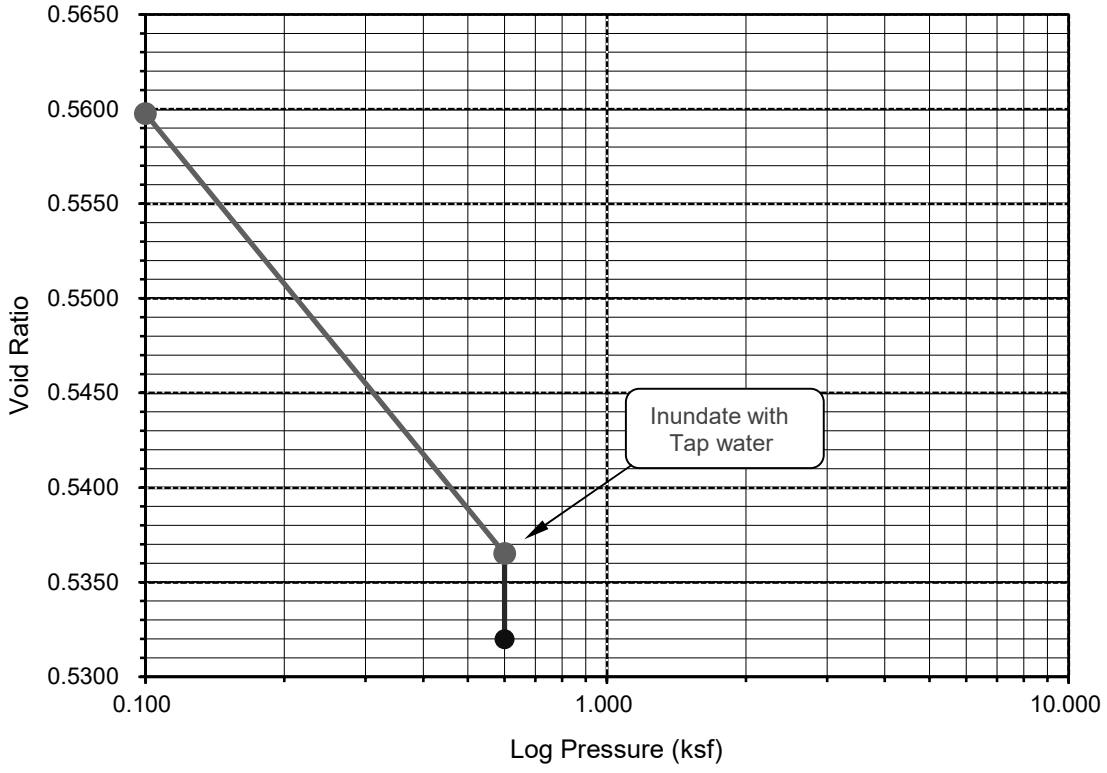
Initial Dry Density (pcf):	108.0
Initial Moisture (%):	0.43
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0445
Diameter(in):	2.415

Final Dry Density (pcf):	110.3
Final Moisture (%) :	18.6
Initial Void ratio:	0.5602
Specific Gravity(assumed):	2.70
Initial Saturation (%)	2.1

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0448	0.9997	0.00	-0.03	0.5598	-0.03
0.600	0.0611	0.9834	0.14	-1.66	0.5365	-1.52
H2O	0.0640	0.9805	0.14	-1.95	0.5320	-1.81

Percent Swell (+) / Settlement (-) After Inundation = -0.29

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/05/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-4-9	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	7.5		
Sample Description:	Light brown well-graded sand with gravel (SW)g				

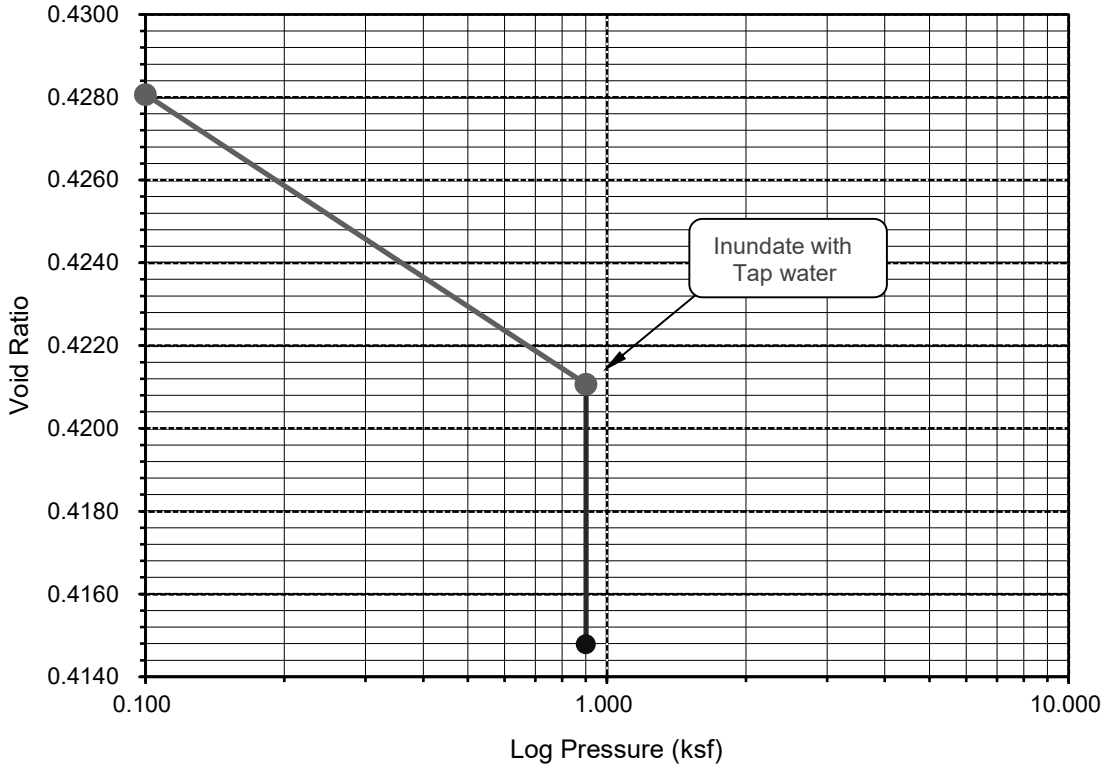
Initial Dry Density (pcf):	118.0
Initial Moisture (%):	0.44
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0309
Diameter(in):	2.415

Final Dry Density (pcf):	119.5
Final Moisture (%) :	11.7
Initial Void ratio:	0.4282
Specific Gravity(assumed):	2.70
Initial Saturation (%)	2.8

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0310	0.9999	0.00	-0.01	0.4281	-0.01
0.900	0.0372	0.9937	0.13	-0.63	0.4211	-0.50
H2O	0.0416	0.9893	0.13	-1.07	0.4148	-0.94

Percent Swell (+) / Settlement (-) After Inundation = -0.44

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/04/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-6-6	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	7.5		
Sample Description:	Light brown well-graded sand (SW)				

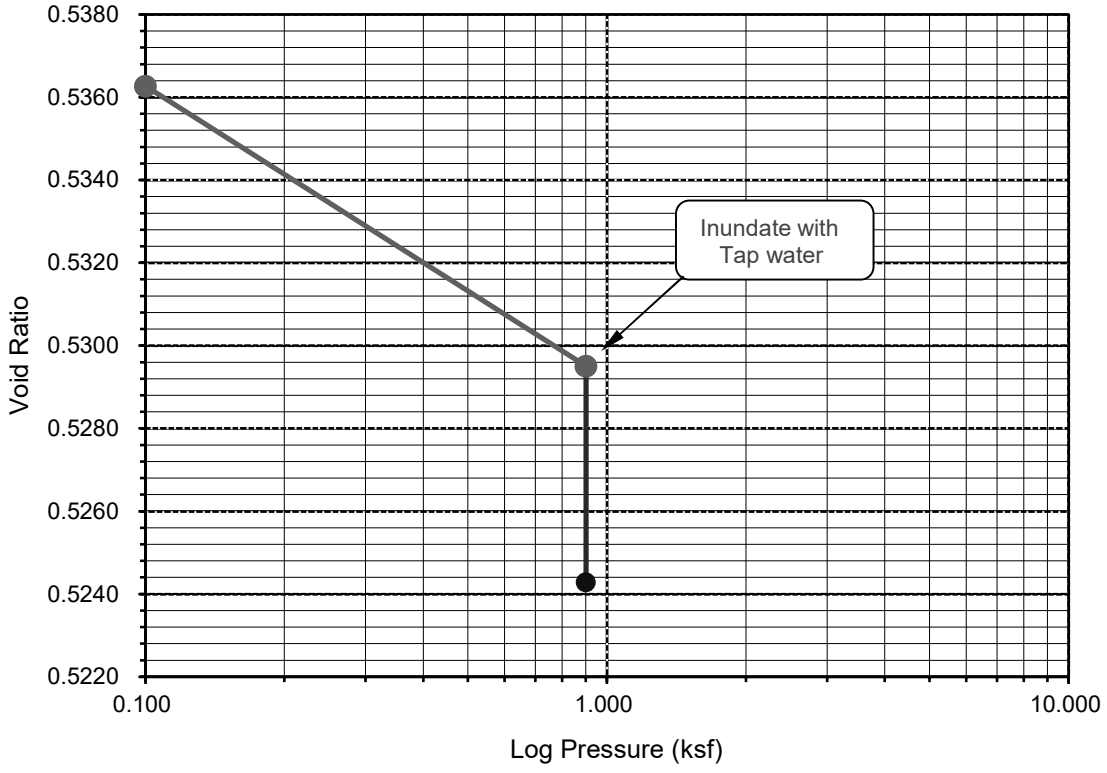
Initial Dry Density (pcf):	109.7
Initial Moisture (%):	0.76
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0829
Diameter(in):	2.415

Final Dry Density (pcf):	111.1
Final Moisture (%) :	16.8
Initial Void ratio:	0.5366
Specific Gravity(assumed):	2.70
Initial Saturation (%)	3.8

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0831	0.9998	0.00	-0.02	0.5363	-0.02
0.900	0.0897	0.9932	0.22	-0.68	0.5295	-0.46
H2O	0.0931	0.9898	0.22	-1.02	0.5243	-0.80

Percent Swell (+) / Settlement (-) After Inundation = -0.34

Void Ratio - Log Pressure Curve



ONE-DIMENSIONAL SWELL OR SETTLEMENT POTENTIAL OF COHESIVE SOILS

ASTM D 4546

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/08/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	01/19/24
Boring No.:	LB-7-1	Sample Type:	Ring		
Sample No.:	R-3	Depth (ft.)	7.5		
Sample Description:	Light gray well-graded sand with gravel (SW)g				

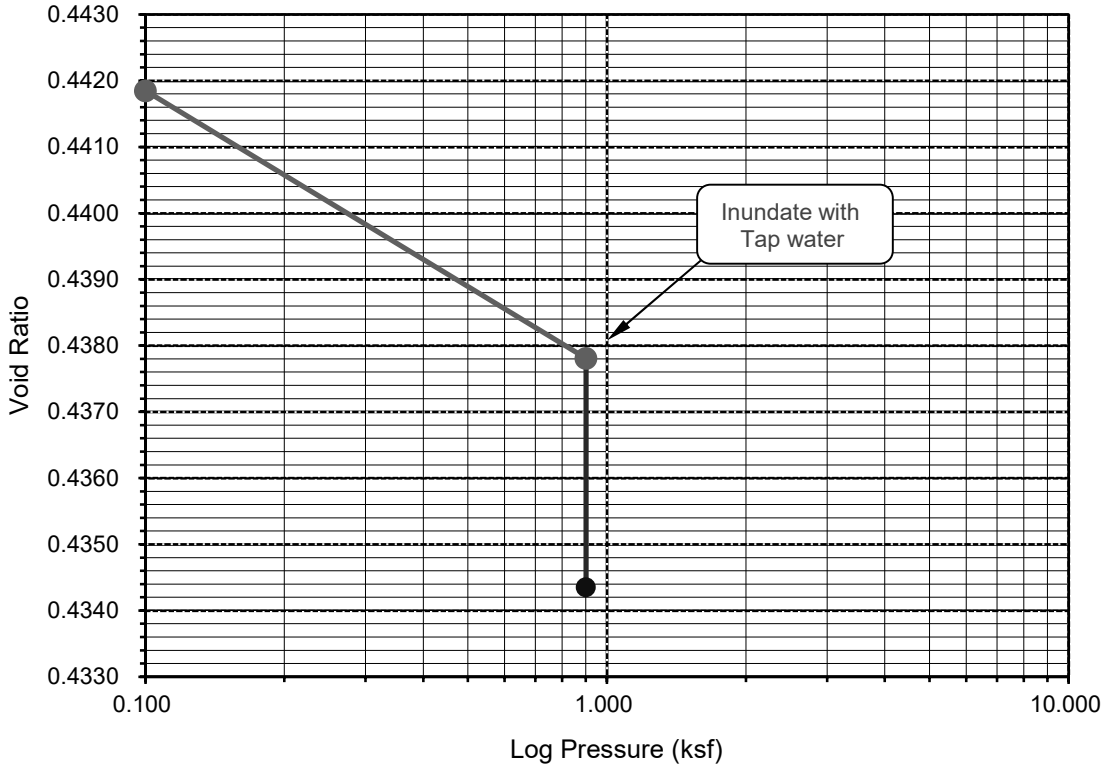
Initial Dry Density (pcf):	116.9
Initial Moisture (%):	0.44
Initial Length (in.):	1.0000
Initial Dial Reading:	0.0866
Diameter(in):	2.415

Final Dry Density (pcf):	117.9
Final Moisture (%) :	13.5
Initial Void ratio:	0.4423
Specific Gravity(assumed):	2.70
Initial Saturation (%)	2.7

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
0.100	0.0869	0.9997	0.00	-0.03	0.4418	-0.03
0.900	0.0912	0.9954	0.15	-0.46	0.4378	-0.31
H2O	0.0936	0.9930	0.15	-0.70	0.4343	-0.55

Percent Swell (+) / Settlement (-) After Inundation = -0.24

Void Ratio - Log Pressure Curve



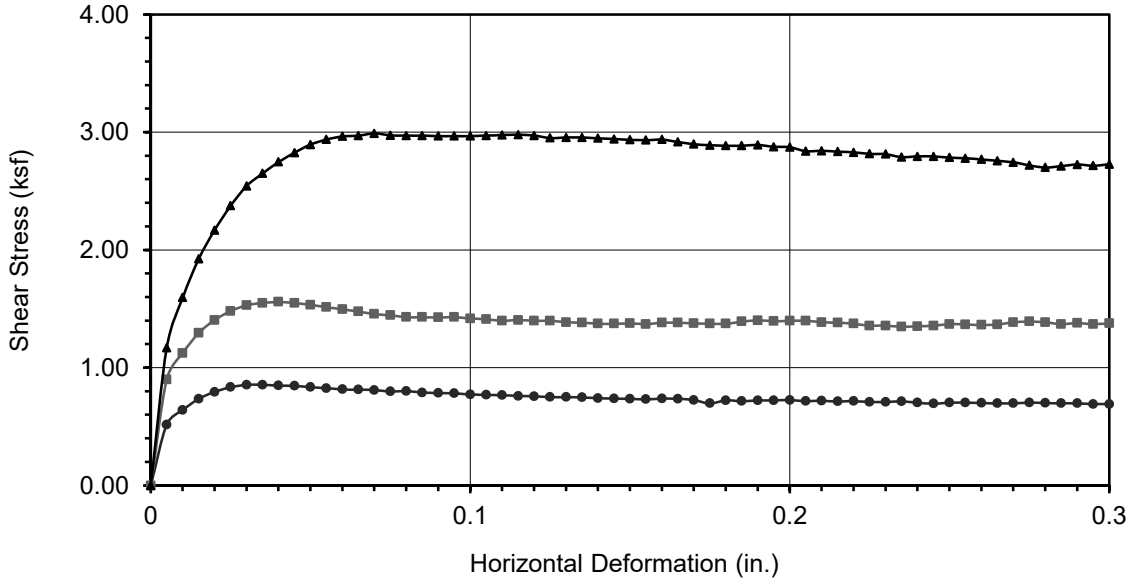
DIRECT SHEAR TEST

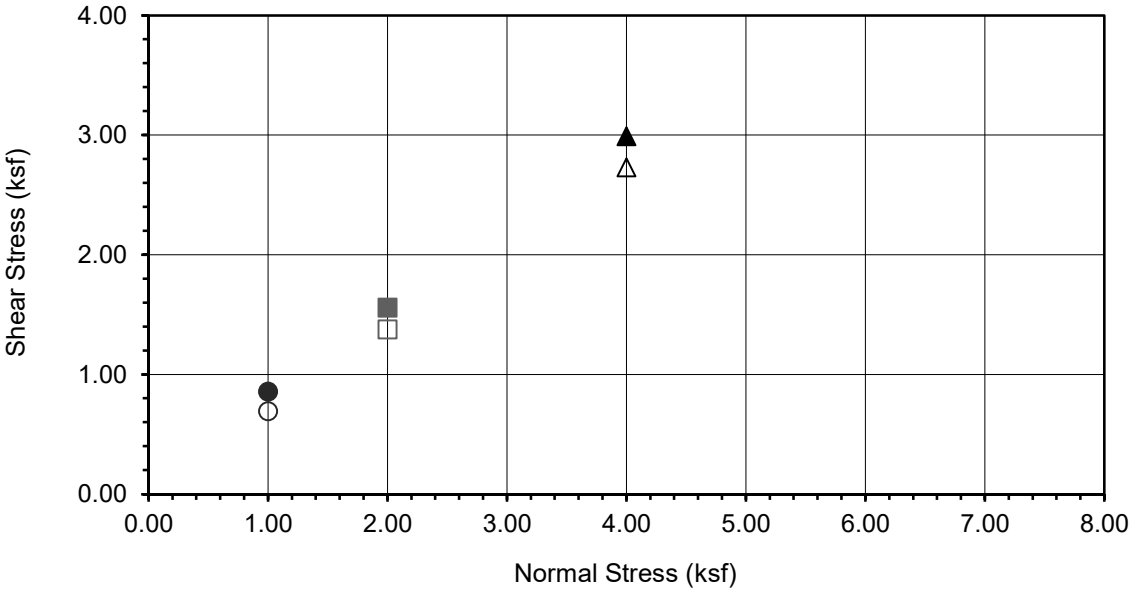
Consolidated Drained - ASTM D 3080

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	11/28/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/11/23
Boring No.:	LB-2-7	Sample Type:	90% Remold		
Sample No.:	B-1	Depth (ft.):	0-5		

Soil Identification: Yellowish brown silty sand (SM)

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	200.73	201.66	201.86
Weight of Ring(gm):	44.52	45.30	45.49
Before Shearing			
Weight of Wet Sample+Cont.(gm):	151.03	151.03	151.03
Weight of Dry Sample+Cont.(gm):	142.52	142.52	142.52
Weight of Container(gm):	39.90	39.90	39.90
Vertical Rdg.(in): Initial	0.0000	0.2605	0.2549
Vertical Rdg.(in): Final	-0.0067	0.2758	0.2747
After Shearing			
Weight of Wet Sample+Cont.(gm):	212.85	197.86	215.72
Weight of Dry Sample+Cont.(gm):	195.00	180.84	199.17
Weight of Container(gm):	52.94	38.48	56.00
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**LB-2-7**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type: 90% Remold	
Soil Identification: Yellowish brown silty sand (SM)	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.855	■ 1.559	▲ 2.990
Shear Stress @ End of Test (ksf)	○ 0.692	□ 1.377	△ 2.729
Deformation Rate (in./min.)	0.0033	0.0033	0.0033
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	8.29	8.29	8.29
Dry Density (pcf)	120.0	120.1	120.1
Saturation (%)	55.3	55.5	55.5
Soil Height Before Shearing (in.)	0.9933	0.9847	0.9802
Final Moisture Content (%)	12.6	12.0	11.6

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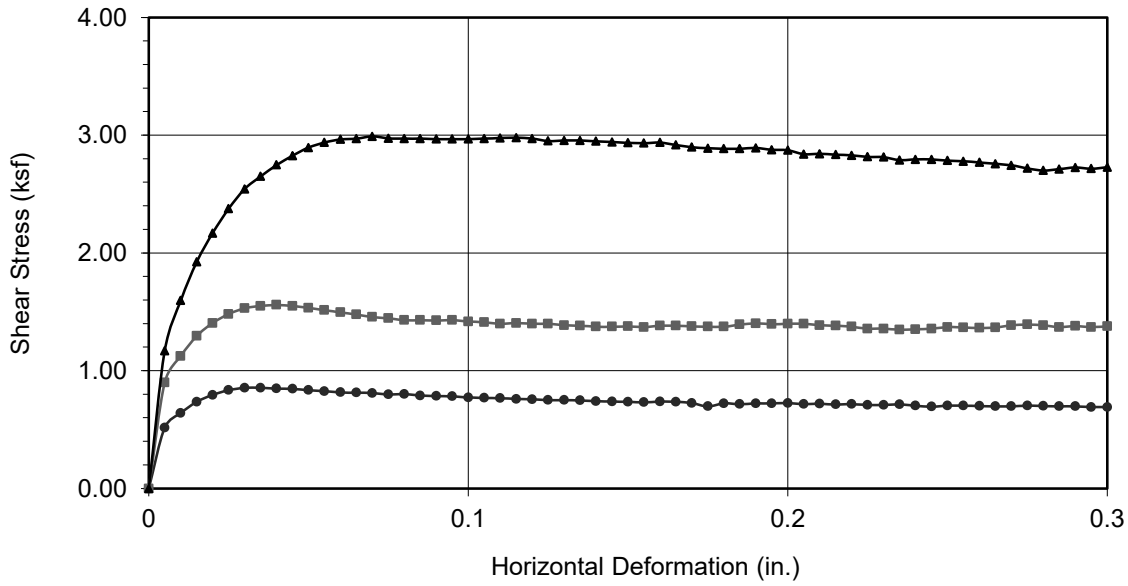
DIRECT SHEAR TEST RESULTS

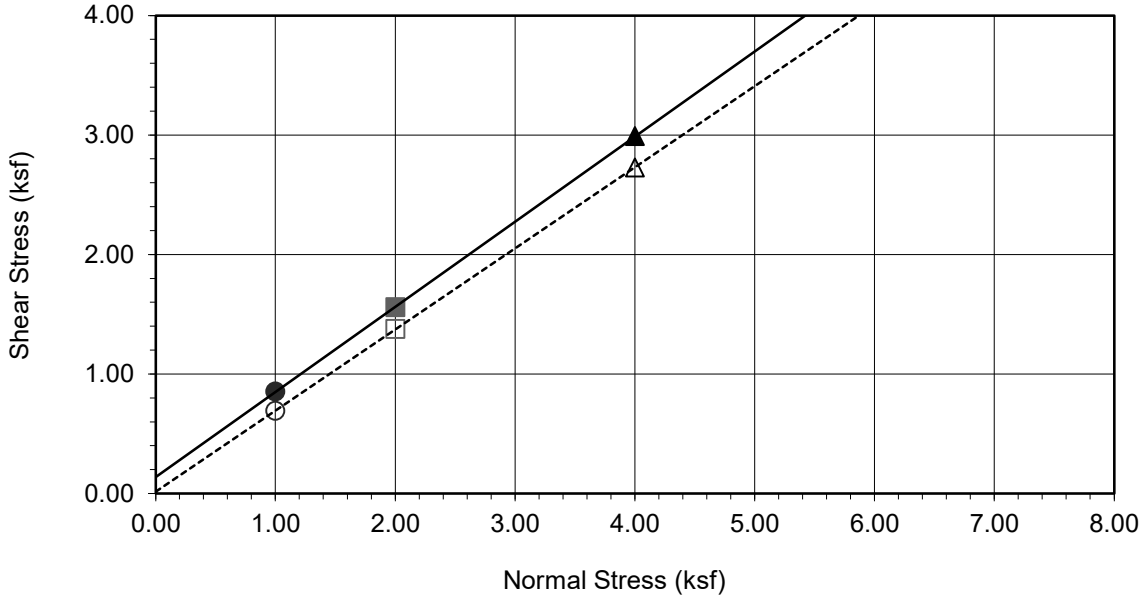
Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

11-23





Boring No.	**LB-2-7**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type:	90% Remold
Soil Identification:	Yellowish brown silty sand (SM)

Strength Parameters

	C (psf)	ϕ (^{o})
Peak	140	35
Ultimate	16	34

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.855	■ 1.559	▲ 2.990
Shear Stress @ End of Test (ksf)	○ 0.692	□ 1.377	△ 2.729
Deformation Rate (in./min.)	0.0033	0.0033	0.0033
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	8.29	8.29	8.29
Dry Density (pcf)	120.0	120.1	120.1
Saturation (%)	55.3	55.5	55.5
Soil Height Before Shearing (in.)	0.9933	0.9847	0.9802
Final Moisture Content (%)	12.6	12.0	11.6

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DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

11-23

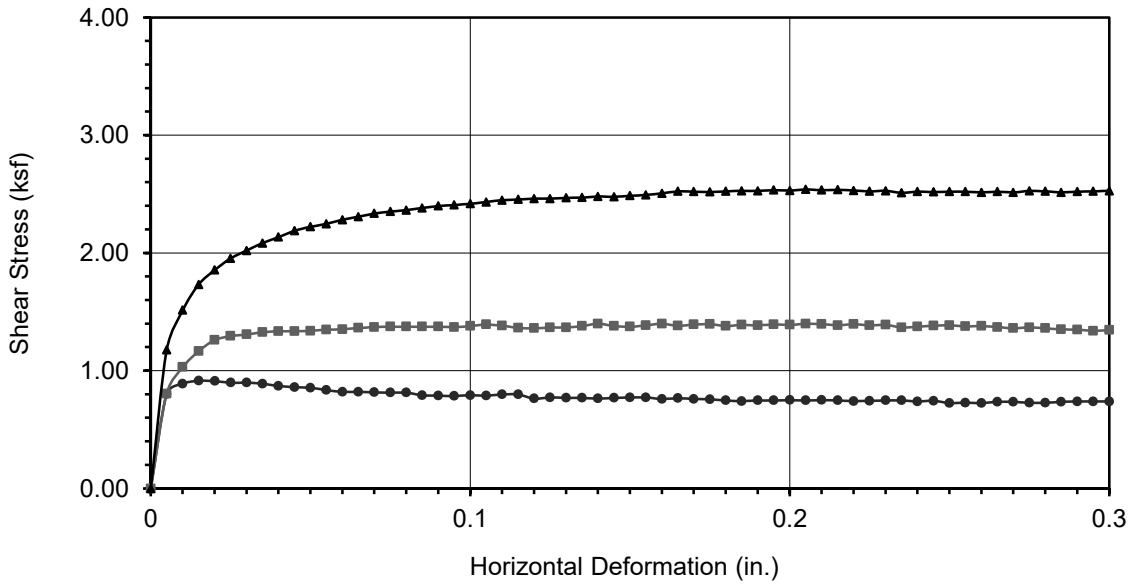
DIRECT SHEAR TEST

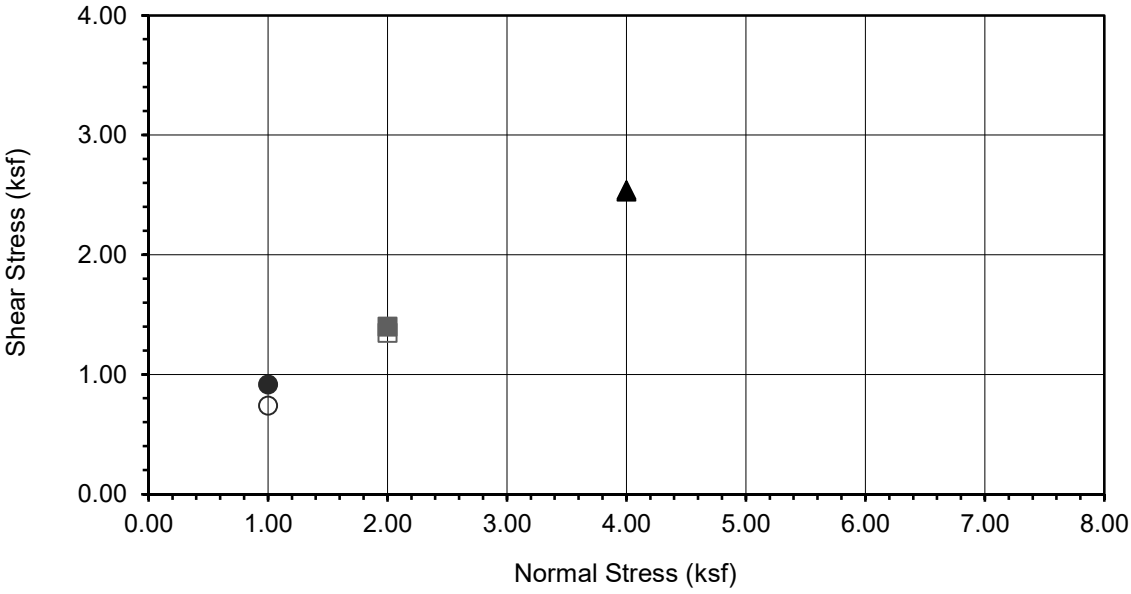
Consolidated Drained - ASTM D 3080

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/01/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-4-7	Sample Type:	90% Remold		
Sample No.:	B-1	Depth (ft.):	0-5		

Soil Identification: Dark yellowish brown clayey sand (SC)

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	198.68	198.36	196.43
Weight of Ring(gm):	45.29	44.51	42.57
Before Shearing			
Weight of Wet Sample+Cont.(gm):	173.69	173.69	173.69
Weight of Dry Sample+Cont.(gm):	164.51	164.51	164.51
Weight of Container(gm):	68.53	68.53	68.53
Vertical Rdg.(in): Initial	0.0000	0.2637	0.2557
Vertical Rdg.(in): Final	-0.0063	0.2764	0.2742
After Shearing			
Weight of Wet Sample+Cont.(gm):	196.48	198.62	224.77
Weight of Dry Sample+Cont.(gm):	175.76	178.67	205.68
Weight of Container(gm):	36.53	39.91	66.52
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**LB-4-7**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type: 90% Remold	
Soil Identification: Dark yellowish brown clayey sand (SC)	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.915	■ 1.399	▲ 2.540
Shear Stress @ End of Test (ksf)	○ 0.739	□ 1.346	△ 2.528
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	9.56	9.56	9.56
Dry Density (pcf)	116.4	116.8	116.8
Saturation (%)	57.7	58.2	58.3
Soil Height Before Shearing (in.)	0.9937	0.9873	0.9815
Final Moisture Content (%)	14.9	14.4	13.7

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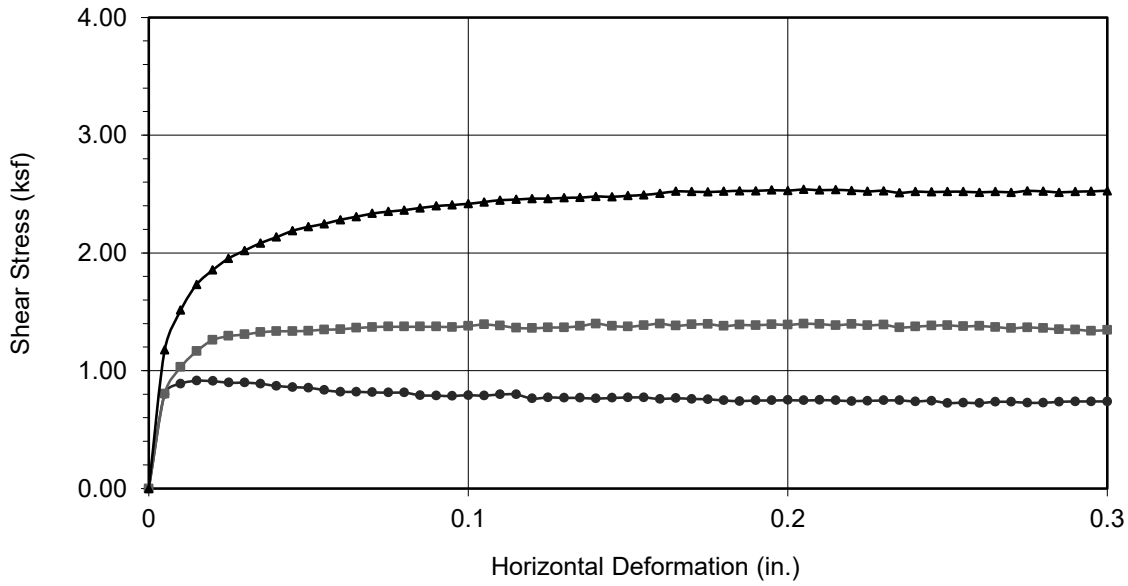
DIRECT SHEAR TEST RESULTS

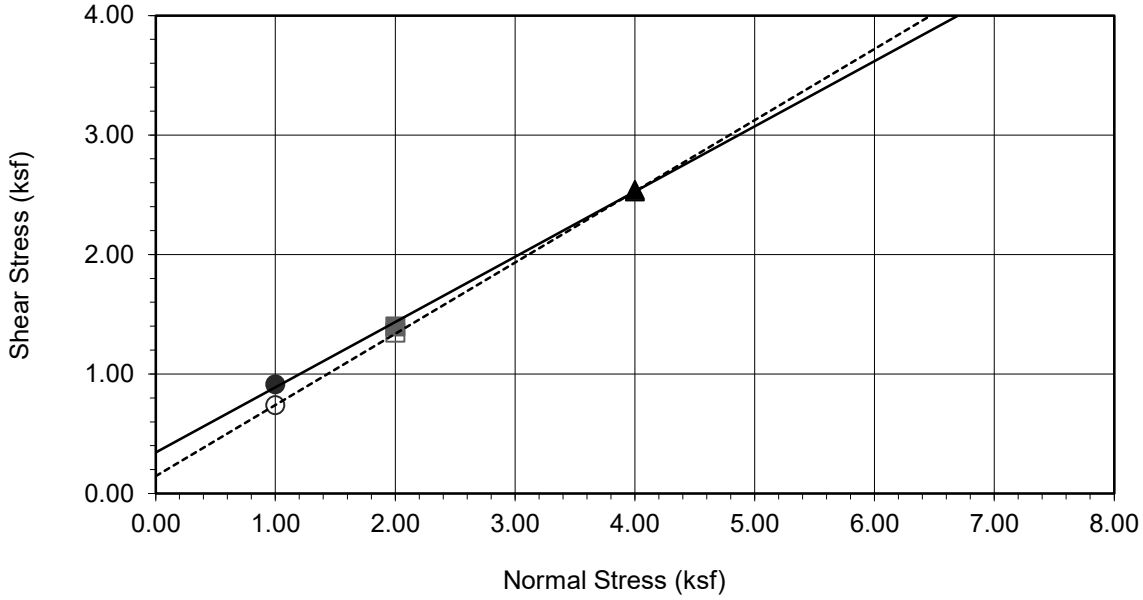
Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23





Boring No.	**LB-4-7**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type:	90% Remold
Soil Identification:	Dark yellowish brown clayey sand (SC)

Strength Parameters

	C (psf)	ϕ (^{o})
Peak	345	29
Ultimate	148	31

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.915	■ 1.399	▲ 2.540
Shear Stress @ End of Test (ksf)	○ 0.739	□ 1.346	△ 2.528
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	9.56	9.56	9.56
Dry Density (pcf)	116.4	116.8	116.8
Saturation (%)	57.7	58.2	58.3
Soil Height Before Shearing (in.)	0.9937	0.9873	0.9815
Final Moisture Content (%)	14.9	14.4	13.7

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DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23

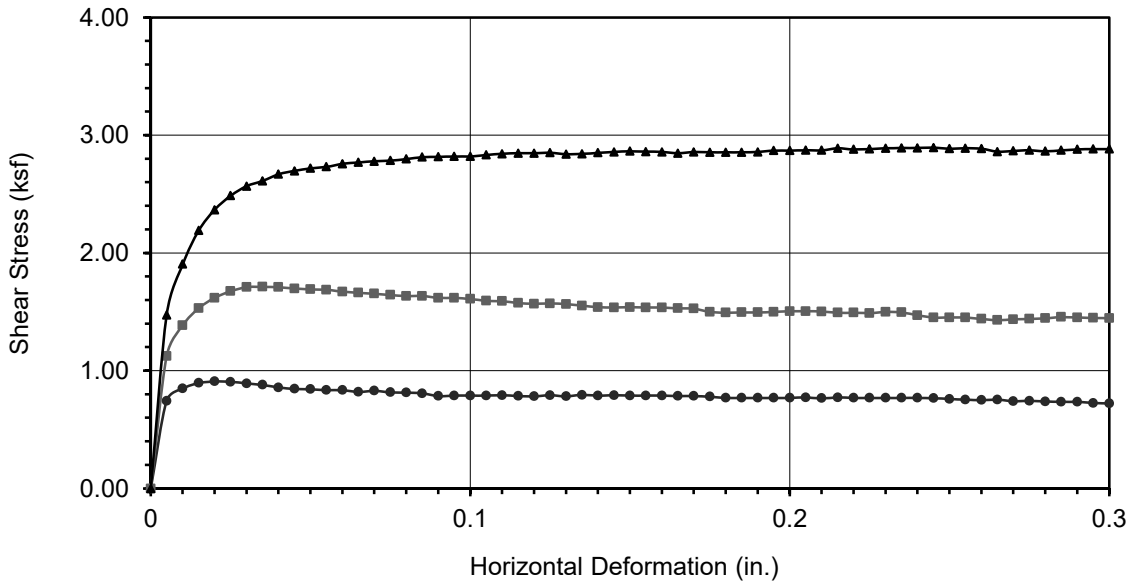
DIRECT SHEAR TEST

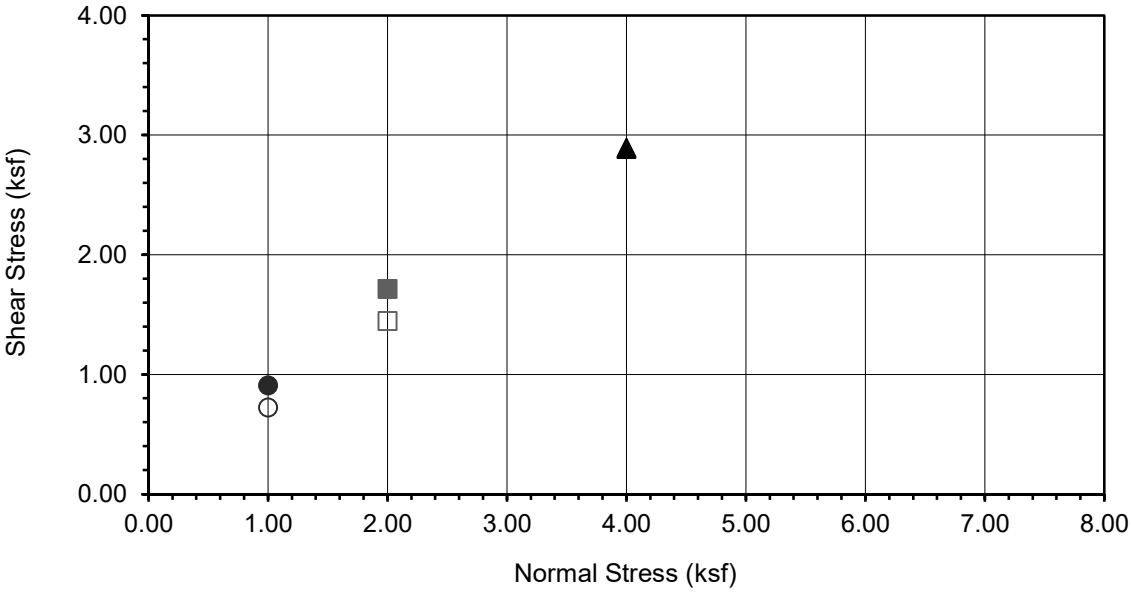
Consolidated Drained - ASTM D 3080

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/04/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	12/28/23
Boring No.:	LB-5-4	Sample Type:	90% Remold		
Sample No.:	B-1	Depth (ft.):	0-5		

Soil Identification: Yellowish brown clayey sand (SC)

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	196.28	199.05	198.34
Weight of Ring(gm):	42.58	45.29	44.50
Before Shearing			
Weight of Wet Sample+Cont.(gm):	192.33	192.33	192.33
Weight of Dry Sample+Cont.(gm):	181.02	181.02	181.02
Weight of Container(gm):	38.28	38.28	38.28
Vertical Rdg.(in): Initial	0.2595	0.2321	0.0000
Vertical Rdg.(in): Final	0.2612	0.2415	-0.0080
After Shearing			
Weight of Wet Sample+Cont.(gm):	217.12	224.09	218.18
Weight of Dry Sample+Cont.(gm):	196.05	204.11	198.76
Weight of Container(gm):	55.12	63.41	57.22
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**LB-5-4**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type: 90% Remold	
Soil Identification: Yellowish brown clayey sand (SC)	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.909	■ 1.713	▲ 2.895
Shear Stress @ End of Test (ksf)	○ 0.723	□ 1.446	△ 2.883
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	7.92	7.92	7.92
Dry Density (pcf)	118.4	118.5	118.5
Saturation (%)	50.6	50.6	50.7
Soil Height Before Shearing (in.)	0.9983	0.9906	0.9920
Final Moisture Content (%)	15.0	14.2	13.7

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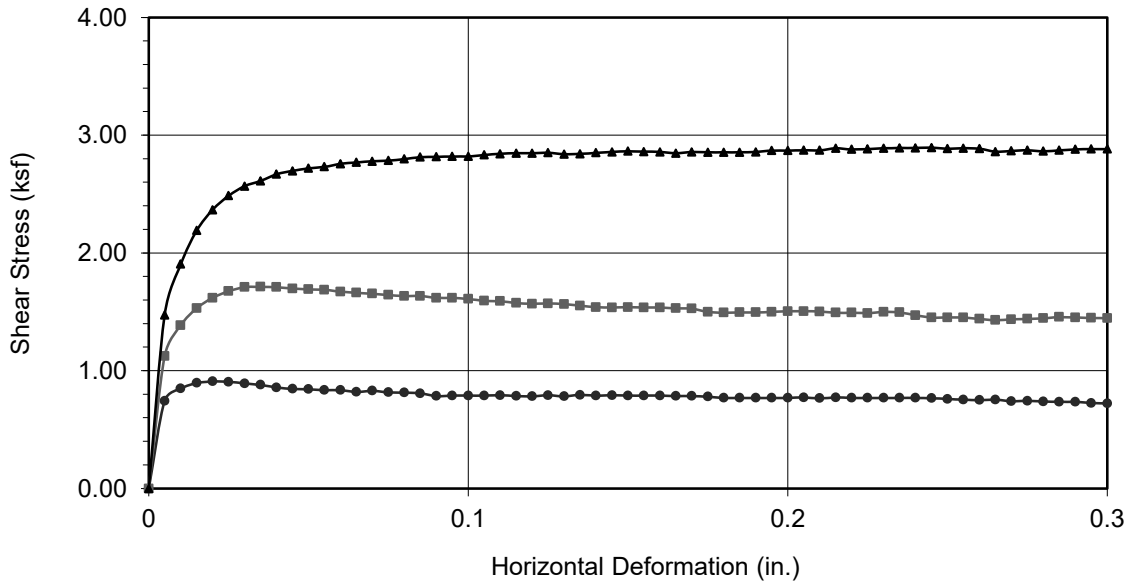
DIRECT SHEAR TEST RESULTS

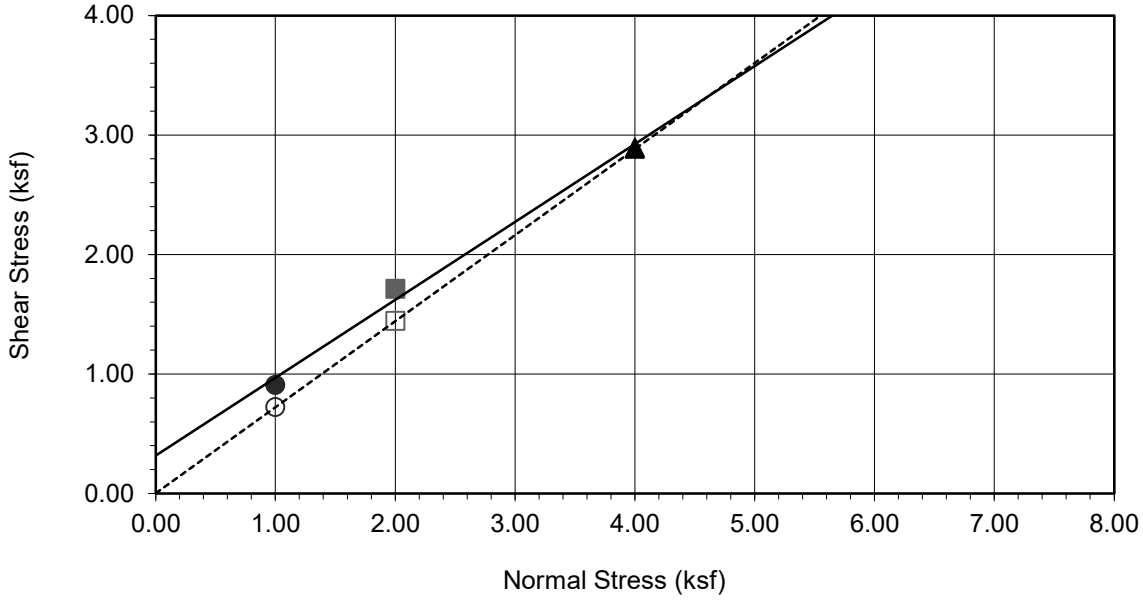
Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23





Boring No.	**LB-5-4**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type:	90% Remold
Soil Identification:	Yellowish brown clayey sand (SC)

Strength Parameters

	C (psf)	ϕ (^{o})
Peak	318	33
Ultimate	5	36

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.909	■ 1.713	▲ 2.895
Shear Stress @ End of Test (ksf)	○ 0.723	□ 1.446	△ 2.883
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	7.92	7.92	7.92
Dry Density (pcf)	118.4	118.5	118.5
Saturation (%)	50.6	50.6	50.7
Soil Height Before Shearing (in.)	0.9983	0.9906	0.9920
Final Moisture Content (%)	15.0	14.2	13.7

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DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23

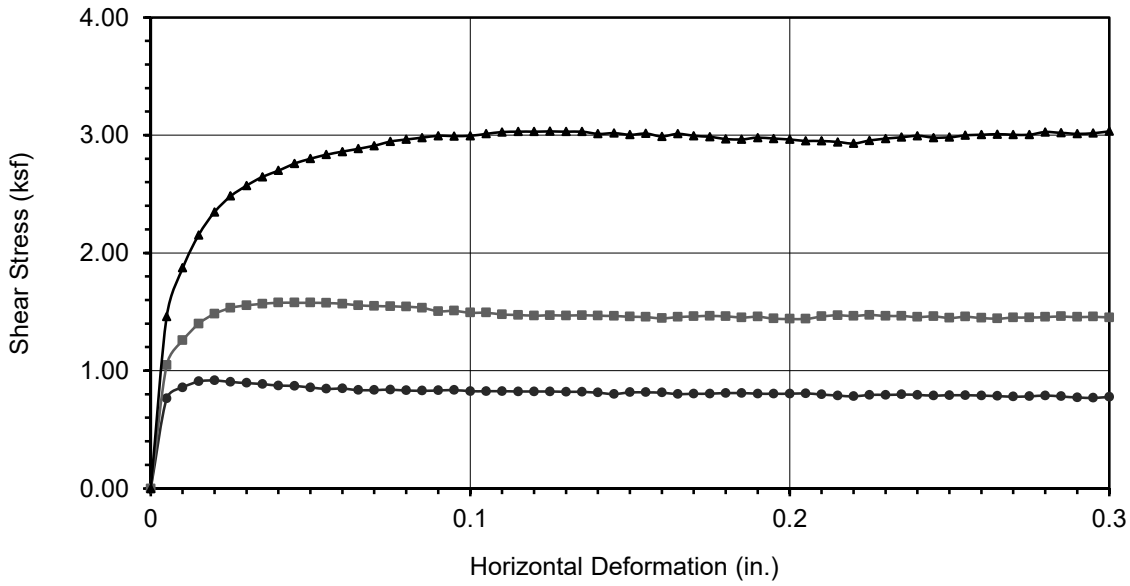
DIRECT SHEAR TEST

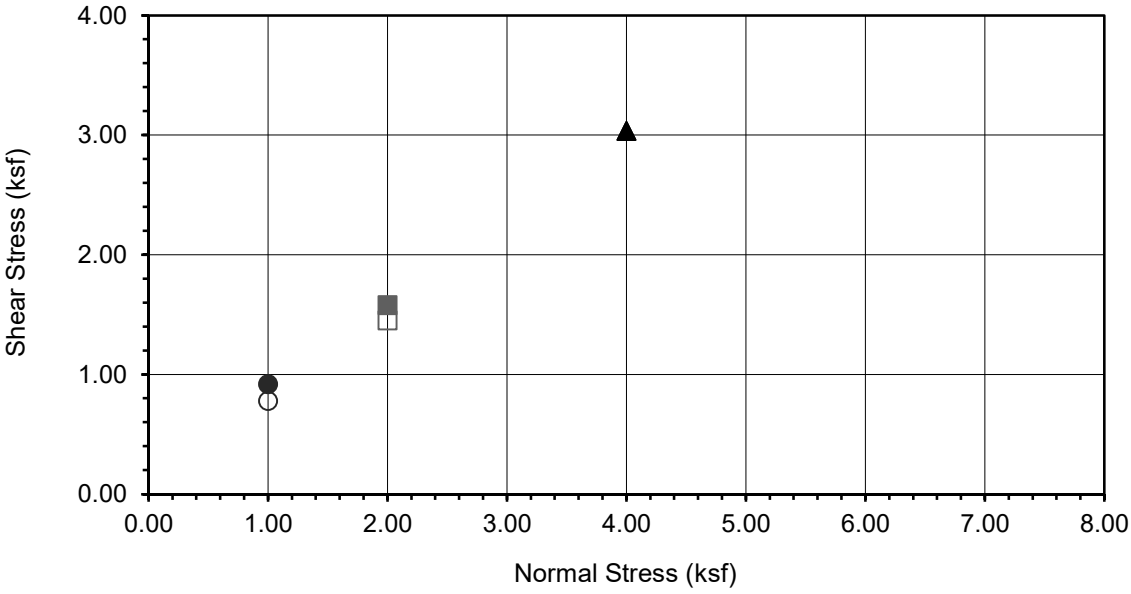
Consolidated Drained - ASTM D 3080

Project Name:	MileskiL/Adelanto Warehouses	Tested By:	G. Bathala	Date:	12/04/23
Project No.:	RC23280	Checked By:	J. Ward	Date:	01/19/24
Boring No.:	LB-7-3	Sample Type:	90% Remold		
Sample No.:	B-1	Depth (ft.):	0-5		

Soil Identification: Yellowish brown silty sand (SM)

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	199.19	201.20	202.24
Weight of Ring(gm):	42.57	44.51	45.28
Before Shearing			
Weight of Wet Sample+Cont.(gm):	168.85	168.85	168.85
Weight of Dry Sample+Cont.(gm):	160.72	160.72	160.72
Weight of Container(gm):	55.29	55.29	55.29
Vertical Rdg.(in): Initial	0.2886	0.2549	0.0000
Vertical Rdg.(in): Final	0.2994	0.2762	-0.0202
After Shearing			
Weight of Wet Sample+Cont.(gm):	215.42	196.48	198.02
Weight of Dry Sample+Cont.(gm):	198.48	180.10	182.18
Weight of Container(gm):	55.29	36.52	38.29
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**LB-7-3**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type: 90% Remold	
Soil Identification: Yellowish brown silty sand (SM)	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.918	■ 1.578	▲ 3.034
Shear Stress @ End of Test (ksf)	○ 0.777	□ 1.452	△ 3.034
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	7.71	7.71	7.71
Dry Density (pcf)	120.9	121.0	121.2
Saturation (%)	52.9	52.9	53.3
Soil Height Before Shearing (in.)	0.9892	0.9787	0.9798
Final Moisture Content (%)	11.8	11.4	11.0

Leighton

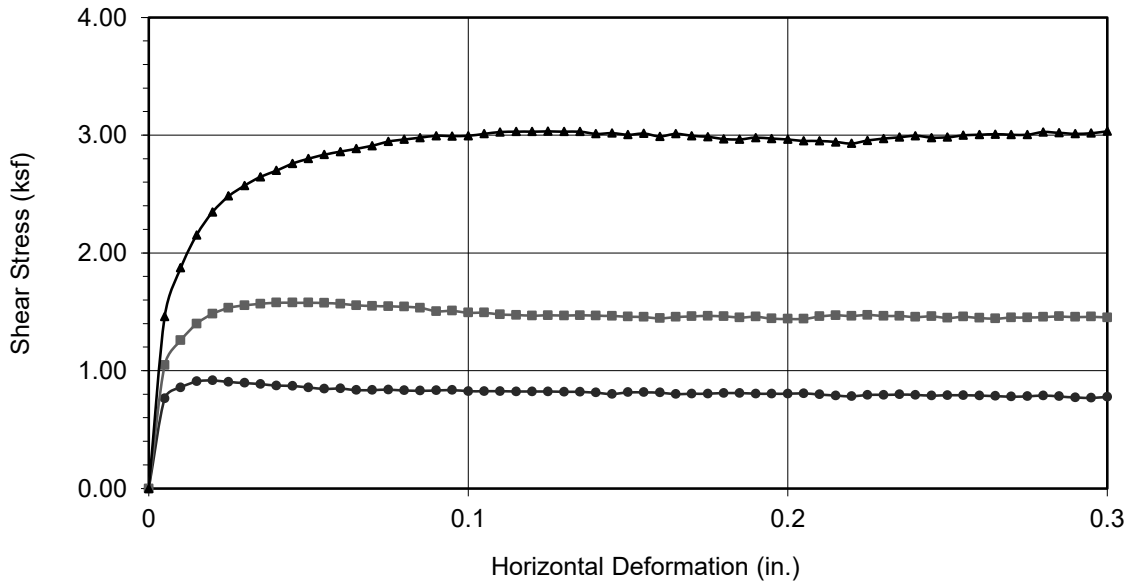
DIRECT SHEAR TEST RESULTS

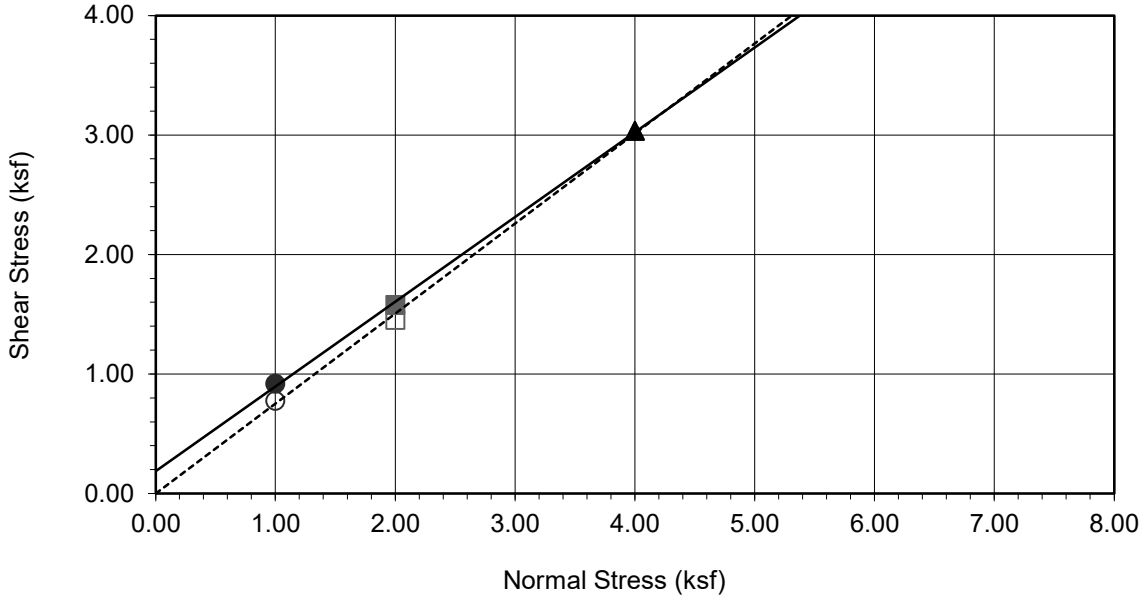
Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23





Boring No.	**LB-7-3**
Sample No.	**B-1**
Depth (ft)	**0-5**
Sample Type:	90% Remold
Soil Identification:	Yellowish brown silty sand (SM)

Strength Parameters

	C (psf)	ϕ (^{o})
Peak	190	35
Ultimate	0	37

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 0.918	■ 1.578	▲ 3.034
Shear Stress @ End of Test (ksf)	○ 0.777	□ 1.452	△ 3.034
Deformation Rate (in./min.)	0.0025	0.0025	0.0025
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	7.71	7.71	7.71
Dry Density (pcf)	120.9	121.0	121.2
Saturation (%)	52.9	52.9	53.3
Soil Height Before Shearing (in.)	0.9892	0.9787	0.9798
Final Moisture Content (%)	11.8	11.4	11.0

Leighton

DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: RC23280

MileskiL/Adelanto Warehouses

12-23

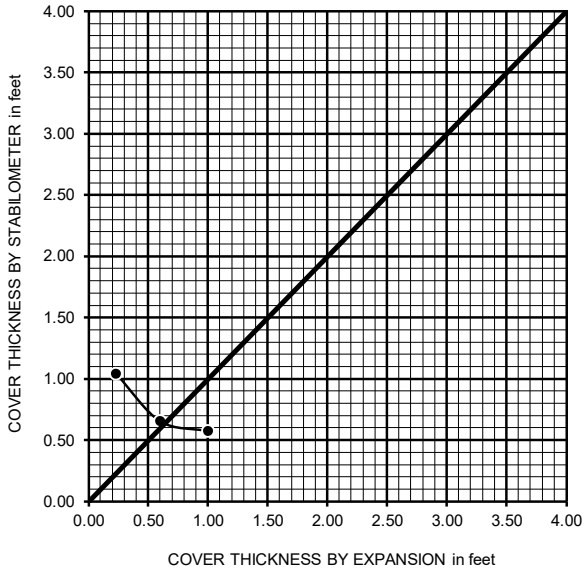
R-VALUE TEST RESULTS
DOT CA Test 301

PROJECT NAME:	MileskiL/Adelanto Warehouses	PROJECT NUMBER:	RC23280
BORING NUMBER:	LB-3-5	DEPTH (FT.):	0-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	O. Figueroa
SAMPLE DESCRIPTION:	Brown silty sand (SM)	DATE COMPLETED:	12/12/2023

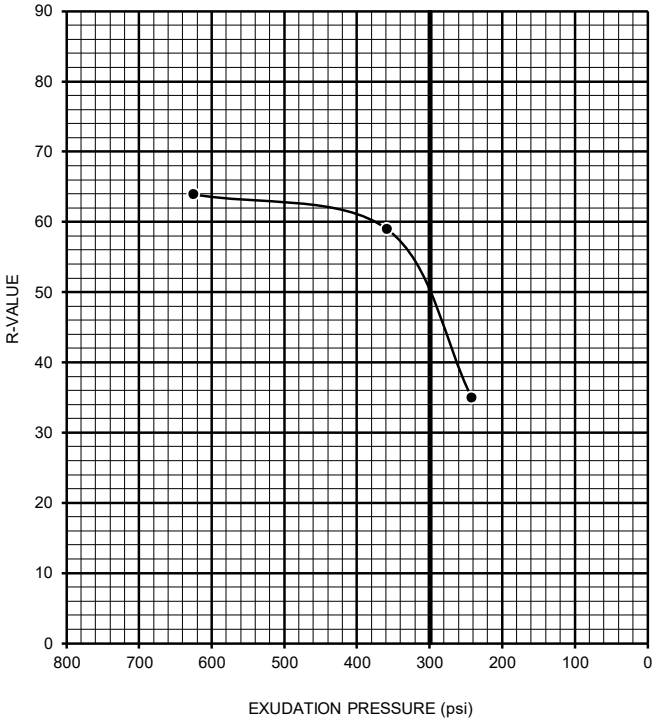
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	14.0	14.7	15.8
HEIGHT OF SAMPLE, Inches	2.42	2.45	2.55
DRY DENSITY, pcf	119.0	116.3	115.3
COMPACTOR PRESSURE, psi	180	140	80
EXUDATION PRESSURE, psi	625	359	242
EXPANSION, Inches x 10exp-4	30	18	7
STABILITY Ph 2,000 lbs (160 psi)	37	45	80
TURNS DISPLACEMENT	4.35	4.50	4.65
R-VALUE UNCORRECTED	66	59	35
R-VALUE CORRECTED	64	59	35

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	0.58	0.66	1.04
EXPANSION PRESSURE THICKNESS, ft.	1.00	0.60	0.23

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	60
R-VALUE BY EXUDATION:	50
EQUILIBRIUM R-VALUE:	50

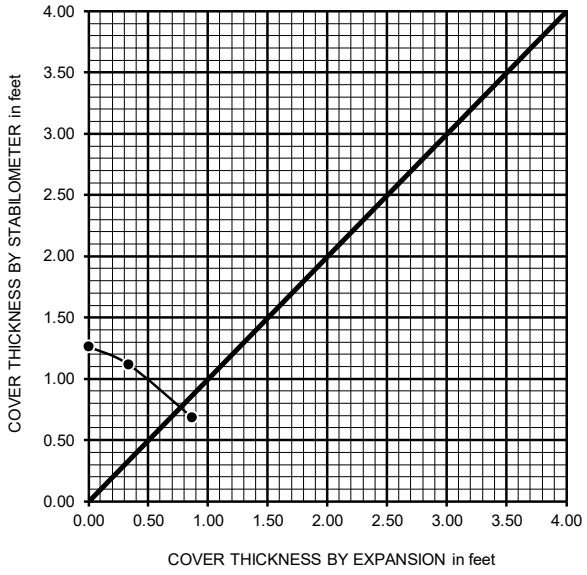
R-VALUE TEST RESULTS
DOT CA Test 301

PROJECT NAME:	MileskiL/Adelanto Warehouses	PROJECT NUMBER:	RC23280
BORING NUMBER:	LB-4-1	DEPTH (FT.):	0-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	O. Figueroa
SAMPLE DESCRIPTION:	Dark yellowish brown silty sand (SM)	DATE COMPLETED:	12/13/2023

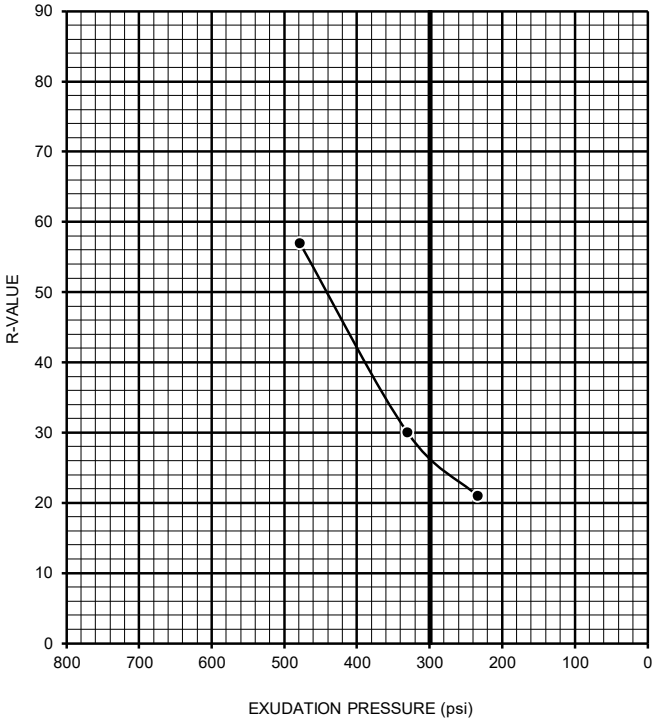
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	11.6	12.3	13.5
HEIGHT OF SAMPLE, Inches	2.45	2.52	2.50
DRY DENSITY, pcf	125.6	124.2	121.8
COMPACTOR PRESSURE, psi	170	110	70
EXUDATION PRESSURE, psi	479	331	234
EXPANSION, Inches x 10exp-4	26	10	0
STABILITY Ph 2,000 lbs (160 psi)	58	94	107
TURNS DISPLACEMENT	3.27	4.05	4.57
R-VALUE UNCORRECTED	57	30	21
R-VALUE CORRECTED	57	30	21

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	0.69	1.12	1.26
EXPANSION PRESSURE THICKNESS, ft.	0.87	0.33	0.00

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	51
R-VALUE BY EXUDATION:	26
EQUILIBRIUM R-VALUE:	26

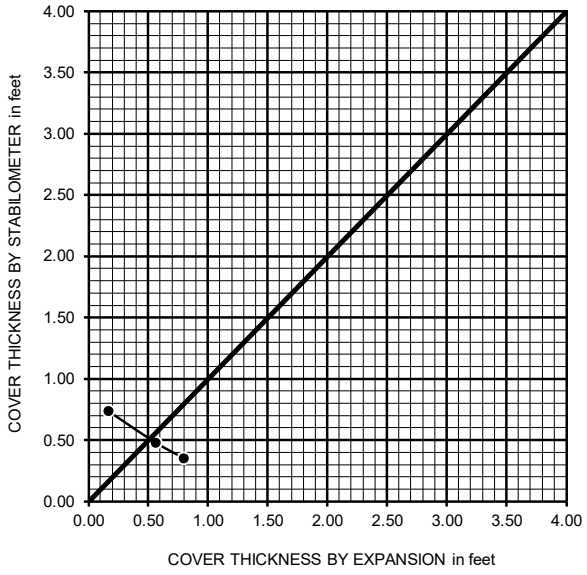
R-VALUE TEST RESULTS
DOT CA Test 301

PROJECT NAME:	MileskiL/Adelanto Warehouses	PROJECT NUMBER:	RC23280
BORING NUMBER:	LB-5-10	DEPTH (FT.):	0-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	O. Figueroa
SAMPLE DESCRIPTION:	Yellowish brown silty sand (SM)	DATE COMPLETED:	12/12/2023

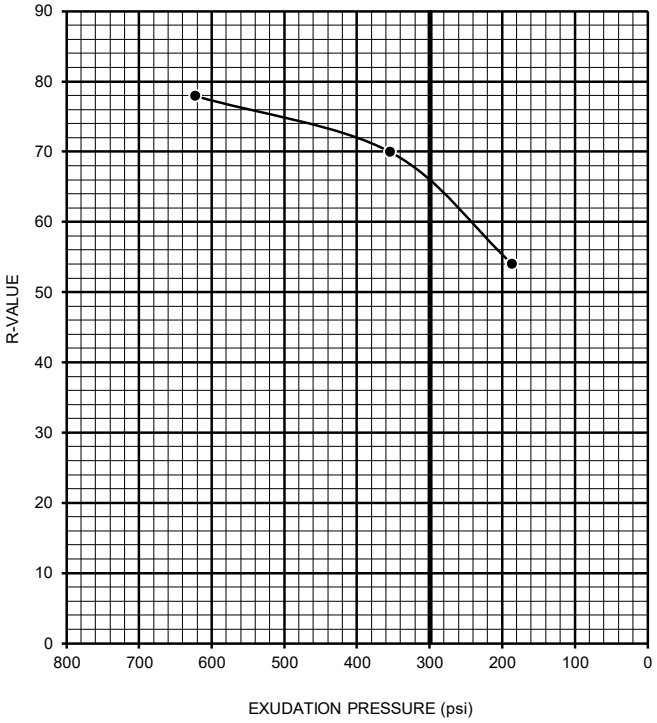
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	9.1	9.8	10.9
HEIGHT OF SAMPLE, Inches	2.47	2.53	2.53
DRY DENSITY, pcf	128.0	126.9	125.5
COMPACTOR PRESSURE, psi	300	225	115
EXUDATION PRESSURE, psi	623	355	187
EXPANSION, Inches x 10exp-4	24	17	5
STABILITY Ph 2,000 lbs (160 psi)	21	28	45
TURNS DISPLACEMENT	4.80	5.05	5.35
R-VALUE UNCORRECTED	78	70	54
R-VALUE CORRECTED	78	70	54

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	0.35	0.48	0.74
EXPANSION PRESSURE THICKNESS, ft.	0.80	0.57	0.17

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	68
R-VALUE BY EXUDATION:	66
EQUILIBRIUM R-VALUE:	66

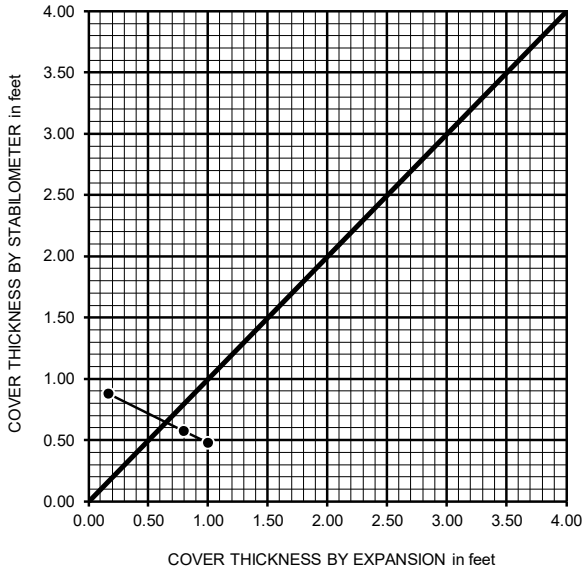
R-VALUE TEST RESULTS
DOT CA Test 301

PROJECT NAME:	MileskiL/Adelanto Warehouses	PROJECT NUMBER:	RC23280
BORING NUMBER:	LB-7-1	DEPTH (FT.):	0-5
SAMPLE NUMBER:	B-1	TECHNICIAN:	O. Figueroa
SAMPLE DESCRIPTION:	Yellowish brown sandy silt s(ML)	DATE COMPLETED:	12/12/2023

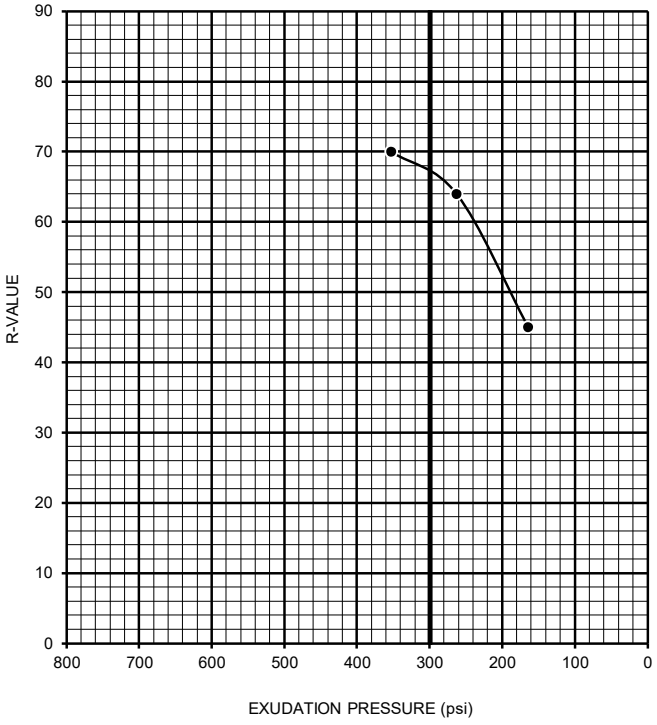
TEST SPECIMEN	a	b	c
MOISTURE AT COMPACTION %	13.9	14.6	15.6
HEIGHT OF SAMPLE, Inches	2.52	2.48	2.55
DRY DENSITY, pcf	115.4	114.8	114.5
COMPACTOR PRESSURE, psi	275	200	100
EXUDATION PRESSURE, psi	352	263	164
EXPANSION, Inches x 10exp-4	30	24	5
STABILITY Ph 2,000 lbs (160 psi)	28	35	60
TURNS DISPLACEMENT	4.94	5.06	5.15
R-VALUE UNCORRECTED	70	64	45
R-VALUE CORRECTED	70	64	45

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	1.0	1.0	1.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	0.48	0.58	0.88
EXPANSION PRESSURE THICKNESS, ft.	1.00	0.80	0.17

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	59
R-VALUE BY EXUDATION:	67
EQUILIBRIUM R-VALUE:	59

Leighton

TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: MileskiL/Adelanto Warehouses Tested By : G. Berdy Date: 11/27/23

Project No. : RC23280 Checked By: J. Ward Date: 12/11/23

Boring No.	LB-1-1			
Sample No.	B-1			
Sample Depth (ft)	0-5			
Soil Identification:	Strong brown SM			
Wet Weight of Soil + Container (g)	0.00			
Dry Weight of Soil + Container (g)	0.00			
Weight of Container (g)	1.00			
Moisture Content (%)	0.00			
Weight of Soaked Soil (g)	100.23			

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	0			
Crucible No.	9			
Furnace Temperature (°C)	860			
Time In / Time Out	6:15/7:00			
Duration of Combustion (min)	45			
Wt. of Crucible + Residue (g)	22.5119			
Wt. of Crucible (g)	22.5084			
Wt. of Residue (g) (A)	0.0035			
PPM of Sulfate (A) x 41150	144.02			
PPM of Sulfate, Dry Weight Basis	**144**			

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15			
ml of AgNO3 Soln. Used in Titration (C)	0.7			
PPM of Chloride (C -0.2) * 100 * 30 / B	100			
PPM of Chloride, Dry Wt. Basis	**100**			

pH TEST, DOT California Test 643

pH Value	**7.95**			
Temperature °C	20.4			

SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	MileskiL/Adelanto Warehouses		Tested By :	J. Domingo	Date: 12/01/23
Project No. :	RC23280		Checked By:	J. Ward	Date: 12/11/23
Boring No.:	LB-1-1		Depth (ft.) :	0-5	
Sample No. :	B-1				

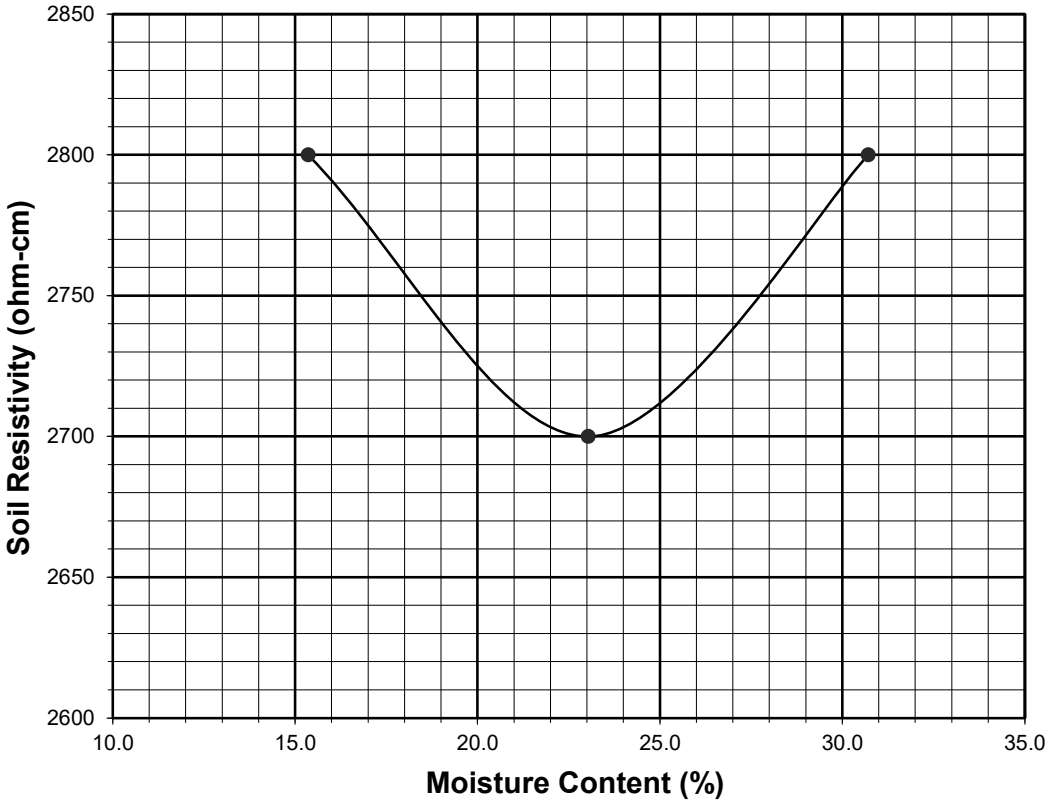
Soil Identification:* Strong brown SM

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	20	15.36	2800	2800
2	30	23.03	2700	2700
3	40	30.71	2800	2800
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.25
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
2700	**23.0**	**144**	**100**	**7.95**	**20.4**



TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: MileskiL/Adelanto Warehouses Tested By : G. Berdy Date: 11/28/23

Project No. : RC23280 Checked By: J. Ward Date: 12/28/23

Boring No.	LB-3-3	LB-4-7	LB-5-4	
Sample No.	B-1	B-1	B-1	
Sample Depth (ft)	0-5	0-5	0-5	
Soil Identification:	Pale brown SM	Dark yellowish brown SC	Yellowish brown SC	
Wet Weight of Soil + Container (g)	0.00	0.00	0.00	
Dry Weight of Soil + Container (g)	0.00	0.00	0.00	
Weight of Container (g)	1.00	1.00	1.00	
Moisture Content (%)	0.00	0.00	0.00	
Weight of Soaked Soil (g)	100.13	100.35	100.10	

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	10	5	9	
Crucible No.	301	303	304	
Furnace Temperature (°C)	860	860	860	
Time In / Time Out	7:00/7:45	7:00/7:45	7:00/7:45	
Duration of Combustion (min)	45	45	45	
Wt. of Crucible + Residue (g)	61.8948	60.2041	65.4195	
Wt. of Crucible (g)	61.8930	60.2022	65.4172	
Wt. of Residue (g) (A)	0.0018	0.0019	0.0023	
PPM of Sulfate (A) x 41150	74.07	78.18	94.65	
PPM of Sulfate, Dry Weight Basis	**74**	**78**	**95**	

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15	15	5	
ml of AgNO3 Soln. Used in Titration (C)	1.4	0.9	0.7	
PPM of Chloride (C -0.2) * 100 * 30 / B	240	140	300	
PPM of Chloride, Dry Wt. Basis	**240**	**140**	**300**	

pH TEST, DOT California Test 643

pH Value	**8.18**	**7.80**	**7.72**	
Temperature °C	21.7	21.0	21.0	

SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	MileskiL/Adelanto Warehouses		Tested By :	G. Berdy	Date: 12/07/23
Project No. :	RC23280		Checked By:	J. Ward	Date: 12/28/23
Boring No.:	LB-3-3		Depth (ft.) :	0-5	
Sample No. :	B-1				

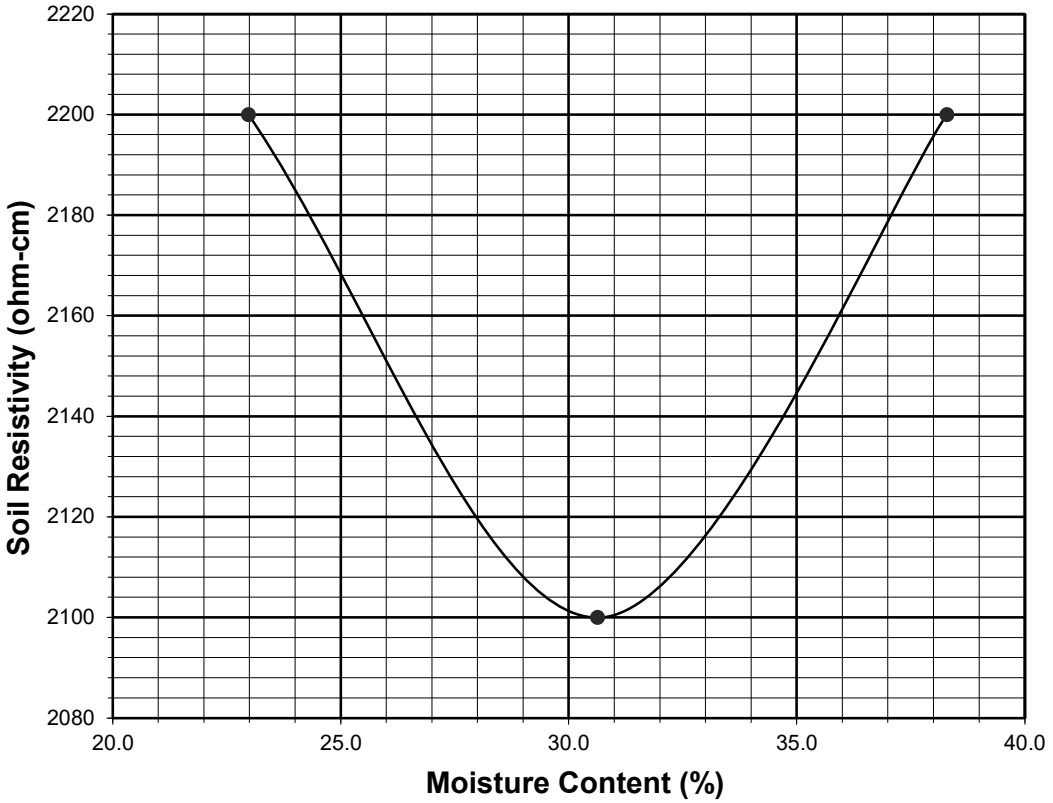
Soil Identification:* Pale brown SM

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	30	22.97	2200	2200
2	40	30.63	2100	2100
3	50	38.29	2200	2200
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.58
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
2100	**30.6**	**74**	**240**	**8.18**	**21.7**



SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	MileskiL/Adelanto Warehouses		Tested By :	J. Domingo	Date: 12/06/23
Project No. :	RC23280		Checked By:	J. Ward	Date: 12/28/23
Boring No.:	LB-4-7		Depth (ft.) :	0-5	
Sample No. :	B-1				

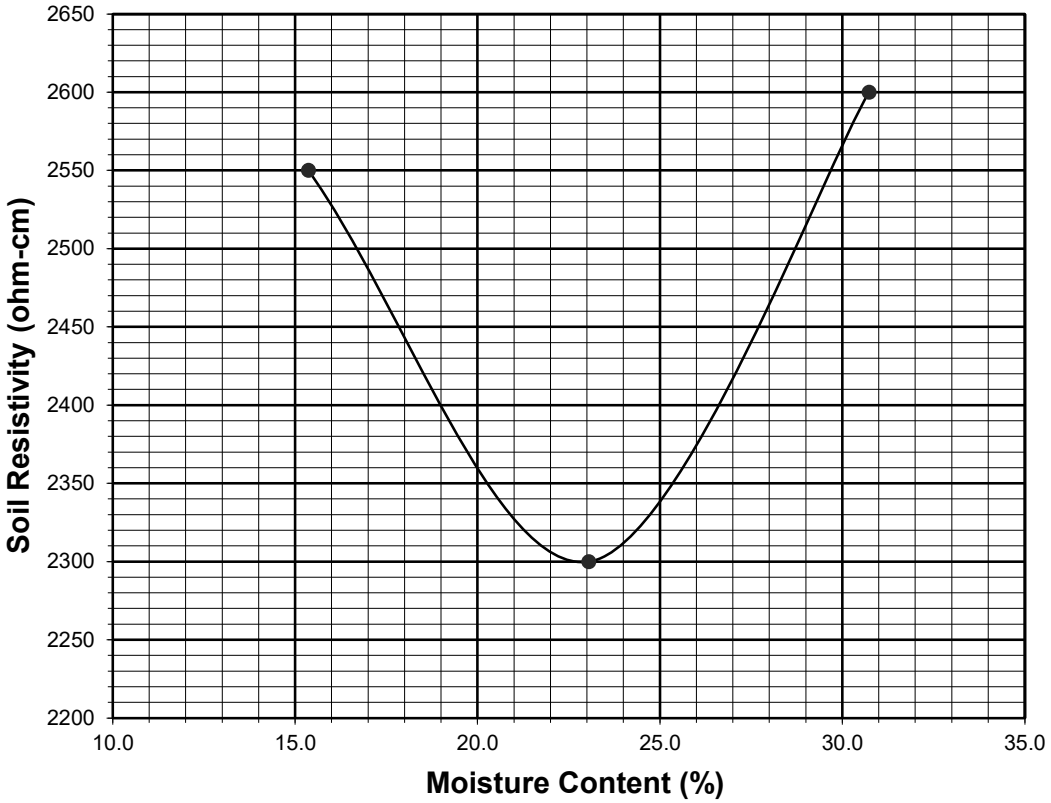
Soil Identification:* Dark yellowish brown SC

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	20	15.37	2550	2550
2	30	23.05	2300	2300
3	40	30.73	2600	2600
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.16
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
2300	**23.0**	**78**	**140**	**7.80**	**21.0**



SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	MileskiL/Adelanto Warehouses		Tested By :	G. Berdy	Date: 12/07/23
Project No. :	RC23280		Checked By:	J. Ward	Date: 12/28/23
Boring No.:	LB-5-4		Depth (ft.) :	0-5	
Sample No. :	B-1				

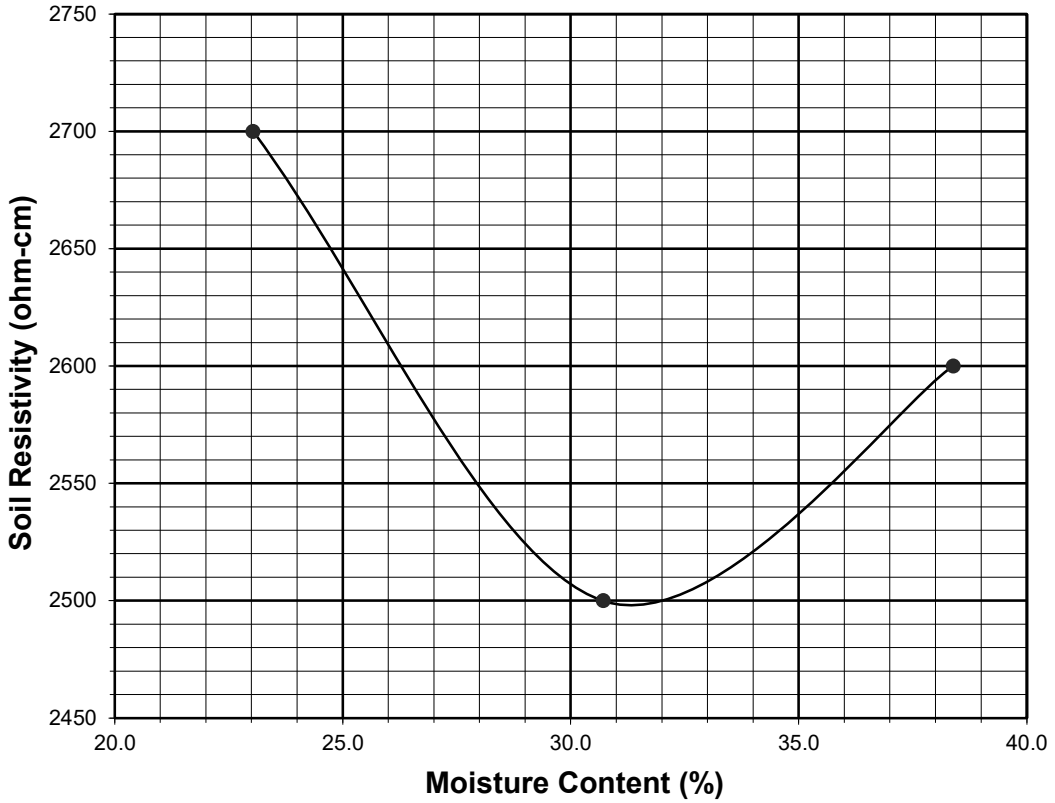
Soil Identification:* Yellowish brown SC

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	30	23.03	2700	2700
2	40	30.71	2500	2500
3	50	38.39	2600	2600
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.25
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
2500	**31.3**	**95**	**300**	**7.72**	**21.0**



TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: MileskiL/Adelanto Warehouses Tested By : GEB/JD Date: 12/01/23

Project No. : RC23280 Checked By: J. Ward Date: 01/19/24

Boring No.	LB-6-3	LB-7-7		
Sample No.	B-1	B-1		
Sample Depth (ft)	0-5	0-5		
Soil Identification:	Yellowish brown SM	Yellowish brown SM		
Wet Weight of Soil + Container (g)	0.00	0.00		
Dry Weight of Soil + Container (g)	0.00	0.00		
Weight of Container (g)	1.00	1.00		
Moisture Content (%)	0.00	0.00		
Weight of Soaked Soil (g)	100.22	100.31		

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	9	4		
Crucible No.	9	304		
Furnace Temperature (°C)	860	860		
Time In / Time Out	9:15/10:00	7:15/8:00		
Duration of Combustion (min)	45	45		
Wt. of Crucible + Residue (g)	22.5094	65.4212		
Wt. of Crucible (g)	22.5086	65.4201		
Wt. of Residue (g) (A)	0.0008	0.0011		
PPM of Sulfate (A) x 41150	32.92	45.26		
PPM of Sulfate, Dry Weight Basis	**33**	**45**		

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15	5		
ml of AgNO3 Soln. Used in Titration (C)	0.9	0.9		
PPM of Chloride (C -0.2) * 100 * 30 / B	140	420		
PPM of Chloride, Dry Wt. Basis	**140**	**420**		

pH TEST, DOT California Test 643

pH Value	**8.24**	**8.21**		
Temperature °C	20.2	22.0		

SOIL RESISTIVITY TEST

DOT CA TEST 643

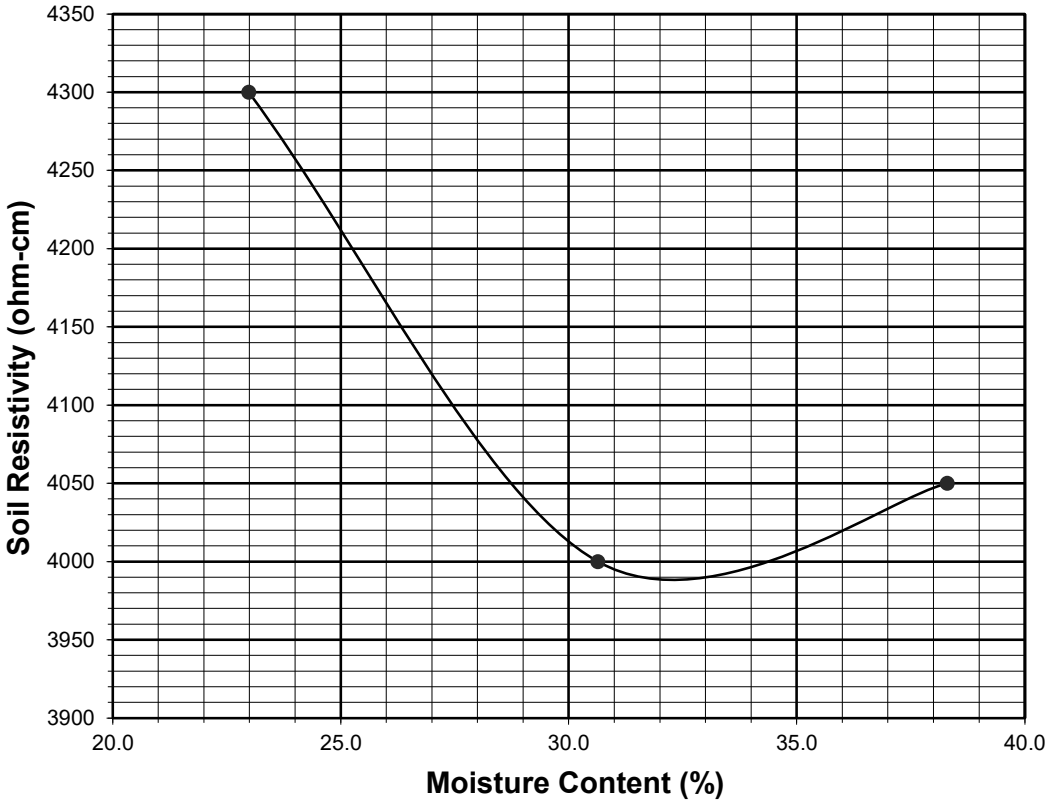
Project Name:	MileskiL/Adelanto Warehouses		Tested By :	G. Berdy	Date: 12/07/23
Project No. :	RC23280		Checked By:	J. Ward	Date: 01/19/24
Boring No.:	LB-6-3		Depth (ft.) :	0-5	
Sample No. :	B-1				
Soil Identification:*	Yellowish brown SM				

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	30	22.98	4300	4300
2	40	30.64	4000	4000
3	50	38.30	4050	4050
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.55
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
3990	**32.3**	**33**	**140**	**8.24**	**20.2**



SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	MileskiL/Adelanto Warehouses		Tested By :	G. Berdy	Date: 01/15/24
Project No. :	RC23280		Checked By:	J. Ward	Date: 01/19/24
Boring No.:	LB-7-7		Depth (ft.) :	0-5	
Sample No. :	B-1				

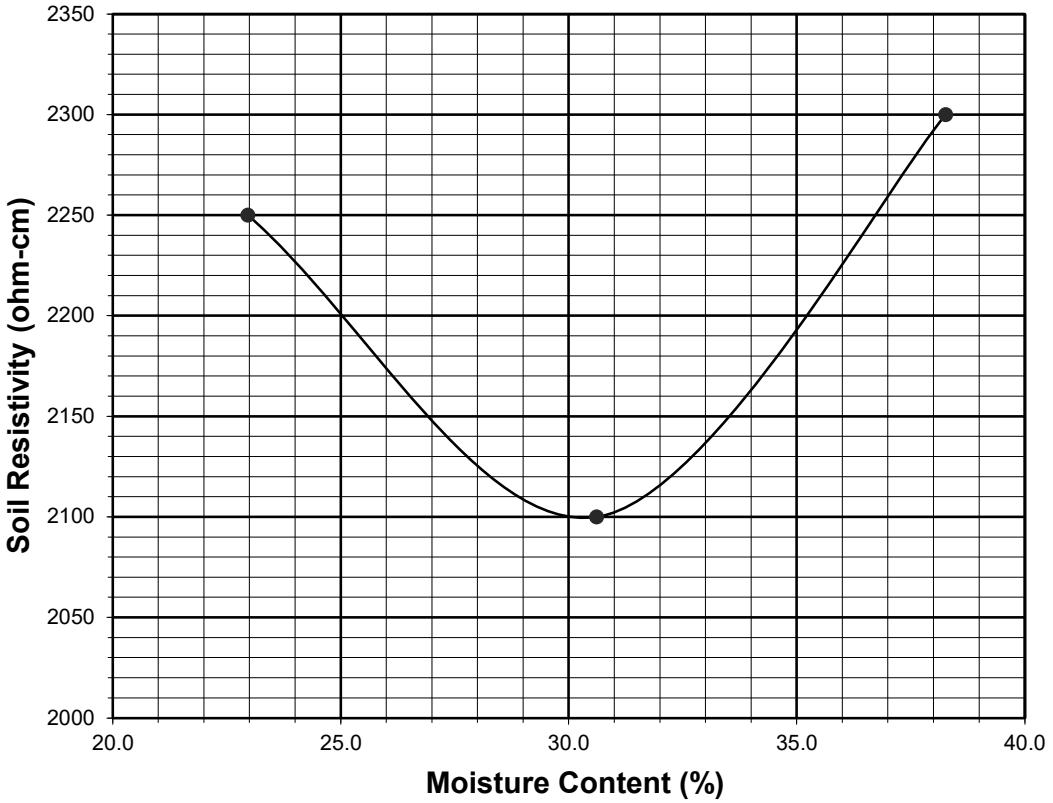
Soil Identification:* Yellowish brown SM

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	30	22.96	2250	2250
2	40	30.61	2100	2100
3	50	38.27	2300	2300
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	0.00
Dry Wt. of Soil + Cont. (g)	0.00
Wt. of Container (g)	1.00
Container No.	
Initial Soil Wt. (g) (Wt)	130.66
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
2100	**30.3**	**45**	**420**	**8.21**	**22.0**



APPENDIX D

SUMMARY OF SEISMIC HAZARD ANALYSIS

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Determination of Site Class and Estimation of Shear Wave Velocity

Project: CLC.000RC23280 Adelanto Warehouses

Depth (ft)	di, Layer Thick (ft)	Field Blow Counts, Ni Corrected for Cs and sampler type Blows per foot (bpf)						Average Ni (bpf)	Ni Hammer Corr:	di / Ni
		LB 2-1	LB 3-3	LB 4-6	LB 5-5	LB 6-1	LB 7-10		**1.3**	
5	7.5	22	26	31	60	60	19	36	47	0.16
10	5	60	60	60	37	60	60	56	73	0.07
15	5	54	65	100	36	88	66	68	89	0.06
20	5	60	60	60	60	60	60	60	78	0.06
25	5	100	100	100	68	100	100	95	100	0.05
30	5	60	60	60	60	60	60	60	78	0.06
35	5	66	100	100	100	67	100	89	100	0.05
40	5	12	60	60	60	60	60	52	68	0.07
45	5	100	86	86	100	9	74	76	99	0.05
50	7.5	60	60	60	60	60	60	60	78	0.10
60	10		40	*Assumed based on blowcount at 50'				40	52	0.19
70	10		40					40	52	0.19
80	10		40					40	52	0.19
90	10		40					40	52	0.19
100	5		40					40	52	0.10
Summatio	100									1.60
									Navg = Sum(di) / Sum(di / Ni) =	**63**

Extract of ASCE 7-16 Table 20.3-1 Site Classification (2019 CBC 1613A.2.2):

Site Class	Soil Profile Name	Avg. N upper 100' from	to	Vs30 (ft/sec) from	to	Vs30 (m/s) from	to	Site Avg N	Interpolated vs30 (ft/s)
A	Hard Rock	-		5000	10000	1524	3048		
B	Rock	-		2500	5000	762	1524		
C	VD soil & soft rock	**50.01**	**100**	**1200**	**2500**	366	762	63	1527
D	Stiff Soil	15	50	600	1200	183	366		
E	Soft Soil	0	14.999	0	600	0	183		
F		-	-			0	0		

SITE CLASS, Table 20.3-1: C

Estimation of Average Shear Wave Velocity in upper 100 ft (Vs30):

	ft/s	m/s
Approx. Vs30 (interpolation of Table 20.3-1) =	1527	465
Approx. Vs30 sands (Imai and Tonouchi, 1982) =	1283	391
Approx. Vs30 sands (Sykora and Stokoe, 1983) =	1069	326
Approx. Vs30 (Maheswari, Boominathan, Dodagoudar, 2009) =	1047	319

Liquefaction Susceptibility Analysis: SPT Method

Leighton

Youd and Idriss (2001), Martin and Lew (1999)

Description: Adelanto Industrial Warehouse Park; Case 1; PGAm 0.568; design GW 100; No overex 0
Project No.: CLC.000RC23280
Nov 2023

General Boring Information:

Boring No.	Existing GW Depth (ft)	Design GW Depth (ft)	Design Fill Height (ft)	Overex. depth bgs (ft)	Ground Surface Elev (ft)	design gw elve	Boring Location Coordinates X (ft)	Y (ft)
LB 2-1	90	100		0	2906	2806	0.0	0.0
LB 3-3	90	100		0	2906	2806	3199.4	-91.6
LB 4-6	90	100		0	2926	2826	2149.7	-1992.7
LB 5-5	90	100		0	2905	2805	6987.7	-237.9
LB 6-1	90	100		0	2912	2812	4853.4	-1640
LB 7-10	90	100		0	2926	2826	6923.3	-3351
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		

General Parameters:	
a_{max} =	0.57g
M_W =	7.9
MSF eq:	1
MSF =	0.88
Hammer Efficiency =	84
C_E =	1.40
C_B =	1
C_S for SPT?	TRUE
Unlined, but room for liner	
Rod Stickup (feet) =	3
Ring sample correction =	0.65

Summary of Liquefaction Susceptibility Analysis: SPT Method

Liquefaction Method: Youd and Idriss (2001). Seismic Settlement Method: Tokimatsu and Seed (1987) and Martin and Lew (1999).

Project: Adelanto Industrial Warehouse Park; Case 1; PGAm 0.568; design GW 100; No overex 0

Project No.: LC.000RC23280

Boring No.	Approx. Layer Depth (ft)	SPT Depth (ft)	Approx Layer Thick-ness (ft)	Plasticity ("n"=non susc. to liq.)	Estimated Fines Cont (%)	γ_t (pcf)	N_m or B (blows/ft)	Sampler Type (enter 2 if mod CA Ring)	Cs	N_m (corrected for Cs and ring->SPT) (blows/ft)	Exist σ_{vo}' (psf)	$(N_1)_{60}$	$(N_1)_{60CS}$	$CRR_{7.5}$	Design σ_{vo}' (psf)	$CSR_{7.5}$	CSR_M	Liquefaction Factor of Safety	$(N_1)_{60CS}$ (for Settle-ment) (blows/ft)	Dry Sand Strain (%) (Tok/ Seed 87) (%)	Sat Sand Strain (%) (Tok/ Seed 87) (%)	Seismic Sett. of Layer (in.)	Cummulative Seismic Settlement (in.)
LB 2-1	0 to 3.8	2.5	3.8		10	120	54	2	1	35.1	300	62.7	64.9	>Range	300	0.37	0.42	**NonLiq**	64.9	0.01		0.00	0.7
LB 2-1	3.8 to 6.3	5	2.5		10	120	37	2	1	24.1	600	42.9	44.7	>Range	600	0.36	0.42	**NonLiq**	44.7	0.02		0.00	0.7
LB 2-1	6.3 to 8.8	7.5	2.5		10	120	100	2	1	65.0	900	110.9	114.2	>Range	900	0.36	0.41	**NonLiq**	114.2	0.01		0.00	0.7
LB 2-1	8.8 to 12.5	10	3.8		5	120	100	2	1	65.0	1200	102.0	102.0	>Range	1200	0.36	0.41	**NonLiq**	102.0	0.01		0.00	0.7
LB 2-1	12.5 to 17.5	15	5.0		**22**	120	54	1	1.3	70.2	1800	90.0	102.3	>Range	1800	0.36	0.41	**NonLiq**	102.3	0.01		0.01	0.7
LB 2-1	17.5 to 22.5	20	5.0		35	120	100	2	1	65.0	2400	80.6	101.8	>Range	2400	0.35	0.40	**NonLiq**	101.8	0.01		0.01	0.7
LB 2-1	22.5 to 27.5	25	5.0		90	120	100	1	1.3	130.0	3000	144.2	178.1	>Range	3000	0.35	0.40	**NonLiq**	178.1	0.01		0.01	0.7
LB 2-1	27.5 to 32.5	30	5.0		90	120	100	2	1	65.0	3600	69.3	88.2	>Range	3600	0.34	0.39	**NonLiq**	88.2	0.02		0.01	0.7
LB 2-1	32.5 to 37.5	35	5.0		**22**	120	66	1	1.3	85.8	4200	84.7	96.5	>Range	4200	0.33	0.38	**NonLiq**	96.5	0.02		0.01	0.7
LB 2-1	37.5 to 42.5	40	5.0		5	120	20	2	1	13.0	4800	12.0	**12.0**	0.131	4800	0.31	0.36	**NonLiq**	12.0	1.10		0.66	0.7
LB 2-1	42.5 to 47.5	45	5.0		85	120	100	1	1.3	130.0	5400	113.2	140.8	>Range	5400	0.30	0.34	**NonLiq**	140.8	0.01		0.01	0.0
LB 2-1	47.5 to 52.0	50	4.5		70	120	100	2	1	65.0	6000	53.7	69.4	>Range	6000	0.28	0.32	**NonLiq**	69.4	0.02		0.01	0.0
LB 3-3	0 to 3.8	2.5	3.8		10	120	31	2	1	20.2	300	36.0	37.6	>Range	300	0.37	0.42	**NonLiq**	37.6	0.02		0.01	0.1
LB 3-3	3.8 to 6.3	5	2.5		10	120	43	2	1	28.0	600	49.9	51.8	>Range	600	0.36	0.42	**NonLiq**	51.8	0.01		0.00	0.1
LB 3-3	6.3 to 8.8	7.5	2.5		20	120	100	2	1	65.0	900	110.9	123.3	>Range	900	0.36	0.41	**NonLiq**	123.3	0.01		0.00	0.1
LB 3-3	8.8 to 12.5	10	3.8		20	120	100	2	1	65.0	1200	102.0	113.8	>Range	1200	0.36	0.41	**NonLiq**	113.8	0.01		0.00	0.1
LB 3-3	12.5 to 17.5	15	5.0		15	120	65	1	1.3	84.5	1800	108.3	116.0	>Range	1800	0.36	0.41	**NonLiq**	116.0	0.01		0.01	0.1
LB 3-3	17.5 to 22.5	20	5.0		35	120	100	2	1	65.0	2400	80.6	101.8	>Range	2400	0.35	0.40	**NonLiq**	101.8	0.01		0.01	0.1
LB 3-3	22.5 to 27.5	25	5.0		35	120	100	1	1.3	130.0	3000	144.2	178.1	>Range	3000	0.35	0.40	**NonLiq**	178.1	0.01		0.01	0.1
LB 3-3	27.5 to 32.5	30	5.0		45	120	100	2	1	65.0	3600	69.3	88.2	>Range	3600	0.34	0.39	**NonLiq**	88.2	0.02		0.01	0.0
LB 3-3	32.5 to 37.5	35	5.0		65	120	100	1	1.3	130.0	4200	128.3	159.0	>Range	4200	0.33	0.38	**NonLiq**	159.0	0.01		0.01	0.0
LB 3-3	37.5 to 42.5	40	5.0		70	120	100	2	1	65.0	4800	60.0	77.0	>Range	4800	0.31	0.36	**NonLiq**	77.0	0.02		0.01	0.0
LB 3-3	42.5 to 47.5	45	5.0		85	120	86	1	1.3	111.8	5400	97.3	121.8	>Range	5400	0.30	0.34	**NonLiq**	121.8	0.01		0.01	0.0
LB 3-3	47.5 to 52.0	50	4.5		85	120	100	2	1	65.0	6000	53.7	69.4	>Range	6000	0.28	0.32	**NonLiq**	69.4	0.02		0.01	0.0
LB 4-6	0 to 3.8	2.5	3.8		5	120	21	2	1	13.7	300	24.4	24.4	0.280	300	0.37	0.42	**NonLiq**	24.4	0.06		0.03	0.1
LB 4-6	3.8 to 6.3	5	2.5		5	120	51	2	1	33.2	600	59.2	59.2	>Range	600	0.36	0.42	**NonLiq**	59.2	0.01		0.00	0.1
LB 4-6	6.3 to 8.8	7.5	2.5		5	120	90	2	1	58.5	900	99.8	99.8	>Range	900	0.36	0.41	**NonLiq**	99.8	0.01		0.00	0.1
LB 4-6	8.8 to 12.5	10	3.8		5	120	100	2	1	65.0	1200	102.0	102.0	>Range	1200	0.36	0.41	**NonLiq**	102.0	0.01		0.00	0.1
LB 4-6	12.5 to 17.5	15	5.0		90	120	100	1	1.3	130.0	1800	166.6	204.9	>Range	1800	0.36	0.41	**NonLiq**	204.9	0.01		0.00	0.1
LB 4-6	17.5 to 22.5	20	5.0		90	120	100	2	1	65.0	2400	80.6	101.8	>Range	2400	0.35	0.40	**NonLiq**	101.8	0.01		0.01	0.1
LB 4-6	22.5 to 27.5	25	5.0		90	120	100	1	1.3	130.0	3000	144.2	178.1	>Range	3000	0.35	0.40	**NonLiq**	178.1	0.01		0.01	0.1
LB 4-6	27.5 to 32.5	30	5.0		35	120	100	2	1	65.0	3600	69.3	88.2	>Range	3600	0.34	0.39	**NonLiq**	88.2	0.02		0.01	0.0
LB 4-6	32.5 to 37.5	35	5.0		85	120	100	1	1.3	130.0	4200	128.3	159.0	>Range	4200	0.33	0.38	**NonLiq**	159.0	0.01		0.01	0.0
LB 4-6	37.5 to 42.5	40	5.0		60	120	100	2	1	65.0	4800	60.0	77.0	>Range	4800	0.31	0.36	**NonLiq**	77.0	0.02		0.01	0.0
LB 4-6	42.5 to 47.5	45	5.0		5	120	86	1	1.3	111.8	5400	97.3	97.3	>Range	5400	0.30	0.34	**NonLiq**	97.3	0.02		0.01	0.0

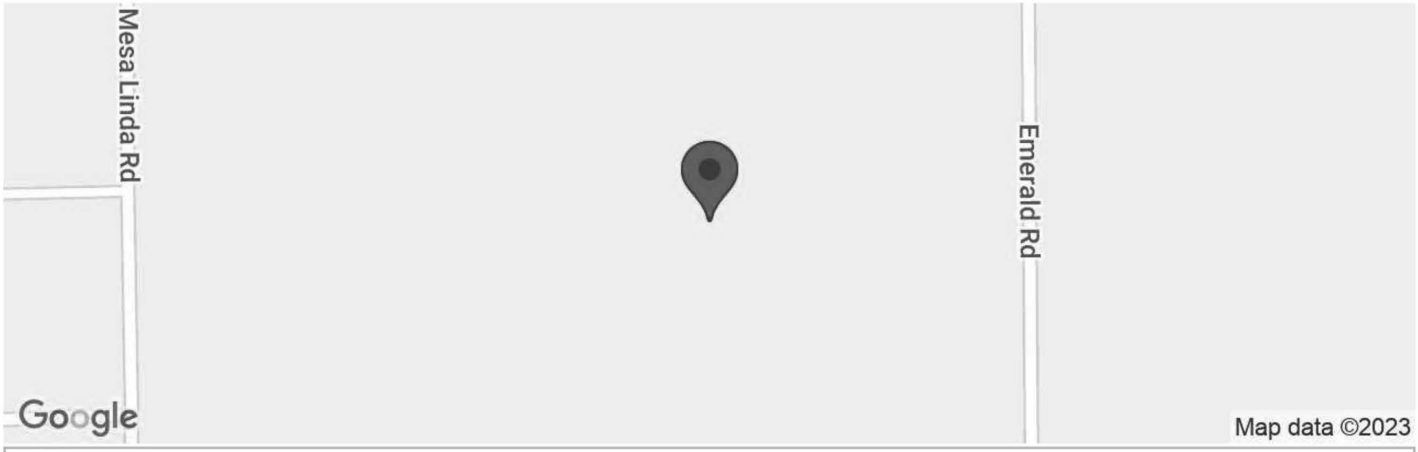
Boring No.	Approx. Layer Depth (ft)	SPT Depth (ft)	Approx Layer Thick-ness (ft)	Plasticity ("n"=non susc. to liq.)	Estimated Fines Cont (%)	γ_t (pcf)	N_m or B (blows/ft)	Sampler Type (enter 2 if mod CA Ring)	Cs	N_m (corrected for Cs and ring->SPT) (blows/ft)	Exist σ_{vo}' (psf)	$(N_1)_{60}$	$(N_1)_{60CS}$	**$CRR_{7.5}$**	Design σ_{vo}' (psf)	$CSR_{7.5}$	CSR_M	**Liquefaction Factor of Safety**	$(N_1)_{60CS}$ (for Settle-ment) (blows/ft)	Dry Sand Strain (%) (Tok/ Seed 87) (%)	Sat Sand Strain (%) (Tok/ Seed 87) (%)	Seismic Sett. of Layer (in.)	**Cummulative Seismic Settlement** (in.)
LB 4-6	47.5 to 52.0	50	4.5		10	120	100	2	1	65.0	6000	53.7	55.7	>Range	6000	0.28	0.32	**NonLiq**	55.7	0.02		0.01	0.0
LB 5-5	0 to 3.8	2.5	3.8		70	120	100	2	1	65.0	300	116.0	144.2	>Range	300	0.37	0.42	**NonLiq**	144.2	0.00		0.00	0.1
LB 5-5	3.8 to 6.3	5	2.5		55	120	100	2	1	65.0	600	116.0	144.2	>Range	600	0.36	0.42	**NonLiq**	144.2	0.01		0.00	0.1
LB 5-5	6.3 to 8.8	7.5	2.5		5	120	72	2	1	46.8	900	79.8	79.8	>Range	900	0.36	0.41	**NonLiq**	79.8	0.01		0.00	0.1
LB 5-5	8.8 to 12.5	10	3.8		5	120	62	2	1	40.3	1200	63.3	63.3	>Range	1200	0.36	0.41	**NonLiq**	63.3	0.01		0.01	0.1
LB 5-5	12.5 to 17.5	15	5.0		5	120	36	1	1.3	46.8	1800	60.0	60.0	>Range	1800	0.36	0.41	**NonLiq**	60.0	0.01		0.01	0.1
LB 5-5	17.5 to 22.5	20	5.0		5	120	100	2	1	65.0	2400	80.6	80.6	>Range	2400	0.35	0.40	**NonLiq**	80.6	0.02		0.01	0.1
LB 5-5	22.5 to 27.5	25	5.0		10	120	68	1	1.3	88.4	3000	98.1	101.1	>Range	3000	0.35	0.40	**NonLiq**	101.1	0.02		0.01	0.1
LB 5-5	27.5 to 32.5	30	5.0		20	120	100	2	1	65.0	3600	69.3	78.4	>Range	3600	0.34	0.39	**NonLiq**	78.4	0.02		0.01	0.0
LB 5-5	32.5 to 37.5	35	5.0		5	120	100	1	1.3	130.0	4200	128.3	128.3	>Range	4200	0.33	0.38	**NonLiq**	128.3	0.01		0.01	0.0
LB 5-5	37.5 to 42.5	40	5.0		40	120	100	2	1	65.0	4800	60.0	77.0	>Range	4800	0.31	0.36	**NonLiq**	77.0	0.02		0.01	0.0
LB 5-5	42.5 to 47.5	45	5.0		70	120	100	1	1.3	130.0	5400	113.2	140.8	>Range	5400	0.30	0.34	**NonLiq**	140.8	0.01		0.01	0.0
LB 5-5	47.5 to 52.0	50	4.5		70	120	100	2	1	65.0	6000	53.7	69.4	>Range	6000	0.28	0.32	**NonLiq**	69.4	0.02		0.01	0.0
LB 6-1	0 to 3.8	2.5	3.8		40	120	100	2	1	65.0	300	116.0	144.2	>Range	300	0.37	0.42	**NonLiq**	144.2	0.00		0.00	1.9
LB 6-1	3.8 to 6.3	5	2.5		10	120	100	2	1	65.0	600	116.0	119.4	>Range	600	0.36	0.42	**NonLiq**	119.4	0.01		0.00	1.9
LB 6-1	6.3 to 8.8	7.5	2.5		5	120	69	2	1	44.9	900	76.5	76.5	>Range	900	0.36	0.41	**NonLiq**	76.5	0.01		0.00	1.9
LB 6-1	8.8 to 12.5	10	3.8		5	120	100	2	1	65.0	1200	102.0	102.0	>Range	1200	0.36	0.41	**NonLiq**	102.0	0.01		0.00	1.9
LB 6-1	12.5 to 17.5	15	5.0		5	120	88	1	1.3	114.4	1800	146.6	146.6	>Range	1800	0.36	0.41	**NonLiq**	146.6	0.01		0.01	1.9
LB 6-1	17.5 to 22.5	20	5.0		45	120	100	2	1	65.0	2400	80.6	101.8	>Range	2400	0.35	0.40	**NonLiq**	101.8	0.01		0.01	1.9
LB 6-1	22.5 to 27.5	25	5.0		85	120	100	1	1.3	130.0	3000	144.2	178.1	>Range	3000	0.35	0.40	**NonLiq**	178.1	0.01		0.01	1.9
LB 6-1	27.5 to 32.5	30	5.0		85	120	100	2	1	65.0	3600	69.3	88.2	>Range	3600	0.34	0.39	**NonLiq**	88.2	0.02		0.01	1.9
LB 6-1	32.5 to 37.5	35	5.0		85	120	67	1	1.3	87.1	4200	86.0	108.2	>Range	4200	0.33	0.38	**NonLiq**	108.2	0.01		0.01	1.8
LB 6-1	37.5 to 42.5	40	5.0		80	120	100	2	1	65.0	4800	60.0	77.0	>Range	4800	0.31	0.36	**NonLiq**	77.0	0.02		0.01	1.8
LB 6-1	42.5 to 47.5	45	5.0		5	120	9	1	1.1	9.9	5400	8.6	**8.6**	0.101	5400	0.30	0.34	**NonLiq**	8.6	3.02		1.81	1.8
LB 6-1	47.5 to 52.0	50	4.5		25	120	100	2	1	65.0	6000	53.7	64.1	>Range	6000	0.28	0.32	**NonLiq**	64.1	0.02		0.01	0.0
LB 7-10	0 to 3.8	2.5	3.8		5	120	24	2	1	15.6	300	27.8	27.8	0.364	300	0.37	0.42	**NonLiq**	27.8	0.05		0.02	0.1
LB 7-10	3.8 to 6.3	5	2.5		5	120	32	2	1	20.8	600	37.1	37.1	>Range	600	0.36	0.42	**NonLiq**	37.1	0.06		0.02	0.1
LB 7-10	6.3 to 8.8	7.5	2.5		10	120	70	2	1	45.5	900	77.6	80.2	>Range	900	0.36	0.41	**NonLiq**	80.2	0.01		0.00	0.1
LB 7-10	8.8 to 12.5	10	3.8		5	120	100	2	1	65.0	1200	102.0	102.0	>Range	1200	0.36	0.41	**NonLiq**	102.0	0.01		0.00	0.1
LB 7-10	12.5 to 17.5	15	5.0		10	120	66	1	1.3	85.8	1800	110.0	113.2	>Range	1800	0.36	0.41	**NonLiq**	113.2	0.01		0.01	0.1
LB 7-10	17.5 to 22.5	20	5.0		70	120	100	2	1	65.0	2400	80.6	101.8	>Range	2400	0.35	0.40	**NonLiq**	101.8	0.01		0.01	0.1
LB 7-10	22.5 to 27.5	25	5.0		80	120	100	1	1.3	130.0	3000	144.2	178.1	>Range	3000	0.35	0.40	**NonLiq**	178.1	0.01		0.01	0.1
LB 7-10	27.5 to 32.5	30	5.0		40	120	100	2	1	65.0	3600	69.3	88.2	>Range	3600	0.34	0.39	**NonLiq**	88.2	0.02		0.01	0.0
LB 7-10	32.5 to 37.5	35	5.0		90	120	100	1	1.3	130.0	4200	128.3	159.0	>Range	4200	0.33	0.38	**NonLiq**	159.0	0.01		0.01	0.0
LB 7-10	37.5 to 42.5	40	5.0		35	120	100	2	1	65.0	4800	60.0	77.0	>Range	4800	0.31	0.36	**NonLiq**	77.0	0.02		0.01	0.0
LB 7-10	42.5 to 47.5	45	5.0		35	120	74	1	1.3	96.2	5400	83.7	105.5	>Range	5400	0.30	0.34	**NonLiq**	105.5	0.02		0.01	0.0

Boring No.	Approx. Layer Depth (ft)		SPT Depth (ft)	Approx Layer Thick-ness (ft)	Plasticity ("n"=non susc. to liq.)	Estimated Fines Cont (%)	γ_t (pcf)	N_m or B (blows/ft)	Sampler Type (enter 2 if mod CA Ring)	Cs	N_m (corrected for Cs and ring->SPT) (blows/ft)	Exist σ_{vo}' (psf)	$(N_1)_{60}$	$(N_1)_{60CS}$	**$CRR_{7.5}$**	Design σ_{vo}' (psf)	$CSR_{7.5}$	CSR_M	**Liquefaction Factor of Safety**	$(N_1)_{60CS}$ (for Settle-ment) (blows/ft)	Dry Sand Strain (%) (Tok/ Seed 87) (%)	Sat Sand Strain (%) (Tok/ Seed 87) (%)	Seismic Sett. of Layer (in.)	**Cummulative Seismic Settlement** (in.)
LB 7-10	47.5	to 52.0	50	4.5		95	120	100	2	1	65.0	6000	53.7	69.4	>Range	6000	0.28	0.32	**NonLiq**	69.4	0.02		0.01	0.0

USGS web services were down for some period of time and as a result this tool wasn't operational, resulting in *timeout* error.
USGS web services are now operational so this tool should work as expected.

OSHPD

Latitude, Longitude: 34.568165, -117.386110



Date	11/28/2023, 4:46:58 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	C - Very Dense Soil and Soft Rock

Type	Value	Description
S_S	1.1	MCE_R ground motion. (for 0.2 second period)
S_1	0.429	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.32	Site-modified spectral acceleration value
S_{M1}	0.643	Site-modified spectral acceleration value
S_{DS}	0.88	Numeric seismic design value at 0.2 second SA
S_{D1}	0.429	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1.2	Site amplification factor at 0.2 second
F_v	1.5	Site amplification factor at 1.0 second
PGA	0.473	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.568	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	1.1	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.178	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.429	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.466	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)
PGA_{UH}	0.473	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C_{RS}	0.934	Mapped value of the risk coefficient at short periods

Type	Value	Description
C_{R1}	0.92	Mapped value of the risk coefficient at a period of 1 s
C_V	1.12	Vertical coefficient

DISCLAIMER

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U.S. Geological Survey - Earthquake Hazards Program

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Please also see the new USGS Earthquake Hazard Toolbox for access to the most recent NSHMs for the conterminous U.S. and Hawaii.

Input

Edition

Dynamic: Conterminous U.S. 2014 (u…

Spectral Period

Peak Ground Acceleration

Latitude

Decimal degrees

34.568165

Time Horizon

Return period in years

2475

Longitude

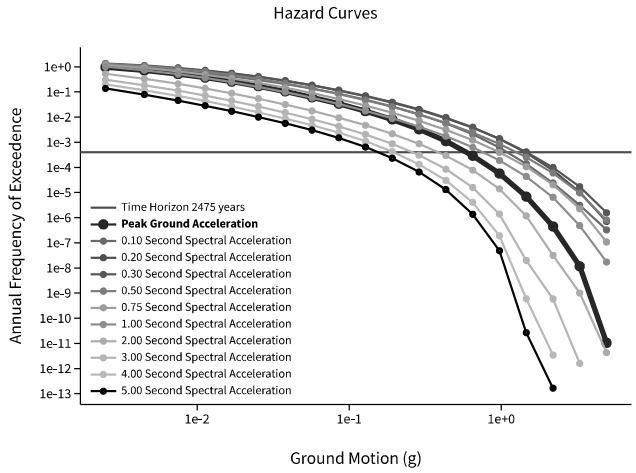
Decimal degrees, negative values for western longitudes

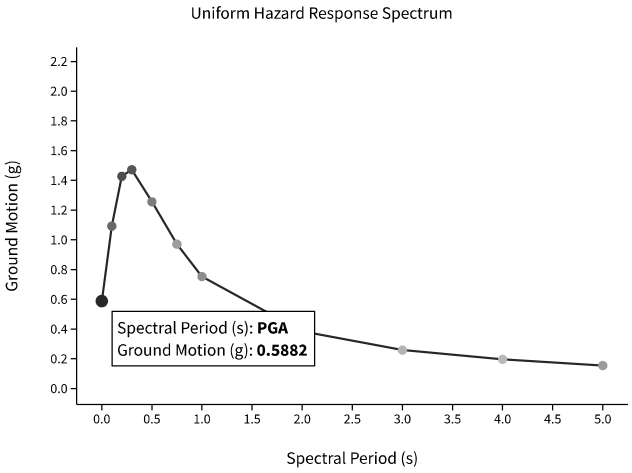
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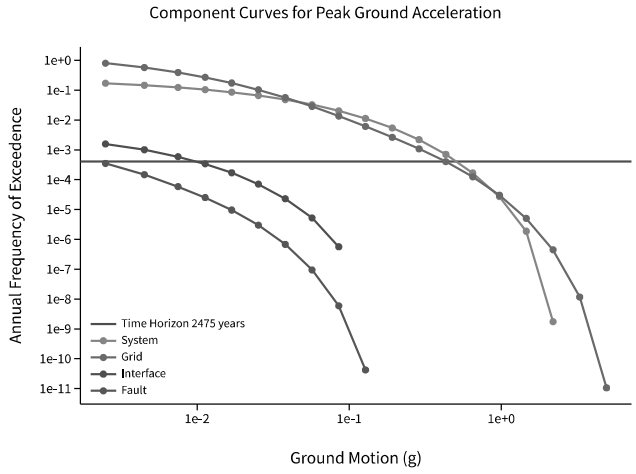
Site Class

360 m/s (C/D boundary)

Hazard Curve





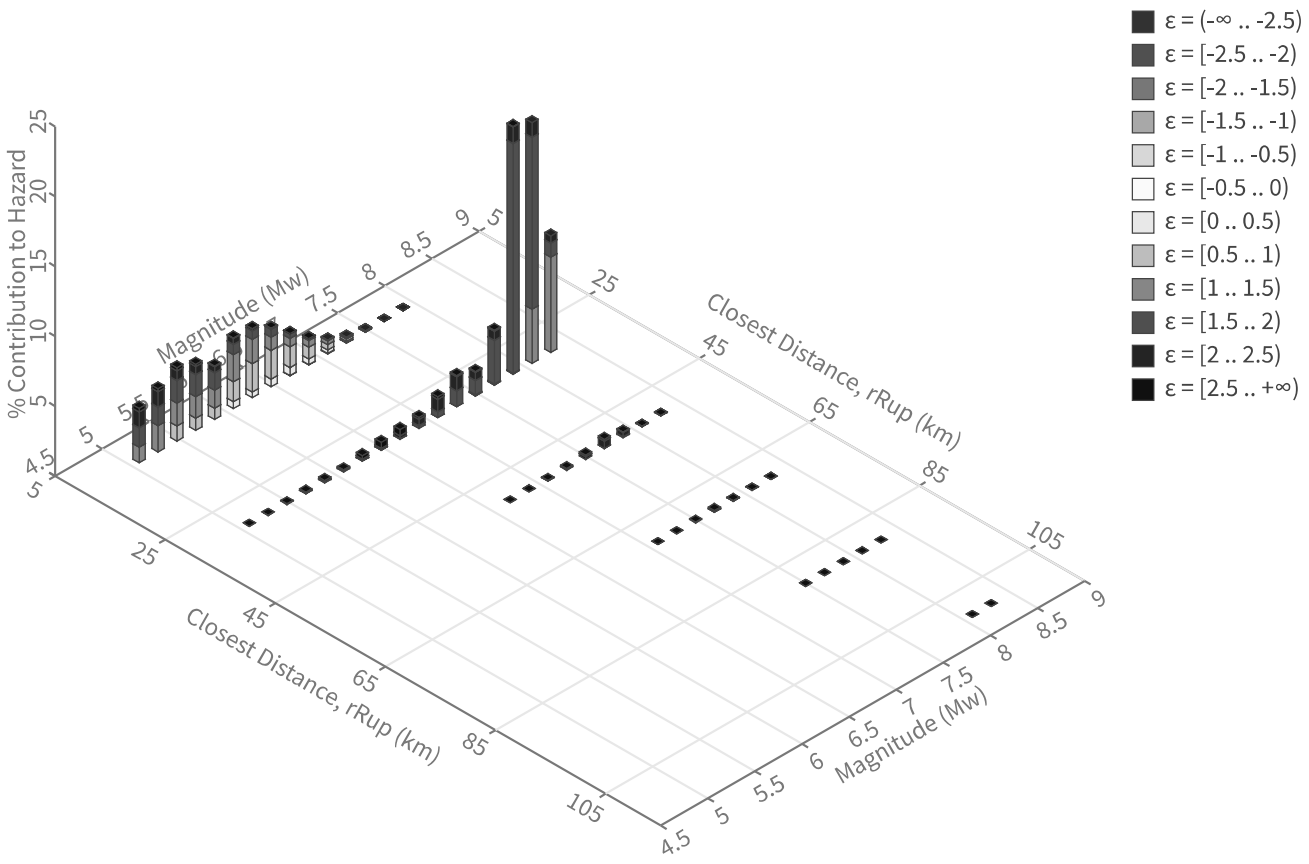


View Raw Data

Deaggregation

Component

Total



Summary statistics for, Deaggregation: Total

Deaggregation targets

Return period: 2475 yrs
Exceedance rate: 0.0004040404 yr^{-1}
PGA ground motion: 0.5882133 g

Recovered targets

Return period: 2916.9124 yrs
Exceedance rate: 0.00034282825 yr^{-1}

Totals

Binned: 100 %
Residual: 0 %
Trace: 0.09 %

Mean (over all sources)

m: 7.06
r: 22.13 km
ε_0: 1.56 σ

Mode (largest m-r bin)

m: 7.9
r: 32.08 km
ε_0: 1.76 σ
Contribution: 17.7 %

Mode (largest m-r-ε_0 bin)

m: 7.91
r: 32.04 km
ε_0: 1.72 σ
Contribution: 16.45 %

Discretization

r: min = 0.0, max = 1000.0, Δ = 20.0 km
m: min = 4.4, max = 9.4, Δ = 0.2
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys

ε0: [-∞ .. -2.5)
ε1: [-2.5 .. -2.0)
ε2: [-2.0 .. -1.5)
ε3: [-1.5 .. -1.0)
ε4: [-1.0 .. -0.5)
ε5: [-0.5 .. 0.0)
ε6: [0.0 .. 0.5)
ε7: [0.5 .. 1.0)
ε8: [1.0 .. 1.5)
ε9: [1.5 .. 2.0)
ε10: [2.0 .. 2.5)
ε11: [2.5 .. +∞]

Deaggregation Contributors

Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
UC33brAvg_FM32	System							28.17
San Andreas (Mojave S) [14]		31.74	8.00	1.68	117.549°W	34.316°N	208.12	22.05
UC33brAvg_FM31	System							28.07
San Andreas (Mojave S) [14]		31.74	8.01	1.67	117.549°W	34.316°N	208.12	21.94
UC33brAvg_FM31 (opt)	Grid							21.89
PointSourceFinite: -117.386, 34.600		6.00	5.78	0.95	117.386°W	34.600°N	0.00	3.47
PointSourceFinite: -117.386, 34.600		6.00	5.78	0.95	117.386°W	34.600°N	0.00	3.47
PointSourceFinite: -117.386, 34.636		8.24	5.94	1.24	117.386°W	34.636°N	0.00	2.10
PointSourceFinite: -117.386, 34.636		8.24	5.94	1.24	117.386°W	34.636°N	0.00	2.10
PointSourceFinite: -117.386, 34.663		10.09	6.07	1.42	117.386°W	34.663°N	0.00	1.21
PointSourceFinite: -117.386, 34.663		10.09	6.07	1.42	117.386°W	34.663°N	0.00	1.21
PointSourceFinite: -117.386, 34.645		9.11	5.88	1.40	117.386°W	34.645°N	0.00	1.21
PointSourceFinite: -117.386, 34.645		9.11	5.88	1.40	117.386°W	34.645°N	0.00	1.21
UC33brAvg_FM32 (opt)	Grid							21.87
PointSourceFinite: -117.386, 34.600		6.00	5.78	0.95	117.386°W	34.600°N	0.00	3.47
PointSourceFinite: -117.386, 34.600		6.00	5.78	0.95	117.386°W	34.600°N	0.00	3.47
PointSourceFinite: -117.386, 34.636		8.24	5.94	1.24	117.386°W	34.636°N	0.00	2.10
PointSourceFinite: -117.386, 34.636		8.24	5.94	1.24	117.386°W	34.636°N	0.00	2.10
PointSourceFinite: -117.386, 34.663		10.10	6.07	1.42	117.386°W	34.663°N	0.00	1.21
PointSourceFinite: -117.386, 34.663		10.10	6.07	1.42	117.386°W	34.663°N	0.00	1.21
PointSourceFinite: -117.386, 34.645		9.11	5.88	1.40	117.386°W	34.645°N	0.00	1.20
PointSourceFinite: -117.386, 34.645		9.11	5.88	1.40	117.386°W	34.645°N	0.00	1.20

PACIFIC EARTHQUAKE ENGINEERING RESEARCH CENTER

WEIGHTED AVERAGE of 2014 NGA WEST-2 GMPEs

Last updated: 04 14 15

by Emel Seyhan, PhD, PEER & UCLA -- email: emel.seyhan@gmail.com, peer_center@berkeley.edu

This excel file will be updated as necessary on the PEER website to fix any typos or other errors. Please check the website frequently for new versions at: http://peer.berkeley.edu/ngawest2/databases/

Legend	Pre-defined option	Main input variable	Calculated variable	Input var. flag	Internal variable

GMPE averaging	Geometric	*Weighted average of the natural logarithm of the spectral values*

GMPEs	ASK14	BSSA14	CB14	CY14	I14
Weight	0.25	0.25	0.25	0.25	0

# of std. dev.	1	
Damping ratio (%)	5	*Modification factors are calculated in Sheet DSF*

ASK14 Abrahamson & Silva & Kamai 2014 NGA West-2 Model
BSSA14 Boore & Stewart & Seyhan & Atkinson 2014 NGA West-2 Model
CB14 Campbell & Bozorgnia 2014 NGA West-2 Model
CY14 Chiou & Youngs 2014 NGA West-2 Model
I14 Idriss 2014 NGA West-2 Model

Input variables | **Errors and warnings**

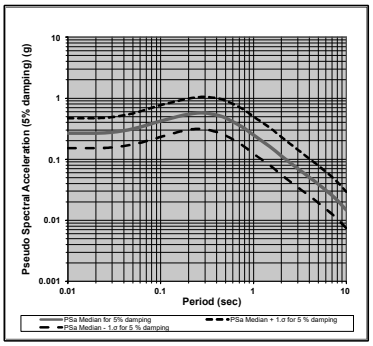
M_w	8.18	
R_{RUP} (km)	32.7	
R_{JB} (km)	31.7	
R_X (km)	31.7	
Ry0 (km)	999	*If unknown use 999*
V_{S30} (m/sec)	372	
U (BSSA13)	0	*1: Unspecified fault mech.*
F_{RV}	0	*1: reverse fault*
F_{NM}	0	*1: normal fault*
F_{HW}	0	*1: hanging wall side*
Dip (deg)	90	
Z_{TOR} (km)	7.86	*If unknown use 999*
Z_{HYP} (km)	999	*If unknown use 999*
$Z_{1.0}$ (km)	0.05	*If unknown use 999*
$Z_{2.5}$ (km)	0.21	*If unknown use 999*
W (km)	13.1	*If unknown use 999*
Vs30Flag	inferred	*Choose options for V_{s30} from the list*
F_{AS}	no	*Aftershock effect is not applicable.*
Region	California	*Choose region from the list*

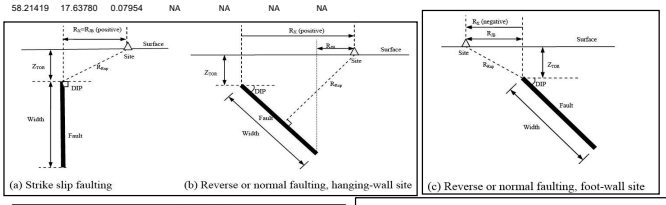
Calculated Variables/Flags

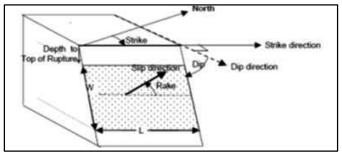
ΔDPP	0	*Always 0 for median calcs.*
PGA_r (g)	0.183	
Z_{BOT} (km) (CB14)	15	*Enter for default W calcs*
SS	1	*auto calculated*
$V_{s30Flag}$	0	*inferred*
F_{AS}	0	*Aftershock effect is not applicable.*
Region	0	*California*
Option for Sa value	1	*Weighted average of the natural logarithm of the spectral values*

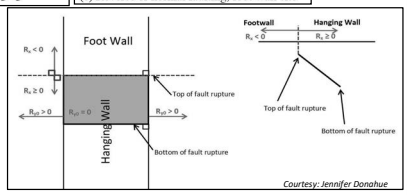
RotD50 Horizontal Component of PGA, PGV and *IMs*

GMP	T (s)	Baseline: 5% Damping: PSa Median for 5% damping	PSa Median + 1.σ for 5% damping	PSa Median - 1.σ for 5% damping	S_a Median for 5% damping	User defined: 5% Damping: PSa Median for 5% damping	PSa Median + 1.σ for 5 % damping	PSa Median - 1.σ for 5 % damping	Sd Median for 5 % damping
PSa (g), S_d (cm)	0.01	0.26758	0.47042	0.15220	0.00066	0.26758	0.47042	0.15220	0.00066
	0.02	0.26732	0.47049	0.15188	0.00265	0.26732	0.47049	0.15188	0.00265
	0.03	0.27667	0.49000	0.15622	0.00618	0.27639	0.48951	0.15606	0.00617
	0.05	0.31249	0.56134	0.17395	0.01939	0.31280	0.56190	0.17413	0.01941
	0.075	0.37120	0.67542	0.20401	0.05183	0.37232	0.67744	0.20462	0.05199
	0.1	0.42120	0.76742	0.23117	0.10456	0.42288	0.77049	0.23210	0.10498
	0.15	0.49599	0.89394	0.27520	0.27703	0.49748	0.89662	0.27602	0.27786
	0.2	0.54624	0.98279	0.30361	0.54239	0.54788	0.98574	0.30452	0.54402
	0.25	0.57091	1.03554	0.31475	0.88576	0.57148	1.03658	0.31507	0.88664
	0.3	0.56800	1.04955	0.30739	1.26898	0.56970	1.05270	0.30831	1.27279
	0.4	0.52772	0.99897	0.27877	2.09598	0.52877	1.00097	0.27933	2.10018
	0.5	0.47126	0.90820	0.24454	2.92462	0.47173	0.90911	0.24478	2.92754
	0.75	0.34011	0.67728	0.17079	4.74908	0.34045	0.67796	0.17096	4.75383
	1	0.24743	0.49924	0.12263	6.14225	0.24743	0.49924	0.12263	6.14225
	1.5	0.16119	0.32750	0.07933	9.00290	0.16135	0.32783	0.07941	9.01190
	2	0.11343	0.23083	0.05574	11.26309	0.11332	0.23060	0.05569	11.25182
	3	0.07033	0.14317	0.03455	15.71296	0.07033	0.14317	0.03455	15.71296
	4	0.05072	0.10223	0.02516	20.14507	0.05062	0.10203	0.02511	20.10478
	5	0.03905	0.07882	0.01935	24.23328	0.03897	0.07866	0.01931	24.18482
	7.5	0.02336	0.04695	0.01162	32.61598	0.02322	0.04667	0.01155	32.42028
	10	0.01482	0.02944	0.00746	36.77849	0.01474	0.02929	0.00742	36.59460
PGA (g)	0	0.26571	0.46677	0.15126	0.00066	0.26571	0.46677	0.15126	0.00066
PGV (cm/s)	-1	32.04326	58.21419	17.63780	0.07954	NA	NA	NA	NA









Courtesy: Jennifer Donahue

Definition of Parameters

Damping ratio = Viscous damping ratio (%) See Sanaz et al. (2012) PEER Report
PSA = Pseudo-absolute acceleration response spectrum (g)
PGA = Peak ground acceleration (g)
PGV = Peak ground velocity (cm/s)
S_d = Relative displacement response spectrum (cm)
M_w = Moment magnitude
R_{RUP} = Closest distance to coseismic rupture (km), used in ASK13, CB13 and CY13. See Figures a, b and c for illustation
R_{JB} = Closest distance to surface projection of coseismic rupture (km). See Figures a, b and c for illustation
R_X = Horizontal distance from top of rupture measured perpendicular to fault strike (km). See Figures a, b and c for illustation
R_{x0} = The horizontal distance off the end of the rupture measured parallel to strike (km)
V_{S30} = The average shear-wave velocity (m/s) over a subsurface depth of 30 m
U = Unspecified-mechanism factor: 1 for unspecified; 0 otherwise
F_{RV} = Reverse-faulting factor: 0 for strike slip, normal, normal-oblique; 1 for reverse, reverse-oblique and thrust
F_{NM} = Normal-faulting factor: 0 for strike slip, reverse, reverse-oblique, thrust and normal-oblique; 1 for normal
F_{HW} = Hanging-wall factor: 1 for site on down-dip side of top of rupture; 0 otherwise
Dip = Average dip of rupture plane (degrees)
Z_{TOR} = Depth to top of coseismic rupture (km)
Z_{HYP} = Hypocentral depth from the earthquake
$Z_{1.0}$ = Depth to Vs=1 km/sec
$Z_{2.5}$ = Depth to Vs=2.5 km/sec
W = Fault rupture width (km)
$V_{s30flag}$ = 1 for measured, 0 for inferred Vs30
F_{AS} = 0 for mainshock; 1 for aftershock
Region = Specific regions considered in the models, Click on Region to see codes
ΔDPP = Directivity term, direct point parameter; uses 0 for median predictions
PGA_r (g) = Peak ground acceleration on rock (g), this specific cell is updated in the cell for BSSA14 and CB14, for others it is taken account for in the macros
Z_{BOT} (km) = The depth to the bottom of the seismogenic crust
Z_{BOR} (km) = The depth to the bottom of the rupture plane
SS = 1 for strike slip, automatically updated in the cell

Input variables with defaults (If entered 999 as input):

Red colored value: The value is used in the code when input is unknown

DEFAULTs	USER defined	ASK14	BSSA14	CB14	CY14	I14
W (km)	13.10			15.000		
$Z_{1.0}$ (km)	0.050	0.050			0.389	
$\delta Z_{1.0}$ (km)	-0.339		-0.339			
$Z_{2.5}$ (V_{S30}=1100)(km)	0.210			0.398		
$Z_{2.5}$ (V_{S30})(km)	0.210			1.374		
Z_{TOR} (km)	999.00			10.227		
Z_{HYP} (km)	7.86			0.000	0.000	
Z_{BOR} (km)	-			15.000		

ACKNOWLEDGEMENTS

Nick Gregor, Bechtel
Silvia Mazzoni, Consultant

All NGA West-2 participants are acknowledged for their constructive comments and feedback.

