
APPENDIX Q1: SANITARY SEWER CAPACITY STUDY



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SANITARY SEWER CAPACITY STUDY

for

Irwindale Brew Yard Irwindale, California

January 2025

1st Revision: December 2025

2nd Revision: January 2026

3rd Revision: March 2026

Prepared for:

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KHA Project # 194466001

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I. Project Description

The Irwindale Brew Yard Development (hereinafter referenced as the proposed project site) is located adjacent to the Irwindale Brew Yard Facility in Irwindale, California. The site is bounded by I-210 freeway and existing railroad tracks to the north, Irwindale Light Rail Station (the Metro L Line) and Parking, Irwindale Avenue, rail easement, and light industrial/distribution uses across Irwindale Avenue to the east. It is also bounded by West First St and existing light industrial uses, generally located within the City of Azusa to the south, and Santa Fe Dam Recreation area to the west forming an “L” shaped property.

The gross site area is approximately 150.13 acres. The proposed Project would redevelop the currently vacant land surrounding the Irwindale Brew Yard with up to 3 million square feet of industrial, business park, warehouse, and/or distribution building space and up to 12,000 square feet of commercial space. A minor street dedication on West 1st Street (approximately 0.45 acres) is proposed.

II. Existing Conditions

The 150.13-acre site is bounded by railroad tracks to the North and West, Irwindale Avenue and an adjacent property to the east, railroad tracks and West 1st Street to the south, forming an “L” shaped property. The Site partially developed as a trailer storage lot and solar generation facility. The remainder of the site consist of two historic quarries located at the Northwest and Southeast quadrants of the site. There are currently no active mining permits associated with the site. Most of the site is undeveloped with the general lay of the land sloping from north to south.

Currently, the site is not directly served with sewer. An existing sewer main exists in at the intersection of Irwindale Avenue and W First Street. The existing brewery property is served from an existing 18” sewer lateral at the Northwest corner of the Irwindale and First Street intersection. There is not a sewer line in W First Street. Two Sanitation District Sewer mains are present in Irwindale Avenue. An abandoned 8” main is on the East side of Irwindale Avenue (C.S.D 22-P-9) and has a manhole with an 8” connection (22-P-86) to a manhole for the 12” main (22-P-38) located in the intersection of Irwindale Avenue and W

1st Street. A 10" main (22-P-86) flows south in Irwindale Avenue from Adelante Street to W 1st Street with and increase in size to 12" (22-P-38) at the first manhole in the Irwindale Avenue and W 1st Street intersection. A 15" relief trunk sewer (22-P-61) starts at the intersection and continues south parallel to the 12" trunk. Refer to Appendix 4 for Sanitation district record drawings.

The existing 12" trunk sewer slopes generally at 1.2% and drops down to 1.1% at the manhole just north of Gladstone Street. The existing 15" trunk sewer slopes generally at between 1.0% and 1.3% with a minimum slope of 0.31% around 300 feet north of Arrow Highway. and a maximum slope of 9.1% about 150 feet south of Arrow Highway. The project is area is served by the Joint Water Pollution Control Plant located in the City of Carson, which has a capacity of 400 million gallons per day (MGD) and currently process an average flow of 249.8 MGD.

III. Proposed Conditions

The Proposed Site will install a private sewer main in the onsite private drive aisle. The proposed private sewer will originate from the Northwest portion of the site and be routed onsite southerly and easterly to an onsite lift station north of 1st Street and west of the existing at grade rail crossing. Laterals will extend to each of the proposed buildings. The lift station will then discharge to a new gravity main in 1st Street. This gravity main will extend and terminate at the proposed manhole, which will be positioned on the existing 15" trunk sewer at the intersection of Irwindale Avenue and 1st Street. Approximately 6,650 linear feet of sewer line (5800 feet of private sewer and 850 feet of public sewer) ranging from 8" to 15" inches is proposed, refer to Appendix 1. The existing Brewery property will continue to be served from the existing 18" lateral.

IV. Analysis

The proposed project involves the construction of up to 3 million square feet of industrial, business park, warehouse, and/or distribution building space, along with approximately up to 12,000 square feet of commercial area. Refer to Appendix 1, for the Sewer Area Exhibit.

For Parcel 1 to Parcel 4, we have utilized an industrial sewer generation rate of 0.021 cfs/ac. However, for the commercial area, we have considered the sewer generation rate of a shopping center as a potential mixed-use commercial facility (325 GPD/1,000SF).

The Sanitation District has indicated the 15” trunk sewer has a capacity of 3.8 MGD and conveyed a peak flow of 1.6 MGD when last measured in 2016. Using the Sanitary Sewer Typical Loading by Zone table in Appendix 2 and acreages of the individual parcels, the Proposed Site will produce 1.792 MGD of flow as shown in Table 1 (See Appendix 1 for parcel breakdown). Refer to Table 2 below, and Appendix 3, for a proposed pipe sizing analysis.

For the industrial parcels, the sewer generation rates were based on the Los Angeles County Public Works loading table. For the future commercial parcel, the average flow rate was determined using the Los Angeles County Sanitation District sewer generation rate.

Table 1 – Peak flow generation

Parcel ID	Area (AC)	Net Area (AC)	*Peak Generation Factor (cfs/ac)	Peak Flow (cfs)	Peak Flow (MGD)
Parcel 1	36.836	36.836	0.021	0.774	0.500
Parcel 2	43.079	43.530	0.021	0.905	0.585
Parcel 3	30.770	30.770	0.021	0.646	0.418
Parcel 4	20.659	20.659	0.021	0.434	0.280
Parcel A	12.134	12.134	0	0.000	0.000
R/W Dedication	0.000	0.451	0	0.000	0.000
Parcel ID	Bldg. SF	Avg. Flow*** (GPD/1000SF)	Avg. Flow (GPD)	Peak Flow** (cfs)	Peak Flow (MGD)
Phase 2 - Future Commercial	12,000	325	3900	0.015	0.010
Total	-	-	-	2.773	1.792

*Peak Generation Factor Per Appendix 2 – Area Study Sewage Flow Coefficients

**Peak Factor of 2.5 has been utilized per Los Angeles County.

***A review of the commercial site for potential restaurant uses found non-significant increases to site peak flow.

Table 2 – Allowable Tributary Areas

Pipe Size	Design Slope (ft/ft)	Roughness Coefficient	Allowable d/D	Allowable Pipe Capacity (MGD)	Peak Generation Factor (cfs/ac)	Allowable Tributary Area (ac)
8"	0.0040	0.013	0.50	0.225	0.021	16.6
8"	0.0050	0.013	0.50	0.252	0.021	18.6
10"	0.0028	0.013	0.50	0.350	0.021	25.8
10"	0.0040	0.013	0.50	0.419	0.021	30.9
10"	0.0050	0.013	0.50	0.469	0.021	34.5
12"	0.0022	0.013	0.50	0.513	0.021	37.8
12"	0.0030	0.013	0.50	0.600	0.021	44.2
12"	0.0040	0.013	0.50	0.694	0.021	51.1
12"	0.0050	0.013	0.50	0.777	0.021	57.2
15"	0.0020	0.013	0.75	1.755	0.021	129.3
15"	0.0030	0.013	0.75	2.053	0.021	151.2
15"	0.0040	0.013	0.75	2.374	0.021	174.9
15"	0.0050	0.013	0.75	2.656	0.021	195.7

*See Appendix 3 for Sizing Calculations

V. Conclusion

The Sanitation District has indicated the existing 15" trunk sewer has a remaining available capacity of 2.2 MGD. The project produces 1.792 MGD of peak flow, therefore the downstream remaining capacity of 2.2 MGD is sufficient for the project. The sewer lift station will be required to accommodate a peak inflow of 1.792 MGD. In conclusion, the existing downstream sewer infrastructure has the capacity to carry the flow produced by the Proposed Site.

Appendix 1
Sewer Area Exhibit

Appendix 2

Sanitary Sewer Typical Loading Table

Los Angeles County Sanitation District
and
Los Angeles County Public Works Land Use Table

TABLE 1
LOADINGS FOR EACH CLASS OF LAND USE

<u>DESCRIPTION</u>	<u>UNIT OF MEASURE</u>	<u>FLOW (Gallons Per Day)</u>	<u>COD (Pounds Per Day)</u>	<u>SUSPENDED SOLIDS (Pounds Per Day)</u>
RESIDENTIAL				
Single Family Home	Parcel	260	1.22	0.59
Duplex	Parcel	312	1.46	0.70
Triplex	Parcel	468	2.19	1.05
Fourplex	Parcel	624	2.92	1.40
Condominiums	Parcel	195	0.92	0.44
Single Family Home (reduced rate)	Parcel	156	0.73	0.35
Five Units or More	No. of Dwlg. Units	156	0.73	0.35
Mobile Home Parks	No. of Spaces	156	0.73	0.35
COMMERCIAL				
Hotel/Motel/Rooming House	Room	125	0.54	0.28
Store	1000 ft ²	100	0.43	0.23
Supermarket	1000 ft ²	150	2.00	1.00
Shopping Center	1000 ft ²	325	3.00	1.17
Regional Mall	1000 ft ²	150	2.10	0.77
Office Building	1000 ft ²	200	0.86	0.45
Professional Building	1000 ft ²	300	1.29	0.68
Restaurant	1000 ft ²	1,000	16.68	5.00
Indoor Theatre	1000 ft ²	125	0.54	0.28
Car Wash				
Tunnel - No Recycling	1000 ft ²	3,700	15.86	8.33
Tunnel - Recycling	1000 ft ²	2,700	11.74	6.16
Wand	1000 ft ²	700	3.00	1.58
Financial Institution	1000 ft ²	100	0.43	0.23
Service Shop	1000 ft ²	100	0.43	0.23
Animal Kennels	1000 ft ²	100	0.43	0.23
Service Station	1000 ft ²	100	0.43	0.23
Auto Sales/Repair	1000 ft ²	100	0.43	0.23
Wholesale Outlet	1000 ft ²	100	0.43	0.23
Nursery/Greenhouse	1000 ft ²	25	0.11	0.06
Manufacturing	1000 ft ²	200	1.86	0.70
Dry Manufacturing	1000 ft ²	25	0.23	0.09
Lumber Yard	1000 ft ²	25	0.23	0.09
Warehousing	1000 ft ²	25	0.23	0.09
Open Storage	1000 ft ²	25	0.23	0.09
Drive-in Theatre	1000 ft ²	20	0.09	0.05

TABLE 1
(continued)
LOADINGS FOR EACH CLASS OF LAND USE

<u>DESCRIPTION</u>	<u>UNIT OF MEASURE</u>	<u>FLOW (Gallons Per Day)</u>	<u>COD (Pounds Per Day)</u>	<u>SUSPENDED SOLIDS (Pounds Per Day)</u>
COMMERCIAL				
Night Club	1000 ft ²	350	1.50	0.79
Bowling/Skating	1000 ft ²	150	1.76	0.55
Club	1000 ft ²	125	0.54	0.27
Auditorium, Amusement	1000 ft ²	350	1.50	0.79
Golf Course, Camp, and Park (Structures and Improvements	1000 ft ²	100	0.43	0.23
Recreational Vehicle Park	No. of Spaces	55	0.34	0.14
Convalescent Home	Bed	125	0.54	0.28
Laundry	1000 ft ²	3,825	16.40	8.61
Mortuary/Cemetery	1000 ft ²	100	1.33	0.67
Health Spa, Gymnasium				
With Showers	1000 ft ²	600	2.58	1.35
Without Showers	1000 ft ²	300	1.29	0.68
Convention Center, Fairground, Racetrack, Sports Stadium/Arena	Average Daily Attendance	10	0.04	0.02
INSTITUTIONAL				
College/University	Student	20	0.09	0.05
Private School	1000 ft ²	200	0.86	0.45
Church	1000 ft ²	50	0.21	0.11

AREA STUDY SEWAGE FLOW COEFFICIENTS

SB 4 43
329 37
212

BASIS OF FLOW COMPUTATION				AVER. FLOW COEFF.	PEAK FLOW COEFF.*
AREA & LAND USE				cfs/acre	cfs/acre
<u>Residential</u>					
Density Type	Average Area Per Dwelling	Dwellings per Acre	Persons per Acre		
Rural 1	5 acres	.2	0.7	.00008	.0002
Rural 2	1 1/2 acres	.8	2.7	.0003	.00075
High Desert	1 acre	1.0	3.3	.0004	.0010
Very Low	20,000 sq.ft.	1.7	6	.0006	.0015
(R-1)	7,000 sq.ft.	4.9	16	.002	.005
Medium (R-2)	3,200 sq.ft.	10.8	25	.0048	.012
Medium High (R-3)	1,800 sq.ft.	18.8	38	.006	.015
High (R-4)	1,400 sq.ft.	30.0	52	.0092	.023
Commercial				.006	.015
<u>Industrial</u>				.0084	.021
RESIDENTIAL UNIT**				cfs/unit	cfs/unit
1 & 2 bedroom units				.00032	.0008
3 & 4 bedroom units				.00044	.0011
Mobile Home Parks				.0002	.0005
POPULATION***				cfs/capita	cfs/capita
Resident Population				.00012	.0003

Based on Peak Factor of 2.5, for use up to a peak flow rate of 5.0 cfs. For larger flows, use a lower peak factor per the Average Flow-Peak Flow graph.

These coefficients are based on the following average flows:

1 & 2 bedroom - 200 g.p.d./unit; 3 & 4 bedroom - 285 g.p.d./unit; and
Mobile Home - 130 g.p.d./unit

as coefficient based on 80 g.p.d./capita.

USE OF FLOW COEFFICIENTS

For general studies based on zoning, use the area coefficients listed.
If known densities vary from this table, adjust the coefficient accordingly.
When estimating flows from developments where...

Appendix 3

FlowMaster Calculations and Results

Circular Pipe (IBY.fm8)

Label	Friction Method	Roughness Coefficient	Channel Slope (ft/ft)	Diameter (in)	Discharge (MGD)	Flow Area (ft²)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)
8" @0.0050	Kutter Formula	0.013	0.0050	8.0	0.252	0.2	50.0	0.0082	2.24
8" @0.0040	Kutter Formula	0.013	0.0040	8.0	0.225	0.2	50.0	0.0081	2.00
10" @0.0028	Kutter Formula	0.013	0.0028	10.0	0.350	0.3	50.0	0.0072	1.98
10" @0.0040	Kutter Formula	0.013	0.0040	10.0	0.419	0.3	50.0	0.0072	2.38
10" @0.0050	Kutter Formula	0.013	0.0050	10.0	0.469	0.3	50.0	0.0072	2.66
12" @0.0022	Kutter Formula	0.013	0.0022	12.0	0.513	0.4	50.0	0.0065	2.02
12" @0.0030	Kutter Formula	0.013	0.0030	12.0	0.600	0.4	50.0	0.0065	2.36
12" @0.0040	Kutter Formula	0.013	0.0040	12.0	0.694	0.4	50.0	0.0065	2.73
12" @0.0050	Kutter Formula	0.013	0.0050	12.0	0.777	0.4	50.0	0.0066	3.06
15" @0.0020	Kutter Formula	0.013	0.0022	15.0	1.755	1.0	75.0	0.0061	2.75
15" @0.0030	Kutter Formula	0.013	0.0030	15.0	2.053	1.0	75.0	0.0064	3.22
15" @0.0040	Kutter Formula	0.013	0.0040	15.0	2.374	1.0	75.0	0.0067	3.72
15" @0.0050	Kutter Formula	0.013	0.0050	15.0	2.656	1.0	75.0	0.0071	4.16

8" @0.0040

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0040 ft/ft
Normal Depth	4.0 in
Diameter	8.0 in
Results	
Discharge	0.225 MGD
Flow Area	0.2 ft ²
Wetted Perimeter	1.0 ft
Hydraulic Radius	2.0 in
Top Width	0.67 ft
Critical Depth	3.3 in
Percent Full	50.0 %
Critical Slope	0.0081 ft/ft
Velocity	2.00 ft/s
Velocity Head	0.06 ft
Specific Energy	0.40 ft
Froude Number	0.688
Maximum Discharge	0.493 MGD
Discharge Full	0.451 MGD
Slope Full	0.0010 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	4.0 in
Critical Depth	3.3 in
Channel Slope	0.0040 ft/ft
Critical Slope	0.0081 ft/ft

8" @0.0050

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0050 ft/ft
Normal Depth	4.0 in
Diameter	8.0 in
Results	
Discharge	0.252 MGD
Flow Area	0.2 ft ²
Wetted Perimeter	1.0 ft
Hydraulic Radius	2.0 in
Top Width	0.67 ft
Critical Depth	3.5 in
Percent Full	50.0 %
Critical Slope	0.0082 ft/ft
Velocity	2.24 ft/s
Velocity Head	0.08 ft
Specific Energy	0.41 ft
Froude Number	0.770
Maximum Discharge	0.552 MGD
Discharge Full	0.504 MGD
Slope Full	0.0013 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	4.0 in
Critical Depth	3.5 in
Channel Slope	0.0050 ft/ft
Critical Slope	0.0082 ft/ft

10" @0.0028

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0028 ft/ft
Normal Depth	5.0 in
Diameter	10.0 in
Results	
Discharge	0.350 MGD
Flow Area	0.3 ft ²
Wetted Perimeter	1.3 ft
Hydraulic Radius	2.5 in
Top Width	0.83 ft
Critical Depth	3.9 in
Percent Full	50.0 %
Critical Slope	0.0072 ft/ft
Velocity	1.98 ft/s
Velocity Head	0.06 ft
Specific Energy	0.48 ft
Froude Number	0.612
Maximum Discharge	0.764 MGD
Discharge Full	0.699 MGD
Slope Full	0.0007 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	50.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	5.0 in
Critical Depth	3.9 in
Channel Slope	0.0028 ft/ft
Critical Slope	0.0072 ft/ft

10" @0.0040

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0040 ft/ft
Normal Depth	5.0 in
Diameter	10.0 in
Results	
Discharge	0.419 MGD
Flow Area	0.3 ft ²
Wetted Perimeter	1.3 ft
Hydraulic Radius	2.5 in
Top Width	0.83 ft
Critical Depth	4.2 in
Percent Full	50.0 %
Critical Slope	0.0072 ft/ft
Velocity	2.38 ft/s
Velocity Head	0.09 ft
Specific Energy	0.50 ft
Froude Number	0.733
Maximum Discharge	0.915 MGD
Discharge Full	0.838 MGD
Slope Full	0.0010 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	50.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	5.0 in
Critical Depth	4.2 in
Channel Slope	0.0040 ft/ft
Critical Slope	0.0072 ft/ft

