1605 South 7th Street Project

Initial Study (IS)

File No. H24-031, ER24-153

Prepared by

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

November 2025

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1.0 INTRODUCTION & PURPOSE

1.1 Context for Planning and Environmental Review

This Initial Study has been prepared by the City of San José (City) as the Lead Agency, in conformance with the California Environmental Quality Act (CEQA), the CEQA Guidelines (Title 14, California Code of Regulations §15000 et seq.), and the regulations and policies of the City of San José. The purpose of this Initial Study is to provide information regarding the environmental consequences of the 1605 South 7th Street Project (Project) to the decision makers who will be reviewing and considering the Project.

2.0 PROJECT INFORMATION

2.1 Project Title and File Number

1605 South 7th Street Project

File Nos. H24-031, ER24-153

2.2 Project Location

The 17.63-gross acre Project site is located at 1605 South 7th Street in the City of San José. The Project site is on the southwestern corner of South 7th Street and East Alma Avenue.

2.3 Lead Agency Contact

City of San José
200 East Santa Clara Street, 3rd Floor
San José, California 95113
Environmental Project Manager: Bethelhem Telahun
Phone: (408) 535-5624

Email: Bethelhem.Telahun@sanjoseca.gov

2.3 Property Owner/Project Applicant Representative

Ron Frierson
Amazon
410 Terry Avenue N
Seattle, WA 98109

2.4 Assessor's Parcel Number

477-08-037

2.5 General Plan and Zoning Designations

General Plan: Heavy Industrial (HI)
Zoning: Heavy Industrial (HI)

2.6 Habitat Plan Designation

Land Cover Designation:	*Urban Areas*
Development Zone:	*Urban Development equal to or greater than two acres covered*
Fee Zone:	*Urban Area*
Owl Conservation Zone:	*N/A*

2.7 Project-Related Approvals, Agreements and Permits

- Site Development Permit
- Demolition Permit
- Grading Permit
- Building Permit
- Tree Removal Permit
- Other Public Works Clearances (e.g. Public Street Improvement Permit)

3.0 PROJECT DESCRIPTION

3.1 Existing Project Site

The Project site is located at 1605 South 7th Street (Assessor Parcel Number: 477-08-037) in the City of San José within Santa Clara County, California. The 17.63-acre Project site is located on the southern corner of the intersection of East Alma Avenue and South 7th Street. The Project site is bounded by East Alma Avenue to the north, South 7th Street to the east, Valley Services to the south, and the Sun Garden Shopping Center to the west.

The Project site is developed with six existing buildings. Specifically, the Project site is currently developed with a main multi-unit warehouse building and five smaller buildings, as described below:

- One (1) two-story, 279,030-square foot main industrial building,
- One (1) approximately 8,040-square-foot two-story building,
- One (1) approximately 8,040-square-foot one-story building,
- One (1) approximately 2,340-square-foot one-story building,
- One (1) approximately 4,000-square-foot one-story building,
- One (1) approximately 3,220-square-foot one-story building.

The existing main multi-unit warehouse building is located on the western half of the parcel, with the additional five buildings located on the southern and eastern portions of the Project site. Loading docks are located along the southern part of the main industrial building. Surface parking is available on the northern half of the Project site and truck parking is available in the northeast of the Project site. The Project site has existing landscaping along the northern and eastern site boundaries and there are 36 trees located throughout the Project site of various size and species. The majority of the site is paved and/or improved with industrial buildings. Access to the Project site is currently provided via five driveways, two driveways from East Alma Avenue and three driveways from South 7th Street. The Project site also has existing perimeter fencing, lighting, and other improvements typical of industrial and manufacturing use in an urban setting. The Project site is designated HI – Heavy Industrial in the City's General Plan, which allows for warehousing and distribution uses, and zoned as HI – Heavy Industrial, which allows for a warehouse/distribution facility.

Under existing conditions, all existing structures are vacant and unoccupied. All uses ceased operation by 2021. The Project site was formerly occupied by several tenants, including Piedmont Moving Systems (moving, storage, and transport services), Excess Solutions (electronics retailer), Miller Recycling (recycling storage services), Excess Solutions (electronics shop), Amberwood Products (cabinetry manufacturer, storage, and offices), and Speedyskunk Performance & Restoration (automobile repair shop), iCelebrate Event Rentals (party rentals), Fence 4 Rent (fence rentals), DiMattia Construction (fencing and storage yard), James Moore studios (art studio), and Alano Club West (office).

This Draft EIR utilizes the existing conditions at the time of NOP publishing to establish the baseline conditions, consistent with CEQA Guidelines Section 15125(a)(1). This baseline is conservative because the existing structures could be re-occupied, by-right, with permitted uses in the future. While the buildings are currently vacant, the site has historically been occupied and could readily become fully occupied again without any discretionary approvals. Nonetheless, the baseline for this EIR is existing

conditions at the time the NOP was circulated and the baseline conditions in this EIR consider that the Project site is vacant.

3.2 Project Site Vicinity

The Project site is located in an urban area with a mix of surrounding uses including commercial, office, and industrial uses. Across East Alma Avenue to the north the Project site is bound by warehouse storage, offices, and parking lots, across South 7th Street to the east a construction company, industrial buildings, and surface parking; a recycling center to the south; and commercial uses, including Sun Garden Shopping Center, to the west. Additionally, the San José State football stadium (CEFCU Stadium) and a variety of San José State University sports fields are located to the northeast. The nearest residential uses are located approximately 800 feet west of the Project site.

Interstate 280 (I-280) runs in an east-west orientation and is located approximately 0.7 miles north of the Project site at its nearest point. State Route 87 (SR 87, or the "Guadalupe Freeway") runs in a north-south orientation and is located approximately 0.8 mile to the west at its nearest point. The nearest transit stop is the Alma and 1st bus stop located approximately 0.2 miles to the west. The nearest Valley Transportation Authority (VTA) light rail station is the Virginia Station which is located approximately 1.1 miles to the northwest of the Project site.

3.3 Proposed Project Development

The Project would construct an approximately 106,771-square-foot new one-story concrete tilt-up warehouse/industrial use building. The exterior of the building would be painted in shades of white, grey, and blue. Identification signage would be installed on the north and south elevations. Metal accent features would be installed at the main building entrance and an approximately 36,613 square-foot prefabricated canopy structure would be installed over the loading zone along the east elevation. The maximum height of the building would be 46 feet. Approximately 8,694 square feet of the total 106,771-square-foot building would be incidental office use. The office space would be equipped with bathrooms and a changing room, and one (1) shower. The Project would include nine (9) loading docks for trucks in the southwestern corner of the new building and 45 van loading, and 45 van queuing stalls the east of the building.

Parking and Circulation

Four driveways would provide ingress and egress to the Project site compared to the existing condition which has five driveways. One access driveway would be 26 feet wide and located at the northwestern corner of the site, providing access from East Alma Avenue. The other three driveways would be located along the eastern site boundary, providing access from South 7th Street. All trucks would access the Project site from the southernmost driveway on South 7th Street.

The Project would provide approximately 178 employee parking stalls, 10 accessible stalls, 413 van parking stalls, 18 electric vehicle (EV) parking stalls, 72 EV capable stalls with the ability to support future EV equipment, 18 bicycle parking stalls, and 5 motorcycle parking stalls. Employee parking would be located north of the warehouse building and would be accessed via the driveway on East Alma Avenue. The primary pedestrian entrance to the building would be provided from the employee parking area on the north side of the building.

Van parking would be located along the eastern and southern portions of the Project site. Van queuing would occur under the exterior prefabricated canopy on the eastern façade of the proposed building. Truck loading would occur at the nine loading docks on the southern façade of the proposed building. After being loaded, it is anticipated that some trucks exiting the Project site would travel north along South 7th Street to get to Interstate 280, while the remaining trucks would travel south to reach State Route 87 using South 7th Street, Phelan Avenue, Monterey Road, West Alma Avenue, and Curtner Avenue. The General Plan identifies primary truck routes within the City. All Project truck routes are along the primary truck routes identified by the City's General Plan.[1]

Effective April 10, 2023, the City no longer mandates minimum parking requirements for development proposals. Instead, per the City's Municipal Code Section 20.90, a Transportation Demand Management (TDM) Plan is required for non-exempt projects. The Project would not be exempt from the required TDM plan. As part of the Project's TDM Plan, the Project would provide monetary contributions to bike network improvements, transit network improvements, and pedestrian network improvements. The Project would contribute the applicable fee for each improvement to achieve the requisite TDM points required per Table 20-190 in the City's Municipal Code.

The Project would include a variance application related to the City's design requirements for fire apparatus access roads. The City requires that all exterior walls of the first story of a building are within 150 feet from the access road measured along the path of travel, which is measured from the building overhang to the property line. A section of northeastern corner of the proposed building would exceed the 150 feet maximum travel distance. As such, a variance application would be included as part of the Project to propose alternate means and methods related to the fire sprinkler design which would offset any additional risk by exceeding the 150 feet maximum distance.

Landscape Plan

The Project site currently has mature landscape vegetation including trees and various shrubs along the site boundary. Project implementation would remove existing vegetation on site, including 36 trees. A total of 179 new shade, accent, and street trees are proposed to be planted by the Project, all a minimum 15-gallon size. Fifty-five (55) trees would be planted within the employee parking lot area in compliance with the City municipal code requirement of one (1) tree for every four (4) parking spaces. In addition, the proposed shade trees are intended to comply with the new California Green Building Standards Code (CalGreen) regulations, which require trees to provide a minimum 50 percent shade coverage within the parking lot, including a minimum 20 percent shade coverage at abutting landscape and hardscape areas within 15 years. Additional landscaping along street frontages and within the Project site interior will consist predominately of drought-tolerant species adapted to both local and regional climate conditions. Several plant species have been selected to provide reliable screen planting at new and existing above grade utility locations. The Project would include limited use and storage of hazardous materials and substances such as cleaners, paints, solvents, fertilizers, and pesticides for site landscaping.

The Project would install a water efficient low flow, point source system designed to provide adequate watering to support plant growth and ensure deeply rooted plant material while avoiding excess water application. The system will be programmable, allowing operation during late night and or early morning

[1] City of San José. Envision San José 2040 General Plan Primary Truck Routes Diagram. Available at: https://sj-admin.s3-us-west amazonaws.com/2011_GPTruckRoutes.pdf. Accessed March 17, 2025.

hours, with multiple start times and cycles. The system will interface with a weather-based sensor that will adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site would be selected on the basis of durability and ease of maintenance. Landscape irrigation would comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance.

Utility Infrastructure

Project implementation would require construction of on-site utility infrastructure to serve the proposed warehouse building. The Project would connect proposed utilities to existing off-site utility infrastructure in adjacent roadways, with the final sizing and design occurring during final building design and plan review.

Water. The Project site is within the San José Water Company's jurisdictional boundaries. Although the Project site has existing connections to the utility system, the Project would provide new eight-inch connections to the existing municipal water system for a fire water connection in the northwestern corner of the Project site, in addition to one two-inch irrigation water connection, one four-inch irrigation water connection in landscaped areas and another eight-inch fire water connection in the southeastern corner of the Project site.

Sewer. The City of San José's Environmental Services Department provides sewer utility services to the Project site, and wastewater treatment occurs at the San José-Santa Clara Regional Wastewater Facility (RWF). The Project would utilize the existing six-inch sanitary sewer connections along South 7th Street.

Stormwater. The Project proposes biotreatment as the primary stormwater quality treatment control measure. Stormwater treatment planters/detention areas would be located at various points along the perimeter of the Project site and within the parking lot. Understory plant materials within the engineered Storm Water Treatment Planters shall conform to the plant material recommendations provided in the California Stormwater (C.3) Technical Guide. The Project would connect to one existing 24-inch storm drain connection on South 7th Street and two existing 15-inch storm drain connections on East Alma Avenue. Additionally, the Project would propose a new 24-inch connection and storm drain manhole on South 7th Street, adjacent to the middle driveway on the Project site.

Dry Utilities. The Pacific Gas and Electric Company (PG&E) is the electricity provider for the Project site. As of 2023, PG&E's electricity mix was 100 percent carbon-free and entirely greenhouse gas free.[2] The Project would connect to existing electrical connections on the Project site and would be served by PG&E.

Solid Waste Management. Republic Services provides solid waste collection and provides recycling services to the Project site. Project construction and demolition waste would be diverted to meet City requirements of recycling at least 75 percent of construction and demolition waste. The Project would provide covered trash enclosures throughout the site.

Sustainability Features

[2] Pacific Gas & Electric Company. 2023 Content Power Label. Available at: https://www.pge.com/assets/pge/docs/account/billing-and-assistance/bill-inserts/1224-power-content-label.pdf. Accessed March 12, 2025.

The Project would be designed to meet LEED Silver performance standards, consistent with San José Green Building policies. The Project would provide sustainability features such as a solar-ready roof, EV charging stations, and EV readiness. Additionally, the Project would be designed to achieve net zero carbon through low embodied carbon building materials, natural/low global warming potential refrigerants, smart building technology, and no on-site combustion.

Off-Site Improvements

To accommodate the required off-site improvements, the Project applicant would include reconstruction and resurfacing of the roadway along the Project frontage of East Alma Avenue and South 7th Street to a maximum depth of 3 feet. Striping would be re-installed in these locations, as necessary. The Project would also install new streetlights along the Project site frontage on East Alma Avenue and South 7th Street.

Along East Alma Avenue, the Project applicant would replace the existing sidewalk with a 10-foot sidewalk along the entirety of the northern Project site frontage. New landscaping, including street trees and associated irrigation, would be installed along the reconstructed sidewalk.

On South 7th Street, the Project applicant would replace the existing sidewalk immediately adjacent to the Project site with a 10-foot sidewalk. Additionally, the Project applicant would replace the existing Class II bike lane along the South 7th Street Project site frontage with a 7-foot-wide Class IV protected bike lane. The bike lane would be separated from the roadway by a 5-foot park strip with raised concrete, new planted trees, landscaped planters, and associated irrigation. Bicycle marking striping would be installed along the entirety of the improved bicycle lane and bicycle crossings would be striped where the bicycle lane intersects with the Project driveways on South 7th Street. Additionally, utility connections including fire, domestic water, storm drain laterals, sanitary sewer laterals, and a 3-inch fiber conduit would be implemented along the South 7th Street frontage.

Project Construction

Construction of the Project is expected to commence in July 2026 and last for approximately 17 months, ending in early December 2027. A maximum of 38 daily construction worker trips and 15 daily vendor trips are anticipated during Project construction. No nighttime construction is anticipated. Refer to **Table 3.3-1: Project Construction Schedule** below for a summary of the construction schedule for the Project.

Table 3.3-1: Project Construction Schedule

Phase Name	Start Date	End Date	Workdays
Demolition	7/1/2026	10/1/2026	67
Site Preparation	10/2/2026	1/1/2027	66
Grading	10/2/2026	4/1/2027	130
Building Construction	11/2/2026	10/1/2027	240
Paving	7/1/2027	12/1/2027	110
Architectural Coating	6/1/2027	12/1/2027	132

Demolition. Project demolition is anticipated to begin in July 2026 and last approximately three months. The Project proposes to demolish all existing structures onsite, resulting in the demolition of approximately 304,670 square feet of buildings. Specifically, the following buildings would be demolished: the 279,030-square-foot two-story metal building, the one 8,040-square-foot two-story metal building, the one 8,040-square-foot one-story metal building, the 2,340-square-foot one-story metal building, the 4,000-square-foot one-story metal building, and the 3,220-square-foot one-story metal building. Demolition would include the use of excavators, rubber-tired dozers, and concrete/industrial saws.

Site Preparation. Site preparation for the Project is anticipated to begin in October 2026 and last approximately three months. The Project would also demolish associated concrete pavement, asphalt pavement, curbs, storm drain structures, water lines and associated valves, gas lines and associated structures, electrical lines and structures, and a driveway. Removal of trees would be required as part of the Project. Site preparation would include the use of rubber-tired dozers and tractors, loaders, and backhoes.

Grading. Project grading is anticipated to begin in October 2026 and last approximately six months. Approximately 3,000 cubic yards of soil are expected to be exported from the Project site. The distance for soil hauling is anticipated to be up to 20 miles per trip. Grading would require the use of graders, excavators, scrapers, rubber-tired dozers, and tractors, loaders, and backhoes.

Building Construction, Paving and Architectural Coating. Building construction is anticipated to begin in November 2026 and last for approximately 11 months. Paving and architectural coating would occur later on in building construction and would last until December 2027.

Project Operations

The Project is designed and proposed as a "last mile" e-commerce distribution center (delivery facility). It is anticipated that the Project would be operated by a single tenant for their business operations. Delivery centers support the last mile of the tenant's order fulfillment process and help to expedite local deliveries for customers. Packages would be transported to the Project site via line haul trailer trucks from separate tenant fulfillment and sortation centers and would then be sorted, picked, and loaded into delivery vans on the Project site. Project operations would include the use of two forklifts.

The Project is anticipated operate 24/7 to support delivery of packages to customer locations between 10:00 AM and 9:30 PM. At this facility, a total of 52 daily truck trips are expected to deliver packages to the Project site each day, between 12:00 AM and 7:00 AM. The customer packages would be unloaded from haul trucks, sorted based on the delivery routes, placed onto movable racks, and staged for dispatch. While the exact service area is not explicitly defined, the tenant would operate the delivery facility in order to provide expedited delivery to the local market (e.g., San José, Campbell, Los Gatos, Scotts Valley, Santa Cruz).

In order to operate the delivery facility, the Project Applicant anticipates approximately 600 workers would be hired; however, the total daily workers onsite would not exceed 400 workers. The majority of the Project employees would arrive and depart between 1:20 AM and 1:50 PM. Other Project employees would arrive between 5:40 AM to 10:45 PM. Delivery vans are anticipated to arrive at the delivery facility

between 9:30 AM and 12:00 PM. During this time, approximately 265 delivery vans will load and depart from the Project site at an average rate of approximately 53 vans every 30 minutes to facilitate a regulated traffic flow into the surrounding area. The departure window is designed to avoid peak period of local traffic. Approximately 8 to 12 hours after dispatch, the vans would complete delivery routes and return to the station between 8:00 PM and 10:30 PM. The drivers would park the delivery van onsite and leave using a personal vehicle or public transportation.

Project operation would also involve independent contractors to deliver packages from this location. It is anticipated that approximately 75 traditional passenger vehicles, associated with the independent contractors, would enter the delivery facility, staggered between 4:30 PM and 5:30 PM.

In total, the Project is expected to generate a baseline total of 1,588 trips per day.

Long-term operation of the Project would involve the transport, storage, use, and disposal of limited quantities of hazardous materials related to parcel delivery facility operations, such as parcel arrival and dispatch, truck circulation, and landscape maintenance. Hazardous materials may include solvents and commercial cleansers for building maintenance and the limited use of pesticides and herbicides for landscape maintenance. Trucks accessing the facility would contain engine fuels and lubricants.

4.0 ENVIRONMENTAL ANALYSIS

4.1 Aesthetics

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Existing Setting

The Project site is currently developed with a main multi-unit warehouse building and five smaller buildings, truck loading docks, and on-site truck and automobile parking. The six buildings are unoccupied. There is existing landscaping and trees along the South 7th Street and East Alma Avenue frontages. Surface parking is available on the northern half of the Project site and truck parking is available in the northeast corner of the Project site.

According to the City's General Plan EIR, the Project site is located within the Central San José Planning Area outside of Downtown San José. The visual context is predominantly urban and built out, though there are a few partially developed properties within the area. The predominant character of the visual and aesthetic environment is that of an urban area. Buildings and transportation infrastructure (i.e., freeways, and roadways) dominate the aesthetic character. There are no scenic vistas or protected visual resources within the Central San José Planning Area. The nearest gateways to the Project site from which scenic vistas are visible would be on I-280 and State Road (SR) 87 located approximately 0.8 mile northwest and 1 mile southwest from the Project site respectively. Surrounding uses are a mix of industrial uses, automobile-related services, warehouse, retail, and athletic facilities. All existing buildings to the north, east, and south of the Project site are of similar industrial design and development scale. Buildings to west

are predominantly retail. Several surrounding properties include street trees and landscaping along the street frontages. The Project is not located near scenic corridors identified in the General Plan.

Scenic Views

The City of San José is located in the Santa Clara Valley, bounded by the foothills of the Santa Cruz Mountains to the west, the Santa Teresa Hills to the south, and the Diablo Mountain Range to the east. The topography of the Project site is flat and therefore does not provide scenic or elevated views of the Diablo foothills, approximately seven miles east, or the Santa Cruz Mountains, approximately fifteen miles west, of the Project site. Due to its urban location, existing buildings, trees, and infrastructure (e.g., utility lines, elevated roadways, etc.) obscure viewpoints and viewsheds from the Project site.

As noted in the General Plan EIR, views of the hillsides and prominent peaks bordering the City are not consistently visible from within the City. Buildings, trees, and infrastructure (i.e., utility lines, elevated roadways) obscure most viewpoints. Therefore, the urbanized character of Project site and surrounding area provide limited views of scenic resources surrounding the City.

Nighttime Lighting

Sources of nighttime lighting in the Project area include indoor lighting visible through windows, street lighting, security lighting, walkways, parking lots, and industrial or commercial buildings that operate during nighttime hours.

Applicable Plans, Policies, and Regulations

City of San José Municipal Code

The City's Municipal Code includes several regulations associated with protection of the City's visual character and control of light and glare. Several sections of the Municipal Code include controls for lighting of signs and development adjacent to residential properties. These requirements call for floodlighting to have no glare and lighting facilities to be reflected away from residential use so that there will be no glare. The City's Zoning Ordinance (Title 20 of the Municipal Code) includes design standards, maximum building height, and setback requirements.