PROBABILISTIC RESPONSE SPECTRA

Period (S)	UHGM (g)	C_R	Ordinated Value (g)	Max Dir SF	Max Dir RTGM (g)	Probabilistic Response (g)
0.01	0.588	0.934	0.549	1.1	0.604	0.604
0.10	1.092	0.934	1.020	1.1	1.122	1.122
0.20	1.427	0.934	1.333	1.1	1.466	1.466
0.30	1.472	0.932	1.372	1.124	1.542	1.542
0.50	1.256	0.929	1.166	1.175	1.370	1.370
0.75	0.971	0.924	0.898	1.2375	1.111	1.111
1.00	0.753	0.920	0.693	1.3	0.901	0.901
2.00	0.385	0.920	0.354	1.35	0.478	0.478
3.00	0.258	0.920	0.238	1.4	0.333	0.333
4.00	0.196	0.920	0.180	1.45	0.261	0.261
5.00	0.154	0.920	0.142	1.5	0.213	0.213

Peak Sa		Fa	1.2Fa	Peak Sa < 1.2Fa	Deterministic Needed?
1.542		1.2	1.44	NO	YES

UHGM - Obtained from Unified Hazard Maps
RTGM - Risk Target Ground Motion

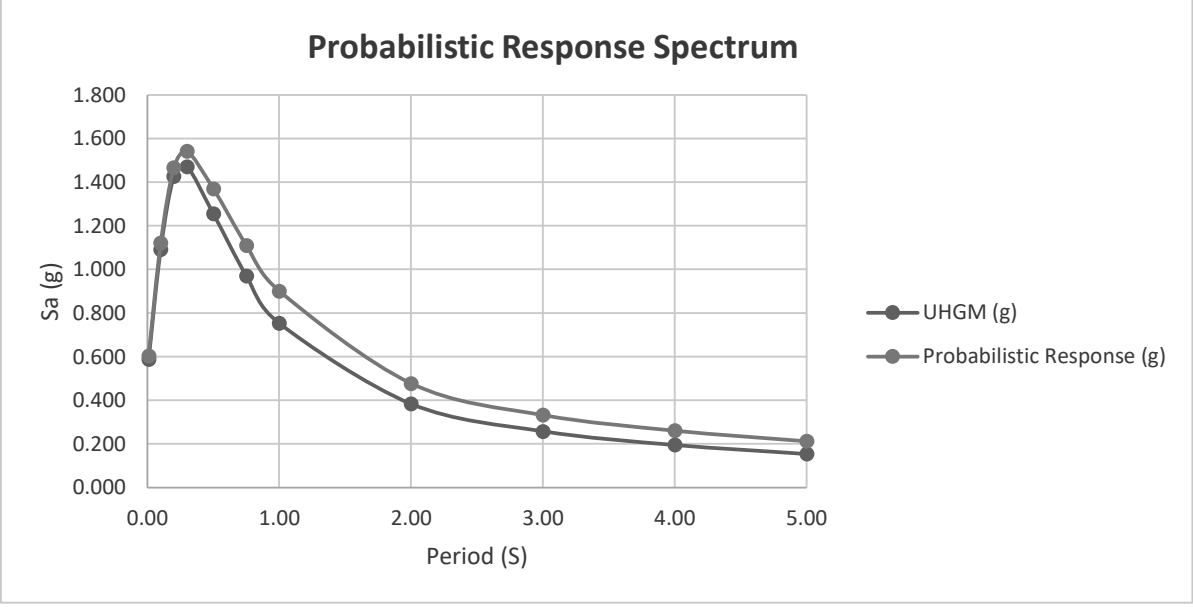


Exhibit C-1

DETERMINISTIC RESPONSE SPECTRUM

Period (S)	84th Percentile for 5% Damping	Max Dir SF	Max Dir Deterministic Sa	Scaled Max Dir Deterministic Sa
0.01	0.470	1.1	0.517	0.787
0.1	0.770	1.1	0.848	1.289
0.2	0.986	1.1	1.084	1.650
0.3	1.053	1.124	1.183	1.800
0.5	0.909	1.175	1.068	1.625
0.75	0.678	1.2375	0.839	1.276
1	0.499	1.3	0.649	0.987
2	0.231	1.35	0.311	0.474
3	0.143	1.4	0.200	0.305
4	0.102	1.45	0.148	0.225
5	0.079	1.5	0.118	0.179

Obtained from NGA West 2 GMPE Worksheet - UCERF3 fault

CALCS

Peak Sa	Fa	1.5Fa	Peak Sa < 1.5Fa	Scaling Factor
1.183	1.2	1.8	YES	1.521

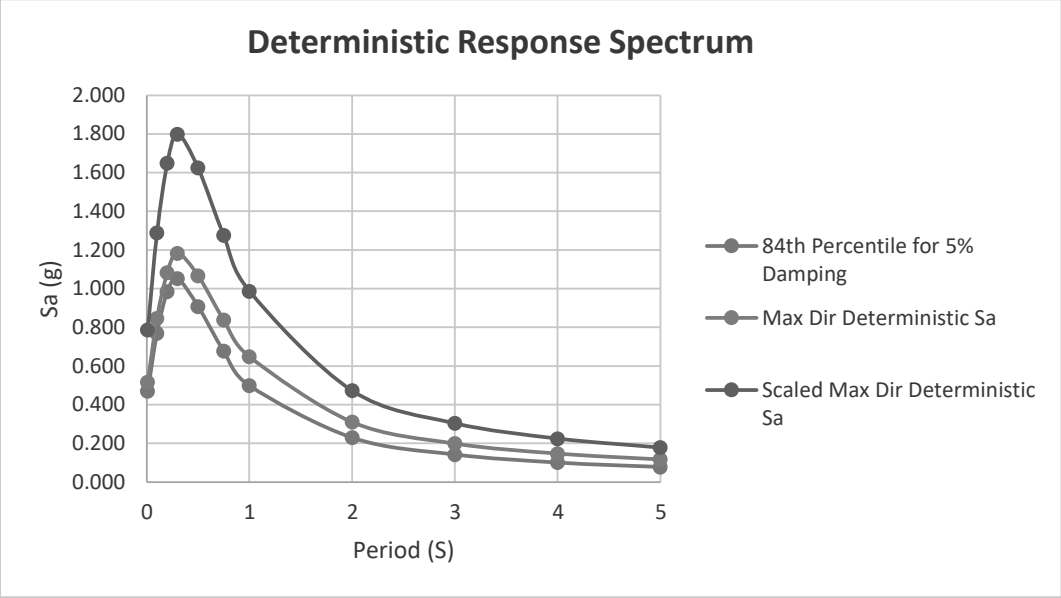


Exhibit C-2

SPECTRA COMPARISION

Period (s)	Probabilistic Response (g)	Scaled Max Dir Deterministic Sa (g)	MCE_{R*} Response Spectra S_{aM} (g)	2/3 MCER Response Spectra Sa (g)
0.01	0.604	0.787	0.604	0.403
0.1	1.122	1.289	1.122	0.748
0.2	1.466	1.650	1.466	0.978
0.3	1.542	1.800	1.542	1.028
0.5	1.370	1.625	1.370	0.913
0.75	1.111	1.276	1.111	0.740
1	0.901	0.987	0.901	0.601
2	0.478	0.474	0.474	0.316
3	0.333	0.305	0.305	0.203
4	0.261	0.225	0.225	0.150
5	0.213	0.179	0.179	0.120

MCER* is the lesser of the probabilistic and deterministic spectra

CALCS

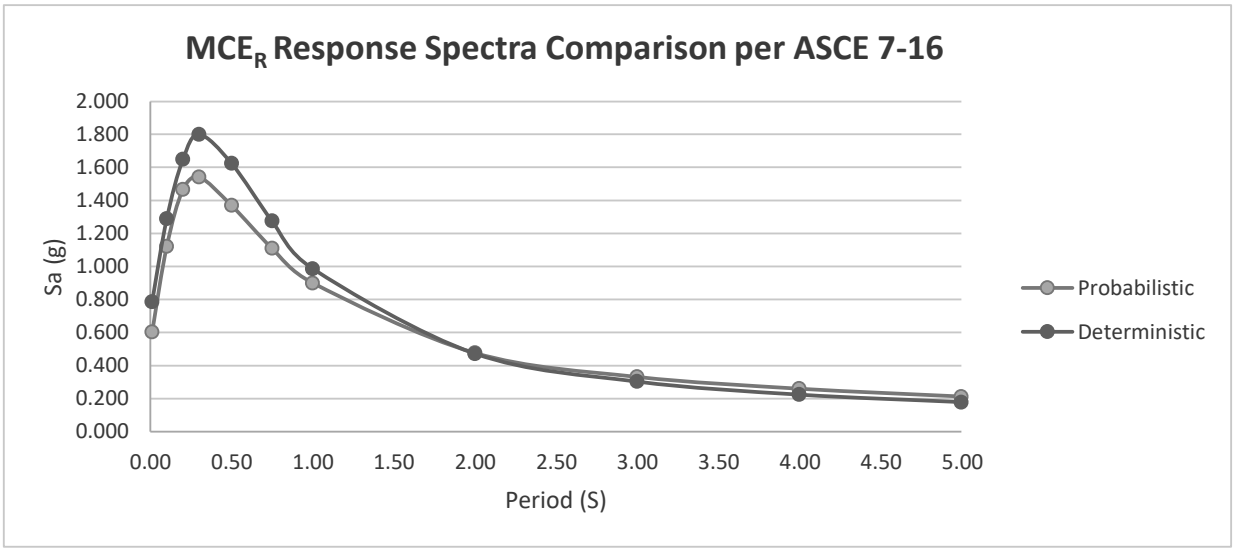


Exhibit C-3

S_s	1.100
S_1	0.429
Fa	1.2
Fv	1.5
S_{MS}	1.320
S_{M1}	0.644
S_{DS}	0.880
S_{D1}	0.429

since S_1 >0.2

T_0	0.100
T_S	0.500

PGA	0.473
PGA_M	0.568

Period (S)	Code-Based Sa (g)	80% Code-Based Sa (g)	2/3 MCER Response Spectra Sa (g)	Design Response Spectra Sa (g)
0.01	0.405	0.324	0.403	0.403
0.10	0.880	0.704	0.748	0.748
0.20	0.880	0.704	0.978	0.978
0.30	0.880	0.704	1.028	1.028
0.50	0.858	0.686	0.913	0.913
0.75	0.572	0.458	0.740	0.740
1.00	0.429	0.343	0.601	0.601
2.00	0.215	0.172	0.316	0.316
3.00	0.143	0.114	0.203	0.203
4.00	0.107	0.086	0.150	0.150
5.00	0.086	0.069	0.120	0.120

FROM SEISMIC MAPS (ATC OR OSHPD)
CALCS

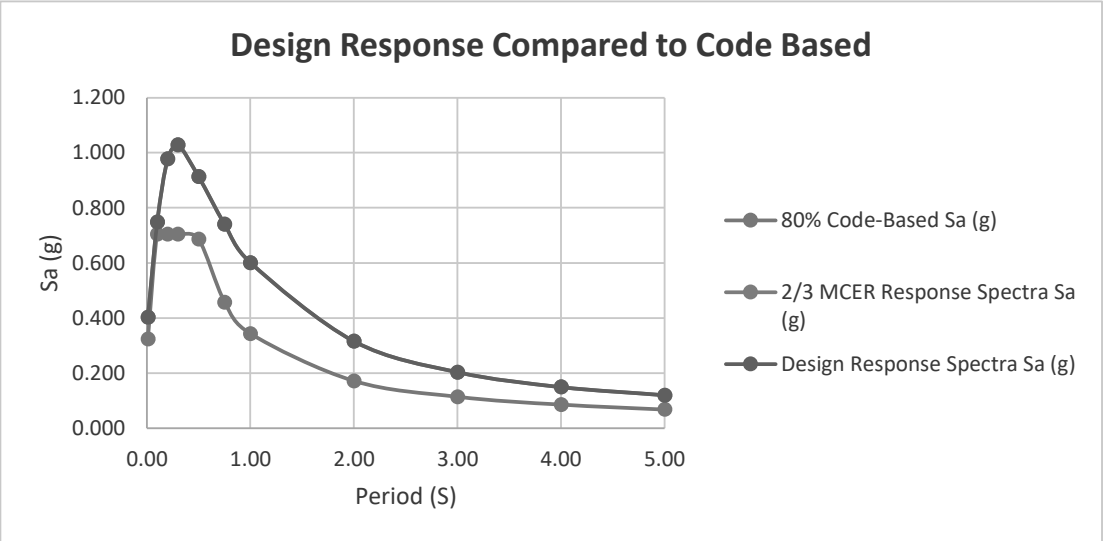


Exhibit C-4

Period (s)	MCER* Response Spectra SaM (g)	Design Response Spectra Sa (g)	Design Values (g)	
0.01	0.604	0.403	0.363	
0.10	1.122	0.748	0.673	
0.20	1.466	0.978	**0.880**	= S_{DS}
0.30	1.542	1.028	0.925	
0.50	1.370	0.913	0.822	
0.75	1.111	0.740	0.666	
1.00	0.901	0.601	**0.601**	= S_{D1}
2.00	0.474	0.316	0.631	
3.00	0.305	0.203	0.610	
4.00	0.225	0.150	0.600	
5.00	0.179	0.120	0.598	

Max Sa between T=0.2s and 5s is **1.028**

S_{DS} **= 0.9 X Max Sa =** **0.925**

S_{MS} **= 1.5*S_{DS} =** **1.388**

Short Period Spectrum

V_{S30} **= 560 m/s > 365 m/s** Site Class C

Max T*S_a between T=1s and 5s is **0.631**

Therefore, S_{D1} **=** **0.631**

S_{M1} **= 1.5*S_{D1} =** **0.947**

Long Period Spectrum

Probabilistic PGA **0.588**

Deterministic PGA **0.470**

80% Code-Based PGA_M **0.454**

Site-Specific PGA **0.470**

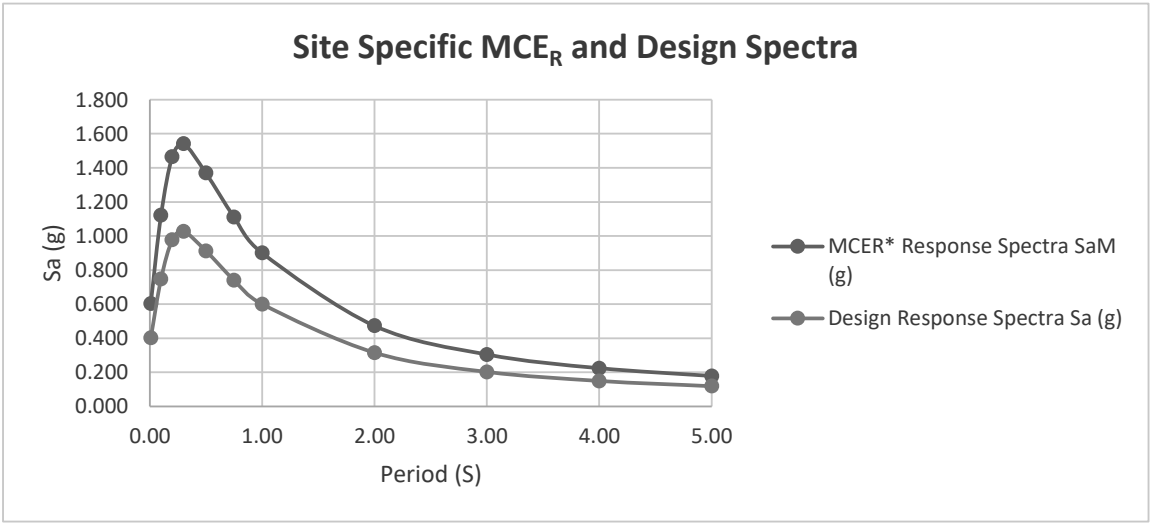


Exhibit C-5

SUMMARY TABLE

Site-Specific Seismic Analysis (per ASCE 7-16)

	Site Seismic Coefficients / Coordinates	Value	
	Latitude	34.5682	
	Longitude	-117.3861	
Mapped Spectra (OSHPD)	Spectral Response – Class C (short), S_S	1.10	**Exhibit C-4**
	Spectral Response – Class C (1 sec), S_1	0.43	**Exhibit C-4**
	Site Modified Peak Ground Acceleration, PGA_M	0.57	**Exhibit C-4**
Site-Specific Response Spectra	Max. Considered Earthquake Spectral Response Acceleration (short), S_{MS}	1.39	**Exhibit C-5**
	Max. Considered Earthquake Spectral Response Acceleration – (1 sec), S_{M1}	0.95	**Exhibit C-5**
	5% Damped Design Spectral Response Acceleration (short), S_{DS}	0.93	**Exhibit C-5**
	5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.63	**Exhibit C-5**
	Maximum Considered Earthqauke Geometric Mean MCE_G PGA	0.47	**Exhibit C-5**

APPENDIX E

GEOPHYSICAL DATA



Active Surface Wave Array (MASW)

Notes:
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Base map source: Nearmap (7-2023)

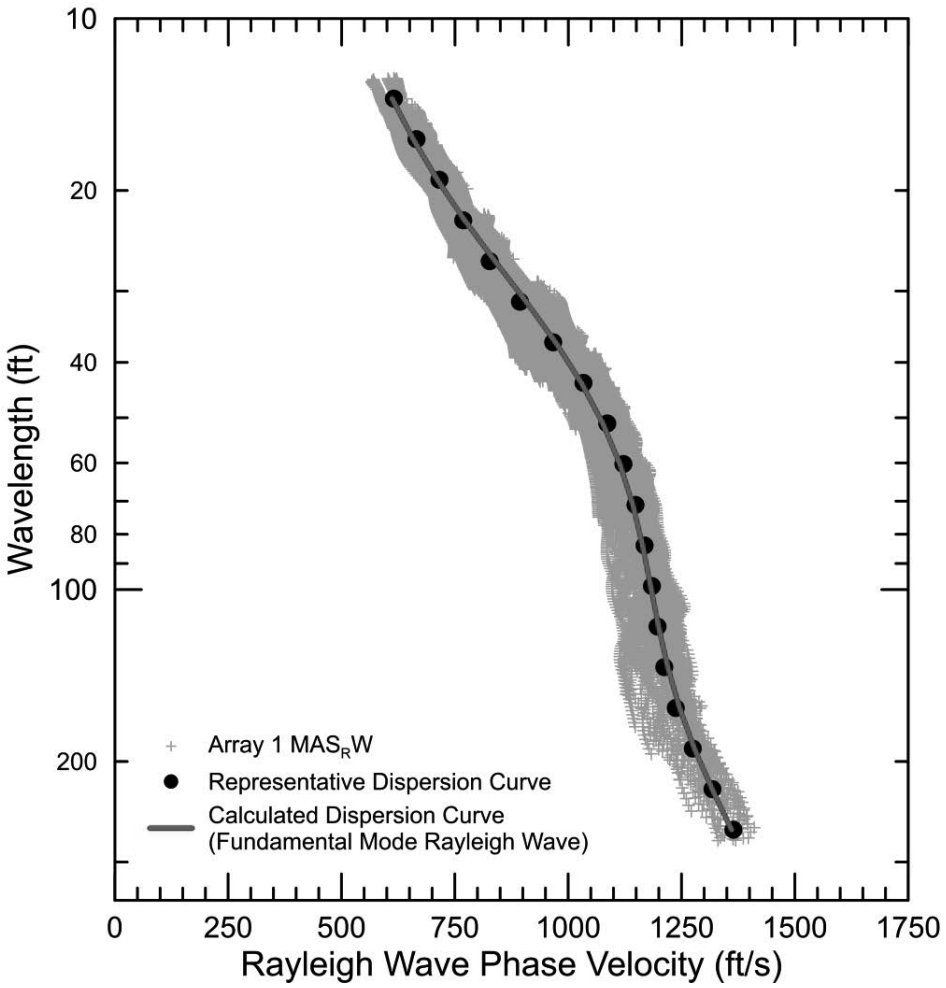
GEOVision geophysical services

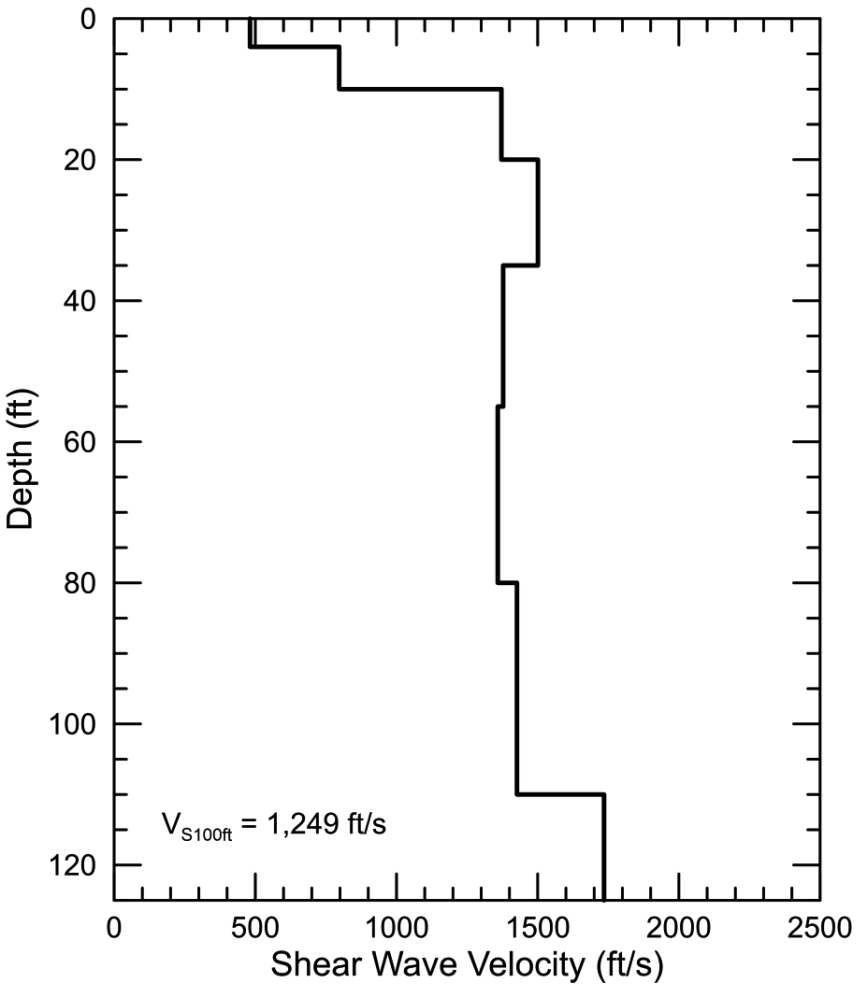
Date:	12/6/2023
GV Project:	23435
Developed by:	C Xiong
Drawn by:	T Rodriguez
Approved by:	A Martin
File Name:	GV_23435

FIGURE 1
SITE MAP

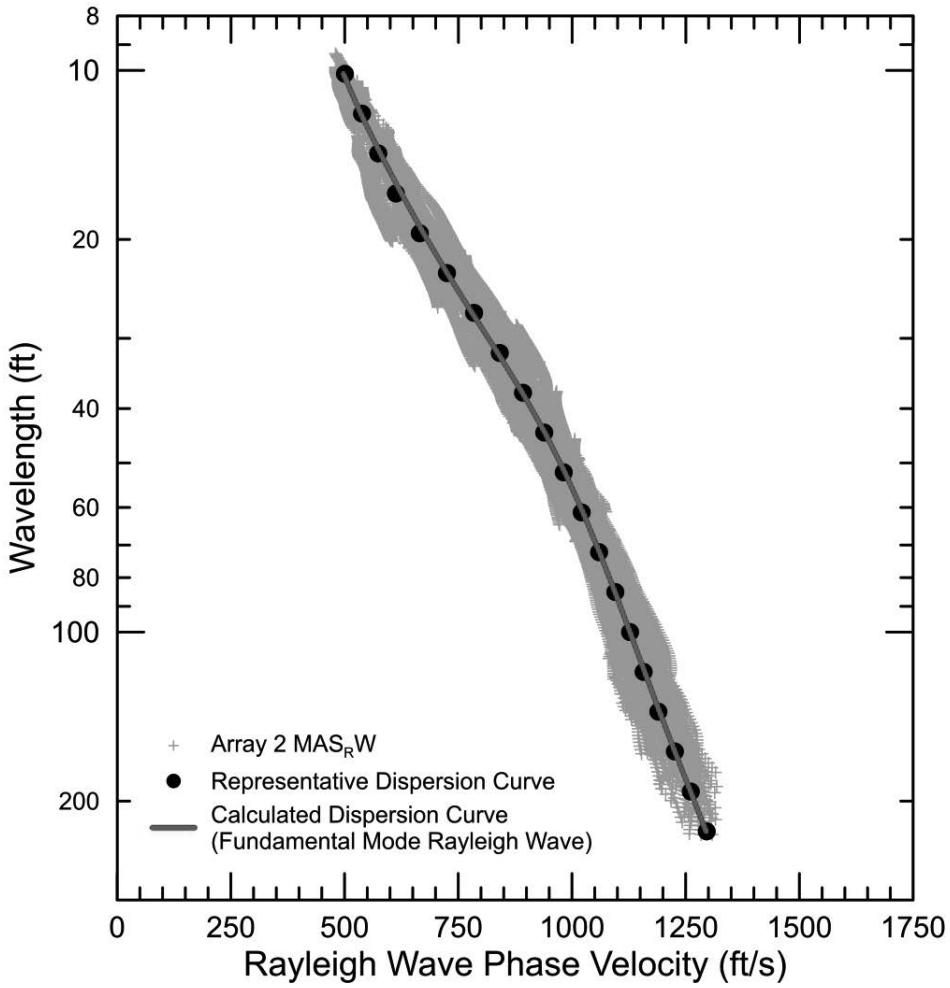
ADELANTO WAREHOUSES
ADELANTO, CALIFORNIA

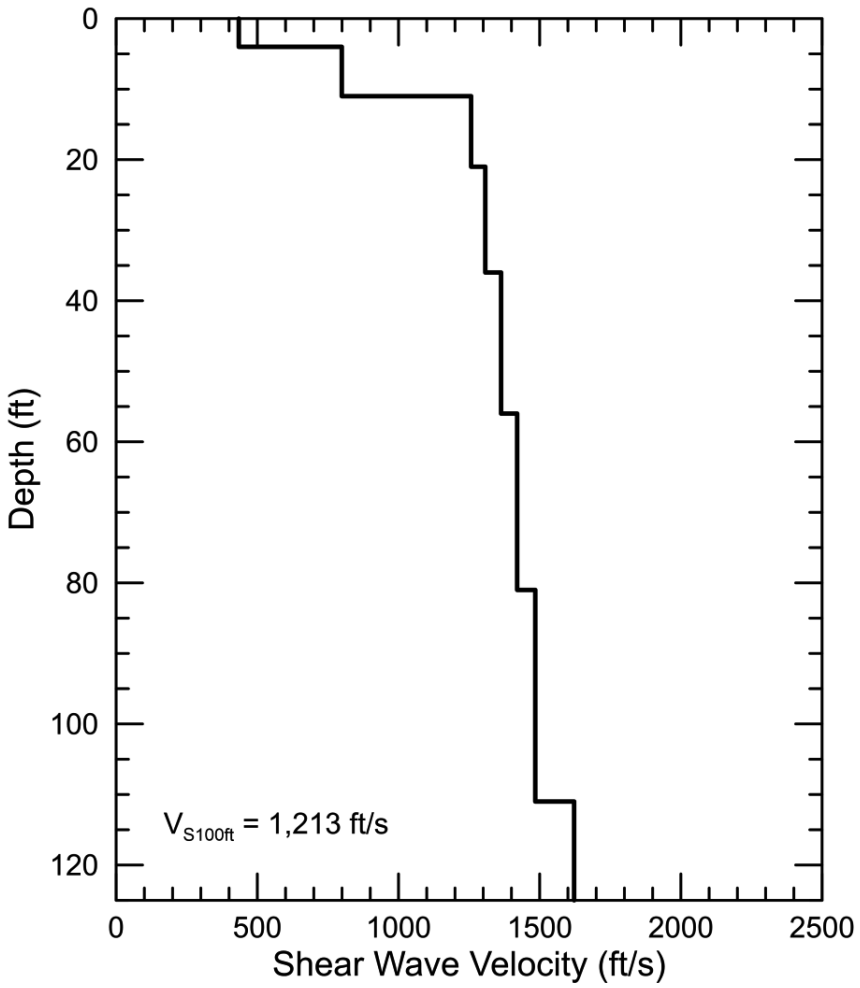
PREPARED FOR
LEIGHTON GROUP, INC.



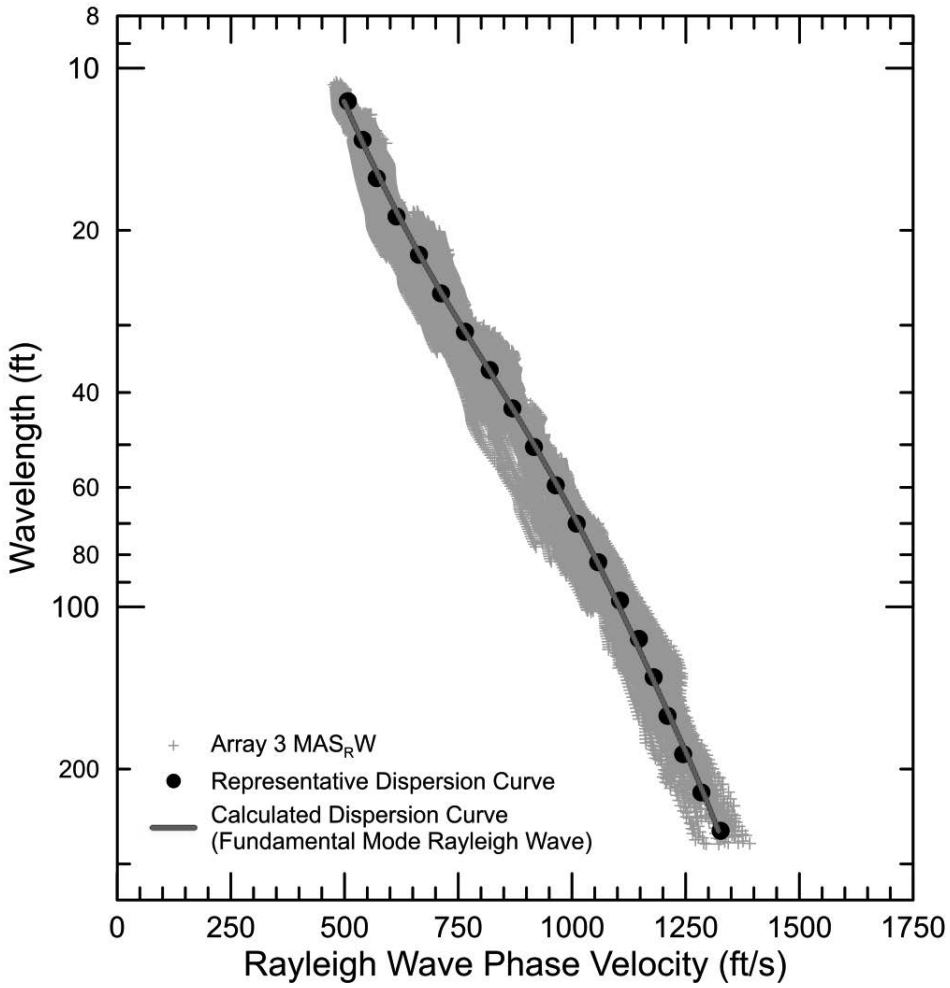


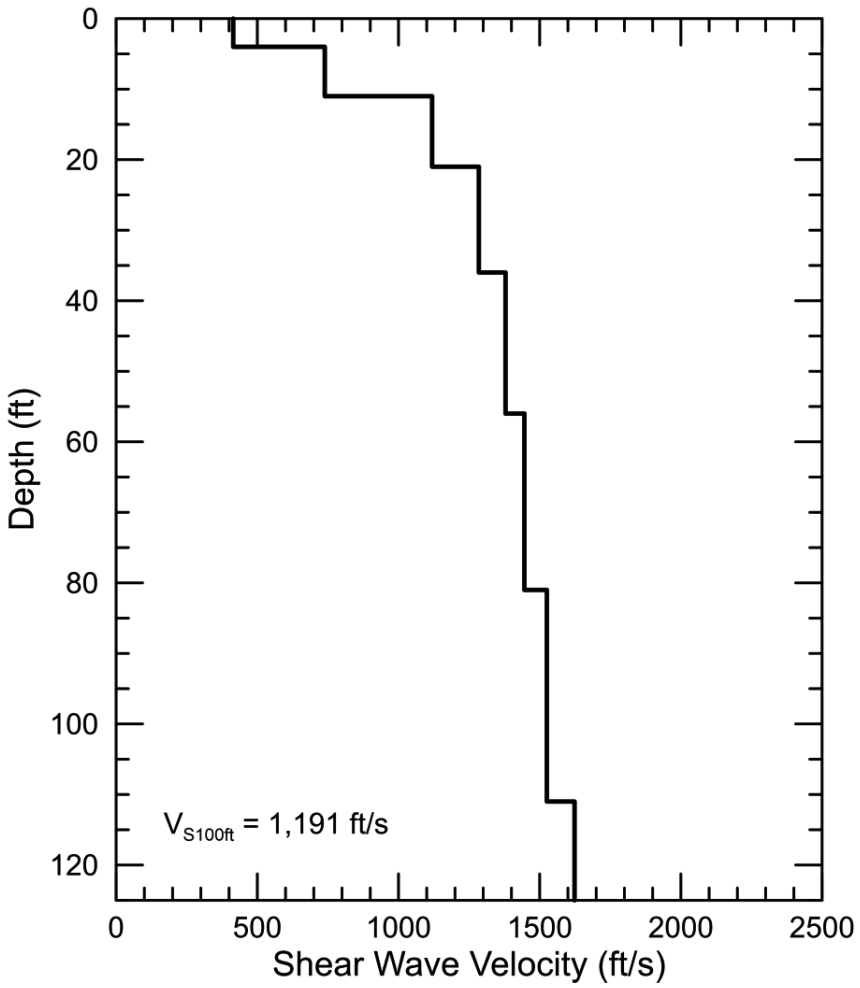
GEOVision geophysical services	FIGURE 2 SURFACE WAVE MODEL - ARRAY 1
Project No: 23435 Date: DEC 15, 2023 Drawn By: A. Martin Approved By:	ADELANTO WAREHOUSES ADELANTO, CALIFORNIA
R:\GVProjects\2023\23435 Leighton\Report\Figure 2.cdr	PREPARED FOR LEIGHTON GROUP, INC.





GEOVision geophysical services	FIGURE 3 SURFACE WAVE MODEL - ARRAY 2
Project No: 23435 Date: DEC 15, 2023 Drawn By: A. Martin Approved By:	ADELANTO WAREHOUSES ADELANTO, CALIFORNIA
R:\GVProjects\2023\23435 Leighton\Report\Figure 3.cdr	PREPARED FOR LEIGHTON GROUP, INC.





GEOVision geophysical services	FIGURE 4 SURFACE WAVE MODEL - ARRAY 3
Project No: 23435 Date: DEC 15, 2023 Drawn By: A. Martin Approved By:	ADELANTO WAREHOUSES ADELANTO, CALIFORNIA
R:\GVProjects\2023\23435 Leighton\Report\Figure 4.cdr	PREPARED FOR LEIGHTON GROUP, INC.

APPENDIX F

GENERAL EARTHWORK AND GRADING SPECIFICATIONS

Leighton
a verdantas company

APPENDIX F

LEIGHTON CONSULTING, INC.

EARTHWORK AND GRADING GUIDE SPECIFICATIONS

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D-1.0 GENERAL

D-1.1 Intent

These Earthwork and Grading Guide Specifications are for grading and earthwork shown on the current, approved grading plan(s) and/or indicated in the Leighton Consulting, Inc. geotechnical report(s). These Guide Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the project-specific recommendations in the geotechnical report shall supersede these Guide Specifications. Leighton Consulting, Inc. shall provide geotechnical observation and testing during earthwork and grading. Based on these observations and tests, Leighton Consulting, Inc. may provide new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

D-1.2 Role of Leighton Consulting, Inc.

Prior to commencement of earthwork and grading, Leighton Consulting, Inc. shall meet with the earthwork contractor to review the earthwork contractor's work plan, to schedule sufficient personnel to perform the appropriate level of observation, mapping and compaction testing. During earthwork and grading, Leighton Consulting, Inc. shall observe, map, and document subsurface exposures to verify geotechnical design assumptions. If observed conditions are found to be significantly different than the interpreted assumptions during the design phase, Leighton Consulting, Inc. shall inform the owner, recommend appropriate changes in design to accommodate these observed conditions, and notify the review agency where required. Subsurface areas to be geotechnically observed, mapped, elevations recorded, and/or tested include (1) natural ground after clearing to receiving fill but before fill is placed, (2) bottoms of all "remedial removal" areas, (3) all key bottoms, and (4) benches made on sloping ground to receive fill.

Leighton Consulting, Inc. shall observe moisture-conditioning and processing of the subgrade and fill materials, and perform relative compaction testing of fill to determine the attained relative compaction. Leighton Consulting, Inc. shall provide *Daily Field Reports* to the owner and the Contractor on a routine and frequent basis.

D-1.3 The Earthwork Contractor

The earthwork contractor (Contractor) shall be qualified, experienced and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Guide

Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing grading and backfilling in accordance with the current, approved plans and specifications.

The Contractor shall inform the owner and Leighton Consulting, Inc. of changes in work schedules at least one working day in advance of such changes so that appropriate observations and tests can be planned and accomplished. The Contractor shall not assume that Leighton Consulting, Inc. is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish earthwork and grading in accordance with the applicable grading codes and agency ordinances, these Guide Specifications, and recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of Leighton Consulting, Inc., unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, adverse weather, etc., are resulting in a quality of work less than required in these specifications, Leighton Consulting, Inc. shall reject the work and may recommend to the owner that earthwork and grading be stopped until unsatisfactory condition(s) are rectified.

D-2.0 PREPARATION OF AREAS TO BE FILLED

D-2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies and Leighton Consulting, Inc.. Care should be taken not to encroach upon or otherwise damage native and/or historic trees designated by the Owner or appropriate agencies to remain. Pavements, flatwork or other construction should not extend under the “drip line” of designated trees to remain.

Leighton Consulting, Inc. shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 3 percent of organic materials (by dry weight: ASTM D2974). Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area. As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that

are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed.

D-2.2 Processing

Existing ground that has been declared satisfactory for support of fill, by Leighton Consulting, Inc., shall be scarified to a minimum depth of 6 inches (15 cm). Existing ground that is not satisfactory shall be over-excavated as specified in the following Section D-2.3. Scarification shall continue until soils are broken down and free of large clay lumps or clods and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

D-2.3 Overexcavation

In addition to removals and over-excavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be over-excavated to competent ground as evaluated by Leighton Consulting, Inc. during grading. All undocumented fill soils under proposed structure footprints should be excavated

D-2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), (>20 percent grade) the ground shall be stepped or benched. The lowest bench or key shall be a minimum of 15 feet (4.5 m) wide and at least 2 feet (0.6 m) deep, into competent material as evaluated by Leighton Consulting, Inc.. Other benches shall be excavated a minimum height of 4 feet (1.2 m) into competent material or as otherwise recommended by Leighton Consulting, Inc.. Fill placed on ground sloping flatter than 5:1 (horizontal to vertical units), (<20 percent grade) shall also be benched or otherwise over-excavated to provide a flat subgrade for the fill.

D-2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by Leighton Consulting, Inc. as suitable to receive fill. The Contractor shall obtain a written acceptance (*Daily Field Report*) from Leighton Consulting, Inc. prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys and benches.

D-3.0 FILL MATERIAL

D-3.1 Fill Quality

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by Leighton Consulting, Inc. prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to Leighton Consulting, Inc. or mixed with other soils to achieve satisfactory fill material.

D-3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 6 inches (15 cm), shall not be buried or placed in fill unless location, materials and placement methods are specifically accepted by Leighton Consulting, Inc.. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 feet (3 m) measured vertically from finish grade, or within 2 feet (0.61 m) of future utilities or underground construction.

D-3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of Section D-3.1, and be free of hazardous materials ("contaminants") and rock larger than 3-inches (8 cm) in largest dimension. All import soils shall have an Expansion Index (EI) of 20 or less and a sulfate content no greater than ($\leq$) 500 parts-per-million (ppm). A representative sample of a potential import source shall be given to Leighton Consulting, Inc. at least four full working days before importing begins, so that suitability of this import material can be determined and appropriate tests performed.

D-4.0 FILL PLACEMENT AND COMPACTION

D-4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill, as described in Section D-2.0, above, in near-horizontal layers not exceeding 8 inches (20 cm) in loose thickness. Leighton Consulting, Inc. may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers, and only if the building officials with the appropriate jurisdiction approve. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

D-4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM) Test Method D 1557.

D-4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, each layer shall be uniformly compacted to not-less-than (≥) 90 percent of the maximum dry density as determined by ASTM Test Method D 1557. In some cases, structural fill may be specified (see project-specific geotechnical report) to be uniformly compacted to at-least (≥) 95 percent of the ASTM D1557 modified Proctor laboratory maximum dry density. For fills thicker than (>) 15 feet (4.5 m), the portion of fill deeper than 15 feet below proposed finish grade shall be compacted to 95 percent of the ASTM D1557 laboratory maximum density. Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

D-4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by back rolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet (1 to 1.2 m) in fill elevation, or by other methods producing satisfactory results acceptable to Leighton Consulting, Inc.. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of the ASTM D1557 laboratory maximum density.

D-4.5 Compaction Testing

Field-tests for moisture content and relative compaction of fill soils shall be performed by Leighton Consulting, Inc.. Location and frequency of tests shall be at the Leighton Consulting, Inc. field representative(s) discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at fill/bedrock benches).

D-4.6 Compaction Test Locations

Leighton Consulting, Inc. shall document approximate elevation and horizontal coordinates of each density test location, relying on site survey control provided by others. The Contractor shall coordinate with the project surveyor to assure that

sufficient grade stakes are established so that Leighton Consulting, Inc. can determine test locations with sufficient accuracy. Adequate grade stakes shall be provided.

D-5.0 EXCAVATION

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by Leighton Consulting, Inc. during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by Leighton Consulting, Inc. based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, then observed and reviewed by Leighton Consulting, Inc. prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by Leighton Consulting, Inc..

D-6.0 TRENCH BACKFILLS

D-6.1 Safety

The Contractor shall follow all OSHA and Cal/OSHA requirements for safety of trench excavations. Work should be performed in accordance with Article 6 of the *California Construction Safety Orders*, 2015 Edition or more current (see also: http://www.dir.ca.gov/title8/sb4a6.html).

D-6.2 Bedding and Backfill

All utility trench bedding and backfill shall be performed in accordance with applicable provisions of the 2018 Edition of the *Standard Specifications for Public Works Construction* (Green Book). Bedding material shall have a Sand Equivalent greater than 30 (SE>30). Bedding shall be placed to 1-foot (0.3 m) over the top of the conduit, and densified by jetting in areas of granular soils, if allowed by the permitting agency. Otherwise, the pipe-bedding zone should be backfilled with Controlled Low Strength Material (CLSM) consisting of at least (≥) one-sack of Portland cement per cubic-yard of sand, conforming to Section 201-6 of the 2018 Edition of the *Standard Specifications for Public Works Construction* (Green Book). Backfill over the bedding zone shall be placed and densified mechanically to a minimum of 90 percent of relative compaction (ASTM D1557) from 1 foot (0.3 m) above the top of the conduit to the surface. Backfill above the pipe zone shall **not** be jetted. Jetting of the bedding around the conduits shall be observed by Leighton Consulting, Inc. and backfill above the pipe zone (bedding) shall be observed and tested by Leighton Consulting, Inc..

D-6.3 Lift Thickness

Lift thickness of trench backfill shall not exceed those allowed in the *Standard Specifications for Public Works Construction* unless the Contractor can demonstrate to Leighton Consulting, Inc. and the Owner that their proposed fill lift can be compacted to the specified relative compaction using the proposed alternative equipment and method; and only if the building official, with the appropriate jurisdiction, approves this proposed lift thickness.

Appendix 4

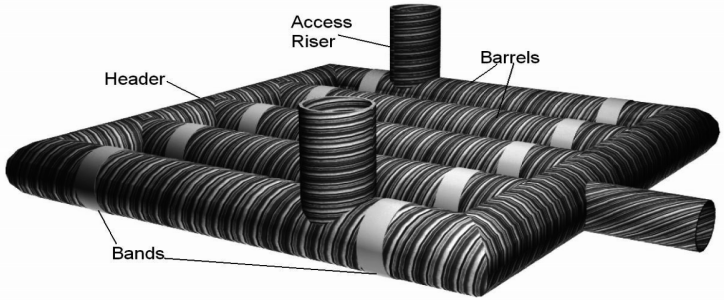
BMP Sizing

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Project Summary

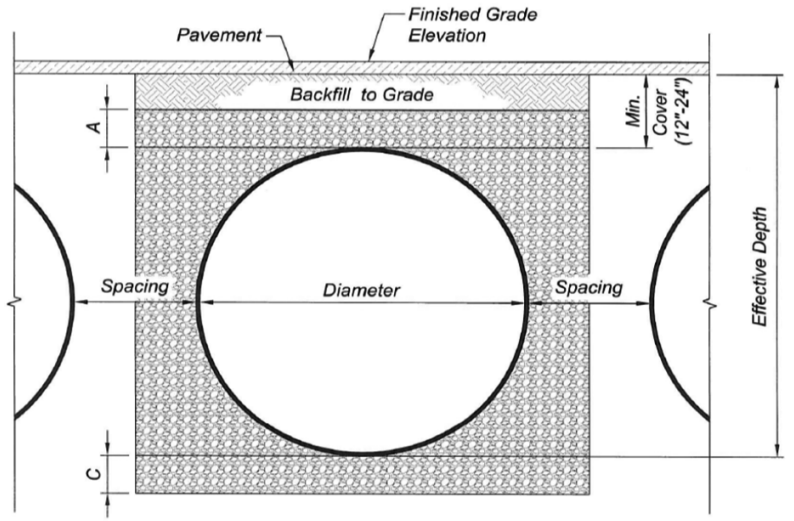
Date:	4/17/2025
Project Name:	Adelanto Industrial Park - 1A
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	109,575
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	76,755	cf	
Porous Stone Storage:	33,252	cf	
Total Storage Provided:	110,007	cf	100.4% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	295.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 306. ft		

CONTECH Materials

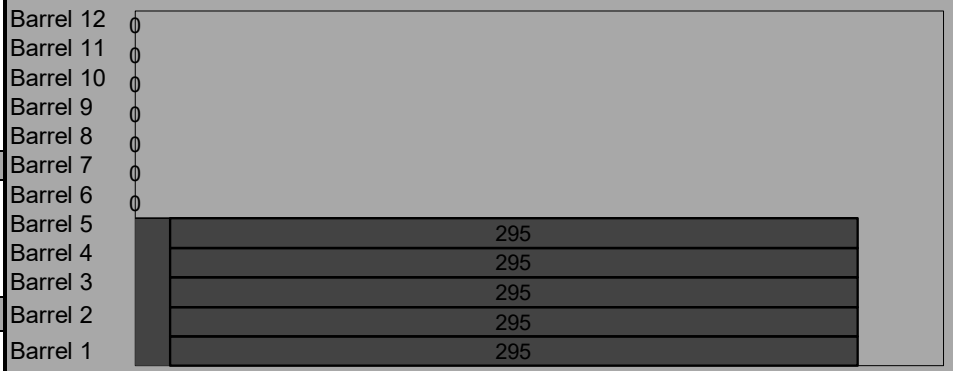
Total CMP Footage:	1,527	ft
Approximate Total Pieces:	68	pcs
Approximate Coupling Bands:	67	bands
Approximate Truckloads:	34	trucks

Construction Quantities**

Total Excavation:	5610	cy
Porous Stone Backfill For Storage:	3079	cy stone
Backfill to Grade Excluding Stone:	-312	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



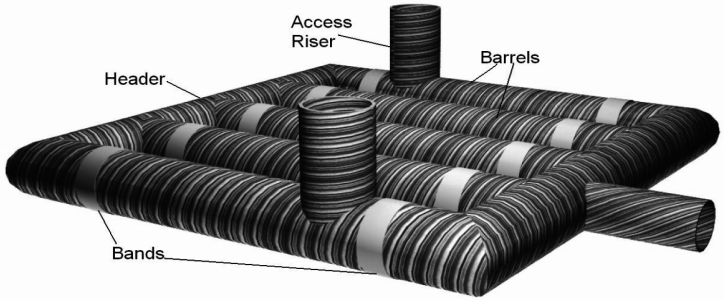
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Project Summary

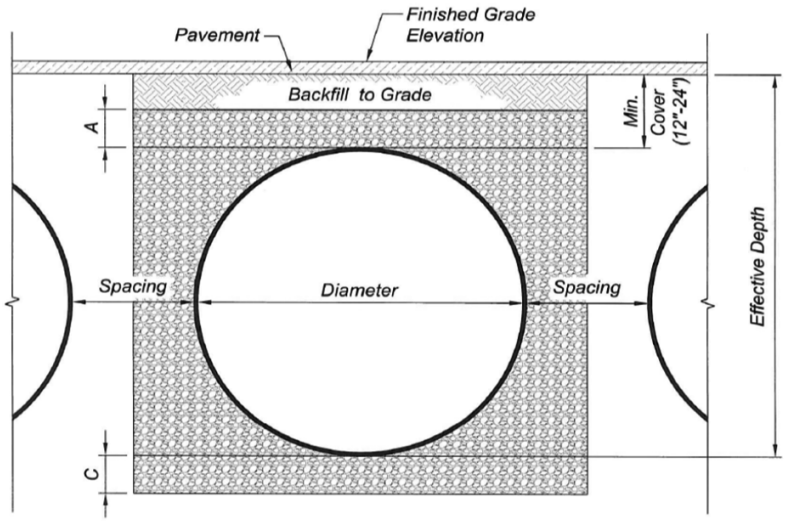
Date:	4/17/2025
Project Name:	Adelanto Industrial Park - 2A
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	245,434
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	171,757	cf	
Porous Stone Storage:	74,253	cf	
Total Storage Provided:	246,010	cf	100.2% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	673.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 684. ft		

CONTECH Materials

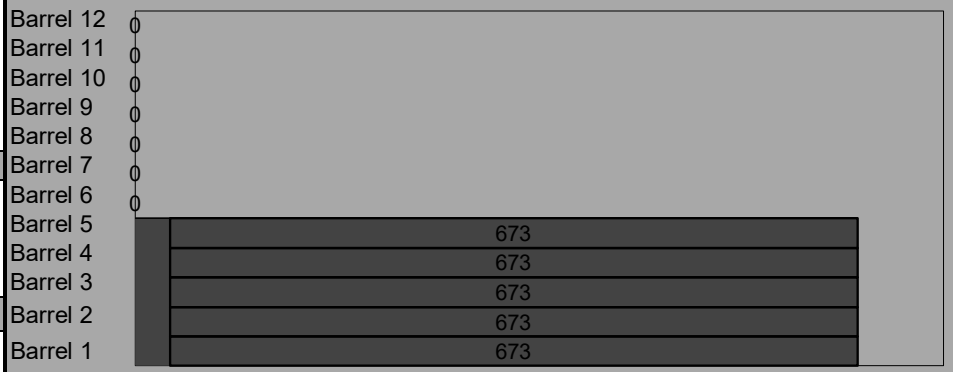
Total CMP Footage:	3,417	ft
Approximate Total Pieces:	148	pcs
Approximate Coupling Bands:	147	bands
Approximate Truckloads:	74	trucks

Construction Quantities**

Total Excavation:	12540	cy
Porous Stone Backfill For Storage:	6875	cy stone
Backfill to Grade Excluding Stone:	-697	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



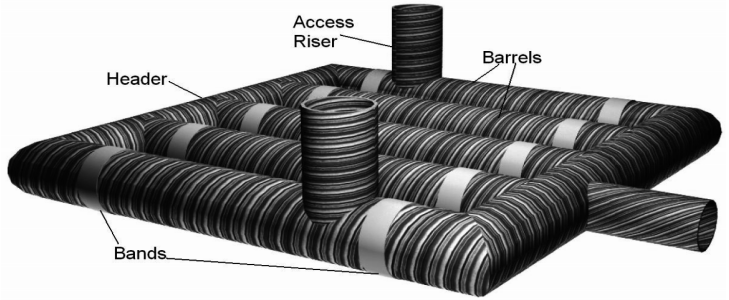
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Project Summary

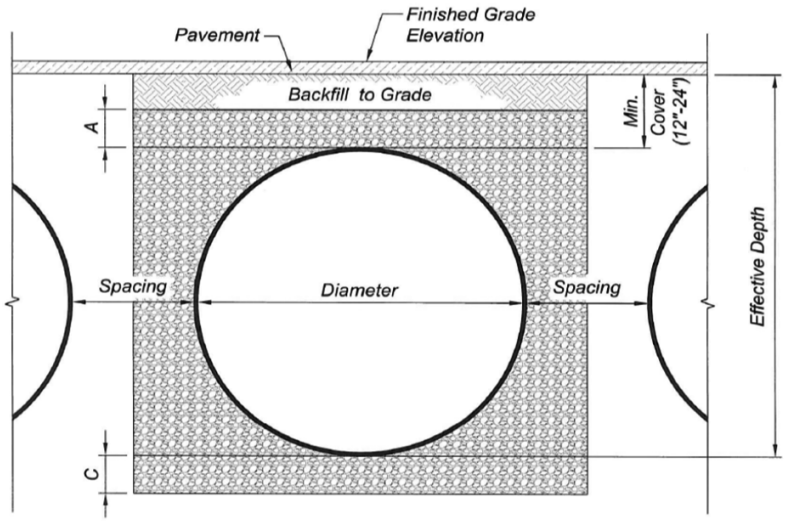
Date:	4/17/2025
Project Name:	Adelanto Industrial Park - 2B
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	136,966
Limiting Width (ft):	90.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	96,359	cf	
Porous Stone Storage:	41,712	cf	
Total Storage Provided:	138,071	cf	100.8% Of Required Storage
Number of Barrels:	8	barrels	
Length per Barrel:	229.0	ft	
Length Per Header:	85.0	ft	
Rectangular Footprint (W x L):	88. ft x 240. ft		

CONTECH Materials

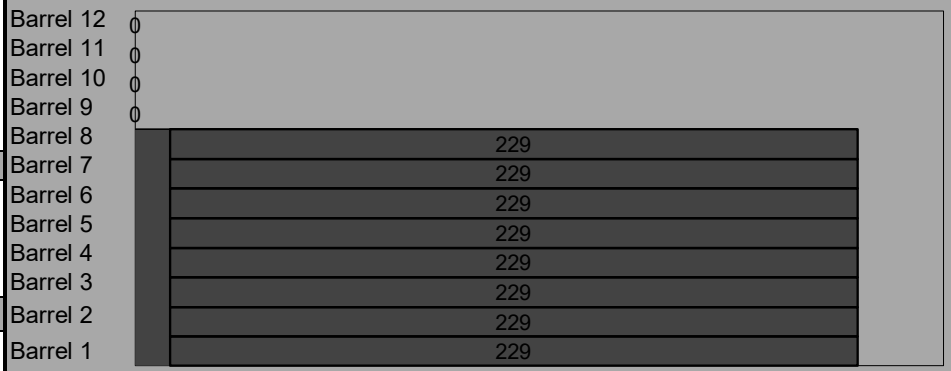
Total CMP Footage:	1,917	ft
Approximate Total Pieces:	84	pcs
Approximate Coupling Bands:	83	bands
Approximate Truckloads:	42	trucks

Construction Quantities**

Total Excavation:	7040	cy
Porous Stone Backfill For Storage:	3862	cy stone
Backfill to Grade Excluding Stone:	-391	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



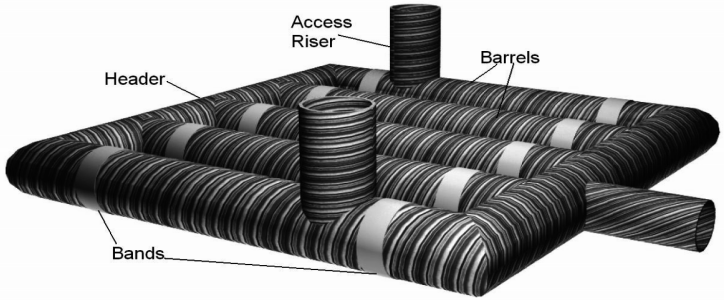
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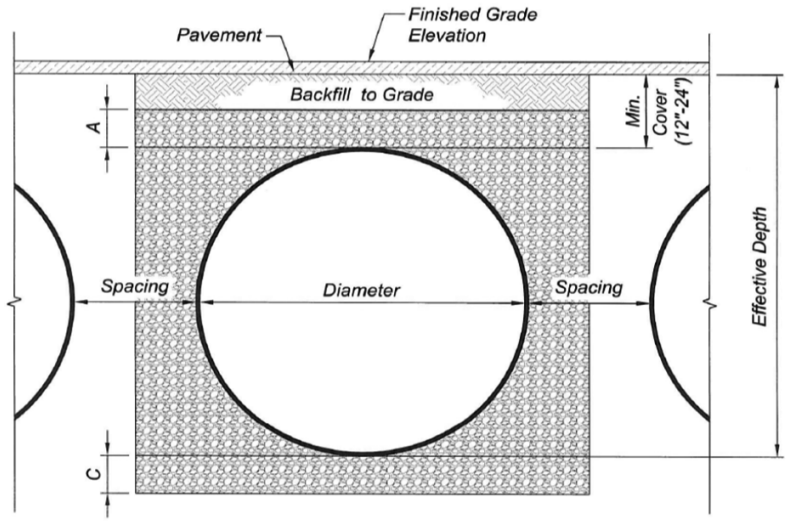
Date:	4/17/2025
Project Name:	Adelanto Industrial Park - 2C
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	200,515
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	140,341	cf	
Porous Stone Storage:	60,695	cf	
Total Storage Provided:	201,036	cf	100.3% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	548.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 559. ft		

CONTECH Materials

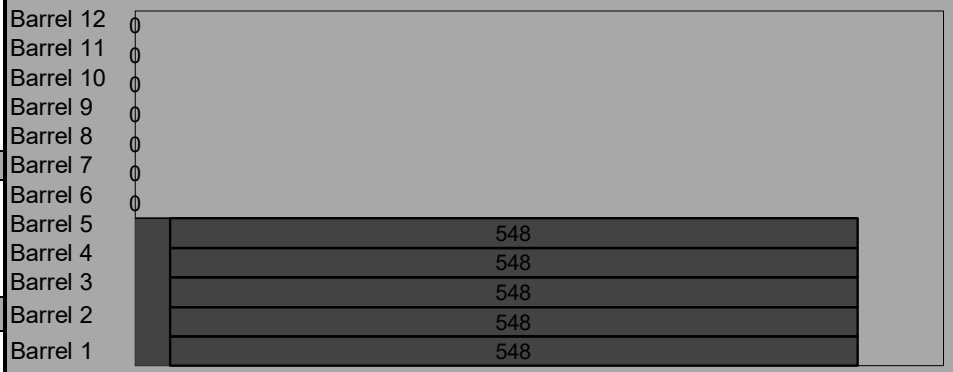
Total CMP Footage:	2,792	ft
Approximate Total Pieces:	118	pcs
Approximate Coupling Bands:	117	bands
Approximate Truckloads:	59	trucks

Construction Quantities**

Total Excavation:	10249	cy
Porous Stone Backfill For Storage:	5620	cy stone
Backfill to Grade Excluding Stone:	-569	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



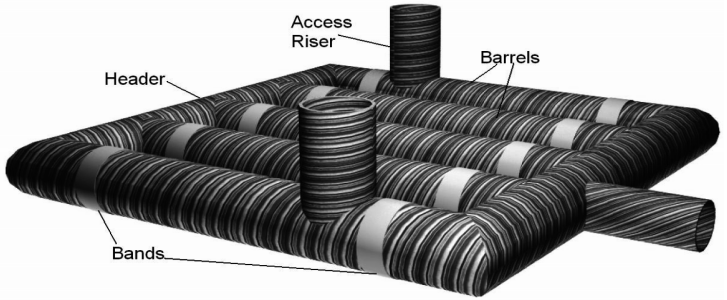
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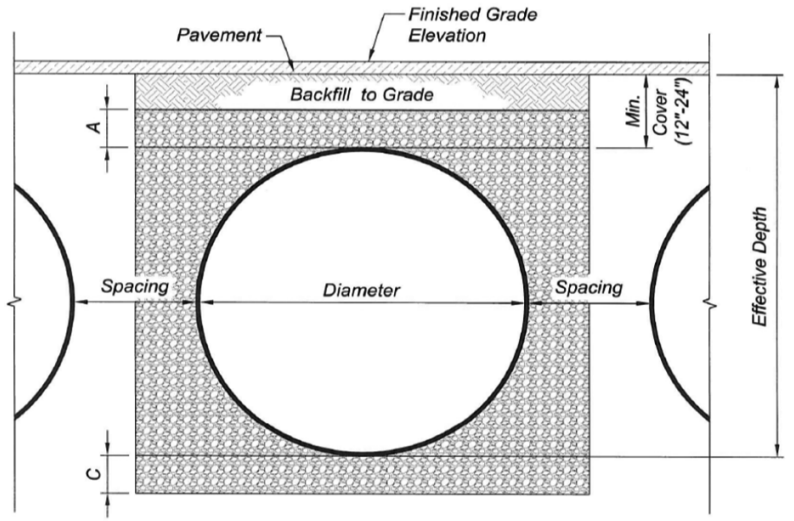
Date:	4/17/2025
Project Name:	Adelanto Industrial Park - 2D
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	96,424
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	67,708	cf	
Porous Stone Storage:	29,347	cf	
Total Storage Provided:	97,055	cf	100.7% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	259.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 270. ft		

CONTECH Materials

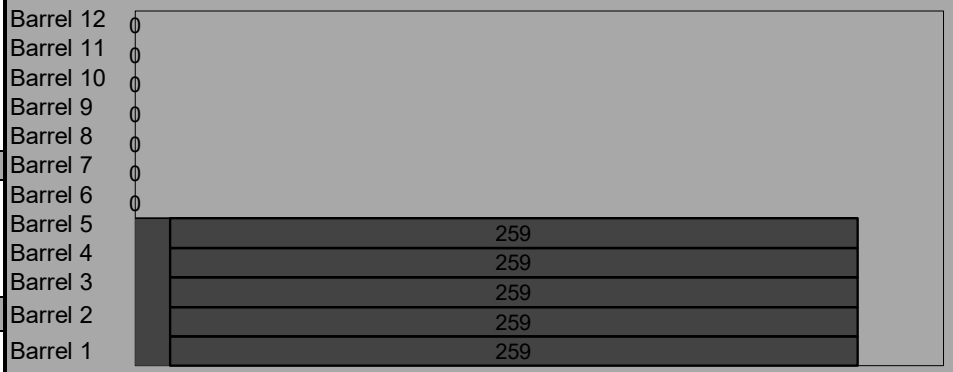
Total CMP Footage:	1,347	ft
Approximate Total Pieces:	58	pcs
Approximate Coupling Bands:	57	bands
Approximate Truckloads:	29	trucks

Construction Quantities**

Total Excavation:	4950	cy
Porous Stone Backfill For Storage:	2717	cy stone
Backfill to Grade Excluding Stone:	-275	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



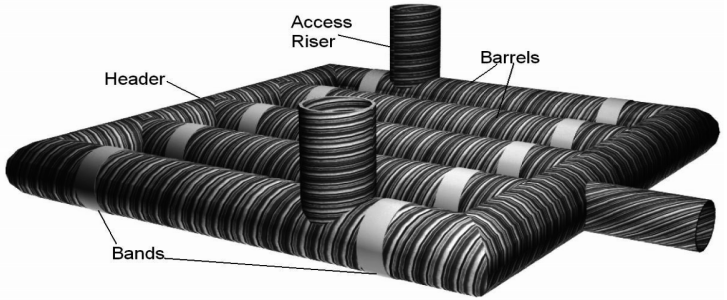
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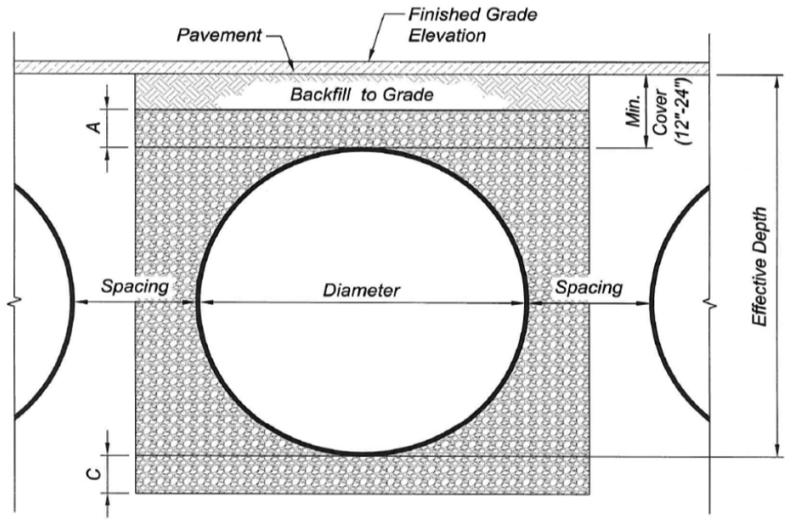
Date:	4/14/2025
Project Name:	Adelanto Industrial Park - 3A
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	249,817
Limiting Width (ft):	56.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	174,773	cf	
Porous Stone Storage:	75,555	cf	
Total Storage Provided:	250,328	cf	100.2% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	685.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 696. ft		

CONTECH Materials

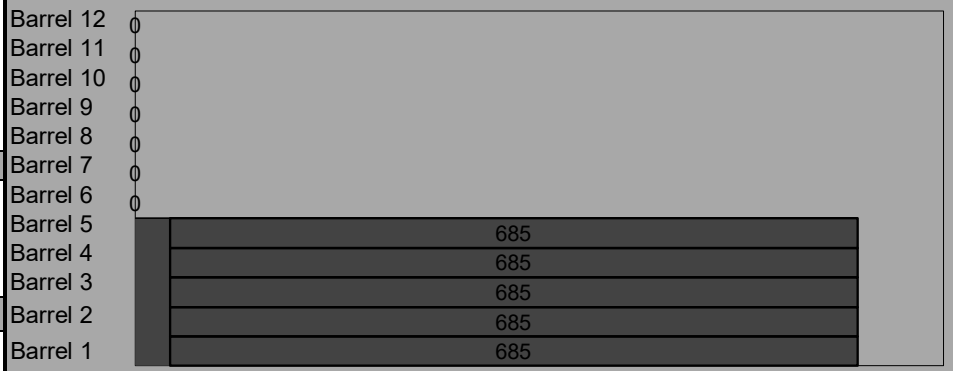
Total CMP Footage:	3,477	ft
Approximate Total Pieces:	148	pcs
Approximate Coupling Bands:	147	bands
Approximate Truckloads:	74	trucks

Construction Quantities**

Total Excavation:	12760	cy
Porous Stone Backfill For Storage:	6996	cy stone
Backfill to Grade Excluding Stone:	-709	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



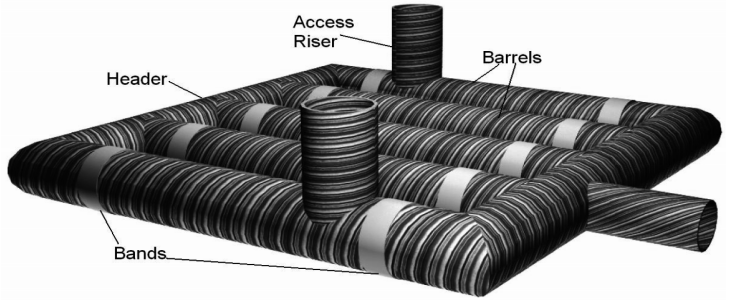
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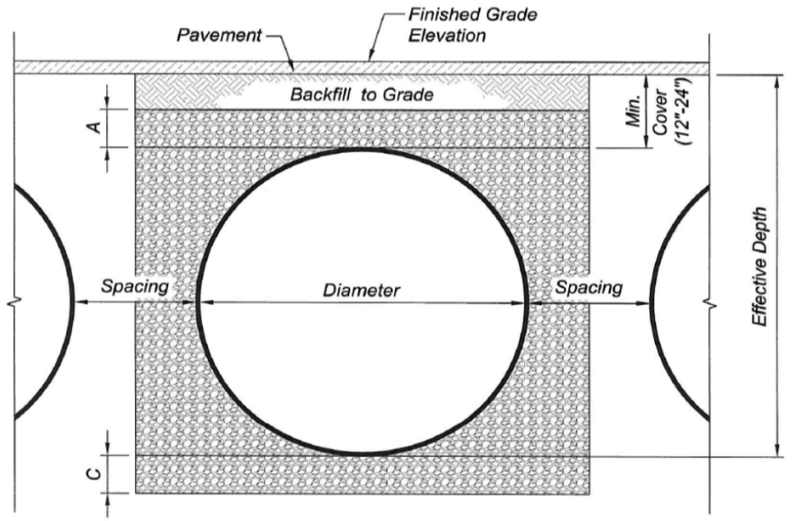
Date:	4/17/2025
Project Name:	Adelanto Industrial Park - 3B
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	228,999
Limiting Width (ft):	56.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	160,196	cf	
Porous Stone Storage:	69,264	cf	
Total Storage Provided:	229,460	cf	100.2% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	627.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 638. ft		

CONTECH Materials

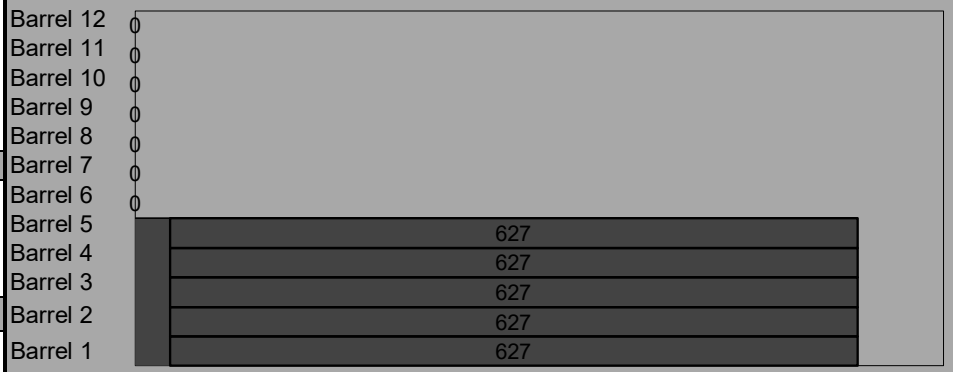
Total CMP Footage:	3,187	ft
Approximate Total Pieces:	138	pcs
Approximate Coupling Bands:	137	bands
Approximate Truckloads:	69	trucks

Construction Quantities**

Total Excavation:	11697	cy
Porous Stone Backfill For Storage:	6413	cy stone
Backfill to Grade Excluding Stone:	-649	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



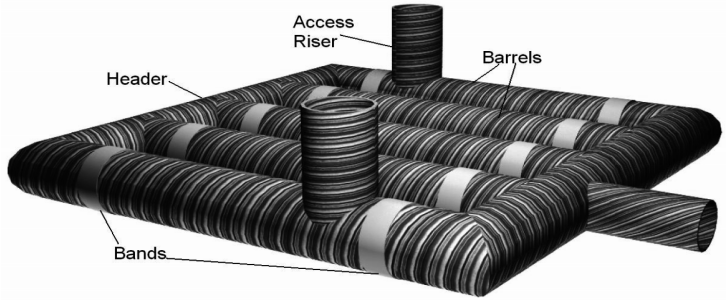
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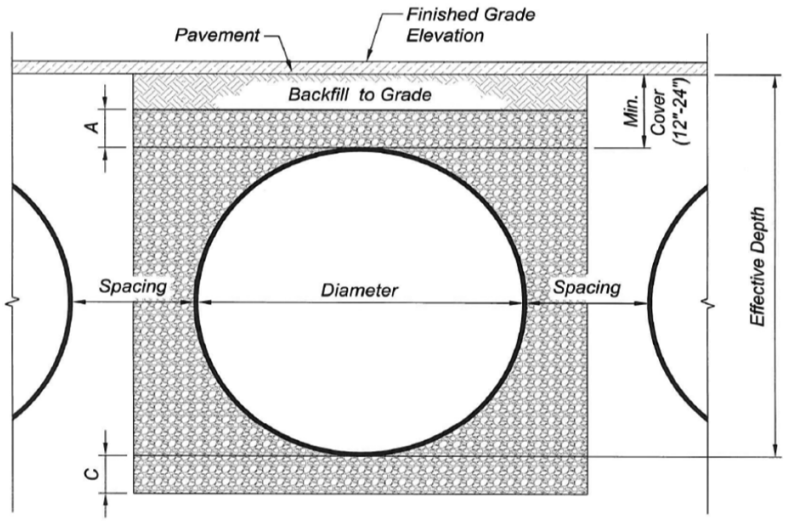
Date:	4/17/2025
Project Name:	Adelanto Industrial Park - 3C
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	228,999
Limiting Width (ft):	90.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	72
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

28.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	147,507	cf	
Porous Stone Storage:	81,937	cf	
Total Storage Provided:	229,444	cf	100.2% Of Required Storage
Number of Barrels:	10	barrels	
Length per Barrel:	513.0	ft	
Length Per Header:	87.0	ft	
Rectangular Footprint (W x L):	90. ft x 522. ft		

CONTECH Materials

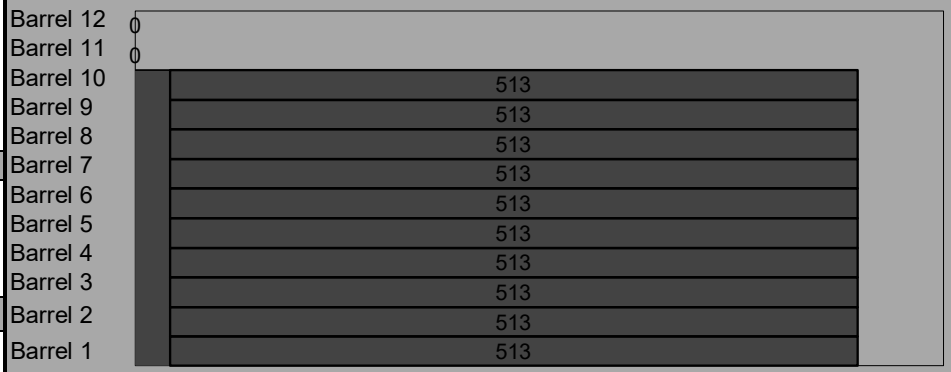
Total CMP Footage:	5,217	ft
Approximate Total Pieces:	224	pcs
Approximate Coupling Bands:	223	bands
Approximate Truckloads:	112	trucks

Construction Quantities**

Total Excavation:	15660	cy
Porous Stone Backfill For Storage:	7587	cy stone
Backfill to Grade Excluding Stone:	2610	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



Barrel Footage (w/o headers)

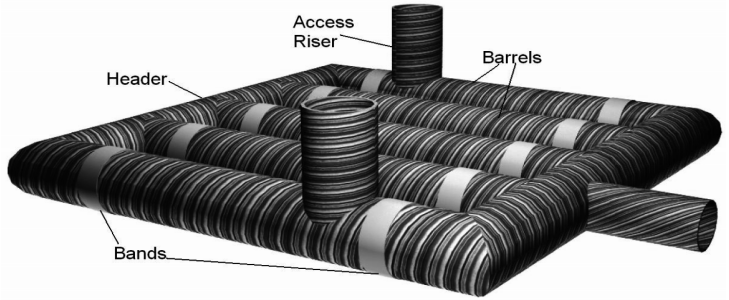
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CONTECH CMP DETENTION SYSTEMS

CONTECH CONSTRUCTION PRODUCTS INC.

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Project Summary

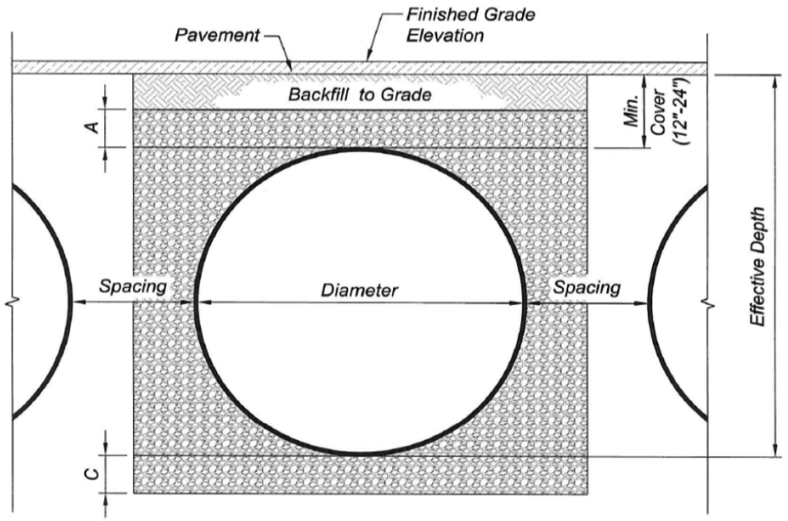
Date:	4/17/2025
Project Name:	Adelanto Industrial Park - 3D
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	213,662
Limiting Width (ft):	80.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	149,741	cf	
Porous Stone Storage:	64,751	cf	
Total Storage Provided:	214,492	cf	100.4% Of Required Storage
Number of Barrels:	7	barrels	
Length per Barrel:	415.0	ft	
Length Per Header:	74.0	ft	
Rectangular Footprint (W x L):	77. ft x 426. ft		

CONTECH Materials

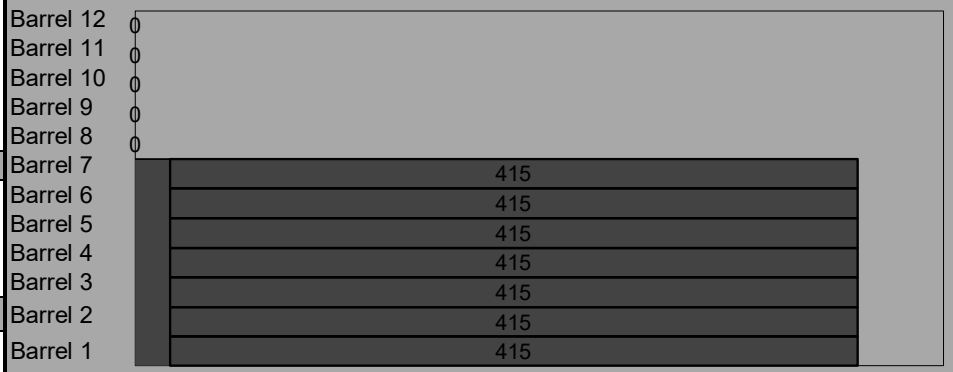
Total CMP Footage:	2,979	ft
Approximate Total Pieces:	130	pcs
Approximate Coupling Bands:	129	bands
Approximate Truckloads:	65	trucks

Construction Quantities**

Total Excavation:	10934	cy
Porous Stone Backfill For Storage:	5995	cy stone
Backfill to Grade Excluding Stone:	-607	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



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Project: 24-0505 Mileski Adelanto Industrial Park
Basin Description: BMP Basin 4A

Contour Elevation	Contour Area (sq. ft)	Depth (ft)	Incremental Volume Avg. End (cu. ft)	Cumulative Volume Avg. End (cu. ft)
2,902.50	14,518.76	N/A	N/A	0.00
2,903.00	17,094.69	0.50	7903.36	7903.36
2,904.00	22,351.73	1.00	19723.21	27626.57
2,905.00	27,749.00	1.00	25050.36	52676.94
2,906.00	33,286.53	1.00	30517.76	83194.70
2,907.00	38,964.29	1.00	36125.41	119320.11
2,908.00	44,782.30	1.00	41873.29	161193.40
2,909.00	50,740.55	1.00	47761.42	208954.83
2,909.30	52,555.37	0.30	15494.39	224449.22
2,910.00	56,839.05	0.70	38288.05	262737.26
2,911.00	60,058.59	1.00	58448.82	321186.08
2,912.00	37,978.64	1.00	49018.62	370204.70
2,913.00	15,441.52	1.00	7720.77	377925.47
2,914.00	14.18	1.00	7727.85	385653.32

Project: 24-0505 Mileski Adelanto Industrial Park
Basin Description: BMP Basin 4B

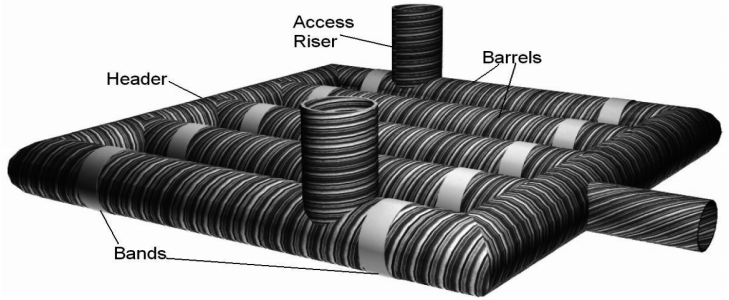
Contour Elevation	Contour Area (sq. ft)	Depth (ft)	Incremental Volume Avg. End (cu. ft)	Cumulative Volume Avg. End (cu. ft)
2,899.80	14,054.85	N/A	N/A	0.00
2,900.00	15,314.96	0.20	2936.98	2936.98
2,901.00	21,693.68	1.00	18504.32	21441.30
2,902.00	28,202.65	1.00	24948.16	46389.46
2,903.00	34,841.86	1.00	31522.25	77911.71
2,904.00	41,611.32	1.00	38226.59	116138.30
2,905.00	48,511.03	1.00	45061.17	161199.48
2,906.00	55,540.98	1.00	52026.00	213225.48
2,906.20	56,962.60	0.20	11250.36	224475.84
2,907.00	62,701.18	0.80	47865.51	272341.35
2,908.00	57,370.59	1.00	60035.88	332377.24
2,909.00	29,020.51	1.00	43195.55	375572.79
2,910.00	12,649.89	1.00	6482.79	382055.57
2,911.00	2,196.32	1.00	7423.11	389478.68

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Project Summary

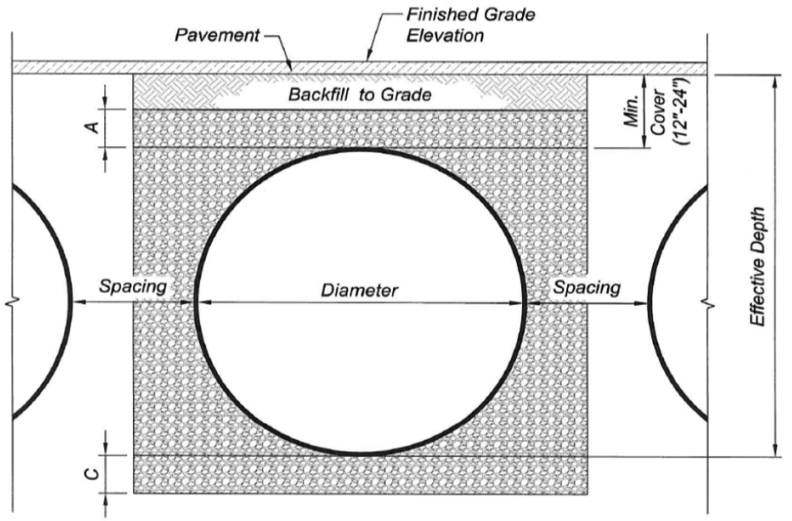
Date:	4/16/2025
Project Name:	Adelanto Industrial Park - 4C
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	236,670
Limiting Width (ft):	90.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	60
Number Of Headers:	1
Spacing between Barrels (ft):	2.50
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

19.63 ft^2 Pipe Area



System Sizing

Pipe Storage:	148,224	cf	
Porous Stone Storage:	88,965	cf	
Total Storage Provided:	237,189	cf	100.2% Of Required Storage
Number of Barrels:	11	barrels	
Length per Barrel:	679.0	ft	
Length Per Header:	80.0	ft	
Rectangular Footprint (W x L):	83. ft x 687. ft		

CONTECH Materials

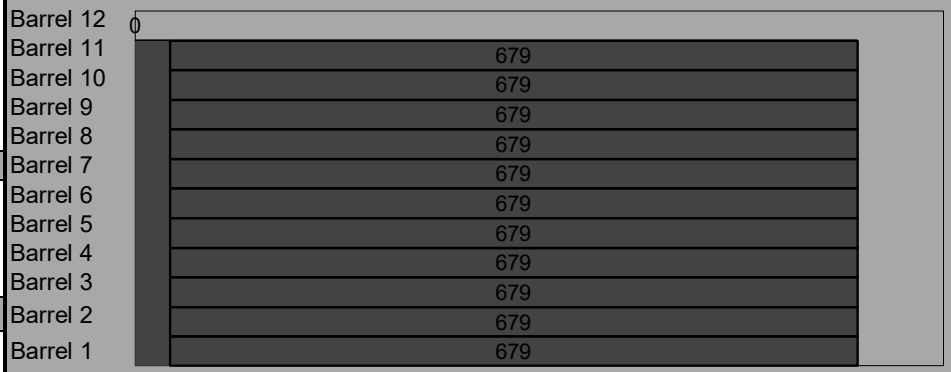
Total CMP Footage:	7,549	ft
Approximate Total Pieces:	323	pcs
Approximate Coupling Bands:	322	bands
Approximate Truckloads:	81	trucks

Construction Quantities**

Total Excavation:	19007	cy
Porous Stone Backfill For Storage:	8237	cy stone
Backfill to Grade Excluding Stone:	5280	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



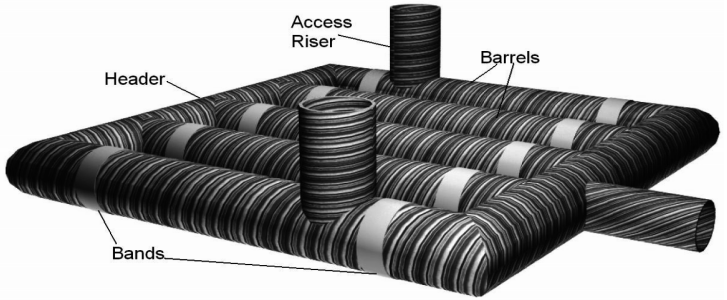
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Project Summary

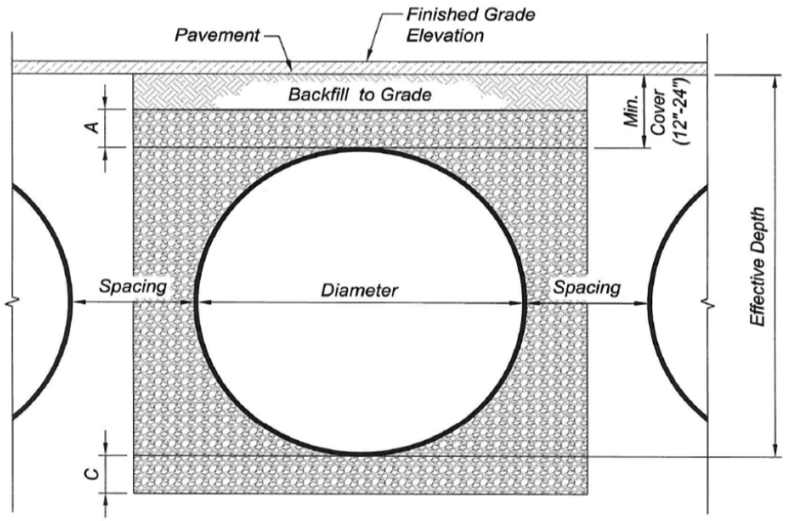
Date:	4/16/2025
Project Name:	Adelanto Industrial Park - 4D
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	198,320
Limiting Width (ft):	85.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	72
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

28.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	127,913	cf	
Porous Stone Storage:	71,064	cf	
Total Storage Provided:	198,977	cf	100.3% Of Required Storage
Number of Barrels:	9	barrels	
Length per Barrel:	494.0	ft	
Length Per Header:	78.0	ft	
Rectangular Footprint (W x L):	81. ft x 503. ft		

CONTECH Materials

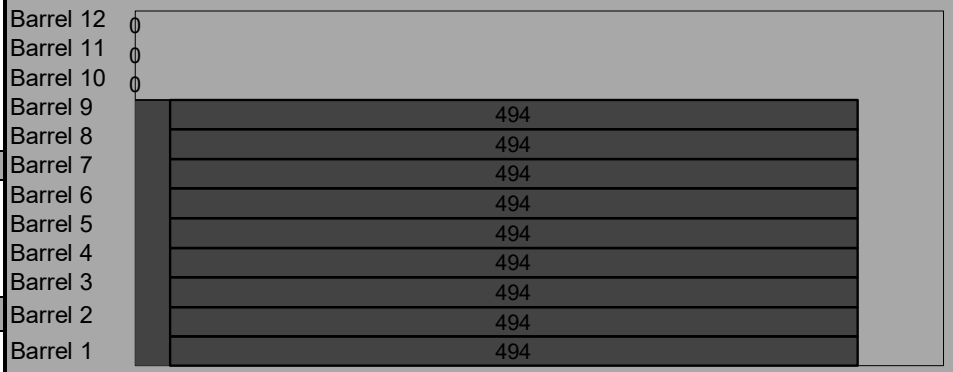
Total CMP Footage:	4,524	ft
Approximate Total Pieces:	193	pcs
Approximate Coupling Bands:	192	bands
Approximate Truckloads:	97	trucks

Construction Quantities**

Total Excavation:	13581	cy
Porous Stone Backfill For Storage:	6580	cy stone
Backfill to Grade Excluding Stone:	2264	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



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Project: 24-0505 Mileski Adelanto Industrial Park
Basin Description: BMP Basin 5A

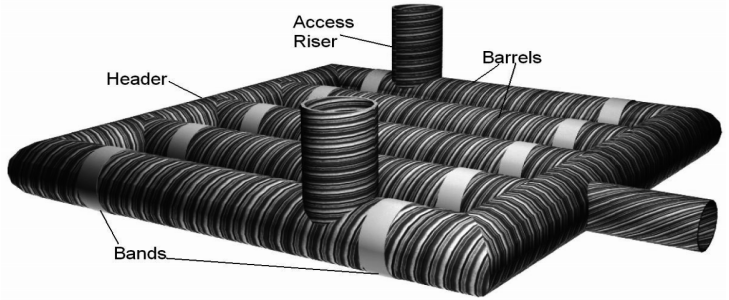
Contour Elevation	Contour Area (sq. ft)	Depth (ft)	Incremental Volume Avg. End (cu. ft)	Cumulative Volume Avg. End (cu. ft)
2,895.00	5,506.67	N/A	N/A	0.00
2,895.00	2.04	0.00	0.00	0.00
2,895.00	14,624.66	0.00	0.00	0.00
2,895.10	24,594.09	0.10	1960.94	1960.94
2,896.00	29,112.57	0.90	24168.00	26128.94
2,897.00	34,250.41	1.00	31681.49	57810.43
2,898.00	39,511.71	1.00	36881.06	94691.48
2,899.00	44,896.47	1.00	42204.09	136895.57
2,900.00	50,404.70	1.00	47650.59	184546.16
2,901.00	56,036.40	1.00	53220.55	237766.71
2,901.50	58,898.55	0.50	28733.74	266500.45
2,902.00	61,791.56	0.50	30172.53	296672.97
2,903.00	64,224.19	1.00	63007.88	359680.85
2,904.00	48,981.15	1.00	56602.67	416283.52
2,905.00	26,930.77	1.00	37955.96	454239.48
2,906.00	11,057.56	1.00	18994.16	473233.64
2,907.00	1,170.02	1.00	6113.79	479347.43

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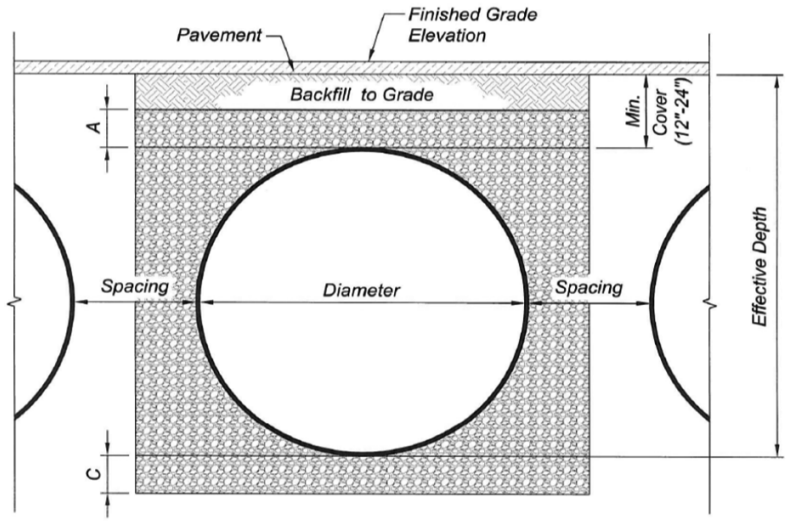
Date:	3/13/2025
Project Name:	Adelanto Industrial Park - 5B
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	405,382
Limiting Width (ft):	80.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	284,000	cf	
Porous Stone Storage:	121,943	cf	
Total Storage Provided:	405,943	cf	100.1% Of Required Storage
Number of Barrels:	7	barrels	
Length per Barrel:	786.0	ft	
Length Per Header:	74.0	ft	
Rectangular Footprint (W x L):	77. ft x 805. ft		

CONTECH Materials

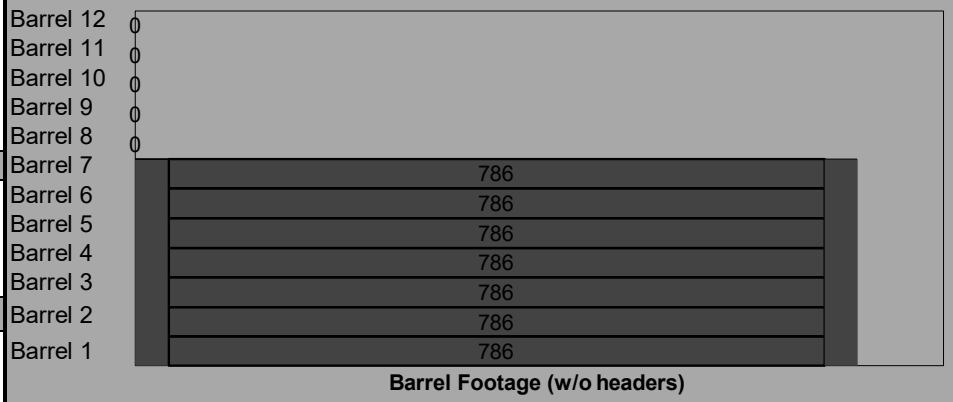
Total CMP Footage:	5,650	ft
Approximate Total Pieces:	239	pcs
Approximate Coupling Bands:	244	bands
Approximate Truckloads:	120	trucks

Construction Quantities**

Total Excavation:	20662	cy
Porous Stone Backfill For Storage:	11291	cy stone
Backfill to Grade Excluding Stone:	-1148	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



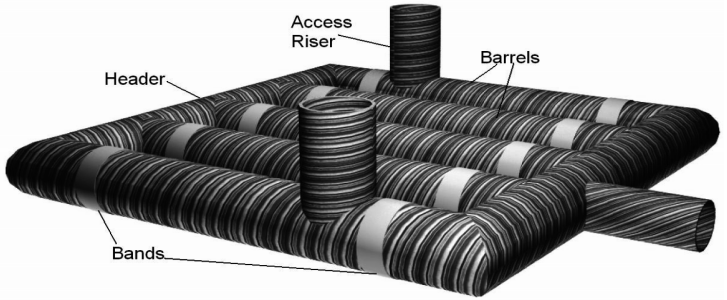
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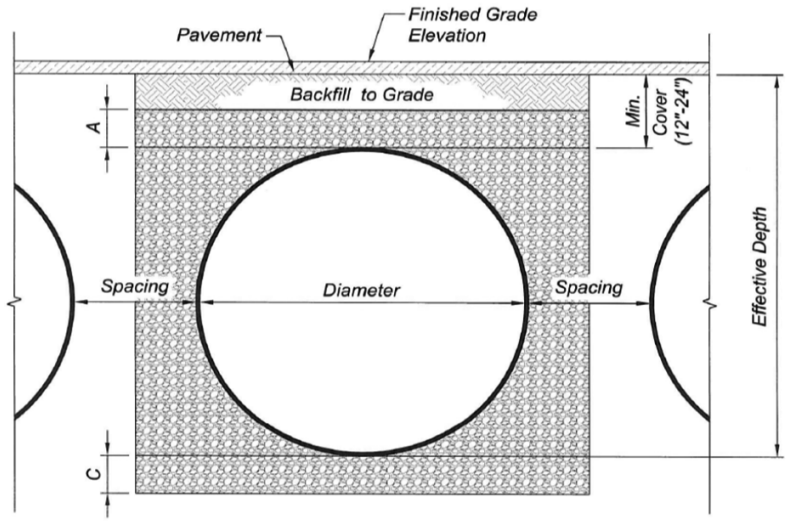
Date:	3/13/2025
Project Name:	Adelanto Industrial Park - 5C
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	142,446
Limiting Width (ft):	80.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	72
Number Of Headers:	2
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

28.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	92,344	cf	
Porous Stone Storage:	50,758	cf	
Total Storage Provided:	143,102	cf	100.5% Of Required Storage
Number of Barrels:	8	barrels	
Length per Barrel:	391.0	ft	
Length Per Header:	69.0	ft	
Rectangular Footprint (W x L):	72. ft x 406. ft		

CONTECH Materials

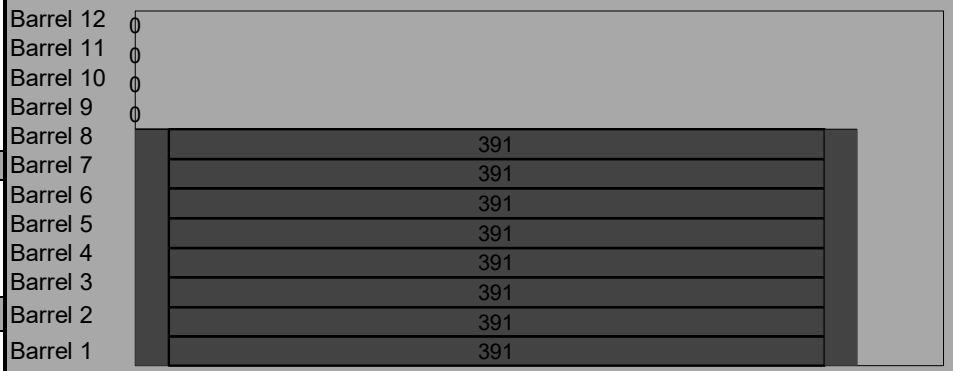
Total CMP Footage:	3,266	ft
Approximate Total Pieces:	142	pcs
Approximate Coupling Bands:	148	bands
Approximate Truckloads:	71	trucks

Construction Quantities**

Total Excavation:	9744	cy
Porous Stone Backfill For Storage:	4700	cy stone
Backfill to Grade Excluding Stone:	1624	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



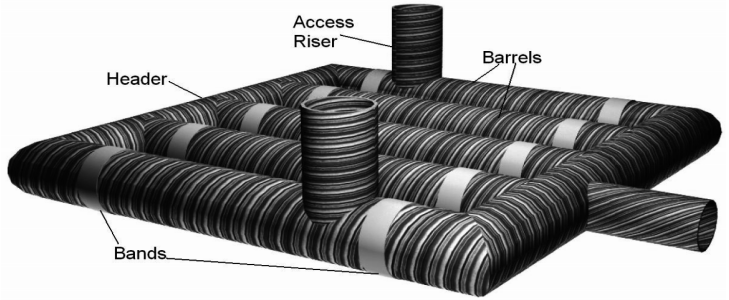
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Project Summary

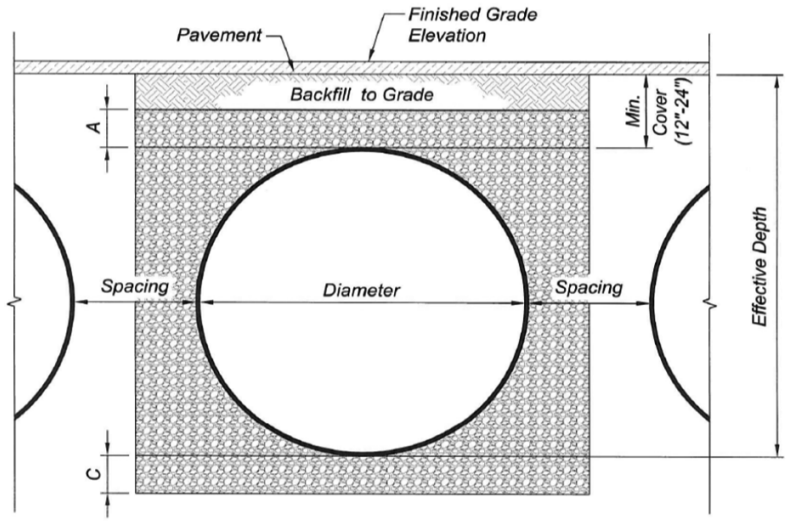
Date:	3/13/2025
Project Name:	Adelanto Industrial Park - 5D
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	312,264
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	218,504	cf	
Porous Stone Storage:	94,428	cf	
Total Storage Provided:	312,932	cf	100.2% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	859.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 870. ft		

CONTECH Materials

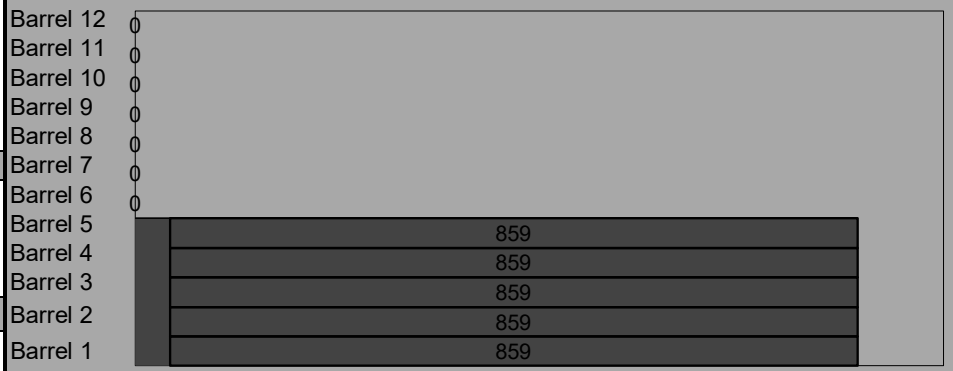
Total CMP Footage:	4,347	ft
Approximate Total Pieces:	183	pcs
Approximate Coupling Bands:	182	bands
Approximate Truckloads:	92	trucks

Construction Quantities**

Total Excavation:	15950	cy
Porous Stone Backfill For Storage:	8743	cy stone
Backfill to Grade Excluding Stone:	-886	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



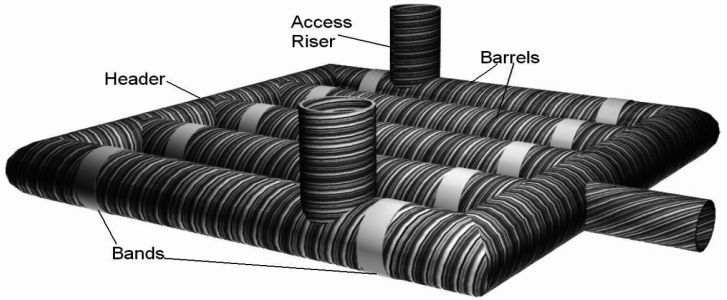
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Project Summary

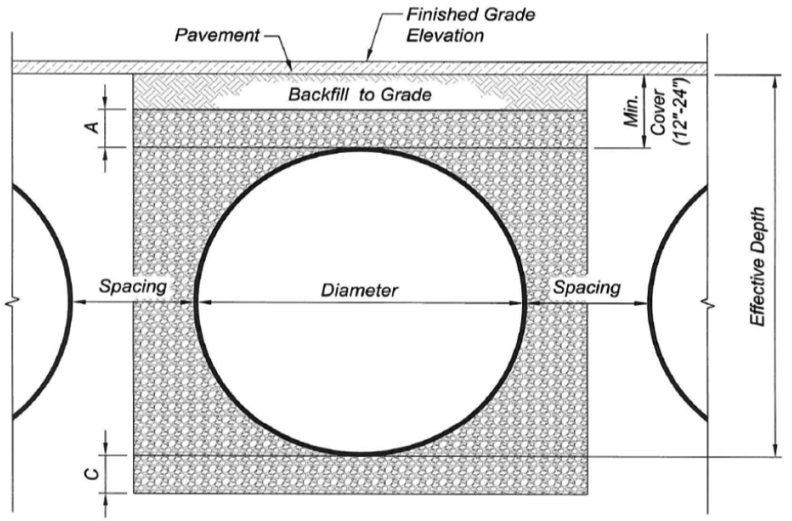
Date:	3/13/2025
Project Name:	Adelanto Industrial Park - 6A
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	231,173
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	161,704	cf	
Porous Stone Storage:	69,914	cf	
Total Storage Provided:	231,618	cf	100.2% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	633.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 644. ft		

CONTECH Materials

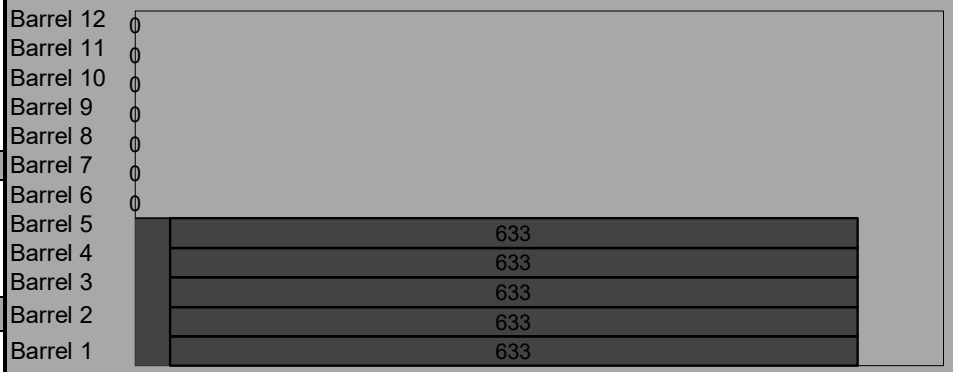
Total CMP Footage:	3,217	ft
Approximate Total Pieces:	138	pcs
Approximate Coupling Bands:	137	bands
Approximate Truckloads:	69	trucks

Construction Quantities**

Total Excavation:	11807	cy
Porous Stone Backfill For Storage:	6474	cy stone
Backfill to Grade Excluding Stone:	-656	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



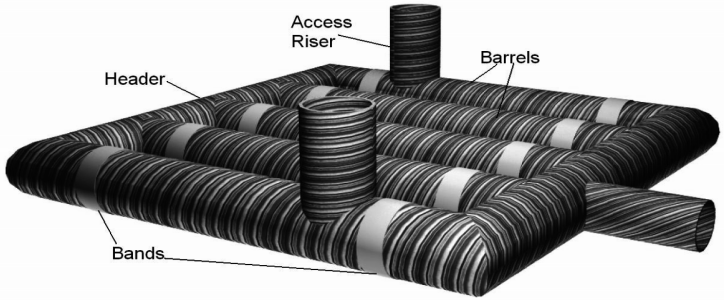
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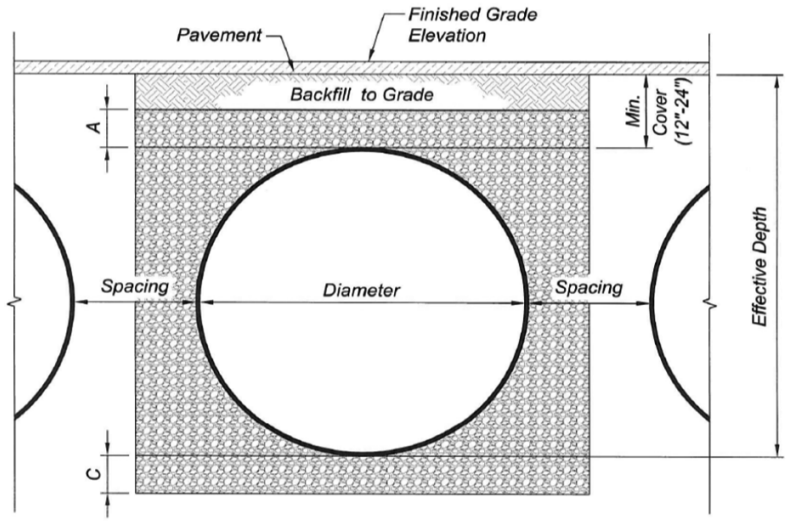
Date:	3/13/2025
Project Name:	Adelanto Industrial Park - 6B
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	209,262
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	146,373	cf	
Porous Stone Storage:	63,298	cf	
Total Storage Provided:	209,671	cf	100.2% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	572.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 583. ft		

CONTECH Materials

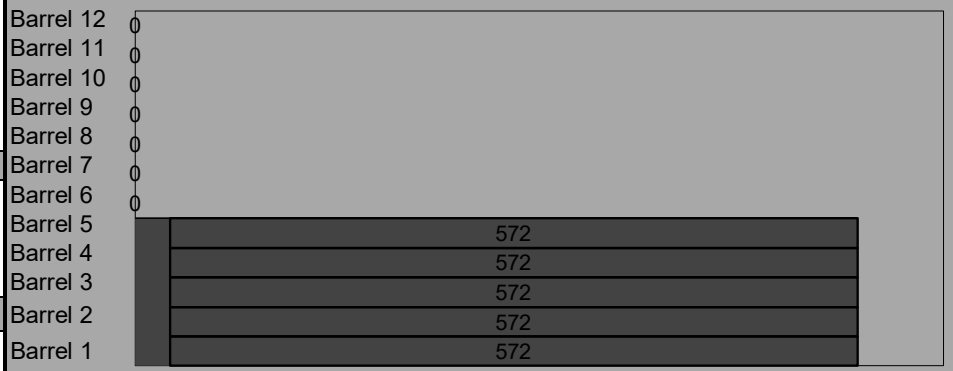
Total CMP Footage:	2,912	ft
Approximate Total Pieces:	123	pcs
Approximate Coupling Bands:	122	bands
Approximate Truckloads:	62	trucks

Construction Quantities**

Total Excavation:	10689	cy
Porous Stone Backfill For Storage:	5861	cy stone
Backfill to Grade Excluding Stone:	-593	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



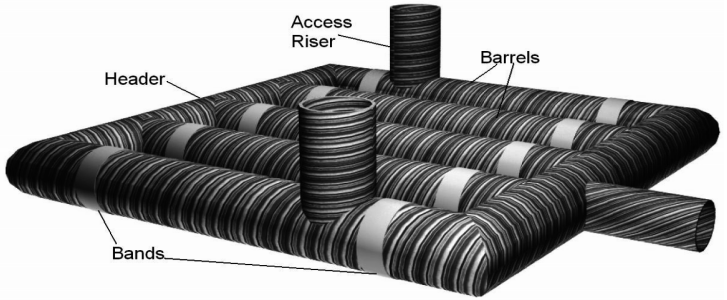
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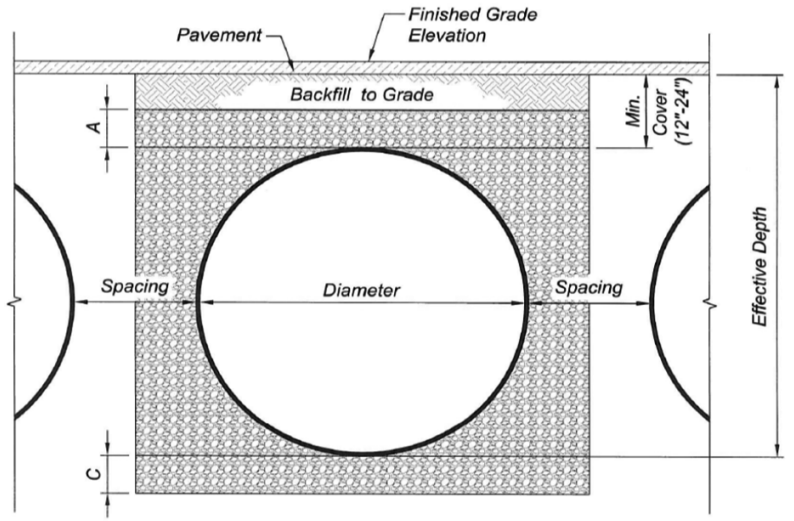
Date:	4/16/2025
Project Name:	Adelanto Industrial Park - 6C
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	199,418
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	139,587	cf	
Porous Stone Storage:	60,369	cf	
Total Storage Provided:	199,956	cf	100.3% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	545.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 556. ft		

CONTECH Materials

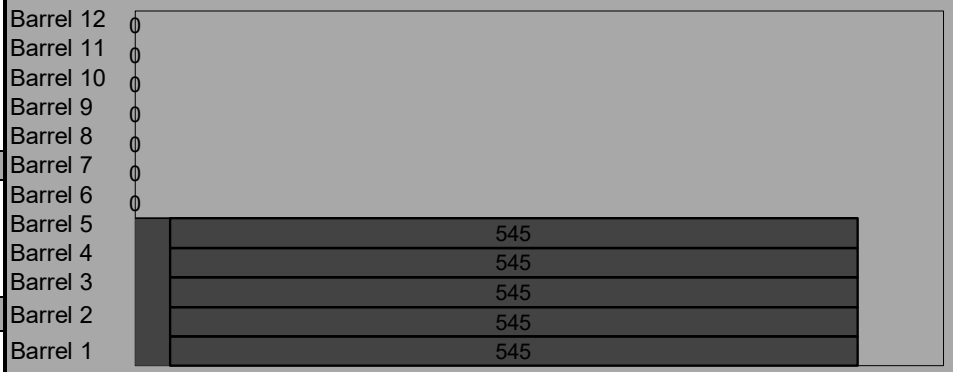
Total CMP Footage:	2,777	ft
Approximate Total Pieces:	118	pcs
Approximate Coupling Bands:	117	bands
Approximate Truckloads:	59	trucks

Construction Quantities**

Total Excavation:	10194	cy
Porous Stone Backfill For Storage:	5590	cy stone
Backfill to Grade Excluding Stone:	-566	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



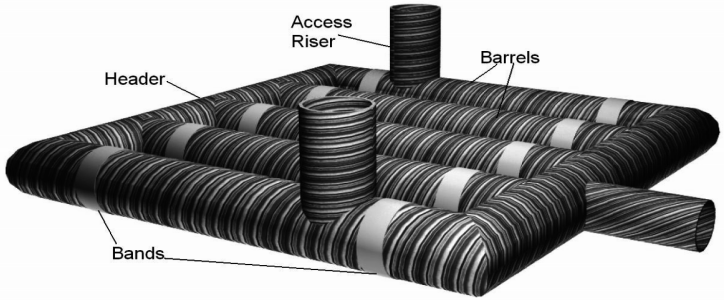
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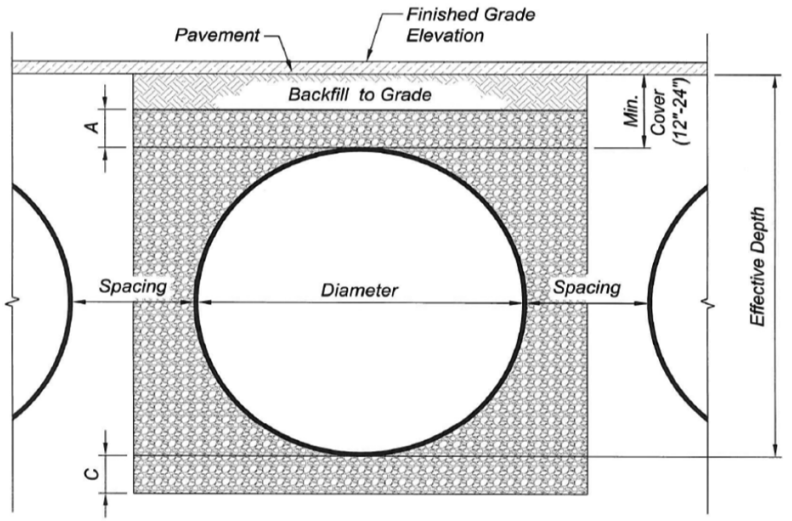
Date:	4/16/2025
Project Name:	Adelanto Industrial Park - 6D
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	180,774
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	72
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

28.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	116,462	cf	
Porous Stone Storage:	64,709	cf	
Total Storage Provided:	181,171	cf	100.2% Of Required Storage
Number of Barrels:	6	barrels	
Length per Barrel:	678.0	ft	
Length Per Header:	51.0	ft	
Rectangular Footprint (W x L):	54. ft x 687. ft		

CONTECH Materials

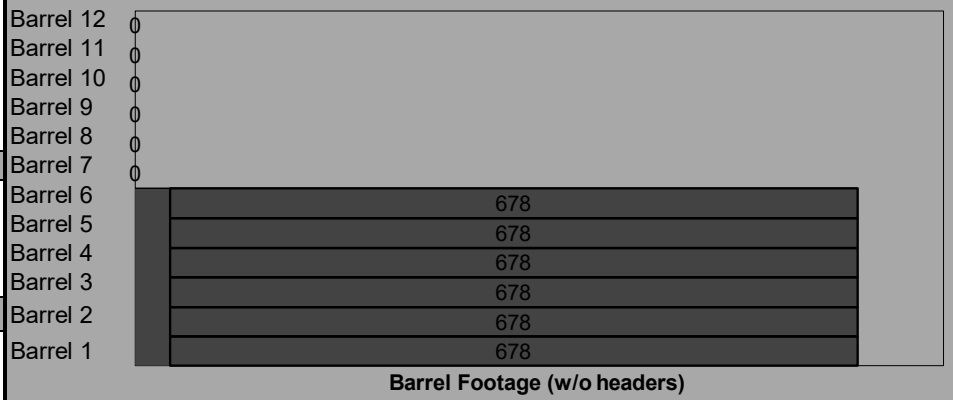
Total CMP Footage:	4,119	ft
Approximate Total Pieces:	177	pcs
Approximate Coupling Bands:	176	bands
Approximate Truckloads:	89	trucks

Construction Quantities**

Total Excavation:	12366	cy
Porous Stone Backfill For Storage:	5992	cy stone
Backfill to Grade Excluding Stone:	2061	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



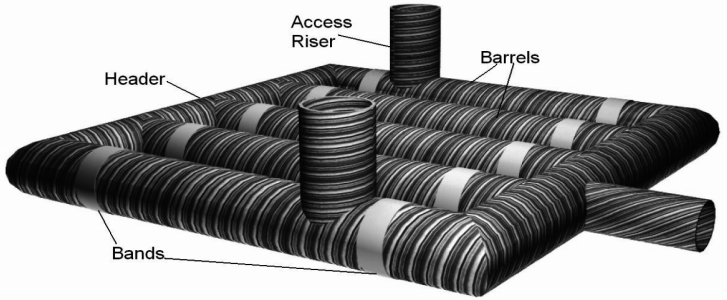
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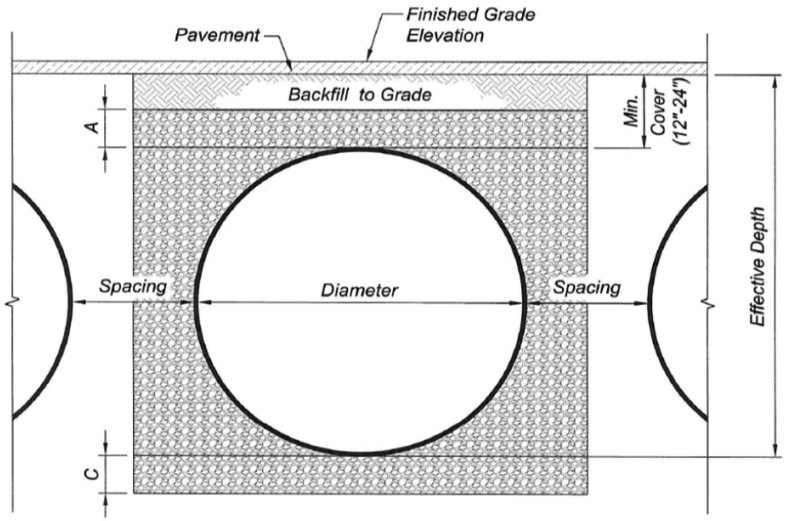
Date:	4/16/2025
Project Name:	Adelanto Industrial Park - 7A
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	246,528
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	172,511	cf	
Porous Stone Storage:	74,579	cf	
Total Storage Provided:	247,090	cf	100.2% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	676.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 687. ft		

CONTECH Materials

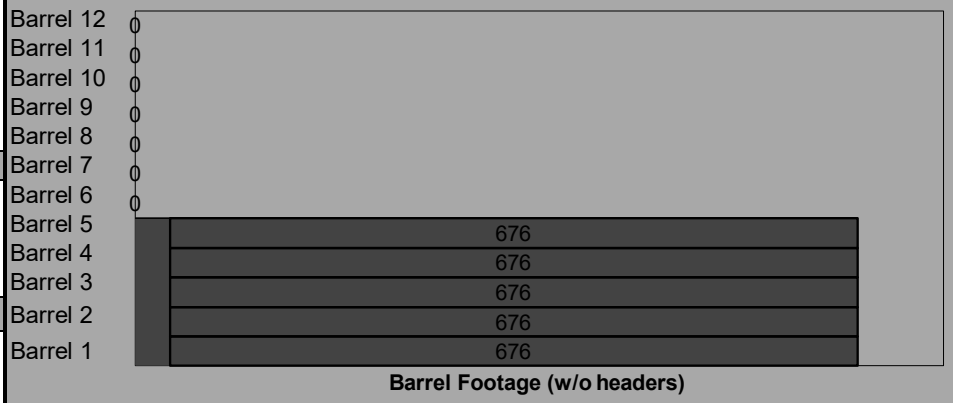
Total CMP Footage:	3,432	ft
Approximate Total Pieces:	148	pcs
Approximate Coupling Bands:	147	bands
Approximate Truckloads:	74	trucks

Construction Quantities**

Total Excavation:	12595	cy
Porous Stone Backfill For Storage:	6905	cy stone
Backfill to Grade Excluding Stone:	-700	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



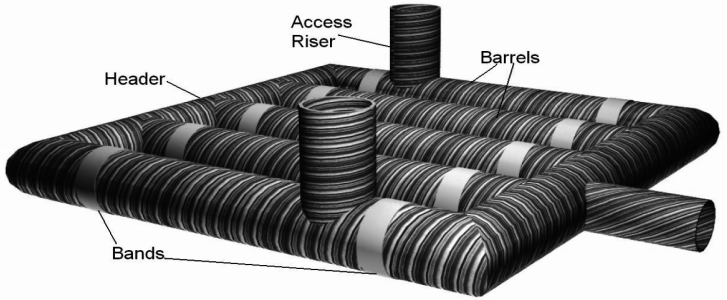
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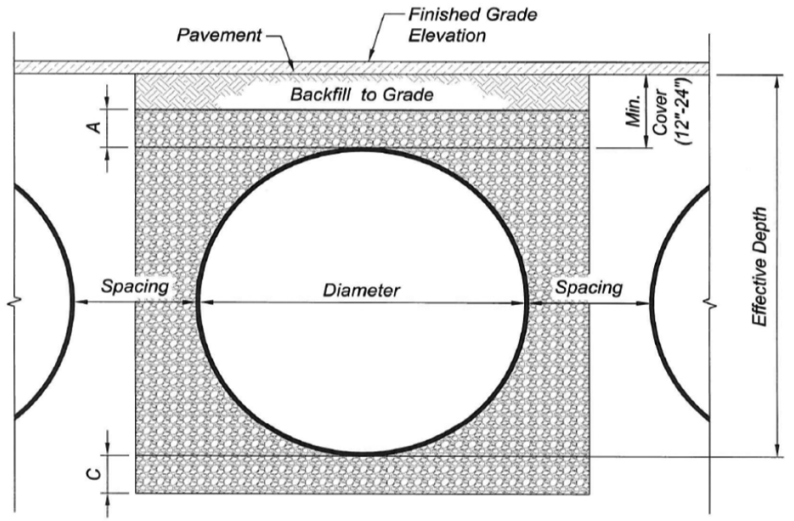
Date:	4/16/2025
Project Name:	Adelanto Industrial Park - 7B
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	102,998
Limiting Width (ft):	60.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	72,231	cf	
Porous Stone Storage:	31,299	cf	
Total Storage Provided:	103,531	cf	100.5% Of Required Storage
Number of Barrels:	5	barrels	
Length per Barrel:	277.0	ft	
Length Per Header:	52.0	ft	
Rectangular Footprint (W x L):	55. ft x 288. ft		

CONTECH Materials

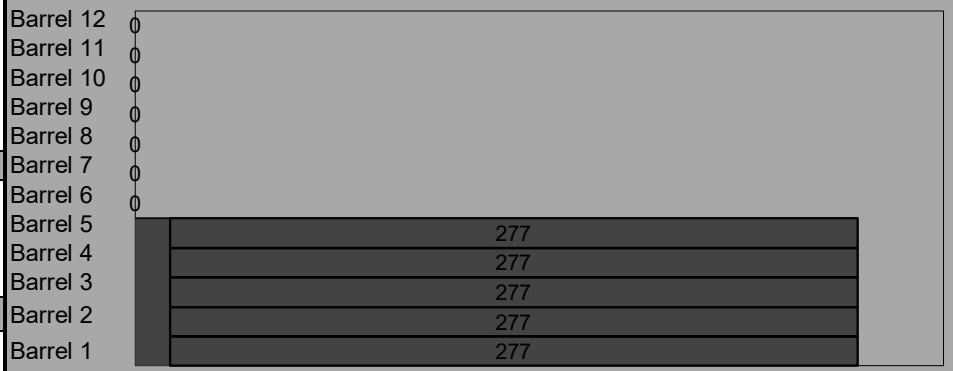
Total CMP Footage:	1,437	ft
Approximate Total Pieces:	63	pcs
Approximate Coupling Bands:	62	bands
Approximate Truckloads:	32	trucks

Construction Quantities**

Total Excavation:	5280	cy
Porous Stone Backfill For Storage:	2898	cy stone
Backfill to Grade Excluding Stone:	-293	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



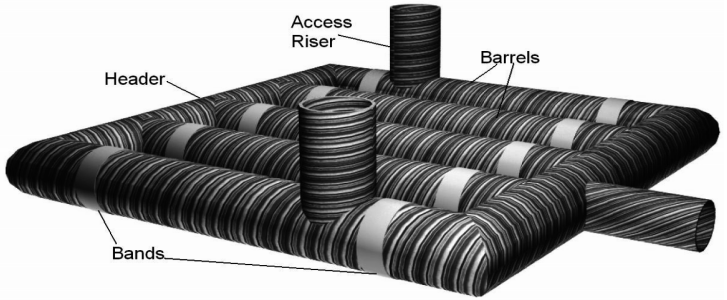
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Project Summary

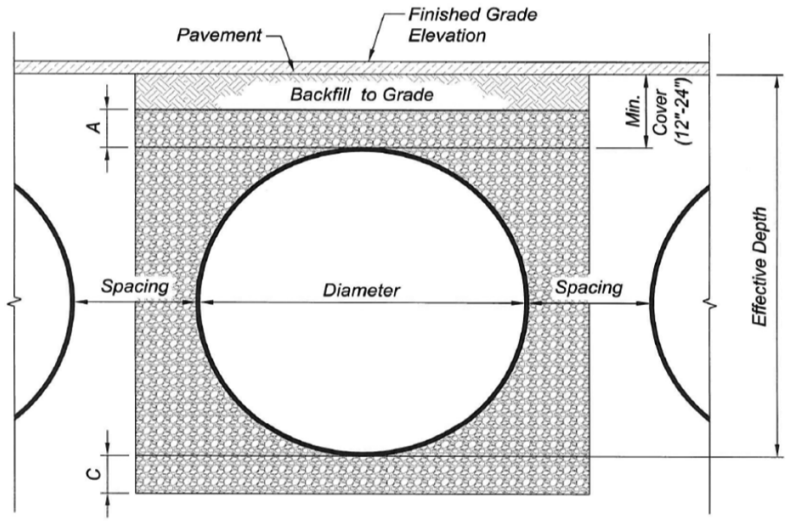
Date:	4/16/2025
Project Name:	Adelanto Industrial Park - 7C
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	283,780
Limiting Width (ft):	80.00
Invert Depth Below Asphalt (ft):	9.00
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	72
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

28.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	182,680	cf	
Porous Stone Storage:	101,456	cf	
Total Storage Provided:	284,136	cf	100.1% Of Required Storage
Number of Barrels:	8	barrels	
Length per Barrel:	799.0	ft	
Length Per Header:	69.0	ft	
Rectangular Footprint (W x L):	72. ft x 808. ft		

CONTECH Materials

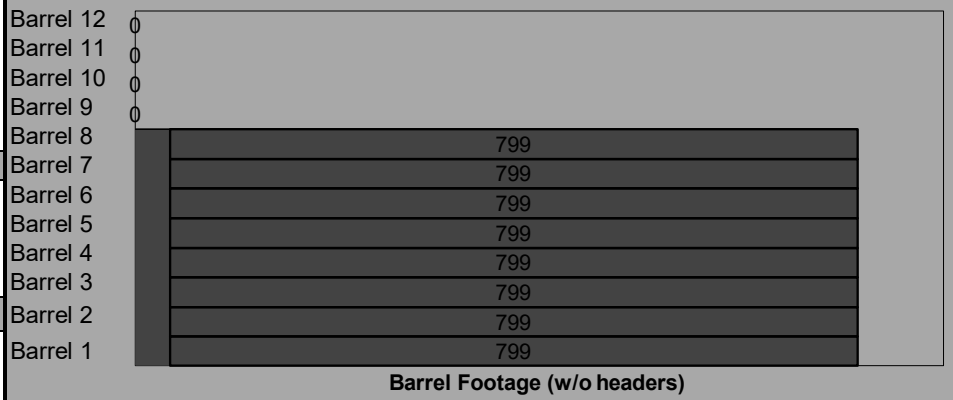
Total CMP Footage:	6,461	ft
Approximate Total Pieces:	275	pcs
Approximate Coupling Bands:	274	bands
Approximate Truckloads:	138	trucks

Construction Quantities**

Total Excavation:	19392	cy
Porous Stone Backfill For Storage:	9394	cy stone
Backfill to Grade Excluding Stone:	3232	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



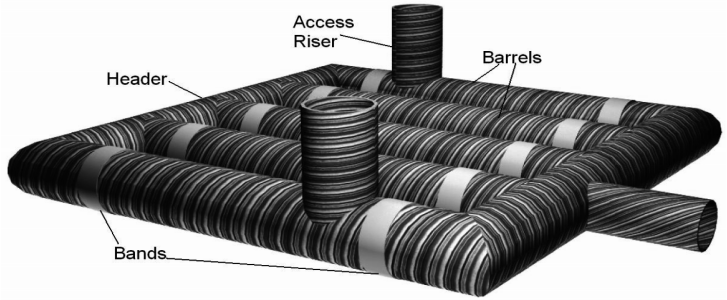
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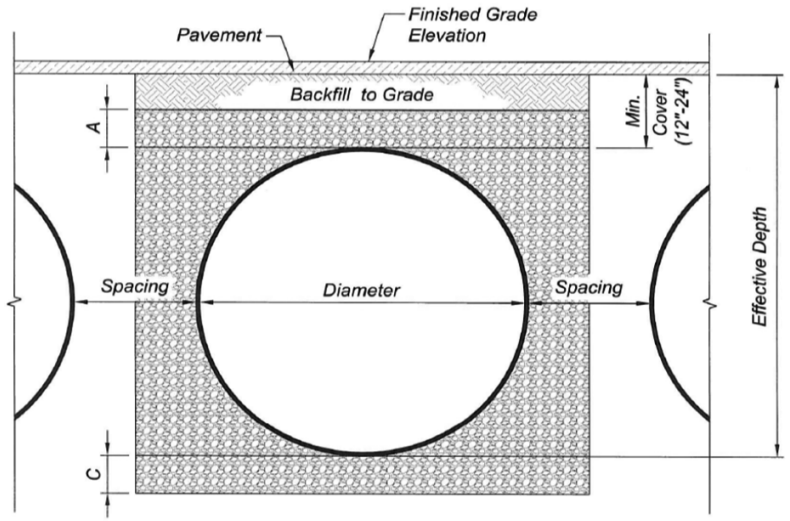
Date:	4/16/2025
Project Name:	Adelanto Industrial Park - 7D
City / County:	Adelanto, San Bernardino
State:	CA
Designed By:	ABE
Company:	Albert A. Webb Associates
Telephone:	(951) 686-1070

Enter Information in Blue Cells

Corrugated Metal Pipe Calculator

Storage Volume Required (cf):	142,446
Limiting Width (ft):	35.00
Invert Depth Below Asphalt (ft):	11.50
Solid or Perforated Pipe:	Perforated
Shape Or Diameter (in):	96
Number Of Headers:	1
Spacing between Barrels (ft):	3.00
Stone Width Around Perimeter of System (ft):	1.5
Depth A: Porous Stone Above Pipe (in):	12
Depth C: Porous Stone Below Pipe (in):	6
Stone Porosity (0 to 40%):	40

50.27 ft^2 Pipe Area



System Sizing

Pipe Storage:	99,676	cf	
Porous Stone Storage:	43,144	cf	
Total Storage Provided:	142,821	cf	100.3% Of Required Storage
Number of Barrels:	3	barrels	
Length per Barrel:	651.0	ft	
Length Per Header:	30.0	ft	
Rectangular Footprint (W x L):	33. ft x 662. ft		

CONTECH Materials

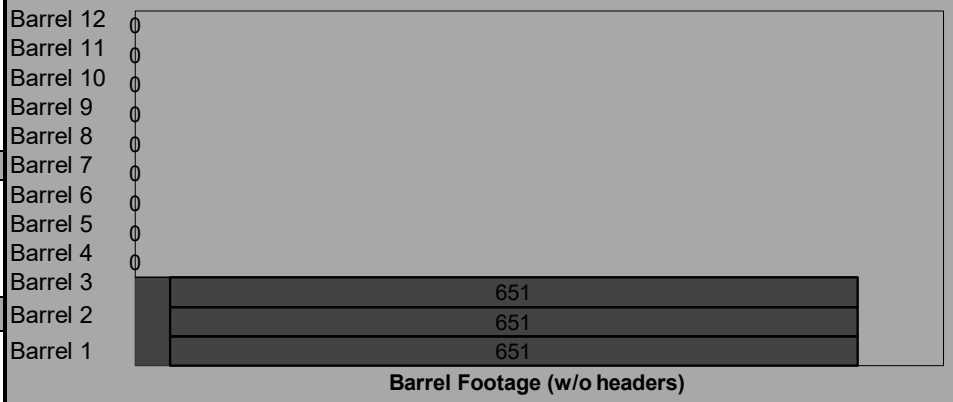
Total CMP Footage:	1,983	ft
Approximate Total Pieces:	86	pcs
Approximate Coupling Bands:	85	bands
Approximate Truckloads:	43	trucks

Construction Quantities**

Total Excavation:	9305	cy
Porous Stone Backfill For Storage:	3995	cy stone
Backfill to Grade Excluding Stone:	1618	cy fill

***Construction quantities are approximate and should be verified upon final design*

System Layout



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Appendix 5

Hydromodification

Existing Unit Hydrographs 5-YR 24-HR Storm

Project Name: MILESKI ADELANTO
WO: 24-0505
Date: 4/14/2025

UNIT HYDROGRAPH RESULTS (10YR-24HR)

	Pre Volume (cf)	Pre Volume (acre-ft)	Pre Peak (cfs)
UHEXOFF	0		
UHEXEASTOFF	0		
UHEXWESTOFF	0		
UHEX01CUL	0		
UHEX02CUL	0		
UHEX03CUL	0		
UHEX04CUL	0		
UHEX05CUL	0		
UHEX06CUL	0		

UNIT HYDROGRAPH RESULTS (5YR RAINFALL, 24HR)

	Pre Volume (cf)	Pre Volume (acre-ft)	Pre Peak (cfs)	90% Pre Peak (cfs)
UHEXOFF	4,533,494	104.075	359.47	323.52
1.2% UHEXOFF (PROP 3B)				*3.88*
1.0% UHEXOFF (PROP 3D)				*3.24*
0.8% UHEXOFF (PROP 4B)				*2.59*
1.1% UHEXOFF (PROP 4D)				*3.56*
1.2% UHEXOFF (PROP 5A)				*3.88*
0.6% UHEXOFF (PROP 5C)				*1.94*
1.1% UHEXOFF (PROP 6A)				*3.56*
1.1% UHEXOFF (PROP 6C)				*3.56*
1.3% UHEXOFF (PROP 7A)				*4.21*
1.5% UHEXOFF (PROP 7C)				*4.85*
UHEXEASTOFF	544,905	12.509	82.07	73.86
18.2% UHEXEASTOFF (PROP 5B)				*13.44*
14.1% UHEXEASTOFF (PROP 5D)				*10.41*
9.3% UHEXEASTOFF (PROP 6B)				*6.87*
7.4% UHEXEASTOFF (PROP 6D)				*5.47*
5.9% UHEXEASTOFF (PROP 7B)				*4.36*
4.2% UHEXEASTOFF (PROP 7D)				*3.10*
UHEXWESTOFF	118,766	2.727	13.59	12.23
17.5% UHEXWESTOFF (PROP 1A)				*2.14*
UHEX01CUL	307,960	7.070	25.62	23.06
UHEX02CUL	832,240	19.106	70.30	63.27
6.5% UHEX02CUL (PROP 2A)				*4.11*
6.6% UHEX02CUL (PROP 2C)				*4.18*
UHEX03CUL	108,120	2.482	15.86	14.27
31.4% UHEX03CUL (PROP 2B)				*4.48*
21.7% UHEX03CUL (PROP 2D)				*3.10*
UHEX04CUL	67,474	1.549	9.88	8.89
UHEX05CUL	295,755	6.790	24.27	21.84
8.5% UHEX05CUL (PROP 3A)				*1.86*
10.9% UHEX05CUL (PROP 3C)				*2.38*
13.1% UHEX05CUL (PROP 4A)				*2.86*
11.8% UHEX05CUL (PROP 4C)				*2.58*
UHEX06CUL	108,430	2.489	14.06	12.65

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/18/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
UNIT HYDROGRAPH ANALYSIS, EX CULVERT 1
EXISTING CONDITION, 5-YEAR 24-HOUR
FN: UHEX01CUL5.OUT - ABE

Storm Event Year = 5

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
75.60	1	0.60
Rainfall data for year 2		
75.60	6	0.70
Rainfall data for year 2		
75.60	24	1.20
Rainfall data for year 100		

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            75.60            1           1.00
----------------------------------------------------------------------
Rainfall data for year 100
            75.60            6           1.90
----------------------------------------------------------------------
Rainfall data for year 100
            75.60           24           3.40
----------------------------------------------------------------------
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******** Area-averaged max loss rate, Fm ********


SCS curve  SCS curve     Area     Area     Fp(Fig C6)    Ap      Fm
No.(AMCII) NO.(AMC 2)    (Ac.)    Fraction     (In/Hr)  (dec.)   (In/Hr)
 86.0      86.0         75.60      1.000     0.265    0.520    0.138

Area-averaged adjusted loss rate Fm (In/Hr) =  0.138

********* Area-Averaged low loss rate fraction, Yb **********

Area       Area          SCS CN    SCS CN      S     Pervious
 (Ac.)      Fract         (AMC2)    (AMC2)           Yield Fr
    39.31   0.520         86.0      86.0       1.63     0.373
    36.29   0.480         98.0      98.0       0.20     0.870

Area-averaged catchment yield fraction, Y =  0.612
Area-averaged low loss fraction, Yb =  0.388
User entry of time of concentration  =   0.900 (hours)
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Watershed area =      75.60(Ac.)
Catchment Lag time =   0.720 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 11.5741
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.138(In/Hr)
Average low loss rate fraction (Yb) = 0.388 (decimal)
VALLEY UNDEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.177(In)
Computed peak 30-minute rainfall =  0.363(In)
Specified peak 1-hour rainfall =  0.480(In)
Computed peak 3-hour rainfall =  0.744(In)
Specified peak 6-hour rainfall =  0.981(In)
Specified peak 24-hour rainfall =  1.715(In)


Rainfall depth area reduction factors:
Using a total area of      75.60(Ac.) (Ref: fig. E-4)

5-minute factor = 0.996     Adjusted rainfall =  0.177(In)
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30-minute factor = 0.996 Adjusted rainfall = 0.362(In)
1-hour factor = 0.996 Adjusted rainfall = 0.478(In)
3-hour factor = 1.000 Adjusted rainfall = 0.743(In)
6-hour factor = 1.000 Adjusted rainfall = 0.981(In)
24-hour factor = 1.000 Adjusted rainfall = 1.715(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 914.29 (CFS))	
1	1.003	9.171
2	3.200	20.090
3	6.434	29.568
4	11.135	42.973
5	16.922	52.915
6	24.207	66.601
7	32.193	73.022
8	40.500	75.947
9	48.688	74.865
10	55.240	59.897
11	60.556	48.604
12	64.593	36.910
13	68.059	31.695
14	70.792	24.982
15	73.066	20.796
16	74.949	17.215
17	76.664	15.678
18	78.293	14.893
19	79.694	12.815
20	81.047	12.367
21	82.227	10.787
22	83.373	10.480
23	84.417	9.541
24	85.430	9.263
25	86.317	8.108
26	87.150	7.615
27	87.903	6.887
28	88.597	6.349
29	89.292	6.349
30	89.986	6.349
31	90.627	5.860
32	91.142	4.705
33	91.651	4.656
34	92.160	4.656
35	92.656	4.533
36	93.048	3.585

37	93.419	3.386
38	93.789	3.386
39	94.159	3.385
40	94.515	3.257
41	94.863	3.175
42	95.210	3.175
43	95.557	3.175
44	95.875	2.904
45	96.131	2.345
46	96.386	2.328
47	96.640	2.328
48	96.890	2.279
49	97.104	1.962
50	97.312	1.905
51	97.521	1.905
52	97.729	1.899
53	97.907	1.631
54	98.069	1.481
55	98.231	1.481
56	98.393	1.481
57	98.539	1.332
58	98.655	1.064
59	98.771	1.058
60	98.887	1.058
61	99.002	1.058
62	99.118	1.058
63	99.234	1.058
64	99.350	1.058
65	99.465	1.058
66	99.581	1.058
67	99.697	1.058
68	99.812	1.058
69	99.928	1.058
70	100.000	0.656

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.1769	0.1769
2	0.2334	0.0565
3	0.2745	0.0411
4	0.3079	0.0335
5	0.3367	0.0288
6	0.3622	0.0255
7	0.3852	0.0230
8	0.4063	0.0211
9	0.4259	0.0196
10	0.4443	0.0183
11	0.4615	0.0173
12	0.4779	0.0163
13	0.4935	0.0156

14	0.5085	0.0149
15	0.5228	0.0143
16	0.5365	0.0137
17	0.5498	0.0132
18	0.5626	0.0128
19	0.5749	0.0124
20	0.5869	0.0120
21	0.5985	0.0116
22	0.6098	0.0113
23	0.6209	0.0110
24	0.6316	0.0107
25	0.6420	0.0105
26	0.6522	0.0102
27	0.6622	0.0100
28	0.6720	0.0098
29	0.6815	0.0096
30	0.6909	0.0094
31	0.7001	0.0092
32	0.7091	0.0090
33	0.7179	0.0088
34	0.7266	0.0087
35	0.7351	0.0085
36	0.7435	0.0084
37	0.7516	0.0082
38	0.7597	0.0081
39	0.7676	0.0079
40	0.7754	0.0078
41	0.7831	0.0077
42	0.7907	0.0076
43	0.7982	0.0075
44	0.8056	0.0074
45	0.8128	0.0073
46	0.8200	0.0072
47	0.8271	0.0071
48	0.8341	0.0070
49	0.8410	0.0069
50	0.8478	0.0068
51	0.8545	0.0067
52	0.8612	0.0067
53	0.8678	0.0066
54	0.8743	0.0065
55	0.8807	0.0064
56	0.8871	0.0064
57	0.8934	0.0063
58	0.8996	0.0062
59	0.9058	0.0062
60	0.9119	0.0061
61	0.9179	0.0060
62	0.9239	0.0060
63	0.9299	0.0059

64	0.9357	0.0059
65	0.9415	0.0058
66	0.9473	0.0058
67	0.9530	0.0057
68	0.9587	0.0057
69	0.9643	0.0056
70	0.9699	0.0056
71	0.9754	0.0055
72	0.9808	0.0055
73	0.9863	0.0055
74	0.9917	0.0054
75	0.9971	0.0054
76	1.0024	0.0053
77	1.0077	0.0053
78	1.0130	0.0053
79	1.0182	0.0052
80	1.0234	0.0052
81	1.0285	0.0051
82	1.0336	0.0051
83	1.0387	0.0051
84	1.0437	0.0050
85	1.0487	0.0050
86	1.0537	0.0050
87	1.0586	0.0049
88	1.0635	0.0049
89	1.0683	0.0049
90	1.0732	0.0048
91	1.0779	0.0048
92	1.0827	0.0048
93	1.0874	0.0047
94	1.0921	0.0047
95	1.0968	0.0047
96	1.1014	0.0046
97	1.1061	0.0046
98	1.1106	0.0046
99	1.1152	0.0046
100	1.1197	0.0045
101	1.1242	0.0045
102	1.1287	0.0045
103	1.1331	0.0044
104	1.1376	0.0044
105	1.1420	0.0044
106	1.1463	0.0044
107	1.1507	0.0043
108	1.1550	0.0043
109	1.1593	0.0043
110	1.1636	0.0043
111	1.1678	0.0043
112	1.1721	0.0042
113	1.1763	0.0042

114	1.1805	0.0042
115	1.1846	0.0042
116	1.1888	0.0041
117	1.1929	0.0041
118	1.1970	0.0041
119	1.2011	0.0041
120	1.2051	0.0041
121	1.2092	0.0040
122	1.2132	0.0040
123	1.2172	0.0040
124	1.2211	0.0040
125	1.2251	0.0040
126	1.2291	0.0039
127	1.2330	0.0039
128	1.2369	0.0039
129	1.2408	0.0039
130	1.2446	0.0039
131	1.2485	0.0039
132	1.2523	0.0038
133	1.2561	0.0038
134	1.2599	0.0038
135	1.2637	0.0038
136	1.2675	0.0038
137	1.2712	0.0037
138	1.2750	0.0037
139	1.2787	0.0037
140	1.2824	0.0037
141	1.2861	0.0037
142	1.2897	0.0037
143	1.2934	0.0037
144	1.2970	0.0036
145	1.3006	0.0036
146	1.3043	0.0036
147	1.3078	0.0036
148	1.3114	0.0036
149	1.3150	0.0036
150	1.3185	0.0036
151	1.3221	0.0035
152	1.3256	0.0035
153	1.3291	0.0035
154	1.3326	0.0035
155	1.3361	0.0035
156	1.3396	0.0035
157	1.3430	0.0035
158	1.3465	0.0034
159	1.3499	0.0034
160	1.3533	0.0034
161	1.3567	0.0034
162	1.3601	0.0034
163	1.3635	0.0034

164	1.3668	0.0034
165	1.3702	0.0034
166	1.3735	0.0033
167	1.3769	0.0033
168	1.3802	0.0033
169	1.3835	0.0033
170	1.3868	0.0033
171	1.3901	0.0033
172	1.3933	0.0033
173	1.3966	0.0033
174	1.3998	0.0032
175	1.4031	0.0032
176	1.4063	0.0032
177	1.4095	0.0032
178	1.4127	0.0032
179	1.4159	0.0032
180	1.4191	0.0032
181	1.4223	0.0032
182	1.4254	0.0032
183	1.4286	0.0032
184	1.4317	0.0031
185	1.4349	0.0031
186	1.4380	0.0031
187	1.4411	0.0031
188	1.4442	0.0031
189	1.4473	0.0031
190	1.4504	0.0031
191	1.4534	0.0031
192	1.4565	0.0031
193	1.4596	0.0031
194	1.4626	0.0030
195	1.4656	0.0030
196	1.4687	0.0030
197	1.4717	0.0030
198	1.4747	0.0030
199	1.4777	0.0030
200	1.4807	0.0030
201	1.4837	0.0030
202	1.4866	0.0030
203	1.4896	0.0030
204	1.4925	0.0030
205	1.4955	0.0029
206	1.4984	0.0029
207	1.5013	0.0029
208	1.5043	0.0029
209	1.5072	0.0029
210	1.5101	0.0029
211	1.5130	0.0029
212	1.5159	0.0029
213	1.5187	0.0029

214	1.5216	0.0029
215	1.5245	0.0029
216	1.5273	0.0029
217	1.5302	0.0028
218	1.5330	0.0028
219	1.5358	0.0028
220	1.5387	0.0028
221	1.5415	0.0028
222	1.5443	0.0028
223	1.5471	0.0028
224	1.5499	0.0028
225	1.5527	0.0028
226	1.5554	0.0028
227	1.5582	0.0028
228	1.5610	0.0028
229	1.5637	0.0028
230	1.5665	0.0027
231	1.5692	0.0027
232	1.5720	0.0027
233	1.5747	0.0027
234	1.5774	0.0027
235	1.5801	0.0027
236	1.5828	0.0027
237	1.5855	0.0027
238	1.5882	0.0027
239	1.5909	0.0027
240	1.5936	0.0027
241	1.5963	0.0027
242	1.5989	0.0027
243	1.6016	0.0027
244	1.6042	0.0027
245	1.6069	0.0026
246	1.6095	0.0026
247	1.6122	0.0026
248	1.6148	0.0026
249	1.6174	0.0026
250	1.6200	0.0026
251	1.6226	0.0026
252	1.6252	0.0026
253	1.6278	0.0026
254	1.6304	0.0026
255	1.6330	0.0026
256	1.6356	0.0026
257	1.6382	0.0026
258	1.6407	0.0026
259	1.6433	0.0026
260	1.6459	0.0026
261	1.6484	0.0025
262	1.6509	0.0025
263	1.6535	0.0025

264	1.6560	0.0025
265	1.6585	0.0025
266	1.6611	0.0025
267	1.6636	0.0025
268	1.6661	0.0025
269	1.6686	0.0025
270	1.6711	0.0025
271	1.6736	0.0025
272	1.6761	0.0025
273	1.6785	0.0025
274	1.6810	0.0025
275	1.6835	0.0025
276	1.6860	0.0025
277	1.6884	0.0025
278	1.6909	0.0025
279	1.6933	0.0024
280	1.6958	0.0024
281	1.6982	0.0024
282	1.7006	0.0024
283	1.7031	0.0024
284	1.7055	0.0024
285	1.7079	0.0024
286	1.7103	0.0024
287	1.7127	0.0024
288	1.7151	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0009	0.0015
2	0.0024	0.0009	0.0015
3	0.0024	0.0009	0.0015
4	0.0024	0.0009	0.0015
5	0.0024	0.0009	0.0015
6	0.0024	0.0009	0.0015
7	0.0024	0.0010	0.0015
8	0.0025	0.0010	0.0015
9	0.0025	0.0010	0.0015
10	0.0025	0.0010	0.0015
11	0.0025	0.0010	0.0015
12	0.0025	0.0010	0.0015
13	0.0025	0.0010	0.0015
14	0.0025	0.0010	0.0015
15	0.0025	0.0010	0.0015
16	0.0025	0.0010	0.0015
17	0.0025	0.0010	0.0015
18	0.0025	0.0010	0.0016
19	0.0025	0.0010	0.0016
20	0.0026	0.0010	0.0016