10" @0.0050

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0050 ft/ft
Normal Depth	5.0 in
Diameter	10.0 in
Results	
Discharge	0.469 MGD
Flow Area	0.3 ft ²
Wetted Perimeter	1.3 ft
Hydraulic Radius	2.5 in
Top Width	0.83 ft
Critical Depth	4.5 in
Percent Full	50.0 %
Critical Slope	0.0072 ft/ft
Velocity	2.66 ft/s
Velocity Head	0.11 ft
Specific Energy	0.53 ft
Froude Number	0.820
Maximum Discharge	1.024 MGD
Discharge Full	0.938 MGD
Slope Full	0.0013 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	50.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	5.0 in
Critical Depth	4.5 in
Channel Slope	0.0050 ft/ft
Critical Slope	0.0072 ft/ft

12" @0.0022

Project Description	
Friction Method	Kutter
Solve For	Formula Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0022 ft/ft
Normal Depth	6.0 in
Diameter	12.0 in
Results	
Discharge	0.513 MGD
Flow Area	0.4 ft ²
Wetted Perimeter	1.6 ft
Hydraulic Radius	3.0 in
Top Width	1.00 ft
Critical Depth	4.5 in
Percent Full	50.0 %
Critical Slope	0.0065 ft/ft
Velocity	2.02 ft/s
Velocity Head	0.06 ft
Specific Energy	0.56 ft
Froude Number	0.568
Maximum Discharge	1.118 MGD
Discharge Full	1.025 MGD
Slope Full	0.0006 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	6.0 in
Critical Depth	4.5 in
Channel Slope	0.0022 ft/ft
Critical Slope	0.0065 ft/ft

12" @0.0030

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0030 ft/ft
Normal Depth	6.0 in
Diameter	12.0 in
Results	
Discharge	0.600 MGD
Flow Area	0.4 ft ²
Wetted Perimeter	1.6 ft
Hydraulic Radius	3.0 in
Top Width	1.00 ft
Critical Depth	4.8 in
Percent Full	50.0 %
Critical Slope	0.0065 ft/ft
Velocity	2.36 ft/s
Velocity Head	0.09 ft
Specific Energy	0.59 ft
Froude Number	0.665
Maximum Discharge	1.308 MGD
Discharge Full	1.200 MGD
Slope Full	0.0008 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	6.0 in
Critical Depth	4.8 in
Channel Slope	0.0030 ft/ft
Critical Slope	0.0065 ft/ft

12" @0.0040

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0040 ft/ft
Normal Depth	6.0 in
Diameter	12.0 in
Results	
Discharge	0.694 MGD
Flow Area	0.4 ft ²
Wetted Perimeter	1.6 ft
Hydraulic Radius	3.0 in
Top Width	1.00 ft
Critical Depth	5.2 in
Percent Full	50.0 %
Critical Slope	0.0065 ft/ft
Velocity	2.73 ft/s
Velocity Head	0.12 ft
Specific Energy	0.62 ft
Froude Number	0.769
Maximum Discharge	1.513 MGD
Discharge Full	1.388 MGD
Slope Full	0.0010 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	6.0 in
Critical Depth	5.2 in
Channel Slope	0.0040 ft/ft
Critical Slope	0.0065 ft/ft

12" @0.0050

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0050 ft/ft
Normal Depth	6.0 in
Diameter	12.0 in
Results	
Discharge	0.777 MGD
Flow Area	0.4 ft ²
Wetted Perimeter	1.6 ft
Hydraulic Radius	3.0 in
Top Width	1.00 ft
Critical Depth	5.5 in
Percent Full	50.0 %
Critical Slope	0.0066 ft/ft
Velocity	3.06 ft/s
Velocity Head	0.15 ft
Specific Energy	0.65 ft
Froude Number	0.861
Maximum Discharge	1.693 MGD
Discharge Full	1.553 MGD
Slope Full	0.0013 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	6.0 in
Critical Depth	5.5 in
Channel Slope	0.0050 ft/ft
Critical Slope	0.0066 ft/ft

15" @0.0020

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0022 ft/ft
Normal Depth	11.3 in
Diameter	15.0 in
Results	
Discharge	1.755 MGD
Flow Area	1.0 ft ²
Wetted Perimeter	2.6 ft
Hydraulic Radius	4.5 in
Top Width	1.08 ft
Critical Depth	7.9 in
Percent Full	75.0 %
Critical Slope	0.0061 ft/ft
Velocity	2.75 ft/s
Velocity Head	0.12 ft
Specific Energy	1.06 ft
Froude Number	0.508
Maximum Discharge	2.064 MGD
Discharge Full	1.897 MGD
Slope Full	0.0019 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	11.3 in
Critical Depth	7.9 in
Channel Slope	0.0022 ft/ft
Critical Slope	0.0061 ft/ft

15" @0.0030

Project Description	
Friction Method	Kutter
Solve For	Formula Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0030 ft/ft
Normal Depth	11.3 in
Diameter	15.0 in
Results	
Discharge	2.053 MGD
Flow Area	1.0 ft ²
Wetted Perimeter	2.6 ft
Hydraulic Radius	4.5 in
Top Width	1.08 ft
Critical Depth	8.6 in
Percent Full	75.0 %
Critical Slope	0.0064 ft/ft
Velocity	3.22 ft/s
Velocity Head	0.16 ft
Specific Energy	1.10 ft
Froude Number	0.594
Maximum Discharge	2.415 MGD
Discharge Full	2.219 MGD
Slope Full	0.0026 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	11.3 in
Critical Depth	8.6 in
Channel Slope	0.0030 ft/ft
Critical Slope	0.0064 ft/ft

15" @0.0040

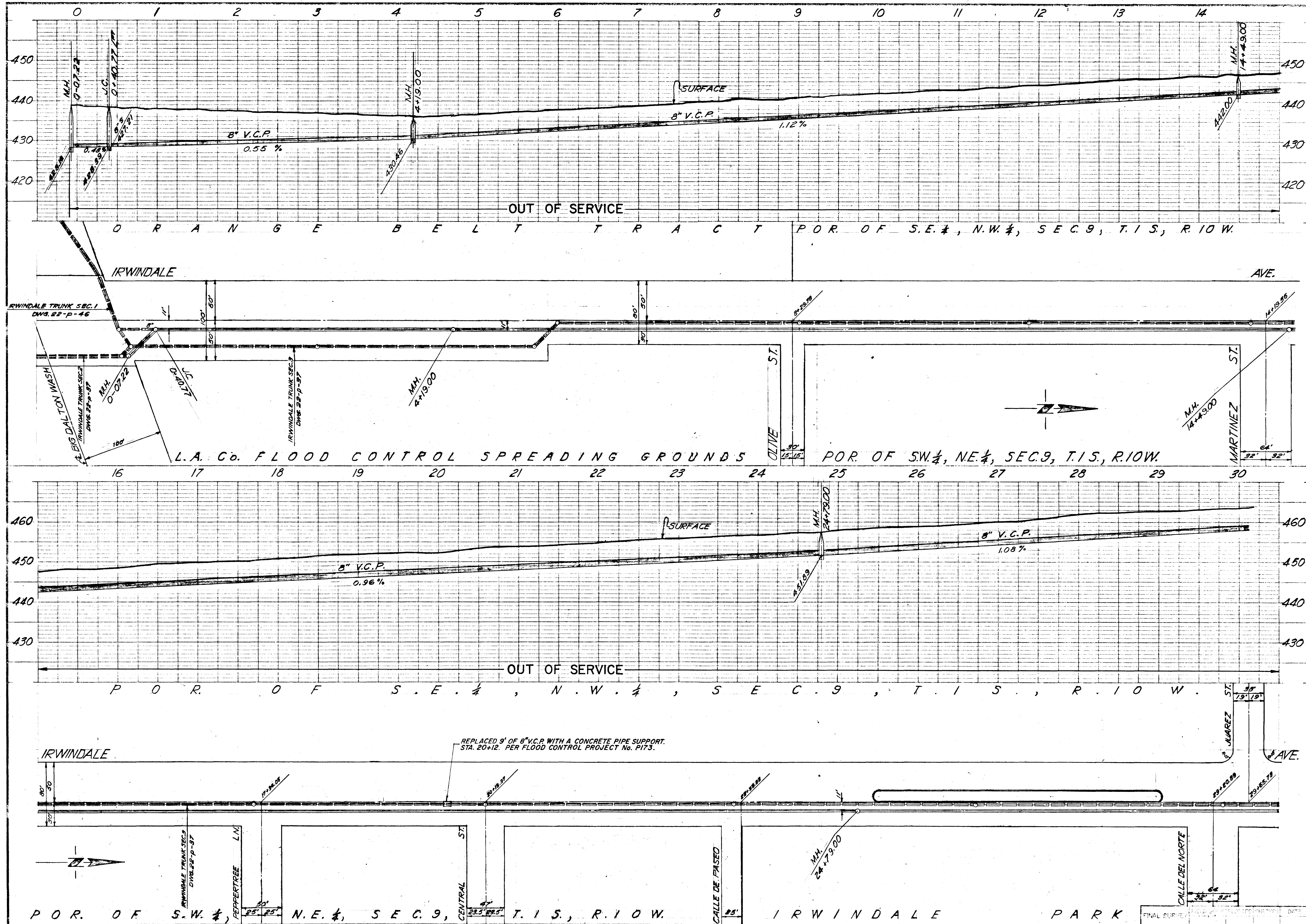
Project Description	
Friction Method	Kutter
Solve For	Formula Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0040 ft/ft
Normal Depth	11.3 in
Diameter	15.0 in
Results	
Discharge	2.374 MGD
Flow Area	1.0 ft ²
Wetted Perimeter	2.6 ft
Hydraulic Radius	4.5 in
Top Width	1.08 ft
Critical Depth	9.3 in
Percent Full	75.0 %
Critical Slope	0.0067 ft/ft
Velocity	3.72 ft/s
Velocity Head	0.22 ft
Specific Energy	1.15 ft
Froude Number	0.687
Maximum Discharge	2.792 MGD
Discharge Full	2.566 MGD
Slope Full	0.0034 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	11.3 in
Critical Depth	9.3 in
Channel Slope	0.0040 ft/ft
Critical Slope	0.0067 ft/ft

15" @0.0050

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0050 ft/ft
Normal Depth	11.3 in
Diameter	15.0 in
Results	
Discharge	2.656 MGD
Flow Area	1.0 ft ²
Wetted Perimeter	2.6 ft
Hydraulic Radius	4.5 in
Top Width	1.08 ft
Critical Depth	9.8 in
Percent Full	75.0 %
Critical Slope	0.0071 ft/ft
Velocity	4.16 ft/s
Velocity Head	0.27 ft
Specific Energy	1.21 ft
Froude Number	0.768
Maximum Discharge	3.125 MGD
Discharge Full	2.872 MGD
Slope Full	0.0043 ft/ft
Flow Type	Subcritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	11.3 in
Critical Depth	9.8 in
Channel Slope	0.0050 ft/ft
Critical Slope	0.0071 ft/ft

Appendix 4

Record Drawings and County Facilities Exhibit



POLYMER PLANT WASTE WATER DISPOSAL LINE
(AS BUILT)

PLAN & PROFILE

SHEET NO. 2

OF 8 SHEETS

22-p-9

SUBMITTED	DATE	OFFICE ENGINEER	DATE
RECOMMENDED	DATE	ASST. CHIEF - DESIGN	DATE
APPROVED	DATE	CHIEF ENGINEER	DATE

COUNTY OF LOS ANGELES
 COUNTY SANITATION DISTRICT NO. 10
 CALIFORNIA
 PROJECT NO. 22-P-9
 DRAWN BY: J. L. WILSON
 CHECKED BY: J. L. WILSON
 DATE: 12-17-77

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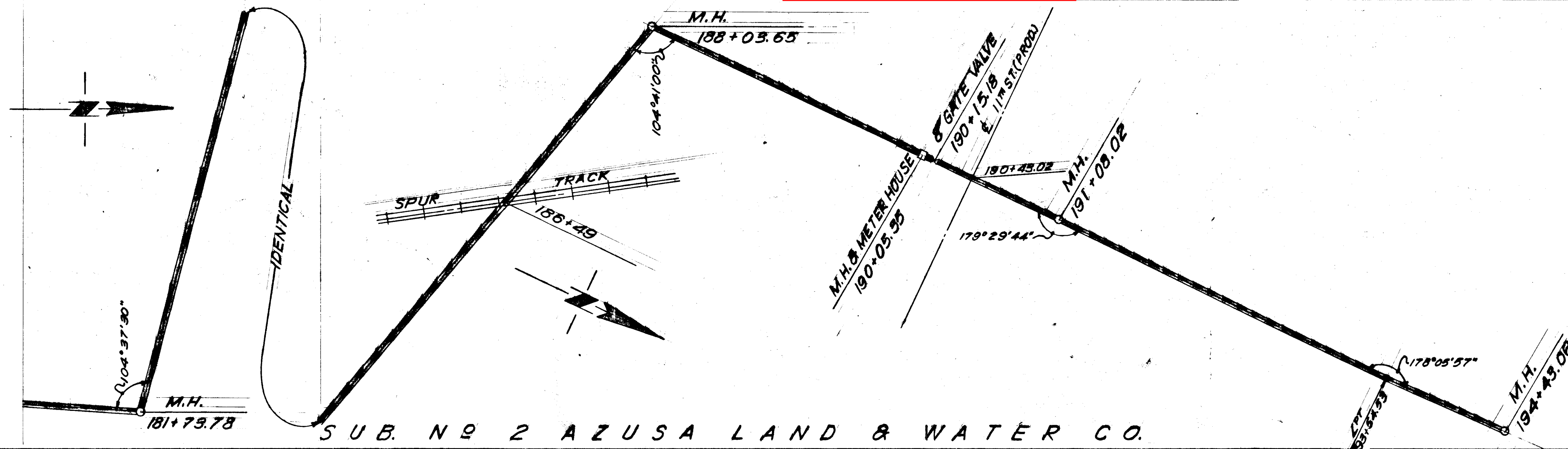
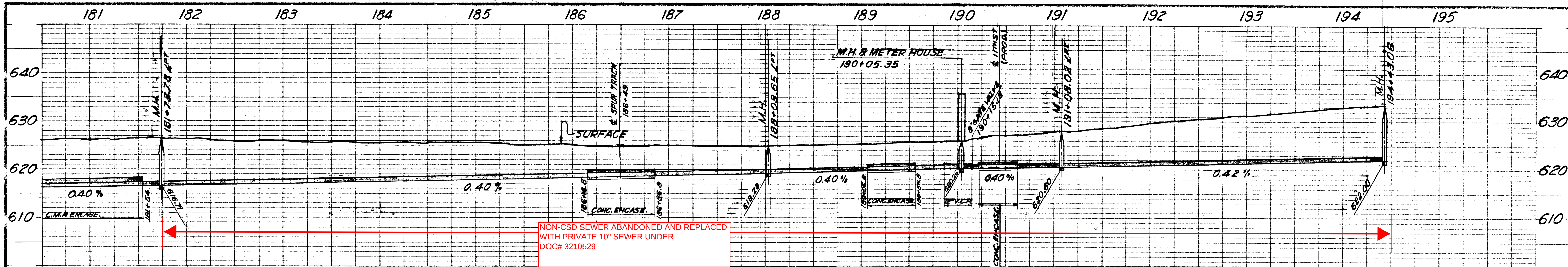
POLYMER PLANT WASTE WATER DISPOSAL LINE
(AS BUILT)

COUNTY SANITATION DISTRICT, NO. 4
LOS ANGELES COUNTY, CALIF.