City Council Outdoor Lighting Policy 4-3

City Council Policy 4-3 contains guidelines for the use of outdoor lighting. The purpose of this policy is to promote energy-efficient outdoor lighting on private development in the City of San José that provides adequate light for nighttime activities while benefiting the continued enjoyment of the night sky and continuing operation of the Lick Observatory by reducing light pollution and sky glow.

Envision San José 2040 General Plan

The City's General Plan includes policies applicable to all development projects in San José. The following policies are specific to aesthetics and are applicable to the Project

Policy CD-1.1	Require the highest standards of architecture and site design, and apply strong design controls for all development projects, both public and private, for the enhancement and development of community character and for the proper transition between areas with different types of land uses.
Policy CD-1.8	Create an attractive street presence with pedestrian-scaled building and landscaping elements that provide an engaging, safe, and diverse walking

environment. Encourage compact, urban design, including use of smaller building footprints, to promote pedestrian activity throughout the City.

Policy CD-1.12 Use building design to reflect both the unique character of a specific site and the context of surrounding development and to support pedestrian movement throughout the building site by providing convenient means of entry from public streets and transit facilities where applicable, and by designing ground level building frontages to create an attractive pedestrian environment along building frontages. Unless it is appropriate to the site and context, franchise-style architecture is strongly discouraged.

Policy CD-1.13 Use design review to encourage creative, high-quality, innovative, and distinctive architecture that helps to create unique, vibrant places that are both desirable urban places to live, work, and play and that lead to competitive advantages over other regions.

Policy CD-1.17 Minimize the footprint and visibility of parking areas. Where parking areas are necessary, provide aesthetically pleasing and visually interesting parking garages with clearly identified pedestrian entrances and walkways. Encourage designs that encapsulate parking facilities behind active building space or screen parked vehicles from view from the public realm. Ensure that garage lighting does not impact adjacent uses, and to the extent feasible, avoid impacts of headlights on adjacent land uses.

Policy CD-1.22 Include adequate, drought-tolerant landscaped areas in development and require provisions for ongoing landscape maintenance.

Policy CD-1.23 Further the Community Forest Goals and Policies in this Plan by requiring new development to plant and maintain trees at appropriate locations on private property and along public street frontages. Use trees to help soften the appearance of the built environment, help provide transitions between land uses, and shade pedestrian and bicycle areas.

Policy CD-2.5 Integrate Green Building Goals and Policies of this Plan into site design to create healthful environments. Consider factors such as shaded parking areas, pedestrian connections, minimization of impervious surfaces, incorporation of stormwater treatment measures, appropriate building orientations, etc.

Policy CD-4.1 Maintain and update design guidelines adopted by the City and abide by them in the development of projects.

Policy CD-4.9 For development subject to design review, ensure the design of new or remodeled structures is consistent or complementary with the surrounding neighborhood fabric (including but not limited to prevalent building scale, building materials, and orientation of structures to the street).

Discussion

a) Have a substantial adverse effect on a scenic vista?

No Impact. The Project site is located in the Central San José Planning Area outside of Downtown San José. According to the General Plan EIR, most of the City is relatively flat, limiting the views of the surrounding hillsides and peaks from within the City. Scenic vistas are typically only visible from elevated roadways, freeways, and public trails within the City in areas designated as gateways in the General Plan EIR. The nearest gateways to the Project site from which scenic vistas are visible are on I-280 and SR 87 located approximately 0.8-mile northwest and 1 mile southwest of the Project site respectively. Project implementation would demolish the existing buildings, including a two-story metal building, and construct a new one-story concrete tilt-up warehouse/industrial use building. Since the Project is not located within nor would be visible from a designated gateway and would demolish the existing developed 2-story building to build a single-story building, the Project would have no impact on a scenic vista. Further, the Project would involve a use similar to other existing uses within the urban area in proximity to the Project site. Thus, there would be no impact and this issue will not be further analyzed in the Draft EIR.

b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The Project site is developed and located in an urban area with a mix of surrounding uses including commercial, office, and industrial uses. The Project site is relatively flat and views of protected scenic views are limited and obscured by surrounding buildings. In addition, the Project site is not located along a state scenic highway or designated scenic corridor. The nearest Officially Designated State Scenic Highway is Highway 9 located approximately 8.6 miles southwest of the Project site. Santa Clara County has two Eligible State Scenic Highway sections, Highway 280 and Highway 17, located approximately 3.8 miles west and 8.4 miles southwest of the Project site, respectively. Construction of the Project would not impact the viewshed of the nearest State Scenic Highways. Therefore, the Project would not result in an adverse effect or damage scenic resources within a State-designated scenic highway. Thus, there would be no impact and this issue will not be further analyzed in the Draft EIR.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact. The Project site is located within an urbanized area and is surrounded by a combination of commercial, office, and industrial buildings. Project implementation would demolish the existing buildings and construct a new one-story concrete tilt-up warehouse/industrial use building. The Project would lower the overall building height on the Project site and develop a building similar to surrounding uses. Therefore, the Project would not substantially degrade the existing visual character of the Project site and would remain consistent with the character of the surrounding area. Further, the Project would be consistent with all applicable zoning requirements related to aesthetics, including tree removal, lighting orientation, maximum height, setbacks, and size.

The Project proposes to remove all of the existing trees on the site to facilitate the construction of the Project. The tree removal would require a Tree Removal on Private Property Permit from the City and the Project would be required to replant trees in accordance with the recommendations of the City's arborist.

Additionally, the Project proposes new landscaping along the Project's frontages and planting trees within the Project site to enhance the visual appearance of the site. In addition, the Project lighting facilities would be consistent with the City's Municipal Code requiring all lighting or illumination to conform with any lighting policy adopted by city council, such as City Council Policy 4-3 (Chapter 20.50.250(a)). In addition, light fixture heights would not exceed eight feet when adjacent to residential uses nor would a ground mounted light fixture exceed 25 feet in height (Chapter 20.50.250(b)). However, the nearest residences to the Project site are 800 feet west, beyond the commercial uses immediately adjacent to the Project site, and would not be impacted by Project-lighting.

The Project is not located within an Urban Village and would not be subject to additional design guidelines. The Project would be subject to development regulations for the HI zoning district that requires a front building setback of 15 feet, 15 feet from automobile parking and driveways, 15 feet from truck parking, and zero feet from buildings; a side and rear setback of zero feet; and maximum building height of 50 feet. The proposed building would meet all setback requirements and have maximum height of 46 feet, which is within the maximum allowable height of 50 feet for HI zoning. Further, the proposed landscape plan would include landscape plantings throughout the Project site boundary and setback areas, consistent with the City of San José Industrial Zone landscape requirements. With adherence to the policies set forth in the General Plan and the City's Municipal Code, the Project would not substantially degrade the existing visual character or quality of the Project site and its surroundings. Thus, impacts would be less than significant and this issue will not be further analyzed in the Draft EIR.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact. The Project site is currently developed with buildings that are existing sources of lighting. Additional ambient sources of nighttime lighting in the Project area include lighting of building exteriors and architectural accents, illumination through windows, landscape lighting, street lighting, parking lot lighting, lighting from the nearby athletic facilities, and vehicle headlights. Glare within the Project area is created by the reflection of sunlight and electric lights from windows and building surfaces. The Project would include outdoor lighting on the site typical of an industrial warehouse development, with operations running 24 hours per day. The Project would also include the planting of trees within the site interior and around the site perimeter that would help limit errant light emanating from the Project.

The Project would go through a design review process during the planning review and would be reviewed for consistency with the General Plan, San José Municipal Code, and related City Council Development policies such as Outdoor Lighting on Private Developments (Policy 4-3). Compliance with General Plan policies and existing regulations and adopted plans would avoid substantial light and glare impacts. Thus, impacts would be less than significant and this issue will not be further analyzed in the Draft EIR.

4.2 Agriculture and Forestry Resources

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

Existing Setting

The Project site is identified as urban and built-up land on the State of California Important Farmland Finder.[3] Urban and built-up land is defined as land occupied by structures with a building density of at least one unit to a 1.5-acre parcel (or approximately six structures to a 10-acre parcel). Residential, industrial, institutional facilities, cemeteries, and sanitary landfills are common examples of urban and built-up land. There is no designated farmland on or adjacent to the Project site. The Project site is also not subject to a Williamson Act contract.[4]

[3] California Department of Conservation. California Important Farmland Finder. https://maps.conservation.ca.gov/dlrp/ciff/. Accessed September 16, 2024.
[4] California Department of Conservation, Williamson Act Program. Available at http://www.conservation.ca.gov/dlrp/lca. Accessed August 28, 2024.

There is no private timberland or public land with forests within or adjacent to the Project site.

Applicable Plans, Policies, and Regulations

Williamson Act

The Williamson Act (California Land Conservation Act of 1965) enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are lower than full market value of the property because they are based on farming and open space uses.

Farmland Mapping and Monitoring Program

The California Natural Resources Agency's Farmland Mapping and Monitoring Program (FMMP) provides maps and data to decision makers to assist them in making informed decisions regarding the planning of the present and future use of California's agricultural land resources.

Forest Land and Timberland

Public Resources Code Section 12220(g) identifies forest land as land that can support a 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefit.

Public Resources Code Section 4526 identifies timberland as land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis.

Discussion

a) *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

e) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?*

No Impact. The Project site is fully developed and is not located in an area with agricultural resources or forest lands. The Project site and surrounding areas are not designated as Prime Farmland, Unique

Farmland, or Farmland of Statewide Importance on the State of California Important Farmland Map.[5] Further, the Project site is not currently under a Williamson Act contract or within an agricultural, forest land, or timberland zoning district.[6] Therefore, the Project would result in no impact concerning mapped farmlands, Williamson Act contracts, agricultural, forest, or timberland zoning, or the conversion or loss of Farmland, forest land, or timberland. Under CEQA Guidelines Section 15128, these issues will not be further analyzed in the EIR since no impacts would occur.

5 California Department of Conservation. California Important Farmland Finder. https://maps.conservation.ca.gov/dlrp/ciff/app/. Accessed September 16, 2024.

6 California Department of Conservation. California Williamson Act Enrollment Finder. https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/index.html. Accessed October 7, 2024.

4.3 Air Quality

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?		X		
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

The Project's impact related to air quality resources is evaluated in Section 3.1, Air Quality, of the Draft EIR. No further analysis is provided in this Initial Study.

4.4 Biological Resources

IENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				X
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			X	

The Project's impact related to biological resources is evaluated in Section 3.2, Biological Resources, of the Draft EIR. No further analysis is provided in this Initial Study.

4.5 Cultural Resources

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
g) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?				X
h) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		X		
i) Disturb any human remains, including those interred outside of formal cemeteries?		X		

The Project's impact related to cultural resources is evaluated in Section 3.3, Cultural Resources, of the Draft EIR. No further analysis is provided in this Initial Study.

4.6 Energy

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

Existing Setting

PG&E is San José's energy utility provider, furnishing both natural gas and electricity for residential, commercial, industrial, and municipal uses. PG&E generates or buys electricity from hydroelectric, nuclear, renewable, and natural gas sources. PG&E currently provides 100 percent carbon-free electricity. As of 2023, PG&E's electricity mix was entirely greenhouse gas free.[7] SJCE is another energy provider in the City. SJCE's TotalGreen service provides 100 percent renewable energy. Therefore, PG&E currently provides a comparable alternative to SJCE's TotalGreen services in terms of delivering nearly 100 percent greenhouse gas emissions-free electricity.

Applicable Plans, Policies, and Regulations

Renewable Energy Standards

In 2002, California established its Renewable Portfolio Standard program[8] with the goal of increasing the annual percentage of renewable energy in the state's electricity mix by the equivalent of at least 1 percent of sales, with an aggregate total of 20 percent by 2017. The California Public Utilities Commission subsequently accelerated that goal to 2010 for retail sellers of electricity (*Public Utilities Code* Section 399.15(b)(1)). Then-Governor Schwarzenegger signed Executive Order S-14-08 in 2008, increasing the target to 33 percent renewable energy by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the California Air Resources Board under its AB 32 authority to enact regulations to help the State meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. In September 2010, the California Air Resources Board adopted its Renewable Electricity Standard regulations, which require all of the State's load-serving entities to meet this target. In October 2015, then-Governor Brown signed into legislation Senate Bill 350, which requires retail sellers and publicly

[7] Pacific Gas & Electric Company. 2023 Content Power Label. Available at: https://www.pge.com/assets/pge/docs/account/billing-and-assistance/bill-inserts/1224-power-content-label.pdf. Accessed March 12, 2025.

[8] The Renewable Portfolio Standard is a flexible, market-driven policy to ensure that the public benefits of wind, solar, biomass, and geothermal energy continue to be realized as electricity markets become more competitive. The policy ensures that a minimum amount of renewable energy is included in the portfolio of electricity resources serving a state or country.

owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Signed in 2018, SB 100 revised the goal of the program to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

California 2007 Energy Action Plan Update

The 2007 Energy Action Plan II is the State's principal energy planning and policy document. The plan describes a coordinated implementation strategy to ensure that California's energy resources are adequate, affordable, technologically advanced, and environmentally sound. In accordance with this plan, the state and its electricity providers would invest first in energy efficiency and demand-side resources, followed by renewable resources, and only then in clean conventional electricity supply to meet its energy needs.

California Building Energy Efficiency Standards: Title 24, Part 6 (California Energy Code)

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977 and are updated every three years (Title 24, Part 6, of the California Code of Regulations). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 9, 2018, the California Energy Commission (CEC) adopted the 2019 Building Energy Efficiency Standards, which went into effect on January 1, 2020. The 2022 Standards were adopted in August 2021 and went into effect in January 2023.

The 2022 Standards improve upon the previous 2019 Standards. Among other updates like strengthened ventilation standards for gas cooking appliances, the 2022 Energy Code includes updated standards in three major areas:

- New electric heat pump requirements for residential uses, schools, offices, banks, libraries, retail, and grocery stores.
- The promotion of electric-ready requirements for new homes including the addition of circuitry for electric appliances, battery storage panels, and dedicated infrastructure to allow for the conversion from natural gas to electricity.
- The expansion of solar photovoltaic and battery storage standards to additional land uses including high-rise multifamily residences, hotels and motels, tenant spaces, offices, (including medical offices and clinics), retail and grocery stores, restaurants, schools, and civic uses (including theaters auditoriums, and convention centers)

Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code.

California Green Building Standards Code

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. CALGreen standards require new residential and commercial buildings to

comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary measures (CALGreen Tier 1 and Tier 2) that local governments may adopt which encourage or require additional measures in the five green building topics. The CEC approved the 2022 California Green Building Standards Code and went into effect January 1, 2023.

In-Use Off-Road Diesel-Fueled Fleets Regulation

In May 2008, CARB approved the In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation), which was later amended in December 2009, July 2010, and December 2011. The overall purpose of the Off-Road Regulation is to reduce emissions of oxides of nitrogen (NO_X) and particulate matter (PM) from off-road diesel vehicles operating within California. The regulation applies to all self-propelled off-road diesel vehicles 25 horsepower (hp) or greater used in California and most two-engine vehicles. The Off-Road Regulation:

- Imposes limits on idling (i.e., fleets must limit unnecessary idling to 5 minutes), requires a written idling policy, and requires a disclosure when selling vehicles;
- Requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System, DOORS) and labelled;
- Restricts the adding of older vehicles into fleets starting on January 1, 2014; and
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (VDECS) (i.e., exhaust retrofits).
- The anti-idling component of this Off-Road Regulation helps to reduce fuel consumption by reducing engine usage.

Tractor-Trailer Greenhouse Gas Regulation

CARB's Tractor-Trailer Greenhouse Gas regulation reduces the energy consumption of large trucks. CARB developed this regulation to make heavy-duty tractors more fuel-efficient. Fuel efficiency is improved by requiring the use of aerodynamic tractors and trailers that are also equipped with low rolling resistance tires. The tractors and trailers subject to this regulation must either use EPA's SmartWay (SmartWay) certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The SmartWay certification process is part of their broader voluntary program called the SmartWay Transport Partnership Program. The regulation applies primarily to owners of 53-foot or longer box-type trailers, and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. All owners regardless of where their vehicle is registered must comply with the regulation when they operate their affected vehicles on California highways. Besides the owners of these vehicles, drivers, motor carriers, California-based brokers and California-based shippers that operate or use them also share in the responsibility for compliance with the regulation.

City of San José Private Sector Green Building Policy

The San José City Council approved Policy 6-32 *Private Sector Green Building Policy* in October 2008 that establishes a baseline green building standard for private sector new construction within the City. Policy 6-32 is intended to enhance the public health, safety, and welfare of City residents, workers, and visitors by fostering practices in the design, construction, and maintenance of buildings that will minimize the use and waste of energy, water, and other resources. All projects are required to submit a Leadership in

Energy and Environmental Design (LEED)[9], GreenPoint[10], or Build It Green checklist with the development proposal. Private developments are required to implement green building practices if they meet the Applicable Projects criteria defined by Council Policy 6-32 and shown in **Table 4.6-1** below.

Table 4.6-1: Green Building Practices

Applicable Project	Effective as of January 1, 2009
Commercial/ Industrial – Tier 1	< 25,000 square-feet = LEED Applicable NC Checklist
Commercial/ Industrial – Tier 2	> 25,000 square-feet = LEED Silver
Residential < 10 units – Tier 1	GreenPoint or LEED Checklist
Residential > 10 Units – Tier 2	GreenPoint Rated 50 points or LEED Certified
High-Rise Residential (75' or higher)	LEED Certified

Sustainable City Strategy

The Sustainable City Strategy is a statement of the City's commitment to becoming an environmentally and economically sustainable city by ensuring that development is designed and built in a manner consistent with the efficient use of resources and environmental protection. Programs promoted under this strategy include recycling, waste disposal, water conservation, transportation demand management and energy efficiency.

Climate Smart San José

Approved by the City Council in February 2018, Climate Smart San José utilizes a people-focused approach, encouraging the entire San José community to join an ambitious campaign to reduce greenhouse gas emissions, save water and improve quality of life. The adoption of Climate Smart San José made San José one of the first U.S. cities to chart a path to achieving the greenhouse gas emissions reductions contained in the international Paris Agreement on climate change. Climate Smart San José focuses on three areas: energy, mobility, and water. Climate Smart San José encompasses nine overarching strategies:

- Transition to a renewable energy future
- Embrace our California climate
- Densify our city to accommodate our future neighbors
- Make homes efficient and affordable for families
- Create clean, personalized mobility choices
- Develop integrated, accessible public transport infrastructure
- Create local jobs in our city to reduce vehicle miles traveled
- Improve our commercial building stock
- Make commercial goods movement clean and efficient

City of San José Smart Energy Plan

In March 2001, the City of San José adopted a Smart Energy Plan which includes discussions and implementation steps for the following strategies:

[9] Created by the U.S. Green Building Council, LEED is a certification system that assigns points for green building measures based on a 110-point rating scale.

[10] Created by Build It Green, GreenPoint is a certification system that assigns points for green building measures based on a 381-point scale for multi-family developments and 341-point scale for single-family developments.

- Explore regional energy solutions together with neighboring communities.
- Collaborate with neighboring communities to identify regional criteria for appropriate locations for new large, clean plants in Silicon Valley that do not harm residential communities.
- Explore creative energy partnerships among cities, the State, and federal governments, and the private sector to help ensure reliable supplies and achieve conservation.
- Reduce the City's energy demand through vigorous conservation efforts to achieve at least a 10 percent savings and encourage community conservation.
- Expand the City's model program for energy-efficient buildings to encourage long-term permanent conservation.
- Actively encourage small clean power plants in San José that can be located in appropriate industrial areas and publicly-owned lands, not in residential neighborhoods.
- Set clear predictable standards for clean energy generation projects within the City's authority and streamline the City's review and approval of appropriate power projects.

City Energy Programs

The City also has a number of programs to further promote energy conservation among residents and businesses in the City.

Silicon Valley Energy Watch (SVEW) program:

The City of San José, PG&E, and Ecology Action are part of the Silicon Valley Energy Watch program. The program assists cities, non-profits, small businesses, community organizations, professionals, and residents in the County to take advantage of cost-saving, energy-efficient technologies. SVEW offers free energy audits, targeted retrofits, technical assistance, education, and training.

City of San José Green Building Policies:

In 2001, the San José City Council adopted a series of Green Building Policies to demonstrate the City's commitment to the environmental, economic, and social stewardship and to yield cost savings to city taxpayers through reduced operating costs, to provide healthy work environments for staff and visitors, and to contribute to the City's goals of protecting, conserving, and enhancing the region's environmental resources. The Green Building Policy goals include a series in the category of energy and atmosphere. Energy and atmosphere policy goals are as follows:

- *Minimum Energy Performance*: establish the minimum level of energy efficiency for the base building and systems.
- *Optimize Energy Performance*: achieve increasing levels of energy performance above the minimum standard to reduce environmental impacts associated with excessive energy use.
- *Building Commissioning*: verify and ensure that the entire building is designed, constructed, and calibrated to operate as intended.
- *Measurement and Verification*: provide for the ongoing accountability and optimization of building energy and water consumption performance over time.
- *Renewable Energy*: encourage and recognize increasing levels of self-supply through renewable technologies to reduce environmental impacts associated with fossil fuel energy use.
- *Green Power*: encourage the development and use of grid-source, renewable energy technologies on a net zero pollution basis.
- *Reduce Ozone Depletion*: support early compliance with the Montreal Protocol by eliminating the use of CFC-based refrigerants and reducing the use of HCFCs and halons. As part of its promotion

of Green Building policies, the City encourages participation in City sponsored organized educational and training events covering green building topics to increase the use of green building techniques in municipal, commercial, and residential building development projects in the City and create greater awareness of these practices.