21	0.0026	0.0010	0.0016
22	0.0026	0.0010	0.0016
23	0.0026	0.0010	0.0016
24	0.0026	0.0010	0.0016
25	0.0026	0.0010	0.0016
26	0.0026	0.0010	0.0016
27	0.0026	0.0010	0.0016
28	0.0026	0.0010	0.0016
29	0.0026	0.0010	0.0016
30	0.0026	0.0010	0.0016
31	0.0027	0.0010	0.0016
32	0.0027	0.0010	0.0016
33	0.0027	0.0010	0.0016
34	0.0027	0.0010	0.0016
35	0.0027	0.0010	0.0017
36	0.0027	0.0011	0.0017
37	0.0027	0.0011	0.0017
38	0.0027	0.0011	0.0017
39	0.0027	0.0011	0.0017
40	0.0027	0.0011	0.0017
41	0.0028	0.0011	0.0017
42	0.0028	0.0011	0.0017
43	0.0028	0.0011	0.0017
44	0.0028	0.0011	0.0017
45	0.0028	0.0011	0.0017
46	0.0028	0.0011	0.0017
47	0.0028	0.0011	0.0017
48	0.0028	0.0011	0.0017
49	0.0029	0.0011	0.0017
50	0.0029	0.0011	0.0018
51	0.0029	0.0011	0.0018
52	0.0029	0.0011	0.0018
53	0.0029	0.0011	0.0018
54	0.0029	0.0011	0.0018
55	0.0029	0.0011	0.0018
56	0.0029	0.0011	0.0018
57	0.0030	0.0011	0.0018
58	0.0030	0.0012	0.0018
59	0.0030	0.0012	0.0018
60	0.0030	0.0012	0.0018
61	0.0030	0.0012	0.0018
62	0.0030	0.0012	0.0018
63	0.0030	0.0012	0.0019
64	0.0030	0.0012	0.0019
65	0.0031	0.0012	0.0019
66	0.0031	0.0012	0.0019
67	0.0031	0.0012	0.0019
68	0.0031	0.0012	0.0019
69	0.0031	0.0012	0.0019
70	0.0031	0.0012	0.0019

71	0.0032	0.0012	0.0019
72	0.0032	0.0012	0.0019
73	0.0032	0.0012	0.0019
74	0.0032	0.0012	0.0020
75	0.0032	0.0012	0.0020
76	0.0032	0.0013	0.0020
77	0.0032	0.0013	0.0020
78	0.0033	0.0013	0.0020
79	0.0033	0.0013	0.0020
80	0.0033	0.0013	0.0020
81	0.0033	0.0013	0.0020
82	0.0033	0.0013	0.0020
83	0.0034	0.0013	0.0021
84	0.0034	0.0013	0.0021
85	0.0034	0.0013	0.0021
86	0.0034	0.0013	0.0021
87	0.0034	0.0013	0.0021
88	0.0034	0.0013	0.0021
89	0.0035	0.0013	0.0021
90	0.0035	0.0014	0.0021
91	0.0035	0.0014	0.0021
92	0.0035	0.0014	0.0022
93	0.0036	0.0014	0.0022
94	0.0036	0.0014	0.0022
95	0.0036	0.0014	0.0022
96	0.0036	0.0014	0.0022
97	0.0036	0.0014	0.0022
98	0.0037	0.0014	0.0022
99	0.0037	0.0014	0.0023
100	0.0037	0.0014	0.0023
101	0.0037	0.0014	0.0023
102	0.0037	0.0015	0.0023
103	0.0038	0.0015	0.0023
104	0.0038	0.0015	0.0023
105	0.0038	0.0015	0.0023
106	0.0039	0.0015	0.0024
107	0.0039	0.0015	0.0024
108	0.0039	0.0015	0.0024
109	0.0039	0.0015	0.0024
110	0.0040	0.0015	0.0024
111	0.0040	0.0016	0.0024
112	0.0040	0.0016	0.0025
113	0.0041	0.0016	0.0025
114	0.0041	0.0016	0.0025
115	0.0041	0.0016	0.0025
116	0.0041	0.0016	0.0025
117	0.0042	0.0016	0.0026
118	0.0042	0.0016	0.0026
119	0.0043	0.0017	0.0026
120	0.0043	0.0017	0.0026

121	0.0043	0.0017	0.0026
122	0.0043	0.0017	0.0027
123	0.0044	0.0017	0.0027
124	0.0044	0.0017	0.0027
125	0.0045	0.0017	0.0027
126	0.0045	0.0017	0.0028
127	0.0046	0.0018	0.0028
128	0.0046	0.0018	0.0028
129	0.0046	0.0018	0.0028
130	0.0047	0.0018	0.0029
131	0.0047	0.0018	0.0029
132	0.0048	0.0018	0.0029
133	0.0048	0.0019	0.0030
134	0.0049	0.0019	0.0030
135	0.0049	0.0019	0.0030
136	0.0050	0.0019	0.0030
137	0.0050	0.0020	0.0031
138	0.0051	0.0020	0.0031
139	0.0051	0.0020	0.0031
140	0.0052	0.0020	0.0032
141	0.0053	0.0020	0.0032
142	0.0053	0.0021	0.0032
143	0.0054	0.0021	0.0033
144	0.0054	0.0021	0.0033
145	0.0055	0.0021	0.0033
146	0.0055	0.0021	0.0034
147	0.0056	0.0022	0.0034
148	0.0057	0.0022	0.0035
149	0.0058	0.0022	0.0035
150	0.0058	0.0023	0.0036
151	0.0059	0.0023	0.0036
152	0.0060	0.0023	0.0037
153	0.0061	0.0024	0.0037
154	0.0062	0.0024	0.0038
155	0.0063	0.0024	0.0039
156	0.0064	0.0025	0.0039
157	0.0065	0.0025	0.0040
158	0.0066	0.0026	0.0040
159	0.0067	0.0026	0.0041
160	0.0068	0.0026	0.0042
161	0.0070	0.0027	0.0043
162	0.0071	0.0027	0.0043
163	0.0073	0.0028	0.0044
164	0.0074	0.0029	0.0045
165	0.0076	0.0029	0.0046
166	0.0077	0.0030	0.0047
167	0.0079	0.0031	0.0049
168	0.0081	0.0031	0.0049
169	0.0084	0.0033	0.0051
170	0.0085	0.0033	0.0052

171	0.0088	0.0034	0.0054
172	0.0090	0.0035	0.0055
173	0.0094	0.0036	0.0057
174	0.0096	0.0037	0.0058
175	0.0100	0.0039	0.0061
176	0.0102	0.0040	0.0062
177	0.0107	0.0042	0.0066
178	0.0110	0.0043	0.0067
179	0.0116	0.0045	0.0071
180	0.0120	0.0047	0.0073
181	0.0128	0.0050	0.0078
182	0.0132	0.0051	0.0081
183	0.0143	0.0056	0.0088
184	0.0149	0.0058	0.0091
185	0.0163	0.0063	0.0100
186	0.0173	0.0067	0.0106
187	0.0196	0.0076	0.0120
188	0.0211	0.0082	0.0129
189	0.0255	0.0099	0.0156
190	0.0288	0.0112	0.0176
191	0.0411	0.0115	0.0296
192	0.0565	0.0115	0.0450
193	0.1769	0.0115	0.1654
194	0.0335	0.0115	0.0220
195	0.0230	0.0089	0.0141
196	0.0183	0.0071	0.0112
197	0.0156	0.0061	0.0096
198	0.0137	0.0053	0.0084
199	0.0124	0.0048	0.0076
200	0.0113	0.0044	0.0069
201	0.0105	0.0041	0.0064
202	0.0098	0.0038	0.0060
203	0.0092	0.0036	0.0056
204	0.0087	0.0034	0.0053
205	0.0082	0.0032	0.0050
206	0.0078	0.0030	0.0048
207	0.0075	0.0029	0.0046
208	0.0072	0.0028	0.0044
209	0.0069	0.0027	0.0042
210	0.0067	0.0026	0.0041
211	0.0064	0.0025	0.0039
212	0.0062	0.0024	0.0038
213	0.0060	0.0023	0.0037
214	0.0059	0.0023	0.0036
215	0.0057	0.0022	0.0035
216	0.0056	0.0022	0.0034
217	0.0055	0.0021	0.0033
218	0.0053	0.0021	0.0033
219	0.0052	0.0020	0.0032
220	0.0051	0.0020	0.0031

221	0.0050	0.0019	0.0031
222	0.0049	0.0019	0.0030
223	0.0048	0.0019	0.0029
224	0.0047	0.0018	0.0029
225	0.0046	0.0018	0.0028
226	0.0045	0.0018	0.0028
227	0.0044	0.0017	0.0027
228	0.0044	0.0017	0.0027
229	0.0043	0.0017	0.0026
230	0.0042	0.0016	0.0026
231	0.0042	0.0016	0.0025
232	0.0041	0.0016	0.0025
233	0.0040	0.0016	0.0025
234	0.0040	0.0015	0.0024
235	0.0039	0.0015	0.0024
236	0.0039	0.0015	0.0024
237	0.0038	0.0015	0.0023
238	0.0038	0.0015	0.0023
239	0.0037	0.0014	0.0023
240	0.0037	0.0014	0.0022
241	0.0036	0.0014	0.0022
242	0.0036	0.0014	0.0022
243	0.0035	0.0014	0.0022
244	0.0035	0.0014	0.0021
245	0.0035	0.0013	0.0021
246	0.0034	0.0013	0.0021
247	0.0034	0.0013	0.0021
248	0.0033	0.0013	0.0020
249	0.0033	0.0013	0.0020
250	0.0033	0.0013	0.0020
251	0.0032	0.0013	0.0020
252	0.0032	0.0012	0.0020
253	0.0032	0.0012	0.0019
254	0.0031	0.0012	0.0019
255	0.0031	0.0012	0.0019
256	0.0031	0.0012	0.0019
257	0.0031	0.0012	0.0019
258	0.0030	0.0012	0.0019
259	0.0030	0.0012	0.0018
260	0.0030	0.0012	0.0018
261	0.0029	0.0011	0.0018
262	0.0029	0.0011	0.0018
263	0.0029	0.0011	0.0018
264	0.0029	0.0011	0.0018
265	0.0028	0.0011	0.0017
266	0.0028	0.0011	0.0017
267	0.0028	0.0011	0.0017
268	0.0028	0.0011	0.0017
269	0.0028	0.0011	0.0017
270	0.0027	0.0011	0.0017

271	0.0027	0.0011	0.0017
272	0.0027	0.0010	0.0016
273	0.0027	0.0010	0.0016
274	0.0027	0.0010	0.0016
275	0.0026	0.0010	0.0016
276	0.0026	0.0010	0.0016
277	0.0026	0.0010	0.0016
278	0.0026	0.0010	0.0016
279	0.0026	0.0010	0.0016
280	0.0025	0.0010	0.0016
281	0.0025	0.0010	0.0015
282	0.0025	0.0010	0.0015
283	0.0025	0.0010	0.0015
284	0.0025	0.0010	0.0015
285	0.0025	0.0010	0.0015
286	0.0024	0.0009	0.0015
287	0.0024	0.0009	0.0015
288	0.0024	0.0009	0.0015

Total soil rain loss = 0.59(In)
Total effective rainfall = 1.12(In)
Peak flow rate in flood hydrograph = 25.62(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

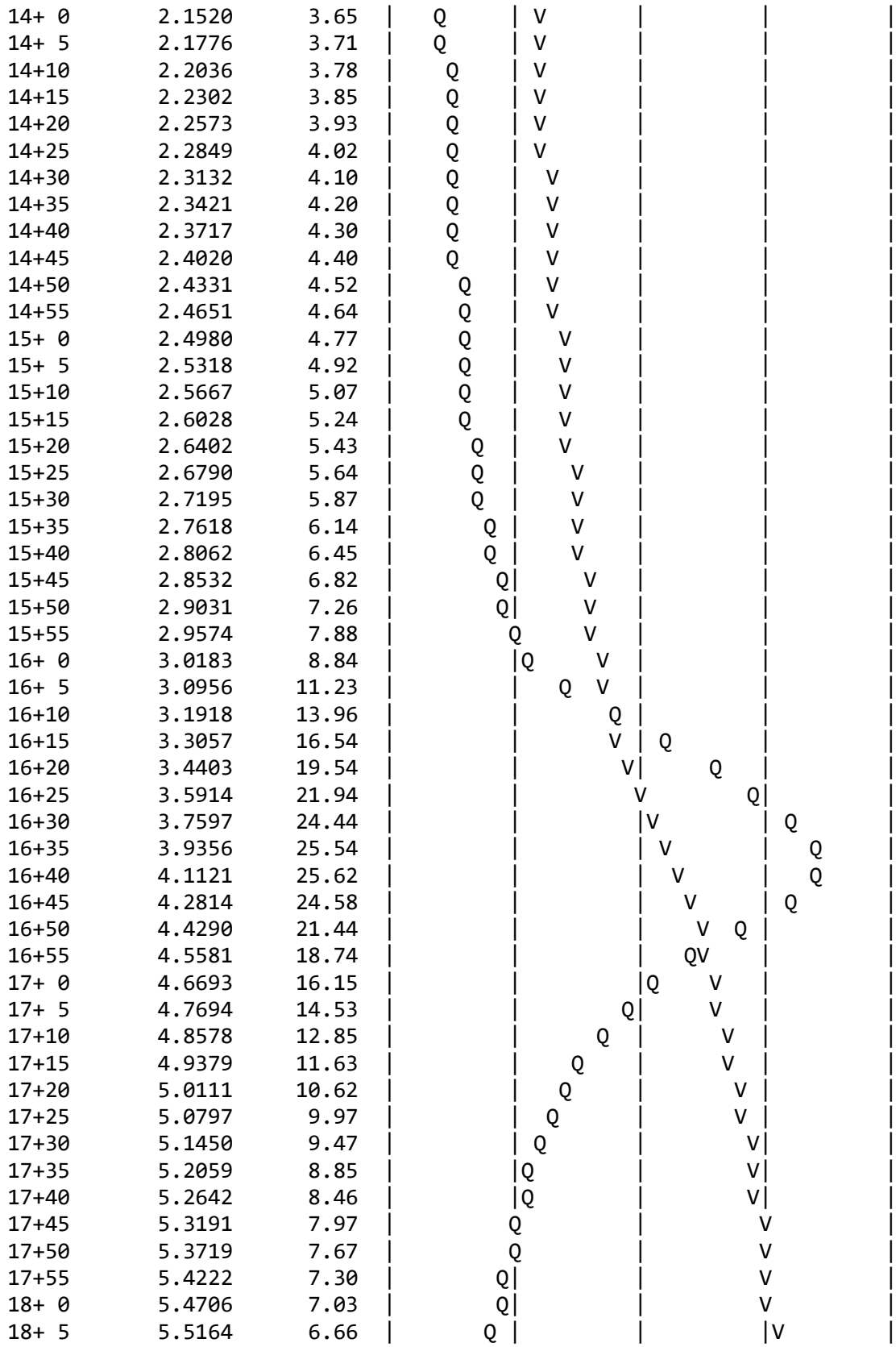
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0001	0.01	Q	|	|	|	|
0+10	0.0004	0.04	Q	|	|	|	|
0+15	0.0010	0.09	Q	|	|	|	|
0+20	0.0020	0.15	Q	|	|	|	|
0+25	0.0036	0.23	Q	|	|	|	|
0+30	0.0058	0.33	Q	|	|	|	|
0+35	0.0088	0.44	Q	|	|	|	|
0+40	0.0126	0.55	Q	|	|	|	|
0+45	0.0172	0.66	Q	|	|	|	|
0+50	0.0223	0.75	Q	|	|	|	|
0+55	0.0280	0.82	VQ	|	|	|	|
1+ 0	0.0341	0.88	VQ	|	|	|	|
1+ 5	0.0405	0.93	VQ	|	|	|	|
1+10	0.0471	0.97	VQ	|	|	|	|
1+15	0.0541	1.00	VQ	|	|	|	|
1+20	0.0612	1.03	VQ	|	|	|	|
1+25	0.0684	1.06	VQ	|	|	|	|

1+30	0.0759	1.08	VQ	|	|	|	|
1+35	0.0835	1.11	VQ	|	|	|	|
1+40	0.0913	1.13	VQ	|	|	|	|
1+45	0.0992	1.15	VQ	|	|	|	|
1+50	0.1072	1.17	VQ	|	|	|	|
1+55	0.1154	1.18	VQ	|	|	|	|
2+ 0	0.1237	1.20	VQ	|	|	|	|
2+ 5	0.1321	1.22	VQ	|	|	|	|
2+10	0.1406	1.23	VQ	|	|	|	|
2+15	0.1491	1.25	VQ	|	|	|	|
2+20	0.1578	1.26	VQ	|	|	|	|
2+25	0.1666	1.28	VQ	|	|	|	|
2+30	0.1755	1.29	VQ	|	|	|	|
2+35	0.1845	1.30	|Q	|	|	|	|
2+40	0.1935	1.31	|Q	|	|	|	|
2+45	0.2026	1.32	|Q	|	|	|	|
2+50	0.2118	1.34	|Q	|	|	|	|
2+55	0.2211	1.35	|Q	|	|	|	|
3+ 0	0.2305	1.36	|Q	|	|	|	|
3+ 5	0.2399	1.37	|Q	|	|	|	|
3+10	0.2494	1.38	|Q	|	|	|	|
3+15	0.2589	1.39	|Q	|	|	|	|
3+20	0.2686	1.40	|Q	|	|	|	|
3+25	0.2783	1.41	|Q	|	|	|	|
3+30	0.2880	1.42	|Q	|	|	|	|
3+35	0.2978	1.43	|Q	|	|	|	|
3+40	0.3077	1.44	|Q	|	|	|	|
3+45	0.3177	1.45	|Q	|	|	|	|
3+50	0.3277	1.45	|Q	|	|	|	|
3+55	0.3378	1.46	|Q	|	|	|	|
4+ 0	0.3479	1.47	|Q	|	|	|	|
4+ 5	0.3581	1.48	|QV	|	|	|	|
4+10	0.3684	1.49	|QV	|	|	|	|
4+15	0.3787	1.50	|QV	|	|	|	|
4+20	0.3891	1.51	| Q	|	|	|	|
4+25	0.3995	1.52	| Q	|	|	|	|
4+30	0.4100	1.52	| Q	|	|	|	|
4+35	0.4206	1.53	| Q	|	|	|	|
4+40	0.4312	1.54	| Q	|	|	|	|
4+45	0.4418	1.55	| Q	|	|	|	|
4+50	0.4525	1.56	| Q	|	|	|	|
4+55	0.4633	1.56	| Q	|	|	|	|
5+ 0	0.4741	1.57	| Q	|	|	|	|
5+ 5	0.4850	1.58	| Q	|	|	|	|
5+10	0.4960	1.59	| Q	|	|	|	|
5+15	0.5070	1.60	| Q	|	|	|	|
5+20	0.5180	1.60	| Q	|	|	|	|
5+25	0.5291	1.61	| Q	|	|	|	|
5+30	0.5403	1.62	| QV	|	|	|	|
5+35	0.5515	1.63	| QV	|	|	|	|

5+40	0.5628	1.64	QV				
5+45	0.5742	1.65	QV				
5+50	0.5856	1.66	QV				
5+55	0.5970	1.66	QV				
6+ 0	0.6085	1.67	QV				
6+ 5	0.6201	1.68	QV				
6+10	0.6317	1.69	QV				
6+15	0.6434	1.69	QV				
6+20	0.6551	1.70	QV				
6+25	0.6669	1.71	QV				
6+30	0.6787	1.72	QV				
6+35	0.6906	1.73	QV				
6+40	0.7025	1.73	QV				
6+45	0.7145	1.74	Q V				
6+50	0.7266	1.75	Q V				
6+55	0.7387	1.76	Q V				
7+ 0	0.7509	1.77	Q V				
7+ 5	0.7631	1.78	Q V				
7+10	0.7754	1.79	Q V				
7+15	0.7878	1.80	Q V				
7+20	0.8002	1.80	Q V				
7+25	0.8127	1.81	Q V				
7+30	0.8253	1.82	Q V				
7+35	0.8379	1.83	Q V				
7+40	0.8506	1.84	Q V				
7+45	0.8634	1.85	Q V				
7+50	0.8762	1.86	Q V				
7+55	0.8891	1.87	Q V				
8+ 0	0.9021	1.88	Q V				
8+ 5	0.9151	1.89	Q V				
8+10	0.9282	1.90	Q V				
8+15	0.9414	1.92	Q V				
8+20	0.9547	1.93	Q V				
8+25	0.9680	1.94	Q V				
8+30	0.9814	1.95	Q V				
8+35	0.9949	1.96	Q V				
8+40	1.0085	1.97	Q V				
8+45	1.0222	1.98	Q V				
8+50	1.0359	2.00	Q V				
8+55	1.0498	2.01	Q V				
9+ 0	1.0637	2.02	Q V				
9+ 5	1.0777	2.03	Q V				
9+10	1.0918	2.05	Q V				
9+15	1.1059	2.06	Q V				
9+20	1.1202	2.07	Q V				
9+25	1.1346	2.09	Q V				
9+30	1.1490	2.10	Q V				
9+35	1.1636	2.11	Q V				
9+40	1.1783	2.13	Q V				
9+45	1.1930	2.14	Q V				

9+50	1.2079	2.16	Q V			
9+55	1.2228	2.17	Q V			
10+ 0	1.2379	2.19	Q V			
10+ 5	1.2531	2.20	Q V			
10+10	1.2684	2.22	Q V			
10+15	1.2838	2.24	Q V			
10+20	1.2993	2.25	Q V			
10+25	1.3149	2.27	Q V			
10+30	1.3307	2.29	Q V			
10+35	1.3466	2.31	Q V			
10+40	1.3626	2.32	Q V			
10+45	1.3787	2.34	Q V			
10+50	1.3949	2.36	Q V			
10+55	1.4113	2.38	Q V			
11+ 0	1.4279	2.40	Q V			
11+ 5	1.4445	2.42	Q V			
11+10	1.4613	2.44	Q V			
11+15	1.4783	2.46	Q V			
11+20	1.4954	2.48	Q V			
11+25	1.5127	2.51	Q V			
11+30	1.5301	2.53	Q V			
11+35	1.5477	2.55	Q V			
11+40	1.5654	2.58	Q V			
11+45	1.5833	2.60	Q V			
11+50	1.6014	2.63	Q V			
11+55	1.6197	2.65	Q V			
12+ 0	1.6381	2.68	Q V			
12+ 5	1.6568	2.71	Q V			
12+10	1.6756	2.73	Q V			
12+15	1.6946	2.76	Q V			
12+20	1.7138	2.79	Q V			
12+25	1.7333	2.82	Q V			
12+30	1.7529	2.85	Q V			
12+35	1.7727	2.88	Q V			
12+40	1.7928	2.91	Q V			
12+45	1.8130	2.94	Q V			
12+50	1.8336	2.98	Q V			
12+55	1.8543	3.01	Q V			
13+ 0	1.8753	3.05	Q V			
13+ 5	1.8966	3.09	Q V			
13+10	1.9182	3.13	Q V			
13+15	1.9400	3.17	Q V			
13+20	1.9622	3.22	Q V			
13+25	1.9847	3.26	Q V			
13+30	2.0075	3.31	Q V			
13+35	2.0306	3.36	Q V			
13+40	2.0541	3.41	Q V			
13+45	2.0780	3.47	Q V			
13+50	2.1023	3.52	Q V			
13+55	2.1269	3.58	Q V			



18+10	5.5604	6.39	Q			V
18+15	5.6025	6.11	Q			V
18+20	5.6430	5.88	Q			V
18+25	5.6826	5.74	Q			V
18+30	5.7210	5.58	Q			V
18+35	5.7579	5.36	Q			V
18+40	5.7928	5.07	Q			V
18+45	5.8268	4.94	Q			V
18+50	5.8600	4.82	Q			V
18+55	5.8922	4.68	Q			V
19+ 0	5.9228	4.44	Q			V
19+ 5	5.9525	4.31	Q			V
19+10	5.9816	4.23	Q			V
19+15	6.0101	4.15	Q			V
19+20	6.0380	4.05	Q			V
19+25	6.0653	3.96	Q			V
19+30	6.0921	3.89	Q			V
19+35	6.1183	3.81	Q			V
19+40	6.1437	3.68	Q			V
19+45	6.1680	3.53	Q			V
19+50	6.1919	3.46	Q			V
19+55	6.2152	3.40	Q			V
20+ 0	6.2381	3.32	Q			V
20+ 5	6.2603	3.22	Q			V
20+10	6.2820	3.15	Q			V
20+15	6.3033	3.10	Q			V
20+20	6.3243	3.04	Q			V
20+25	6.3445	2.94	Q			V
20+30	6.3643	2.87	Q			V
20+35	6.3838	2.82	Q			V
20+40	6.4028	2.77	Q			V
20+45	6.4214	2.70	Q			V
20+50	6.4395	2.62	Q			V
20+55	6.4572	2.58	Q			V
21+ 0	6.4747	2.54	Q			V
21+ 5	6.4919	2.50	Q			V
21+10	6.5089	2.47	Q			V
21+15	6.5257	2.43	Q			V
21+20	6.5422	2.40	Q			V
21+25	6.5585	2.37	Q			V
21+30	6.5745	2.33	Q			V
21+35	6.5903	2.29	Q			V
21+40	6.6058	2.25	Q			V
21+45	6.6209	2.20	Q			V
21+50	6.6353	2.08	Q			V
21+55	6.6487	1.95	Q			V
22+ 0	6.6619	1.91	Q			V
22+ 5	6.6748	1.88	Q			V
22+10	6.6876	1.86	Q			V
22+15	6.7002	1.83	Q			V

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22+20       6.7127      1.81  | Q       |         |         |      V  |
22+25       6.7250      1.79  | Q       |         |         |       V |
22+30       6.7372      1.77  | Q       |         |         |       V |
22+35       6.7492      1.75  | Q       |         |         |       V |
22+40       6.7611      1.73  | Q       |         |         |       V |
22+45       6.7729      1.71  | Q       |         |         |       V |
22+50       6.7845      1.69  | Q       |         |         |       V |
22+55       6.7961      1.68  | Q       |         |         |       V |
23+ 0       6.8075      1.66  | Q       |         |         |       V |
23+ 5       6.8188      1.64  | Q       |         |         |       V |
23+10       6.8301      1.63  | Q       |         |         |       V |
23+15       6.8412      1.61  | Q       |         |         |       V |
23+20       6.8522      1.60  | Q       |         |         |       V |
23+25       6.8631      1.59  | Q       |         |         |       V |
23+30       6.8740      1.57  | Q       |         |         |       V |
23+35       6.8847      1.56  | Q       |         |         |       V |
23+40       6.8953      1.55  | Q       |         |         |        V|
23+45       6.9059      1.53  | Q       |         |         |        V|
23+50       6.9164      1.52  | Q       |         |         |        V|
23+55       6.9268      1.51  | Q       |         |         |        V|
24+ 0       6.9371      1.50  |Q        |         |         |        V|
24+ 5       6.9472      1.47  |Q        |         |         |        V|
24+10       6.9571      1.43  |Q        |         |         |        V|
24+15       6.9666      1.38  |Q        |         |         |        V|
24+20       6.9755      1.30  |Q        |         |         |        V|
24+25       6.9839      1.22  |Q        |         |         |        V|
24+30       6.9916      1.11  |Q        |         |         |        V|
24+35       6.9984      0.99  |Q        |         |         |        V|
24+40       7.0044      0.88  |Q        |         |         |        V|
24+45       7.0097      0.76  |Q        |         |         |        V|
24+50       7.0143      0.67  Q         |         |         |        V|
24+55       7.0183      0.59  Q         |         |         |        V|
25+ 0       7.0220      0.53  Q         |         |         |        V|
25+ 5       7.0253      0.48  Q         |         |         |        V|
25+10       7.0283      0.44  Q         |         |         |        V|
25+15       7.0311      0.41  Q         |         |         |        V|
25+20       7.0337      0.38  Q         |         |         |        V|
25+25       7.0361      0.35  Q         |         |         |        V|
25+30       7.0384      0.33  Q         |         |         |        V|
25+35       7.0405      0.31  Q         |         |         |        V|
25+40       7.0425      0.29  Q         |         |         |        V|
25+45       7.0443      0.27  Q         |         |         |        V|
25+50       7.0460      0.25  Q         |         |         |        V|
25+55       7.0476      0.23  Q         |         |         |        V|
26+ 0       7.0492      0.22  Q         |         |         |        V|
26+ 5       7.0506      0.21  Q         |         |         |        V|
26+10       7.0519      0.19  Q         |         |         |        V|
26+15       7.0531      0.18  Q         |         |         |        V|
26+20       7.0543      0.17  Q         |         |         |        V|
26+25       7.0554      0.16  Q         |         |         |        V|
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26+30	7.0564	0.15	Q	|	|	|	V|
26+35	7.0574	0.14	Q	|	|	|	V|
26+40	7.0583	0.13	Q	|	|	|	V|
26+45	7.0592	0.12	Q	|	|	|	V|
26+50	7.0600	0.12	Q	|	|	|	V|
26+55	7.0607	0.11	Q	|	|	|	V|
27+ 0	7.0614	0.10	Q	|	|	|	V|
27+ 5	7.0621	0.10	Q	|	|	|	V|
27+10	7.0627	0.09	Q	|	|	|	V|
27+15	7.0633	0.09	Q	|	|	|	V|
27+20	7.0638	0.08	Q	|	|	|	V|
27+25	7.0644	0.07	Q	|	|	|	V|
27+30	7.0648	0.07	Q	|	|	|	V|
27+35	7.0653	0.06	Q	|	|	|	V|
27+40	7.0657	0.06	Q	|	|	|	V|
27+45	7.0661	0.06	Q	|	|	|	V|
27+50	7.0664	0.05	Q	|	|	|	V|
27+55	7.0668	0.05	Q	|	|	|	V|
28+ 0	7.0671	0.04	Q	|	|	|	V|
28+ 5	7.0674	0.04	Q	|	|	|	V|
28+10	7.0676	0.04	Q	|	|	|	V|
28+15	7.0679	0.04	Q	|	|	|	V|
28+20	7.0681	0.03	Q	|	|	|	V|
28+25	7.0683	0.03	Q	|	|	|	V|
28+30	7.0685	0.03	Q	|	|	|	V|
28+35	7.0687	0.02	Q	|	|	|	V|
28+40	7.0688	0.02	Q	|	|	|	V|
28+45	7.0690	0.02	Q	|	|	|	V|
28+50	7.0691	0.02	Q	|	|	|	V|
28+55	7.0692	0.02	Q	|	|	|	V|
29+ 0	7.0693	0.02	Q	|	|	|	V|
29+ 5	7.0694	0.01	Q	|	|	|	V|
29+10	7.0695	0.01	Q	|	|	|	V|
29+15	7.0696	0.01	Q	|	|	|	V|
29+20	7.0696	0.01	Q	|	|	|	V|
29+25	7.0697	0.01	Q	|	|	|	V|
29+30	7.0697	0.01	Q	|	|	|	V|
29+35	7.0697	0.00	Q	|	|	|	V|
29+40	7.0698	0.00	Q	|	|	|	V|
29+45	7.0698	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/18/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
UNIT HYDROGRAPH ANALYSIS, EX CULVERT 2
EXISTING CONDITION, 5-YEAR 24-HOUR
FN: UHEX02CUL5.OUT - ABE

Storm Event Year = 5

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
223.50	1	0.60
Rainfall data for year 2		
223.50	6	0.70
Rainfall data for year 2		
223.50	24	1.20
Rainfall data for year 100		

```
           223.50            1           1.00
------------------------------------------------------------------------
Rainfall data for year 100
           223.50            6           1.90
------------------------------------------------------------------------
Rainfall data for year 100
           223.50           24           3.40
------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

******** Area-averaged max loss rate, Fm ********


SCS curve  SCS curve     Area     Area     Fp(Fig C6)    Ap      Fm
No.(AMCII) NO.(AMC 2)    (Ac.)    Fraction     (In/Hr)  (dec.)   (In/Hr)
 86.0      86.0        223.50      1.000     0.265    0.640    0.170

Area-averaged adjusted loss rate Fm (In/Hr) =  0.170

********* Area-Averaged low loss rate fraction, Yb **********

Area       Area          SCS CN    SCS CN      S     Pervious
 (Ac.)      Fract         (AMC2)    (AMC2)           Yield Fr
   143.04   0.640         86.0      86.0       1.63     0.373
    80.46   0.360         98.0      98.0       0.20     0.870

Area-averaged catchment yield fraction, Y =  0.552
Area-averaged low loss fraction, Yb =  0.448
User entry of time of concentration  =   0.920 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =     223.50(Ac.)
Catchment Lag time =   0.736 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 11.3225
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.170(In/Hr)
Average low loss rate fraction (Yb) = 0.448 (decimal)
VALLEY UNDEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.177(In)
Computed peak 30-minute rainfall =  0.363(In)
Specified peak 1-hour rainfall =  0.480(In)
Computed peak 3-hour rainfall =  0.744(In)
Specified peak 6-hour rainfall =  0.981(In)
Specified peak 24-hour rainfall =  1.715(In)


Rainfall depth area reduction factors:
Using a total area of     223.50(Ac.) (Ref: fig. E-4)

5-minute factor = 0.990     Adjusted rainfall =  0.176(In)
```

30-minute factor = 0.990 Adjusted rainfall = 0.360(In)
1-hour factor = 0.990 Adjusted rainfall = 0.475(In)
3-hour factor = 0.999 Adjusted rainfall = 0.743(In)
6-hour factor = 0.999 Adjusted rainfall = 0.980(In)
24-hour factor = 1.000 Adjusted rainfall = 1.715(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 2702.95 (CFS))	
1	0.981	26.524
2	3.116	57.698
3	6.220	83.892
4	10.734	122.019
5	16.272	149.698
6	23.299	189.921
7	31.033	209.063
8	39.141	219.158
9	47.263	219.514
10	53.983	181.660
11	59.477	148.489
12	63.666	113.224
13	67.176	94.868
14	70.068	78.169
15	72.392	62.821
16	74.348	52.872
17	76.049	45.994
18	77.707	44.810
19	79.136	38.614
20	80.493	36.675
21	81.711	32.931
22	82.843	30.604
23	83.918	29.050
24	84.915	26.943
25	85.865	25.690
26	86.688	22.238
27	87.486	21.569
28	88.182	18.814
29	88.861	18.362
30	89.541	18.362
31	90.219	18.343
32	90.793	15.502
33	91.291	13.466
34	91.789	13.466
35	92.288	13.466
36	92.755	12.637

37	93.125	9.991
38	93.487	9.793
39	93.849	9.793
40	94.211	9.773
41	94.557	9.351
42	94.896	9.181
43	95.236	9.181
44	95.576	9.181
45	95.884	8.317
46	96.134	6.764
47	96.383	6.733
48	96.632	6.733
49	96.877	6.623
50	97.088	5.712
51	97.292	5.509
52	97.496	5.509
53	97.700	5.509
54	97.881	4.887
55	98.039	4.285
56	98.198	4.285
57	98.356	4.285
58	98.507	4.070
59	98.624	3.162
60	98.737	3.060
61	98.850	3.060
62	98.963	3.060
63	99.077	3.060
64	99.190	3.060
65	99.303	3.060
66	99.416	3.060
67	99.529	3.060
68	99.643	3.060
69	99.756	3.060
70	99.869	3.060
71	100.000	1.530

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.1756	0.1756
2	0.2318	0.0561
3	0.2726	0.0408
4	0.3058	0.0332
5	0.3344	0.0286
6	0.3597	0.0253
7	0.3825	0.0229
8	0.4035	0.0210
9	0.4230	0.0195
10	0.4412	0.0182
11	0.4583	0.0171
12	0.4746	0.0162

13	0.4903	0.0157
14	0.5054	0.0150
15	0.5198	0.0144
16	0.5336	0.0139
17	0.5470	0.0134
18	0.5599	0.0129
19	0.5724	0.0125
20	0.5845	0.0121
21	0.5962	0.0117
22	0.6076	0.0114
23	0.6188	0.0111
24	0.6296	0.0108
25	0.6402	0.0106
26	0.6505	0.0103
27	0.6606	0.0101
28	0.6704	0.0099
29	0.6801	0.0097
30	0.6896	0.0095
31	0.6989	0.0093
32	0.7080	0.0091
33	0.7169	0.0089
34	0.7257	0.0088
35	0.7343	0.0086
36	0.7428	0.0085
37	0.7510	0.0082
38	0.7591	0.0081
39	0.7670	0.0079
40	0.7748	0.0078
41	0.7825	0.0077
42	0.7901	0.0076
43	0.7976	0.0075
44	0.8049	0.0074
45	0.8122	0.0073
46	0.8194	0.0072
47	0.8265	0.0071
48	0.8335	0.0070
49	0.8404	0.0069
50	0.8472	0.0068
51	0.8540	0.0067
52	0.8606	0.0067
53	0.8672	0.0066
54	0.8737	0.0065
55	0.8802	0.0064
56	0.8865	0.0064
57	0.8928	0.0063
58	0.8991	0.0062
59	0.9053	0.0062
60	0.9114	0.0061
61	0.9174	0.0061
62	0.9234	0.0060

63	0.9293	0.0059
64	0.9352	0.0059
65	0.9410	0.0058
66	0.9468	0.0058
67	0.9525	0.0057
68	0.9582	0.0057
69	0.9638	0.0056
70	0.9694	0.0056
71	0.9749	0.0055
72	0.9804	0.0055
73	0.9859	0.0055
74	0.9913	0.0054
75	0.9967	0.0054
76	1.0020	0.0053
77	1.0073	0.0053
78	1.0125	0.0053
79	1.0178	0.0052
80	1.0229	0.0052
81	1.0281	0.0051
82	1.0332	0.0051
83	1.0382	0.0051
84	1.0433	0.0050
85	1.0483	0.0050
86	1.0532	0.0050
87	1.0581	0.0049
88	1.0630	0.0049
89	1.0679	0.0049
90	1.0727	0.0048
91	1.0775	0.0048
92	1.0823	0.0048
93	1.0870	0.0047
94	1.0917	0.0047
95	1.0964	0.0047
96	1.1010	0.0046
97	1.1056	0.0046
98	1.1102	0.0046
99	1.1147	0.0046
100	1.1193	0.0045
101	1.1238	0.0045
102	1.1282	0.0045
103	1.1327	0.0044
104	1.1371	0.0044
105	1.1415	0.0044
106	1.1459	0.0044
107	1.1502	0.0043
108	1.1546	0.0043
109	1.1589	0.0043
110	1.1631	0.0043
111	1.1674	0.0043
112	1.1716	0.0042

113	1.1758	0.0042
114	1.1800	0.0042
115	1.1842	0.0042
116	1.1883	0.0041
117	1.1924	0.0041
118	1.1965	0.0041
119	1.2006	0.0041
120	1.2047	0.0041
121	1.2087	0.0040
122	1.2127	0.0040
123	1.2167	0.0040
124	1.2207	0.0040
125	1.2247	0.0040
126	1.2286	0.0039
127	1.2325	0.0039
128	1.2364	0.0039
129	1.2403	0.0039
130	1.2442	0.0039
131	1.2481	0.0039
132	1.2519	0.0038
133	1.2557	0.0038
134	1.2595	0.0038
135	1.2633	0.0038
136	1.2671	0.0038
137	1.2708	0.0037
138	1.2745	0.0037
139	1.2783	0.0037
140	1.2820	0.0037
141	1.2856	0.0037
142	1.2893	0.0037
143	1.2930	0.0037
144	1.2966	0.0036
145	1.3002	0.0036
146	1.3038	0.0036
147	1.3074	0.0036
148	1.3110	0.0036
149	1.3146	0.0036
150	1.3181	0.0036
151	1.3217	0.0035
152	1.3252	0.0035
153	1.3287	0.0035
154	1.3322	0.0035
155	1.3357	0.0035
156	1.3391	0.0035
157	1.3426	0.0035
158	1.3460	0.0034
159	1.3495	0.0034
160	1.3529	0.0034
161	1.3563	0.0034
162	1.3597	0.0034

163	1.3631	0.0034
164	1.3664	0.0034
165	1.3698	0.0034
166	1.3731	0.0033
167	1.3765	0.0033
168	1.3798	0.0033
169	1.3831	0.0033
170	1.3864	0.0033
171	1.3897	0.0033
172	1.3929	0.0033
173	1.3962	0.0033
174	1.3994	0.0032
175	1.4027	0.0032
176	1.4059	0.0032
177	1.4091	0.0032
178	1.4123	0.0032
179	1.4155	0.0032
180	1.4187	0.0032
181	1.4219	0.0032
182	1.4250	0.0032
183	1.4282	0.0032
184	1.4313	0.0031
185	1.4345	0.0031
186	1.4376	0.0031
187	1.4407	0.0031
188	1.4438	0.0031
189	1.4469	0.0031
190	1.4500	0.0031
191	1.4531	0.0031
192	1.4561	0.0031
193	1.4592	0.0031
194	1.4622	0.0030
195	1.4653	0.0030
196	1.4683	0.0030
197	1.4713	0.0030
198	1.4743	0.0030
199	1.4773	0.0030
200	1.4803	0.0030
201	1.4833	0.0030
202	1.4862	0.0030
203	1.4892	0.0030
204	1.4922	0.0030
205	1.4951	0.0029
206	1.4980	0.0029
207	1.5010	0.0029
208	1.5039	0.0029
209	1.5068	0.0029
210	1.5097	0.0029
211	1.5126	0.0029
212	1.5155	0.0029

213	1.5184	0.0029
214	1.5212	0.0029
215	1.5241	0.0029
216	1.5270	0.0029
217	1.5298	0.0028
218	1.5326	0.0028
219	1.5355	0.0028
220	1.5383	0.0028
221	1.5411	0.0028
222	1.5439	0.0028
223	1.5467	0.0028
224	1.5495	0.0028
225	1.5523	0.0028
226	1.5551	0.0028
227	1.5579	0.0028
228	1.5606	0.0028
229	1.5634	0.0028
230	1.5661	0.0027
231	1.5689	0.0027
232	1.5716	0.0027
233	1.5743	0.0027
234	1.5771	0.0027
235	1.5798	0.0027
236	1.5825	0.0027
237	1.5852	0.0027
238	1.5879	0.0027
239	1.5906	0.0027
240	1.5932	0.0027
241	1.5959	0.0027
242	1.5986	0.0027
243	1.6012	0.0027
244	1.6039	0.0027
245	1.6065	0.0026
246	1.6092	0.0026
247	1.6118	0.0026
248	1.6145	0.0026
249	1.6171	0.0026
250	1.6197	0.0026
251	1.6223	0.0026
252	1.6249	0.0026
253	1.6275	0.0026
254	1.6301	0.0026
255	1.6327	0.0026
256	1.6353	0.0026
257	1.6378	0.0026
258	1.6404	0.0026
259	1.6430	0.0026
260	1.6455	0.0026
261	1.6481	0.0025
262	1.6506	0.0025

263	1.6531	0.0025
264	1.6557	0.0025
265	1.6582	0.0025
266	1.6607	0.0025
267	1.6632	0.0025
268	1.6658	0.0025
269	1.6683	0.0025
270	1.6708	0.0025
271	1.6732	0.0025
272	1.6757	0.0025
273	1.6782	0.0025
274	1.6807	0.0025
275	1.6832	0.0025
276	1.6856	0.0025
277	1.6881	0.0025
278	1.6905	0.0025
279	1.6930	0.0024
280	1.6954	0.0024
281	1.6979	0.0024
282	1.7003	0.0024
283	1.7027	0.0024
284	1.7052	0.0024
285	1.7076	0.0024
286	1.7100	0.0024
287	1.7124	0.0024
288	1.7148	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0011	0.0013
2	0.0024	0.0011	0.0013
3	0.0024	0.0011	0.0013
4	0.0024	0.0011	0.0013
5	0.0024	0.0011	0.0013
6	0.0024	0.0011	0.0013
7	0.0024	0.0011	0.0014
8	0.0025	0.0011	0.0014
9	0.0025	0.0011	0.0014
10	0.0025	0.0011	0.0014
11	0.0025	0.0011	0.0014
12	0.0025	0.0011	0.0014
13	0.0025	0.0011	0.0014
14	0.0025	0.0011	0.0014
15	0.0025	0.0011	0.0014
16	0.0025	0.0011	0.0014
17	0.0025	0.0011	0.0014
18	0.0025	0.0011	0.0014
19	0.0025	0.0011	0.0014

20	0.0026	0.0011	0.0014
21	0.0026	0.0012	0.0014
22	0.0026	0.0012	0.0014
23	0.0026	0.0012	0.0014
24	0.0026	0.0012	0.0014
25	0.0026	0.0012	0.0014
26	0.0026	0.0012	0.0014
27	0.0026	0.0012	0.0014
28	0.0026	0.0012	0.0015
29	0.0026	0.0012	0.0015
30	0.0026	0.0012	0.0015
31	0.0027	0.0012	0.0015
32	0.0027	0.0012	0.0015
33	0.0027	0.0012	0.0015
34	0.0027	0.0012	0.0015
35	0.0027	0.0012	0.0015
36	0.0027	0.0012	0.0015
37	0.0027	0.0012	0.0015
38	0.0027	0.0012	0.0015
39	0.0027	0.0012	0.0015
40	0.0027	0.0012	0.0015
41	0.0028	0.0012	0.0015
42	0.0028	0.0012	0.0015
43	0.0028	0.0012	0.0015
44	0.0028	0.0013	0.0015
45	0.0028	0.0013	0.0016
46	0.0028	0.0013	0.0016
47	0.0028	0.0013	0.0016
48	0.0028	0.0013	0.0016
49	0.0029	0.0013	0.0016
50	0.0029	0.0013	0.0016
51	0.0029	0.0013	0.0016
52	0.0029	0.0013	0.0016
53	0.0029	0.0013	0.0016
54	0.0029	0.0013	0.0016
55	0.0029	0.0013	0.0016
56	0.0029	0.0013	0.0016
57	0.0030	0.0013	0.0016
58	0.0030	0.0013	0.0016
59	0.0030	0.0013	0.0016
60	0.0030	0.0013	0.0017
61	0.0030	0.0013	0.0017
62	0.0030	0.0014	0.0017
63	0.0030	0.0014	0.0017
64	0.0030	0.0014	0.0017
65	0.0031	0.0014	0.0017
66	0.0031	0.0014	0.0017
67	0.0031	0.0014	0.0017
68	0.0031	0.0014	0.0017
69	0.0031	0.0014	0.0017

70	0.0031	0.0014	0.0017
71	0.0032	0.0014	0.0017
72	0.0032	0.0014	0.0017
73	0.0032	0.0014	0.0018
74	0.0032	0.0014	0.0018
75	0.0032	0.0014	0.0018
76	0.0032	0.0014	0.0018
77	0.0032	0.0015	0.0018
78	0.0033	0.0015	0.0018
79	0.0033	0.0015	0.0018
80	0.0033	0.0015	0.0018
81	0.0033	0.0015	0.0018
82	0.0033	0.0015	0.0018
83	0.0034	0.0015	0.0019
84	0.0034	0.0015	0.0019
85	0.0034	0.0015	0.0019
86	0.0034	0.0015	0.0019
87	0.0034	0.0015	0.0019
88	0.0034	0.0015	0.0019
89	0.0035	0.0016	0.0019
90	0.0035	0.0016	0.0019
91	0.0035	0.0016	0.0019
92	0.0035	0.0016	0.0019
93	0.0036	0.0016	0.0020
94	0.0036	0.0016	0.0020
95	0.0036	0.0016	0.0020
96	0.0036	0.0016	0.0020
97	0.0036	0.0016	0.0020
98	0.0037	0.0016	0.0020
99	0.0037	0.0017	0.0020
100	0.0037	0.0017	0.0020
101	0.0037	0.0017	0.0021
102	0.0037	0.0017	0.0021
103	0.0038	0.0017	0.0021
104	0.0038	0.0017	0.0021
105	0.0038	0.0017	0.0021
106	0.0039	0.0017	0.0021
107	0.0039	0.0017	0.0021
108	0.0039	0.0017	0.0022
109	0.0039	0.0018	0.0022
110	0.0040	0.0018	0.0022
111	0.0040	0.0018	0.0022
112	0.0040	0.0018	0.0022
113	0.0041	0.0018	0.0022
114	0.0041	0.0018	0.0023
115	0.0041	0.0018	0.0023
116	0.0041	0.0019	0.0023
117	0.0042	0.0019	0.0023
118	0.0042	0.0019	0.0023
119	0.0043	0.0019	0.0023

120	0.0043	0.0019	0.0024
121	0.0043	0.0019	0.0024
122	0.0043	0.0019	0.0024
123	0.0044	0.0020	0.0024
124	0.0044	0.0020	0.0024
125	0.0045	0.0020	0.0025
126	0.0045	0.0020	0.0025
127	0.0046	0.0020	0.0025
128	0.0046	0.0021	0.0025
129	0.0046	0.0021	0.0026
130	0.0047	0.0021	0.0026
131	0.0047	0.0021	0.0026
132	0.0048	0.0021	0.0026
133	0.0048	0.0022	0.0027
134	0.0049	0.0022	0.0027
135	0.0049	0.0022	0.0027
136	0.0050	0.0022	0.0027
137	0.0050	0.0023	0.0028
138	0.0051	0.0023	0.0028
139	0.0051	0.0023	0.0028
140	0.0052	0.0023	0.0029
141	0.0053	0.0024	0.0029
142	0.0053	0.0024	0.0029
143	0.0054	0.0024	0.0030
144	0.0054	0.0024	0.0030
145	0.0055	0.0025	0.0030
146	0.0055	0.0025	0.0030
147	0.0056	0.0025	0.0031
148	0.0057	0.0025	0.0031
149	0.0058	0.0026	0.0032
150	0.0058	0.0026	0.0032
151	0.0059	0.0027	0.0033
152	0.0060	0.0027	0.0033
153	0.0061	0.0027	0.0034
154	0.0062	0.0028	0.0034
155	0.0063	0.0028	0.0035
156	0.0064	0.0029	0.0035
157	0.0065	0.0029	0.0036
158	0.0066	0.0030	0.0036
159	0.0067	0.0030	0.0037
160	0.0068	0.0031	0.0038
161	0.0070	0.0031	0.0039
162	0.0071	0.0032	0.0039
163	0.0073	0.0033	0.0040
164	0.0074	0.0033	0.0041
165	0.0076	0.0034	0.0042
166	0.0077	0.0034	0.0042
167	0.0079	0.0036	0.0044
168	0.0081	0.0036	0.0045
169	0.0085	0.0038	0.0047

170	0.0086	0.0039	0.0048
171	0.0089	0.0040	0.0049
172	0.0091	0.0041	0.0050
173	0.0095	0.0042	0.0052
174	0.0097	0.0043	0.0053
175	0.0101	0.0045	0.0056
176	0.0103	0.0046	0.0057
177	0.0108	0.0049	0.0060
178	0.0111	0.0050	0.0061
179	0.0117	0.0053	0.0065
180	0.0121	0.0054	0.0067
181	0.0129	0.0058	0.0071
182	0.0134	0.0060	0.0074
183	0.0144	0.0065	0.0080
184	0.0150	0.0067	0.0083
185	0.0162	0.0073	0.0090
186	0.0171	0.0077	0.0095
187	0.0195	0.0087	0.0107
188	0.0210	0.0094	0.0116
189	0.0253	0.0113	0.0140
190	0.0286	0.0128	0.0158
191	0.0408	0.0141	0.0267
192	0.0561	0.0141	0.0420
193	0.1756	0.0141	0.1615
194	0.0332	0.0141	0.0191
195	0.0229	0.0102	0.0126
196	0.0182	0.0082	0.0101
197	0.0157	0.0071	0.0087
198	0.0139	0.0062	0.0077
199	0.0125	0.0056	0.0069
200	0.0114	0.0051	0.0063
201	0.0106	0.0047	0.0058
202	0.0099	0.0044	0.0054
203	0.0093	0.0042	0.0051
204	0.0088	0.0039	0.0048
205	0.0082	0.0037	0.0045
206	0.0078	0.0035	0.0043
207	0.0075	0.0033	0.0041
208	0.0072	0.0032	0.0040
209	0.0069	0.0031	0.0038
210	0.0067	0.0030	0.0037
211	0.0064	0.0029	0.0036
212	0.0062	0.0028	0.0034
213	0.0061	0.0027	0.0033
214	0.0059	0.0026	0.0032
215	0.0057	0.0026	0.0032
216	0.0056	0.0025	0.0031
217	0.0055	0.0024	0.0030
218	0.0053	0.0024	0.0029
219	0.0052	0.0023	0.0029

220	0.0051	0.0023	0.0028
221	0.0050	0.0022	0.0028
222	0.0049	0.0022	0.0027
223	0.0048	0.0021	0.0026
224	0.0047	0.0021	0.0026
225	0.0046	0.0021	0.0025
226	0.0045	0.0020	0.0025
227	0.0044	0.0020	0.0025
228	0.0044	0.0020	0.0024
229	0.0043	0.0019	0.0024
230	0.0042	0.0019	0.0023
231	0.0042	0.0019	0.0023
232	0.0041	0.0018	0.0023
233	0.0040	0.0018	0.0022
234	0.0040	0.0018	0.0022
235	0.0039	0.0018	0.0022
236	0.0039	0.0017	0.0021
237	0.0038	0.0017	0.0021
238	0.0038	0.0017	0.0021
239	0.0037	0.0017	0.0021
240	0.0037	0.0016	0.0020
241	0.0036	0.0016	0.0020
242	0.0036	0.0016	0.0020
243	0.0035	0.0016	0.0020
244	0.0035	0.0016	0.0019
245	0.0035	0.0015	0.0019
246	0.0034	0.0015	0.0019
247	0.0034	0.0015	0.0019
248	0.0033	0.0015	0.0018
249	0.0033	0.0015	0.0018
250	0.0033	0.0015	0.0018
251	0.0032	0.0015	0.0018
252	0.0032	0.0014	0.0018
253	0.0032	0.0014	0.0018
254	0.0031	0.0014	0.0017
255	0.0031	0.0014	0.0017
256	0.0031	0.0014	0.0017
257	0.0031	0.0014	0.0017
258	0.0030	0.0014	0.0017
259	0.0030	0.0013	0.0017
260	0.0030	0.0013	0.0016
261	0.0029	0.0013	0.0016
262	0.0029	0.0013	0.0016
263	0.0029	0.0013	0.0016
264	0.0029	0.0013	0.0016
265	0.0028	0.0013	0.0016
266	0.0028	0.0013	0.0016
267	0.0028	0.0013	0.0015
268	0.0028	0.0012	0.0015
269	0.0028	0.0012	0.0015

270	0.0027	0.0012	0.0015
271	0.0027	0.0012	0.0015
272	0.0027	0.0012	0.0015
273	0.0027	0.0012	0.0015
274	0.0027	0.0012	0.0015
275	0.0026	0.0012	0.0015
276	0.0026	0.0012	0.0014
277	0.0026	0.0012	0.0014
278	0.0026	0.0012	0.0014
279	0.0026	0.0011	0.0014
280	0.0025	0.0011	0.0014
281	0.0025	0.0011	0.0014
282	0.0025	0.0011	0.0014
283	0.0025	0.0011	0.0014
284	0.0025	0.0011	0.0014
285	0.0025	0.0011	0.0014
286	0.0024	0.0011	0.0013
287	0.0024	0.0011	0.0013
288	0.0024	0.0011	0.0013

Total soil rain loss = 0.69(In)
Total effective rainfall = 1.03(In)
Peak flow rate in flood hydrograph = 70.30(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

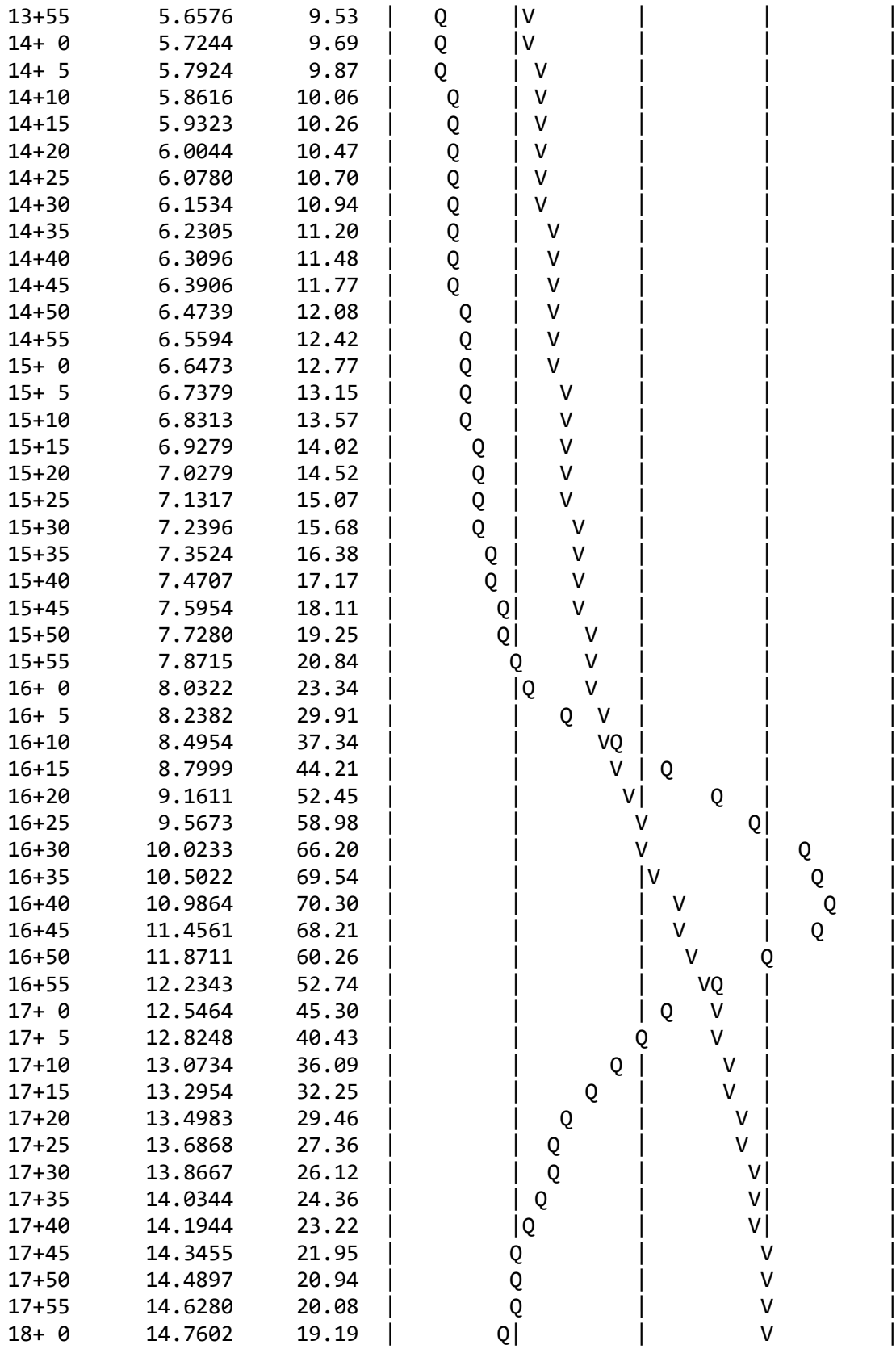
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	20.0	40.0	60.0	80.0
0+ 5	0.0002	0.04	Q	|	|	|	|
0+10	0.0010	0.11	Q	|	|	|	|
0+15	0.0026	0.22	Q	|	|	|	|
0+20	0.0052	0.39	Q	|	|	|	|
0+25	0.0092	0.59	Q	|	|	|	|
0+30	0.0150	0.84	Q	|	|	|	|
0+35	0.0227	1.12	Q	|	|	|	|
0+40	0.0325	1.41	Q	|	|	|	|
0+45	0.0442	1.71	Q	|	|	|	|
0+50	0.0577	1.96	Q	|	|	|	|
0+55	0.0726	2.16	VQ	|	|	|	|
1+ 0	0.0885	2.32	VQ	|	|	|	|
1+ 5	0.1054	2.45	VQ	|	|	|	|
1+10	0.1230	2.56	VQ	|	|	|	|
1+15	0.1413	2.65	VQ	|	|	|	|
1+20	0.1601	2.73	VQ	|	|	|	|

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1+25      0.1794     2.80  VQ       |          |          |          |
1+30      0.1992     2.87  VQ       |          |          |          |
1+35      0.2193     2.93  VQ       |          |          |          |
1+40      0.2399     2.99  VQ       |          |          |          |
1+45      0.2609     3.04  VQ       |          |          |          |
1+50      0.2822     3.09  VQ       |          |          |          |
1+55      0.3038     3.14  VQ       |          |          |          |
2+ 0      0.3258     3.19  VQ       |          |          |          |
2+ 5      0.3480     3.23  VQ       |          |          |          |
2+10      0.3706     3.27  VQ       |          |          |          |
2+15      0.3934     3.31  VQ       |          |          |          |
2+20      0.4165     3.35  VQ       |          |          |          |
2+25      0.4398     3.39  VQ       |          |          |          |
2+30      0.4633     3.42  VQ       |          |          |          |
2+35      0.4872     3.46  |Q       |          |          |          |
2+40      0.5112     3.49  |Q       |          |          |          |
2+45      0.5354     3.52  |Q       |          |          |          |
2+50      0.5599     3.55  |Q       |          |          |          |
2+55      0.5846     3.58  |Q       |          |          |          |
3+ 0      0.6094     3.61  |Q       |          |          |          |
3+ 5      0.6345     3.64  |Q       |          |          |          |
3+10      0.6597     3.66  |Q       |          |          |          |
3+15      0.6851     3.69  |Q       |          |          |          |
3+20      0.7107     3.72  |Q       |          |          |          |
3+25      0.7365     3.74  |Q       |          |          |          |
3+30      0.7624     3.77  |Q       |          |          |          |
3+35      0.7886     3.79  |Q       |          |          |          |
3+40      0.8149     3.82  |Q       |          |          |          |
3+45      0.8413     3.85  |Q       |          |          |          |
3+50      0.8680     3.87  |Q       |          |          |          |
3+55      0.8948     3.89  |Q       |          |          |          |
4+ 0      0.9218     3.92  |Q       |          |          |          |
4+ 5      0.9489     3.94  |Q       |          |          |          |
4+10      0.9762     3.96  |QV      |          |          |          |
4+15      1.0037     3.99  |QV      |          |          |          |
4+20      1.0313     4.01  | Q      |          |          |          |
4+25      1.0591     4.03  | Q      |          |          |          |
4+30      1.0870     4.05  | Q      |          |          |          |
4+35      1.1151     4.08  | Q      |          |          |          |
4+40      1.1433     4.10  | Q      |          |          |          |
4+45      1.1717     4.12  | Q      |          |          |          |
4+50      1.2002     4.14  | Q      |          |          |          |
4+55      1.2289     4.16  | Q      |          |          |          |
5+ 0      1.2577     4.19  | Q      |          |          |          |
5+ 5      1.2867     4.21  | Q      |          |          |          |
5+10      1.3158     4.23  | Q      |          |          |          |
5+15      1.3451     4.25  | Q      |          |          |          |
5+20      1.3745     4.27  | Q      |          |          |          |
5+25      1.4041     4.30  | Q      |          |          |          |
5+30      1.4338     4.32  | QV     |          |          |          |
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5+35	1.4637	4.34	QV				
5+40	1.4938	4.36	QV				
5+45	1.5240	4.39	QV				
5+50	1.5544	4.41	QV				
5+55	1.5849	4.43	QV				
6+ 0	1.6155	4.45	QV				
6+ 5	1.6463	4.47	QV				
6+10	1.6773	4.49	QV				
6+15	1.7084	4.51	QV				
6+20	1.7396	4.53	QV				
6+25	1.7710	4.56	QV				
6+30	1.8025	4.58	QV				
6+35	1.8341	4.60	QV				
6+40	1.8660	4.62	QV				
6+45	1.8979	4.64	QV				
6+50	1.9301	4.67	Q V				
6+55	1.9624	4.69	Q V				
7+ 0	1.9948	4.71	Q V				
7+ 5	2.0274	4.73	Q V				
7+10	2.0602	4.76	Q V				
7+15	2.0931	4.78	Q V				
7+20	2.1262	4.81	Q V				
7+25	2.1595	4.83	Q V				
7+30	2.1930	4.86	Q V				
7+35	2.2266	4.88	Q V				
7+40	2.2604	4.91	Q V				
7+45	2.2944	4.93	Q V				
7+50	2.3285	4.96	Q V				
7+55	2.3629	4.99	Q V				
8+ 0	2.3974	5.02	Q V				
8+ 5	2.4322	5.04	Q V				
8+10	2.4671	5.07	Q V				
8+15	2.5022	5.10	Q V				
8+20	2.5376	5.13	Q V				
8+25	2.5731	5.16	Q V				
8+30	2.6088	5.19	Q V				
8+35	2.6448	5.22	Q V				
8+40	2.6809	5.25	Q V				
8+45	2.7173	5.28	Q V				
8+50	2.7539	5.31	Q V				
8+55	2.7907	5.35	Q V				
9+ 0	2.8278	5.38	Q V				
9+ 5	2.8651	5.41	Q V				
9+10	2.9026	5.45	Q V				
9+15	2.9404	5.48	Q V				
9+20	2.9784	5.52	Q V				
9+25	3.0166	5.55	Q V				
9+30	3.0551	5.59	Q V				
9+35	3.0939	5.63	Q V				
9+40	3.1329	5.67	Q V				

9+45	3.1722	5.71	Q V			
9+50	3.2118	5.74	Q V			
9+55	3.2516	5.78	Q V			
10+ 0	3.2917	5.83	Q V			
10+ 5	3.3321	5.87	Q V			
10+10	3.3728	5.91	Q V			
10+15	3.4138	5.95	Q V			
10+20	3.4552	6.00	Q V			
10+25	3.4968	6.04	Q V			
10+30	3.5387	6.09	Q V			
10+35	3.5810	6.14	Q V			
10+40	3.6236	6.18	Q V			
10+45	3.6665	6.23	Q V			
10+50	3.7098	6.28	Q V			
10+55	3.7534	6.34	Q V			
11+ 0	3.7974	6.39	Q V			
11+ 5	3.8418	6.44	Q V			
11+10	3.8865	6.50	Q V			
11+15	3.9317	6.55	Q V			
11+20	3.9772	6.61	Q V			
11+25	4.0231	6.67	Q V			
11+30	4.0695	6.73	Q V			
11+35	4.1163	6.79	Q V			
11+40	4.1635	6.86	Q V			
11+45	4.2112	6.92	Q V			
11+50	4.2593	6.99	Q V			
11+55	4.3079	7.06	Q V			
12+ 0	4.3570	7.13	Q V			
12+ 5	4.4066	7.20	Q V			
12+10	4.4567	7.27	Q V			
12+15	4.5073	7.35	Q V			
12+20	4.5584	7.42	Q V			
12+25	4.6101	7.50	Q V			
12+30	4.6623	7.58	Q V			
12+35	4.7151	7.66	Q V			
12+40	4.7685	7.75	Q V			
12+45	4.8224	7.84	Q V			
12+50	4.8770	7.93	Q V			
12+55	4.9323	8.02	Q V			
13+ 0	4.9882	8.12	Q V			
13+ 5	5.0449	8.23	Q V			
13+10	5.1023	8.33	Q V			
13+15	5.1604	8.44	Q V			
13+20	5.2194	8.56	Q V			
13+25	5.2792	8.68	Q V			
13+30	5.3398	8.81	Q V			
13+35	5.4014	8.94	Q V			
13+40	5.4639	9.08	Q V			
13+45	5.5275	9.22	Q V			
13+50	5.5920	9.37	Q V			



18+ 5	14.8871	18.43	| Q|	|	|	|V |
18+10	15.0071	17.43	| Q |	|	|	|V |
18+15	15.1230	16.83	| Q |	|	|	|V |
18+20	15.2334	16.02	| Q |	|	|	|V |
18+25	15.3407	15.58	| Q |	|	|	| V |
18+30	15.4454	15.20	| Q |	|	|	| V |
18+35	15.5472	14.78	| Q |	|	|	| V |
18+40	15.6436	14.00	| Q |	|	|	| V |
18+45	15.7359	13.40	| Q |	|	|	| V |
18+50	15.8261	13.09	| Q |	|	|	| V |
18+55	15.9141	12.78	| Q |	|	|	| V |
19+ 0	15.9990	12.34	| Q |	|	|	| V |
19+ 5	16.0796	11.70	| Q |	|	|	| V |
19+10	16.1584	11.44	| Q |	|	|	| V |
19+15	16.2356	11.22	| Q |	|	|	| V |
19+20	16.3114	11.00	| Q |	|	|	| V |
19+25	16.3854	10.74	| Q |	|	|	| V |
19+30	16.4579	10.53	| Q |	|	|	| V |
19+35	16.5290	10.33	| Q |	|	|	| V |
19+40	16.5987	10.12	| Q |	|	|	| V |
19+45	16.6660	9.78	| Q |	|	|	| V |
19+50	16.7306	9.37	| Q |	|	|	| V |
19+55	16.7939	9.20	| Q |	|	|	| V |
20+ 0	16.8561	9.03	| Q |	|	|	| V |
20+ 5	16.9170	8.84	| Q |	|	|	| V |
20+10	16.9759	8.55	| Q |	|	|	| V |
20+15	17.0336	8.38	| Q |	|	|	| V |
20+20	17.0903	8.23	| Q |	|	|	| V |
20+25	17.1459	8.08	| Q |	|	|	| V |
20+30	17.2000	7.85	| Q |	|	|	| V |
20+35	17.2525	7.63	| Q |	|	|	| V |
20+40	17.3042	7.50	| Q |	|	|	| V |
20+45	17.3550	7.37	| Q |	|	|	| V |
20+50	17.4046	7.20	| Q |	|	|	| V |
20+55	17.4525	6.96	| Q |	|	|	| V |
21+ 0	17.4996	6.84	| Q |	|	|	| V |
21+ 5	17.5460	6.74	| Q |	|	|	| V |
21+10	17.5918	6.64	| Q |	|	|	| V |
21+15	17.6369	6.55	| Q |	|	|	| V |
21+20	17.6814	6.46	| Q |	|	|	| V |
21+25	17.7253	6.37	| Q |	|	|	| V |
21+30	17.7686	6.28	| Q |	|	|	| V |
21+35	17.8112	6.19	| Q |	|	|	| V |
21+40	17.8531	6.09	| Q |	|	|	| V |
21+45	17.8943	5.98	| Q |	|	|	| V |
21+50	17.9344	5.83	| Q |	|	|	| V |
21+55	17.9721	5.47	| Q |	|	|	| V |
22+ 0	18.0075	5.15	| Q |	|	|	| V |
22+ 5	18.0424	5.06	| Q |	|	|	| V |
22+10	18.0767	4.98	| Q |	|	|	| V |

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22+15      18.1105      4.91  | Q       |         |         |      V  |
22+20      18.1439      4.85  | Q       |         |         |      V  |
22+25      18.1769      4.79  | Q       |         |         |       V |
22+30      18.2095      4.73  | Q       |         |         |       V |
22+35      18.2417      4.68  | Q       |         |         |       V |
22+40      18.2736      4.63  | Q       |         |         |       V |
22+45      18.3052      4.58  | Q       |         |         |       V |
22+50      18.3364      4.53  | Q       |         |         |       V |
22+55      18.3673      4.49  | Q       |         |         |       V |
23+ 0      18.3979      4.44  | Q       |         |         |       V |
23+ 5      18.4282      4.40  | Q       |         |         |       V |
23+10      18.4582      4.36  | Q       |         |         |       V |
23+15      18.4879      4.32  | Q       |         |         |       V |
23+20      18.5174      4.28  | Q       |         |         |       V |
23+25      18.5466      4.24  | Q       |         |         |       V |
23+30      18.5756      4.20  | Q       |         |         |       V |
23+35      18.6043      4.17  | Q       |         |         |       V |
23+40      18.6328      4.13  | Q       |         |         |        V|
23+45      18.6610      4.10  | Q       |         |         |        V|
23+50      18.6890      4.07  | Q       |         |         |        V|
23+55      18.7168      4.03  | Q       |         |         |        V|
24+ 0      18.7444      4.00  | Q       |         |         |        V|
24+ 5      18.7715      3.94  |Q        |         |         |        V|
24+10      18.7978      3.83  |Q        |         |         |        V|
24+15      18.8233      3.69  |Q        |         |         |        V|
24+20      18.8474      3.50  |Q        |         |         |        V|
24+25      18.8699      3.28  |Q        |         |         |        V|
24+30      18.8906      3.00  |Q        |         |         |        V|
24+35      18.9092      2.70  |Q        |         |         |        V|
24+40      18.9257      2.39  |Q        |         |         |        V|
24+45      18.9400      2.08  |Q        |         |         |        V|
24+50      18.9526      1.83  Q         |         |         |        V|
24+55      18.9637      1.62  Q         |         |         |        V|
25+ 0      18.9737      1.45  Q         |         |         |        V|
25+ 5      18.9828      1.32  Q         |         |         |        V|
25+10      18.9911      1.20  Q         |         |         |        V|
25+15      18.9987      1.11  Q         |         |         |        V|
25+20      19.0058      1.03  Q         |         |         |        V|
25+25      19.0124      0.96  Q         |         |         |        V|
25+30      19.0186      0.90  Q         |         |         |        V|
25+35      19.0244      0.84  Q         |         |         |        V|
25+40      19.0298      0.78  Q         |         |         |        V|
25+45      19.0348      0.73  Q         |         |         |        V|
25+50      19.0396      0.69  Q         |         |         |        V|
25+55      19.0440      0.64  Q         |         |         |        V|
26+ 0      19.0481      0.60  Q         |         |         |        V|
26+ 5      19.0520      0.56  Q         |         |         |        V|
26+10      19.0557      0.53  Q         |         |         |        V|
26+15      19.0591      0.50  Q         |         |         |        V|
26+20      19.0623      0.47  Q         |         |         |        V|
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  26+25      19.0654      0.44  Q          |          |          |         V|
  26+30      19.0682      0.41  Q          |          |          |         V|
  26+35      19.0709      0.39  Q          |          |          |         V|
  26+40      19.0734      0.36  Q          |          |          |         V|
  26+45      19.0757      0.34  Q          |          |          |         V|
  26+50      19.0779      0.32  Q          |          |          |         V|
  26+55      19.0800      0.30  Q          |          |          |         V|
  27+ 0      19.0820      0.28  Q          |          |          |         V|
  27+ 5      19.0838      0.27  Q          |          |          |         V|
  27+10      19.0856      0.25  Q          |          |          |         V|
  27+15      19.0872      0.24  Q          |          |          |         V|
  27+20      19.0887      0.22  Q          |          |          |         V|
  27+25      19.0902      0.21  Q          |          |          |         V|
  27+30      19.0915      0.20  Q          |          |          |         V|
  27+35      19.0928      0.18  Q          |          |          |         V|
  27+40      19.0939      0.17  Q          |          |          |         V|
  27+45      19.0950      0.16  Q          |          |          |         V|
  27+50      19.0960      0.15  Q          |          |          |         V|
  27+55      19.0969      0.14  Q          |          |          |         V|
  28+ 0      19.0978      0.13  Q          |          |          |         V|
  28+ 5      19.0986      0.12  Q          |          |          |         V|
  28+10      19.0994      0.11  Q          |          |          |         V|
  28+15      19.1001      0.10  Q          |          |          |         V|
  28+20      19.1007      0.09  Q          |          |          |         V|
  28+25      19.1013      0.08  Q          |          |          |         V|
  28+30      19.1018      0.08  Q          |          |          |         V|
  28+35      19.1023      0.07  Q          |          |          |         V|
  28+40      19.1027      0.06  Q          |          |          |         V|
  28+45      19.1031      0.06  Q          |          |          |         V|
  28+50      19.1035      0.05  Q          |          |          |         V|
  28+55      19.1038      0.05  Q          |          |          |         V|
  29+ 0      19.1041      0.04  Q          |          |          |         V|
  29+ 5      19.1044      0.04  Q          |          |          |         V|
  29+10      19.1047      0.04  Q          |          |          |         V|
  29+15      19.1049      0.03  Q          |          |          |         V|
  29+20      19.1051      0.03  Q          |          |          |         V|
  29+25      19.1052      0.02  Q          |          |          |         V|
  29+30      19.1054      0.02  Q          |          |          |         V|
  29+35      19.1055      0.01  Q          |          |          |         V|
  29+40      19.1055      0.01  Q          |          |          |         V|
  29+45      19.1056      0.01  Q          |          |          |         V|
  29+50      19.1056      0.00  Q          |          |          |          V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/18/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
UNIT HYDROGRAPH ANALYSIS, EX CULVERT 3
EXISTING CONDITION, 5-YEAR 24-HOUR
FN: UHEX03CUL5.OUT - ABE

Storm Event Year = 5

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
40.00	1	0.60
Rainfall data for year 2		
40.00	6	0.70
Rainfall data for year 2		
40.00	24	1.20
Rainfall data for year 100		

```
            40.00            1           1.00
------------------------------------------------------------------------
Rainfall data for year 100
            40.00            6           1.90
------------------------------------------------------------------------
Rainfall data for year 100
            40.00           24           3.40
------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

******** Area-averaged max loss rate, Fm ********


SCS curve  SCS curve     Area     Area     Fp(Fig C6)    Ap      Fm
No.(AMCII) NO.(AMC 2)    (Ac.)    Fraction     (In/Hr)  (dec.)   (In/Hr)
 86.0      86.0         40.00      1.000     0.265    1.000    0.265

Area-averaged adjusted loss rate Fm (In/Hr) =  0.265

********* Area-Averaged low loss rate fraction, Yb **********

Area       Area          SCS CN    SCS CN      S     Pervious
 (Ac.)      Fract         (AMC2)    (AMC2)           Yield Fr
    40.00   1.000         86.0      86.0       1.63     0.373

Area-averaged catchment yield fraction, Y =  0.373
Area-averaged low loss fraction, Yb =  0.627
User entry of time of concentration  =   0.530 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      40.00(Ac.)
Catchment Lag time =   0.424 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 19.6541
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.265(In/Hr)
Average low loss rate fraction (Yb) = 0.627 (decimal)
VALLEY UNDEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.177(In)
Computed peak 30-minute rainfall =  0.363(In)
Specified peak 1-hour rainfall =  0.480(In)
Computed peak 3-hour rainfall =  0.744(In)
Specified peak 6-hour rainfall =  0.981(In)
Specified peak 24-hour rainfall =  1.715(In)


Rainfall depth area reduction factors:
Using a total area of      40.00(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998     Adjusted rainfall =  0.177(In)
30-minute factor = 0.998    Adjusted rainfall =  0.363(In)
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1-hour factor = 0.998 Adjusted rainfall = 0.479(In)
3-hour factor = 1.000 Adjusted rainfall = 0.744(In)
6-hour factor = 1.000 Adjusted rainfall = 0.981(In)
24-hour factor = 1.000 Adjusted rainfall = 1.715(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 483.75 (CFS))	
1	1.740	8.418
2	6.748	24.224
3	15.456	42.128
4	27.721	59.330
5	41.679	67.523
6	54.225	60.688
7	62.766	41.319
8	68.708	28.744
9	72.892	20.241
10	76.034	15.198
11	78.756	13.168
12	81.063	11.161
13	83.058	9.654
14	84.849	8.662
15	86.419	7.594
16	87.770	6.537
17	88.958	5.744
18	90.131	5.677
19	91.098	4.680
20	91.963	4.183
21	92.778	3.944
22	93.422	3.113
23	94.051	3.041
24	94.656	2.929
25	95.246	2.852
26	95.811	2.733
27	96.258	2.165
28	96.691	2.092
29	97.083	1.895
30	97.436	1.711
31	97.781	1.669
32	98.067	1.384
33	98.343	1.331
34	98.584	1.167
35	98.781	0.952
36	98.977	0.951
37	99.174	0.951

38	99.370	0.951
39	99.567	0.951
40	99.763	0.951
41	100.000	0.475

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.1772	0.1772
2	0.2338	0.0566
3	0.2749	0.0412
4	0.3085	0.0335
5	0.3373	0.0288
6	0.3628	0.0255
7	0.3859	0.0231
8	0.4070	0.0212
9	0.4267	0.0196
10	0.4450	0.0184
11	0.4623	0.0173
12	0.4787	0.0164
13	0.4943	0.0156
14	0.5092	0.0149
15	0.5235	0.0143
16	0.5372	0.0137
17	0.5504	0.0132
18	0.5632	0.0128
19	0.5755	0.0123
20	0.5875	0.0120
21	0.5991	0.0116
22	0.6104	0.0113
23	0.6214	0.0110
24	0.6320	0.0107
25	0.6425	0.0104
26	0.6527	0.0102
27	0.6626	0.0100
28	0.6723	0.0097
29	0.6819	0.0095
30	0.6912	0.0093
31	0.7003	0.0091
32	0.7093	0.0090
33	0.7181	0.0088
34	0.7268	0.0086
35	0.7353	0.0085
36	0.7436	0.0084
37	0.7518	0.0082
38	0.7599	0.0081
39	0.7678	0.0079
40	0.7756	0.0078
41	0.7833	0.0077
42	0.7909	0.0076
43	0.7983	0.0075

44	0.8057	0.0074
45	0.8130	0.0073
46	0.8201	0.0072
47	0.8272	0.0071
48	0.8342	0.0070
49	0.8411	0.0069
50	0.8479	0.0068
51	0.8547	0.0067
52	0.8613	0.0067
53	0.8679	0.0066
54	0.8744	0.0065
55	0.8809	0.0064
56	0.8872	0.0064
57	0.8935	0.0063
58	0.8997	0.0062
59	0.9059	0.0062
60	0.9120	0.0061
61	0.9181	0.0060
62	0.9240	0.0060
63	0.9300	0.0059
64	0.9358	0.0059
65	0.9417	0.0058
66	0.9474	0.0058
67	0.9531	0.0057
68	0.9588	0.0057
69	0.9644	0.0056
70	0.9700	0.0056
71	0.9755	0.0055
72	0.9809	0.0055
73	0.9864	0.0055
74	0.9918	0.0054
75	0.9972	0.0054
76	1.0026	0.0053
77	1.0079	0.0053
78	1.0131	0.0053
79	1.0183	0.0052
80	1.0235	0.0052
81	1.0286	0.0051
82	1.0337	0.0051
83	1.0388	0.0051
84	1.0438	0.0050
85	1.0488	0.0050
86	1.0538	0.0050
87	1.0587	0.0049
88	1.0636	0.0049
89	1.0684	0.0049
90	1.0733	0.0048
91	1.0781	0.0048
92	1.0828	0.0048
93	1.0875	0.0047

94	1.0922	0.0047
95	1.0969	0.0047
96	1.1015	0.0046
97	1.1062	0.0046
98	1.1107	0.0046
99	1.1153	0.0046
100	1.1198	0.0045
101	1.1243	0.0045
102	1.1288	0.0045
103	1.1332	0.0044
104	1.1377	0.0044
105	1.1421	0.0044
106	1.1464	0.0044
107	1.1508	0.0043
108	1.1551	0.0043
109	1.1594	0.0043
110	1.1637	0.0043
111	1.1679	0.0043
112	1.1722	0.0042
113	1.1764	0.0042
114	1.1806	0.0042
115	1.1847	0.0042
116	1.1889	0.0041
117	1.1930	0.0041
118	1.1971	0.0041
119	1.2012	0.0041
120	1.2052	0.0041
121	1.2093	0.0040
122	1.2133	0.0040
123	1.2173	0.0040
124	1.2213	0.0040
125	1.2252	0.0040
126	1.2292	0.0039
127	1.2331	0.0039
128	1.2370	0.0039
129	1.2409	0.0039
130	1.2447	0.0039
131	1.2486	0.0039
132	1.2524	0.0038
133	1.2562	0.0038
134	1.2600	0.0038
135	1.2638	0.0038
136	1.2676	0.0038
137	1.2713	0.0037
138	1.2751	0.0037
139	1.2788	0.0037
140	1.2825	0.0037
141	1.2862	0.0037
142	1.2898	0.0037
143	1.2935	0.0037

144	1.2971	0.0036
145	1.3007	0.0036
146	1.3044	0.0036
147	1.3079	0.0036
148	1.3115	0.0036
149	1.3151	0.0036
150	1.3186	0.0036
151	1.3222	0.0035
152	1.3257	0.0035
153	1.3292	0.0035
154	1.3327	0.0035
155	1.3362	0.0035
156	1.3397	0.0035
157	1.3431	0.0035
158	1.3466	0.0034
159	1.3500	0.0034
160	1.3534	0.0034
161	1.3568	0.0034
162	1.3602	0.0034
163	1.3636	0.0034
164	1.3669	0.0034
165	1.3703	0.0034
166	1.3736	0.0033
167	1.3770	0.0033
168	1.3803	0.0033
169	1.3836	0.0033
170	1.3869	0.0033
171	1.3902	0.0033
172	1.3934	0.0033
173	1.3967	0.0033
174	1.3999	0.0032
175	1.4032	0.0032
176	1.4064	0.0032
177	1.4096	0.0032
178	1.4128	0.0032
179	1.4160	0.0032
180	1.4192	0.0032
181	1.4224	0.0032
182	1.4255	0.0032
183	1.4287	0.0032
184	1.4318	0.0031
185	1.4350	0.0031
186	1.4381	0.0031
187	1.4412	0.0031
188	1.4443	0.0031
189	1.4474	0.0031
190	1.4505	0.0031
191	1.4535	0.0031
192	1.4566	0.0031
193	1.4597	0.0031

194	1.4627	0.0030
195	1.4657	0.0030
196	1.4688	0.0030
197	1.4718	0.0030
198	1.4748	0.0030
199	1.4778	0.0030
200	1.4808	0.0030
201	1.4837	0.0030
202	1.4867	0.0030
203	1.4897	0.0030
204	1.4926	0.0030
205	1.4956	0.0029
206	1.4985	0.0029
207	1.5014	0.0029
208	1.5044	0.0029
209	1.5073	0.0029
210	1.5102	0.0029
211	1.5131	0.0029
212	1.5160	0.0029
213	1.5188	0.0029
214	1.5217	0.0029
215	1.5246	0.0029
216	1.5274	0.0029
217	1.5303	0.0028
218	1.5331	0.0028
219	1.5359	0.0028
220	1.5388	0.0028
221	1.5416	0.0028
222	1.5444	0.0028
223	1.5472	0.0028
224	1.5500	0.0028
225	1.5528	0.0028
226	1.5555	0.0028
227	1.5583	0.0028
228	1.5611	0.0028
229	1.5638	0.0028
230	1.5666	0.0027
231	1.5693	0.0027
232	1.5721	0.0027
233	1.5748	0.0027
234	1.5775	0.0027
235	1.5802	0.0027
236	1.5829	0.0027
237	1.5856	0.0027
238	1.5883	0.0027
239	1.5910	0.0027
240	1.5937	0.0027
241	1.5964	0.0027
242	1.5990	0.0027
243	1.6017	0.0027

244	1.6043	0.0027	
245	1.6070	0.0026	
246	1.6096	0.0026	
247	1.6123	0.0026	
248	1.6149	0.0026	
249	1.6175	0.0026	
250	1.6201	0.0026	
251	1.6227	0.0026	
252	1.6253	0.0026	
253	1.6279	0.0026	
254	1.6305	0.0026	
255	1.6331	0.0026	
256	1.6357	0.0026	
257	1.6383	0.0026	
258	1.6408	0.0026	
259	1.6434	0.0026	
260	1.6459	0.0026	
261	1.6485	0.0025	
262	1.6510	0.0025	
263	1.6536	0.0025	
264	1.6561	0.0025	
265	1.6586	0.0025	
266	1.6611	0.0025	
267	1.6637	0.0025	
268	1.6662	0.0025	
269	1.6687	0.0025	
270	1.6712	0.0025	
271	1.6737	0.0025	
272	1.6761	0.0025	
273	1.6786	0.0025	
274	1.6811	0.0025	
275	1.6836	0.0025	
276	1.6860	0.0025	
277	1.6885	0.0025	
278	1.6909	0.0025	
279	1.6934	0.0024	
280	1.6958	0.0024	
281	1.6983	0.0024	
282	1.7007	0.0024	
283	1.7031	0.0024	
284	1.7056	0.0024	
285	1.7080	0.0024	
286	1.7104	0.0024	
287	1.7128	0.0024	
288	1.7152	0.0024	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)

1	0.0024	0.0015	0.0009
2	0.0024	0.0015	0.0009
3	0.0024	0.0015	0.0009
4	0.0024	0.0015	0.0009
5	0.0024	0.0015	0.0009
6	0.0024	0.0015	0.0009
7	0.0024	0.0015	0.0009
8	0.0025	0.0015	0.0009
9	0.0025	0.0015	0.0009
10	0.0025	0.0015	0.0009
11	0.0025	0.0016	0.0009
12	0.0025	0.0016	0.0009
13	0.0025	0.0016	0.0009
14	0.0025	0.0016	0.0009
15	0.0025	0.0016	0.0009
16	0.0025	0.0016	0.0009
17	0.0025	0.0016	0.0009
18	0.0025	0.0016	0.0009
19	0.0025	0.0016	0.0010
20	0.0026	0.0016	0.0010
21	0.0026	0.0016	0.0010
22	0.0026	0.0016	0.0010
23	0.0026	0.0016	0.0010
24	0.0026	0.0016	0.0010
25	0.0026	0.0016	0.0010
26	0.0026	0.0016	0.0010
27	0.0026	0.0016	0.0010
28	0.0026	0.0016	0.0010
29	0.0026	0.0017	0.0010
30	0.0026	0.0017	0.0010
31	0.0027	0.0017	0.0010
32	0.0027	0.0017	0.0010
33	0.0027	0.0017	0.0010
34	0.0027	0.0017	0.0010
35	0.0027	0.0017	0.0010
36	0.0027	0.0017	0.0010
37	0.0027	0.0017	0.0010
38	0.0027	0.0017	0.0010
39	0.0027	0.0017	0.0010
40	0.0027	0.0017	0.0010
41	0.0028	0.0017	0.0010
42	0.0028	0.0017	0.0010
43	0.0028	0.0017	0.0010
44	0.0028	0.0018	0.0010
45	0.0028	0.0018	0.0010
46	0.0028	0.0018	0.0011
47	0.0028	0.0018	0.0011
48	0.0028	0.0018	0.0011
49	0.0029	0.0018	0.0011
50	0.0029	0.0018	0.0011

51	0.0029	0.0018	0.0011
52	0.0029	0.0018	0.0011
53	0.0029	0.0018	0.0011
54	0.0029	0.0018	0.0011
55	0.0029	0.0018	0.0011
56	0.0029	0.0018	0.0011
57	0.0030	0.0019	0.0011
58	0.0030	0.0019	0.0011
59	0.0030	0.0019	0.0011
60	0.0030	0.0019	0.0011
61	0.0030	0.0019	0.0011
62	0.0030	0.0019	0.0011
63	0.0030	0.0019	0.0011
64	0.0030	0.0019	0.0011
65	0.0031	0.0019	0.0011
66	0.0031	0.0019	0.0011
67	0.0031	0.0019	0.0012
68	0.0031	0.0019	0.0012
69	0.0031	0.0020	0.0012
70	0.0031	0.0020	0.0012
71	0.0032	0.0020	0.0012
72	0.0032	0.0020	0.0012
73	0.0032	0.0020	0.0012
74	0.0032	0.0020	0.0012
75	0.0032	0.0020	0.0012
76	0.0032	0.0020	0.0012
77	0.0032	0.0020	0.0012
78	0.0033	0.0020	0.0012
79	0.0033	0.0021	0.0012
80	0.0033	0.0021	0.0012
81	0.0033	0.0021	0.0012
82	0.0033	0.0021	0.0012
83	0.0034	0.0021	0.0013
84	0.0034	0.0021	0.0013
85	0.0034	0.0021	0.0013
86	0.0034	0.0021	0.0013
87	0.0034	0.0021	0.0013
88	0.0034	0.0022	0.0013
89	0.0035	0.0022	0.0013
90	0.0035	0.0022	0.0013
91	0.0035	0.0022	0.0013
92	0.0035	0.0022	0.0013
93	0.0036	0.0022	0.0013
94	0.0036	0.0022	0.0013
95	0.0036	0.0023	0.0013
96	0.0036	0.0023	0.0013
97	0.0036	0.0023	0.0014
98	0.0037	0.0023	0.0014
99	0.0037	0.0023	0.0014
100	0.0037	0.0023	0.0014

101	0.0037	0.0023	0.0014
102	0.0037	0.0023	0.0014
103	0.0038	0.0024	0.0014
104	0.0038	0.0024	0.0014
105	0.0038	0.0024	0.0014
106	0.0039	0.0024	0.0014
107	0.0039	0.0024	0.0015
108	0.0039	0.0024	0.0015
109	0.0039	0.0025	0.0015
110	0.0040	0.0025	0.0015
111	0.0040	0.0025	0.0015
112	0.0040	0.0025	0.0015
113	0.0041	0.0025	0.0015
114	0.0041	0.0026	0.0015
115	0.0041	0.0026	0.0015
116	0.0041	0.0026	0.0015
117	0.0042	0.0026	0.0016
118	0.0042	0.0026	0.0016
119	0.0043	0.0027	0.0016
120	0.0043	0.0027	0.0016
121	0.0043	0.0027	0.0016
122	0.0043	0.0027	0.0016
123	0.0044	0.0028	0.0016
124	0.0044	0.0028	0.0016
125	0.0045	0.0028	0.0017
126	0.0045	0.0028	0.0017
127	0.0046	0.0029	0.0017
128	0.0046	0.0029	0.0017
129	0.0046	0.0029	0.0017
130	0.0047	0.0029	0.0017
131	0.0047	0.0030	0.0018
132	0.0048	0.0030	0.0018
133	0.0048	0.0030	0.0018
134	0.0049	0.0030	0.0018
135	0.0049	0.0031	0.0018
136	0.0050	0.0031	0.0018
137	0.0050	0.0032	0.0019
138	0.0051	0.0032	0.0019
139	0.0051	0.0032	0.0019
140	0.0052	0.0032	0.0019
141	0.0053	0.0033	0.0020
142	0.0053	0.0033	0.0020
143	0.0054	0.0034	0.0020
144	0.0054	0.0034	0.0020
145	0.0055	0.0034	0.0020
146	0.0055	0.0035	0.0021
147	0.0056	0.0035	0.0021
148	0.0057	0.0035	0.0021
149	0.0058	0.0036	0.0022
150	0.0058	0.0036	0.0022

151	0.0059	0.0037	0.0022
152	0.0060	0.0038	0.0022
153	0.0061	0.0038	0.0023
154	0.0062	0.0039	0.0023
155	0.0063	0.0039	0.0023
156	0.0064	0.0040	0.0024
157	0.0065	0.0041	0.0024
158	0.0066	0.0041	0.0025
159	0.0067	0.0042	0.0025
160	0.0068	0.0043	0.0025
161	0.0070	0.0044	0.0026
162	0.0071	0.0044	0.0026
163	0.0073	0.0046	0.0027
164	0.0074	0.0046	0.0027
165	0.0076	0.0048	0.0028
166	0.0077	0.0048	0.0029
167	0.0079	0.0050	0.0030
168	0.0081	0.0050	0.0030
169	0.0084	0.0052	0.0031
170	0.0085	0.0053	0.0032
171	0.0088	0.0055	0.0033
172	0.0090	0.0056	0.0033
173	0.0093	0.0058	0.0035
174	0.0095	0.0060	0.0036
175	0.0100	0.0062	0.0037
176	0.0102	0.0064	0.0038
177	0.0107	0.0067	0.0040
178	0.0110	0.0069	0.0041
179	0.0116	0.0073	0.0043
180	0.0120	0.0075	0.0045
181	0.0128	0.0080	0.0048
182	0.0132	0.0083	0.0049
183	0.0143	0.0090	0.0053
184	0.0149	0.0093	0.0056
185	0.0164	0.0103	0.0061
186	0.0173	0.0108	0.0065
187	0.0196	0.0123	0.0073
188	0.0212	0.0133	0.0079
189	0.0255	0.0160	0.0095
190	0.0288	0.0181	0.0107
191	0.0412	0.0221	0.0191
192	0.0566	0.0221	0.0345
193	0.1772	0.0221	0.1551
194	0.0335	0.0210	0.0125
195	0.0231	0.0145	0.0086
196	0.0184	0.0115	0.0069
197	0.0156	0.0098	0.0058
198	0.0137	0.0086	0.0051
199	0.0123	0.0077	0.0046
200	0.0113	0.0071	0.0042

201	0.0104	0.0065	0.0039
202	0.0097	0.0061	0.0036
203	0.0091	0.0057	0.0034
204	0.0086	0.0054	0.0032
205	0.0082	0.0051	0.0031
206	0.0078	0.0049	0.0029
207	0.0075	0.0047	0.0028
208	0.0072	0.0045	0.0027
209	0.0069	0.0043	0.0026
210	0.0067	0.0042	0.0025
211	0.0064	0.0040	0.0024
212	0.0062	0.0039	0.0023
213	0.0060	0.0038	0.0023
214	0.0059	0.0037	0.0022
215	0.0057	0.0036	0.0021
216	0.0056	0.0035	0.0021
217	0.0055	0.0034	0.0020
218	0.0053	0.0033	0.0020
219	0.0052	0.0033	0.0019
220	0.0051	0.0032	0.0019
221	0.0050	0.0031	0.0019
222	0.0049	0.0031	0.0018
223	0.0048	0.0030	0.0018
224	0.0047	0.0029	0.0018
225	0.0046	0.0029	0.0017
226	0.0045	0.0028	0.0017
227	0.0044	0.0028	0.0017
228	0.0044	0.0027	0.0016
229	0.0043	0.0027	0.0016
230	0.0042	0.0027	0.0016
231	0.0042	0.0026	0.0016
232	0.0041	0.0026	0.0015
233	0.0040	0.0025	0.0015
234	0.0040	0.0025	0.0015
235	0.0039	0.0025	0.0015
236	0.0039	0.0024	0.0014
237	0.0038	0.0024	0.0014
238	0.0038	0.0024	0.0014
239	0.0037	0.0023	0.0014
240	0.0037	0.0023	0.0014
241	0.0036	0.0023	0.0014
242	0.0036	0.0022	0.0013
243	0.0035	0.0022	0.0013
244	0.0035	0.0022	0.0013
245	0.0035	0.0022	0.0013
246	0.0034	0.0021	0.0013
247	0.0034	0.0021	0.0013
248	0.0033	0.0021	0.0012
249	0.0033	0.0021	0.0012
250	0.0033	0.0021	0.0012

251	0.0032	0.0020	0.0012
252	0.0032	0.0020	0.0012
253	0.0032	0.0020	0.0012
254	0.0031	0.0020	0.0012
255	0.0031	0.0020	0.0012
256	0.0031	0.0019	0.0011
257	0.0031	0.0019	0.0011
258	0.0030	0.0019	0.0011
259	0.0030	0.0019	0.0011
260	0.0030	0.0019	0.0011
261	0.0029	0.0018	0.0011
262	0.0029	0.0018	0.0011
263	0.0029	0.0018	0.0011
264	0.0029	0.0018	0.0011
265	0.0028	0.0018	0.0011
266	0.0028	0.0018	0.0011
267	0.0028	0.0018	0.0010
268	0.0028	0.0017	0.0010
269	0.0028	0.0017	0.0010
270	0.0027	0.0017	0.0010
271	0.0027	0.0017	0.0010
272	0.0027	0.0017	0.0010
273	0.0027	0.0017	0.0010
274	0.0027	0.0017	0.0010
275	0.0026	0.0017	0.0010
276	0.0026	0.0016	0.0010
277	0.0026	0.0016	0.0010
278	0.0026	0.0016	0.0010
279	0.0026	0.0016	0.0010
280	0.0025	0.0016	0.0009
281	0.0025	0.0016	0.0009
282	0.0025	0.0016	0.0009
283	0.0025	0.0016	0.0009
284	0.0025	0.0016	0.0009
285	0.0025	0.0015	0.0009
286	0.0024	0.0015	0.0009
287	0.0024	0.0015	0.0009
288	0.0024	0.0015	0.0009

Total soil rain loss = 0.97(In)
Total effective rainfall = 0.75(In)
Peak flow rate in flood hydrograph = 15.86(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

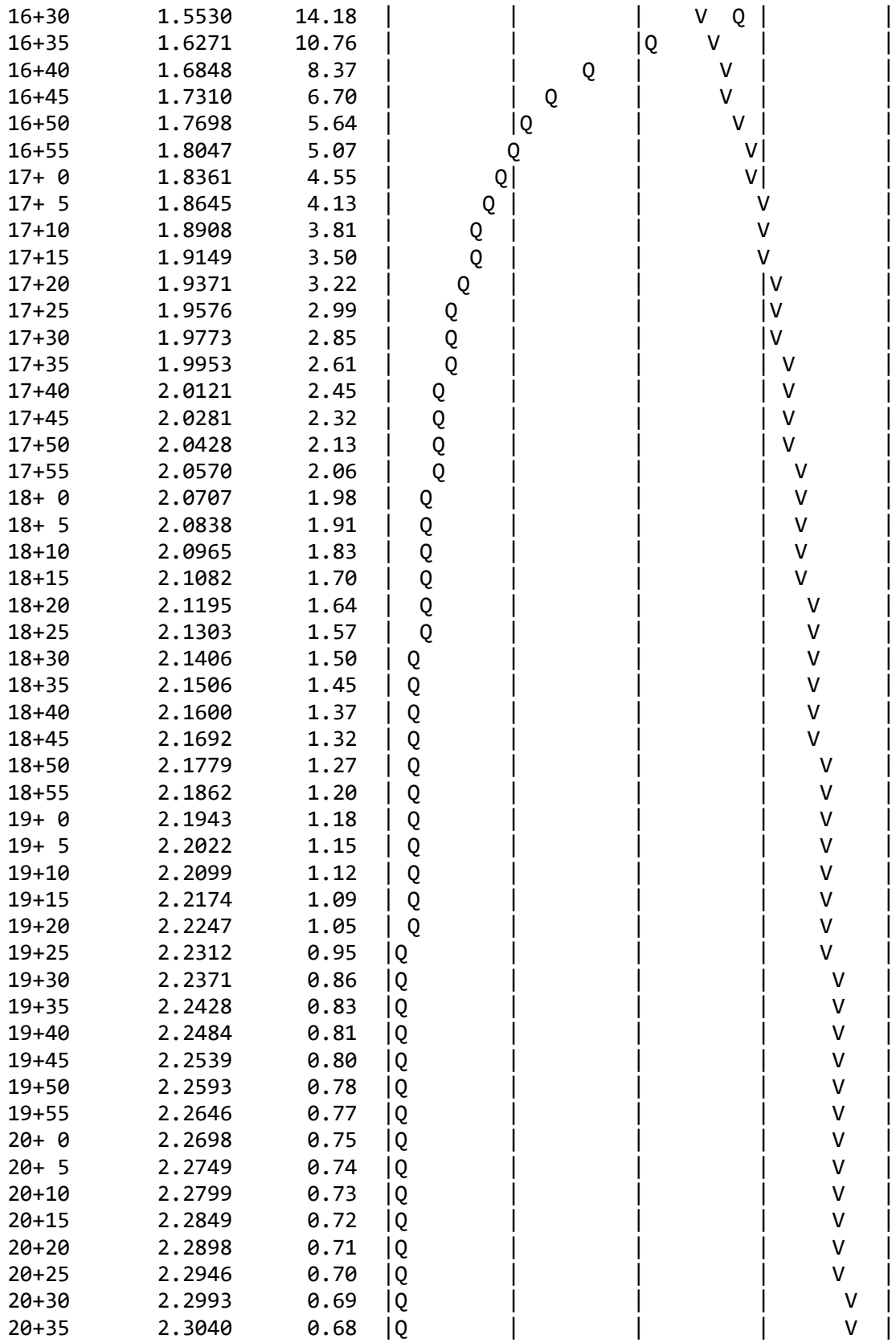
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0001	0.01	Q				
0+10	0.0003	0.03	Q				
0+15	0.0007	0.07	Q				
0+20	0.0015	0.12	Q				
0+25	0.0028	0.18	Q				
0+30	0.0044	0.24	Q				
0+35	0.0063	0.27	Q				
0+40	0.0084	0.30	Q				
0+45	0.0106	0.32	Q				
0+50	0.0129	0.33	Q				
0+55	0.0153	0.35	Q				
1+ 0	0.0177	0.36	Q				
1+ 5	0.0203	0.37	Q				
1+10	0.0229	0.38	Q				
1+15	0.0255	0.39	Q				
1+20	0.0282	0.39	Q				
1+25	0.0310	0.40	Q				
1+30	0.0338	0.41	Q				
1+35	0.0366	0.41	Q				
1+40	0.0395	0.42	Q				
1+45	0.0424	0.42	Q				
1+50	0.0453	0.43	Q				
1+55	0.0483	0.43	Q				
2+ 0	0.0512	0.43	Q				
2+ 5	0.0542	0.44	Q				
2+10	0.0573	0.44	Q				
2+15	0.0604	0.44	Q				
2+20	0.0634	0.45	QV				
2+25	0.0665	0.45	QV				
2+30	0.0697	0.45	QV				
2+35	0.0728	0.46	QV				
2+40	0.0760	0.46	QV				
2+45	0.0792	0.46	QV				
2+50	0.0824	0.47	QV				
2+55	0.0856	0.47	QV				
3+ 0	0.0889	0.47	QV				
3+ 5	0.0921	0.47	QV				
3+10	0.0954	0.48	QV				
3+15	0.0987	0.48	QV				
3+20	0.1020	0.48	QV				
3+25	0.1054	0.48	QV				
3+30	0.1087	0.49	QV				
3+35	0.1121	0.49	QV				
3+40	0.1154	0.49	QV				
3+45	0.1188	0.49	QV				
3+50	0.1222	0.49	QV				
3+55	0.1256	0.50	Q V				

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4+ 0       0.1291      0.50  Q V       |          |          |          |
4+ 5       0.1325      0.50  Q V       |          |          |          |
4+10       0.1359      0.50  |QV       |          |          |          |
4+15       0.1394      0.50  |QV       |          |          |          |
4+20       0.1429      0.51  |QV       |          |          |          |
4+25       0.1464      0.51  |QV       |          |          |          |
4+30       0.1499      0.51  |QV       |          |          |          |
4+35       0.1534      0.51  |QV       |          |          |          |
4+40       0.1569      0.51  |QV       |          |          |          |
4+45       0.1605      0.52  |QV       |          |          |          |
4+50       0.1641      0.52  |QV       |          |          |          |
4+55       0.1676      0.52  |QV       |          |          |          |
5+ 0       0.1712      0.52  |QV       |          |          |          |
5+ 5       0.1748      0.52  |QV       |          |          |          |
5+10       0.1785      0.53  |QV       |          |          |          |
5+15       0.1821      0.53  |QV       |          |          |          |
5+20       0.1858      0.53  |QV       |          |          |          |
5+25       0.1894      0.53  |Q V      |          |          |          |
5+30       0.1931      0.54  |Q V      |          |          |          |
5+35       0.1968      0.54  |Q V      |          |          |          |
5+40       0.2006      0.54  |Q V      |          |          |          |
5+45       0.2043      0.54  |Q V      |          |          |          |
5+50       0.2081      0.55  |Q V      |          |          |          |
5+55       0.2118      0.55  |Q V      |          |          |          |
6+ 0       0.2156      0.55  |Q V      |          |          |          |
6+ 5       0.2194      0.55  |Q V      |          |          |          |
6+10       0.2233      0.56  |Q V      |          |          |          |
6+15       0.2271      0.56  |Q V      |          |          |          |
6+20       0.2310      0.56  |Q V      |          |          |          |
6+25       0.2349      0.56  |Q V      |          |          |          |
6+30       0.2388      0.57  |Q V      |          |          |          |
6+35       0.2427      0.57  |Q V      |          |          |          |
6+40       0.2466      0.57  |Q V      |          |          |          |
6+45       0.2506      0.58  |Q  V     |          |          |          |
6+50       0.2546      0.58  |Q  V     |          |          |          |
6+55       0.2586      0.58  |Q  V     |          |          |          |
7+ 0       0.2626      0.58  |Q  V     |          |          |          |
7+ 5       0.2666      0.59  |Q  V     |          |          |          |
7+10       0.2707      0.59  |Q  V     |          |          |          |
7+15       0.2748      0.59  |Q  V     |          |          |          |
7+20       0.2789      0.60  |Q  V     |          |          |          |
7+25       0.2830      0.60  |Q  V     |          |          |          |
7+30       0.2872      0.60  |Q  V     |          |          |          |
7+35       0.2914      0.61  |Q  V     |          |          |          |
7+40       0.2956      0.61  |Q  V     |          |          |          |
7+45       0.2998      0.61  |Q  V     |          |          |          |
7+50       0.3040      0.62  |Q  V     |          |          |          |
7+55       0.3083      0.62  |Q  V     |          |          |          |
8+ 0       0.3126      0.62  |Q   V    |          |          |          |
8+ 5       0.3169      0.63  |Q   V    |          |          |          |
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8+10	0.3213	0.63	Q V				
8+15	0.3256	0.63	Q V				
8+20	0.3300	0.64	Q V				
8+25	0.3344	0.64	Q V				
8+30	0.3389	0.65	Q V				
8+35	0.3434	0.65	Q V				
8+40	0.3479	0.65	Q V				
8+45	0.3524	0.66	Q V				
8+50	0.3570	0.66	Q V				
8+55	0.3616	0.67	Q V				
9+ 0	0.3662	0.67	Q V				
9+ 5	0.3708	0.68	Q V				
9+10	0.3755	0.68	Q V				
9+15	0.3802	0.68	Q V				
9+20	0.3850	0.69	Q V				
9+25	0.3898	0.69	Q V				
9+30	0.3946	0.70	Q V				
9+35	0.3994	0.70	Q V				
9+40	0.4043	0.71	Q V				
9+45	0.4092	0.71	Q V				
9+50	0.4142	0.72	Q V				
9+55	0.4191	0.72	Q V				
10+ 0	0.4242	0.73	Q V				
10+ 5	0.4292	0.74	Q V				
10+10	0.4343	0.74	Q V				
10+15	0.4395	0.75	Q V				
10+20	0.4447	0.75	Q V				
10+25	0.4499	0.76	Q V				
10+30	0.4552	0.76	Q V				
10+35	0.4605	0.77	Q V				
10+40	0.4658	0.78	Q V				
10+45	0.4712	0.78	Q V				
10+50	0.4767	0.79	Q V				
10+55	0.4821	0.80	Q V				
11+ 0	0.4877	0.80	Q V				
11+ 5	0.4933	0.81	Q V				
11+10	0.4989	0.82	Q V				
11+15	0.5046	0.83	Q V				
11+20	0.5104	0.83	Q V				
11+25	0.5162	0.84	Q V				
11+30	0.5220	0.85	Q V				
11+35	0.5279	0.86	Q V				
11+40	0.5339	0.87	Q V				
11+45	0.5399	0.88	Q V				
11+50	0.5460	0.89	Q V				
11+55	0.5522	0.89	Q V				
12+ 0	0.5584	0.90	Q V				
12+ 5	0.5647	0.91	Q V				
12+10	0.5711	0.92	Q V				
12+15	0.5775	0.93	Q V				

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12+20       0.5840      0.94  |Q       V|          |          |          |
12+25       0.5906      0.95  |Q       V|          |          |          |
12+30       0.5972      0.96  |Q       V|          |          |          |
12+35       0.6039      0.97  |Q       V|          |          |          |
12+40       0.6107      0.99  |Q       V|          |          |          |
12+45       0.6176      1.00  |Q       V|          |          |          |
12+50       0.6246      1.01  | Q       V          |          |          |
12+55       0.6316      1.03  | Q       V          |          |          |
13+ 0       0.6388      1.04  | Q       V          |          |          |
13+ 5       0.6461      1.05  | Q       V          |          |          |
13+10       0.6534      1.07  | Q       V          |          |          |
13+15       0.6609      1.09  | Q       V          |          |          |
13+20       0.6685      1.10  | Q       V          |          |          |
13+25       0.6762      1.12  | Q       V          |          |          |
13+30       0.6840      1.14  | Q       |V         |          |          |
13+35       0.6920      1.16  | Q       |V         |          |          |
13+40       0.7001      1.18  | Q       |V         |          |          |
13+45       0.7083      1.20  | Q       |V         |          |          |
13+50       0.7167      1.22  | Q       |V         |          |          |
13+55       0.7252      1.24  | Q       |V         |          |          |
14+ 0       0.7339      1.26  | Q       |V         |          |          |
14+ 5       0.7428      1.29  | Q       |V         |          |          |
14+10       0.7519      1.32  | Q       | V        |          |          |
14+15       0.7611      1.35  | Q       | V        |          |          |
14+20       0.7706      1.38  | Q       | V        |          |          |
14+25       0.7803      1.41  | Q       | V        |          |          |
14+30       0.7903      1.44  | Q       | V        |          |          |
14+35       0.8005      1.48  | Q       | V        |          |          |
14+40       0.8109      1.52  |  Q      |  V       |          |          |
14+45       0.8217      1.56  |  Q      |  V       |          |          |
14+50       0.8328      1.61  |  Q      |  V       |          |          |
14+55       0.8442      1.66  |  Q      |  V       |          |          |
15+ 0       0.8560      1.71  |  Q      |  V       |          |          |
15+ 5       0.8682      1.77  |  Q      |  V       |          |          |
15+10       0.8808      1.84  |  Q      |   V      |          |          |
15+15       0.8940      1.91  |  Q      |   V      |          |          |
15+20       0.9077      1.99  |  Q      |   V      |          |          |
15+25       0.9220      2.08  |   Q     |   V      |          |          |
15+30       0.9371      2.19  |   Q     |    V     |          |          |
15+35       0.9530      2.31  |   Q     |    V     |          |          |
15+40       0.9699      2.46  |   Q     |    V     |          |          |
15+45       0.9881      2.64  |    Q    |    V     |          |          |
15+50       1.0078      2.86  |    Q    |     V    |          |          |
15+55       1.0298      3.20  |     Q   |     V    |          |          |
16+ 0       1.0561      3.82  |      Q  |      V   |          |          |
16+ 5       1.0965      5.86  |         |Q     V   |          |          |
16+10       1.1584      8.99  |         |      QV  |          |          |
16+15       1.2429     12.27  |         |         V   Q      |          |
16+20       1.3462     15.00  |         |         |V       Q|          |
16+25       1.4554     15.86  |         |         |  V      |Q         |
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20+40       2.3086      0.67  |Q        |         |         |      V  |
20+45       2.3131      0.66  |Q        |         |         |      V  |
20+50       2.3176      0.65  |Q        |         |         |      V  |
20+55       2.3220      0.64  |Q        |         |         |      V  |
21+ 0       2.3264      0.64  |Q        |         |         |      V  |
21+ 5       2.3307      0.63  |Q        |         |         |      V  |
21+10       2.3350      0.62  |Q        |         |         |      V  |
21+15       2.3392      0.61  |Q        |         |         |      V  |
21+20       2.3434      0.61  |Q        |         |         |      V  |
21+25       2.3475      0.60  |Q        |         |         |      V  |
21+30       2.3516      0.59  |Q        |         |         |      V  |
21+35       2.3557      0.59  |Q        |         |         |      V  |
21+40       2.3597      0.58  |Q        |         |         |       V |
21+45       2.3636      0.57  |Q        |         |         |       V |
21+50       2.3675      0.57  |Q        |         |         |       V |
21+55       2.3714      0.56  |Q        |         |         |       V |
22+ 0       2.3753      0.56  |Q        |         |         |       V |
22+ 5       2.3791      0.55  |Q        |         |         |       V |
22+10       2.3828      0.55  |Q        |         |         |       V |
22+15       2.3866      0.54  |Q        |         |         |       V |
22+20       2.3903      0.54  |Q        |         |         |       V |
22+25       2.3939      0.53  |Q        |         |         |       V |
22+30       2.3976      0.53  |Q        |         |         |       V |
22+35       2.4012      0.52  |Q        |         |         |       V |
22+40       2.4047      0.52  |Q        |         |         |       V |
22+45       2.4083      0.51  |Q        |         |         |       V |
22+50       2.4118      0.51  |Q        |         |         |       V |
22+55       2.4153      0.51  |Q        |         |         |       V |
23+ 0       2.4187      0.50  |Q        |         |         |       V |
23+ 5       2.4222      0.50  Q         |         |         |        V|
23+10       2.4256      0.49  Q         |         |         |        V|
23+15       2.4289      0.49  Q         |         |         |        V|
23+20       2.4323      0.49  Q         |         |         |        V|
23+25       2.4356      0.48  Q         |         |         |        V|
23+30       2.4389      0.48  Q         |         |         |        V|
23+35       2.4422      0.48  Q         |         |         |        V|
23+40       2.4454      0.47  Q         |         |         |        V|
23+45       2.4487      0.47  Q         |         |         |        V|
23+50       2.4519      0.47  Q         |         |         |        V|
23+55       2.4551      0.46  Q         |         |         |        V|
24+ 0       2.4582      0.46  Q         |         |         |        V|
24+ 5       2.4613      0.45  Q         |         |         |        V|
24+10       2.4642      0.42  Q         |         |         |        V|
24+15       2.4669      0.38  Q         |         |         |        V|
24+20       2.4691      0.33  Q         |         |         |        V|
24+25       2.4709      0.26  Q         |         |         |        V|
24+30       2.4724      0.21  Q         |         |         |        V|
24+35       2.4735      0.17  Q         |         |         |        V|
24+40       2.4745      0.14  Q         |         |         |        V|
24+45       2.4754      0.12  Q         |         |         |        V|
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   24+50       2.4761      0.11  Q          |          |          |         V|
   24+55       2.4768      0.10  Q          |          |          |         V|
   25+ 0       2.4774      0.09  Q          |          |          |         V|
   25+ 5       2.4779      0.08  Q          |          |          |         V|
   25+10       2.4784      0.07  Q          |          |          |         V|
   25+15       2.4788      0.06  Q          |          |          |         V|
   25+20       2.4792      0.06  Q          |          |          |         V|
   25+25       2.4796      0.05  Q          |          |          |         V|
   25+30       2.4799      0.04  Q          |          |          |         V|
   25+35       2.4802      0.04  Q          |          |          |         V|
   25+40       2.4804      0.04  Q          |          |          |         V|
   25+45       2.4806      0.03  Q          |          |          |         V|
   25+50       2.4808      0.03  Q          |          |          |         V|
   25+55       2.4810      0.03  Q          |          |          |         V|
   26+ 0       2.4812      0.02  Q          |          |          |         V|
   26+ 5       2.4813      0.02  Q          |          |          |         V|
   26+10       2.4814      0.02  Q          |          |          |         V|
   26+15       2.4815      0.02  Q          |          |          |         V|
   26+20       2.4816      0.01  Q          |          |          |         V|
   26+25       2.4817      0.01  Q          |          |          |         V|
   26+30       2.4818      0.01  Q          |          |          |         V|
   26+35       2.4819      0.01  Q          |          |          |         V|
   26+40       2.4819      0.01  Q          |          |          |         V|
   26+45       2.4820      0.01  Q          |          |          |         V|
   26+50       2.4820      0.01  Q          |          |          |         V|
   26+55       2.4820      0.00  Q          |          |          |         V|
   27+ 0       2.4821      0.00  Q          |          |          |         V|
   27+ 5       2.4821      0.00  Q          |          |          |         V|
   27+10       2.4821      0.00  Q          |          |          |         V|
   27+15       2.4821      0.00  Q          |          |          |         V|
   27+20       2.4821      0.00  Q          |          |          |          V
-------------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/18/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
UNIT HYDROGRAPH ANALYSIS, EX CULVERT 4
EXISTING CONDITION, 5-YEAR 24-HOUR
FN: UHEX04CUL5.OUT - ABE

Storm Event Year = 5

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
25.00	1	0.60
Rainfall data for year 2		
25.00	6	0.70
Rainfall data for year 2		
25.00	24	1.20
Rainfall data for year 100		

```
            25.00            1           1.00
------------------------------------------------------------------------
Rainfall data for year 100
            25.00            6           1.90
------------------------------------------------------------------------
Rainfall data for year 100
            25.00           24           3.40
------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

******** Area-averaged max loss rate, Fm ********


SCS curve  SCS curve     Area     Area     Fp(Fig C6)    Ap      Fm
No.(AMCII) NO.(AMC 2)    (Ac.)    Fraction     (In/Hr)  (dec.)   (In/Hr)
 84.6      84.6         25.00      1.000     0.290    0.930    0.270

Area-averaged adjusted loss rate Fm (In/Hr) =  0.270

********* Area-Averaged low loss rate fraction, Yb **********

Area       Area          SCS CN    SCS CN      S     Pervious
 (Ac.)      Fract         (AMC2)    (AMC2)           Yield Fr
    23.25   0.930         84.6      84.6       1.82     0.336
     1.75   0.070         98.0      98.0       0.20     0.870

Area-averaged catchment yield fraction, Y =  0.373
Area-averaged low loss fraction, Yb =  0.627
User entry of time of concentration  =   0.530 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      25.00(Ac.)
Catchment Lag time =   0.424 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 19.6541
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.270(In/Hr)
Average low loss rate fraction (Yb) = 0.627 (decimal)
VALLEY UNDEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.177(In)
Computed peak 30-minute rainfall =  0.363(In)
Specified peak 1-hour rainfall =  0.480(In)
Computed peak 3-hour rainfall =  0.744(In)
Specified peak 6-hour rainfall =  0.981(In)
Specified peak 24-hour rainfall =  1.715(In)


Rainfall depth area reduction factors:
Using a total area of      25.00(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.177(In)
```

30-minute factor = 0.999 Adjusted rainfall = 0.363(In)
1-hour factor = 0.999 Adjusted rainfall = 0.479(In)
3-hour factor = 1.000 Adjusted rainfall = 0.744(In)
6-hour factor = 1.000 Adjusted rainfall = 0.981(In)
24-hour factor = 1.000 Adjusted rainfall = 1.715(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 302.34 (CFS))	
1	1.740	5.261
2	6.748	15.140
3	15.456	26.330
4	27.721	37.081
5	41.679	42.202
6	54.225	37.930
7	62.766	25.824
8	68.708	17.965
9	72.892	12.650
10	76.034	9.499
11	78.756	8.230
12	81.063	6.975
13	83.058	6.034
14	84.849	5.414
15	86.419	4.746
16	87.770	4.085
17	88.958	3.590
18	90.131	3.548
19	91.098	2.925
20	91.963	2.615
21	92.778	2.465
22	93.422	1.946
23	94.051	1.901
24	94.656	1.830
25	95.246	1.783
26	95.811	1.708
27	96.258	1.353
28	96.691	1.307
29	97.083	1.185
30	97.436	1.070
31	97.781	1.043
32	98.067	0.865
33	98.343	0.832
34	98.584	0.730
35	98.781	0.595
36	98.977	0.594

37	99.174	0.594
38	99.370	0.594
39	99.567	0.594
40	99.763	0.594
41	100.000	0.297

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.1773	0.1773
2	0.2339	0.0566
3	0.2751	0.0412
4	0.3087	0.0336
5	0.3375	0.0288
6	0.3630	0.0255
7	0.3861	0.0231
8	0.4073	0.0212
9	0.4270	0.0196
10	0.4453	0.0184
11	0.4626	0.0173
12	0.4790	0.0164
13	0.4946	0.0156
14	0.5095	0.0149
15	0.5238	0.0143
16	0.5375	0.0137
17	0.5507	0.0132
18	0.5635	0.0127
19	0.5758	0.0123
20	0.5877	0.0119
21	0.5993	0.0116
22	0.6106	0.0113
23	0.6216	0.0110
24	0.6322	0.0107
25	0.6427	0.0104
26	0.6528	0.0102
27	0.6628	0.0099
28	0.6725	0.0097
29	0.6820	0.0095
30	0.6913	0.0093
31	0.7005	0.0091
32	0.7094	0.0090
33	0.7182	0.0088
34	0.7269	0.0086
35	0.7353	0.0085
36	0.7437	0.0083
37	0.7519	0.0082
38	0.7599	0.0081
39	0.7679	0.0079
40	0.7757	0.0078
41	0.7834	0.0077
42	0.7909	0.0076

43	0.7984	0.0075
44	0.8058	0.0074
45	0.8130	0.0073
46	0.8202	0.0072
47	0.8273	0.0071
48	0.8343	0.0070
49	0.8412	0.0069
50	0.8480	0.0068
51	0.8547	0.0067
52	0.8614	0.0067
53	0.8680	0.0066
54	0.8745	0.0065
55	0.8809	0.0064
56	0.8873	0.0064
57	0.8936	0.0063
58	0.8998	0.0062
59	0.9060	0.0062
60	0.9121	0.0061
61	0.9181	0.0060
62	0.9241	0.0060
63	0.9300	0.0059
64	0.9359	0.0059
65	0.9417	0.0058
66	0.9475	0.0058
67	0.9532	0.0057
68	0.9588	0.0057
69	0.9645	0.0056
70	0.9700	0.0056
71	0.9755	0.0055
72	0.9810	0.0055
73	0.9865	0.0055
74	0.9919	0.0054
75	0.9973	0.0054
76	1.0026	0.0053
77	1.0079	0.0053
78	1.0132	0.0053
79	1.0184	0.0052
80	1.0235	0.0052
81	1.0287	0.0051
82	1.0338	0.0051
83	1.0388	0.0051
84	1.0439	0.0050
85	1.0489	0.0050
86	1.0538	0.0050
87	1.0587	0.0049
88	1.0636	0.0049
89	1.0685	0.0049
90	1.0733	0.0048
91	1.0781	0.0048
92	1.0829	0.0048

93	1.0876	0.0047
94	1.0923	0.0047
95	1.0970	0.0047
96	1.1016	0.0046
97	1.1062	0.0046
98	1.1108	0.0046
99	1.1153	0.0046
100	1.1199	0.0045
101	1.1244	0.0045
102	1.1288	0.0045
103	1.1333	0.0044
104	1.1377	0.0044
105	1.1421	0.0044
106	1.1465	0.0044
107	1.1508	0.0043
108	1.1552	0.0043
109	1.1595	0.0043
110	1.1637	0.0043
111	1.1680	0.0043
112	1.1722	0.0042
113	1.1764	0.0042
114	1.1806	0.0042
115	1.1848	0.0042
116	1.1889	0.0041
117	1.1930	0.0041
118	1.1971	0.0041
119	1.2012	0.0041
120	1.2053	0.0041
121	1.2093	0.0040
122	1.2133	0.0040
123	1.2173	0.0040
124	1.2213	0.0040
125	1.2253	0.0040
126	1.2292	0.0039
127	1.2331	0.0039
128	1.2370	0.0039
129	1.2409	0.0039
130	1.2448	0.0039
131	1.2486	0.0039
132	1.2525	0.0038
133	1.2563	0.0038
134	1.2601	0.0038
135	1.2639	0.0038
136	1.2676	0.0038
137	1.2714	0.0037
138	1.2751	0.0037
139	1.2788	0.0037
140	1.2825	0.0037
141	1.2862	0.0037
142	1.2899	0.0037

143	1.2935	0.0037
144	1.2972	0.0036
145	1.3008	0.0036
146	1.3044	0.0036
147	1.3080	0.0036
148	1.3116	0.0036
149	1.3151	0.0036
150	1.3187	0.0036
151	1.3222	0.0035
152	1.3257	0.0035
153	1.3293	0.0035
154	1.3327	0.0035
155	1.3362	0.0035
156	1.3397	0.0035
157	1.3432	0.0035
158	1.3466	0.0034
159	1.3500	0.0034
160	1.3534	0.0034
161	1.3568	0.0034
162	1.3602	0.0034
163	1.3636	0.0034
164	1.3670	0.0034
165	1.3703	0.0034
166	1.3737	0.0033
167	1.3770	0.0033
168	1.3803	0.0033
169	1.3836	0.0033
170	1.3869	0.0033
171	1.3902	0.0033
172	1.3935	0.0033
173	1.3967	0.0033
174	1.4000	0.0032
175	1.4032	0.0032
176	1.4064	0.0032
177	1.4097	0.0032
178	1.4129	0.0032
179	1.4161	0.0032
180	1.4192	0.0032
181	1.4224	0.0032
182	1.4256	0.0032
183	1.4287	0.0032
184	1.4319	0.0031
185	1.4350	0.0031
186	1.4381	0.0031
187	1.4412	0.0031
188	1.4443	0.0031
189	1.4474	0.0031
190	1.4505	0.0031
191	1.4536	0.0031
192	1.4566	0.0031

193	1.4597	0.0031
194	1.4627	0.0030
195	1.4658	0.0030
196	1.4688	0.0030
197	1.4718	0.0030
198	1.4748	0.0030
199	1.4778	0.0030
200	1.4808	0.0030
201	1.4838	0.0030
202	1.4868	0.0030
203	1.4897	0.0030
204	1.4927	0.0030
205	1.4956	0.0029
206	1.4985	0.0029
207	1.5015	0.0029
208	1.5044	0.0029
209	1.5073	0.0029
210	1.5102	0.0029
211	1.5131	0.0029
212	1.5160	0.0029
213	1.5189	0.0029
214	1.5217	0.0029
215	1.5246	0.0029
216	1.5275	0.0029
217	1.5303	0.0028
218	1.5331	0.0028
219	1.5360	0.0028
220	1.5388	0.0028
221	1.5416	0.0028
222	1.5444	0.0028
223	1.5472	0.0028
224	1.5500	0.0028
225	1.5528	0.0028
226	1.5556	0.0028
227	1.5583	0.0028
228	1.5611	0.0028
229	1.5639	0.0028
230	1.5666	0.0027
231	1.5694	0.0027
232	1.5721	0.0027
233	1.5748	0.0027
234	1.5775	0.0027
235	1.5802	0.0027
236	1.5830	0.0027
237	1.5857	0.0027
238	1.5883	0.0027
239	1.5910	0.0027
240	1.5937	0.0027
241	1.5964	0.0027
242	1.5991	0.0027

243	1.6017	0.0027	
244	1.6044	0.0027	
245	1.6070	0.0026	
246	1.6097	0.0026	
247	1.6123	0.0026	
248	1.6149	0.0026	
249	1.6175	0.0026	
250	1.6202	0.0026	
251	1.6228	0.0026	
252	1.6254	0.0026	
253	1.6280	0.0026	
254	1.6306	0.0026	
255	1.6331	0.0026	
256	1.6357	0.0026	
257	1.6383	0.0026	
258	1.6409	0.0026	
259	1.6434	0.0026	
260	1.6460	0.0026	
261	1.6485	0.0025	
262	1.6511	0.0025	
263	1.6536	0.0025	
264	1.6561	0.0025	
265	1.6587	0.0025	
266	1.6612	0.0025	
267	1.6637	0.0025	
268	1.6662	0.0025	
269	1.6687	0.0025	
270	1.6712	0.0025	
271	1.6737	0.0025	
272	1.6762	0.0025	
273	1.6787	0.0025	
274	1.6811	0.0025	
275	1.6836	0.0025	
276	1.6861	0.0025	
277	1.6885	0.0025	
278	1.6910	0.0025	
279	1.6934	0.0024	
280	1.6959	0.0024	
281	1.6983	0.0024	
282	1.7007	0.0024	
283	1.7032	0.0024	
284	1.7056	0.0024	
285	1.7080	0.0024	
286	1.7104	0.0024	
287	1.7128	0.0024	
288	1.7152	0.0024	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)

1	0.0024	0.0015	0.0009
2	0.0024	0.0015	0.0009
3	0.0024	0.0015	0.0009
4	0.0024	0.0015	0.0009
5	0.0024	0.0015	0.0009
6	0.0024	0.0015	0.0009
7	0.0024	0.0015	0.0009
8	0.0025	0.0015	0.0009
9	0.0025	0.0015	0.0009
10	0.0025	0.0015	0.0009
11	0.0025	0.0016	0.0009
12	0.0025	0.0016	0.0009
13	0.0025	0.0016	0.0009
14	0.0025	0.0016	0.0009
15	0.0025	0.0016	0.0009
16	0.0025	0.0016	0.0009
17	0.0025	0.0016	0.0009
18	0.0025	0.0016	0.0009
19	0.0025	0.0016	0.0010
20	0.0026	0.0016	0.0010
21	0.0026	0.0016	0.0010
22	0.0026	0.0016	0.0010
23	0.0026	0.0016	0.0010
24	0.0026	0.0016	0.0010
25	0.0026	0.0016	0.0010
26	0.0026	0.0016	0.0010
27	0.0026	0.0016	0.0010
28	0.0026	0.0016	0.0010
29	0.0026	0.0017	0.0010
30	0.0026	0.0017	0.0010
31	0.0027	0.0017	0.0010
32	0.0027	0.0017	0.0010
33	0.0027	0.0017	0.0010
34	0.0027	0.0017	0.0010
35	0.0027	0.0017	0.0010
36	0.0027	0.0017	0.0010
37	0.0027	0.0017	0.0010
38	0.0027	0.0017	0.0010
39	0.0027	0.0017	0.0010
40	0.0027	0.0017	0.0010
41	0.0028	0.0017	0.0010
42	0.0028	0.0017	0.0010
43	0.0028	0.0017	0.0010
44	0.0028	0.0018	0.0010
45	0.0028	0.0018	0.0010
46	0.0028	0.0018	0.0011
47	0.0028	0.0018	0.0011
48	0.0028	0.0018	0.0011
49	0.0029	0.0018	0.0011

50	0.0029	0.0018	0.0011
51	0.0029	0.0018	0.0011
52	0.0029	0.0018	0.0011
53	0.0029	0.0018	0.0011
54	0.0029	0.0018	0.0011
55	0.0029	0.0018	0.0011
56	0.0029	0.0018	0.0011
57	0.0030	0.0019	0.0011
58	0.0030	0.0019	0.0011
59	0.0030	0.0019	0.0011
60	0.0030	0.0019	0.0011
61	0.0030	0.0019	0.0011
62	0.0030	0.0019	0.0011
63	0.0030	0.0019	0.0011
64	0.0030	0.0019	0.0011
65	0.0031	0.0019	0.0011
66	0.0031	0.0019	0.0011
67	0.0031	0.0019	0.0012
68	0.0031	0.0019	0.0012
69	0.0031	0.0020	0.0012
70	0.0031	0.0020	0.0012
71	0.0032	0.0020	0.0012
72	0.0032	0.0020	0.0012
73	0.0032	0.0020	0.0012
74	0.0032	0.0020	0.0012
75	0.0032	0.0020	0.0012
76	0.0032	0.0020	0.0012
77	0.0032	0.0020	0.0012
78	0.0033	0.0020	0.0012
79	0.0033	0.0021	0.0012
80	0.0033	0.0021	0.0012
81	0.0033	0.0021	0.0012
82	0.0033	0.0021	0.0012
83	0.0034	0.0021	0.0013
84	0.0034	0.0021	0.0013
85	0.0034	0.0021	0.0013
86	0.0034	0.0021	0.0013
87	0.0034	0.0021	0.0013
88	0.0034	0.0022	0.0013
89	0.0035	0.0022	0.0013
90	0.0035	0.0022	0.0013
91	0.0035	0.0022	0.0013
92	0.0035	0.0022	0.0013
93	0.0036	0.0022	0.0013
94	0.0036	0.0022	0.0013
95	0.0036	0.0023	0.0013
96	0.0036	0.0023	0.0013
97	0.0036	0.0023	0.0014
98	0.0037	0.0023	0.0014
99	0.0037	0.0023	0.0014

100	0.0037	0.0023	0.0014
101	0.0037	0.0023	0.0014
102	0.0037	0.0024	0.0014
103	0.0038	0.0024	0.0014
104	0.0038	0.0024	0.0014
105	0.0038	0.0024	0.0014
106	0.0039	0.0024	0.0014
107	0.0039	0.0024	0.0014
108	0.0039	0.0024	0.0015
109	0.0039	0.0025	0.0015
110	0.0040	0.0025	0.0015
111	0.0040	0.0025	0.0015
112	0.0040	0.0025	0.0015
113	0.0041	0.0025	0.0015
114	0.0041	0.0026	0.0015
115	0.0041	0.0026	0.0015
116	0.0041	0.0026	0.0015
117	0.0042	0.0026	0.0016
118	0.0042	0.0026	0.0016
119	0.0043	0.0027	0.0016
120	0.0043	0.0027	0.0016
121	0.0043	0.0027	0.0016
122	0.0043	0.0027	0.0016
123	0.0044	0.0028	0.0016
124	0.0044	0.0028	0.0016
125	0.0045	0.0028	0.0017
126	0.0045	0.0028	0.0017
127	0.0046	0.0029	0.0017
128	0.0046	0.0029	0.0017
129	0.0046	0.0029	0.0017
130	0.0047	0.0029	0.0017
131	0.0047	0.0030	0.0018
132	0.0048	0.0030	0.0018
133	0.0048	0.0030	0.0018
134	0.0049	0.0030	0.0018
135	0.0049	0.0031	0.0018
136	0.0050	0.0031	0.0018
137	0.0050	0.0032	0.0019
138	0.0051	0.0032	0.0019
139	0.0051	0.0032	0.0019
140	0.0052	0.0032	0.0019
141	0.0053	0.0033	0.0020
142	0.0053	0.0033	0.0020
143	0.0054	0.0034	0.0020
144	0.0054	0.0034	0.0020
145	0.0055	0.0034	0.0020
146	0.0055	0.0035	0.0021
147	0.0056	0.0035	0.0021
148	0.0057	0.0035	0.0021
149	0.0058	0.0036	0.0021

150	0.0058	0.0036	0.0022
151	0.0059	0.0037	0.0022
152	0.0060	0.0038	0.0022
153	0.0061	0.0038	0.0023
154	0.0062	0.0039	0.0023
155	0.0063	0.0039	0.0023
156	0.0064	0.0040	0.0024
157	0.0065	0.0041	0.0024
158	0.0066	0.0041	0.0025
159	0.0067	0.0042	0.0025
160	0.0068	0.0043	0.0025
161	0.0070	0.0044	0.0026
162	0.0071	0.0044	0.0026
163	0.0073	0.0046	0.0027
164	0.0074	0.0046	0.0027
165	0.0076	0.0048	0.0028
166	0.0077	0.0048	0.0029
167	0.0079	0.0050	0.0030
168	0.0081	0.0050	0.0030
169	0.0083	0.0052	0.0031
170	0.0085	0.0053	0.0032
171	0.0088	0.0055	0.0033
172	0.0090	0.0056	0.0033
173	0.0093	0.0058	0.0035
174	0.0095	0.0060	0.0035
175	0.0099	0.0062	0.0037
176	0.0102	0.0064	0.0038
177	0.0107	0.0067	0.0040
178	0.0110	0.0069	0.0041
179	0.0116	0.0073	0.0043
180	0.0119	0.0075	0.0045
181	0.0127	0.0080	0.0048
182	0.0132	0.0083	0.0049
183	0.0143	0.0089	0.0053
184	0.0149	0.0093	0.0056
185	0.0164	0.0103	0.0061
186	0.0173	0.0109	0.0065
187	0.0196	0.0123	0.0073
188	0.0212	0.0133	0.0079
189	0.0255	0.0160	0.0095
190	0.0288	0.0181	0.0108
191	0.0412	0.0225	0.0187
192	0.0566	0.0225	0.0342
193	0.1773	0.0225	0.1548
194	0.0336	0.0210	0.0125
195	0.0231	0.0145	0.0086
196	0.0184	0.0115	0.0069
197	0.0156	0.0098	0.0058
198	0.0137	0.0086	0.0051
199	0.0123	0.0077	0.0046

200	0.0113	0.0071	0.0042
201	0.0104	0.0065	0.0039
202	0.0097	0.0061	0.0036
203	0.0091	0.0057	0.0034
204	0.0086	0.0054	0.0032
205	0.0082	0.0051	0.0031
206	0.0078	0.0049	0.0029
207	0.0075	0.0047	0.0028
208	0.0072	0.0045	0.0027
209	0.0069	0.0043	0.0026
210	0.0067	0.0042	0.0025
211	0.0064	0.0040	0.0024
212	0.0062	0.0039	0.0023
213	0.0060	0.0038	0.0023
214	0.0059	0.0037	0.0022
215	0.0057	0.0036	0.0021
216	0.0056	0.0035	0.0021
217	0.0055	0.0034	0.0020
218	0.0053	0.0033	0.0020
219	0.0052	0.0033	0.0019
220	0.0051	0.0032	0.0019
221	0.0050	0.0031	0.0019
222	0.0049	0.0031	0.0018
223	0.0048	0.0030	0.0018
224	0.0047	0.0029	0.0018
225	0.0046	0.0029	0.0017
226	0.0045	0.0028	0.0017
227	0.0044	0.0028	0.0017
228	0.0044	0.0027	0.0016
229	0.0043	0.0027	0.0016
230	0.0042	0.0027	0.0016
231	0.0042	0.0026	0.0016
232	0.0041	0.0026	0.0015
233	0.0040	0.0025	0.0015
234	0.0040	0.0025	0.0015
235	0.0039	0.0025	0.0015
236	0.0039	0.0024	0.0014
237	0.0038	0.0024	0.0014
238	0.0038	0.0024	0.0014
239	0.0037	0.0023	0.0014
240	0.0037	0.0023	0.0014
241	0.0036	0.0023	0.0014
242	0.0036	0.0022	0.0013
243	0.0035	0.0022	0.0013
244	0.0035	0.0022	0.0013
245	0.0035	0.0022	0.0013
246	0.0034	0.0021	0.0013
247	0.0034	0.0021	0.0013
248	0.0033	0.0021	0.0012
249	0.0033	0.0021	0.0012

250	0.0033	0.0021	0.0012
251	0.0032	0.0020	0.0012
252	0.0032	0.0020	0.0012
253	0.0032	0.0020	0.0012
254	0.0031	0.0020	0.0012
255	0.0031	0.0020	0.0012
256	0.0031	0.0019	0.0011
257	0.0031	0.0019	0.0011
258	0.0030	0.0019	0.0011
259	0.0030	0.0019	0.0011
260	0.0030	0.0019	0.0011
261	0.0029	0.0018	0.0011
262	0.0029	0.0018	0.0011
263	0.0029	0.0018	0.0011
264	0.0029	0.0018	0.0011
265	0.0028	0.0018	0.0011
266	0.0028	0.0018	0.0011
267	0.0028	0.0018	0.0010
268	0.0028	0.0017	0.0010
269	0.0028	0.0017	0.0010
270	0.0027	0.0017	0.0010
271	0.0027	0.0017	0.0010
272	0.0027	0.0017	0.0010
273	0.0027	0.0017	0.0010
274	0.0027	0.0017	0.0010
275	0.0026	0.0017	0.0010
276	0.0026	0.0016	0.0010
277	0.0026	0.0016	0.0010
278	0.0026	0.0016	0.0010
279	0.0026	0.0016	0.0010
280	0.0025	0.0016	0.0009
281	0.0025	0.0016	0.0009
282	0.0025	0.0016	0.0009
283	0.0025	0.0016	0.0009
284	0.0025	0.0016	0.0009
285	0.0025	0.0015	0.0009
286	0.0024	0.0015	0.0009
287	0.0024	0.0015	0.0009
288	0.0024	0.0015	0.0009

Total soil rain loss = 0.97(In)
Total effective rainfall = 0.74(In)
Peak flow rate in flood hydrograph = 9.88(CFS)

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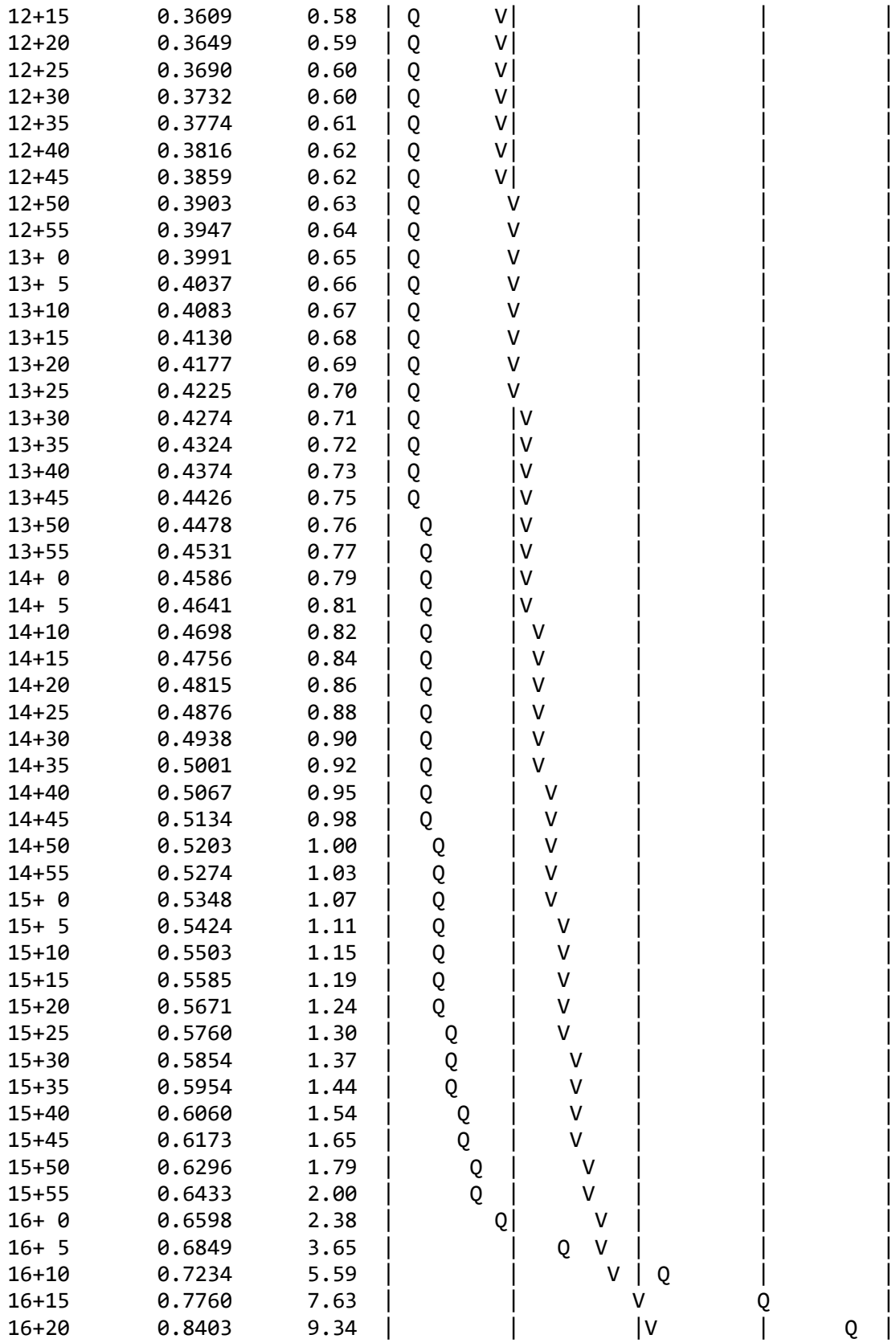
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

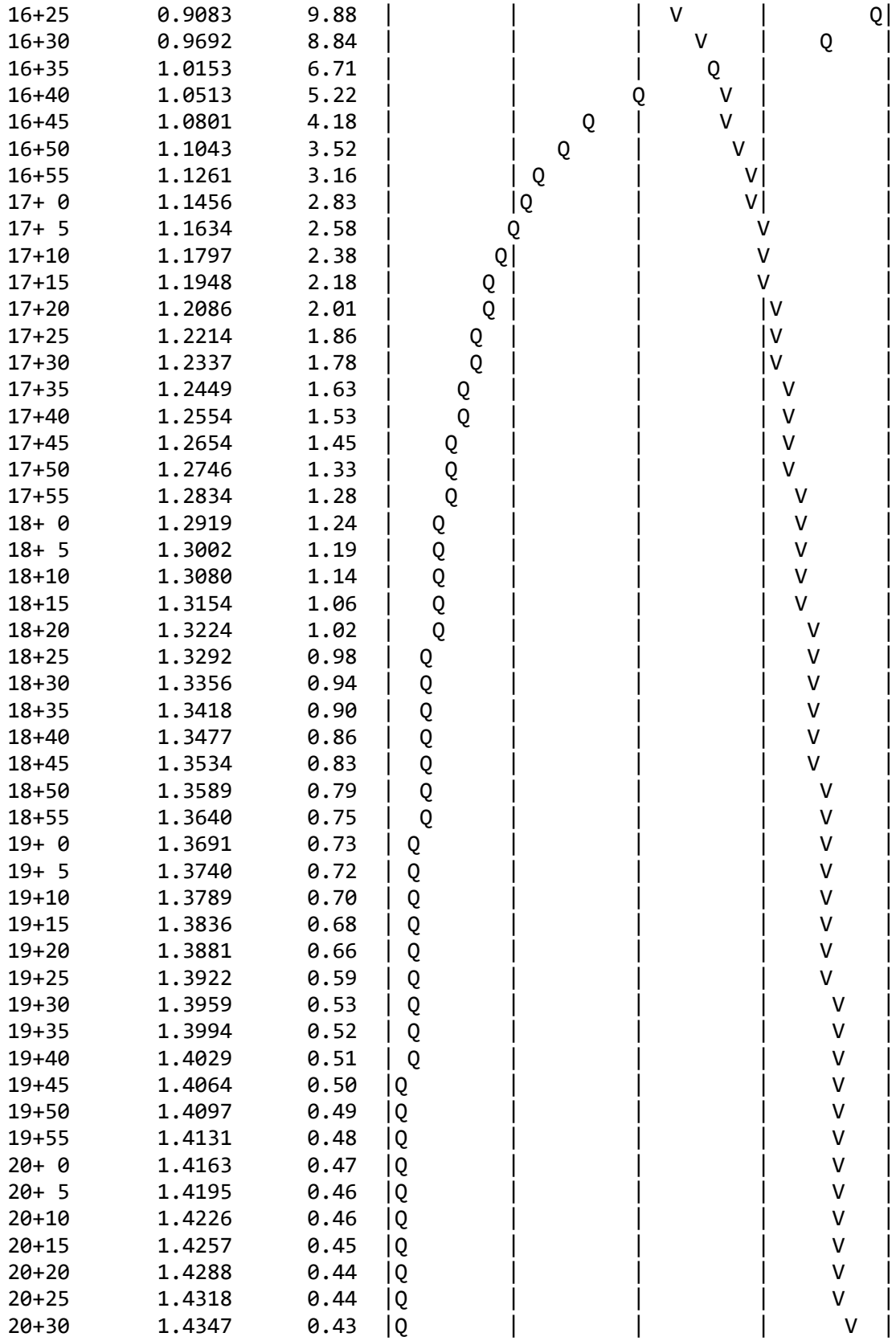
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0002	0.02	Q				
0+15	0.0004	0.04	Q				
0+20	0.0010	0.08	Q				
0+25	0.0017	0.11	Q				
0+30	0.0028	0.15	Q				
0+35	0.0039	0.17	Q				
0+40	0.0052	0.19	Q				
0+45	0.0066	0.20	Q				
0+50	0.0081	0.21	Q				
0+55	0.0095	0.22	Q				
1+ 0	0.0111	0.22	Q				
1+ 5	0.0127	0.23	Q				
1+10	0.0143	0.24	Q				
1+15	0.0160	0.24	Q				
1+20	0.0176	0.25	Q				
1+25	0.0194	0.25	Q				
1+30	0.0211	0.25	VQ				
1+35	0.0229	0.26	VQ				
1+40	0.0247	0.26	VQ				
1+45	0.0265	0.26	VQ				
1+50	0.0283	0.27	VQ				
1+55	0.0301	0.27	VQ				
2+ 0	0.0320	0.27	VQ				
2+ 5	0.0339	0.27	VQ				
2+10	0.0358	0.28	VQ				
2+15	0.0377	0.28	VQ				
2+20	0.0396	0.28	|Q				
2+25	0.0416	0.28	|Q				
2+30	0.0435	0.28	|Q				
2+35	0.0455	0.29	|Q				
2+40	0.0475	0.29	|Q				
2+45	0.0495	0.29	|Q				
2+50	0.0515	0.29	|Q				
2+55	0.0535	0.29	|Q				
3+ 0	0.0555	0.29	|Q				
3+ 5	0.0576	0.30	|Q				
3+10	0.0596	0.30	|Q				
3+15	0.0617	0.30	|Q				
3+20	0.0638	0.30	|Q				
3+25	0.0658	0.30	|Q				
3+30	0.0679	0.30	|Q				
3+35	0.0700	0.30	|Q				
3+40	0.0721	0.31	|Q				
3+45	0.0742	0.31	|Q				
3+50	0.0764	0.31	|Q				

3+55	0.0785	0.31	|QV	|	|	|	|
4+ 0	0.0806	0.31	|QV	|	|	|	|
4+ 5	0.0828	0.31	|QV	|	|	|	|
4+10	0.0849	0.31	|QV	|	|	|	|
4+15	0.0871	0.31	|QV	|	|	|	|
4+20	0.0893	0.32	|QV	|	|	|	|
4+25	0.0915	0.32	|QV	|	|	|	|
4+30	0.0937	0.32	|QV	|	|	|	|
4+35	0.0959	0.32	|QV	|	|	|	|
4+40	0.0981	0.32	|QV	|	|	|	|
4+45	0.1003	0.32	|QV	|	|	|	|
4+50	0.1025	0.32	|QV	|	|	|	|
4+55	0.1047	0.32	|QV	|	|	|	|
5+ 0	0.1070	0.33	|QV	|	|	|	|
5+ 5	0.1092	0.33	|QV	|	|	|	|
5+10	0.1115	0.33	|QV	|	|	|	|
5+15	0.1138	0.33	|QV	|	|	|	|
5+20	0.1161	0.33	|QV	|	|	|	|
5+25	0.1184	0.33	|Q V	|	|	|	|
5+30	0.1207	0.33	|Q V	|	|	|	|
5+35	0.1230	0.34	|Q V	|	|	|	|
5+40	0.1253	0.34	|Q V	|	|	|	|
5+45	0.1277	0.34	|Q V	|	|	|	|
5+50	0.1300	0.34	|Q V	|	|	|	|
5+55	0.1324	0.34	|Q V	|	|	|	|
6+ 0	0.1347	0.34	|Q V	|	|	|	|
6+ 5	0.1371	0.35	|Q V	|	|	|	|
6+10	0.1395	0.35	|Q V	|	|	|	|
6+15	0.1419	0.35	|Q V	|	|	|	|
6+20	0.1443	0.35	|Q V	|	|	|	|
6+25	0.1468	0.35	|Q V	|	|	|	|
6+30	0.1492	0.35	|Q V	|	|	|	|
6+35	0.1516	0.36	|Q V	|	|	|	|
6+40	0.1541	0.36	|Q V	|	|	|	|
6+45	0.1566	0.36	|Q V	|	|	|	|
6+50	0.1591	0.36	|Q V	|	|	|	|
6+55	0.1616	0.36	|Q V	|	|	|	|
7+ 0	0.1641	0.36	|Q V	|	|	|	|
7+ 5	0.1666	0.37	|Q V	|	|	|	|
7+10	0.1692	0.37	|Q V	|	|	|	|
7+15	0.1717	0.37	|Q V	|	|	|	|
7+20	0.1743	0.37	|Q V	|	|	|	|
7+25	0.1769	0.37	|Q V	|	|	|	|
7+30	0.1794	0.38	|Q V	|	|	|	|
7+35	0.1821	0.38	|Q V	|	|	|	|
7+40	0.1847	0.38	|Q V	|	|	|	|
7+45	0.1873	0.38	|Q V	|	|	|	|
7+50	0.1900	0.39	|Q V	|	|	|	|
7+55	0.1926	0.39	|Q V	|	|	|	|
8+ 0	0.1953	0.39	|Q V	|	|	|	|

8+ 5	0.1980	0.39	|Q V |	|	|	|
8+10	0.2007	0.39	|Q V |	|	|	|
8+15	0.2035	0.40	|Q V |	|	|	|
8+20	0.2062	0.40	|Q V |	|	|	|
8+25	0.2090	0.40	|Q V |	|	|	|
8+30	0.2118	0.40	|Q V |	|	|	|
8+35	0.2146	0.41	|Q V |	|	|	|
8+40	0.2174	0.41	|Q V |	|	|	|
8+45	0.2202	0.41	|Q V |	|	|	|
8+50	0.2231	0.41	|Q V |	|	|	|
8+55	0.2259	0.42	|Q V |	|	|	|
9+ 0	0.2288	0.42	|Q V |	|	|	|
9+ 5	0.2317	0.42	|Q V |	|	|	|
9+10	0.2346	0.42	|Q V |	|	|	|
9+15	0.2376	0.43	|Q V |	|	|	|
9+20	0.2406	0.43	|Q V |	|	|	|
9+25	0.2435	0.43	|Q V |	|	|	|
9+30	0.2465	0.44	|Q V |	|	|	|
9+35	0.2496	0.44	|Q V |	|	|	|
9+40	0.2526	0.44	|Q V |	|	|	|
9+45	0.2557	0.45	|Q V |	|	|	|
9+50	0.2588	0.45	|Q V |	|	|	|
9+55	0.2619	0.45	|Q V |	|	|	|
10+ 0	0.2650	0.46	|Q V |	|	|	|
10+ 5	0.2682	0.46	|Q V |	|	|	|
10+10	0.2714	0.46	|Q V |	|	|	|
10+15	0.2746	0.47	|Q V |	|	|	|
10+20	0.2778	0.47	|Q V |	|	|	|
10+25	0.2811	0.47	|Q V |	|	|	|
10+30	0.2844	0.48	|Q V |	|	|	|
10+35	0.2877	0.48	|Q V |	|	|	|
10+40	0.2911	0.49	|Q V |	|	|	|
10+45	0.2944	0.49	|Q V |	|	|	|
10+50	0.2978	0.49	|Q V |	|	|	|
10+55	0.3013	0.50	|Q V |	|	|	|
11+ 0	0.3047	0.50	| Q V |	|	|	|
11+ 5	0.3082	0.51	| Q V |	|	|	|
11+10	0.3117	0.51	| Q V |	|	|	|
11+15	0.3153	0.52	| Q V |	|	|	|
11+20	0.3189	0.52	| Q V |	|	|	|
11+25	0.3225	0.53	| Q V |	|	|	|
11+30	0.3262	0.53	| Q V |	|	|	|
11+35	0.3299	0.54	| Q V |	|	|	|
11+40	0.3336	0.54	| Q V |	|	|	|
11+45	0.3374	0.55	| Q V |	|	|	|
11+50	0.3412	0.55	| Q V |	|	|	|
11+55	0.3450	0.56	| Q V |	|	|	|
12+ 0	0.3489	0.57	| Q V|	|	|	|
12+ 5	0.3529	0.57	| Q V|	|	|	|
12+10	0.3568	0.58	| Q V|	|	|	|





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20+35       1.4376      0.42  |Q        |         |         |      V  |
20+40       1.4405      0.42  |Q        |         |         |      V  |
20+45       1.4434      0.41  |Q        |         |         |      V  |
20+50       1.4462      0.41  |Q        |         |         |      V  |
20+55       1.4489      0.40  |Q        |         |         |      V  |
21+ 0       1.4517      0.40  |Q        |         |         |      V  |
21+ 5       1.4544      0.39  |Q        |         |         |      V  |
21+10       1.4570      0.39  |Q        |         |         |      V  |
21+15       1.4597      0.38  |Q        |         |         |      V  |
21+20       1.4623      0.38  |Q        |         |         |      V  |
21+25       1.4649      0.37  |Q        |         |         |      V  |
21+30       1.4674      0.37  |Q        |         |         |      V  |
21+35       1.4699      0.37  |Q        |         |         |      V  |
21+40       1.4724      0.36  |Q        |         |         |       V |
21+45       1.4749      0.36  |Q        |         |         |       V |
21+50       1.4774      0.36  |Q        |         |         |       V |
21+55       1.4798      0.35  |Q        |         |         |       V |
22+ 0       1.4822      0.35  |Q        |         |         |       V |
22+ 5       1.4846      0.35  |Q        |         |         |       V |
22+10       1.4869      0.34  |Q        |         |         |       V |
22+15       1.4893      0.34  |Q        |         |         |       V |
22+20       1.4916      0.34  |Q        |         |         |       V |
22+25       1.4939      0.33  |Q        |         |         |       V |
22+30       1.4961      0.33  |Q        |         |         |       V |
22+35       1.4984      0.33  |Q        |         |         |       V |
22+40       1.5006      0.32  |Q        |         |         |       V |
22+45       1.5028      0.32  |Q        |         |         |       V |
22+50       1.5050      0.32  |Q        |         |         |       V |
22+55       1.5072      0.32  |Q        |         |         |       V |
23+ 0       1.5094      0.31  |Q        |         |         |       V |
23+ 5       1.5115      0.31  |Q        |         |         |        V|
23+10       1.5136      0.31  |Q        |         |         |        V|
23+15       1.5157      0.31  |Q        |         |         |        V|
23+20       1.5178      0.30  |Q        |         |         |        V|
23+25       1.5199      0.30  |Q        |         |         |        V|
23+30       1.5220      0.30  |Q        |         |         |        V|
23+35       1.5240      0.30  |Q        |         |         |        V|
23+40       1.5260      0.29  |Q        |         |         |        V|
23+45       1.5281      0.29  |Q        |         |         |        V|
23+50       1.5301      0.29  |Q        |         |         |        V|
23+55       1.5321      0.29  |Q        |         |         |        V|
24+ 0       1.5340      0.29  |Q        |         |         |        V|
24+ 5       1.5360      0.28  |Q        |         |         |        V|
24+10       1.5378      0.26  |Q        |         |         |        V|
24+15       1.5394      0.24  Q        |         |         |        V|
24+20       1.5408      0.20  Q        |         |         |        V|
24+25       1.5420      0.17  Q        |         |         |        V|
24+30       1.5429      0.13  Q        |         |         |        V|
24+35       1.5436      0.11  Q        |         |         |        V|
24+40       1.5442      0.09  Q        |         |         |        V|
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  24+45       1.5448      0.08  Q          |          |          |         V|
  24+50       1.5452      0.07  Q          |          |          |         V|
  24+55       1.5456      0.06  Q          |          |          |         V|
  25+ 0       1.5460      0.05  Q          |          |          |         V|
  25+ 5       1.5463      0.05  Q          |          |          |         V|
  25+10       1.5466      0.04  Q          |          |          |         V|
  25+15       1.5469      0.04  Q          |          |          |         V|
  25+20       1.5472      0.03  Q          |          |          |         V|
  25+25       1.5474      0.03  Q          |          |          |         V|
  25+30       1.5476      0.03  Q          |          |          |         V|
  25+35       1.5477      0.03  Q          |          |          |         V|
  25+40       1.5479      0.02  Q          |          |          |         V|
  25+45       1.5480      0.02  Q          |          |          |         V|
  25+50       1.5482      0.02  Q          |          |          |         V|
  25+55       1.5483      0.02  Q          |          |          |         V|
  26+ 0       1.5484      0.01  Q          |          |          |         V|
  26+ 5       1.5485      0.01  Q          |          |          |         V|
  26+10       1.5485      0.01  Q          |          |          |         V|
  26+15       1.5486      0.01  Q          |          |          |         V|
  26+20       1.5487      0.01  Q          |          |          |         V|
  26+25       1.5487      0.01  Q          |          |          |         V|
  26+30       1.5488      0.01  Q          |          |          |         V|
  26+35       1.5488      0.01  Q          |          |          |         V|
  26+40       1.5488      0.00  Q          |          |          |         V|
  26+45       1.5489      0.00  Q          |          |          |         V|
  26+50       1.5489      0.00  Q          |          |          |         V|
  26+55       1.5489      0.00  Q          |          |          |         V|
  27+ 0       1.5489      0.00  Q          |          |          |         V|
  27+ 5       1.5489      0.00  Q          |          |          |         V|
  27+10       1.5490      0.00  Q          |          |          |         V|
  27+15       1.5490      0.00  Q          |          |          |         V|
  27+20       1.5490      0.00  Q          |          |          |          V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/18/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
UNIT HYDROGRAPH ANALYSIS, EX CULVERT 5
EXISTING CONDITION, 5-YEAR 24-HOUR
FN: UHEX05CUL5.OUT - ABE

Storm Event Year = 5

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
96.30	1	0.60
Rainfall data for year 2		
96.30	6	0.70
Rainfall data for year 2		
96.30	24	1.20
Rainfall data for year 100		