PLAN & PROFILE

4
8
22-p-9

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POLYMER PLANT WASTE WATER DISPOSAL LINE
(AS BUILT)

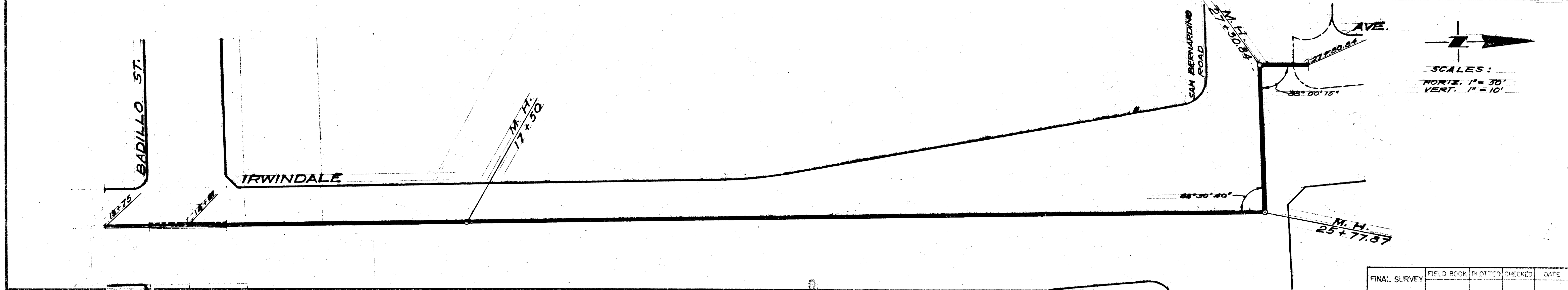
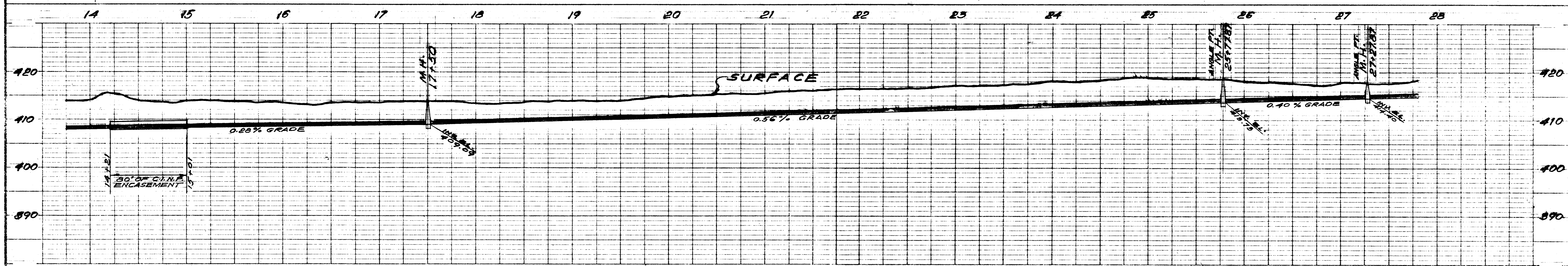
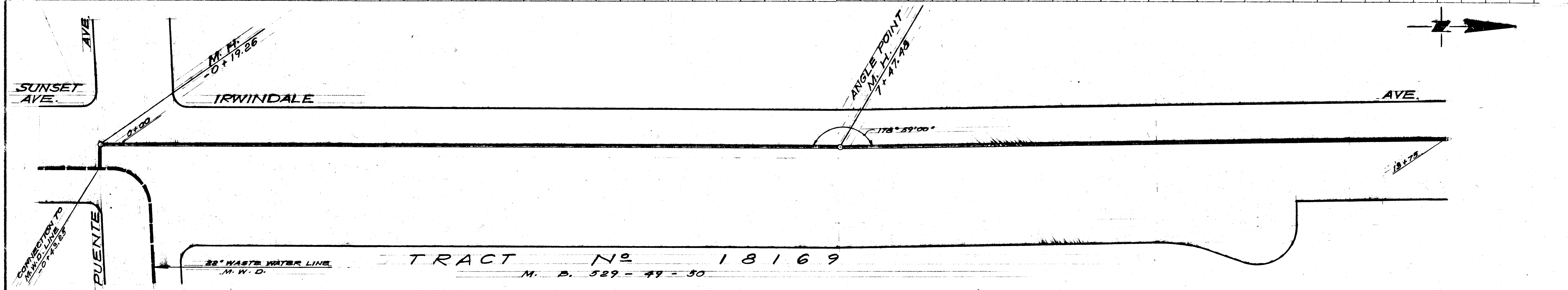
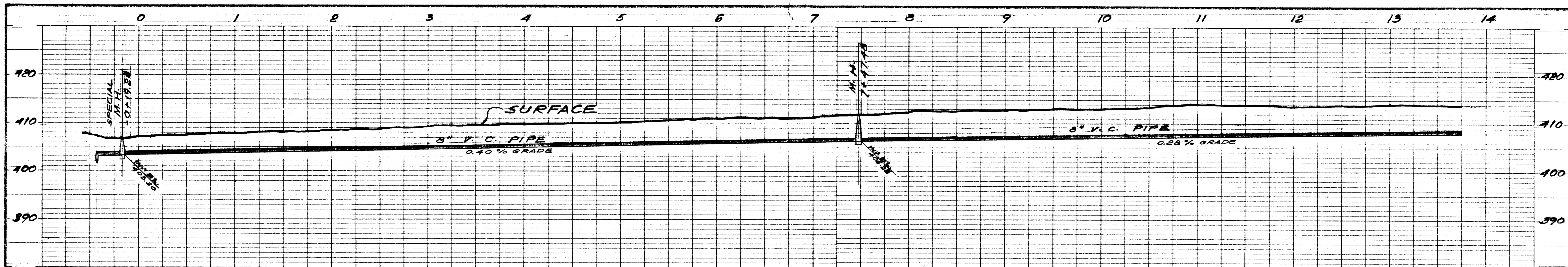
COUNTY SANITATION DISTRICT NO. 8
OF LOS ANGELES COUNTY, CALIF.

PLAN 8 PROFILE

APPROVED: 9-71
SUBMITTED: 9-71
RECOMMENDED: 9-71
DATE: 9-71

SHEET NO. 8
OF 8 SHEETS
22-P-9

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COUNTY SANITATION DISTRICT NO. 9
OF LOS ANGELES COUNTY, CALIF.

POLYMER PLANT WASTE WATER
DISPOSAL LINE
(AS BUILT)

PLAN & PROFILE

DATE: 10-1-99

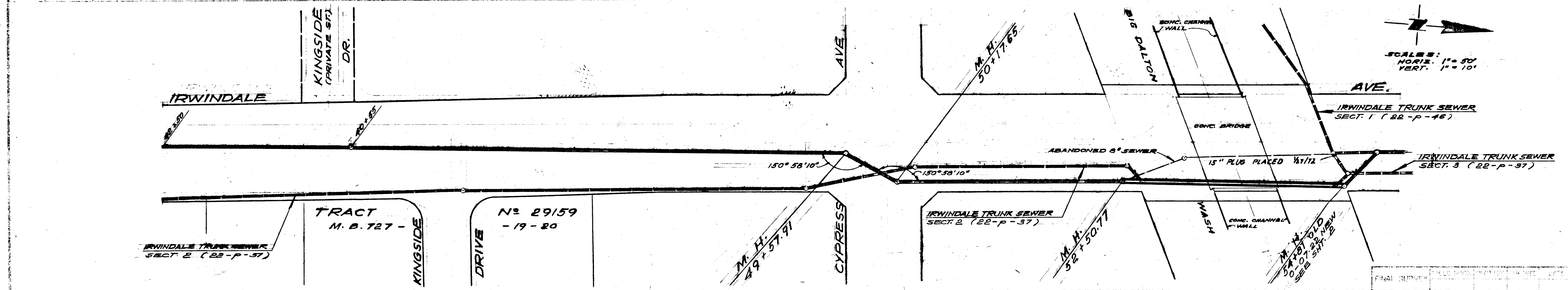
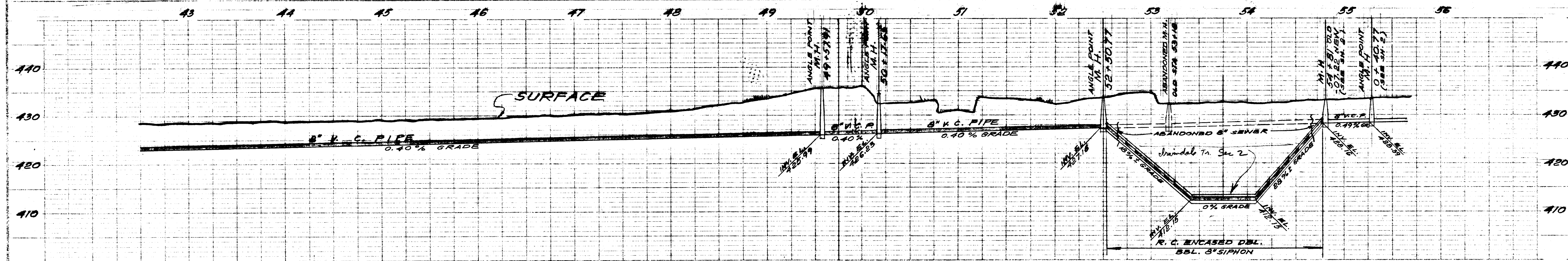
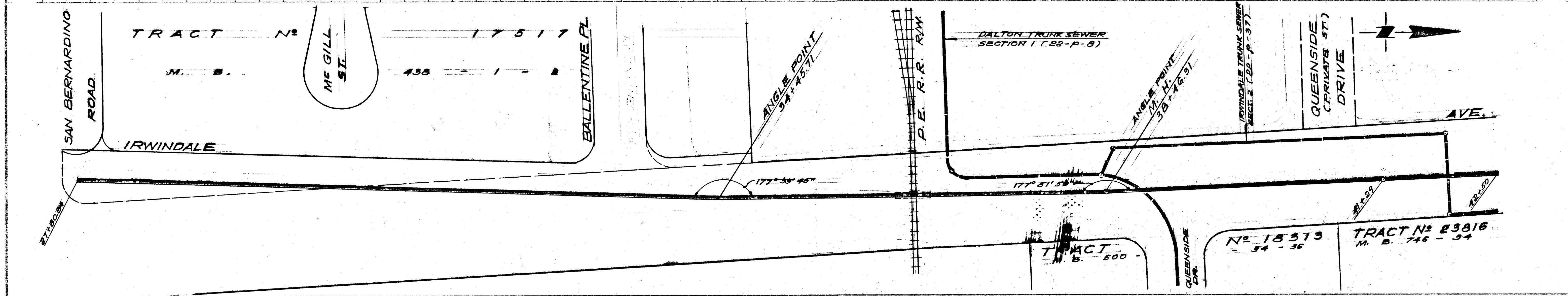
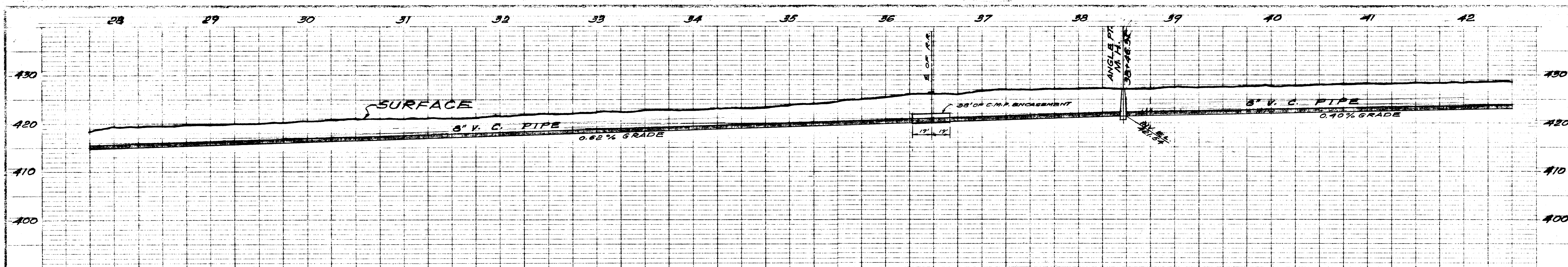
BY: J. K. HARRIS

CHECKED: J. K. HARRIS

APPROVED: J. K. HARRIS

SCALE: 1\"/>

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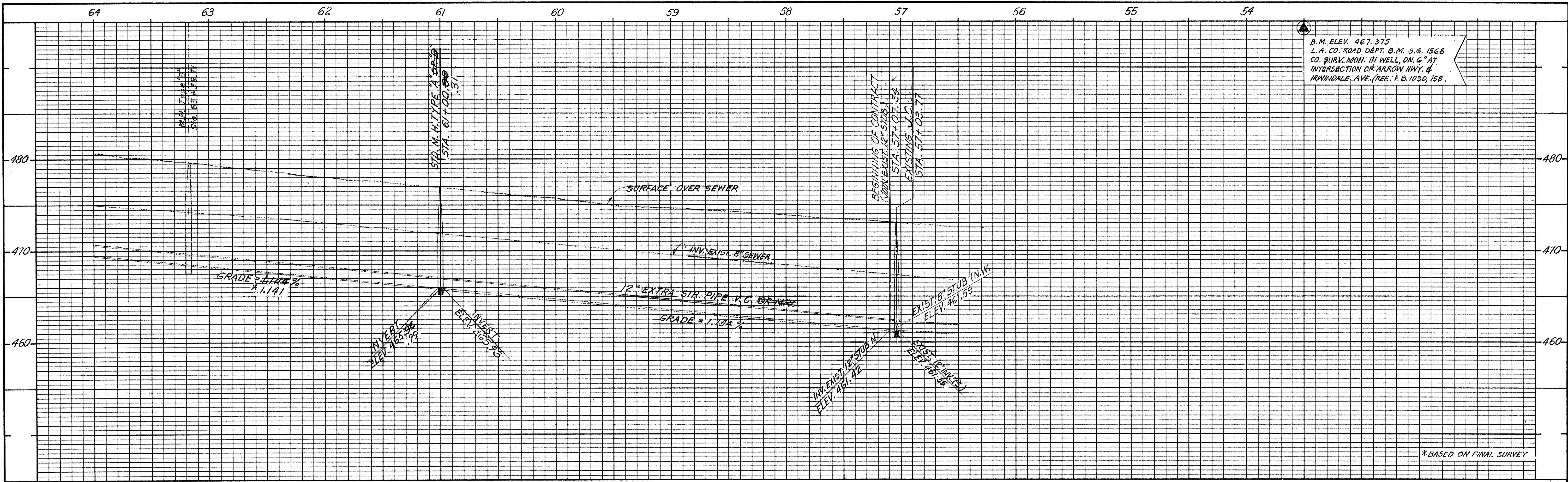
COUNTY SANITATION DISTRICT, NO. 10
 OF LOS ANGELES COUNTY, CALIF.
 POLYMER PLANT WASTE WATER
 DISPOSAL LINE
 (AS BUILT)
 PLAN & PROFILE

ADD THIS SHEET
 TO THE SET

SCALE:
 HORIZ. 1" = 50'
 VERT. 1" = 10'

10 SHEETS
 22-7-9

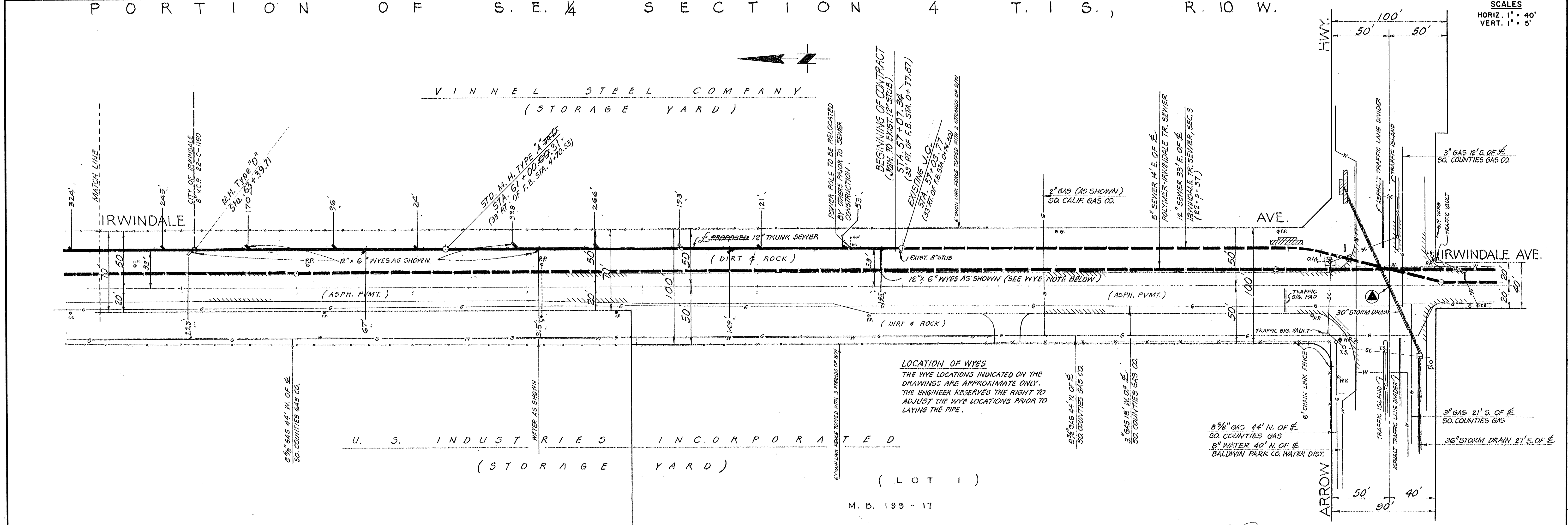
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B.M. ELEV. 467.375
L.A. CO. ROAD DEPT. B.M. S.G. 1568
CO. SURV. MON. IN WELL, DN. G. AT
INTERSECTION OF ARROW HWY. &
IRWINDALE AVE. (REF. F.B. 1030, 158.)

*BASED ON FINAL SURVEY

SCALES
HORIZ. 1" = 40'
VERT. 1" = 5'



LOCATION OF WYES
THE WYE LOCATIONS INDICATED ON THE
DRAWINGS ARE APPROXIMATE ONLY.
THE ENGINEER RESERVES THE RIGHT TO
ADJUST THE WYE LOCATIONS PRIOR TO
LAYING THE PIPE.