Municipal Code

The City's Municipal Code includes regulations associated with energy efficiency and energy use. City regulations include a Green Building Ordinance (Chapter 17.84) to foster practices to minimize the use and waste of energy, water and other resources in the City of San José, Water Efficient Landscape Standards for New and Rehabilitated Landscaping (Chapter 15.10), requirements for Transportation Demand Programs for employers with more than 100 employees (Chapter 11.105), and a Construction and Demolition Diversion Deposit Program that fosters recycling of construction and demolition materials (Chapter 9.10).

City of San José Building Reach Code

In September 2019, San José City Council approved a building reach ordinance (No. 30311) that encourages building electrification and energy efficiency, requires solar-readiness on nonresidential buildings, and required electric vehicle-readiness and EV equipment installation. Additionally, in October 2019 City Council approved an ordinance (No. 30330) prohibiting natural gas infrastructure in new detached accessory dwelling units, single-family, and low-rise multi-family buildings. Cities may adopt amendments to the Green Building Standards which exceed the standards required by the State. These two ordinances apply to new construction as of January 1, 2020.

Envision San José 2040 General Plan

The Envision San José 2040 General Plan includes policies applicable to all development projects in San José. The following policies are specific to energy use and energy efficiency and applicable to the project.

Policy MS-1.1	Demonstrate leadership in the development and implementation of green building policies and practices. Ensure that all projects are consistent with or exceed the City's Green Building Ordinance and City Council Policies as well as State and/or regional policies which require that projects incorporate various green building principles into their design and construction.
Policy MS-2.2	Encourage maximized use of on-site generation of renewable energy for all new and existing buildings.
Policy MS-2.3	Utilize solar orientation, (i.e., building placement), landscaping, design, and construction techniques for new construction to minimize energy consumption.
Action MS-2.8	Develop policies which promote energy reduction for energy-intensive industries. For facilities such as data centers, which have high energy demand and indirect greenhouse gas emissions, require evaluation of operational energy efficiency and inclusion of operational design measures as part of development review

	consistent with benchmarks such as those in EPA's EnergyStar Program for new data centers.
Action MS-2.11	Require new development to incorporate green building practices, including those required by the Green Building Ordinance. Specifically target reduced energy use through construction techniques (e.g., design of building envelopes and systems to maximize energy performance), through architectural design (e.g., design to maximize cross ventilation and interior daylight) and through site design techniques (e.g., orienting buildings on sites to maximize the effectiveness of passive solar design).
Policy MS-3.1	Require water-efficient landscaping, which conforms to the State's Model Water Efficient Landscape Ordinance, for all new commercial, institutional, industrial, and developer-installed residential development unless for recreation or other area functions.
Policy MS-5.5	Maximize recycling and composting from all residents, businesses, and institutions in the City.
Policy MS-6.5	Reduce the amount of waste disposed in landfills through waste prevention, reuse, and recycling of materials at venues, facilities, and special events.
Policy MS-6.8	Maximize reuse, recycling, and composting citywide.
Policy MS-14.3	Consistent with the California Public Utilities Commission's California Long-Term Energy Efficiency Strategic Plan, as revised and when technological advances make it feasible, require all new residential and commercial construction to be designed for zero net energy use.
Policy MS-14.4	Implement the City's Green Building Policies (see Green Building Section) so that new construction and rehabilitation of existing buildings fully implements industry best practices, including the use of optimized energy systems, selection of materials and resources, water efficiency, sustainable site selection, and passive solar building design and planting of trees and other landscape materials to reduce energy
Policy MS-14.5	Consistent with State and Federal policies and best practices, require energy efficiency audits and retrofits prior to or at the same time as consideration of solar electric improvements.
Policy MS-17.2	Ensure that development within San José is planned and built in a manner consistent with fiscally and environmentally sustainable use of current and future water supplies by encouraging sustainable development practices, including low-impact development, water-efficient development and green building techniques. Support the location of new development within the vicinity of the recycled water system and promote expansion of the South Bay Water Recycling (SBWR) system in areas planned for new development. Residential development outside of the Urban Service Area can be approved only at minimal levels and only allowed to use non-recycled water at urban intensities. For residential development outside of the Urban Service Area, restrict water usage to well

	water, rainwater collection, or other similar sustainable practice. Non-residential development may use the same sources and potentially make use of recycled water, provided that its use will not result in conflicts with other General Plan policies, including geologic or habitat impacts. To maximize the efficient and environmentally beneficial use of water, outside of the Urban Service Area, limit water consumption for new development so that it does not diminish the water supply available for projected development in areas planned for urban uses within San José or other surrounding communities.
Policy MS-18.4	Retrofit existing development to improve water conservation.
Policy MS-18.5	Reduce citywide per capita water consumption by 25% by 2040 from a baseline established using the 2010 Urban Water Management Plans of water retailers in San José.
Policy MS-18.6	Achieve by 2040, 50 million gallons per day of water conservation savings in San José, by reducing water use and increasing water use efficiency.
Policy MS-19.1	Require new development to contribute to the cost-effective expansion of the recycled water system in proportion to the extent that it receives benefit from the development of a fiscally and environmentally sustainable local water supply.
Policy MS-19.4	Require the use of recycled water wherever feasible and cost-effective to serve existing and new development.
Action MS-19.10	Develop incentives to encourage the use of recycled water. Enact ordinances that ensure that new buildings in the vicinity of the SBWR pipeline are constructed in a manner suitable for connection to the recycled water system and that they use recycled water wherever appropriate.
Policy IN-2.1	Utilize the City's Infrastructure Management System Program to identify the most efficient use of available resources to maintain its infrastructure and minimize the need to replace it.
Policy IN-5.3	Use solid waste reduction techniques, including source reduction, reuse, recycling, source separation, composting, energy recovery and transformation of solid wastes to extend the lifespan of existing landfills and to reduce the need for future landfill facilities and to achieve the City's Zero Waste goals.
Policy TR-1.4	Through the entitlement process for new development, fund needed transportation improvements for all modes, giving first consideration to improvement of bicycling, walking and transit facilities. Encourage investments that reduce vehicle travel demand.
Policy TR-2.8	Require new development where feasible to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements.

Discussion

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact.

Construction

The energy consumption associated with construction of the Project includes primarily diesel fuel consumption from on-road hauling trips and off-road construction diesel equipment, and gasoline consumption from on-road worker commute and vendor trips. Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers, and heating, ventilation, and air conditioning) would be powered by a generator. The amount of electricity used during construction would be minimal; typical demand would stem from the use of electrically powered hand tools and several construction trailers by managerial staff during the hours of construction activities. This analysis relies on the construction equipment list and operational characteristics, as stated in Appendix I of the Draft EIR.

Table 4.6-2: Project Energy Consumption During Construction quantifies the construction energy consumption are provided for the Project, followed by an analysis of impacts based on those quantifications.

Table 4.6-2: Project Energy Consumption During Construction

Source	Project Construction Usage	Santa Clara County Annual Energy Consumption	Percentage Increase Countywide
Electricity Use	**Gigawatt Hours (GWh)[1]**		
Water Consumption	1.4396	17,102	0.0084%
Diesel Use[2]	**Gallons[3]**		
On-Road Construction Trips	40,443	88,222,517	0.0458%
Off-Road Construction Equipment	98,260	88,222,517	0.1114%
Construction Diesel Total	***138,703***	***88,222,517***	***0.1572%***
Gasoline[4]	**Gallons**		
On-Road Construction Trips [1]	8,969	535,938,617	0.0017%

1. County total energy values from California Energy Commission energy reports available through ecdms.energy.ca.gov. (year 2022)
2. Fuel used for off-road, hauling, and vendor trips assumed to be diesel.
3. MTCO2e rates from CalEEMod (3.0 Construction Emissions Details)
4. Fuel used for worker trips assumed to be gasoline.

Abbreviations:
CalEEMod: California Emission Estimation Model; EMFAC: Emission Factor Model 2017;
Sources: Energy Calculations in Appendix A of this Initial Study

As shown above in **Table 4.6-2**: Project Energy Consumption During Construction water for Project construction would be negligible compared to the Santa Clara County Annual water consumption. Similarly, diesel and gasoline use for on-road and off-road construction would be minimal comparative to annual diesel and gasoline use by Santa Clara County.

There are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or state. In

addition, some incidental energy conservation would occur during construction through compliance with State requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest EPA and CARB engine emissions standards. These engines use highly efficient combustion engines to minimize unnecessary fuel consumption. Additionally, the Project is required to utilize Tier 4 construction equipment per Mitigation Measure AQ-1 described in Section 3.1, Air Quality, of the Draft EIR, which uses the latest clean engines and minimizes construction fuel consumption.

The CEQA Guidelines Appendix G and Appendix F criteria requires the Project's effects on local and regional energy supplies and on the requirements for additional capacity to be addressed. The minimal percent increase in construction fuel demand shown in **Table 4.6-2** is not anticipated to trigger the need for additional capacity. Fuel consumption is based on conservative construction phasing and conservative estimates for annual construction fuel consumption. Longer phases would result in lower construction intensity and a lower annual fuel consumption, resulting in lower annual demand on energy supplies. Additionally, use of construction fuel would cease once the Project is fully developed. As such, Project construction would have a nominal effect on the local and regional energy supplies. Therefore, it is expected that construction fuel consumption associated with the Project would not be inefficient, wasteful, or unnecessary. The Project would not substantially affect existing energy or fuel supplies or resources and new capacity would not be required. Impacts would be less than significant in this regard.

Operations

The energy consumption associated with the Project would include building and parking lot electricity, water, and fuel usage from on-road vehicles. While emergency generators are not currently proposed for the Project, one back up emergency generator was conservatively assumed in this analysis. Note that this energy resources analysis is consistent with the analysis presented in Section 3.1, Air Quality, and Section 3.4 Greenhouse Gas Emissions, of the Draft EIR. Quantification of operational energy consumption is provided for the Project in **Table 4.6-3**.

Table 4.6-3: Annual Energy Consumption During Operations

Source	Project Operational Annual Energy Usage	Santa Clara County Annual Energy Consumption[1]	Percentage Increase Countywide
Electricity Use[2]	**Gigawatt Hour/Year (GWh/year)**		
Area	2.280	17,102	0.0133%
Water	0.223		0.0013%
Total Electricity	2.503		0.0146%
Natural Gas Use	**Therms/year**		
Area	0	423,940,213	0%
Diesel Use	**Gallons/Year[3]**		
Mobile [2]	58,661	87,546,893	0.067%
Gasoline Use	**Gallons/Year[3]**		
Mobile [2]	679,608	527,439,060	0.1289%

Notes:
1. County total energy values from California Energy Commission energy reports available through ecdms.energy.ca.gov. (year 2022)
2. Electricity use per CalEEMod (5.11 Operational Energy Consumption).
3. Total annual county fuel per EMFAC 2021 model of projected operational fuel usage.
Abbreviations: CalEEMod: California Emission Estimation Model; EMFAC2017: California Air Resources Board Emission Factor Model; MWh: Megawatt-hour
Source: Energy Calculations in Appendix A of this Initial Study

Annual operational energy consumption as shown above in **Table 4.6-3** factor in annual electricity and water usage for the warehouse, general office buildings, and the parking lot within the Project site. Annual gasoline and diesel usage are approximated based on annual vehicle miles traveled (VMT) estimates for passenger cars (gasoline), and light/medium/heavy trucks (diesel). Annual energy consumption for operation of uses implemented pursuant to the Project are minimal comparative to Santa Clara County's annual energy consumption.

PG&E provides electricity to the Project area. Electricity is currently used by the existing building on the Project site, mainly for security lighting. However, the Project energy analysis does not take credit for any historical uses and assumes the Project site is not using any energy in existing conditions as the current structures are vacant. The Project site is expected to continue to be served by the existing PG&E electrical facilities. Total electricity demand in PG&E's service area is forecast to increase by approximately 12,000 GWh—or 12 billion kWh—between 2016 and 2028.[11] The Project's anticipated electricity demand shown in **Table 4.6-3** would be nominal compared to overall demand in PG&E's service area. Therefore, the projected electrical demand would not significantly impact PG&E's level of service. As shown in **Table 4.6-3**, expected Project operational use of gasoline and diesel would represent a less than 0.2 percent when compared to the annual Santa Clara County gasoline and diesel use.[12]

It should also be noted that the Project design and materials would comply with the 2022 Building Energy Efficiency Standards adopted in August 2021. Prior to issuance of a building permit, the City of San José would review and verify that the Project plans demonstrate compliance with the current version of the Building and Energy Efficiency Standards. Title 24 standards require energy conservation features in new construction (e.g., high- efficiency lighting, high-efficiency heating, ventilating, and air-conditioning (HVAC) systems, thermal insulation, double-glazed windows, water conserving plumbing fixtures).

Although the Project does not include on-site renewable energy resources, the proposed building would be built in conformance with the City's green building policy and measures. Additionally, the Project would also be required to adhere to the provisions of CALGreen, which establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The insulation and design code requirements would minimize wasteful energy consumption.

None of the Project energy uses exceed one percent of Santa Clara County use and would not conflict with existing energy, fuel supplies, or resources. Therefore, it is expected that operational fuel and energy consumption associated with the Project would not be inefficient, wasteful, or unnecessary. Impacts would be less than significant in this regard.

[11] California Energy Commission. California Energy Demand 2018-2030 Revised Forecast, Figure 49 Historical and Projected Baseline Consumption PG&E Planning Area, April 2018.
[12] County total energy values from California Energy Commission energy reports available through ecdms.energy.ca.gov. (year 2022)

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The proposed building would conform to the City's green building policy and measures. The Project would be required to comply with existing regulations, including applicable measures from the City's General Plan, or would be directly affected by the outcomes (vehicle trips and energy consumption would be less carbon intensive due to statewide compliance with future low carbon fuel standard amendments and increasingly stringent Renewable Portfolio Standards). As such, the Project would not conflict with any other state-level regulations pertaining to energy. The Project would create jobs, reduce VMT by encouraging employees to use alternative sources of transportation, and include green design measures per the City's green building policy and measures. Therefore, the Project would comply with existing State energy standards and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.7 Geology and Soils

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			X	
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

Existing Setting AMANDA I'm up to this for formatting

A Geotechnical Study was prepared for the Project by Langan Engineering and Environmental Services, Inc in January 2021 and is included as Appendix B of this Initial Study. The information in this section is summarized primarily from this report. The City Public Works Department will review and approve the Geotechnical Investigation prior to issuance of final grading permits.

Soils and Groundwater

The Project site is in the Santa Clara Valley, which is flanked on the west by the Santa Cruz Mountains, on the east by the Diablo Range, and the San Francisco Bay to the north. The mountain ranges to the east and west consist of older Franciscan and related rocks and overlying sedimentary rocks ranging in age from the Cretaceous through Tertiary time. The valley's basin contains alluvial deposits derived from the Diablo Range and the Santa Cruz Mountains. Sediments in the site vicinity consist of Holocene age mainly continental deposits of unconsolidated to semi-consolidated alluvium, though includes some marine deposits near the coast.

The Project site lies at an elevation of approximately 100.5 to 104.5 feet above mean sea level (Appendix B of this Initial Study) and is predominantly flat. Soil conditions at the Project site consist of alluvial deposits consisting of clay loam, silty clay loam, and fine sandy loam.[13]

The Project site is located in the Santa Clara Subbasin.[14] The subbasin provides water storage, allowing water to be carried over from the wet season to the dry season and from wet years to dry years, and is in long term balance. Groundwater quality is typically very good, and most public water supply wells do not require any treatment beyond disinfection.[15] The historic high groundwater level for the Project site and in the Project site vicinity is approximately 10 feet below ground surface.

Seismicity and Seismic Hazards

The City is within the San Francisco Bay Area, which is recognized as a very seismically active area, capable of generating an earthquake with a magnitude 6.7 or greater. The San Andreas Fault system, including the Monte Vista Shannon Fault, exists within the Santa Cruz Mountains and the Hayward and Calaveras Fault systems exist within the Diablo Range. Development in the City is likely to be exposed to strong ground shaking within the useful lifetime of new development.

However, the Project site is not located within the Alquist-Priolo Earthquake Fault Zone or the Santa Clara County Geologic Hazard Zone and no active faults have been mapped on the Project site.[16] The nearest fault to the Project site is the Evergreen Fault which is located approximately 4.9 miles northeast of the Project site. The Project site is not located within a designated Landslide Zone but is within a designated Liquefaction Zone.[17]

[13] United States Department of Agriculture. Natural Resources Conservation Service. Web Soil Survey. Available at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed September 16, 2024.
[14] Santa Clara Valley Water District. Groundwater Management Plan for the Santa Clara and Llagas Subbasins. Available at https://s3.us-west-1.amazonaws.com/valleywater.org.us-west-1/s3fs-public/2021_GWMP.pdf. Accessed March 7, 2025.
[15] Ibid.
[16] California Department of Conservation. Earthquake Zones of Required Investigation Map. Available at https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed September 16, 2024.
[17] City of San José. Draft Program Environmental Impact Report for the Envision San José 2040 General Plan, Figure 3.6-1. https://www.sanjoseca.gov/home/showpublisheddocument?id=22039. Accessed October 7, 2024.

Paleontological Resources

Paleontological resources include fossils – the remains or traces of once-living organisms preserved in sediments or sedimentary rocks – and the geologic context in which they occur. By convention, paleontological resources do not include human remains, artifacts (objects created by humans), or other evidence of past human activities which are the subjects of the field of archaeology.

No paleontological resources are known to exist on the Project site. However, the Project site is identified as an area of "high sensitivity at depth" for paleontological resources (General Plan EIR, Figure 3.11-1). Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the rock unit in producing significant fossils, and fossil localities that are recorded from that unit. Potentially sensitive areas for the presence of paleontological resources within the City are based on the underlying geologic formation. Areas with the highest sensitivity are those where geologic formations known to contain fossils are found close to the ground surface.

Applicable Plans, Policies, and Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Act) was passed in 1972 to address the hazard of surface faulting to structures for human occupancy. The Alquist-Priolo Earthquake Fault Zoning Act regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. The act categorizes faults as active (Historic and Holocene age), potentially active (Late Quaternary and Quaternary age), and inactive (pre-Quaternary age). The Earthquake Fault Zones indicate areas with potential surface fault-rupture hazards. Areas within the Alquist-Priolo Earthquake Fault Zone require special studies to evaluate the potential for surface rupture to ensure that no structures intended for human occupancy are constructed across an active fault. This Act requires the State Geologist to establish regulatory zones (Earthquake Fault Zones) around the surface traces of mapped active faults, and to publish appropriate maps that depict these zones. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (typically 50 feet).

California Building Code

The California Building Code, Part 2 of Title 24 of the California Code of Regulations (CCR), is based on the International Building Code and prescribes a standard for constructing safer buildings throughout the State of California. It contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, strength of the ground and distance to seismic sources. The Code is renewed on a triennial basis every three years; the current version is the 2022 Building Standards Code. Building permits for individual projects within the Plan Area will be reviewed to ensure compliance with the California Building Code.

City of San José Envision San José 2040 General Plan

The City's General Plan includes the following policies applicable to all development projects in San José.

Policy EC-3.1: Design all new or remodeled habitable structures in accordance with the most recent California Building Code and California Fire Code as amended locally and adopted by the City of San José, including provisions regarding lateral forces.

Policy EC-4.1: Design and build all new or remodeled habitable structures in accordance with the most recent California Building Code and municipal code requirements as amended and adopted by the City of San José, including provisions for expansive soil, and grading and storm water controls.

Policy EC-4.2: Approve Development in areas subject to soils and geologic hazards, including unengineered fill and weak soils and landslide-prone areas, only when the severity of hazards have been evaluated and if shown to be required, appropriate mitigation measures are provided. New development proposed within areas of geologic hazards shall not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties. The City of San José Geologist will review and approve geotechnical and geological investigation reports for projects within these areas as part of the project approval process.

Policy EC-4.4: Require all new development to conform to the City of San José's Geologic Hazard Ordinance.

Policy EC-4.5: Ensure that any development activity that requires grading does not impact adjacent properties, local creeks, and storm drainage systems by designing and building the site to drain properly and minimize erosion. An Erosion Control Plan is required for all private development projects that have a soil disturbance of one acre or more, adjacent to a creek/river, and/or are located in hillside areas. Erosion Control Plans are also required for any grading occurring between October 1 and April 30.

Policy EC-4.6 Evaluate development proposed in areas with soils containing naturally occurring asbestos (i.e., serpentinite) that would require ground disturbance and/or development of new residential or other sensitive uses, for risks to people from airborne asbestos particles during construction and postconstruction periods. Hazards shall be assessed, at minimum, using guidelines and regulations of the Bay Area Air Quality Management District and the California Air Resources Board.

Policy ES-4.9: Permit development only in those areas where potential danger to health, safety, and welfare of the persons in that area can be mitigated to an acceptable level.

Action EC-4.11: Require the preparation of geotechnical and geological investigation reports for projects within areas subject to soils and geologic hazards and require review and implementation of mitigation measures as part of the project approval process.