```
            96.30            1           1.00
------------------------------------------------------------------------
Rainfall data for year 100
            96.30            6           1.90
------------------------------------------------------------------------
Rainfall data for year 100
            96.30           24           3.40
------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

******** Area-averaged max loss rate, Fm ********


SCS curve  SCS curve     Area     Area     Fp(Fig C6)    Ap      Fm
No.(AMCII) NO.(AMC 2)    (Ac.)    Fraction     (In/Hr)  (dec.)   (In/Hr)
 86.0      86.0         96.30      1.000     0.265    0.870    0.231

Area-averaged adjusted loss rate Fm (In/Hr) =  0.231

********* Area-Averaged low loss rate fraction, Yb **********

Area       Area          SCS CN    SCS CN      S     Pervious
 (Ac.)      Fract         (AMC2)    (AMC2)           Yield Fr
    83.78   0.870         86.0      86.0       1.63     0.373
    12.52   0.130         98.0      98.0       0.20     0.870

Area-averaged catchment yield fraction, Y =  0.438
Area-averaged low loss fraction, Yb =  0.562
User entry of time of concentration  =   1.080 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      96.30(Ac.)
Catchment Lag time =   0.864 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time =  9.6451
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.231(In/Hr)
Average low loss rate fraction (Yb) = 0.562 (decimal)
VALLEY UNDEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.177(In)
Computed peak 30-minute rainfall =  0.363(In)
Specified peak 1-hour rainfall =  0.480(In)
Computed peak 3-hour rainfall =  0.744(In)
Specified peak 6-hour rainfall =  0.981(In)
Specified peak 24-hour rainfall =  1.715(In)


Rainfall depth area reduction factors:
Using a total area of      96.30(Ac.) (Ref: fig. E-4)

5-minute factor = 0.995     Adjusted rainfall =  0.177(In)
```

30-minute factor = 0.995 Adjusted rainfall = 0.362(In)
1-hour factor = 0.995 Adjusted rainfall = 0.477(In)
3-hour factor = 0.999 Adjusted rainfall = 0.743(In)
6-hour factor = 1.000 Adjusted rainfall = 0.981(In)
24-hour factor = 1.000 Adjusted rainfall = 1.715(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 1164.63 (CFS))	
1	0.836	9.735
2	2.571	20.211
3	4.883	26.927
4	8.219	38.850
5	12.465	49.451
6	17.459	58.154
7	23.561	71.067
8	30.141	76.641
9	37.028	80.201
10	43.972	80.877
11	50.544	76.540
12	55.747	60.592
13	60.180	51.632
14	63.667	40.604
15	66.696	35.285
16	69.303	30.360
17	71.390	24.299
18	73.242	21.573
19	74.806	18.214
20	76.236	16.650
21	77.654	16.515
22	78.884	14.331
23	80.042	13.479
24	81.156	12.972
25	82.130	11.354
26	83.095	11.229
27	83.992	10.455
28	84.841	9.885
29	85.671	9.671
30	86.386	8.323
31	87.081	8.088
32	87.729	7.547
33	88.308	6.747
34	88.887	6.740
35	89.465	6.740
36	90.044	6.740

37	90.584	6.284
38	91.014	5.017
39	91.439	4.942
40	91.863	4.942
41	92.287	4.942
42	92.696	4.755
43	93.017	3.745
44	93.326	3.595
45	93.635	3.595
46	93.943	3.595
47	94.251	3.581
48	94.544	3.418
49	94.834	3.370
50	95.123	3.370
51	95.412	3.370
52	95.701	3.358
53	95.940	2.788
54	96.152	2.471
55	96.364	2.471
56	96.577	2.471
57	96.789	2.471
58	96.983	2.257
59	97.156	2.022
60	97.330	2.022
61	97.503	2.022
62	97.677	2.022
63	97.839	1.881
64	97.974	1.582
65	98.109	1.573
66	98.245	1.573
67	98.380	1.573
68	98.507	1.490
69	98.607	1.158
70	98.703	1.123
71	98.800	1.123
72	98.896	1.123
73	98.993	1.123
74	99.089	1.123
75	99.186	1.123
76	99.282	1.123
77	99.378	1.123
78	99.475	1.123
79	99.571	1.123
80	99.668	1.123
81	99.764	1.123
82	99.861	1.123
83	100.000	0.562

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)

1	0.1767	0.1767
2	0.2332	0.0565
3	0.2742	0.0411
4	0.3076	0.0334
5	0.3364	0.0287
6	0.3618	0.0254
7	0.3848	0.0230
8	0.4059	0.0211
9	0.4255	0.0196
10	0.4438	0.0183
11	0.4611	0.0172
12	0.4774	0.0163
13	0.4931	0.0157
14	0.5080	0.0149
15	0.5224	0.0143
16	0.5361	0.0138
17	0.5494	0.0133
18	0.5622	0.0128
19	0.5746	0.0124
20	0.5866	0.0120
21	0.5982	0.0116
22	0.6095	0.0113
23	0.6206	0.0110
24	0.6313	0.0107
25	0.6418	0.0105
26	0.6520	0.0102
27	0.6620	0.0100
28	0.6718	0.0098
29	0.6813	0.0096
30	0.6907	0.0094
31	0.6999	0.0092
32	0.7089	0.0090
33	0.7178	0.0088
34	0.7264	0.0087
35	0.7350	0.0085
36	0.7434	0.0084
37	0.7516	0.0082
38	0.7596	0.0081
39	0.7675	0.0079
40	0.7754	0.0078
41	0.7830	0.0077
42	0.7906	0.0076
43	0.7981	0.0075
44	0.8055	0.0074
45	0.8127	0.0073
46	0.8199	0.0072
47	0.8270	0.0071
48	0.8340	0.0070
49	0.8409	0.0069
50	0.8477	0.0068

51	0.8545	0.0067
52	0.8611	0.0067
53	0.8677	0.0066
54	0.8742	0.0065
55	0.8806	0.0064
56	0.8870	0.0064
57	0.8933	0.0063
58	0.8995	0.0062
59	0.9057	0.0062
60	0.9118	0.0061
61	0.9179	0.0060
62	0.9239	0.0060
63	0.9298	0.0059
64	0.9357	0.0059
65	0.9415	0.0058
66	0.9472	0.0058
67	0.9530	0.0057
68	0.9586	0.0057
69	0.9642	0.0056
70	0.9698	0.0056
71	0.9753	0.0055
72	0.9808	0.0055
73	0.9862	0.0055
74	0.9917	0.0054
75	0.9970	0.0054
76	1.0024	0.0053
77	1.0077	0.0053
78	1.0129	0.0053
79	1.0182	0.0052
80	1.0233	0.0052
81	1.0285	0.0051
82	1.0336	0.0051
83	1.0386	0.0051
84	1.0437	0.0050
85	1.0486	0.0050
86	1.0536	0.0050
87	1.0585	0.0049
88	1.0634	0.0049
89	1.0683	0.0049
90	1.0731	0.0048
91	1.0779	0.0048
92	1.0826	0.0048
93	1.0874	0.0047
94	1.0921	0.0047
95	1.0967	0.0047
96	1.1014	0.0046
97	1.1060	0.0046
98	1.1106	0.0046
99	1.1151	0.0046
100	1.1197	0.0045

101	1.1242	0.0045
102	1.1286	0.0045
103	1.1331	0.0044
104	1.1375	0.0044
105	1.1419	0.0044
106	1.1463	0.0044
107	1.1506	0.0043
108	1.1549	0.0043
109	1.1592	0.0043
110	1.1635	0.0043
111	1.1678	0.0043
112	1.1720	0.0042
113	1.1762	0.0042
114	1.1804	0.0042
115	1.1846	0.0042
116	1.1887	0.0041
117	1.1928	0.0041
118	1.1969	0.0041
119	1.2010	0.0041
120	1.2051	0.0041
121	1.2091	0.0040
122	1.2131	0.0040
123	1.2171	0.0040
124	1.2211	0.0040
125	1.2250	0.0040
126	1.2290	0.0039
127	1.2329	0.0039
128	1.2368	0.0039
129	1.2407	0.0039
130	1.2446	0.0039
131	1.2484	0.0039
132	1.2523	0.0038
133	1.2561	0.0038
134	1.2599	0.0038
135	1.2637	0.0038
136	1.2674	0.0038
137	1.2712	0.0037
138	1.2749	0.0037
139	1.2786	0.0037
140	1.2823	0.0037
141	1.2860	0.0037
142	1.2897	0.0037
143	1.2933	0.0037
144	1.2970	0.0036
145	1.3006	0.0036
146	1.3042	0.0036
147	1.3078	0.0036
148	1.3114	0.0036
149	1.3149	0.0036
150	1.3185	0.0036

151	1.3220	0.0035
152	1.3255	0.0035
153	1.3291	0.0035
154	1.3325	0.0035
155	1.3360	0.0035
156	1.3395	0.0035
157	1.3430	0.0035
158	1.3464	0.0034
159	1.3498	0.0034
160	1.3532	0.0034
161	1.3566	0.0034
162	1.3600	0.0034
163	1.3634	0.0034
164	1.3668	0.0034
165	1.3701	0.0034
166	1.3735	0.0033
167	1.3768	0.0033
168	1.3801	0.0033
169	1.3834	0.0033
170	1.3867	0.0033
171	1.3900	0.0033
172	1.3933	0.0033
173	1.3965	0.0033
174	1.3998	0.0032
175	1.4030	0.0032
176	1.4062	0.0032
177	1.4095	0.0032
178	1.4127	0.0032
179	1.4159	0.0032
180	1.4190	0.0032
181	1.4222	0.0032
182	1.4254	0.0032
183	1.4285	0.0032
184	1.4317	0.0031
185	1.4348	0.0031
186	1.4379	0.0031
187	1.4410	0.0031
188	1.4441	0.0031
189	1.4472	0.0031
190	1.4503	0.0031
191	1.4534	0.0031
192	1.4565	0.0031
193	1.4595	0.0031
194	1.4625	0.0030
195	1.4656	0.0030
196	1.4686	0.0030
197	1.4716	0.0030
198	1.4746	0.0030
199	1.4776	0.0030
200	1.4806	0.0030

201	1.4836	0.0030
202	1.4866	0.0030
203	1.4895	0.0030
204	1.4925	0.0030
205	1.4954	0.0029
206	1.4984	0.0029
207	1.5013	0.0029
208	1.5042	0.0029
209	1.5071	0.0029
210	1.5100	0.0029
211	1.5129	0.0029
212	1.5158	0.0029
213	1.5187	0.0029
214	1.5216	0.0029
215	1.5244	0.0029
216	1.5273	0.0029
217	1.5301	0.0028
218	1.5330	0.0028
219	1.5358	0.0028
220	1.5386	0.0028
221	1.5414	0.0028
222	1.5442	0.0028
223	1.5470	0.0028
224	1.5498	0.0028
225	1.5526	0.0028
226	1.5554	0.0028
227	1.5582	0.0028
228	1.5609	0.0028
229	1.5637	0.0028
230	1.5664	0.0027
231	1.5692	0.0027
232	1.5719	0.0027
233	1.5746	0.0027
234	1.5774	0.0027
235	1.5801	0.0027
236	1.5828	0.0027
237	1.5855	0.0027
238	1.5882	0.0027
239	1.5909	0.0027
240	1.5935	0.0027
241	1.5962	0.0027
242	1.5989	0.0027
243	1.6015	0.0027
244	1.6042	0.0027
245	1.6068	0.0026
246	1.6095	0.0026
247	1.6121	0.0026
248	1.6148	0.0026
249	1.6174	0.0026
250	1.6200	0.0026

251	1.6226	0.0026
252	1.6252	0.0026
253	1.6278	0.0026
254	1.6304	0.0026
255	1.6330	0.0026
256	1.6356	0.0026
257	1.6381	0.0026
258	1.6407	0.0026
259	1.6433	0.0026
260	1.6458	0.0026
261	1.6484	0.0025
262	1.6509	0.0025
263	1.6534	0.0025
264	1.6560	0.0025
265	1.6585	0.0025
266	1.6610	0.0025
267	1.6635	0.0025
268	1.6660	0.0025
269	1.6685	0.0025
270	1.6710	0.0025
271	1.6735	0.0025
272	1.6760	0.0025
273	1.6785	0.0025
274	1.6810	0.0025
275	1.6834	0.0025
276	1.6859	0.0025
277	1.6884	0.0025
278	1.6908	0.0025
279	1.6933	0.0024
280	1.6957	0.0024
281	1.6982	0.0024
282	1.7006	0.0024
283	1.7030	0.0024
284	1.7054	0.0024
285	1.7079	0.0024
286	1.7103	0.0024
287	1.7127	0.0024
288	1.7151	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0014	0.0011
2	0.0024	0.0014	0.0011
3	0.0024	0.0014	0.0011
4	0.0024	0.0014	0.0011
5	0.0024	0.0014	0.0011
6	0.0024	0.0014	0.0011
7	0.0024	0.0014	0.0011

8	0.0025	0.0014	0.0011
9	0.0025	0.0014	0.0011
10	0.0025	0.0014	0.0011
11	0.0025	0.0014	0.0011
12	0.0025	0.0014	0.0011
13	0.0025	0.0014	0.0011
14	0.0025	0.0014	0.0011
15	0.0025	0.0014	0.0011
16	0.0025	0.0014	0.0011
17	0.0025	0.0014	0.0011
18	0.0025	0.0014	0.0011
19	0.0025	0.0014	0.0011
20	0.0026	0.0014	0.0011
21	0.0026	0.0014	0.0011
22	0.0026	0.0014	0.0011
23	0.0026	0.0015	0.0011
24	0.0026	0.0015	0.0011
25	0.0026	0.0015	0.0011
26	0.0026	0.0015	0.0011
27	0.0026	0.0015	0.0011
28	0.0026	0.0015	0.0012
29	0.0026	0.0015	0.0012
30	0.0026	0.0015	0.0012
31	0.0027	0.0015	0.0012
32	0.0027	0.0015	0.0012
33	0.0027	0.0015	0.0012
34	0.0027	0.0015	0.0012
35	0.0027	0.0015	0.0012
36	0.0027	0.0015	0.0012
37	0.0027	0.0015	0.0012
38	0.0027	0.0015	0.0012
39	0.0027	0.0015	0.0012
40	0.0027	0.0015	0.0012
41	0.0028	0.0016	0.0012
42	0.0028	0.0016	0.0012
43	0.0028	0.0016	0.0012
44	0.0028	0.0016	0.0012
45	0.0028	0.0016	0.0012
46	0.0028	0.0016	0.0012
47	0.0028	0.0016	0.0012
48	0.0028	0.0016	0.0012
49	0.0029	0.0016	0.0012
50	0.0029	0.0016	0.0013
51	0.0029	0.0016	0.0013
52	0.0029	0.0016	0.0013
53	0.0029	0.0016	0.0013
54	0.0029	0.0016	0.0013
55	0.0029	0.0016	0.0013
56	0.0029	0.0017	0.0013
57	0.0030	0.0017	0.0013

58	0.0030	0.0017	0.0013
59	0.0030	0.0017	0.0013
60	0.0030	0.0017	0.0013
61	0.0030	0.0017	0.0013
62	0.0030	0.0017	0.0013
63	0.0030	0.0017	0.0013
64	0.0030	0.0017	0.0013
65	0.0031	0.0017	0.0013
66	0.0031	0.0017	0.0013
67	0.0031	0.0017	0.0014
68	0.0031	0.0017	0.0014
69	0.0031	0.0018	0.0014
70	0.0031	0.0018	0.0014
71	0.0032	0.0018	0.0014
72	0.0032	0.0018	0.0014
73	0.0032	0.0018	0.0014
74	0.0032	0.0018	0.0014
75	0.0032	0.0018	0.0014
76	0.0032	0.0018	0.0014
77	0.0032	0.0018	0.0014
78	0.0033	0.0018	0.0014
79	0.0033	0.0018	0.0014
80	0.0033	0.0019	0.0014
81	0.0033	0.0019	0.0015
82	0.0033	0.0019	0.0015
83	0.0034	0.0019	0.0015
84	0.0034	0.0019	0.0015
85	0.0034	0.0019	0.0015
86	0.0034	0.0019	0.0015
87	0.0034	0.0019	0.0015
88	0.0034	0.0019	0.0015
89	0.0035	0.0020	0.0015
90	0.0035	0.0020	0.0015
91	0.0035	0.0020	0.0015
92	0.0035	0.0020	0.0015
93	0.0036	0.0020	0.0016
94	0.0036	0.0020	0.0016
95	0.0036	0.0020	0.0016
96	0.0036	0.0020	0.0016
97	0.0036	0.0020	0.0016
98	0.0037	0.0021	0.0016
99	0.0037	0.0021	0.0016
100	0.0037	0.0021	0.0016
101	0.0037	0.0021	0.0016
102	0.0037	0.0021	0.0016
103	0.0038	0.0021	0.0017
104	0.0038	0.0021	0.0017
105	0.0038	0.0022	0.0017
106	0.0039	0.0022	0.0017
107	0.0039	0.0022	0.0017

108	0.0039	0.0022	0.0017
109	0.0039	0.0022	0.0017
110	0.0040	0.0022	0.0017
111	0.0040	0.0022	0.0018
112	0.0040	0.0023	0.0018
113	0.0041	0.0023	0.0018
114	0.0041	0.0023	0.0018
115	0.0041	0.0023	0.0018
116	0.0041	0.0023	0.0018
117	0.0042	0.0024	0.0018
118	0.0042	0.0024	0.0018
119	0.0043	0.0024	0.0019
120	0.0043	0.0024	0.0019
121	0.0043	0.0024	0.0019
122	0.0043	0.0024	0.0019
123	0.0044	0.0025	0.0019
124	0.0044	0.0025	0.0019
125	0.0045	0.0025	0.0020
126	0.0045	0.0025	0.0020
127	0.0046	0.0026	0.0020
128	0.0046	0.0026	0.0020
129	0.0046	0.0026	0.0020
130	0.0047	0.0026	0.0020
131	0.0047	0.0027	0.0021
132	0.0048	0.0027	0.0021
133	0.0048	0.0027	0.0021
134	0.0049	0.0027	0.0021
135	0.0049	0.0028	0.0022
136	0.0050	0.0028	0.0022
137	0.0050	0.0028	0.0022
138	0.0051	0.0028	0.0022
139	0.0051	0.0029	0.0022
140	0.0052	0.0029	0.0023
141	0.0053	0.0030	0.0023
142	0.0053	0.0030	0.0023
143	0.0054	0.0030	0.0024
144	0.0054	0.0030	0.0024
145	0.0055	0.0031	0.0024
146	0.0055	0.0031	0.0024
147	0.0056	0.0032	0.0025
148	0.0057	0.0032	0.0025
149	0.0058	0.0032	0.0025
150	0.0058	0.0033	0.0025
151	0.0059	0.0033	0.0026
152	0.0060	0.0034	0.0026
153	0.0061	0.0034	0.0027
154	0.0062	0.0035	0.0027
155	0.0063	0.0035	0.0028
156	0.0064	0.0036	0.0028
157	0.0065	0.0037	0.0028

158	0.0066	0.0037	0.0029
159	0.0067	0.0038	0.0029
160	0.0068	0.0038	0.0030
161	0.0070	0.0039	0.0031
162	0.0071	0.0040	0.0031
163	0.0073	0.0041	0.0032
164	0.0074	0.0041	0.0032
165	0.0076	0.0043	0.0033
166	0.0077	0.0043	0.0034
167	0.0079	0.0045	0.0035
168	0.0081	0.0045	0.0035
169	0.0084	0.0047	0.0037
170	0.0085	0.0048	0.0037
171	0.0088	0.0050	0.0039
172	0.0090	0.0051	0.0039
173	0.0094	0.0053	0.0041
174	0.0096	0.0054	0.0042
175	0.0100	0.0056	0.0044
176	0.0102	0.0057	0.0045
177	0.0107	0.0060	0.0047
178	0.0110	0.0062	0.0048
179	0.0116	0.0065	0.0051
180	0.0120	0.0067	0.0053
181	0.0128	0.0072	0.0056
182	0.0133	0.0075	0.0058
183	0.0143	0.0081	0.0063
184	0.0149	0.0084	0.0065
185	0.0163	0.0092	0.0071
186	0.0172	0.0097	0.0075
187	0.0196	0.0110	0.0086
188	0.0211	0.0119	0.0092
189	0.0254	0.0143	0.0111
190	0.0287	0.0161	0.0126
191	0.0411	0.0192	0.0218
192	0.0565	0.0192	0.0372
193	0.1767	0.0192	0.1575
194	0.0334	0.0188	0.0146
195	0.0230	0.0129	0.0101
196	0.0183	0.0103	0.0080
197	0.0157	0.0088	0.0069
198	0.0138	0.0077	0.0060
199	0.0124	0.0070	0.0054
200	0.0113	0.0064	0.0050
201	0.0105	0.0059	0.0046
202	0.0098	0.0055	0.0043
203	0.0092	0.0052	0.0040
204	0.0087	0.0049	0.0038
205	0.0082	0.0046	0.0036
206	0.0078	0.0044	0.0034
207	0.0075	0.0042	0.0033

208	0.0072	0.0040	0.0031
209	0.0069	0.0039	0.0030
210	0.0067	0.0037	0.0029
211	0.0064	0.0036	0.0028
212	0.0062	0.0035	0.0027
213	0.0060	0.0034	0.0026
214	0.0059	0.0033	0.0026
215	0.0057	0.0032	0.0025
216	0.0056	0.0031	0.0024
217	0.0055	0.0031	0.0024
218	0.0053	0.0030	0.0023
219	0.0052	0.0029	0.0023
220	0.0051	0.0029	0.0022
221	0.0050	0.0028	0.0022
222	0.0049	0.0027	0.0021
223	0.0048	0.0027	0.0021
224	0.0047	0.0026	0.0021
225	0.0046	0.0026	0.0020
226	0.0045	0.0025	0.0020
227	0.0044	0.0025	0.0019
228	0.0044	0.0025	0.0019
229	0.0043	0.0024	0.0019
230	0.0042	0.0024	0.0019
231	0.0042	0.0023	0.0018
232	0.0041	0.0023	0.0018
233	0.0040	0.0023	0.0018
234	0.0040	0.0022	0.0017
235	0.0039	0.0022	0.0017
236	0.0039	0.0022	0.0017
237	0.0038	0.0021	0.0017
238	0.0038	0.0021	0.0016
239	0.0037	0.0021	0.0016
240	0.0037	0.0021	0.0016
241	0.0036	0.0020	0.0016
242	0.0036	0.0020	0.0016
243	0.0035	0.0020	0.0015
244	0.0035	0.0020	0.0015
245	0.0035	0.0019	0.0015
246	0.0034	0.0019	0.0015
247	0.0034	0.0019	0.0015
248	0.0033	0.0019	0.0015
249	0.0033	0.0019	0.0014
250	0.0033	0.0018	0.0014
251	0.0032	0.0018	0.0014
252	0.0032	0.0018	0.0014
253	0.0032	0.0018	0.0014
254	0.0031	0.0018	0.0014
255	0.0031	0.0017	0.0014
256	0.0031	0.0017	0.0013
257	0.0031	0.0017	0.0013

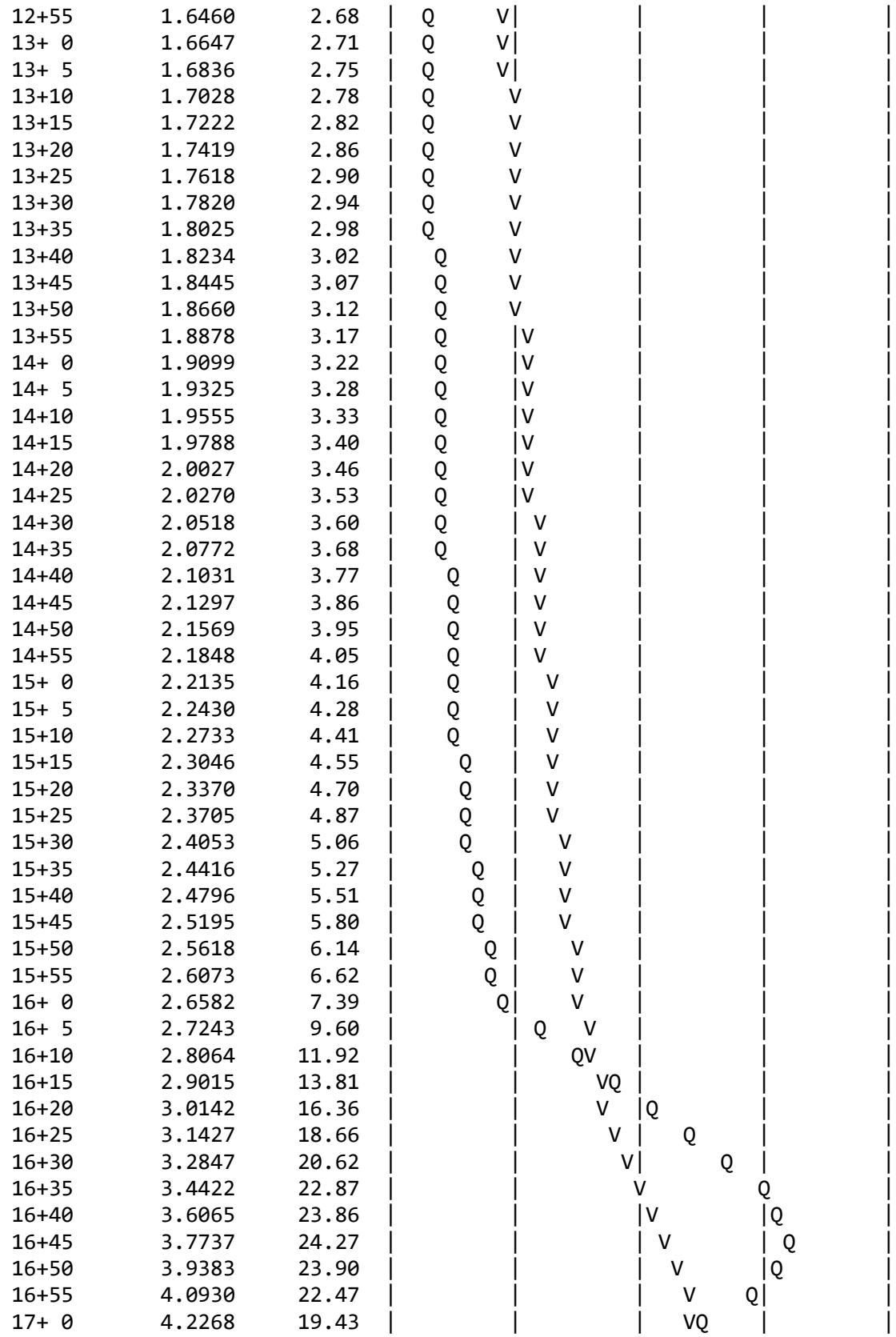
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      262              0.0029          0.0016              0.0013
      263              0.0029          0.0016              0.0013
      264              0.0029          0.0016              0.0013
      265              0.0028          0.0016              0.0012
      266              0.0028          0.0016              0.0012
      267              0.0028          0.0016              0.0012
      268              0.0028          0.0016              0.0012
      269              0.0028          0.0015              0.0012
      270              0.0027          0.0015              0.0012
      271              0.0027          0.0015              0.0012
      272              0.0027          0.0015              0.0012
      273              0.0027          0.0015              0.0012
      274              0.0027          0.0015              0.0012
      275              0.0026          0.0015              0.0012
      276              0.0026          0.0015              0.0011
      277              0.0026          0.0015              0.0011
      278              0.0026          0.0014              0.0011
      279              0.0026          0.0014              0.0011
      280              0.0025          0.0014              0.0011
      281              0.0025          0.0014              0.0011
      282              0.0025          0.0014              0.0011
      283              0.0025          0.0014              0.0011
      284              0.0025          0.0014              0.0011
      285              0.0025          0.0014              0.0011
      286              0.0024          0.0014              0.0011
      287              0.0024          0.0014              0.0011
      288              0.0024          0.0014              0.0011
      ------------------------------------------------------------------------
      ------------------------------------------------------------------------
      Total soil rain loss =      0.87(In)
      Total effective rainfall =      0.85(In)
      Peak flow rate in flood hydrograph =     24.27(CFS)
      ------------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                       R u n o f f      H y d r o g r a p h
      ------------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

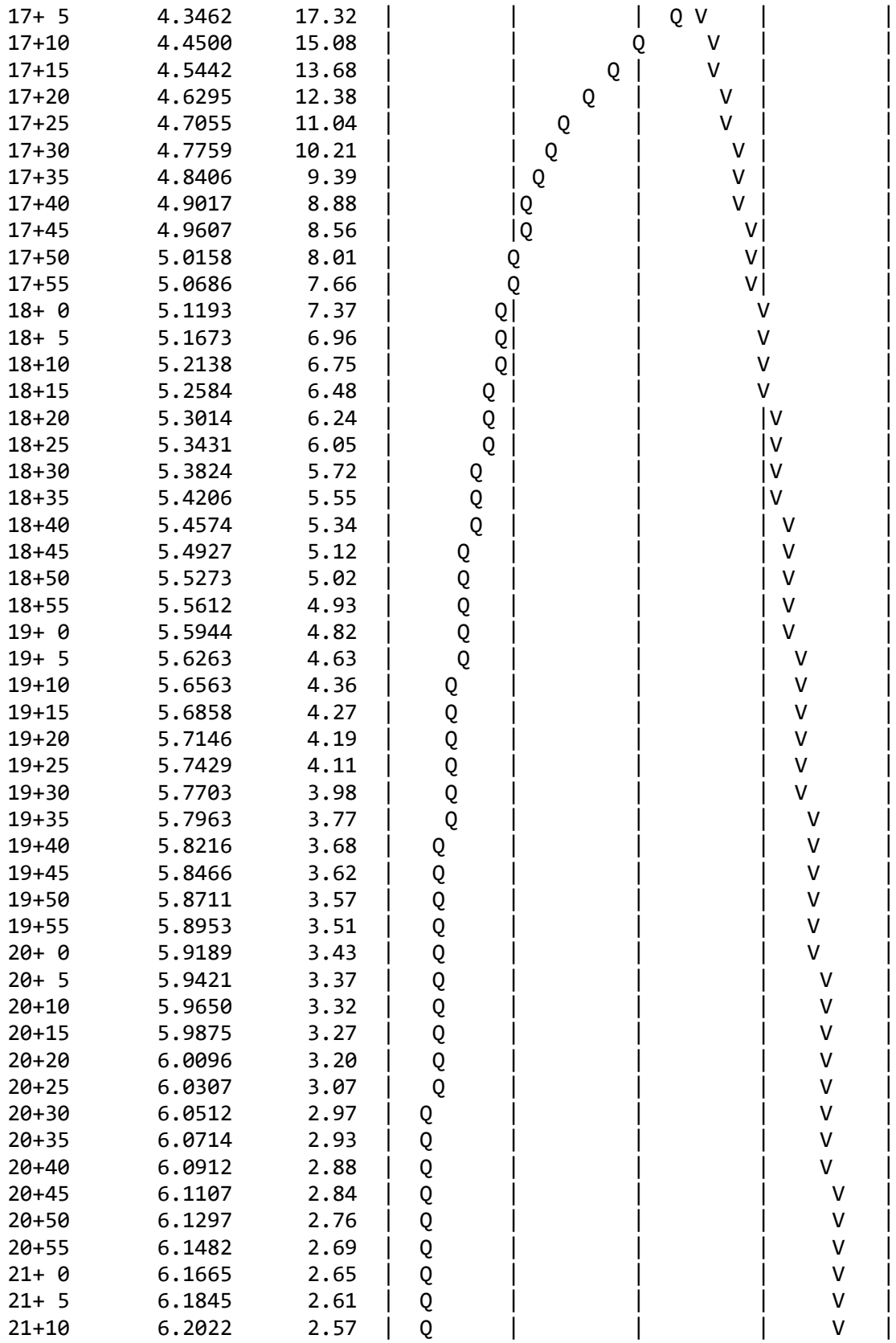
      ------------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        7.5      15.0      22.5      30.0
------------------------------------------------------------------------
  0+ 5       0.0001      0.01  Q         |         |         |         |
  0+10       0.0003      0.03  Q         |         |         |         |
  0+15       0.0007      0.06  Q         |         |         |         |
  0+20       0.0014      0.10  Q         |         |         |         |
```

0+25	0.0025	0.15	Q	|	|	|	|
0+30	0.0039	0.21	Q	|	|	|	|
0+35	0.0059	0.29	Q	|	|	|	|
0+40	0.0085	0.37	Q	|	|	|	|
0+45	0.0116	0.46	Q	|	|	|	|
0+50	0.0154	0.54	Q	|	|	|	|
0+55	0.0197	0.63	Q	|	|	|	|
1+ 0	0.0245	0.69	Q	|	|	|	|
1+ 5	0.0296	0.75	Q	|	|	|	|
1+10	0.0351	0.79	VQ	|	|	|	|
1+15	0.0408	0.83	VQ	|	|	|	|
1+20	0.0468	0.87	VQ	|	|	|	|
1+25	0.0530	0.90	VQ	|	|	|	|
1+30	0.0593	0.92	VQ	|	|	|	|
1+35	0.0658	0.94	VQ	|	|	|	|
1+40	0.0724	0.96	VQ	|	|	|	|
1+45	0.0792	0.98	VQ	|	|	|	|
1+50	0.0861	1.00	VQ	|	|	|	|
1+55	0.0932	1.02	VQ	|	|	|	|
2+ 0	0.1003	1.04	VQ	|	|	|	|
2+ 5	0.1076	1.05	VQ	|	|	|	|
2+10	0.1149	1.07	VQ	|	|	|	|
2+15	0.1224	1.08	VQ	|	|	|	|
2+20	0.1299	1.10	VQ	|	|	|	|
2+25	0.1376	1.11	VQ	|	|	|	|
2+30	0.1453	1.12	VQ	|	|	|	|
2+35	0.1532	1.14	VQ	|	|	|	|
2+40	0.1611	1.15	VQ	|	|	|	|
2+45	0.1691	1.16	VQ	|	|	|	|
2+50	0.1771	1.17	|Q	|	|	|	|
2+55	0.1853	1.18	|Q	|	|	|	|
3+ 0	0.1935	1.19	|Q	|	|	|	|
3+ 5	0.2018	1.20	|Q	|	|	|	|
3+10	0.2101	1.21	|Q	|	|	|	|
3+15	0.2185	1.22	|Q	|	|	|	|
3+20	0.2270	1.23	|Q	|	|	|	|
3+25	0.2356	1.24	|Q	|	|	|	|
3+30	0.2442	1.25	|Q	|	|	|	|
3+35	0.2529	1.26	|Q	|	|	|	|
3+40	0.2616	1.27	|Q	|	|	|	|
3+45	0.2704	1.28	|Q	|	|	|	|
3+50	0.2793	1.29	|Q	|	|	|	|
3+55	0.2882	1.29	|Q	|	|	|	|
4+ 0	0.2972	1.30	|Q	|	|	|	|
4+ 5	0.3062	1.31	|Q	|	|	|	|
4+10	0.3153	1.32	|Q	|	|	|	|
4+15	0.3244	1.33	|Q	|	|	|	|
4+20	0.3336	1.34	|Q	|	|	|	|
4+25	0.3429	1.35	|QV	|	|	|	|
4+30	0.3522	1.35	|QV	|	|	|	|

4+35	0.3616	1.36	QV				
4+40	0.3710	1.37	QV				
4+45	0.3805	1.38	QV				
4+50	0.3901	1.39	QV				
4+55	0.3997	1.39	QV				
5+ 0	0.4093	1.40	QV				
5+ 5	0.4190	1.41	QV				
5+10	0.4288	1.42	QV				
5+15	0.4386	1.42	QV				
5+20	0.4485	1.43	QV				
5+25	0.4584	1.44	QV				
5+30	0.4684	1.45	QV				
5+35	0.4784	1.46	QV				
5+40	0.4885	1.46	QV				
5+45	0.4986	1.47	QV				
5+50	0.5088	1.48	QV				
5+55	0.5190	1.49	Q V				
6+ 0	0.5293	1.49	Q V				
6+ 5	0.5397	1.50	QV				
6+10	0.5501	1.51	QV				
6+15	0.5605	1.52	QV				
6+20	0.5710	1.53	QV				
6+25	0.5816	1.53	QV				
6+30	0.5922	1.54	QV				
6+35	0.6029	1.55	QV				
6+40	0.6137	1.56	QV				
6+45	0.6245	1.57	QV				
6+50	0.6353	1.58	QV				
6+55	0.6462	1.59	QV				
7+ 0	0.6572	1.59	QV				
7+ 5	0.6682	1.60	QV				
7+10	0.6793	1.61	Q V				
7+15	0.6905	1.62	Q V				
7+20	0.7017	1.63	Q V				
7+25	0.7129	1.63	Q V				
7+30	0.7242	1.64	Q V				
7+35	0.7356	1.65	Q V				
7+40	0.7470	1.66	Q V				
7+45	0.7585	1.67	Q V				
7+50	0.7700	1.68	Q V				
7+55	0.7816	1.69	Q V				
8+ 0	0.7933	1.69	Q V				
8+ 5	0.8051	1.70	Q V				
8+10	0.8169	1.71	Q V				
8+15	0.8287	1.72	Q V				
8+20	0.8406	1.73	Q V				
8+25	0.8526	1.74	Q V				
8+30	0.8647	1.75	Q V				
8+35	0.8769	1.76	Q V				
8+40	0.8891	1.77	Q V				

8+45	0.9013	1.78	Q V			
8+50	0.9137	1.79	Q V			
8+55	0.9261	1.80	Q V			
9+ 0	0.9386	1.82	Q V			
9+ 5	0.9512	1.83	Q V			
9+10	0.9639	1.84	Q V			
9+15	0.9766	1.85	Q V			
9+20	0.9894	1.86	Q V			
9+25	1.0023	1.87	Q V			
9+30	1.0153	1.89	Q V			
9+35	1.0284	1.90	Q V			
9+40	1.0415	1.91	Q V			
9+45	1.0548	1.92	Q V			
9+50	1.0681	1.94	Q V			
9+55	1.0816	1.95	Q V			
10+ 0	1.0951	1.96	Q V			
10+ 5	1.1087	1.98	Q V			
10+10	1.1224	1.99	Q V			
10+15	1.1362	2.01	Q V			
10+20	1.1501	2.02	Q V			
10+25	1.1641	2.04	Q V			
10+30	1.1783	2.05	Q V			
10+35	1.1925	2.07	Q V			
10+40	1.2068	2.08	Q V			
10+45	1.2213	2.10	Q V			
10+50	1.2358	2.11	Q V			
10+55	1.2505	2.13	Q V			
11+ 0	1.2653	2.15	Q V			
11+ 5	1.2802	2.17	Q V			
11+10	1.2953	2.18	Q V			
11+15	1.3105	2.20	Q V			
11+20	1.3258	2.22	Q V			
11+25	1.3412	2.24	Q V			
11+30	1.3568	2.26	Q V			
11+35	1.3725	2.28	Q V			
11+40	1.3883	2.30	Q V			
11+45	1.4044	2.32	Q V			
11+50	1.4205	2.35	Q V			
11+55	1.4368	2.37	Q V			
12+ 0	1.4533	2.39	Q V			
12+ 5	1.4699	2.42	Q V			
12+10	1.4867	2.44	Q V			
12+15	1.5037	2.46	Q V			
12+20	1.5208	2.49	Q V			
12+25	1.5381	2.51	Q V			
12+30	1.5556	2.54	Q V			
12+35	1.5733	2.57	Q V			
12+40	1.5912	2.59	Q V			
12+45	1.6093	2.62	Q V			
12+50	1.6275	2.65	Q V			





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21+15       6.2194      2.51  |  Q      |         |         |     V   |
21+20       6.2362      2.43  |  Q      |         |         |     V   |
21+25       6.2526      2.39  |  Q      |         |         |     V   |
21+30       6.2689      2.36  |  Q      |         |         |     V   |
21+35       6.2849      2.32  |  Q      |         |         |      V  |
21+40       6.3006      2.27  |  Q      |         |         |      V  |
21+45       6.3157      2.20  | Q       |         |         |      V  |
21+50       6.3306      2.16  | Q       |         |         |      V  |
21+55       6.3453      2.14  | Q       |         |         |      V  |
22+ 0       6.3598      2.11  | Q       |         |         |      V  |
22+ 5       6.3742      2.09  | Q       |         |         |      V  |
22+10       6.3884      2.06  | Q       |         |         |      V  |
22+15       6.4024      2.04  | Q       |         |         |      V  |
22+20       6.4163      2.01  | Q       |         |         |      V  |
22+25       6.4300      1.99  | Q       |         |         |      V  |
22+30       6.4435      1.96  | Q       |         |         |      V  |
22+35       6.4569      1.94  | Q       |         |         |       V |
22+40       6.4700      1.91  | Q       |         |         |       V |
22+45       6.4830      1.88  | Q       |         |         |       V |
22+50       6.4956      1.83  | Q       |         |         |       V |
22+55       6.5074      1.71  | Q       |         |         |       V |
23+ 0       6.5185      1.61  | Q       |         |         |       V |
23+ 5       6.5294      1.58  | Q       |         |         |       V |
23+10       6.5401      1.56  | Q       |         |         |       V |
23+15       6.5507      1.54  | Q       |         |         |       V |
23+20       6.5612      1.52  | Q       |         |         |       V |
23+25       6.5716      1.51  | Q       |         |         |       V |
23+30       6.5818      1.49  |Q        |         |         |       V |
23+35       6.5920      1.47  |Q        |         |         |       V |
23+40       6.6020      1.46  |Q        |         |         |       V |
23+45       6.6120      1.45  |Q        |         |         |       V |
23+50       6.6219      1.43  |Q        |         |         |        V|
23+55       6.6316      1.42  |Q        |         |         |        V|
24+ 0       6.6413      1.41  |Q        |         |         |        V|
24+ 5       6.6509      1.39  |Q        |         |         |        V|
24+10       6.6602      1.35  |Q        |         |         |        V|
24+15       6.6692      1.31  |Q        |         |         |        V|
24+20       6.6779      1.26  |Q        |         |         |        V|
24+25       6.6862      1.20  |Q        |         |         |        V|
24+30       6.6939      1.13  |Q        |         |         |        V|
24+35       6.7011      1.04  |Q        |         |         |        V|
24+40       6.7077      0.96  |Q        |         |         |        V|
24+45       6.7137      0.86  |Q        |         |         |        V|
24+50       6.7190      0.77  |Q        |         |         |        V|
24+55       6.7237      0.69  Q        |         |         |        V|
25+ 0       6.7280      0.62  Q        |         |         |        V|
25+ 5       6.7318      0.56  Q        |         |         |        V|
25+10       6.7353      0.51  Q        |         |         |        V|
25+15       6.7385      0.47  Q        |         |         |        V|
25+20       6.7415      0.43  Q        |         |         |        V|
```

25+25	6.7443	0.40	Q	|	|	|	V|
25+30	6.7469	0.38	Q	|	|	|	V|
25+35	6.7494	0.36	Q	|	|	|	V|
25+40	6.7517	0.34	Q	|	|	|	V|
25+45	6.7538	0.32	Q	|	|	|	V|
25+50	6.7559	0.30	Q	|	|	|	V|
25+55	6.7578	0.28	Q	|	|	|	V|
26+ 0	6.7596	0.26	Q	|	|	|	V|
26+ 5	6.7614	0.25	Q	|	|	|	V|
26+10	6.7630	0.24	Q	|	|	|	V|
26+15	6.7645	0.22	Q	|	|	|	V|
26+20	6.7660	0.21	Q	|	|	|	V|
26+25	6.7674	0.20	Q	|	|	|	V|
26+30	6.7687	0.19	Q	|	|	|	V|
26+35	6.7699	0.18	Q	|	|	|	V|
26+40	6.7711	0.17	Q	|	|	|	V|
26+45	6.7722	0.16	Q	|	|	|	V|
26+50	6.7733	0.15	Q	|	|	|	V|
26+55	6.7743	0.15	Q	|	|	|	V|
27+ 0	6.7752	0.14	Q	|	|	|	V|
27+ 5	6.7761	0.13	Q	|	|	|	V|
27+10	6.7770	0.12	Q	|	|	|	V|
27+15	6.7778	0.12	Q	|	|	|	V|
27+20	6.7785	0.11	Q	|	|	|	V|
27+25	6.7792	0.10	Q	|	|	|	V|
27+30	6.7799	0.10	Q	|	|	|	V|
27+35	6.7806	0.09	Q	|	|	|	V|
27+40	6.7812	0.09	Q	|	|	|	V|
27+45	6.7818	0.09	Q	|	|	|	V|
27+50	6.7823	0.08	Q	|	|	|	V|
27+55	6.7829	0.08	Q	|	|	|	V|
28+ 0	6.7834	0.07	Q	|	|	|	V|
28+ 5	6.7838	0.07	Q	|	|	|	V|
28+10	6.7843	0.06	Q	|	|	|	V|
28+15	6.7847	0.06	Q	|	|	|	V|
28+20	6.7851	0.06	Q	|	|	|	V|
28+25	6.7855	0.05	Q	|	|	|	V|
28+30	6.7858	0.05	Q	|	|	|	V|
28+35	6.7861	0.05	Q	|	|	|	V|
28+40	6.7864	0.04	Q	|	|	|	V|
28+45	6.7867	0.04	Q	|	|	|	V|
28+50	6.7870	0.04	Q	|	|	|	V|
28+55	6.7872	0.04	Q	|	|	|	V|
29+ 0	6.7875	0.03	Q	|	|	|	V|
29+ 5	6.7877	0.03	Q	|	|	|	V|
29+10	6.7879	0.03	Q	|	|	|	V|
29+15	6.7881	0.03	Q	|	|	|	V|
29+20	6.7882	0.03	Q	|	|	|	V|
29+25	6.7884	0.02	Q	|	|	|	V|
29+30	6.7886	0.02	Q	|	|	|	V|

29+35	6.7887	0.02	Q	|	|	|	V|
29+40	6.7888	0.02	Q	|	|	|	V|
29+45	6.7889	0.02	Q	|	|	|	V|
29+50	6.7890	0.02	Q	|	|	|	V|
29+55	6.7891	0.01	Q	|	|	|	V|
30+ 0	6.7892	0.01	Q	|	|	|	V|
30+ 5	6.7893	0.01	Q	|	|	|	V|
30+10	6.7894	0.01	Q	|	|	|	V|
30+15	6.7894	0.01	Q	|	|	|	V|
30+20	6.7895	0.01	Q	|	|	|	V|
30+25	6.7895	0.01	Q	|	|	|	V|
30+30	6.7896	0.01	Q	|	|	|	V|
30+35	6.7896	0.00	Q	|	|	|	V|
30+40	6.7896	0.00	Q	|	|	|	V|
30+45	6.7896	0.00	Q	|	|	|	V|
30+50	6.7896	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/18/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
UNIT HYDROGRAPH ANALYSIS, EX CULVERT 6
EXISTING CONDITION, 5-YEAR 24-HOUR
FN: UHEX06CUL5.OUT - ABE

Storm Event Year = 5

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
40.10	1	0.60
Rainfall data for year 2		
40.10	6	0.70
Rainfall data for year 2		
40.10	24	1.20
Rainfall data for year 100		

```
            40.10            1           1.00
------------------------------------------------------------------------
Rainfall data for year 100
            40.10            6           1.90
------------------------------------------------------------------------
Rainfall data for year 100
            40.10           24           3.40
------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

******** Area-averaged max loss rate, Fm ********


SCS curve  SCS curve     Area     Area     Fp(Fig C6)    Ap      Fm
No.(AMCII) NO.(AMC 2)    (Ac.)    Fraction     (In/Hr)  (dec.)   (In/Hr)
 86.0      86.0         40.10      1.000     0.265    1.000    0.265

Area-averaged adjusted loss rate Fm (In/Hr) =  0.265

********* Area-Averaged low loss rate fraction, Yb **********

Area       Area          SCS CN    SCS CN      S     Pervious
 (Ac.)      Fract         (AMC2)    (AMC2)           Yield Fr
    40.10   1.000         86.0      86.0       1.63     0.373

Area-averaged catchment yield fraction, Y =  0.373
Area-averaged low loss fraction, Yb =  0.627
User entry of time of concentration  =   0.620 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      40.10(Ac.)
Catchment Lag time =   0.496 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 16.8011
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.265(In/Hr)
Average low loss rate fraction (Yb) = 0.627 (decimal)
VALLEY UNDEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.177(In)
Computed peak 30-minute rainfall =  0.363(In)
Specified peak 1-hour rainfall =  0.480(In)
Computed peak 3-hour rainfall =  0.744(In)
Specified peak 6-hour rainfall =  0.981(In)
Specified peak 24-hour rainfall =  1.715(In)


Rainfall depth area reduction factors:
Using a total area of      40.10(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998     Adjusted rainfall =  0.177(In)
30-minute factor = 0.998    Adjusted rainfall =  0.363(In)
```

1-hour factor = 0.998 Adjusted rainfall = 0.479(In)
3-hour factor = 1.000 Adjusted rainfall = 0.744(In)
6-hour factor = 1.000 Adjusted rainfall = 0.981(In)
24-hour factor = 1.000 Adjusted rainfall = 1.715(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 484.96 (CFS))	
1	1.463	7.093
2	5.313	18.671
3	11.828	31.596
4	21.085	44.895
5	32.472	55.219
6	44.529	58.471
7	54.825	49.936
8	62.176	35.648
9	67.509	25.863
10	71.476	19.238
11	74.477	14.552
12	76.993	12.203
13	79.202	10.710
14	81.156	9.476
15	82.860	8.266
16	84.417	7.549
17	85.841	6.910
18	87.067	5.945
19	88.149	5.247
20	89.157	4.889
21	90.162	4.870
22	90.994	4.036
23	91.733	3.585
24	92.469	3.567
25	93.072	2.926
26	93.610	2.607
27	94.147	2.604
28	94.661	2.494
29	95.165	2.444
30	95.665	2.426
31	96.074	1.981
32	96.443	1.793
33	96.810	1.781
34	97.131	1.555
35	97.433	1.467
36	97.733	1.453
37	97.985	1.223

38	98.221	1.141
39	98.453	1.125
40	98.636	0.892
41	98.804	0.815
42	98.972	0.815
43	99.140	0.815
44	99.308	0.815
45	99.476	0.815
46	99.644	0.815
47	99.812	0.815
48	100.000	0.407

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.1772	0.1772
2	0.2338	0.0566
3	0.2749	0.0412
4	0.3085	0.0335
5	0.3373	0.0288
6	0.3628	0.0255
7	0.3858	0.0231
8	0.4070	0.0212
9	0.4267	0.0196
10	0.4450	0.0184
11	0.4623	0.0173
12	0.4787	0.0164
13	0.4943	0.0156
14	0.5092	0.0149
15	0.5235	0.0143
16	0.5372	0.0137
17	0.5504	0.0132
18	0.5632	0.0128
19	0.5755	0.0123
20	0.5875	0.0120
21	0.5991	0.0116
22	0.6104	0.0113
23	0.6214	0.0110
24	0.6320	0.0107
25	0.6425	0.0104
26	0.6527	0.0102
27	0.6626	0.0100
28	0.6723	0.0097
29	0.6819	0.0095
30	0.6912	0.0093
31	0.7003	0.0091
32	0.7093	0.0090
33	0.7181	0.0088
34	0.7268	0.0086
35	0.7353	0.0085
36	0.7436	0.0084

37	0.7518	0.0082
38	0.7599	0.0081
39	0.7678	0.0079
40	0.7756	0.0078
41	0.7833	0.0077
42	0.7909	0.0076
43	0.7983	0.0075
44	0.8057	0.0074
45	0.8130	0.0073
46	0.8201	0.0072
47	0.8272	0.0071
48	0.8342	0.0070
49	0.8411	0.0069
50	0.8479	0.0068
51	0.8547	0.0067
52	0.8613	0.0067
53	0.8679	0.0066
54	0.8744	0.0065
55	0.8809	0.0064
56	0.8872	0.0064
57	0.8935	0.0063
58	0.8997	0.0062
59	0.9059	0.0062
60	0.9120	0.0061
61	0.9181	0.0060
62	0.9240	0.0060
63	0.9300	0.0059
64	0.9358	0.0059
65	0.9417	0.0058
66	0.9474	0.0058
67	0.9531	0.0057
68	0.9588	0.0057
69	0.9644	0.0056
70	0.9700	0.0056
71	0.9755	0.0055
72	0.9809	0.0055
73	0.9864	0.0055
74	0.9918	0.0054
75	0.9972	0.0054
76	1.0026	0.0053
77	1.0079	0.0053
78	1.0131	0.0053
79	1.0183	0.0052
80	1.0235	0.0052
81	1.0286	0.0051
82	1.0337	0.0051
83	1.0388	0.0051
84	1.0438	0.0050
85	1.0488	0.0050
86	1.0538	0.0050

87	1.0587	0.0049
88	1.0636	0.0049
89	1.0684	0.0049
90	1.0733	0.0048
91	1.0781	0.0048
92	1.0828	0.0048
93	1.0875	0.0047
94	1.0922	0.0047
95	1.0969	0.0047
96	1.1015	0.0046
97	1.1062	0.0046
98	1.1107	0.0046
99	1.1153	0.0046
100	1.1198	0.0045
101	1.1243	0.0045
102	1.1288	0.0045
103	1.1332	0.0044
104	1.1377	0.0044
105	1.1421	0.0044
106	1.1464	0.0044
107	1.1508	0.0043
108	1.1551	0.0043
109	1.1594	0.0043
110	1.1637	0.0043
111	1.1679	0.0043
112	1.1722	0.0042
113	1.1764	0.0042
114	1.1806	0.0042
115	1.1847	0.0042
116	1.1889	0.0041
117	1.1930	0.0041
118	1.1971	0.0041
119	1.2012	0.0041
120	1.2052	0.0041
121	1.2093	0.0040
122	1.2133	0.0040
123	1.2173	0.0040
124	1.2213	0.0040
125	1.2252	0.0040
126	1.2292	0.0039
127	1.2331	0.0039
128	1.2370	0.0039
129	1.2409	0.0039
130	1.2447	0.0039
131	1.2486	0.0039
132	1.2524	0.0038
133	1.2562	0.0038
134	1.2600	0.0038
135	1.2638	0.0038
136	1.2676	0.0038

137	1.2713	0.0037
138	1.2751	0.0037
139	1.2788	0.0037
140	1.2825	0.0037
141	1.2862	0.0037
142	1.2898	0.0037
143	1.2935	0.0037
144	1.2971	0.0036
145	1.3007	0.0036
146	1.3044	0.0036
147	1.3079	0.0036
148	1.3115	0.0036
149	1.3151	0.0036
150	1.3186	0.0036
151	1.3222	0.0035
152	1.3257	0.0035
153	1.3292	0.0035
154	1.3327	0.0035
155	1.3362	0.0035
156	1.3397	0.0035
157	1.3431	0.0035
158	1.3465	0.0034
159	1.3500	0.0034
160	1.3534	0.0034
161	1.3568	0.0034
162	1.3602	0.0034
163	1.3636	0.0034
164	1.3669	0.0034
165	1.3703	0.0034
166	1.3736	0.0033
167	1.3770	0.0033
168	1.3803	0.0033
169	1.3836	0.0033
170	1.3869	0.0033
171	1.3902	0.0033
172	1.3934	0.0033
173	1.3967	0.0033
174	1.3999	0.0032
175	1.4032	0.0032
176	1.4064	0.0032
177	1.4096	0.0032
178	1.4128	0.0032
179	1.4160	0.0032
180	1.4192	0.0032
181	1.4224	0.0032
182	1.4255	0.0032
183	1.4287	0.0032
184	1.4318	0.0031
185	1.4350	0.0031
186	1.4381	0.0031

187	1.4412	0.0031
188	1.4443	0.0031
189	1.4474	0.0031
190	1.4505	0.0031
191	1.4535	0.0031
192	1.4566	0.0031
193	1.4597	0.0031
194	1.4627	0.0030
195	1.4657	0.0030
196	1.4688	0.0030
197	1.4718	0.0030
198	1.4748	0.0030
199	1.4778	0.0030
200	1.4808	0.0030
201	1.4837	0.0030
202	1.4867	0.0030
203	1.4897	0.0030
204	1.4926	0.0030
205	1.4956	0.0029
206	1.4985	0.0029
207	1.5014	0.0029
208	1.5044	0.0029
209	1.5073	0.0029
210	1.5102	0.0029
211	1.5131	0.0029
212	1.5160	0.0029
213	1.5188	0.0029
214	1.5217	0.0029
215	1.5246	0.0029
216	1.5274	0.0029
217	1.5303	0.0028
218	1.5331	0.0028
219	1.5359	0.0028
220	1.5388	0.0028
221	1.5416	0.0028
222	1.5444	0.0028
223	1.5472	0.0028
224	1.5500	0.0028
225	1.5528	0.0028
226	1.5555	0.0028
227	1.5583	0.0028
228	1.5611	0.0028
229	1.5638	0.0028
230	1.5666	0.0027
231	1.5693	0.0027
232	1.5721	0.0027
233	1.5748	0.0027
234	1.5775	0.0027
235	1.5802	0.0027
236	1.5829	0.0027

237	1.5856	0.0027
238	1.5883	0.0027
239	1.5910	0.0027
240	1.5937	0.0027
241	1.5964	0.0027
242	1.5990	0.0027
243	1.6017	0.0027
244	1.6043	0.0027
245	1.6070	0.0026
246	1.6096	0.0026
247	1.6123	0.0026
248	1.6149	0.0026
249	1.6175	0.0026
250	1.6201	0.0026
251	1.6227	0.0026
252	1.6253	0.0026
253	1.6279	0.0026
254	1.6305	0.0026
255	1.6331	0.0026
256	1.6357	0.0026
257	1.6383	0.0026
258	1.6408	0.0026
259	1.6434	0.0026
260	1.6459	0.0026
261	1.6485	0.0025
262	1.6510	0.0025
263	1.6536	0.0025
264	1.6561	0.0025
265	1.6586	0.0025
266	1.6611	0.0025
267	1.6637	0.0025
268	1.6662	0.0025
269	1.6687	0.0025
270	1.6712	0.0025
271	1.6737	0.0025
272	1.6761	0.0025
273	1.6786	0.0025
274	1.6811	0.0025
275	1.6836	0.0025
276	1.6860	0.0025
277	1.6885	0.0025
278	1.6909	0.0025
279	1.6934	0.0024
280	1.6958	0.0024
281	1.6983	0.0024
282	1.7007	0.0024
283	1.7031	0.0024
284	1.7056	0.0024
285	1.7080	0.0024
286	1.7104	0.0024

287	1.7128	0.0024	
288	1.7152	0.0024	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0015	0.0009
2	0.0024	0.0015	0.0009
3	0.0024	0.0015	0.0009
4	0.0024	0.0015	0.0009
5	0.0024	0.0015	0.0009
6	0.0024	0.0015	0.0009
7	0.0024	0.0015	0.0009
8	0.0025	0.0015	0.0009
9	0.0025	0.0015	0.0009
10	0.0025	0.0015	0.0009
11	0.0025	0.0016	0.0009
12	0.0025	0.0016	0.0009
13	0.0025	0.0016	0.0009
14	0.0025	0.0016	0.0009
15	0.0025	0.0016	0.0009
16	0.0025	0.0016	0.0009
17	0.0025	0.0016	0.0009
18	0.0025	0.0016	0.0009
19	0.0025	0.0016	0.0010
20	0.0026	0.0016	0.0010
21	0.0026	0.0016	0.0010
22	0.0026	0.0016	0.0010
23	0.0026	0.0016	0.0010
24	0.0026	0.0016	0.0010
25	0.0026	0.0016	0.0010
26	0.0026	0.0016	0.0010
27	0.0026	0.0016	0.0010
28	0.0026	0.0016	0.0010
29	0.0026	0.0017	0.0010
30	0.0026	0.0017	0.0010
31	0.0027	0.0017	0.0010
32	0.0027	0.0017	0.0010
33	0.0027	0.0017	0.0010
34	0.0027	0.0017	0.0010
35	0.0027	0.0017	0.0010
36	0.0027	0.0017	0.0010
37	0.0027	0.0017	0.0010
38	0.0027	0.0017	0.0010
39	0.0027	0.0017	0.0010
40	0.0027	0.0017	0.0010
41	0.0028	0.0017	0.0010
42	0.0028	0.0017	0.0010
43	0.0028	0.0017	0.0010

44	0.0028	0.0018	0.0010
45	0.0028	0.0018	0.0010
46	0.0028	0.0018	0.0011
47	0.0028	0.0018	0.0011
48	0.0028	0.0018	0.0011
49	0.0029	0.0018	0.0011
50	0.0029	0.0018	0.0011
51	0.0029	0.0018	0.0011
52	0.0029	0.0018	0.0011
53	0.0029	0.0018	0.0011
54	0.0029	0.0018	0.0011
55	0.0029	0.0018	0.0011
56	0.0029	0.0018	0.0011
57	0.0030	0.0019	0.0011
58	0.0030	0.0019	0.0011
59	0.0030	0.0019	0.0011
60	0.0030	0.0019	0.0011
61	0.0030	0.0019	0.0011
62	0.0030	0.0019	0.0011
63	0.0030	0.0019	0.0011
64	0.0030	0.0019	0.0011
65	0.0031	0.0019	0.0011
66	0.0031	0.0019	0.0011
67	0.0031	0.0019	0.0012
68	0.0031	0.0019	0.0012
69	0.0031	0.0020	0.0012
70	0.0031	0.0020	0.0012
71	0.0032	0.0020	0.0012
72	0.0032	0.0020	0.0012
73	0.0032	0.0020	0.0012
74	0.0032	0.0020	0.0012
75	0.0032	0.0020	0.0012
76	0.0032	0.0020	0.0012
77	0.0032	0.0020	0.0012
78	0.0033	0.0020	0.0012
79	0.0033	0.0021	0.0012
80	0.0033	0.0021	0.0012
81	0.0033	0.0021	0.0012
82	0.0033	0.0021	0.0012
83	0.0034	0.0021	0.0013
84	0.0034	0.0021	0.0013
85	0.0034	0.0021	0.0013
86	0.0034	0.0021	0.0013
87	0.0034	0.0021	0.0013
88	0.0034	0.0022	0.0013
89	0.0035	0.0022	0.0013
90	0.0035	0.0022	0.0013
91	0.0035	0.0022	0.0013
92	0.0035	0.0022	0.0013
93	0.0036	0.0022	0.0013

94	0.0036	0.0022	0.0013
95	0.0036	0.0023	0.0013
96	0.0036	0.0023	0.0013
97	0.0036	0.0023	0.0014
98	0.0037	0.0023	0.0014
99	0.0037	0.0023	0.0014
100	0.0037	0.0023	0.0014
101	0.0037	0.0023	0.0014
102	0.0037	0.0023	0.0014
103	0.0038	0.0024	0.0014
104	0.0038	0.0024	0.0014
105	0.0038	0.0024	0.0014
106	0.0039	0.0024	0.0014
107	0.0039	0.0024	0.0015
108	0.0039	0.0024	0.0015
109	0.0039	0.0025	0.0015
110	0.0040	0.0025	0.0015
111	0.0040	0.0025	0.0015
112	0.0040	0.0025	0.0015
113	0.0041	0.0025	0.0015
114	0.0041	0.0026	0.0015
115	0.0041	0.0026	0.0015
116	0.0041	0.0026	0.0015
117	0.0042	0.0026	0.0016
118	0.0042	0.0026	0.0016
119	0.0043	0.0027	0.0016
120	0.0043	0.0027	0.0016
121	0.0043	0.0027	0.0016
122	0.0043	0.0027	0.0016
123	0.0044	0.0028	0.0016
124	0.0044	0.0028	0.0016
125	0.0045	0.0028	0.0017
126	0.0045	0.0028	0.0017
127	0.0046	0.0029	0.0017
128	0.0046	0.0029	0.0017
129	0.0046	0.0029	0.0017
130	0.0047	0.0029	0.0017
131	0.0047	0.0030	0.0018
132	0.0048	0.0030	0.0018
133	0.0048	0.0030	0.0018
134	0.0049	0.0030	0.0018
135	0.0049	0.0031	0.0018
136	0.0050	0.0031	0.0018
137	0.0050	0.0032	0.0019
138	0.0051	0.0032	0.0019
139	0.0051	0.0032	0.0019
140	0.0052	0.0032	0.0019
141	0.0053	0.0033	0.0020
142	0.0053	0.0033	0.0020
143	0.0054	0.0034	0.0020

144	0.0054	0.0034	0.0020
145	0.0055	0.0034	0.0020
146	0.0055	0.0035	0.0021
147	0.0056	0.0035	0.0021
148	0.0057	0.0035	0.0021
149	0.0058	0.0036	0.0022
150	0.0058	0.0036	0.0022
151	0.0059	0.0037	0.0022
152	0.0060	0.0038	0.0022
153	0.0061	0.0038	0.0023
154	0.0062	0.0039	0.0023
155	0.0063	0.0039	0.0023
156	0.0064	0.0040	0.0024
157	0.0065	0.0041	0.0024
158	0.0066	0.0041	0.0025
159	0.0067	0.0042	0.0025
160	0.0068	0.0043	0.0025
161	0.0070	0.0044	0.0026
162	0.0071	0.0044	0.0026
163	0.0073	0.0046	0.0027
164	0.0074	0.0046	0.0027
165	0.0076	0.0048	0.0028
166	0.0077	0.0048	0.0029
167	0.0079	0.0050	0.0030
168	0.0081	0.0050	0.0030
169	0.0084	0.0052	0.0031
170	0.0085	0.0053	0.0032
171	0.0088	0.0055	0.0033
172	0.0090	0.0056	0.0033
173	0.0093	0.0058	0.0035
174	0.0095	0.0060	0.0036
175	0.0100	0.0062	0.0037
176	0.0102	0.0064	0.0038
177	0.0107	0.0067	0.0040
178	0.0110	0.0069	0.0041
179	0.0116	0.0073	0.0043
180	0.0120	0.0075	0.0045
181	0.0128	0.0080	0.0048
182	0.0132	0.0083	0.0049
183	0.0143	0.0090	0.0053
184	0.0149	0.0093	0.0056
185	0.0164	0.0103	0.0061
186	0.0173	0.0108	0.0065
187	0.0196	0.0123	0.0073
188	0.0212	0.0133	0.0079
189	0.0255	0.0160	0.0095
190	0.0288	0.0181	0.0107
191	0.0412	0.0221	0.0191
192	0.0566	0.0221	0.0345
193	0.1772	0.0221	0.1551

194	0.0335	0.0210	0.0125
195	0.0231	0.0145	0.0086
196	0.0184	0.0115	0.0069
197	0.0156	0.0098	0.0058
198	0.0137	0.0086	0.0051
199	0.0123	0.0077	0.0046
200	0.0113	0.0071	0.0042
201	0.0104	0.0065	0.0039
202	0.0097	0.0061	0.0036
203	0.0091	0.0057	0.0034
204	0.0086	0.0054	0.0032
205	0.0082	0.0051	0.0031
206	0.0078	0.0049	0.0029
207	0.0075	0.0047	0.0028
208	0.0072	0.0045	0.0027
209	0.0069	0.0043	0.0026
210	0.0067	0.0042	0.0025
211	0.0064	0.0040	0.0024
212	0.0062	0.0039	0.0023
213	0.0060	0.0038	0.0023
214	0.0059	0.0037	0.0022
215	0.0057	0.0036	0.0021
216	0.0056	0.0035	0.0021
217	0.0055	0.0034	0.0020
218	0.0053	0.0033	0.0020
219	0.0052	0.0033	0.0019
220	0.0051	0.0032	0.0019
221	0.0050	0.0031	0.0019
222	0.0049	0.0031	0.0018
223	0.0048	0.0030	0.0018
224	0.0047	0.0029	0.0018
225	0.0046	0.0029	0.0017
226	0.0045	0.0028	0.0017
227	0.0044	0.0028	0.0017
228	0.0044	0.0027	0.0016
229	0.0043	0.0027	0.0016
230	0.0042	0.0027	0.0016
231	0.0042	0.0026	0.0016
232	0.0041	0.0026	0.0015
233	0.0040	0.0025	0.0015
234	0.0040	0.0025	0.0015
235	0.0039	0.0025	0.0015
236	0.0039	0.0024	0.0014
237	0.0038	0.0024	0.0014
238	0.0038	0.0024	0.0014
239	0.0037	0.0023	0.0014
240	0.0037	0.0023	0.0014
241	0.0036	0.0023	0.0014
242	0.0036	0.0022	0.0013
243	0.0035	0.0022	0.0013

244	0.0035	0.0022	0.0013
245	0.0035	0.0022	0.0013
246	0.0034	0.0021	0.0013
247	0.0034	0.0021	0.0013
248	0.0033	0.0021	0.0012
249	0.0033	0.0021	0.0012
250	0.0033	0.0021	0.0012
251	0.0032	0.0020	0.0012
252	0.0032	0.0020	0.0012
253	0.0032	0.0020	0.0012
254	0.0031	0.0020	0.0012
255	0.0031	0.0020	0.0012
256	0.0031	0.0019	0.0011
257	0.0031	0.0019	0.0011
258	0.0030	0.0019	0.0011
259	0.0030	0.0019	0.0011
260	0.0030	0.0019	0.0011
261	0.0029	0.0018	0.0011
262	0.0029	0.0018	0.0011
263	0.0029	0.0018	0.0011
264	0.0029	0.0018	0.0011
265	0.0028	0.0018	0.0011
266	0.0028	0.0018	0.0011
267	0.0028	0.0018	0.0010
268	0.0028	0.0017	0.0010
269	0.0028	0.0017	0.0010
270	0.0027	0.0017	0.0010
271	0.0027	0.0017	0.0010
272	0.0027	0.0017	0.0010
273	0.0027	0.0017	0.0010
274	0.0027	0.0017	0.0010
275	0.0026	0.0017	0.0010
276	0.0026	0.0016	0.0010
277	0.0026	0.0016	0.0010
278	0.0026	0.0016	0.0010
279	0.0026	0.0016	0.0010
280	0.0025	0.0016	0.0009
281	0.0025	0.0016	0.0009
282	0.0025	0.0016	0.0009
283	0.0025	0.0016	0.0009
284	0.0025	0.0016	0.0009
285	0.0025	0.0015	0.0009
286	0.0024	0.0015	0.0009
287	0.0024	0.0015	0.0009
288	0.0024	0.0015	0.0009

Total soil rain loss = 0.97(In)
Total effective rainfall = 0.75(In)
Peak flow rate in flood hydrograph = 14.06(CFS)

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.01	Q				
0+10	0.0002	0.02	Q				
0+15	0.0006	0.05	Q				
0+20	0.0012	0.09	Q				
0+25	0.0022	0.14	Q				
0+30	0.0035	0.19	Q				
0+35	0.0052	0.24	Q				
0+40	0.0070	0.27	Q				
0+45	0.0091	0.30	Q				
0+50	0.0112	0.31	Q				
0+55	0.0135	0.33	Q				
1+ 0	0.0159	0.34	Q				
1+ 5	0.0183	0.35	Q				
1+10	0.0208	0.36	Q				
1+15	0.0233	0.37	Q				
1+20	0.0259	0.38	Q				
1+25	0.0286	0.39	Q				
1+30	0.0313	0.39	Q				
1+35	0.0340	0.40	Q				
1+40	0.0368	0.40	Q				
1+45	0.0396	0.41	Q				
1+50	0.0425	0.41	Q				
1+55	0.0453	0.42	Q				
2+ 0	0.0483	0.42	Q				
2+ 5	0.0512	0.43	Q				
2+10	0.0542	0.43	Q				
2+15	0.0572	0.44	Q				
2+20	0.0602	0.44	Q				
2+25	0.0632	0.44	QV				
2+30	0.0663	0.45	QV				
2+35	0.0694	0.45	QV				
2+40	0.0725	0.45	QV				
2+45	0.0757	0.46	QV				
2+50	0.0788	0.46	QV				
2+55	0.0820	0.46	QV				
3+ 0	0.0852	0.46	QV				
3+ 5	0.0884	0.47	QV				
3+10	0.0917	0.47	QV				
3+15	0.0949	0.47	QV				
3+20	0.0982	0.48	QV				

3+25	0.1015	0.48	QV	|	|	|	|
3+30	0.1048	0.48	QV	|	|	|	|
3+35	0.1081	0.48	QV	|	|	|	|
3+40	0.1115	0.49	QV	|	|	|	|
3+45	0.1149	0.49	QV	|	|	|	|
3+50	0.1182	0.49	QV	|	|	|	|
3+55	0.1216	0.49	QV	|	|	|	|
4+ 0	0.1251	0.50	Q V	|	|	|	|
4+ 5	0.1285	0.50	Q V	|	|	|	|
4+10	0.1319	0.50	Q V	|	|	|	|
4+15	0.1354	0.50	|QV	|	|	|	|
4+20	0.1389	0.50	|QV	|	|	|	|
4+25	0.1423	0.51	|QV	|	|	|	|
4+30	0.1458	0.51	|QV	|	|	|	|
4+35	0.1494	0.51	|QV	|	|	|	|
4+40	0.1529	0.51	|QV	|	|	|	|
4+45	0.1564	0.51	|QV	|	|	|	|
4+50	0.1600	0.52	|QV	|	|	|	|
4+55	0.1636	0.52	|QV	|	|	|	|
5+ 0	0.1671	0.52	|QV	|	|	|	|
5+ 5	0.1707	0.52	|QV	|	|	|	|
5+10	0.1744	0.53	|QV	|	|	|	|
5+15	0.1780	0.53	|QV	|	|	|	|
5+20	0.1816	0.53	|QV	|	|	|	|
5+25	0.1853	0.53	|QV	|	|	|	|
5+30	0.1890	0.53	|Q V	|	|	|	|
5+35	0.1927	0.54	|Q V	|	|	|	|
5+40	0.1964	0.54	|Q V	|	|	|	|
5+45	0.2001	0.54	|Q V	|	|	|	|
5+50	0.2039	0.54	|Q V	|	|	|	|
5+55	0.2076	0.55	|Q V	|	|	|	|
6+ 0	0.2114	0.55	|Q V	|	|	|	|
6+ 5	0.2152	0.55	|Q V	|	|	|	|
6+10	0.2190	0.55	|Q V	|	|	|	|
6+15	0.2229	0.56	|Q V	|	|	|	|
6+20	0.2267	0.56	|Q V	|	|	|	|
6+25	0.2306	0.56	|Q V	|	|	|	|
6+30	0.2345	0.57	|Q V	|	|	|	|
6+35	0.2384	0.57	|Q V	|	|	|	|
6+40	0.2423	0.57	|Q V	|	|	|	|
6+45	0.2463	0.57	|Q V	|	|	|	|
6+50	0.2503	0.58	|Q V	|	|	|	|
6+55	0.2543	0.58	|Q V	|	|	|	|
7+ 0	0.2583	0.58	|Q V	|	|	|	|
7+ 5	0.2623	0.59	|Q V	|	|	|	|
7+10	0.2663	0.59	|Q V	|	|	|	|
7+15	0.2704	0.59	|Q V	|	|	|	|
7+20	0.2745	0.59	|Q V	|	|	|	|
7+25	0.2786	0.60	|Q V	|	|	|	|
7+30	0.2828	0.60	|Q V	|	|	|	|

7+35	0.2869	0.60	|Q V |	|	|	|
7+40	0.2911	0.61	|Q V |	|	|	|
7+45	0.2953	0.61	|Q V |	|	|	|
7+50	0.2995	0.61	|Q V |	|	|	|
7+55	0.3038	0.62	|Q V |	|	|	|
8+ 0	0.3081	0.62	|Q V |	|	|	|
8+ 5	0.3124	0.62	|Q V |	|	|	|
8+10	0.3167	0.63	|Q V |	|	|	|
8+15	0.3211	0.63	|Q V |	|	|	|
8+20	0.3254	0.64	|Q V |	|	|	|
8+25	0.3298	0.64	|Q V |	|	|	|
8+30	0.3343	0.64	|Q V |	|	|	|
8+35	0.3387	0.65	|Q V |	|	|	|
8+40	0.3432	0.65	|Q V |	|	|	|
8+45	0.3477	0.66	|Q V |	|	|	|
8+50	0.3523	0.66	|Q V |	|	|	|
8+55	0.3568	0.66	|Q V |	|	|	|
9+ 0	0.3614	0.67	|Q V |	|	|	|
9+ 5	0.3661	0.67	|Q V |	|	|	|
9+10	0.3707	0.68	|Q V |	|	|	|
9+15	0.3754	0.68	|Q V |	|	|	|
9+20	0.3801	0.69	|Q V |	|	|	|
9+25	0.3849	0.69	|Q V |	|	|	|
9+30	0.3897	0.70	|Q V |	|	|	|
9+35	0.3945	0.70	|Q V |	|	|	|
9+40	0.3993	0.70	|Q V |	|	|	|
9+45	0.4042	0.71	|Q V |	|	|	|
9+50	0.4092	0.71	|Q V |	|	|	|
9+55	0.4141	0.72	|Q V |	|	|	|
10+ 0	0.4191	0.73	|Q V |	|	|	|
10+ 5	0.4241	0.73	|Q V |	|	|	|
10+10	0.4292	0.74	|Q V |	|	|	|
10+15	0.4343	0.74	|Q V |	|	|	|
10+20	0.4395	0.75	|Q V |	|	|	|
10+25	0.4447	0.75	|Q V |	|	|	|
10+30	0.4499	0.76	|Q V |	|	|	|
10+35	0.4552	0.77	|Q V |	|	|	|
10+40	0.4605	0.77	|Q V |	|	|	|
10+45	0.4659	0.78	|Q V |	|	|	|
10+50	0.4713	0.79	|Q V |	|	|	|
10+55	0.4767	0.79	|Q V |	|	|	|
11+ 0	0.4822	0.80	|Q V |	|	|	|
11+ 5	0.4878	0.81	|Q V |	|	|	|
11+10	0.4934	0.81	|Q V |	|	|	|
11+15	0.4990	0.82	|Q V |	|	|	|
11+20	0.5047	0.83	|Q V |	|	|	|
11+25	0.5105	0.84	|Q V |	|	|	|
11+30	0.5163	0.84	|Q V |	|	|	|
11+35	0.5222	0.85	|Q V |	|	|	|
11+40	0.5281	0.86	|Q V |	|	|	|

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11+45       0.5341      0.87  |Q      V |          |          |          |
11+50       0.5401      0.88  |Q      V |          |          |          |
11+55       0.5462      0.89  |Q      V |          |          |          |
12+ 0       0.5524      0.90  |Q      V |          |          |          |
12+ 5       0.5586      0.91  |Q      V |          |          |          |
12+10       0.5649      0.92  |Q       V|          |          |          |
12+15       0.5713      0.92  |Q       V|          |          |          |
12+20       0.5777      0.93  |Q       V|          |          |          |
12+25       0.5842      0.94  |Q       V|          |          |          |
12+30       0.5908      0.95  |Q       V|          |          |          |
12+35       0.5975      0.97  |Q       V|          |          |          |
12+40       0.6042      0.98  |Q       V|          |          |          |
12+45       0.6110      0.99  |Q       V|          |          |          |
12+50       0.6179      1.00  | Q      V|          |          |          |
12+55       0.6249      1.01  | Q       V          |          |          |
13+ 0       0.6320      1.03  | Q       V          |          |          |
13+ 5       0.6391      1.04  | Q       V          |          |          |
13+10       0.6464      1.06  | Q       V          |          |          |
13+15       0.6538      1.07  | Q       V          |          |          |
13+20       0.6613      1.09  | Q       V          |          |          |
13+25       0.6689      1.10  | Q       V          |          |          |
13+30       0.6766      1.12  | Q       V          |          |          |
13+35       0.6844      1.14  | Q       V          |          |          |
13+40       0.6924      1.16  | Q       |V         |          |          |
13+45       0.7005      1.18  | Q       |V         |          |          |
13+50       0.7088      1.20  | Q       |V         |          |          |
13+55       0.7172      1.22  | Q       |V         |          |          |
14+ 0       0.7258      1.24  | Q       |V         |          |          |
14+ 5       0.7345      1.27  | Q       |V         |          |          |
14+10       0.7434      1.29  | Q       |V         |          |          |
14+15       0.7525      1.32  | Q       | V        |          |          |
14+20       0.7618      1.35  | Q       | V        |          |          |
14+25       0.7713      1.38  | Q       | V        |          |          |
14+30       0.7811      1.41  | Q       | V        |          |          |
14+35       0.7910      1.45  | Q       | V        |          |          |
14+40       0.8013      1.49  | Q       | V        |          |          |
14+45       0.8118      1.53  |  Q      |  V       |          |          |
14+50       0.8226      1.57  |  Q      |  V       |          |          |
14+55       0.8337      1.62  |  Q      |  V       |          |          |
15+ 0       0.8452      1.67  |  Q      |  V       |          |          |
15+ 5       0.8571      1.72  |  Q      |  V       |          |          |
15+10       0.8694      1.78  |  Q      |  V       |          |          |
15+15       0.8821      1.85  |  Q      |   V      |          |          |
15+20       0.8954      1.93  |  Q      |   V      |          |          |
15+25       0.9093      2.01  |   Q     |   V      |          |          |
15+30       0.9238      2.11  |   Q     |   V      |          |          |
15+35       0.9391      2.22  |   Q     |    V     |          |          |
15+40       0.9553      2.35  |   Q     |    V     |          |          |
15+45       0.9726      2.51  |    Q    |    V     |          |          |
15+50       0.9912      2.71  |    Q    |    V     |          |          |
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15+55	1.0119	3.00	Q	V			
16+ 0	1.0362	3.53	Q	V			
16+ 5	1.0721	5.21	Q	V			
16+10	1.1243	7.58	Q	Q V			
16+15	1.1937	10.08	VQ				
16+20	1.2793	12.42	V	Q			
16+25	1.3755	13.97	V	Q			
16+30	1.4723	14.06	V	Q			
16+35	1.5567	12.26	QV				
16+40	1.6233	9.66	Q	V			
16+45	1.6767	7.76	Q	V			
16+50	1.7208	6.41	Q	V			
16+55	1.7582	5.43	Q	V			
17+ 0	1.7915	4.84	Q	V			
17+ 5	1.8220	4.41	Q	V			
17+10	1.8499	4.05	Q	V			
17+15	1.8755	3.73	Q	V			
17+20	1.8995	3.48	Q	V			
17+25	1.9220	3.26	Q	V			
17+30	1.9427	3.00	Q	V			
17+35	1.9620	2.81	Q	V			
17+40	1.9803	2.67	Q	V			
17+45	1.9980	2.57	Q	V			
17+50	2.0143	2.37	Q	V			
17+55	2.0297	2.23	Q	V			
18+ 0	2.0445	2.15	Q	V			
18+ 5	2.0583	2.00	Q	V			
18+10	2.0713	1.90	Q	V			
18+15	2.0841	1.85	Q	V			
18+20	2.0964	1.79	Q	V			
18+25	2.1084	1.74	Q	V			
18+30	2.1200	1.69	Q	V			
18+35	2.1309	1.58	Q	V			
18+40	2.1413	1.51	Q	V			
18+45	2.1514	1.47	Q	V			
18+50	2.1611	1.41	Q	V			
18+55	2.1705	1.36	Q	V			
19+ 0	2.1796	1.32	Q	V			
19+ 5	2.1883	1.26	Q	V			
19+10	2.1966	1.22	Q	V			
19+15	2.2048	1.18	Q	V			
19+20	2.2126	1.13	Q	V			
19+25	2.2201	1.09	Q	V			
19+30	2.2274	1.07	Q	V			
19+35	2.2346	1.05	Q	V			
19+40	2.2417	1.03	Q	V			
19+45	2.2486	1.01	Q	V			
19+50	2.2554	0.98	Q	V			
19+55	2.2619	0.95	Q	V			
20+ 0	2.2679	0.86	Q	V			

```
20+ 5       2.2733      0.78  |Q        |         |         |     V   |
20+10       2.2785      0.77  |Q        |         |         |     V   |
20+15       2.2837      0.75  |Q        |         |         |     V   |
20+20       2.2888      0.74  |Q        |         |         |     V   |
20+25       2.2938      0.72  |Q        |         |         |     V   |
20+30       2.2987      0.71  |Q        |         |         |     V   |
20+35       2.3035      0.70  |Q        |         |         |      V  |
20+40       2.3082      0.69  |Q        |         |         |      V  |
20+45       2.3129      0.68  |Q        |         |         |      V  |
20+50       2.3175      0.67  |Q        |         |         |      V  |
20+55       2.3221      0.66  |Q        |         |         |      V  |
21+ 0       2.3266      0.65  |Q        |         |         |      V  |
21+ 5       2.3310      0.64  |Q        |         |         |      V  |
21+10       2.3354      0.64  |Q        |         |         |      V  |
21+15       2.3397      0.63  |Q        |         |         |      V  |
21+20       2.3440      0.62  |Q        |         |         |      V  |
21+25       2.3482      0.61  |Q        |         |         |      V  |
21+30       2.3524      0.61  |Q        |         |         |      V  |
21+35       2.3565      0.60  |Q        |         |         |      V  |
21+40       2.3606      0.59  |Q        |         |         |      V  |
21+45       2.3646      0.59  |Q        |         |         |      V  |
21+50       2.3686      0.58  |Q        |         |         |       V |
21+55       2.3726      0.57  |Q        |         |         |       V |
22+ 0       2.3765      0.57  |Q        |         |         |       V |
22+ 5       2.3804      0.56  |Q        |         |         |       V |
22+10       2.3842      0.56  |Q        |         |         |       V |
22+15       2.3880      0.55  |Q        |         |         |       V |
22+20       2.3918      0.55  |Q        |         |         |       V |
22+25       2.3955      0.54  |Q        |         |         |       V |
22+30       2.3992      0.54  |Q        |         |         |       V |
22+35       2.4029      0.53  |Q        |         |         |       V |
22+40       2.4065      0.53  |Q        |         |         |       V |
22+45       2.4101      0.52  |Q        |         |         |       V |
22+50       2.4137      0.52  |Q        |         |         |       V |
22+55       2.4173      0.51  |Q        |         |         |       V |
23+ 0       2.4208      0.51  |Q        |         |         |       V |
23+ 5       2.4242      0.51  |Q        |         |         |       V |
23+10       2.4277      0.50  |Q        |         |         |        V|
23+15       2.4311      0.50  Q        |         |         |        V|
23+20       2.4345      0.49  Q        |         |         |        V|
23+25       2.4379      0.49  Q        |         |         |        V|
23+30       2.4412      0.49  Q        |         |         |        V|
23+35       2.4446      0.48  Q        |         |         |        V|
23+40       2.4479      0.48  Q        |         |         |        V|
23+45       2.4511      0.48  Q        |         |         |        V|
23+50       2.4544      0.47  Q        |         |         |        V|
23+55       2.4576      0.47  Q        |         |         |        V|
24+ 0       2.4608      0.47  Q        |         |         |        V|
24+ 5       2.4640      0.46  Q        |         |         |        V|
24+10       2.4670      0.44  Q        |         |         |        V|
```

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  24+15       2.4697      0.40  Q          |          |          |         V|
  24+20       2.4722      0.36  Q          |          |          |         V|
  24+25       2.4744      0.31  Q          |          |          |         V|
  24+30       2.4761      0.26  Q          |          |          |         V|
  24+35       2.4776      0.21  Q          |          |          |         V|
  24+40       2.4788      0.18  Q          |          |          |         V|
  24+45       2.4798      0.15  Q          |          |          |         V|
  24+50       2.4807      0.13  Q          |          |          |         V|
  24+55       2.4815      0.12  Q          |          |          |         V|
  25+ 0       2.4823      0.11  Q          |          |          |         V|
  25+ 5       2.4829      0.10  Q          |          |          |         V|
  25+10       2.4836      0.09  Q          |          |          |         V|
  25+15       2.4841      0.08  Q          |          |          |         V|
  25+20       2.4846      0.07  Q          |          |          |         V|
  25+25       2.4850      0.07  Q          |          |          |         V|
  25+30       2.4855      0.06  Q          |          |          |         V|
  25+35       2.4858      0.05  Q          |          |          |         V|
  25+40       2.4862      0.05  Q          |          |          |         V|
  25+45       2.4865      0.05  Q          |          |          |         V|
  25+50       2.4868      0.04  Q          |          |          |         V|
  25+55       2.4870      0.04  Q          |          |          |         V|
  26+ 0       2.4873      0.03  Q          |          |          |         V|
  26+ 5       2.4875      0.03  Q          |          |          |         V|
  26+10       2.4877      0.03  Q          |          |          |         V|
  26+15       2.4879      0.03  Q          |          |          |         V|
  26+20       2.4880      0.02  Q          |          |          |         V|
  26+25       2.4882      0.02  Q          |          |          |         V|
  26+30       2.4883      0.02  Q          |          |          |         V|
  26+35       2.4884      0.02  Q          |          |          |         V|
  26+40       2.4885      0.02  Q          |          |          |         V|
  26+45       2.4886      0.01  Q          |          |          |         V|
  26+50       2.4887      0.01  Q          |          |          |         V|
  26+55       2.4888      0.01  Q          |          |          |         V|
  27+ 0       2.4889      0.01  Q          |          |          |         V|
  27+ 5       2.4889      0.01  Q          |          |          |         V|
  27+10       2.4890      0.01  Q          |          |          |         V|
  27+15       2.4890      0.01  Q          |          |          |         V|
  27+20       2.4891      0.01  Q          |          |          |         V|
  27+25       2.4891      0.00  Q          |          |          |         V|
  27+30       2.4891      0.00  Q          |          |          |         V|
  27+35       2.4892      0.00  Q          |          |          |         V|
  27+40       2.4892      0.00  Q          |          |          |         V|
  27+45       2.4892      0.00  Q          |          |          |         V|
  27+50       2.4892      0.00  Q          |          |          |         V|
  27+55       2.4892      0.00  Q          |          |          |          V
-------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/18/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
UNIT HYDROGRAPH ANALYSIS, OFFSITE EAST
EXISTING CONDITION, 5-YEAR 24-HOUR
FN: UHEXEASTOFF5.OUT - ABE

Storm Event Year = 5

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
201.70	1	0.60
Rainfall data for year 2		
201.70	6	0.70
Rainfall data for year 2		
201.70	24	1.20

Rainfall data for year 100

```
           201.70            1           1.00
------------------------------------------------------------------------
Rainfall data for year 100
           201.70            6           1.90
------------------------------------------------------------------------
Rainfall data for year 100
           201.70           24           3.40
------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

******** Area-averaged max loss rate, Fm ********


SCS curve  SCS curve     Area     Area     Fp(Fig C6)    Ap      Fm
No.(AMCII) NO.(AMC 2)    (Ac.)    Fraction     (In/Hr)  (dec.)   (In/Hr)
 86.0      86.0        201.70      1.000     0.265    1.000    0.265

Area-averaged adjusted loss rate Fm (In/Hr) =  0.265

********* Area-Averaged low loss rate fraction, Yb **********

Area       Area          SCS CN    SCS CN      S     Pervious
 (Ac.)      Fract         (AMC2)    (AMC2)           Yield Fr
   201.70   1.000         86.0      86.0       1.63     0.373

Area-averaged catchment yield fraction, Y =  0.373
Area-averaged low loss fraction, Yb =  0.627
User entry of time of concentration  =   0.500 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =     201.70(Ac.)
Catchment Lag time =   0.400 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 20.8333
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.265(In/Hr)
Average low loss rate fraction (Yb) = 0.627 (decimal)
VALLEY UNDEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.177(In)
Computed peak 30-minute rainfall =  0.363(In)
Specified peak 1-hour rainfall =  0.480(In)
Computed peak 3-hour rainfall =  0.744(In)
Specified peak 6-hour rainfall =  0.981(In)
Specified peak 24-hour rainfall =  1.715(In)


Rainfall depth area reduction factors:
Using a total area of     201.70(Ac.) (Ref: fig. E-4)

5-minute factor = 0.991     Adjusted rainfall =  0.176(In)
30-minute factor = 0.991    Adjusted rainfall =  0.360(In)
```

1-hour factor = 0.991 Adjusted rainfall = 0.475(In)
3-hour factor = 0.999 Adjusted rainfall = 0.743(In)
6-hour factor = 0.999 Adjusted rainfall = 0.980(In)
24-hour factor = 1.000 Adjusted rainfall = 1.715(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 2439.31 (CFS))	
1	1.860	45.371
2	7.407	135.300
3	17.108	236.654
4	30.585	328.738
5	45.419	361.858
6	57.401	292.256
7	65.292	192.509
8	70.763	133.438
9	74.572	92.909
10	77.645	74.968
11	80.242	63.341
12	82.458	54.071
13	84.417	47.770
14	86.143	42.119
15	87.605	35.655
16	88.875	30.979
17	90.118	30.329
18	91.142	24.962
19	92.058	22.360
20	92.895	20.409
21	93.567	16.384
22	94.230	16.181
23	94.862	15.429
24	95.487	15.246
25	96.029	13.213
26	96.488	11.180
27	96.931	10.814
28	97.313	9.310
29	97.686	9.107
30	98.004	7.765
31	98.296	7.115
32	98.561	6.464
33	98.771	5.123
34	98.979	5.082
35	99.188	5.082
36	99.396	5.082
37	99.604	5.082

38	99.813	5.082
39	100.000	4.574

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.1758	0.1758
2	0.2320	0.0562
3	0.2728	0.0408
4	0.3061	0.0333
5	0.3347	0.0286
6	0.3600	0.0253
7	0.3829	0.0229
8	0.4039	0.0210
9	0.4234	0.0195
10	0.4416	0.0182
11	0.4588	0.0172
12	0.4751	0.0162
13	0.4908	0.0157
14	0.5058	0.0150
15	0.5202	0.0144
16	0.5341	0.0138
17	0.5474	0.0133
18	0.5603	0.0129
19	0.5728	0.0125
20	0.5848	0.0121
21	0.5966	0.0117
22	0.6080	0.0114
23	0.6191	0.0111
24	0.6299	0.0108
25	0.6404	0.0106
26	0.6507	0.0103
27	0.6608	0.0101
28	0.6707	0.0099
29	0.6803	0.0096
30	0.6898	0.0095
31	0.6990	0.0093
32	0.7081	0.0091
33	0.7171	0.0089
34	0.7258	0.0088
35	0.7344	0.0086
36	0.7429	0.0085
37	0.7511	0.0082
38	0.7592	0.0081
39	0.7671	0.0079
40	0.7749	0.0078
41	0.7826	0.0077
42	0.7902	0.0076
43	0.7977	0.0075
44	0.8050	0.0074
45	0.8123	0.0073

46	0.8195	0.0072
47	0.8266	0.0071
48	0.8336	0.0070
49	0.8405	0.0069
50	0.8473	0.0068
51	0.8540	0.0067
52	0.8607	0.0067
53	0.8673	0.0066
54	0.8738	0.0065
55	0.8803	0.0064
56	0.8866	0.0064
57	0.8929	0.0063
58	0.8992	0.0062
59	0.9053	0.0062
60	0.9114	0.0061
61	0.9175	0.0061
62	0.9235	0.0060
63	0.9294	0.0059
64	0.9353	0.0059
65	0.9411	0.0058
66	0.9469	0.0058
67	0.9526	0.0057
68	0.9583	0.0057
69	0.9639	0.0056
70	0.9695	0.0056
71	0.9750	0.0055
72	0.9805	0.0055
73	0.9859	0.0055
74	0.9913	0.0054
75	0.9967	0.0054
76	1.0021	0.0053
77	1.0074	0.0053
78	1.0126	0.0053
79	1.0178	0.0052
80	1.0230	0.0052
81	1.0281	0.0051
82	1.0332	0.0051
83	1.0383	0.0051
84	1.0433	0.0050
85	1.0483	0.0050
86	1.0533	0.0050
87	1.0582	0.0049
88	1.0631	0.0049
89	1.0680	0.0049
90	1.0728	0.0048
91	1.0776	0.0048
92	1.0823	0.0048
93	1.0871	0.0047
94	1.0918	0.0047
95	1.0964	0.0047

96	1.1011	0.0046
97	1.1057	0.0046
98	1.1103	0.0046
99	1.1148	0.0046
100	1.1193	0.0045
101	1.1238	0.0045
102	1.1283	0.0045
103	1.1328	0.0044
104	1.1372	0.0044
105	1.1416	0.0044
106	1.1460	0.0044
107	1.1503	0.0043
108	1.1546	0.0043
109	1.1589	0.0043
110	1.1632	0.0043
111	1.1675	0.0043
112	1.1717	0.0042
113	1.1759	0.0042
114	1.1801	0.0042
115	1.1842	0.0042
116	1.1884	0.0041
117	1.1925	0.0041
118	1.1966	0.0041
119	1.2007	0.0041
120	1.2047	0.0041
121	1.2088	0.0040
122	1.2128	0.0040
123	1.2168	0.0040
124	1.2208	0.0040
125	1.2247	0.0040
126	1.2287	0.0039
127	1.2326	0.0039
128	1.2365	0.0039
129	1.2404	0.0039
130	1.2443	0.0039
131	1.2481	0.0039
132	1.2520	0.0038
133	1.2558	0.0038
134	1.2596	0.0038
135	1.2634	0.0038
136	1.2671	0.0038
137	1.2709	0.0037
138	1.2746	0.0037
139	1.2783	0.0037
140	1.2820	0.0037
141	1.2857	0.0037
142	1.2894	0.0037
143	1.2930	0.0037
144	1.2967	0.0036
145	1.3003	0.0036

146	1.3039	0.0036
147	1.3075	0.0036
148	1.3111	0.0036
149	1.3146	0.0036
150	1.3182	0.0036
151	1.3217	0.0035
152	1.3252	0.0035
153	1.3288	0.0035
154	1.3323	0.0035
155	1.3357	0.0035
156	1.3392	0.0035
157	1.3427	0.0035
158	1.3461	0.0034
159	1.3495	0.0034
160	1.3529	0.0034
161	1.3564	0.0034
162	1.3597	0.0034
163	1.3631	0.0034
164	1.3665	0.0034
165	1.3698	0.0034
166	1.3732	0.0033
167	1.3765	0.0033
168	1.3798	0.0033
169	1.3831	0.0033
170	1.3864	0.0033
171	1.3897	0.0033
172	1.3930	0.0033
173	1.3962	0.0033
174	1.3995	0.0032
175	1.4027	0.0032
176	1.4060	0.0032
177	1.4092	0.0032
178	1.4124	0.0032
179	1.4156	0.0032
180	1.4188	0.0032
181	1.4219	0.0032
182	1.4251	0.0032
183	1.4283	0.0032
184	1.4314	0.0031
185	1.4345	0.0031
186	1.4376	0.0031
187	1.4408	0.0031
188	1.4439	0.0031
189	1.4470	0.0031
190	1.4500	0.0031
191	1.4531	0.0031
192	1.4562	0.0031
193	1.4592	0.0031
194	1.4623	0.0030
195	1.4653	0.0030

196	1.4683	0.0030
197	1.4714	0.0030
198	1.4744	0.0030
199	1.4774	0.0030
200	1.4803	0.0030
201	1.4833	0.0030
202	1.4863	0.0030
203	1.4893	0.0030
204	1.4922	0.0030
205	1.4952	0.0029
206	1.4981	0.0029
207	1.5010	0.0029
208	1.5039	0.0029
209	1.5069	0.0029
210	1.5098	0.0029
211	1.5127	0.0029
212	1.5155	0.0029
213	1.5184	0.0029
214	1.5213	0.0029
215	1.5242	0.0029
216	1.5270	0.0029
217	1.5299	0.0028
218	1.5327	0.0028
219	1.5355	0.0028
220	1.5384	0.0028
221	1.5412	0.0028
222	1.5440	0.0028
223	1.5468	0.0028
224	1.5496	0.0028
225	1.5524	0.0028
226	1.5551	0.0028
227	1.5579	0.0028
228	1.5607	0.0028
229	1.5634	0.0028
230	1.5662	0.0027
231	1.5689	0.0027
232	1.5717	0.0027
233	1.5744	0.0027
234	1.5771	0.0027
235	1.5798	0.0027
236	1.5825	0.0027
237	1.5852	0.0027
238	1.5879	0.0027
239	1.5906	0.0027
240	1.5933	0.0027
241	1.5960	0.0027
242	1.5986	0.0027
243	1.6013	0.0027
244	1.6040	0.0027
245	1.6066	0.0026

246	1.6092	0.0026
247	1.6119	0.0026
248	1.6145	0.0026
249	1.6171	0.0026
250	1.6197	0.0026
251	1.6224	0.0026
252	1.6250	0.0026
253	1.6276	0.0026
254	1.6301	0.0026
255	1.6327	0.0026
256	1.6353	0.0026
257	1.6379	0.0026
258	1.6404	0.0026
259	1.6430	0.0026
260	1.6456	0.0026
261	1.6481	0.0025
262	1.6507	0.0025
263	1.6532	0.0025
264	1.6557	0.0025
265	1.6583	0.0025
266	1.6608	0.0025
267	1.6633	0.0025
268	1.6658	0.0025
269	1.6683	0.0025
270	1.6708	0.0025
271	1.6733	0.0025
272	1.6758	0.0025
273	1.6783	0.0025
274	1.6807	0.0025
275	1.6832	0.0025
276	1.6857	0.0025
277	1.6881	0.0025
278	1.6906	0.0025
279	1.6930	0.0024
280	1.6955	0.0024
281	1.6979	0.0024
282	1.7004	0.0024
283	1.7028	0.0024
284	1.7052	0.0024
285	1.7076	0.0024
286	1.7100	0.0024
287	1.7125	0.0024
288	1.7149	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0015	0.0009
2	0.0024	0.0015	0.0009

3	0.0024	0.0015	0.0009
4	0.0024	0.0015	0.0009
5	0.0024	0.0015	0.0009
6	0.0024	0.0015	0.0009
7	0.0024	0.0015	0.0009
8	0.0025	0.0015	0.0009
9	0.0025	0.0015	0.0009
10	0.0025	0.0015	0.0009
11	0.0025	0.0016	0.0009
12	0.0025	0.0016	0.0009
13	0.0025	0.0016	0.0009
14	0.0025	0.0016	0.0009
15	0.0025	0.0016	0.0009
16	0.0025	0.0016	0.0009
17	0.0025	0.0016	0.0009
18	0.0025	0.0016	0.0009
19	0.0025	0.0016	0.0010
20	0.0026	0.0016	0.0010
21	0.0026	0.0016	0.0010
22	0.0026	0.0016	0.0010
23	0.0026	0.0016	0.0010
24	0.0026	0.0016	0.0010
25	0.0026	0.0016	0.0010
26	0.0026	0.0016	0.0010
27	0.0026	0.0016	0.0010
28	0.0026	0.0016	0.0010
29	0.0026	0.0017	0.0010
30	0.0026	0.0017	0.0010
31	0.0027	0.0017	0.0010
32	0.0027	0.0017	0.0010
33	0.0027	0.0017	0.0010
34	0.0027	0.0017	0.0010
35	0.0027	0.0017	0.0010
36	0.0027	0.0017	0.0010
37	0.0027	0.0017	0.0010
38	0.0027	0.0017	0.0010
39	0.0027	0.0017	0.0010
40	0.0027	0.0017	0.0010
41	0.0028	0.0017	0.0010
42	0.0028	0.0017	0.0010
43	0.0028	0.0017	0.0010
44	0.0028	0.0018	0.0010
45	0.0028	0.0018	0.0010
46	0.0028	0.0018	0.0011
47	0.0028	0.0018	0.0011
48	0.0028	0.0018	0.0011
49	0.0029	0.0018	0.0011
50	0.0029	0.0018	0.0011
51	0.0029	0.0018	0.0011
52	0.0029	0.0018	0.0011

53	0.0029	0.0018	0.0011
54	0.0029	0.0018	0.0011
55	0.0029	0.0018	0.0011
56	0.0029	0.0018	0.0011
57	0.0030	0.0019	0.0011
58	0.0030	0.0019	0.0011
59	0.0030	0.0019	0.0011
60	0.0030	0.0019	0.0011
61	0.0030	0.0019	0.0011
62	0.0030	0.0019	0.0011
63	0.0030	0.0019	0.0011
64	0.0030	0.0019	0.0011
65	0.0031	0.0019	0.0011
66	0.0031	0.0019	0.0011
67	0.0031	0.0019	0.0012
68	0.0031	0.0019	0.0012
69	0.0031	0.0020	0.0012
70	0.0031	0.0020	0.0012
71	0.0032	0.0020	0.0012
72	0.0032	0.0020	0.0012
73	0.0032	0.0020	0.0012
74	0.0032	0.0020	0.0012
75	0.0032	0.0020	0.0012
76	0.0032	0.0020	0.0012
77	0.0032	0.0020	0.0012
78	0.0033	0.0020	0.0012
79	0.0033	0.0021	0.0012
80	0.0033	0.0021	0.0012
81	0.0033	0.0021	0.0012
82	0.0033	0.0021	0.0012
83	0.0034	0.0021	0.0013
84	0.0034	0.0021	0.0013
85	0.0034	0.0021	0.0013
86	0.0034	0.0021	0.0013
87	0.0034	0.0021	0.0013
88	0.0034	0.0022	0.0013
89	0.0035	0.0022	0.0013
90	0.0035	0.0022	0.0013
91	0.0035	0.0022	0.0013
92	0.0035	0.0022	0.0013
93	0.0036	0.0022	0.0013
94	0.0036	0.0022	0.0013
95	0.0036	0.0023	0.0013
96	0.0036	0.0023	0.0013
97	0.0036	0.0023	0.0014
98	0.0037	0.0023	0.0014
99	0.0037	0.0023	0.0014
100	0.0037	0.0023	0.0014
101	0.0037	0.0023	0.0014
102	0.0037	0.0024	0.0014

103	0.0038	0.0024	0.0014
104	0.0038	0.0024	0.0014
105	0.0038	0.0024	0.0014
106	0.0039	0.0024	0.0014
107	0.0039	0.0024	0.0015
108	0.0039	0.0024	0.0015
109	0.0039	0.0025	0.0015
110	0.0040	0.0025	0.0015
111	0.0040	0.0025	0.0015
112	0.0040	0.0025	0.0015
113	0.0041	0.0025	0.0015
114	0.0041	0.0026	0.0015
115	0.0041	0.0026	0.0015
116	0.0041	0.0026	0.0015
117	0.0042	0.0026	0.0016
118	0.0042	0.0026	0.0016
119	0.0043	0.0027	0.0016
120	0.0043	0.0027	0.0016
121	0.0043	0.0027	0.0016
122	0.0043	0.0027	0.0016
123	0.0044	0.0028	0.0016
124	0.0044	0.0028	0.0017
125	0.0045	0.0028	0.0017
126	0.0045	0.0028	0.0017
127	0.0046	0.0029	0.0017
128	0.0046	0.0029	0.0017
129	0.0046	0.0029	0.0017
130	0.0047	0.0029	0.0017
131	0.0047	0.0030	0.0018
132	0.0048	0.0030	0.0018
133	0.0048	0.0030	0.0018
134	0.0049	0.0030	0.0018
135	0.0049	0.0031	0.0018
136	0.0050	0.0031	0.0018
137	0.0050	0.0032	0.0019
138	0.0051	0.0032	0.0019
139	0.0051	0.0032	0.0019
140	0.0052	0.0032	0.0019
141	0.0053	0.0033	0.0020
142	0.0053	0.0033	0.0020
143	0.0054	0.0034	0.0020
144	0.0054	0.0034	0.0020
145	0.0055	0.0034	0.0020
146	0.0055	0.0035	0.0021
147	0.0056	0.0035	0.0021
148	0.0057	0.0036	0.0021
149	0.0058	0.0036	0.0022
150	0.0058	0.0036	0.0022
151	0.0059	0.0037	0.0022
152	0.0060	0.0038	0.0022

153	0.0061	0.0038	0.0023
154	0.0062	0.0039	0.0023
155	0.0063	0.0040	0.0024
156	0.0064	0.0040	0.0024
157	0.0065	0.0041	0.0024
158	0.0066	0.0041	0.0025
159	0.0067	0.0042	0.0025
160	0.0068	0.0043	0.0025
161	0.0070	0.0044	0.0026
162	0.0071	0.0044	0.0026
163	0.0073	0.0046	0.0027
164	0.0074	0.0046	0.0028
165	0.0076	0.0048	0.0028
166	0.0077	0.0048	0.0029
167	0.0079	0.0050	0.0030
168	0.0081	0.0051	0.0030
169	0.0085	0.0053	0.0032
170	0.0086	0.0054	0.0032
171	0.0089	0.0056	0.0033
172	0.0091	0.0057	0.0034
173	0.0095	0.0059	0.0035
174	0.0096	0.0060	0.0036
175	0.0101	0.0063	0.0038
176	0.0103	0.0065	0.0038
177	0.0108	0.0068	0.0040
178	0.0111	0.0070	0.0041
179	0.0117	0.0074	0.0044
180	0.0121	0.0076	0.0045
181	0.0129	0.0081	0.0048
182	0.0133	0.0084	0.0050
183	0.0144	0.0090	0.0054
184	0.0150	0.0094	0.0056
185	0.0162	0.0102	0.0061
186	0.0172	0.0108	0.0064
187	0.0195	0.0122	0.0073
188	0.0210	0.0132	0.0078
189	0.0253	0.0159	0.0094
190	0.0286	0.0179	0.0107
191	0.0408	0.0221	0.0188
192	0.0562	0.0221	0.0341
193	0.1758	0.0221	0.1537
194	0.0333	0.0209	0.0124
195	0.0229	0.0144	0.0085
196	0.0182	0.0114	0.0068
197	0.0157	0.0099	0.0059
198	0.0138	0.0087	0.0052
199	0.0125	0.0078	0.0047
200	0.0114	0.0071	0.0043
201	0.0106	0.0066	0.0039
202	0.0099	0.0062	0.0037

203	0.0093	0.0058	0.0035
204	0.0088	0.0055	0.0033
205	0.0082	0.0051	0.0031
206	0.0078	0.0049	0.0029
207	0.0075	0.0047	0.0028
208	0.0072	0.0045	0.0027
209	0.0069	0.0043	0.0026
210	0.0067	0.0042	0.0025
211	0.0064	0.0040	0.0024
212	0.0062	0.0039	0.0023
213	0.0061	0.0038	0.0023
214	0.0059	0.0037	0.0022
215	0.0057	0.0036	0.0021
216	0.0056	0.0035	0.0021
217	0.0055	0.0034	0.0020
218	0.0053	0.0033	0.0020
219	0.0052	0.0033	0.0019
220	0.0051	0.0032	0.0019
221	0.0050	0.0031	0.0019
222	0.0049	0.0031	0.0018
223	0.0048	0.0030	0.0018
224	0.0047	0.0029	0.0018
225	0.0046	0.0029	0.0017
226	0.0045	0.0028	0.0017
227	0.0044	0.0028	0.0017
228	0.0044	0.0027	0.0016
229	0.0043	0.0027	0.0016
230	0.0042	0.0027	0.0016
231	0.0042	0.0026	0.0016
232	0.0041	0.0026	0.0015
233	0.0040	0.0025	0.0015
234	0.0040	0.0025	0.0015
235	0.0039	0.0025	0.0015
236	0.0039	0.0024	0.0014
237	0.0038	0.0024	0.0014
238	0.0038	0.0024	0.0014
239	0.0037	0.0023	0.0014
240	0.0037	0.0023	0.0014
241	0.0036	0.0023	0.0014
242	0.0036	0.0022	0.0013
243	0.0035	0.0022	0.0013
244	0.0035	0.0022	0.0013
245	0.0035	0.0022	0.0013
246	0.0034	0.0021	0.0013
247	0.0034	0.0021	0.0013
248	0.0033	0.0021	0.0012
249	0.0033	0.0021	0.0012
250	0.0033	0.0021	0.0012
251	0.0032	0.0020	0.0012
252	0.0032	0.0020	0.0012

253	0.0032	0.0020	0.0012
254	0.0031	0.0020	0.0012
255	0.0031	0.0020	0.0012
256	0.0031	0.0019	0.0012
257	0.0031	0.0019	0.0011
258	0.0030	0.0019	0.0011
259	0.0030	0.0019	0.0011
260	0.0030	0.0019	0.0011
261	0.0029	0.0018	0.0011
262	0.0029	0.0018	0.0011
263	0.0029	0.0018	0.0011
264	0.0029	0.0018	0.0011
265	0.0028	0.0018	0.0011
266	0.0028	0.0018	0.0011
267	0.0028	0.0018	0.0010
268	0.0028	0.0017	0.0010
269	0.0028	0.0017	0.0010
270	0.0027	0.0017	0.0010
271	0.0027	0.0017	0.0010
272	0.0027	0.0017	0.0010
273	0.0027	0.0017	0.0010
274	0.0027	0.0017	0.0010
275	0.0026	0.0017	0.0010
276	0.0026	0.0016	0.0010
277	0.0026	0.0016	0.0010
278	0.0026	0.0016	0.0010
279	0.0026	0.0016	0.0010
280	0.0025	0.0016	0.0009
281	0.0025	0.0016	0.0009
282	0.0025	0.0016	0.0009
283	0.0025	0.0016	0.0009
284	0.0025	0.0016	0.0009
285	0.0025	0.0015	0.0009
286	0.0024	0.0015	0.0009
287	0.0024	0.0015	0.0009
288	0.0024	0.0015	0.0009

Total soil rain loss = 0.97(In)
Total effective rainfall = 0.74(In)
Peak flow rate in flood hydrograph = 82.07(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

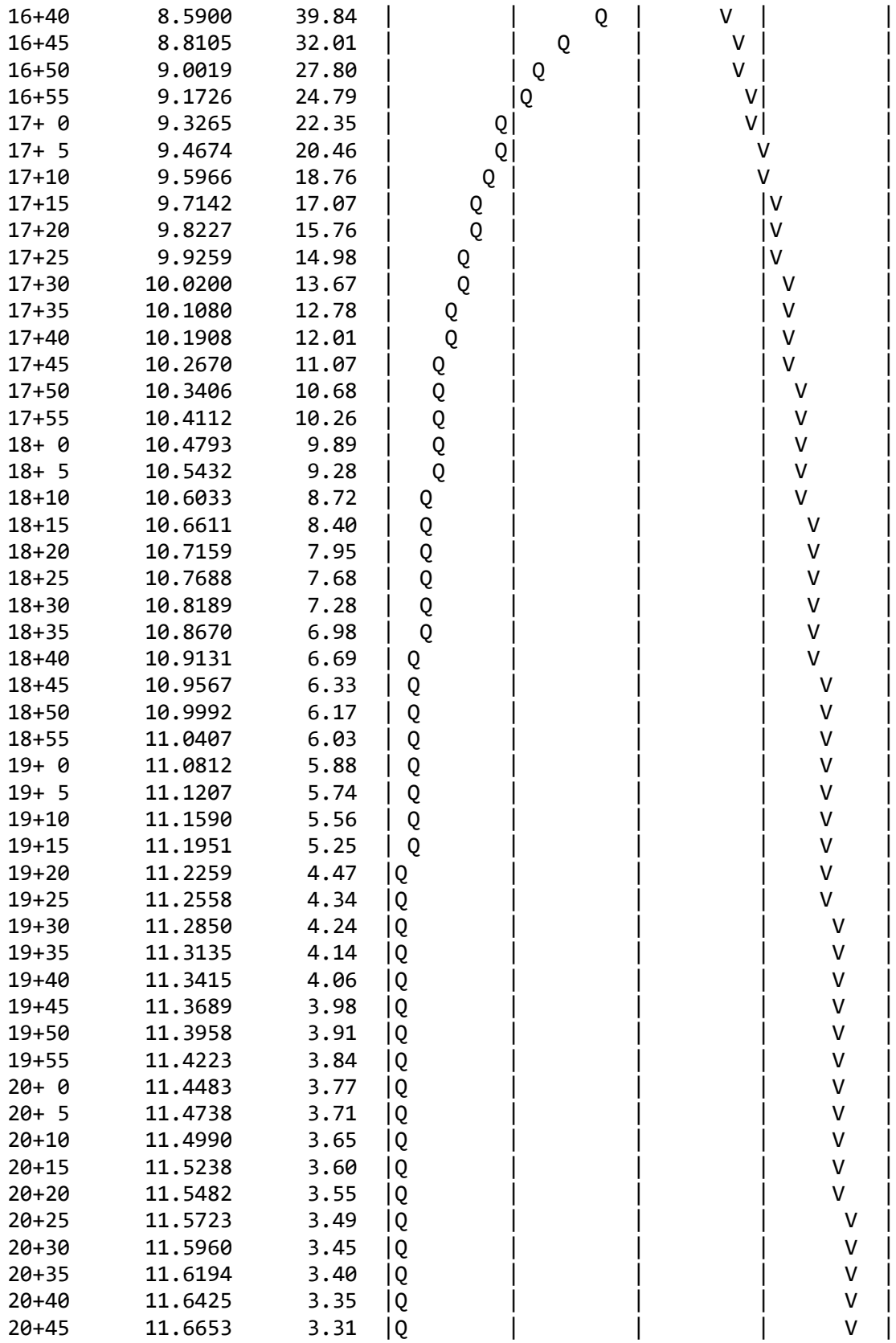
Time(h+m) Volume Ac.Ft Q(CFS) 0 22.5 45.0 67.5 90.0

0+ 5	0.0003	0.04	Q				
0+10	0.0014	0.16	Q				
0+15	0.0040	0.37	Q				
0+20	0.0086	0.67	Q				
0+25	0.0155	1.00	Q				
0+30	0.0242	1.26	Q				
0+35	0.0341	1.44	Q				
0+40	0.0448	1.56	Q				
0+45	0.0562	1.65	Q				
0+50	0.0681	1.72	Q				
0+55	0.0804	1.79	Q				
1+ 0	0.0930	1.84	Q				
1+ 5	0.1061	1.89	Q				
1+10	0.1194	1.93	Q				
1+15	0.1329	1.97	Q				
1+20	0.1468	2.01	Q				
1+25	0.1608	2.04	Q				
1+30	0.1750	2.07	Q				
1+35	0.1895	2.10	Q				
1+40	0.2041	2.12	Q				
1+45	0.2188	2.14	Q				
1+50	0.2337	2.16	Q				
1+55	0.2488	2.19	Q				
2+ 0	0.2640	2.21	Q				
2+ 5	0.2793	2.23	Q				
2+10	0.2948	2.24	Q				
2+15	0.3103	2.26	VQ				
2+20	0.3260	2.28	|Q				
2+25	0.3418	2.29	|Q				
2+30	0.3577	2.31	|Q				
2+35	0.3737	2.32	|Q				
2+40	0.3898	2.34	|Q				
2+45	0.4060	2.35	|Q				
2+50	0.4223	2.36	|Q				
2+55	0.4386	2.38	|Q				
3+ 0	0.4551	2.39	|Q				
3+ 5	0.4716	2.40	|Q				
3+10	0.4883	2.42	|Q				
3+15	0.5050	2.43	|Q				
3+20	0.5218	2.44	|Q				
3+25	0.5386	2.45	|Q				
3+30	0.5556	2.46	|Q				
3+35	0.5725	2.47	|Q				
3+40	0.5896	2.48	|Q				
3+45	0.6067	2.48	|Q				
3+50	0.6239	2.49	|Q				
3+55	0.6411	2.50	|QV				
4+ 0	0.6584	2.51	|QV				
4+ 5	0.6758	2.52	|QV				

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4+10       0.6933      2.53  |QV       |         |         |         |
4+15       0.7108      2.54  |QV       |         |         |         |
4+20       0.7284      2.55  |QV       |         |         |         |
4+25       0.7461      2.56  |QV       |         |         |         |
4+30       0.7638      2.58  |QV       |         |         |         |
4+35       0.7816      2.59  |QV       |         |         |         |
4+40       0.7995      2.60  |QV       |         |         |         |
4+45       0.8175      2.61  |QV       |         |         |         |
4+50       0.8355      2.62  |QV       |         |         |         |
4+55       0.8536      2.63  |QV       |         |         |         |
5+ 0       0.8718      2.64  |QV       |         |         |         |
5+ 5       0.8901      2.65  |QV       |         |         |         |
5+10       0.9084      2.66  |QV       |         |         |         |
5+15       0.9268      2.68  |QV       |         |         |         |
5+20       0.9453      2.69  |Q V      |         |         |         |
5+25       0.9639      2.70  |Q V      |         |         |         |
5+30       0.9826      2.71  |Q V      |         |         |         |
5+35       1.0013      2.72  |Q V      |         |         |         |
5+40       1.0202      2.74  |Q V      |         |         |         |
5+45       1.0391      2.75  |Q V      |         |         |         |
5+50       1.0581      2.76  |Q V      |         |         |         |
5+55       1.0772      2.77  |Q V      |         |         |         |
6+ 0       1.0964      2.79  |Q V      |         |         |         |
6+ 5       1.1157      2.80  |Q V      |         |         |         |
6+10       1.1351      2.81  |Q V      |         |         |         |
6+15       1.1545      2.83  |Q V      |         |         |         |
6+20       1.1741      2.84  |Q V      |         |         |         |
6+25       1.1937      2.85  |Q V      |         |         |         |
6+30       1.2135      2.87  |Q V      |         |         |         |
6+35       1.2333      2.88  |Q V      |         |         |         |
6+40       1.2533      2.90  |Q  V     |         |         |         |
6+45       1.2733      2.91  |Q  V     |         |         |         |
6+50       1.2935      2.93  |Q  V     |         |         |         |
6+55       1.3137      2.94  |Q  V     |         |         |         |
7+ 0       1.3341      2.96  |Q  V     |         |         |         |
7+ 5       1.3546      2.97  |Q  V     |         |         |         |
7+10       1.3751      2.99  |Q  V     |         |         |         |
7+15       1.3958      3.00  |Q  V     |         |         |         |
7+20       1.4166      3.02  |Q  V     |         |         |         |
7+25       1.4375      3.03  |Q  V     |         |         |         |
7+30       1.4585      3.05  |Q  V     |         |         |         |
7+35       1.4796      3.07  |Q  V     |         |         |         |
7+40       1.5009      3.09  |Q  V     |         |         |         |
7+45       1.5223      3.10  |Q  V     |         |         |         |
7+50       1.5437      3.12  |Q  V     |         |         |         |
7+55       1.5654      3.14  |Q   V    |         |         |         |
8+ 0       1.5871      3.16  |Q   V    |         |         |         |
8+ 5       1.6089      3.17  |Q   V    |         |         |         |
8+10       1.6309      3.19  |Q   V    |         |         |         |
8+15       1.6531      3.21  |Q   V    |         |         |         |
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8+20	1.6753	3.23	Q V			
8+25	1.6977	3.25	Q V			
8+30	1.7202	3.27	Q V			
8+35	1.7429	3.29	Q V			
8+40	1.7657	3.31	Q V			
8+45	1.7886	3.33	Q V			
8+50	1.8117	3.35	Q V			
8+55	1.8350	3.37	Q V			
9+ 0	1.8584	3.40	Q V			
9+ 5	1.8819	3.42	Q V			
9+10	1.9056	3.44	Q V			
9+15	1.9295	3.47	Q V			
9+20	1.9535	3.49	Q V			
9+25	1.9777	3.51	Q V			
9+30	2.0020	3.54	Q V			
9+35	2.0266	3.56	Q V			
9+40	2.0513	3.59	Q V			
9+45	2.0762	3.61	Q V			
9+50	2.1012	3.64	Q V			
9+55	2.1265	3.67	Q V			
10+ 0	2.1519	3.69	Q V			
10+ 5	2.1776	3.72	Q V			
10+10	2.2034	3.75	Q V			
10+15	2.2295	3.78	Q V			
10+20	2.2557	3.81	Q V			
10+25	2.2822	3.84	Q V			
10+30	2.3088	3.87	Q V			
10+35	2.3357	3.90	Q V			
10+40	2.3628	3.94	Q V			
10+45	2.3902	3.97	Q V			
10+50	2.4177	4.00	Q V			
10+55	2.4456	4.04	Q V			
11+ 0	2.4736	4.07	Q V			
11+ 5	2.5019	4.11	Q V			
11+10	2.5305	4.15	Q V			
11+15	2.5593	4.19	Q V			
11+20	2.5885	4.23	Q V			
11+25	2.6179	4.27	Q V			
11+30	2.6475	4.31	Q V			
11+35	2.6775	4.35	Q V			
11+40	2.7078	4.40	Q V			
11+45	2.7383	4.44	Q V			
11+50	2.7692	4.49	Q V			
11+55	2.8005	4.53	Q V			
12+ 0	2.8320	4.58	Q V			
12+ 5	2.8639	4.63	Q V			
12+10	2.8962	4.68	Q V			
12+15	2.9288	4.73	Q V			
12+20	2.9617	4.78	Q V			
12+25	2.9950	4.83	Q V			

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12+30       3.0287      4.89  | Q      V|          |          |          |
12+35       3.0628      4.95  | Q      V|          |          |          |
12+40       3.0972      5.01  | Q      V|          |          |          |
12+45       3.1322      5.07  | Q       V          |          |          |
12+50       3.1675      5.14  | Q       V          |          |          |
12+55       3.2034      5.21  | Q       V          |          |          |
13+ 0       3.2397      5.28  | Q       V          |          |          |
13+ 5       3.2766      5.35  | Q       V          |          |          |
13+10       3.3140      5.43  | Q       V          |          |          |
13+15       3.3520      5.51  | Q       V          |          |          |
13+20       3.3905      5.59  | Q       V          |          |          |
13+25       3.4296      5.68  | Q       V          |          |          |
13+30       3.4694      5.77  | Q       |V         |          |          |
13+35       3.5098      5.87  | Q       |V         |          |          |
13+40       3.5510      5.97  | Q       |V         |          |          |
13+45       3.5928      6.08  | Q       |V         |          |          |
13+50       3.6354      6.19  | Q       |V         |          |          |
13+55       3.6788      6.30  | Q       |V         |          |          |
14+ 0       3.7231      6.43  | Q       |V         |          |          |
14+ 5       3.7683      6.56  | Q       | V        |          |          |
14+10       3.8145      6.70  | Q       | V        |          |          |
14+15       3.8617      6.86  |  Q      | V        |          |          |
14+20       3.9102      7.03  |  Q      | V        |          |          |
14+25       3.9599      7.22  |  Q      | V        |          |          |
14+30       4.0109      7.41  |  Q      | V        |          |          |
14+35       4.0632      7.61  |  Q      | V        |          |          |
14+40       4.1171      7.81  |  Q      |  V       |          |          |
14+45       4.1724      8.04  |  Q      |  V       |          |          |
14+50       4.2294      8.28  |  Q      |  V       |          |          |
14+55       4.2882      8.54  |  Q      |  V       |          |          |
15+ 0       4.3489      8.82  |  Q      |  V       |          |          |
15+ 5       4.4118      9.13  |   Q     |   V      |          |          |
15+10       4.4770      9.47  |   Q     |   V      |          |          |
15+15       4.5448      9.85  |   Q     |   V      |          |          |
15+20       4.6156     10.27  |   Q     |   V      |          |          |
15+25       4.6896     10.75  |   Q     |   V      |          |          |
15+30       4.7674     11.29  |    Q    |    V     |          |          |
15+35       4.8494     11.91  |    Q    |    V     |          |          |
15+40       4.9364     12.64  |    Q    |    V     |          |          |
15+45       5.0296     13.53  |     Q   |     V    |          |          |
15+50       5.1308     14.68  |     Q   |     V    |          |          |
15+55       5.2439     16.44  |      Q  |     V    |          |          |
16+ 0       5.3800     19.76  |       Q |      V   |          |          |
16+ 5       5.5913     30.69  |         |  Q   V   |          |          |
16+10       5.9222     48.05  |         |       V |Q         |          |
16+15       6.3767     65.99  |         |         V        Q|          |
16+20       6.9269     79.88  |         |         | V      |    Q     |
16+25       7.4921     82.07  |         |         |  V     |     Q    |
16+30       7.9639     68.50  |         |         |    V   Q          |
16+35       8.3156     51.07  |         |         | Q   V  |          |
```



```
20+50      11.6878      3.27  |Q        |         |         |      V  |
20+55      11.7101      3.23  |Q        |         |         |      V  |
21+ 0      11.7320      3.19  |Q        |         |         |      V  |
21+ 5      11.7537      3.15  |Q        |         |         |      V  |
21+10      11.7752      3.12  |Q        |         |         |      V  |
21+15      11.7964      3.08  |Q        |         |         |      V  |
21+20      11.8174      3.05  |Q        |         |         |      V  |
21+25      11.8381      3.01  |Q        |         |         |      V  |
21+30      11.8586      2.98  |Q        |         |         |      V  |
21+35      11.8790      2.95  |Q        |         |         |      V  |
21+40      11.8991      2.92  |Q        |         |         |       V |
21+45      11.9189      2.89  |Q        |         |         |       V |
21+50      11.9386      2.86  |Q        |         |         |       V |
21+55      11.9581      2.83  |Q        |         |         |       V |
22+ 0      11.9775      2.80  |Q        |         |         |       V |
22+ 5      11.9966      2.78  |Q        |         |         |       V |
22+10      12.0156      2.75  |Q        |         |         |       V |
22+15      12.0343      2.73  |Q        |         |         |       V |
22+20      12.0529      2.70  |Q        |         |         |       V |
22+25      12.0714      2.68  |Q        |         |         |       V |
22+30      12.0897      2.66  |Q        |         |         |       V |
22+35      12.1078      2.63  |Q        |         |         |       V |
22+40      12.1258      2.61  |Q        |         |         |       V |
22+45      12.1436      2.59  |Q        |         |         |       V |
22+50      12.1613      2.57  |Q        |         |         |       V |
22+55      12.1788      2.55  |Q        |         |         |       V |
23+ 0      12.1962      2.53  |Q        |         |         |       V |
23+ 5      12.2135      2.51  |Q        |         |         |        V|
23+10      12.2306      2.49  |Q        |         |         |        V|
23+15      12.2476      2.47  |Q        |         |         |        V|
23+20      12.2644      2.45  |Q        |         |         |        V|
23+25      12.2812      2.43  |Q        |         |         |        V|
23+30      12.2978      2.41  |Q        |         |         |        V|
23+35      12.3143      2.39  |Q        |         |         |        V|
23+40      12.3306      2.38  |Q        |         |         |        V|
23+45      12.3469      2.36  |Q        |         |         |        V|
23+50      12.3630      2.34  |Q        |         |         |        V|
23+55      12.3791      2.33  |Q        |         |         |        V|
24+ 0      12.3950      2.31  |Q        |         |         |        V|
24+ 5      12.4105      2.25  |Q        |         |         |        V|
24+10      12.4251      2.12  Q         |         |         |        V|
24+15      12.4381      1.89  Q         |         |         |        V|
24+20      12.4490      1.59  Q         |         |         |        V|
24+25      12.4576      1.25  Q         |         |         |        V|
24+30      12.4644      0.98  Q         |         |         |        V|
24+35      12.4699      0.80  Q         |         |         |        V|
24+40      12.4746      0.68  Q         |         |         |        V|
24+45      12.4786      0.59  Q         |         |         |        V|
24+50      12.4822      0.52  Q         |         |         |        V|
24+55      12.4854      0.46  Q         |         |         |        V|
```