PORTION OF S.W. 1/4 SECTION 4 T.1S. R.10W. TRACT No 11220

NO.	REVISION	INITIAL	DATE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

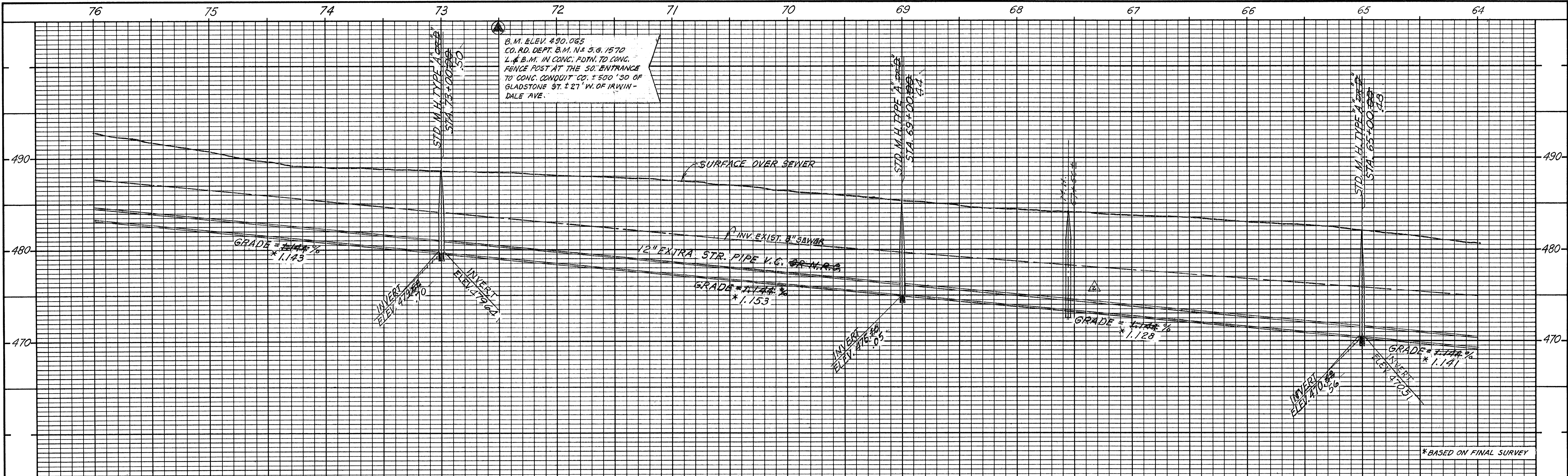
SUBMITTED
OFFICE ENGINEER
RECOMMENDED
ASST. CHIEF ENGINEER
APPROVED
CHIEF ENGINEER

DATED NOV. 27, 1963
DATED NOV. 27, 1963
DATED NOV. 27, 1963

COUNTY SANITATION DISTRICT No 22
OF LOS ANGELES COUNTY, CALIF.
IRWINDALE TRUNK SEWER
(SECTION 4)

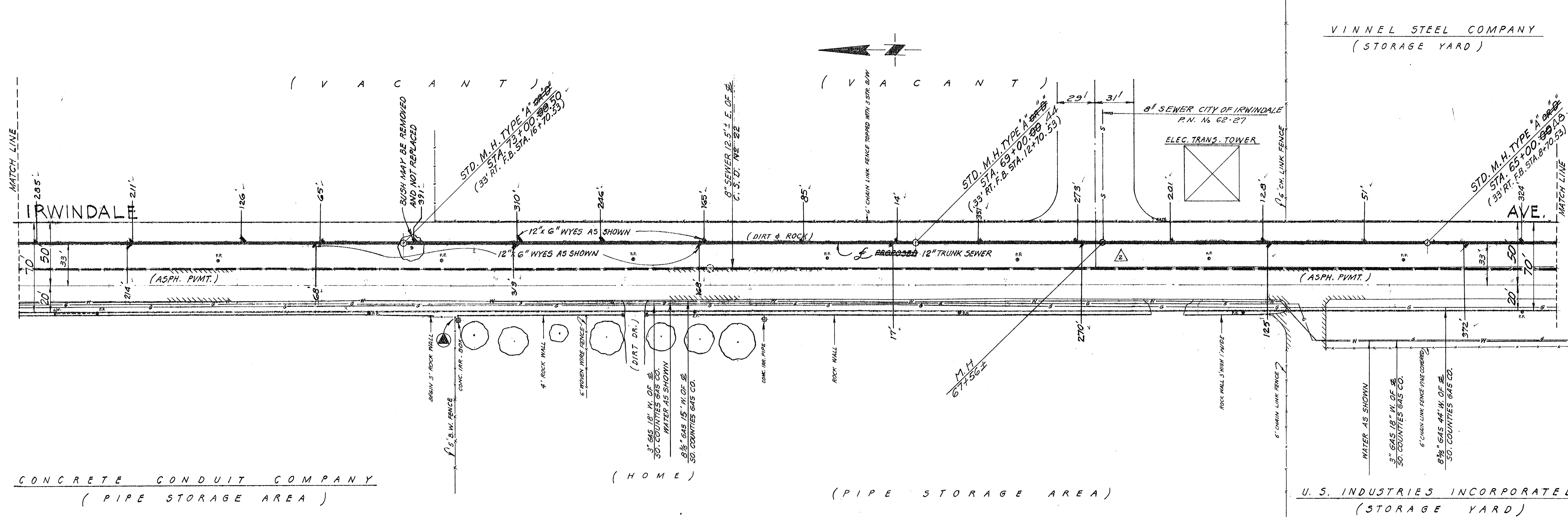
DWG. No 22 -p-38
SHEET No 2 OF 7 SHEETS

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A P O R T I O N O F S. E. 1/4 S E C T I O N 4 T. 1 S., R. 10 W.

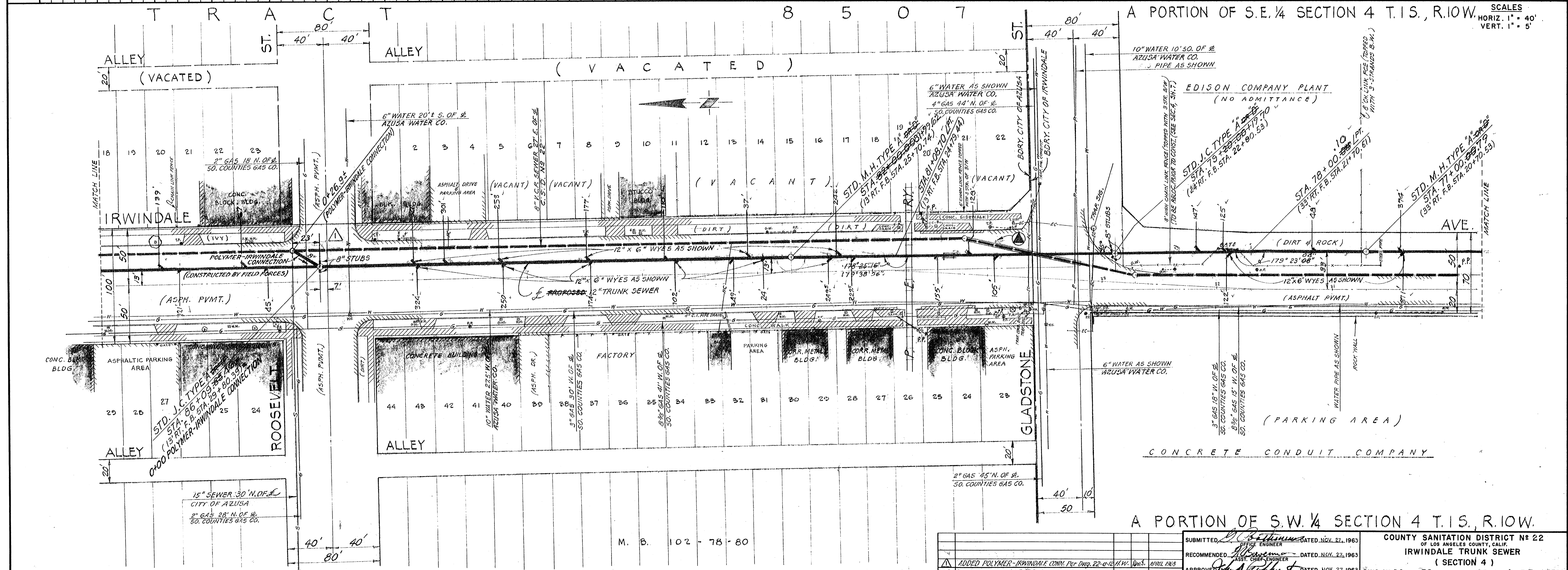
SCALES
HORIZ. 1" = 40'
VERT. 1" = 5'



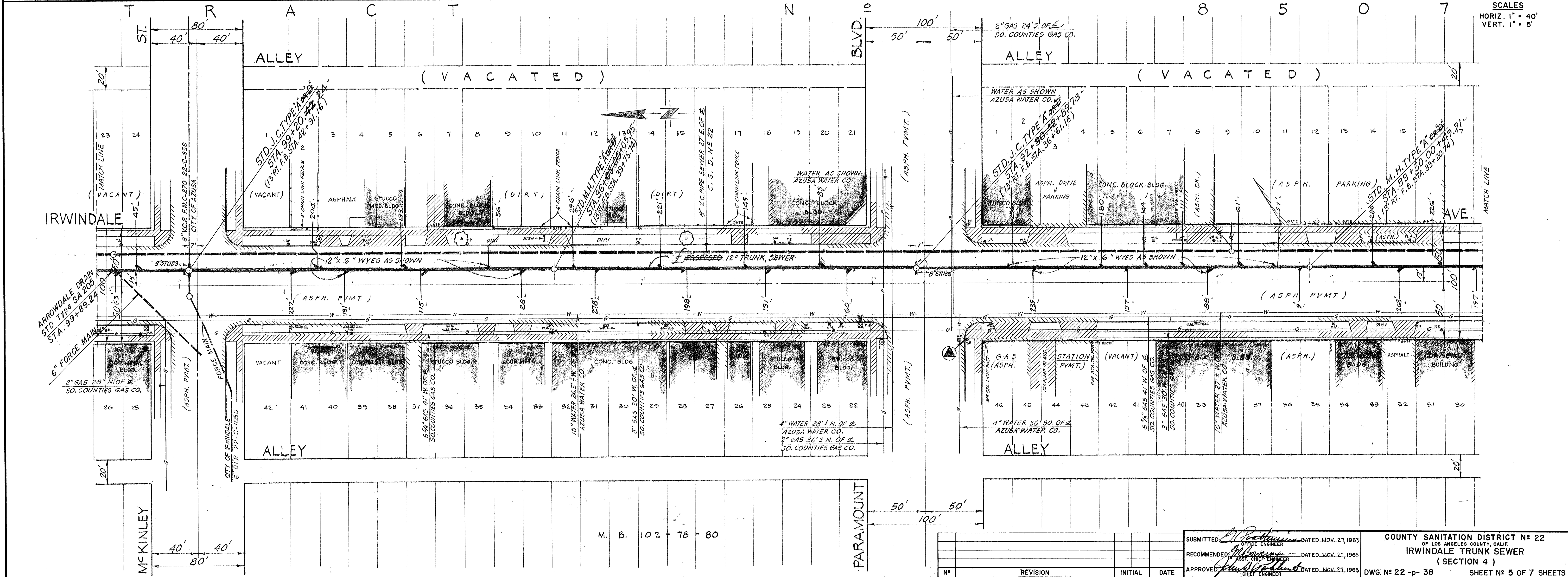
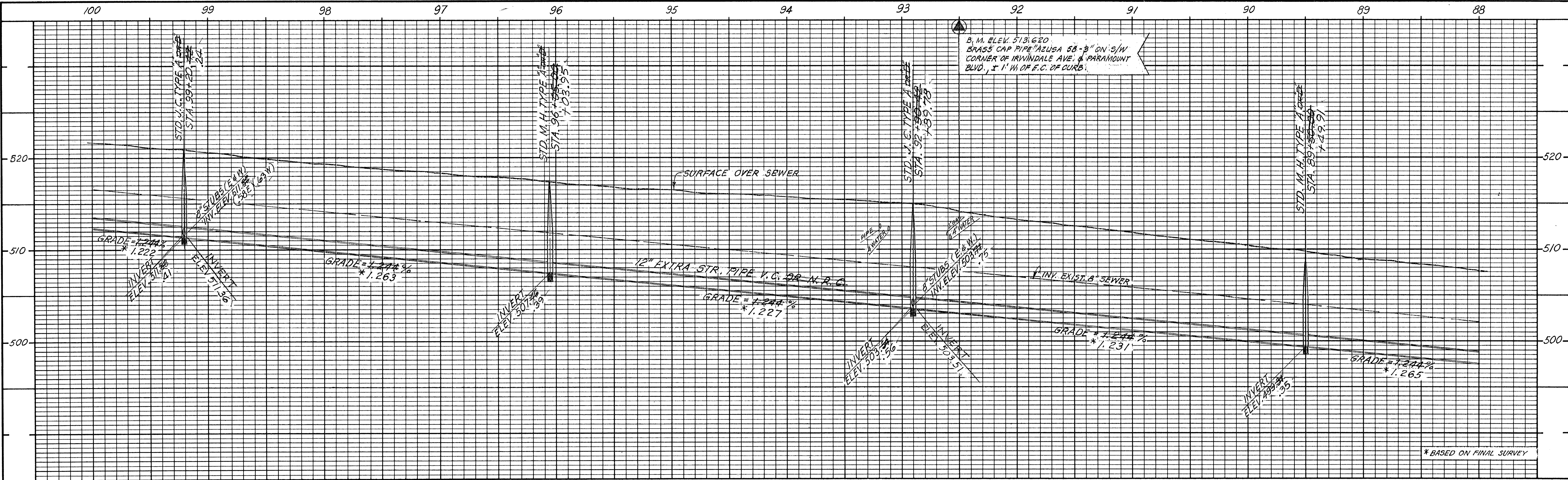
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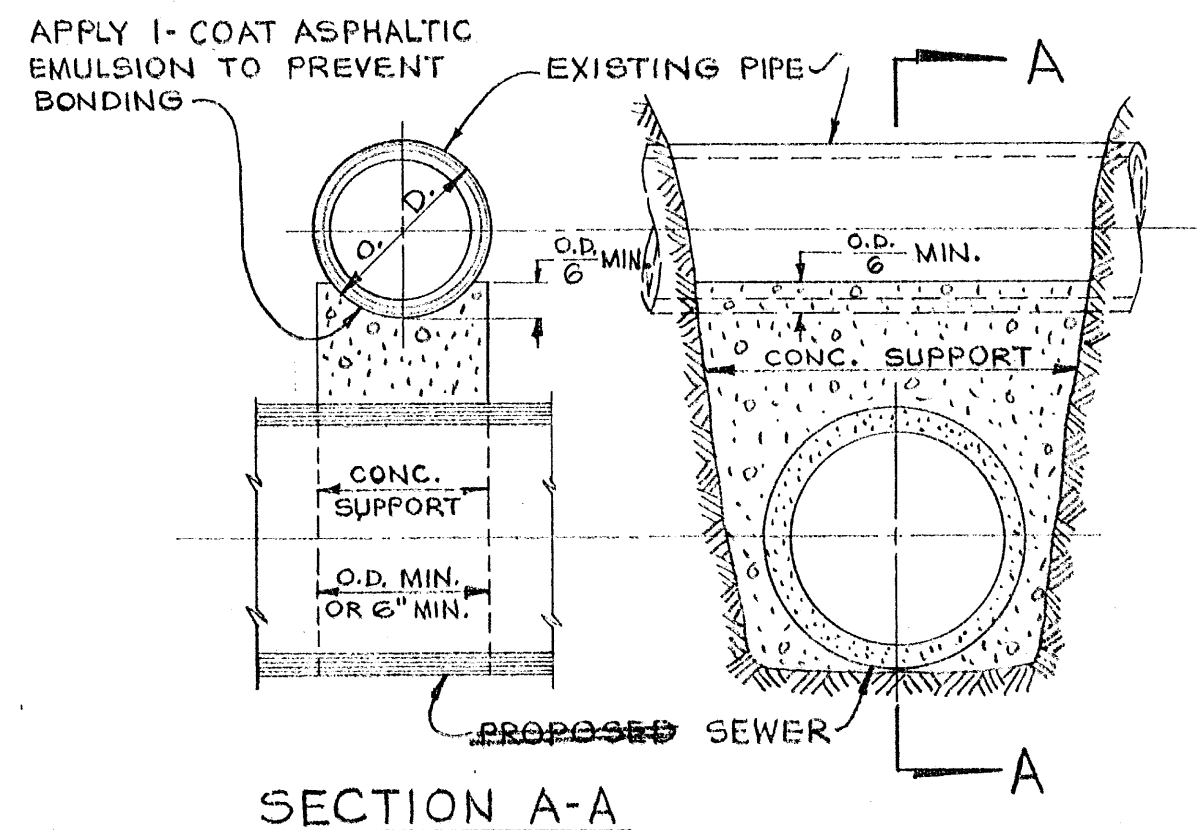
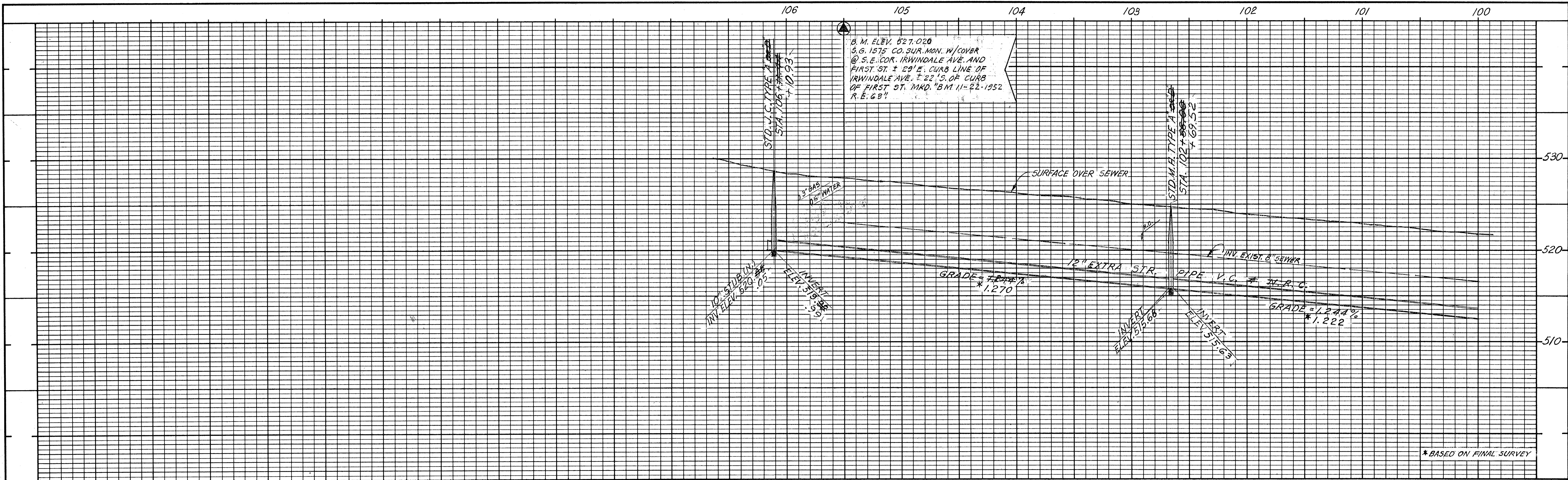
SUBMITTED BY <i>[Signature]</i> DATED NOV. 27, 1963		COUNTY SANITATION DISTRICT No 22	
RECOMMENDED BY <i>[Signature]</i> DATED NOV. 27, 1963		OF LOS ANGELES COUNTY, CALIF.	
APPROVED BY <i>[Signature]</i> DATED NOV. 27, 1963		IRWINDALE TRUNK SEWER	
CHIEF ENGINEER		(SECTION 4)	
DWG. No 22 - p-38		SHEET No 3 OF 7 SHEETS	

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AN & PROFILE		BY		DATE		FINAL SURVEY		FIELD BOOK		PLOTTED		CHECKED		DATE	
SURVEYED	UNDESIGNED	F. E. LINDSAY		11/1/1963		11/1/1963									
DESIGNED		F. E. LINDSAY		11/1/1963		11/1/1963									
DRAWN		F. E. LINDSAY		11/1/1963		11/1/1963									
CHECKED		F. E. LINDSAY		11/1/1963		11/1/1963									
FINAL CHECK		F. E. LINDSAY		11/1/1963		11/1/1963									