Discussion

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less than Significant Impact. According to the California Department of Conservation Earthquake Zones of Required Investigation mapping data, the Project site is not located within an Alquist-Priolo Earthquake Fault Zone. There are no known active or potentially active faults trending towards or through the Project site. The nearest potentially active fault to the Project site is the Evergreen Fault which is located approximately 4.9 miles northeast of the Project site. However, the Project site lies within the region affected by the active San Andreas Fault system, which influences faults throughout the region, including the Hayward and Calaveras faults. Several smaller faults including the Evergreen, Quimby, Piercy, and Clayton faults, are also found in the Project vicinity, primarily along the base of the San José Foothills. Although the Project is located within a seismically active region, there is no known fault mapped on or proximate to the Project site. Therefore, the possibility of significant fault rupture on the Project site would be less than significant. As such, this issue will not be further analyzed in the Draft EIR.

ii. Strong seismic ground shaking?

Less than Significant Impact. The Project site is located within a seismically active region and strong seismic ground shaking could occur. The Project would be required to conform with the California Building Code, City regulations, and other applicable seismic construction standards. Conformance with these standard engineering practices and design criteria would reduce the effects of seismic ground shaking. Further, the Project would be built and maintained in accordance with a site-specific geotechnical report, as required by the General Plan EIR and outlined in the standard permit conditions below. Additionally, the Project site is not located within an Alquist-Priolo Earthquake Fault Zone with no known active or potentially active faults trending towards or through the Project site. Therefore, impacts would be less than significant, and this issue will not be further analyzed in the Draft EIR.

Standard Permit Conditions

Seismic Hazards

- A Geotechnical Report shall be submitted, reviewed, and approved by the City Geologist. The Geotechnical Report shall determine the site-specific soil conditions and identify the appropriate design and construction techniques to minimize risks to people and structures, including but not limited to: foundation, earthwork, utility trenching, retaining and drainage recommendations. The investigation should be consistent with State of California guidelines for the preparation of seismic hazard evaluation reports (CGS Special Publication 117A, 2008, and the Southern California Earthquake Center report, SCEC, 1999). A recommended minimum depth of 50 feet should be explored and evaluated in

the investigation. The City Geologist will review the Geotechnical Report and issue a Geologic Clearance.

- If dewatering is needed, the design-level geotechnical investigations to be prepared for individual future development projects shall evaluate the underlying sediments and determine the potential for settlements to occur. If it is determined that unacceptable settlements may occur, then alternative groundwater control systems shall be required.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. As defined by the California Geological Survey (CGS) Seismic Hazards Program and shown in Figure 3.6-1 in the General Plan EIR, the Project site is in a State seismic hazard zone specific to liquefaction. Appendix B, Geotechnical Investigation, also finds that the Project site is located on soil prone to liquefaction and may experience liquefaction-induced settlements of up to 1.5 inches and differential settlements of up to 1 inch in 50 horizontal feet While the Project site is located within a liquefaction zone, all structures and foundations requiring building permits would be required to meet California Building Code requirements to withstand ground shaking, minimizing potential impacts resulting from liquefaction. Adherence to the California Building Code would ensure that the seismic-related ground failure, including liquefaction impacts would be less than significant. As such, this issue will not be further analyzed in the Draft EIR.

iv. Landslides?

No Impact. The Project site is relatively flat and is not located in an area mapped as an earthquake-induced landslide hazard area as shown in the Geologic and Seismic Hazards map (General Plan EIR, Figure 3.6-1) in the City's General Plan EIR. As the Project site is not located within a seismic hazard zone for landslides, there would be no impact and this issue will not be further analyzed in the Draft EIR.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. Grading during the construction phase of the Project would displace soils and temporarily increase the potential for soils to be subject to wind and water erosion. However, erosion and loss of topsoil can be controlled using standard construction practices, such as disturbed soil surface watering and other measures identified in Threshold a) of Section 4.10, Hydrology and Water Quality. Further, the Project would require all excavation or grading work to be scheduled in dry weather months or construction sites shall be weatherized; as mentioned in the City standard permit condition related to seismic hazards included in the Threshold 4.7 a) ii discussion above, to reduce potential erosion impacts during construction. Development of the Project would include a delivery facility surface parking, and landscaping and on-site soils would not be susceptible to erosion. Project operation would involve the use of trucks and vans on existing paved roadways. The operation of these vehicles would not be anticipated

to result in substantial soil erosion or loss of topsoil as they utilize the paved roadway. Therefore, impacts would be less than significant and this issue will not be further analyzed in the Draft EIR.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant Impact. As discussed above, according to General Plan EIR Figure 3.6-1, the Project site is not located within a designated landslide zone but is located within a designated liquefaction zone. However, all structures and foundations requiring building permits would be required to meet California Building Code requirements to withstand ground shaking, minimizing potential impacts resulting from liquefaction. Adherence to the California Building Code, City regulations, and other applicable standards would ensure that the seismic and liquefaction impacts are less than significant. As such, this issue will not be further analyzed in the Draft EIR.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than Significant Impact. Based on the Geotechnical Report, the potential for expansion from the soils on Project site is low. The Project would be required to conform with the California Building Code, City regulations, and other applicable standards. Refer to the discussion under Thresholds 4.7. a) and 4.7. c) for more information. With no evidence of expansive soils and Project conformance with standard engineering practices and design criteria that would reduce impacts related to expansive soil potential, there is no impact. As such, this issue will not be further analyzed in the Draft EIR.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The Project would connect to the City sewer system and would not require the installation or use of septic tanks or alternative wastewater disposal systems. Therefore, there would be no impact and this issue will not be further analyzed in the Draft EIR.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact. The Project site has been previously graded and developed and does not support or contain any unique geologic features. Based on the age and type of surface soils, there is low potential to impact undiscovered paleontological resources. While the Project site is located within a high sensitivity area (at depth) for paleontological resources as shown in Figure 3.11-1 in the General Plan EIR, previous excavation and other ground disturbing activities during the development of the existing structures on the Project site failed to yield any evidence of paleontological deposits. Implementation of the following standard permit condition would substantially reduce potential impacts to paleontological resources. Thus, impacts to paleontological resources would be less than significant and this issue will not be further analyzed in the Draft EIR.

Standard Permit Condition

Paleontological Resources. If vertebrate fossils are discovered during construction, all work on the site shall stop immediately, Director of Planning, Building and Code Enforcement (PBCE) or the Director's designee shall be notified, and a qualified professional paleontologist shall assess the nature and importance of the find and recommend appropriate treatment. Treatment may include, but is not limited to, preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The Project applicant shall be responsible for implementing the recommendations of the qualified paleontologist. A report of all findings shall be submitted to the Director of PBCE or the Director's designee.

4.8 Greenhouse Gas Emissions

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

The Project's impact related to greenhouse gas emissions is evaluated in Section 3.4, Greenhouse Gas Emissions, of the Draft EIR. No further analysis is provided in this Initial Study.

4.9 Hazards and Hazardous Materials

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X

The Project's impact related to hazardous materials is evaluated in Section 3.5, Hazards and Hazardous Materials, of the Draft EIR. No further analysis is provided in this Initial Study.

4.10 Hydrology and Water Quality

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?				X
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?			X	
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
iv. Impede or redirect flood flows?				X
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

Existing Setting

The Project site is located in an urban area with connections to the City's water and sewer infrastructure. The closest waterway to the Project site is Coyote Creek, which is located approximately 0.6 mile east of the Project site, and ultimately flows into the San Francisco Bay.

The Project site is located in the Santa Clara Subbasin. The subbasin occupies a structural trough parallel to the northwest trending coastal ranges. The Diablo Range bounds it on the east, Santa Cruz Mountains for the basin boundary on the west, and the San Francisco Bay in the north. The subbasin provides water storage, allowing water to be carried over from the wet season to the dry season and from wet years to dry years, and is in long term balance. Groundwater quality is typically very good, and most public water supply wells in the basin do not require any treatment beyond disinfection. The historic high groundwater level in the Project site vicinity is approximately 10 feet below ground surface. Additionally, Coyote Creek is identified on the Final California 2024 Integrated Report 303(d) list since it does not meet water quality standards due to pollution.[18] Based on the report, Coyote Creek is currently anticipated to meet water quality standards by 2037.The Flood Insurance Rate Map (FIRM) classifies the entire Project site as being Zone D. Zone D is not considered a Special Flood Hazard Area (SFHA).[19] Zone D areas are areas in which flood hazards are undetermined but possible. The Project site is not located within a 100-year floodplain.

Currently, the Project site is approximately 95 percent impervious area (727,642square feet).

A review of the Geocheck section of the Environmental Data Resources, Inc. Regulatory Database Report identified one inactive municipal supply water well on the Project site. However, the address listed for the well is 1221 South Bascom Avenue in San Jose, California, which is located approximately five miles southwest of the Project site. Investigations conducted for the Phase I Environmental Site Assessment (Phase I ESA) and Phase II Environmental Site Investigation (Phase II ESI) prepared for the Project did not find any water wells on-site. This inactive water well is therefore assumed not to be located on the Project site.

A review of the California Water Boards Groundwater Information System Groundwater Ambient Monitoring and Assessment Program did not identify any water wells on the Project site. The 1961 and 1966 Sanborn Maps indicated the presence of a deep well pump and 10,000-gallon pressure tank in the center of the Project site. A previous environmental report that informs the Phase I ESA and Phase II ESI included a map from 1976 that indicates the presence of a storage tank and 756-foot-deep water well in the same location as the deep well pump and pressure tank in the Sanborn Maps. The presence of the well was investigated by another report that informs Phase I ESA and Phase II ESI by conducting a geophysical survey of the potential deep water well location. No evidence of a deep water well was found by this report. The well was also not observed during the investigations conducted for the Phase I ESA and Phase II ESI.

Applicable Plans, Policies, and Regulations

[18] State Water Resources Board. Final California 2024 Integrated Report 303(d) List. Available at https://www.waterboards.ca.gov/water_issues/programs/tmdl/2023_2024state_ir_reports/apx-b-factsheets/00676.shtml. Accessed March 7, 2025.

[19] Federal Emergency Management Agency. FEMA Flood Map Service Center: Search by Address. Accessed at https://msc.fema.gov/portal/search#searchresultsanchor. Accessed on October 7, 2024.

Federal Clean Water Act and Porter-Cologne Water Quality Control Act

The federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality. Regulations set forth by the U.S. Environmental Protection Agency (EPA) and the State Water Resources Control Board (SWRCB) have been developed to fulfill the requirements of this legislation. EPA's regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into the waters the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by the water quality control boards, which for the San José area is the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB).

National Flood Insurance Program

FEMA established the National Flood Insurance Program (NFIP) in order to reduce impacts of flooding on private and public properties. The program provides subsidized flood insurance to communities that comply with FEMA regulations protecting development in floodplains. As part of the program, FEMA publishes FIRMs that identify SFHAs. A SFHA is an area that would be inundated by the one-percent annual chance flood, which is also referred to as the base flood or 100-year flood.

Statewide Construction General Permit

The SWRCB has implemented a NPDES Construction General Permit (CGP) for the state. Projects disturbing one acre or more of soil must obtain permit coverage under the CGP by filing a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) with the SWRCB prior to commencement of construction. The CGP, which became effective July 1, 2010, includes requirements for training, inspections, record keeping, and for projects of certain risk levels, monitoring. The Project disturbs less than one acre of soil and, therefore, would not require permit coverage under the CGP.

California Well Standards

California Department of Water Resources Bulletin 74 sets the minimum standards for water, monitoring, cathodic protection, and geothermal heat exchange wells, with the purpose of protecting California's groundwater quality. Local jurisdictions have the authority to adopt standards which meet or exceed the Bulletin 74 standards. Well standards are administered and enforced at the local level.

California Well Standards (Bulletins 74-81 & 74-90 combined) Part III. Destruction of Water Wells requires that all abandoned wells and exploration, or test holes shall be destroyed.[20] The objective of destruction is to restore as nearly as possible those subsurface conditions which existed before the well was constructed taking into account changes, if any, which have occurred since the time of construction. Section 23. Requirements of Destroying Wells specifies the process for destroying wells.

Santa Clara Valley Water District Ordinance 90-1

In California, regulatory authority over well construction, alteration, and destruction activities pursuant to the California Well Standards rests with local jurisdictions, who have the authority to adopt a local well ordinance that meets or exceeds California Department of Water Resources Well Standards. Permitting and enforcement are carried out by the local enforcing agency.

[20] A well is considered 'abandoned' or permanently inactive if it has not been used for one year, unless the owner demonstrates intention to use the well again.

The Santa Clara Valley Water District was created by an act of the California Legislature (Santa Clara Valley Water District Act, Water Code Appendix, Chapter 60), and operates as a state of California Special District, with jurisdiction throughout Santa Clara County. Per Santa Clara Valley Water District Act §5(r), Valley Water may require the sealing of abandoned or unused wells according to standards adopted by the board by ordinance and designed to protect the groundwater resources of the district from contamination.

Ordinance 90-1 regulates the construction of new wells, the reconstruction or deepening of existing wells, and the destruction of wells, including water wells, monitoring wells, cathodic protection wells, exploratory holes, and other deep excavations, to the end that such wells and excavations will not cause pollution or contamination of groundwater, or otherwise jeopardize the health, safety, or welfare of the people of the Santa Clara Valley Water District. Any person digging, boring, drilling, deepening, refurbishing, or destroying a water well, cathodic protection well, observation well, monitoring well, exploratory boring (45 feet or deeper), or other deep excavation that intersects the groundwater aquifers of Santa Clara County must apply for and receive a permit from Valley Water.

San Francisco Bay Basin Plan

The SFBRWQCB regulates water quality in accordance with the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan lists the beneficial uses that the SFBRWQCB has identified for local aquifers, streams, marshes, rivers, and the San Francisco Bay, as well as the water quality objectives and criteria that must be met to protect these uses. The SFBRWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements, including permits for nonpoint sources such as the urban runoff discharged by a City's stormwater drainage system. The Basin Plan also describes watershed management programs and water quality attainment strategies.

Municipal Regional Stormwater NPDES Permit (MRP)/C.3 Requirement

The SFBRWQCB has also issued a Municipal Regional Stormwater NPDES Permit (MRP) [Permit Number CAS612008]. In an effort to standardize stormwater management requirements throughout the region, this permit replaces the formerly separate countywide stormwater permits with a regional permit for 77 Bay Area municipalities including the City of San José. Under the provisions of the MRP, redevelopment projects that create or replace 10,000 square feet or more of impervious surfaces are required to design and install Low Impact Development (LID) controls to treat post-construction stormwater runoff from the site. Examples of LID controls include rainwater harvesting/re-use, infiltration, and biotreatment.

The MRP allows certain types of smart growth, high density, and transit-oriented development to use alternative means of treatment depending on specific criteria. Qualifying projects may apply for reduction credits based on location and density criteria that allow non-LID treatment for a portion of the project's runoff, but only after the applicant demonstrates why LID is infeasible for the project. The LID reduction credits are intended to allow Smart Growth projects greater flexibility in meeting stormwater treatment requirements, based on the inherent environmental benefits of Smart Growth and potential technical challenges of implementing LID treatment exclusively on high-density sites in urban areas.

City of San José Grading Ordinance

All development projects, whether subject to the CGP or not, shall comply with the City's Grading Ordinance, which requires the use of erosion and sediment controls to protect water quality while the site is under construction. Prior to issuance of a permit for grading activity occurring during the rainy season (October 1 to April 30), the Project will submit to the Director of Public Works an Erosion Control

Plan detailing best management practices (BMPs) that will prevent the discharge of stormwater pollutants.

Council Policy 6-29 Post-Construction Urban Runoff Management and Council Policy 8-14 Post-Construction Hydromodification Management

The MRP mandates the City of San José use its planning and development review authority to require that stormwater management measures such as Site Design, Pollutant Source Control, and Treatment measures are included in new and redevelopment projects to minimize and properly treat stormwater runoff.

The City of San José's Post-Construction Urban Runoff Management Policy (Council Policy 6-29) implements the stormwater treatment requirements of Provision C.3 of the Municipal Regional Stormwater NPDES Permit. Policy 6-29 requires all new development and redevelopment projects to implement post-construction BMPs and Treatment Control Measures (TCM) to the maximum extent practicable. This policy also established specific design standards for post-construction TCM for projects that create, add, or replace 10,000 square feet or more of impervious surfaces.

The City's Post-Construction Hydromodification Management Policy (Council Policy 8-14) establishes an implementation framework for incorporating measures to control hydromodification impacts from development projects. Development projects that create and/or replace one acre or more of impervious surface and are located in a sub-watershed or catchment that is less than 65 percent impervious, must manage increases in runoff flow and volume so that post-project runoff shall not exceed estimated pre-project rates and durations.

City of San José Envision San José 2040 General Plan

The General Plan includes the following water quality policies applicable to the Project:

Policy ER-8.1:	Manage stormwater runoff in compliance with the City's Post-Construction Urban Runoff (6-29) and Hydromodification Management (8-14) Policies.
Policy ER-8.3:	Ensure that private development in San José includes adequate measures to treat stormwater runoff.
Policy ER-8.5:	Ensure that all development projects in San José maximize opportunities to filter, infiltrate, store and reuse or evaporate stormwater runoff onsite.
Policy EC-5.16:	Implement the Post-Construction Urban Runoff Management requirements of the City's Municipal NPDES Permit to reduce urban runoff from project sites.
Action EC-7.10:	Require review and approval of grading, erosion control and dust control plans prior to issuance of a grading permit by the Director of Public Works on sites with known soil contamination. Construction operations shall be conducted to limit the creation and dispersion of dust and sediment runoff.

Discussion

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact.

Construction

The Project must comply with the C.3 Provision "New Development and Redevelopment" of the MRP (NPDES Permit No. CAS612008) which aims to include appropriate source control, site design, and stormwater treatment measures in new development and significant redevelopment projects to stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of LID techniques. The provision requires regulated projects to include LID practices, such as pollutant source control measures and stormwater treatment features aimed to maintain or restore the site's natural hydrologic functions. Construction of the Project would require compliance with the City's standard permit conditions to prevent stormwater pollution and minimize potential sedimentation during construction. Measures include, but are not limited to the following:

Standard Permit Conditions

Construction-related water quality.

- Burlap bags filled with drain rock shall be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust-producing activities shall be suspended during periods of high winds.
- All exposed or disturbed soil surfaces shall be watered at least twice daily to control dust as necessary.
- Stockpiles of soil or other materials that can be blown by the wind shall be watered or covered.
- All trucks hauling soil, sand, and other loose materials shall be covered and all trucks shall maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction sites shall be swept daily (with water sweepers).
- Vegetation in disturbed areas shall be replanted as quickly as possible.
- All unpaved entrances to the site shall be filled with rock to remove mud from tires prior to entering City streets. A tire wash system shall be installed if requested by the City.
- The Project applicant shall comply with the City of San José Grading Ordinance, including implementing erosion and dust control during site preparation and with the City of San José Zoning Ordinance requirements for keeping adjacent streets free of dirt and mud during construction.

Implementation of these standard permit conditions would prevent stormwater pollution and minimize potential sedimentation during construction. Thus, impacts would be less than significant.

Operations

The Project would install 17 LID-compliant lined bioretention basins with underdrains onsite and 4 offsite bioretention basins. Additionally, 5 flow-through concrete-lined planters with underdrains would be installed onsite. The MRP also requires that stormwater treatment measures are properly installed, operated and maintained. Stormwater runoff would drain into the treatment areas within the Project site prior to entering the storm drainage system. This is implemented through City Council Policy 6-29 and City Council Policy 8-14 referenced above in the regulatory setting discussion within this section. The on-site treatment facilities include lined bioretention basins with underdrains and would be numerically sized and

required, as a condition of Project approval, to have sufficient capacity to treat the roof and parking lot runoff entering the storm drainage system, consistent with the NPDES requirements.

The General Plan EIR as supplemented, concluded that with the regulatory programs currently in place, stormwater runoff from new development would have a less than significant impact on stormwater quality. Components of a Stormwater Management Plan (SWMP) for urban runoff are incorporated in requirements of the Municipal Regional Stormwater Permit issued by the SFBRWQCB to the City of San José (a co-permittee). With implementation of a Stormwater Management Plan consistent with SFBRWQCB and compliance with the City's regulatory policies pertaining to stormwater runoff, operation of the Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality and impacts would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. The Project site is in a confined area within the Santa Clara Plain and not located within a natural groundwater recharge area nor a City managed percolation facility.[21] The Project site is located within the San Jose Water Company (SJWC) service area. The Santa Clara Subbasin provides groundwater for the SJWC service area. SJWC utilizes groundwater as one of their water supply sources. The Project would not involve new groundwater wells or extraction of groundwater. The existing Project site is developed with impervious surfaces. Implementation of the Project would decrease the impervious surface area on the Project site, as displayed in **Table 4.10-1: Impervious and Pervious On-Site Surface Area** below, which would allow for increased potential of groundwater recharge as the water travels through the additional pervious surfaces. Moreover, as discussed further in Section 4.19, Utilities and Service Systems, the Project would ensure water demand would not exceed water supply and would not further impact groundwater supplies in a manner that impedes with the sustainable groundwater management. Therefore, there would be no impact and this issue will not be further analyzed in the Draft EIR.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

No Impact. The Project site does not include any streams or rivers, which could be altered by the Project. The closest waterway to the Project site is Coyote Creek, approximately 0.6 mile east of the Project site. In addition, the proposed on-site lined bioretention basins with underdrains would limit the release of storm water from the Project site; therefore, minimizing the potential for substantial erosion or siltation to occur on site or off site. Additionally, implementation of the standard permit conditions under threshold 4.10. a) would further prevent any substantial erosion or siltation off-site. Therefore, there would be no impact and this issue will not be further analyzed in the Draft EIR.