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  25+ 0      12.4882      0.41  Q          |          |          |         V|
  25+ 5      12.4906      0.36  Q          |          |          |         V|
  25+10      12.4929      0.32  Q          |          |          |         V|
  25+15      12.4948      0.29  Q          |          |          |         V|
  25+20      12.4966      0.26  Q          |          |          |         V|
  25+25      12.4982      0.23  Q          |          |          |         V|
  25+30      12.4996      0.20  Q          |          |          |         V|
  25+35      12.5008      0.18  Q          |          |          |         V|
  25+40      12.5020      0.16  Q          |          |          |         V|
  25+45      12.5030      0.15  Q          |          |          |         V|
  25+50      12.5039      0.13  Q          |          |          |         V|
  25+55      12.5047      0.12  Q          |          |          |         V|
  26+ 0      12.5054      0.10  Q          |          |          |         V|
  26+ 5      12.5060      0.09  Q          |          |          |         V|
  26+10      12.5066      0.08  Q          |          |          |         V|
  26+15      12.5070      0.07  Q          |          |          |         V|
  26+20      12.5075      0.06  Q          |          |          |         V|
  26+25      12.5078      0.05  Q          |          |          |         V|
  26+30      12.5081      0.04  Q          |          |          |         V|
  26+35      12.5084      0.04  Q          |          |          |         V|
  26+40      12.5086      0.03  Q          |          |          |         V|
  26+45      12.5088      0.03  Q          |          |          |         V|
  26+50      12.5090      0.02  Q          |          |          |         V|
  26+55      12.5091      0.02  Q          |          |          |         V|
  27+ 0      12.5092      0.01  Q          |          |          |         V|
  27+ 5      12.5092      0.01  Q          |          |          |         V|
  27+10      12.5093      0.00  Q          |          |          |          V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/18/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
UNIT HYDROGRAPH ANALYSIS, OFFSITE
EXISTING CONDITION, 5-YEAR 24-HOUR
FN: UHEXOFF5.OUT - ABE

Storm Event Year = 5

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
1715.40	1	0.60
Rainfall data for year 2		
1715.40	6	0.70
Rainfall data for year 2		
1715.40	24	1.20
Rainfall data for year 100		

```
          1715.40            1           1.00
-------------------------------------------------------------------
Rainfall data for year 100
          1715.40            6           1.90
-------------------------------------------------------------------
Rainfall data for year 100
          1715.40           24           3.40
-------------------------------------------------------------------
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

******** Area-averaged max loss rate, Fm ********


SCS curve  SCS curve     Area     Area     Fp(Fig C6)    Ap      Fm
No.(AMCII) NO.(AMC 2)    (Ac.)    Fraction     (In/Hr)  (dec.)   (In/Hr)
 86.0      86.0       1715.40      1.000     0.265    1.000    0.265

Area-averaged adjusted loss rate Fm (In/Hr) =  0.265

********* Area-Averaged low loss rate fraction, Yb **********

Area       Area          SCS CN    SCS CN      S     Pervious
 (Ac.)      Fract         (AMC2)    (AMC2)           Yield Fr
  1715.40   1.000         86.0      86.0       1.63     0.373

Area-averaged catchment yield fraction, Y =  0.373
Area-averaged low loss fraction, Yb =  0.627
User entry of time of concentration  =   1.080 (hours)
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =    1715.40(Ac.)
Catchment Lag time =   0.864 hours
Unit interval =  10.000 minutes
Unit interval percentage of lag time = 19.2901
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.265(In/Hr)
Average low loss rate fraction (Yb) = 0.627 (decimal)
VALLEY UNDEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.177(In)
Computed peak 30-minute rainfall =  0.363(In)
Specified peak 1-hour rainfall =  0.480(In)
Computed peak 3-hour rainfall =  0.744(In)
Specified peak 6-hour rainfall =  0.981(In)
Specified peak 24-hour rainfall =  1.715(In)


Rainfall depth area reduction factors:
Using a total area of    1715.40(Ac.) (Ref: fig. E-4)

5-minute factor = 0.920     Adjusted rainfall =  0.163(In)
30-minute factor = 0.920    Adjusted rainfall =  0.334(In)
```

1-hour factor = 0.920 Adjusted rainfall = 0.441(In)
3-hour factor = 0.990 Adjusted rainfall = 0.736(In)
6-hour factor = 0.995 Adjusted rainfall = 0.976(In)
24-hour factor = 0.998 Adjusted rainfall = 1.712(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 10372.81 (CFS))	
1	1.704	176.713
2	6.551	502.841
3	14.962	872.420
4	26.851	1233.236
5	40.500	1415.779
6	53.146	1311.704
7	61.923	910.510
8	68.000	630.293
9	72.316	447.690
10	75.521	332.445
11	78.269	285.062
12	80.599	241.646
13	82.612	208.896
14	84.417	187.146
15	86.029	167.221
16	87.405	142.706
17	88.597	123.714
18	89.755	120.056
19	90.799	108.326
20	91.651	88.373
21	92.492	87.204
22	93.172	70.533
23	93.789	64.030
24	94.397	63.126
25	94.978	60.243
26	95.556	59.977
27	96.046	50.795
28	96.471	44.020
29	96.886	43.067
30	97.243	37.066
31	97.590	36.017
32	97.907	32.804
33	98.177	28.056
34	98.444	27.643
35	98.655	21.948
36	98.848	20.009
37	99.041	20.009

38	99.234	20.009
39	99.427	20.009
40	99.620	20.009
41	99.812	20.009
42	100.000	19.449

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.2154	0.0522
2	0.2842	0.0309
3	0.3342	0.0235
4	0.3750	0.0195
5	0.4100	0.0169
6	0.4410	0.0151
7	0.4739	0.0161
8	0.5044	0.0150
9	0.5328	0.0140
10	0.5597	0.0132
11	0.5851	0.0126
12	0.6094	0.0120
13	0.6325	0.0115
14	0.6548	0.0110
15	0.6762	0.0106
16	0.6969	0.0102
17	0.7169	0.0099
18	0.7362	0.0096
19	0.7526	0.0081
20	0.7684	0.0079
21	0.7838	0.0076
22	0.7988	0.0074
23	0.8134	0.0072
24	0.8275	0.0071
25	0.8414	0.0069
26	0.8549	0.0067
27	0.8681	0.0066
28	0.8811	0.0064
29	0.8937	0.0063
30	0.9061	0.0062
31	0.9183	0.0060
32	0.9302	0.0059
33	0.9419	0.0058
34	0.9534	0.0057
35	0.9647	0.0056
36	0.9758	0.0055
37	0.9867	0.0054
38	0.9974	0.0053
39	1.0080	0.0053
40	1.0184	0.0052
41	1.0286	0.0051
42	1.0387	0.0050

43	1.0487	0.0050
44	1.0585	0.0049
45	1.0682	0.0048
46	1.0777	0.0048
47	1.0872	0.0047
48	1.0965	0.0046
49	1.1057	0.0046
50	1.1148	0.0045
51	1.1238	0.0045
52	1.1327	0.0044
53	1.1414	0.0044
54	1.1501	0.0043
55	1.1587	0.0043
56	1.1672	0.0042
57	1.1756	0.0042
58	1.1839	0.0041
59	1.1922	0.0041
60	1.2003	0.0041
61	1.2084	0.0040
62	1.2164	0.0040
63	1.2243	0.0039
64	1.2321	0.0039
65	1.2399	0.0039
66	1.2476	0.0038
67	1.2552	0.0038
68	1.2628	0.0038
69	1.2703	0.0037
70	1.2777	0.0037
71	1.2851	0.0037
72	1.2924	0.0036
73	1.2996	0.0036
74	1.3068	0.0036
75	1.3139	0.0036
76	1.3210	0.0035
77	1.3280	0.0035
78	1.3350	0.0035
79	1.3419	0.0034
80	1.3488	0.0034
81	1.3556	0.0034
82	1.3623	0.0034
83	1.3690	0.0033
84	1.3757	0.0033
85	1.3823	0.0033
86	1.3889	0.0033
87	1.3954	0.0033
88	1.4019	0.0032
89	1.4083	0.0032
90	1.4147	0.0032
91	1.4211	0.0032
92	1.4274	0.0031

93	1.4336	0.0031
94	1.4399	0.0031
95	1.4461	0.0031
96	1.4522	0.0031
97	1.4583	0.0031
98	1.4644	0.0030
99	1.4704	0.0030
100	1.4764	0.0030
101	1.4824	0.0030
102	1.4883	0.0030
103	1.4942	0.0029
104	1.5001	0.0029
105	1.5059	0.0029
106	1.5117	0.0029
107	1.5175	0.0029
108	1.5232	0.0029
109	1.5289	0.0028
110	1.5346	0.0028
111	1.5402	0.0028
112	1.5458	0.0028
113	1.5514	0.0028
114	1.5570	0.0028
115	1.5625	0.0028
116	1.5680	0.0027
117	1.5735	0.0027
118	1.5789	0.0027
119	1.5843	0.0027
120	1.5897	0.0027
121	1.5950	0.0027
122	1.6004	0.0027
123	1.6057	0.0026
124	1.6110	0.0026
125	1.6162	0.0026
126	1.6214	0.0026
127	1.6266	0.0026
128	1.6318	0.0026
129	1.6370	0.0026
130	1.6421	0.0026
131	1.6472	0.0026
132	1.6523	0.0025
133	1.6574	0.0025
134	1.6624	0.0025
135	1.6674	0.0025
136	1.6724	0.0025
137	1.6774	0.0025
138	1.6823	0.0025
139	1.6873	0.0025
140	1.6922	0.0025
141	1.6971	0.0024
142	1.7019	0.0024

143	1.7068	0.0024	
144	1.7116	0.0024	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0048	0.0030	0.0018
2	0.0049	0.0030	0.0018
3	0.0049	0.0031	0.0018
4	0.0049	0.0031	0.0018
5	0.0050	0.0031	0.0018
6	0.0050	0.0031	0.0019
7	0.0050	0.0031	0.0019
8	0.0051	0.0032	0.0019
9	0.0051	0.0032	0.0019
10	0.0051	0.0032	0.0019
11	0.0052	0.0032	0.0019
12	0.0052	0.0033	0.0019
13	0.0052	0.0033	0.0020
14	0.0053	0.0033	0.0020
15	0.0053	0.0033	0.0020
16	0.0053	0.0033	0.0020
17	0.0054	0.0034	0.0020
18	0.0054	0.0034	0.0020
19	0.0055	0.0034	0.0020
20	0.0055	0.0035	0.0021
21	0.0056	0.0035	0.0021
22	0.0056	0.0035	0.0021
23	0.0056	0.0035	0.0021
24	0.0057	0.0036	0.0021
25	0.0057	0.0036	0.0021
26	0.0058	0.0036	0.0022
27	0.0058	0.0037	0.0022
28	0.0059	0.0037	0.0022
29	0.0059	0.0037	0.0022
30	0.0060	0.0038	0.0022
31	0.0060	0.0038	0.0023
32	0.0061	0.0038	0.0023
33	0.0062	0.0039	0.0023
34	0.0062	0.0039	0.0023
35	0.0063	0.0039	0.0023
36	0.0063	0.0040	0.0024
37	0.0064	0.0040	0.0024
38	0.0065	0.0040	0.0024
39	0.0065	0.0041	0.0024
40	0.0066	0.0041	0.0025
41	0.0067	0.0042	0.0025
42	0.0067	0.0042	0.0025
43	0.0068	0.0043	0.0025

44	0.0069	0.0043	0.0026
45	0.0070	0.0044	0.0026
46	0.0070	0.0044	0.0026
47	0.0071	0.0045	0.0027
48	0.0072	0.0045	0.0027
49	0.0073	0.0046	0.0027
50	0.0074	0.0046	0.0028
51	0.0075	0.0047	0.0028
52	0.0076	0.0048	0.0028
53	0.0077	0.0048	0.0029
54	0.0078	0.0049	0.0029
55	0.0079	0.0050	0.0030
56	0.0080	0.0050	0.0030
57	0.0081	0.0051	0.0030
58	0.0083	0.0052	0.0031
59	0.0084	0.0053	0.0031
60	0.0085	0.0054	0.0032
61	0.0087	0.0054	0.0032
62	0.0088	0.0055	0.0033
63	0.0090	0.0056	0.0034
64	0.0091	0.0057	0.0034
65	0.0093	0.0058	0.0035
66	0.0095	0.0060	0.0035
67	0.0097	0.0061	0.0036
68	0.0099	0.0062	0.0037
69	0.0101	0.0063	0.0038
70	0.0103	0.0065	0.0039
71	0.0106	0.0066	0.0039
72	0.0108	0.0068	0.0040
73	0.0111	0.0070	0.0041
74	0.0114	0.0071	0.0043
75	0.0117	0.0073	0.0044
76	0.0120	0.0075	0.0045
77	0.0124	0.0078	0.0046
78	0.0128	0.0080	0.0048
79	0.0132	0.0083	0.0049
80	0.0137	0.0086	0.0051
81	0.0142	0.0089	0.0053
82	0.0148	0.0093	0.0055
83	0.0154	0.0096	0.0057
84	0.0161	0.0101	0.0060
85	0.0194	0.0121	0.0072
86	0.0203	0.0127	0.0076
87	0.0214	0.0134	0.0080
88	0.0227	0.0142	0.0085
89	0.0242	0.0152	0.0090
90	0.0261	0.0164	0.0097
91	0.0285	0.0179	0.0106
92	0.0316	0.0198	0.0118
93	0.0310	0.0194	0.0116

94	0.0376	0.0236	0.0140
95	0.0500	0.0314	0.0187
96	0.0901	0.0442	0.0459
97	0.1941	0.0442	0.1499
98	0.0382	0.0239	0.0142
99	0.0317	0.0199	0.0118
100	0.0262	0.0164	0.0098
101	0.0227	0.0142	0.0085
102	0.0203	0.0127	0.0076
103	0.0161	0.0101	0.0060
104	0.0148	0.0093	0.0055
105	0.0137	0.0086	0.0051
106	0.0128	0.0080	0.0048
107	0.0120	0.0075	0.0045
108	0.0114	0.0071	0.0043
109	0.0108	0.0068	0.0040
110	0.0103	0.0065	0.0039
111	0.0099	0.0062	0.0037
112	0.0095	0.0060	0.0035
113	0.0091	0.0057	0.0034
114	0.0088	0.0055	0.0033
115	0.0085	0.0054	0.0032
116	0.0083	0.0052	0.0031
117	0.0080	0.0050	0.0030
118	0.0078	0.0049	0.0029
119	0.0076	0.0048	0.0028
120	0.0074	0.0046	0.0028
121	0.0072	0.0045	0.0027
122	0.0070	0.0044	0.0026
123	0.0069	0.0043	0.0026
124	0.0067	0.0042	0.0025
125	0.0066	0.0041	0.0025
126	0.0065	0.0040	0.0024
127	0.0063	0.0040	0.0024
128	0.0062	0.0039	0.0023
129	0.0061	0.0038	0.0023
130	0.0060	0.0038	0.0022
131	0.0059	0.0037	0.0022
132	0.0058	0.0036	0.0022
133	0.0057	0.0036	0.0021
134	0.0056	0.0035	0.0021
135	0.0055	0.0035	0.0021
136	0.0054	0.0034	0.0020
137	0.0053	0.0033	0.0020
138	0.0053	0.0033	0.0020
139	0.0052	0.0033	0.0019
140	0.0051	0.0032	0.0019
141	0.0051	0.0032	0.0019
142	0.0050	0.0031	0.0019
143	0.0049	0.0031	0.0018

144 0.0049 0.0030 0.0018

Total soil rain loss = 0.98(In)
Total effective rainfall = 0.73(In)
Peak flow rate in flood hydrograph = 359.47(CFS)

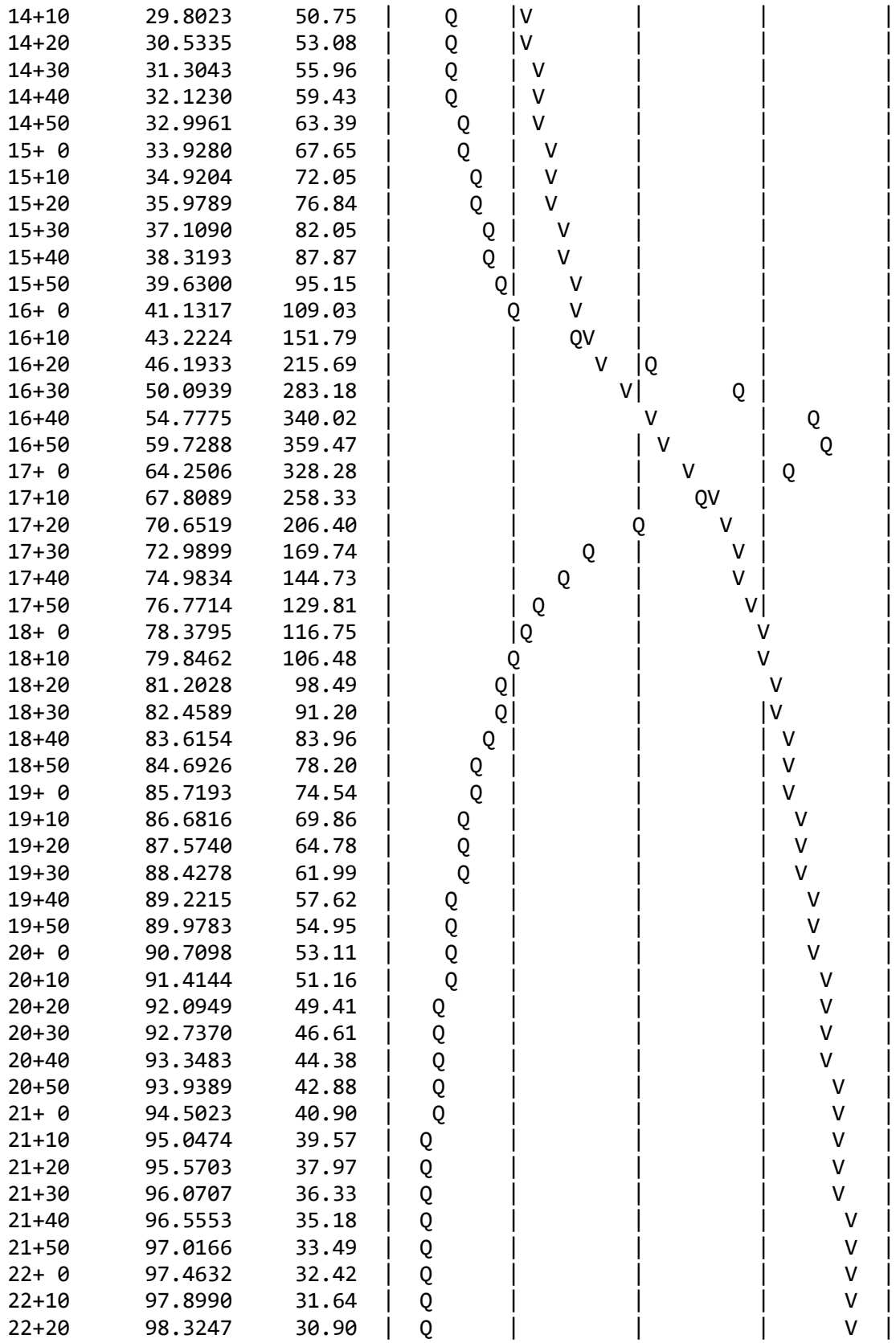
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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 10 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	100.0	200.0	300.0	400.0
0+10	0.0044	0.32	Q				
0+20	0.0213	1.23	Q				
0+30	0.0599	2.81	Q				
0+40	0.1294	5.04	Q				
0+50	0.2345	7.63	Q				
1+ 0	0.3727	10.04	VQ				
1+10	0.5345	11.74	VQ				
1+20	0.7129	12.95	VQ				
1+30	0.9036	13.84	VQ				
1+40	1.1038	14.53	VQ				
1+50	1.3123	15.14	VQ				
2+ 0	1.5283	15.68	VQ				
2+10	1.7509	16.16	VQ				
2+20	1.9796	16.61	VQ				
2+30	2.2141	17.02	VQ				
2+40	2.4537	17.40	VQ				
2+50	2.6981	17.74	Q				
3+ 0	2.9472	18.08	|Q				
3+10	3.2007	18.41	|Q				
3+20	3.4583	18.70	|Q				
3+30	3.7199	18.99	|Q				
3+40	3.9851	19.26	|Q				
3+50	4.2540	19.52	|Q				
4+ 0	4.5264	19.78	|Q				
4+10	4.8024	20.04	|VQ				
4+20	5.0820	20.30	|VQ				
4+30	5.3651	20.55	| Q				
4+40	5.6515	20.79	| Q				
4+50	5.9413	21.04	| Q				
5+ 0	6.2344	21.28	| Q				
5+10	6.5307	21.52	| Q				
5+20	6.8304	21.75	| Q				
5+30	7.1332	21.99	| Q				
5+40	7.4394	22.23	| Q				

5+50	7.7487	22.46	Q				
6+ 0	8.0613	22.69	QV				
6+10	8.3772	22.93	QV				
6+20	8.6964	23.18	QV				
6+30	9.0191	23.43	QV				
6+40	9.3453	23.68	QV				
6+50	9.6751	23.94	QV				
7+ 0	10.0085	24.21	QV				
7+10	10.3452	24.45	QV				
7+20	10.6853	24.69	Q V				
7+30	11.0289	24.94	Q V				
7+40	11.3760	25.20	Q V				
7+50	11.7267	25.46	Q V				
8+ 0	12.0812	25.74	Q V				
8+10	12.4396	26.02	Q V				
8+20	12.8019	26.31	Q V				
8+30	13.1684	26.60	Q V				
8+40	13.5391	26.91	Q V				
8+50	13.9141	27.23	Q V				
9+ 0	14.2937	27.56	Q V				
9+10	14.6779	27.90	Q V				
9+20	15.0670	28.25	Q V				
9+30	15.4611	28.61	Q V				
9+40	15.8603	28.98	Q V				
9+50	16.2649	29.37	Q V				
10+ 0	16.6750	29.78	Q V				
10+10	17.0909	30.19	Q V				
10+20	17.5128	30.63	Q V				
10+30	17.9409	31.08	Q V				
10+40	18.3756	31.55	Q V				
10+50	18.8170	32.05	Q V				
11+ 0	19.2655	32.56	Q V				
11+10	19.7213	33.10	Q V				
11+20	20.1849	33.66	Q V				
11+30	20.6566	34.24	Q V				
11+40	21.1368	34.86	Q V				
11+50	21.6259	35.51	Q V				
12+ 0	22.1245	36.19	Q V				
12+10	22.6329	36.91	Q V				
12+20	23.1519	37.68	Q V				
12+30	23.6822	38.50	Q V				
12+40	24.2244	39.37	Q V				
12+50	24.7794	40.29	Q V				
13+ 0	25.3479	41.28	Q V				
13+10	25.9309	42.32	Q V				
13+20	26.5293	43.45	Q V				
13+30	27.1443	44.65	Q V				
13+40	27.7773	45.95	Q V				
13+50	28.4297	47.36	Q V				
14+ 0	29.1033	48.90	Q V				



22+30	98.7408	30.21	| Q	|	|	|	V |
22+40	99.1470	29.50	| Q	|	|	|	V |
22+50	99.5425	28.71	| Q	|	|	|	V |
23+ 0	99.9195	27.37	| Q	|	|	|	V |
23+10	100.2514	24.10	| Q	|	|	|	V |
23+20	100.5748	23.49	| Q	|	|	|	V |
23+30	100.8908	22.94	| Q	|	|	|	V |
23+40	101.2001	22.45	| Q	|	|	|	V |
23+50	101.5032	22.01	| Q	|	|	|	V|
24+ 0	101.8006	21.59	| Q	|	|	|	V|
24+10	102.0885	20.90	| Q	|	|	|	V|
24+20	102.3592	19.65	|Q	|	|	|	V|
24+30	102.6040	17.77	|Q	|	|	|	V|
24+40	102.8145	15.28	|Q	|	|	|	V|
24+50	102.9867	12.51	|Q	|	|	|	V|
25+ 0	103.1239	9.96	Q	|	|	|	V|
25+10	103.2363	8.17	Q	|	|	|	V|
25+20	103.3314	6.90	Q	|	|	|	V|
25+30	103.4139	5.99	Q	|	|	|	V|
25+40	103.4868	5.29	Q	|	|	|	V|
25+50	103.5515	4.70	Q	|	|	|	V|
26+ 0	103.6091	4.19	Q	|	|	|	V|
26+10	103.6607	3.74	Q	|	|	|	V|
26+20	103.7068	3.35	Q	|	|	|	V|
26+30	103.7481	3.00	Q	|	|	|	V|
26+40	103.7852	2.69	Q	|	|	|	V|
26+50	103.8186	2.43	Q	|	|	|	V|
27+ 0	103.8486	2.18	Q	|	|	|	V|
27+10	103.8754	1.95	Q	|	|	|	V|
27+20	103.8996	1.76	Q	|	|	|	V|
27+30	103.9214	1.58	Q	|	|	|	V|
27+40	103.9410	1.43	Q	|	|	|	V|
27+50	103.9588	1.29	Q	|	|	|	V|
28+ 0	103.9747	1.16	Q	|	|	|	V|
28+10	103.9890	1.03	Q	|	|	|	V|
28+20	104.0015	0.91	Q	|	|	|	V|
28+30	104.0126	0.81	Q	|	|	|	V|
28+40	104.0225	0.72	Q	|	|	|	V|
28+50	104.0312	0.63	Q	|	|	|	V|
29+ 0	104.0388	0.55	Q	|	|	|	V|
29+10	104.0455	0.48	Q	|	|	|	V|
29+20	104.0512	0.42	Q	|	|	|	V|
29+30	104.0562	0.36	Q	|	|	|	V|
29+40	104.0604	0.31	Q	|	|	|	V|
29+50	104.0640	0.26	Q	|	|	|	V|
30+ 0	104.0671	0.22	Q	|	|	|	V|
30+10	104.0697	0.19	Q	|	|	|	V|
30+20	104.0717	0.15	Q	|	|	|	V|
30+30	104.0732	0.11	Q	|	|	|	V|
30+40	104.0742	0.07	Q	|	|	|	V|

```
   30+50     104.0747      0.04  Q         |         |         |        V|
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 03/18/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
UNIT HYDROGRAPH ANALYSIS, OFFSITE WEST
EXISTING CONDITION, 5-YEAR 24-HOUR
FN: UHEXWESTOFF5.OUT - ABE

Storm Event Year = 5

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
39.40	1	0.60
Rainfall data for year 2		
39.40	6	0.70
Rainfall data for year 2		
39.40	24	1.20
Rainfall data for year 100		

```
            39.40            1           1.00
--------------------------------------------------------------------
Rainfall data for year 100
            39.40            6           1.90
--------------------------------------------------------------------
Rainfall data for year 100
            39.40           24           3.40
--------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

******** Area-averaged max loss rate, Fm ********


SCS curve  SCS curve     Area     Area     Fp(Fig C6)    Ap      Fm
No.(AMCII) NO.(AMC 2)    (Ac.)    Fraction     (In/Hr)  (dec.)   (In/Hr)
 86.0      86.0         39.40      1.000     0.265    0.890    0.236

Area-averaged adjusted loss rate Fm (In/Hr) =  0.236

********* Area-Averaged low loss rate fraction, Yb **********

Area       Area          SCS CN    SCS CN      S     Pervious
 (Ac.)      Fract         (AMC2)    (AMC2)           Yield Fr
    35.07   0.890         86.0      86.0       1.63     0.373
     4.33   0.110         98.0      98.0       0.20     0.870

Area-averaged catchment yield fraction, Y =  0.428
Area-averaged low loss fraction, Yb =  0.572
User entry of time of concentration  =   0.690 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      39.40(Ac.)
Catchment Lag time =   0.552 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 15.0966
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.236(In/Hr)
Average low loss rate fraction (Yb) = 0.572 (decimal)
VALLEY UNDEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.177(In)
Computed peak 30-minute rainfall =  0.363(In)
Specified peak 1-hour rainfall =  0.480(In)
Computed peak 3-hour rainfall =  0.744(In)
Specified peak 6-hour rainfall =  0.981(In)
Specified peak 24-hour rainfall =  1.715(In)


Rainfall depth area reduction factors:
Using a total area of      39.40(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998     Adjusted rainfall =  0.177(In)
```

30-minute factor = 0.998 Adjusted rainfall = 0.363(In)
1-hour factor = 0.998 Adjusted rainfall = 0.479(In)
3-hour factor = 1.000 Adjusted rainfall = 0.744(In)
6-hour factor = 1.000 Adjusted rainfall = 0.981(In)
24-hour factor = 1.000 Adjusted rainfall = 1.715(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 476.49 (CFS))	
1	1.308	6.234
2	4.542	15.408
3	9.938	25.710
4	17.425	35.676
5	27.101	46.109
6	37.783	50.895
7	48.446	50.810
8	56.836	39.979
9	63.010	29.416
10	67.693	22.315
11	71.258	16.990
12	74.036	13.237
13	76.329	10.924
14	78.444	10.077
15	80.267	8.687
16	81.900	7.781
17	83.392	7.110
18	84.749	6.466
19	86.003	5.977
20	87.094	5.199
21	88.069	4.644
22	88.975	4.316
23	89.880	4.316
24	90.706	3.933
25	91.374	3.185
26	92.038	3.165
27	92.680	3.055
28	93.185	2.408
29	93.668	2.302
30	94.151	2.299
31	94.613	2.205
32	95.066	2.158
33	95.519	2.158
34	95.925	1.935
35	96.258	1.587
36	96.590	1.583

37	96.913	1.536
38	97.190	1.322
39	97.462	1.295
40	97.732	1.285
41	97.960	1.087
42	98.171	1.007
43	98.382	1.007
44	98.567	0.879
45	98.718	0.720
46	98.869	0.719
47	99.020	0.719
48	99.171	0.719
49	99.322	0.719
50	99.473	0.719
51	99.624	0.719
52	99.775	0.719
53	100.000	0.360

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.1772	0.1772
2	0.2338	0.0566
3	0.2749	0.0412
4	0.3085	0.0335
5	0.3373	0.0288
6	0.3628	0.0255
7	0.3859	0.0231
8	0.4070	0.0212
9	0.4267	0.0196
10	0.4450	0.0184
11	0.4623	0.0173
12	0.4787	0.0164
13	0.4943	0.0156
14	0.5092	0.0149
15	0.5235	0.0143
16	0.5372	0.0137
17	0.5504	0.0132
18	0.5632	0.0128
19	0.5755	0.0123
20	0.5875	0.0120
21	0.5991	0.0116
22	0.6104	0.0113
23	0.6214	0.0110
24	0.6321	0.0107
25	0.6425	0.0104
26	0.6527	0.0102
27	0.6626	0.0100
28	0.6723	0.0097
29	0.6819	0.0095
30	0.6912	0.0093

31	0.7004	0.0091
32	0.7093	0.0090
33	0.7181	0.0088
34	0.7268	0.0086
35	0.7353	0.0085
36	0.7436	0.0084
37	0.7518	0.0082
38	0.7599	0.0081
39	0.7678	0.0079
40	0.7756	0.0078
41	0.7833	0.0077
42	0.7909	0.0076
43	0.7983	0.0075
44	0.8057	0.0074
45	0.8130	0.0073
46	0.8201	0.0072
47	0.8272	0.0071
48	0.8342	0.0070
49	0.8411	0.0069
50	0.8479	0.0068
51	0.8547	0.0067
52	0.8613	0.0067
53	0.8679	0.0066
54	0.8744	0.0065
55	0.8809	0.0064
56	0.8872	0.0064
57	0.8935	0.0063
58	0.8997	0.0062
59	0.9059	0.0062
60	0.9120	0.0061
61	0.9181	0.0060
62	0.9240	0.0060
63	0.9300	0.0059
64	0.9358	0.0059
65	0.9417	0.0058
66	0.9474	0.0058
67	0.9531	0.0057
68	0.9588	0.0057
69	0.9644	0.0056
70	0.9700	0.0056
71	0.9755	0.0055
72	0.9809	0.0055
73	0.9864	0.0055
74	0.9918	0.0054
75	0.9972	0.0054
76	1.0026	0.0053
77	1.0079	0.0053
78	1.0131	0.0053
79	1.0183	0.0052
80	1.0235	0.0052

81	1.0286	0.0051
82	1.0337	0.0051
83	1.0388	0.0051
84	1.0438	0.0050
85	1.0488	0.0050
86	1.0538	0.0050
87	1.0587	0.0049
88	1.0636	0.0049
89	1.0684	0.0049
90	1.0733	0.0048
91	1.0781	0.0048
92	1.0828	0.0048
93	1.0875	0.0047
94	1.0922	0.0047
95	1.0969	0.0047
96	1.1016	0.0046
97	1.1062	0.0046
98	1.1107	0.0046
99	1.1153	0.0046
100	1.1198	0.0045
101	1.1243	0.0045
102	1.1288	0.0045
103	1.1332	0.0044
104	1.1377	0.0044
105	1.1421	0.0044
106	1.1464	0.0044
107	1.1508	0.0043
108	1.1551	0.0043
109	1.1594	0.0043
110	1.1637	0.0043
111	1.1679	0.0043
112	1.1722	0.0042
113	1.1764	0.0042
114	1.1806	0.0042
115	1.1847	0.0042
116	1.1889	0.0041
117	1.1930	0.0041
118	1.1971	0.0041
119	1.2012	0.0041
120	1.2052	0.0041
121	1.2093	0.0040
122	1.2133	0.0040
123	1.2173	0.0040
124	1.2213	0.0040
125	1.2252	0.0040
126	1.2292	0.0039
127	1.2331	0.0039
128	1.2370	0.0039
129	1.2409	0.0039
130	1.2447	0.0039

131	1.2486	0.0039
132	1.2524	0.0038
133	1.2562	0.0038
134	1.2600	0.0038
135	1.2638	0.0038
136	1.2676	0.0038
137	1.2713	0.0037
138	1.2751	0.0037
139	1.2788	0.0037
140	1.2825	0.0037
141	1.2862	0.0037
142	1.2898	0.0037
143	1.2935	0.0037
144	1.2971	0.0036
145	1.3007	0.0036
146	1.3044	0.0036
147	1.3079	0.0036
148	1.3115	0.0036
149	1.3151	0.0036
150	1.3186	0.0036
151	1.3222	0.0035
152	1.3257	0.0035
153	1.3292	0.0035
154	1.3327	0.0035
155	1.3362	0.0035
156	1.3397	0.0035
157	1.3431	0.0035
158	1.3466	0.0034
159	1.3500	0.0034
160	1.3534	0.0034
161	1.3568	0.0034
162	1.3602	0.0034
163	1.3636	0.0034
164	1.3669	0.0034
165	1.3703	0.0034
166	1.3736	0.0033
167	1.3770	0.0033
168	1.3803	0.0033
169	1.3836	0.0033
170	1.3869	0.0033
171	1.3902	0.0033
172	1.3934	0.0033
173	1.3967	0.0033
174	1.3999	0.0032
175	1.4032	0.0032
176	1.4064	0.0032
177	1.4096	0.0032
178	1.4128	0.0032
179	1.4160	0.0032
180	1.4192	0.0032

181	1.4224	0.0032
182	1.4255	0.0032
183	1.4287	0.0032
184	1.4318	0.0031
185	1.4350	0.0031
186	1.4381	0.0031
187	1.4412	0.0031
188	1.4443	0.0031
189	1.4474	0.0031
190	1.4505	0.0031
191	1.4535	0.0031
192	1.4566	0.0031
193	1.4597	0.0031
194	1.4627	0.0030
195	1.4657	0.0030
196	1.4688	0.0030
197	1.4718	0.0030
198	1.4748	0.0030
199	1.4778	0.0030
200	1.4808	0.0030
201	1.4837	0.0030
202	1.4867	0.0030
203	1.4897	0.0030
204	1.4926	0.0030
205	1.4956	0.0029
206	1.4985	0.0029
207	1.5014	0.0029
208	1.5044	0.0029
209	1.5073	0.0029
210	1.5102	0.0029
211	1.5131	0.0029
212	1.5160	0.0029
213	1.5188	0.0029
214	1.5217	0.0029
215	1.5246	0.0029
216	1.5274	0.0029
217	1.5303	0.0028
218	1.5331	0.0028
219	1.5359	0.0028
220	1.5388	0.0028
221	1.5416	0.0028
222	1.5444	0.0028
223	1.5472	0.0028
224	1.5500	0.0028
225	1.5528	0.0028
226	1.5555	0.0028
227	1.5583	0.0028
228	1.5611	0.0028
229	1.5638	0.0028
230	1.5666	0.0027

231	1.5693	0.0027
232	1.5721	0.0027
233	1.5748	0.0027
234	1.5775	0.0027
235	1.5802	0.0027
236	1.5829	0.0027
237	1.5856	0.0027
238	1.5883	0.0027
239	1.5910	0.0027
240	1.5937	0.0027
241	1.5964	0.0027
242	1.5990	0.0027
243	1.6017	0.0027
244	1.6043	0.0027
245	1.6070	0.0026
246	1.6096	0.0026
247	1.6123	0.0026
248	1.6149	0.0026
249	1.6175	0.0026
250	1.6201	0.0026
251	1.6227	0.0026
252	1.6253	0.0026
253	1.6279	0.0026
254	1.6305	0.0026
255	1.6331	0.0026
256	1.6357	0.0026
257	1.6383	0.0026
258	1.6408	0.0026
259	1.6434	0.0026
260	1.6459	0.0026
261	1.6485	0.0025
262	1.6510	0.0025
263	1.6536	0.0025
264	1.6561	0.0025
265	1.6586	0.0025
266	1.6611	0.0025
267	1.6637	0.0025
268	1.6662	0.0025
269	1.6687	0.0025
270	1.6712	0.0025
271	1.6737	0.0025
272	1.6761	0.0025
273	1.6786	0.0025
274	1.6811	0.0025
275	1.6836	0.0025
276	1.6860	0.0025
277	1.6885	0.0025
278	1.6910	0.0025
279	1.6934	0.0024
280	1.6958	0.0024

281	1.6983	0.0024
282	1.7007	0.0024
283	1.7031	0.0024
284	1.7056	0.0024
285	1.7080	0.0024
286	1.7104	0.0024
287	1.7128	0.0024
288	1.7152	0.0024

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0024	0.0014	0.0010
2	0.0024	0.0014	0.0010
3	0.0024	0.0014	0.0010
4	0.0024	0.0014	0.0010
5	0.0024	0.0014	0.0010
6	0.0024	0.0014	0.0010
7	0.0024	0.0014	0.0010
8	0.0025	0.0014	0.0010
9	0.0025	0.0014	0.0011
10	0.0025	0.0014	0.0011
11	0.0025	0.0014	0.0011
12	0.0025	0.0014	0.0011
13	0.0025	0.0014	0.0011
14	0.0025	0.0014	0.0011
15	0.0025	0.0014	0.0011
16	0.0025	0.0014	0.0011
17	0.0025	0.0014	0.0011
18	0.0025	0.0015	0.0011
19	0.0025	0.0015	0.0011
20	0.0026	0.0015	0.0011
21	0.0026	0.0015	0.0011
22	0.0026	0.0015	0.0011
23	0.0026	0.0015	0.0011
24	0.0026	0.0015	0.0011
25	0.0026	0.0015	0.0011
26	0.0026	0.0015	0.0011
27	0.0026	0.0015	0.0011
28	0.0026	0.0015	0.0011
29	0.0026	0.0015	0.0011
30	0.0026	0.0015	0.0011
31	0.0027	0.0015	0.0011
32	0.0027	0.0015	0.0011
33	0.0027	0.0015	0.0011
34	0.0027	0.0015	0.0011
35	0.0027	0.0015	0.0012
36	0.0027	0.0015	0.0012
37	0.0027	0.0016	0.0012

38	0.0027	0.0016	0.0012
39	0.0027	0.0016	0.0012
40	0.0027	0.0016	0.0012
41	0.0028	0.0016	0.0012
42	0.0028	0.0016	0.0012
43	0.0028	0.0016	0.0012
44	0.0028	0.0016	0.0012
45	0.0028	0.0016	0.0012
46	0.0028	0.0016	0.0012
47	0.0028	0.0016	0.0012
48	0.0028	0.0016	0.0012
49	0.0029	0.0016	0.0012
50	0.0029	0.0016	0.0012
51	0.0029	0.0016	0.0012
52	0.0029	0.0017	0.0012
53	0.0029	0.0017	0.0012
54	0.0029	0.0017	0.0012
55	0.0029	0.0017	0.0013
56	0.0029	0.0017	0.0013
57	0.0030	0.0017	0.0013
58	0.0030	0.0017	0.0013
59	0.0030	0.0017	0.0013
60	0.0030	0.0017	0.0013
61	0.0030	0.0017	0.0013
62	0.0030	0.0017	0.0013
63	0.0030	0.0017	0.0013
64	0.0030	0.0017	0.0013
65	0.0031	0.0018	0.0013
66	0.0031	0.0018	0.0013
67	0.0031	0.0018	0.0013
68	0.0031	0.0018	0.0013
69	0.0031	0.0018	0.0013
70	0.0031	0.0018	0.0013
71	0.0032	0.0018	0.0013
72	0.0032	0.0018	0.0014
73	0.0032	0.0018	0.0014
74	0.0032	0.0018	0.0014
75	0.0032	0.0018	0.0014
76	0.0032	0.0018	0.0014
77	0.0032	0.0019	0.0014
78	0.0033	0.0019	0.0014
79	0.0033	0.0019	0.0014
80	0.0033	0.0019	0.0014
81	0.0033	0.0019	0.0014
82	0.0033	0.0019	0.0014
83	0.0034	0.0019	0.0014
84	0.0034	0.0019	0.0014
85	0.0034	0.0019	0.0015
86	0.0034	0.0019	0.0015
87	0.0034	0.0020	0.0015

88	0.0034	0.0020	0.0015
89	0.0035	0.0020	0.0015
90	0.0035	0.0020	0.0015
91	0.0035	0.0020	0.0015
92	0.0035	0.0020	0.0015
93	0.0036	0.0020	0.0015
94	0.0036	0.0020	0.0015
95	0.0036	0.0021	0.0015
96	0.0036	0.0021	0.0015
97	0.0036	0.0021	0.0016
98	0.0037	0.0021	0.0016
99	0.0037	0.0021	0.0016
100	0.0037	0.0021	0.0016
101	0.0037	0.0021	0.0016
102	0.0037	0.0021	0.0016
103	0.0038	0.0022	0.0016
104	0.0038	0.0022	0.0016
105	0.0038	0.0022	0.0016
106	0.0039	0.0022	0.0016
107	0.0039	0.0022	0.0017
108	0.0039	0.0022	0.0017
109	0.0039	0.0023	0.0017
110	0.0040	0.0023	0.0017
111	0.0040	0.0023	0.0017
112	0.0040	0.0023	0.0017
113	0.0041	0.0023	0.0017
114	0.0041	0.0023	0.0017
115	0.0041	0.0024	0.0018
116	0.0041	0.0024	0.0018
117	0.0042	0.0024	0.0018
118	0.0042	0.0024	0.0018
119	0.0043	0.0024	0.0018
120	0.0043	0.0024	0.0018
121	0.0043	0.0025	0.0018
122	0.0043	0.0025	0.0019
123	0.0044	0.0025	0.0019
124	0.0044	0.0025	0.0019
125	0.0045	0.0026	0.0019
126	0.0045	0.0026	0.0019
127	0.0046	0.0026	0.0019
128	0.0046	0.0026	0.0020
129	0.0046	0.0027	0.0020
130	0.0047	0.0027	0.0020
131	0.0047	0.0027	0.0020
132	0.0048	0.0027	0.0020
133	0.0048	0.0028	0.0021
134	0.0049	0.0028	0.0021
135	0.0049	0.0028	0.0021
136	0.0050	0.0028	0.0021
137	0.0050	0.0029	0.0022

138	0.0051	0.0029	0.0022
139	0.0051	0.0029	0.0022
140	0.0052	0.0030	0.0022
141	0.0053	0.0030	0.0022
142	0.0053	0.0030	0.0023
143	0.0054	0.0031	0.0023
144	0.0054	0.0031	0.0023
145	0.0055	0.0031	0.0023
146	0.0055	0.0032	0.0024
147	0.0056	0.0032	0.0024
148	0.0057	0.0032	0.0024
149	0.0058	0.0033	0.0025
150	0.0058	0.0033	0.0025
151	0.0059	0.0034	0.0025
152	0.0060	0.0034	0.0026
153	0.0061	0.0035	0.0026
154	0.0062	0.0035	0.0026
155	0.0063	0.0036	0.0027
156	0.0064	0.0036	0.0027
157	0.0065	0.0037	0.0028
158	0.0066	0.0038	0.0028
159	0.0067	0.0039	0.0029
160	0.0068	0.0039	0.0029
161	0.0070	0.0040	0.0030
162	0.0071	0.0041	0.0030
163	0.0073	0.0042	0.0031
164	0.0074	0.0042	0.0032
165	0.0076	0.0043	0.0032
166	0.0077	0.0044	0.0033
167	0.0079	0.0045	0.0034
168	0.0081	0.0046	0.0034
169	0.0084	0.0048	0.0036
170	0.0085	0.0049	0.0036
171	0.0088	0.0050	0.0038
172	0.0090	0.0051	0.0038
173	0.0093	0.0053	0.0040
174	0.0095	0.0055	0.0041
175	0.0100	0.0057	0.0043
176	0.0102	0.0058	0.0044
177	0.0107	0.0061	0.0046
178	0.0110	0.0063	0.0047
179	0.0116	0.0066	0.0050
180	0.0120	0.0068	0.0051
181	0.0128	0.0073	0.0055
182	0.0132	0.0076	0.0057
183	0.0143	0.0082	0.0061
184	0.0149	0.0085	0.0064
185	0.0164	0.0094	0.0070
186	0.0173	0.0099	0.0074
187	0.0196	0.0112	0.0084

188	0.0212	0.0121	0.0091
189	0.0255	0.0146	0.0109
190	0.0288	0.0165	0.0123
191	0.0412	0.0197	0.0215
192	0.0566	0.0197	0.0369
193	0.1772	0.0197	0.1575
194	0.0335	0.0192	0.0143
195	0.0231	0.0132	0.0099
196	0.0184	0.0105	0.0079
197	0.0156	0.0089	0.0067
198	0.0137	0.0079	0.0059
199	0.0123	0.0071	0.0053
200	0.0113	0.0065	0.0048
201	0.0104	0.0060	0.0045
202	0.0097	0.0056	0.0042
203	0.0091	0.0052	0.0039
204	0.0086	0.0049	0.0037
205	0.0082	0.0047	0.0035
206	0.0078	0.0045	0.0033
207	0.0075	0.0043	0.0032
208	0.0072	0.0041	0.0031
209	0.0069	0.0039	0.0030
210	0.0067	0.0038	0.0028
211	0.0064	0.0037	0.0028
212	0.0062	0.0036	0.0027
213	0.0060	0.0035	0.0026
214	0.0059	0.0034	0.0025
215	0.0057	0.0033	0.0024
216	0.0056	0.0032	0.0024
217	0.0055	0.0031	0.0023
218	0.0053	0.0031	0.0023
219	0.0052	0.0030	0.0022
220	0.0051	0.0029	0.0022
221	0.0050	0.0029	0.0021
222	0.0049	0.0028	0.0021
223	0.0048	0.0027	0.0020
224	0.0047	0.0027	0.0020
225	0.0046	0.0026	0.0020
226	0.0045	0.0026	0.0019
227	0.0044	0.0025	0.0019
228	0.0044	0.0025	0.0019
229	0.0043	0.0025	0.0018
230	0.0042	0.0024	0.0018
231	0.0042	0.0024	0.0018
232	0.0041	0.0023	0.0018
233	0.0040	0.0023	0.0017
234	0.0040	0.0023	0.0017
235	0.0039	0.0022	0.0017
236	0.0039	0.0022	0.0017
237	0.0038	0.0022	0.0016

238	0.0038	0.0022	0.0016
239	0.0037	0.0021	0.0016
240	0.0037	0.0021	0.0016
241	0.0036	0.0021	0.0016
242	0.0036	0.0020	0.0015
243	0.0035	0.0020	0.0015
244	0.0035	0.0020	0.0015
245	0.0035	0.0020	0.0015
246	0.0034	0.0020	0.0015
247	0.0034	0.0019	0.0014
248	0.0033	0.0019	0.0014
249	0.0033	0.0019	0.0014
250	0.0033	0.0019	0.0014
251	0.0032	0.0019	0.0014
252	0.0032	0.0018	0.0014
253	0.0032	0.0018	0.0014
254	0.0031	0.0018	0.0013
255	0.0031	0.0018	0.0013
256	0.0031	0.0018	0.0013
257	0.0031	0.0017	0.0013
258	0.0030	0.0017	0.0013
259	0.0030	0.0017	0.0013
260	0.0030	0.0017	0.0013
261	0.0029	0.0017	0.0013
262	0.0029	0.0017	0.0012
263	0.0029	0.0017	0.0012
264	0.0029	0.0016	0.0012
265	0.0028	0.0016	0.0012
266	0.0028	0.0016	0.0012
267	0.0028	0.0016	0.0012
268	0.0028	0.0016	0.0012
269	0.0028	0.0016	0.0012
270	0.0027	0.0016	0.0012
271	0.0027	0.0016	0.0012
272	0.0027	0.0015	0.0012
273	0.0027	0.0015	0.0011
274	0.0027	0.0015	0.0011
275	0.0026	0.0015	0.0011
276	0.0026	0.0015	0.0011
277	0.0026	0.0015	0.0011
278	0.0026	0.0015	0.0011
279	0.0026	0.0015	0.0011
280	0.0025	0.0015	0.0011
281	0.0025	0.0014	0.0011
282	0.0025	0.0014	0.0011
283	0.0025	0.0014	0.0011
284	0.0025	0.0014	0.0011
285	0.0025	0.0014	0.0011
286	0.0024	0.0014	0.0010
287	0.0024	0.0014	0.0010

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      288              0.0024           0.0014              0.0010
      ------------------------------------------------------------------------
      ------------------------------------------------------------------------
      Total soil rain loss =      0.88(In)
      Total effective rainfall =      0.83(In)
      Peak flow rate in flood hydrograph =     13.59(CFS)
      ------------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ------------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ------------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
----------------------------------------------------------------------------
  0+ 5       0.0000      0.01  Q          |          |          |          |
  0+10       0.0002      0.02  Q          |          |          |          |
  0+15       0.0005      0.05  Q          |          |          |          |
  0+20       0.0011      0.09  Q          |          |          |          |
  0+25       0.0020      0.13  Q          |          |          |          |
  0+30       0.0033      0.19  Q          |          |          |          |
  0+35       0.0050      0.24  Q          |          |          |          |
  0+40       0.0069      0.28  Q          |          |          |          |
  0+45       0.0090      0.31  Q          |          |          |          |
  0+50       0.0114      0.34  Q          |          |          |          |
  0+55       0.0138      0.35  Q          |          |          |          |
  1+ 0       0.0163      0.37  Q          |          |          |          |
  1+ 5       0.0190      0.38  Q          |          |          |          |
  1+10       0.0217      0.39  Q          |          |          |          |
  1+15       0.0244      0.40  Q          |          |          |          |
  1+20       0.0273      0.41  Q          |          |          |          |
  1+25       0.0302      0.42  Q          |          |          |          |
  1+30       0.0331      0.43  Q          |          |          |          |
  1+35       0.0361      0.44  Q          |          |          |          |
  1+40       0.0392      0.44  Q          |          |          |          |
  1+45       0.0423      0.45  Q          |          |          |          |
  1+50       0.0454      0.46  Q          |          |          |          |
  1+55       0.0486      0.46  Q          |          |          |          |
  2+ 0       0.0518      0.47  Q          |          |          |          |
  2+ 5       0.0551      0.47  Q          |          |          |          |
  2+10       0.0584      0.48  Q          |          |          |          |
  2+15       0.0617      0.48  Q          |          |          |          |
  2+20       0.0650      0.49  Q          |          |          |          |
  2+25       0.0684      0.49  QV         |          |          |          |
  2+30       0.0718      0.49  QV         |          |          |          |
  2+35       0.0752      0.50  QV         |          |          |          |
  2+40       0.0787      0.50  |Q         |          |          |          |
  2+45       0.0822      0.51  |Q         |          |          |          |
  2+50       0.0857      0.51  |Q         |          |          |          |
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2+55       0.0892      0.51  |Q         |          |          |          |
3+ 0       0.0928      0.52  |Q         |          |          |          |
3+ 5       0.0963      0.52  |Q         |          |          |          |
3+10       0.1000      0.52  |Q         |          |          |          |
3+15       0.1036      0.53  |Q         |          |          |          |
3+20       0.1072      0.53  |Q         |          |          |          |
3+25       0.1109      0.53  |Q         |          |          |          |
3+30       0.1146      0.54  |Q         |          |          |          |
3+35       0.1183      0.54  |Q         |          |          |          |
3+40       0.1220      0.54  |Q         |          |          |          |
3+45       0.1258      0.54  |Q         |          |          |          |
3+50       0.1296      0.55  |Q         |          |          |          |
3+55       0.1333      0.55  |Q         |          |          |          |
4+ 0       0.1372      0.55  |QV        |          |          |          |
4+ 5       0.1410      0.56  |QV        |          |          |          |
4+10       0.1448      0.56  |QV        |          |          |          |
4+15       0.1487      0.56  |QV        |          |          |          |
4+20       0.1526      0.57  |QV        |          |          |          |
4+25       0.1565      0.57  |QV        |          |          |          |
4+30       0.1604      0.57  |QV        |          |          |          |
4+35       0.1644      0.57  |QV        |          |          |          |
4+40       0.1683      0.57  |QV        |          |          |          |
4+45       0.1723      0.58  |QV        |          |          |          |
4+50       0.1763      0.58  |QV        |          |          |          |
4+55       0.1803      0.58  |QV        |          |          |          |
5+ 0       0.1843      0.58  |QV        |          |          |          |
5+ 5       0.1884      0.59  |QV        |          |          |          |
5+10       0.1924      0.59  |QV        |          |          |          |
5+15       0.1965      0.59  |QV        |          |          |          |
5+20       0.2006      0.59  |QV        |          |          |          |
5+25       0.2047      0.60  |Q V       |          |          |          |
5+30       0.2088      0.60  |Q V       |          |          |          |
5+35       0.2130      0.60  |Q V       |          |          |          |
5+40       0.2171      0.60  |Q V       |          |          |          |
5+45       0.2213      0.61  |Q V       |          |          |          |
5+50       0.2255      0.61  |Q V       |          |          |          |
5+55       0.2298      0.61  |Q V       |          |          |          |
6+ 0       0.2340      0.62  |Q V       |          |          |          |
6+ 5       0.2383      0.62  |Q V       |          |          |          |
6+10       0.2425      0.62  |Q V       |          |          |          |
6+15       0.2468      0.62  |Q V       |          |          |          |
6+20       0.2512      0.63  |Q V       |          |          |          |
6+25       0.2555      0.63  |Q V       |          |          |          |
6+30       0.2599      0.63  |Q V       |          |          |          |
6+35       0.2643      0.64  |Q V       |          |          |          |
6+40       0.2687      0.64  |Q V       |          |          |          |
6+45       0.2731      0.64  |Q  V      |          |          |          |
6+50       0.2775      0.65  |Q  V      |          |          |          |
6+55       0.2820      0.65  |Q  V      |          |          |          |
7+ 0       0.2865      0.65  |Q  V      |          |          |          |
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7+ 5	0.2910	0.66	|Q V |	|	|	|
7+10	0.2956	0.66	|Q V |	|	|	|
7+15	0.3001	0.66	|Q V |	|	|	|
7+20	0.3047	0.67	|Q V |	|	|	|
7+25	0.3093	0.67	|Q V |	|	|	|
7+30	0.3140	0.67	|Q V |	|	|	|
7+35	0.3186	0.68	|Q V |	|	|	|
7+40	0.3233	0.68	|Q V |	|	|	|
7+45	0.3280	0.68	|Q V |	|	|	|
7+50	0.3328	0.69	|Q V |	|	|	|
7+55	0.3375	0.69	|Q V |	|	|	|
8+ 0	0.3423	0.70	|Q V |	|	|	|
8+ 5	0.3471	0.70	|Q V |	|	|	|
8+10	0.3520	0.70	|Q V |	|	|	|
8+15	0.3569	0.71	|Q V |	|	|	|
8+20	0.3618	0.71	|Q V |	|	|	|
8+25	0.3667	0.72	|Q V |	|	|	|
8+30	0.3717	0.72	|Q V |	|	|	|
8+35	0.3767	0.72	|Q V |	|	|	|
8+40	0.3817	0.73	|Q V |	|	|	|
8+45	0.3867	0.73	|Q V |	|	|	|
8+50	0.3918	0.74	|Q V |	|	|	|
8+55	0.3969	0.74	|Q V |	|	|	|
9+ 0	0.4021	0.75	|Q V |	|	|	|
9+ 5	0.4073	0.75	|Q V |	|	|	|
9+10	0.4125	0.76	|Q V |	|	|	|
9+15	0.4177	0.76	|Q V |	|	|	|
9+20	0.4230	0.77	|Q V |	|	|	|
9+25	0.4283	0.77	|Q V |	|	|	|
9+30	0.4337	0.78	|Q V |	|	|	|
9+35	0.4391	0.78	|Q V |	|	|	|
9+40	0.4445	0.79	|Q V |	|	|	|
9+45	0.4500	0.79	|Q V |	|	|	|
9+50	0.4555	0.80	|Q V |	|	|	|
9+55	0.4611	0.81	|Q V |	|	|	|
10+ 0	0.4666	0.81	|Q V |	|	|	|
10+ 5	0.4723	0.82	|Q V |	|	|	|
10+10	0.4779	0.82	|Q V |	|	|	|
10+15	0.4837	0.83	|Q V |	|	|	|
10+20	0.4894	0.84	|Q V |	|	|	|
10+25	0.4952	0.84	|Q V |	|	|	|
10+30	0.5011	0.85	|Q V |	|	|	|
10+35	0.5070	0.86	|Q V |	|	|	|
10+40	0.5129	0.86	|Q V |	|	|	|
10+45	0.5189	0.87	|Q V |	|	|	|
10+50	0.5250	0.88	|Q V |	|	|	|
10+55	0.5311	0.89	|Q V |	|	|	|
11+ 0	0.5372	0.89	|Q V |	|	|	|
11+ 5	0.5434	0.90	|Q V |	|	|	|
11+10	0.5497	0.91	|Q V |	|	|	|

```
11+15       0.5560      0.92  |Q      V |          |          |          |
11+20       0.5624      0.93  |Q      V |          |          |          |
11+25       0.5688      0.93  |Q      V |          |          |          |
11+30       0.5753      0.94  |Q      V |          |          |          |
11+35       0.5818      0.95  |Q      V |          |          |          |
11+40       0.5884      0.96  |Q      V |          |          |          |
11+45       0.5951      0.97  |Q      V |          |          |          |
11+50       0.6019      0.98  |Q      V |          |          |          |
11+55       0.6087      0.99  |Q      V |          |          |          |
12+ 0       0.6156      1.00  | Q      V|          |          |          |
12+ 5       0.6225      1.01  | Q      V|          |          |          |
12+10       0.6296      1.02  | Q      V|          |          |          |
12+15       0.6367      1.03  | Q      V|          |          |          |
12+20       0.6439      1.04  | Q      V|          |          |          |
12+25       0.6511      1.05  | Q      V|          |          |          |
12+30       0.6585      1.07  | Q      V|          |          |          |
12+35       0.6659      1.08  | Q      V|          |          |          |
12+40       0.6734      1.09  | Q      V|          |          |          |
12+45       0.6810      1.10  | Q      V|          |          |          |
12+50       0.6887      1.12  | Q       V          |          |          |
12+55       0.6964      1.13  | Q       V          |          |          |
13+ 0       0.7043      1.14  | Q       V          |          |          |
13+ 5       0.7123      1.16  | Q       V          |          |          |
13+10       0.7204      1.18  | Q       V          |          |          |
13+15       0.7286      1.19  | Q       V          |          |          |
13+20       0.7370      1.21  | Q       V          |          |          |
13+25       0.7454      1.23  | Q       V          |          |          |
13+30       0.7540      1.25  | Q       |V         |          |          |
13+35       0.7628      1.27  | Q       |V         |          |          |
13+40       0.7716      1.29  | Q       |V         |          |          |
13+45       0.7807      1.31  | Q       |V         |          |          |
13+50       0.7898      1.33  | Q       |V         |          |          |
13+55       0.7992      1.36  | Q       |V         |          |          |
14+ 0       0.8087      1.38  | Q       |V         |          |          |
14+ 5       0.8184      1.41  | Q       | V        |          |          |
14+10       0.8282      1.44  | Q       | V        |          |          |
14+15       0.8383      1.46  | Q       | V        |          |          |
14+20       0.8486      1.50  | Q       | V        |          |          |
14+25       0.8592      1.53  |  Q      | V        |          |          |
14+30       0.8700      1.57  |  Q      | V        |          |          |
14+35       0.8810      1.60  |  Q      | V        |          |          |
14+40       0.8923      1.64  |  Q      |  V       |          |          |
14+45       0.9039      1.69  |  Q      |  V       |          |          |
14+50       0.9159      1.73  |  Q      |  V       |          |          |
14+55       0.9282      1.78  |  Q      |  V       |          |          |
15+ 0       0.9408      1.84  |  Q      |  V       |          |          |
15+ 5       0.9539      1.90  |  Q      |  V       |          |          |
15+10       0.9674      1.96  |  Q      |   V      |          |          |
15+15       0.9814      2.04  |   Q     |   V      |          |          |
15+20       0.9960      2.12  |   Q     |   V      |          |          |
```

15+25	1.0112	2.21	Q	V			
15+30	1.0271	2.31	Q	V			
15+35	1.0438	2.43	Q	V			
15+40	1.0614	2.56	Q	V			
15+45	1.0802	2.73	Q	V			
15+50	1.1004	2.93	Q	V			
15+55	1.1227	3.23	Q	V			
16+ 0	1.1484	3.74	Q	V			
16+ 5	1.1846	5.25	Q	V			
16+10	1.2344	7.23	Q	V			
16+15	1.2986	9.33	QV				
16+20	1.3763	11.27	V Q				
16+25	1.4658	13.00	V	Q			
16+30	1.5594	13.59	V	Q			
16+35	1.6496	13.10	V Q				
16+40	1.7253	11.00	Q	V			
16+45	1.7870	8.96	Q	V			
16+50	1.8384	7.47	Q	V			
16+55	1.8819	6.31	Q	V			
17+ 0	1.9195	5.47	Q	V			
17+ 5	1.9533	4.90	Q	V			
17+10	1.9846	4.56	Q	V			
17+15	2.0134	4.18	Q	V			
17+20	2.0402	3.89	Q	V			
17+25	2.0653	3.65	Q	V			
17+30	2.0889	3.43	Q	V			
17+35	2.1112	3.23	Q	V			
17+40	2.1319	3.01	Q	V			
17+45	2.1514	2.84	Q	V			
17+50	2.1701	2.71	Q	V			
17+55	2.1881	2.62	Q	V			
18+ 0	2.2052	2.48	Q	V			
18+ 5	2.2210	2.30	Q	V			
18+10	2.2364	2.23	Q	V			
18+15	2.2512	2.15	Q	V			
18+20	2.2650	2.00	Q	V			
18+25	2.2783	1.94	Q	V			
18+30	2.2913	1.89	Q	V			
18+35	2.3039	1.83	Q	V			
18+40	2.3162	1.79	Q	V			
18+45	2.3282	1.74	Q	V			
18+50	2.3396	1.66	Q	V			
18+55	2.3505	1.58	Q	V			
19+ 0	2.3611	1.54	Q	V			
19+ 5	2.3714	1.49	Q	V			
19+10	2.3812	1.43	Q	V			
19+15	2.3908	1.40	Q	V			
19+20	2.4002	1.36	Q	V			
19+25	2.4092	1.30	Q	V			
19+30	2.4179	1.26	Q	V			

19+35	2.4264	1.23	Q				V
19+40	2.4345	1.19	Q				V
19+45	2.4424	1.14	Q				V
19+50	2.4501	1.12	Q				V
19+55	2.4577	1.10	Q				V
20+ 0	2.4651	1.08	Q				V
20+ 5	2.4724	1.06	Q				V
20+10	2.4796	1.04	Q				V
20+15	2.4866	1.02	Q				V
20+20	2.4934	0.98	Q				V
20+25	2.4996	0.90	Q				V
20+30	2.5054	0.83	Q				V
20+35	2.5110	0.82	Q				V
20+40	2.5165	0.80	Q				V
20+45	2.5219	0.79	Q				V
20+50	2.5272	0.77	Q				V
20+55	2.5325	0.76	Q				V
21+ 0	2.5376	0.75	Q				V
21+ 5	2.5427	0.74	Q				V
21+10	2.5478	0.73	Q				V
21+15	2.5527	0.72	Q				V
21+20	2.5576	0.71	Q				V
21+25	2.5625	0.70	Q				V
21+30	2.5673	0.69	Q				V
21+35	2.5720	0.69	Q				V
21+40	2.5767	0.68	Q				V
21+45	2.5813	0.67	Q				V
21+50	2.5858	0.66	Q				V
21+55	2.5904	0.66	Q				V
22+ 0	2.5948	0.65	Q				V
22+ 5	2.5993	0.64	Q				V
22+10	2.6036	0.64	Q				V
22+15	2.6080	0.63	Q				V
22+20	2.6123	0.62	Q				V
22+25	2.6165	0.62	Q				V
22+30	2.6208	0.61	Q				V
22+35	2.6249	0.61	Q				V
22+40	2.6291	0.60	Q				V
22+45	2.6332	0.60	Q				V
22+50	2.6372	0.59	Q				V
22+55	2.6413	0.59	Q				V
23+ 0	2.6453	0.58	Q				V
23+ 5	2.6492	0.58	Q				V
23+10	2.6531	0.57	Q				V
23+15	2.6570	0.57	Q				V
23+20	2.6609	0.56	Q				V
23+25	2.6647	0.56	Q				V
23+30	2.6686	0.55	Q				V
23+35	2.6723	0.55	Q				V
23+40	2.6761	0.54	Q				V

```
23+45       2.6798      0.54  |Q        |         |         |         V|
23+50       2.6835      0.54  |Q        |         |         |         V|
23+55       2.6872      0.53  |Q        |         |         |         V|
24+ 0       2.6908      0.53  |Q        |         |         |         V|
24+ 5       2.6944      0.52  |Q        |         |         |         V|
24+10       2.6978      0.50  Q         |         |         |         V|
24+15       2.7010      0.47  Q         |         |         |         V|
24+20       2.7040      0.43  Q         |         |         |         V|
24+25       2.7066      0.38  Q         |         |         |         V|
24+30       2.7088      0.32  Q         |         |         |         V|
24+35       2.7107      0.27  Q         |         |         |         V|
24+40       2.7122      0.23  Q         |         |         |         V|
24+45       2.7136      0.19  Q         |         |         |         V|
24+50       2.7147      0.17  Q         |         |         |         V|
24+55       2.7158      0.15  Q         |         |         |         V|
25+ 0       2.7167      0.14  Q         |         |         |         V|
25+ 5       2.7176      0.12  Q         |         |         |         V|
25+10       2.7184      0.11  Q         |         |         |         V|
25+15       2.7191      0.10  Q         |         |         |         V|
25+20       2.7197      0.10  Q         |         |         |         V|
25+25       2.7203      0.09  Q         |         |         |         V|
25+30       2.7209      0.08  Q         |         |         |         V|
25+35       2.7214      0.07  Q         |         |         |         V|
25+40       2.7219      0.07  Q         |         |         |         V|
25+45       2.7223      0.06  Q         |         |         |         V|
25+50       2.7227      0.06  Q         |         |         |         V|
25+55       2.7231      0.05  Q         |         |         |         V|
26+ 0       2.7234      0.05  Q         |         |         |         V|
26+ 5       2.7237      0.04  Q         |         |         |         V|
26+10       2.7240      0.04  Q         |         |         |         V|
26+15       2.7242      0.04  Q         |         |         |         V|
26+20       2.7245      0.03  Q         |         |         |         V|
26+25       2.7247      0.03  Q         |         |         |         V|
26+30       2.7249      0.03  Q         |         |         |         V|
26+35       2.7251      0.03  Q         |         |         |         V|
26+40       2.7253      0.02  Q         |         |         |         V|
26+45       2.7254      0.02  Q         |         |         |         V|
26+50       2.7256      0.02  Q         |         |         |         V|
26+55       2.7257      0.02  Q         |         |         |         V|
27+ 0       2.7258      0.02  Q         |         |         |         V|
27+ 5       2.7259      0.02  Q         |         |         |         V|
27+10       2.7260      0.01  Q         |         |         |         V|
27+15       2.7261      0.01  Q         |         |         |         V|
27+20       2.7262      0.01  Q         |         |         |         V|
27+25       2.7262      0.01  Q         |         |         |         V|
27+30       2.7263      0.01  Q         |         |         |         V|
27+35       2.7263      0.01  Q         |         |         |         V|
27+40       2.7264      0.01  Q         |         |         |         V|
27+45       2.7264      0.01  Q         |         |         |         V|
27+50       2.7264      0.00  Q         |         |         |         V|
```

27+55	2.7265	0.00	Q	|	|	|	V|
28+ 0	2.7265	0.00	Q	|	|	|	V|
28+ 5	2.7265	0.00	Q	|	|	|	V|
28+10	2.7265	0.00	Q	|	|	|	V|
28+15	2.7265	0.00	Q	|	|	|	V|
28+20	2.7265	0.00	Q	|	|	|	V|

Proposed Unit Hydrographs 10-YR 24-HR Storm

Project Name: MILESKI ADELANTO
WO: 24-0505
Date: 4/16/2025

UNIT HYDROGRAPH RESULTS

		Post Volume (cf)	Post Volume (acre-ft)	Post Peak (cfs)
100 YR-24 HR	PROP 1A	109,575	2.516	24.90
	PROP 2A	245,434	5.634	52.75
	PROP 2B	136,966	3.144	29.45
	PROP 2C	200,515	4.603	42.79
	PROP 2D	96,424	2.214	20.74
10YR-24HR	PROP 1A	64,360	1.478	14.72
	PROP 2A	144,157	3.309	31.15
	PROP 2B	80,447	1.847	17.39
	PROP 2C	117,773	2.704	25.27
	PROP 2D	56,637	1.300	12.25

BASIN ROUTING RESULTS

		Portioned 90% Pre Peak (cfs)	Post Peak (cfs)	Mitigated Peak (cfs)
100 YR-24 HR	PROP 1A (17.5% UHEXWESTOFF)	4.12	24.90	TBD
	PROP 2A (6.5% UHEX02CUL)	7.87	52.75	TBD
	PROP 2B (31.4% UHEX03CUL)	8.50	29.45	TBD
	PROP 2C (6.6% UHEX02CUL)	7.99	42.79	TBD
	PROP 2D (21.7% UHEX03CUL)	5.88	20.74	TBD
10YR-24HR	PROP 1A (17.5% UHEXWESTOFF)	2.14	14.72	TBD
	PROP 2A (6.5% UHEX02CUL)	4.11	31.15	TBD
	PROP 2B (31.4% UHEX03CUL)	2.59	17.39	TBD
	PROP 2C (6.6% UHEX02CUL)	4.18	25.27	TBD
	PROP 2D (21.7% UHEX03CUL)	3.56	12.25	TBD

SBC Detention Basin Design Guidelines state that:

i) *Post-development peak flow rate generated by the site shall be less than 90% of the pre-development peak*

II) *100-year pre-development peak flow rates shall be calculated using 25-year rainfall and AMC-II.*

Therefore:

$Q_{Post,\ 100\text{-}yr\ 24\text{-}hr} < 90\%\ Q_{Pre,\ 25\text{-}yr\ 24\text{-}hr}$

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 1A
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 1APROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
10.00	1	0.60
Rainfall data for year 2		
10.00	6	0.70
Rainfall data for year 2		
10.00	24	1.20
Rainfall data for year 100		
10.00	1	1.00
Rainfall data for year 100		
10.00	6	1.90
Rainfall data for year 100		
10.00	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	10.00	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.00	0.100	69.0	69.0	4.49	0.121
9.00	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.160 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      10.00(Ac.)
Catchment Lag time =   0.128 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 65.1042
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      10.00(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000     Adjusted rainfall =  0.222(In)
30-minute factor = 1.000    Adjusted rainfall =  0.455(In)
1-hour factor = 1.000       Adjusted rainfall =  0.600(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
----------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
----------------------------------------------------------------------
               (K =       120.94 (CFS))

  1                7.634                   9.232
  2               47.879                  48.672
  3               85.995                  46.096
  4               97.049                  13.368
  5               99.073                   2.449
  6              100.000                   1.121
----------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2220              0.2220
  2              0.2929              0.0709
  3              0.3444              0.0516
  4              0.3865              0.0420
  5              0.4225              0.0361
  6              0.4545              0.0320
  7              0.4834              0.0289
  8              0.5099              0.0265
  9              0.5345              0.0246
 10              0.5575              0.0230
 11              0.5792              0.0217
 12              0.5997              0.0205
 13              0.6185              0.0187
 14              0.6363              0.0179
 15              0.6534              0.0171
 16              0.6698              0.0164
 17              0.6856              0.0158
 18              0.7008              0.0152
 19              0.7155              0.0147
 20              0.7298              0.0142
 21              0.7436              0.0138
 22              0.7570              0.0134
 23              0.7701              0.0130
 24              0.7828              0.0127
 25              0.7951              0.0124
 26              0.8072              0.0121
 27              0.8190              0.0118
```

28	0.8305	0.0115
29	0.8418	0.0113
30	0.8528	0.0110
31	0.8637	0.0108
32	0.8743	0.0106
33	0.8847	0.0104
34	0.8949	0.0102
35	0.9049	0.0100
36	0.9147	0.0098
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9433	0.0094
40	0.9525	0.0092
41	0.9616	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9966	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0216	0.0082
49	1.0297	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0535	0.0078
53	1.0612	0.0077
54	1.0688	0.0076
55	1.0764	0.0076
56	1.0839	0.0075
57	1.0912	0.0074
58	1.0986	0.0073
59	1.1058	0.0072
60	1.1130	0.0072
61	1.1200	0.0071
62	1.1271	0.0070
63	1.1340	0.0069
64	1.1409	0.0069
65	1.1477	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1873	0.0064
72	1.1937	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2138	0.0066
76	1.2204	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2652	0.0063
84	1.2714	0.0062
85	1.2776	0.0062
86	1.2837	0.0061
87	1.2898	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3255	0.0059
94	1.3313	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3542	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3710	0.0056
102	1.3765	0.0055

103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3984	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4662	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4812	0.0050
123	1.4861	0.0050
124	1.4911	0.0049
125	1.4960	0.0049
126	1.5009	0.0049
127	1.5057	0.0049
128	1.5106	0.0048
129	1.5154	0.0048
130	1.5202	0.0048
131	1.5250	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5532	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5716	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5852	0.0045
145	1.5897	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6075	0.0044
150	1.6119	0.0044
151	1.6163	0.0044
152	1.6206	0.0044
153	1.6250	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6508	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6760	0.0042
166	1.6801	0.0041
167	1.6843	0.0041
168	1.6884	0.0041
169	1.6925	0.0041
170	1.6966	0.0041
171	1.7007	0.0041
172	1.7047	0.0041
173	1.7088	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040
177	1.7248	0.0040

178	1.7288	0.0040
179	1.7328	0.0040
180	1.7367	0.0040
181	1.7407	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7641	0.0039
188	1.7679	0.0039
189	1.7718	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7946	0.0038
196	1.7983	0.0038
197	1.8021	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8133	0.0037
201	1.8170	0.0037
202	1.8207	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8317	0.0037
206	1.8353	0.0037
207	1.8390	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8642	0.0036
215	1.8677	0.0036
216	1.8713	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8819	0.0035
220	1.8854	0.0035
221	1.8889	0.0035
222	1.8924	0.0035
223	1.8959	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9063	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9166	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9370	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9604	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9736	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032
252	1.9931	0.0032

253	1.9964	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0220	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0440	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0657	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0931	0.0030
285	2.0961	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1051	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027
34	0.0033	0.0006	0.0027

35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039
109	0.0049	0.0009	0.0040

110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0098	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0086
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0098
177	0.0127	0.0023	0.0104
178	0.0130	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0142	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139
184	0.0179	0.0033	0.0146

185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0201
188	0.0265	0.0046	0.0220
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0516	0.0046	0.0470
192	0.0709	0.0046	0.0664
193	0.2220	0.0046	0.2174
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0043	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0054
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031
259	0.0037	0.0007	0.0030

260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 14.72(CFS)

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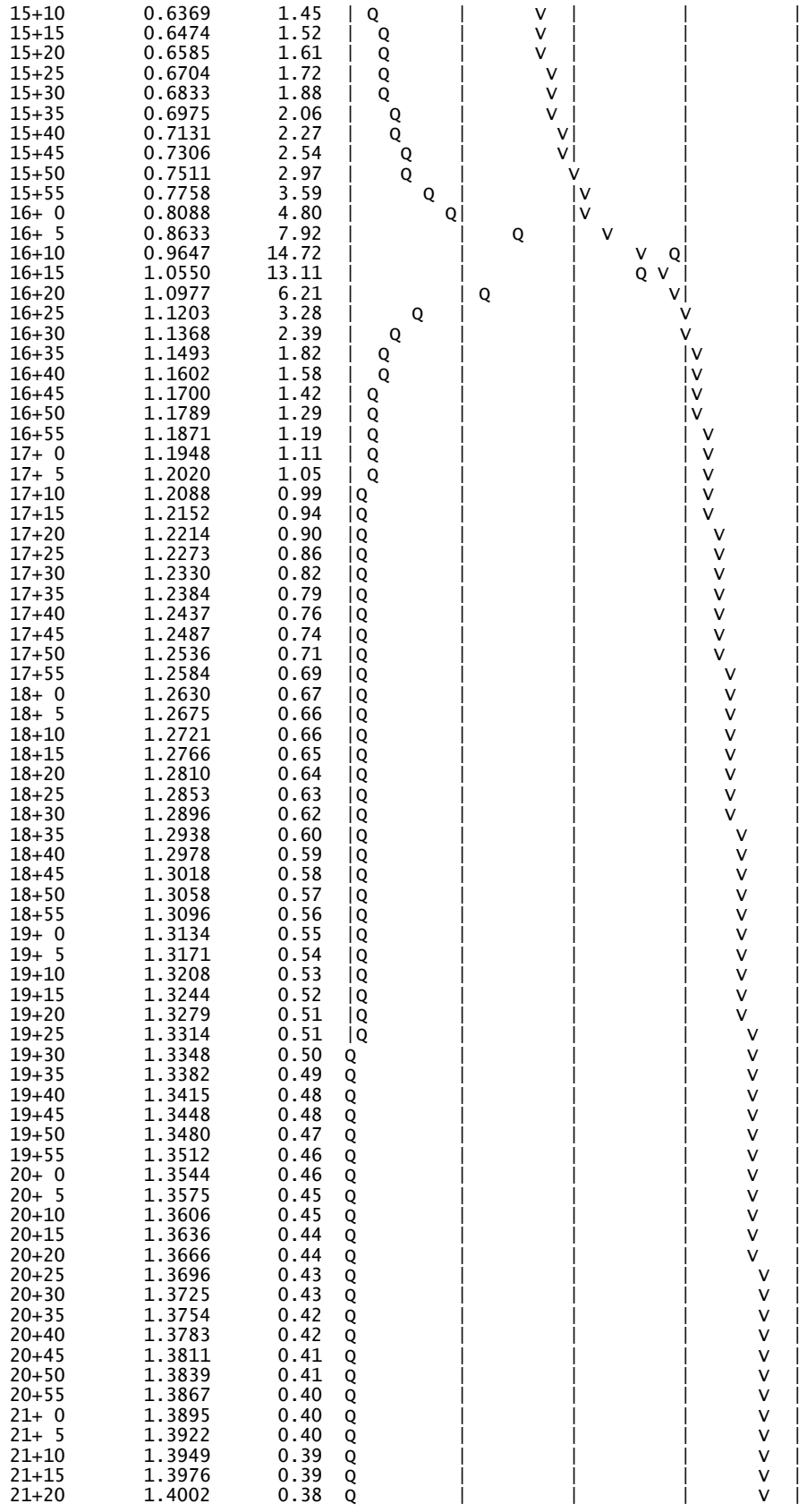
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0002	0.02	Q	|	|	|	|
0+10	0.0011	0.14	Q	|	|	|	|
0+15	0.0029	0.25	Q	|	|	|	|
0+20	0.0049	0.29	Q	|	|	|	|
0+25	0.0069	0.29	Q	|	|	|	|
0+30	0.0089	0.30	Q	|	|	|	|
0+35	0.0110	0.30	Q	|	|	|	|
0+40	0.0131	0.30	Q	|	|	|	|
0+45	0.0151	0.30	Q	|	|	|	|
0+50	0.0172	0.30	Q	|	|	|	|
0+55	0.0193	0.30	Q	|	|	|	|
1+ 0	0.0214	0.30	Q	|	|	|	|
1+ 5	0.0235	0.30	Q	|	|	|	|
1+10	0.0256	0.31	Q	|	|	|	|
1+15	0.0277	0.31	Q	|	|	|	|
1+20	0.0298	0.31	Q	|	|	|	|
1+25	0.0320	0.31	Q	|	|	|	|
1+30	0.0341	0.31	Q	|	|	|	|
1+35	0.0363	0.31	Q	|	|	|	|
1+40	0.0384	0.31	QV	|	|	|	|
1+45	0.0406	0.31	QV	|	|	|	|
1+50	0.0427	0.31	QV	|	|	|	|
1+55	0.0449	0.32	QV	|	|	|	|
2+ 0	0.0471	0.32	QV	|	|	|	|
2+ 5	0.0493	0.32	QV	|	|	|	|
2+10	0.0515	0.32	QV	|	|	|	|
2+15	0.0537	0.32	QV	|	|	|	|
2+20	0.0559	0.32	QV	|	|	|	|
2+25	0.0581	0.32	QV	|	|	|	|
2+30	0.0603	0.32	QV	|	|	|	|
2+35	0.0625	0.32	QV	|	|	|	|

2+40	0.0648	0.33	QV				
2+45	0.0670	0.33	QV				
2+50	0.0693	0.33	QV				
2+55	0.0716	0.33	QV				
3+ 0	0.0738	0.33	QV				
3+ 5	0.0761	0.33	Q V				
3+10	0.0784	0.33	Q V				
3+15	0.0807	0.33	Q V				
3+20	0.0830	0.34	Q V				
3+25	0.0853	0.34	Q V				
3+30	0.0877	0.34	Q V				
3+35	0.0900	0.34	Q V				
3+40	0.0924	0.34	Q V				
3+45	0.0947	0.34	Q V				
3+50	0.0971	0.34	Q V				
3+55	0.0994	0.34	Q V				
4+ 0	0.1018	0.35	Q V				
4+ 5	0.1042	0.35	Q V				
4+10	0.1066	0.35	Q V				
4+15	0.1090	0.35	Q V				
4+20	0.1115	0.35	Q V				
4+25	0.1139	0.35	Q V				
4+30	0.1163	0.35	Q V				
4+35	0.1188	0.36	Q V				
4+40	0.1213	0.36	Q V				
4+45	0.1237	0.36	Q V				
4+50	0.1262	0.36	Q V				
4+55	0.1287	0.36	Q V				
5+ 0	0.1312	0.36	Q V				
5+ 5	0.1337	0.37	Q V				
5+10	0.1363	0.37	Q V				
5+15	0.1388	0.37	Q V				
5+20	0.1414	0.37	Q V				
5+25	0.1439	0.37	Q V				
5+30	0.1465	0.37	Q V				
5+35	0.1491	0.38	Q V				
5+40	0.1517	0.38	Q V				
5+45	0.1543	0.38	Q V				
5+50	0.1569	0.38	Q V				
5+55	0.1596	0.38	Q V				
6+ 0	0.1622	0.38	Q V				
6+ 5	0.1649	0.39	Q V				
6+10	0.1675	0.39	Q V				
6+15	0.1702	0.39	Q V				
6+20	0.1729	0.39	Q V				
6+25	0.1757	0.39	Q V				
6+30	0.1784	0.40	Q V				
6+35	0.1811	0.40	Q V				
6+40	0.1839	0.40	Q V				
6+45	0.1867	0.40	Q V				
6+50	0.1894	0.40	Q V				
6+55	0.1922	0.41	Q V				
7+ 0	0.1951	0.41	Q V				
7+ 5	0.1979	0.41	Q V				
7+10	0.2007	0.41	Q V				
7+15	0.2036	0.42	Q V				
7+20	0.2065	0.42	Q V				
7+25	0.2094	0.42	Q V				
7+30	0.2123	0.42	Q V				
7+35	0.2152	0.42	Q V				
7+40	0.2181	0.43	Q V				
7+45	0.2211	0.43	Q V				
7+50	0.2241	0.43	Q V				
7+55	0.2271	0.43	Q V				
8+ 0	0.2301	0.44	Q V				
8+ 5	0.2331	0.44	Q V				
8+10	0.2362	0.44	Q V				
8+15	0.2393	0.45	Q V				
8+20	0.2423	0.45	Q V				
8+25	0.2454	0.45	Q V				
8+30	0.2486	0.45	Q V				
8+35	0.2517	0.46	Q V				
8+40	0.2549	0.46	Q V				
8+45	0.2581	0.46	Q V				
8+50	0.2613	0.47	Q V				

```
 8+55      0.2645      0.47  Q      V  |          |          |          |
 9+ 0      0.2678      0.47  Q      V  |          |          |          |
 9+ 5      0.2711      0.48  Q      V  |          |          |          |
 9+10      0.2744      0.48  Q      V  |          |          |          |
 9+15      0.2777      0.48  Q      V  |          |          |          |
 9+20      0.2810      0.49  Q      V  |          |          |          |
 9+25      0.2844      0.49  Q      V  |          |          |          |
 9+30      0.2878      0.49  Q      V  |          |          |          |
 9+35      0.2912      0.50  Q      V  |          |          |          |
 9+40      0.2947      0.50  |Q     V  |          |          |          |
 9+45      0.2981      0.50  |Q      V |          |          |          |
 9+50      0.3016      0.51  |Q      V |          |          |          |
 9+55      0.3052      0.51  |Q      V |          |          |          |
10+ 0      0.3087      0.52  |Q      V |          |          |          |
10+ 5      0.3123      0.52  |Q      V |          |          |          |
10+10      0.3159      0.52  |Q      V |          |          |          |
10+15      0.3196      0.53  |Q      V |          |          |          |
10+20      0.3232      0.53  |Q      V |          |          |          |
10+25      0.3269      0.54  |Q      V |          |          |          |
10+30      0.3307      0.54  |Q      V |          |          |          |
10+35      0.3344      0.55  |Q       V|          |          |          |
10+40      0.3382      0.55  |Q       V|          |          |          |
10+45      0.3421      0.56  |Q       V|          |          |          |
10+50      0.3459      0.56  |Q       V|          |          |          |
10+55      0.3499      0.57  |Q       V|          |          |          |
11+ 0      0.3538      0.57  |Q       V|          |          |          |
11+ 5      0.3578      0.58  |Q       V|          |          |          |
11+10      0.3618      0.58  |Q       V|          |          |          |
11+15      0.3659      0.59  |Q       V|          |          |          |
11+20      0.3700      0.60  |Q        V          |          |          |
11+25      0.3741      0.60  |Q        V          |          |          |
11+30      0.3783      0.61  |Q        V          |          |          |
11+35      0.3825      0.61  |Q        V          |          |          |
11+40      0.3868      0.62  |Q        V          |          |          |
11+45      0.3911      0.63  |Q        V          |          |          |
11+50      0.3955      0.63  |Q        V          |          |          |
11+55      0.3999      0.64  |Q        V          |          |          |
12+ 0      0.4044      0.65  |Q        V          |          |          |
12+ 5      0.4089      0.65  |Q        |V         |          |          |
12+10      0.4133      0.65  |Q        |V         |          |          |
12+15      0.4177      0.64  |Q        |V         |          |          |
12+20      0.4222      0.64  |Q        |V         |          |          |
12+25      0.4266      0.65  |Q        |V         |          |          |
12+30      0.4312      0.66  |Q        |V         |          |          |
12+35      0.4358      0.67  |Q        |V         |          |          |
12+40      0.4404      0.68  |Q        |V         |          |          |
12+45      0.4451      0.69  |Q        | V        |          |          |
12+50      0.4500      0.70  |Q        | V        |          |          |
12+55      0.4548      0.71  |Q        | V        |          |          |
13+ 0      0.4598      0.72  |Q        | V        |          |          |
13+ 5      0.4648      0.73  |Q        | V        |          |          |
13+10      0.4699      0.74  |Q        | V        |          |          |
13+15      0.4752      0.76  |Q        | V        |          |          |
13+20      0.4805      0.77  |Q        |  V       |          |          |
13+25      0.4859      0.78  |Q        |  V       |          |          |
13+30      0.4914      0.80  |Q        |  V       |          |          |
13+35      0.4970      0.81  |Q        |  V       |          |          |
13+40      0.5027      0.83  |Q        |  V       |          |          |
13+45      0.5085      0.85  |Q        |  V       |          |          |
13+50      0.5145      0.87  |Q        |  V       |          |          |
13+55      0.5206      0.89  |Q        |   V      |          |          |
14+ 0      0.5269      0.91  |Q        |   V      |          |          |
14+ 5      0.5332      0.93  |Q        |   V      |          |          |
14+10      0.5398      0.95  |Q        |   V      |          |          |
14+15      0.5465      0.98  |Q        |   V      |          |          |
14+20      0.5534      1.00  | Q       |   V      |          |          |
14+25      0.5606      1.03  | Q       |    V     |          |          |
14+30      0.5679      1.06  | Q       |    V     |          |          |
14+35      0.5754      1.10  | Q       |    V     |          |          |
14+40      0.5832      1.13  | Q       |    V     |          |          |
14+45      0.5913      1.17  | Q       |     V    |          |          |
14+50      0.5997      1.22  | Q       |     V    |          |          |
14+55      0.6084      1.26  | Q       |     V    |          |          |
15+ 0      0.6175      1.32  | Q       |     V    |          |          |
15+ 5      0.6270      1.38  | Q       |     V    |          |          |
```



```
   21+25       1.4028      0.38  Q          |          |          |       V  |
   21+30       1.4054      0.38  Q          |          |          |        V |
   21+35       1.4080      0.37  Q          |          |          |        V |
   21+40       1.4105      0.37  Q          |          |          |        V |
   21+45       1.4130      0.37  Q          |          |          |        V |
   21+50       1.4155      0.36  Q          |          |          |        V |
   21+55       1.4180      0.36  Q          |          |          |        V |
   22+ 0       1.4205      0.36  Q          |          |          |        V |
   22+ 5       1.4229      0.35  Q          |          |          |        V |
   22+10       1.4253      0.35  Q          |          |          |        V |
   22+15       1.4277      0.35  Q          |          |          |        V |
   22+20       1.4301      0.35  Q          |          |          |        V |
   22+25       1.4325      0.34  Q          |          |          |        V |
   22+30       1.4348      0.34  Q          |          |          |        V |
   22+35       1.4371      0.34  Q          |          |          |        V |
   22+40       1.4394      0.33  Q          |          |          |        V |
   22+45       1.4417      0.33  Q          |          |          |         V|
   22+50       1.4440      0.33  Q          |          |          |         V|
   22+55       1.4462      0.33  Q          |          |          |         V|
   23+ 0       1.4485      0.32  Q          |          |          |         V|
   23+ 5       1.4507      0.32  Q          |          |          |         V|
   23+10       1.4529      0.32  Q          |          |          |         V|
   23+15       1.4551      0.32  Q          |          |          |         V|
   23+20       1.4573      0.32  Q          |          |          |         V|
   23+25       1.4594      0.31  Q          |          |          |         V|
   23+30       1.4616      0.31  Q          |          |          |         V|
   23+35       1.4637      0.31  Q          |          |          |         V|
   23+40       1.4658      0.31  Q          |          |          |         V|
   23+45       1.4679      0.31  Q          |          |          |         V|
   23+50       1.4700      0.30  Q          |          |          |         V|
   23+55       1.4721      0.30  Q          |          |          |         V|
   24+ 0       1.4742      0.30  Q          |          |          |         V|
   24+ 5       1.4760      0.28  Q          |          |          |         V|
   24+10       1.4771      0.15  Q          |          |          |         V|
   24+15       1.4774      0.04  Q          |          |          |         V|
   24+20       1.4775      0.01  Q          |          |          |         V|
   24+25       1.4775      0.00  Q          |          |          |         V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 2A
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 2APROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
22.40	1	0.60
Rainfall data for year 2		
22.40	6	0.70
Rainfall data for year 2		
22.40	24	1.20
Rainfall data for year 100		
22.40	1	1.00
Rainfall data for year 100		
22.40	6	1.90
Rainfall data for year 100		
22.40	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	22.40	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.24	0.100	69.0	69.0	4.49	0.121
20.16	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.190 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      22.40(Ac.)
Catchment Lag time =   0.152 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 54.8246
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      22.40(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       270.90 (CFS))

  1                5.469                  14.816
  2               35.337                  80.911
  3               75.925                 109.955
  4               93.130                  46.608
  5               98.077                  13.401
  6               99.228                   3.116
  7              100.000                   2.092
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2218              0.2218
  2              0.2927              0.0709
  3              0.3442              0.0515
  4              0.3862              0.0420
  5              0.4223              0.0361
  6              0.4542              0.0319
  7              0.4831              0.0289
  8              0.5096              0.0265
  9              0.5342              0.0246
 10              0.5572              0.0230
 11              0.5789              0.0217
 12              0.5994              0.0205
 13              0.6181              0.0187
 14              0.6360              0.0179
 15              0.6531              0.0171
 16              0.6695              0.0164
 17              0.6853              0.0158
 18              0.7006              0.0152
 19              0.7153              0.0147
 20              0.7295              0.0143
 21              0.7434              0.0138
 22              0.7568              0.0134
 23              0.7698              0.0131
 24              0.7826              0.0127
 25              0.7949              0.0124
 26              0.8070              0.0121
```

27	0.8188	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8527	0.0111
31	0.8635	0.0108
32	0.8741	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9243	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9704	0.0089
43	0.9793	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0049	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0376	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1339	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3427	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4249	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4761	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5624	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5985	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7755	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7907	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9199	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9335	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9503	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033
251	1.9898	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9995	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0839	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0111	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0319	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 31.15(CFS)

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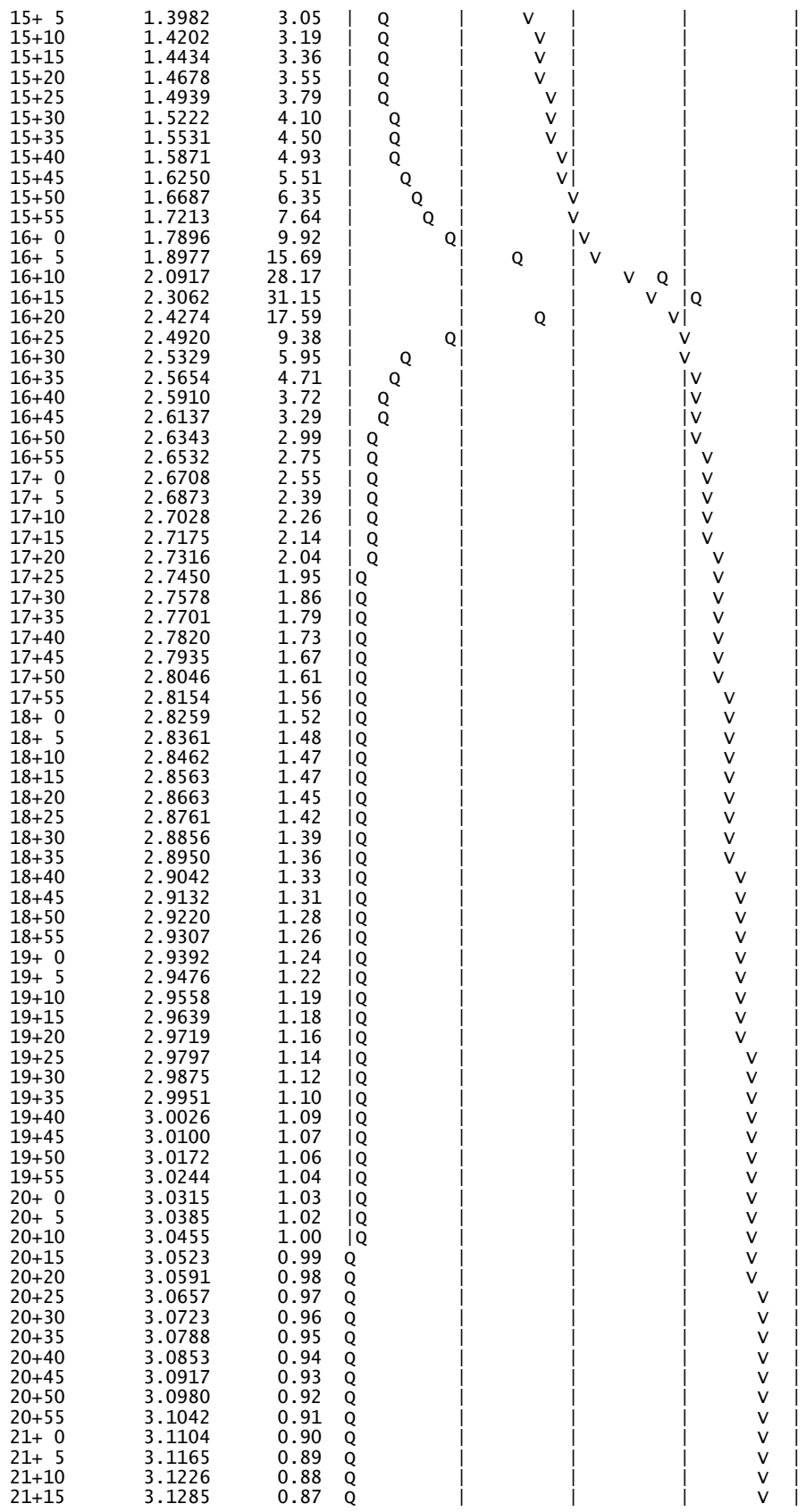
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0002	0.04	Q				
0+10	0.0019	0.23	Q				
0+15	0.0053	0.50	Q				
0+20	0.0096	0.62	Q				
0+25	0.0141	0.65	Q				
0+30	0.0186	0.66	Q				
0+35	0.0232	0.67	Q				
0+40	0.0279	0.67	Q				
0+45	0.0325	0.67	Q				
0+50	0.0372	0.68	Q				
0+55	0.0418	0.68	Q				
1+ 0	0.0465	0.68	Q				
1+ 5	0.0512	0.68	Q				
1+10	0.0559	0.68	Q				
1+15	0.0607	0.69	Q				
1+20	0.0654	0.69	Q				
1+25	0.0702	0.69	Q				
1+30	0.0749	0.69	Q				
1+35	0.0797	0.70	Q				
1+40	0.0846	0.70	QV				
1+45	0.0894	0.70	QV				
1+50	0.0942	0.70	QV				
1+55	0.0991	0.71	QV				
2+ 0	0.1040	0.71	QV				
2+ 5	0.1089	0.71	QV				
2+10	0.1138	0.71	QV				
2+15	0.1187	0.72	QV				
2+20	0.1236	0.72	QV				
2+25	0.1286	0.72	QV				
2+30	0.1336	0.72	QV				

2+35	0.1386	0.73	QV	|	|	|	|
2+40	0.1436	0.73	QV	|	|	|	|
2+45	0.1486	0.73	QV	|	|	|	|
2+50	0.1537	0.73	QV	|	|	|	|
2+55	0.1588	0.74	QV	|	|	|	|
3+ 0	0.1638	0.74	QV	|	|	|	|
3+ 5	0.1690	0.74	Q V	|	|	|	|
3+10	0.1741	0.74	Q V	|	|	|	|
3+15	0.1792	0.75	Q V	|	|	|	|
3+20	0.1844	0.75	Q V	|	|	|	|
3+25	0.1896	0.75	Q V	|	|	|	|
3+30	0.1948	0.76	Q V	|	|	|	|
3+35	0.2000	0.76	Q V	|	|	|	|
3+40	0.2053	0.76	Q V	|	|	|	|
3+45	0.2105	0.77	Q V	|	|	|	|
3+50	0.2158	0.77	Q V	|	|	|	|
3+55	0.2211	0.77	Q V	|	|	|	|
4+ 0	0.2265	0.77	Q V	|	|	|	|
4+ 5	0.2318	0.78	Q V	|	|	|	|
4+10	0.2372	0.78	Q V	|	|	|	|
4+15	0.2426	0.78	Q V	|	|	|	|
4+20	0.2480	0.79	Q V	|	|	|	|
4+25	0.2535	0.79	Q V	|	|	|	|
4+30	0.2589	0.79	Q V	|	|	|	|
4+35	0.2644	0.80	Q V	|	|	|	|
4+40	0.2699	0.80	Q V	|	|	|	|
4+45	0.2755	0.80	Q V	|	|	|	|
4+50	0.2810	0.81	Q V	|	|	|	|
4+55	0.2866	0.81	Q V	|	|	|	|
5+ 0	0.2922	0.81	Q V	|	|	|	|
5+ 5	0.2979	0.82	Q V	|	|	|	|
5+10	0.3035	0.82	Q V	|	|	|	|
5+15	0.3092	0.83	Q V	|	|	|	|
5+20	0.3149	0.83	Q V	|	|	|	|
5+25	0.3206	0.83	Q V	|	|	|	|
5+30	0.3264	0.84	Q V	|	|	|	|
5+35	0.3322	0.84	Q V	|	|	|	|
5+40	0.3380	0.84	Q V	|	|	|	|
5+45	0.3439	0.85	Q V	|	|	|	|
5+50	0.3497	0.85	Q V	|	|	|	|
5+55	0.3556	0.86	Q V	|	|	|	|
6+ 0	0.3615	0.86	Q V	|	|	|	|
6+ 5	0.3675	0.86	Q V	|	|	|	|
6+10	0.3735	0.87	Q V	|	|	|	|
6+15	0.3795	0.87	Q V	|	|	|	|
6+20	0.3855	0.88	Q V	|	|	|	|
6+25	0.3916	0.88	Q V	|	|	|	|
6+30	0.3977	0.89	Q V	|	|	|	|
6+35	0.4039	0.89	Q V	|	|	|	|
6+40	0.4100	0.90	Q V	|	|	|	|
6+45	0.4162	0.90	Q V	|	|	|	|
6+50	0.4225	0.90	Q V	|	|	|	|
6+55	0.4287	0.91	Q V	|	|	|	|
7+ 0	0.4350	0.91	Q V	|	|	|	|
7+ 5	0.4413	0.92	Q V	|	|	|	|
7+10	0.4477	0.92	Q V	|	|	|	|
7+15	0.4541	0.93	Q V	|	|	|	|
7+20	0.4605	0.93	Q V	|	|	|	|
7+25	0.4670	0.94	Q V	|	|	|	|
7+30	0.4735	0.94	Q V	|	|	|	|
7+35	0.4801	0.95	Q V	|	|	|	|
7+40	0.4867	0.96	Q V	|	|	|	|
7+45	0.4933	0.96	Q V	|	|	|	|
7+50	0.4999	0.97	Q V	|	|	|	|
7+55	0.5066	0.97	Q V	|	|	|	|
8+ 0	0.5134	0.98	Q V	|	|	|	|
8+ 5	0.5202	0.98	Q V	|	|	|	|
8+10	0.5270	0.99	Q V	|	|	|	|
8+15	0.5338	1.00	Q V	|	|	|	|
8+20	0.5407	1.00	|Q V	|	|	|	|
8+25	0.5477	1.01	|Q V	|	|	|	|
8+30	0.5547	1.02	|Q V	|	|	|	|
8+35	0.5617	1.02	|Q V	|	|	|	|
8+40	0.5688	1.03	|Q V	|	|	|	|
8+45	0.5759	1.04	|Q V	|	|	|	|

```
 8+50       0.5831      1.04  |Q     V  |          |          |          |
 8+55       0.5903      1.05  |Q     V  |          |          |          |
 9+ 0       0.5976      1.06  |Q     V  |          |          |          |
 9+ 5       0.6049      1.06  |Q     V  |          |          |          |
 9+10       0.6123      1.07  |Q     V  |          |          |          |
 9+15       0.6197      1.08  |Q     V  |          |          |          |
 9+20       0.6272      1.09  |Q     V  |          |          |          |
 9+25       0.6348      1.09  |Q     V  |          |          |          |
 9+30       0.6424      1.10  |Q     V  |          |          |          |
 9+35       0.6500      1.11  |Q     V  |          |          |          |
 9+40       0.6577      1.12  |Q     V  |          |          |          |
 9+45       0.6655      1.13  |Q      V |          |          |          |
 9+50       0.6733      1.14  |Q      V |          |          |          |
 9+55       0.6812      1.14  |Q      V |          |          |          |
10+ 0       0.6891      1.15  |Q      V |          |          |          |
10+ 5       0.6971      1.16  |Q      V |          |          |          |
10+10       0.7052      1.17  |Q      V |          |          |          |
10+15       0.7133      1.18  |Q      V |          |          |          |
10+20       0.7215      1.19  |Q      V |          |          |          |
10+25       0.7298      1.20  |Q      V |          |          |          |
10+30       0.7382      1.21  |Q      V |          |          |          |
10+35       0.7466      1.22  |Q       V|          |          |          |
10+40       0.7551      1.23  |Q       V|          |          |          |
10+45       0.7636      1.24  |Q       V|          |          |          |
10+50       0.7723      1.26  |Q       V|          |          |          |
10+55       0.7810      1.27  |Q       V|          |          |          |
11+ 0       0.7898      1.28  |Q       V|          |          |          |
11+ 5       0.7987      1.29  |Q       V|          |          |          |
11+10       0.8077      1.30  |Q       V|          |          |          |
11+15       0.8168      1.32  |Q       V|          |          |          |
11+20       0.8259      1.33  |Q       V|          |          |          |
11+25       0.8352      1.34  |Q        V          |          |          |
11+30       0.8445      1.36  |Q        V          |          |          |
11+35       0.8540      1.37  |Q        V          |          |          |
11+40       0.8635      1.39  |Q        V          |          |          |
11+45       0.8732      1.40  |Q        V          |          |          |
11+50       0.8829      1.42  |Q        V          |          |          |
11+55       0.8928      1.43  |Q        V          |          |          |
12+ 0       0.9028      1.45  |Q        V          |          |          |
12+ 5       0.9129      1.46  |Q        |V         |          |          |
12+10       0.9229      1.45  |Q        |V         |          |          |
12+15       0.9327      1.43  |Q        |V         |          |          |
12+20       0.9426      1.44  |Q        |V         |          |          |
12+25       0.9526      1.45  |Q        |V         |          |          |
12+30       0.9627      1.47  |Q        |V         |          |          |
12+35       0.9730      1.49  |Q        |V         |          |          |
12+40       0.9834      1.51  |Q        |V         |          |          |
12+45       0.9939      1.53  |Q        | V        |          |          |
12+50       1.0046      1.56  |Q        | V        |          |          |
12+55       1.0155      1.58  |Q        | V        |          |          |
13+ 0       1.0266      1.60  |Q        | V        |          |          |
13+ 5       1.0378      1.63  |Q        | V        |          |          |
13+10       1.0492      1.66  |Q        | V        |          |          |
13+15       1.0608      1.69  |Q        | V        |          |          |
13+20       1.0726      1.72  |Q        | V        |          |          |
13+25       1.0847      1.75  |Q        |  V       |          |          |
13+30       1.0969      1.78  |Q        |  V       |          |          |
13+35       1.1094      1.81  |Q        |  V       |          |          |
13+40       1.1222      1.85  |Q        |  V       |          |          |
13+45       1.1352      1.89  |Q        |  V       |          |          |
13+50       1.1485      1.93  |Q        |  V       |          |          |
13+55       1.1620      1.97  |Q        |   V      |          |          |
14+ 0       1.1759      2.02  | Q       |   V      |          |          |
14+ 5       1.1902      2.07  | Q       |   V      |          |          |
14+10       1.2047      2.12  | Q       |   V      |          |          |
14+15       1.2197      2.17  | Q       |   V      |          |          |
14+20       1.2351      2.23  | Q       |   V      |          |          |
14+25       1.2509      2.30  | Q       |    V     |          |          |
14+30       1.2672      2.36  | Q       |    V     |          |          |
14+35       1.2840      2.44  | Q       |    V     |          |          |
14+40       1.3013      2.52  | Q       |    V     |          |          |
14+45       1.3192      2.60  | Q       |    V     |          |          |
14+50       1.3378      2.70  | Q       |     V    |          |          |
14+55       1.3571      2.80  | Q       |     V    |          |          |
15+ 0       1.3772      2.92  | Q       |     V    |          |          |
```



```
   21+20       3.1345      0.86  Q          |          |          |      V  |
   21+25       3.1404      0.85  Q          |          |          |      V  |
   21+30       3.1462      0.85  Q          |          |          |       V |
   21+35       3.1520      0.84  Q          |          |          |       V |
   21+40       3.1577      0.83  Q          |          |          |       V |
   21+45       3.1633      0.82  Q          |          |          |       V |
   21+50       3.1690      0.82  Q          |          |          |       V |
   21+55       3.1745      0.81  Q          |          |          |       V |
   22+ 0       3.1800      0.80  Q          |          |          |       V |
   22+ 5       3.1855      0.79  Q          |          |          |       V |
   22+10       3.1909      0.79  Q          |          |          |       V |
   22+15       3.1963      0.78  Q          |          |          |       V |
   22+20       3.2017      0.78  Q          |          |          |       V |
   22+25       3.2070      0.77  Q          |          |          |       V |
   22+30       3.2122      0.76  Q          |          |          |       V |
   22+35       3.2174      0.76  Q          |          |          |       V |
   22+40       3.2226      0.75  Q          |          |          |       V |
   22+45       3.2277      0.75  Q          |          |          |        V|
   22+50       3.2328      0.74  Q          |          |          |        V|
   22+55       3.2379      0.73  Q          |          |          |        V|
   23+ 0       3.2429      0.73  Q          |          |          |        V|
   23+ 5       3.2479      0.72  Q          |          |          |        V|
   23+10       3.2529      0.72  Q          |          |          |        V|
   23+15       3.2578      0.71  Q          |          |          |        V|
   23+20       3.2626      0.71  Q          |          |          |        V|
   23+25       3.2675      0.70  Q          |          |          |        V|
   23+30       3.2723      0.70  Q          |          |          |        V|
   23+35       3.2771      0.69  Q          |          |          |        V|
   23+40       3.2818      0.69  Q          |          |          |        V|
   23+45       3.2866      0.69  Q          |          |          |        V|
   23+50       3.2913      0.68  Q          |          |          |        V|
   23+55       3.2959      0.68  Q          |          |          |        V|
   24+ 0       3.3005      0.67  Q          |          |          |        V|
   24+ 5       3.3049      0.63  Q          |          |          |        V|
   24+10       3.3079      0.43  Q          |          |          |        V|
   24+15       3.3090      0.16  Q          |          |          |        V|
   24+20       3.3093      0.05  Q          |          |          |        V|
   24+25       3.3094      0.01  Q          |          |          |        V|
   24+30       3.3094      0.01  Q          |          |          |        V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 2B
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 2BPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
12.50	1	0.60
Rainfall data for year 2		
12.50	6	0.70
Rainfall data for year 2		
12.50	24	1.20
Rainfall data for year 100		
12.50	1	1.00
Rainfall data for year 100		
12.50	6	1.90
Rainfall data for year 100		
12.50	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	12.50	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.25	0.100	69.0	69.0	4.49	0.121
11.25	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.190 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      12.50(Ac.)
Catchment Lag time =   0.152 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 54.8246
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      12.50(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.600(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       151.17 (CFS))

  1                5.469                   8.268
  2               35.337                  45.151
  3               75.925                  61.359
  4               93.130                  26.009
  5               98.077                   7.478
  6               99.228                   1.739
  7              100.000                   1.168
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2219              0.2219
  2              0.2928              0.0709
  3              0.3444              0.0516
  4              0.3864              0.0420
  5              0.4225              0.0361
  6              0.4544              0.0320
  7              0.4834              0.0289
  8              0.5099              0.0265
  9              0.5345              0.0246
 10              0.5575              0.0230
 11              0.5791              0.0217
 12              0.5996              0.0205
 13              0.6184              0.0187
 14              0.6363              0.0179
 15              0.6534              0.0171
 16              0.6698              0.0164
 17              0.6856              0.0158
 18              0.7008              0.0152
 19              0.7155              0.0147
 20              0.7297              0.0142
 21              0.7436              0.0138
 22              0.7570              0.0134
 23              0.7700              0.0130
 24              0.7827              0.0127
 25              0.7951              0.0124
 26              0.8072              0.0121
```

27	0.8190	0.0118
28	0.8305	0.0115
29	0.8418	0.0113
30	0.8528	0.0110
31	0.8636	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9049	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9433	0.0094
40	0.9525	0.0092
41	0.9616	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9966	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0216	0.0082
49	1.0297	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0612	0.0077
54	1.0688	0.0076
55	1.0764	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1058	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1409	0.0069
65	1.1477	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1873	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2138	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2652	0.0063
84	1.2714	0.0062
85	1.2775	0.0062
86	1.2837	0.0061
87	1.2898	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3313	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3542	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3710	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3984	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4812	0.0050
123	1.4861	0.0050
124	1.4911	0.0049
125	1.4960	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5106	0.0048
129	1.5154	0.0048
130	1.5202	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6119	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6250	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6508	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6760	0.0042
166	1.6801	0.0041
167	1.6843	0.0041
168	1.6884	0.0041
169	1.6925	0.0041
170	1.6966	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7088	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7328	0.0040
180	1.7367	0.0040
181	1.7407	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7641	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7946	0.0038
196	1.7983	0.0038
197	1.8021	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8317	0.0037
206	1.8353	0.0037
207	1.8390	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8642	0.0036
215	1.8677	0.0036
216	1.8713	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8819	0.0035
220	1.8854	0.0035
221	1.8889	0.0035
222	1.8924	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9166	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9370	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9604	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9736	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0440	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0931	0.0030
285	2.0961	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1051	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0086
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0098
177	0.0127	0.0023	0.0104
178	0.0130	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0142	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0201
188	0.0265	0.0046	0.0220
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0516	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2219	0.0046	0.2174
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 17.39(CFS)

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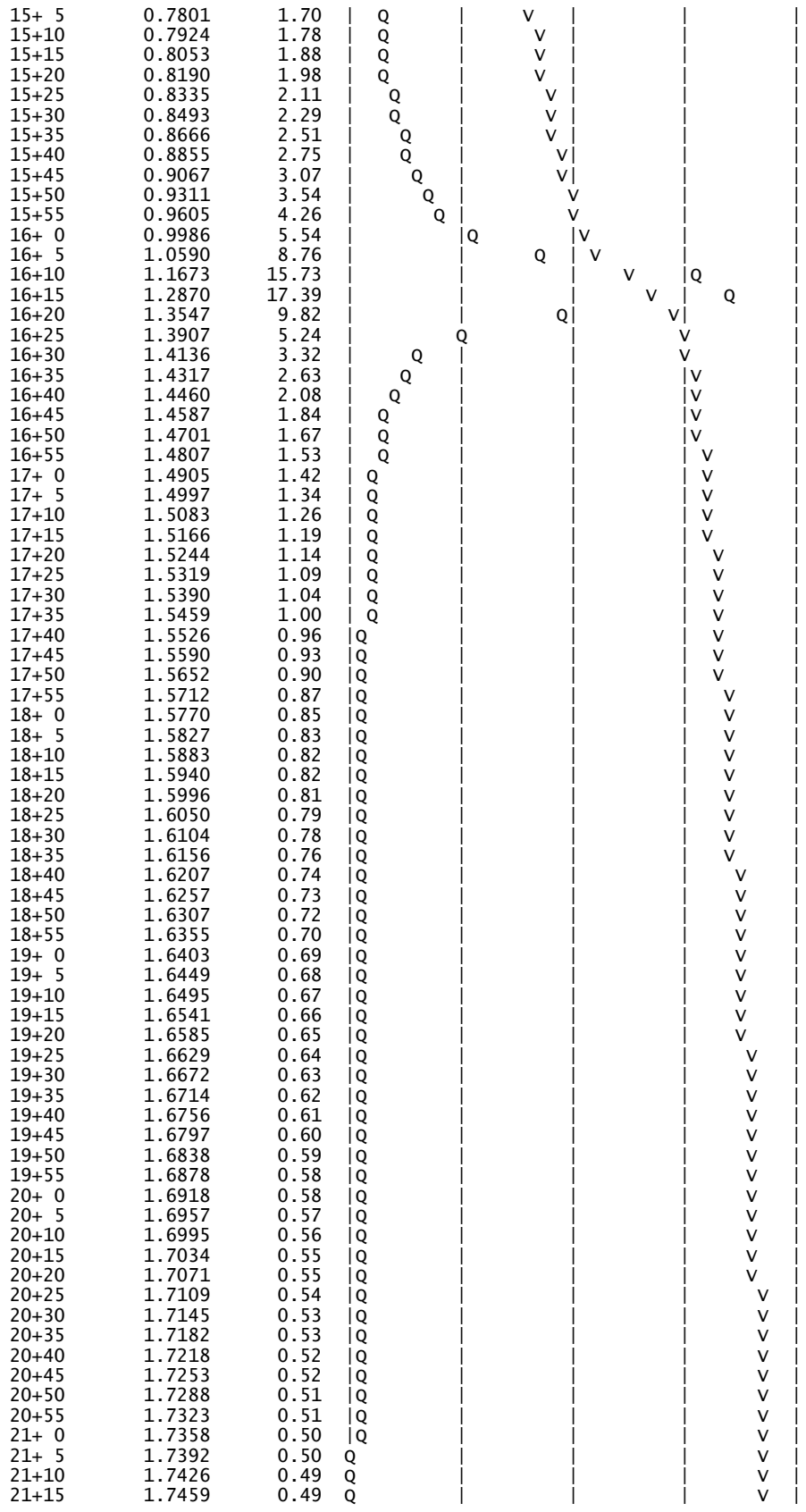
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0010	0.13	Q	|	|	|	|
0+15	0.0030	0.28	Q	|	|	|	|
0+20	0.0053	0.34	Q	|	|	|	|
0+25	0.0079	0.36	Q	|	|	|	|
0+30	0.0104	0.37	Q	|	|	|	|
0+35	0.0130	0.37	Q	|	|	|	|
0+40	0.0156	0.37	Q	|	|	|	|
0+45	0.0181	0.38	Q	|	|	|	|
0+50	0.0207	0.38	Q	|	|	|	|
0+55	0.0233	0.38	Q	|	|	|	|
1+ 0	0.0260	0.38	Q	|	|	|	|
1+ 5	0.0286	0.38	Q	|	|	|	|
1+10	0.0312	0.38	Q	|	|	|	|
1+15	0.0339	0.38	Q	|	|	|	|
1+20	0.0365	0.38	Q	|	|	|	|
1+25	0.0392	0.39	Q	|	|	|	|
1+30	0.0418	0.39	Q	|	|	|	|
1+35	0.0445	0.39	Q	|	|	|	|
1+40	0.0472	0.39	QV	|	|	|	|
1+45	0.0499	0.39	QV	|	|	|	|
1+50	0.0526	0.39	QV	|	|	|	|
1+55	0.0553	0.39	QV	|	|	|	|
2+ 0	0.0580	0.40	QV	|	|	|	|
2+ 5	0.0607	0.40	QV	|	|	|	|
2+10	0.0635	0.40	QV	|	|	|	|
2+15	0.0662	0.40	QV	|	|	|	|
2+20	0.0690	0.40	QV	|	|	|	|
2+25	0.0718	0.40	QV	|	|	|	|
2+30	0.0745	0.40	QV	|	|	|	|

2+35	0.0773	0.41	QV	|	|	|	|
2+40	0.0801	0.41	QV	|	|	|	|
2+45	0.0829	0.41	QV	|	|	|	|
2+50	0.0858	0.41	QV	|	|	|	|
2+55	0.0886	0.41	QV	|	|	|	|
3+ 0	0.0914	0.41	QV	|	|	|	|
3+ 5	0.0943	0.41	Q V	|	|	|	|
3+10	0.0971	0.42	Q V	|	|	|	|
3+15	0.1000	0.42	Q V	|	|	|	|
3+20	0.1029	0.42	Q V	|	|	|	|
3+25	0.1058	0.42	Q V	|	|	|	|
3+30	0.1087	0.42	Q V	|	|	|	|
3+35	0.1116	0.42	Q V	|	|	|	|
3+40	0.1145	0.43	Q V	|	|	|	|
3+45	0.1175	0.43	Q V	|	|	|	|
3+50	0.1204	0.43	Q V	|	|	|	|
3+55	0.1234	0.43	Q V	|	|	|	|
4+ 0	0.1264	0.43	Q V	|	|	|	|
4+ 5	0.1294	0.43	Q V	|	|	|	|
4+10	0.1324	0.44	Q V	|	|	|	|
4+15	0.1354	0.44	Q V	|	|	|	|
4+20	0.1384	0.44	Q V	|	|	|	|
4+25	0.1414	0.44	Q V	|	|	|	|
4+30	0.1445	0.44	Q V	|	|	|	|
4+35	0.1476	0.44	Q V	|	|	|	|
4+40	0.1506	0.45	Q V	|	|	|	|
4+45	0.1537	0.45	Q V	|	|	|	|
4+50	0.1568	0.45	Q V	|	|	|	|
4+55	0.1599	0.45	Q V	|	|	|	|
5+ 0	0.1631	0.45	Q V	|	|	|	|
5+ 5	0.1662	0.46	Q V	|	|	|	|
5+10	0.1694	0.46	Q V	|	|	|	|
5+15	0.1725	0.46	Q V	|	|	|	|
5+20	0.1757	0.46	Q V	|	|	|	|
5+25	0.1789	0.46	Q V	|	|	|	|
5+30	0.1821	0.47	Q V	|	|	|	|
5+35	0.1854	0.47	Q V	|	|	|	|
5+40	0.1886	0.47	Q V	|	|	|	|
5+45	0.1919	0.47	Q V	|	|	|	|
5+50	0.1952	0.48	Q V	|	|	|	|
5+55	0.1984	0.48	Q V	|	|	|	|
6+ 0	0.2018	0.48	Q V	|	|	|	|
6+ 5	0.2051	0.48	Q V	|	|	|	|
6+10	0.2084	0.48	Q V	|	|	|	|
6+15	0.2118	0.49	Q V	|	|	|	|
6+20	0.2151	0.49	Q V	|	|	|	|
6+25	0.2185	0.49	Q V	|	|	|	|
6+30	0.2219	0.49	Q V	|	|	|	|
6+35	0.2254	0.50	Q V	|	|	|	|
6+40	0.2288	0.50	Q V	|	|	|	|
6+45	0.2323	0.50	|Q V	|	|	|	|
6+50	0.2357	0.50	|Q V	|	|	|	|
6+55	0.2392	0.51	|Q V	|	|	|	|
7+ 0	0.2428	0.51	|Q V	|	|	|	|
7+ 5	0.2463	0.51	|Q V	|	|	|	|
7+10	0.2498	0.52	|Q V	|	|	|	|
7+15	0.2534	0.52	|Q V	|	|	|	|
7+20	0.2570	0.52	|Q V	|	|	|	|
7+25	0.2606	0.52	|Q V	|	|	|	|
7+30	0.2642	0.53	|Q V	|	|	|	|
7+35	0.2679	0.53	|Q V	|	|	|	|
7+40	0.2716	0.53	|Q V	|	|	|	|
7+45	0.2753	0.54	|Q V	|	|	|	|
7+50	0.2790	0.54	|Q V	|	|	|	|
7+55	0.2827	0.54	|Q V	|	|	|	|
8+ 0	0.2865	0.55	|Q V	|	|	|	|
8+ 5	0.2903	0.55	|Q V	|	|	|	|
8+10	0.2941	0.55	|Q V	|	|	|	|
8+15	0.2979	0.56	|Q V	|	|	|	|
8+20	0.3018	0.56	|Q V	|	|	|	|
8+25	0.3056	0.56	|Q V	|	|	|	|
8+30	0.3095	0.57	|Q V	|	|	|	|
8+35	0.3135	0.57	|Q V	|	|	|	|
8+40	0.3174	0.57	|Q V	|	|	|	|
8+45	0.3214	0.58	|Q V	|	|	|	|

8+50	0.3254	0.58	Q	V			
8+55	0.3294	0.59	Q	V			
9+ 0	0.3335	0.59	Q	V			
9+ 5	0.3376	0.59	Q	V			
9+10	0.3417	0.60	Q	V			
9+15	0.3458	0.60	Q	V			
9+20	0.3500	0.61	Q	V			
9+25	0.3542	0.61	Q	V			
9+30	0.3585	0.61	Q	V			
9+35	0.3627	0.62	Q	V			
9+40	0.3670	0.62	Q	V			
9+45	0.3713	0.63	Q	V			
9+50	0.3757	0.63	Q	V			
9+55	0.3801	0.64	Q	V			
10+ 0	0.3845	0.64	Q	V			
10+ 5	0.3890	0.65	Q	V			
10+10	0.3935	0.65	Q	V			
10+15	0.3981	0.66	Q	V			
10+20	0.4026	0.66	Q	V			
10+25	0.4073	0.67	Q	V			
10+30	0.4119	0.68	Q	V			
10+35	0.4166	0.68	Q	V			
10+40	0.4214	0.69	Q	V			
10+45	0.4261	0.69	Q	V			
10+50	0.4310	0.70	Q	V			
10+55	0.4358	0.71	Q	V			
11+ 0	0.4407	0.71	Q	V			
11+ 5	0.4457	0.72	Q	V			
11+10	0.4507	0.73	Q	V			
11+15	0.4558	0.73	Q	V			
11+20	0.4609	0.74	Q	V			
11+25	0.4661	0.75	Q	V			
11+30	0.4713	0.76	Q	V			
11+35	0.4765	0.77	Q	V			
11+40	0.4819	0.77	Q	V			
11+45	0.4873	0.78	Q	V			
11+50	0.4927	0.79	Q	V			
11+55	0.4982	0.80	Q	V			
12+ 0	0.5038	0.81	Q	V			
12+ 5	0.5094	0.82	Q	V			
12+10	0.5150	0.81	Q	V			
12+15	0.5205	0.80	Q	V			
12+20	0.5260	0.80	Q	V			
12+25	0.5316	0.81	Q	V			
12+30	0.5372	0.82	Q	V			
12+35	0.5429	0.83	Q	V			
12+40	0.5488	0.84	Q	V			
12+45	0.5546	0.86	Q	V			
12+50	0.5606	0.87	Q	V			
12+55	0.5667	0.88	Q	V			
13+ 0	0.5729	0.90	Q	V			
13+ 5	0.5791	0.91	Q	V			
13+10	0.5855	0.92	Q	V			
13+15	0.5920	0.94	Q	V			
13+20	0.5986	0.96	Q	V			
13+25	0.6053	0.98	Q	V			
13+30	0.6121	0.99	Q	V			
13+35	0.6191	1.01	Q	V			
13+40	0.6262	1.03	Q	V			
13+45	0.6335	1.05	Q	V			
13+50	0.6409	1.08	Q	V			
13+55	0.6484	1.10	Q	V			
14+ 0	0.6562	1.13	Q	V			
14+ 5	0.6641	1.15	Q	V			
14+10	0.6723	1.18	Q	V			
14+15	0.6806	1.21	Q	V			
14+20	0.6892	1.24	Q	V			
14+25	0.6980	1.28	Q	V			
14+30	0.7071	1.32	Q	V			
14+35	0.7164	1.36	Q	V			
14+40	0.7261	1.40	Q	V			
14+45	0.7361	1.45	Q	V			
14+50	0.7465	1.50	Q	V			
14+55	0.7572	1.56	Q	V			
15+ 0	0.7684	1.63	Q	V			



```
   21+20       1.7492      0.48  Q          |          |          |      V  |
   21+25       1.7525      0.48  Q          |          |          |      V  |
   21+30       1.7558      0.47  Q          |          |          |       V |
   21+35       1.7590      0.47  Q          |          |          |       V |
   21+40       1.7622      0.46  Q          |          |          |       V |
   21+45       1.7653      0.46  Q          |          |          |       V |
   21+50       1.7685      0.46  Q          |          |          |       V |
   21+55       1.7716      0.45  Q          |          |          |       V |
   22+ 0       1.7746      0.45  Q          |          |          |       V |
   22+ 5       1.7777      0.44  Q          |          |          |       V |
   22+10       1.7807      0.44  Q          |          |          |       V |
   22+15       1.7837      0.44  Q          |          |          |       V |
   22+20       1.7867      0.43  Q          |          |          |       V |
   22+25       1.7897      0.43  Q          |          |          |       V |
   22+30       1.7926      0.43  Q          |          |          |       V |
   22+35       1.7955      0.42  Q          |          |          |       V |
   22+40       1.7984      0.42  Q          |          |          |       V |
   22+45       1.8013      0.42  Q          |          |          |        V|
   22+50       1.8041      0.41  Q          |          |          |        V|
   22+55       1.8069      0.41  Q          |          |          |        V|
   23+ 0       1.8097      0.41  Q          |          |          |        V|
   23+ 5       1.8125      0.40  Q          |          |          |        V|
   23+10       1.8153      0.40  Q          |          |          |        V|
   23+15       1.8180      0.40  Q          |          |          |        V|
   23+20       1.8207      0.40  Q          |          |          |        V|
   23+25       1.8234      0.39  Q          |          |          |        V|
   23+30       1.8261      0.39  Q          |          |          |        V|
   23+35       1.8288      0.39  Q          |          |          |        V|
   23+40       1.8315      0.38  Q          |          |          |        V|
   23+45       1.8341      0.38  Q          |          |          |        V|
   23+50       1.8367      0.38  Q          |          |          |        V|
   23+55       1.8393      0.38  Q          |          |          |        V|
   24+ 0       1.8419      0.38  Q          |          |          |        V|
   24+ 5       1.8443      0.35  Q          |          |          |        V|
   24+10       1.8460      0.24  Q          |          |          |        V|
   24+15       1.8466      0.09  Q          |          |          |        V|
   24+20       1.8468      0.03  Q          |          |          |        V|
   24+25       1.8468      0.01  Q          |          |          |        V|
   24+30       1.8468      0.00  Q          |          |          |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 2C
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 2CPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
18.30	1	0.60
Rainfall data for year 2		
18.30	6	0.70
Rainfall data for year 2		
18.30	24	1.20
Rainfall data for year 100		
18.30	1	1.00
Rainfall data for year 100		
18.30	6	1.90
Rainfall data for year 100		
18.30	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	18.30	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.83	0.100	69.0	69.0	4.49	0.121
16.47	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.180 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      18.30(Ac.)
Catchment Lag time =   0.144 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 57.8704
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      18.30(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
----------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
----------------------------------------------------------------------
               (K =       221.32 (CFS))

  1                6.077                  13.449
  2               39.009                  72.885
  3               79.564                  89.753
  4               94.634                  33.354
  5               98.466                   8.480
  6               99.524                   2.341
  7              100.000                   1.054
----------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2219              0.2219
  2              0.2928              0.0709
  3              0.3443              0.0515
  4              0.3863              0.0420
  5              0.4224              0.0361
  6              0.4543              0.0320
  7              0.4832              0.0289
  8              0.5097              0.0265
  9              0.5343              0.0246
 10              0.5573              0.0230
 11              0.5790              0.0217
 12              0.5995              0.0205
 13              0.6182              0.0187
 14              0.6361              0.0179
 15              0.6532              0.0171
 16              0.6696              0.0164
 17              0.6854              0.0158
 18              0.7007              0.0152
 19              0.7154              0.0147
 20              0.7296              0.0143
 21              0.7434              0.0138
 22              0.7569              0.0134
 23              0.7699              0.0131
 24              0.7826              0.0127
 25              0.7950              0.0124
 26              0.8071              0.0121
```

27	0.8189	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8528	0.0110
31	0.8636	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9525	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1058	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1408	0.0069
65	1.1477	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2837	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3710	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5154	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6884	0.0041
169	1.6925	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8889	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0086
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2219	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 25.27(CFS)

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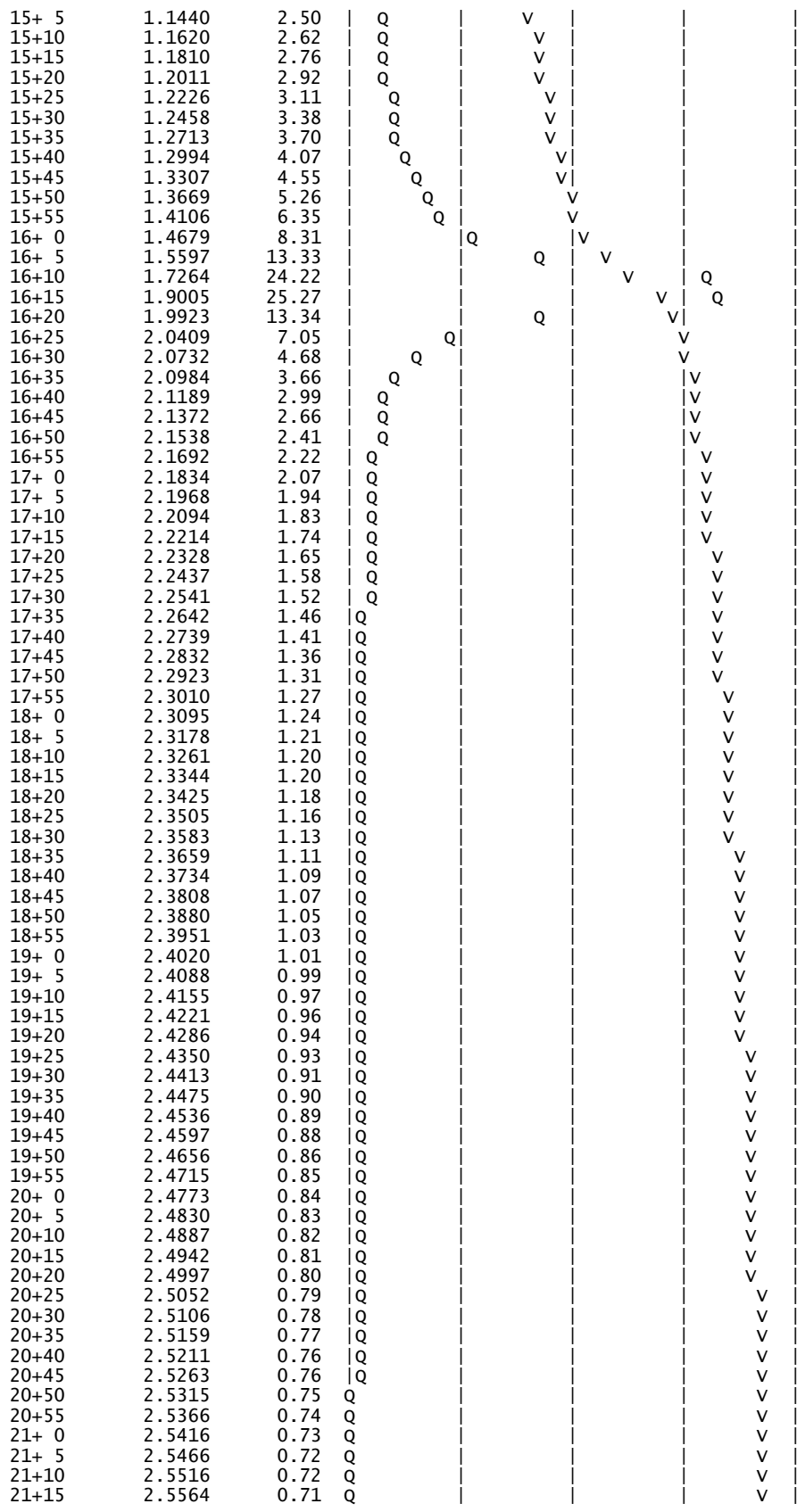
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0017	0.21	Q	|	|	|	|
0+15	0.0046	0.43	Q	|	|	|	|
0+20	0.0082	0.51	Q	|	|	|	|
0+25	0.0119	0.54	Q	|	|	|	|
0+30	0.0156	0.54	Q	|	|	|	|
0+35	0.0194	0.55	Q	|	|	|	|
0+40	0.0231	0.55	Q	|	|	|	|
0+45	0.0269	0.55	Q	|	|	|	|
0+50	0.0307	0.55	Q	|	|	|	|
0+55	0.0346	0.55	Q	|	|	|	|
1+ 0	0.0384	0.56	Q	|	|	|	|
1+ 5	0.0422	0.56	Q	|	|	|	|
1+10	0.0461	0.56	Q	|	|	|	|
1+15	0.0500	0.56	Q	|	|	|	|
1+20	0.0538	0.56	Q	|	|	|	|
1+25	0.0577	0.57	Q	|	|	|	|
1+30	0.0616	0.57	Q	|	|	|	|
1+35	0.0655	0.57	Q	|	|	|	|
1+40	0.0695	0.57	QV	|	|	|	|
1+45	0.0734	0.57	QV	|	|	|	|
1+50	0.0774	0.57	QV	|	|	|	|
1+55	0.0813	0.58	QV	|	|	|	|
2+ 0	0.0853	0.58	QV	|	|	|	|
2+ 5	0.0893	0.58	QV	|	|	|	|
2+10	0.0933	0.58	QV	|	|	|	|
2+15	0.0974	0.58	QV	|	|	|	|
2+20	0.1014	0.59	QV	|	|	|	|
2+25	0.1055	0.59	QV	|	|	|	|
2+30	0.1095	0.59	QV	|	|	|	|

2+35	0.1136	0.59	QV				
2+40	0.1177	0.60	QV				
2+45	0.1218	0.60	QV				
2+50	0.1260	0.60	QV				
2+55	0.1301	0.60	QV				
3+ 0	0.1343	0.60	QV				
3+ 5	0.1385	0.61	Q V				
3+10	0.1426	0.61	Q V				
3+15	0.1469	0.61	Q V				
3+20	0.1511	0.61	Q V				
3+25	0.1553	0.62	Q V				
3+30	0.1596	0.62	Q V				
3+35	0.1638	0.62	Q V				
3+40	0.1681	0.62	Q V				
3+45	0.1724	0.63	Q V				
3+50	0.1768	0.63	Q V				
3+55	0.1811	0.63	Q V				
4+ 0	0.1855	0.63	Q V				
4+ 5	0.1898	0.64	Q V				
4+10	0.1942	0.64	Q V				
4+15	0.1986	0.64	Q V				
4+20	0.2031	0.64	Q V				
4+25	0.2075	0.65	Q V				
4+30	0.2120	0.65	Q V				
4+35	0.2165	0.65	Q V				
4+40	0.2210	0.65	Q V				
4+45	0.2255	0.66	Q V				
4+50	0.2301	0.66	Q V				
4+55	0.2346	0.66	Q V				
5+ 0	0.2392	0.67	Q V				
5+ 5	0.2438	0.67	Q V				
5+10	0.2484	0.67	Q V				
5+15	0.2531	0.67	Q V				
5+20	0.2577	0.68	Q V				
5+25	0.2624	0.68	Q V				
5+30	0.2671	0.68	Q V				
5+35	0.2719	0.69	Q V				
5+40	0.2766	0.69	Q V				
5+45	0.2814	0.69	Q V				
5+50	0.2862	0.70	Q V				
5+55	0.2910	0.70	Q V				
6+ 0	0.2959	0.70	Q V				
6+ 5	0.3007	0.71	Q V				
6+10	0.3056	0.71	Q V				
6+15	0.3105	0.71	Q V				
6+20	0.3155	0.72	Q V				
6+25	0.3204	0.72	Q V				
6+30	0.3254	0.72	Q V				
6+35	0.3304	0.73	Q V				
6+40	0.3355	0.73	Q V				
6+45	0.3405	0.74	Q V				
6+50	0.3456	0.74	Q V				
6+55	0.3508	0.74	Q V				
7+ 0	0.3559	0.75	Q V				
7+ 5	0.3611	0.75	|Q V				
7+10	0.3663	0.76	|Q V				
7+15	0.3715	0.76	|Q V				
7+20	0.3768	0.76	|Q V				
7+25	0.3821	0.77	|Q V				
7+30	0.3874	0.77	|Q V				
7+35	0.3927	0.78	|Q V				
7+40	0.3981	0.78	|Q V				
7+45	0.4035	0.79	|Q V				
7+50	0.4090	0.79	|Q V				
7+55	0.4145	0.80	|Q V				
8+ 0	0.4200	0.80	|Q V				
8+ 5	0.4255	0.80	|Q V				
8+10	0.4311	0.81	|Q V				
8+15	0.4367	0.81	|Q V				
8+20	0.4423	0.82	|Q V				
8+25	0.4480	0.82	|Q V				
8+30	0.4537	0.83	|Q V				
8+35	0.4595	0.84	|Q V				
8+40	0.4653	0.84	|Q V				
8+45	0.4711	0.85	|Q V				

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 8+50       0.4770      0.85  |Q     V  |          |          |          |
 8+55       0.4829      0.86  |Q     V  |          |          |          |
 9+ 0       0.4888      0.86  |Q     V  |          |          |          |
 9+ 5       0.4948      0.87  |Q     V  |          |          |          |
 9+10       0.5009      0.88  |Q     V  |          |          |          |
 9+15       0.5069      0.88  |Q     V  |          |          |          |
 9+20       0.5130      0.89  |Q     V  |          |          |          |
 9+25       0.5192      0.89  |Q     V  |          |          |          |
 9+30       0.5254      0.90  |Q     V  |          |          |          |
 9+35       0.5317      0.91  |Q     V  |          |          |          |
 9+40       0.5380      0.91  |Q     V  |          |          |          |
 9+45       0.5443      0.92  |Q      V |          |          |          |
 9+50       0.5507      0.93  |Q      V |          |          |          |
 9+55       0.5571      0.94  |Q      V |          |          |          |
10+ 0       0.5636      0.94  |Q      V |          |          |          |
10+ 5       0.5702      0.95  |Q      V |          |          |          |
10+10       0.5768      0.96  |Q      V |          |          |          |
10+15       0.5834      0.97  |Q      V |          |          |          |
10+20       0.5901      0.97  |Q      V |          |          |          |
10+25       0.5969      0.98  |Q      V |          |          |          |
10+30       0.6037      0.99  |Q      V |          |          |          |
10+35       0.6106      1.00  |Q       V|          |          |          |
10+40       0.6176      1.01  |Q       V|          |          |          |
10+45       0.6246      1.02  |Q       V|          |          |          |
10+50       0.6316      1.03  |Q       V|          |          |          |
10+55       0.6388      1.04  |Q       V|          |          |          |
11+ 0       0.6460      1.05  |Q       V|          |          |          |
11+ 5       0.6533      1.06  |Q       V|          |          |          |
11+10       0.6606      1.07  |Q       V|          |          |          |
11+15       0.6680      1.08  |Q       V|          |          |          |
11+20       0.6755      1.09  |Q       V|          |          |          |
11+25       0.6831      1.10  |Q        V          |          |          |
11+30       0.6907      1.11  |Q        V          |          |          |
11+35       0.6984      1.12  |Q        V          |          |          |
11+40       0.7063      1.13  |Q        V          |          |          |
11+45       0.7141      1.15  |Q        V          |          |          |
11+50       0.7221      1.16  |Q        V          |          |          |
11+55       0.7302      1.17  |Q        V          |          |          |
12+ 0       0.7384      1.19  |Q        V          |          |          |
12+ 5       0.7466      1.20  |Q        |V         |          |          |
12+10       0.7548      1.19  |Q        |V         |          |          |
12+15       0.7628      1.17  |Q        |V         |          |          |
12+20       0.7709      1.17  |Q        |V         |          |          |
12+25       0.7791      1.19  |Q        |V         |          |          |
12+30       0.7873      1.20  |Q        |V         |          |          |
12+35       0.7957      1.22  |Q        |V         |          |          |
12+40       0.8042      1.24  |Q        |V         |          |          |
12+45       0.8129      1.25  |Q        | V        |          |          |
12+50       0.8216      1.27  |Q        | V        |          |          |
12+55       0.8305      1.29  |Q        | V        |          |          |
13+ 0       0.8396      1.31  |Q        | V        |          |          |
13+ 5       0.8488      1.33  |Q        | V        |          |          |
13+10       0.8581      1.36  |Q        | V        |          |          |
13+15       0.8676      1.38  |Q        | V        |          |          |
13+20       0.8773      1.40  |Q        | V        |          |          |
13+25       0.8871      1.43  |Q        |  V       |          |          |
13+30       0.8972      1.46  |Q        |  V       |          |          |
13+35       0.9074      1.49  |Q        |  V       |          |          |
13+40       0.9178      1.51  | Q       |  V       |          |          |
13+45       0.9285      1.55  | Q       |  V       |          |          |
13+50       0.9393      1.58  | Q       |  V       |          |          |
13+55       0.9505      1.61  | Q       |   V      |          |          |
14+ 0       0.9618      1.65  | Q       |   V      |          |          |
14+ 5       0.9735      1.69  | Q       |   V      |          |          |
14+10       0.9854      1.73  | Q       |   V      |          |          |
14+15       0.9977      1.78  | Q       |   V      |          |          |
14+20       1.0103      1.83  | Q       |   V      |          |          |
14+25       1.0232      1.88  | Q       |    V     |          |          |
14+30       1.0366      1.94  | Q       |    V     |          |          |
14+35       1.0503      2.00  | Q       |    V     |          |          |
14+40       1.0645      2.06  | Q       |    V     |          |          |
14+45       1.0792      2.13  | Q       |    V     |          |          |
14+50       1.0944      2.21  | Q       |     V    |          |          |
14+55       1.1102      2.30  |  Q      |     V    |          |          |
15+ 0       1.1267      2.39  |  Q      |     V    |          |          |
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   21+20       2.5613      0.70  Q          |          |          |      V  |
   21+25       2.5661      0.70  Q          |          |          |      V  |
   21+30       2.5708      0.69  Q          |          |          |       V |
   21+35       2.5756      0.68  Q          |          |          |       V |
   21+40       2.5802      0.68  Q          |          |          |       V |
   21+45       2.5848      0.67  Q          |          |          |       V |
   21+50       2.5894      0.67  Q          |          |          |       V |
   21+55       2.5940      0.66  Q          |          |          |       V |
   22+ 0       2.5985      0.65  Q          |          |          |       V |
   22+ 5       2.6029      0.65  Q          |          |          |       V |
   22+10       2.6074      0.64  Q          |          |          |       V |
   22+15       2.6118      0.64  Q          |          |          |       V |
   22+20       2.6161      0.63  Q          |          |          |       V |
   22+25       2.6204      0.63  Q          |          |          |       V |
   22+30       2.6247      0.62  Q          |          |          |       V |
   22+35       2.6290      0.62  Q          |          |          |       V |
   22+40       2.6332      0.61  Q          |          |          |       V |
   22+45       2.6374      0.61  Q          |          |          |        V|
   22+50       2.6416      0.60  Q          |          |          |        V|
   22+55       2.6457      0.60  Q          |          |          |        V|
   23+ 0       2.6498      0.60  Q          |          |          |        V|
   23+ 5       2.6539      0.59  Q          |          |          |        V|
   23+10       2.6579      0.59  Q          |          |          |        V|
   23+15       2.6619      0.58  Q          |          |          |        V|
   23+20       2.6659      0.58  Q          |          |          |        V|
   23+25       2.6699      0.57  Q          |          |          |        V|
   23+30       2.6738      0.57  Q          |          |          |        V|
   23+35       2.6777      0.57  Q          |          |          |        V|
   23+40       2.6816      0.56  Q          |          |          |        V|
   23+45       2.6854      0.56  Q          |          |          |        V|
   23+50       2.6893      0.56  Q          |          |          |        V|
   23+55       2.6931      0.55  Q          |          |          |        V|
   24+ 0       2.6968      0.55  Q          |          |          |        V|
   24+ 5       2.7004      0.51  Q          |          |          |        V|
   24+10       2.7027      0.33  Q          |          |          |        V|
   24+15       2.7034      0.11  Q          |          |          |        V|
   24+20       2.7036      0.03  Q          |          |          |        V|
   24+25       2.7037      0.01  Q          |          |          |        V|
   24+30       2.7037      0.00  Q          |          |          |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 2D
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 2DPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

	Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10	8.80	1	0.60
Rainfall data for year 2	8.80	6	0.70
Rainfall data for year 2	8.80	24	1.20
Rainfall data for year 100	8.80	1	1.00
Rainfall data for year 100	8.80	6	1.90
Rainfall data for year 100	8.80	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	8.80	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
0.88	0.100	69.0	69.0	4.49	0.121
7.92	0.900	98.0	98.0	0.20	0.892

Area-averaged catchment yield fraction, Y = 0.815
Area-averaged low loss fraction, Yb = 0.185
User entry of time of concentration = 0.190 (hours)
++
Watershed area = 8.80(Ac.)
Catchment Lag time = 0.152 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 54.8246
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.222(In)
Computed peak 30-minute rainfall = 0.455(In)
Specified peak 1-hour rainfall = 0.600(In)
Computed peak 3-hour rainfall = 0.915(In)
Specified peak 6-hour rainfall = 1.194(In)
Specified peak 24-hour rainfall = 2.105(In)

Rainfall depth area reduction factors:
Using a total area of 8.80(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.222(In)
30-minute factor = 1.000 Adjusted rainfall = 0.455(In)
1-hour factor = 1.000 Adjusted rainfall = 0.600(In)
3-hour factor = 1.000 Adjusted rainfall = 0.915(In)
6-hour factor = 1.000 Adjusted rainfall = 1.194(In)
24-hour factor = 1.000 Adjusted rainfall = 2.105(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 106.43 (CFS))	
1	5.469	5.821
2	35.337	31.787
3	75.925	43.196
4	93.130	18.310
5	98.077	5.265
6	99.228	1.224
7	100.000	0.822

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.2220	0.2220
2	0.2929	0.0709
3	0.3445	0.0516
4	0.3865	0.0420
5	0.4226	0.0361
6	0.4545	0.0320
7	0.4834	0.0289
8	0.5100	0.0265
9	0.5346	0.0246
10	0.5576	0.0230
11	0.5792	0.0217
12	0.5998	0.0205
13	0.6185	0.0187
14	0.6363	0.0179
15	0.6534	0.0171
16	0.6699	0.0164
17	0.6856	0.0158
18	0.7009	0.0152
19	0.7156	0.0147
20	0.7298	0.0142
21	0.7436	0.0138
22	0.7570	0.0134
23	0.7701	0.0130
24	0.7828	0.0127
25	0.7952	0.0124
26	0.8072	0.0121

27	0.8190	0.0118
28	0.8305	0.0115
29	0.8418	0.0113
30	0.8529	0.0110
31	0.8637	0.0108
32	0.8743	0.0106
33	0.8847	0.0104
34	0.8949	0.0102
35	0.9049	0.0100
36	0.9147	0.0098
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9433	0.0094
40	0.9525	0.0092
41	0.9616	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9966	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0216	0.0082
49	1.0297	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0535	0.0078
53	1.0612	0.0077
54	1.0688	0.0076
55	1.0764	0.0076
56	1.0839	0.0075
57	1.0913	0.0074
58	1.0986	0.0073
59	1.1058	0.0072
60	1.1130	0.0072
61	1.1200	0.0071
62	1.1271	0.0070
63	1.1340	0.0069
64	1.1409	0.0069
65	1.1477	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1873	0.0064
72	1.1937	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2138	0.0066
76	1.2204	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2399	0.0064
80	1.2463	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2652	0.0063
84	1.2714	0.0062
85	1.2776	0.0062
86	1.2837	0.0061
87	1.2898	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3255	0.0059
94	1.3313	0.0058
95	1.3371	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3542	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3710	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3930	0.0054
106	1.3984	0.0054
107	1.4038	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4662	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4812	0.0050
123	1.4861	0.0050
124	1.4911	0.0049
125	1.4960	0.0049
126	1.5009	0.0049
127	1.5057	0.0049
128	1.5106	0.0048
129	1.5154	0.0048
130	1.5202	0.0048
131	1.5250	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5392	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5532	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5716	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5852	0.0045
145	1.5897	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6075	0.0044
150	1.6119	0.0044
151	1.6163	0.0044
152	1.6206	0.0044
153	1.6250	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6508	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6760	0.0042
166	1.6801	0.0041
167	1.6843	0.0041
168	1.6884	0.0041
169	1.6925	0.0041
170	1.6966	0.0041
171	1.7007	0.0041
172	1.7047	0.0041
173	1.7088	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7328	0.0040
180	1.7367	0.0040
181	1.7407	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7641	0.0039
188	1.7679	0.0039
189	1.7718	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7946	0.0038
196	1.7983	0.0038
197	1.8021	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8133	0.0037
201	1.8170	0.0037
202	1.8207	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8317	0.0037
206	1.8353	0.0037
207	1.8390	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8642	0.0036
215	1.8677	0.0036
216	1.8713	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8819	0.0035
220	1.8854	0.0035
221	1.8889	0.0035
222	1.8924	0.0035
223	1.8959	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9063	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9166	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9370	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9571	0.0033
242	1.9604	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9736	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9964	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0220	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0409	0.0031
268	2.0440	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0657	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0931	0.0030
285	2.0961	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1051	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0098	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0086
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0098
177	0.0127	0.0023	0.0104
178	0.0130	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0142	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0201
188	0.0265	0.0046	0.0220
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0516	0.0046	0.0470
192	0.0709	0.0046	0.0664
193	0.2220	0.0046	0.2174
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0043	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0054
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 12.25(CFS)

++

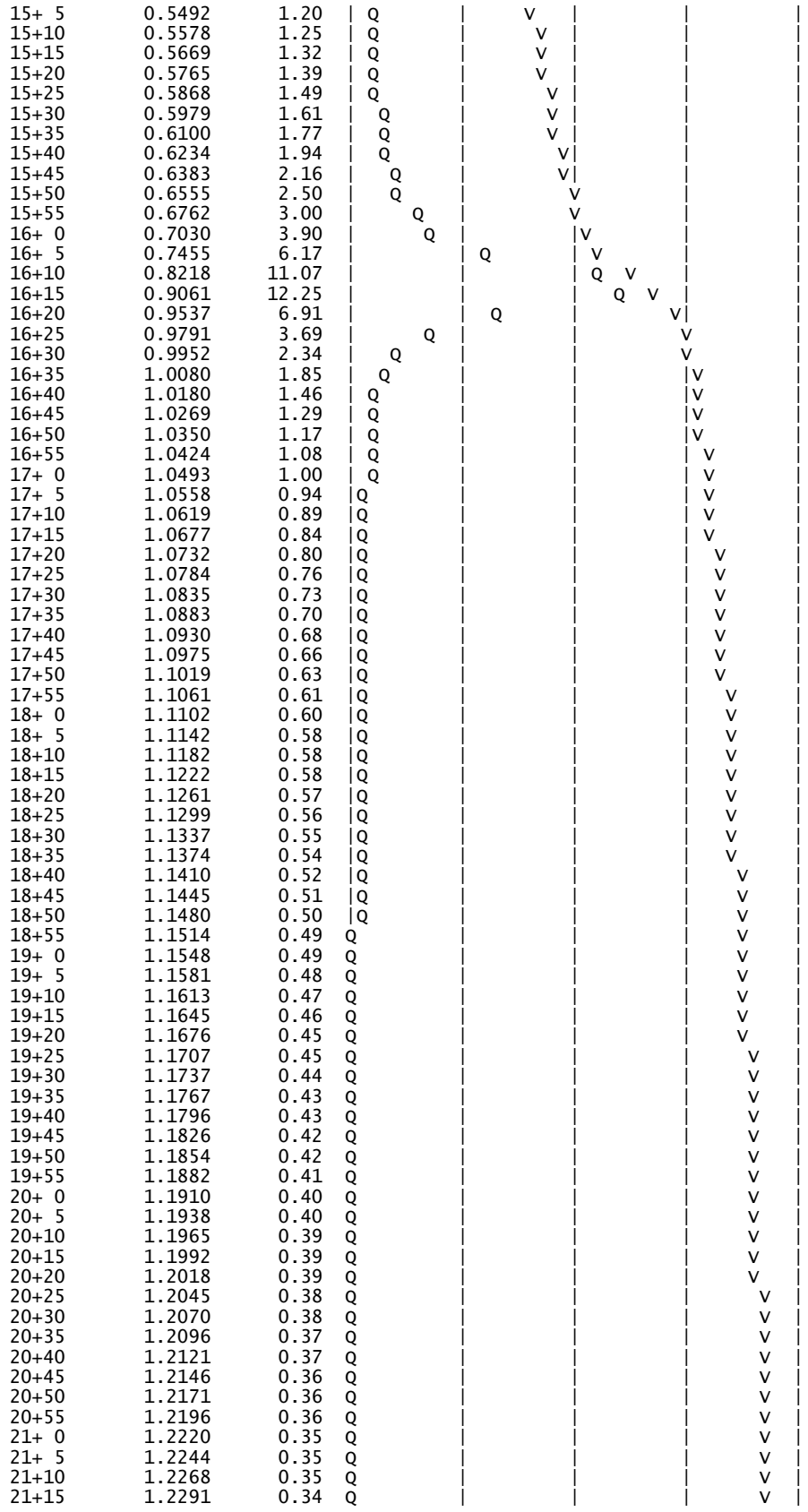
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0001	0.01	Q	|	|	|	|
0+10	0.0007	0.09	Q	|	|	|	|
0+15	0.0021	0.20	Q	|	|	|	|
0+20	0.0038	0.24	Q	|	|	|	|
0+25	0.0055	0.26	Q	|	|	|	|
0+30	0.0073	0.26	Q	|	|	|	|
0+35	0.0091	0.26	Q	|	|	|	|
0+40	0.0109	0.26	Q	|	|	|	|
0+45	0.0128	0.26	Q	|	|	|	|
0+50	0.0146	0.27	Q	|	|	|	|
0+55	0.0164	0.27	Q	|	|	|	|
1+ 0	0.0183	0.27	Q	|	|	|	|
1+ 5	0.0201	0.27	Q	|	|	|	|
1+10	0.0220	0.27	Q	|	|	|	|
1+15	0.0238	0.27	Q	|	|	|	|
1+20	0.0257	0.27	Q	|	|	|	|
1+25	0.0276	0.27	Q	|	|	|	|
1+30	0.0294	0.27	Q	|	|	|	|
1+35	0.0313	0.27	Q	|	|	|	|
1+40	0.0332	0.27	QV	|	|	|	|
1+45	0.0351	0.28	QV	|	|	|	|
1+50	0.0370	0.28	QV	|	|	|	|
1+55	0.0389	0.28	QV	|	|	|	|
2+ 0	0.0408	0.28	QV	|	|	|	|
2+ 5	0.0428	0.28	QV	|	|	|	|
2+10	0.0447	0.28	QV	|	|	|	|
2+15	0.0466	0.28	QV	|	|	|	|
2+20	0.0486	0.28	QV	|	|	|	|
2+25	0.0505	0.28	QV	|	|	|	|
2+30	0.0525	0.28	QV	|	|	|	|

2+35	0.0544	0.29	QV				
2+40	0.0564	0.29	QV				
2+45	0.0584	0.29	QV				
2+50	0.0604	0.29	QV				
2+55	0.0624	0.29	QV				
3+ 0	0.0644	0.29	QV				
3+ 5	0.0664	0.29	Q V				
3+10	0.0684	0.29	Q V				
3+15	0.0704	0.29	Q V				
3+20	0.0724	0.29	Q V				
3+25	0.0745	0.30	Q V				
3+30	0.0765	0.30	Q V				
3+35	0.0786	0.30	Q V				
3+40	0.0806	0.30	Q V				
3+45	0.0827	0.30	Q V				
3+50	0.0848	0.30	Q V				
3+55	0.0869	0.30	Q V				
4+ 0	0.0890	0.30	Q V				
4+ 5	0.0911	0.31	Q V				
4+10	0.0932	0.31	Q V				
4+15	0.0953	0.31	Q V				
4+20	0.0974	0.31	Q V				
4+25	0.0996	0.31	Q V				
4+30	0.1017	0.31	Q V				
4+35	0.1039	0.31	Q V				
4+40	0.1060	0.31	Q V				
4+45	0.1082	0.32	Q V				
4+50	0.1104	0.32	Q V				
4+55	0.1126	0.32	Q V				
5+ 0	0.1148	0.32	Q V				
5+ 5	0.1170	0.32	Q V				
5+10	0.1192	0.32	Q V				
5+15	0.1215	0.32	Q V				
5+20	0.1237	0.33	Q V				
5+25	0.1260	0.33	Q V				
5+30	0.1282	0.33	Q V				
5+35	0.1305	0.33	Q V				
5+40	0.1328	0.33	Q V				
5+45	0.1351	0.33	Q V				
5+50	0.1374	0.33	Q V				
5+55	0.1397	0.34	Q V				
6+ 0	0.1420	0.34	Q V				
6+ 5	0.1444	0.34	Q V				
6+10	0.1467	0.34	Q V				
6+15	0.1491	0.34	Q V				
6+20	0.1515	0.34	Q V				
6+25	0.1538	0.35	Q V				
6+30	0.1562	0.35	Q V				
6+35	0.1587	0.35	Q V				
6+40	0.1611	0.35	Q V				
6+45	0.1635	0.35	Q V				
6+50	0.1660	0.36	Q V				
6+55	0.1684	0.36	Q V				
7+ 0	0.1709	0.36	Q V				
7+ 5	0.1734	0.36	Q V				
7+10	0.1759	0.36	Q V				
7+15	0.1784	0.37	Q V				
7+20	0.1809	0.37	Q V				
7+25	0.1835	0.37	Q V				
7+30	0.1860	0.37	Q V				
7+35	0.1886	0.37	Q V				
7+40	0.1912	0.38	Q V				
7+45	0.1938	0.38	Q V				
7+50	0.1964	0.38	Q V				
7+55	0.1990	0.38	Q V				
8+ 0	0.2017	0.38	Q V				
8+ 5	0.2043	0.39	Q V				
8+10	0.2070	0.39	Q V				
8+15	0.2097	0.39	Q V				
8+20	0.2124	0.39	Q V				
8+25	0.2152	0.40	Q V				
8+30	0.2179	0.40	Q V				
8+35	0.2207	0.40	Q V				
8+40	0.2235	0.40	Q V				
8+45	0.2263	0.41	Q V				

8+50	0.2291	0.41	Q	V	|	|	|	|
8+55	0.2319	0.41	Q	V	|	|	|	|
9+ 0	0.2348	0.41	Q	V	|	|	|	|
9+ 5	0.2377	0.42	Q	V	|	|	|	|
9+10	0.2405	0.42	Q	V	|	|	|	|
9+15	0.2435	0.42	Q	V	|	|	|	|
9+20	0.2464	0.43	Q	V	|	|	|	|
9+25	0.2494	0.43	Q	V	|	|	|	|
9+30	0.2523	0.43	Q	V	|	|	|	|
9+35	0.2554	0.44	Q	V	|	|	|	|
9+40	0.2584	0.44	Q	V	|	|	|	|
9+45	0.2614	0.44	Q	V	|	|	|	|
9+50	0.2645	0.45	Q	V	|	|	|	|
9+55	0.2676	0.45	Q	V	|	|	|	|
10+ 0	0.2707	0.45	Q	V	|	|	|	|
10+ 5	0.2739	0.46	Q	V	|	|	|	|
10+10	0.2770	0.46	Q	V	|	|	|	|
10+15	0.2802	0.46	Q	V	|	|	|	|
10+20	0.2835	0.47	Q	V	|	|	|	|
10+25	0.2867	0.47	Q	V	|	|	|	|
10+30	0.2900	0.48	Q	V	|	|	|	|
10+35	0.2933	0.48	Q	V	|	|	|	|
10+40	0.2966	0.48	Q	V	|	|	|	|
10+45	0.3000	0.49	Q	V	|	|	|	|
10+50	0.3034	0.49	Q	V	|	|	|	|
10+55	0.3068	0.50	Q	V	|	|	|	|
11+ 0	0.3103	0.50	|Q	V	|	|	|	|
11+ 5	0.3138	0.51	|Q	V	|	|	|	|
11+10	0.3173	0.51	|Q	V	|	|	|	|
11+15	0.3209	0.52	|Q	V	|	|	|	|
11+20	0.3245	0.52	|Q	V	|	|	|	|
11+25	0.3281	0.53	|Q	V	|	|	|	|
11+30	0.3318	0.53	|Q	V	|	|	|	|
11+35	0.3355	0.54	|Q	V	|	|	|	|
11+40	0.3392	0.54	|Q	V	|	|	|	|
11+45	0.3430	0.55	|Q	V	|	|	|	|
11+50	0.3469	0.56	|Q	V	|	|	|	|
11+55	0.3507	0.56	|Q	V	|	|	|	|
12+ 0	0.3547	0.57	|Q	V	|	|	|	|
12+ 5	0.3586	0.57	|Q	|V	|	|	|	|
12+10	0.3625	0.57	|Q	|V	|	|	|	|
12+15	0.3664	0.56	|Q	|V	|	|	|	|
12+20	0.3703	0.56	|Q	|V	|	|	|	|
12+25	0.3742	0.57	|Q	|V	|	|	|	|
12+30	0.3782	0.58	|Q	|V	|	|	|	|
12+35	0.3822	0.58	|Q	|V	|	|	|	|
12+40	0.3863	0.59	|Q	|V	|	|	|	|
12+45	0.3905	0.60	|Q	| V	|	|	|	|
12+50	0.3947	0.61	|Q	| V	|	|	|	|
12+55	0.3989	0.62	|Q	| V	|	|	|	|
13+ 0	0.4033	0.63	|Q	| V	|	|	|	|
13+ 5	0.4077	0.64	|Q	| V	|	|	|	|
13+10	0.4122	0.65	|Q	| V	|	|	|	|
13+15	0.4167	0.66	|Q	| V	|	|	|	|
13+20	0.4214	0.67	|Q	| V	|	|	|	|
13+25	0.4261	0.69	|Q	| V	|	|	|	|
13+30	0.4309	0.70	|Q	| V	|	|	|	|
13+35	0.4358	0.71	|Q	| V	|	|	|	|
13+40	0.4408	0.73	|Q	| V	|	|	|	|
13+45	0.4460	0.74	|Q	| V	|	|	|	|
13+50	0.4512	0.76	|Q	| V	|	|	|	|
13+55	0.4565	0.77	|Q	| V	|	|	|	|
14+ 0	0.4620	0.79	|Q	| V	|	|	|	|
14+ 5	0.4675	0.81	|Q	| V	|	|	|	|
14+10	0.4733	0.83	|Q	| V	|	|	|	|
14+15	0.4791	0.85	|Q	| V	|	|	|	|
14+20	0.4852	0.88	|Q	| V	|	|	|	|
14+25	0.4914	0.90	|Q	| V	|	|	|	|
14+30	0.4978	0.93	|Q	| V	|	|	|	|
14+35	0.5044	0.96	|Q	| V	|	|	|	|
14+40	0.5112	0.99	|Q	| V	|	|	|	|
14+45	0.5182	1.02	| Q	| V	|	|	|	|
14+50	0.5255	1.06	| Q	| V	|	|	|	|
14+55	0.5331	1.10	| Q	| V	|	|	|	|
15+ 0	0.5410	1.15	| Q	| V	|	|	|	|



```
   21+20       1.2315      0.34  Q          |          |          |      V  |
   21+25       1.2338      0.34  Q          |          |          |      V  |
   21+30       1.2361      0.33  Q          |          |          |       V |
   21+35       1.2383      0.33  Q          |          |          |       V |
   21+40       1.2406      0.33  Q          |          |          |       V |
   21+45       1.2428      0.32  Q          |          |          |       V |
   21+50       1.2450      0.32  Q          |          |          |       V |
   21+55       1.2472      0.32  Q          |          |          |       V |
   22+ 0       1.2494      0.31  Q          |          |          |       V |
   22+ 5       1.2515      0.31  Q          |          |          |       V |
   22+10       1.2536      0.31  Q          |          |          |       V |
   22+15       1.2558      0.31  Q          |          |          |       V |
   22+20       1.2579      0.30  Q          |          |          |       V |
   22+25       1.2599      0.30  Q          |          |          |       V |
   22+30       1.2620      0.30  Q          |          |          |       V |
   22+35       1.2641      0.30  Q          |          |          |       V |
   22+40       1.2661      0.30  Q          |          |          |       V |
   22+45       1.2681      0.29  Q          |          |          |        V|
   22+50       1.2701      0.29  Q          |          |          |        V|
   22+55       1.2721      0.29  Q          |          |          |        V|
   23+ 0       1.2741      0.29  Q          |          |          |        V|
   23+ 5       1.2760      0.28  Q          |          |          |        V|
   23+10       1.2780      0.28  Q          |          |          |        V|
   23+15       1.2799      0.28  Q          |          |          |        V|
   23+20       1.2818      0.28  Q          |          |          |        V|
   23+25       1.2837      0.28  Q          |          |          |        V|
   23+30       1.2856      0.27  Q          |          |          |        V|
   23+35       1.2875      0.27  Q          |          |          |        V|
   23+40       1.2894      0.27  Q          |          |          |        V|
   23+45       1.2912      0.27  Q          |          |          |        V|
   23+50       1.2931      0.27  Q          |          |          |        V|
   23+55       1.2949      0.27  Q          |          |          |        V|
   24+ 0       1.2967      0.26  Q          |          |          |        V|
   24+ 5       1.2984      0.25  Q          |          |          |        V|
   24+10       1.2996      0.17  Q          |          |          |        V|
   24+15       1.3000      0.06  Q          |          |          |        V|
   24+20       1.3001      0.02  Q          |          |          |        V|
   24+25       1.3002      0.01  Q          |          |          |        V|
   24+30       1.3002      0.00  Q          |          |          |         V
-------------------------------------------------------------------------
```

Project Name: MILESKI ADELANTO
WO: 24-0505
Date: 4/16/2025

UNIT HYDROGRAPH RESULTS

		Post Volume (cf)	Post Volume (acre-ft)	Post Peak (cfs)
100 YR-24 HR	PROP 3A	249,817	5.735	53.85
	PROP 3B	228,999	5.257	49.37
	PROP 3C	228,999	5.257	49.22
	PROP 3D	213,662	4.905	45.60
10YR-24HR	PROP 3A	146,732	3.369	31.81
	PROP 3B	134,505	3.088	29.16
	PROP 3C	134,505	3.088	29.07
	PROP 3D	125,496	2.881	26.93

BASIN ROUTING RESULTS

		Portioned 90% Pre Peak (cfs)	Post Peak (cfs)	Mitigated Peak (cfs)
100 YR-24 HR	PROP 3A (8.5% UHEX05CUL)	3.77	53.85	TBD
	PROP 3B (1.2% UHEXOFF)	5.75	49.37	TBD
	PROP 3C (10.9% UHEX05CUL)	4.84	49.22	TBD
	PROP 3D (1.0% UHEXOFF)	4.79	45.60	TBD
10YR-24HR	PROP 3A (8.5% UHEX05CUL)	1.86	31.81	TBD
	PROP 3B (1.2% UHEXOFF)	3.88	29.16	TBD
	PROP 3C (10.9% UHEX05CUL)	2.38	29.07	TBD
	PROP 3D (1.0% UHEXOFF)	3.24	26.93	TBD

SBC Detention Basin Design Guidelines state that:

i) *Post-development peak flow rate generated by the site shall be less than 90% of the pre-development peak*

II) *100-year pre-development peak flow rates shall be calculated using 25-year rainfall and AMC-II.*

Therefore:

$Q_{Post,\ 100\text{-}yr\ 24\text{-}hr} < 90\%\ Q_{Pre,\ 25\text{-}yr\ 24\text{-}hr}$

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 3A
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 3APROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
22.80	1	0.60
Rainfall data for year 2		
22.80	6	0.70
Rainfall data for year 2		
22.80	24	1.20
Rainfall data for year 100		
22.80	1	1.00
Rainfall data for year 100		
22.80	6	1.90
Rainfall data for year 100		
22.80	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	22.80	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.28	0.100	69.0	69.0	4.49	0.121
20.52	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.170 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      22.80(Ac.)
Catchment Lag time =   0.136 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 61.2745
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      22.80(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
----------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
----------------------------------------------------------------------
               (K =       275.74 (CFS))

  1                6.789                  18.720
  2               43.210                 100.427
  3               82.892                 109.418
  4               95.987                  36.107
  5               98.763                   7.655
  6              100.000                   3.410
----------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2218              0.2218
  2              0.2927              0.0709
  3              0.3442              0.0515
  4              0.3862              0.0420
  5              0.4223              0.0361
  6              0.4542              0.0319
  7              0.4831              0.0289
  8              0.5096              0.0265
  9              0.5342              0.0246
 10              0.5572              0.0230
 11              0.5789              0.0217
 12              0.5994              0.0205
 13              0.6181              0.0187
 14              0.6360              0.0179
 15              0.6531              0.0171
 16              0.6695              0.0164
 17              0.6853              0.0158
 18              0.7006              0.0152
 19              0.7153              0.0147
 20              0.7295              0.0143
 21              0.7434              0.0138
 22              0.7568              0.0134
 23              0.7698              0.0131
 24              0.7825              0.0127
 25              0.7949              0.0124
 26              0.8070              0.0121
 27              0.8188              0.0118
```

28	0.8304	0.0115
29	0.8417	0.0113
30	0.8527	0.0111
31	0.8635	0.0108
32	0.8741	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9243	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9704	0.0089
43	0.9793	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0049	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0376	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1339	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3427	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056
102	1.3765	0.0055

103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4249	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4761	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5624	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5985	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040
177	1.7248	0.0040

178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7755	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7907	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9199	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9335	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9503	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033
251	1.9898	0.0032
252	1.9931	0.0032

253	1.9963	0.0032
254	1.9995	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0839	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027
34	0.0033	0.0006	0.0027

35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039
109	0.0049	0.0009	0.0040

110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0111	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139
184	0.0179	0.0033	0.0146

185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0319	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031
259	0.0037	0.0007	0.0030

260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 31.81(CFS)

++

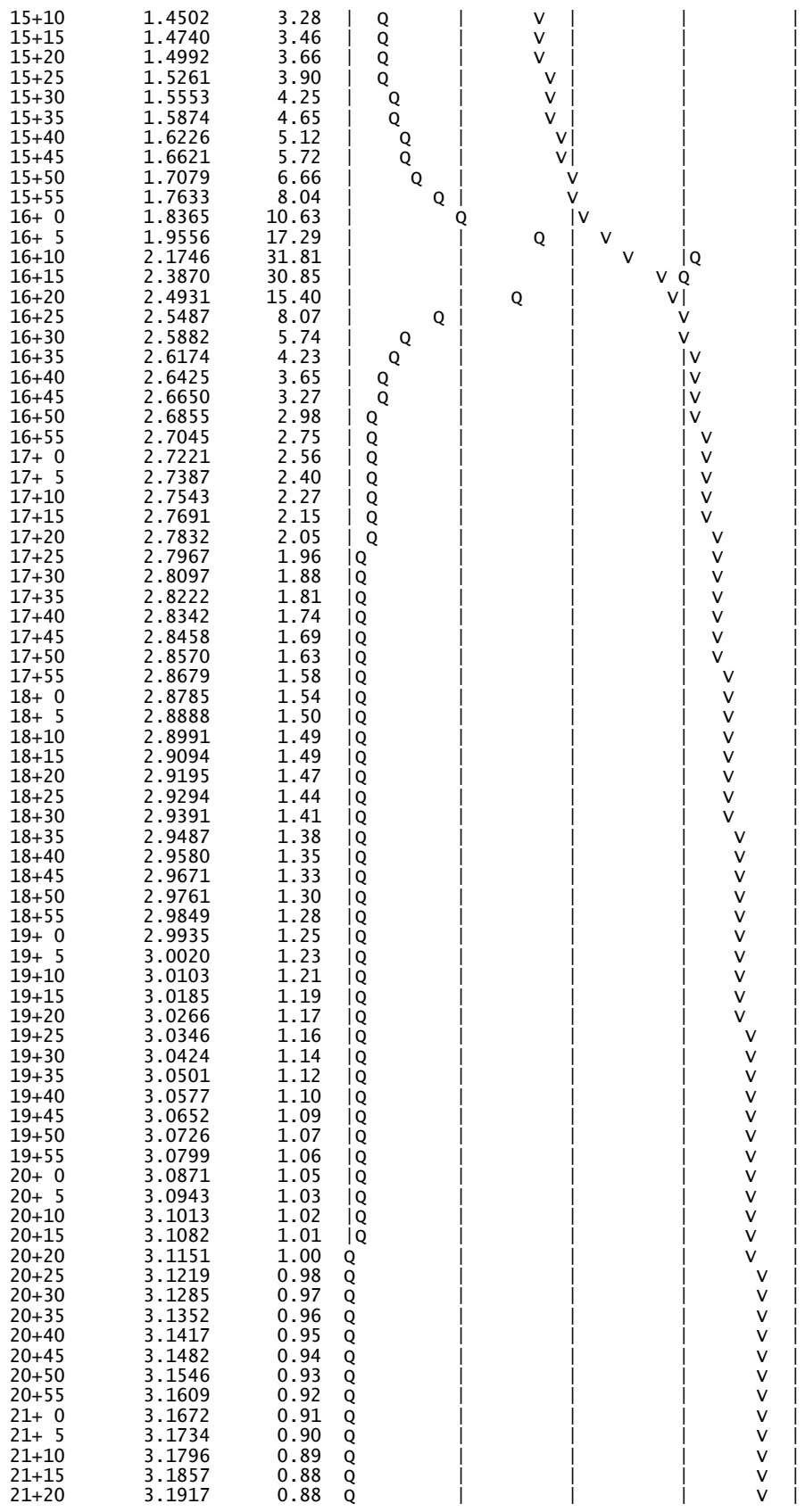
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0003	0.05	Q	|	|	|	|
0+10	0.0023	0.29	Q	|	|	|	|
0+15	0.0062	0.56	Q	|	|	|	|
0+20	0.0106	0.65	Q	|	|	|	|
0+25	0.0152	0.67	Q	|	|	|	|
0+30	0.0199	0.68	Q	|	|	|	|
0+35	0.0246	0.68	Q	|	|	|	|
0+40	0.0293	0.68	Q	|	|	|	|
0+45	0.0341	0.69	Q	|	|	|	|
0+50	0.0388	0.69	Q	|	|	|	|
0+55	0.0436	0.69	Q	|	|	|	|
1+ 0	0.0483	0.69	Q	|	|	|	|
1+ 5	0.0531	0.70	Q	|	|	|	|
1+10	0.0579	0.70	Q	|	|	|	|
1+15	0.0627	0.70	Q	|	|	|	|
1+20	0.0676	0.70	Q	|	|	|	|
1+25	0.0724	0.70	Q	|	|	|	|
1+30	0.0773	0.71	Q	|	|	|	|
1+35	0.0822	0.71	Q	|	|	|	|
1+40	0.0871	0.71	QV	|	|	|	|
1+45	0.0920	0.71	QV	|	|	|	|
1+50	0.0969	0.72	QV	|	|	|	|
1+55	0.1019	0.72	QV	|	|	|	|
2+ 0	0.1068	0.72	QV	|	|	|	|
2+ 5	0.1118	0.72	QV	|	|	|	|
2+10	0.1168	0.73	QV	|	|	|	|
2+15	0.1218	0.73	QV	|	|	|	|
2+20	0.1269	0.73	QV	|	|	|	|
2+25	0.1319	0.73	QV	|	|	|	|
2+30	0.1370	0.74	QV	|	|	|	|
2+35	0.1421	0.74	QV	|	|	|	|

```
2+40       0.1472      0.74  QV        |         |         |         |
2+45       0.1523      0.74  QV        |         |         |         |
2+50       0.1575      0.75  QV        |         |         |         |
2+55       0.1626      0.75  QV        |         |         |         |
3+ 0       0.1678      0.75  QV        |         |         |         |
3+ 5       0.1730      0.76  Q V       |         |         |         |
3+10       0.1783      0.76  Q V       |         |         |         |
3+15       0.1835      0.76  Q V       |         |         |         |
3+20       0.1888      0.76  Q V       |         |         |         |
3+25       0.1941      0.77  Q V       |         |         |         |
3+30       0.1994      0.77  Q V       |         |         |         |
3+35       0.2047      0.77  Q V       |         |         |         |
3+40       0.2100      0.78  Q V       |         |         |         |
3+45       0.2154      0.78  Q V       |         |         |         |
3+50       0.2208      0.78  Q V       |         |         |         |
3+55       0.2262      0.79  Q V       |         |         |         |
4+ 0       0.2316      0.79  Q V       |         |         |         |
4+ 5       0.2371      0.79  Q V       |         |         |         |
4+10       0.2426      0.80  Q V       |         |         |         |
4+15       0.2481      0.80  Q V       |         |         |         |
4+20       0.2536      0.80  Q  V      |         |         |         |
4+25       0.2591      0.81  Q  V      |         |         |         |
4+30       0.2647      0.81  Q  V      |         |         |         |
4+35       0.2703      0.81  Q  V      |         |         |         |
4+40       0.2759      0.82  Q  V      |         |         |         |
4+45       0.2815      0.82  Q  V      |         |         |         |
4+50       0.2872      0.82  Q  V      |         |         |         |
4+55       0.2929      0.83  Q  V      |         |         |         |
5+ 0       0.2986      0.83  Q  V      |         |         |         |
5+ 5       0.3044      0.83  Q  V      |         |         |         |
5+10       0.3101      0.84  Q  V      |         |         |         |
5+15       0.3159      0.84  Q  V      |         |         |         |
5+20       0.3217      0.84  Q  V      |         |         |         |
5+25       0.3276      0.85  Q  V      |         |         |         |
5+30       0.3334      0.85  Q  V      |         |         |         |
5+35       0.3393      0.86  Q   V     |         |         |         |
5+40       0.3453      0.86  Q   V     |         |         |         |
5+45       0.3512      0.86  Q   V     |         |         |         |
5+50       0.3572      0.87  Q   V     |         |         |         |
5+55       0.3632      0.87  Q   V     |         |         |         |
6+ 0       0.3692      0.88  Q   V     |         |         |         |
6+ 5       0.3753      0.88  Q   V     |         |         |         |
6+10       0.3814      0.89  Q   V     |         |         |         |
6+15       0.3875      0.89  Q   V     |         |         |         |
6+20       0.3937      0.89  Q   V     |         |         |         |
6+25       0.3999      0.90  Q   V     |         |         |         |
6+30       0.4061      0.90  Q   V     |         |         |         |
6+35       0.4123      0.91  Q   V     |         |         |         |
6+40       0.4186      0.91  Q   V     |         |         |         |
6+45       0.4249      0.92  Q    V    |         |         |         |
6+50       0.4313      0.92  Q    V    |         |         |         |
6+55       0.4377      0.93  Q    V    |         |         |         |
7+ 0       0.4441      0.93  Q    V    |         |         |         |
7+ 5       0.4505      0.94  Q    V    |         |         |         |
7+10       0.4570      0.94  Q    V    |         |         |         |
7+15       0.4636      0.95  Q    V    |         |         |         |
7+20       0.4701      0.95  Q    V    |         |         |         |
7+25       0.4767      0.96  Q    V    |         |         |         |
7+30       0.4833      0.96  Q    V    |         |         |         |
7+35       0.4900      0.97  Q    V    |         |         |         |
7+40       0.4967      0.97  Q    V    |         |         |         |
7+45       0.5035      0.98  Q    V    |         |         |         |
7+50       0.5103      0.99  Q     V   |         |         |         |
7+55       0.5171      0.99  Q     V   |         |         |         |
8+ 0       0.5239      1.00  Q     V   |         |         |         |
8+ 5       0.5309      1.00  |Q    V   |         |         |         |
8+10       0.5378      1.01  |Q    V   |         |         |         |
8+15       0.5448      1.02  |Q    V   |         |         |         |
8+20       0.5518      1.02  |Q    V   |         |         |         |
8+25       0.5589      1.03  |Q    V   |         |         |         |
8+30       0.5661      1.03  |Q    V   |         |         |         |
8+35       0.5732      1.04  |Q    V   |         |         |         |
8+40       0.5804      1.05  |Q    V   |         |         |         |
8+45       0.5877      1.06  |Q    V   |         |         |         |
8+50       0.5950      1.06  |Q     V  |         |         |         |
```

8+55	0.6024	1.07	Q V				
9+ 0	0.6098	1.08	Q V				
9+ 5	0.6173	1.08	Q V				
9+10	0.6248	1.09	Q V				
9+15	0.6324	1.10	Q V				
9+20	0.6400	1.11	Q V				
9+25	0.6477	1.12	Q V				
9+30	0.6554	1.12	Q V				
9+35	0.6632	1.13	Q V				
9+40	0.6711	1.14	Q V				
9+45	0.6790	1.15	Q V				
9+50	0.6869	1.16	Q V				
9+55	0.6950	1.17	Q V				
10+ 0	0.7031	1.18	Q V				
10+ 5	0.7112	1.19	Q V				
10+10	0.7195	1.20	Q V				
10+15	0.7278	1.20	Q V				
10+20	0.7361	1.21	Q V				
10+25	0.7446	1.23	Q V				
10+30	0.7531	1.24	Q V				
10+35	0.7617	1.25	Q V				
10+40	0.7703	1.26	Q V				
10+45	0.7791	1.27	Q V				
10+50	0.7879	1.28	Q V				
10+55	0.7968	1.29	Q V				
11+ 0	0.8058	1.30	Q V				
11+ 5	0.8148	1.32	Q V				
11+10	0.8240	1.33	Q V				
11+15	0.8332	1.34	Q V				
11+20	0.8426	1.36	Q V				
11+25	0.8520	1.37	Q V				
11+30	0.8616	1.38	Q V				
11+35	0.8712	1.40	Q V				
11+40	0.8809	1.41	Q V				
11+45	0.8908	1.43	Q V				
11+50	0.9007	1.45	Q V				
11+55	0.9108	1.46	Q V				
12+ 0	0.9210	1.48	Q V				
12+ 5	0.9313	1.49	Q V				
12+10	0.9414	1.47	Q V				
12+15	0.9514	1.46	Q V				
12+20	0.9615	1.46	Q V				
12+25	0.9717	1.48	Q V				
12+30	0.9820	1.50	Q V				
12+35	0.9925	1.52	Q V				
12+40	1.0031	1.54	Q V				
12+45	1.0139	1.56	Q V				
12+50	1.0248	1.59	Q V				
12+55	1.0359	1.61	Q V				
13+ 0	1.0472	1.64	Q V				
13+ 5	1.0587	1.67	Q V				
13+10	1.0703	1.69	Q V				
13+15	1.0822	1.72	Q V				
13+20	1.0943	1.75	Q V				
13+25	1.1066	1.78	Q V				
13+30	1.1191	1.82	Q V				
13+35	1.1319	1.85	Q V				
13+40	1.1449	1.89	Q V				
13+45	1.1582	1.93	Q V				
13+50	1.1718	1.97	Q V				
13+55	1.1856	2.02	Q V				
14+ 0	1.1998	2.06	Q V				
14+ 5	1.2144	2.11	Q V				
14+10	1.2293	2.17	Q V				
14+15	1.2446	2.22	Q V				
14+20	1.2604	2.29	Q V				
14+25	1.2765	2.35	Q V				
14+30	1.2932	2.42	Q V				
14+35	1.3104	2.50	Q V				
14+40	1.3282	2.58	Q V				
14+45	1.3465	2.67	Q V				
14+50	1.3656	2.77	Q V				
14+55	1.3854	2.87	Q V				
15+ 0	1.4060	3.00	Q V				
15+ 5	1.4276	3.13	Q V				



```
   21+25       3.1977      0.87  Q          |          |          |      V  |
   21+30       3.2036      0.86  Q          |          |          |       V |
   21+35       3.2094      0.85  Q          |          |          |       V |
   21+40       3.2152      0.84  Q          |          |          |       V |
   21+45       3.2210      0.84  Q          |          |          |       V |
   21+50       3.2267      0.83  Q          |          |          |       V |
   21+55       3.2324      0.82  Q          |          |          |       V |
   22+ 0       3.2380      0.81  Q          |          |          |       V |
   22+ 5       3.2435      0.81  Q          |          |          |       V |
   22+10       3.2490      0.80  Q          |          |          |       V |
   22+15       3.2545      0.79  Q          |          |          |       V |
   22+20       3.2599      0.79  Q          |          |          |       V |
   22+25       3.2653      0.78  Q          |          |          |       V |
   22+30       3.2707      0.78  Q          |          |          |       V |
   22+35       3.2760      0.77  Q          |          |          |       V |
   22+40       3.2812      0.76  Q          |          |          |       V |
   22+45       3.2864      0.76  Q          |          |          |        V|
   22+50       3.2916      0.75  Q          |          |          |        V|
   22+55       3.2968      0.75  Q          |          |          |        V|
   23+ 0       3.3019      0.74  Q          |          |          |        V|
   23+ 5       3.3069      0.74  Q          |          |          |        V|
   23+10       3.3120      0.73  Q          |          |          |        V|
   23+15       3.3170      0.73  Q          |          |          |        V|
   23+20       3.3219      0.72  Q          |          |          |        V|
   23+25       3.3268      0.72  Q          |          |          |        V|
   23+30       3.3317      0.71  Q          |          |          |        V|
   23+35       3.3366      0.71  Q          |          |          |        V|
   23+40       3.3414      0.70  Q          |          |          |        V|
   23+45       3.3462      0.70  Q          |          |          |        V|
   23+50       3.3510      0.69  Q          |          |          |        V|
   23+55       3.3557      0.69  Q          |          |          |        V|
   24+ 0       3.3604      0.68  Q          |          |          |        V|
   24+ 5       3.3648      0.63  Q          |          |          |        V|
   24+10       3.3675      0.38  Q          |          |          |        V|
   24+15       3.3683      0.12  Q          |          |          |        V|
   24+20       3.3684      0.03  Q          |          |          |        V|
   24+25       3.3685      0.01  Q          |          |          |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 3B
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 3BPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
20.90	1	0.60
Rainfall data for year 2		
20.90	6	0.70
Rainfall data for year 2		
20.90	24	1.20
Rainfall data for year 100		
20.90	1	1.00
Rainfall data for year 100		
20.90	6	1.90
Rainfall data for year 100		
20.90	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	20.90	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.09	0.100	69.0	69.0	4.49	0.121
18.81	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.170 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      20.90(Ac.)
Catchment Lag time =   0.136 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 61.2745
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      20.90(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
----------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
----------------------------------------------------------------------
               (K =       252.76 (CFS))

  1                6.789                  17.160
  2               43.210                  92.058
  3               82.892                 100.300
  4               95.987                  33.098
  5               98.763                   7.017
  6              100.000                   3.126
----------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2218              0.2218
  2              0.2927              0.0709
  3              0.3443              0.0515
  4              0.3863              0.0420
  5              0.4223              0.0361
  6              0.4543              0.0320
  7              0.4832              0.0289
  8              0.5097              0.0265
  9              0.5343              0.0246
 10              0.5573              0.0230
 11              0.5789              0.0217
 12              0.5994              0.0205
 13              0.6182              0.0187
 14              0.6360              0.0179
 15              0.6531              0.0171
 16              0.6696              0.0164
 17              0.6854              0.0158
 18              0.7006              0.0152
 19              0.7153              0.0147
 20              0.7296              0.0143
 21              0.7434              0.0138
 22              0.7568              0.0134
 23              0.7699              0.0131
 24              0.7826              0.0127
 25              0.7950              0.0124
 26              0.8071              0.0121
 27              0.8189              0.0118
```

28	0.8304	0.0115
29	0.8417	0.0113
30	0.8527	0.0110
31	0.8635	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056
102	1.3765	0.0055

103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5624	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040
177	1.7248	0.0040

178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033
251	1.9899	0.0032
252	1.9931	0.0032

253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027
34	0.0033	0.0006	0.0027

35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039
109	0.0049	0.0009	0.0040

110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139
184	0.0179	0.0033	0.0146

185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031
259	0.0037	0.0007	0.0030

260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 29.16(CFS)

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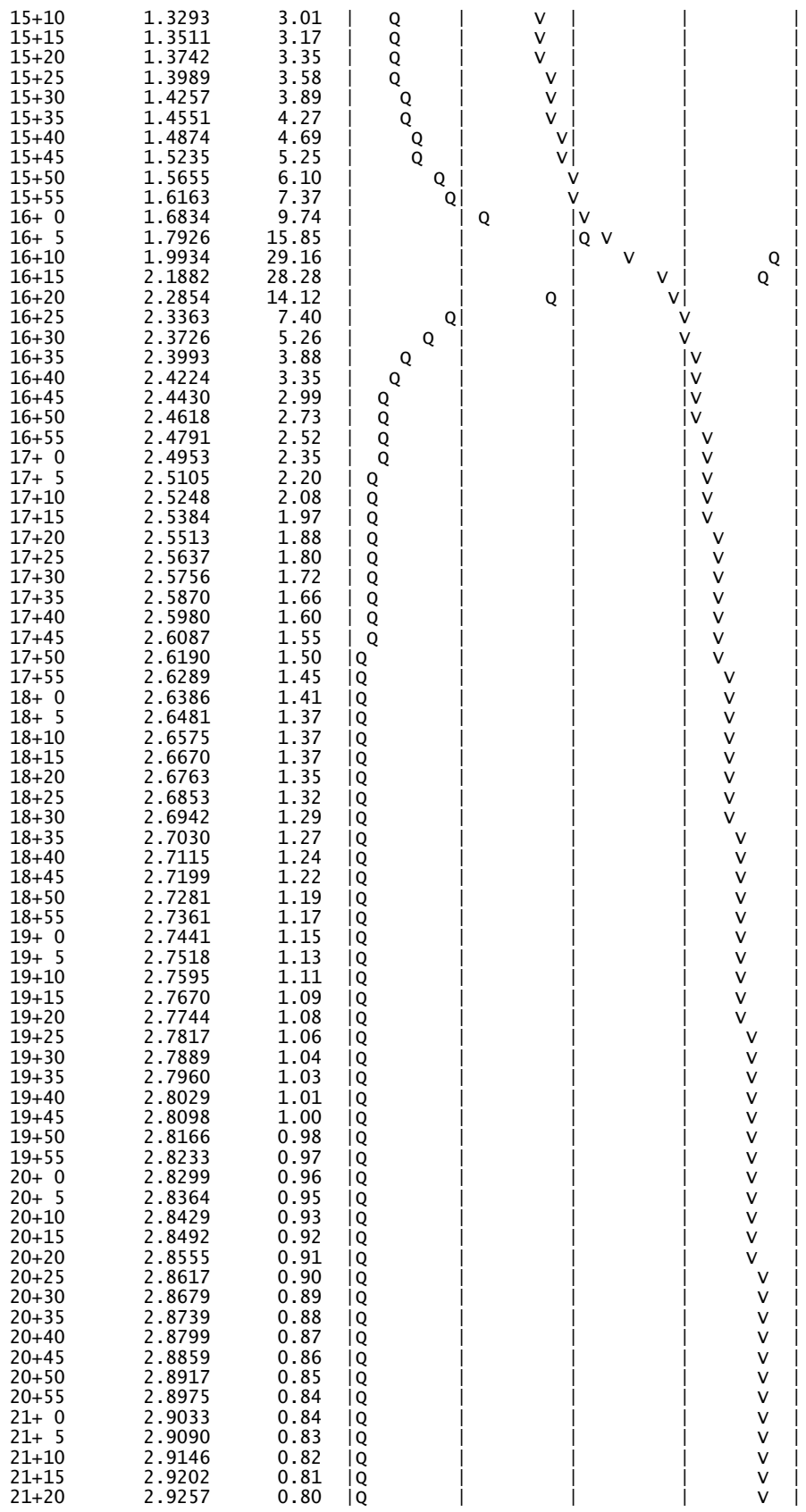
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0003	0.04	Q	|	|	|	|
0+10	0.0021	0.27	Q	|	|	|	|
0+15	0.0057	0.51	Q	|	|	|	|
0+20	0.0097	0.59	Q	|	|	|	|
0+25	0.0140	0.61	Q	|	|	|	|
0+30	0.0183	0.62	Q	|	|	|	|
0+35	0.0226	0.63	Q	|	|	|	|
0+40	0.0269	0.63	Q	|	|	|	|
0+45	0.0312	0.63	Q	|	|	|	|
0+50	0.0356	0.63	Q	|	|	|	|
0+55	0.0399	0.63	Q	|	|	|	|
1+ 0	0.0443	0.64	Q	|	|	|	|
1+ 5	0.0487	0.64	Q	|	|	|	|
1+10	0.0531	0.64	Q	|	|	|	|
1+15	0.0575	0.64	Q	|	|	|	|
1+20	0.0619	0.64	Q	|	|	|	|
1+25	0.0664	0.65	Q	|	|	|	|
1+30	0.0708	0.65	Q	|	|	|	|
1+35	0.0753	0.65	Q	|	|	|	|
1+40	0.0798	0.65	QV	|	|	|	|
1+45	0.0843	0.65	QV	|	|	|	|
1+50	0.0888	0.66	QV	|	|	|	|
1+55	0.0934	0.66	QV	|	|	|	|
2+ 0	0.0979	0.66	QV	|	|	|	|
2+ 5	0.1025	0.66	QV	|	|	|	|
2+10	0.1071	0.67	QV	|	|	|	|
2+15	0.1117	0.67	QV	|	|	|	|
2+20	0.1163	0.67	QV	|	|	|	|
2+25	0.1209	0.67	QV	|	|	|	|
2+30	0.1256	0.68	QV	|	|	|	|
2+35	0.1303	0.68	QV	|	|	|	|

2+40	0.1349	0.68	QV	|	|	|	|
2+45	0.1396	0.68	QV	|	|	|	|
2+50	0.1444	0.69	QV	|	|	|	|
2+55	0.1491	0.69	QV	|	|	|	|
3+ 0	0.1538	0.69	QV	|	|	|	|
3+ 5	0.1586	0.69	Q V	|	|	|	|
3+10	0.1634	0.70	Q V	|	|	|	|
3+15	0.1682	0.70	Q V	|	|	|	|
3+20	0.1730	0.70	Q V	|	|	|	|
3+25	0.1779	0.70	Q V	|	|	|	|
3+30	0.1827	0.71	Q V	|	|	|	|
3+35	0.1876	0.71	Q V	|	|	|	|
3+40	0.1925	0.71	Q V	|	|	|	|
3+45	0.1975	0.71	Q V	|	|	|	|
3+50	0.2024	0.72	Q V	|	|	|	|
3+55	0.2074	0.72	Q V	|	|	|	|
4+ 0	0.2123	0.72	Q V	|	|	|	|
4+ 5	0.2173	0.73	Q V	|	|	|	|
4+10	0.2224	0.73	Q V	|	|	|	|
4+15	0.2274	0.73	Q V	|	|	|	|
4+20	0.2325	0.73	Q V	|	|	|	|
4+25	0.2375	0.74	Q V	|	|	|	|
4+30	0.2426	0.74	Q V	|	|	|	|
4+35	0.2478	0.74	Q V	|	|	|	|
4+40	0.2529	0.75	Q V	|	|	|	|
4+45	0.2581	0.75	|Q V	|	|	|	|
4+50	0.2633	0.75	|Q V	|	|	|	|
4+55	0.2685	0.76	|Q V	|	|	|	|
5+ 0	0.2737	0.76	|Q V	|	|	|	|
5+ 5	0.2790	0.76	|Q V	|	|	|	|
5+10	0.2843	0.77	|Q V	|	|	|	|
5+15	0.2896	0.77	|Q V	|	|	|	|
5+20	0.2949	0.77	|Q V	|	|	|	|
5+25	0.3003	0.78	|Q V	|	|	|	|
5+30	0.3057	0.78	|Q V	|	|	|	|
5+35	0.3111	0.78	|Q V	|	|	|	|
5+40	0.3165	0.79	|Q V	|	|	|	|
5+45	0.3219	0.79	|Q V	|	|	|	|
5+50	0.3274	0.80	|Q V	|	|	|	|
5+55	0.3329	0.80	|Q V	|	|	|	|
6+ 0	0.3385	0.80	|Q V	|	|	|	|
6+ 5	0.3440	0.81	|Q V	|	|	|	|
6+10	0.3496	0.81	|Q V	|	|	|	|
6+15	0.3552	0.82	|Q V	|	|	|	|
6+20	0.3609	0.82	|Q V	|	|	|	|
6+25	0.3666	0.82	|Q V	|	|	|	|
6+30	0.3723	0.83	|Q V	|	|	|	|
6+35	0.3780	0.83	|Q V	|	|	|	|
6+40	0.3837	0.84	|Q V	|	|	|	|
6+45	0.3895	0.84	|Q V	|	|	|	|
6+50	0.3954	0.85	|Q V	|	|	|	|
6+55	0.4012	0.85	|Q V	|	|	|	|
7+ 0	0.4071	0.85	|Q V	|	|	|	|
7+ 5	0.4130	0.86	|Q V	|	|	|	|
7+10	0.4189	0.86	|Q V	|	|	|	|
7+15	0.4249	0.87	|Q V	|	|	|	|
7+20	0.4309	0.87	|Q V	|	|	|	|
7+25	0.4370	0.88	|Q V	|	|	|	|
7+30	0.4431	0.88	|Q V	|	|	|	|
7+35	0.4492	0.89	|Q V	|	|	|	|
7+40	0.4553	0.89	|Q V	|	|	|	|
7+45	0.4615	0.90	|Q V	|	|	|	|
7+50	0.4677	0.90	|Q V	|	|	|	|
7+55	0.4740	0.91	|Q V	|	|	|	|
8+ 0	0.4803	0.91	|Q V	|	|	|	|
8+ 5	0.4866	0.92	|Q V	|	|	|	|
8+10	0.4930	0.93	|Q V	|	|	|	|
8+15	0.4994	0.93	|Q V	|	|	|	|
8+20	0.5059	0.94	|Q V	|	|	|	|
8+25	0.5123	0.94	|Q V	|	|	|	|
8+30	0.5189	0.95	|Q V	|	|	|	|
8+35	0.5255	0.95	|Q V	|	|	|	|
8+40	0.5321	0.96	|Q V	|	|	|	|
8+45	0.5387	0.97	|Q V	|	|	|	|
8+50	0.5454	0.97	|Q V	|	|	|	|

8+55	0.5522	0.98	|Q V |	|	|	|
9+ 0	0.5590	0.99	|Q V |	|	|	|
9+ 5	0.5658	0.99	|Q V |	|	|	|
9+10	0.5727	1.00	|Q V |	|	|	|
9+15	0.5797	1.01	|Q V |	|	|	|
9+20	0.5867	1.01	|Q V |	|	|	|
9+25	0.5937	1.02	|Q V |	|	|	|
9+30	0.6008	1.03	|Q V |	|	|	|
9+35	0.6079	1.04	|Q V |	|	|	|
9+40	0.6151	1.05	|Q V |	|	|	|
9+45	0.6224	1.05	|Q V |	|	|	|
9+50	0.6297	1.06	|Q V |	|	|	|
9+55	0.6371	1.07	|Q V |	|	|	|
10+ 0	0.6445	1.08	|Q V |	|	|	|
10+ 5	0.6520	1.09	|Q V |	|	|	|
10+10	0.6595	1.10	|Q V |	|	|	|
10+15	0.6671	1.10	|Q V |	|	|	|
10+20	0.6748	1.11	|Q V |	|	|	|
10+25	0.6825	1.12	|Q V |	|	|	|
10+30	0.6903	1.13	|Q V |	|	|	|
10+35	0.6982	1.14	|Q V|	|	|	|
10+40	0.7061	1.15	|Q V|	|	|	|
10+45	0.7141	1.16	|Q V|	|	|	|
10+50	0.7222	1.17	|Q V|	|	|	|
10+55	0.7304	1.18	|Q V|	|	|	|
11+ 0	0.7386	1.20	|Q V|	|	|	|
11+ 5	0.7469	1.21	|Q V|	|	|	|
11+10	0.7553	1.22	|Q V|	|	|	|
11+15	0.7638	1.23	|Q V|	|	|	|
11+20	0.7724	1.24	|Q V |	|	|	|
11+25	0.7810	1.26	|Q V |	|	|	|
11+30	0.7898	1.27	|Q V |	|	|	|
11+35	0.7986	1.28	|Q V |	|	|	|
11+40	0.8075	1.30	|Q V |	|	|	|
11+45	0.8165	1.31	|Q V |	|	|	|
11+50	0.8257	1.33	|Q V |	|	|	|
11+55	0.8349	1.34	|Q V |	|	|	|
12+ 0	0.8442	1.36	|Q V |	|	|	|
12+ 5	0.8537	1.37	|Q |V |	|	|	|
12+10	0.8630	1.35	|Q |V |	|	|	|
12+15	0.8722	1.33	|Q |V |	|	|	|
12+20	0.8814	1.34	|Q |V |	|	|	|
12+25	0.8907	1.36	|Q |V |	|	|	|
12+30	0.9002	1.37	|Q |V |	|	|	|
12+35	0.9098	1.39	|Q |V |	|	|	|
12+40	0.9195	1.41	|Q |V |	|	|	|
12+45	0.9294	1.43	|Q | V |	|	|	|
12+50	0.9394	1.46	|Q | V |	|	|	|
12+55	0.9496	1.48	|Q | V |	|	|	|
13+ 0	0.9599	1.50	| Q | V |	|	|	|
13+ 5	0.9705	1.53	| Q | V |	|	|	|
13+10	0.9811	1.55	| Q | V |	|	|	|
13+15	0.9920	1.58	| Q | V |	|	|	|
13+20	1.0031	1.61	| Q | V |	|	|	|
13+25	1.0143	1.64	| Q | V |	|	|	|
13+30	1.0258	1.67	| Q | V |	|	|	|
13+35	1.0375	1.70	| Q | V |	|	|	|
13+40	1.0495	1.73	| Q | V |	|	|	|
13+45	1.0617	1.77	| Q | V |	|	|	|
13+50	1.0741	1.81	| Q | V |	|	|	|
13+55	1.0868	1.85	| Q | V |	|	|	|
14+ 0	1.0998	1.89	| Q | V |	|	|	|
14+ 5	1.1132	1.94	| Q | V |	|	|	|
14+10	1.1269	1.99	| Q | V |	|	|	|
14+15	1.1409	2.04	| Q | V |	|	|	|
14+20	1.1553	2.09	| Q | V |	|	|	|
14+25	1.1701	2.15	| Q | V |	|	|	|
14+30	1.1854	2.22	| Q | V |	|	|	|
14+35	1.2012	2.29	| Q | V |	|	|	|
14+40	1.2175	2.36	| Q | V |	|	|	|
14+45	1.2343	2.44	| Q | V |	|	|	|
14+50	1.2518	2.54	| Q | V |	|	|	|
14+55	1.2699	2.63	| Q | V |	|	|	|
15+ 0	1.2888	2.75	| Q | V |	|	|	|
15+ 5	1.3086	2.87	| Q | V |	|	|	|



```
   21+25       2.9312      0.79  |Q        |         |         |      V  |
   21+30       2.9366      0.79  |Q        |         |         |       V |
   21+35       2.9420      0.78  |Q        |         |         |       V |
   21+40       2.9473      0.77  |Q        |         |         |       V |
   21+45       2.9526      0.77  |Q        |         |         |       V |
   21+50       2.9578      0.76  |Q        |         |         |       V |
   21+55       2.9630      0.75  |Q        |         |         |       V |
   22+ 0       2.9682      0.75  Q         |         |         |       V |
   22+ 5       2.9733      0.74  Q         |         |         |       V |
   22+10       2.9783      0.73  Q         |         |         |       V |
   22+15       2.9833      0.73  Q         |         |         |       V |
   22+20       2.9883      0.72  Q         |         |         |       V |
   22+25       2.9932      0.72  Q         |         |         |       V |
   22+30       2.9981      0.71  Q         |         |         |       V |
   22+35       3.0030      0.71  Q         |         |         |       V |
   22+40       3.0078      0.70  Q         |         |         |       V |
   22+45       3.0126      0.69  Q         |         |         |        V|
   22+50       3.0173      0.69  Q         |         |         |        V|
   22+55       3.0221      0.68  Q         |         |         |        V|
   23+ 0       3.0267      0.68  Q         |         |         |        V|
   23+ 5       3.0314      0.67  Q         |         |         |        V|
   23+10       3.0360      0.67  Q         |         |         |        V|
   23+15       3.0406      0.66  Q         |         |         |        V|
   23+20       3.0451      0.66  Q         |         |         |        V|
   23+25       3.0496      0.66  Q         |         |         |        V|
   23+30       3.0541      0.65  Q         |         |         |        V|
   23+35       3.0586      0.65  Q         |         |         |        V|
   23+40       3.0630      0.64  Q         |         |         |        V|
   23+45       3.0674      0.64  Q         |         |         |        V|
   23+50       3.0718      0.63  Q         |         |         |        V|
   23+55       3.0761      0.63  Q         |         |         |        V|
   24+ 0       3.0804      0.63  Q         |         |         |        V|
   24+ 5       3.0844      0.58  Q         |         |         |        V|
   24+10       3.0869      0.35  Q         |         |         |        V|
   24+15       3.0876      0.11  Q         |         |         |        V|
   24+20       3.0878      0.02  Q         |         |         |        V|
   24+25       3.0878      0.01  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 3C
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 3CPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
20.90	1	0.60
Rainfall data for year 2		
20.90	6	0.70
Rainfall data for year 2		
20.90	24	1.20
Rainfall data for year 100		
20.90	1	1.00
Rainfall data for year 100		
20.90	6	1.90
Rainfall data for year 100		
20.90	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	20.90	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.09	0.100	69.0	69.0	4.49	0.121
18.81	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.190 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      20.90(Ac.)
Catchment Lag time =   0.152 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 54.8246
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      20.90(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       252.76 (CFS))

  1                5.469                  13.824
  2               35.337                  75.493
  3               75.925                 102.592
  4               93.130                  43.487
  5               98.077                  12.504
  6               99.228                   2.907
  7              100.000                   1.952
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2218              0.2218
  2              0.2927              0.0709
  3              0.3443              0.0515
  4              0.3863              0.0420
  5              0.4223              0.0361
  6              0.4543              0.0320
  7              0.4832              0.0289
  8              0.5097              0.0265
  9              0.5343              0.0246
 10              0.5573              0.0230
 11              0.5789              0.0217
 12              0.5994              0.0205
 13              0.6182              0.0187
 14              0.6360              0.0179
 15              0.6531              0.0171
 16              0.6696              0.0164
 17              0.6854              0.0158
 18              0.7006              0.0152
 19              0.7153              0.0147
 20              0.7296              0.0143
 21              0.7434              0.0138
 22              0.7568              0.0134
 23              0.7699              0.0131
 24              0.7826              0.0127
 25              0.7950              0.0124
 26              0.8071              0.0121
```

27	0.8189	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8527	0.0110
31	0.8635	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5624	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 29.07(CFS)

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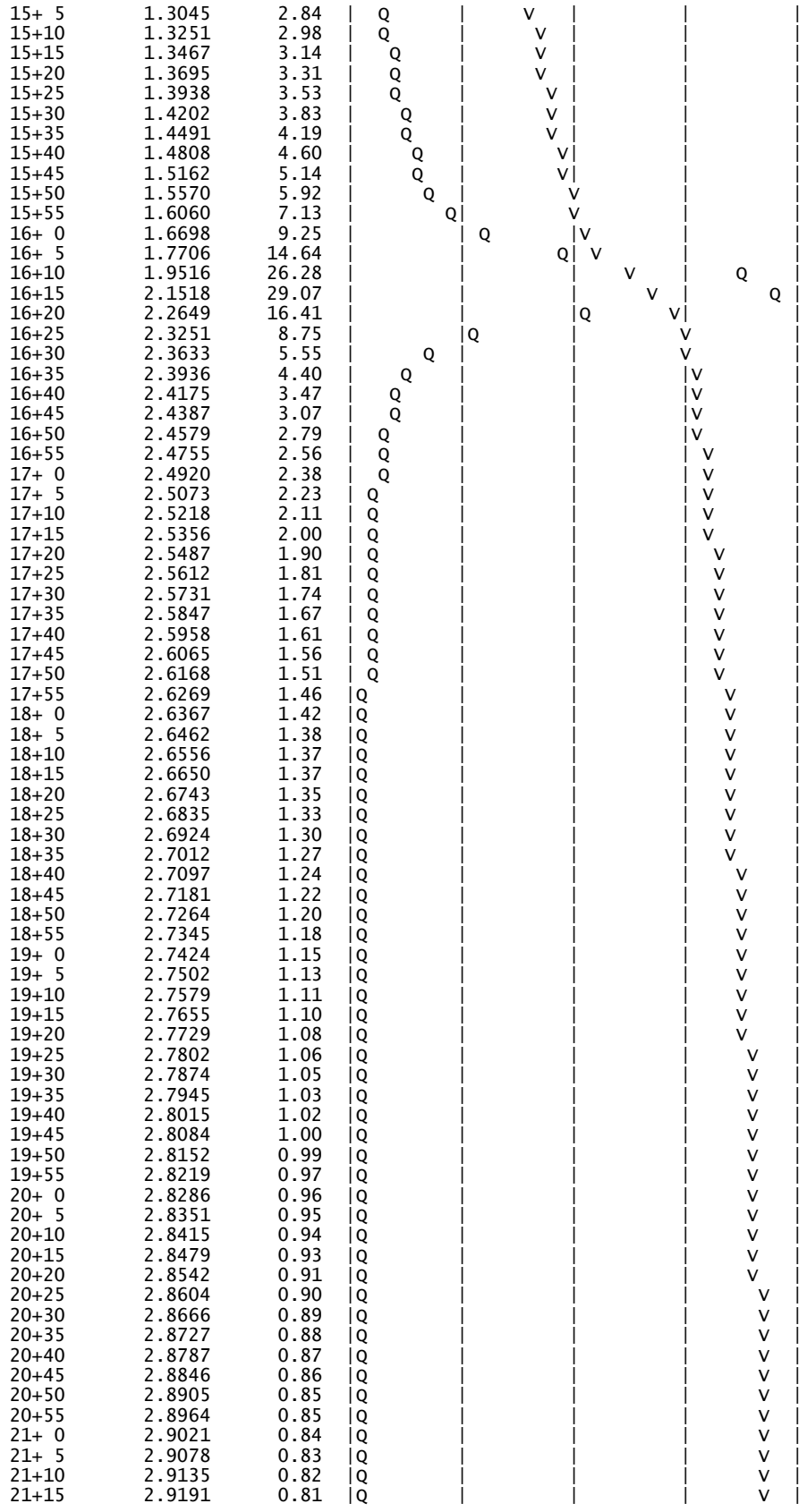
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0017	0.22	Q	|	|	|	|
0+15	0.0050	0.47	Q	|	|	|	|
0+20	0.0089	0.58	Q	|	|	|	|
0+25	0.0131	0.61	Q	|	|	|	|
0+30	0.0174	0.62	Q	|	|	|	|
0+35	0.0217	0.62	Q	|	|	|	|
0+40	0.0260	0.63	Q	|	|	|	|
0+45	0.0303	0.63	Q	|	|	|	|
0+50	0.0347	0.63	Q	|	|	|	|
0+55	0.0390	0.63	Q	|	|	|	|
1+ 0	0.0434	0.63	Q	|	|	|	|
1+ 5	0.0478	0.64	Q	|	|	|	|
1+10	0.0522	0.64	Q	|	|	|	|
1+15	0.0566	0.64	Q	|	|	|	|
1+20	0.0610	0.64	Q	|	|	|	|
1+25	0.0655	0.65	Q	|	|	|	|
1+30	0.0699	0.65	Q	|	|	|	|
1+35	0.0744	0.65	Q	|	|	|	|
1+40	0.0789	0.65	QV	|	|	|	|
1+45	0.0834	0.65	QV	|	|	|	|
1+50	0.0879	0.66	QV	|	|	|	|
1+55	0.0924	0.66	QV	|	|	|	|
2+ 0	0.0970	0.66	QV	|	|	|	|
2+ 5	0.1016	0.66	QV	|	|	|	|
2+10	0.1061	0.67	QV	|	|	|	|
2+15	0.1107	0.67	QV	|	|	|	|
2+20	0.1154	0.67	QV	|	|	|	|
2+25	0.1200	0.67	QV	|	|	|	|
2+30	0.1246	0.67	QV	|	|	|	|

2+35	0.1293	0.68	QV	|	|	|	|
2+40	0.1340	0.68	QV	|	|	|	|
2+45	0.1387	0.68	QV	|	|	|	|
2+50	0.1434	0.68	QV	|	|	|	|
2+55	0.1481	0.69	QV	|	|	|	|
3+ 0	0.1529	0.69	QV	|	|	|	|
3+ 5	0.1576	0.69	Q V	|	|	|	|
3+10	0.1624	0.69	Q V	|	|	|	|
3+15	0.1672	0.70	Q V	|	|	|	|
3+20	0.1721	0.70	Q V	|	|	|	|
3+25	0.1769	0.70	Q V	|	|	|	|
3+30	0.1818	0.71	Q V	|	|	|	|
3+35	0.1866	0.71	Q V	|	|	|	|
3+40	0.1915	0.71	Q V	|	|	|	|
3+45	0.1964	0.71	Q V	|	|	|	|
3+50	0.2014	0.72	Q V	|	|	|	|
3+55	0.2063	0.72	Q V	|	|	|	|
4+ 0	0.2113	0.72	Q V	|	|	|	|
4+ 5	0.2163	0.73	Q V	|	|	|	|
4+10	0.2213	0.73	Q V	|	|	|	|
4+15	0.2264	0.73	Q V	|	|	|	|
4+20	0.2314	0.73	Q V	|	|	|	|
4+25	0.2365	0.74	Q V	|	|	|	|
4+30	0.2416	0.74	Q V	|	|	|	|
4+35	0.2467	0.74	Q V	|	|	|	|
4+40	0.2519	0.75	Q V	|	|	|	|
4+45	0.2570	0.75	|Q V	|	|	|	|
4+50	0.2622	0.75	|Q V	|	|	|	|
4+55	0.2674	0.76	|Q V	|	|	|	|
5+ 0	0.2727	0.76	|Q V	|	|	|	|
5+ 5	0.2779	0.76	|Q V	|	|	|	|
5+10	0.2832	0.77	|Q V	|	|	|	|
5+15	0.2885	0.77	|Q V	|	|	|	|
5+20	0.2938	0.77	|Q V	|	|	|	|
5+25	0.2992	0.78	|Q V	|	|	|	|
5+30	0.3046	0.78	|Q V	|	|	|	|
5+35	0.3100	0.78	|Q V	|	|	|	|
5+40	0.3154	0.79	|Q V	|	|	|	|
5+45	0.3208	0.79	|Q V	|	|	|	|
5+50	0.3263	0.80	|Q V	|	|	|	|
5+55	0.3318	0.80	|Q V	|	|	|	|
6+ 0	0.3373	0.80	|Q V	|	|	|	|
6+ 5	0.3429	0.81	|Q V	|	|	|	|
6+10	0.3485	0.81	|Q V	|	|	|	|
6+15	0.3541	0.81	|Q V	|	|	|	|
6+20	0.3597	0.82	|Q V	|	|	|	|
6+25	0.3654	0.82	|Q V	|	|	|	|
6+30	0.3711	0.83	|Q V	|	|	|	|
6+35	0.3768	0.83	|Q V	|	|	|	|
6+40	0.3826	0.84	|Q V	|	|	|	|
6+45	0.3884	0.84	|Q V	|	|	|	|
6+50	0.3942	0.84	|Q V	|	|	|	|
6+55	0.4000	0.85	|Q V	|	|	|	|
7+ 0	0.4059	0.85	|Q V	|	|	|	|
7+ 5	0.4118	0.86	|Q V	|	|	|	|
7+10	0.4177	0.86	|Q V	|	|	|	|
7+15	0.4237	0.87	|Q V	|	|	|	|
7+20	0.4297	0.87	|Q V	|	|	|	|
7+25	0.4357	0.88	|Q V	|	|	|	|
7+30	0.4418	0.88	|Q V	|	|	|	|
7+35	0.4479	0.89	|Q V	|	|	|	|
7+40	0.4541	0.89	|Q V	|	|	|	|
7+45	0.4602	0.90	|Q V	|	|	|	|
7+50	0.4665	0.90	|Q V	|	|	|	|
7+55	0.4727	0.91	|Q V	|	|	|	|
8+ 0	0.4790	0.91	|Q V	|	|	|	|
8+ 5	0.4853	0.92	|Q V	|	|	|	|
8+10	0.4917	0.92	|Q V	|	|	|	|
8+15	0.4981	0.93	|Q V	|	|	|	|
8+20	0.5045	0.94	|Q V	|	|	|	|
8+25	0.5110	0.94	|Q V	|	|	|	|
8+30	0.5175	0.95	|Q V	|	|	|	|
8+35	0.5241	0.95	|Q V	|	|	|	|
8+40	0.5307	0.96	|Q V	|	|	|	|
8+45	0.5374	0.97	|Q V	|	|	|	|

```
 8+50       0.5441      0.97  |Q     V  |          |          |          |
 8+55       0.5508      0.98  |Q     V  |          |          |          |
 9+ 0       0.5576      0.99  |Q     V  |          |          |          |
 9+ 5       0.5644      0.99  |Q     V  |          |          |          |
 9+10       0.5713      1.00  |Q     V  |          |          |          |
 9+15       0.5782      1.01  |Q     V  |          |          |          |
 9+20       0.5852      1.01  |Q     V  |          |          |          |
 9+25       0.5923      1.02  |Q     V  |          |          |          |
 9+30       0.5993      1.03  |Q     V  |          |          |          |
 9+35       0.6065      1.04  |Q     V  |          |          |          |
 9+40       0.6137      1.04  |Q     V  |          |          |          |
 9+45       0.6209      1.05  |Q      V |          |          |          |
 9+50       0.6282      1.06  |Q      V |          |          |          |
 9+55       0.6356      1.07  |Q      V |          |          |          |
10+ 0       0.6430      1.08  |Q      V |          |          |          |
10+ 5       0.6504      1.08  |Q      V |          |          |          |
10+10       0.6580      1.09  |Q      V |          |          |          |
10+15       0.6656      1.10  |Q      V |          |          |          |
10+20       0.6732      1.11  |Q      V |          |          |          |
10+25       0.6809      1.12  |Q      V |          |          |          |
10+30       0.6887      1.13  |Q      V |          |          |          |
10+35       0.6966      1.14  |Q       V|          |          |          |
10+40       0.7045      1.15  |Q       V|          |          |          |
10+45       0.7125      1.16  |Q       V|          |          |          |
10+50       0.7206      1.17  |Q       V|          |          |          |
10+55       0.7287      1.18  |Q       V|          |          |          |
11+ 0       0.7369      1.19  |Q       V|          |          |          |
11+ 5       0.7452      1.20  |Q       V|          |          |          |
11+10       0.7536      1.22  |Q       V|          |          |          |
11+15       0.7621      1.23  |Q       V|          |          |          |
11+20       0.7706      1.24  |Q       V|          |          |          |
11+25       0.7792      1.25  |Q        V          |          |          |
11+30       0.7880      1.27  |Q        V          |          |          |
11+35       0.7968      1.28  |Q        V          |          |          |
11+40       0.8057      1.29  |Q        V          |          |          |
11+45       0.8147      1.31  |Q        V          |          |          |
11+50       0.8238      1.32  |Q        V          |          |          |
11+55       0.8330      1.34  |Q        V          |          |          |
12+ 0       0.8423      1.35  |Q        V          |          |          |
12+ 5       0.8517      1.36  |Q         |V         |          |          |
12+10       0.8611      1.35  |Q         |V         |          |          |
12+15       0.8703      1.34  |Q         |V         |          |          |
12+20       0.8795      1.34  |Q         |V         |          |          |
12+25       0.8888      1.35  |Q         |V         |          |          |
12+30       0.8983      1.37  |Q         |V         |          |          |
12+35       0.9078      1.39  |Q         |V         |          |          |
12+40       0.9175      1.41  |Q         |V         |          |          |
12+45       0.9274      1.43  |Q         | V        |          |          |
12+50       0.9374      1.45  |Q         | V        |          |          |
12+55       0.9475      1.47  |Q         | V        |          |          |
13+ 0       0.9578      1.50  |Q         | V        |          |          |
13+ 5       0.9683      1.52  | Q        | V        |          |          |
13+10       0.9790      1.55  | Q        | V        |          |          |
13+15       0.9898      1.57  | Q        | V        |          |          |
13+20       1.0008      1.60  | Q        | V        |          |          |
13+25       1.0120      1.63  | Q        |  V       |          |          |
13+30       1.0235      1.66  | Q        |  V       |          |          |
13+35       1.0351      1.69  | Q        |  V       |          |          |
13+40       1.0470      1.73  | Q        |  V       |          |          |
13+45       1.0592      1.76  | Q        |  V       |          |          |
13+50       1.0716      1.80  | Q        |  V       |          |          |
13+55       1.0842      1.84  | Q        |   V      |          |          |
14+ 0       1.0972      1.88  | Q        |   V      |          |          |
14+ 5       1.1105      1.93  | Q        |   V      |          |          |
14+10       1.1241      1.98  | Q        |   V      |          |          |
14+15       1.1380      2.03  | Q        |   V      |          |          |
14+20       1.1524      2.08  | Q        |   V      |          |          |
14+25       1.1671      2.14  | Q        |    V     |          |          |
14+30       1.1823      2.20  | Q        |    V     |          |          |
14+35       1.1980      2.27  |  Q       |    V     |          |          |
14+40       1.2141      2.35  |  Q       |    V     |          |          |
14+45       1.2309      2.43  |  Q       |    V     |          |          |
14+50       1.2482      2.52  |  Q       |     V    |          |          |
14+55       1.2662      2.62  |  Q       |     V    |          |          |
15+ 0       1.2849      2.72  |  Q       |     V    |          |          |
```



```
   21+20       2.9246      0.80  |Q        |         |         |      V  |
   21+25       2.9301      0.80  |Q        |         |         |      V  |
   21+30       2.9355      0.79  |Q        |         |         |       V |
   21+35       2.9409      0.78  |Q        |         |         |       V |
   21+40       2.9462      0.77  |Q        |         |         |       V |
   21+45       2.9515      0.77  |Q        |         |         |       V |
   21+50       2.9568      0.76  |Q        |         |         |       V |
   21+55       2.9620      0.75  |Q        |         |         |       V |
   22+ 0       2.9671      0.75  Q         |         |         |       V |
   22+ 5       2.9722      0.74  Q         |         |         |       V |
   22+10       2.9773      0.74  Q         |         |         |       V |
   22+15       2.9823      0.73  Q         |         |         |       V |
   22+20       2.9873      0.72  Q         |         |         |       V |
   22+25       2.9922      0.72  Q         |         |         |       V |
   22+30       2.9971      0.71  Q         |         |         |       V |
   22+35       3.0020      0.71  Q         |         |         |       V |
   22+40       3.0068      0.70  Q         |         |         |       V |
   22+45       3.0116      0.70  Q         |         |         |        V|
   22+50       3.0164      0.69  Q         |         |         |        V|
   22+55       3.0211      0.69  Q         |         |         |        V|
   23+ 0       3.0258      0.68  Q         |         |         |        V|
   23+ 5       3.0304      0.68  Q         |         |         |        V|
   23+10       3.0350      0.67  Q         |         |         |        V|
   23+15       3.0396      0.67  Q         |         |         |        V|
   23+20       3.0442      0.66  Q         |         |         |        V|
   23+25       3.0487      0.66  Q         |         |         |        V|
   23+30       3.0532      0.65  Q         |         |         |        V|
   23+35       3.0577      0.65  Q         |         |         |        V|
   23+40       3.0621      0.64  Q         |         |         |        V|
   23+45       3.0665      0.64  Q         |         |         |        V|
   23+50       3.0709      0.64  Q         |         |         |        V|
   23+55       3.0752      0.63  Q         |         |         |        V|
   24+ 0       3.0795      0.63  Q         |         |         |        V|
   24+ 5       3.0836      0.59  Q         |         |         |        V|
   24+10       3.0864      0.40  Q         |         |         |        V|
   24+15       3.0874      0.15  Q         |         |         |        V|
   24+20       3.0877      0.04  Q         |         |         |        V|
   24+25       3.0878      0.01  Q         |         |         |        V|
   24+30       3.0878      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 3D
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 3DPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
19.50	1	0.60
Rainfall data for year 2		
19.50	6	0.70
Rainfall data for year 2		
19.50	24	1.20
Rainfall data for year 100		
19.50	1	1.00
Rainfall data for year 100		
19.50	6	1.90
Rainfall data for year 100		
19.50	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	19.50	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.95	0.100	69.0	69.0	4.49	0.121
17.55	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.180 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      19.50(Ac.)
Catchment Lag time =   0.144 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 57.8704
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      19.50(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       235.83 (CFS))

  1                6.077                  14.331
  2               39.009                  77.664
  3               79.564                  95.639
  4               94.634                  35.541
  5               98.466                   9.036
  6               99.524                   2.494
  7              100.000                   1.123
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2219              0.2219
  2              0.2927              0.0709
  3              0.3443              0.0515
  4              0.3863              0.0420
  5              0.4223              0.0361
  6              0.4543              0.0320
  7              0.4832              0.0289
  8              0.5097              0.0265
  9              0.5343              0.0246
 10              0.5573              0.0230
 11              0.5789              0.0217
 12              0.5995              0.0205
 13              0.6182              0.0187
 14              0.6361              0.0179
 15              0.6532              0.0171
 16              0.6696              0.0164
 17              0.6854              0.0158
 18              0.7006              0.0152
 19              0.7153              0.0147
 20              0.7296              0.0143
 21              0.7434              0.0138
 22              0.7568              0.0134
 23              0.7699              0.0131
 24              0.7826              0.0127
 25              0.7950              0.0124
 26              0.8071              0.0121
```

27	0.8189	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8527	0.0110
31	0.8636	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9525	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1058	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6925	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2219	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 26.93(CFS)

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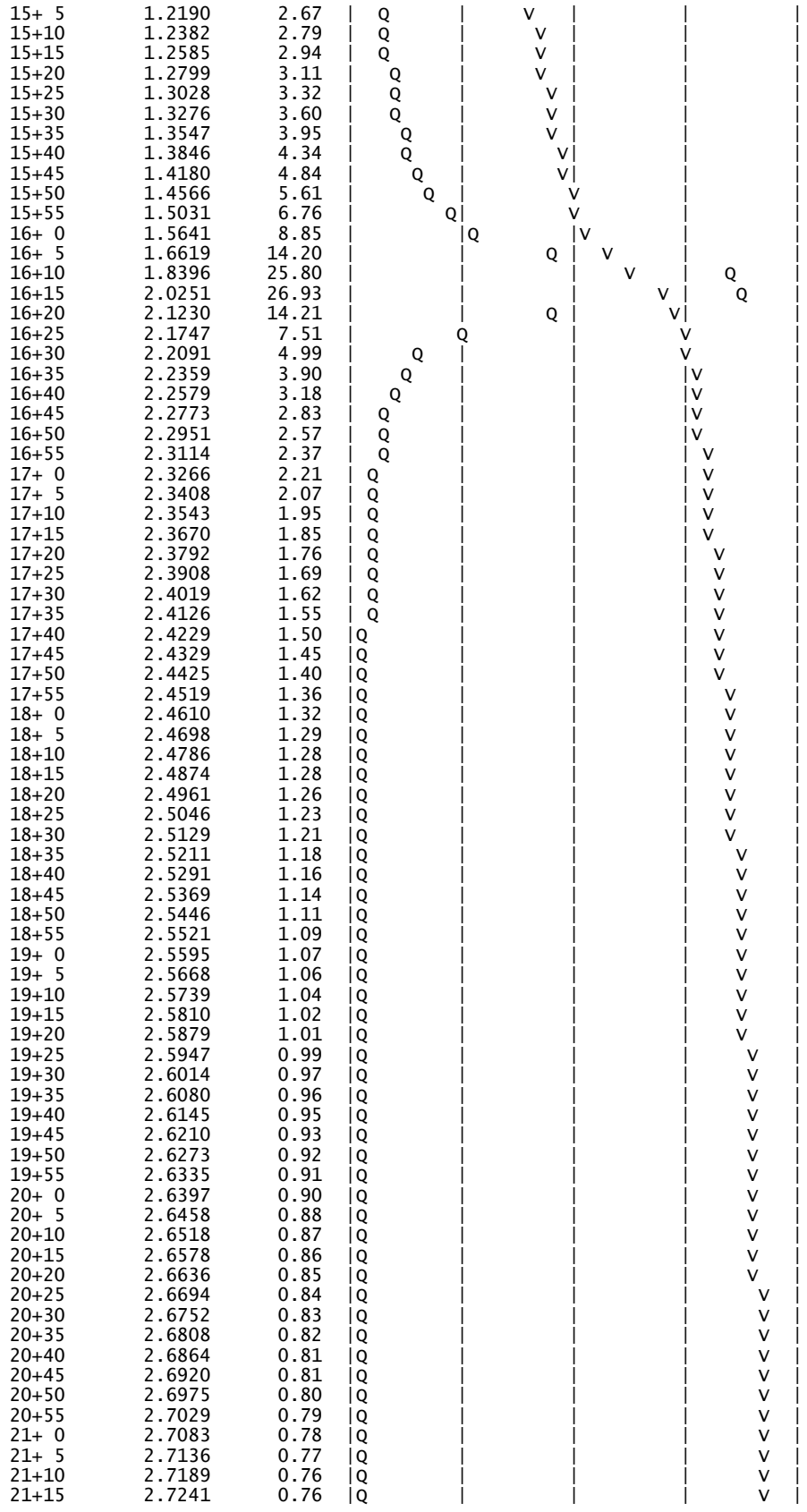
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0018	0.22	Q	|	|	|	|
0+15	0.0049	0.46	Q	|	|	|	|
0+20	0.0087	0.55	Q	|	|	|	|
0+25	0.0126	0.57	Q	|	|	|	|
0+30	0.0166	0.58	Q	|	|	|	|
0+35	0.0206	0.58	Q	|	|	|	|
0+40	0.0247	0.58	Q	|	|	|	|
0+45	0.0287	0.59	Q	|	|	|	|
0+50	0.0328	0.59	Q	|	|	|	|
0+55	0.0368	0.59	Q	|	|	|	|
1+ 0	0.0409	0.59	Q	|	|	|	|
1+ 5	0.0450	0.59	Q	|	|	|	|
1+10	0.0491	0.60	Q	|	|	|	|
1+15	0.0532	0.60	Q	|	|	|	|
1+20	0.0574	0.60	Q	|	|	|	|
1+25	0.0615	0.60	Q	|	|	|	|
1+30	0.0657	0.60	Q	|	|	|	|
1+35	0.0698	0.61	Q	|	|	|	|
1+40	0.0740	0.61	QV	|	|	|	|
1+45	0.0782	0.61	QV	|	|	|	|
1+50	0.0825	0.61	QV	|	|	|	|
1+55	0.0867	0.61	QV	|	|	|	|
2+ 0	0.0909	0.62	QV	|	|	|	|
2+ 5	0.0952	0.62	QV	|	|	|	|
2+10	0.0995	0.62	QV	|	|	|	|
2+15	0.1038	0.62	QV	|	|	|	|
2+20	0.1081	0.63	QV	|	|	|	|
2+25	0.1124	0.63	QV	|	|	|	|
2+30	0.1167	0.63	QV	|	|	|	|

2+35	0.1211	0.63	QV	|	|	|	|
2+40	0.1254	0.63	QV	|	|	|	|
2+45	0.1298	0.64	QV	|	|	|	|
2+50	0.1342	0.64	QV	|	|	|	|
2+55	0.1386	0.64	QV	|	|	|	|
3+ 0	0.1431	0.64	QV	|	|	|	|
3+ 5	0.1475	0.65	Q V	|	|	|	|
3+10	0.1520	0.65	Q V	|	|	|	|
3+15	0.1565	0.65	Q V	|	|	|	|
3+20	0.1610	0.65	Q V	|	|	|	|
3+25	0.1655	0.66	Q V	|	|	|	|
3+30	0.1700	0.66	Q V	|	|	|	|
3+35	0.1746	0.66	Q V	|	|	|	|
3+40	0.1792	0.66	Q V	|	|	|	|
3+45	0.1837	0.67	Q V	|	|	|	|
3+50	0.1884	0.67	Q V	|	|	|	|
3+55	0.1930	0.67	Q V	|	|	|	|
4+ 0	0.1976	0.67	Q V	|	|	|	|
4+ 5	0.2023	0.68	Q V	|	|	|	|
4+10	0.2070	0.68	Q V	|	|	|	|
4+15	0.2117	0.68	Q V	|	|	|	|
4+20	0.2164	0.69	Q V	|	|	|	|
4+25	0.2211	0.69	Q V	|	|	|	|
4+30	0.2259	0.69	Q V	|	|	|	|
4+35	0.2307	0.69	Q V	|	|	|	|
4+40	0.2355	0.70	Q V	|	|	|	|
4+45	0.2403	0.70	Q V	|	|	|	|
4+50	0.2451	0.70	Q V	|	|	|	|
4+55	0.2500	0.71	Q V	|	|	|	|
5+ 0	0.2549	0.71	Q V	|	|	|	|
5+ 5	0.2598	0.71	Q V	|	|	|	|
5+10	0.2647	0.72	Q V	|	|	|	|
5+15	0.2697	0.72	Q V	|	|	|	|
5+20	0.2746	0.72	Q V	|	|	|	|
5+25	0.2796	0.73	Q V	|	|	|	|
5+30	0.2847	0.73	Q V	|	|	|	|
5+35	0.2897	0.73	Q V	|	|	|	|
5+40	0.2948	0.74	Q V	|	|	|	|
5+45	0.2999	0.74	Q V	|	|	|	|
5+50	0.3050	0.74	Q V	|	|	|	|
5+55	0.3101	0.75	Q V	|	|	|	|
6+ 0	0.3153	0.75	Q V	|	|	|	|
6+ 5	0.3204	0.75	|Q V	|	|	|	|
6+10	0.3257	0.76	|Q V	|	|	|	|
6+15	0.3309	0.76	|Q V	|	|	|	|
6+20	0.3362	0.76	|Q V	|	|	|	|
6+25	0.3415	0.77	|Q V	|	|	|	|
6+30	0.3468	0.77	|Q V	|	|	|	|
6+35	0.3521	0.78	|Q V	|	|	|	|
6+40	0.3575	0.78	|Q V	|	|	|	|
6+45	0.3629	0.78	|Q V	|	|	|	|
6+50	0.3683	0.79	|Q V	|	|	|	|
6+55	0.3738	0.79	|Q V	|	|	|	|
7+ 0	0.3792	0.80	|Q V	|	|	|	|
7+ 5	0.3848	0.80	|Q V	|	|	|	|
7+10	0.3903	0.81	|Q V	|	|	|	|
7+15	0.3959	0.81	|Q V	|	|	|	|
7+20	0.4015	0.81	|Q V	|	|	|	|
7+25	0.4071	0.82	|Q V	|	|	|	|
7+30	0.4128	0.82	|Q V	|	|	|	|
7+35	0.4185	0.83	|Q V	|	|	|	|
7+40	0.4242	0.83	|Q V	|	|	|	|
7+45	0.4300	0.84	|Q V	|	|	|	|
7+50	0.4358	0.84	|Q V	|	|	|	|
7+55	0.4416	0.85	|Q V	|	|	|	|
8+ 0	0.4475	0.85	|Q V	|	|	|	|
8+ 5	0.4534	0.86	|Q V	|	|	|	|
8+10	0.4594	0.86	|Q V	|	|	|	|
8+15	0.4653	0.87	|Q V	|	|	|	|
8+20	0.4713	0.87	|Q V	|	|	|	|
8+25	0.4774	0.88	|Q V	|	|	|	|
8+30	0.4835	0.88	|Q V	|	|	|	|
8+35	0.4896	0.89	|Q V	|	|	|	|
8+40	0.4958	0.90	|Q V	|	|	|	|
8+45	0.5020	0.90	|Q V	|	|	|	|

```
 8+50       0.5083      0.91  |Q     V  |          |          |          |
 8+55       0.5145      0.91  |Q     V  |          |          |          |
 9+ 0       0.5209      0.92  |Q     V  |          |          |          |
 9+ 5       0.5273      0.93  |Q     V  |          |          |          |
 9+10       0.5337      0.93  |Q     V  |          |          |          |
 9+15       0.5402      0.94  |Q     V  |          |          |          |
 9+20       0.5467      0.95  |Q     V  |          |          |          |
 9+25       0.5532      0.95  |Q     V  |          |          |          |
 9+30       0.5599      0.96  |Q     V  |          |          |          |
 9+35       0.5665      0.97  |Q     V  |          |          |          |
 9+40       0.5732      0.97  |Q     V  |          |          |          |
 9+45       0.5800      0.98  |Q      V |          |          |          |
 9+50       0.5868      0.99  |Q      V |          |          |          |
 9+55       0.5937      1.00  |Q      V |          |          |          |
10+ 0       0.6006      1.00  |Q      V |          |          |          |
10+ 5       0.6076      1.01  |Q      V |          |          |          |
10+10       0.6146      1.02  |Q      V |          |          |          |
10+15       0.6217      1.03  |Q      V |          |          |          |
10+20       0.6288      1.04  |Q      V |          |          |          |
10+25       0.6361      1.05  |Q      V |          |          |          |
10+30       0.6433      1.06  |Q      V |          |          |          |
10+35       0.6507      1.07  |Q       V|          |          |          |
10+40       0.6581      1.07  |Q       V|          |          |          |
10+45       0.6655      1.08  |Q       V|          |          |          |
10+50       0.6731      1.09  |Q       V|          |          |          |
10+55       0.6807      1.10  |Q       V|          |          |          |
11+ 0       0.6883      1.11  |Q       V|          |          |          |
11+ 5       0.6961      1.13  |Q       V|          |          |          |
11+10       0.7039      1.14  |Q       V|          |          |          |
11+15       0.7118      1.15  |Q       V|          |          |          |
11+20       0.7198      1.16  |Q       V|          |          |          |
11+25       0.7279      1.17  |Q        V          |          |          |
11+30       0.7360      1.18  |Q        V          |          |          |
11+35       0.7442      1.20  |Q        V          |          |          |
11+40       0.7526      1.21  |Q        V          |          |          |
11+45       0.7610      1.22  |Q        V          |          |          |
11+50       0.7695      1.24  |Q        V          |          |          |
11+55       0.7781      1.25  |Q        V          |          |          |
12+ 0       0.7868      1.26  |Q        V          |          |          |
12+ 5       0.7956      1.27  |Q        |V         |          |          |
12+10       0.8043      1.26  |Q        |V         |          |          |
12+15       0.8128      1.25  |Q        |V         |          |          |
12+20       0.8215      1.25  |Q        |V         |          |          |
12+25       0.8302      1.26  |Q        |V         |          |          |
12+30       0.8390      1.28  |Q        |V         |          |          |
12+35       0.8479      1.30  |Q        |V         |          |          |
12+40       0.8570      1.32  |Q        |V         |          |          |
12+45       0.8662      1.34  |Q        | V        |          |          |
12+50       0.8755      1.36  |Q        | V        |          |          |
12+55       0.8850      1.38  |Q        | V        |          |          |
13+ 0       0.8946      1.40  |Q        | V        |          |          |
13+ 5       0.9044      1.42  |Q        | V        |          |          |
13+10       0.9144      1.45  |Q        | V        |          |          |
13+15       0.9245      1.47  |Q        | V        |          |          |
13+20       0.9348      1.50  |Q        | V        |          |          |
13+25       0.9453      1.52  | Q       |  V       |          |          |
13+30       0.9560      1.55  | Q       |  V       |          |          |
13+35       0.9669      1.58  | Q       |  V       |          |          |
13+40       0.9780      1.61  | Q       |  V       |          |          |
13+45       0.9894      1.65  | Q       |  V       |          |          |
13+50       1.0009      1.68  | Q       |  V       |          |          |
13+55       1.0128      1.72  | Q       |   V      |          |          |
14+ 0       1.0249      1.76  | Q       |   V      |          |          |
14+ 5       1.0373      1.80  | Q       |   V      |          |          |
14+10       1.0500      1.85  | Q       |   V      |          |          |
14+15       1.0631      1.90  | Q       |   V      |          |          |
14+20       1.0765      1.95  | Q       |   V      |          |          |
14+25       1.0903      2.00  | Q       |    V     |          |          |
14+30       1.1045      2.06  | Q       |    V     |          |          |
14+35       1.1192      2.13  | Q       |    V     |          |          |
14+40       1.1343      2.20  | Q       |    V     |          |          |
14+45       1.1500      2.27  |  Q      |    V     |          |          |
14+50       1.1662      2.36  |  Q      |     V    |          |          |
14+55       1.1831      2.45  |  Q      |     V    |          |          |
15+ 0       1.2006      2.55  |  Q      |     V    |          |          |
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   21+20       2.7292      0.75  Q          |          |          |      V  |
   21+25       2.7343      0.74  Q          |          |          |      V  |
   21+30       2.7394      0.74  Q          |          |          |       V |
   21+35       2.7444      0.73  Q          |          |          |       V |
   21+40       2.7494      0.72  Q          |          |          |       V |
   21+45       2.7543      0.72  Q          |          |          |       V |
   21+50       2.7592      0.71  Q          |          |          |       V |
   21+55       2.7641      0.70  Q          |          |          |       V |
   22+ 0       2.7689      0.70  Q          |          |          |       V |
   22+ 5       2.7736      0.69  Q          |          |          |       V |
   22+10       2.7783      0.69  Q          |          |          |       V |
   22+15       2.7830      0.68  Q          |          |          |       V |
   22+20       2.7877      0.67  Q          |          |          |       V |
   22+25       2.7923      0.67  Q          |          |          |       V |
   22+30       2.7968      0.66  Q          |          |          |       V |
   22+35       2.8014      0.66  Q          |          |          |       V |
   22+40       2.8059      0.65  Q          |          |          |       V |
   22+45       2.8103      0.65  Q          |          |          |        V|
   22+50       2.8148      0.64  Q          |          |          |        V|
   22+55       2.8192      0.64  Q          |          |          |        V|
   23+ 0       2.8235      0.63  Q          |          |          |        V|
   23+ 5       2.8279      0.63  Q          |          |          |        V|
   23+10       2.8322      0.63  Q          |          |          |        V|
   23+15       2.8365      0.62  Q          |          |          |        V|
   23+20       2.8407      0.62  Q          |          |          |        V|
   23+25       2.8449      0.61  Q          |          |          |        V|
   23+30       2.8491      0.61  Q          |          |          |        V|
   23+35       2.8533      0.60  Q          |          |          |        V|
   23+40       2.8574      0.60  Q          |          |          |        V|
   23+45       2.8615      0.60  Q          |          |          |        V|
   23+50       2.8656      0.59  Q          |          |          |        V|
   23+55       2.8697      0.59  Q          |          |          |        V|
   24+ 0       2.8737      0.58  Q          |          |          |        V|
   24+ 5       2.8774      0.55  Q          |          |          |        V|
   24+10       2.8799      0.35  Q          |          |          |        V|
   24+15       2.8807      0.12  Q          |          |          |        V|
   24+20       2.8809      0.03  Q          |          |          |        V|
   24+25       2.8810      0.01  Q          |          |          |        V|
   24+30       2.8810      0.00  Q          |          |          |         V
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Project Name: MILESKI ADELANTO
WO: 24-0505
Date: 4/16/2025

UNIT HYDROGRAPH RESULTS

		Post Volume (cf)	Post Volume (acre-ft)	Post Peak (cfs)
100 YR-24 HR	PROP 4A	234,479	5.383	66.57
	PROP 4B	226,808	5.207	48.75
	PROP 4C	236,670	5.433	50.50
	PROP 4D	198,320	4.553	42.42
10YR-24HR	PROP 4A	137,724	3.162	39.47
	PROP 4B	133,220	3.058	28.79
	PROP 4C	139,009	3.191	29.82
	PROP 4D	116,488	2.674	25.05

BASIN ROUTING RESULTS

		Portioned 90% Pre Peak (cfs)	Post Peak (cfs)	Mitigated Peak (cfs)
100 YR-24 HR	PROP 4A (13.1% UHEX05CUL)	5.81	66.57	TBD
	PROP 4B (0.8% UHEXOFF)	3.83	48.75	TBD
	PROP 4C (11.8% UHEX05CUL)	5.24	50.50	TBD
	PROP 4D (1.1% UHEXOFF)	5.27	42.42	TBD
10YR-24HR	PROP 4A (13.1% UHEX05CUL)	2.86	39.47	TBD
	PROP 4B (0.8% UHEXOFF)	2.59	28.79	TBD
	PROP 4C (11.8% UHEX05CUL)	2.58	29.82	TBD
	PROP 4D (1.1% UHEXOFF)	3.56	25.05	TBD

SBC Detention Basin Design Guidelines state that:

i) *Post-development peak flow rate generated by the site shall be less than 90% of the pre-development peak*

II) *100-year pre-development peak flow rates shall be calculated using 25-year rainfall and AMC-II.*

Therefore:

$Q_{Post,\ 100\text{-}yr\ 24\text{-}hr} < 90\%\ Q_{Pre,\ 25\text{-}yr\ 24\text{-}hr}$

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0

Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 4A
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 4APROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
21.40	1	0.60
Rainfall data for year 2		
21.40	6	0.70
Rainfall data for year 2		
21.40	24	1.20
Rainfall data for year 100		
21.40	1	1.00
Rainfall data for year 100		
21.40	6	1.90
Rainfall data for year 100		
21.40	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	21.40	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.14	0.100	69.0	69.0	4.49	0.121
19.26	0.900	98.0	98.0	0.20	0.892

Area-averaged catchment yield fraction, Y = 0.815
Area-averaged low loss fraction, Yb = 0.185
User entry of time of concentration = 0.110 (hours)
++
Watershed area = 21.40(Ac.)
Catchment Lag time = 0.088 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 94.6970
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.222(In)
Computed peak 30-minute rainfall = 0.455(In)
Specified peak 1-hour rainfall = 0.600(In)
Computed peak 3-hour rainfall = 0.915(In)
Specified peak 6-hour rainfall = 1.194(In)
Specified peak 24-hour rainfall = 2.105(In)

Rainfall depth area reduction factors:
Using a total area of 21.40(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.222(In)
30-minute factor = 0.999 Adjusted rainfall = 0.454(In)
1-hour factor = 0.999 Adjusted rainfall = 0.599(In)
3-hour factor = 1.000 Adjusted rainfall = 0.915(In)
6-hour factor = 1.000 Adjusted rainfall = 1.194(In)
24-hour factor = 1.000 Adjusted rainfall = 2.105(In)

U n i t H y d r o g r a p h
++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 258.81 (CFS))	
1	15.507	40.133
2	75.928	156.374
3	97.248	55.175
4	100.000	7.124

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.2218	0.2218
2	0.2927	0.0709
3	0.3443	0.0515
4	0.3862	0.0420
5	0.4223	0.0361
6	0.4543	0.0319
7	0.4832	0.0289
8	0.5097	0.0265
9	0.5342	0.0246
10	0.5572	0.0230
11	0.5789	0.0217
12	0.5994	0.0205
13	0.6181	0.0187
14	0.6360	0.0179
15	0.6531	0.0171
16	0.6695	0.0164
17	0.6853	0.0158
18	0.7006	0.0152
19	0.7153	0.0147
20	0.7296	0.0143
21	0.7434	0.0138
22	0.7568	0.0134
23	0.7699	0.0131
24	0.7826	0.0127
25	0.7950	0.0124
26	0.8070	0.0121
27	0.8188	0.0118
28	0.8304	0.0115
29	0.8417	0.0113

30	0.8527	0.0110
31	0.8635	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1339	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3427	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056
102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055

105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4249	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5624	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040
177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040

180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7755	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9335	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033
251	1.9898	0.0032
252	1.9931	0.0032
253	1.9963	0.0032
254	1.9995	0.0032

255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0839	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027
34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027

37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039
109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040

112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139
184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177

187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0319	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031
259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030

262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 39.47(CFS)

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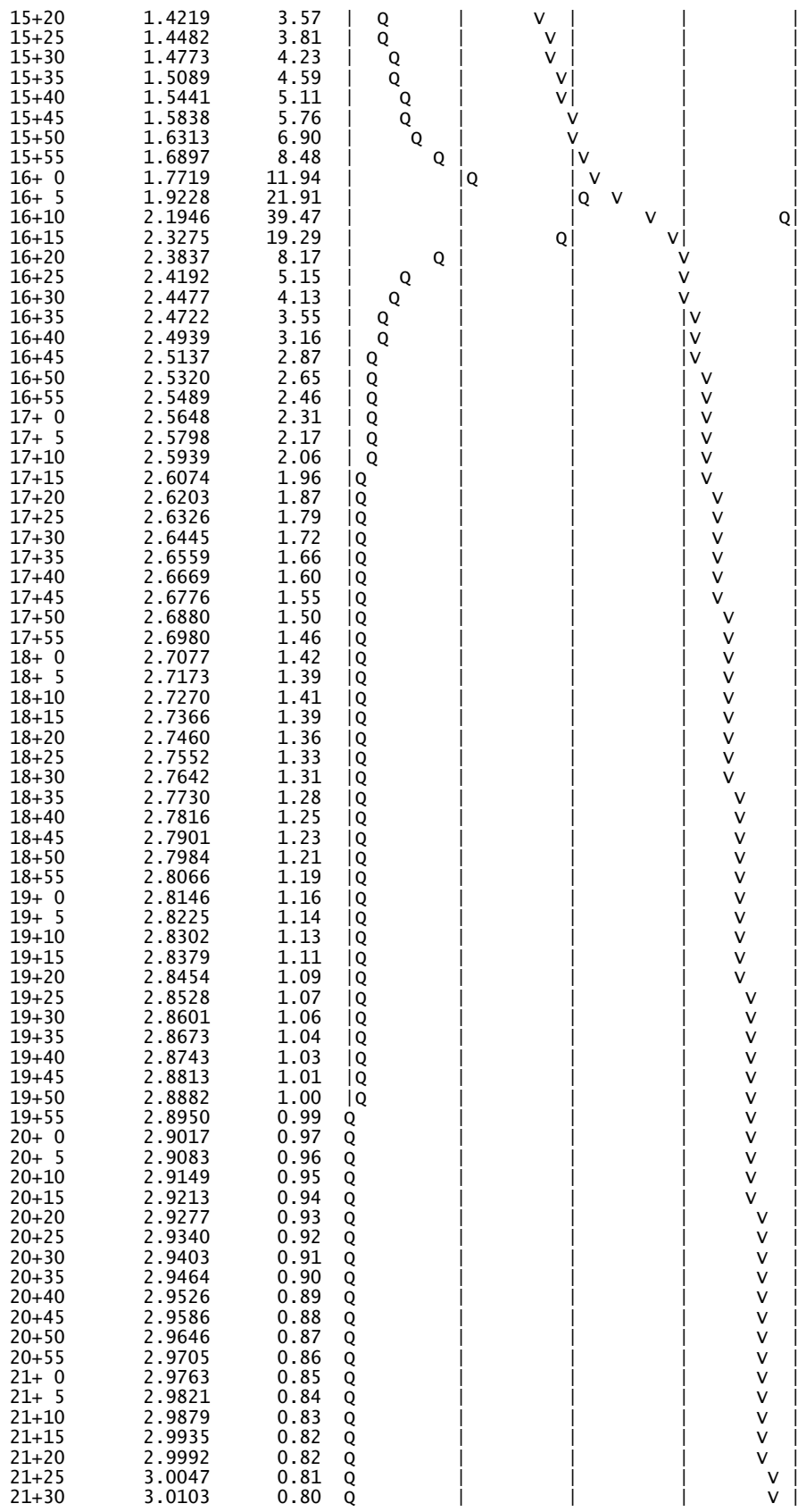
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0007	0.10	Q				
0+10	0.0040	0.48	Q				
0+15	0.0082	0.62	Q				
0+20	0.0126	0.64	Q				
0+25	0.0170	0.64	Q				
0+30	0.0214	0.64	Q				
0+35	0.0258	0.64	Q				
0+40	0.0302	0.64	Q				
0+45	0.0347	0.65	Q				
0+50	0.0391	0.65	Q				
0+55	0.0436	0.65	Q				
1+ 0	0.0481	0.65	Q				
1+ 5	0.0526	0.65	Q				
1+10	0.0571	0.66	Q				
1+15	0.0616	0.66	Q				
1+20	0.0662	0.66	Q				
1+25	0.0708	0.66	Q				
1+30	0.0753	0.66	Q				
1+35	0.0799	0.67	QV				
1+40	0.0845	0.67	QV				
1+45	0.0892	0.67	QV				
1+50	0.0938	0.67	QV				
1+55	0.0985	0.68	QV				
2+ 0	0.1031	0.68	QV				
2+ 5	0.1078	0.68	QV				
2+10	0.1125	0.68	QV				
2+15	0.1172	0.69	QV				
2+20	0.1220	0.69	QV				
2+25	0.1267	0.69	QV				
2+30	0.1315	0.69	QV				
2+35	0.1363	0.70	QV				
2+40	0.1411	0.70	QV				
2+45	0.1459	0.70	QV				

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2+50       0.1508      0.70  QV         |          |          |          |
2+55       0.1556      0.71  QV         |          |          |          |
3+ 0       0.1605      0.71  Q V        |          |          |          |
3+ 5       0.1654      0.71  Q V        |          |          |          |
3+10       0.1703      0.71  Q V        |          |          |          |
3+15       0.1752      0.72  Q V        |          |          |          |
3+20       0.1802      0.72  Q V        |          |          |          |
3+25       0.1852      0.72  Q V        |          |          |          |
3+30       0.1902      0.72  Q V        |          |          |          |
3+35       0.1952      0.73  Q V        |          |          |          |
3+40       0.2002      0.73  Q V        |          |          |          |
3+45       0.2053      0.73  Q V        |          |          |          |
3+50       0.2103      0.74  Q V        |          |          |          |
3+55       0.2154      0.74  Q V        |          |          |          |
4+ 0       0.2205      0.74  Q V        |          |          |          |
4+ 5       0.2257      0.75  Q V        |          |          |          |
4+10       0.2308      0.75  Q V        |          |          |          |
4+15       0.2360      0.75  Q V        |          |          |          |
4+20       0.2412      0.75  Q  V       |          |          |          |
4+25       0.2464      0.76  Q  V       |          |          |          |
4+30       0.2516      0.76  Q  V       |          |          |          |
4+35       0.2569      0.76  Q  V       |          |          |          |
4+40       0.2622      0.77  Q  V       |          |          |          |
4+45       0.2675      0.77  Q  V       |          |          |          |
4+50       0.2728      0.77  Q  V       |          |          |          |
4+55       0.2782      0.78  Q  V       |          |          |          |
5+ 0       0.2836      0.78  Q  V       |          |          |          |
5+ 5       0.2890      0.78  Q  V       |          |          |          |
5+10       0.2944      0.79  Q  V       |          |          |          |
5+15       0.2998      0.79  Q  V       |          |          |          |
5+20       0.3053      0.80  Q  V       |          |          |          |
5+25       0.3108      0.80  Q  V       |          |          |          |
5+30       0.3163      0.80  Q   V      |          |          |          |
5+35       0.3219      0.81  Q   V      |          |          |          |
5+40       0.3275      0.81  Q   V      |          |          |          |
5+45       0.3331      0.81  Q   V      |          |          |          |
5+50       0.3387      0.82  Q   V      |          |          |          |
5+55       0.3443      0.82  Q   V      |          |          |          |
6+ 0       0.3500      0.83  Q   V      |          |          |          |
6+ 5       0.3557      0.83  Q   V      |          |          |          |
6+10       0.3615      0.83  Q   V      |          |          |          |
6+15       0.3673      0.84  Q   V      |          |          |          |
6+20       0.3731      0.84  Q   V      |          |          |          |
6+25       0.3789      0.85  Q   V      |          |          |          |
6+30       0.3847      0.85  Q   V      |          |          |          |
6+35       0.3906      0.85  Q   V      |          |          |          |
6+40       0.3965      0.86  Q    V     |          |          |          |
6+45       0.4025      0.86  Q    V     |          |          |          |
6+50       0.4085      0.87  Q    V     |          |          |          |
6+55       0.4145      0.87  Q    V     |          |          |          |
7+ 0       0.4205      0.88  Q    V     |          |          |          |
7+ 5       0.4266      0.88  Q    V     |          |          |          |
7+10       0.4327      0.89  Q    V     |          |          |          |
7+15       0.4388      0.89  Q    V     |          |          |          |
7+20       0.4450      0.90  Q    V     |          |          |          |
7+25       0.4512      0.90  Q    V     |          |          |          |
7+30       0.4575      0.91  Q    V     |          |          |          |
7+35       0.4638      0.91  Q    V     |          |          |          |
7+40       0.4701      0.92  Q    V     |          |          |          |
7+45       0.4764      0.92  Q     V    |          |          |          |
7+50       0.4828      0.93  Q     V    |          |          |          |
7+55       0.4893      0.93  Q     V    |          |          |          |
8+ 0       0.4957      0.94  Q     V    |          |          |          |
8+ 5       0.5022      0.94  Q     V    |          |          |          |
8+10       0.5088      0.95  Q     V    |          |          |          |
8+15       0.5154      0.96  Q     V    |          |          |          |
8+20       0.5220      0.96  Q     V    |          |          |          |
8+25       0.5287      0.97  Q     V    |          |          |          |
8+30       0.5354      0.98  Q     V    |          |          |          |
8+35       0.5421      0.98  Q     V    |          |          |          |
8+40       0.5490      0.99  Q     V    |          |          |          |
8+45       0.5558      0.99  Q      V   |          |          |          |
8+50       0.5627      1.00  |Q     V   |          |          |          |
8+55       0.5696      1.01  |Q     V   |          |          |          |
9+ 0       0.5766      1.02  |Q     V   |          |          |          |
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 9+ 5       0.5837      1.02  |Q     V  |          |          |          |
 9+10       0.5907      1.03  |Q     V  |          |          |          |
 9+15       0.5979      1.04  |Q     V  |          |          |          |
 9+20       0.6051      1.04  |Q     V  |          |          |          |
 9+25       0.6123      1.05  |Q     V  |          |          |          |
 9+30       0.6196      1.06  |Q     V  |          |          |          |
 9+35       0.6270      1.07  |Q     V  |          |          |          |
 9+40       0.6344      1.08  |Q      V |          |          |          |
 9+45       0.6418      1.08  |Q      V |          |          |          |
 9+50       0.6493      1.09  |Q      V |          |          |          |
 9+55       0.6569      1.10  |Q      V |          |          |          |
10+ 0       0.6646      1.11  |Q      V |          |          |          |
10+ 5       0.6723      1.12  |Q      V |          |          |          |
10+10       0.6800      1.13  |Q      V |          |          |          |
10+15       0.6878      1.14  |Q      V |          |          |          |
10+20       0.6957      1.15  |Q      V |          |          |          |
10+25       0.7037      1.16  |Q      V |          |          |          |
10+30       0.7117      1.17  |Q       V|          |          |          |
10+35       0.7198      1.18  |Q       V|          |          |          |
10+40       0.7280      1.19  |Q       V|          |          |          |
10+45       0.7363      1.20  |Q       V|          |          |          |
10+50       0.7446      1.21  |Q       V|          |          |          |
10+55       0.7530      1.22  |Q       V|          |          |          |
11+ 0       0.7615      1.23  |Q       V|          |          |          |
11+ 5       0.7700      1.24  |Q       V|          |          |          |
11+10       0.7787      1.26  |Q       V|          |          |          |
11+15       0.7874      1.27  |Q       V|          |          |          |
11+20       0.7962      1.28  |Q        V          |          |          |
11+25       0.8051      1.29  |Q        V          |          |          |
11+30       0.8141      1.31  |Q        V          |          |          |
11+35       0.8232      1.32  |Q        V          |          |          |
11+40       0.8325      1.34  |Q        V          |          |          |
11+45       0.8418      1.35  |Q        V          |          |          |
11+50       0.8512      1.37  |Q        V          |          |          |
11+55       0.8607      1.38  |Q        V          |          |          |
12+ 0       0.8703      1.40  |Q        |V         |          |          |
12+ 5       0.8800      1.40  |Q        |V         |          |          |
12+10       0.8894      1.37  |Q        |V         |          |          |
12+15       0.8988      1.36  |Q        |V         |          |          |
12+20       0.9083      1.38  |Q        |V         |          |          |
12+25       0.9179      1.40  |Q        |V         |          |          |
12+30       0.9277      1.42  |Q        |V         |          |          |
12+35       0.9376      1.44  |Q        |V         |          |          |
12+40       0.9476      1.46  |Q        |V         |          |          |
12+45       0.9578      1.48  |Q        | V        |          |          |
12+50       0.9682      1.51  |Q        | V        |          |          |
12+55       0.9787      1.53  |Q        | V        |          |          |
13+ 0       0.9894      1.55  |Q        | V        |          |          |
13+ 5       1.0003      1.58  |Q        | V        |          |          |
13+10       1.0113      1.61  |Q        | V        |          |          |
13+15       1.0226      1.63  |Q        | V        |          |          |
13+20       1.0341      1.66  |Q        |  V       |          |          |
13+25       1.0457      1.69  |Q        |  V       |          |          |
13+30       1.0576      1.73  |Q        |  V       |          |          |
13+35       1.0697      1.76  |Q        |  V       |          |          |
13+40       1.0821      1.80  |Q        |  V       |          |          |
13+45       1.0947      1.83  |Q        |  V       |          |          |
13+50       1.1077      1.88  |Q        |   V      |          |          |
13+55       1.1209      1.92  |Q        |   V      |          |          |
14+ 0       1.1344      1.96  |Q        |   V      |          |          |
14+ 5       1.1482      2.01  | Q       |   V      |          |          |
14+10       1.1625      2.07  | Q       |   V      |          |          |
14+15       1.1771      2.12  | Q       |   V      |          |          |
14+20       1.1921      2.18  | Q       |    V     |          |          |
14+25       1.2075      2.24  | Q       |    V     |          |          |
14+30       1.2235      2.32  | Q       |    V     |          |          |
14+35       1.2399      2.38  | Q       |    V     |          |          |
14+40       1.2569      2.47  | Q       |    V     |          |          |
14+45       1.2745      2.55  | Q       |     V    |          |          |
14+50       1.2928      2.66  | Q       |     V    |          |          |
14+55       1.3118      2.76  | Q       |     V    |          |          |
15+ 0       1.3317      2.89  | Q       |     V    |          |          |
15+ 5       1.3525      3.01  |  Q      |      V   |          |          |
15+10       1.3744      3.18  |  Q      |      V   |          |          |
15+15       1.3974      3.34  |  Q      |      V   |          |          |
```



```
   21+35       3.0157      0.79  Q          |          |          |       V |
   21+40       3.0211      0.79  Q          |          |          |       V |
   21+45       3.0265      0.78  Q          |          |          |       V |
   21+50       3.0318      0.77  Q          |          |          |       V |
   21+55       3.0371      0.77  Q          |          |          |       V |
   22+ 0       3.0424      0.76  Q          |          |          |       V |
   22+ 5       3.0476      0.75  Q          |          |          |       V |
   22+10       3.0527      0.75  Q          |          |          |       V |
   22+15       3.0578      0.74  Q          |          |          |       V |
   22+20       3.0629      0.74  Q          |          |          |       V |
   22+25       3.0679      0.73  Q          |          |          |       V |
   22+30       3.0729      0.72  Q          |          |          |       V |
   22+35       3.0778      0.72  Q          |          |          |       V |
   22+40       3.0828      0.71  Q          |          |          |        V|
   22+45       3.0876      0.71  Q          |          |          |        V|
   22+50       3.0925      0.70  Q          |          |          |        V|
   22+55       3.0973      0.70  Q          |          |          |        V|
   23+ 0       3.1020      0.69  Q          |          |          |        V|
   23+ 5       3.1068      0.69  Q          |          |          |        V|
   23+10       3.1115      0.68  Q          |          |          |        V|
   23+15       3.1162      0.68  Q          |          |          |        V|
   23+20       3.1208      0.67  Q          |          |          |        V|
   23+25       3.1254      0.67  Q          |          |          |        V|
   23+30       3.1300      0.66  Q          |          |          |        V|
   23+35       3.1345      0.66  Q          |          |          |        V|
   23+40       3.1390      0.66  Q          |          |          |        V|
   23+45       3.1435      0.65  Q          |          |          |        V|
   23+50       3.1480      0.65  Q          |          |          |        V|
   23+55       3.1524      0.64  Q          |          |          |        V|
   24+ 0       3.1568      0.64  Q          |          |          |        V|
   24+ 5       3.1605      0.54  Q          |          |          |        V|
   24+10       3.1616      0.15  Q          |          |          |        V|
   24+15       3.1617      0.02  Q          |          |          |         V
---------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 4B
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 4BPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
20.70	1	0.60
Rainfall data for year 2		
20.70	6	0.70
Rainfall data for year 2		
20.70	24	1.20
Rainfall data for year 100		
20.70	1	1.00
Rainfall data for year 100		
20.70	6	1.90
Rainfall data for year 100		
20.70	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	20.70	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.07	0.100	69.0	69.0	4.49	0.121
18.63	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.190 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      20.70(Ac.)
Catchment Lag time =   0.152 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 54.8246
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      20.70(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       250.34 (CFS))

  1                5.469                  13.691
  2               35.337                  74.771
  3               75.925                 101.610
  4               93.130                  43.071
  5               98.077                  12.384
  6               99.228                   2.880
  7              100.000                   1.934
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2218              0.2218
  2              0.2927              0.0709
  3              0.3443              0.0515
  4              0.3863              0.0420
  5              0.4223              0.0361
  6              0.4543              0.0320
  7              0.4832              0.0289
  8              0.5097              0.0265
  9              0.5343              0.0246
 10              0.5573              0.0230
 11              0.5789              0.0217
 12              0.5994              0.0205
 13              0.6182              0.0187
 14              0.6360              0.0179
 15              0.6531              0.0171
 16              0.6696              0.0164
 17              0.6854              0.0158
 18              0.7006              0.0152
 19              0.7153              0.0147
 20              0.7296              0.0143
 21              0.7434              0.0138
 22              0.7568              0.0134
 23              0.7699              0.0131
 24              0.7826              0.0127
 25              0.7950              0.0124
 26              0.8071              0.0121
```

27	0.8189	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8527	0.0110
31	0.8636	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9670	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 28.79(CFS)

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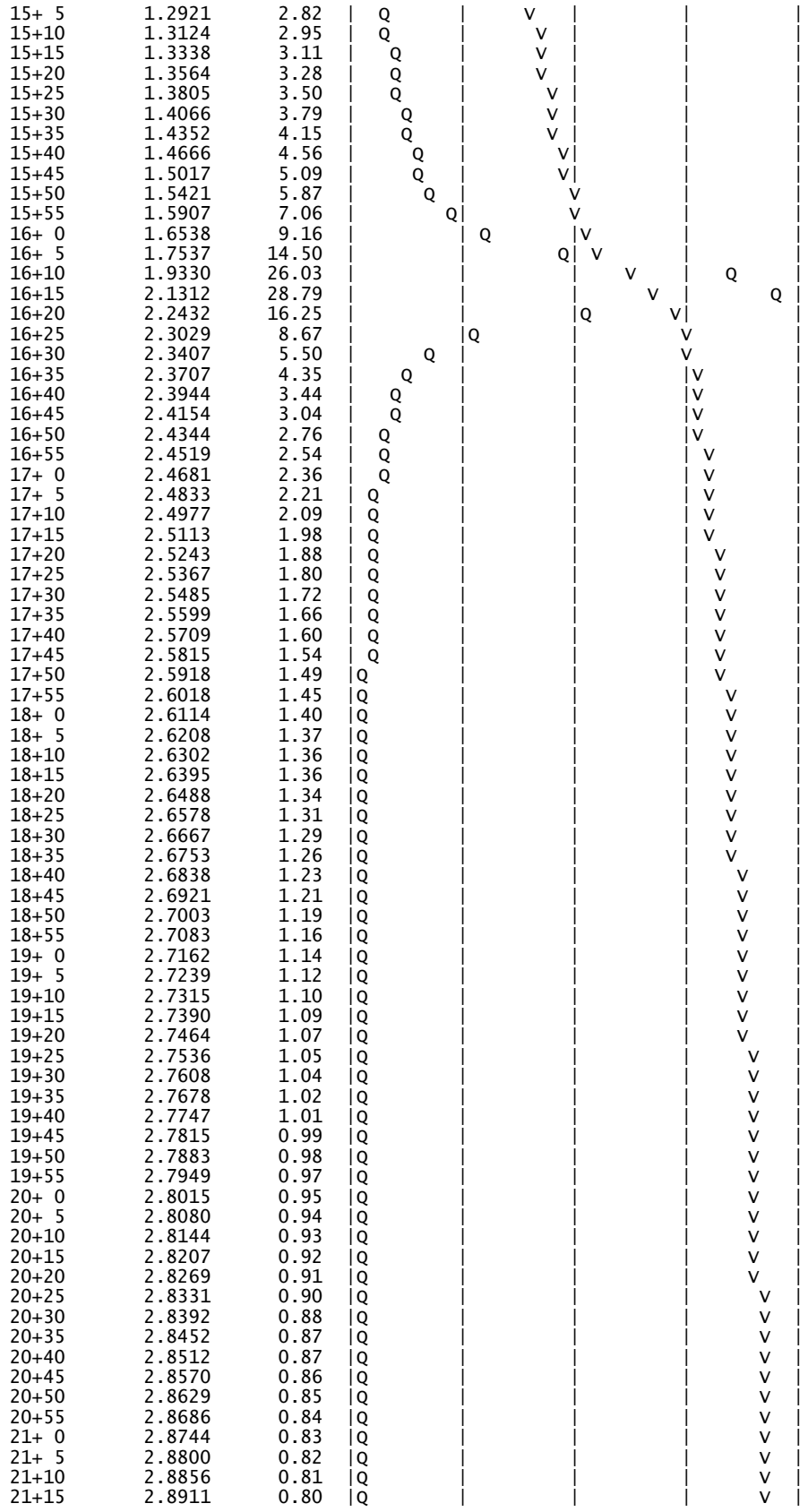
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0002	0.03	Q				
0+10	0.0017	0.22	Q				
0+15	0.0049	0.46	Q				
0+20	0.0089	0.57	Q				
0+25	0.0130	0.60	Q				
0+30	0.0172	0.61	Q				
0+35	0.0215	0.62	Q				
0+40	0.0258	0.62	Q				
0+45	0.0300	0.62	Q				
0+50	0.0343	0.62	Q				
0+55	0.0387	0.63	Q				
1+ 0	0.0430	0.63	Q				
1+ 5	0.0473	0.63	Q				
1+10	0.0517	0.63	Q				
1+15	0.0561	0.63	Q				
1+20	0.0604	0.64	Q				
1+25	0.0648	0.64	Q				
1+30	0.0693	0.64	Q				
1+35	0.0737	0.64	Q				
1+40	0.0781	0.65	QV				
1+45	0.0826	0.65	QV				
1+50	0.0871	0.65	QV				
1+55	0.0916	0.65	QV				
2+ 0	0.0961	0.65	QV				
2+ 5	0.1006	0.66	QV				
2+10	0.1051	0.66	QV				
2+15	0.1097	0.66	QV				
2+20	0.1143	0.66	QV				
2+25	0.1188	0.67	QV				
2+30	0.1234	0.67	QV				

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2+35       0.1281      0.67  QV        |         |         |         |
2+40       0.1327      0.67  QV        |         |         |         |
2+45       0.1373      0.68  QV        |         |         |         |
2+50       0.1420      0.68  QV        |         |         |         |
2+55       0.1467      0.68  QV        |         |         |         |
3+ 0       0.1514      0.68  QV        |         |         |         |
3+ 5       0.1561      0.69  Q V       |         |         |         |
3+10       0.1609      0.69  Q V       |         |         |         |
3+15       0.1656      0.69  Q V       |         |         |         |
3+20       0.1704      0.69  Q V       |         |         |         |
3+25       0.1752      0.70  Q V       |         |         |         |
3+30       0.1800      0.70  Q V       |         |         |         |
3+35       0.1848      0.70  Q V       |         |         |         |
3+40       0.1897      0.70  Q V       |         |         |         |
3+45       0.1946      0.71  Q V       |         |         |         |
3+50       0.1995      0.71  Q V       |         |         |         |
3+55       0.2044      0.71  Q V       |         |         |         |
4+ 0       0.2093      0.72  Q V       |         |         |         |
4+ 5       0.2142      0.72  Q V       |         |         |         |
4+10       0.2192      0.72  Q V       |         |         |         |
4+15       0.2242      0.72  Q V       |         |         |         |
4+20       0.2292      0.73  Q V       |         |         |         |
4+25       0.2342      0.73  Q  V      |         |         |         |
4+30       0.2393      0.73  Q  V      |         |         |         |
4+35       0.2444      0.74  Q  V      |         |         |         |
4+40       0.2495      0.74  Q  V      |         |         |         |
4+45       0.2546      0.74  Q  V      |         |         |         |
4+50       0.2597      0.75  Q  V      |         |         |         |
4+55       0.2649      0.75  Q  V      |         |         |         |
5+ 0       0.2700      0.75  |Q V      |         |         |         |
5+ 5       0.2753      0.76  |Q V      |         |         |         |
5+10       0.2805      0.76  |Q V      |         |         |         |
5+15       0.2857      0.76  |Q V      |         |         |         |
5+20       0.2910      0.77  |Q V      |         |         |         |
5+25       0.2963      0.77  |Q V      |         |         |         |
5+30       0.3016      0.77  |Q V      |         |         |         |
5+35       0.3070      0.78  |Q  V     |         |         |         |
5+40       0.3124      0.78  |Q  V     |         |         |         |
5+45       0.3178      0.78  |Q  V     |         |         |         |
5+50       0.3232      0.79  |Q  V     |         |         |         |
5+55       0.3286      0.79  |Q  V     |         |         |         |
6+ 0       0.3341      0.80  |Q  V     |         |         |         |
6+ 5       0.3396      0.80  |Q  V     |         |         |         |
6+10       0.3451      0.80  |Q  V     |         |         |         |
6+15       0.3507      0.81  |Q  V     |         |         |         |
6+20       0.3563      0.81  |Q  V     |         |         |         |
6+25       0.3619      0.81  |Q  V     |         |         |         |
6+30       0.3675      0.82  |Q  V     |         |         |         |
6+35       0.3732      0.82  |Q  V     |         |         |         |
6+40       0.3789      0.83  |Q  V     |         |         |         |
6+45       0.3846      0.83  |Q   V    |         |         |         |
6+50       0.3904      0.84  |Q   V    |         |         |         |
6+55       0.3962      0.84  |Q   V    |         |         |         |
7+ 0       0.4020      0.84  |Q   V    |         |         |         |
7+ 5       0.4079      0.85  |Q   V    |         |         |         |
7+10       0.4137      0.85  |Q   V    |         |         |         |
7+15       0.4196      0.86  |Q   V    |         |         |         |
7+20       0.4256      0.86  |Q   V    |         |         |         |
7+25       0.4316      0.87  |Q   V    |         |         |         |
7+30       0.4376      0.87  |Q   V    |         |         |         |
7+35       0.4436      0.88  |Q   V    |         |         |         |
7+40       0.4497      0.88  |Q   V    |         |         |         |
7+45       0.4558      0.89  |Q   V    |         |         |         |
7+50       0.4620      0.89  |Q    V   |         |         |         |
7+55       0.4682      0.90  |Q    V   |         |         |         |
8+ 0       0.4744      0.90  |Q    V   |         |         |         |
8+ 5       0.4807      0.91  |Q    V   |         |         |         |
8+10       0.4870      0.92  |Q    V   |         |         |         |
8+15       0.4933      0.92  |Q    V   |         |         |         |
8+20       0.4997      0.93  |Q    V   |         |         |         |
8+25       0.5061      0.93  |Q    V   |         |         |         |
8+30       0.5126      0.94  |Q    V   |         |         |         |
8+35       0.5191      0.94  |Q    V   |         |         |         |
8+40       0.5256      0.95  |Q    V   |         |         |         |
8+45       0.5322      0.96  |Q    V   |         |         |         |
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 8+50       0.5389      0.96  |Q     V  |          |          |          |
 8+55       0.5455      0.97  |Q     V  |          |          |          |
 9+ 0       0.5523      0.98  |Q     V  |          |          |          |
 9+ 5       0.5590      0.98  |Q     V  |          |          |          |
 9+10       0.5658      0.99  |Q     V  |          |          |          |
 9+15       0.5727      1.00  |Q     V  |          |          |          |
 9+20       0.5796      1.00  |Q     V  |          |          |          |
 9+25       0.5866      1.01  |Q     V  |          |          |          |
 9+30       0.5936      1.02  |Q     V  |          |          |          |
 9+35       0.6007      1.03  |Q     V  |          |          |          |
 9+40       0.6078      1.03  |Q     V  |          |          |          |
 9+45       0.6150      1.04  |Q      V |          |          |          |
 9+50       0.6222      1.05  |Q      V |          |          |          |
 9+55       0.6295      1.06  |Q      V |          |          |          |
10+ 0       0.6368      1.07  |Q      V |          |          |          |
10+ 5       0.6442      1.07  |Q      V |          |          |          |
10+10       0.6517      1.08  |Q      V |          |          |          |
10+15       0.6592      1.09  |Q      V |          |          |          |
10+20       0.6668      1.10  |Q      V |          |          |          |
10+25       0.6744      1.11  |Q      V |          |          |          |
10+30       0.6821      1.12  |Q      V |          |          |          |
10+35       0.6899      1.13  |Q       V|          |          |          |
10+40       0.6978      1.14  |Q       V|          |          |          |
10+45       0.7057      1.15  |Q       V|          |          |          |
10+50       0.7137      1.16  |Q       V|          |          |          |
10+55       0.7217      1.17  |Q       V|          |          |          |
11+ 0       0.7299      1.18  |Q       V|          |          |          |
11+ 5       0.7381      1.19  |Q       V|          |          |          |
11+10       0.7464      1.20  |Q       V|          |          |          |
11+15       0.7548      1.22  |Q       V|          |          |          |
11+20       0.7632      1.23  |Q       V|          |          |          |
11+25       0.7718      1.24  |Q        V          |          |          |
11+30       0.7804      1.25  |Q        V          |          |          |
11+35       0.7892      1.27  |Q        V          |          |          |
11+40       0.7980      1.28  |Q        V          |          |          |
11+45       0.8069      1.30  |Q        V          |          |          |
11+50       0.8159      1.31  |Q        V          |          |          |
11+55       0.8250      1.32  |Q        V          |          |          |
12+ 0       0.8343      1.34  |Q        V          |          |          |
12+ 5       0.8436      1.35  |Q        |V         |          |          |
12+10       0.8528      1.34  |Q        |V         |          |          |
12+15       0.8619      1.32  |Q        |V         |          |          |
12+20       0.8711      1.33  |Q        |V         |          |          |
12+25       0.8803      1.34  |Q        |V         |          |          |
12+30       0.8897      1.36  |Q        |V         |          |          |
12+35       0.8991      1.38  |Q        |V         |          |          |
12+40       0.9087      1.40  |Q        |V         |          |          |
12+45       0.9185      1.42  |Q        | V        |          |          |
12+50       0.9284      1.44  |Q        | V        |          |          |
12+55       0.9384      1.46  |Q        | V        |          |          |
13+ 0       0.9487      1.48  |Q        | V        |          |          |
13+ 5       0.9590      1.51  | Q       | V        |          |          |
13+10       0.9696      1.53  | Q       | V        |          |          |
13+15       0.9803      1.56  | Q       | V        |          |          |
13+20       0.9912      1.59  | Q       | V        |          |          |
13+25       1.0024      1.61  | Q       |  V       |          |          |
13+30       1.0137      1.64  | Q       |  V       |          |          |
13+35       1.0252      1.68  | Q       |  V       |          |          |
13+40       1.0370      1.71  | Q       |  V       |          |          |
13+45       1.0490      1.75  | Q       |  V       |          |          |
13+50       1.0613      1.78  | Q       |  V       |          |          |
13+55       1.0739      1.82  | Q       |   V      |          |          |
14+ 0       1.0867      1.86  | Q       |   V      |          |          |
14+ 5       1.0998      1.91  | Q       |   V      |          |          |
14+10       1.1133      1.96  | Q       |   V      |          |          |
14+15       1.1271      2.01  | Q       |   V      |          |          |
14+20       1.1413      2.06  | Q       |   V      |          |          |
14+25       1.1560      2.12  | Q       |    V     |          |          |
14+30       1.1710      2.18  | Q       |    V     |          |          |
14+35       1.1865      2.25  |  Q      |    V     |          |          |
14+40       1.2025      2.32  |  Q      |    V     |          |          |
14+45       1.2191      2.41  |  Q      |    V     |          |          |
14+50       1.2362      2.49  |  Q      |     V    |          |          |
14+55       1.2541      2.59  |  Q      |     V    |          |          |
15+ 0       1.2726      2.70  |  Q      |     V    |          |          |
```



```
   21+20       2.8966      0.80  |Q        |         |         |      V  |
   21+25       2.9020      0.79  |Q        |         |         |      V  |
   21+30       2.9074      0.78  |Q        |         |         |       V |
   21+35       2.9128      0.77  |Q        |         |         |       V |
   21+40       2.9180      0.77  |Q        |         |         |       V |
   21+45       2.9233      0.76  |Q        |         |         |       V |
   21+50       2.9285      0.75  |Q        |         |         |       V |
   21+55       2.9336      0.75  Q         |         |         |       V |
   22+ 0       2.9387      0.74  Q         |         |         |       V |
   22+ 5       2.9438      0.73  Q         |         |         |       V |
   22+10       2.9488      0.73  Q         |         |         |       V |
   22+15       2.9538      0.72  Q         |         |         |       V |
   22+20       2.9587      0.72  Q         |         |         |       V |
   22+25       2.9636      0.71  Q         |         |         |       V |
   22+30       2.9684      0.71  Q         |         |         |       V |
   22+35       2.9733      0.70  Q         |         |         |       V |
   22+40       2.9780      0.69  Q         |         |         |       V |
   22+45       2.9828      0.69  Q         |         |         |        V|
   22+50       2.9875      0.68  Q         |         |         |        V|
   22+55       2.9922      0.68  Q         |         |         |        V|
   23+ 0       2.9968      0.67  Q         |         |         |        V|
   23+ 5       3.0014      0.67  Q         |         |         |        V|
   23+10       3.0060      0.66  Q         |         |         |        V|
   23+15       3.0105      0.66  Q         |         |         |        V|
   23+20       3.0151      0.65  Q         |         |         |        V|
   23+25       3.0195      0.65  Q         |         |         |        V|
   23+30       3.0240      0.65  Q         |         |         |        V|
   23+35       3.0284      0.64  Q         |         |         |        V|
   23+40       3.0328      0.64  Q         |         |         |        V|
   23+45       3.0372      0.63  Q         |         |         |        V|
   23+50       3.0415      0.63  Q         |         |         |        V|
   23+55       3.0458      0.63  Q         |         |         |        V|
   24+ 0       3.0501      0.62  Q         |         |         |        V|
   24+ 5       3.0541      0.58  Q         |         |         |        V|
   24+10       3.0568      0.40  Q         |         |         |        V|
   24+15       3.0579      0.15  Q         |         |         |        V|
   24+20       3.0581      0.04  Q         |         |         |        V|
   24+25       3.0582      0.01  Q         |         |         |        V|
   24+30       3.0583      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 4C
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 4CPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
21.60	1	0.60
Rainfall data for year 2		
21.60	6	0.70
Rainfall data for year 2		
21.60	24	1.20
Rainfall data for year 100		
21.60	1	1.00
Rainfall data for year 100		
21.60	6	1.90
Rainfall data for year 100		
21.60	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	21.60	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.16	0.100	69.0	69.0	4.49	0.121
19.44	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.180 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      21.60(Ac.)
Catchment Lag time =   0.144 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 57.8704
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      21.60(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       261.23 (CFS))

  1                6.077                  15.874
  2               39.009                  86.028
  3               79.564                 105.938
  4               94.634                  39.368
  5               98.466                  10.010
  6               99.524                   2.763
  7              100.000                   1.244
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2218              0.2218
  2              0.2927              0.0709
  3              0.3443              0.0515
  4              0.3862              0.0420
  5              0.4223              0.0361
  6              0.4543              0.0319
  7              0.4831              0.0289
  8              0.5097              0.0265
  9              0.5342              0.0246
 10              0.5572              0.0230
 11              0.5789              0.0217
 12              0.5994              0.0205
 13              0.6181              0.0187
 14              0.6360              0.0179
 15              0.6531              0.0171
 16              0.6695              0.0164
 17              0.6853              0.0158
 18              0.7006              0.0152
 19              0.7153              0.0147
 20              0.7296              0.0143
 21              0.7434              0.0138
 22              0.7568              0.0134
 23              0.7699              0.0131
 24              0.7826              0.0127
 25              0.7950              0.0124
 26              0.8070              0.0121
```

27	0.8188	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8527	0.0110
31	0.8635	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1339	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3427	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4249	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5624	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5985	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7755	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9335	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033
251	1.9898	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9995	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0839	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0319	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 29.82(CFS)