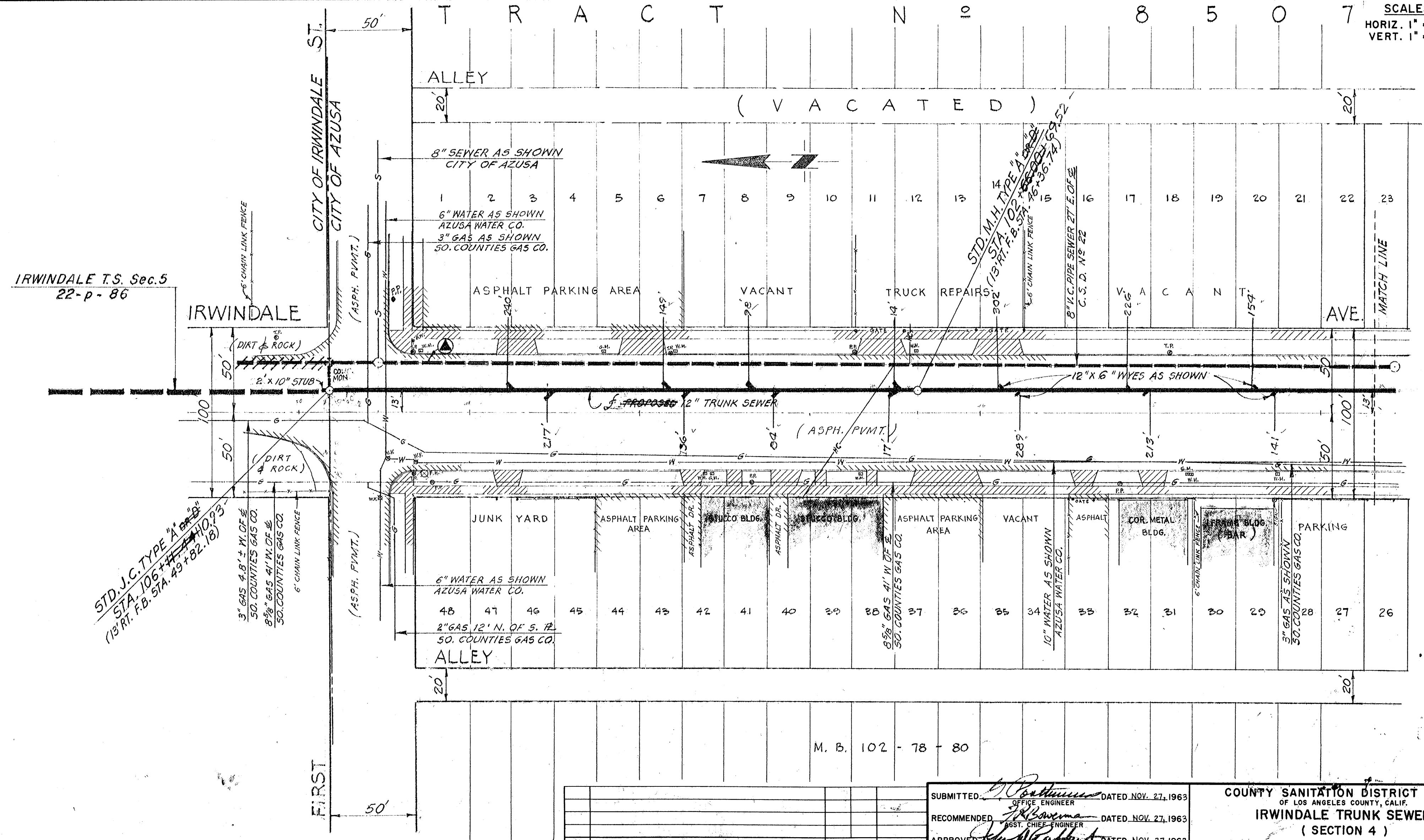


SECTION A-A
SUPPORT WALL DETAIL
NO SCALE

NOTES:

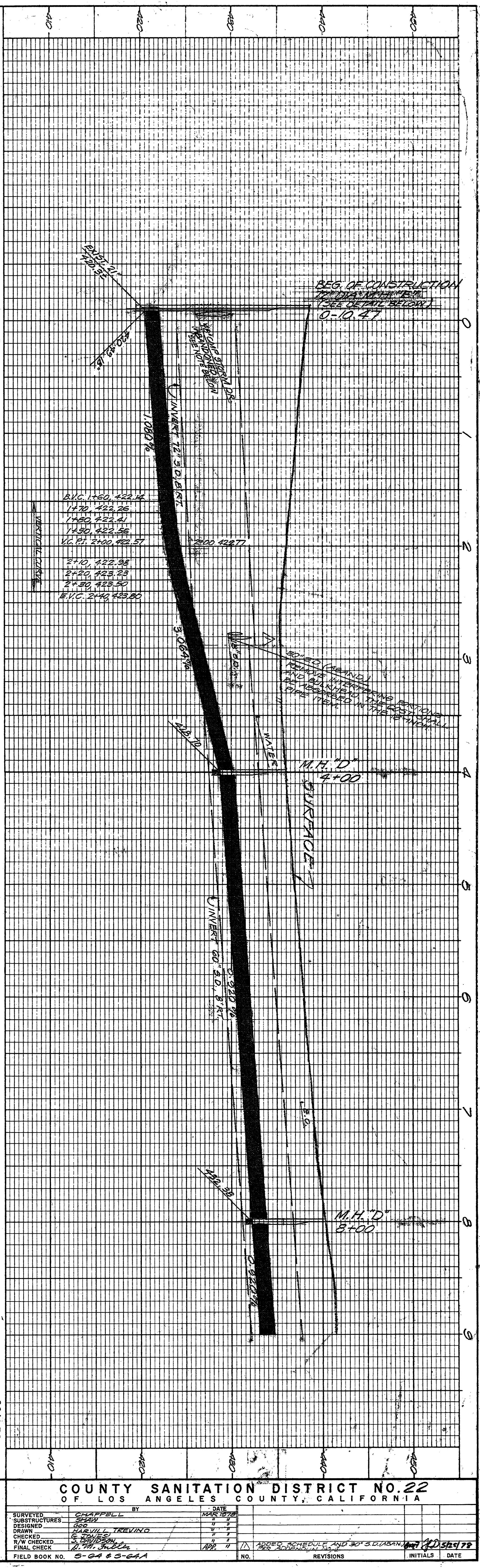
1. CONCRETE SUPPORT SHALL BE POURED IN UNDISTURBED SOIL ON THE BOTTOM & SHALL EXTEND THE FULL WIDTH OF EXCAVATION.
2. CONCRETE SHALL BE CLASS "B"
3. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER OF HIS PROPOSED METHOD OF SUPPORTING THE EXISTING LINES DURING CONSTRUCTION.
4. CONTRACTOR SHALL INSTALL CONCRETE PIPE SUPPORT UNDER ALL EXISTING CONCRETE AND CLAY PIPE LINES WHICH ARE NOT TUNNELED AND UNDER OTHER PIPE LINES WHERE REQUESTED BY OWNER.
5. CONCRETE PIPE SUPPORT TO BE PAID UNDER APPLICABLE PIPE ITEM.

CONCRETE PIPE SUPPORT DETAILS



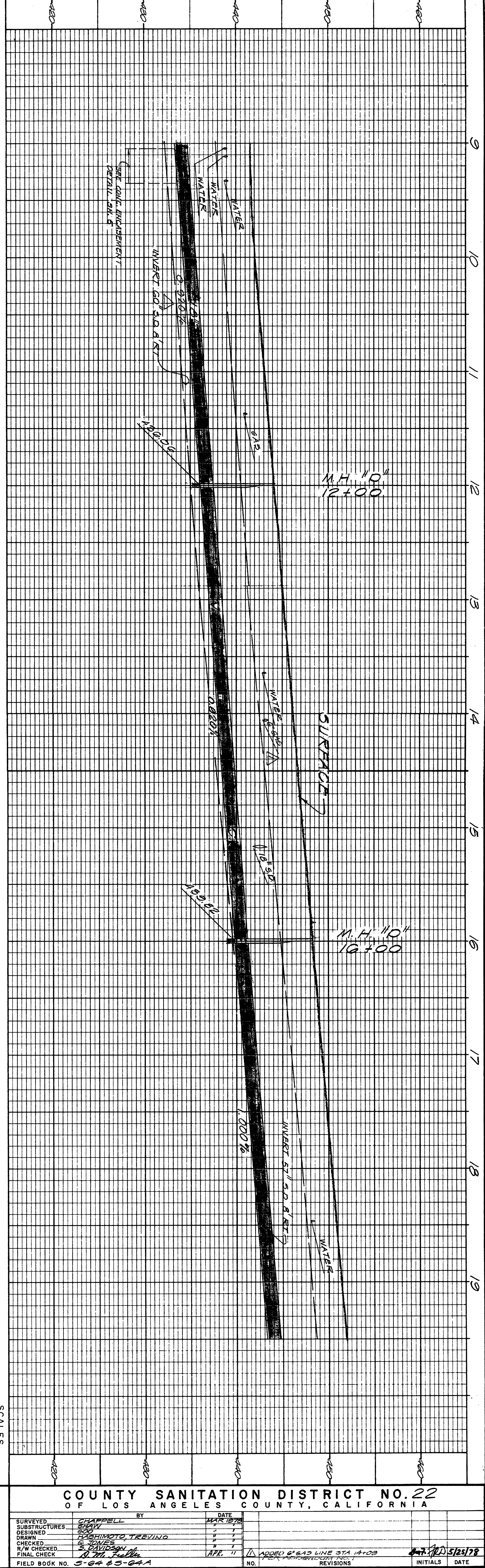
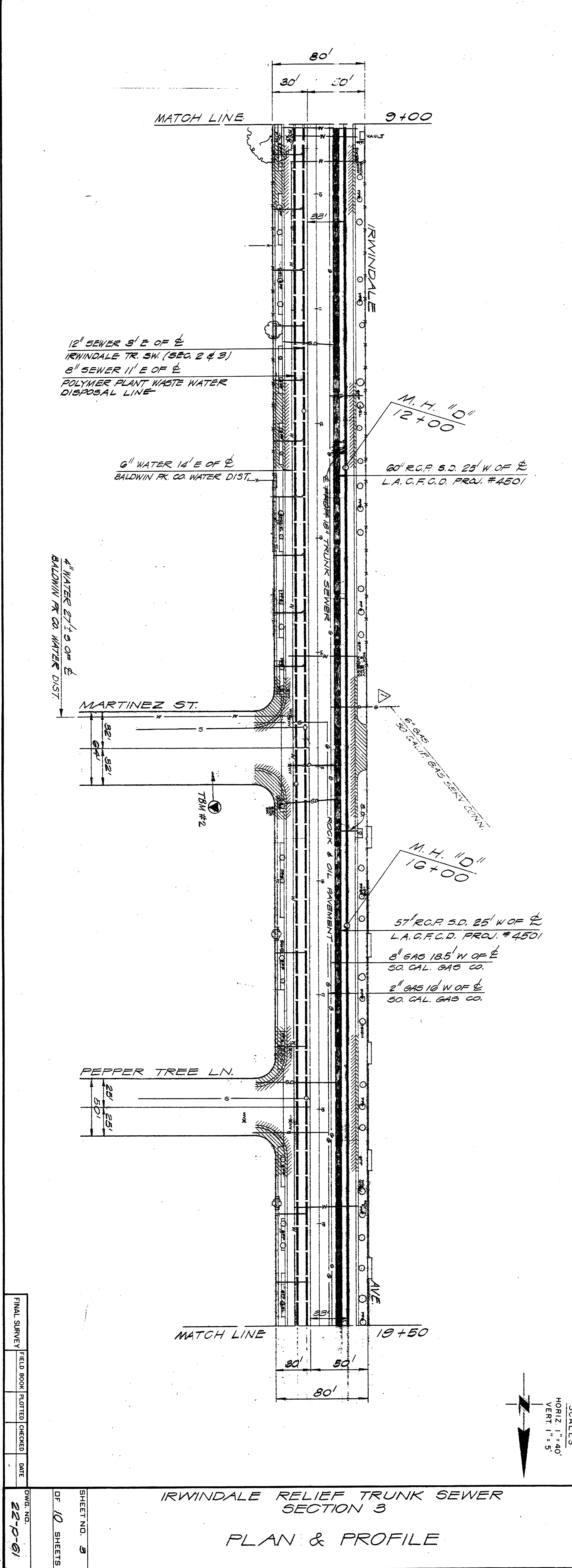
SUBMITTED <i>[Signature]</i> DATED NOV. 27, 1963				COUNTY SANITATION DISTRICT NO. 22			
RECOMMENDED <i>[Signature]</i> DATED NOV. 27, 1963				OF LOS ANGELES COUNTY, CALIF.			
APPROVED <i>[Signature]</i> DATED NOV. 27, 1963				IRWINDALE TRUNK SEWER			
				(SECTION 4)			
DWG. NO. 22-P-38				SHEET NO. 6 OF 7 SHEETS			

DATE	12-1-64
CHECKED	A.B.J.
FIELD BOOK	106-4
FINAL SURVEY	
DATE	12-1-64
CHECKED	A.B.J.
FIELD BOOK	106-4
FINAL SURVEY	



COUNTY SANITATION DISTRICT NO. 22									
OF LOS ANGELES COUNTY, CALIFORNIA									
		BY	DATE						
SURVEYED	CHAPPELL		MAR 1978						
SUBSTRUCTURES	SLAB								
DESIGNED	020		" "						
DRAWN	MARVILL TREVINO		" "						
CHECKED	G. DANIELSON		" "						
R/W CHECKED			" "						
FINAL CHECK	D. M. SHOLZ		APR " 1	△	APPRO. SCHEDULE AND 30" S.D. (BAN. PER 20 INCHES)				20 52479
FIELD BOOK NO.	5-6A & 5-6A1			NO.	REVISIONS				INITIALS DATE

DISCLAIMER: THE COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY (DISTRICTS) PROVIDE THIS INFORMATION "AS IS" FOR GENERAL REFERENCE ONLY. THE DISTRICTS DO NOT GUARANTEE OR WARRANT THE ACCURACY OF ANY INFORMATION SHOWN OR THE DRAWINGS AVAILABLE FOR DOWNLOAD. THE DISTRICTS DISCLAIM ANY EXPRESS OR IMPLIED WARRANTY. THIS INFORMATION SHOULD NOT BE RELIED UPON FOR CONSTRUCTION. THE INFORMATION MAY REFLECT ONLY AS PLANNED LOCATIONS AND DOES NOT NECESSARILY ACCURATELY REFLECT EXISTING LOCATIONS OF AS-BUILT FACILITIES OR SUBSEQUENTLY BUILT FACILITIES. APPROPRIATE FIELD VERIFICATION IS REQUIRED IN ORDER TO DETERMINE THE EXACT LOCATION OF DISTRICTS' FACILITIES. FACILITIES WITHIN DISTRICTS' PROPERTY ARE NOT SHOWN. ANY PERSON PERFORMING EXCAVATION MUST COMPLY WITH CALIFORNIA GOVERNMENT CODE SECTION 4216. NOTE THAT "SUBSURFACE INSTALLATIONS" AS DEFINED BY CALIFORNIA GOVERNMENT CODE SECTION 4216 EXCLUDES NON-PRESSURIZED STORM DRAINS, AND OTHER NON-PRESSURIZED DRAIN LINES. ANY PERSON PLANNING TO CONSTRUCT IMPROVEMENTS OVER OR BELOW DISTRICTS' FACILITIES WITHIN PRIVATE RIGHT-OF-WAY SHALL OBTAIN A BUILD-OUT AGREEMENT PRIOR TO CONSTRUCTION.