[21] Santa Clara Valley Water District. Groundwater Management Plan for the Santa Clara and Llagas Subbasins. Available at https://s3.us-west-1.amazonaws.com/valleywater.org.us-west-1/s3fs-public/2021_GWMP.pdf. Accessed March 7, 2025.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less than Significant Impact. The existing Project site is developed. As shown in **Table 4.10-1**, development of the Project would reduce the amount of impervious surface area on the Project site. Development of the Project would result in approximately 82 percent impervious area on-site compared to the existing 95 percent impervious area on-site.

Table 4.10-1: Impervious and Pervious On-Site Surface Area

Site Surface	Existing Surface Area SF	Proposed Surface Area SF
On-Site Impervious Surfaces Total	727,642	614,869
On-Site Pervious Surfaces Total	40,113	130,755
Note: Impervious Surface Area represents site specific conditions excludes public streets Source: Langan Engineering and Environmental Services Inc., 2024		

The City has developed policies that implement Provision C.3, consistent with the MRP. The City's Post-Construction Urban Runoff Management Policy (6-29) implements the stormwater treatment requirements of Provision C.3, requiring all new development and redevelopment projects to implement post-construction BMPs and TCMs to the maximum extent practicable. The City's Post-Construction Hydromodification Management Policy (8-14) establishes an implementation framework for incorporating measures to control hydromodification impacts from development projects, including the rate or amount of surface runoff.

In accordance with Provision C.3, the Project would be required to obtain a State Construction General Permit and incorporate site design, source control, and treatment system requirements across the Project site. Project site design features include protecting some existing vegetation, directing runoff from roofs and sidewalks to landscape areas, planting trees around and within parking areas, and creating new pervious areas through landscaping. Source control measures would include beneficial landscaping, water efficient irrigation systems, and good housekeeping. Treatment systems proposed include bioretention basins, sized to control the off-site stormwater flow rate consistent with City's C.3 requirements. Per City review for compliance with these requirements and Project implementation reducing the amount of impervious area on the Project site, the Project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite, and impacts would be less than significant. As such, this issue will not be further analyzed in the Draft EIR.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impact. Where development or redevelopment results in an increase in impervious surfaces, increased runoff could exceed the capacity of local storm drain systems. As discussed above, development of the Project would reduce the amount of impervious surface on the Project site.

The Project would be required to comply with the C.3 Provision of the MRP which provides specific design requirements for capacity including: the implementation of stormwater BMPs, volume control design, flow hydraulic design, and combination flow and volume design. As required by the C.3 Provision of the MRP, a SWMP would be reviewed and approved by the City of San José Public Works Department, Environmental Programs Division.

The Project includes site design measures such as directing runoff from roofs and sidewalks to landscaped areas and planting trees within and adjacent to impervious areas. To maximize dispersal of runoff throughout the stormwater treatment systems, source control measures include beneficial landscaping, efficient use of water in irrigation systems, good housekeeping, and labeling storm drains.

The decrease in impervious area within the Project site as a result of Project implementation and compliance with the C.3 Provision of the MRP would ensure that the Project would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Thus, impacts would be less than significant. As such, this issue will not be further analyzed in the Draft EIR.

iv. Impede or redirect flood flows?

No Impact. Per the Santa Clara Valley Habitat Plan (Habitat Plan), the Project is not located within a stream setback zone and would not alter the course of a stream or river. Therefore, there would be no impact and this issue will not be further analyzed in the Draft EIR.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than Significant Impact. The Project site is located outside of the tsunami inundation area mapped by the Association of Bay Area Governments.[22] Further, the General Plan EIR concludes that the City of San José would avoid substantial effects from a possible seiche due to the location of salt restoration areas proximate to the San Francisco Bay. These salt ponds would minimize the effects of a potential seiche, limiting the impacts from a seiche within areas proposed for development within the General Plan, including the Project site.

The Project site is not classified as being within a 100-year flood zone.[23] As mapped by the Dam Breach Inundation Map Web Publisher, the Project site is within the inundation zone for the Leroy Anderson Dam.[24] As shown in Sheet 17 of 67 on the *Inundation Map for the Fair Weather Failure of Leroy Anderson Dam* map (2019), the Project site is located within the inundation zone for the hypothetical failure of the Leroy Anderson Dam.[25] The Project site is primarily mapped as having a maximum inundation depth of 5 to 10 feet under fair weather failure. The southwestern portion of the Project site has a maximum inundation depth of 10 to 20 feet under fair weather failure. As shown on Sheet 21 of 82 on the *Inundation*

[22] Association of Bay Area Governments. Resilience Program data. Available at https://maps.conservation.ca.gov/cgs/informationwarehouse/ts_evacuation/. Accessed September 16,2024.
[23] California Department of Water Resources, Best Available Map. Available at https://gis.bam.water.ca.gov/bam/. Accessed September 16, 2024.
[24] California Department of Water Resources, Division of Safety of Dams (DSOD). California Dam Breach Inundation Maps. https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2. Accessed January 27, 2026.
[25] Santa Clara Valley Water District. Inundation Map for the Hypothetical Fair Weather Failure of Leory Anderson Dam. https://fta.valleywater.org/dl/f0uHPXKX7E. Accessed January 28, 2026.

Map for the Hypothetical Inflow Design Flood Failure of Leroy Anderson & Coyote Dam[26], the Project site would have a maximum inundation depth of 10 to 20 feet.[27]

The Leroy Anderson Dam falls under the jurisdiction of the California Department of Water Resources Division of Safety of Dams (DSOD).[28] The DSOD is responsible for inspecting dams on an annual basis to ensure that the dams are safe, performing as intended, and not developing problems.[29] The Santa Clara Valley Water District has a comprehensive dam safety program to ensure the continued operation of its 10 major dams, including the Leroy Anderson Dam. Valley Water routinely inspects and monitors the condition of each dam.[30] The Valley Water comprehensive dam safety program includes procedures and training for emergency preparedness and response in the event of a dam failure or earthquake. According to Valley Water, a storage restriction of about 55 feet below the dam crest has been put in place for Anderson Dam and Reservoir to protect the public, reducing the allowed storage capacity to 52,553 acre-feet. This voluntary restriction exceeds the 45-foot restriction approved by the regulatory agencies (California Division of Safety of Dams and the Federal Energy Regulatory Commission) and was instituted by the District in response to additional findings during the design phase of the Anderson Dam Seismic Retrofit Project (ADSRP). The water district and regulatory agencies believe that this restriction will prevent the uncontrolled release of water in case the dam is structurally damaged after a major earthquake. The City of San José General Plan FEIR also concluded that implementation of General Plan policies and adherence to existing regulations and adopted plans and policies would substantially reduce flooding and drainage hazards associated with dam failure, including the City of San José Local Hazard Mitigation Plan. The City of San José participates in the Santa Clara County Multijurisdictional Hazard Mitigation Plan. The Project would comply with the Santa Clara County Multijurisdictional Hazard Mitigation Plan which includes actions and measures to reduce the risk of dam failure. The Project includes warehouse uses that would include limited hazardous materials and substances such as cleaners, paints, solvents, and fertilizers and pesticides for site landscaping. Operation of the Project would include the use and storage of cleaning supplies and maintenance chemicals in small quantities, similar to other businesses nearby and would not generate substantial hazardous emissions or chemical releases that would affect surrounding uses. Additionally, the Project site is relatively flat so the potential for risk release of pollutants due to Project inundation is unlikely. Therefore, due to the geographic location of the Project, compliance with dam inspection and safety programs, and the lack of pollutants or hazardous materials present on the Project site, minimal impacts are likely to occur due to flood hazard, tsunami, or

[26] Inflow design flood failure assumed a dam failure at the highest calculated reservoir elevation due to a probable maximum flood.
[27] Santa Clara Valley Water District. Inundation Map for the Hypothetical Inflow Design Flood Failure. https://fta.valleywater.org/dl/xZFTEFd3kh. Accessed January 28, 2026.
[28] Santa Clara Valley Water District. Anderson Dam. https://www.valleywater.org/sites/default/files/SHELL_Anderson%20Dam_102418.pdf. Accessed January 28, 2026.
[29] California Department of Water Resources. Division of Safety of Dams. https://water.ca.gov/programs/all-programs/division-of-safety-of-dams. Accessed January 28, 2026.
[30] Santa Clara Valley Water District. Dam Safety Program. https://www.valleywater.org/flooding-safety/dam-safety-program. Accessed January 28, 2026.

seiche zones. Thus, the impact would be less than significant and this issue will not be further analyzed in the Draft EIR.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. Water quality impacts other than those described in threshold a) above are not anticipated with implementation of the Project. The Project site is over one acre and the Project would be required to obtain an NPDES General Permit for Construction Activities. Project construction would require compliance with Santa Clara County's water quality guidelines and the City's Grading Ordinance and water quality guidelines to protect water quality through the use of erosion and sediment controls. The Project would also comply with Santa Clara Valley Water District 2021 Groundwater Management Plan as the Project site is in an SJWC service area, where groundwater is sourced from the Santa Clara subbasin. The 2021 Groundwater Management Plan includes compliance with Ordinance 90-1 as an activity pursuant to the plan that protects groundwater quality protection in Santa Clara County.[31] Investigations of the Project site for the Phase I ESA and Phase II ESI did not identify any wells on-site and Valley Water's Well Information App indicates that there are three destroyed monitoring wells on-site. None the less, should abandoned wells be discovered on-site during construction, the Project would comply with the requirements of Ordinance 90-1 to properly destroy the wells. Since the Project would follow local and state regulations, permitting requirements and applicable policies, impacts would be less than significant. As such, this issue will not be further analyzed in the Draft EIR.

[31] 2021 Groundwater Management Plan, Section 6.2.1 Well ordinance Program

4.11 Land Use and Planning

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?			X	
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

Existing Setting

The Project site is currently developed with several buildings and surface parking. The Project site is bordered on two sides by streets, South 7th Street to the east and East Alma Avenue to the north. There is existing landscaping and trees along the South 7th Street frontage and additional landscaping along the East Alma Avenue frontage. Surface parking is available on the northern half of the site and truck parking is available in the northeast corner of the Project site. Surrounding uses are a mix of commercial, office, and industrial. The nearest residential uses are located approximately 800 feet west of the Project site. The Project site is not part of an established residential community or neighborhood.

Existing Land Use Designation and Zoning

The Project site is designated as HI by the General Plan and is located within the City's Central San José Planning Area outside of Downtown San José. The Central San José Planning Area is predominately comprised of the downtown core and surrounding areas comprised of various building types and architectural styles, major transportation corridors, and open space along the Guadalupe River and Coyote Creek.

The Project site is zoned as HI. The HI Zoning District allows for warehouse/delivery facilities, medium to heavy manufacturing, and wholesale establishments.

Applicable Plans, Policies, and Regulations

Santa Clara Valley Habitat Plan

The City is under the jurisdiction of the Habitat Plan, a collaborative effort intended to protect and enhance ecological diversity and function within a large section of Santa Clara County, while allowing for currently planned development and growth. The Habitat Plan provides a framework for the protection of natural resources while streamlining and improving the environmental permitting process for both private and public development, including activities such as road, water, and other infrastructure construction

and maintenance work. The Habitat Plan is intended to provide environmental benefit by resulting in the creation of a number of new habitat reserves larger in scale and more ecologically valuable than the fragmented, piecemeal habitats yielded by mitigating projects on an individual basis.

City of San José General Plan

The following policies in the General Plan have been adopted for the purpose of avoiding or mitigating land use impacts resulting from planned development within the City.

Policy CD-1.12: Use building design to reflect both the unique character of a specific site and the context of surrounding development and to support pedestrian movement throughout the building site by providing convenient means of entry from public streets and transit facilities where applicable, and by designing ground level building frontages to create an attractive pedestrian environment along building frontages. Unless it is appropriate to the site and context, franchise-style architecture is strongly discouraged.

Policy CD-1.18: Minimize the footprint and visibility of parking areas. Where parking areas are necessary, provide aesthetically pleasing and visually interesting parking garages with clearly identified pedestrian entrances and walkways. Encourage designs that encapsulate parking facilities behind active building space or screen parked vehicles from view from the public realm. Ensure that garage lighting does not impact adjacent, and to the extent feasible, avoid impacts of headlights on adjacent land uses.

Policy CD-1.24: Further the Community Forest Goals and Policies in this Plan by requiring new development to plant and maintain trees at appropriate locations on private property and along public street frontages. Use trees to help soften the appearance of the built environment, help provide transitions between land uses, and shade pedestrian and bicycle areas.

Policy CD-2.3: Enhance pedestrian activity by incorporating appropriate design techniques and regulating uses in private developments, particularly in Downtown, Urban Villages, Corridors, Main Streets, and other locations where appropriate.

a. Include attractive and interesting pedestrian-oriented streetscape features such as street furniture, pedestrian scale lighting, pedestrian oriented way-finding signage, clocks, fountains, landscaping, and street trees that provide shade, with improvements to sidewalks and other pedestrian ways.

b. Strongly discourage drive-up services and other commercial uses oriented to occupants of vehicles in pedestrian-oriented areas. Uses that serve the vehicle, such as car washes and service stations, may be considered appropriate in these areas when they do not disrupt pedestrian flow, are not concentrated in one area, do not break up the

building mas of the streetscape, are consistent with other policies in this Plan, and are compatible with the planned uses of the area.

c. Provide pedestrian connections as outlined in the Community Design Connections Goal and Policies.

d. Locate retail and other active uses at the street level.

e. Create easily identifiable and accessible building entrances located on street frontages or paseos.

f. Accommodate the physical needs of elderly populations and persons with disabilities.

g. Integrate existing or proposed transit stops in project designs.

Policy CD-4.9: For development subject to design review, ensure the design of new or remodeled structures is consistent or complementary with the surrounding neighborhood fabric (including but not limited to prevalent building scale, building materials, and orientation of structures to the street).

Discussion

a) Physically divide an established community?

Less than Significant Impact. The Project site is currently developed and located in an urban area with similar surrounding land uses including commercial, office, and industrial uses. The nearest residences are located approximately 800 feet west of the Project site beyond commercial land uses immediately adjacent to the west of the Project site. Since the Project would redevelop an existing industrial property with an industrial use and would be surrounded by similar land uses and the nearest residences are 800 feet west of the Project site, the Project would not physically divide an established community or neighborhood and impacts would be less than significant. As such, this issue will not be further analyzed in the Draft EIR.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact. The General Plan land use designation for the Project site is Heavy Industrial (HI). The HI land use designation allows for a FAR of up to 1.5 and up to three (3) stories. Consistent with the HI designation, the warehouse proposed by the Project would have a FAR that does not exceed 1.5 and would be one story.

The City's development standards for the HI zoning designation apply to the Project site. The development standards (San José Municipal Code Section 20.50.200) require a minimum lot area of 6,000 square feet, a minimum street frontage of 60 feet, and a maximum building height of 50 feet. Consistent with the development standards, the Project is located on a 17.63-acre lot with an appropriate street frontage and maximum building height of 46 feet. Further, the Project would meet setback requirements for the HI zone that require front building and parking setbacks of 15 feet; a side setback of zero (0) feet from automobile parking and driveways, truck parking, and buildings; and a rear building and parking setback of zero (0) feet.

Per the City's amended Parking Ordinance, there are no minimum parking requirements for the Project site. The Project would provide approximately 178 employee parking stalls. Consistent with the California Building Code and City code, the Project would provide 10 accessible parking stalls, 18 electric vehicle

parking stalls, 72 electric vehicle capable stalls, 18 bicycle parking stalls, and 5 motorcycle parking stalls. Further, the Project would include 9 loading docks and parking/circulation improvements accommodating up to 413 delivery vans. The proposed warehouse building and associated surface parking would be consistent with the General Plan land use designation and zoning of the Project site.

The Project site is located approximately 3.4 miles southeast of Norman Y. Mineta San José International Airport, the closest major airport. The Project site is located approximately 2.7 miles southwest of the Reid Hillview Airport, the closest minor airport. According to Figures 3.8-1 and 3.8-2 in the General Plan EIR, the Project site is not located within the San José International or Reid-Hill Airport Safety Zones. The Project site is also not located within the "Airport Influence Area" defined by the Santa Clara County Airport Land Use Commission's CLUP. Therefore, the Project would not conflict with the CLUP.

The Project site is located within the Habitat Plan study area, however it is not designated as a natural community area or identified as an important habitat for endangered and threatened species. Any native vegetation that may have existed on the Project site was previously cleared when the site was initially developed. The Project would comply with the General Plan land use designation, zoning designation, CLUP, and Habitat Plan. Therefore, the Project would not conflict with a land use plan, policy, or regulation and impacts would be less than significant. As such, this issue will not be further analyzed in the Draft EIR.

4.12 Mineral Resources

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Existing Setting

Mineral resources known to exist in and near the Santa Clara Valley include cement, sand, gravel, crushed rock, clay, and limestone. Santa Clara County has also supplied a significant portion of the nation's mercury over the past century. According to the Surface Mining and Reclamation Act of 1975 (SMARA), the State Mining and Geology Board (SMGB) has designated the Communications Hill Area, bounded generally by the Union Pacific Railroad, Curtner Avenue, State Route 87, and Hillsdale Avenue as containing mineral deposits which are of regional significance as a source of construction aggregate materials. The General Plan identifies the area around Communications Hill as the only area in San José containing mineral deposits of regional significance by the State Mining and Geology Board under SMARA. The Project is not located within the Communications Hill area.

Neither the State Geologist nor the SMGB has classified any other areas in San José as containing mineral deposits which are either of statewide significance or the significance of which requires further evaluation. Therefore, other than the Communications Hill area cited above, San José does not have mineral deposits subject to SMARA.

Applicable Plans, Policies, and Regulations

Surface Mining and Reclamation Act

The SMARA was enacted by the California Legislature in 1975 to address the need for a continuing supply of mineral resources, and to prevent or minimize the negative impacts of surface mining to public health, property and the environment. As mandated under SMARA, the State Geologist has designated mineral land classifications in order to help identify and protect mineral resources in areas within the state subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the SMGB, after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance.

Pursuant to the mandate of the SMARA, the SMGB has designated the Communications Hill Area (Sector EE), bounded generally by the Southern Pacific Railroad, Curtner Avenue, SR 87, and Hillsdale Avenue as containing mineral deposits that are of regional significance as a source of construction aggregate materials. Neither the State Geologist nor the SMGB have classified any other areas in San José as containing mineral deposits of statewide significance or requiring further evaluation.

Discussion

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. The Project site is not located in an area known to have mineral resources.[32] The Project would not hinder or preclude any existing mineral extraction operations, as no existing mineral extraction operations occur on-site. Consistent with CEQA Guidelines Section 15128, these issues will not be further analyzed in the EIR as no impacts would occur.

[32] Department of Conservation. CGS Information warehouse: Mineral Land Classification. https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc. Accessed September 16, 2024.

4.13 Noise and Vibration

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generate excessive groundborne vibration or groundborne noise levels?			X	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels?			X	

The Project's impacts related to noise and vibration are evaluated in Section 3.6, Noise and Vibration, of the Draft EIR. No further analysis is provided in this Initial Study.

4.14 Population and Housing

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

Existing Setting

The population of the City is approximately 969,491 persons as of May 2024.[33] The California Department of Finance estimates 2.86 persons per household in San José. According to the General Plan EIR, the City estimates approximately 138,442 additional households to be added in the City by 2035 for a total of 429,350 households in 2035. The unemployment rate for the City as of September 2024 was 4.3 percent.[34] The Project site is vacant and does not currently support any jobs.

Applicable Plans, Policies, and Regulations

California Government Code Sections 65580–65589

California Government Code Sections 65580–65589.8 include provisions related to the requirements for housing elements of local government general plans. Among these requirements, some of the necessary elements include an assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs. Additionally, to assure that counties and cities recognize their responsibilities in contributing to the attainment of the state housing goals, the statute calls for local jurisdictions to plan for, and allow the construction of, a share of the region's projected housing needs, or Regional Housing Needs Assessment (RHNA).

[33] California Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2024. Available at: https://dof.ca.gov/Forecasting/Demographics/Estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2024/. Accessed September 16, 2024.

[34] State of California Employment Development Department. Available at: https://labormarketinfo.edd.ca.gov/file/lfmonth/allsubs.xls. Accessed October 31, 2024.

Regional Transportation Plan/ Sustainable Community Strategy

The Regional Transportation Plan (RTP)/Sustainable Community Strategy (SCS) for the Bay Area region was adopted on July 18, 2013. This regional plan sets integrated development, housing and transportation goals with the aim of reducing greenhouse gas (GHG) emissions.

Discussion

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project would not construct any residential uses and would not result in direct population growth. While the Project would create an estimated 600 jobs, as noted by the Project applicant, it would not induce unplanned population growth within the City.[35] The existing Project site is developed with vacant industrial buildings that could be re-occupied, by-right. However, this analysis assumes a conservative existing condition baseline. As such, it is assumed that currently no jobs are generated on the Project site. The Project land use is consistent with the General Plan land use, and therefore any potential growth from implementation of the Project was planned for in the General Plan and considered in the General Plan EIR. The Project would not include infrastructure expansion with the potential to induce population growth. As such, no unplanned population growth is anticipated due to the Project. Further, the Project would not result in the removal of any residential units or displacement of people such that construction of replacement housing would be required. Thus, no impacts would occur due to unplanned population growth or displacement of existing people and housing. Since no impacts would occur, these issues will not be further analyzed in the EIR.