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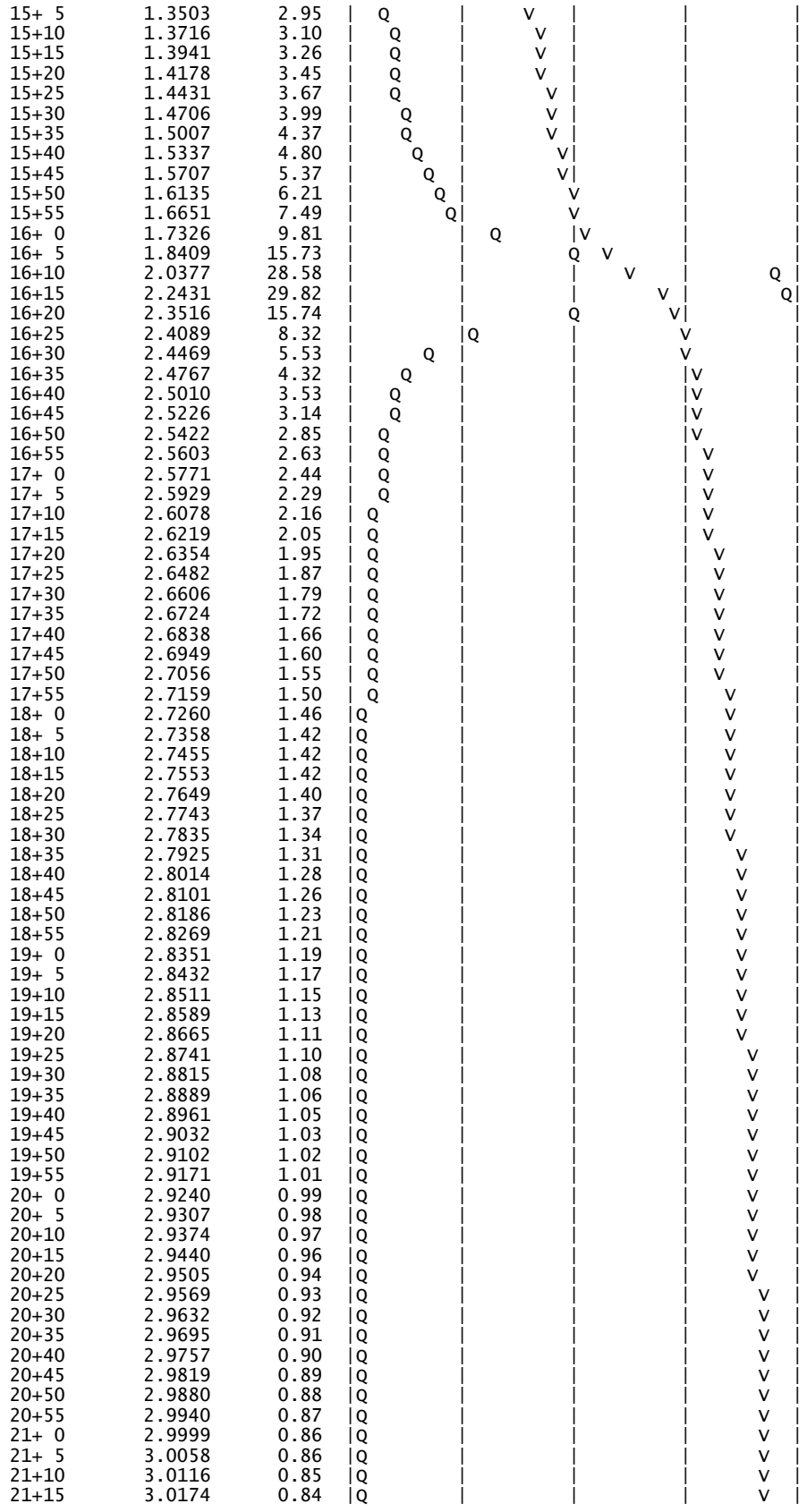
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0003	0.04	Q	|	|	|	|
0+10	0.0020	0.25	Q	|	|	|	|
0+15	0.0055	0.51	Q	|	|	|	|
0+20	0.0097	0.61	Q	|	|	|	|
0+25	0.0140	0.63	Q	|	|	|	|
0+30	0.0184	0.64	Q	|	|	|	|
0+35	0.0229	0.65	Q	|	|	|	|
0+40	0.0273	0.65	Q	|	|	|	|
0+45	0.0318	0.65	Q	|	|	|	|
0+50	0.0363	0.65	Q	|	|	|	|
0+55	0.0408	0.65	Q	|	|	|	|
1+ 0	0.0453	0.66	Q	|	|	|	|
1+ 5	0.0498	0.66	Q	|	|	|	|
1+10	0.0544	0.66	Q	|	|	|	|
1+15	0.0590	0.66	Q	|	|	|	|
1+20	0.0635	0.66	Q	|	|	|	|
1+25	0.0681	0.67	Q	|	|	|	|
1+30	0.0727	0.67	Q	|	|	|	|
1+35	0.0774	0.67	Q	|	|	|	|
1+40	0.0820	0.67	QV	|	|	|	|
1+45	0.0867	0.68	QV	|	|	|	|
1+50	0.0913	0.68	QV	|	|	|	|
1+55	0.0960	0.68	QV	|	|	|	|
2+ 0	0.1007	0.68	QV	|	|	|	|
2+ 5	0.1054	0.69	QV	|	|	|	|
2+10	0.1102	0.69	QV	|	|	|	|
2+15	0.1149	0.69	QV	|	|	|	|
2+20	0.1197	0.69	QV	|	|	|	|
2+25	0.1245	0.70	QV	|	|	|	|
2+30	0.1293	0.70	QV	|	|	|	|

```
2+35       0.1341      0.70  QV        |         |         |         |
2+40       0.1390      0.70  QV        |         |         |         |
2+45       0.1438      0.71  QV        |         |         |         |
2+50       0.1487      0.71  QV        |         |         |         |
2+55       0.1536      0.71  QV        |         |         |         |
3+ 0       0.1585      0.71  QV        |         |         |         |
3+ 5       0.1634      0.72  Q V       |         |         |         |
3+10       0.1684      0.72  Q V       |         |         |         |
3+15       0.1733      0.72  Q V       |         |         |         |
3+20       0.1783      0.72  Q V       |         |         |         |
3+25       0.1833      0.73  Q V       |         |         |         |
3+30       0.1883      0.73  Q V       |         |         |         |
3+35       0.1934      0.73  Q V       |         |         |         |
3+40       0.1985      0.74  Q V       |         |         |         |
3+45       0.2035      0.74  Q V       |         |         |         |
3+50       0.2086      0.74  Q V       |         |         |         |
3+55       0.2138      0.74  Q V       |         |         |         |
4+ 0       0.2189      0.75  Q V       |         |         |         |
4+ 5       0.2241      0.75  |QV       |         |         |         |
4+10       0.2293      0.75  |QV       |         |         |         |
4+15       0.2345      0.76  |QV       |         |         |         |
4+20       0.2397      0.76  |Q V       |         |         |         |
4+25       0.2450      0.76  |Q V       |         |         |         |
4+30       0.2502      0.77  |Q V       |         |         |         |
4+35       0.2555      0.77  |Q V       |         |         |         |
4+40       0.2608      0.77  |Q V       |         |         |         |
4+45       0.2662      0.78  |Q V       |         |         |         |
4+50       0.2715      0.78  |Q V       |         |         |         |
4+55       0.2769      0.78  |Q V       |         |         |         |
5+ 0       0.2823      0.79  |Q V       |         |         |         |
5+ 5       0.2878      0.79  |Q V       |         |         |         |
5+10       0.2932      0.79  |Q V       |         |         |         |
5+15       0.2987      0.80  |Q V       |         |         |         |
5+20       0.3042      0.80  |Q V       |         |         |         |
5+25       0.3098      0.80  |Q V       |         |         |         |
5+30       0.3153      0.81  |Q V       |         |         |         |
5+35       0.3209      0.81  |Q  V      |         |         |         |
5+40       0.3265      0.81  |Q  V      |         |         |         |
5+45       0.3321      0.82  |Q  V      |         |         |         |
5+50       0.3378      0.82  |Q  V      |         |         |         |
5+55       0.3435      0.83  |Q  V      |         |         |         |
6+ 0       0.3492      0.83  |Q  V      |         |         |         |
6+ 5       0.3550      0.83  |Q  V      |         |         |         |
6+10       0.3607      0.84  |Q  V      |         |         |         |
6+15       0.3665      0.84  |Q  V      |         |         |         |
6+20       0.3724      0.85  |Q  V      |         |         |         |
6+25       0.3782      0.85  |Q  V      |         |         |         |
6+30       0.3841      0.86  |Q  V      |         |         |         |
6+35       0.3900      0.86  |Q  V      |         |         |         |
6+40       0.3960      0.86  |Q  V      |         |         |         |
6+45       0.4020      0.87  |Q   V     |         |         |         |
6+50       0.4080      0.87  |Q   V     |         |         |         |
6+55       0.4140      0.88  |Q   V     |         |         |         |
7+ 0       0.4201      0.88  |Q   V     |         |         |         |
7+ 5       0.4262      0.89  |Q   V     |         |         |         |
7+10       0.4323      0.89  |Q   V     |         |         |         |
7+15       0.4385      0.90  |Q   V     |         |         |         |
7+20       0.4447      0.90  |Q   V     |         |         |         |
7+25       0.4510      0.91  |Q   V     |         |         |         |
7+30       0.4573      0.91  |Q   V     |         |         |         |
7+35       0.4636      0.92  |Q   V     |         |         |         |
7+40       0.4699      0.92  |Q   V     |         |         |         |
7+45       0.4763      0.93  |Q   V     |         |         |         |
7+50       0.4827      0.93  |Q    V    |         |         |         |
7+55       0.4892      0.94  |Q    V    |         |         |         |
8+ 0       0.4957      0.94  |Q    V    |         |         |         |
8+ 5       0.5022      0.95  |Q    V    |         |         |         |
8+10       0.5088      0.96  |Q    V    |         |         |         |
8+15       0.5154      0.96  |Q    V    |         |         |         |
8+20       0.5221      0.97  |Q    V    |         |         |         |
8+25       0.5288      0.97  |Q    V    |         |         |         |
8+30       0.5356      0.98  |Q    V    |         |         |         |
8+35       0.5424      0.99  |Q    V    |         |         |         |
8+40       0.5492      0.99  |Q    V    |         |         |         |
8+45       0.5561      1.00  |Q    V    |         |         |         |
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8+50	0.5630	1.01	Q	V			
8+55	0.5700	1.01	Q	V			
9+ 0	0.5770	1.02	Q	V			
9+ 5	0.5841	1.03	Q	V			
9+10	0.5912	1.03	Q	V			
9+15	0.5983	1.04	Q	V			
9+20	0.6056	1.05	Q	V			
9+25	0.6128	1.06	Q	V			
9+30	0.6202	1.06	Q	V			
9+35	0.6275	1.07	Q	V			
9+40	0.6350	1.08	Q	V			
9+45	0.6425	1.09	Q	V			
9+50	0.6500	1.10	Q	V			
9+55	0.6576	1.10	Q	V			
10+ 0	0.6653	1.11	Q	V			
10+ 5	0.6730	1.12	Q	V			
10+10	0.6808	1.13	Q	V			
10+15	0.6886	1.14	Q	V			
10+20	0.6966	1.15	Q	V			
10+25	0.7046	1.16	Q	V			
10+30	0.7126	1.17	Q	V			
10+35	0.7207	1.18	Q	V			
10+40	0.7289	1.19	Q	V			
10+45	0.7372	1.20	Q	V			
10+50	0.7455	1.21	Q	V			
10+55	0.7540	1.22	Q	V			
11+ 0	0.7625	1.23	Q	V			
11+ 5	0.7711	1.25	Q	V			
11+10	0.7797	1.26	Q	V			
11+15	0.7885	1.27	Q	V			
11+20	0.7973	1.28	Q	V			
11+25	0.8063	1.30	Q	V			
11+30	0.8153	1.31	Q	V			
11+35	0.8244	1.32	Q	V			
11+40	0.8336	1.34	Q	V			
11+45	0.8429	1.35	Q	V			
11+50	0.8524	1.37	Q	V			
11+55	0.8619	1.38	Q	V			
12+ 0	0.8715	1.40	Q	V			
12+ 5	0.8812	1.41	Q	V			
12+10	0.8909	1.40	Q	V			
12+15	0.9004	1.38	Q	V			
12+20	0.9099	1.38	Q	V			
12+25	0.9196	1.40	Q	V			
12+30	0.9293	1.42	Q	V			
12+35	0.9392	1.44	Q	V			
12+40	0.9493	1.46	Q	V			
12+45	0.9595	1.48	Q	V			
12+50	0.9698	1.50	Q	V			
12+55	0.9803	1.53	Q	V			
13+ 0	0.9910	1.55	Q	V			
13+ 5	1.0018	1.57	Q	V			
13+10	1.0129	1.60	Q	V			
13+15	1.0241	1.63	Q	V			
13+20	1.0355	1.66	Q	V			
13+25	1.0471	1.69	Q	V			
13+30	1.0590	1.72	Q	V			
13+35	1.0710	1.75	Q	V			
13+40	1.0833	1.79	Q	V			
13+45	1.0959	1.82	Q	V			
13+50	1.1087	1.86	Q	V			
13+55	1.1219	1.91	Q	V			
14+ 0	1.1353	1.95	Q	V			
14+ 5	1.1490	2.00	Q	V			
14+10	1.1631	2.05	Q	V			
14+15	1.1776	2.10	Q	V			
14+20	1.1925	2.16	Q	V			
14+25	1.2078	2.22	Q	V			
14+30	1.2235	2.29	Q	V			
14+35	1.2397	2.36	Q	V			
14+40	1.2565	2.43	Q	V			
14+45	1.2738	2.52	Q	V			
14+50	1.2918	2.61	Q	V			
14+55	1.3105	2.71	Q	V			
15+ 0	1.3300	2.83	Q	V			



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   21+20       3.0231      0.83  |Q        |         |         |      V  |
   21+25       3.0288      0.82  |Q        |         |         |      V  |
   21+30       3.0344      0.81  |Q        |         |         |       V |
   21+35       3.0400      0.81  |Q        |         |         |       V |
   21+40       3.0455      0.80  |Q        |         |         |       V |
   21+45       3.0509      0.79  |Q        |         |         |       V |
   21+50       3.0563      0.79  |Q        |         |         |       V |
   21+55       3.0617      0.78  |Q        |         |         |       V |
   22+ 0       3.0670      0.77  |Q        |         |         |       V |
   22+ 5       3.0723      0.77  |Q        |         |         |       V |
   22+10       3.0775      0.76  |Q        |         |         |       V |
   22+15       3.0827      0.75  |Q        |         |         |       V |
   22+20       3.0878      0.75  Q         |         |         |       V |
   22+25       3.0929      0.74  Q         |         |         |       V |
   22+30       3.0980      0.74  Q         |         |         |       V |
   22+35       3.1030      0.73  Q         |         |         |       V |
   22+40       3.1080      0.72  Q         |         |         |       V |
   22+45       3.1130      0.72  Q         |         |         |        V|
   22+50       3.1179      0.71  Q         |         |         |        V|
   22+55       3.1228      0.71  Q         |         |         |        V|
   23+ 0       3.1276      0.70  Q         |         |         |        V|
   23+ 5       3.1324      0.70  Q         |         |         |        V|
   23+10       3.1372      0.69  Q         |         |         |        V|
   23+15       3.1419      0.69  Q         |         |         |        V|
   23+20       3.1466      0.68  Q         |         |         |        V|
   23+25       3.1513      0.68  Q         |         |         |        V|
   23+30       3.1559      0.67  Q         |         |         |        V|
   23+35       3.1605      0.67  Q         |         |         |        V|
   23+40       3.1651      0.66  Q         |         |         |        V|
   23+45       3.1697      0.66  Q         |         |         |        V|
   23+50       3.1742      0.66  Q         |         |         |        V|
   23+55       3.1787      0.65  Q         |         |         |        V|
   24+ 0       3.1831      0.65  Q         |         |         |        V|
   24+ 5       3.1873      0.61  Q         |         |         |        V|
   24+10       3.1900      0.39  Q         |         |         |        V|
   24+15       3.1909      0.13  Q         |         |         |        V|
   24+20       3.1911      0.03  Q         |         |         |        V|
   24+25       3.1912      0.01  Q         |         |         |        V|
   24+30       3.1912      0.00  Q         |         |         |        V|
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 4D
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 4DPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
18.10	1	0.60
Rainfall data for year 2		
18.10	6	0.70
Rainfall data for year 2		
18.10	24	1.20
Rainfall data for year 100		
18.10	1	1.00
Rainfall data for year 100		
18.10	6	1.90
Rainfall data for year 100		
18.10	24	3.40

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******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	18.10	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.81	0.100	69.0	69.0	4.49	0.121
16.29	0.900	98.0	98.0	0.20	0.892

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Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.200 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      18.10(Ac.)
Catchment Lag time =   0.160 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 52.0833
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      18.10(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
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                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       218.90 (CFS))

  1                4.951                  10.837
  2               32.173                  59.589
  3               71.993                  87.165
  4               91.514                  42.730
  5               97.565                  13.244
  6               98.956                   3.046
  7              100.000                   2.285
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2219              0.2219
  2              0.2928              0.0709
  3              0.3443              0.0516
  4              0.3863              0.0420
  5              0.4224              0.0361
  6              0.4543              0.0320
  7              0.4832              0.0289
  8              0.5097              0.0265
  9              0.5343              0.0246
 10              0.5573              0.0230
 11              0.5790              0.0217
 12              0.5995              0.0205
 13              0.6182              0.0187
 14              0.6361              0.0179
 15              0.6532              0.0171
 16              0.6696              0.0164
 17              0.6854              0.0158
 18              0.7007              0.0152
 19              0.7154              0.0147
 20              0.7296              0.0143
 21              0.7434              0.0138
 22              0.7569              0.0134
 23              0.7699              0.0131
 24              0.7826              0.0127
 25              0.7950              0.0124
 26              0.8071              0.0121
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27	0.8189	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8528	0.0110
31	0.8636	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9525	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1058	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1408	0.0069
65	1.1477	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2714	0.0062
85	1.2775	0.0062
86	1.2837	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3710	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5154	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6884	0.0041
169	1.6925	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8854	0.0035
221	1.8889	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1051	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0086
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0516	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2219	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 25.05(CFS)

++

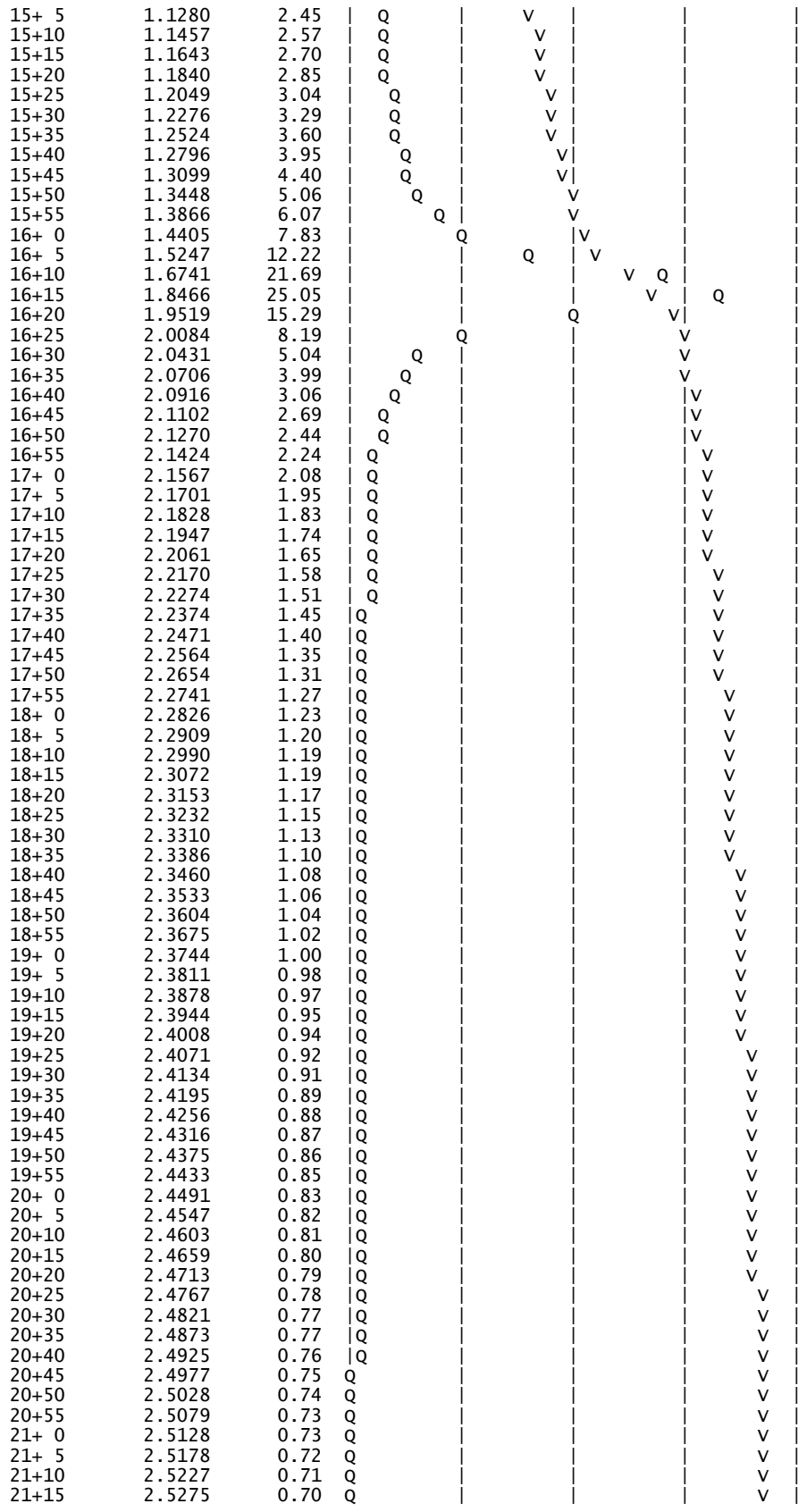
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0002	0.03	Q				
0+10	0.0014	0.17	Q				
0+15	0.0040	0.39	Q				
0+20	0.0074	0.49	Q				
0+25	0.0110	0.52	Q				
0+30	0.0147	0.53	Q				
0+35	0.0184	0.54	Q				
0+40	0.0221	0.54	Q				
0+45	0.0259	0.54	Q				
0+50	0.0297	0.55	Q				
0+55	0.0334	0.55	Q				
1+ 0	0.0372	0.55	Q				
1+ 5	0.0410	0.55	Q				
1+10	0.0448	0.55	Q				
1+15	0.0486	0.55	Q				
1+20	0.0525	0.56	Q				
1+25	0.0563	0.56	Q				
1+30	0.0602	0.56	Q				
1+35	0.0640	0.56	Q				
1+40	0.0679	0.56	QV				
1+45	0.0718	0.57	QV				
1+50	0.0757	0.57	QV				
1+55	0.0797	0.57	QV				
2+ 0	0.0836	0.57	QV				
2+ 5	0.0876	0.57	QV				
2+10	0.0915	0.58	QV				
2+15	0.0955	0.58	QV				
2+20	0.0995	0.58	QV				
2+25	0.1035	0.58	QV				
2+30	0.1075	0.58	QV				

2+35	0.1116	0.59	QV	|	|	|	|
2+40	0.1156	0.59	QV	|	|	|	|
2+45	0.1197	0.59	QV	|	|	|	|
2+50	0.1238	0.59	QV	|	|	|	|
2+55	0.1279	0.59	QV	|	|	|	|
3+ 0	0.1320	0.60	QV	|	|	|	|
3+ 5	0.1361	0.60	Q V	|	|	|	|
3+10	0.1403	0.60	Q V	|	|	|	|
3+15	0.1444	0.60	Q V	|	|	|	|
3+20	0.1486	0.61	Q V	|	|	|	|
3+25	0.1528	0.61	Q V	|	|	|	|
3+30	0.1570	0.61	Q V	|	|	|	|
3+35	0.1612	0.61	Q V	|	|	|	|
3+40	0.1654	0.62	Q V	|	|	|	|
3+45	0.1697	0.62	Q V	|	|	|	|
3+50	0.1740	0.62	Q V	|	|	|	|
3+55	0.1783	0.62	Q V	|	|	|	|
4+ 0	0.1826	0.63	Q V	|	|	|	|
4+ 5	0.1869	0.63	Q V	|	|	|	|
4+10	0.1912	0.63	Q V	|	|	|	|
4+15	0.1956	0.63	Q V	|	|	|	|
4+20	0.2000	0.64	Q V	|	|	|	|
4+25	0.2044	0.64	Q V	|	|	|	|
4+30	0.2088	0.64	Q V	|	|	|	|
4+35	0.2132	0.64	Q V	|	|	|	|
4+40	0.2177	0.65	Q V	|	|	|	|
4+45	0.2221	0.65	Q V	|	|	|	|
4+50	0.2266	0.65	Q V	|	|	|	|
4+55	0.2311	0.65	Q V	|	|	|	|
5+ 0	0.2357	0.66	Q V	|	|	|	|
5+ 5	0.2402	0.66	Q V	|	|	|	|
5+10	0.2448	0.66	Q V	|	|	|	|
5+15	0.2494	0.67	Q V	|	|	|	|
5+20	0.2540	0.67	Q V	|	|	|	|
5+25	0.2586	0.67	Q V	|	|	|	|
5+30	0.2633	0.68	Q V	|	|	|	|
5+35	0.2680	0.68	Q V	|	|	|	|
5+40	0.2727	0.68	Q V	|	|	|	|
5+45	0.2774	0.69	Q V	|	|	|	|
5+50	0.2821	0.69	Q V	|	|	|	|
5+55	0.2869	0.69	Q V	|	|	|	|
6+ 0	0.2917	0.69	Q V	|	|	|	|
6+ 5	0.2965	0.70	Q V	|	|	|	|
6+10	0.3013	0.70	Q V	|	|	|	|
6+15	0.3062	0.71	Q V	|	|	|	|
6+20	0.3110	0.71	Q V	|	|	|	|
6+25	0.3159	0.71	Q V	|	|	|	|
6+30	0.3209	0.72	Q V	|	|	|	|
6+35	0.3258	0.72	Q V	|	|	|	|
6+40	0.3308	0.72	Q V	|	|	|	|
6+45	0.3358	0.73	Q V	|	|	|	|
6+50	0.3409	0.73	Q V	|	|	|	|
6+55	0.3459	0.73	Q V	|	|	|	|
7+ 0	0.3510	0.74	Q V	|	|	|	|
7+ 5	0.3561	0.74	Q V	|	|	|	|
7+10	0.3613	0.75	Q V	|	|	|	|
7+15	0.3664	0.75	|Q V	|	|	|	|
7+20	0.3716	0.75	|Q V	|	|	|	|
7+25	0.3768	0.76	|Q V	|	|	|	|
7+30	0.3821	0.76	|Q V	|	|	|	|
7+35	0.3874	0.77	|Q V	|	|	|	|
7+40	0.3927	0.77	|Q V	|	|	|	|
7+45	0.3980	0.78	|Q V	|	|	|	|
7+50	0.4034	0.78	|Q V	|	|	|	|
7+55	0.4088	0.79	|Q V	|	|	|	|
8+ 0	0.4143	0.79	|Q V	|	|	|	|
8+ 5	0.4198	0.79	|Q V	|	|	|	|
8+10	0.4253	0.80	|Q V	|	|	|	|
8+15	0.4308	0.80	|Q V	|	|	|	|
8+20	0.4364	0.81	|Q V	|	|	|	|
8+25	0.4420	0.81	|Q V	|	|	|	|
8+30	0.4476	0.82	|Q V	|	|	|	|
8+35	0.4533	0.83	|Q V	|	|	|	|
8+40	0.4590	0.83	|Q V	|	|	|	|
8+45	0.4648	0.84	|Q V	|	|	|	|

8+50	0.4706	0.84	Q	V			
8+55	0.4764	0.85	Q	V			
9+ 0	0.4823	0.85	Q	V			
9+ 5	0.4882	0.86	Q	V			
9+10	0.4942	0.86	Q	V			
9+15	0.5002	0.87	Q	V			
9+20	0.5062	0.88	Q	V			
9+25	0.5123	0.88	Q	V			
9+30	0.5184	0.89	Q	V			
9+35	0.5246	0.90	Q	V			
9+40	0.5308	0.90	Q	V			
9+45	0.5371	0.91	Q	V			
9+50	0.5434	0.92	Q	V			
9+55	0.5498	0.92	Q	V			
10+ 0	0.5562	0.93	Q	V			
10+ 5	0.5626	0.94	Q	V			
10+10	0.5692	0.95	Q	V			
10+15	0.5757	0.95	Q	V			
10+20	0.5824	0.96	Q	V			
10+25	0.5890	0.97	Q	V			
10+30	0.5958	0.98	Q	V			
10+35	0.6026	0.99	Q	V			
10+40	0.6094	1.00	Q	V			
10+45	0.6164	1.00	Q	V			
10+50	0.6233	1.01	Q	V			
10+55	0.6304	1.02	Q	V			
11+ 0	0.6375	1.03	Q	V			
11+ 5	0.6447	1.04	Q	V			
11+10	0.6519	1.05	Q	V			
11+15	0.6592	1.06	Q	V			
11+20	0.6666	1.07	Q	V			
11+25	0.6741	1.08	Q	V			
11+30	0.6816	1.10	Q	V			
11+35	0.6893	1.11	Q	V			
11+40	0.6970	1.12	Q	V			
11+45	0.7048	1.13	Q	V			
11+50	0.7126	1.14	Q	V			
11+55	0.7206	1.16	Q	V			
12+ 0	0.7287	1.17	Q	V			
12+ 5	0.7368	1.18	Q	V			
12+10	0.7449	1.17	Q	V			
12+15	0.7529	1.16	Q	V			
12+20	0.7609	1.16	Q	V			
12+25	0.7689	1.17	Q	V			
12+30	0.7771	1.19	Q	V			
12+35	0.7854	1.20	Q	V			
12+40	0.7938	1.22	Q	V			
12+45	0.8023	1.24	Q	V			
12+50	0.8109	1.25	Q	V			
12+55	0.8197	1.27	Q	V			
13+ 0	0.8286	1.29	Q	V			
13+ 5	0.8377	1.32	Q	V			
13+10	0.8469	1.34	Q	V			
13+15	0.8562	1.36	Q	V			
13+20	0.8658	1.38	Q	V			
13+25	0.8755	1.41	Q	V			
13+30	0.8854	1.44	Q	V			
13+35	0.8954	1.46	Q	V			
13+40	0.9057	1.49	Q	V			
13+45	0.9162	1.52	Q	V			
13+50	0.9269	1.56	Q	V			
13+55	0.9379	1.59	Q	V			
14+ 0	0.9491	1.63	Q	V			
14+ 5	0.9605	1.66	Q	V			
14+10	0.9723	1.71	Q	V			
14+15	0.9843	1.75	Q	V			
14+20	0.9967	1.80	Q	V			
14+25	1.0095	1.85	Q	V			
14+30	1.0226	1.90	Q	V			
14+35	1.0361	1.96	Q	V			
14+40	1.0500	2.03	Q	V			
14+45	1.0645	2.10	Q	V			
14+50	1.0794	2.17	Q	V			
14+55	1.0950	2.26	Q	V			
15+ 0	1.1111	2.35	Q	V			



```
   21+20       2.5323      0.70  Q          |          |          |      V  |
   21+25       2.5371      0.69  Q          |          |          |      V  |
   21+30       2.5418      0.68  Q          |          |          |       V |
   21+35       2.5465      0.68  Q          |          |          |       V |
   21+40       2.5511      0.67  Q          |          |          |       V |
   21+45       2.5557      0.67  Q          |          |          |       V |
   21+50       2.5602      0.66  Q          |          |          |       V |
   21+55       2.5647      0.65  Q          |          |          |       V |
   22+ 0       2.5692      0.65  Q          |          |          |       V |
   22+ 5       2.5736      0.64  Q          |          |          |       V |
   22+10       2.5780      0.64  Q          |          |          |       V |
   22+15       2.5824      0.63  Q          |          |          |       V |
   22+20       2.5867      0.63  Q          |          |          |       V |
   22+25       2.5910      0.62  Q          |          |          |       V |
   22+30       2.5952      0.62  Q          |          |          |       V |
   22+35       2.5994      0.61  Q          |          |          |       V |
   22+40       2.6036      0.61  Q          |          |          |       V |
   22+45       2.6078      0.60  Q          |          |          |        V|
   22+50       2.6119      0.60  Q          |          |          |        V|
   22+55       2.6160      0.59  Q          |          |          |        V|
   23+ 0       2.6200      0.59  Q          |          |          |        V|
   23+ 5       2.6241      0.59  Q          |          |          |        V|
   23+10       2.6281      0.58  Q          |          |          |        V|
   23+15       2.6320      0.58  Q          |          |          |        V|
   23+20       2.6360      0.57  Q          |          |          |        V|
   23+25       2.6399      0.57  Q          |          |          |        V|
   23+30       2.6438      0.57  Q          |          |          |        V|
   23+35       2.6477      0.56  Q          |          |          |        V|
   23+40       2.6515      0.56  Q          |          |          |        V|
   23+45       2.6553      0.55  Q          |          |          |        V|
   23+50       2.6591      0.55  Q          |          |          |        V|
   23+55       2.6629      0.55  Q          |          |          |        V|
   24+ 0       2.6666      0.54  Q          |          |          |        V|
   24+ 5       2.6702      0.51  Q          |          |          |        V|
   24+10       2.6727      0.37  Q          |          |          |        V|
   24+15       2.6737      0.15  Q          |          |          |        V|
   24+20       2.6740      0.05  Q          |          |          |        V|
   24+25       2.6741      0.01  Q          |          |          |        V|
   24+30       2.6742      0.01  Q          |          |          |         V
-------------------------------------------------------------------------
```

Project Name: MILESKI ADELANTO
WO: 24-0505
Date: 4/16/2025

UNIT HYDROGRAPH RESULTS

		Post Volume (cf)	Post Volume (acre-ft)	Post Peak (cfs)
100 YR-24 HR	PROP 5A	255,292	5.861	54.05
	PROP 5B	405,382	9.306	85.78
	PROP 5C	142,446	3.270	30.63
	PROP 5D	312,264	7.169	65.07
10YR-24HR	PROP 5A	149,951	3.442	31.92
	PROP 5B	238,103	5.466	50.65
	PROP 5C	83,666	1.921	18.09
	PROP 5D	183,409	4.211	38.41

BASIN ROUTING RESULTS

		Portioned 90% Pre Peak (cfs)	Post Peak (cfs)	Mitigated Peak* (cfs)
100 YR-24 HR	PROP 5A (1.2% UHEXOFF)	5.75	54.05	TBD
	PROP 5B (18.2% UHEXEASTOFF)	25.42	85.78	TBD
	PROP 5C (0.6% UHEXOFF)	2.88	30.63	TBD
	PROP 5D (14.1% UHEXEASTOFF)	19.69	65.07	TBD
10YR-24HR	PROP 5A (1.2% UHEXOFF)	3.88	31.92	TBD
	PROP 5B (18.2% UHEXEASTOFF)	13.44	50.65	TBD
	PROP 5C (0.6% UHEXOFF)	1.94	18.09	TBD
	PROP 5D (14.1% UHEXEASTOFF)	10.41	38.41	TBD

SBC Detention Basin Design Guidelines state that:

i) Post-development peak flow rate generated by the site shall be less than 90% of the pre-development peak

II) 100-year pre-development peak flow rates shall be calculated using 25-year rainfall and AMC-II.

Therefore:

$Q_{Post,\ 100\text{-}yr\ 24\text{-}hr} < 90\%\ Q_{Pre,\ 25\text{-}yr\ 24\text{-}hr}$

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0

Study date 04/15/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6585

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 5A
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 5APROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
23.30	1	0.60
Rainfall data for year 2		
23.30	6	0.70
Rainfall data for year 2		
23.30	24	1.20
Rainfall data for year 100		
23.30	1	1.00
Rainfall data for year 100		
23.30	6	1.90
Rainfall data for year 100		
23.30	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	23.30	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.33	0.100	69.0	69.0	4.49	0.121
20.97	0.900	98.0	98.0	0.20	0.892

Area-averaged catchment yield fraction, Y = 0.815
Area-averaged low loss fraction, Yb = 0.185
User entry of time of concentration = 0.210 (hours)
++
Watershed area = 23.30(Ac.)
Catchment Lag time = 0.168 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 49.6032
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.222(In)
Computed peak 30-minute rainfall = 0.455(In)
Specified peak 1-hour rainfall = 0.600(In)
Computed peak 3-hour rainfall = 0.915(In)
Specified peak 6-hour rainfall = 1.194(In)
Specified peak 24-hour rainfall = 2.105(In)

Rainfall depth area reduction factors:
Using a total area of 23.30(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.222(In)
30-minute factor = 0.999 Adjusted rainfall = 0.454(In)
1-hour factor = 0.999 Adjusted rainfall = 0.599(In)
3-hour factor = 1.000 Adjusted rainfall = 0.915(In)
6-hour factor = 1.000 Adjusted rainfall = 1.194(In)
24-hour factor = 1.000 Adjusted rainfall = 2.105(In)

U n i t H y d r o g r a p h

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 281.78 (CFS))	
1	4.508	12.704
2	29.352	70.006
3	68.171	109.385
4	89.593	60.364
5	96.887	20.554
6	98.711	5.139
7	99.597	2.498
8	100.000	1.135

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.2218	0.2218
2	0.2927	0.0709
3	0.3442	0.0515
4	0.3862	0.0420
5	0.4223	0.0361
6	0.4542	0.0319
7	0.4831	0.0289
8	0.5096	0.0265
9	0.5342	0.0246
10	0.5572	0.0230
11	0.5788	0.0217
12	0.5993	0.0205
13	0.6181	0.0187
14	0.6360	0.0179
15	0.6531	0.0171
16	0.6695	0.0164
17	0.6853	0.0158
18	0.7005	0.0152
19	0.7153	0.0147
20	0.7295	0.0143
21	0.7433	0.0138
22	0.7568	0.0134
23	0.7698	0.0131
24	0.7825	0.0127
25	0.7949	0.0124

26	0.8070	0.0121
27	0.8188	0.0118
28	0.8304	0.0115
29	0.8416	0.0113
30	0.8527	0.0111
31	0.8635	0.0108
32	0.8741	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9243	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9704	0.0089
43	0.9793	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0049	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0376	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1339	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2525	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3427	0.0057
97	1.3484	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056

101	1.3709	0.0056
102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4249	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4761	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5624	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5985	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040

176	1.7208	0.0040
177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7601	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7755	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7907	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8425	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8605	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9199	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9335	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9503	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033

251	1.9898	0.0032
252	1.9931	0.0032
253	1.9963	0.0032
254	1.9995	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0839	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027

33	0.0033	0.0006	0.0027
34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039

108	0.0048	0.0009	0.0039
109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0111	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129

183	0.0171	0.0032	0.0139
184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0319	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031

258	0.0038	0.0007	0.0031
259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 31.92(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

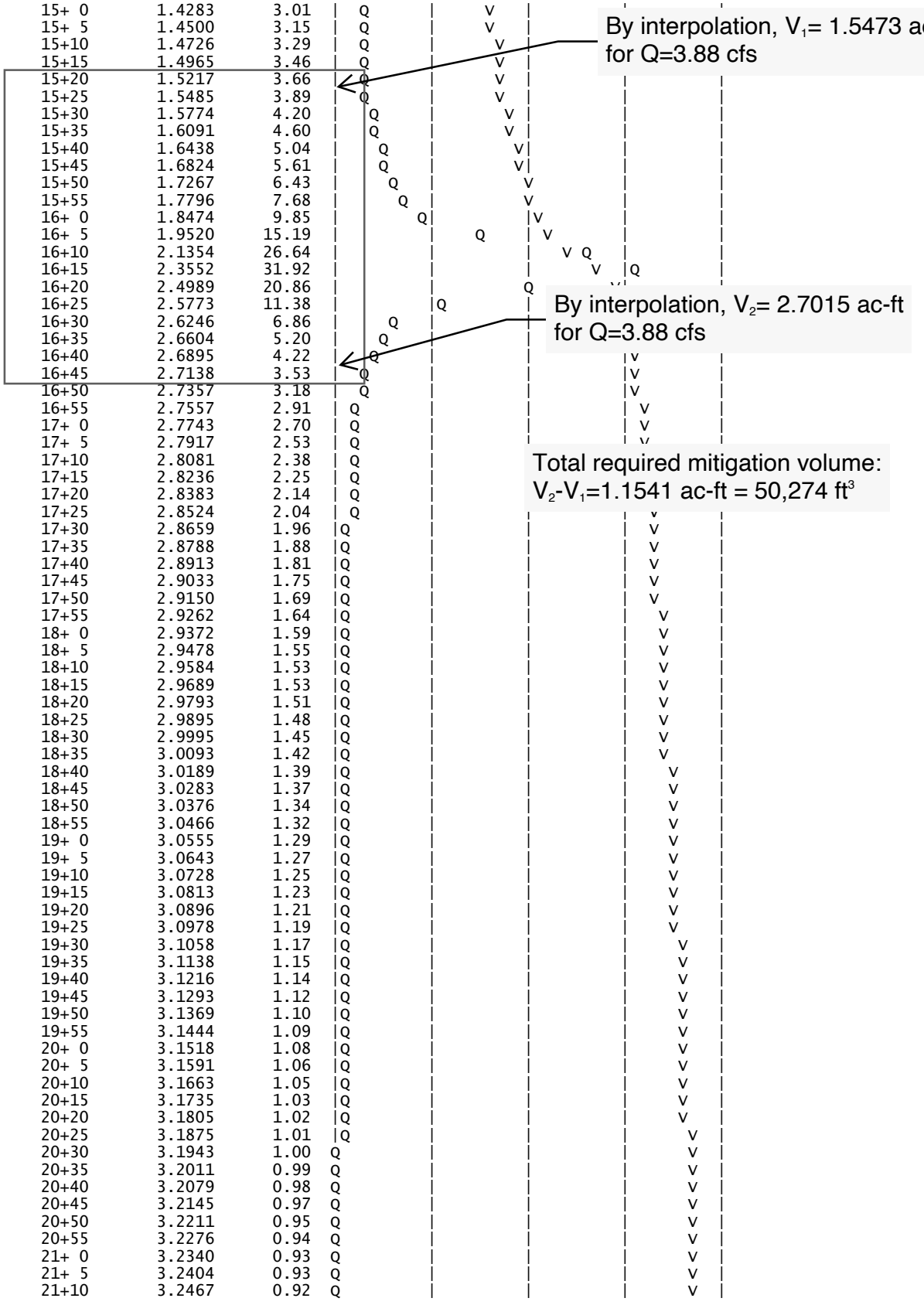
Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0016	0.20	Q	|	|	|	|
0+15	0.0048	0.47	Q	|	|	|	|
0+20	0.0091	0.62	Q	|	|	|	|
0+25	0.0137	0.67	Q	|	|	|	|
0+30	0.0184	0.68	Q	|	|	|	|
0+35	0.0232	0.69	Q	|	|	|	|
0+40	0.0280	0.70	Q	|	|	|	|
0+45	0.0328	0.70	Q	|	|	|	|
0+50	0.0377	0.70	Q	|	|	|	|
0+55	0.0425	0.70	Q	|	|	|	|
1+ 0	0.0474	0.71	Q	|	|	|	|
1+ 5	0.0523	0.71	Q	|	|	|	|
1+10	0.0572	0.71	Q	|	|	|	|
1+15	0.0621	0.71	Q	|	|	|	|
1+20	0.0670	0.72	Q	|	|	|	|
1+25	0.0720	0.72	Q	|	|	|	|
1+30	0.0770	0.72	Q	|	|	|	|
1+35	0.0819	0.72	Q	|	|	|	|
1+40	0.0869	0.73	QV	|	|	|	|
1+45	0.0920	0.73	QV	|	|	|	|
1+50	0.0970	0.73	QV	|	|	|	|
1+55	0.1020	0.73	QV	|	|	|	|
2+ 0	0.1071	0.74	QV	|	|	|	|
2+ 5	0.1122	0.74	QV	|	|	|	|
2+10	0.1173	0.74	QV	|	|	|	|
2+15	0.1224	0.74	QV	|	|	|	|
2+20	0.1276	0.75	QV	|	|	|	|
2+25	0.1327	0.75	QV	|	|	|	|

2+30	0.1379	0.75	QV	|	|	|	|
2+35	0.1431	0.75	QV	|	|	|	|
2+40	0.1483	0.76	QV	|	|	|	|
2+45	0.1535	0.76	QV	|	|	|	|
2+50	0.1588	0.76	QV	|	|	|	|
2+55	0.1641	0.77	QV	|	|	|	|
3+ 0	0.1694	0.77	QV	|	|	|	|
3+ 5	0.1747	0.77	Q V	|	|	|	|
3+10	0.1800	0.77	Q V	|	|	|	|
3+15	0.1853	0.78	Q V	|	|	|	|
3+20	0.1907	0.78	Q V	|	|	|	|
3+25	0.1961	0.78	Q V	|	|	|	|
3+30	0.2015	0.79	Q V	|	|	|	|
3+35	0.2070	0.79	Q V	|	|	|	|
3+40	0.2124	0.79	Q V	|	|	|	|
3+45	0.2179	0.80	Q V	|	|	|	|
3+50	0.2234	0.80	Q V	|	|	|	|
3+55	0.2289	0.80	Q V	|	|	|	|
4+ 0	0.2345	0.80	Q V	|	|	|	|
4+ 5	0.2400	0.81	Q V	|	|	|	|
4+10	0.2456	0.81	Q V	|	|	|	|
4+15	0.2512	0.81	Q V	|	|	|	|
4+20	0.2568	0.82	Q V	|	|	|	|
4+25	0.2625	0.82	Q V	|	|	|	|
4+30	0.2682	0.82	Q V	|	|	|	|
4+35	0.2739	0.83	Q V	|	|	|	|
4+40	0.2796	0.83	Q V	|	|	|	|
4+45	0.2854	0.84	Q V	|	|	|	|
4+50	0.2912	0.84	Q V	|	|	|	|
4+55	0.2970	0.84	Q V	|	|	|	|
5+ 0	0.3028	0.85	Q V	|	|	|	|
5+ 5	0.3086	0.85	Q V	|	|	|	|
5+10	0.3145	0.85	Q V	|	|	|	|
5+15	0.3204	0.86	Q V	|	|	|	|
5+20	0.3264	0.86	Q V	|	|	|	|
5+25	0.3323	0.87	Q V	|	|	|	|
5+30	0.3383	0.87	Q V	|	|	|	|
5+35	0.3443	0.87	Q V	|	|	|	|
5+40	0.3504	0.88	Q V	|	|	|	|
5+45	0.3564	0.88	Q V	|	|	|	|
5+50	0.3625	0.89	Q V	|	|	|	|
5+55	0.3687	0.89	Q V	|	|	|	|
6+ 0	0.3748	0.89	Q V	|	|	|	|
6+ 5	0.3810	0.90	Q V	|	|	|	|
6+10	0.3872	0.90	Q V	|	|	|	|
6+15	0.3935	0.91	Q V	|	|	|	|
6+20	0.3998	0.91	Q V	|	|	|	|
6+25	0.4061	0.92	Q V	|	|	|	|
6+30	0.4124	0.92	Q V	|	|	|	|
6+35	0.4188	0.93	Q V	|	|	|	|
6+40	0.4252	0.93	Q V	|	|	|	|
6+45	0.4316	0.94	Q V	|	|	|	|
6+50	0.4381	0.94	Q V	|	|	|	|
6+55	0.4446	0.95	Q V	|	|	|	|
7+ 0	0.4512	0.95	Q V	|	|	|	|
7+ 5	0.4577	0.96	Q V	|	|	|	|
7+10	0.4644	0.96	Q V	|	|	|	|
7+15	0.4710	0.97	Q V	|	|	|	|
7+20	0.4777	0.97	Q V	|	|	|	|
7+25	0.4844	0.98	Q V	|	|	|	|
7+30	0.4912	0.98	Q V	|	|	|	|
7+35	0.4980	0.99	Q V	|	|	|	|
7+40	0.5048	0.99	Q V	|	|	|	|
7+45	0.5117	1.00	Q V	|	|	|	|
7+50	0.5186	1.00	|Q V	|	|	|	|
7+55	0.5256	1.01	|Q V	|	|	|	|
8+ 0	0.5326	1.02	|Q V	|	|	|	|
8+ 5	0.5396	1.02	|Q V	|	|	|	|
8+10	0.5467	1.03	|Q V	|	|	|	|
8+15	0.5538	1.04	|Q V	|	|	|	|
8+20	0.5610	1.04	|Q V	|	|	|	|
8+25	0.5682	1.05	|Q V	|	|	|	|
8+30	0.5755	1.05	|Q V	|	|	|	|
8+35	0.5828	1.06	|Q V	|	|	|	|
8+40	0.5902	1.07	|Q V	|	|	|	|

8+45	0.5976	1.08	Q V				
8+50	0.6050	1.08	Q V				
8+55	0.6125	1.09	Q V				
9+ 0	0.6201	1.10	Q V				
9+ 5	0.6277	1.10	Q V				
9+10	0.6354	1.11	Q V				
9+15	0.6431	1.12	Q V				
9+20	0.6508	1.13	Q V				
9+25	0.6587	1.14	Q V				
9+30	0.6666	1.14	Q V				
9+35	0.6745	1.15	Q V				
9+40	0.6825	1.16	Q V				
9+45	0.6906	1.17	Q V				
9+50	0.6987	1.18	Q V				
9+55	0.7069	1.19	Q V				
10+ 0	0.7151	1.20	Q V				
10+ 5	0.7234	1.21	Q V				
10+10	0.7318	1.22	Q V				
10+15	0.7403	1.23	Q V				
10+20	0.7488	1.24	Q V				
10+25	0.7574	1.25	Q V				
10+30	0.7661	1.26	Q V				
10+35	0.7748	1.27	Q V				
10+40	0.7836	1.28	Q V				
10+45	0.7925	1.29	Q V				
10+50	0.8015	1.30	Q V				
10+55	0.8106	1.32	Q V				
11+ 0	0.8197	1.33	Q V				
11+ 5	0.8289	1.34	Q V				
11+10	0.8383	1.35	Q V				
11+15	0.8477	1.37	Q V				
11+20	0.8572	1.38	Q V				
11+25	0.8668	1.39	Q V				
11+30	0.8765	1.41	Q V				
11+35	0.8863	1.42	Q V				
11+40	0.8962	1.44	Q V				
11+45	0.9062	1.45	Q V				
11+50	0.9163	1.47	Q V				
11+55	0.9266	1.49	Q V				
12+ 0	0.9370	1.50	Q V				
12+ 5	0.9474	1.52	Q V				
12+10	0.9578	1.51	Q V				
12+15	0.9681	1.49	Q V				
12+20	0.9784	1.49	Q V				
12+25	0.9888	1.51	Q V				
12+30	0.9993	1.52	Q V				
12+35	1.0099	1.54	Q V				
12+40	1.0207	1.57	Q V				
12+45	1.0316	1.59	Q V				
12+50	1.0427	1.61	Q V				
12+55	1.0540	1.64	Q V				
13+ 0	1.0655	1.66	Q V				
13+ 5	1.0771	1.69	Q V				
13+10	1.0890	1.72	Q V				
13+15	1.1010	1.75	Q V				
13+20	1.1133	1.78	Q V				
13+25	1.1257	1.81	Q V				
13+30	1.1384	1.84	Q V				
13+35	1.1514	1.88	Q V				
13+40	1.1646	1.92	Q V				
13+45	1.1781	1.96	Q V				
13+50	1.1918	2.00	Q V				
13+55	1.2059	2.04	Q V				
14+ 0	1.2203	2.09	Q V				
14+ 5	1.2350	2.14	Q V				
14+10	1.2501	2.19	Q V				
14+15	1.2656	2.25	Q V				
14+20	1.2815	2.31	Q V				
14+25	1.2978	2.38	Q V				
14+30	1.3147	2.44	Q V				
14+35	1.3320	2.52	Q V				
14+40	1.3499	2.60	Q V				
14+45	1.3684	2.69	Q V				
14+50	1.3876	2.79	Q V				
14+55	1.4076	2.89	Q V				

90% QPre, 5-yr 24-hr = 3.88 cfs
(1.2% UHEXOFF)



15+ 0	1.4283	3.01	Q V
15+ 5	1.4500	3.15	Q V
15+10	1.4726	3.29	Q V
15+15	1.4965	3.46	Q V
15+20	1.5217	3.66	Q V
15+25	1.5485	3.89	Q V
15+30	1.5774	4.20	Q V
15+35	1.6091	4.60	Q V
15+40	1.6438	5.04	Q V
15+45	1.6824	5.61	Q V
15+50	1.7267	6.43	Q V
15+55	1.7796	7.68	Q V
16+ 0	1.8474	9.85	Q V
16+ 5	1.9520	15.19	Q V
16+10	2.1354	26.64	V Q
16+15	2.3552	31.92	V Q
16+20	2.4989	20.86	Q V
16+25	2.5773	11.38	Q V
16+30	2.6246	6.86	Q V
16+35	2.6604	5.20	Q V
16+40	2.6895	4.22	Q V
16+45	2.7138	3.53	Q V
16+50	2.7357	3.18	Q V
16+55	2.7557	2.91	Q V
17+ 0	2.7743	2.70	Q V
17+ 5	2.7917	2.53	Q V
17+10	2.8081	2.38	Q V
17+15	2.8236	2.25	Q V
17+20	2.8383	2.14	Q V
17+25	2.8524	2.04	Q V
17+30	2.8659	1.96	Q V
17+35	2.8788	1.88	Q V
17+40	2.8913	1.81	Q V
17+45	2.9033	1.75	Q V
17+50	2.9150	1.69	Q V
17+55	2.9262	1.64	Q V
18+ 0	2.9372	1.59	Q V
18+ 5	2.9478	1.55	Q V
18+10	2.9584	1.53	Q V
18+15	2.9689	1.53	Q V
18+20	2.9793	1.51	Q V
18+25	2.9895	1.48	Q V
18+30	2.9995	1.45	Q V
18+35	3.0093	1.42	Q V
18+40	3.0189	1.39	Q V
18+45	3.0283	1.37	Q V
18+50	3.0376	1.34	Q V
18+55	3.0466	1.32	Q V
19+ 0	3.0555	1.29	Q V
19+ 5	3.0643	1.27	Q V
19+10	3.0728	1.25	Q V
19+15	3.0813	1.23	Q V
19+20	3.0896	1.21	Q V
19+25	3.0978	1.19	Q V
19+30	3.1058	1.17	Q V
19+35	3.1138	1.15	Q V
19+40	3.1216	1.14	Q V
19+45	3.1293	1.12	Q V
19+50	3.1369	1.10	Q V
19+55	3.1444	1.09	Q V
20+ 0	3.1518	1.08	Q V
20+ 5	3.1591	1.06	Q V
20+10	3.1663	1.05	Q V
20+15	3.1735	1.03	Q V
20+20	3.1805	1.02	Q V
20+25	3.1875	1.01	Q V
20+30	3.1943	1.00	Q V
20+35	3.2011	0.99	Q V
20+40	3.2079	0.98	Q V
20+45	3.2145	0.97	Q V
20+50	3.2211	0.95	Q V
20+55	3.2276	0.94	Q V
21+ 0	3.2340	0.93	Q V
21+ 5	3.2404	0.93	Q V
21+10	3.2467	0.92	Q V

```
  21+15       3.2530      0.91  Q          |          |          |      V  |
  21+20       3.2592      0.90  Q          |          |          |      V  |
  21+25       3.2653      0.89  Q          |          |          |      V  |
  21+30       3.2713      0.88  Q          |          |          |       V |
  21+35       3.2774      0.87  Q          |          |          |       V |
  21+40       3.2833      0.87  Q          |          |          |       V |
  21+45       3.2892      0.86  Q          |          |          |       V |
  21+50       3.2951      0.85  Q          |          |          |       V |
  21+55       3.3009      0.84  Q          |          |          |       V |
  22+ 0       3.3066      0.84  Q          |          |          |       V |
  22+ 5       3.3123      0.83  Q          |          |          |       V |
  22+10       3.3180      0.82  Q          |          |          |       V |
  22+15       3.3236      0.81  Q          |          |          |       V |
  22+20       3.3292      0.81  Q          |          |          |       V |
  22+25       3.3347      0.80  Q          |          |          |       V |
  22+30       3.3402      0.79  Q          |          |          |       V |
  22+35       3.3456      0.79  Q          |          |          |       V |
  22+40       3.3510      0.78  Q          |          |          |       V |
  22+45       3.3563      0.78  Q          |          |          |        V|
  22+50       3.3616      0.77  Q          |          |          |        V|
  22+55       3.3669      0.77  Q          |          |          |        V|
  23+ 0       3.3721      0.76  Q          |          |          |        V|
  23+ 5       3.3773      0.75  Q          |          |          |        V|
  23+10       3.3825      0.75  Q          |          |          |        V|
  23+15       3.3876      0.74  Q          |          |          |        V|
  23+20       3.3927      0.74  Q          |          |          |        V|
  23+25       3.3977      0.73  Q          |          |          |        V|
  23+30       3.4028      0.73  Q          |          |          |        V|
  23+35       3.4077      0.72  Q          |          |          |        V|
  23+40       3.4127      0.72  Q          |          |          |        V|
  23+45       3.4176      0.71  Q          |          |          |        V|
  23+50       3.4225      0.71  Q          |          |          |        V|
  23+55       3.4273      0.70  Q          |          |          |        V|
  24+ 0       3.4322      0.70  Q          |          |          |        V|
  24+ 5       3.4367      0.66  Q          |          |          |        V|
  24+10       3.4401      0.49  Q          |          |          |        V|
  24+15       3.4416      0.22  Q          |          |          |        V|
  24+20       3.4421      0.07  Q          |          |          |        V|
  24+25       3.4423      0.02  Q          |          |          |        V|
  24+30       3.4423      0.01  Q          |          |          |        V|
  24+35       3.4424      0.00  Q          |          |          |        V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/15/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6585

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 5B
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 5BPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
37.00	1	0.60
Rainfall data for year 2		
37.00	6	0.70
Rainfall data for year 2		
37.00	24	1.20
Rainfall data for year 100		
37.00	1	1.00
Rainfall data for year 100		
37.00	6	1.90
Rainfall data for year 100		
37.00	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	37.00	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
3.70	0.100	69.0	69.0	4.49	0.121
33.30	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.210 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      37.00(Ac.)
Catchment Lag time =   0.168 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 49.6032
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      37.00(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998     Adjusted rainfall =  0.222(In)
30-minute factor = 0.998    Adjusted rainfall =  0.454(In)
1-hour factor = 0.998       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       447.47 (CFS))

  1                4.508                  20.174
  2               29.352                 111.169
  3               68.171                 173.701
  4               89.593                  95.857
  5               96.887                  32.639
  6               98.711                   8.160
  7               99.597                   3.967
  8              100.000                   1.802
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2217              0.2217
  2              0.2925              0.0708
  3              0.3440              0.0515
  4              0.3860              0.0420
  5              0.4220              0.0360
  6              0.4539              0.0319
  7              0.4828              0.0289
  8              0.5093              0.0265
  9              0.5339              0.0246
 10              0.5568              0.0230
 11              0.5785              0.0216
 12              0.5990              0.0205
 13              0.6177              0.0188
 14              0.6356              0.0179
 15              0.6527              0.0171
 16              0.6692              0.0164
 17              0.6850              0.0158
 18              0.7002              0.0153
 19              0.7150              0.0147
 20              0.7292              0.0143
 21              0.7431              0.0138
 22              0.7565              0.0134
 23              0.7696              0.0131
 24              0.7823              0.0127
 25              0.7947              0.0124
```

26	0.8068	0.0121
27	0.8186	0.0118
28	0.8302	0.0116
29	0.8415	0.0113
30	0.8525	0.0111
31	0.8634	0.0108
32	0.8740	0.0106
33	0.8844	0.0104
34	0.8947	0.0102
35	0.9047	0.0100
36	0.9146	0.0099
37	0.9243	0.0097
38	0.9338	0.0095
39	0.9431	0.0094
40	0.9524	0.0092
41	0.9614	0.0091
42	0.9704	0.0089
43	0.9792	0.0088
44	0.9879	0.0087
45	0.9964	0.0086
46	1.0049	0.0084
47	1.0132	0.0083
48	1.0214	0.0082
49	1.0296	0.0081
50	1.0376	0.0080
51	1.0455	0.0079
52	1.0533	0.0078
53	1.0611	0.0077
54	1.0687	0.0076
55	1.0763	0.0076
56	1.0837	0.0075
57	1.0911	0.0074
58	1.0984	0.0073
59	1.1057	0.0072
60	1.1128	0.0072
61	1.1199	0.0071
62	1.1269	0.0070
63	1.1339	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1543	0.0067
67	1.1610	0.0067
68	1.1676	0.0066
69	1.1742	0.0066
70	1.1807	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2003	0.0068
74	1.2070	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2268	0.0065
78	1.2333	0.0065
79	1.2397	0.0064
80	1.2461	0.0064
81	1.2525	0.0064
82	1.2588	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2957	0.0060
89	1.3017	0.0060
90	1.3077	0.0060
91	1.3136	0.0059
92	1.3195	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3369	0.0058
96	1.3427	0.0057
97	1.3484	0.0057
98	1.3541	0.0057
99	1.3597	0.0056
100	1.3653	0.0056

101	1.3709	0.0056
102	1.3764	0.0055
103	1.3819	0.0055
104	1.3874	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4036	0.0054
108	1.4090	0.0054
109	1.4143	0.0053
110	1.4196	0.0053
111	1.4249	0.0053
112	1.4301	0.0052
113	1.4353	0.0052
114	1.4405	0.0052
115	1.4457	0.0052
116	1.4508	0.0051
117	1.4559	0.0051
118	1.4610	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4761	0.0050
122	1.4811	0.0050
123	1.4860	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5056	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5296	0.0048
133	1.5343	0.0047
134	1.5391	0.0047
135	1.5437	0.0047
136	1.5484	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5623	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5760	0.0046
143	1.5805	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5940	0.0045
147	1.5985	0.0045
148	1.6029	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6205	0.0044
153	1.6249	0.0044
154	1.6292	0.0043
155	1.6335	0.0043
156	1.6379	0.0043
157	1.6421	0.0043
158	1.6464	0.0043
159	1.6507	0.0043
160	1.6549	0.0042
161	1.6591	0.0042
162	1.6633	0.0042
163	1.6675	0.0042
164	1.6717	0.0042
165	1.6759	0.0042
166	1.6800	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7046	0.0041
173	1.7087	0.0040
174	1.7127	0.0040
175	1.7167	0.0040

176	1.7207	0.0040
177	1.7247	0.0040
178	1.7287	0.0040
179	1.7327	0.0040
180	1.7366	0.0040
181	1.7406	0.0039
182	1.7445	0.0039
183	1.7484	0.0039
184	1.7523	0.0039
185	1.7562	0.0039
186	1.7601	0.0039
187	1.7640	0.0039
188	1.7678	0.0039
189	1.7717	0.0038
190	1.7755	0.0038
191	1.7793	0.0038
192	1.7831	0.0038
193	1.7869	0.0038
194	1.7907	0.0038
195	1.7945	0.0038
196	1.7982	0.0038
197	1.8020	0.0037
198	1.8057	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8242	0.0037
204	1.8279	0.0037
205	1.8316	0.0037
206	1.8352	0.0037
207	1.8389	0.0036
208	1.8425	0.0036
209	1.8461	0.0036
210	1.8497	0.0036
211	1.8533	0.0036
212	1.8569	0.0036
213	1.8605	0.0036
214	1.8641	0.0036
215	1.8676	0.0036
216	1.8712	0.0036
217	1.8747	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8992	0.0035
225	1.9027	0.0035
226	1.9062	0.0035
227	1.9096	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9199	0.0034
231	1.9233	0.0034
232	1.9267	0.0034
233	1.9301	0.0034
234	1.9335	0.0034
235	1.9369	0.0034
236	1.9402	0.0034
237	1.9436	0.0034
238	1.9470	0.0034
239	1.9503	0.0033
240	1.9536	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9800	0.0033
249	1.9833	0.0033
250	1.9866	0.0033

251	1.9898	0.0032
252	1.9930	0.0032
253	1.9963	0.0032
254	1.9995	0.0032
255	2.0027	0.0032
256	2.0059	0.0032
257	2.0091	0.0032
258	2.0123	0.0032
259	2.0155	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0250	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0376	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0470	0.0031
270	2.0501	0.0031
271	2.0532	0.0031
272	2.0563	0.0031
273	2.0594	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0717	0.0031
278	2.0748	0.0031
279	2.0778	0.0031
280	2.0809	0.0030
281	2.0839	0.0030
282	2.0869	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027

33	0.0033	0.0006	0.0027
34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039

108	0.0048	0.0009	0.0039
109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0111	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0024	0.0104
178	0.0131	0.0024	0.0107
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0153	0.0028	0.0124
182	0.0158	0.0029	0.0129

183	0.0171	0.0032	0.0140
184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0216	0.0040	0.0176
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0319	0.0046	0.0274
190	0.0360	0.0046	0.0315
191	0.0515	0.0046	0.0469
192	0.0708	0.0046	0.0663
193	0.2217	0.0046	0.2171
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0188	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0110
201	0.0124	0.0023	0.0101
202	0.0116	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031

258	0.0038	0.0007	0.0031
259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 50.65(CFS)

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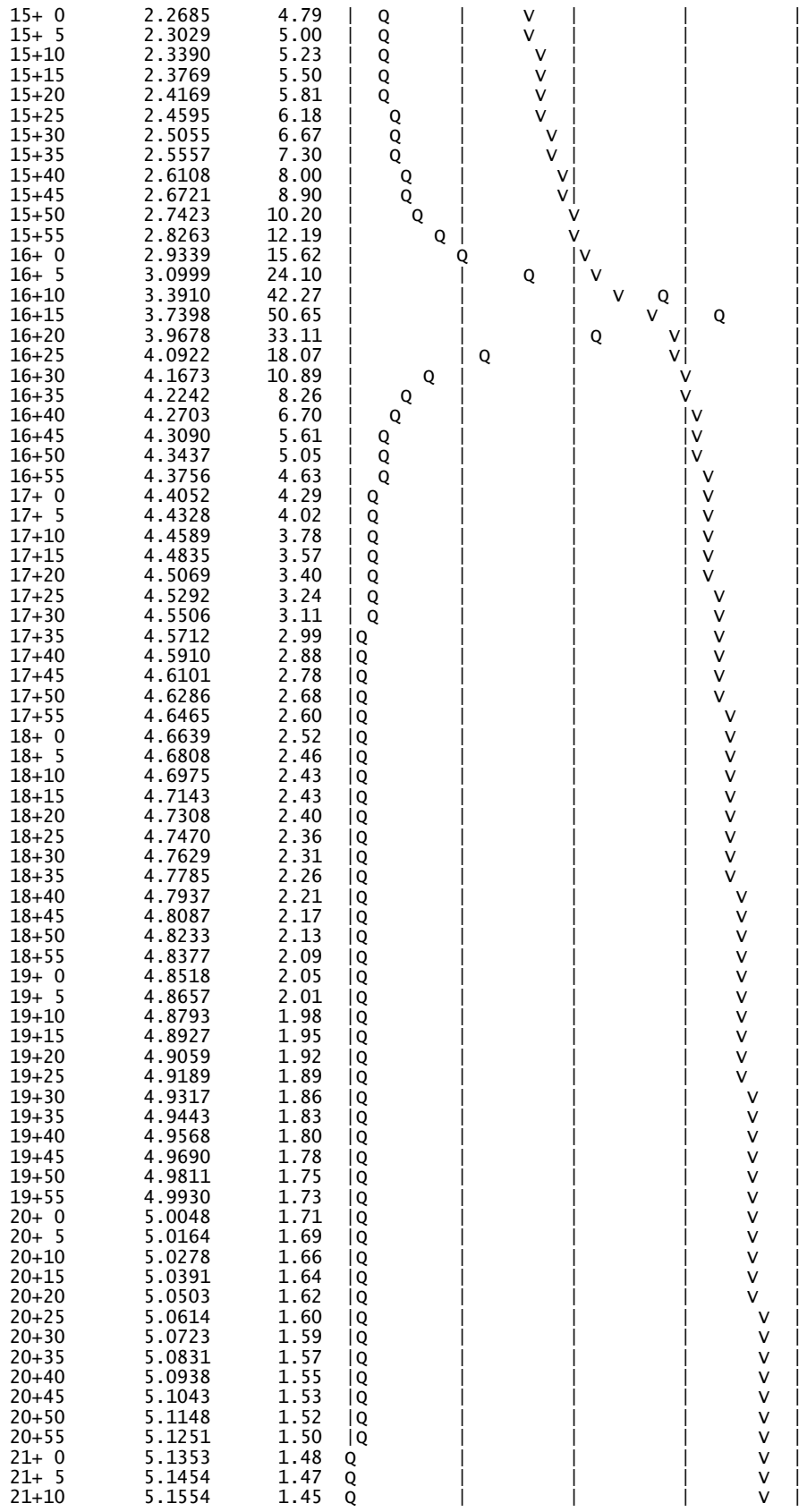
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	15.0	30.0	45.0	60.0
0+ 5	0.0003	0.05	Q	|	|	|	|
0+10	0.0025	0.32	Q	|	|	|	|
0+15	0.0077	0.75	Q	|	|	|	|
0+20	0.0144	0.98	Q	|	|	|	|
0+25	0.0218	1.06	Q	|	|	|	|
0+30	0.0293	1.09	Q	|	|	|	|
0+35	0.0368	1.10	Q	|	|	|	|
0+40	0.0445	1.11	Q	|	|	|	|
0+45	0.0521	1.11	Q	|	|	|	|
0+50	0.0598	1.12	Q	|	|	|	|
0+55	0.0675	1.12	Q	|	|	|	|
1+ 0	0.0753	1.12	Q	|	|	|	|
1+ 5	0.0830	1.13	Q	|	|	|	|
1+10	0.0908	1.13	Q	|	|	|	|
1+15	0.0986	1.13	Q	|	|	|	|
1+20	0.1065	1.14	Q	|	|	|	|
1+25	0.1143	1.14	Q	|	|	|	|
1+30	0.1222	1.15	Q	|	|	|	|
1+35	0.1301	1.15	Q	|	|	|	|
1+40	0.1381	1.15	QV	|	|	|	|
1+45	0.1460	1.16	QV	|	|	|	|
1+50	0.1540	1.16	QV	|	|	|	|
1+55	0.1620	1.16	QV	|	|	|	|
2+ 0	0.1701	1.17	QV	|	|	|	|
2+ 5	0.1782	1.17	QV	|	|	|	|
2+10	0.1863	1.18	QV	|	|	|	|
2+15	0.1944	1.18	QV	|	|	|	|
2+20	0.2026	1.19	QV	|	|	|	|
2+25	0.2108	1.19	QV	|	|	|	|

```
2+30       0.2190      1.19  QV        |         |         |         |
2+35       0.2272      1.20  QV        |         |         |         |
2+40       0.2355      1.20  QV        |         |         |         |
2+45       0.2438      1.21  QV        |         |         |         |
2+50       0.2522      1.21  QV        |         |         |         |
2+55       0.2605      1.22  QV        |         |         |         |
3+ 0       0.2689      1.22  QV        |         |         |         |
3+ 5       0.2774      1.22  Q V       |         |         |         |
3+10       0.2858      1.23  Q V       |         |         |         |
3+15       0.2943      1.23  Q V       |         |         |         |
3+20       0.3029      1.24  Q V       |         |         |         |
3+25       0.3114      1.24  Q V       |         |         |         |
3+30       0.3200      1.25  Q V       |         |         |         |
3+35       0.3287      1.25  Q V       |         |         |         |
3+40       0.3373      1.26  Q V       |         |         |         |
3+45       0.3460      1.26  Q V       |         |         |         |
3+50       0.3547      1.27  Q V       |         |         |         |
3+55       0.3635      1.27  Q V       |         |         |         |
4+ 0       0.3723      1.28  Q V       |         |         |         |
4+ 5       0.3812      1.28  Q V       |         |         |         |
4+10       0.3900      1.29  Q V       |         |         |         |
4+15       0.3989      1.29  Q V       |         |         |         |
4+20       0.4079      1.30  Q V       |         |         |         |
4+25       0.4169      1.30  Q  V      |         |         |         |
4+30       0.4259      1.31  Q  V      |         |         |         |
4+35       0.4349      1.32  Q  V      |         |         |         |
4+40       0.4440      1.32  Q  V      |         |         |         |
4+45       0.4532      1.33  Q  V      |         |         |         |
4+50       0.4624      1.33  Q  V      |         |         |         |
4+55       0.4716      1.34  Q  V      |         |         |         |
5+ 0       0.4808      1.34  Q  V      |         |         |         |
5+ 5       0.4901      1.35  Q  V      |         |         |         |
5+10       0.4995      1.36  Q  V      |         |         |         |
5+15       0.5088      1.36  Q  V      |         |         |         |
5+20       0.5183      1.37  Q  V      |         |         |         |
5+25       0.5277      1.37  Q  V      |         |         |         |
5+30       0.5372      1.38  Q  V      |         |         |         |
5+35       0.5468      1.39  Q   V     |         |         |         |
5+40       0.5564      1.39  Q   V     |         |         |         |
5+45       0.5660      1.40  Q   V     |         |         |         |
5+50       0.5757      1.41  Q   V     |         |         |         |
5+55       0.5854      1.41  Q   V     |         |         |         |
6+ 0       0.5952      1.42  Q   V     |         |         |         |
6+ 5       0.6051      1.43  Q   V     |         |         |         |
6+10       0.6149      1.43  Q   V     |         |         |         |
6+15       0.6249      1.44  Q   V     |         |         |         |
6+20       0.6348      1.45  Q   V     |         |         |         |
6+25       0.6448      1.46  Q   V     |         |         |         |
6+30       0.6549      1.46  Q   V     |         |         |         |
6+35       0.6650      1.47  Q   V     |         |         |         |
6+40       0.6752      1.48  Q   V     |         |         |         |
6+45       0.6854      1.49  Q    V    |         |         |         |
6+50       0.6957      1.49  Q    V    |         |         |         |
6+55       0.7061      1.50  |Q   V    |         |         |         |
7+ 0       0.7165      1.51  |Q   V    |         |         |         |
7+ 5       0.7269      1.52  |Q   V    |         |         |         |
7+10       0.7374      1.53  |Q   V    |         |         |         |
7+15       0.7480      1.53  |Q   V    |         |         |         |
7+20       0.7586      1.54  |Q   V    |         |         |         |
7+25       0.7693      1.55  |Q   V    |         |         |         |
7+30       0.7800      1.56  |Q   V    |         |         |         |
7+35       0.7908      1.57  |Q   V    |         |         |         |
7+40       0.8017      1.58  |Q   V    |         |         |         |
7+45       0.8126      1.59  |Q   V    |         |         |         |
7+50       0.8236      1.60  |Q    V   |         |         |         |
7+55       0.8346      1.60  |Q    V   |         |         |         |
8+ 0       0.8457      1.61  |Q    V   |         |         |         |
8+ 5       0.8569      1.62  |Q    V   |         |         |         |
8+10       0.8682      1.63  |Q    V   |         |         |         |
8+15       0.8795      1.64  |Q    V   |         |         |         |
8+20       0.8909      1.65  |Q    V   |         |         |         |
8+25       0.9024      1.66  |Q    V   |         |         |         |
8+30       0.9139      1.68  |Q    V   |         |         |         |
8+35       0.9255      1.69  |Q    V   |         |         |         |
8+40       0.9372      1.70  |Q    V   |         |         |         |
```

8+45	0.9490	1.71	Q V				
8+50	0.9608	1.72	Q V				
8+55	0.9727	1.73	Q V				
9+ 0	0.9847	1.74	Q V				
9+ 5	0.9968	1.75	Q V				
9+10	1.0090	1.77	Q V				
9+15	1.0212	1.78	Q V				
9+20	1.0336	1.79	Q V				
9+25	1.0460	1.80	Q V				
9+30	1.0585	1.82	Q V				
9+35	1.0711	1.83	Q V				
9+40	1.0838	1.84	Q V				
9+45	1.0966	1.86	Q V				
9+50	1.1095	1.87	Q V				
9+55	1.1225	1.89	Q V				
10+ 0	1.1356	1.90	Q V				
10+ 5	1.1488	1.92	Q V				
10+10	1.1621	1.93	Q V				
10+15	1.1756	1.95	Q V				
10+20	1.1891	1.96	Q V				
10+25	1.2027	1.98	Q V				
10+30	1.2165	2.00	Q V				
10+35	1.2304	2.02	Q V				
10+40	1.2444	2.03	Q V				
10+45	1.2585	2.05	Q V				
10+50	1.2728	2.07	Q V				
10+55	1.2872	2.09	Q V				
11+ 0	1.3017	2.11	Q V				
11+ 5	1.3164	2.13	Q V				
11+10	1.3312	2.15	Q V				
11+15	1.3461	2.17	Q V				
11+20	1.3612	2.19	Q V				
11+25	1.3765	2.21	Q V				
11+30	1.3919	2.24	Q V				
11+35	1.4074	2.26	Q V				
11+40	1.4232	2.29	Q V				
11+45	1.4391	2.31	Q V				
11+50	1.4552	2.34	Q V				
11+55	1.4714	2.36	Q V				
12+ 0	1.4879	2.39	Q V				
12+ 5	1.5045	2.41	Q V				
12+10	1.5210	2.40	Q V				
12+15	1.5374	2.37	Q V				
12+20	1.5537	2.37	Q V				
12+25	1.5702	2.39	Q V				
12+30	1.5868	2.42	Q V				
12+35	1.6037	2.45	Q V				
12+40	1.6209	2.49	Q V				
12+45	1.6383	2.52	Q V				
12+50	1.6559	2.56	Q V				
12+55	1.6738	2.60	Q V				
13+ 0	1.6920	2.64	Q V				
13+ 5	1.7105	2.69	Q V				
13+10	1.7293	2.73	Q V				
13+15	1.7484	2.78	Q V				
13+20	1.7679	2.82	Q V				
13+25	1.7877	2.88	Q V				
13+30	1.8079	2.93	Q V				
13+35	1.8284	2.99	Q V				
13+40	1.8494	3.04	Q V				
13+45	1.8708	3.11	Q V				
13+50	1.8926	3.17	Q V				
13+55	1.9150	3.24	Q V				
14+ 0	1.9378	3.32	Q V				
14+ 5	1.9612	3.40	Q V				
14+10	1.9852	3.48	Q V				
14+15	2.0098	3.58	Q V				
14+20	2.0351	3.67	Q V				
14+25	2.0611	3.78	Q V				
14+30	2.0878	3.89	Q V				
14+35	2.1154	4.01	Q V				
14+40	2.1439	4.13	Q V				
14+45	2.1734	4.28	Q V				
14+50	2.2039	4.43	Q V				
14+55	2.2355	4.60	Q V				



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  21+15       5.1654      1.44  Q          |          |          |      V  |
  21+20       5.1752      1.43  Q          |          |          |      V  |
  21+25       5.1849      1.41  Q          |          |          |      V  |
  21+30       5.1946      1.40  Q          |          |          |       V |
  21+35       5.2041      1.39  Q          |          |          |       V |
  21+40       5.2136      1.37  Q          |          |          |       V |
  21+45       5.2229      1.36  Q          |          |          |       V |
  21+50       5.2322      1.35  Q          |          |          |       V |
  21+55       5.2415      1.34  Q          |          |          |       V |
  22+ 0       5.2506      1.33  Q          |          |          |       V |
  22+ 5       5.2596      1.31  Q          |          |          |       V |
  22+10       5.2686      1.30  Q          |          |          |       V |
  22+15       5.2775      1.29  Q          |          |          |       V |
  22+20       5.2864      1.28  Q          |          |          |       V |
  22+25       5.2951      1.27  Q          |          |          |       V |
  22+30       5.3038      1.26  Q          |          |          |       V |
  22+35       5.3124      1.25  Q          |          |          |       V |
  22+40       5.3210      1.24  Q          |          |          |       V |
  22+45       5.3295      1.23  Q          |          |          |        V|
  22+50       5.3379      1.22  Q          |          |          |        V|
  22+55       5.3463      1.22  Q          |          |          |        V|
  23+ 0       5.3546      1.21  Q          |          |          |        V|
  23+ 5       5.3629      1.20  Q          |          |          |        V|
  23+10       5.3710      1.19  Q          |          |          |        V|
  23+15       5.3792      1.18  Q          |          |          |        V|
  23+20       5.3873      1.17  Q          |          |          |        V|
  23+25       5.3953      1.16  Q          |          |          |        V|
  23+30       5.4032      1.16  Q          |          |          |        V|
  23+35       5.4112      1.15  Q          |          |          |        V|
  23+40       5.4190      1.14  Q          |          |          |        V|
  23+45       5.4268      1.13  Q          |          |          |        V|
  23+50       5.4346      1.13  Q          |          |          |        V|
  23+55       5.4423      1.12  Q          |          |          |        V|
  24+ 0       5.4499      1.11  Q          |          |          |        V|
  24+ 5       5.4572      1.06  Q          |          |          |        V|
  24+10       5.4626      0.78  Q          |          |          |        V|
  24+15       5.4650      0.35  Q          |          |          |        V|
  24+20       5.4658      0.11  Q          |          |          |        V|
  24+25       5.4660      0.03  Q          |          |          |        V|
  24+30       5.4661      0.01  Q          |          |          |        V|
  24+35       5.4661      0.00  Q          |          |          |         V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/15/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6585

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 5C
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 5CPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
13.00	1	0.60
Rainfall data for year 2		
13.00	6	0.70
Rainfall data for year 2		
13.00	24	1.20
Rainfall data for year 100		
13.00	1	1.00
Rainfall data for year 100		
13.00	6	1.90
Rainfall data for year 100		
13.00	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	13.00	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.30	0.100	69.0	69.0	4.49	0.121
11.70	0.900	98.0	98.0	0.20	0.892

Area-averaged catchment yield fraction, Y = 0.815
Area-averaged low loss fraction, Yb = 0.185
User entry of time of concentration = 0.190 (hours)
++
Watershed area = 13.00(Ac.)
Catchment Lag time = 0.152 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 54.8246
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.222(In)
Computed peak 30-minute rainfall = 0.455(In)
Specified peak 1-hour rainfall = 0.600(In)
Computed peak 3-hour rainfall = 0.915(In)
Specified peak 6-hour rainfall = 1.194(In)
Specified peak 24-hour rainfall = 2.105(In)

Rainfall depth area reduction factors:
Using a total area of 13.00(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999 Adjusted rainfall = 0.222(In)
30-minute factor = 0.999 Adjusted rainfall = 0.454(In)
1-hour factor = 0.999 Adjusted rainfall = 0.600(In)
3-hour factor = 1.000 Adjusted rainfall = 0.915(In)
6-hour factor = 1.000 Adjusted rainfall = 1.194(In)
24-hour factor = 1.000 Adjusted rainfall = 2.105(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 157.22 (CFS))	
1	5.469	8.599
2	35.337	46.957
3	75.925	63.813
4	93.130	27.049
5	98.077	7.778
6	99.228	1.808
7	100.000	1.214

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.2219	0.2219
2	0.2928	0.0709
3	0.3444	0.0516
4	0.3864	0.0420
5	0.4225	0.0361
6	0.4544	0.0320
7	0.4833	0.0289
8	0.5099	0.0265
9	0.5345	0.0246
10	0.5575	0.0230
11	0.5791	0.0217
12	0.5996	0.0205
13	0.6184	0.0187
14	0.6362	0.0179
15	0.6533	0.0171
16	0.6697	0.0164
17	0.6855	0.0158
18	0.7008	0.0152
19	0.7155	0.0147
20	0.7297	0.0142
21	0.7435	0.0138
22	0.7570	0.0134
23	0.7700	0.0130
24	0.7827	0.0127
25	0.7951	0.0124
26	0.8072	0.0121

27	0.8190	0.0118
28	0.8305	0.0115
29	0.8418	0.0113
30	0.8528	0.0110
31	0.8636	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9049	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9433	0.0094
40	0.9525	0.0092
41	0.9616	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9966	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0216	0.0082
49	1.0297	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0612	0.0077
54	1.0688	0.0076
55	1.0764	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1058	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1409	0.0069
65	1.1477	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2138	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2652	0.0063
84	1.2714	0.0062
85	1.2775	0.0062
86	1.2837	0.0061
87	1.2898	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3313	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3542	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3710	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3984	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4812	0.0050
123	1.4861	0.0050
124	1.4911	0.0049
125	1.4960	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5106	0.0048
129	1.5154	0.0048
130	1.5202	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6119	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6250	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6508	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6760	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6884	0.0041
169	1.6925	0.0041
170	1.6966	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7088	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7328	0.0040
180	1.7367	0.0040
181	1.7407	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7946	0.0038
196	1.7983	0.0038
197	1.8021	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8317	0.0037
206	1.8353	0.0037
207	1.8390	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8642	0.0036
215	1.8677	0.0036
216	1.8713	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8819	0.0035
220	1.8854	0.0035
221	1.8889	0.0035
222	1.8924	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9166	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9370	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9604	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9736	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0440	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0961	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1051	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0086
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0098
177	0.0127	0.0023	0.0104
178	0.0130	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0142	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0201
188	0.0265	0.0046	0.0220
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0516	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2219	0.0046	0.2174
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 18.09(CFS)

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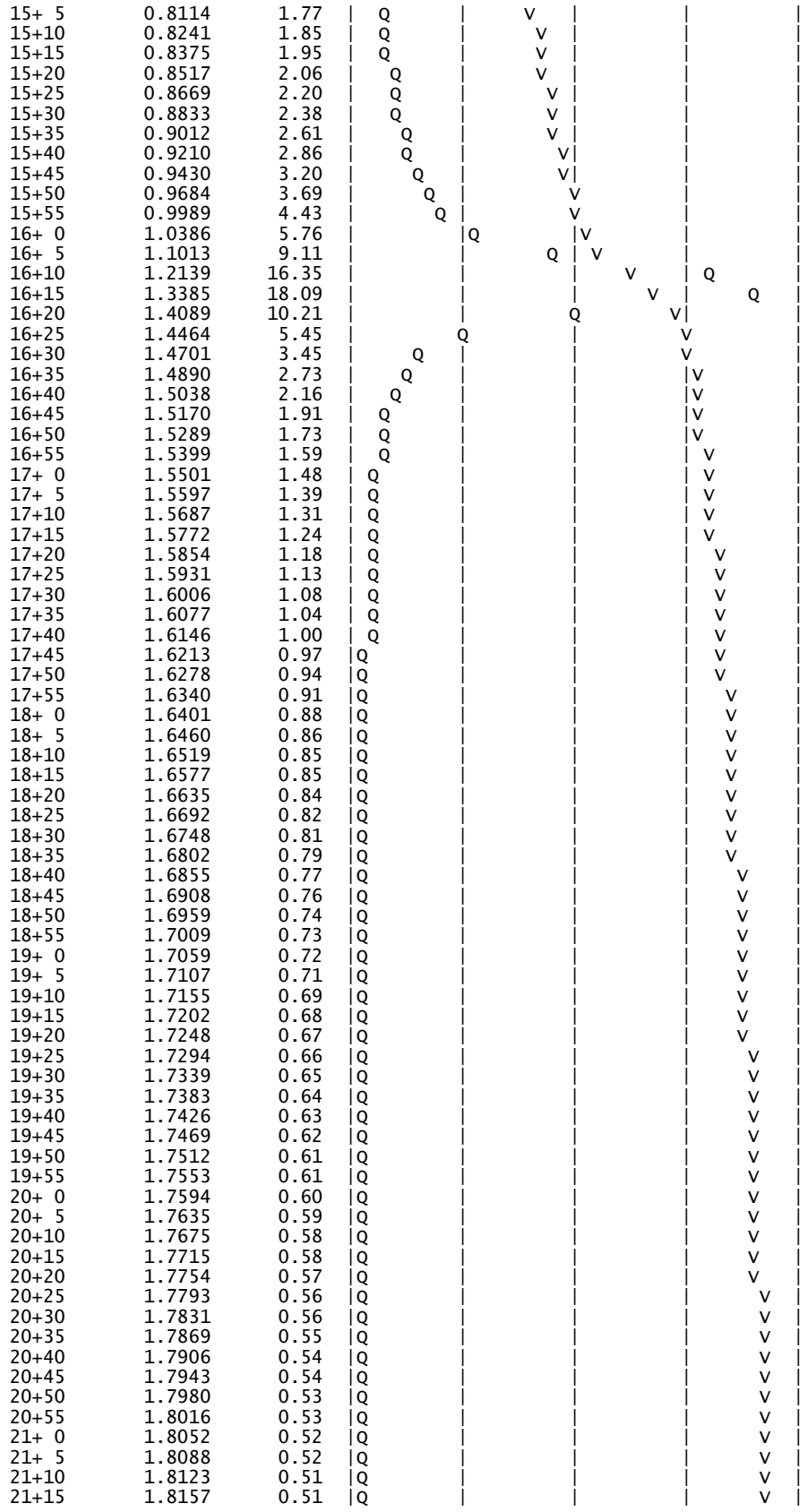
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0011	0.14	Q	|	|	|	|
0+15	0.0031	0.29	Q	|	|	|	|
0+20	0.0056	0.36	Q	|	|	|	|
0+25	0.0082	0.38	Q	|	|	|	|
0+30	0.0108	0.38	Q	|	|	|	|
0+35	0.0135	0.39	Q	|	|	|	|
0+40	0.0162	0.39	Q	|	|	|	|
0+45	0.0189	0.39	Q	|	|	|	|
0+50	0.0216	0.39	Q	|	|	|	|
0+55	0.0243	0.39	Q	|	|	|	|
1+ 0	0.0270	0.39	Q	|	|	|	|
1+ 5	0.0297	0.40	Q	|	|	|	|
1+10	0.0325	0.40	Q	|	|	|	|
1+15	0.0352	0.40	Q	|	|	|	|
1+20	0.0380	0.40	Q	|	|	|	|
1+25	0.0407	0.40	Q	|	|	|	|
1+30	0.0435	0.40	Q	|	|	|	|
1+35	0.0463	0.40	Q	|	|	|	|
1+40	0.0491	0.41	QV	|	|	|	|
1+45	0.0519	0.41	QV	|	|	|	|
1+50	0.0547	0.41	QV	|	|	|	|
1+55	0.0575	0.41	QV	|	|	|	|
2+ 0	0.0603	0.41	QV	|	|	|	|
2+ 5	0.0632	0.41	QV	|	|	|	|
2+10	0.0660	0.41	QV	|	|	|	|
2+15	0.0689	0.42	QV	|	|	|	|
2+20	0.0718	0.42	QV	|	|	|	|
2+25	0.0746	0.42	QV	|	|	|	|
2+30	0.0775	0.42	QV	|	|	|	|

2+35	0.0804	0.42	QV	|	|	|	|
2+40	0.0833	0.42	QV	|	|	|	|
2+45	0.0863	0.42	QV	|	|	|	|
2+50	0.0892	0.43	QV	|	|	|	|
2+55	0.0921	0.43	QV	|	|	|	|
3+ 0	0.0951	0.43	QV	|	|	|	|
3+ 5	0.0981	0.43	Q V	|	|	|	|
3+10	0.1010	0.43	Q V	|	|	|	|
3+15	0.1040	0.43	Q V	|	|	|	|
3+20	0.1070	0.44	Q V	|	|	|	|
3+25	0.1100	0.44	Q V	|	|	|	|
3+30	0.1131	0.44	Q V	|	|	|	|
3+35	0.1161	0.44	Q V	|	|	|	|
3+40	0.1191	0.44	Q V	|	|	|	|
3+45	0.1222	0.44	Q V	|	|	|	|
3+50	0.1253	0.45	Q V	|	|	|	|
3+55	0.1283	0.45	Q V	|	|	|	|
4+ 0	0.1314	0.45	Q V	|	|	|	|
4+ 5	0.1345	0.45	Q V	|	|	|	|
4+10	0.1377	0.45	Q V	|	|	|	|
4+15	0.1408	0.45	Q V	|	|	|	|
4+20	0.1439	0.46	Q V	|	|	|	|
4+25	0.1471	0.46	Q V	|	|	|	|
4+30	0.1503	0.46	Q V	|	|	|	|
4+35	0.1535	0.46	Q V	|	|	|	|
4+40	0.1567	0.46	Q V	|	|	|	|
4+45	0.1599	0.47	Q V	|	|	|	|
4+50	0.1631	0.47	Q V	|	|	|	|
4+55	0.1663	0.47	Q V	|	|	|	|
5+ 0	0.1696	0.47	Q V	|	|	|	|
5+ 5	0.1729	0.47	Q V	|	|	|	|
5+10	0.1761	0.48	Q V	|	|	|	|
5+15	0.1794	0.48	Q V	|	|	|	|
5+20	0.1828	0.48	Q V	|	|	|	|
5+25	0.1861	0.48	Q V	|	|	|	|
5+30	0.1894	0.49	Q V	|	|	|	|
5+35	0.1928	0.49	Q V	|	|	|	|
5+40	0.1962	0.49	Q V	|	|	|	|
5+45	0.1996	0.49	Q V	|	|	|	|
5+50	0.2030	0.49	Q V	|	|	|	|
5+55	0.2064	0.50	Q V	|	|	|	|
6+ 0	0.2098	0.50	Q V	|	|	|	|
6+ 5	0.2133	0.50	|Q V	|	|	|	|
6+10	0.2168	0.50	|Q V	|	|	|	|
6+15	0.2202	0.51	|Q V	|	|	|	|
6+20	0.2237	0.51	|Q V	|	|	|	|
6+25	0.2273	0.51	|Q V	|	|	|	|
6+30	0.2308	0.51	|Q V	|	|	|	|
6+35	0.2344	0.52	|Q V	|	|	|	|
6+40	0.2380	0.52	|Q V	|	|	|	|
6+45	0.2416	0.52	|Q V	|	|	|	|
6+50	0.2452	0.53	|Q V	|	|	|	|
6+55	0.2488	0.53	|Q V	|	|	|	|
7+ 0	0.2525	0.53	|Q V	|	|	|	|
7+ 5	0.2561	0.53	|Q V	|	|	|	|
7+10	0.2598	0.54	|Q V	|	|	|	|
7+15	0.2635	0.54	|Q V	|	|	|	|
7+20	0.2673	0.54	|Q V	|	|	|	|
7+25	0.2710	0.55	|Q V	|	|	|	|
7+30	0.2748	0.55	|Q V	|	|	|	|
7+35	0.2786	0.55	|Q V	|	|	|	|
7+40	0.2824	0.55	|Q V	|	|	|	|
7+45	0.2863	0.56	|Q V	|	|	|	|
7+50	0.2901	0.56	|Q V	|	|	|	|
7+55	0.2940	0.56	|Q V	|	|	|	|
8+ 0	0.2979	0.57	|Q V	|	|	|	|
8+ 5	0.3019	0.57	|Q V	|	|	|	|
8+10	0.3058	0.57	|Q V	|	|	|	|
8+15	0.3098	0.58	|Q V	|	|	|	|
8+20	0.3138	0.58	|Q V	|	|	|	|
8+25	0.3179	0.59	|Q V	|	|	|	|
8+30	0.3219	0.59	|Q V	|	|	|	|
8+35	0.3260	0.59	|Q V	|	|	|	|
8+40	0.3301	0.60	|Q V	|	|	|	|
8+45	0.3342	0.60	|Q V	|	|	|	|

```
 8+50       0.3384      0.60  |Q     V  |          |          |          |
 8+55       0.3426      0.61  |Q     V  |          |          |          |
 9+ 0       0.3468      0.61  |Q     V  |          |          |          |
 9+ 5       0.3511      0.62  |Q     V  |          |          |          |
 9+10       0.3554      0.62  |Q     V  |          |          |          |
 9+15       0.3597      0.63  |Q     V  |          |          |          |
 9+20       0.3640      0.63  |Q     V  |          |          |          |
 9+25       0.3684      0.63  |Q     V  |          |          |          |
 9+30       0.3728      0.64  |Q     V  |          |          |          |
 9+35       0.3772      0.64  |Q     V  |          |          |          |
 9+40       0.3817      0.65  |Q     V  |          |          |          |
 9+45       0.3862      0.65  |Q      V |          |          |          |
 9+50       0.3907      0.66  |Q      V |          |          |          |
 9+55       0.3953      0.66  |Q      V |          |          |          |
10+ 0       0.3999      0.67  |Q      V |          |          |          |
10+ 5       0.4046      0.67  |Q      V |          |          |          |
10+10       0.4093      0.68  |Q      V |          |          |          |
10+15       0.4140      0.69  |Q      V |          |          |          |
10+20       0.4187      0.69  |Q      V |          |          |          |
10+25       0.4235      0.70  |Q      V |          |          |          |
10+30       0.4284      0.70  |Q      V |          |          |          |
10+35       0.4333      0.71  |Q       V|          |          |          |
10+40       0.4382      0.72  |Q       V|          |          |          |
10+45       0.4432      0.72  |Q       V|          |          |          |
10+50       0.4482      0.73  |Q       V|          |          |          |
10+55       0.4533      0.74  |Q       V|          |          |          |
11+ 0       0.4584      0.74  |Q       V|          |          |          |
11+ 5       0.4635      0.75  |Q       V|          |          |          |
11+10       0.4687      0.76  |Q       V|          |          |          |
11+15       0.4740      0.76  |Q       V|          |          |          |
11+20       0.4793      0.77  |Q       V|          |          |          |
11+25       0.4847      0.78  |Q        V          |          |          |
11+30       0.4901      0.79  |Q        V          |          |          |
11+35       0.4956      0.80  |Q        V          |          |          |
11+40       0.5011      0.80  |Q        V          |          |          |
11+45       0.5067      0.81  |Q        V          |          |          |
11+50       0.5124      0.82  |Q        V          |          |          |
11+55       0.5181      0.83  |Q        V          |          |          |
12+ 0       0.5239      0.84  |Q        V          |          |          |
12+ 5       0.5298      0.85  |Q        |V         |          |          |
12+10       0.5356      0.84  |Q        |V         |          |          |
12+15       0.5413      0.83  |Q        |V         |          |          |
12+20       0.5470      0.83  |Q        |V         |          |          |
12+25       0.5528      0.84  |Q        |V         |          |          |
12+30       0.5587      0.85  |Q        |V         |          |          |
12+35       0.5647      0.86  |Q        |V         |          |          |
12+40       0.5707      0.88  |Q        |V         |          |          |
12+45       0.5768      0.89  |Q        | V        |          |          |
12+50       0.5830      0.90  |Q        | V        |          |          |
12+55       0.5894      0.92  |Q        | V        |          |          |
13+ 0       0.5958      0.93  |Q        | V        |          |          |
13+ 5       0.6023      0.95  |Q        | V        |          |          |
13+10       0.6089      0.96  |Q        | V        |          |          |
13+15       0.6157      0.98  |Q        | V        |          |          |
13+20       0.6225      1.00  |Q        | V        |          |          |
13+25       0.6295      1.01  | Q       |  V       |          |          |
13+30       0.6366      1.03  | Q       |  V       |          |          |
13+35       0.6439      1.05  | Q       |  V       |          |          |
13+40       0.6513      1.07  | Q       |  V       |          |          |
13+45       0.6588      1.10  | Q       |  V       |          |          |
13+50       0.6665      1.12  | Q       |  V       |          |          |
13+55       0.6744      1.14  | Q       |   V      |          |          |
14+ 0       0.6824      1.17  | Q       |   V      |          |          |
14+ 5       0.6907      1.20  | Q       |   V      |          |          |
14+10       0.6992      1.23  | Q       |   V      |          |          |
14+15       0.7078      1.26  | Q       |   V      |          |          |
14+20       0.7168      1.29  | Q       |   V      |          |          |
14+25       0.7259      1.33  | Q       |    V     |          |          |
14+30       0.7354      1.37  | Q       |    V     |          |          |
14+35       0.7451      1.41  | Q       |    V     |          |          |
14+40       0.7551      1.46  | Q       |    V     |          |          |
14+45       0.7655      1.51  |  Q      |    V     |          |          |
14+50       0.7763      1.56  |  Q      |     V    |          |          |
14+55       0.7875      1.63  |  Q      |     V    |          |          |
15+ 0       0.7992      1.69  |  Q      |     V    |          |          |
```



```
  21+20       1.8192      0.50  |Q        |         |         |      V  |
  21+25       1.8226      0.50  Q        |         |         |      V  |
  21+30       1.8260      0.49  Q        |         |         |       V |
  21+35       1.8293      0.49  Q        |         |         |       V |
  21+40       1.8326      0.48  Q        |         |         |       V |
  21+45       1.8359      0.48  Q        |         |         |       V |
  21+50       1.8392      0.47  Q        |         |         |       V |
  21+55       1.8424      0.47  Q        |         |         |       V |
  22+ 0       1.8456      0.47  Q        |         |         |       V |
  22+ 5       1.8488      0.46  Q        |         |         |       V |
  22+10       1.8520      0.46  Q        |         |         |       V |
  22+15       1.8551      0.45  Q        |         |         |       V |
  22+20       1.8582      0.45  Q        |         |         |       V |
  22+25       1.8612      0.45  Q        |         |         |       V |
  22+30       1.8643      0.44  Q        |         |         |       V |
  22+35       1.8673      0.44  Q        |         |         |       V |
  22+40       1.8703      0.44  Q        |         |         |       V |
  22+45       1.8733      0.43  Q        |         |         |        V|
  22+50       1.8763      0.43  Q        |         |         |        V|
  22+55       1.8792      0.43  Q        |         |         |        V|
  23+ 0       1.8821      0.42  Q        |         |         |        V|
  23+ 5       1.8850      0.42  Q        |         |         |        V|
  23+10       1.8879      0.42  Q        |         |         |        V|
  23+15       1.8907      0.41  Q        |         |         |        V|
  23+20       1.8936      0.41  Q        |         |         |        V|
  23+25       1.8964      0.41  Q        |         |         |        V|
  23+30       1.8992      0.41  Q        |         |         |        V|
  23+35       1.9020      0.40  Q        |         |         |        V|
  23+40       1.9047      0.40  Q        |         |         |        V|
  23+45       1.9074      0.40  Q        |         |         |        V|
  23+50       1.9102      0.40  Q        |         |         |        V|
  23+55       1.9129      0.39  Q        |         |         |        V|
  24+ 0       1.9156      0.39  Q        |         |         |        V|
  24+ 5       1.9181      0.37  Q        |         |         |        V|
  24+10       1.9198      0.25  Q        |         |         |        V|
  24+15       1.9204      0.09  Q        |         |         |        V|
  24+20       1.9206      0.03  Q        |         |         |        V|
  24+25       1.9207      0.01  Q        |         |         |        V|
  24+30       1.9207      0.00  Q        |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/15/25

++

San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6585

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 5D
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 5DPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
28.50	1	0.60
Rainfall data for year 2		
28.50	6	0.70
Rainfall data for year 2		
28.50	24	1.20
Rainfall data for year 100		
28.50	1	1.00
Rainfall data for year 100		
28.50	6	1.90
Rainfall data for year 100		
28.50	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	28.50	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.85	0.100	69.0	69.0	4.49	0.121
25.65	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.220 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      28.50(Ac.)
Catchment Lag time =   0.176 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 47.3485
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      28.50(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
----------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
----------------------------------------------------------------------
               (K =       344.67 (CFS))

  1                4.127                  14.225
  2               26.887                  78.448
  3               64.399                 129.292
  4               87.458                  79.479
  5               96.010                  29.475
  6               98.485                   8.533
  7               99.340                   2.945
  8              100.000                   2.276
----------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2218              0.2218
  2              0.2926              0.0709
  3              0.3441              0.0515
  4              0.3861              0.0420
  5              0.4222              0.0360
  6              0.4541              0.0319
  7              0.4830              0.0289
  8              0.5095              0.0265
  9              0.5341              0.0246
 10              0.5571              0.0230
 11              0.5787              0.0216
 12              0.5992              0.0205
 13              0.6179              0.0188
 14              0.6358              0.0179
 15              0.6529              0.0171
 16              0.6694              0.0164
 17              0.6852              0.0158
 18              0.7004              0.0152
 19              0.7152              0.0147
 20              0.7294              0.0143
 21              0.7432              0.0138
 22              0.7567              0.0134
 23              0.7697              0.0131
 24              0.7825              0.0127
 25              0.7948              0.0124
```

26	0.8069	0.0121
27	0.8188	0.0118
28	0.8303	0.0115
29	0.8416	0.0113
30	0.8526	0.0111
31	0.8635	0.0108
32	0.8741	0.0106
33	0.8845	0.0104
34	0.8947	0.0102
35	0.9048	0.0100
36	0.9146	0.0099
37	0.9243	0.0097
38	0.9338	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9704	0.0089
43	0.9792	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0049	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0376	0.0080
51	1.0455	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0687	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1339	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1610	0.0067
68	1.1677	0.0066
69	1.1742	0.0066
70	1.1807	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2003	0.0068
74	1.2070	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2268	0.0065
78	1.2333	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2525	0.0064
82	1.2588	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2957	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3136	0.0059
92	1.3195	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3427	0.0057
97	1.3484	0.0057
98	1.3541	0.0057
99	1.3597	0.0056
100	1.3653	0.0056

101	1.3709	0.0056
102	1.3765	0.0055
103	1.3820	0.0055
104	1.3874	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4090	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4249	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4610	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4761	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5296	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5484	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5623	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5760	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5985	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6464	0.0043
159	1.6507	0.0043
160	1.6549	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6717	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7127	0.0040
175	1.7168	0.0040

176	1.7208	0.0040
177	1.7248	0.0040
178	1.7287	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7445	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7601	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7755	0.0038
191	1.7793	0.0038
192	1.7832	0.0038
193	1.7869	0.0038
194	1.7907	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8279	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8425	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8605	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9027	0.0035
226	1.9062	0.0035
227	1.9096	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9199	0.0034
231	1.9233	0.0034
232	1.9267	0.0034
233	1.9301	0.0034
234	1.9335	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9436	0.0034
238	1.9470	0.0034
239	1.9503	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033

251	1.9898	0.0032
252	1.9931	0.0032
253	1.9963	0.0032
254	1.9995	0.0032
255	2.0027	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0155	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0470	0.0031
270	2.0501	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0594	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0717	0.0031
278	2.0748	0.0031
279	2.0778	0.0031
280	2.0809	0.0030
281	2.0839	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027

33	0.0033	0.0006	0.0027
34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039

108	0.0048	0.0009	0.0039
109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0111	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129

183	0.0171	0.0032	0.0140
184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0216	0.0040	0.0176
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0319	0.0046	0.0274
190	0.0360	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2172
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0188	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031

258	0.0038	0.0007	0.0031
259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 38.41(CFS)

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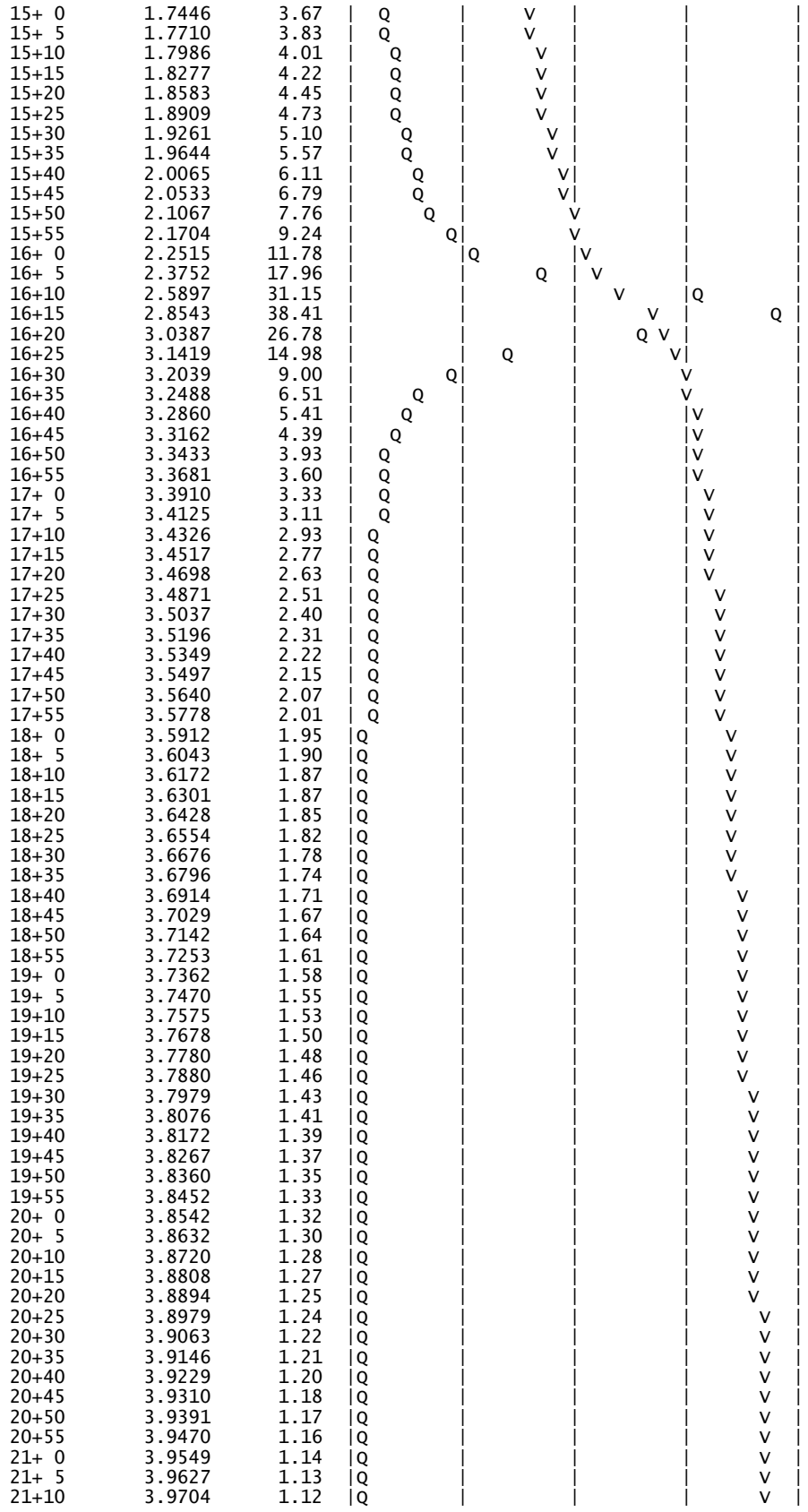
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0018	0.23	Q	|	|	|	|
0+15	0.0055	0.54	Q	|	|	|	|
0+20	0.0106	0.74	Q	|	|	|	|
0+25	0.0162	0.81	Q	|	|	|	|
0+30	0.0220	0.84	Q	|	|	|	|
0+35	0.0278	0.85	Q	|	|	|	|
0+40	0.0337	0.85	Q	|	|	|	|
0+45	0.0396	0.86	Q	|	|	|	|
0+50	0.0455	0.86	Q	|	|	|	|
0+55	0.0514	0.86	Q	|	|	|	|
1+ 0	0.0574	0.86	Q	|	|	|	|
1+ 5	0.0633	0.87	Q	|	|	|	|
1+10	0.0693	0.87	Q	|	|	|	|
1+15	0.0754	0.87	Q	|	|	|	|
1+20	0.0814	0.88	Q	|	|	|	|
1+25	0.0874	0.88	Q	|	|	|	|
1+30	0.0935	0.88	Q	|	|	|	|
1+35	0.0996	0.88	Q	|	|	|	|
1+40	0.1057	0.89	QV	|	|	|	|
1+45	0.1119	0.89	QV	|	|	|	|
1+50	0.1180	0.89	QV	|	|	|	|
1+55	0.1242	0.90	QV	|	|	|	|
2+ 0	0.1304	0.90	QV	|	|	|	|
2+ 5	0.1366	0.90	QV	|	|	|	|
2+10	0.1428	0.91	QV	|	|	|	|
2+15	0.1491	0.91	QV	|	|	|	|
2+20	0.1554	0.91	QV	|	|	|	|
2+25	0.1617	0.92	QV	|	|	|	|

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2+30       0.1680      0.92  QV        |         |         |         |
2+35       0.1744      0.92  QV        |         |         |         |
2+40       0.1808      0.93  QV        |         |         |         |
2+45       0.1872      0.93  QV        |         |         |         |
2+50       0.1936      0.93  QV        |         |         |         |
2+55       0.2000      0.94  QV        |         |         |         |
3+ 0       0.2065      0.94  QV        |         |         |         |
3+ 5       0.2130      0.94  Q V       |         |         |         |
3+10       0.2195      0.95  Q V       |         |         |         |
3+15       0.2261      0.95  Q V       |         |         |         |
3+20       0.2326      0.95  Q V       |         |         |         |
3+25       0.2392      0.96  Q V       |         |         |         |
3+30       0.2458      0.96  Q V       |         |         |         |
3+35       0.2525      0.96  Q V       |         |         |         |
3+40       0.2591      0.97  Q V       |         |         |         |
3+45       0.2658      0.97  Q V       |         |         |         |
3+50       0.2726      0.98  Q V       |         |         |         |
3+55       0.2793      0.98  Q V       |         |         |         |
4+ 0       0.2861      0.98  Q V       |         |         |         |
4+ 5       0.2929      0.99  Q V       |         |         |         |
4+10       0.2997      0.99  Q V       |         |         |         |
4+15       0.3066      1.00  Q V       |         |         |         |
4+20       0.3135      1.00  |QV       |         |         |         |
4+25       0.3204      1.00  |Q V       |         |         |         |
4+30       0.3273      1.01  |Q V       |         |         |         |
4+35       0.3343      1.01  |Q V       |         |         |         |
4+40       0.3413      1.02  |Q V       |         |         |         |
4+45       0.3484      1.02  |Q V       |         |         |         |
4+50       0.3554      1.03  |Q V       |         |         |         |
4+55       0.3625      1.03  |Q V       |         |         |         |
5+ 0       0.3696      1.03  |Q V       |         |         |         |
5+ 5       0.3768      1.04  |Q V       |         |         |         |
5+10       0.3840      1.04  |Q V       |         |         |         |
5+15       0.3912      1.05  |Q V       |         |         |         |
5+20       0.3985      1.05  |Q V       |         |         |         |
5+25       0.4058      1.06  |Q V       |         |         |         |
5+30       0.4131      1.06  |Q V       |         |         |         |
5+35       0.4204      1.07  |Q V       |         |         |         |
5+40       0.4278      1.07  |Q  V      |         |         |         |
5+45       0.4352      1.08  |Q  V      |         |         |         |
5+50       0.4427      1.08  |Q  V      |         |         |         |
5+55       0.4502      1.09  |Q  V      |         |         |         |
6+ 0       0.4577      1.09  |Q  V      |         |         |         |
6+ 5       0.4653      1.10  |Q  V      |         |         |         |
6+10       0.4729      1.10  |Q  V      |         |         |         |
6+15       0.4805      1.11  |Q  V      |         |         |         |
6+20       0.4882      1.11  |Q  V      |         |         |         |
6+25       0.4959      1.12  |Q  V      |         |         |         |
6+30       0.5037      1.13  |Q  V      |         |         |         |
6+35       0.5115      1.13  |Q  V      |         |         |         |
6+40       0.5193      1.14  |Q  V      |         |         |         |
6+45       0.5272      1.14  |Q   V     |         |         |         |
6+50       0.5351      1.15  |Q   V     |         |         |         |
6+55       0.5430      1.16  |Q   V     |         |         |         |
7+ 0       0.5510      1.16  |Q   V     |         |         |         |
7+ 5       0.5591      1.17  |Q   V     |         |         |         |
7+10       0.5672      1.17  |Q   V     |         |         |         |
7+15       0.5753      1.18  |Q   V     |         |         |         |
7+20       0.5835      1.19  |Q   V     |         |         |         |
7+25       0.5917      1.19  |Q   V     |         |         |         |
7+30       0.6000      1.20  |Q   V     |         |         |         |
7+35       0.6083      1.21  |Q   V     |         |         |         |
7+40       0.6166      1.21  |Q   V     |         |         |         |
7+45       0.6251      1.22  |Q   V     |         |         |         |
7+50       0.6335      1.23  |Q    V    |         |         |         |
7+55       0.6420      1.24  |Q    V    |         |         |         |
8+ 0       0.6506      1.24  |Q    V    |         |         |         |
8+ 5       0.6592      1.25  |Q    V    |         |         |         |
8+10       0.6679      1.26  |Q    V    |         |         |         |
8+15       0.6766      1.27  |Q    V    |         |         |         |
8+20       0.6853      1.27  |Q    V    |         |         |         |
8+25       0.6942      1.28  |Q    V    |         |         |         |
8+30       0.7030      1.29  |Q    V    |         |         |         |
8+35       0.7120      1.30  |Q    V    |         |         |         |
8+40       0.7210      1.31  |Q    V    |         |         |         |
```

8+45	0.7300	1.31	Q V				
8+50	0.7391	1.32	Q V				
8+55	0.7483	1.33	Q V				
9+ 0	0.7576	1.34	Q V				
9+ 5	0.7669	1.35	Q V				
9+10	0.7762	1.36	Q V				
9+15	0.7857	1.37	Q V				
9+20	0.7951	1.38	Q V				
9+25	0.8047	1.39	Q V				
9+30	0.8144	1.40	Q V				
9+35	0.8241	1.41	Q V				
9+40	0.8338	1.42	Q V				
9+45	0.8437	1.43	Q V				
9+50	0.8536	1.44	Q V				
9+55	0.8636	1.45	Q V				
10+ 0	0.8737	1.46	Q V				
10+ 5	0.8839	1.48	Q V				
10+10	0.8941	1.49	Q V				
10+15	0.9044	1.50	Q V				
10+20	0.9149	1.51	Q V				
10+25	0.9254	1.53	Q V				
10+30	0.9360	1.54	Q V				
10+35	0.9466	1.55	Q V				
10+40	0.9574	1.56	Q V				
10+45	0.9683	1.58	Q V				
10+50	0.9793	1.59	Q V				
10+55	0.9903	1.61	Q V				
11+ 0	1.0015	1.62	Q V				
11+ 5	1.0128	1.64	Q V				
11+10	1.0242	1.65	Q V				
11+15	1.0357	1.67	Q V				
11+20	1.0473	1.69	Q V				
11+25	1.0590	1.70	Q V				
11+30	1.0709	1.72	Q V				
11+35	1.0829	1.74	Q V				
11+40	1.0950	1.76	Q V				
11+45	1.1072	1.78	Q V				
11+50	1.1196	1.80	Q V				
11+55	1.1321	1.82	Q V				
12+ 0	1.1448	1.84	Q V				
12+ 5	1.1576	1.86	Q V				
12+10	1.1703	1.85	Q V				
12+15	1.1829	1.83	Q V				
12+20	1.1955	1.83	Q V				
12+25	1.2082	1.84	Q V				
12+30	1.2210	1.86	Q V				
12+35	1.2340	1.89	Q V				
12+40	1.2472	1.91	Q V				
12+45	1.2605	1.94	Q V				
12+50	1.2741	1.97	Q V				
12+55	1.2879	2.00	Q V				
13+ 0	1.3019	2.03	Q V				
13+ 5	1.3161	2.06	Q V				
13+10	1.3305	2.10	Q V				
13+15	1.3452	2.13	Q V				
13+20	1.3602	2.17	Q V				
13+25	1.3754	2.21	Q V				
13+30	1.3909	2.25	Q V				
13+35	1.4068	2.30	Q V				
13+40	1.4229	2.34	Q V				
13+45	1.4393	2.39	Q V				
13+50	1.4561	2.44	Q V				
13+55	1.4733	2.49	Q V				
14+ 0	1.4908	2.55	Q V				
14+ 5	1.5088	2.61	Q V				
14+10	1.5272	2.67	Q V				
14+15	1.5461	2.75	Q V				
14+20	1.5655	2.82	Q V				
14+25	1.5855	2.90	Q V				
14+30	1.6060	2.98	Q V				
14+35	1.6272	3.07	Q V				
14+40	1.6491	3.17	Q V				
14+45	1.6716	3.28	Q V				
14+50	1.6950	3.40	Q V				
14+55	1.7193	3.53	Q V				



```
  21+15       3.9781      1.11  |Q        |         |         |      V  |
  21+20       3.9857      1.10  |Q        |         |         |      V  |
  21+25       3.9932      1.09  |Q        |         |         |      V  |
  21+30       4.0006      1.08  |Q        |         |         |       V |
  21+35       4.0080      1.07  |Q        |         |         |       V |
  21+40       4.0153      1.06  |Q        |         |         |       V |
  21+45       4.0225      1.05  |Q        |         |         |       V |
  21+50       4.0296      1.04  |Q        |         |         |       V |
  21+55       4.0368      1.03  |Q        |         |         |       V |
  22+ 0       4.0438      1.02  |Q        |         |         |       V |
  22+ 5       4.0508      1.01  |Q        |         |         |       V |
  22+10       4.0577      1.01  |Q        |         |         |       V |
  22+15       4.0646      1.00  Q         |         |         |       V |
  22+20       4.0714      0.99  Q         |         |         |       V |
  22+25       4.0781      0.98  Q         |         |         |       V |
  22+30       4.0848      0.97  Q         |         |         |       V |
  22+35       4.0915      0.97  Q         |         |         |       V |
  22+40       4.0981      0.96  Q         |         |         |       V |
  22+45       4.1046      0.95  Q         |         |         |       V |
  22+50       4.1111      0.94  Q         |         |         |        V|
  22+55       4.1176      0.94  Q         |         |         |        V|
  23+ 0       4.1240      0.93  Q         |         |         |        V|
  23+ 5       4.1303      0.92  Q         |         |         |        V|
  23+10       4.1367      0.92  Q         |         |         |        V|
  23+15       4.1429      0.91  Q         |         |         |        V|
  23+20       4.1491      0.90  Q         |         |         |        V|
  23+25       4.1553      0.90  Q         |         |         |        V|
  23+30       4.1615      0.89  Q         |         |         |        V|
  23+35       4.1676      0.89  Q         |         |         |        V|
  23+40       4.1736      0.88  Q         |         |         |        V|
  23+45       4.1796      0.87  Q         |         |         |        V|
  23+50       4.1856      0.87  Q         |         |         |        V|
  23+55       4.1916      0.86  Q         |         |         |        V|
  24+ 0       4.1975      0.86  Q         |         |         |        V|
  24+ 5       4.2031      0.82  Q         |         |         |        V|
  24+10       4.2074      0.62  Q         |         |         |        V|
  24+15       4.2094      0.30  Q         |         |         |        V|
  24+20       4.2102      0.11  Q         |         |         |        V|
  24+25       4.2104      0.03  Q         |         |         |        V|
  24+30       4.2105      0.01  Q         |         |         |        V|
  24+35       4.2105      0.01  Q         |         |         |         V
-------------------------------------------------------------------------
```

Project Name: MILESKI ADELANTO
WO: 24-0505
Date: 4/16/2025

UNIT HYDROGRAPH RESULTS

		Post Volume (cf)	Post Volume (acre-ft)	Post Peak (cfs)
100 YR-24 HR	PROP 6A	231,173	5.307	49.69
	PROP 6B	209,262	4.804	44.98
	PROP 6C	199,418	4.578	42.56
	PROP 6D	180,774	4.150	38.98
10YR-24HR	PROP 6A	135,794	3.117	29.35
	PROP 6B	122,922	2.822	26.57
	PROP 6C	117,128	2.689	25.13
	PROP 6D	106,191	2.438	23.02

BASIN ROUTING RESULTS

		Portioned 90% Pre Peak (cfs)	Post Peak (cfs)	Mitigated Peak (cfs)
100 YR-24 HR	PROP 6A (1.1% UHEXOFF)	5.27	49.69	TBD
	PROP 6B (9.3% UHEXEASTOFF)	12.99	44.98	TBD
	PROP 6C (1.1% UHEXOFF)	5.27	42.56	TBD
	PROP 6D (7.4% UHEXEASTOFF)	10.34	38.98	TBD
10YR-24HR	PROP 6A (1.1% UHEXOFF)	3.56	29.35	TBD
	PROP 6B (9.3% UHEXEASTOFF)	6.87	26.57	TBD
	PROP 6C (1.1% UHEXOFF)	3.56	25.13	TBD
	PROP 6D (7.4% UHEXEASTOFF)	5.47	23.02	TBD

SBC Detention Basin Design Guidelines state that:

i) *Post-development peak flow rate generated by the site shall be less than 90% of the pre-development peak*

II) *100-year pre-development peak flow rates shall be calculated using 25-year rainfall and AMC-II.*

Therefore:

$Q_{Post,\ 100\text{-}yr\ 24\text{-}hr} < 90\%\ Q_{Pre,\ 25\text{-}yr\ 24\text{-}hr}$

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0

Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 6A
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 6APROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
21.10	1	0.60
Rainfall data for year 2		
21.10	6	0.70
Rainfall data for year 2		
21.10	24	1.20
Rainfall data for year 100		
21.10	1	1.00
Rainfall data for year 100		
21.10	6	1.90
Rainfall data for year 100		
21.10	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	21.10	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.11	0.100	69.0	69.0	4.49	0.121
18.99	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.190 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      21.10(Ac.)
Catchment Lag time =   0.152 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 54.8246
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      21.10(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       255.18 (CFS))

  1                5.469                  13.956
  2               35.337                  76.216
  3               75.925                 103.573
  4               93.130                  43.903
  5               98.077                  12.624
  6               99.228                   2.935
  7              100.000                   1.971
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2218              0.2218
  2              0.2927              0.0709
  3              0.3443              0.0515
  4              0.3863              0.0420
  5              0.4223              0.0361
  6              0.4543              0.0319
  7              0.4832              0.0289
  8              0.5097              0.0265
  9              0.5343              0.0246
 10              0.5572              0.0230
 11              0.5789              0.0217
 12              0.5994              0.0205
 13              0.6182              0.0187
 14              0.6360              0.0179
 15              0.6531              0.0171
 16              0.6696              0.0164
 17              0.6854              0.0158
 18              0.7006              0.0152
 19              0.7153              0.0147
 20              0.7296              0.0143
 21              0.7434              0.0138
 22              0.7568              0.0134
 23              0.7699              0.0131
 24              0.7826              0.0127
 25              0.7950              0.0124
 26              0.8070              0.0121
```

27	0.8189	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8527	0.0110
31	0.8635	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3427	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4249	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5624	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7755	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9335	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9995	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0319	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 29.35(CFS)

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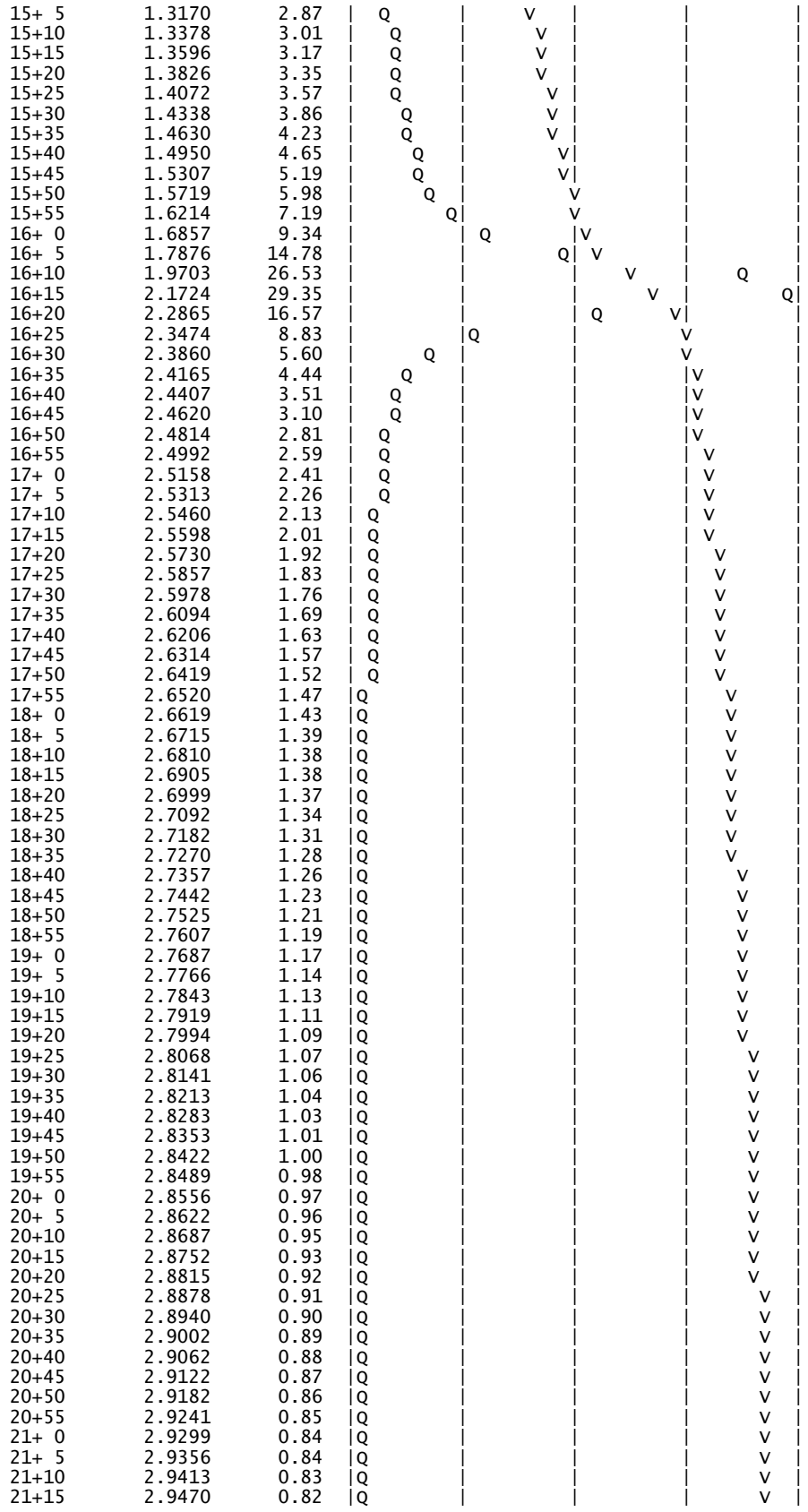
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0002	0.03	Q				
0+10	0.0018	0.22	Q				
0+15	0.0050	0.47	Q				
0+20	0.0090	0.58	Q				
0+25	0.0133	0.61	Q				
0+30	0.0176	0.62	Q				
0+35	0.0219	0.63	Q				
0+40	0.0263	0.63	Q				
0+45	0.0306	0.63	Q				
0+50	0.0350	0.64	Q				
0+55	0.0394	0.64	Q				
1+ 0	0.0438	0.64	Q				
1+ 5	0.0482	0.64	Q				
1+10	0.0527	0.64	Q				
1+15	0.0571	0.65	Q				
1+20	0.0616	0.65	Q				
1+25	0.0661	0.65	Q				
1+30	0.0706	0.65	Q				
1+35	0.0751	0.66	Q				
1+40	0.0796	0.66	QV				
1+45	0.0842	0.66	QV				
1+50	0.0888	0.66	QV				
1+55	0.0933	0.66	QV				
2+ 0	0.0979	0.67	QV				
2+ 5	0.1025	0.67	QV				
2+10	0.1072	0.67	QV				
2+15	0.1118	0.67	QV				
2+20	0.1165	0.68	QV				
2+25	0.1211	0.68	QV				
2+30	0.1258	0.68	QV				

2+35	0.1305	0.68	QV	|	|	|	|
2+40	0.1353	0.69	QV	|	|	|	|
2+45	0.1400	0.69	QV	|	|	|	|
2+50	0.1448	0.69	QV	|	|	|	|
2+55	0.1495	0.69	QV	|	|	|	|
3+ 0	0.1543	0.70	QV	|	|	|	|
3+ 5	0.1591	0.70	Q V	|	|	|	|
3+10	0.1640	0.70	Q V	|	|	|	|
3+15	0.1688	0.70	Q V	|	|	|	|
3+20	0.1737	0.71	Q V	|	|	|	|
3+25	0.1786	0.71	Q V	|	|	|	|
3+30	0.1835	0.71	Q V	|	|	|	|
3+35	0.1884	0.72	Q V	|	|	|	|
3+40	0.1934	0.72	Q V	|	|	|	|
3+45	0.1983	0.72	Q V	|	|	|	|
3+50	0.2033	0.72	Q V	|	|	|	|
3+55	0.2083	0.73	Q V	|	|	|	|
4+ 0	0.2133	0.73	Q V	|	|	|	|
4+ 5	0.2184	0.73	Q V	|	|	|	|
4+10	0.2234	0.74	Q V	|	|	|	|
4+15	0.2285	0.74	Q V	|	|	|	|
4+20	0.2336	0.74	Q V	|	|	|	|
4+25	0.2388	0.74	Q V	|	|	|	|
4+30	0.2439	0.75	Q V	|	|	|	|
4+35	0.2491	0.75	|Q V	|	|	|	|
4+40	0.2543	0.75	|Q V	|	|	|	|
4+45	0.2595	0.76	|Q V	|	|	|	|
4+50	0.2647	0.76	|Q V	|	|	|	|
4+55	0.2700	0.76	|Q V	|	|	|	|
5+ 0	0.2753	0.77	|Q V	|	|	|	|
5+ 5	0.2806	0.77	|Q V	|	|	|	|
5+10	0.2859	0.77	|Q V	|	|	|	|
5+15	0.2913	0.78	|Q V	|	|	|	|
5+20	0.2966	0.78	|Q V	|	|	|	|
5+25	0.3020	0.78	|Q V	|	|	|	|
5+30	0.3075	0.79	|Q V	|	|	|	|
5+35	0.3129	0.79	|Q V	|	|	|	|
5+40	0.3184	0.80	|Q V	|	|	|	|
5+45	0.3239	0.80	|Q V	|	|	|	|
5+50	0.3294	0.80	|Q V	|	|	|	|
5+55	0.3350	0.81	|Q V	|	|	|	|
6+ 0	0.3406	0.81	|Q V	|	|	|	|
6+ 5	0.3462	0.81	|Q V	|	|	|	|
6+10	0.3518	0.82	|Q V	|	|	|	|
6+15	0.3575	0.82	|Q V	|	|	|	|
6+20	0.3632	0.83	|Q V	|	|	|	|
6+25	0.3689	0.83	|Q V	|	|	|	|
6+30	0.3746	0.83	|Q V	|	|	|	|
6+35	0.3804	0.84	|Q V	|	|	|	|
6+40	0.3862	0.84	|Q V	|	|	|	|
6+45	0.3921	0.85	|Q V	|	|	|	|
6+50	0.3979	0.85	|Q V	|	|	|	|
6+55	0.4038	0.86	|Q V	|	|	|	|
7+ 0	0.4098	0.86	|Q V	|	|	|	|
7+ 5	0.4157	0.87	|Q V	|	|	|	|
7+10	0.4217	0.87	|Q V	|	|	|	|
7+15	0.4278	0.88	|Q V	|	|	|	|
7+20	0.4338	0.88	|Q V	|	|	|	|
7+25	0.4399	0.89	|Q V	|	|	|	|
7+30	0.4460	0.89	|Q V	|	|	|	|
7+35	0.4522	0.90	|Q V	|	|	|	|
7+40	0.4584	0.90	|Q V	|	|	|	|
7+45	0.4647	0.91	|Q V	|	|	|	|
7+50	0.4709	0.91	|Q V	|	|	|	|
7+55	0.4772	0.92	|Q V	|	|	|	|
8+ 0	0.4836	0.92	|Q V	|	|	|	|
8+ 5	0.4900	0.93	|Q V	|	|	|	|
8+10	0.4964	0.93	|Q V	|	|	|	|
8+15	0.5029	0.94	|Q V	|	|	|	|
8+20	0.5094	0.94	|Q V	|	|	|	|
8+25	0.5159	0.95	|Q V	|	|	|	|
8+30	0.5225	0.96	|Q V	|	|	|	|
8+35	0.5291	0.96	|Q V	|	|	|	|
8+40	0.5358	0.97	|Q V	|	|	|	|
8+45	0.5425	0.98	|Q V	|	|	|	|

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 8+50       0.5493      0.98  |Q     V  |          |          |          |
 8+55       0.5561      0.99  |Q     V  |          |          |          |
 9+ 0       0.5629      0.99  |Q     V  |          |          |          |
 9+ 5       0.5698      1.00  |Q     V  |          |          |          |
 9+10       0.5768      1.01  |Q     V  |          |          |          |
 9+15       0.5838      1.02  |Q     V  |          |          |          |
 9+20       0.5908      1.02  |Q     V  |          |          |          |
 9+25       0.5979      1.03  |Q     V  |          |          |          |
 9+30       0.6051      1.04  |Q     V  |          |          |          |
 9+35       0.6123      1.05  |Q     V  |          |          |          |
 9+40       0.6195      1.05  |Q     V  |          |          |          |
 9+45       0.6268      1.06  |Q      V |          |          |          |
 9+50       0.6342      1.07  |Q      V |          |          |          |
 9+55       0.6416      1.08  |Q      V |          |          |          |
10+ 0       0.6491      1.09  |Q      V |          |          |          |
10+ 5       0.6567      1.10  |Q      V |          |          |          |
10+10       0.6643      1.10  |Q      V |          |          |          |
10+15       0.6719      1.11  |Q      V |          |          |          |
10+20       0.6797      1.12  |Q      V |          |          |          |
10+25       0.6875      1.13  |Q      V |          |          |          |
10+30       0.6953      1.14  |Q      V |          |          |          |
10+35       0.7032      1.15  |Q       V|          |          |          |
10+40       0.7112      1.16  |Q       V|          |          |          |
10+45       0.7193      1.17  |Q       V|          |          |          |
10+50       0.7275      1.18  |Q       V|          |          |          |
10+55       0.7357      1.19  |Q       V|          |          |          |
11+ 0       0.7440      1.20  |Q       V|          |          |          |
11+ 5       0.7524      1.22  |Q       V|          |          |          |
11+10       0.7608      1.23  |Q       V|          |          |          |
11+15       0.7694      1.24  |Q       V|          |          |          |
11+20       0.7780      1.25  |Q       V|          |          |          |
11+25       0.7867      1.27  |Q        V          |          |          |
11+30       0.7955      1.28  |Q        V          |          |          |
11+35       0.8044      1.29  |Q        V          |          |          |
11+40       0.8134      1.31  |Q        V          |          |          |
11+45       0.8225      1.32  |Q        V          |          |          |
11+50       0.8317      1.33  |Q        V          |          |          |
11+55       0.8410      1.35  |Q        V          |          |          |
12+ 0       0.8504      1.37  |Q        V          |          |          |
12+ 5       0.8599      1.38  |Q        |V         |          |          |
12+10       0.8693      1.37  |Q        |V         |          |          |
12+15       0.8786      1.35  |Q        |V         |          |          |
12+20       0.8879      1.35  |Q        |V         |          |          |
12+25       0.8973      1.37  |Q        |V         |          |          |
12+30       0.9068      1.38  |Q        |V         |          |          |
12+35       0.9165      1.40  |Q        |V         |          |          |
12+40       0.9263      1.42  |Q        |V         |          |          |
12+45       0.9362      1.44  |Q        | V        |          |          |
12+50       0.9463      1.47  |Q        | V        |          |          |
12+55       0.9566      1.49  |Q        | V        |          |          |
13+ 0       0.9670      1.51  | Q       | V        |          |          |
13+ 5       0.9776      1.54  | Q       | V        |          |          |
13+10       0.9883      1.56  | Q       | V        |          |          |
13+15       0.9993      1.59  | Q       | V        |          |          |
13+20       1.0104      1.62  | Q       | V        |          |          |
13+25       1.0217      1.65  | Q       |  V       |          |          |
13+30       1.0333      1.68  | Q       |  V       |          |          |
13+35       1.0450      1.71  | Q       |  V       |          |          |
13+40       1.0570      1.74  | Q       |  V       |          |          |
13+45       1.0693      1.78  | Q       |  V       |          |          |
13+50       1.0818      1.82  | Q       |  V       |          |          |
13+55       1.0946      1.86  | Q       |   V      |          |          |
14+ 0       1.1077      1.90  | Q       |   V      |          |          |
14+ 5       1.1211      1.95  | Q       |   V      |          |          |
14+10       1.1348      1.99  | Q       |   V      |          |          |
14+15       1.1489      2.05  | Q       |   V      |          |          |
14+20       1.1634      2.10  | Q       |   V      |          |          |
14+25       1.1783      2.16  | Q       |    V     |          |          |
14+30       1.1936      2.23  | Q       |    V     |          |          |
14+35       1.2094      2.30  |  Q      |    V     |          |          |
14+40       1.2257      2.37  |  Q      |    V     |          |          |
14+45       1.2426      2.45  |  Q      |    V     |          |          |
14+50       1.2601      2.54  |  Q      |     V    |          |          |
14+55       1.2783      2.64  |  Q      |     V    |          |          |
15+ 0       1.2972      2.75  |  Q      |     V    |          |          |
```



```
   21+20       2.9526      0.81  |Q        |         |         |      V  |
   21+25       2.9581      0.80  |Q        |         |         |      V  |
   21+30       2.9636      0.80  |Q        |         |         |       V |
   21+35       2.9690      0.79  |Q        |         |         |       V |
   21+40       2.9744      0.78  |Q        |         |         |       V |
   21+45       2.9798      0.77  |Q        |         |         |       V |
   21+50       2.9851      0.77  |Q        |         |         |       V |
   21+55       2.9903      0.76  |Q        |         |         |       V |
   22+ 0       2.9955      0.75  |Q        |         |         |       V |
   22+ 5       3.0007      0.75  Q         |         |         |       V |
   22+10       3.0058      0.74  Q         |         |         |       V |
   22+15       3.0108      0.74  Q         |         |         |       V |
   22+20       3.0159      0.73  Q         |         |         |       V |
   22+25       3.0209      0.72  Q         |         |         |       V |
   22+30       3.0258      0.72  Q         |         |         |       V |
   22+35       3.0307      0.71  Q         |         |         |       V |
   22+40       3.0356      0.71  Q         |         |         |       V |
   22+45       3.0404      0.70  Q         |         |         |        V|
   22+50       3.0452      0.70  Q         |         |         |        V|
   22+55       3.0500      0.69  Q         |         |         |        V|
   23+ 0       3.0547      0.69  Q         |         |         |        V|
   23+ 5       3.0594      0.68  Q         |         |         |        V|
   23+10       3.0641      0.68  Q         |         |         |        V|
   23+15       3.0687      0.67  Q         |         |         |        V|
   23+20       3.0733      0.67  Q         |         |         |        V|
   23+25       3.0779      0.66  Q         |         |         |        V|
   23+30       3.0824      0.66  Q         |         |         |        V|
   23+35       3.0869      0.65  Q         |         |         |        V|
   23+40       3.0914      0.65  Q         |         |         |        V|
   23+45       3.0958      0.65  Q         |         |         |        V|
   23+50       3.1003      0.64  Q         |         |         |        V|
   23+55       3.1046      0.64  Q         |         |         |        V|
   24+ 0       3.1090      0.63  Q         |         |         |        V|
   24+ 5       3.1131      0.60  Q         |         |         |        V|
   24+10       3.1159      0.41  Q         |         |         |        V|
   24+15       3.1169      0.15  Q         |         |         |        V|
   24+20       3.1172      0.04  Q         |         |         |        V|
   24+25       3.1173      0.01  Q         |         |         |        V|
   24+30       3.1174      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 6B
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 6BPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
19.10	1	0.60
Rainfall data for year 2		
19.10	6	0.70
Rainfall data for year 2		
19.10	24	1.20
Rainfall data for year 100		
19.10	1	1.00
Rainfall data for year 100		
19.10	6	1.90
Rainfall data for year 100		
19.10	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	19.10	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.91	0.100	69.0	69.0	4.49	0.121
17.19	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.190 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      19.10(Ac.)
Catchment Lag time =   0.152 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 54.8246
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      19.10(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       230.99 (CFS))

  1                5.469                  12.633
  2               35.337                  68.991
  3               75.925                  93.756
  4               93.130                  39.742
  5               98.077                  11.427
  6               99.228                   2.657
  7              100.000                   1.784
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2219              0.2219
  2              0.2928              0.0709
  3              0.3443              0.0515
  4              0.3863              0.0420
  5              0.4224              0.0361
  6              0.4543              0.0320
  7              0.4832              0.0289
  8              0.5097              0.0265
  9              0.5343              0.0246
 10              0.5573              0.0230
 11              0.5790              0.0217
 12              0.5995              0.0205
 13              0.6182              0.0187
 14              0.6361              0.0179
 15              0.6532              0.0171
 16              0.6696              0.0164
 17              0.6854              0.0158
 18              0.7006              0.0152
 19              0.7154              0.0147
 20              0.7296              0.0143
 21              0.7434              0.0138
 22              0.7569              0.0134
 23              0.7699              0.0131
 24              0.7826              0.0127
 25              0.7950              0.0124
 26              0.8071              0.0121
```

27	0.8189	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8527	0.0110
31	0.8636	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9525	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1058	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6925	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2219	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 26.57(CFS)

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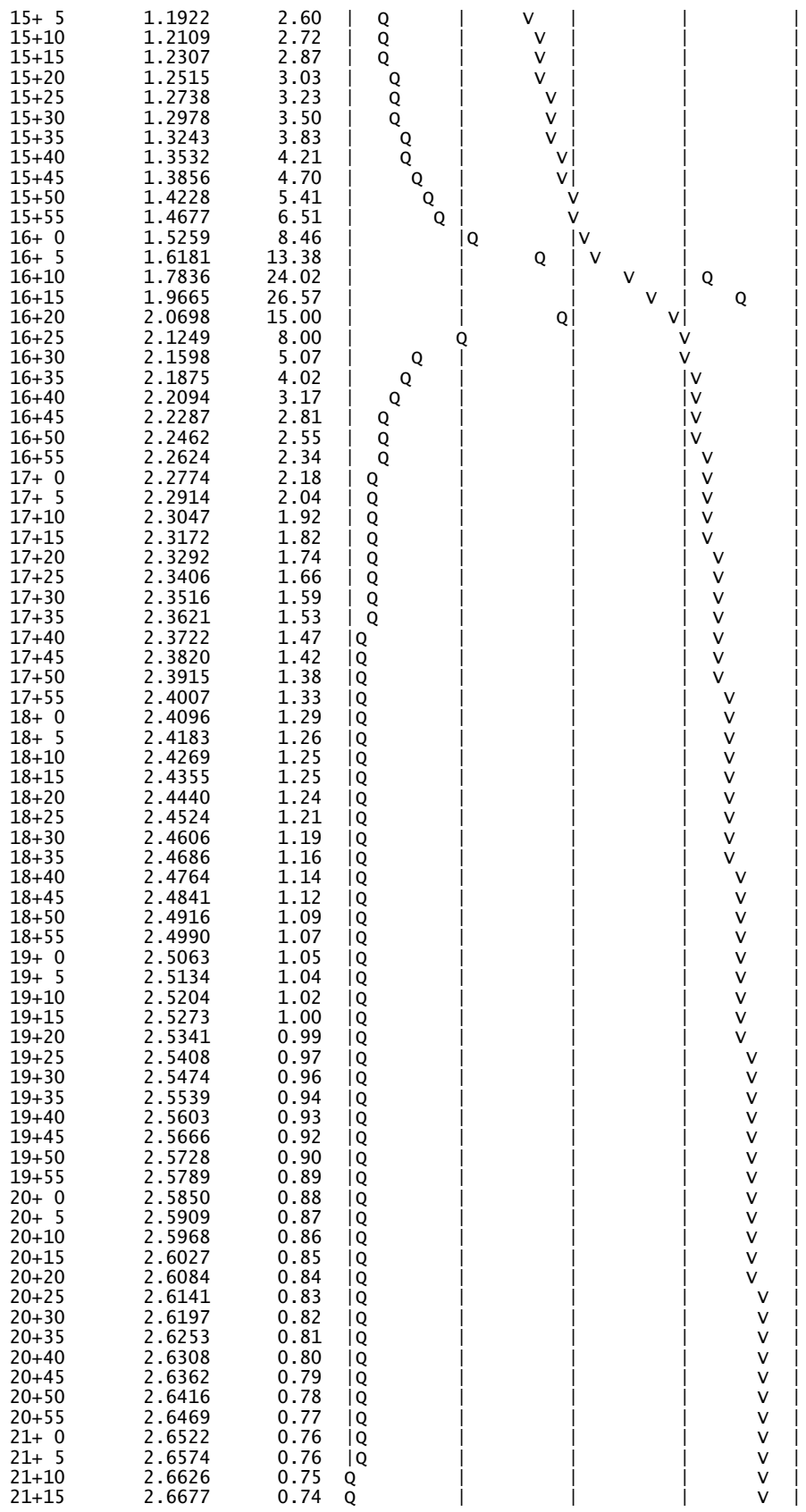
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0016	0.20	Q	|	|	|	|
0+15	0.0045	0.43	Q	|	|	|	|
0+20	0.0082	0.53	Q	|	|	|	|
0+25	0.0120	0.56	Q	|	|	|	|
0+30	0.0159	0.56	Q	|	|	|	|
0+35	0.0198	0.57	Q	|	|	|	|
0+40	0.0238	0.57	Q	|	|	|	|
0+45	0.0277	0.57	Q	|	|	|	|
0+50	0.0317	0.58	Q	|	|	|	|
0+55	0.0357	0.58	Q	|	|	|	|
1+ 0	0.0397	0.58	Q	|	|	|	|
1+ 5	0.0437	0.58	Q	|	|	|	|
1+10	0.0477	0.58	Q	|	|	|	|
1+15	0.0517	0.59	Q	|	|	|	|
1+20	0.0558	0.59	Q	|	|	|	|
1+25	0.0598	0.59	Q	|	|	|	|
1+30	0.0639	0.59	Q	|	|	|	|
1+35	0.0680	0.59	Q	|	|	|	|
1+40	0.0721	0.60	QV	|	|	|	|
1+45	0.0762	0.60	QV	|	|	|	|
1+50	0.0803	0.60	QV	|	|	|	|
1+55	0.0845	0.60	QV	|	|	|	|
2+ 0	0.0886	0.60	QV	|	|	|	|
2+ 5	0.0928	0.61	QV	|	|	|	|
2+10	0.0970	0.61	QV	|	|	|	|
2+15	0.1012	0.61	QV	|	|	|	|
2+20	0.1054	0.61	QV	|	|	|	|
2+25	0.1097	0.61	QV	|	|	|	|
2+30	0.1139	0.62	QV	|	|	|	|