FINAL SURVEY	FIELD BOOK	PLOTTED	CHECKED	DATE

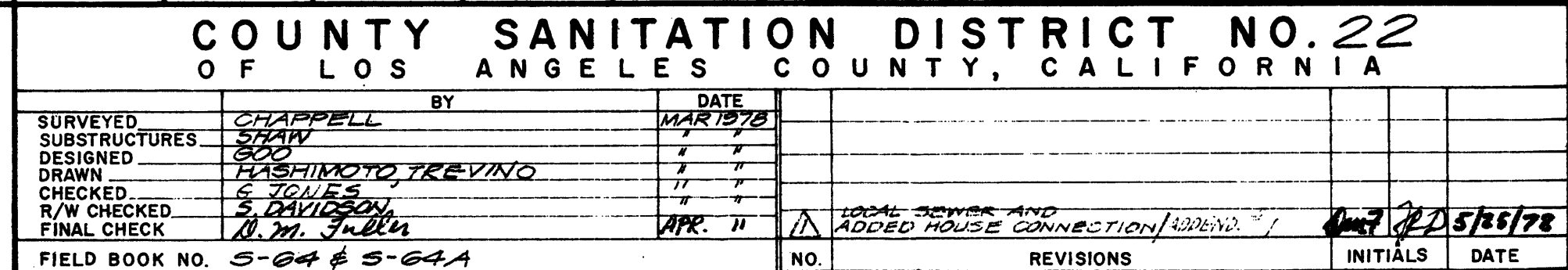
SHEET NO.	OF 10 SHEETS
5	

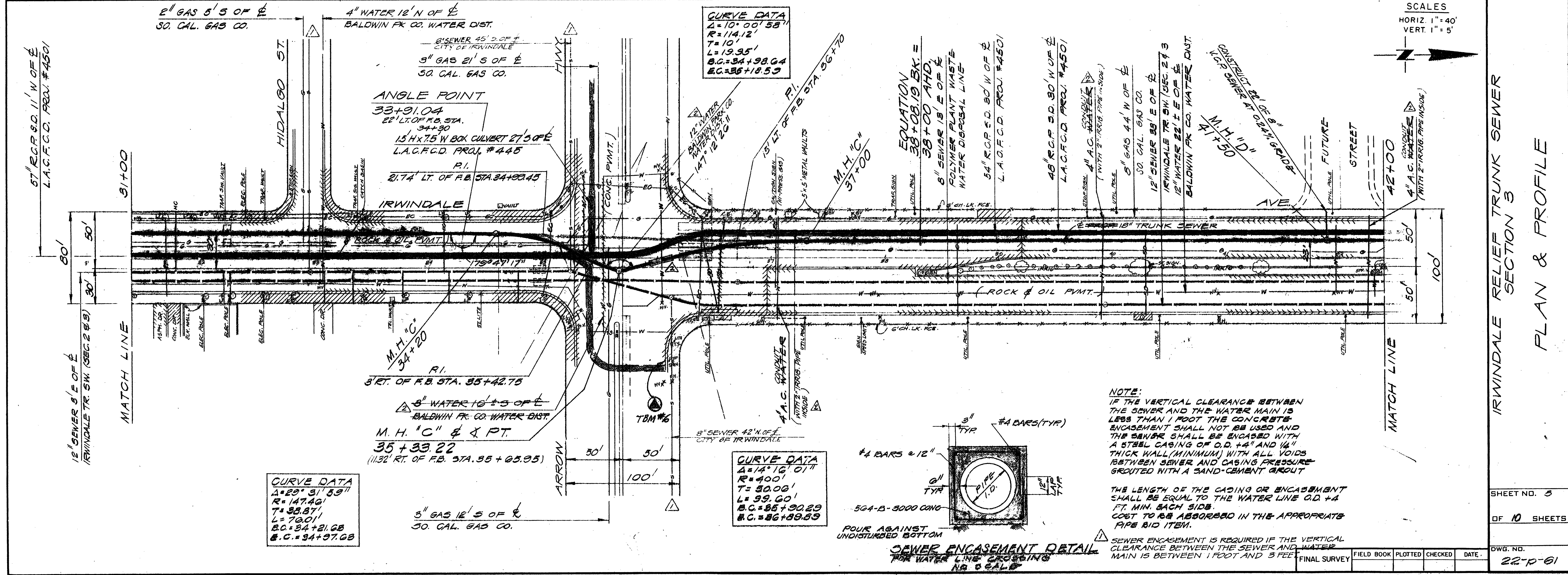
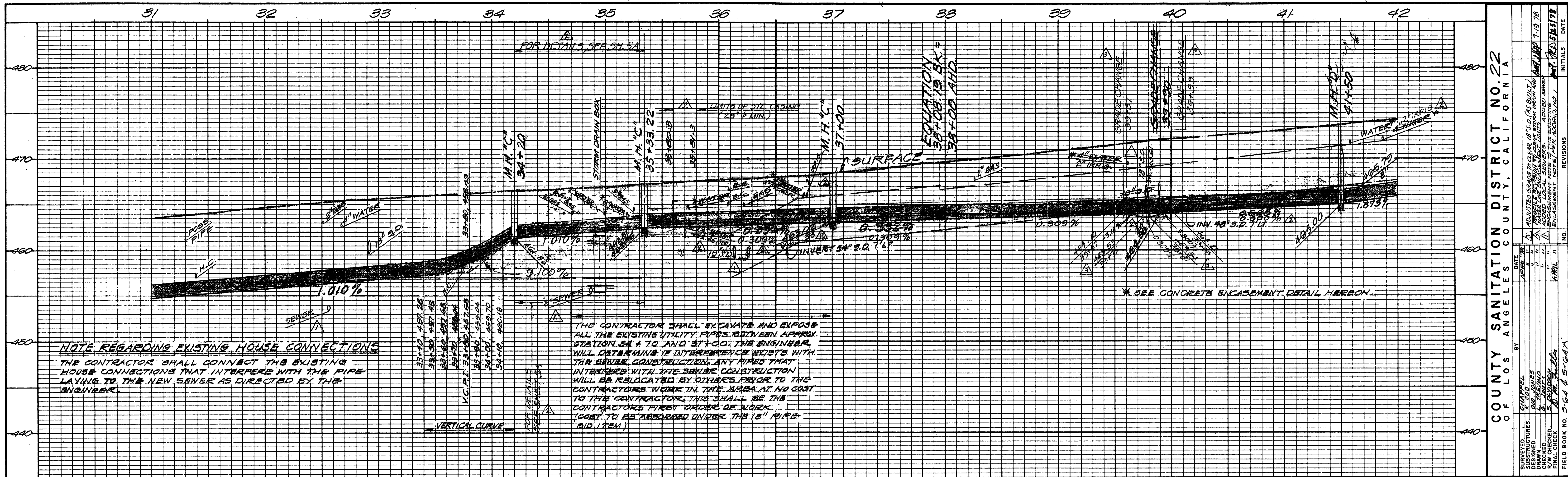
IRWINDALE RELIEF TRUNK SEWER
SECTION 3

PLAN & PROFILE

DWG. NO. 22-P-61

COUNTY SANITATION DISTRICT NO. 22 OF LOS ANGELES COUNTY, CALIFORNIA	
SURVEYED	CHAPPELL
SUBSTRUCTURES	STAY
DESIGNED	SHIMOTO, TREVINO
DRAWN	G. JONES
CHECKED	S. JONES
R/W CHECKED	S. JONES
FINAL CHECK	A. M. Butler
FIELD BOOK NO.	5-64 & 5-64A
DATE	MAY 1978
NO.	17
ADDED 6" GAS LINE STA 14+00	
REVISIONS	
INITIALS	DATE



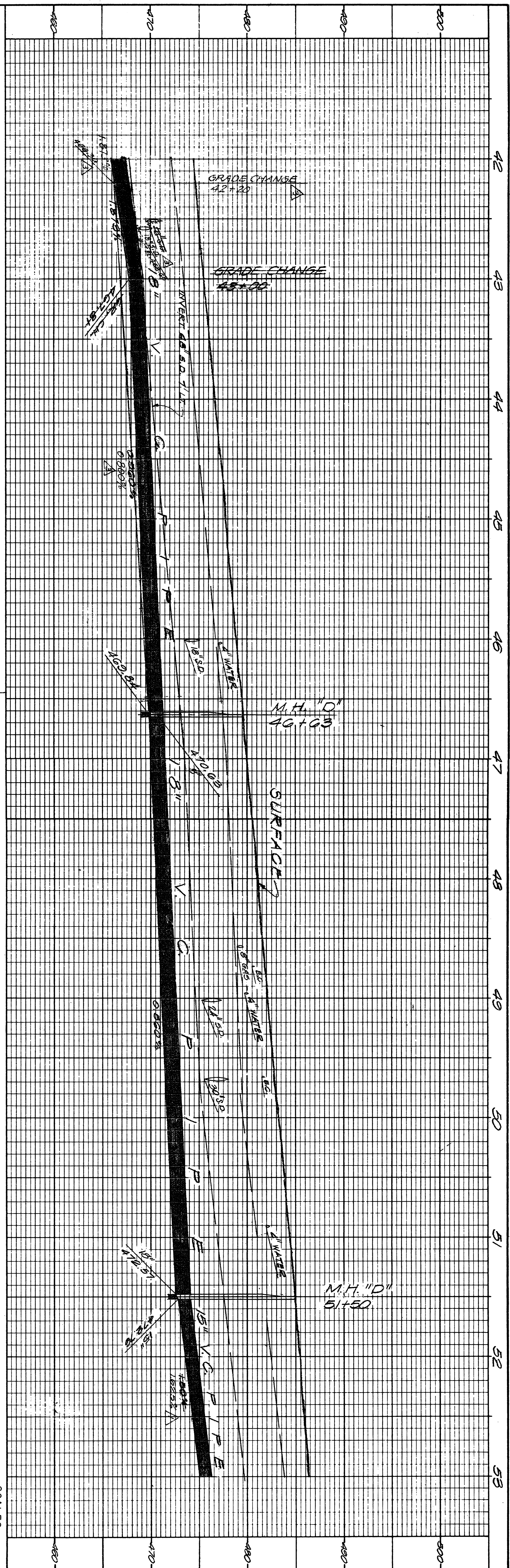
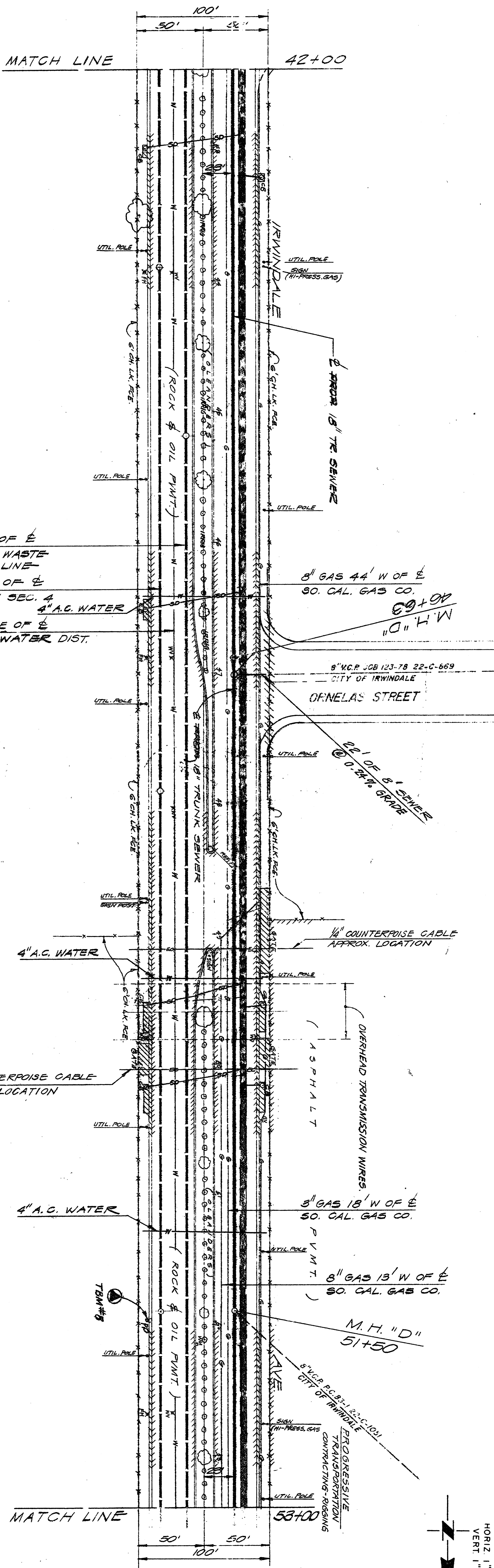


COUNTY SANITATION DISTRICT NO. 22	
OF LOS ANGELES COUNTY, CALIFORNIA	
SURVEYED	DATE
SUBSTRUCTURES	BY
DESIGNED	DATE
CHECKED	DATE
FINAL CHECK	DATE
FIELD BOOK NO. 5-64-5-5-64-A	NO.
REVISIONS	INITIALS
DATE	DATE

IRWINDALE RELIEF TRUNK SEWER	
SECTION 3	
PLAN & PROFILE	
SHEET NO. 3	
OF 10 SHEETS	
DWG. NO. 22-P-61	
DATE	DATE
DATE	DATE
DATE	DATE
DATE	DATE

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ONLY AS PLANNED LOCATIONS AND DOES NOT NECESSARILY ACCURATELY REFLECT THE LOCATIONS OF AS BUILT FACILITIES OR SUBSEQUENTLY BUILT FACILITIES. APPROPRIATE FIELD VERIFICATION IS REQUIRED IN ORDER TO DETERMINE THE EXACT LOCATION OF DISTRICTS' FACILITIES. FACILITIES WITHIN DISTRICTS' PROPERTY ARE NOT SHOWN. ANY PERSON PERFORMING EXCAVATION MUST COMPLY WITH CALIFORNIA GOVERNMENT CODE SECTION 4216. NOTE THAT "SUBSURFACE INSTALLATIONS" AS DEFINED BY CALIFORNIA GOVERNMENT CODE SECTION 4216 EXCLUDES NON-PRESSURIZED SEWERS, NON-PRESSURIZED STORM DRAINS, AND OTHER NON-PRESSURIZED DRAIN LINES. ANY PERSON PLANNING TO CONSTRUCT IMPROVEMENTS OVER OR BELOW DISTRICTS' FACILITIES WITHIN PRIVATE RIGHT-OF-WAY SHALL OBTAIN A BUILDING AGREEMENT PRIOR TO CONSTRUCTION.



IRWINDALE RELIEF TRUNK SEWER
SECTION 3

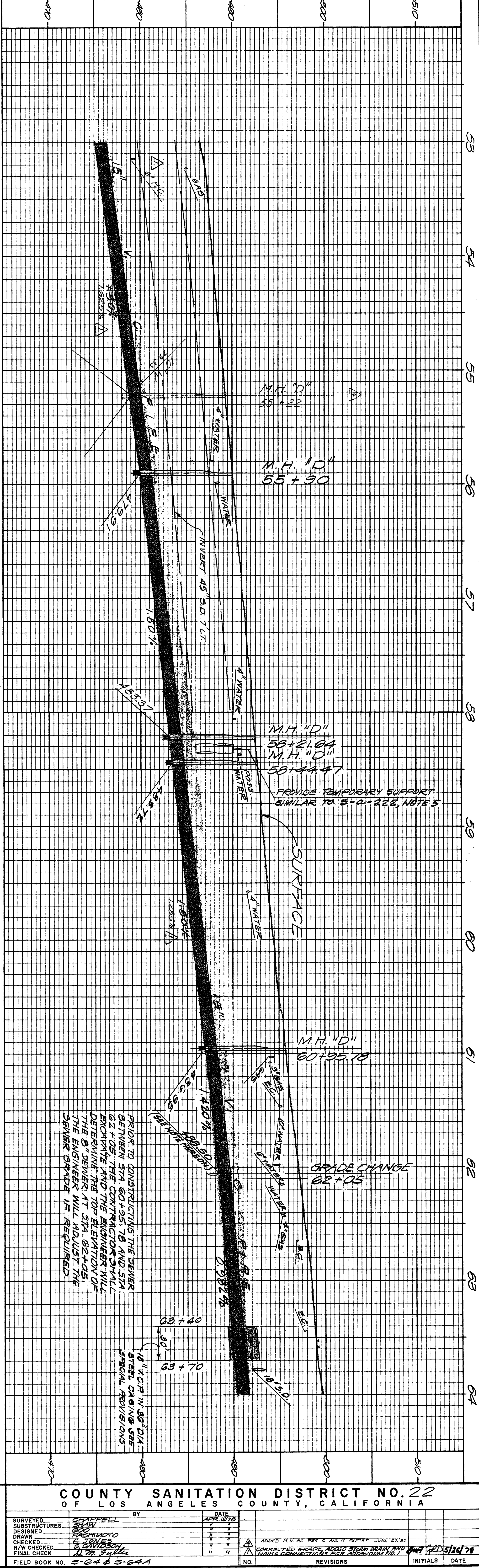
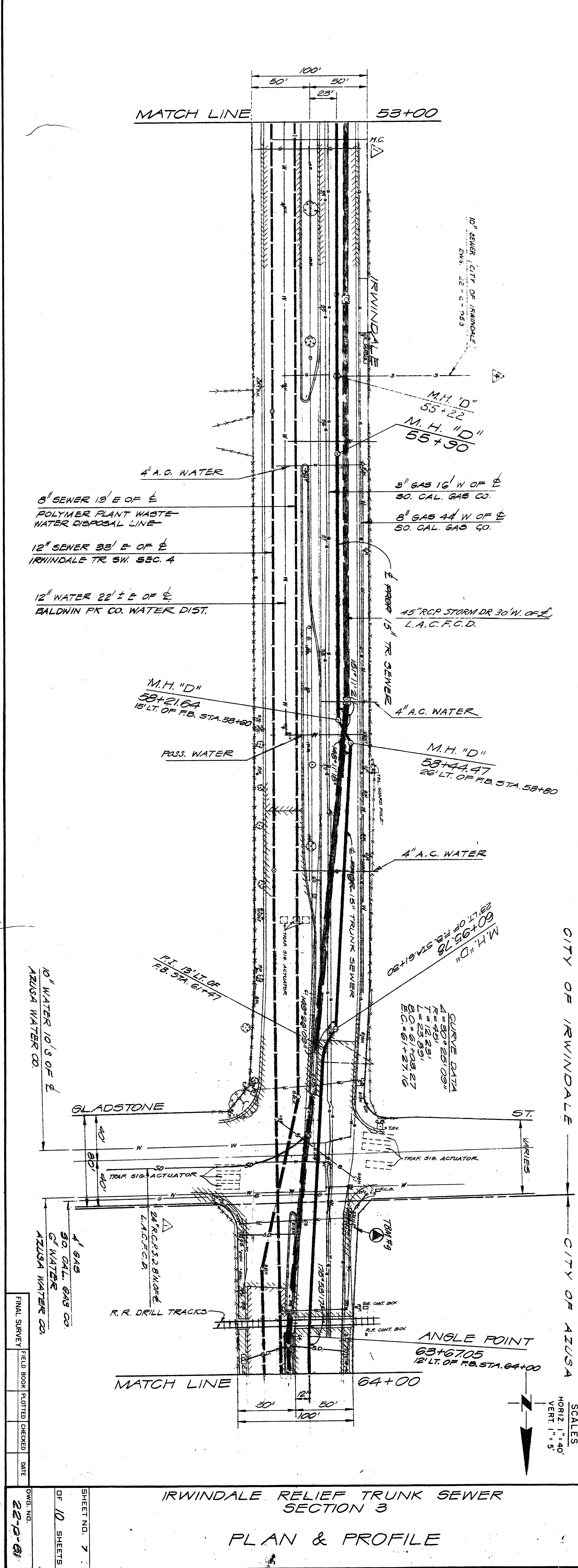
PLAN & PROFILE

COUNTY SANITATION DISTRICT NO. 22
OF LOS ANGELES COUNTY, CALIFORNIA

SURVEYED	CHAPPELL	DATE	APR. 27/8
SUBSTRUCTURES	5241V		
DESIGNED	WASHINGTON, TREVINO		
DRAWN	G. TONER		
CHECKED	G. TONER		
R/W CHECKED	G. TONER		
FINAL CHECK	M. M. F. L.	APR. 27	
FIELD BOOK NO.	5-64 & 5-64A		
NO.			
REVISIONS			
INITIALS			
DATE			