[35] Strategic Economics. San Jose Market Overview and Employment Lands Analysis, prepared for the City of San José Four-Year General Plan Review. Available at https://www.sanjoseca.gov/home/showpublisheddocument/22529/636688929663530000. Accessed September 16, 2024.

4.15 Public Services

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?			X	
ii) Police protection?			X	
iii) Schools?			X	
iv) Parks?				X
v) Other public facilities?				X

Existing Setting

Fire Protection Services

Fire protection services in the City are provided by the San José Fire Department. The City has 34 fire stations.[36] The nearest fire station to the Project site is Station 3 located at 98 Martha Street, approximately 0.5 mile northwest of the Project site. The next closest fire station to the Project site is Station 26, located at 528 Tully Road, approximately 1.2 miles southeast of the Project site.

The San José Fire Department had 109,136 fire and other incidents in the City in 2022-2023. The average travel time for fiscal year 2022-2023 was greater than 4 minutes.[37]

[36] City of San José. Fire Stations. Available at: https://www.sanjoseca.gov/your-government/departments-offices/fire-department/fire-stations. Accessed on September 16, 2024.
[37] City of San José. Fire Department Operations Annual Report Memo. Available at: https://sanjose.legistar.com/View.ashx?M=F&ID=12849151&GUID=EC3D32BD-0061-4DDC-A44E-5EDFF9C39139. Accessed on September 16, 2024.

Police Protection

Police protection services are provided to the Project site by the San José Police Department (SJPD). Headquarters are located at 201 West Mission Street, approximately 2.9 miles northwest of the Project site.

Schools

The Project site is located within the San José Unified School District. Students in the Project area attend Ernesto Galarza Elementary School (grades K-5), Herbert Hoover Middle School (grades 6-8), and Abraham Lincoln High School (grades 9-12).[38]Public charter schools within the Project area include DCP El Camino Middle and High School (grades 5-12). The nearest school to the Project site is Downtown College Preparatory Charter School located approximately 100 feet to the west of the Project site.

Other Public Facilities, Libraries

The San José Public Library System consists of one main library and 24 branch libraries. The main library, Dr. Martin Luther King, Jr. Library, is located at 150 East San Fernando Street, approximately 1.5 miles northwest of the Project site. The nearest library branches to the Project site are listed below.[39]

- Biblioteca Latinoamericana Branch Library located at 921 South 1st Street, approximately 0.6 mile northwest of the Project site.
- Tully Community Branch Library located at 880 Tully Road, approximately 1.5 miles southeast of the Project site.
- Willow Glen Branch Library located at 1157 Minnesota Avenue, approximately 1.9 miles southwest of the Project site.

Applicable Plans, Policies, and Regulations

Police Services

All law enforcement agencies within California are organized and operate in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for police officers.

Fire Protection

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Fire hazards are addressed mainly through the application of the State Fire Code that addresses access, including roads, and vegetation removal in high fire hazard areas, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, and many other general and specialized fire safety requirements for new and existing buildings and premises.

California Occupational Safety and Health Administration

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing

[38] San José Unified School District. School Site Locator. Available at: https://portal.schoolsitelocator.com/apps/ssl/?districtcode=25499#. Accessed on September 16, 2024.
[39] City of San José Public Library. Locations and Hours. Available at: https://www.sjpl.org/locations. Accessed on September 16, 2024.

requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all fire-fighting and emergency medical equipment.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

Schools

Senate Bill 50

SB 50 (1998), which is funded by Proposition 1A, limits the power of cities and counties to require mitigation of developers as a condition of approving new development and provides instead for a standardized fee. SB 50 generally provides for a 50/50 state and local school facilities match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether state funding is available; whether the school district is eligible for state funding; and whether the school district meets certain additional criteria involving bonding capacity, year-round schools, and the percentage of moveable classrooms in use.

California Government Code sections 65995-65998 set forth provisions to implement SB 50. Specifically, in accordance with Section 65995(h), the payment of statutory fees is "deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization… on the provision of adequate school facilities." The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

Pursuant to Government Code section 65995(i), "A state or local agency may not deny or refuse to approve a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in Section 56021 or 56073 on the basis of a person's refusal to provide school facilities mitigation that exceeds the amounts authorized pursuant to this section or pursuant to Section 65995.5 or 65995.7, as applicable."

California Education Code Section 17620(a)(1) states that the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities.

California Government Code, Section 65995(b), and Education Code Section 17620

SB 50 amended California Government Code Section 65995, which contains limitations on Education Code Section 17620, the statute that authorizes school districts to assess development fees within school district boundaries. Government Code Section 65995(b)(3) requires the maximum square footage assessment for development to be increased every two years, according to inflation adjustments. On January 27, 2016, the State Allocation Board (SAB) approved increasing the allowable amount of statutory school facilities fees (Level I School Fees) from $3.36 to $3.39 per square foot of assessable space for residential development of 500 square feet or more, and from $0.54 to $0.55 per square foot of

chargeable covered and enclosed space for commercial/industrial development (State Allocation Board, 2016). School districts may levy high fees if they apply to the SAB and meet certain conditions.

City of San José Envision San José 2040 General Plan

The City's General Plan includes the following public services policies applicable to the Project:

Policy CD-5.5: Include design elements during the development review process that address security, aesthetics, and safety. Safety issues include, but are not limited to, minimum clearances around buildings, fire protection measures such as peak load water requirements, construction techniques, and minimum standards for vehicular and pedestrian facilities and other standards set forth in local, state, and federal regulations.

Policy ES-2.2: Construct and maintain architecturally attractive, durable, resource-efficient, and environmentally healthful library facilities to minimize operating costs, foster learning, and express in built form the significant civic functions and spaces that libraries provide for the San José community. Library design should anticipate and build in flexibility to accommodate evolving community needs and evolving methods for providing the community with access to information sources. Provide at least 0.59 square feet of space per capita in library facilities.

Policy ES-3.1: Provide rapid and timely Level of Service response time to all emergencies:

1. For police protection, use as a goal a response time of six minutes or less for 60 percent of all Priority 1 calls, and of eleven minutes or less for 60 percent of all Priority 2 calls.

2. For fire protection, use as a goal a total response time (reflex) of eight minutes and a total travel time of four minutes for 80 percent of emergency incidents.

Policy ES-3.9: Implement urban design techniques that promote public and property safety in new development through safe, durable construction and publicly-visible and accessible spaces.

Policy ES-3.11: Ensure that adequate water supplies are available for fire-suppression throughout the City. Require development to construct and include all fire suppression infrastructure and equipment needed for their projects.

Policy PR-1.2: Provide 7.5 acres per 1,000 population of citywide/regional park and open space lands through a combination of facilities provided by the City of San José and other public land agencies.

Discussion

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i. Fire protection?

ii. Police protection?

iii. Schools?

iv. Parks?

b) Other public facilities?

No Impact. The Project would not include the construction of residences or recreational facilities. The Project site would include emergency vehicle access to the Project site. The Project would be constructed in accordance with current building codes, fire codes, and City policies to avoid unsafe building conditions and promote public safety.

As discussed in 4.14, Population and Housing, the Project would not result in substantial, unplanned direct or indirect population growth through the creation of an estimated 600 jobs because the Project is considered consistent with the planned level of growth. As such, the Project would not increase demand on parks, police services, fire services, schools, and other public resources such that new or physically altered facilities would be necessary. Further, the proposed use is consistent with the General Plan land use designation. Therefore, no substantial adverse physical impacts would occur related to fire protection, police protection, schools, parks, and other public facilities. Since impacts would be less than significant, these issues will not be further analyzed in the EIR, consistent with CEQA Guidelines Section 15182.

4.16 Recreation

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Existing Setting

The City owns 205 neighborhood-serving parks and 10 regional parks.[40] The closest City managed or owned parks to the Project site are:

- Bellevue Park located at 1595 Sanborn Avenue, approximately 0.2 mile southwest of the Project site.
- Elia Park and Alma Community Center, located at 136 West Alma Avenue, approximately 0.3 mile west of the Project site.
- Robert Antonio Balermino Park located at 1527 Almaden Expressway, approximately 0.7 mile southwest of the Project site.
- Tamien Park located at 1145 Lick Avenue, approximately 0.8 mile west of the Project site.

The closest regional park is Kelley Park located at 1300 Senter Road, approximately 0.5 mile northeast of the Project site.

Applicable Plans, Policies, and Regulations

[40] City of San José, Parks & Trails, Available at https://www.sanjoseca.gov/your-government/departments-offices/parks-recreation-neighborhood-services/parks-trails. Accessed October 7, 2024

The Quimby Act

The Quimby Act (California Government Code §66477) authorizes cities and counties to adopt ordinances requiring new development to dedicate land or pay fees or provide a combination of both for park improvements.

Parkland Dedication Ordinance and Park Impact Ordinance

The City of San José enacted the Parkland Dedication Ordinance (PDO)[41] (Municipal Code Chapter 19.38) in 1988 to help meet the demand for new neighborhood and community parkland generated by the development of new residential subdivisions. In 1992, the City Council adopted the Park Impact Ordinance (PIO)[42], which is similar to the PDO, but applies to new non-subdivided residential projects such as apartment buildings. These ordinances are consistent with provisions of the California Quimby Act (GC § 66477), Mitigation Fee Act (GC § 66000), Subdivision Map Act (GC § 66410), and associated federal statutes.

Consistent with these ordinances, housing developers are required to dedicate land, improve parkland, and/or pay a parkland fee in lieu of land dedication for neighborhood and community parks under the PDO and PIO. Pursuant to these ordinances a residential project's parkland obligation under the PDO and PIO is equivalent in land to three acres for every 1,000 new residents added by the housing development. A project can satisfy its obligation through land dedication, the payment of an in-lieu fee, the construction of new park facilities, or a provide combination of these.

City of San José Envision San José 2040 General Plan

The City's General Plan includes the following public services policies applicable to the Project:

Policy PR-1.1:	Provide 3.5 acres per 1,000 population of neighborhood/community serving parkland through a combination of 1.5 acres of public park and 2.0 acres of recreational school grounds open to the public per 1,000 San José residents.
Policy PR-1.2:	Provide 7.5 acres per 1,000 population of citywide/regional park and open space lands through a combination of facilities provided by the City of San José and other public land agencies.
Policy PR-1.3:	Provide 500 square feet per 1,000 population of community center space.
Policy PR-2.4:	To ensure that residents of a new project and existing residents in the area benefit from new amenities, spend Park Dedication Ordinance (PDO) and Park Impact Ordinance (PIO) fees for neighborhood serving elements (such as

[41] City of San José Municipal Code. Title 19.38. Available at: https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT19SU_CH19.38PADE. Accessed September 16, 2024.
[42] City of San José Municipal Code. Title 14.25. Available at: https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT14PUWOIM_CH14.25PAIMRE. September 16, 2024.

	playgrounds/tot-lots, basketball courts, etc.) within a ¾ mile radius of the project site that generates the funds.
Policy PR-2.5:	Spend, as appropriate, PDO/PIO fees for community serving elements (such as soccer fields, community gardens, community centers, etc.) within a 3-mile radius of the residential development that generates the PDO/PIO funds.
Action PR-1.12	Regularly update and utilize San José's Parkland Dedication Ordinance / Parkland Impact Ordinance (PDO/PIO) to implement quality facilities.

Discussion

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The Project would not include construction of recreational facilities. While the existing Project site is developed with industrial buildings that could be re-occupied, by-right, this CEQA analysis conservatively uses an existing conditions baseline. Thus, it is assumed that currently no jobs are generated on the Project site. As discussed in 4.14, Population and Housing, the Project would not result in substantial, unplanned direct or indirect population growth as a result of the creation of an estimated 600 jobs. As such, development of the Project would not result in the deterioration or increase in the use of recreational facilities and impacts to recreational resources would be less than significant. Since impacts would be less than significant, these issues will not be further analyzed in the EIR, consistent with CEQA Guidelines Section 15182.

4.17 Transportation

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

The Project's impact related to transportation is evaluated in Section 3.7, Transportation, of the Draft EIR. No further analysis is provided in this Initial Study.

4.18 Tribal Cultural Resources

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:		X		
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?		X		
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?		X		

The Project's impact related to tribal cultural resources is evaluated in Section 3.8, Tribal Cultural Resources, of the Draft EIR. No further analysis is provided in this Initial Study.

4.19 Utilities and Service Systems

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				X
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				X
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				X

Existing Setting

The Project site is located within the Urban Service Area of the City of San José and is currently served by City services. The Project site currently has an existing six inch sanitary sewer mains along the East Alma Avenue frontage and the South 7th Street frontage. There is an existing 15-inch storm sewer main along the East Alma Avenue frontage and an existing 24-inch storm sewer main along the South 7th Street frontage.

Utilities and services are furnished to the Project site by the following providers:

Wastewater Treatment: Wastewater treatment and disposal is provided by the San José/Santa Clara RWF[43], formerly known as the San José /Santa Clara Water Pollution Control Plant. Sanitary sewer lines are maintained by the City of San José.

Water Service: Water service in the City is provided by San José Water Company (SJWC).

Storm Drainage: City of San José.

Solid Waste: Republic Services (Dry, Customized, and Wet).

Natural Gas & Electricity: Pacific Gas and Electric (PG&E).

Telecommunications: AT&T, Comcast, Verizon, T-Mobile, Viasat, Frontier, and Spectrum

Applicable Plans, Policies, and Regulations

State Water Code

Pursuant to the State Water Code, water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (approximately 980 million gallons) of water annually must prepare and adopt an urban water management plan (UWMP) and update it every five years. As part of a UWMP, water agencies are required to evaluate and describe their water resource supplies and projected needs over a 20-year planning horizon, water conservation, water service reliability, water recycling, opportunities for water transfers, and contingency plans for drought events. The City of San José adopted its most recent UWMP in June 2021.[44]

Assembly Bill 939

The California Integrated Waste Management Act of 1989, or AB 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated the local jurisdictions divert from the landfill at least 50 percent of solid waste generated beginning January 1, 2000.".

Assembly Bill 341

AB 341 sets forth the requirements of the statewide mandatory commercial recycling program. Businesses that generate four or more cubic yards of garbage per week and multi-family dwellings with five or more units in California are required to recycle. AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

Senate Bill 1383

SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The bill grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes

[43] City of San José. San José-Santa Clara Regional Wastewater Facility. Available at https://www.sanjoseca.gov/your-government/departments-offices/environmental-services/water-utilities/regional-wastewater-facility. Accessed September 16, 2024

[44] City of San José. City of San Jose 2020 Urban Water Management Plan. June 2021. Available at https://www.sanjoseca.gov/home/showpublisheddocument/422/637602045327100000. Accessed October 7, 2024.

an additional target that at least 20 percent of currently disposed edible food is recovered for human consumption by 2025.

Assembly Bill 1826 (2014)

AB 1826 sets forth the requirements of the statewide mandatory commercial organics recycling program for businesses and multi-family dwellings with five or more units that generate four or more (two or more by December 31, 2020) cubic yards of commercial solid waste per week. AB 1826 set a statewide goal for 50 percent reduction in organic waste disposal by the year 2020.

California Green Building Standards Code Compliance for Construction, Waste Reduction, Disposal, and Recycling

In January 2023, the State of California adopted the most recent version of the California Green Building Standards Code (CALGreen), establishing mandatory green building standards for all new and qualifying remodeled structures in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. These standards include the following mandatory set of guidelines, as well as more rigorous voluntary measures, for new construction projects to achieve specific green building performance levels:

- Reducing indoor water use by 20 percent;
- Reducing wastewater by 20 percent;
- Recycling and/or salvaging 65 percent of nonhazardous construction and demolition ("C&D") debris, or meeting the local construction and demolition waste management ordinance, whichever is more stringent (see San José-specific CALGreen building code requirements in the local regulatory framework section below); and
- Providing readily accessible areas for recycling by occupant.

The City of San José requires 75 percent diversion of nonhazardous construction and demolition debris for projects that qualify under CALGreen, which is more stringent than the state requirement of 65 percent (San José Municipal Code Section 9.10.2480).

Construction and Demolition Diversion Deposit Program

The Construction and Demolition Diversion Deposit Program (CDDD) requires projects to divert at least 50% of total projected waste to be refunded the deposit. Permit holders pay this fully refundable deposit upon application for the construction permit with the City if the project is a demolition, alteration, renovation, or a certain type of project tenant improvement. The minimum project valuation for a deposit is $2,000 for an alteration-renovation residential project and $5,000 for a non-residential project. There is no minimum valuation for a demolition project and no square footage limit for the deposit applicability. The deposit is fully refundable if C&D materials were reused, donated, or recycled at a City-certified processing facility. Reuse and donation require acceptable documentation, such as photos, estimated weight quantities, and receipts from donations centers stating materials and quantities.

Though not a requirement, the permit holder may want to consider conducting an inventory of the existing building(s), determining the material types and quantities to recover, and salvaging materials during deconstruction.

Urban Water Management Plan

Pursuant to The State Water Code, water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (approximately 980 million gallons) of water annually must prepare and adopt an urban water management plan (UWMP) and update it every five years. As part of a UWMP, water agencies are required to evaluate and describe their water resource supplies and projected needs over a 20-year planning horizon, water conservation, water service reliability, water recycling, and opportunities for water transfers, and contingency plans for drought events. The Santa Clara Valley Water District (SCVWD) adopted its most recent UWMP in 2015.

San José Zero Waste Strategic Plan/ Climate Smart San José

Climate Smart San José provides a comprehensive approach to achieving sustainability through new technology and innovation. The Zero Waste Strategic Plan outlines policies to help the City of San José foster a healthier community and achieve its Climate Smart San José goals, including 75 percent diversion of waste from the landfill by 2013 and zero waste by 2022. Climate Smart San José also includes ambitious goals for economic growth, environmental sustainability, and enhanced quality of life for San José residents and businesses.

Private Sector Green Building Policy

The City of San José's Green Building Policy for private sector new construction encourages building owners, architects, developers, and contractors to incorporate meaningful sustainable building goals early in building design process. This policy establishes baseline green building standards for private sector new construction and provides a framework for the implementation of these standards. It is also intended to enhance the public health, safety, and welfare of San José residents, workers, and visitors by fostering practices in the design, construction, and maintenance of buildings that will minimize the use and waste of energy, water and other resources in the City of San José.

City of San José Envision San José 2040 General Plan

The City's General Plan includes the following utility and service policies applicable to the project:

Policy MS-1.4: Foster awareness in San José's business and residential communities of the economic and environmental benefits of green building practices. Encourage design and construction of environmentally responsible commercial and residential buildings that are also operated and maintained to reduce waste, conserve water, and meet other environmental objectives.

Policy MS-3.1: Require water-efficient landscaping, which conforms to the State's Model Water Efficient Landscape Ordinance, for all new commercial, institutional, industrial,

and developer-installed residential development unless for recreation needs or other area functions.

Policy MS-3.2: Promote use of green building technology or techniques that can help to reduce the depletion of the City's potable water supply as building codes permit.

Policy MS-3.3: Promote the use of drought tolerant plants and landscaping materials for nonresidential and residential uses.

Policy IN-3.3: Meet the water supply, sanitary sewer and storm drainage level of service objectives through an orderly process of ensuring that, before development occurs, there is adequate capacity. Coordinate with water and sewer providers to prioritize service needs for approved affordable housing projects.

Policy IN-3.5: Require development which will have the potential to reduce downstream LOS to lower than "D", or development which would be served by downstream lines already operating at a LOS lower than "D", to provide mitigation measures to improve the LOS to "D" or better, either acting independently or jointly with other developments in the same area or in coordination with the City's Sanitary Sewer Capital Improvement Program.

Policy IN-3.7: Design new projects to minimize potential damage due to stormwaters and flooding to the site and other properties.

Policy IN-3.9: Require developers to prepare drainage plans that define needed drainage improvements for proposed developments per City standards.

Policy IN-3.10: Incorporate appropriate stormwater treatment measures in development projects to achieve stormwater quality and quantity standards and objectives in compliance with the City's National Pollutant Discharge Elimination System (NPDES) permit.

Policy MS-17.2: Ensure that development within San José is planned and built in a manner consistent with sustainable use of current and future water supplies by encouraging sustainable development practices, including low-impact development, water-efficient development and green building techniques. Support the location of new development within the vicinity of the recycled water system and promote expansion of the SBWR system to areas planned for new development. Residential development outside of the Urban Service Area can be approved only at minimal levels and only allowed to use non-recycled water at urban intensities. For residential development outside of the Urban Service Area, restrict water usage to well water, rainwater collection or other similar sustainable practice. Non-residential development may use the same sources and potentially make use of recycled water provided that its use will not result in conflicts with other General Plan policies, including geologic or habitat impacts. To maximize the efficient and environmentally beneficial use of water, outside of the Urban Service Area, limit water consumption for new development so that it

	does not diminish the water supply available for projected development within San Jose's urbanized areas.
Policy MS-19.1:	Require new development to contribute to the cost-effective expansion of the recycled water system in proportion to the extent that it receives benefit from the development of a sustainable local water supply.
Policy MS-19.4:	Require the use of recycled water wherever feasible and cost-effective to serve existing and new development.
Action EC-5.16:	Implement the Post-Construction Urban Runoff Management requirements of the City's Municipal NPDES Permit to reduce urban runoff from project sites.