2+35	0.1182	0.62	QV	|	|	|	|
2+40	0.1224	0.62	QV	|	|	|	|
2+45	0.1267	0.62	QV	|	|	|	|
2+50	0.1310	0.63	QV	|	|	|	|
2+55	0.1354	0.63	QV	|	|	|	|
3+ 0	0.1397	0.63	QV	|	|	|	|
3+ 5	0.1441	0.63	Q V	|	|	|	|
3+10	0.1484	0.64	Q V	|	|	|	|
3+15	0.1528	0.64	Q V	|	|	|	|
3+20	0.1572	0.64	Q V	|	|	|	|
3+25	0.1617	0.64	Q V	|	|	|	|
3+30	0.1661	0.64	Q V	|	|	|	|
3+35	0.1706	0.65	Q V	|	|	|	|
3+40	0.1750	0.65	Q V	|	|	|	|
3+45	0.1795	0.65	Q V	|	|	|	|
3+50	0.1840	0.65	Q V	|	|	|	|
3+55	0.1886	0.66	Q V	|	|	|	|
4+ 0	0.1931	0.66	Q V	|	|	|	|
4+ 5	0.1977	0.66	Q V	|	|	|	|
4+10	0.2023	0.67	Q V	|	|	|	|
4+15	0.2069	0.67	Q V	|	|	|	|
4+20	0.2115	0.67	Q V	|	|	|	|
4+25	0.2161	0.67	Q V	|	|	|	|
4+30	0.2208	0.68	Q V	|	|	|	|
4+35	0.2255	0.68	Q V	|	|	|	|
4+40	0.2302	0.68	Q V	|	|	|	|
4+45	0.2349	0.69	Q V	|	|	|	|
4+50	0.2396	0.69	Q V	|	|	|	|
4+55	0.2444	0.69	Q V	|	|	|	|
5+ 0	0.2492	0.69	Q V	|	|	|	|
5+ 5	0.2540	0.70	Q V	|	|	|	|
5+10	0.2588	0.70	Q V	|	|	|	|
5+15	0.2636	0.70	Q V	|	|	|	|
5+20	0.2685	0.71	Q V	|	|	|	|
5+25	0.2734	0.71	Q V	|	|	|	|
5+30	0.2783	0.71	Q V	|	|	|	|
5+35	0.2833	0.72	Q V	|	|	|	|
5+40	0.2882	0.72	Q V	|	|	|	|
5+45	0.2932	0.72	Q V	|	|	|	|
5+50	0.2982	0.73	Q V	|	|	|	|
5+55	0.3032	0.73	Q V	|	|	|	|
6+ 0	0.3083	0.73	Q V	|	|	|	|
6+ 5	0.3134	0.74	Q V	|	|	|	|
6+10	0.3185	0.74	Q V	|	|	|	|
6+15	0.3236	0.74	Q V	|	|	|	|
6+20	0.3287	0.75	Q V	|	|	|	|
6+25	0.3339	0.75	|Q V	|	|	|	|
6+30	0.3391	0.76	|Q V	|	|	|	|
6+35	0.3444	0.76	|Q V	|	|	|	|
6+40	0.3496	0.76	|Q V	|	|	|	|
6+45	0.3549	0.77	|Q V	|	|	|	|
6+50	0.3602	0.77	|Q V	|	|	|	|
6+55	0.3656	0.78	|Q V	|	|	|	|
7+ 0	0.3709	0.78	|Q V	|	|	|	|
7+ 5	0.3763	0.78	|Q V	|	|	|	|
7+10	0.3818	0.79	|Q V	|	|	|	|
7+15	0.3872	0.79	|Q V	|	|	|	|
7+20	0.3927	0.80	|Q V	|	|	|	|
7+25	0.3982	0.80	|Q V	|	|	|	|
7+30	0.4038	0.81	|Q V	|	|	|	|
7+35	0.4093	0.81	|Q V	|	|	|	|
7+40	0.4150	0.81	|Q V	|	|	|	|
7+45	0.4206	0.82	|Q V	|	|	|	|
7+50	0.4263	0.82	|Q V	|	|	|	|
7+55	0.4320	0.83	|Q V	|	|	|	|
8+ 0	0.4377	0.83	|Q V	|	|	|	|
8+ 5	0.4435	0.84	|Q V	|	|	|	|
8+10	0.4493	0.84	|Q V	|	|	|	|
8+15	0.4552	0.85	|Q V	|	|	|	|
8+20	0.4611	0.85	|Q V	|	|	|	|
8+25	0.4670	0.86	|Q V	|	|	|	|
8+30	0.4730	0.87	|Q V	|	|	|	|
8+35	0.4790	0.87	|Q V	|	|	|	|
8+40	0.4850	0.88	|Q V	|	|	|	|
8+45	0.4911	0.88	|Q V	|	|	|	|

8+50	0.4972	0.89	Q	V			
8+55	0.5034	0.89	Q	V			
9+ 0	0.5096	0.90	Q	V			
9+ 5	0.5158	0.91	Q	V			
9+10	0.5221	0.91	Q	V			
9+15	0.5284	0.92	Q	V			
9+20	0.5348	0.93	Q	V			
9+25	0.5412	0.93	Q	V			
9+30	0.5477	0.94	Q	V			
9+35	0.5542	0.95	Q	V			
9+40	0.5608	0.95	Q	V			
9+45	0.5674	0.96	Q	V			
9+50	0.5741	0.97	Q	V			
9+55	0.5808	0.98	Q	V			
10+ 0	0.5876	0.98	Q	V			
10+ 5	0.5944	0.99	Q	V			
10+10	0.6013	1.00	Q	V			
10+15	0.6082	1.01	Q	V			
10+20	0.6152	1.02	Q	V			
10+25	0.6223	1.02	Q	V			
10+30	0.6294	1.03	Q	V			
10+35	0.6366	1.04	Q	V			
10+40	0.6438	1.05	Q	V			
10+45	0.6511	1.06	Q	V			
10+50	0.6585	1.07	Q	V			
10+55	0.6660	1.08	Q	V			
11+ 0	0.6735	1.09	Q	V			
11+ 5	0.6810	1.10	Q	V			
11+10	0.6887	1.11	Q	V			
11+15	0.6964	1.12	Q	V			
11+20	0.7042	1.13	Q	V			
11+25	0.7121	1.15	Q	V			
11+30	0.7201	1.16	Q	V			
11+35	0.7282	1.17	Q	V			
11+40	0.7363	1.18	Q	V			
11+45	0.7445	1.20	Q	V			
11+50	0.7529	1.21	Q	V			
11+55	0.7613	1.22	Q	V			
12+ 0	0.7698	1.24	Q	V			
12+ 5	0.7784	1.25	Q	V			
12+10	0.7869	1.24	Q	V			
12+15	0.7953	1.22	Q	V			
12+20	0.8037	1.22	Q	V			
12+25	0.8123	1.24	Q	V			
12+30	0.8209	1.25	Q	V			
12+35	0.8296	1.27	Q	V			
12+40	0.8385	1.29	Q	V			
12+45	0.8475	1.31	Q	V			
12+50	0.8566	1.33	Q	V			
12+55	0.8659	1.35	Q	V			
13+ 0	0.8753	1.37	Q	V			
13+ 5	0.8849	1.39	Q	V			
13+10	0.8946	1.41	Q	V			
13+15	0.9045	1.44	Q	V			
13+20	0.9146	1.46	Q	V			
13+25	0.9249	1.49	Q	V			
13+30	0.9353	1.52	Q	V			
13+35	0.9460	1.55	Q	V			
13+40	0.9569	1.58	Q	V			
13+45	0.9679	1.61	Q	V			
13+50	0.9793	1.64	Q	V			
13+55	0.9908	1.68	Q	V			
14+ 0	1.0027	1.72	Q	V			
14+ 5	1.0148	1.76	Q	V			
14+10	1.0272	1.80	Q	V			
14+15	1.0400	1.85	Q	V			
14+20	1.0531	1.90	Q	V			
14+25	1.0666	1.96	Q	V			
14+30	1.0805	2.01	Q	V			
14+35	1.0948	2.08	Q	V			
14+40	1.1095	2.14	Q	V			
14+45	1.1248	2.22	Q	V			
14+50	1.1407	2.30	Q	V			
14+55	1.1571	2.39	Q	V			
15+ 0	1.1743	2.49	Q	V			



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   21+20       2.6727      0.73  Q          |          |          |      V  |
   21+25       2.6778      0.73  Q          |          |          |      V  |
   21+30       2.6827      0.72  Q          |          |          |       V |
   21+35       2.6876      0.71  Q          |          |          |       V |
   21+40       2.6925      0.71  Q          |          |          |       V |
   21+45       2.6973      0.70  Q          |          |          |       V |
   21+50       2.7021      0.70  Q          |          |          |       V |
   21+55       2.7069      0.69  Q          |          |          |       V |
   22+ 0       2.7116      0.68  Q          |          |          |       V |
   22+ 5       2.7163      0.68  Q          |          |          |       V |
   22+10       2.7209      0.67  Q          |          |          |       V |
   22+15       2.7255      0.67  Q          |          |          |       V |
   22+20       2.7300      0.66  Q          |          |          |       V |
   22+25       2.7345      0.66  Q          |          |          |       V |
   22+30       2.7390      0.65  Q          |          |          |       V |
   22+35       2.7435      0.65  Q          |          |          |       V |
   22+40       2.7479      0.64  Q          |          |          |       V |
   22+45       2.7523      0.64  Q          |          |          |        V|
   22+50       2.7566      0.63  Q          |          |          |        V|
   22+55       2.7609      0.63  Q          |          |          |        V|
   23+ 0       2.7652      0.62  Q          |          |          |        V|
   23+ 5       2.7695      0.62  Q          |          |          |        V|
   23+10       2.7737      0.61  Q          |          |          |        V|
   23+15       2.7779      0.61  Q          |          |          |        V|
   23+20       2.7820      0.60  Q          |          |          |        V|
   23+25       2.7862      0.60  Q          |          |          |        V|
   23+30       2.7903      0.60  Q          |          |          |        V|
   23+35       2.7943      0.59  Q          |          |          |        V|
   23+40       2.7984      0.59  Q          |          |          |        V|
   23+45       2.8024      0.58  Q          |          |          |        V|
   23+50       2.8064      0.58  Q          |          |          |        V|
   23+55       2.8104      0.58  Q          |          |          |        V|
   24+ 0       2.8143      0.57  Q          |          |          |        V|
   24+ 5       2.8180      0.54  Q          |          |          |        V|
   24+10       2.8206      0.37  Q          |          |          |        V|
   24+15       2.8215      0.14  Q          |          |          |        V|
   24+20       2.8218      0.04  Q          |          |          |        V|
   24+25       2.8219      0.01  Q          |          |          |        V|
   24+30       2.8219      0.00  Q          |          |          |        V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 6C
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 6CPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

	Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10	18.20	1	0.60
Rainfall data for year 2	18.20	6	0.70
Rainfall data for year 2	18.20	24	1.20
Rainfall data for year 100	18.20	1	1.00
Rainfall data for year 100	18.20	6	1.90
Rainfall data for year 100	18.20	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	18.20	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.82	0.100	69.0	69.0	4.49	0.121
16.38	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.180 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      18.20(Ac.)
Catchment Lag time =   0.144 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 57.8704
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      18.20(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       220.11 (CFS))

  1                6.077                  13.375
  2               39.009                  72.487
  3               79.564                  89.263
  4               94.634                  33.171
  5               98.466                   8.434
  6               99.524                   2.328
  7              100.000                   1.048
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2219              0.2219
  2              0.2928              0.0709
  3              0.3443              0.0515
  4              0.3863              0.0420
  5              0.4224              0.0361
  6              0.4543              0.0320
  7              0.4832              0.0289
  8              0.5097              0.0265
  9              0.5343              0.0246
 10              0.5573              0.0230
 11              0.5790              0.0217
 12              0.5995              0.0205
 13              0.6182              0.0187
 14              0.6361              0.0179
 15              0.6532              0.0171
 16              0.6696              0.0164
 17              0.6854              0.0158
 18              0.7007              0.0152
 19              0.7154              0.0147
 20              0.7296              0.0143
 21              0.7434              0.0138
 22              0.7569              0.0134
 23              0.7699              0.0131
 24              0.7826              0.0127
 25              0.7950              0.0124
 26              0.8071              0.0121
```

27	0.8189	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8528	0.0110
31	0.8636	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9525	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1058	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1408	0.0069
65	1.1477	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2837	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3710	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5154	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6884	0.0041
169	1.6925	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8854	0.0035
221	1.8889	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0086
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2219	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 25.13(CFS)

++

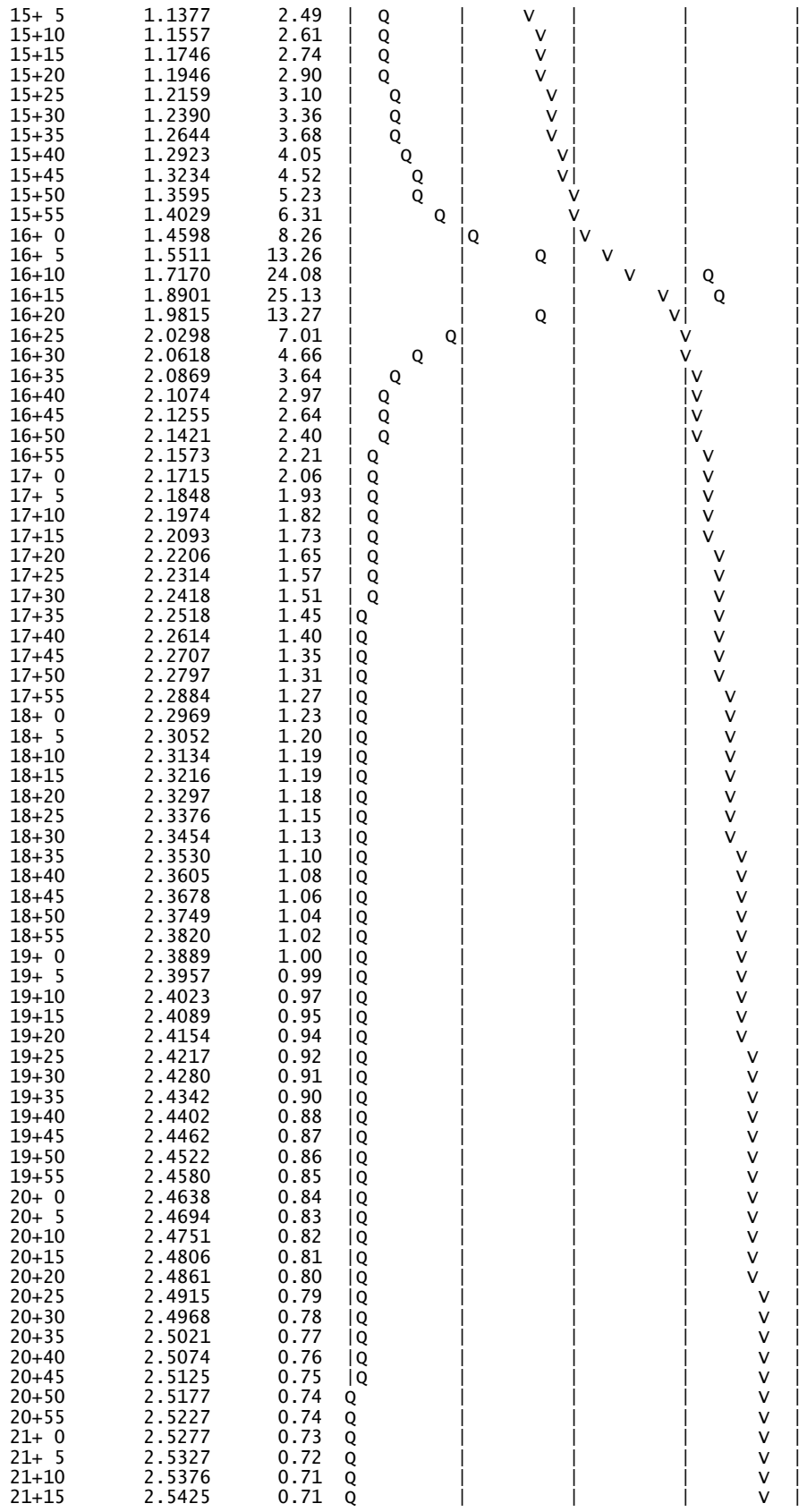
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0002	0.03	Q				
0+10	0.0017	0.21	Q				
0+15	0.0046	0.43	Q				
0+20	0.0081	0.51	Q				
0+25	0.0118	0.53	Q				
0+30	0.0155	0.54	Q				
0+35	0.0193	0.54	Q				
0+40	0.0230	0.55	Q				
0+45	0.0268	0.55	Q				
0+50	0.0306	0.55	Q				
0+55	0.0344	0.55	Q				
1+ 0	0.0382	0.55	Q				
1+ 5	0.0420	0.55	Q				
1+10	0.0458	0.56	Q				
1+15	0.0497	0.56	Q				
1+20	0.0535	0.56	Q				
1+25	0.0574	0.56	Q				
1+30	0.0613	0.56	Q				
1+35	0.0652	0.57	Q				
1+40	0.0691	0.57	QV				
1+45	0.0730	0.57	QV				
1+50	0.0770	0.57	QV				
1+55	0.0809	0.57	QV				
2+ 0	0.0849	0.58	QV				
2+ 5	0.0888	0.58	QV				
2+10	0.0928	0.58	QV				
2+15	0.0968	0.58	QV				
2+20	0.1009	0.58	QV				
2+25	0.1049	0.59	QV				
2+30	0.1089	0.59	QV				

2+35	0.1130	0.59	QV				
2+40	0.1171	0.59	QV				
2+45	0.1212	0.59	QV				
2+50	0.1253	0.60	QV				
2+55	0.1294	0.60	QV				
3+ 0	0.1335	0.60	QV				
3+ 5	0.1377	0.60	Q V				
3+10	0.1419	0.61	Q V				
3+15	0.1460	0.61	Q V				
3+20	0.1502	0.61	Q V				
3+25	0.1545	0.61	Q V				
3+30	0.1587	0.61	Q V				
3+35	0.1629	0.62	Q V				
3+40	0.1672	0.62	Q V				
3+45	0.1715	0.62	Q V				
3+50	0.1758	0.62	Q V				
3+55	0.1801	0.63	Q V				
4+ 0	0.1845	0.63	Q V				
4+ 5	0.1888	0.63	Q V				
4+10	0.1932	0.63	Q V				
4+15	0.1976	0.64	Q V				
4+20	0.2020	0.64	Q V				
4+25	0.2064	0.64	Q V				
4+30	0.2108	0.65	Q V				
4+35	0.2153	0.65	Q V				
4+40	0.2198	0.65	Q V				
4+45	0.2243	0.65	Q V				
4+50	0.2288	0.66	Q V				
4+55	0.2333	0.66	Q V				
5+ 0	0.2379	0.66	Q V				
5+ 5	0.2425	0.66	Q V				
5+10	0.2471	0.67	Q V				
5+15	0.2517	0.67	Q V				
5+20	0.2563	0.67	Q V				
5+25	0.2610	0.68	Q V				
5+30	0.2657	0.68	Q V				
5+35	0.2704	0.68	Q V				
5+40	0.2751	0.69	Q V				
5+45	0.2799	0.69	Q V				
5+50	0.2846	0.69	Q V				
5+55	0.2894	0.70	Q V				
6+ 0	0.2942	0.70	Q V				
6+ 5	0.2991	0.70	Q V				
6+10	0.3039	0.71	Q V				
6+15	0.3088	0.71	Q V				
6+20	0.3137	0.71	Q V				
6+25	0.3187	0.72	Q V				
6+30	0.3236	0.72	Q V				
6+35	0.3286	0.72	Q V				
6+40	0.3336	0.73	Q V				
6+45	0.3387	0.73	Q V				
6+50	0.3438	0.74	Q V				
6+55	0.3488	0.74	Q V				
7+ 0	0.3540	0.74	Q V				
7+ 5	0.3591	0.75	Q V				
7+10	0.3643	0.75	|Q V				
7+15	0.3695	0.76	|Q V				
7+20	0.3747	0.76	|Q V				
7+25	0.3800	0.76	|Q V				
7+30	0.3853	0.77	|Q V				
7+35	0.3906	0.77	|Q V				
7+40	0.3959	0.78	|Q V				
7+45	0.4013	0.78	|Q V				
7+50	0.4067	0.79	|Q V				
7+55	0.4122	0.79	|Q V				
8+ 0	0.4177	0.80	|Q V				
8+ 5	0.4232	0.80	|Q V				
8+10	0.4287	0.81	|Q V				
8+15	0.4343	0.81	|Q V				
8+20	0.4399	0.82	|Q V				
8+25	0.4456	0.82	|Q V				
8+30	0.4513	0.83	|Q V				
8+35	0.4570	0.83	|Q V				
8+40	0.4627	0.84	|Q V				
8+45	0.4685	0.84	|Q V				

8+50	0.4744	0.85	Q	V			
8+55	0.4802	0.85	Q	V			
9+ 0	0.4862	0.86	Q	V			
9+ 5	0.4921	0.86	Q	V			
9+10	0.4981	0.87	Q	V			
9+15	0.5042	0.88	Q	V			
9+20	0.5102	0.88	Q	V			
9+25	0.5164	0.89	Q	V			
9+30	0.5225	0.90	Q	V			
9+35	0.5287	0.90	Q	V			
9+40	0.5350	0.91	Q	V			
9+45	0.5413	0.92	Q	V			
9+50	0.5477	0.92	Q	V			
9+55	0.5541	0.93	Q	V			
10+ 0	0.5606	0.94	Q	V			
10+ 5	0.5671	0.95	Q	V			
10+10	0.5736	0.95	Q	V			
10+15	0.5802	0.96	Q	V			
10+20	0.5869	0.97	Q	V			
10+25	0.5936	0.98	Q	V			
10+30	0.6004	0.99	Q	V			
10+35	0.6073	0.99	Q	V			
10+40	0.6142	1.00	Q	V			
10+45	0.6212	1.01	Q	V			
10+50	0.6282	1.02	Q	V			
10+55	0.6353	1.03	Q	V			
11+ 0	0.6425	1.04	Q	V			
11+ 5	0.6497	1.05	Q	V			
11+10	0.6570	1.06	Q	V			
11+15	0.6644	1.07	Q	V			
11+20	0.6718	1.08	Q	V			
11+25	0.6793	1.09	Q	V			
11+30	0.6869	1.10	Q	V			
11+35	0.6946	1.12	Q	V			
11+40	0.7024	1.13	Q	V			
11+45	0.7102	1.14	Q	V			
11+50	0.7182	1.15	Q	V			
11+55	0.7262	1.17	Q	V			
12+ 0	0.7343	1.18	Q	V			
12+ 5	0.7425	1.19	Q	V			
12+10	0.7506	1.18	Q	V			
12+15	0.7587	1.16	Q	V			
12+20	0.7667	1.17	Q	V			
12+25	0.7748	1.18	Q	V			
12+30	0.7830	1.19	Q	V			
12+35	0.7914	1.21	Q	V			
12+40	0.7998	1.23	Q	V			
12+45	0.8084	1.25	Q	V			
12+50	0.8171	1.27	Q	V			
12+55	0.8260	1.29	Q	V			
13+ 0	0.8350	1.31	Q	V			
13+ 5	0.8441	1.33	Q	V			
13+10	0.8534	1.35	Q	V			
13+15	0.8629	1.37	Q	V			
13+20	0.8725	1.40	Q	V			
13+25	0.8823	1.42	Q	V			
13+30	0.8923	1.45	Q	V			
13+35	0.9024	1.48	Q	V			
13+40	0.9128	1.51	Q	V			
13+45	0.9234	1.54	Q	V			
13+50	0.9342	1.57	Q	V			
13+55	0.9453	1.61	Q	V			
14+ 0	0.9566	1.64	Q	V			
14+ 5	0.9682	1.68	Q	V			
14+10	0.9800	1.72	Q	V			
14+15	0.9922	1.77	Q	V			
14+20	1.0048	1.82	Q	V			
14+25	1.0176	1.87	Q	V			
14+30	1.0309	1.93	Q	V			
14+35	1.0446	1.99	Q	V			
14+40	1.0587	2.05	Q	V			
14+45	1.0733	2.12	Q	V			
14+50	1.0884	2.20	Q	V			
14+55	1.1042	2.29	Q	V			
15+ 0	1.1206	2.38	Q	V			



```
   21+20       2.5473      0.70  Q          |          |          |      V  |
   21+25       2.5521      0.69  Q          |          |          |      V  |
   21+30       2.5568      0.69  Q          |          |          |       V |
   21+35       2.5615      0.68  Q          |          |          |       V |
   21+40       2.5661      0.67  Q          |          |          |       V |
   21+45       2.5707      0.67  Q          |          |          |       V |
   21+50       2.5753      0.66  Q          |          |          |       V |
   21+55       2.5798      0.66  Q          |          |          |       V |
   22+ 0       2.5843      0.65  Q          |          |          |       V |
   22+ 5       2.5887      0.65  Q          |          |          |       V |
   22+10       2.5931      0.64  Q          |          |          |       V |
   22+15       2.5975      0.63  Q          |          |          |       V |
   22+20       2.6018      0.63  Q          |          |          |       V |
   22+25       2.6061      0.62  Q          |          |          |       V |
   22+30       2.6104      0.62  Q          |          |          |       V |
   22+35       2.6146      0.61  Q          |          |          |       V |
   22+40       2.6188      0.61  Q          |          |          |       V |
   22+45       2.6230      0.61  Q          |          |          |        V|
   22+50       2.6271      0.60  Q          |          |          |        V|
   22+55       2.6312      0.60  Q          |          |          |        V|
   23+ 0       2.6353      0.59  Q          |          |          |        V|
   23+ 5       2.6394      0.59  Q          |          |          |        V|
   23+10       2.6434      0.58  Q          |          |          |        V|
   23+15       2.6474      0.58  Q          |          |          |        V|
   23+20       2.6513      0.58  Q          |          |          |        V|
   23+25       2.6553      0.57  Q          |          |          |        V|
   23+30       2.6592      0.57  Q          |          |          |        V|
   23+35       2.6631      0.56  Q          |          |          |        V|
   23+40       2.6669      0.56  Q          |          |          |        V|
   23+45       2.6708      0.56  Q          |          |          |        V|
   23+50       2.6746      0.55  Q          |          |          |        V|
   23+55       2.6784      0.55  Q          |          |          |        V|
   24+ 0       2.6821      0.55  Q          |          |          |        V|
   24+ 5       2.6856      0.51  Q          |          |          |        V|
   24+10       2.6879      0.33  Q          |          |          |        V|
   24+15       2.6887      0.11  Q          |          |          |        V|
   24+20       2.6889      0.03  Q          |          |          |        V|
   24+25       2.6889      0.01  Q          |          |          |        V|
   24+30       2.6889      0.00  Q          |          |          |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 6D
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 6DPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
16.50	1	0.60
Rainfall data for year 2		
16.50	6	0.70
Rainfall data for year 2		
16.50	24	1.20
Rainfall data for year 100		
16.50	1	1.00
Rainfall data for year 100		
16.50	6	1.90
Rainfall data for year 100		
16.50	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	16.50	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.65	0.100	69.0	69.0	4.49	0.121
14.85	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.170 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      16.50(Ac.)
Catchment Lag time =   0.136 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 61.2745
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      16.50(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.600(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       199.55 (CFS))

  1                6.789                  13.548
  2               43.210                  72.677
  3               82.892                  79.184
  4               95.987                  26.130
  5               98.763                   5.540
  6              100.000                   2.468
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2219              0.2219
  2              0.2928              0.0709
  3              0.3443              0.0516
  4              0.3863              0.0420
  5              0.4224              0.0361
  6              0.4544              0.0320
  7              0.4833              0.0289
  8              0.5098              0.0265
  9              0.5344              0.0246
 10              0.5574              0.0230
 11              0.5790              0.0217
 12              0.5995              0.0205
 13              0.6183              0.0187
 14              0.6361              0.0179
 15              0.6533              0.0171
 16              0.6697              0.0164
 17              0.6855              0.0158
 18              0.7007              0.0152
 19              0.7154              0.0147
 20              0.7297              0.0143
 21              0.7435              0.0138
 22              0.7569              0.0134
 23              0.7699              0.0130
 24              0.7827              0.0127
 25              0.7950              0.0124
 26              0.8071              0.0121
 27              0.8189              0.0118
```

28	0.8304	0.0115
29	0.8417	0.0113
30	0.8528	0.0110
31	0.8636	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9433	0.0094
40	0.9525	0.0092
41	0.9615	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9965	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0297	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0612	0.0077
54	1.0688	0.0076
55	1.0764	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1058	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1408	0.0069
65	1.1477	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2714	0.0062
85	1.2775	0.0062
86	1.2837	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3710	0.0056
102	1.3765	0.0055

103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5154	0.0048
130	1.5202	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6250	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6760	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6884	0.0041
169	1.6925	0.0041
170	1.6966	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040
177	1.7248	0.0040

178	1.7288	0.0040
179	1.7328	0.0040
180	1.7367	0.0040
181	1.7407	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8021	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8713	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8854	0.0035
221	1.8889	0.0035
222	1.8924	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032
252	1.9931	0.0032

253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0440	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0961	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1051	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027
34	0.0033	0.0006	0.0027

35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039
109	0.0049	0.0009	0.0040

110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0086
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0098
177	0.0127	0.0023	0.0104
178	0.0130	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139
184	0.0179	0.0033	0.0146

185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0516	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2219	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031
259	0.0037	0.0007	0.0030

260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 23.02(CFS)

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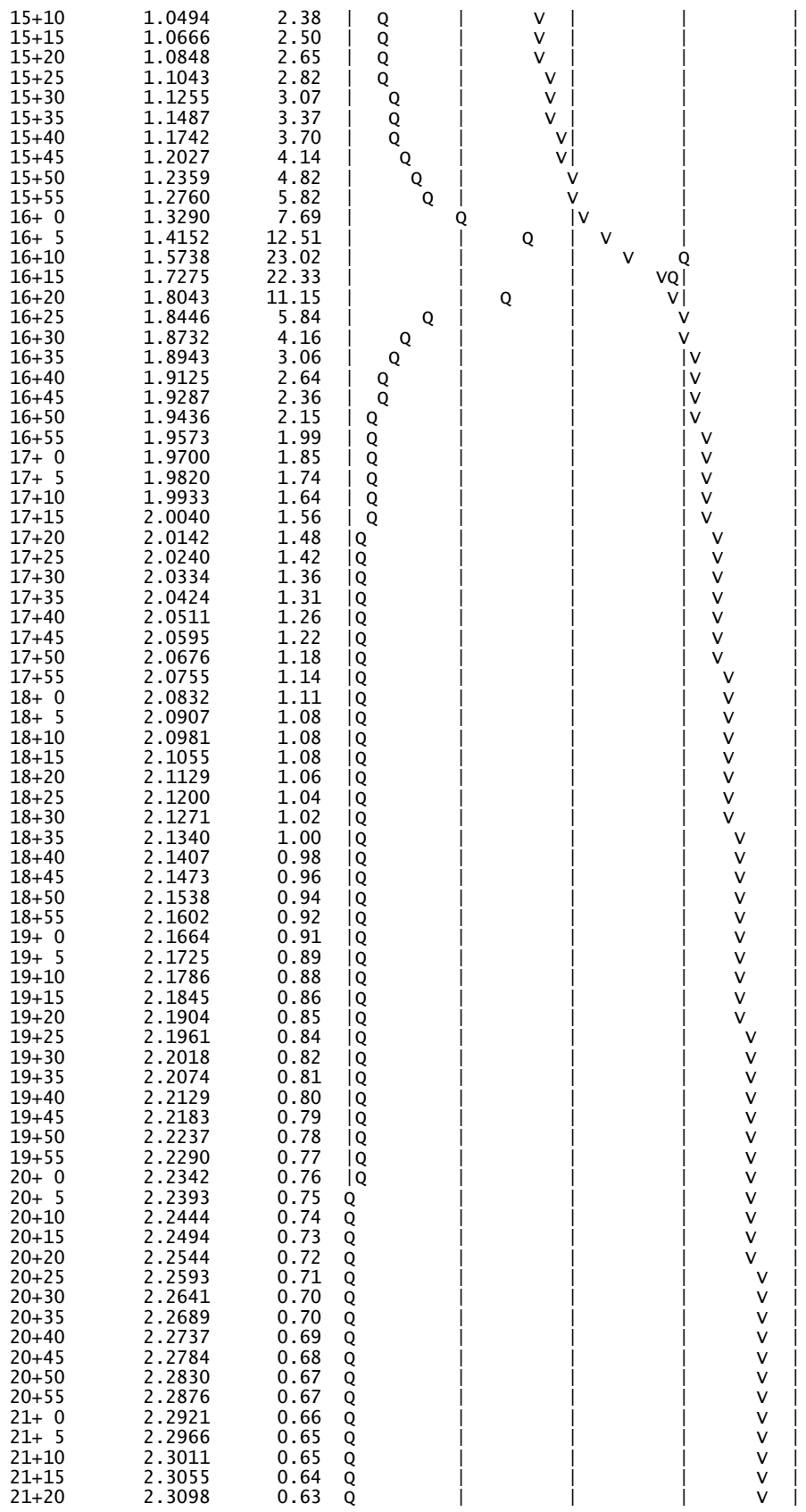
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0017	0.21	Q	|	|	|	|
0+15	0.0045	0.40	Q	|	|	|	|
0+20	0.0077	0.47	Q	|	|	|	|
0+25	0.0110	0.48	Q	|	|	|	|
0+30	0.0144	0.49	Q	|	|	|	|
0+35	0.0178	0.49	Q	|	|	|	|
0+40	0.0212	0.49	Q	|	|	|	|
0+45	0.0246	0.50	Q	|	|	|	|
0+50	0.0281	0.50	Q	|	|	|	|
0+55	0.0315	0.50	Q	|	|	|	|
1+ 0	0.0350	0.50	Q	|	|	|	|
1+ 5	0.0384	0.50	Q	|	|	|	|
1+10	0.0419	0.50	Q	|	|	|	|
1+15	0.0454	0.51	Q	|	|	|	|
1+20	0.0489	0.51	Q	|	|	|	|
1+25	0.0524	0.51	Q	|	|	|	|
1+30	0.0559	0.51	Q	|	|	|	|
1+35	0.0595	0.51	Q	|	|	|	|
1+40	0.0630	0.51	QV	|	|	|	|
1+45	0.0666	0.52	QV	|	|	|	|
1+50	0.0701	0.52	QV	|	|	|	|
1+55	0.0737	0.52	QV	|	|	|	|
2+ 0	0.0773	0.52	QV	|	|	|	|
2+ 5	0.0809	0.52	QV	|	|	|	|
2+10	0.0845	0.53	QV	|	|	|	|
2+15	0.0882	0.53	QV	|	|	|	|
2+20	0.0918	0.53	QV	|	|	|	|
2+25	0.0955	0.53	QV	|	|	|	|
2+30	0.0991	0.53	QV	|	|	|	|
2+35	0.1028	0.53	QV	|	|	|	|

2+40	0.1065	0.54	QV	|	|	|	|
2+45	0.1102	0.54	QV	|	|	|	|
2+50	0.1140	0.54	QV	|	|	|	|
2+55	0.1177	0.54	QV	|	|	|	|
3+ 0	0.1215	0.54	QV	|	|	|	|
3+ 5	0.1252	0.55	Q V	|	|	|	|
3+10	0.1290	0.55	Q V	|	|	|	|
3+15	0.1328	0.55	Q V	|	|	|	|
3+20	0.1366	0.55	Q V	|	|	|	|
3+25	0.1404	0.56	Q V	|	|	|	|
3+30	0.1443	0.56	Q V	|	|	|	|
3+35	0.1481	0.56	Q V	|	|	|	|
3+40	0.1520	0.56	Q V	|	|	|	|
3+45	0.1559	0.56	Q V	|	|	|	|
3+50	0.1598	0.57	Q V	|	|	|	|
3+55	0.1637	0.57	Q V	|	|	|	|
4+ 0	0.1676	0.57	Q V	|	|	|	|
4+ 5	0.1716	0.57	Q V	|	|	|	|
4+10	0.1755	0.58	Q V	|	|	|	|
4+15	0.1795	0.58	Q V	|	|	|	|
4+20	0.1835	0.58	Q V	|	|	|	|
4+25	0.1875	0.58	Q V	|	|	|	|
4+30	0.1916	0.59	Q V	|	|	|	|
4+35	0.1956	0.59	Q V	|	|	|	|
4+40	0.1997	0.59	Q V	|	|	|	|
4+45	0.2038	0.59	Q V	|	|	|	|
4+50	0.2078	0.60	Q V	|	|	|	|
4+55	0.2120	0.60	Q V	|	|	|	|
5+ 0	0.2161	0.60	Q V	|	|	|	|
5+ 5	0.2203	0.60	Q V	|	|	|	|
5+10	0.2244	0.61	Q V	|	|	|	|
5+15	0.2286	0.61	Q V	|	|	|	|
5+20	0.2328	0.61	Q V	|	|	|	|
5+25	0.2371	0.61	Q V	|	|	|	|
5+30	0.2413	0.62	Q V	|	|	|	|
5+35	0.2456	0.62	Q V	|	|	|	|
5+40	0.2499	0.62	Q V	|	|	|	|
5+45	0.2542	0.63	Q V	|	|	|	|
5+50	0.2585	0.63	Q V	|	|	|	|
5+55	0.2628	0.63	Q V	|	|	|	|
6+ 0	0.2672	0.63	Q V	|	|	|	|
6+ 5	0.2716	0.64	Q V	|	|	|	|
6+10	0.2760	0.64	Q V	|	|	|	|
6+15	0.2804	0.64	Q V	|	|	|	|
6+20	0.2849	0.65	Q V	|	|	|	|
6+25	0.2894	0.65	Q V	|	|	|	|
6+30	0.2939	0.65	Q V	|	|	|	|
6+35	0.2984	0.66	Q V	|	|	|	|
6+40	0.3030	0.66	Q V	|	|	|	|
6+45	0.3075	0.66	Q V	|	|	|	|
6+50	0.3121	0.67	Q V	|	|	|	|
6+55	0.3167	0.67	Q V	|	|	|	|
7+ 0	0.3214	0.67	Q V	|	|	|	|
7+ 5	0.3261	0.68	Q V	|	|	|	|
7+10	0.3307	0.68	Q V	|	|	|	|
7+15	0.3355	0.69	Q V	|	|	|	|
7+20	0.3402	0.69	Q V	|	|	|	|
7+25	0.3450	0.69	Q V	|	|	|	|
7+30	0.3498	0.70	Q V	|	|	|	|
7+35	0.3546	0.70	Q V	|	|	|	|
7+40	0.3595	0.70	Q V	|	|	|	|
7+45	0.3643	0.71	Q V	|	|	|	|
7+50	0.3693	0.71	Q V	|	|	|	|
7+55	0.3742	0.72	Q V	|	|	|	|
8+ 0	0.3792	0.72	Q V	|	|	|	|
8+ 5	0.3842	0.73	Q V	|	|	|	|
8+10	0.3892	0.73	Q V	|	|	|	|
8+15	0.3943	0.73	Q V	|	|	|	|
8+20	0.3994	0.74	Q V	|	|	|	|
8+25	0.4045	0.74	Q V	|	|	|	|
8+30	0.4096	0.75	Q V	|	|	|	|
8+35	0.4148	0.75	|Q V	|	|	|	|
8+40	0.4201	0.76	|Q V	|	|	|	|
8+45	0.4253	0.76	|Q V	|	|	|	|
8+50	0.4306	0.77	|Q V	|	|	|	|

8+55	0.4359	0.77	Q V				
9+ 0	0.4413	0.78	Q V				
9+ 5	0.4467	0.78	Q V				
9+10	0.4521	0.79	Q V				
9+15	0.4576	0.80	Q V				
9+20	0.4631	0.80	Q V				
9+25	0.4687	0.81	Q V				
9+30	0.4743	0.81	Q V				
9+35	0.4799	0.82	Q V				
9+40	0.4856	0.83	Q V				
9+45	0.4914	0.83	Q V				
9+50	0.4971	0.84	Q V				
9+55	0.5029	0.84	Q V				
10+ 0	0.5088	0.85	Q V				
10+ 5	0.5147	0.86	Q V				
10+10	0.5207	0.86	Q V				
10+15	0.5267	0.87	Q V				
10+20	0.5327	0.88	Q V				
10+25	0.5388	0.89	Q V				
10+30	0.5450	0.89	Q V				
10+35	0.5512	0.90	Q V				
10+40	0.5575	0.91	Q V				
10+45	0.5638	0.92	Q V				
10+50	0.5702	0.93	Q V				
10+55	0.5766	0.94	Q V				
11+ 0	0.5831	0.94	Q V				
11+ 5	0.5897	0.95	Q V				
11+10	0.5963	0.96	Q V				
11+15	0.6030	0.97	Q V				
11+20	0.6098	0.98	Q V				
11+25	0.6166	0.99	Q V				
11+30	0.6235	1.00	Q V				
11+35	0.6305	1.01	Q V				
11+40	0.6375	1.02	Q V				
11+45	0.6446	1.03	Q V				
11+50	0.6518	1.05	Q V				
11+55	0.6591	1.06	Q V				
12+ 0	0.6665	1.07	Q V				
12+ 5	0.6739	1.08	Q V				
12+10	0.6813	1.07	Q V				
12+15	0.6885	1.05	Q V				
12+20	0.6958	1.06	Q V				
12+25	0.7032	1.07	Q V				
12+30	0.7107	1.08	Q V				
12+35	0.7182	1.10	Q V				
12+40	0.7259	1.12	Q V				
12+45	0.7337	1.13	Q V				
12+50	0.7416	1.15	Q V				
12+55	0.7497	1.17	Q V				
13+ 0	0.7578	1.19	Q V				
13+ 5	0.7661	1.20	Q V				
13+10	0.7746	1.23	Q V				
13+15	0.7832	1.25	Q V				
13+20	0.7919	1.27	Q V				
13+25	0.8008	1.29	Q V				
13+30	0.8099	1.32	Q V				
13+35	0.8191	1.34	Q V				
13+40	0.8285	1.37	Q V				
13+45	0.8381	1.40	Q V				
13+50	0.8480	1.43	Q V				
13+55	0.8580	1.46	Q V				
14+ 0	0.8683	1.49	Q V				
14+ 5	0.8788	1.53	Q V				
14+10	0.8896	1.57	Q V				
14+15	0.9007	1.61	Q V				
14+20	0.9121	1.65	Q V				
14+25	0.9238	1.70	Q V				
14+30	0.9358	1.75	Q V				
14+35	0.9483	1.80	Q V				
14+40	0.9611	1.86	Q V				
14+45	0.9744	1.93	Q V				
14+50	0.9882	2.00	Q V				
14+55	1.0025	2.08	Q V				
15+ 0	1.0174	2.17	Q V				
15+ 5	1.0330	2.26	Q V				



21+25	2.3142	0.63	Q	|	|	|	V |
21+30	2.3184	0.62	Q	|	|	|	V |
21+35	2.3227	0.62	Q	|	|	|	V |
21+40	2.3269	0.61	Q	|	|	|	V |
21+45	2.3310	0.60	Q	|	|	|	V |
21+50	2.3352	0.60	Q	|	|	|	V |
21+55	2.3393	0.59	Q	|	|	|	V |
22+ 0	2.3433	0.59	Q	|	|	|	V |
22+ 5	2.3473	0.58	Q	|	|	|	V |
22+10	2.3513	0.58	Q	|	|	|	V |
22+15	2.3553	0.57	Q	|	|	|	V |
22+20	2.3592	0.57	Q	|	|	|	V |
22+25	2.3631	0.57	Q	|	|	|	V |
22+30	2.3670	0.56	Q	|	|	|	V |
22+35	2.3708	0.56	Q	|	|	|	V |
22+40	2.3746	0.55	Q	|	|	|	V |
22+45	2.3784	0.55	Q	|	|	|	V|
22+50	2.3822	0.54	Q	|	|	|	V|
22+55	2.3859	0.54	Q	|	|	|	V|
23+ 0	2.3896	0.54	Q	|	|	|	V|
23+ 5	2.3932	0.53	Q	|	|	|	V|
23+10	2.3969	0.53	Q	|	|	|	V|
23+15	2.4005	0.52	Q	|	|	|	V|
23+20	2.4041	0.52	Q	|	|	|	V|
23+25	2.4076	0.52	Q	|	|	|	V|
23+30	2.4112	0.51	Q	|	|	|	V|
23+35	2.4147	0.51	Q	|	|	|	V|
23+40	2.4182	0.51	Q	|	|	|	V|
23+45	2.4217	0.50	Q	|	|	|	V|
23+50	2.4251	0.50	Q	|	|	|	V|
23+55	2.4285	0.50	Q	|	|	|	V|
24+ 0	2.4320	0.49	Q	|	|	|	V|
24+ 5	2.4351	0.46	Q	|	|	|	V|
24+10	2.4370	0.28	Q	|	|	|	V|
24+15	2.4376	0.08	Q	|	|	|	V|
24+20	2.4377	0.02	Q	|	|	|	V|
24+25	2.4378	0.01	Q	|	|	|	V|

Project Name: MILESKI ADELANTO
WO: 24-0505
Date: 4/16/2025

UNIT HYDROGRAPH RESULTS (100YR-24HR)

		Post Volume (cf)	Post Volume (acre-ft)	Post Peak (cfs)
100 YR-24 HR	PROP 7A	246,528	5.660	52.98
	PROP 7B	102,998	2.365	21.99
	PROP 7C	283,780	6.515	64.45
	PROP 7D	142,446	3.270	30.47
10YR-24HR	PROP 7A	144,802	3.324	31.29
	PROP 7B	60,496	1.389	12.99
	PROP 7C	166,678	3.826	38.10
	PROP 7D	83,666	1.921	18.00

BASIN ROUTING RESULTS

		Portioned 90% Pre Peak (cfs)	Post Peak (cfs)	Mitigated Peak (cfs)
100 YR-24 HR	PROP 7A (1.3% UHEXOFF)	6.23	52.98	TBD
	PROP 7B (5.9% UHEXEASTOFF)	8.24	21.99	TBD
	PROP 7C (1.5% UHEXOFF)	7.19	64.45	TBD
	PROP 7D (4.2% UHEXEASTOFF)	5.87	30.47	TBD
10YR-24HR	PROP 7A (1.3% UHEXOFF)	4.21	31.29	TBD
	PROP 7B (5.9% UHEXEASTOFF)	4.36	12.99	TBD
	PROP 7C (1.5% UHEXOFF)	4.85	38.10	TBD
	PROP 7D (4.2% UHEXEASTOFF)	3.10	18.00	TBD

SBC Detention Basin Design Guidelines state that:

i) *Post-development peak flow rate generated by the site shall be less than 90% of the pre-development peak*

II) *100-year pre-development peak flow rates shall be calculated using 25-year rainfall and AMC-II.*

Therefore:

$Q_{Post,\ 100\text{-}yr\ 24\text{-}hr} < 90\%\ Q_{Pre,\ 25\text{-}yr\ 24\text{-}hr}$

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 7A
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 7APROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
22.50	1	0.60
Rainfall data for year 2		
22.50	6	0.70
Rainfall data for year 2		
22.50	24	1.20
Rainfall data for year 100		
22.50	1	1.00
Rainfall data for year 100		
22.50	6	1.90
Rainfall data for year 100		
22.50	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	22.50	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.25	0.100	69.0	69.0	4.49	0.121
20.25	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.190 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      22.50(Ac.)
Catchment Lag time =   0.152 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 54.8246
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      22.50(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
----------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
----------------------------------------------------------------------
               (K =       272.11 (CFS))

  1                5.469                  14.882
  2               35.337                  81.273
  3               75.925                 110.445
  4               93.130                  46.816
  5               98.077                  13.461
  6               99.228                   3.130
  7              100.000                   2.102
----------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2218              0.2218
  2              0.2927              0.0709
  3              0.3442              0.0515
  4              0.3862              0.0420
  5              0.4223              0.0361
  6              0.4542              0.0319
  7              0.4831              0.0289
  8              0.5096              0.0265
  9              0.5342              0.0246
 10              0.5572              0.0230
 11              0.5789              0.0217
 12              0.5994              0.0205
 13              0.6181              0.0187
 14              0.6360              0.0179
 15              0.6531              0.0171
 16              0.6695              0.0164
 17              0.6853              0.0158
 18              0.7006              0.0152
 19              0.7153              0.0147
 20              0.7295              0.0143
 21              0.7434              0.0138
 22              0.7568              0.0134
 23              0.7698              0.0131
 24              0.7826              0.0127
 25              0.7949              0.0124
 26              0.8070              0.0121
```

27	0.8188	0.0118
28	0.8304	0.0115
29	0.8417	0.0113
30	0.8527	0.0111
31	0.8635	0.0108
32	0.8741	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9243	0.0097
38	0.9339	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9704	0.0089
43	0.9793	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0049	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0376	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1339	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3427	0.0057
97	1.3485	0.0057
98	1.3541	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3709	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4249	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4761	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5624	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5985	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6507	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7755	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7907	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9199	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9335	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9503	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033
251	1.9898	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9995	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0839	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0111	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0319	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2173
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 31.29(CFS)

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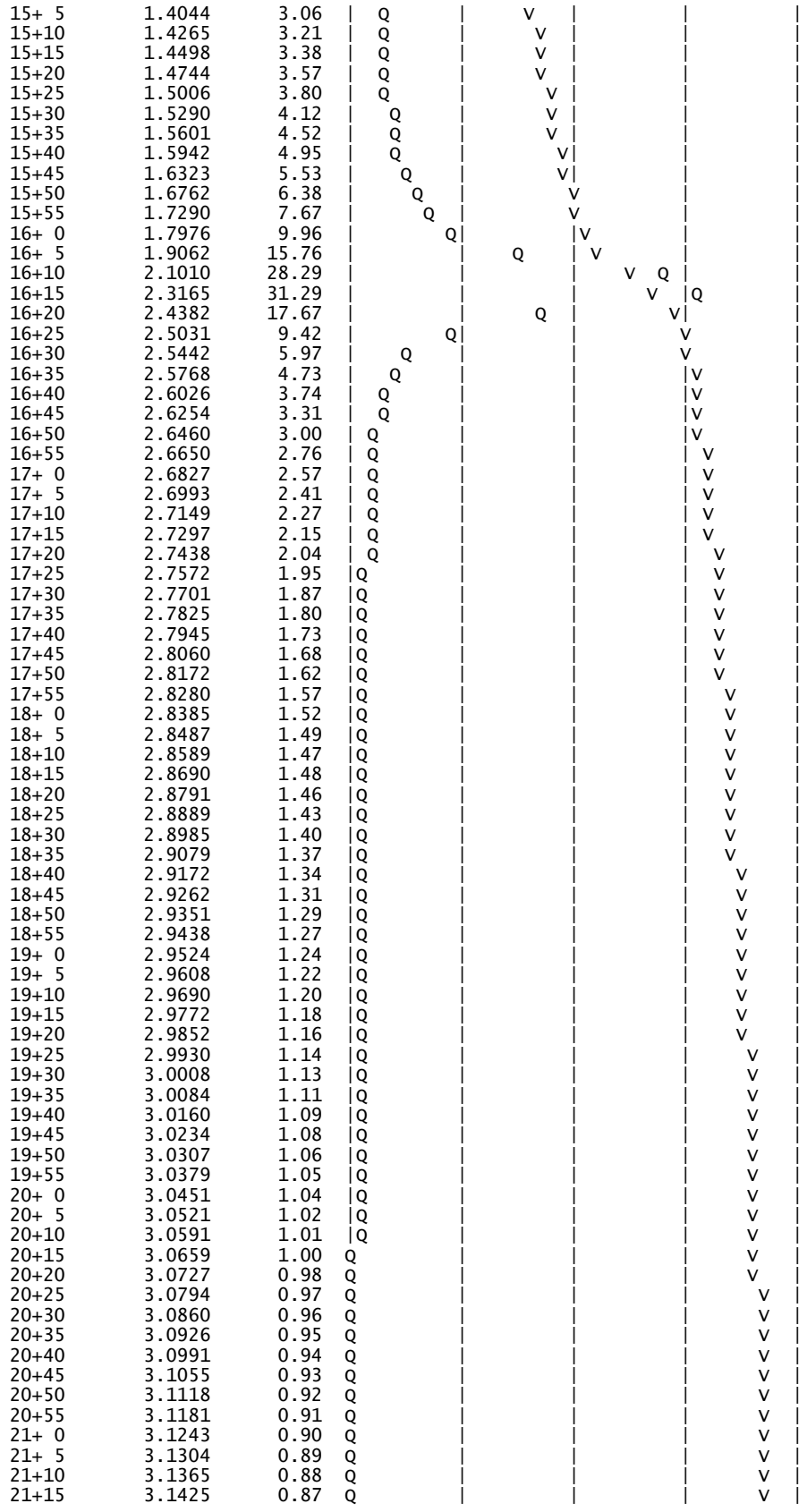
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0003	0.04	Q				
0+10	0.0019	0.23	Q				
0+15	0.0053	0.51	Q				
0+20	0.0096	0.62	Q				
0+25	0.0141	0.66	Q				
0+30	0.0187	0.67	Q				
0+35	0.0233	0.67	Q				
0+40	0.0280	0.67	Q				
0+45	0.0327	0.68	Q				
0+50	0.0373	0.68	Q				
0+55	0.0420	0.68	Q				
1+ 0	0.0467	0.68	Q				
1+ 5	0.0514	0.69	Q				
1+10	0.0562	0.69	Q				
1+15	0.0609	0.69	Q				
1+20	0.0657	0.69	Q				
1+25	0.0705	0.69	Q				
1+30	0.0753	0.70	Q				
1+35	0.0801	0.70	Q				
1+40	0.0849	0.70	QV				
1+45	0.0898	0.70	QV				
1+50	0.0946	0.71	QV				
1+55	0.0995	0.71	QV				
2+ 0	0.1044	0.71	QV				
2+ 5	0.1093	0.71	QV				
2+10	0.1143	0.72	QV				
2+15	0.1192	0.72	QV				
2+20	0.1242	0.72	QV				
2+25	0.1292	0.72	QV				
2+30	0.1342	0.73	QV				

2+35	0.1392	0.73	QV	|	|	|	|
2+40	0.1442	0.73	QV	|	|	|	|
2+45	0.1493	0.73	QV	|	|	|	|
2+50	0.1544	0.74	QV	|	|	|	|
2+55	0.1595	0.74	QV	|	|	|	|
3+ 0	0.1646	0.74	QV	|	|	|	|
3+ 5	0.1697	0.75	Q V	|	|	|	|
3+10	0.1749	0.75	Q V	|	|	|	|
3+15	0.1800	0.75	Q V	|	|	|	|
3+20	0.1852	0.75	Q V	|	|	|	|
3+25	0.1904	0.76	Q V	|	|	|	|
3+30	0.1957	0.76	Q V	|	|	|	|
3+35	0.2009	0.76	Q V	|	|	|	|
3+40	0.2062	0.77	Q V	|	|	|	|
3+45	0.2115	0.77	Q V	|	|	|	|
3+50	0.2168	0.77	Q V	|	|	|	|
3+55	0.2221	0.77	Q V	|	|	|	|
4+ 0	0.2275	0.78	Q V	|	|	|	|
4+ 5	0.2329	0.78	Q V	|	|	|	|
4+10	0.2383	0.78	Q V	|	|	|	|
4+15	0.2437	0.79	Q V	|	|	|	|
4+20	0.2491	0.79	Q V	|	|	|	|
4+25	0.2546	0.79	Q V	|	|	|	|
4+30	0.2601	0.80	Q V	|	|	|	|
4+35	0.2656	0.80	Q V	|	|	|	|
4+40	0.2711	0.80	Q V	|	|	|	|
4+45	0.2767	0.81	Q V	|	|	|	|
4+50	0.2823	0.81	Q V	|	|	|	|
4+55	0.2879	0.81	Q V	|	|	|	|
5+ 0	0.2935	0.82	Q V	|	|	|	|
5+ 5	0.2992	0.82	Q V	|	|	|	|
5+10	0.3049	0.83	Q V	|	|	|	|
5+15	0.3106	0.83	Q V	|	|	|	|
5+20	0.3163	0.83	Q V	|	|	|	|
5+25	0.3221	0.84	Q V	|	|	|	|
5+30	0.3279	0.84	Q V	|	|	|	|
5+35	0.3337	0.84	Q V	|	|	|	|
5+40	0.3395	0.85	Q V	|	|	|	|
5+45	0.3454	0.85	Q V	|	|	|	|
5+50	0.3513	0.86	Q V	|	|	|	|
5+55	0.3572	0.86	Q V	|	|	|	|
6+ 0	0.3632	0.86	Q V	|	|	|	|
6+ 5	0.3691	0.87	Q V	|	|	|	|
6+10	0.3752	0.87	Q V	|	|	|	|
6+15	0.3812	0.88	Q V	|	|	|	|
6+20	0.3873	0.88	Q V	|	|	|	|
6+25	0.3934	0.89	Q V	|	|	|	|
6+30	0.3995	0.89	Q V	|	|	|	|
6+35	0.4057	0.89	Q V	|	|	|	|
6+40	0.4119	0.90	Q V	|	|	|	|
6+45	0.4181	0.90	Q V	|	|	|	|
6+50	0.4243	0.91	Q V	|	|	|	|
6+55	0.4306	0.91	Q V	|	|	|	|
7+ 0	0.4370	0.92	Q V	|	|	|	|
7+ 5	0.4433	0.92	Q V	|	|	|	|
7+10	0.4497	0.93	Q V	|	|	|	|
7+15	0.4561	0.93	Q V	|	|	|	|
7+20	0.4626	0.94	Q V	|	|	|	|
7+25	0.4691	0.94	Q V	|	|	|	|
7+30	0.4756	0.95	Q V	|	|	|	|
7+35	0.4822	0.95	Q V	|	|	|	|
7+40	0.4888	0.96	Q V	|	|	|	|
7+45	0.4955	0.97	Q V	|	|	|	|
7+50	0.5022	0.97	Q V	|	|	|	|
7+55	0.5089	0.98	Q V	|	|	|	|
8+ 0	0.5157	0.98	Q V	|	|	|	|
8+ 5	0.5225	0.99	Q V	|	|	|	|
8+10	0.5293	0.99	Q V	|	|	|	|
8+15	0.5362	1.00	|Q V	|	|	|	|
8+20	0.5432	1.01	|Q V	|	|	|	|
8+25	0.5501	1.01	|Q V	|	|	|	|
8+30	0.5572	1.02	|Q V	|	|	|	|
8+35	0.5642	1.03	|Q V	|	|	|	|
8+40	0.5713	1.03	|Q V	|	|	|	|
8+45	0.5785	1.04	|Q V	|	|	|	|

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 8+50       0.5857      1.05  |Q     V  |          |          |          |
 8+55       0.5930      1.05  |Q     V  |          |          |          |
 9+ 0       0.6003      1.06  |Q     V  |          |          |          |
 9+ 5       0.6076      1.07  |Q     V  |          |          |          |
 9+10       0.6151      1.08  |Q     V  |          |          |          |
 9+15       0.6225      1.08  |Q     V  |          |          |          |
 9+20       0.6300      1.09  |Q     V  |          |          |          |
 9+25       0.6376      1.10  |Q     V  |          |          |          |
 9+30       0.6452      1.11  |Q     V  |          |          |          |
 9+35       0.6529      1.12  |Q     V  |          |          |          |
 9+40       0.6606      1.12  |Q     V  |          |          |          |
 9+45       0.6684      1.13  |Q      V |          |          |          |
 9+50       0.6763      1.14  |Q      V |          |          |          |
 9+55       0.6842      1.15  |Q      V |          |          |          |
10+ 0       0.6922      1.16  |Q      V |          |          |          |
10+ 5       0.7002      1.17  |Q      V |          |          |          |
10+10       0.7083      1.18  |Q      V |          |          |          |
10+15       0.7165      1.19  |Q      V |          |          |          |
10+20       0.7248      1.20  |Q      V |          |          |          |
10+25       0.7331      1.21  |Q      V |          |          |          |
10+30       0.7415      1.22  |Q      V |          |          |          |
10+35       0.7499      1.23  |Q       V|          |          |          |
10+40       0.7584      1.24  |Q       V|          |          |          |
10+45       0.7670      1.25  |Q       V|          |          |          |
10+50       0.7757      1.26  |Q       V|          |          |          |
10+55       0.7845      1.27  |Q       V|          |          |          |
11+ 0       0.7934      1.28  |Q       V|          |          |          |
11+ 5       0.8023      1.30  |Q       V|          |          |          |
11+10       0.8113      1.31  |Q       V|          |          |          |
11+15       0.8204      1.32  |Q       V|          |          |          |
11+20       0.8296      1.34  |Q       V|          |          |          |
11+25       0.8389      1.35  |Q        V          |          |          |
11+30       0.8483      1.36  |Q        V          |          |          |
11+35       0.8578      1.38  |Q        V          |          |          |
11+40       0.8674      1.39  |Q        V          |          |          |
11+45       0.8771      1.41  |Q        V          |          |          |
11+50       0.8869      1.42  |Q        V          |          |          |
11+55       0.8968      1.44  |Q        V          |          |          |
12+ 0       0.9068      1.46  |Q        V          |          |          |
12+ 5       0.9169      1.47  |Q        |V         |          |          |
12+10       0.9270      1.46  |Q        |V         |          |          |
12+15       0.9369      1.44  |Q        |V         |          |          |
12+20       0.9468      1.44  |Q        |V         |          |          |
12+25       0.9569      1.46  |Q        |V         |          |          |
12+30       0.9670      1.48  |Q        |V         |          |          |
12+35       0.9773      1.50  |Q        |V         |          |          |
12+40       0.9878      1.52  |Q        |V         |          |          |
12+45       0.9984      1.54  |Q        | V        |          |          |
12+50       1.0091      1.56  |Q        | V        |          |          |
12+55       1.0201      1.59  |Q        | V        |          |          |
13+ 0       1.0312      1.61  |Q        | V        |          |          |
13+ 5       1.0424      1.64  |Q        | V        |          |          |
13+10       1.0539      1.67  |Q        | V        |          |          |
13+15       1.0656      1.69  |Q        | V        |          |          |
13+20       1.0774      1.72  |Q        | V        |          |          |
13+25       1.0895      1.76  |Q        |  V       |          |          |
13+30       1.1018      1.79  |Q        |  V       |          |          |
13+35       1.1144      1.82  |Q        |  V       |          |          |
13+40       1.1272      1.86  |Q        |  V       |          |          |
13+45       1.1403      1.90  |Q        |  V       |          |          |
13+50       1.1536      1.94  |Q        |  V       |          |          |
13+55       1.1672      1.98  |Q        |   V      |          |          |
14+ 0       1.1812      2.03  | Q       |   V      |          |          |
14+ 5       1.1955      2.07  | Q       |   V      |          |          |
14+10       1.2101      2.13  | Q       |   V      |          |          |
14+15       1.2252      2.18  | Q       |   V      |          |          |
14+20       1.2406      2.24  | Q       |   V      |          |          |
14+25       1.2565      2.31  | Q       |    V     |          |          |
14+30       1.2728      2.37  | Q       |    V     |          |          |
14+35       1.2897      2.45  | Q       |    V     |          |          |
14+40       1.3071      2.53  | Q       |    V     |          |          |
14+45       1.3251      2.61  | Q       |    V     |          |          |
14+50       1.3438      2.71  | Q       |     V    |          |          |
14+55       1.3632      2.82  | Q       |     V    |          |          |
15+ 0       1.3833      2.93  | Q       |     V    |          |          |
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   21+20       3.1485      0.87  Q          |          |          |      V  |
   21+25       3.1544      0.86  Q          |          |          |      V  |
   21+30       3.1602      0.85  Q          |          |          |       V |
   21+35       3.1660      0.84  Q          |          |          |       V |
   21+40       3.1718      0.83  Q          |          |          |       V |
   21+45       3.1775      0.83  Q          |          |          |       V |
   21+50       3.1831      0.82  Q          |          |          |       V |
   21+55       3.1887      0.81  Q          |          |          |       V |
   22+ 0       3.1942      0.81  Q          |          |          |       V |
   22+ 5       3.1997      0.80  Q          |          |          |       V |
   22+10       3.2052      0.79  Q          |          |          |       V |
   22+15       3.2106      0.79  Q          |          |          |       V |
   22+20       3.2160      0.78  Q          |          |          |       V |
   22+25       3.2213      0.77  Q          |          |          |       V |
   22+30       3.2266      0.77  Q          |          |          |       V |
   22+35       3.2318      0.76  Q          |          |          |       V |
   22+40       3.2370      0.75  Q          |          |          |       V |
   22+45       3.2421      0.75  Q          |          |          |        V|
   22+50       3.2473      0.74  Q          |          |          |        V|
   22+55       3.2523      0.74  Q          |          |          |        V|
   23+ 0       3.2574      0.73  Q          |          |          |        V|
   23+ 5       3.2624      0.73  Q          |          |          |        V|
   23+10       3.2674      0.72  Q          |          |          |        V|
   23+15       3.2723      0.72  Q          |          |          |        V|
   23+20       3.2772      0.71  Q          |          |          |        V|
   23+25       3.2821      0.71  Q          |          |          |        V|
   23+30       3.2869      0.70  Q          |          |          |        V|
   23+35       3.2917      0.70  Q          |          |          |        V|
   23+40       3.2965      0.69  Q          |          |          |        V|
   23+45       3.3012      0.69  Q          |          |          |        V|
   23+50       3.3059      0.68  Q          |          |          |        V|
   23+55       3.3106      0.68  Q          |          |          |        V|
   24+ 0       3.3153      0.68  Q          |          |          |        V|
   24+ 5       3.3196      0.63  Q          |          |          |        V|
   24+10       3.3226      0.43  Q          |          |          |        V|
   24+15       3.3237      0.16  Q          |          |          |        V|
   24+20       3.3241      0.05  Q          |          |          |        V|
   24+25       3.3241      0.01  Q          |          |          |        V|
   24+30       3.3242      0.01  Q          |          |          |        V|
---------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 7B
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 7BPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
9.40	1	0.60
Rainfall data for year 2		
9.40	6	0.70
Rainfall data for year 2		
9.40	24	1.20
Rainfall data for year 100		
9.40	1	1.00
Rainfall data for year 100		
9.40	6	1.90
Rainfall data for year 100		
9.40	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	9.40	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
0.94	0.100	69.0	69.0	4.49	0.121
8.46	0.900	98.0	98.0	0.20	0.892

Area-averaged catchment yield fraction, Y = 0.815
Area-averaged low loss fraction, Yb = 0.185
User entry of time of concentration = 0.180 (hours)
++
Watershed area = 9.40(Ac.)
Catchment Lag time = 0.144 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 57.8704
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall = 0.222(In)
Computed peak 30-minute rainfall = 0.455(In)
Specified peak 1-hour rainfall = 0.600(In)
Computed peak 3-hour rainfall = 0.915(In)
Specified peak 6-hour rainfall = 1.194(In)
Specified peak 24-hour rainfall = 2.105(In)

Rainfall depth area reduction factors:
Using a total area of 9.40(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.222(In)
30-minute factor = 1.000 Adjusted rainfall = 0.455(In)
1-hour factor = 1.000 Adjusted rainfall = 0.600(In)
3-hour factor = 1.000 Adjusted rainfall = 0.915(In)
6-hour factor = 1.000 Adjusted rainfall = 1.194(In)
24-hour factor = 1.000 Adjusted rainfall = 2.105(In)

U n i t H y d r o g r a p h
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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
	(K = 113.68 (CFS))	
1	6.077	6.908
2	39.009	37.438
3	79.564	46.103
4	94.634	17.132
5	98.466	4.356
6	99.524	1.202
7	100.000	0.541

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.2220	0.2220
2	0.2929	0.0709
3	0.3445	0.0516
4	0.3865	0.0420
5	0.4225	0.0361
6	0.4545	0.0320
7	0.4834	0.0289
8	0.5099	0.0265
9	0.5345	0.0246
10	0.5576	0.0230
11	0.5792	0.0217
12	0.5997	0.0205
13	0.6185	0.0187
14	0.6363	0.0179
15	0.6534	0.0171
16	0.6698	0.0164
17	0.6856	0.0158
18	0.7008	0.0152
19	0.7156	0.0147
20	0.7298	0.0142
21	0.7436	0.0138
22	0.7570	0.0134
23	0.7701	0.0130
24	0.7828	0.0127
25	0.7951	0.0124
26	0.8072	0.0121

27	0.8190	0.0118
28	0.8305	0.0115
29	0.8418	0.0113
30	0.8528	0.0110
31	0.8637	0.0108
32	0.8743	0.0106
33	0.8847	0.0104
34	0.8949	0.0102
35	0.9049	0.0100
36	0.9147	0.0098
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9433	0.0094
40	0.9525	0.0092
41	0.9616	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9966	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0216	0.0082
49	1.0297	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0535	0.0078
53	1.0612	0.0077
54	1.0688	0.0076
55	1.0764	0.0076
56	1.0839	0.0075
57	1.0912	0.0074
58	1.0986	0.0073
59	1.1058	0.0072
60	1.1130	0.0072
61	1.1200	0.0071
62	1.1271	0.0070
63	1.1340	0.0069
64	1.1409	0.0069
65	1.1477	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1873	0.0064
72	1.1937	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2138	0.0066
76	1.2204	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2652	0.0063
84	1.2714	0.0062
85	1.2776	0.0062
86	1.2837	0.0061
87	1.2898	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3255	0.0059
94	1.3313	0.0058
95	1.3371	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3542	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3710	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3930	0.0054
106	1.3984	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4662	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4812	0.0050
123	1.4861	0.0050
124	1.4911	0.0049
125	1.4960	0.0049
126	1.5009	0.0049
127	1.5057	0.0049
128	1.5106	0.0048
129	1.5154	0.0048
130	1.5202	0.0048
131	1.5250	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5392	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5532	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5716	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5852	0.0045
145	1.5897	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6075	0.0044
150	1.6119	0.0044
151	1.6163	0.0044
152	1.6206	0.0044
153	1.6250	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6508	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6760	0.0042
166	1.6801	0.0041
167	1.6843	0.0041
168	1.6884	0.0041
169	1.6925	0.0041
170	1.6966	0.0041
171	1.7007	0.0041
172	1.7047	0.0041
173	1.7088	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7328	0.0040
180	1.7367	0.0040
181	1.7407	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7641	0.0039
188	1.7679	0.0039
189	1.7718	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7946	0.0038
196	1.7983	0.0038
197	1.8021	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8133	0.0037
201	1.8170	0.0037
202	1.8207	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8317	0.0037
206	1.8353	0.0037
207	1.8390	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8642	0.0036
215	1.8677	0.0036
216	1.8713	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8819	0.0035
220	1.8854	0.0035
221	1.8889	0.0035
222	1.8924	0.0035
223	1.8959	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9063	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9166	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9370	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9604	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9736	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9964	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0220	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0440	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0657	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0931	0.0030
285	2.0961	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1051	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0098	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0086
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0098
177	0.0127	0.0023	0.0104
178	0.0130	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0142	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0201
188	0.0265	0.0046	0.0220
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0516	0.0046	0.0470
192	0.0709	0.0046	0.0664
193	0.2220	0.0046	0.2174
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0043	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0054
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 12.99(CFS)

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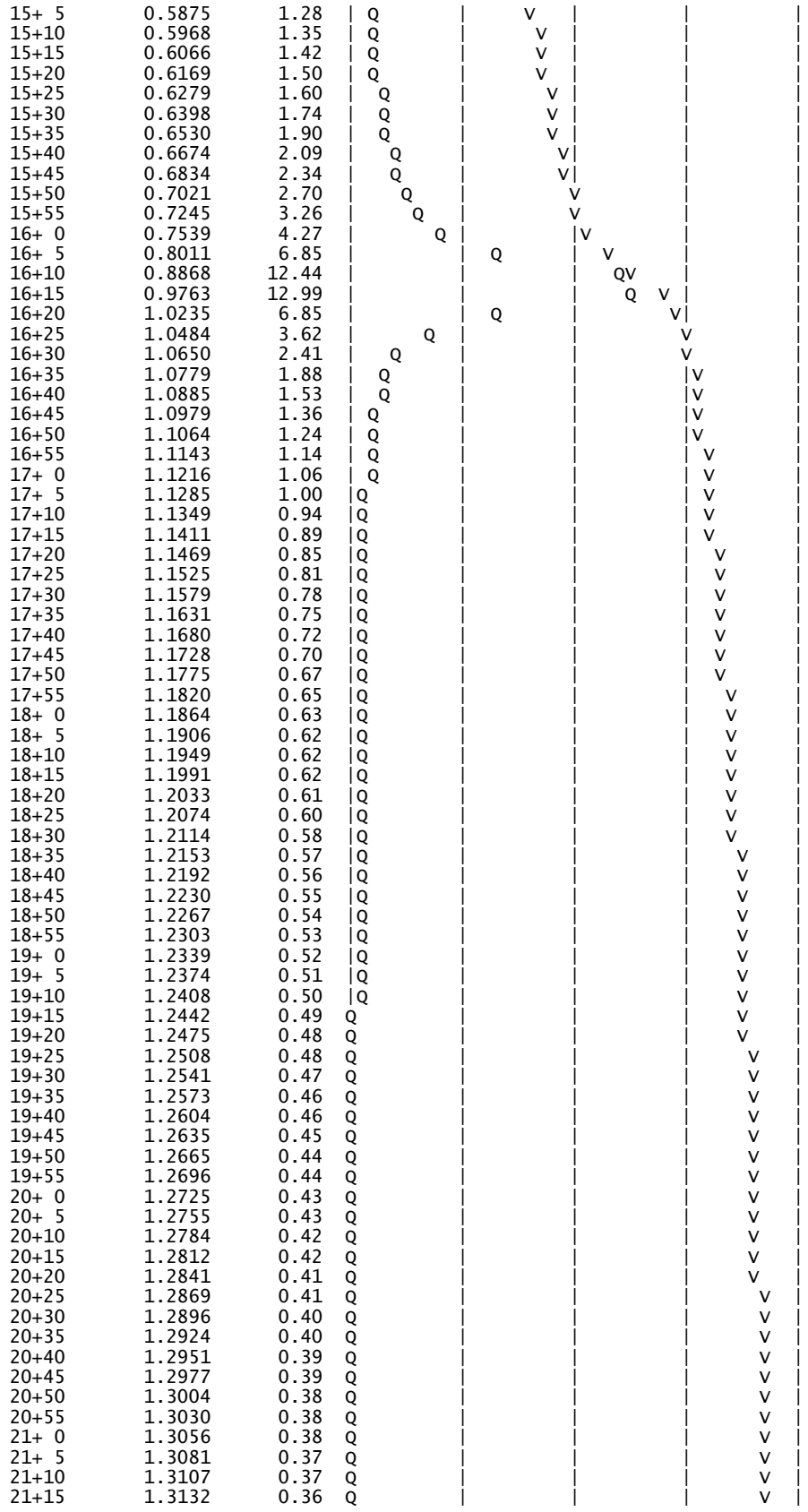
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0009	0.11	Q	|	|	|	|
0+15	0.0024	0.22	Q	|	|	|	|
0+20	0.0042	0.26	Q	|	|	|	|
0+25	0.0061	0.28	Q	|	|	|	|
0+30	0.0080	0.28	Q	|	|	|	|
0+35	0.0099	0.28	Q	|	|	|	|
0+40	0.0119	0.28	Q	|	|	|	|
0+45	0.0138	0.28	Q	|	|	|	|
0+50	0.0158	0.28	Q	|	|	|	|
0+55	0.0178	0.28	Q	|	|	|	|
1+ 0	0.0197	0.29	Q	|	|	|	|
1+ 5	0.0217	0.29	Q	|	|	|	|
1+10	0.0237	0.29	Q	|	|	|	|
1+15	0.0257	0.29	Q	|	|	|	|
1+20	0.0276	0.29	Q	|	|	|	|
1+25	0.0296	0.29	Q	|	|	|	|
1+30	0.0317	0.29	Q	|	|	|	|
1+35	0.0337	0.29	Q	|	|	|	|
1+40	0.0357	0.29	QV	|	|	|	|
1+45	0.0377	0.29	QV	|	|	|	|
1+50	0.0397	0.30	QV	|	|	|	|
1+55	0.0418	0.30	QV	|	|	|	|
2+ 0	0.0438	0.30	QV	|	|	|	|
2+ 5	0.0459	0.30	QV	|	|	|	|
2+10	0.0479	0.30	QV	|	|	|	|
2+15	0.0500	0.30	QV	|	|	|	|
2+20	0.0521	0.30	QV	|	|	|	|
2+25	0.0542	0.30	QV	|	|	|	|
2+30	0.0563	0.30	QV	|	|	|	|

2+35	0.0584	0.30	QV				
2+40	0.0605	0.31	QV				
2+45	0.0626	0.31	QV				
2+50	0.0647	0.31	QV				
2+55	0.0668	0.31	QV				
3+ 0	0.0690	0.31	QV				
3+ 5	0.0711	0.31	Q V				
3+10	0.0733	0.31	Q V				
3+15	0.0754	0.31	Q V				
3+20	0.0776	0.32	Q V				
3+25	0.0798	0.32	Q V				
3+30	0.0820	0.32	Q V				
3+35	0.0842	0.32	Q V				
3+40	0.0864	0.32	Q V				
3+45	0.0886	0.32	Q V				
3+50	0.0908	0.32	Q V				
3+55	0.0930	0.32	Q V				
4+ 0	0.0953	0.33	Q V				
4+ 5	0.0975	0.33	Q V				
4+10	0.0998	0.33	Q V				
4+15	0.1020	0.33	Q V				
4+20	0.1043	0.33	Q V				
4+25	0.1066	0.33	Q V				
4+30	0.1089	0.33	Q V				
4+35	0.1112	0.33	Q V				
4+40	0.1135	0.34	Q V				
4+45	0.1158	0.34	Q V				
4+50	0.1182	0.34	Q V				
4+55	0.1205	0.34	Q V				
5+ 0	0.1229	0.34	Q V				
5+ 5	0.1252	0.34	Q V				
5+10	0.1276	0.34	Q V				
5+15	0.1300	0.35	Q V				
5+20	0.1324	0.35	Q V				
5+25	0.1348	0.35	Q V				
5+30	0.1372	0.35	Q V				
5+35	0.1396	0.35	Q V				
5+40	0.1421	0.35	Q V				
5+45	0.1445	0.36	Q V				
5+50	0.1470	0.36	Q V				
5+55	0.1495	0.36	Q V				
6+ 0	0.1520	0.36	Q V				
6+ 5	0.1545	0.36	Q V				
6+10	0.1570	0.36	Q V				
6+15	0.1595	0.37	Q V				
6+20	0.1620	0.37	Q V				
6+25	0.1646	0.37	Q V				
6+30	0.1672	0.37	Q V				
6+35	0.1697	0.37	Q V				
6+40	0.1723	0.38	Q V				
6+45	0.1749	0.38	Q V				
6+50	0.1775	0.38	Q V				
6+55	0.1802	0.38	Q V				
7+ 0	0.1828	0.38	Q V				
7+ 5	0.1855	0.39	Q V				
7+10	0.1881	0.39	Q V				
7+15	0.1908	0.39	Q V				
7+20	0.1935	0.39	Q V				
7+25	0.1963	0.39	Q V				
7+30	0.1990	0.40	Q V				
7+35	0.2017	0.40	Q V				
7+40	0.2045	0.40	Q V				
7+45	0.2073	0.40	Q V				
7+50	0.2101	0.41	Q V				
7+55	0.2129	0.41	Q V				
8+ 0	0.2157	0.41	Q V				
8+ 5	0.2186	0.41	Q V				
8+10	0.2214	0.42	Q V				
8+15	0.2243	0.42	Q V				
8+20	0.2272	0.42	Q V				
8+25	0.2301	0.42	Q V				
8+30	0.2331	0.43	Q V				
8+35	0.2360	0.43	Q V				
8+40	0.2390	0.43	Q V				
8+45	0.2420	0.43	Q V				

8+50	0.2450	0.44	Q	V	|	|	|	|
8+55	0.2480	0.44	Q	V	|	|	|	|
9+ 0	0.2511	0.44	Q	V	|	|	|	|
9+ 5	0.2542	0.45	Q	V	|	|	|	|
9+10	0.2573	0.45	Q	V	|	|	|	|
9+15	0.2604	0.45	Q	V	|	|	|	|
9+20	0.2635	0.46	Q	V	|	|	|	|
9+25	0.2667	0.46	Q	V	|	|	|	|
9+30	0.2699	0.46	Q	V	|	|	|	|
9+35	0.2731	0.47	Q	V	|	|	|	|
9+40	0.2763	0.47	Q	V	|	|	|	|
9+45	0.2796	0.47	Q	V	|	|	|	|
9+50	0.2829	0.48	Q	V	|	|	|	|
9+55	0.2862	0.48	Q	V	|	|	|	|
10+ 0	0.2895	0.48	Q	V	|	|	|	|
10+ 5	0.2929	0.49	Q	V	|	|	|	|
10+10	0.2963	0.49	Q	V	|	|	|	|
10+15	0.2997	0.50	Q	V	|	|	|	|
10+20	0.3031	0.50	|Q	V	|	|	|	|
10+25	0.3066	0.50	|Q	V	|	|	|	|
10+30	0.3101	0.51	|Q	V	|	|	|	|
10+35	0.3136	0.51	|Q	V|	|	|	|	|
10+40	0.3172	0.52	|Q	V|	|	|	|	|
10+45	0.3208	0.52	|Q	V|	|	|	|	|
10+50	0.3244	0.53	|Q	V|	|	|	|	|
10+55	0.3281	0.53	|Q	V|	|	|	|	|
11+ 0	0.3318	0.54	|Q	V|	|	|	|	|
11+ 5	0.3355	0.54	|Q	V|	|	|	|	|
11+10	0.3393	0.55	|Q	V|	|	|	|	|
11+15	0.3431	0.55	|Q	V|	|	|	|	|
11+20	0.3470	0.56	|Q	V|	|	|	|	|
11+25	0.3509	0.56	|Q	V	|	|	|	|
11+30	0.3548	0.57	|Q	V	|	|	|	|
11+35	0.3588	0.58	|Q	V	|	|	|	|
11+40	0.3628	0.58	|Q	V	|	|	|	|
11+45	0.3668	0.59	|Q	V	|	|	|	|
11+50	0.3709	0.60	|Q	V	|	|	|	|
11+55	0.3751	0.60	|Q	V	|	|	|	|
12+ 0	0.3793	0.61	|Q	V	|	|	|	|
12+ 5	0.3835	0.61	|Q	|V	|	|	|	|
12+10	0.3877	0.61	|Q	|V	|	|	|	|
12+15	0.3918	0.60	|Q	|V	|	|	|	|
12+20	0.3960	0.60	|Q	|V	|	|	|	|
12+25	0.4002	0.61	|Q	|V	|	|	|	|
12+30	0.4044	0.62	|Q	|V	|	|	|	|
12+35	0.4087	0.63	|Q	|V	|	|	|	|
12+40	0.4131	0.63	|Q	|V	|	|	|	|
12+45	0.4175	0.64	|Q	| V	|	|	|	|
12+50	0.4220	0.65	|Q	| V	|	|	|	|
12+55	0.4266	0.66	|Q	| V	|	|	|	|
13+ 0	0.4313	0.67	|Q	| V	|	|	|	|
13+ 5	0.4360	0.69	|Q	| V	|	|	|	|
13+10	0.4408	0.70	|Q	| V	|	|	|	|
13+15	0.4457	0.71	|Q	| V	|	|	|	|
13+20	0.4506	0.72	|Q	| V	|	|	|	|
13+25	0.4557	0.73	|Q	| V	|	|	|	|
13+30	0.4608	0.75	|Q	| V	|	|	|	|
13+35	0.4661	0.76	|Q	| V	|	|	|	|
13+40	0.4714	0.78	|Q	| V	|	|	|	|
13+45	0.4769	0.79	|Q	| V	|	|	|	|
13+50	0.4825	0.81	|Q	| V	|	|	|	|
13+55	0.4882	0.83	|Q	| V	|	|	|	|
14+ 0	0.4940	0.85	|Q	| V	|	|	|	|
14+ 5	0.5000	0.87	|Q	| V	|	|	|	|
14+10	0.5062	0.89	|Q	| V	|	|	|	|
14+15	0.5125	0.91	|Q	| V	|	|	|	|
14+20	0.5189	0.94	|Q	| V	|	|	|	|
14+25	0.5256	0.97	|Q	| V	|	|	|	|
14+30	0.5324	0.99	|Q	| V	|	|	|	|
14+35	0.5395	1.02	| Q	| V	|	|	|	|
14+40	0.5467	1.06	| Q	| V	|	|	|	|
14+45	0.5543	1.09	| Q	| V	|	|	|	|
14+50	0.5621	1.14	| Q	| V	|	|	|	|
14+55	0.5702	1.18	| Q	| V	|	|	|	|
15+ 0	0.5787	1.23	| Q	| V	|	|	|	|



21+20	1.3157	0.36	Q	|	|	|	V |
21+25	1.3181	0.36	Q	|	|	|	V |
21+30	1.3206	0.35	Q	|	|	|	V |
21+35	1.3230	0.35	Q	|	|	|	V |
21+40	1.3254	0.35	Q	|	|	|	V |
21+45	1.3278	0.34	Q	|	|	|	V |
21+50	1.3301	0.34	Q	|	|	|	V |
21+55	1.3325	0.34	Q	|	|	|	V |
22+ 0	1.3348	0.34	Q	|	|	|	V |
22+ 5	1.3371	0.33	Q	|	|	|	V |
22+10	1.3394	0.33	Q	|	|	|	V |
22+15	1.3416	0.33	Q	|	|	|	V |
22+20	1.3438	0.33	Q	|	|	|	V |
22+25	1.3461	0.32	Q	|	|	|	V |
22+30	1.3483	0.32	Q	|	|	|	V |
22+35	1.3505	0.32	Q	|	|	|	V |
22+40	1.3526	0.32	Q	|	|	|	V |
22+45	1.3548	0.31	Q	|	|	|	V|
22+50	1.3569	0.31	Q	|	|	|	V|
22+55	1.3590	0.31	Q	|	|	|	V|
23+ 0	1.3611	0.31	Q	|	|	|	V|
23+ 5	1.3632	0.30	Q	|	|	|	V|
23+10	1.3653	0.30	Q	|	|	|	V|
23+15	1.3674	0.30	Q	|	|	|	V|
23+20	1.3694	0.30	Q	|	|	|	V|
23+25	1.3715	0.30	Q	|	|	|	V|
23+30	1.3735	0.29	Q	|	|	|	V|
23+35	1.3755	0.29	Q	|	|	|	V|
23+40	1.3775	0.29	Q	|	|	|	V|
23+45	1.3795	0.29	Q	|	|	|	V|
23+50	1.3814	0.29	Q	|	|	|	V|
23+55	1.3834	0.28	Q	|	|	|	V|
24+ 0	1.3853	0.28	Q	|	|	|	V|
24+ 5	1.3871	0.26	Q	|	|	|	V|
24+10	1.3883	0.17	Q	|	|	|	V|
24+15	1.3887	0.06	Q	|	|	|	V|
24+20	1.3888	0.01	Q	|	|	|	V|
24+25	1.3888	0.00	Q	|	|	|	V|
24+30	1.3888	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 7C
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 7CPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
25.90	1	0.60
Rainfall data for year 2		
25.90	6	0.70
Rainfall data for year 2		
25.90	24	1.20
Rainfall data for year 100		
25.90	1	1.00
Rainfall data for year 100		
25.90	6	1.90
Rainfall data for year 100		
25.90	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	25.90	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
2.59	0.100	69.0	69.0	4.49	0.121
23.31	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.160 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      25.90(Ac.)
Catchment Lag time =   0.128 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 65.1042
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      25.90(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.599(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       313.23 (CFS))

  1                7.634                  23.911
  2               47.879                 126.061
  3               85.995                 119.388
  4               97.049                  34.624
  5               99.073                   6.342
  6              100.000                   2.902
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2218              0.2218
  2              0.2927              0.0709
  3              0.3442              0.0515
  4              0.3862              0.0420
  5              0.4222              0.0361
  6              0.4542              0.0319
  7              0.4830              0.0289
  8              0.5096              0.0265
  9              0.5341              0.0246
 10              0.5571              0.0230
 11              0.5788              0.0216
 12              0.5993              0.0205
 13              0.6180              0.0187
 14              0.6359              0.0179
 15              0.6530              0.0171
 16              0.6694              0.0164
 17              0.6852              0.0158
 18              0.7005              0.0152
 19              0.7152              0.0147
 20              0.7295              0.0143
 21              0.7433              0.0138
 22              0.7567              0.0134
 23              0.7698              0.0131
 24              0.7825              0.0127
 25              0.7949              0.0124
 26              0.8070              0.0121
 27              0.8188              0.0118
```

28	0.8303	0.0115
29	0.8416	0.0113
30	0.8527	0.0111
31	0.8635	0.0108
32	0.8741	0.0106
33	0.8845	0.0104
34	0.8948	0.0102
35	0.9048	0.0100
36	0.9147	0.0099
37	0.9243	0.0097
38	0.9338	0.0095
39	0.9432	0.0094
40	0.9524	0.0092
41	0.9615	0.0091
42	0.9704	0.0089
43	0.9792	0.0088
44	0.9879	0.0087
45	0.9965	0.0086
46	1.0049	0.0084
47	1.0133	0.0083
48	1.0215	0.0082
49	1.0296	0.0081
50	1.0376	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0611	0.0077
54	1.0688	0.0076
55	1.0763	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1057	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1339	0.0069
64	1.1408	0.0069
65	1.1476	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1742	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2137	0.0066
76	1.2203	0.0066
77	1.2268	0.0065
78	1.2333	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2525	0.0064
82	1.2588	0.0063
83	1.2651	0.0063
84	1.2713	0.0062
85	1.2775	0.0062
86	1.2836	0.0061
87	1.2897	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3077	0.0060
91	1.3137	0.0059
92	1.3195	0.0059
93	1.3254	0.0059
94	1.3312	0.0058
95	1.3370	0.0058
96	1.3427	0.0057
97	1.3484	0.0057
98	1.3541	0.0057
99	1.3597	0.0056
100	1.3654	0.0056
101	1.3709	0.0056
102	1.3765	0.0055

103	1.3820	0.0055
104	1.3874	0.0055
105	1.3929	0.0054
106	1.3983	0.0054
107	1.4037	0.0054
108	1.4090	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4249	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4457	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4610	0.0051
119	1.4661	0.0051
120	1.4711	0.0050
121	1.4761	0.0050
122	1.4811	0.0050
123	1.4861	0.0050
124	1.4910	0.0049
125	1.4959	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5105	0.0048
129	1.5153	0.0048
130	1.5201	0.0048
131	1.5249	0.0048
132	1.5296	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5577	0.0046
139	1.5623	0.0046
140	1.5669	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5985	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6118	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6249	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6464	0.0043
159	1.6507	0.0043
160	1.6549	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6759	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6883	0.0041
169	1.6924	0.0041
170	1.6965	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7087	0.0040
174	1.7127	0.0040
175	1.7168	0.0040
176	1.7208	0.0040
177	1.7248	0.0040

178	1.7288	0.0040
179	1.7327	0.0040
180	1.7367	0.0040
181	1.7406	0.0039
182	1.7445	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7601	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7755	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7907	0.0038
195	1.7945	0.0038
196	1.7983	0.0038
197	1.8020	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8316	0.0037
206	1.8353	0.0037
207	1.8389	0.0036
208	1.8425	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8605	0.0036
214	1.8641	0.0036
215	1.8677	0.0036
216	1.8712	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8818	0.0035
220	1.8853	0.0035
221	1.8888	0.0035
222	1.8923	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9027	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9165	0.0034
230	1.9199	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9301	0.0034
234	1.9335	0.0034
235	1.9369	0.0034
236	1.9403	0.0034
237	1.9436	0.0034
238	1.9470	0.0034
239	1.9503	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9603	0.0033
243	1.9636	0.0033
244	1.9669	0.0033
245	1.9702	0.0033
246	1.9735	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9833	0.0033
250	1.9866	0.0033
251	1.9898	0.0032
252	1.9931	0.0032

253	1.9963	0.0032
254	1.9995	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0187	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0282	0.0032
264	2.0314	0.0032
265	2.0345	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0439	0.0031
269	2.0470	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0594	0.0031
274	2.0625	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0717	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0839	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0960	0.0030
286	2.0990	0.0030
287	2.1020	0.0030
288	2.1050	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027
34	0.0033	0.0006	0.0027

35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039
109	0.0049	0.0009	0.0040

110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0087
173	0.0111	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0099
177	0.0127	0.0023	0.0104
178	0.0131	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0143	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0140
184	0.0179	0.0033	0.0146

185	0.0205	0.0038	0.0167
186	0.0216	0.0040	0.0177
187	0.0246	0.0045	0.0200
188	0.0265	0.0046	0.0219
189	0.0319	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0515	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2218	0.0046	0.2172
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0187
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031
259	0.0037	0.0007	0.0030

260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 38.10(CFS)

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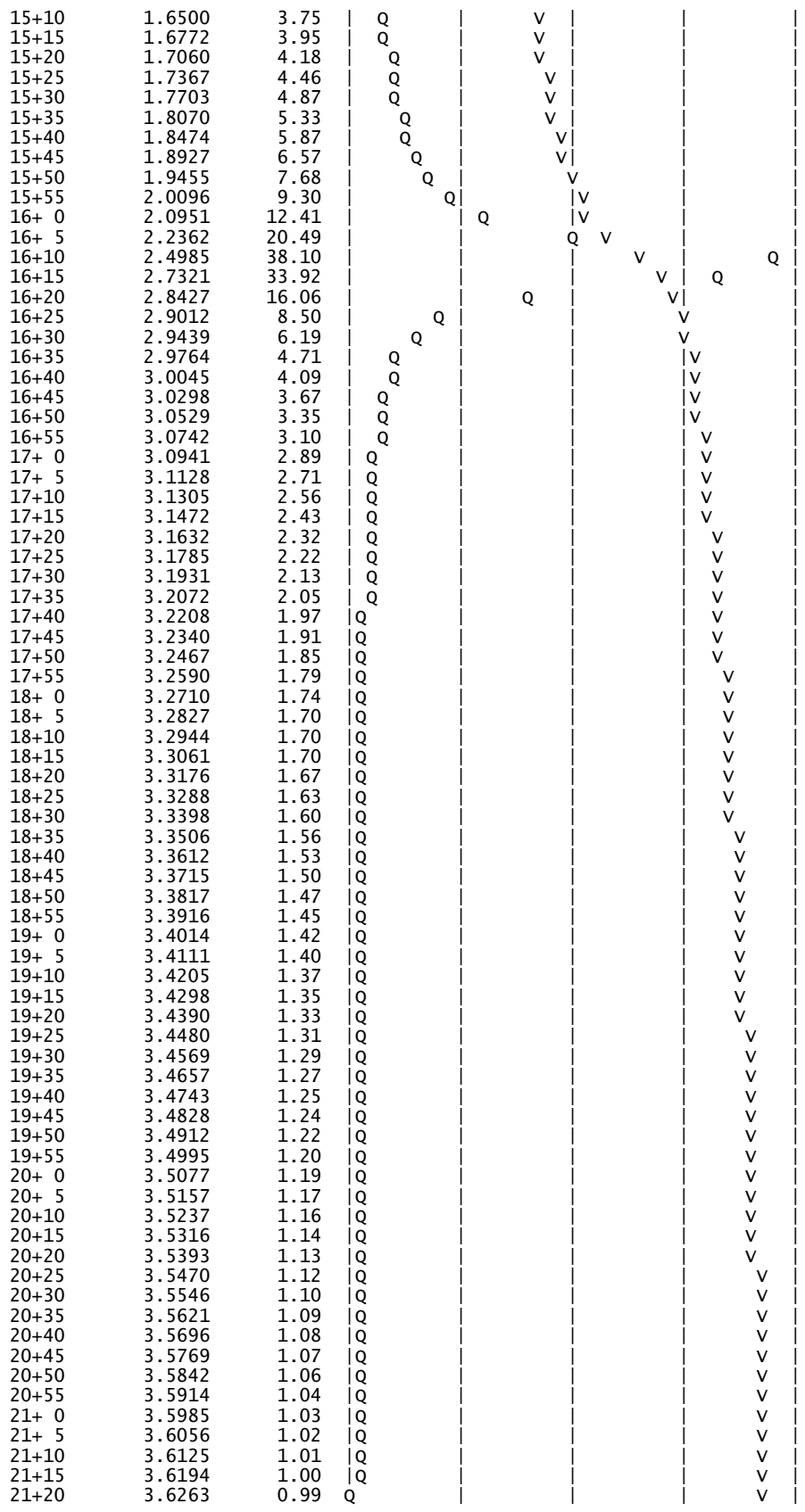
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0004	0.06	Q				
0+10	0.0029	0.37	Q				
0+15	0.0075	0.66	Q				
0+20	0.0126	0.75	Q				
0+25	0.0178	0.76	Q				
0+30	0.0232	0.77	Q				
0+35	0.0285	0.77	Q				
0+40	0.0339	0.78	Q				
0+45	0.0392	0.78	Q				
0+50	0.0446	0.78	Q				
0+55	0.0500	0.78	Q				
1+ 0	0.0554	0.79	Q				
1+ 5	0.0609	0.79	Q				
1+10	0.0663	0.79	Q				
1+15	0.0718	0.79	Q				
1+20	0.0773	0.80	Q				
1+25	0.0828	0.80	Q				
1+30	0.0883	0.80	Q				
1+35	0.0939	0.81	Q				
1+40	0.0995	0.81	QV				
1+45	0.1050	0.81	QV				
1+50	0.1107	0.81	QV				
1+55	0.1163	0.82	QV				
2+ 0	0.1219	0.82	QV				
2+ 5	0.1276	0.82	QV				
2+10	0.1333	0.83	QV				
2+15	0.1390	0.83	QV				
2+20	0.1447	0.83	QV				
2+25	0.1504	0.83	QV				
2+30	0.1562	0.84	QV				
2+35	0.1620	0.84	QV				

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2+40       0.1678      0.84  QV        |         |         |         |
2+45       0.1736      0.85  QV        |         |         |         |
2+50       0.1795      0.85  QV        |         |         |         |
2+55       0.1853      0.85  QV        |         |         |         |
3+ 0       0.1912      0.86  QV        |         |         |         |
3+ 5       0.1972      0.86  Q V       |         |         |         |
3+10       0.2031      0.86  Q V       |         |         |         |
3+15       0.2091      0.87  Q V       |         |         |         |
3+20       0.2150      0.87  Q V       |         |         |         |
3+25       0.2210      0.87  Q V       |         |         |         |
3+30       0.2271      0.88  Q V       |         |         |         |
3+35       0.2331      0.88  Q V       |         |         |         |
3+40       0.2392      0.88  Q V       |         |         |         |
3+45       0.2453      0.89  Q V       |         |         |         |
3+50       0.2514      0.89  Q V       |         |         |         |
3+55       0.2576      0.89  Q V       |         |         |         |
4+ 0       0.2637      0.90  Q V       |         |         |         |
4+ 5       0.2699      0.90  Q V       |         |         |         |
4+10       0.2762      0.90  Q V       |         |         |         |
4+15       0.2824      0.91  Q V       |         |         |         |
4+20       0.2887      0.91  Q  V      |         |         |         |
4+25       0.2950      0.91  Q  V      |         |         |         |
4+30       0.3013      0.92  Q  V      |         |         |         |
4+35       0.3077      0.92  Q  V      |         |         |         |
4+40       0.3141      0.93  Q  V      |         |         |         |
4+45       0.3205      0.93  Q  V      |         |         |         |
4+50       0.3269      0.93  Q  V      |         |         |         |
4+55       0.3334      0.94  Q  V      |         |         |         |
5+ 0       0.3399      0.94  Q  V      |         |         |         |
5+ 5       0.3464      0.95  Q  V      |         |         |         |
5+10       0.3529      0.95  Q  V      |         |         |         |
5+15       0.3595      0.96  Q  V      |         |         |         |
5+20       0.3661      0.96  Q  V      |         |         |         |
5+25       0.3728      0.96  Q  V      |         |         |         |
5+30       0.3794      0.97  Q  V      |         |         |         |
5+35       0.3861      0.97  Q   V     |         |         |         |
5+40       0.3929      0.98  Q   V     |         |         |         |
5+45       0.3996      0.98  Q   V     |         |         |         |
5+50       0.4064      0.99  Q   V     |         |         |         |
5+55       0.4133      0.99  Q   V     |         |         |         |
6+ 0       0.4201      1.00  Q   V     |         |         |         |
6+ 5       0.4270      1.00  |Q  V     |         |         |         |
6+10       0.4340      1.01  |Q  V     |         |         |         |
6+15       0.4409      1.01  |Q  V     |         |         |         |
6+20       0.4479      1.02  |Q  V     |         |         |         |
6+25       0.4550      1.02  |Q  V     |         |         |         |
6+30       0.4620      1.03  |Q  V     |         |         |         |
6+35       0.4691      1.03  |Q  V     |         |         |         |
6+40       0.4763      1.04  |Q  V     |         |         |         |
6+45       0.4834      1.04  |Q   V    |         |         |         |
6+50       0.4907      1.05  |Q   V    |         |         |         |
6+55       0.4979      1.05  |Q   V    |         |         |         |
7+ 0       0.5052      1.06  |Q   V    |         |         |         |
7+ 5       0.5125      1.06  |Q   V    |         |         |         |
7+10       0.5199      1.07  |Q   V    |         |         |         |
7+15       0.5273      1.08  |Q   V    |         |         |         |
7+20       0.5348      1.08  |Q   V    |         |         |         |
7+25       0.5423      1.09  |Q   V    |         |         |         |
7+30       0.5498      1.09  |Q   V    |         |         |         |
7+35       0.5574      1.10  |Q   V    |         |         |         |
7+40       0.5650      1.11  |Q   V    |         |         |         |
7+45       0.5727      1.11  |Q   V    |         |         |         |
7+50       0.5804      1.12  |Q    V   |         |         |         |
7+55       0.5882      1.13  |Q    V   |         |         |         |
8+ 0       0.5960      1.13  |Q    V   |         |         |         |
8+ 5       0.6038      1.14  |Q    V   |         |         |         |
8+10       0.6117      1.15  |Q    V   |         |         |         |
8+15       0.6197      1.15  |Q    V   |         |         |         |
8+20       0.6277      1.16  |Q    V   |         |         |         |
8+25       0.6357      1.17  |Q    V   |         |         |         |
8+30       0.6438      1.18  |Q    V   |         |         |         |
8+35       0.6520      1.18  |Q    V   |         |         |         |
8+40       0.6602      1.19  |Q    V   |         |         |         |
8+45       0.6684      1.20  |Q    V   |         |         |         |
8+50       0.6768      1.21  |Q     V  |         |         |         |
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 8+55       0.6851      1.22  |Q     V  |          |          |          |
 9+ 0       0.6936      1.22  |Q     V  |          |          |          |
 9+ 5       0.7021      1.23  |Q     V  |          |          |          |
 9+10       0.7106      1.24  |Q     V  |          |          |          |
 9+15       0.7192      1.25  |Q     V  |          |          |          |
 9+20       0.7279      1.26  |Q     V  |          |          |          |
 9+25       0.7366      1.27  |Q     V  |          |          |          |
 9+30       0.7454      1.28  |Q     V  |          |          |          |
 9+35       0.7543      1.29  |Q     V  |          |          |          |
 9+40       0.7632      1.30  |Q     V  |          |          |          |
 9+45       0.7722      1.31  |Q      V |          |          |          |
 9+50       0.7812      1.32  |Q      V |          |          |          |
 9+55       0.7904      1.33  |Q      V |          |          |          |
10+ 0       0.7996      1.34  |Q      V |          |          |          |
10+ 5       0.8089      1.35  |Q      V |          |          |          |
10+10       0.8182      1.36  |Q      V |          |          |          |
10+15       0.8277      1.37  |Q      V |          |          |          |
10+20       0.8372      1.38  |Q      V |          |          |          |
10+25       0.8468      1.39  |Q      V |          |          |          |
10+30       0.8564      1.41  |Q      V |          |          |          |
10+35       0.8662      1.42  |Q       V|          |          |          |
10+40       0.8761      1.43  |Q       V|          |          |          |
10+45       0.8860      1.44  |Q       V|          |          |          |
10+50       0.8960      1.46  |Q       V|          |          |          |
10+55       0.9061      1.47  |Q       V|          |          |          |
11+ 0       0.9163      1.48  |Q       V|          |          |          |
11+ 5       0.9267      1.50  |Q       V|          |          |          |
11+10       0.9371      1.51  |Q       V|          |          |          |
11+15       0.9476      1.53  |Q       V|          |          |          |
11+20       0.9582      1.54  |Q        V          |          |          |
11+25       0.9689      1.56  |Q        V          |          |          |
11+30       0.9798      1.57  |Q        V          |          |          |
11+35       0.9907      1.59  |Q        V          |          |          |
11+40       1.0018      1.61  |Q        V          |          |          |
11+45       1.0130      1.63  |Q        V          |          |          |
11+50       1.0243      1.64  |Q        V          |          |          |
11+55       1.0358      1.66  |Q        V          |          |          |
12+ 0       1.0474      1.68  |Q        V          |          |          |
12+ 5       1.0591      1.69  |Q        |V         |          |          |
12+10       1.0706      1.67  |Q        |V         |          |          |
12+15       1.0820      1.65  |Q        |V         |          |          |
12+20       1.0934      1.66  |Q        |V         |          |          |
12+25       1.1050      1.68  |Q        |V         |          |          |
12+30       1.1167      1.70  |Q        |V         |          |          |
12+35       1.1286      1.73  |Q        |V         |          |          |
12+40       1.1407      1.75  |Q        |V         |          |          |
12+45       1.1530      1.78  |Q        | V        |          |          |
12+50       1.1654      1.81  |Q        | V        |          |          |
12+55       1.1780      1.83  |Q        | V        |          |          |
13+ 0       1.1909      1.86  |Q        | V        |          |          |
13+ 5       1.2039      1.89  |Q        | V        |          |          |
13+10       1.2172      1.93  |Q        | V        |          |          |
13+15       1.2307      1.96  |Q        | V        |          |          |
13+20       1.2444      2.00  |Q        |  V       |          |          |
13+25       1.2584      2.03  | Q       |  V       |          |          |
13+30       1.2727      2.07  | Q       |  V       |          |          |
13+35       1.2872      2.11  | Q       |  V       |          |          |
13+40       1.3020      2.15  | Q       |  V       |          |          |
13+45       1.3172      2.20  | Q       |  V       |          |          |
13+50       1.3326      2.25  | Q       |  V       |          |          |
13+55       1.3484      2.29  | Q       |   V      |          |          |
14+ 0       1.3646      2.35  | Q       |   V      |          |          |
14+ 5       1.3812      2.40  | Q       |   V      |          |          |
14+10       1.3982      2.47  | Q       |   V      |          |          |
14+15       1.4156      2.53  | Q       |   V      |          |          |
14+20       1.4335      2.60  | Q       |   V      |          |          |
14+25       1.4520      2.68  | Q       |    V     |          |          |
14+30       1.4710      2.76  | Q       |    V     |          |          |
14+35       1.4906      2.84  | Q       |    V     |          |          |
14+40       1.5108      2.94  | Q       |    V     |          |          |
14+45       1.5317      3.04  |  Q      |     V    |          |          |
14+50       1.5535      3.16  |  Q      |     V    |          |          |
14+55       1.5761      3.28  |  Q      |     V    |          |          |
15+ 0       1.5996      3.42  |  Q      |     V    |          |          |
15+ 5       1.6242      3.57  |  Q      |     V    |          |          |
```



```
   21+25       3.6331      0.98  Q          |          |          |      V  |
   21+30       3.6398      0.97  Q          |          |          |       V |
   21+35       3.6464      0.97  Q          |          |          |       V |
   21+40       3.6530      0.96  Q          |          |          |       V |
   21+45       3.6595      0.95  Q          |          |          |       V |
   21+50       3.6660      0.94  Q          |          |          |       V |
   21+55       3.6724      0.93  Q          |          |          |       V |
   22+ 0       3.6788      0.92  Q          |          |          |       V |
   22+ 5       3.6851      0.92  Q          |          |          |       V |
   22+10       3.6914      0.91  Q          |          |          |       V |
   22+15       3.6976      0.90  Q          |          |          |       V |
   22+20       3.7037      0.89  Q          |          |          |       V |
   22+25       3.7099      0.89  Q          |          |          |       V |
   22+30       3.7159      0.88  Q          |          |          |       V |
   22+35       3.7219      0.87  Q          |          |          |       V |
   22+40       3.7279      0.87  Q          |          |          |       V |
   22+45       3.7338      0.86  Q          |          |          |        V|
   22+50       3.7397      0.85  Q          |          |          |        V|
   22+55       3.7455      0.85  Q          |          |          |        V|
   23+ 0       3.7513      0.84  Q          |          |          |        V|
   23+ 5       3.7571      0.84  Q          |          |          |        V|
   23+10       3.7628      0.83  Q          |          |          |        V|
   23+15       3.7685      0.82  Q          |          |          |        V|
   23+20       3.7741      0.82  Q          |          |          |        V|
   23+25       3.7797      0.81  Q          |          |          |        V|
   23+30       3.7853      0.81  Q          |          |          |        V|
   23+35       3.7908      0.80  Q          |          |          |        V|
   23+40       3.7963      0.80  Q          |          |          |        V|
   23+45       3.8017      0.79  Q          |          |          |        V|
   23+50       3.8071      0.79  Q          |          |          |        V|
   23+55       3.8125      0.78  Q          |          |          |        V|
   24+ 0       3.8178      0.78  Q          |          |          |        V|
   24+ 5       3.8227      0.71  Q          |          |          |        V|
   24+10       3.8255      0.40  Q          |          |          |        V|
   24+15       3.8262      0.11  Q          |          |          |        V|
   24+20       3.8264      0.02  Q          |          |          |        V|
   24+25       3.8264      0.01  Q          |          |          |         V
---------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

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Study date 04/16/25

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6586

24-0505 - ADELANTO INDUSTRIAL PARK
ONSITE UNIT HYDROGRAPH ANALYSIS, 7D
PROPOSED CONDITION, 10-YEAR 24-HOUR
FN: 7DPROPUH10.OUT - ABE

Storm Event Year = 10

Antecedent Moisture Condition = 2

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
13.00	1	0.60
Rainfall data for year 2		
13.00	6	0.70
Rainfall data for year 2		
13.00	24	1.20
Rainfall data for year 100		
13.00	1	1.00
Rainfall data for year 100		
13.00	6	1.90
Rainfall data for year 100		
13.00	24	3.40

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	69.0	13.00	1.000	0.548	0.100	0.055

Area-averaged adjusted loss rate Fm (In/Hr) = 0.055

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.30	0.100	69.0	69.0	4.49	0.121
11.70	0.900	98.0	98.0	0.20	0.892

```
Area-averaged catchment yield fraction, Y =  0.815
Area-averaged low loss fraction, Yb =  0.185
User entry of time of concentration  =   0.200 (hours)
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Watershed area =      13.00(Ac.)
Catchment Lag time =   0.160 hours
Unit interval =   5.000 minutes
Unit interval percentage of lag time = 52.0833
Hydrograph baseflow =     0.00(CFS)
Average maximum watershed loss rate(Fm) =  0.055(In/Hr)
Average low loss rate fraction (Yb) = 0.185 (decimal)
VALLEY DEVELOPED S-Graph Selected
Computed peak 5-minute rainfall =  0.222(In)
Computed peak 30-minute rainfall =  0.455(In)
Specified peak 1-hour rainfall =  0.600(In)
Computed peak 3-hour rainfall =  0.915(In)
Specified peak 6-hour rainfall =  1.194(In)
Specified peak 24-hour rainfall =  2.105(In)


Rainfall depth area reduction factors:
Using a total area of      13.00(Ac.) (Ref: fig. E-4)

5-minute factor = 0.999     Adjusted rainfall =  0.222(In)
30-minute factor = 0.999    Adjusted rainfall =  0.454(In)
1-hour factor = 0.999       Adjusted rainfall =  0.600(In)
3-hour factor = 1.000       Adjusted rainfall =  0.915(In)
6-hour factor = 1.000       Adjusted rainfall =  1.194(In)
24-hour factor = 1.000      Adjusted rainfall =  2.105(In)
------------------------------------------------------------------------

                      U n i t  H y d r o g r a p h
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Interval          'S' Graph          Unit Hydrograph
Number            Mean values             ((CFS))
------------------------------------------------------------------------
               (K =       157.22 (CFS))

  1                4.951                   7.783
  2               32.173                  42.799
  3               71.993                  62.605
  4               91.514                  30.690
  5               97.565                   9.512
  6               98.956                   2.188
  7              100.000                   1.641
------------------------------------------------------------------------
Peak Unit   Adjusted mass rainfall  Unit rainfall
Number              (In)                (In)
  1              0.2219              0.2219
  2              0.2928              0.0709
  3              0.3444              0.0516
  4              0.3864              0.0420
  5              0.4225              0.0361
  6              0.4544              0.0320
  7              0.4833              0.0289
  8              0.5099              0.0265
  9              0.5345              0.0246
 10              0.5575              0.0230
 11              0.5791              0.0217
 12              0.5996              0.0205
 13              0.6184              0.0187
 14              0.6362              0.0179
 15              0.6533              0.0171
 16              0.6697              0.0164
 17              0.6855              0.0158
 18              0.7008              0.0152
 19              0.7155              0.0147
 20              0.7297              0.0142
 21              0.7435              0.0138
 22              0.7570              0.0134
 23              0.7700              0.0130
 24              0.7827              0.0127
 25              0.7951              0.0124
 26              0.8072              0.0121
```

27	0.8190	0.0118
28	0.8305	0.0115
29	0.8418	0.0113
30	0.8528	0.0110
31	0.8636	0.0108
32	0.8742	0.0106
33	0.8846	0.0104
34	0.8948	0.0102
35	0.9049	0.0100
36	0.9147	0.0099
37	0.9244	0.0097
38	0.9339	0.0095
39	0.9433	0.0094
40	0.9525	0.0092
41	0.9616	0.0091
42	0.9705	0.0089
43	0.9793	0.0088
44	0.9880	0.0087
45	0.9966	0.0086
46	1.0050	0.0084
47	1.0133	0.0083
48	1.0216	0.0082
49	1.0297	0.0081
50	1.0377	0.0080
51	1.0456	0.0079
52	1.0534	0.0078
53	1.0612	0.0077
54	1.0688	0.0076
55	1.0764	0.0076
56	1.0838	0.0075
57	1.0912	0.0074
58	1.0985	0.0073
59	1.1058	0.0072
60	1.1129	0.0072
61	1.1200	0.0071
62	1.1270	0.0070
63	1.1340	0.0069
64	1.1409	0.0069
65	1.1477	0.0068
66	1.1544	0.0067
67	1.1611	0.0067
68	1.1677	0.0066
69	1.1743	0.0066
70	1.1808	0.0065
71	1.1872	0.0064
72	1.1936	0.0064
73	1.2004	0.0068
74	1.2071	0.0067
75	1.2138	0.0066
76	1.2203	0.0066
77	1.2269	0.0065
78	1.2334	0.0065
79	1.2398	0.0064
80	1.2462	0.0064
81	1.2526	0.0064
82	1.2589	0.0063
83	1.2652	0.0063
84	1.2714	0.0062
85	1.2775	0.0062
86	1.2837	0.0061
87	1.2898	0.0061
88	1.2958	0.0060
89	1.3018	0.0060
90	1.3078	0.0060
91	1.3137	0.0059
92	1.3196	0.0059
93	1.3254	0.0059
94	1.3313	0.0058
95	1.3370	0.0058
96	1.3428	0.0057
97	1.3485	0.0057
98	1.3542	0.0057
99	1.3598	0.0056
100	1.3654	0.0056
101	1.3710	0.0056

102	1.3765	0.0055
103	1.3820	0.0055
104	1.3875	0.0055
105	1.3929	0.0054
106	1.3984	0.0054
107	1.4037	0.0054
108	1.4091	0.0054
109	1.4144	0.0053
110	1.4197	0.0053
111	1.4250	0.0053
112	1.4302	0.0052
113	1.4354	0.0052
114	1.4406	0.0052
115	1.4458	0.0052
116	1.4509	0.0051
117	1.4560	0.0051
118	1.4611	0.0051
119	1.4661	0.0051
120	1.4712	0.0050
121	1.4762	0.0050
122	1.4812	0.0050
123	1.4861	0.0050
124	1.4911	0.0049
125	1.4960	0.0049
126	1.5008	0.0049
127	1.5057	0.0049
128	1.5106	0.0048
129	1.5154	0.0048
130	1.5202	0.0048
131	1.5249	0.0048
132	1.5297	0.0048
133	1.5344	0.0047
134	1.5391	0.0047
135	1.5438	0.0047
136	1.5485	0.0047
137	1.5531	0.0046
138	1.5578	0.0046
139	1.5624	0.0046
140	1.5670	0.0046
141	1.5715	0.0046
142	1.5761	0.0046
143	1.5806	0.0045
144	1.5851	0.0045
145	1.5896	0.0045
146	1.5941	0.0045
147	1.5986	0.0045
148	1.6030	0.0044
149	1.6074	0.0044
150	1.6119	0.0044
151	1.6162	0.0044
152	1.6206	0.0044
153	1.6250	0.0044
154	1.6293	0.0043
155	1.6336	0.0043
156	1.6379	0.0043
157	1.6422	0.0043
158	1.6465	0.0043
159	1.6508	0.0043
160	1.6550	0.0042
161	1.6592	0.0042
162	1.6634	0.0042
163	1.6676	0.0042
164	1.6718	0.0042
165	1.6760	0.0042
166	1.6801	0.0041
167	1.6842	0.0041
168	1.6884	0.0041
169	1.6925	0.0041
170	1.6966	0.0041
171	1.7006	0.0041
172	1.7047	0.0041
173	1.7088	0.0040
174	1.7128	0.0040
175	1.7168	0.0040
176	1.7208	0.0040

177	1.7248	0.0040
178	1.7288	0.0040
179	1.7328	0.0040
180	1.7367	0.0040
181	1.7407	0.0039
182	1.7446	0.0039
183	1.7485	0.0039
184	1.7524	0.0039
185	1.7563	0.0039
186	1.7602	0.0039
187	1.7640	0.0039
188	1.7679	0.0039
189	1.7717	0.0038
190	1.7756	0.0038
191	1.7794	0.0038
192	1.7832	0.0038
193	1.7870	0.0038
194	1.7908	0.0038
195	1.7946	0.0038
196	1.7983	0.0038
197	1.8021	0.0037
198	1.8058	0.0037
199	1.8095	0.0037
200	1.8132	0.0037
201	1.8169	0.0037
202	1.8206	0.0037
203	1.8243	0.0037
204	1.8280	0.0037
205	1.8317	0.0037
206	1.8353	0.0037
207	1.8390	0.0036
208	1.8426	0.0036
209	1.8462	0.0036
210	1.8498	0.0036
211	1.8534	0.0036
212	1.8570	0.0036
213	1.8606	0.0036
214	1.8642	0.0036
215	1.8677	0.0036
216	1.8713	0.0036
217	1.8748	0.0035
218	1.8783	0.0035
219	1.8819	0.0035
220	1.8854	0.0035
221	1.8889	0.0035
222	1.8924	0.0035
223	1.8958	0.0035
224	1.8993	0.0035
225	1.9028	0.0035
226	1.9062	0.0035
227	1.9097	0.0034
228	1.9131	0.0034
229	1.9166	0.0034
230	1.9200	0.0034
231	1.9234	0.0034
232	1.9268	0.0034
233	1.9302	0.0034
234	1.9336	0.0034
235	1.9370	0.0034
236	1.9403	0.0034
237	1.9437	0.0034
238	1.9470	0.0034
239	1.9504	0.0033
240	1.9537	0.0033
241	1.9570	0.0033
242	1.9604	0.0033
243	1.9637	0.0033
244	1.9670	0.0033
245	1.9703	0.0033
246	1.9736	0.0033
247	1.9768	0.0033
248	1.9801	0.0033
249	1.9834	0.0033
250	1.9866	0.0033
251	1.9899	0.0032

252	1.9931	0.0032
253	1.9963	0.0032
254	1.9996	0.0032
255	2.0028	0.0032
256	2.0060	0.0032
257	2.0092	0.0032
258	2.0124	0.0032
259	2.0156	0.0032
260	2.0188	0.0032
261	2.0219	0.0032
262	2.0251	0.0032
263	2.0283	0.0032
264	2.0314	0.0032
265	2.0346	0.0031
266	2.0377	0.0031
267	2.0408	0.0031
268	2.0440	0.0031
269	2.0471	0.0031
270	2.0502	0.0031
271	2.0533	0.0031
272	2.0564	0.0031
273	2.0595	0.0031
274	2.0626	0.0031
275	2.0656	0.0031
276	2.0687	0.0031
277	2.0718	0.0031
278	2.0748	0.0031
279	2.0779	0.0031
280	2.0809	0.0030
281	2.0840	0.0030
282	2.0870	0.0030
283	2.0900	0.0030
284	2.0930	0.0030
285	2.0961	0.0030
286	2.0991	0.0030
287	2.1021	0.0030
288	2.1051	0.0030

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0030	0.0006	0.0024
2	0.0030	0.0006	0.0024
3	0.0030	0.0006	0.0025
4	0.0030	0.0006	0.0025
5	0.0030	0.0006	0.0025
6	0.0030	0.0006	0.0025
7	0.0031	0.0006	0.0025
8	0.0031	0.0006	0.0025
9	0.0031	0.0006	0.0025
10	0.0031	0.0006	0.0025
11	0.0031	0.0006	0.0025
12	0.0031	0.0006	0.0025
13	0.0031	0.0006	0.0025
14	0.0031	0.0006	0.0025
15	0.0031	0.0006	0.0026
16	0.0031	0.0006	0.0026
17	0.0032	0.0006	0.0026
18	0.0032	0.0006	0.0026
19	0.0032	0.0006	0.0026
20	0.0032	0.0006	0.0026
21	0.0032	0.0006	0.0026
22	0.0032	0.0006	0.0026
23	0.0032	0.0006	0.0026
24	0.0032	0.0006	0.0026
25	0.0032	0.0006	0.0026
26	0.0032	0.0006	0.0026
27	0.0033	0.0006	0.0027
28	0.0033	0.0006	0.0027
29	0.0033	0.0006	0.0027
30	0.0033	0.0006	0.0027
31	0.0033	0.0006	0.0027
32	0.0033	0.0006	0.0027
33	0.0033	0.0006	0.0027

34	0.0033	0.0006	0.0027
35	0.0034	0.0006	0.0027
36	0.0034	0.0006	0.0027
37	0.0034	0.0006	0.0028
38	0.0034	0.0006	0.0028
39	0.0034	0.0006	0.0028
40	0.0034	0.0006	0.0028
41	0.0034	0.0006	0.0028
42	0.0034	0.0006	0.0028
43	0.0035	0.0006	0.0028
44	0.0035	0.0006	0.0028
45	0.0035	0.0006	0.0028
46	0.0035	0.0006	0.0029
47	0.0035	0.0007	0.0029
48	0.0035	0.0007	0.0029
49	0.0036	0.0007	0.0029
50	0.0036	0.0007	0.0029
51	0.0036	0.0007	0.0029
52	0.0036	0.0007	0.0029
53	0.0036	0.0007	0.0029
54	0.0036	0.0007	0.0030
55	0.0036	0.0007	0.0030
56	0.0037	0.0007	0.0030
57	0.0037	0.0007	0.0030
58	0.0037	0.0007	0.0030
59	0.0037	0.0007	0.0030
60	0.0037	0.0007	0.0030
61	0.0037	0.0007	0.0030
62	0.0037	0.0007	0.0031
63	0.0038	0.0007	0.0031
64	0.0038	0.0007	0.0031
65	0.0038	0.0007	0.0031
66	0.0038	0.0007	0.0031
67	0.0038	0.0007	0.0031
68	0.0039	0.0007	0.0031
69	0.0039	0.0007	0.0032
70	0.0039	0.0007	0.0032
71	0.0039	0.0007	0.0032
72	0.0039	0.0007	0.0032
73	0.0040	0.0007	0.0032
74	0.0040	0.0007	0.0032
75	0.0040	0.0007	0.0033
76	0.0040	0.0007	0.0033
77	0.0040	0.0007	0.0033
78	0.0040	0.0007	0.0033
79	0.0041	0.0008	0.0033
80	0.0041	0.0008	0.0033
81	0.0041	0.0008	0.0034
82	0.0041	0.0008	0.0034
83	0.0042	0.0008	0.0034
84	0.0042	0.0008	0.0034
85	0.0042	0.0008	0.0034
86	0.0042	0.0008	0.0034
87	0.0043	0.0008	0.0035
88	0.0043	0.0008	0.0035
89	0.0043	0.0008	0.0035
90	0.0043	0.0008	0.0035
91	0.0044	0.0008	0.0036
92	0.0044	0.0008	0.0036
93	0.0044	0.0008	0.0036
94	0.0044	0.0008	0.0036
95	0.0045	0.0008	0.0036
96	0.0045	0.0008	0.0037
97	0.0045	0.0008	0.0037
98	0.0045	0.0008	0.0037
99	0.0046	0.0008	0.0037
100	0.0046	0.0008	0.0037
101	0.0046	0.0009	0.0038
102	0.0046	0.0009	0.0038
103	0.0047	0.0009	0.0038
104	0.0047	0.0009	0.0038
105	0.0048	0.0009	0.0039
106	0.0048	0.0009	0.0039
107	0.0048	0.0009	0.0039
108	0.0048	0.0009	0.0039

109	0.0049	0.0009	0.0040
110	0.0049	0.0009	0.0040
111	0.0050	0.0009	0.0040
112	0.0050	0.0009	0.0041
113	0.0050	0.0009	0.0041
114	0.0051	0.0009	0.0041
115	0.0051	0.0009	0.0042
116	0.0051	0.0009	0.0042
117	0.0052	0.0010	0.0042
118	0.0052	0.0010	0.0042
119	0.0053	0.0010	0.0043
120	0.0053	0.0010	0.0043
121	0.0054	0.0010	0.0044
122	0.0054	0.0010	0.0044
123	0.0054	0.0010	0.0044
124	0.0055	0.0010	0.0045
125	0.0055	0.0010	0.0045
126	0.0056	0.0010	0.0045
127	0.0056	0.0010	0.0046
128	0.0057	0.0010	0.0046
129	0.0057	0.0011	0.0047
130	0.0058	0.0011	0.0047
131	0.0059	0.0011	0.0048
132	0.0059	0.0011	0.0048
133	0.0060	0.0011	0.0049
134	0.0060	0.0011	0.0049
135	0.0061	0.0011	0.0050
136	0.0061	0.0011	0.0050
137	0.0062	0.0011	0.0051
138	0.0063	0.0012	0.0051
139	0.0064	0.0012	0.0052
140	0.0064	0.0012	0.0052
141	0.0065	0.0012	0.0053
142	0.0065	0.0012	0.0053
143	0.0066	0.0012	0.0054
144	0.0067	0.0012	0.0055
145	0.0064	0.0012	0.0052
146	0.0064	0.0012	0.0053
147	0.0066	0.0012	0.0054
148	0.0066	0.0012	0.0054
149	0.0067	0.0012	0.0055
150	0.0068	0.0013	0.0056
151	0.0069	0.0013	0.0057
152	0.0070	0.0013	0.0057
153	0.0072	0.0013	0.0058
154	0.0072	0.0013	0.0059
155	0.0074	0.0014	0.0060
156	0.0075	0.0014	0.0061
157	0.0076	0.0014	0.0062
158	0.0077	0.0014	0.0063
159	0.0079	0.0015	0.0065
160	0.0080	0.0015	0.0065
161	0.0082	0.0015	0.0067
162	0.0083	0.0015	0.0068
163	0.0086	0.0016	0.0070
164	0.0087	0.0016	0.0071
165	0.0089	0.0017	0.0073
166	0.0091	0.0017	0.0074
167	0.0094	0.0017	0.0076
168	0.0095	0.0018	0.0078
169	0.0099	0.0018	0.0080
170	0.0100	0.0019	0.0082
171	0.0104	0.0019	0.0085
172	0.0106	0.0020	0.0086
173	0.0110	0.0020	0.0090
174	0.0113	0.0021	0.0092
175	0.0118	0.0022	0.0096
176	0.0121	0.0022	0.0098
177	0.0127	0.0023	0.0104
178	0.0130	0.0024	0.0106
179	0.0138	0.0026	0.0113
180	0.0142	0.0026	0.0116
181	0.0152	0.0028	0.0124
182	0.0158	0.0029	0.0129
183	0.0171	0.0032	0.0139

184	0.0179	0.0033	0.0146
185	0.0205	0.0038	0.0167
186	0.0217	0.0040	0.0177
187	0.0246	0.0045	0.0201
188	0.0265	0.0046	0.0220
189	0.0320	0.0046	0.0274
190	0.0361	0.0046	0.0315
191	0.0516	0.0046	0.0470
192	0.0709	0.0046	0.0663
193	0.2219	0.0046	0.2174
194	0.0420	0.0046	0.0374
195	0.0289	0.0046	0.0243
196	0.0230	0.0042	0.0188
197	0.0187	0.0035	0.0153
198	0.0164	0.0030	0.0134
199	0.0147	0.0027	0.0120
200	0.0134	0.0025	0.0109
201	0.0124	0.0023	0.0101
202	0.0115	0.0021	0.0094
203	0.0108	0.0020	0.0088
204	0.0102	0.0019	0.0083
205	0.0097	0.0018	0.0079
206	0.0092	0.0017	0.0075
207	0.0088	0.0016	0.0072
208	0.0084	0.0016	0.0069
209	0.0081	0.0015	0.0066
210	0.0078	0.0014	0.0064
211	0.0076	0.0014	0.0062
212	0.0073	0.0014	0.0060
213	0.0071	0.0013	0.0058
214	0.0069	0.0013	0.0056
215	0.0067	0.0012	0.0055
216	0.0065	0.0012	0.0053
217	0.0068	0.0012	0.0055
218	0.0066	0.0012	0.0054
219	0.0064	0.0012	0.0053
220	0.0063	0.0012	0.0051
221	0.0062	0.0011	0.0050
222	0.0060	0.0011	0.0049
223	0.0059	0.0011	0.0048
224	0.0058	0.0011	0.0047
225	0.0057	0.0011	0.0047
226	0.0056	0.0010	0.0046
227	0.0055	0.0010	0.0045
228	0.0054	0.0010	0.0044
229	0.0053	0.0010	0.0043
230	0.0052	0.0010	0.0043
231	0.0052	0.0010	0.0042
232	0.0051	0.0009	0.0041
233	0.0050	0.0009	0.0041
234	0.0049	0.0009	0.0040
235	0.0049	0.0009	0.0040
236	0.0048	0.0009	0.0039
237	0.0047	0.0009	0.0039
238	0.0047	0.0009	0.0038
239	0.0046	0.0009	0.0038
240	0.0046	0.0008	0.0037
241	0.0045	0.0008	0.0037
242	0.0044	0.0008	0.0036
243	0.0044	0.0008	0.0036
244	0.0043	0.0008	0.0035
245	0.0043	0.0008	0.0035
246	0.0042	0.0008	0.0035
247	0.0042	0.0008	0.0034
248	0.0041	0.0008	0.0034
249	0.0041	0.0008	0.0033
250	0.0041	0.0008	0.0033
251	0.0040	0.0007	0.0033
252	0.0040	0.0007	0.0032
253	0.0039	0.0007	0.0032
254	0.0039	0.0007	0.0032
255	0.0039	0.0007	0.0032
256	0.0038	0.0007	0.0031
257	0.0038	0.0007	0.0031
258	0.0038	0.0007	0.0031

259	0.0037	0.0007	0.0030
260	0.0037	0.0007	0.0030
261	0.0037	0.0007	0.0030
262	0.0036	0.0007	0.0030
263	0.0036	0.0007	0.0029
264	0.0036	0.0007	0.0029
265	0.0035	0.0007	0.0029
266	0.0035	0.0006	0.0029
267	0.0035	0.0006	0.0028
268	0.0035	0.0006	0.0028
269	0.0034	0.0006	0.0028
270	0.0034	0.0006	0.0028
271	0.0034	0.0006	0.0028
272	0.0034	0.0006	0.0027
273	0.0033	0.0006	0.0027
274	0.0033	0.0006	0.0027
275	0.0033	0.0006	0.0027
276	0.0033	0.0006	0.0027
277	0.0032	0.0006	0.0026
278	0.0032	0.0006	0.0026
279	0.0032	0.0006	0.0026
280	0.0032	0.0006	0.0026
281	0.0031	0.0006	0.0026
282	0.0031	0.0006	0.0025
283	0.0031	0.0006	0.0025
284	0.0031	0.0006	0.0025
285	0.0031	0.0006	0.0025
286	0.0030	0.0006	0.0025
287	0.0030	0.0006	0.0025
288	0.0030	0.0006	0.0025

Total soil rain loss = 0.33(In)
Total effective rainfall = 1.77(In)
Peak flow rate in flood hydrograph = 18.00(CFS)

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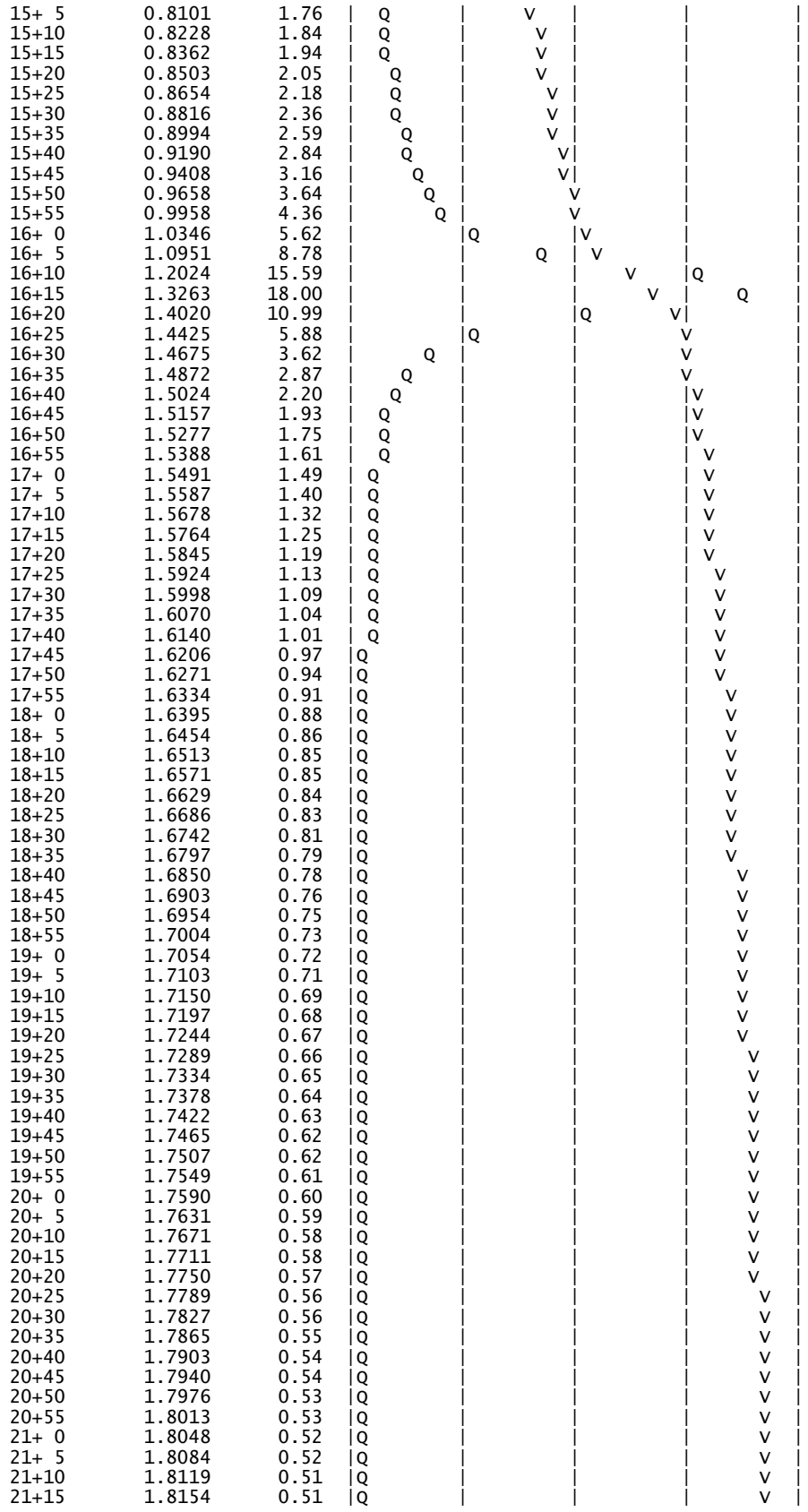
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0010	0.12	Q	|	|	|	|
0+15	0.0029	0.28	Q	|	|	|	|
0+20	0.0053	0.35	Q	|	|	|	|
0+25	0.0079	0.38	Q	|	|	|	|
0+30	0.0105	0.38	Q	|	|	|	|
0+35	0.0132	0.39	Q	|	|	|	|
0+40	0.0159	0.39	Q	|	|	|	|
0+45	0.0186	0.39	Q	|	|	|	|
0+50	0.0213	0.39	Q	|	|	|	|
0+55	0.0240	0.39	Q	|	|	|	|
1+ 0	0.0267	0.39	Q	|	|	|	|
1+ 5	0.0295	0.40	Q	|	|	|	|
1+10	0.0322	0.40	Q	|	|	|	|
1+15	0.0349	0.40	Q	|	|	|	|
1+20	0.0377	0.40	Q	|	|	|	|
1+25	0.0404	0.40	Q	|	|	|	|
1+30	0.0432	0.40	Q	|	|	|	|
1+35	0.0460	0.40	Q	|	|	|	|
1+40	0.0488	0.41	QV	|	|	|	|
1+45	0.0516	0.41	QV	|	|	|	|
1+50	0.0544	0.41	QV	|	|	|	|
1+55	0.0572	0.41	QV	|	|	|	|
2+ 0	0.0600	0.41	QV	|	|	|	|
2+ 5	0.0629	0.41	QV	|	|	|	|
2+10	0.0657	0.41	QV	|	|	|	|
2+15	0.0686	0.42	QV	|	|	|	|
2+20	0.0715	0.42	QV	|	|	|	|
2+25	0.0743	0.42	QV	|	|	|	|
2+30	0.0772	0.42	QV	|	|	|	|

2+35	0.0801	0.42	QV				
2+40	0.0830	0.42	QV				
2+45	0.0860	0.42	QV				
2+50	0.0889	0.43	QV				
2+55	0.0918	0.43	QV				
3+ 0	0.0948	0.43	QV				
3+ 5	0.0978	0.43	Q V				
3+10	0.1007	0.43	Q V				
3+15	0.1037	0.43	Q V				
3+20	0.1067	0.44	Q V				
3+25	0.1097	0.44	Q V				
3+30	0.1127	0.44	Q V				
3+35	0.1158	0.44	Q V				
3+40	0.1188	0.44	Q V				
3+45	0.1219	0.44	Q V				
3+50	0.1250	0.45	Q V				
3+55	0.1280	0.45	Q V				
4+ 0	0.1311	0.45	Q V				
4+ 5	0.1342	0.45	Q V				
4+10	0.1374	0.45	Q V				
4+15	0.1405	0.45	Q V				
4+20	0.1436	0.46	Q V				
4+25	0.1468	0.46	Q V				
4+30	0.1500	0.46	Q V				
4+35	0.1531	0.46	Q V				
4+40	0.1563	0.46	Q V				
4+45	0.1595	0.47	Q V				
4+50	0.1628	0.47	Q V				
4+55	0.1660	0.47	Q V				
5+ 0	0.1693	0.47	Q V				
5+ 5	0.1725	0.47	Q V				
5+10	0.1758	0.48	Q V				
5+15	0.1791	0.48	Q V				
5+20	0.1824	0.48	Q V				
5+25	0.1858	0.48	Q V				
5+30	0.1891	0.49	Q V				
5+35	0.1925	0.49	Q V				
5+40	0.1958	0.49	Q V				
5+45	0.1992	0.49	Q V				
5+50	0.2026	0.49	Q V				
5+55	0.2060	0.50	Q V				
6+ 0	0.2095	0.50	Q V				
6+ 5	0.2129	0.50	|Q V				
6+10	0.2164	0.50	|Q V				
6+15	0.2199	0.51	|Q V				
6+20	0.2234	0.51	|Q V				
6+25	0.2269	0.51	|Q V				
6+30	0.2305	0.51	|Q V				
6+35	0.2340	0.52	|Q V				
6+40	0.2376	0.52	|Q V				
6+45	0.2412	0.52	|Q V				
6+50	0.2448	0.52	|Q V				
6+55	0.2484	0.53	|Q V				
7+ 0	0.2521	0.53	|Q V				
7+ 5	0.2558	0.53	|Q V				
7+10	0.2595	0.54	|Q V				
7+15	0.2632	0.54	|Q V				
7+20	0.2669	0.54	|Q V				
7+25	0.2707	0.55	|Q V				
7+30	0.2744	0.55	|Q V				
7+35	0.2782	0.55	|Q V				
7+40	0.2820	0.55	|Q V				
7+45	0.2859	0.56	|Q V				
7+50	0.2898	0.56	|Q V				
7+55	0.2936	0.56	|Q V				
8+ 0	0.2975	0.57	|Q V				
8+ 5	0.3015	0.57	|Q V				
8+10	0.3054	0.57	|Q V				
8+15	0.3094	0.58	|Q V				
8+20	0.3134	0.58	|Q V				
8+25	0.3175	0.59	|Q V				
8+30	0.3215	0.59	|Q V				
8+35	0.3256	0.59	|Q V				
8+40	0.3297	0.60	|Q V				
8+45	0.3338	0.60	|Q V				

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 8+50       0.3380      0.60  |Q     V  |          |          |          |
 8+55       0.3422      0.61  |Q     V  |          |          |          |
 9+ 0       0.3464      0.61  |Q     V  |          |          |          |
 9+ 5       0.3507      0.62  |Q     V  |          |          |          |
 9+10       0.3549      0.62  |Q     V  |          |          |          |
 9+15       0.3592      0.63  |Q     V  |          |          |          |
 9+20       0.3636      0.63  |Q     V  |          |          |          |
 9+25       0.3679      0.63  |Q     V  |          |          |          |
 9+30       0.3723      0.64  |Q     V  |          |          |          |
 9+35       0.3768      0.64  |Q     V  |          |          |          |
 9+40       0.3812      0.65  |Q     V  |          |          |          |
 9+45       0.3858      0.65  |Q      V |          |          |          |
 9+50       0.3903      0.66  |Q      V |          |          |          |
 9+55       0.3949      0.66  |Q      V |          |          |          |
10+ 0       0.3995      0.67  |Q      V |          |          |          |
10+ 5       0.4041      0.67  |Q      V |          |          |          |
10+10       0.4088      0.68  |Q      V |          |          |          |
10+15       0.4135      0.69  |Q      V |          |          |          |
10+20       0.4183      0.69  |Q      V |          |          |          |
10+25       0.4231      0.70  |Q      V |          |          |          |
10+30       0.4279      0.70  |Q      V |          |          |          |
10+35       0.4328      0.71  |Q       V|          |          |          |
10+40       0.4377      0.72  |Q       V|          |          |          |
10+45       0.4427      0.72  |Q       V|          |          |          |
10+50       0.4477      0.73  |Q       V|          |          |          |
10+55       0.4528      0.73  |Q       V|          |          |          |
11+ 0       0.4579      0.74  |Q       V|          |          |          |
11+ 5       0.4630      0.75  |Q       V|          |          |          |
11+10       0.4682      0.76  |Q       V|          |          |          |
11+15       0.4735      0.76  |Q       V|          |          |          |
11+20       0.4788      0.77  |Q       V|          |          |          |
11+25       0.4842      0.78  |Q        V          |          |          |
11+30       0.4896      0.79  |Q        V          |          |          |
11+35       0.4951      0.80  |Q        V          |          |          |
11+40       0.5006      0.80  |Q        V          |          |          |
11+45       0.5062      0.81  |Q        V          |          |          |
11+50       0.5118      0.82  |Q        V          |          |          |
11+55       0.5176      0.83  |Q        V          |          |          |
12+ 0       0.5234      0.84  |Q        V          |          |          |
12+ 5       0.5292      0.85  |Q        |V         |          |          |
12+10       0.5350      0.84  |Q        |V         |          |          |
12+15       0.5407      0.83  |Q        |V         |          |          |
12+20       0.5465      0.83  |Q        |V         |          |          |
12+25       0.5523      0.84  |Q        |V         |          |          |
12+30       0.5581      0.85  |Q        |V         |          |          |
12+35       0.5641      0.86  |Q        |V         |          |          |
12+40       0.5701      0.88  |Q        |V         |          |          |
12+45       0.5762      0.89  |Q        | V        |          |          |
12+50       0.5824      0.90  |Q        | V        |          |          |
12+55       0.5887      0.92  |Q        | V        |          |          |
13+ 0       0.5951      0.93  |Q        | V        |          |          |
13+ 5       0.6016      0.94  |Q        | V        |          |          |
13+10       0.6082      0.96  |Q        | V        |          |          |
13+15       0.6150      0.98  |Q        | V        |          |          |
13+20       0.6218      0.99  |Q        | V        |          |          |
13+25       0.6288      1.01  | Q       |  V       |          |          |
13+30       0.6359      1.03  | Q       |  V       |          |          |
13+35       0.6431      1.05  | Q       |  V       |          |          |
13+40       0.6505      1.07  | Q       |  V       |          |          |
13+45       0.6580      1.09  | Q       |  V       |          |          |
13+50       0.6657      1.12  | Q       |  V       |          |          |
13+55       0.6736      1.14  | Q       |   V      |          |          |
14+ 0       0.6816      1.17  | Q       |   V      |          |          |
14+ 5       0.6899      1.20  | Q       |   V      |          |          |
14+10       0.6983      1.23  | Q       |   V      |          |          |
14+15       0.7070      1.26  | Q       |   V      |          |          |
14+20       0.7159      1.29  | Q       |   V      |          |          |
14+25       0.7250      1.33  | Q       |    V     |          |          |
14+30       0.7344      1.37  | Q       |    V     |          |          |
14+35       0.7441      1.41  | Q       |    V     |          |          |
14+40       0.7541      1.45  | Q       |    V     |          |          |
14+45       0.7645      1.50  |  Q      |    V     |          |          |
14+50       0.7752      1.56  |  Q      |     V    |          |          |
14+55       0.7864      1.62  |  Q      |     V    |          |          |
15+ 0       0.7980      1.69  |  Q      |     V    |          |          |
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   21+20       1.8188      0.50  |Q        |         |         |      V  |
   21+25       1.8223      0.50  Q        |         |         |      V  |
   21+30       1.8256      0.49  Q        |         |         |       V |
   21+35       1.8290      0.49  Q        |         |         |       V |
   21+40       1.8323      0.48  Q        |         |         |       V |
   21+45       1.8356      0.48  Q        |         |         |       V |
   21+50       1.8389      0.47  Q        |         |         |       V |
   21+55       1.8421      0.47  Q        |         |         |       V |
   22+ 0       1.8453      0.47  Q        |         |         |       V |
   22+ 5       1.8485      0.46  Q        |         |         |       V |
   22+10       1.8516      0.46  Q        |         |         |       V |
   22+15       1.8548      0.45  Q        |         |         |       V |
   22+20       1.8579      0.45  Q        |         |         |       V |
   22+25       1.8609      0.45  Q        |         |         |       V |
   22+30       1.8640      0.44  Q        |         |         |       V |
   22+35       1.8670      0.44  Q        |         |         |       V |
   22+40       1.8700      0.44  Q        |         |         |       V |
   22+45       1.8730      0.43  Q        |         |         |        V|
   22+50       1.8760      0.43  Q        |         |         |        V|
   22+55       1.8789      0.43  Q        |         |         |        V|
   23+ 0       1.8818      0.42  Q        |         |         |        V|
   23+ 5       1.8847      0.42  Q        |         |         |        V|
   23+10       1.8876      0.42  Q        |         |         |        V|
   23+15       1.8904      0.41  Q        |         |         |        V|
   23+20       1.8933      0.41  Q        |         |         |        V|
   23+25       1.8961      0.41  Q        |         |         |        V|
   23+30       1.8989      0.41  Q        |         |         |        V|
   23+35       1.9017      0.40  Q        |         |         |        V|
   23+40       1.9044      0.40  Q        |         |         |        V|
   23+45       1.9072      0.40  Q        |         |         |        V|
   23+50       1.9099      0.40  Q        |         |         |        V|
   23+55       1.9126      0.39  Q        |         |         |        V|
   24+ 0       1.9153      0.39  Q        |         |         |        V|
   24+ 5       1.9178      0.37  Q        |         |         |        V|
   24+10       1.9196      0.26  Q        |         |         |        V|
   24+15       1.9204      0.11  Q        |         |         |        V|
   24+20       1.9206      0.03  Q        |         |         |        V|
   24+25       1.9207      0.01  Q        |         |         |        V|
   24+30       1.9207      0.00  Q        |         |         |        V|
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