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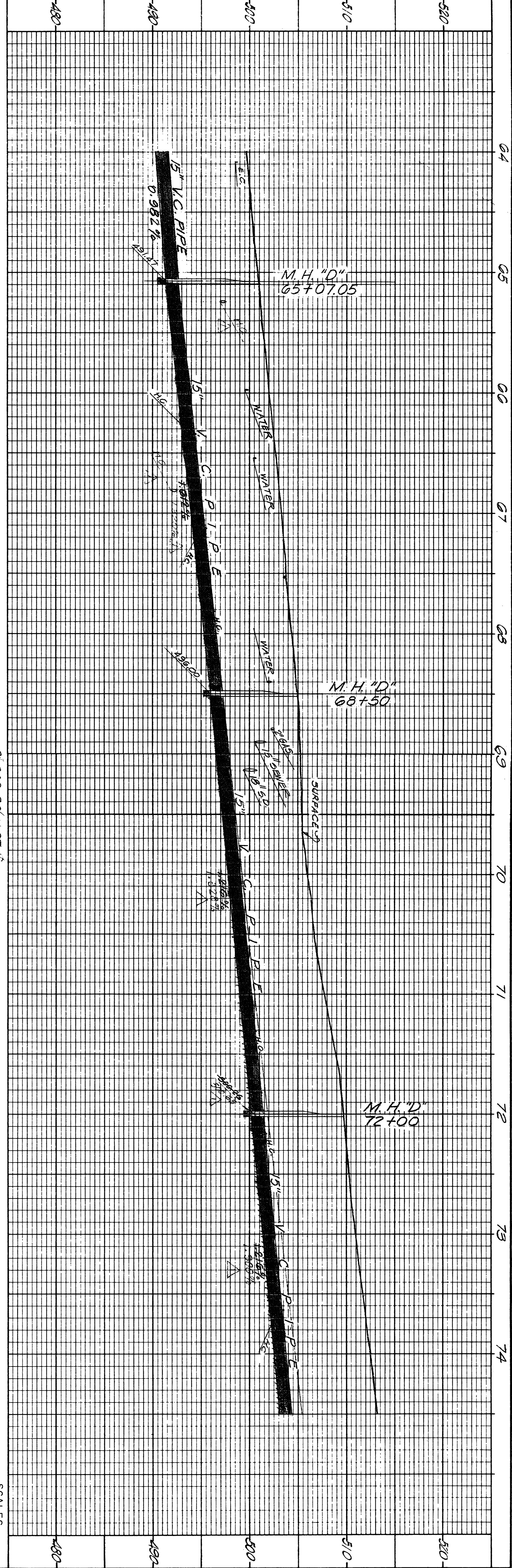
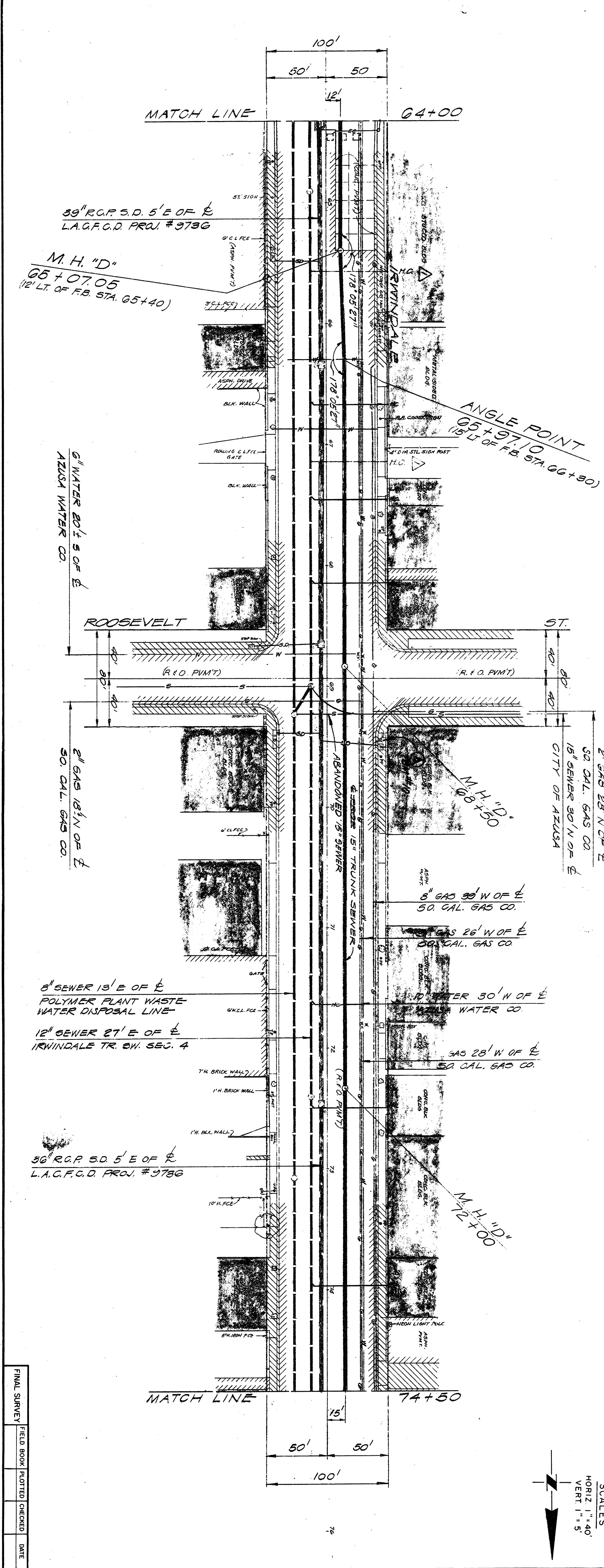
NOTE: "SUBSURFACE INSTALLATIONS" AS DEFINED BY CALIFORNIA GOVERNMENT CODE SECTION 426 EXCLUDES NON-PRESSURIZED STORM DRAINS, AND OTHER NON-PRESSURIZED DRAIN LINES. ANY PERSON PLANNING TO CONSTRUCT IMPROVEMENTS OVER OR BELOW DISTRICTS' FACILITIES WITHIN PRIVATE RIGHT-OF-WAY SHALL OBTAIN A BUILDING AGREEMENT PRIOR TO CONSTRUCTION.



SHEET NO. 7		OF 10 SHEETS	
DWG. NO. 22-10-01		DATE 5/24/78	
IRWINDALE RELIEF TRUNK SEWER SECTION 3		COUNTY SANITATION DISTRICT NO. 22 OF LOS ANGELES COUNTY, CALIFORNIA	
PLAN & PROFILE		BY CHAPPELL DATE APR 1978	
SURVEYED CHAPPELL		DESIGNED CHAPPELL	
DRAWN CHAPPELL		CHECKED CHAPPELL	
FINAL CHECK CHAPPELL		FIELD BOOK NO. 5-04 & 5-04A	
NO.		REVISIONS	
INITIALS		DATE	

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IRWINDALE RELIEF TRUNK SEWER
SECTION 3

PLAN & PROFILE

COUNTY SANITATION DISTRICT NO. 22
OF LOS ANGELES COUNTY, CALIFORNIA

SURVEYED	CHAPPELL	DATE	APR 28 1978
SUBSTRUCTURES	SHAW		
DESIGNED	YAMAMOTO		
DRAWN	YAMAMOTO		
CHECKED	YAMAMOTO		
R/W CHECKED	YAMAMOTO		
FINAL CHECK	YAMAMOTO		

FIELD BOOK NO. 5-64 & 5-64A

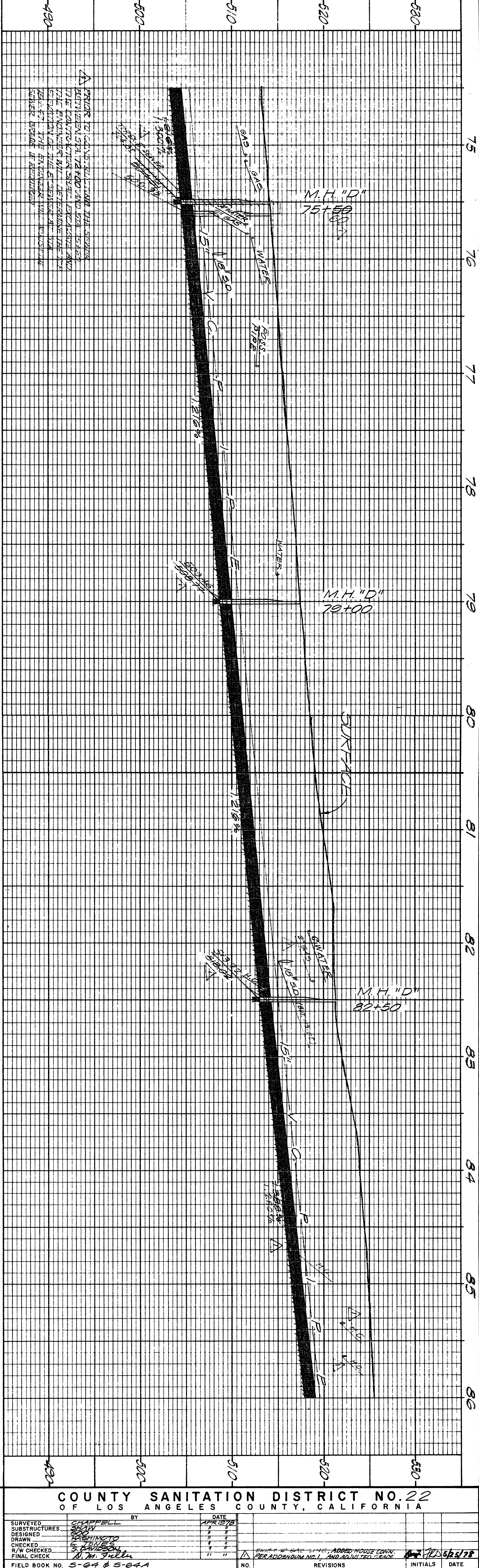
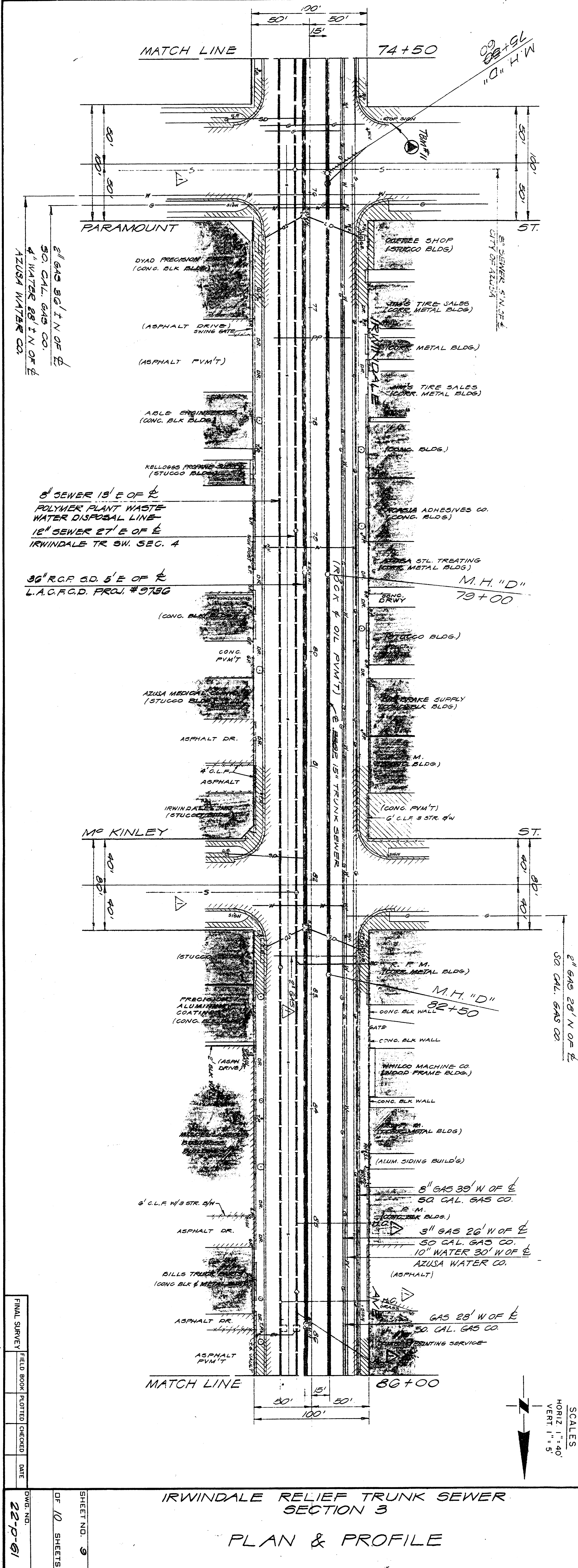
NO. _____