Discussion

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water Supply

No Impact. The Project site is currently developed, and existing buildings are vacant. Water service to the Project site is currently provided by SJWC. The Project would continue to use SJWC as the water service provider. The Project would be consistent with the development and growth anticipated by the General Plan. In the 2020 Urban Water Management Plan, SJWC estimated that the total water demand for their service area could reach approximately 45,605 million gallons (MG) per year by 2045.[45]

While the existing Project site is developed with industrial buildings that could be re-occupied, by-right, this CEQA analysis conservatively uses an existing conditions baseline. As such, it is assumed that all structures are vacant on the Project site. The Project would provide new eight-inch connections to the existing municipal water system for a fire water connection in the northwestern corner of the Project site, in addition to one two-inch irrigation water connection, one four-inch irrigation water connection in landscaped areas and another eight-inch fire water connection in the southeastern corner of the Project site. Based on SJWC demand rates and the number of employees anticipated for the Project, the Project would have a water demand of approximately 17,400 gallons per day (gpd).[46] This is equivalent to approximately 6.35 MG per year.[47] Water demand associated with the Project would represent approximately 0.014 percent of the 45,605 MG per year projected to be supplied by the SJWC in 2045. Therefore, the increase in water demand as a result of the Project is within the anticipated increase accounted for in the 2020 SJWC UWMP. Further, the Project is consistent with the maximum build out of the General Plan considered by the General Plan EIR. Therefore, the Project demand is within normal growth projections for water demand in the SJWC system. In addition, implementation of the 2040 General Plan policies, existing regulations, and local programs would ensure that the Project would reduce water consumption and implement water conservation measures. Thus, relocation or construction of new or

[45] San José Water Company. 2020 Urban Water Management Plan. June 2021. Available at https://www.sjwater.com/sites/default/files/2021-06/2020%20UWMP%20FINAL%20with%20Appendices.pdf. Accessed October 1, 2024.
[46] SJWC uses an office and industrial water demand factor of 29 gallons per day per employee. Total Water Demand = (29 gpd per employee*600 employees) = 17,400 gpd.
[47] 17,400 gpd * 365 days = 6,351,000 gallons per year / 1,000,000 gallons = 6.35 MG per year.

expanded water facilities would not be needed and there would be no impact and this issue will not be further analyzed in the Draft EIR.

Wastewater

No Impact. The Project site is served by the San José-Santa Clara RWF. The Project would utilize existing sanitary sewer connections. While the existing Project site is developed with industrial buildings that could be re-occupied, by-right, this CEQA analysis conservatively uses an existing conditions baseline. Since the existing Project site is vacant, the Project would result in an increase in wastewater generation. This analysis conservatively assumes that all water demand for the Project would become wastewater, approximately 17,400 gpd. Since the San José-Santa Clara RWF has a capacity of 167 mgd and the average daily treatment amount at the time of writing is 110 mgd, the facility has approximately 57 mgd of excess treatment capacity.[48] Wastewater from the Project would comprise 0.03 percent of the available excess treatment capacity. Development of the Project would not cause the San José-Santa Clara RWF to exceed capacity.

Environmental impacts from the construction of new or expanded facilities would be avoided by utilization of existing facilities, which are currently below capacity and are not expected to exceed capacity due to the demand from the Project. Thus, the treatment capacity of the RWF would be sufficient and would not require relocation or construction of new or expanded wastewater facilities and there would be no impact and this issue will not be further analyzed in the Draft EIR.

Stormwater

Less than Significant Impact. As discussed in Section 4.10, Hydrology and Water Quality, implementation of the Project would decrease impervious surfaces on the Project site and would include flow-through stormwater planters, bioretention areas, and connection to existing storm drains. The Project would include installation of a new 24-inch connection and storm drain manhole to the City's sewer system on South 7th Street. The new storm drain manhole would improve stormwater management and would not result in significant environmental effects. This issue will not be further analyzed in the Draft EIR.

Electric Power, Natural Gas, and Telecommunications Facilities

No Impact. As the Project site is developed with an existing industrial use, infrastructure on the Project site is already established. PG&E would provide electricity services for the Project. Telecommunications would be provided by either AT&T, Comcast, Verizon, T-Mobile, Viasat, Frontier, or Spectrum, the providers available for the Project site. Therefore, the Project would not require or result in the relocation or construction of new or expanded electric power, natural gas, or telecommunications facilities and there would be no impact, This issue will not be further analyzed in the Draft EIR.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant Impact. The Project would generate a water demand of 17,400 gpd. Water usage associated with the Project would represent less than less than one percent of the projected water supply of 45,605 MG per year by 2045 [49]. This increase in water demand was accounted for in the 2020 SJWC

[48] City of San José. San José – Santa Clara Regional Wastewater Facility Fact Sheet. April 2025. Available at https://www.sanjoseca.gov/home/showpublisheddocument/120534/638799613545870000. Accessed September 3, 2025.
[49] San José Water Company. 2020 Urban Water Management Plan. June 2021. Available at https://www.sjwater.com/sites/default/files/2021-06/2020%20UWMP%20FINAL%20with%20Appendices.pdf. Accessed October 1, 2024.

UWMP as the 2020 SJWC UWMP considered build out of the General Plan. Thus, impacts would be less-than-significant. As such, this issue will not be further analyzed in the Draft EIR.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. While the existing Project site is developed with industrial buildings that could be re-occupied, by-right, this CEQA analysis conservatively uses an existing conditions baseline, which assumes all existing buildings on-site are vacant. This analysis conservatively assumes that all water demand for the Project would become wastewater, approximately 17,400 gpd. Since the San José-Santa Clara RWF has a capacity of 167 mgd and the average daily treatment amount at the time of writing is 110 mgd, the facility has approximately 57 mgd of excess treatment capacity.[50] Wastewater from the Project would comprise 0.03 percent of the available excess treatment capacity. Development of the Project would not cause the San José-Santa Clara RWF to exceed capacity. Therefore, the demand from the Project would result in a determination by the wastewater provider that it has adequate capacity to meet demand as a result of the previously mentioned policies, regulations and local programs and there would be no impact and this issue will not be further analyzed in the Draft EIR.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. In 2019, there were approximately 600,000 tons of material generated in San José that was disposed in various landfills throughout the State. Newby Island Sanitary Landfill (NISL), however, only received approximately 290,000 of that tonnage. The City has an annual disposal allocation for 395,000 tons per year at NISL. With the current disposal allocation, NISL is intended to reach capacity in 2041.

The Project would generate approximately 1,516.15 pounds per day (ppd) of solid waste.[51] As such, the Project would result in an increased generation of solid waste as compared to existing conditions. The General Plan EIR concluded that the increase in solid waste generated by full buildout under the General Plan would not cause the City to exceed the capacities of the operating landfills that serve the City. The Project is consistent with the maximum build out of the General Plan considered by the General Plan EIR. Further, excess solid waste generation from the Project would be avoided with the ongoing implementation of the City's Zero Waste Strategic Plan. Compliance with the General Plan policies, existing regulations, and local programs would ensure that the Project would not result in significant impacts to landfill capacities to accommodate the City's increased service population. Therefore, there would be no impact and this issue will not be further analyzed in the Draft EIR.

[50] City of San José. San José – Santa Clara Regional Wastewater Facility Fact Sheet. April 2025. Available at https://www.sanjoseca.gov/home/showpublisheddocument/120534/638799613545870000. Accessed September 3, 2025.

[51] Estimated solid waste generation rates were obtained from CalRecycle. Total ppd generated by Project = 106,771 SF of warehouse*(1.42 lb/100 sf/day) = 1,516.15 ppd

4.20 Wildfire

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X

Existing Setting

The 17.63-acre site is located within an urban area and is predominately surrounded by industrial and commercial uses. According to the California Department of Forestry and Fire Protection Fire Hazard Severity Zone (FHSZ) map last updated in June 2023, the Project site is within a Local Responsibility Area (LRA) and is not located in a FHSZ.[52] The nearest LRA very high fire hazard severity zone is approximately seven miles east of the Project site.

The Project site is not located within a State Responsibility Area (SRA). The nearest SRA is located nine miles northwest of the Project site and is not zoned as high fire hazard severity. The Project site is also

[52] California Department of Forestry and Fire Protection. Fire Hazard Severity Zones. Available at: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones . Accessed on September 16, 2024.

outside of the Santa Clara County Wildland Urban Interface Fire Area.[53] See **Figure 4.20-1** and **Figure 4.20-2** for Project site location relative to fire hazard severity zones and the Santa Clara County WUI area.

The City participated in the development of the Santa Clara County Multijurisdictional Hazard Mitigation Plan. The hazard mitigation plan includes mitigation activities and strategies for dealing with hazards that are likely to impact the Bay Area, including wildfires. The City has also adopted an Emergency Operations and Evacuation Plan, which includes standard operating procedures for hazards, including urban/wildland interface fires. The Plan identifies the responsibilities of City personnel and coordination with other agencies to ensure the safety of San José citizens in the event of a fire, geologic, or other hazardous occurrence.

Applicable Plans, Policies, and Regulations

Fire Hazard Severity Zones

CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. Referred to as Fire Hazard Severity Zones (FHSZs), these maps influence how people construct buildings and protect property to reduce risk associated with wildland fires. FHSZs are divided into areas where the state has financial responsibility for wildland fire protection, known as SRAs, and areas where local governments have financial responsibility for wildland fire protection, known as LRAs. Homeowners living in an SRA are responsible for ensuring that their property is in compliance with California's building and fire codes. Only lands zoned for very high fire hazard are identified within LRAs.

Wildland-Urban Interface Fire Area Standards in the California Building Code

The 2007 California Building Code requires that any new buildings proposed in State Responsibility Areas, Local Agency Very-High Fire Hazard Severity Zone, or Wildland-Urban Interface Area (as designated by the enforcing agency) be constructed to meet the Wildland-Urban Interface Fire Area Building Standards. The California Building Code establishes minimum standards for materials and material assemblies in order to provide a reasonable level of exterior wildfire exposure protection for buildings in wildland-urban interface areas.

City of San José Envision San José 2040 General Plan

The City's General Plan includes the following wildfire policies applicable to the project:

Policy EC-8.1: Minimize development in very high fire hazard zone areas. Plan and construct permitted development so as to reduce exposure to fire hazards and to facilitate fire suppression efforts in the event of a wildfire.

Policy EC-8.2: Avoid actions which increase fire risk, such as increasing public access roads in very high fire hazard areas, because of the great environmental damage and economic loss associated with a large wildfire.

Policy EC-8.3 For development proposed on parcels located within a very high fire hazard severity zone or wildland-urban interface area, continue to implement requirements for building materials and assemblies to provide a reasonable level of exterior wildfire

[53] County of Santa Clara. Santa Clara County Wildland Urban Interface Fire Area. Available at: https://stgenpln.blob.core.windows.net/document/WUIFA_Adopted_Map.pdf. Accessed on September 16, 2024.

exposure protection in accordance with City-adopted requirements in the California Building Code.

Discussion

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

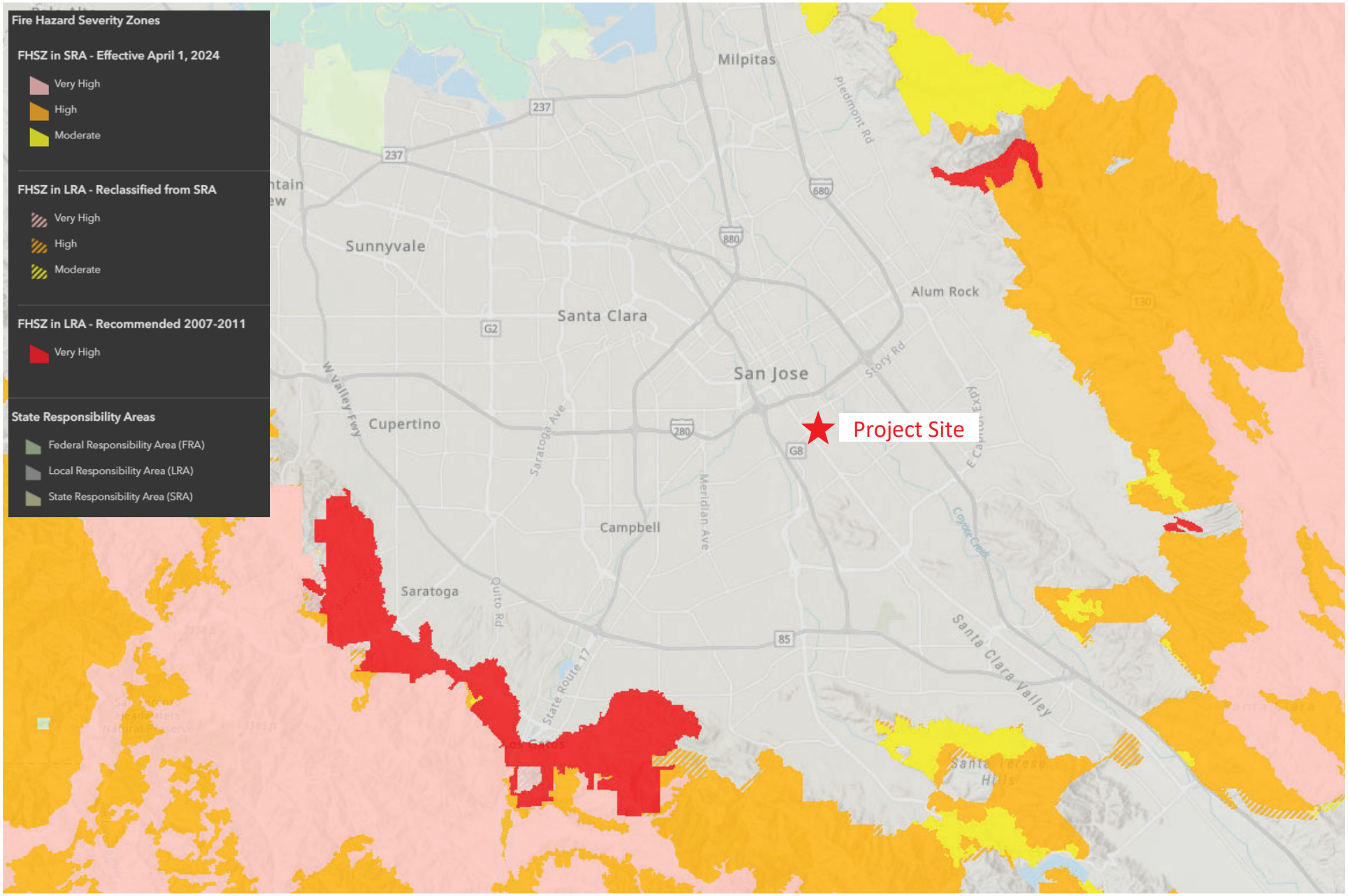
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The Project site is developed, relatively flat, and located within a developed and urbanized area. The Project site is not located within or adjacent to the urban wildland interface or a Local Responsibility Area Very High Fire Hazard Severity Zone.[54][55] All Project components, including infrastructure, would be constructed within the Project site outside of a Very High Fire Hazard Severity Zone. Therefore, the Project would not increase exposure to wildfire, nor wildfire-related risks which might have an adverse physical effect on the environment. As such, no impacts related to wildfire would occur and, consistent with CEQA Guidelines Section 15128, these issues will not be further analyzed in the EIR.

[54] California Department of Forestry and Fire Protection. State responsibility Area Fire Hazard Severity Zones. https://34c031f8-c9fd-4018-8c5a-4159cdff6b0d-cdn-endpoint.azureedge.net/-/media/osfm-website/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-map-2022/fire-hazard-severity-zones-maps-2022-files/fhsz_county_sra_11x17_2022_santaclara_2.pdf. Accessed September 17, 2024.

[55] Santa Clara County Fire Safe Council. Do you reside in Santa Clara County's Wildland urban Interface? (WUI). https://sccfiresafe.org/resources/do-you-reside-in-santa-clara-countys-wildland-urban-interface-wui/. Accessed September 17, 2024.



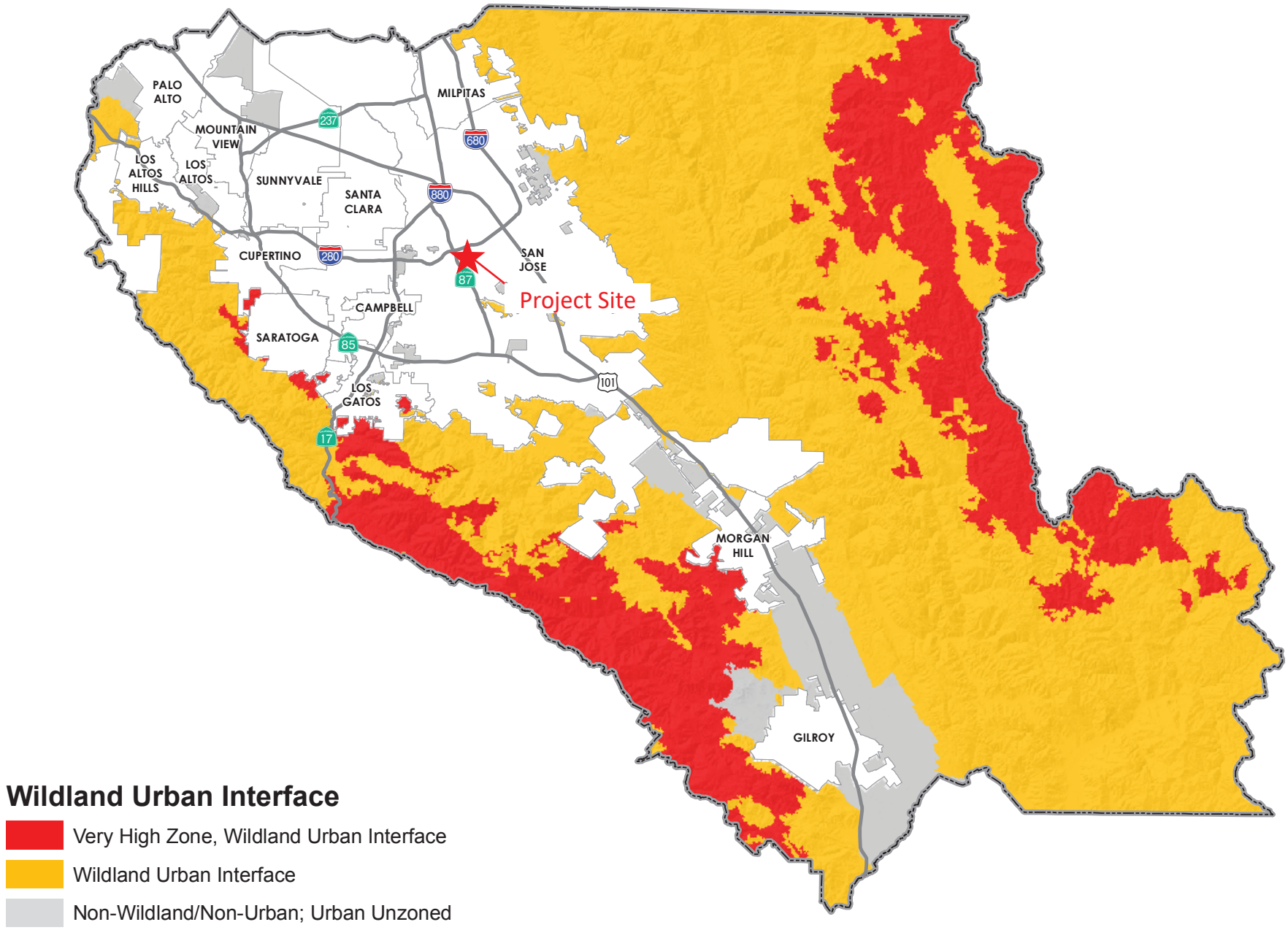
Source: CALFIRE, 2024

Figure 4.20-1: Fire Hazard Severity Zones

1605 South 7th Street Project
Initial Study

Not to scale

Kimley»Horn



Source: Santa Clara County, 2009

Figure 4.20-2: Santa Clara County Wildland Urban Interface Fire Area
1605 South 7th Street Project
Initial Study

Not to scale

Kimley»Horn

4.21 Mandatory Findings of Significance

ENVIRONMENTAL IMPACTS Issues	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Does the project:				
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Discussion

a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant Impact. As discussed in the individual sections, the Project would not degrade the quality of the environment with the implementation of identified standard permit conditions and

mitigation measures. As discussed in Section 3.2, Biological Resources, of the Draft EIR, the Project would not have a significant impact on sensitive habitat or species.

As identified in Section 3.3, Cultural Resources, of the Draft EIR, the Project would not have potentially significant impact on historic or archaeological cultural resources located on the Project site. The Project would result in a less than significant impact with implementation of identified standard permit conditions applicable for cultural resource impacts.

As described in the environmental topic sections of this Initial Study and the Draft EIR, impacts were found to be less than significant, and the Project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact. Under Section 15065(a)(3) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects "that are individually limited, but cumulatively considerable." As defined in Section 15065(a)(3) of the CEQA Guidelines, cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

Implementation of the Project would result in the demolition of all existing structures on site. The Project would have a negligible effect to the continued urbanization of the Project area as the Project site is already developed with an industrial use. The Project would have no or a less than significant impact on all environmental factors discussed in this Initial Study. Environmental factors that would have a potentially significant impact or less than significant impact with mitigation incorporated are discussed in the Draft EIR.

The Project would have a less than significant impact with mitigation on air quality, biological resources, cultural resources, hazards and hazardous materials, tribal cultural resources. The Project would have less than significant impact on aesthetics, energy, geology and soils, greenhouse gas emissions, hydrology and water quality, land use and planning, noise and vibration, public services, transportation, and utilities and service systems, and would not contribute to cumulative impacts to these resources. The Project would not impact agricultural and forest resources, mineral resources, population and housing, recreation, and wildfire. Therefore, the Project would not contribute to a significant cumulative impact on these resources.