REVISIONS

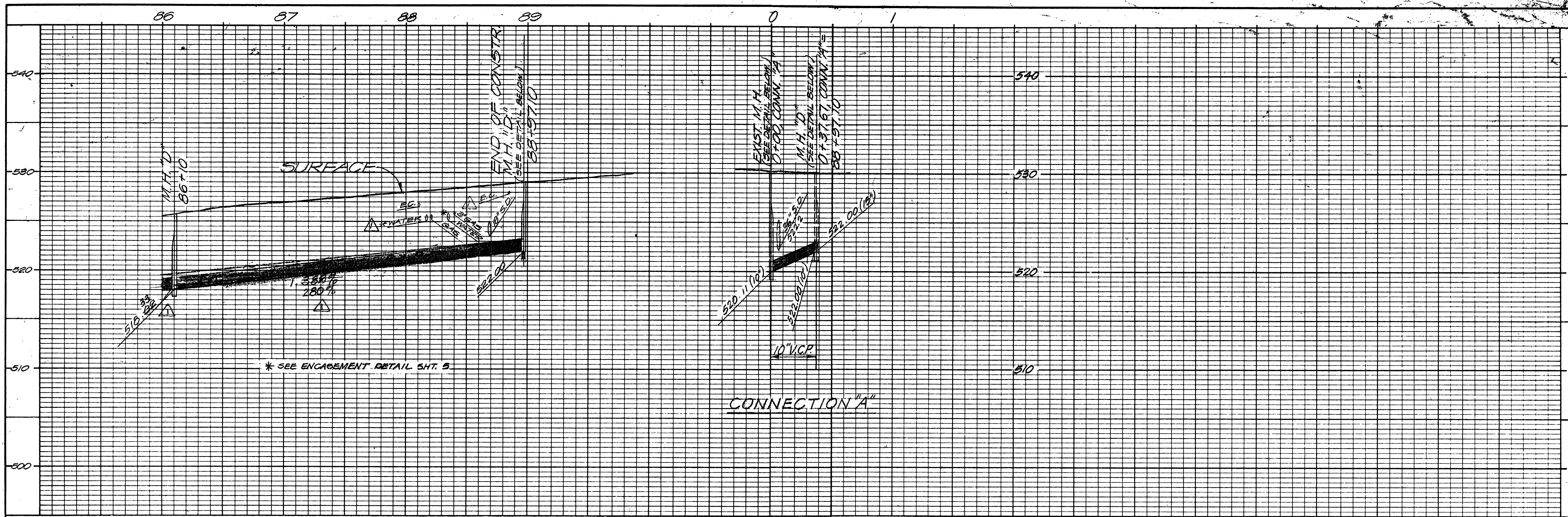
INITIALS

DATE

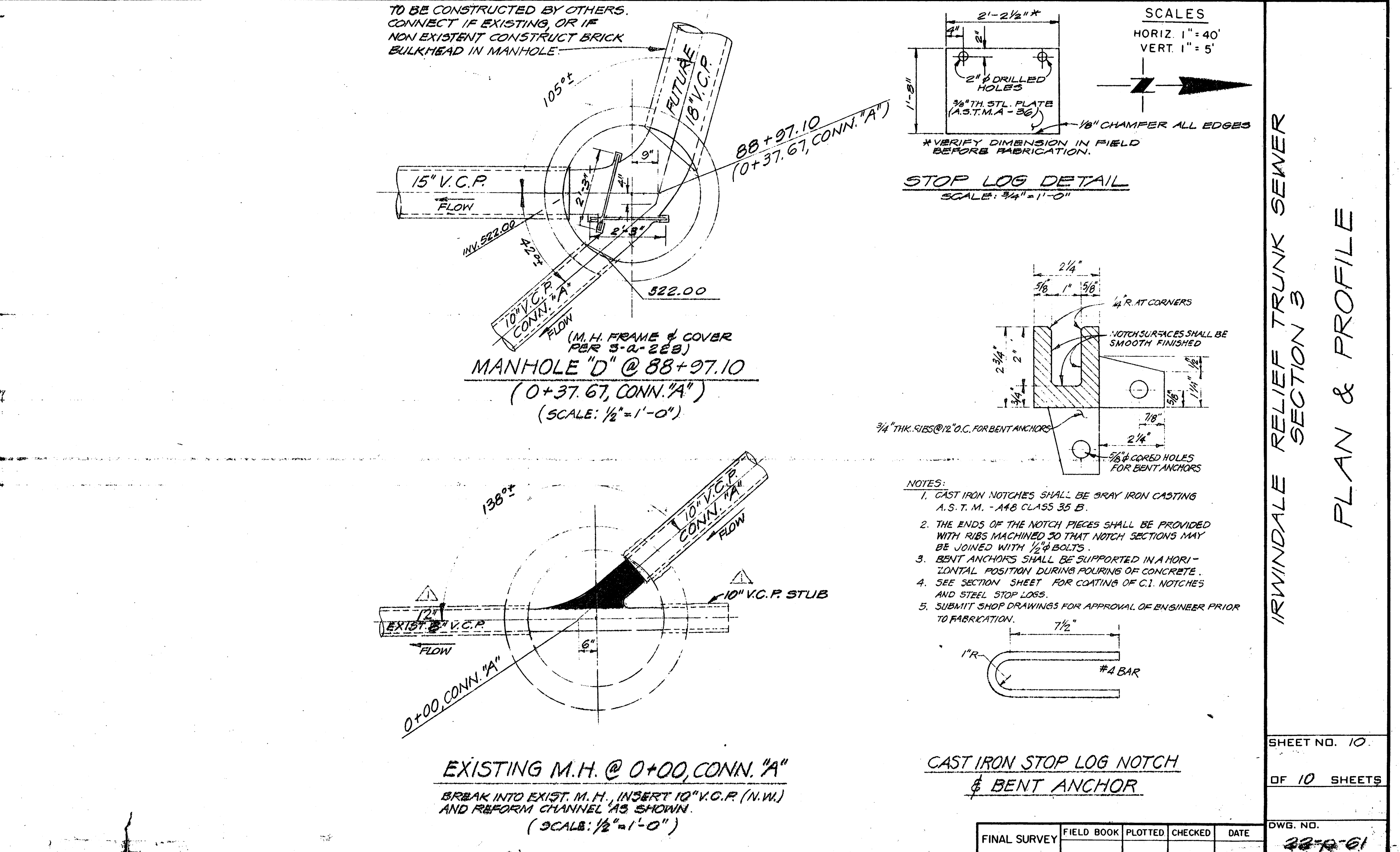
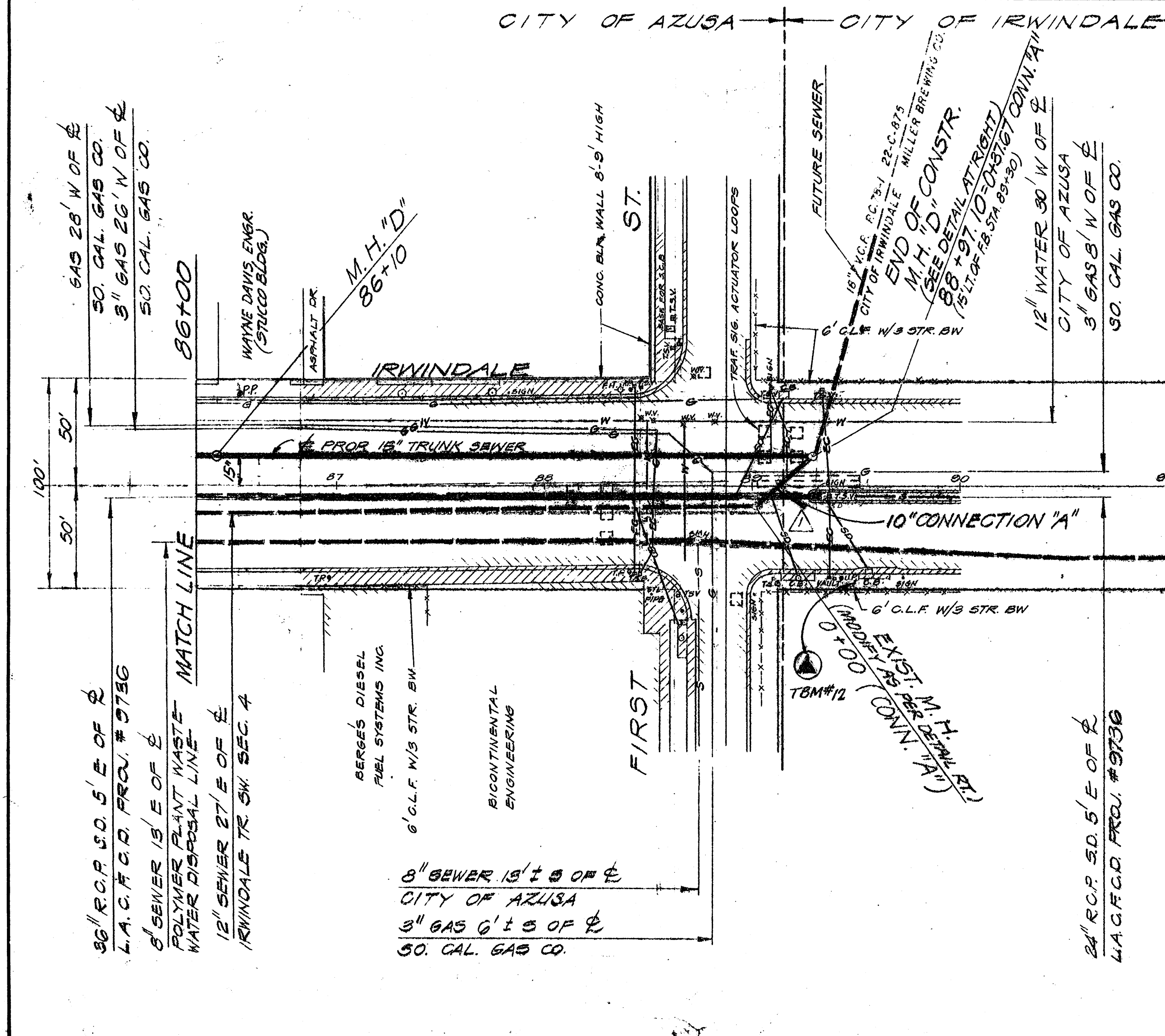
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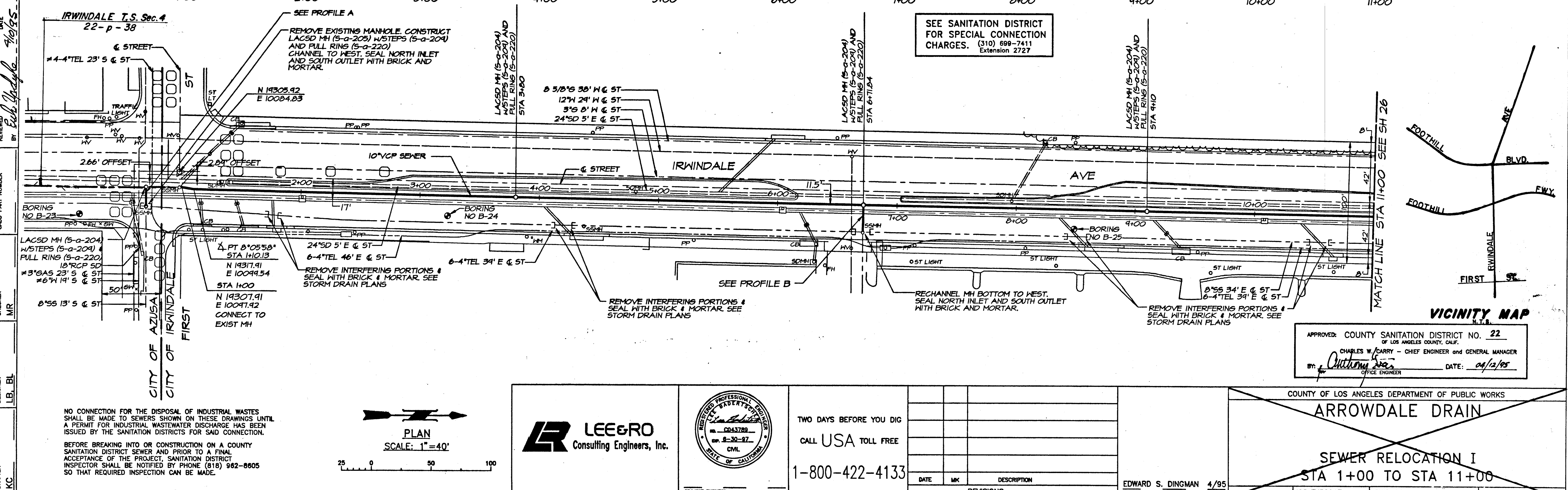
IRWINDALE RELIEF TRUNK SEWER SECTION 3				COUNTY SANITATION DISTRICT NO. 22 OF LOS ANGELES COUNTY, CALIFORNIA			
PLAN & PROFILE				BY: CHAPPELL, DATE: APR 1978			
SHEET NO. 9				DESIGNED: CHAPPELL			
OF 10 SHEETS				DRAWN: CHAPPELL			
DWG. NO. 22-P-61				CHECKED: CHAPPELL			
FINAL SURVEY				FIELD BOOK NO. 5-64 & 5-64A			
NO. 1				NO. 1			
REVISIONS				REVISIONS			
INITIALS				DATE			



COUNTY SANITATION DISTRICT NO. 22	
OF LOS ANGELES COUNTY, CALIFORNIA	
SURVEYED	DATE
SUBSTRUCTURES	BY
CHECKED	DATE
DRAWN	DATE
DESIGNED	DATE
FINAL CHECK	DATE
FIELD BOOK NO. 5-64 & 5-64.1	NO.
INITIALS	DATE



KC	LB, BL	MR	SIGNATURE	SHOW PART NUMBER	ACTIVATED DATE
					BY <u>Eub Yndula</u> 4/10/95



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

ARROWDALE DRAIN

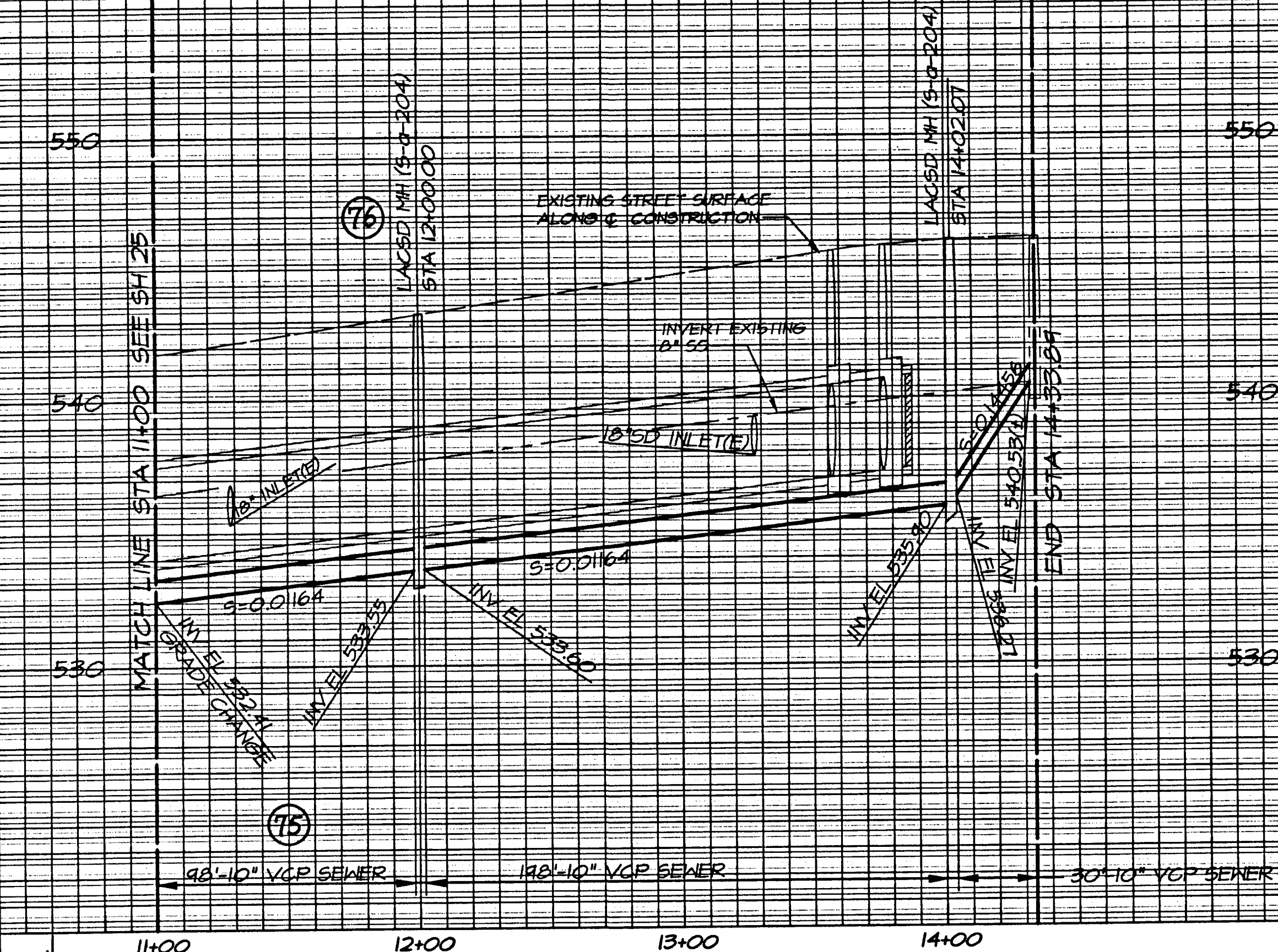
SEWER RELOCATION I

STA 1+00 TO STA 11+00

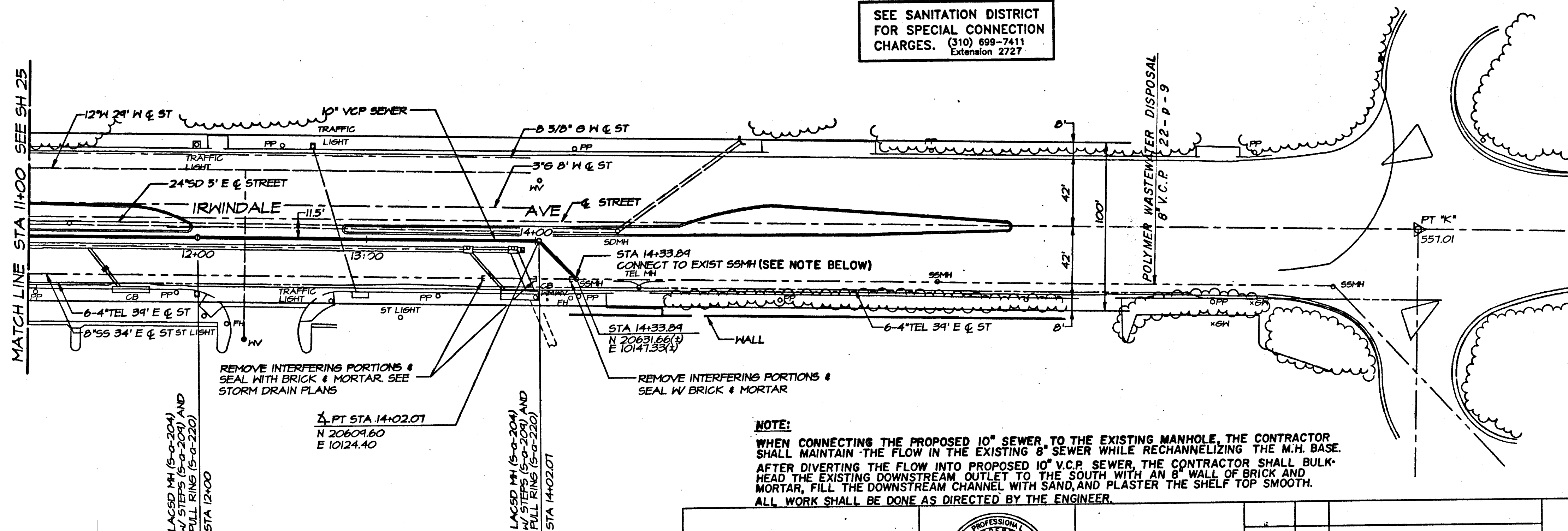
SHEET 1 OF 2 "AS BUILT DRAWINGS" 260F25
4/4/95

260F25
4\4\95

SCALE: HOR. 1"=40'
VERT. 1"=4'



SEE SANITATION DISTRICT
FOR SPECIAL CONNECTION
CHARGES. (310) 699-7411
Extension 2727



NOTE:
WHEN CONNECTING THE PROPOSED 10" SEWER TO THE EXISTING MANHOLE, THE CONTRACTOR SHALL MAINTAIN THE FLOW IN THE EXISTING 8" SEWER WHILE RECHANNELIZING THE M.H. BASE. AFTER DIVERTING THE FLOW INTO PROPOSED 10" V.C.P. SEWER, THE CONTRACTOR SHALL BULK-HEAD THE EXISTING DOWNSTREAM OUTLET TO THE SOUTH WITH AN 8" WALL OF BRICK AND MORTAR, FILL THE DOWNSTREAM CHANNEL WITH SAND, AND PLASTER THE SHELF TOP SMOOTH. ALL WORK SHALL BE DONE AS DIRECTED BY THE ENGINEER.

CONSTRUCTION NOTES:

1. ALL SEWER CONSTRUCTION WORK ON THIS PROJECT SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1994 EDITION, AND AMENDMENTS TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1994 EDITION AND STANDARD DRAWINGS FOR CONSTRUCTION, AS ADOPTED BY COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY DATED DECEMBER 1994.
2. THE CONTRACTOR SHALL NOTIFY MR. GARY WALKER OF THE COUNTY SANITATION DISTRICTS AT (213) 714-1270 AT LEAST 48 HOURS PRIOR TO THE START OF THE CONSTRUCTION. ALL SEWER WORK ON THIS PROJECT SHALL BE DONE IN THE PRESENCE OF A COUNTY SANITATION DISTRICTS REPRESENTATIVE.
3. ALL SEWER PIPE MATERIALS SHALL BE INSPECTED AND APPROVED BY THE COUNTY SANITATION DISTRICTS REPRESENTATIVE(S) AT THE PIPE MANUFACTURER'S PLANT PRIOR TO DELIVERY TO THE JOB SITE.
4. THE SEWER SHALL NOT BELONG TO THE COUNTY SANITATION DISTRICTS UNTIL ACCEPTANCE BY THE DISTRICTS' BOARD OF DIRECTORS.
5. THE DISTRICTS CONSTRUCTION INSPECTION SHALL ONLY PERTAIN TO SUBBEDDING, BEDDING, PIPE LAYING, PIPE TESTING, AND MANHOLE CONSTRUCTION. IN THESE MATTERS THE DISTRICTS' CONSTRUCTION INSPECTOR SHALL HAVE JURISDICTION. ALL OTHER ACTIVITIES SUCH AS TRENCHING, CONSOLIDATION OF BACKFILL, PAVING AND STREET WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CITY AND/OR COUNTY REQUIREMENTS.

DATE: 4/10/95
REVIEWED BY: [Signature]
CADD PART NUMBER: [Blank]
CHECKER: MR. [Blank]
DESIGNER: LB, BL
DRAFTER: KC

PLAN
SCALE: 1"=40'

LEE & RO
Consulting Engineers, Inc.



TWO DAYS BEFORE YOU DIG
CALL USA TOLL FREE
1-800-422-4133

DATE	WK	DESCRIPTION

EDWARD S. DINGMAN 4/95
PROJECT ENGINEER

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

ARROWDALE DRAIN

SEWER RELOCATION II
STA 11+00 TO STA 14+33.89

JOB FX50917 DWG 800-D1.DWG SHEET 26 OF 36
260F17 4/4/95

IRWINDALE TRUNK SEWER Sec.5 22-p-86

SHEET 2 OF 2 "AS BUILT DRAWINGS"