The General Plan EIR determined that there is a significant cumulative transportation impact under full build out of the General Plan. The Project would not, however, contribute to the cumulative transportation impact because it would have a less than significant impact.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact. Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the Project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include construction impacts related to air quality, hazardous materials and noise. However, implementation of mitigation measures, standard permit conditions, and General Plan policies would reduce these impacts to a less than significant level. No other direct or indirect adverse effects on human beings have been identified.

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Construction Fuel Consumption

On-Site Diesel[1] (off-road construction Equipment)	$MTCO_2e$	Gallons of Fuel[4]	Santa Clara County Fuel in 2026 (Start of Construction)	Percent
Demolition	104	10,295		
Site Preparation/Grading	549	54,077		
Building Construction	260	25,644		
Paving	76	7,454		
Architectural Coating	8	790		
Total	997	98,260	88,222,517	0.1114%
Off-Site Diesel[1] (on-road construction trips)				
Demolition	328	32,325		
Site Preparation/Grading	12	1,222		
Building Construction	70	6,897		
Paving	0	0		
Architectural Coating	0	0		
Total	410	40,443	88,222,517	0.0458%
Off-Site Gasoline[2]				
Demolition	4	413		
Site Preparation/Grading	14	1,533		
Building Construction	50	5,675		
Paving	6	666		
Architectural Coating	6	681		
Total	79	8,969	535,938,617	0.0017%
Total Diesel Fuel		138,703	88,222,517	0.1572%
Total Gasoline Fuel		8,969	535,938,617	0.0017%
Total Construction Fuel	1,487	147,672		

Construction Phase[3]	Demolition			Site Preparation			Grading/Infrastructure Improvements		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)
2026	104	328	4	157	0	4	195	6	5
2027	0	0	0	2	0	0	195	6	5
Total	**104**	**328**	**4**	**158**	**0**	**4**	**390**	**12**	**9**

Construction Phase[3]	Building Construction			Paving			Architectural Coating		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gasoline (Worker)
2026	47	13	9	0	0	0	0	0	0
2027	214	57	41	76	0	6	8	0	6
Total	**260**	**70**	**50**	**76**	**0**	**6**	**8**	**0**	**6**

Notes:

[1] Fuel used for off-road, hauling, and vendor trips assumed to be diesel.

[2] Fuel used for worker trips assumed to be gasoline.

[3] $MTCO_2e$ rates from CalEEMod (3.0 Construction Emissions Details).

[4] For CO2e emissions, see Chapter 13 (page 94); Conversion Ratios: Climate Registry, General Reporting Protocol, 2016.

MITIGATED							
Vehicle Type	**Percent**	**Annual VMT[1]**	**MPG[2]**	**Annual Fuel (Gallons)**	**Fuel Type**	**Santa Clara County Gallons[3]**	**RS Percent**
Passenger Cars	0.970	8,467,512	21.6	392,014	Gas	527,439,060	0.0743%
Light/Medium Trucks	0.000	0	17.2	0	Diesel	87,546,893	0.0000%
Heavy Trucks/Other	0.030	261,882	6.1	42,931	Diesel	87,546,893	0.0490%
Total		8,729,394					

Notes:

[1] Total annual operational VMT based on annual VMT from CalEEMod (5.9 Operational Mobile Sources).

[2] Average fuel economy derived from Department of Transportation.

[3] Total annual county fuel per EMFAC 2021 model of projected operational fuel usage.

Operational Water Energy

UNMITIGATED		
Unmitigated Indoor	32.7	million gallons
Indoor Energy Intensity Factor[1]	6,807	kWh/MG
Unmitigated Outdoor	0	million gallons
Outdoor Energy Intensity Factor[2]	4,934	kWh/MG
Operational Water Energy	223,236	kWh
Operational Water Energy	0.2232	GWh
Santa Clara County Annual Electricity	17,102	GWh
Percentage Increase	0.0013%	

Land Use[3]	Unmitigated (gal/year)	
	Indoor	Outdoor
Unrefrigerated Warehouse	31,147,063	141,734
Parking Lot	0	0
General Office Building	1,545,217	0
City Park	0	0
Total Operational Water (MG/year)	**33**	**0**

Notes:

[1] Indoor water energy intensity factor for subarea per CalEEMod User Guide, Appendix G, Tab G-32. Factor includes supply, treatment, distribution, and wastewater.

[2] Outdoor water energy intensity factor for subarea per CalEEMod User Guide, Appendix G, Tab G-32. Factor includes supply, treatment, and distribution.

[3] Operational water use values per CalEEMod (5.12 Operational Water and Wastewater Consumption).

Construction Water Energy

Daily Soil Disturbance[1]	402.6	acres
Days of Soil Disturbance[2]	240	days
Water Concentration[3]	3,020	gallons/acre
Water Energy Intensity[4]	4,934	kWh/MG
Total Construction Water	291.77	million gallons
Construction Water Energy	1,439,610	kWh
	1.4396	GWh
Santa Clara County Annual Electricity[5]	17,102	GWh
Percentage Increase	0.00842%	

Notes:

[1] Total daily acres disturbed from offroad equipment per CalEEMod (3.0 Construction Emissions Detail) and maximum SCAQMD LST values for soil-disturbing equipment.

[2] Number of days of construction with soil-disturbing equipment per CalEEMod (5.1 Construction Schedule).

[3] Water application rate per Air and Waste Management Association's Air Pollution Engineering Manual.

[4] Water energy intensity factor for subarea per CalEEMod User Guide, Appendix G, Tab G-32.

[5] County total energy values from California Energy Commission energy reports available through ecdms.energy.ca.gov. (year 2022)

Elecricity/Natural Gas Energy

UNMITIGATED			
	Unmitigated Project Annual Energy	Santa Clara County Annual Energy[3]	Percentage Increase
Electricity (kWh/yr)	2,280,434	17,101,799,026	0.0133%
Electricity (GWh/yr)	2.2804	17,102	0.0133%
Natural Gas (kBTU/yr)	0	42,394,021,300	0.0000%
Natural Gas (therms/yr)	0	423,940,213	0.0000%

Land Use	Electricity[1] (kWh/yr)	Natural Gas[2] (kBTU/yr)
	Unmitigated	Unmitigated
Unrefrigerated Warehouse	1,556,714	-
Parking Lot	479,163	-
General Office Building	244,557	-
City Park	-	-
Total Energy	**2,280,434**	**0**

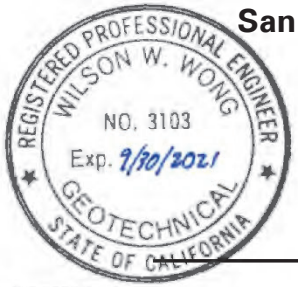
GEOTECHNICAL INVESTIGATION
Amazon DFA8
1605 South 7th Street
San Jose, California

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13 January 2021
700080202

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GEOTECHNICAL INVESTIGATION
Amazon DFA8
1605 South 7th Street
San Jose, California

1.0 INTRODUCTION

This report presents the results of the geotechnical investigation performed by Langan Engineering and Environmental Services, Inc. (Langan) for the proposed delivery station development at 1605 South 7th Street in San Jose. The approximately 17.8-acre site is bound by East Alma Avenue to the north, South 7th Street to the east, an abandoned industrial railroad track to the west previously owned by Union Pacific Railroad Company, and a fenced, partially-paved, irregularly shaped parking area to the south, as shown on Figure 1. The proposed delivery station will be surrounded by parking lots and van queuing areas to the north, east, and south, as shown on Figure 2.

The site is currently developed with a one-story, high-bay warehouse structure in the central and western portions of the site, a two-story office building in the east portion, and a one- to two-story structure in the southeast portion. The existing structures are surrounded by asphalt concrete (AC) paved drive aisles and parking areas. The site ground surface elevations range from approximate Elevations[1] of 100.5 feet to 104.5 feet, generally sloping downward away from the existing structure at the center of the site (Sandis 2020). We understand the proposed delivery station will be a single-story, approximately 94,000 square-foot, at-grade structure with an interior office space and exterior adjacent loading dock area. The proposed delivery station will be surrounded by paved parking, loading areas, and landscaping. Current plans (Langan 2020) show the proposed building (including the office space) will have plan dimensions of approximately 245 feet by 385 feet and a finished floor elevation of 106 feet.

The footprint of the proposed building is partially within the footprint of the existing building. Therefore, the western portion of the proposed building will required approximately 4½ feet of fill to reach pad grade whereas the eastern portion of the building will require approximately one foot of fill to reach pad grade.

2.0 SCOPE OF SERVICES

Our scope of services is outlined in our proposal dated 7 August 2020. We reviewed available subsurface information for the site and vicinity from our files and further explored subsurface

[1] All elevations reference the National Geodetic Vertical Datum of 1929 (NGVD29).

conditions at the site by drilling borings, advancing cone penetrometer tests (CPTs) and performing laboratory tests. We evaluated the results of the field exploration and laboratory testing to develop conclusions and recommendations regarding:

- subsurface conditions including groundwater levels;
- site seismicity and potential for seismic hazards including liquefaction, lateral spreading, and fault rupture;
- appropriate foundation type(s) for the proposed structures;
- estimates of foundation settlement;
- design parameters for the recommended foundation type(s), including allowable bearing capacity, passive pressure, and coefficient of base friction;
- lateral earth pressures for temporary shoring;
- 2019 California Building Code (CBC) site classification, mapped values S_S and S_1, modification factors F_a and F_v and S_{MS} and S_{M1} as appropriate;
- subgrade preparation for at-grade floors and exterior slabs and flatwork, including sidewalks and equipment pads;
- site preparation, grading, and excavation, including criteria for fill quality and compaction, and the re-use of on-site soils;
- flexible and rigid pavements;
- soil corrosivity with brief evaluation;
- construction considerations.

3.0 FIELD INVESTIGATION AND LABORATORY TESTING

To evaluate the subsurface conditions at the site, we reviewed a previous geotechnical study by Kleinfelder (Kleinfelder 2020) and drilled three borings and advanced four CPTs at the approximate locations shown on Figure 2. Prior to performing the field investigation, we obtained a permit from Valley Water, formerly known as the Santa Clara Valley Water District (SCVWD), notified Underground Service Alert (USA), and checked the boring and CPT locations for buried utilities using an independent private utility locator. Details of the field investigation activities and laboratory testing are described in the remainder of this section.

3.1 Borings

The three borings, designated B-1 through B-3, were drilled on 19 August 2020 by Pitcher Drilling Services, LLC of East Palo Alto, California using a truck-mounted drill rig equipped with rotary wash drilling equipment. Boring B-1 was drilled to a depth of approximately 51.5 feet below the existing ground surface (bgs). Borings B-2 and B-3 were drilled to depths of approximately 5 feet bgs. During drilling, our field engineer logged the borings and obtained representative samples of soil encountered for visual classification and laboratory testing. The boring logs are presented in Appendix A as Figures A-1 through A-3. The soil encountered in the borings was classified in accordance with the Soil Classification Chart, presented on Figure A-4.

Soil samples were obtained using three different types of samplers: two driven split-barrel samplers and a piston thin-walled sampler. The sampler types are as follows:

- Sprague & Henwood (S&H) sampler with a 3.0-inch outside diameter and 2.5-inch inside diameter, lined with steel or brass tubes with an inside diameter of 2.43 inches
- Standard Penetration Test (SPT) sampler with a 2.0-inch outside diameter and 1.5-inch inside diameter, without liners
- Shelby Tube (ST) a piston thin-walled sampler with a 3.0-inch outside diameter and a 2.93-inch inside diameter

The sampler types were chosen on the basis of soil type being sampled and desired sample quality for laboratory testing. In general, the S&H sampler was used to obtain samples in medium stiff to very stiff cohesive soil and the SPT sampler was used to evaluate the relative density of sandy soil. The ST sampler was used to obtain relatively undisturbed samples of the soft to medium stiff cohesive soil.

The SPT and S&H samplers were driven with a 140-pound, automatic hammer falling 30 inches. The samplers were driven up to 18 inches and the hammer blows required to drive the samplers every six inches of penetration were recorded and are presented on the boring logs. A "blow count" is defined as the number of hammer blows per six inches of penetration or 50 blows for six inches or less of penetration. The blow counts required to drive the S&H and SPT samplers were converted to approximate SPT N-values using factors of 0.7 and 1.2, respectively, to account for sampler type and hammer energy, and are shown on the boring logs. The blow counts used for this conversion were: 1) the last two blow counts, if the sampler was driven more than 12 inches, 2) the last one blow count if the sampler was driven more than six inches but less than 12 inches, and 3) the only blow count if the sampler was driven six inches or less.

The ST sampler is pushed hydraulically into the soil; the piston pressure required to advance the sampler is shown on the log, measured in pounds per square inch (psi).

Upon completion, the boreholes were backfilled with cement grout in accordance with the requirements of Valley Water. The soil cuttings from the borings were collected in 55-gallon drums, tested, and prepared for transportation off-site for disposal. The 55-gallon drums are currently stored onsite temporarily at the request of the client.

3.2 Cone Penetrometer Tests (CPTs)

The CPTs, designated CPT-1 through CPT-4, were advanced on 10 August 2020 by ConeTec of San Leandro, California. They were advanced to depths of approximately 50 to 92 feet bgs.

The CPTs were performed by hydraulically pushing a 1.7-inch-diameter, cone-tipped probe, with a projected area of 15 square centimeters, into the ground. The cone tip measures tip resistance, and the friction sleeve behind the cone tip measures frictional resistance. Electrical strain gauges or load cells within the cone continuously measured the cone tip resistance and frictional resistance during the entire depth of each probing. Accumulated data was processed by computer to provide engineering information, such as the types and approximate strength characteristics of the soil encountered. The report by ConeTec presenting the CPT results are included in Appendix B.

Pore-pressure dissipation tests (PPDTs) were performed during the advancement of CPT-1 and CPT-3 at various depths. PPDTs were conducted at various depths to measure hydrostatic water pressures and to determine the piezometric head in soil. The variation of pore pressure with time is measured behind the tip of the cone and recorded. For this investigation, the duration of the tests range from approximately 435 to 740 seconds. The results of the three PPDTs are summarized in Appendix B.

After completion, the CPTs were backfilled with cement grout in accordance with Valley Water requirements.

3.3 Previous Investigations

The locations of the previous borings and CPTs performed by Kleinfelder between 4 and 5 June 2020 and data that we reviewed are also shown on Figure 2; logs of the borings and CPTs are included in Appendix C.

3.4 Laboratory Testing

The soil samples collected from the field exploration program were reexamined in the office for soil classifications, and representative samples were selected for laboratory testing. The laboratory testing program was designed to evaluate engineering properties of the soil at the site. Samples were tested to measure moisture content, dry density, R-value, plasticity (Atterberg Limits), fines content, shear strength and compressibility. The results of the laboratory testing are shown on the boring logs and presented in Appendix D as Figures D-1 through D-6. The results of the Kleinfelder laboratory testing are included in Appendix C.

To evaluate the corrosivity of the soil near the foundation subgrade, we performed corrosivity tests on one soil sample obtained from the upper five feet. The corrosivity of the soil sample was evaluated by CERCO Analytical using the following ASTM Test Methods:

- Redox - ASTM D1498
- pH - ASTM D4972
- Resistivity (100% Saturation) – ASTM G57
- Sulfide – ASTM D4658M
- Chloride – ASTM D4327
- Sulfate – ASTM D4327

The laboratory corrosion test results and a brief corrosivity evaluation are presented in Appendix E.

4.0 SITE AND SUBSURFACE CONDITIONS

The site ground surface elevation ranges from Elevation 100.5 feet to 104.5 feet, sloping downward away from the structure at the center of the site. The site is currently occupied by a one-story, high bay warehouse structure with an approximate pad grade of Elevation 104 feet at the center and west section of the site, a parking lot area to the north section, a two-story office building in the east section, and a one-story, high-bay warehouse structure. The existing structures are surrounded by AC paved parking lot and landscaping. Based on our review of historic aerial photographs from 1948 to 2016 (NETR Online, 2020), the warehouse structure on the western section of the site was constructed prior to 1948 with surrounding pavement adjacent to railroad tracks previously owned by Union Pacific Railroad Company (formerly the

Southern Pacific Transportation Company). The expansion of the warehouse structure and construction of other buildings on site were developed prior to 1956 and 1980, respectively.

Where explored, the pavement section of the parking lot consists of approximately three to eight inches of AC over up to nine inches of aggregate base (AB). The pavement section is underlain by alluvial deposits consisting of interbedded clays and sands to the maximum depth explored. The alluvial deposits consist of soft to stiff clay and very soft to medium stiff silt, with interbedded layers of very loose to very dense sand, sand with clay, sand with gravel, and gravel. Laboratory test results indicate the clay has shear strengths ranging from 750 pounds per square foot (psf) to 2,250 psf, is overconsolidated[2], and generally has low to moderate expansion potential[3] with the exception of a highly expansive clay sampled at a depth of 41 feet bgs in Boring KB-2.

Based on published maps (California Geological Survey (CGS) 2000), the historic high groundwater in the project vicinity is approximately 10 feet bgs. The groundwater level was obscured by the drilling method in Boring B-1, therefore, it was not measured in this boring we drilled for this investigation. Borings B-2 and B-3 did not extend into groundwater. The groundwater levels measured in the PPDTs as well as during the prior geotechnical investigation are summarized in Table 1. The groundwater levels in the borings and CPTs were measured at the time of advancement and likely do not represent the stabilized groundwater level. Seasonal fluctuation in rainfall influence groundwater levels and may cause several feet of variation.

[2] An overconsolidated clay has experienced a pressure greater than its current load.

[3] Expansive soil undergoes volume changes with changes in moisture content.

TABLE 1
Summary of Groundwater Depth and Elevation Data

Consultant	Location	Year of Exploration	Ground Surface Elevation (feet)	Exploration Depth (feet)	Groundwater Depth (feet)	Pore Pressure Dissipation Test Depth (feet)	Piezometric Head (feet)	GW Elevation (feet)
Langan	B-1[a]	2020	104.2	51.5	--	--	--	--
	B-2[b]	2020	103.4	5	--	--	--	--
	B-3[b]	2020	103.3	5	--	--	--	--
	CPT-1	2020	100.7	92.9	--	67.5	52.4	--
	CPT-1	2020	100.7	92.9	--	91.3	74.6	--
	CPT-2	2020	101.0	50.9	--	--	--	--
	CPT-3	2020	103.0	75.5	--	21.9	9.6	--
Kleinfelder	KB-1	2020	103.4	51.5	12.0	--	--	91.4
	KB-2	2020	104.3	51.5	10.0	--	--	94.3
	KB-3	2020	100.9	53.0	10.5	--	--	90.4
	KB-4	2020	100.6	53.0	11.0	--	--	89.6

Notes:
a. Groundwater level obscured by drilling method in Boring B-1.
b. Groundwater not encountered or not measured.
c. Kleinfelder borings and CPTs that did not encounter groundwater are not included.

5.0 REGIONAL SEISMICITY

The major active faults in the area are the Calaveras, Hayward, Monte Vista-Shannon, and San Andreas faults. These and other faults of the region are shown on Figure 3. For each of the active faults within 50 kilometers of the site, the distance from the site and estimated mean characteristic Moment magnitude[4] [Working Group on California Earthquake Probabilities (WGCEP) (2008) and Cao et al. (2003)] are summarized in Table 2.

[4] Moment magnitude is an energy-based scale and provides a physically meaningful measure of the size of a faulting event. Moment magnitude is directly related to average slip and fault rupture area.

TABLE 2
Regional Faults and Seismicity

Fault Name	Distance (km)	Direction from Site	Mean Characteristic Moment Magnitude
Monte Vista-Shannon	11	South	6.50
Total Calaveras	13	East	7.03
Total Hayward	15	North	7.00
Total Hayward-Rodgers Creek	15	North	7.33
N. San Andreas - Peninsula	19.3	Southwest	7.23
N. San Andreas (1906 event)	19	Southwest	8.05
N. San Andreas - Santa Cruz	20	Southwest	7.12
Zayante-Vergeles	27	Southwest	7.00
Greenville Connected	35	Northeast	7.00
San Gregorio Connected	44	West	7.50
Mount Diablo Thrust	46	North	6.70
Monterey Bay-Tularcitos	49.4	Southwest	7.30

Figure 3 also shows the earthquake epicenters for events with magnitude greater than 5.0 from January 1800 through August 2014. Since 1800, four major earthquakes have been recorded on the San Andreas Fault. In 1836 an earthquake with an estimated maximum intensity of VII on the Modified Mercalli (MM) scale (Figure 4) occurred east of Monterey Bay on the San Andreas Fault (Toppozada and Borchardt 1998). The estimated Moment magnitude, M_w, for this earthquake is about 6.25. In 1838, an earthquake occurred with an estimated intensity of about VIII-IX (MM), corresponding to an M_w of about 7.5. The San Francisco Earthquake of 1906 caused the most significant damage in the history of the Bay Area in terms of loss of lives and property damage. This earthquake created a surface rupture along the San Andreas Fault from Shelter Cove to San Juan Bautista, approximately 470 kilometers in length. It had a maximum intensity of XI (MM), an M_w of about 7.9, and was felt 560 kilometers away in Oregon, Nevada, and Los Angeles. The Loma Prieta Earthquake occurred on 17 October 1989, in the Santa Cruz Mountains with an M_w of 6.9, approximately 31km away from the site.

The Silver Creek fault is approximately 2.4 kilometers northeast of the site. Although the fault could have been responsible for two moderate earthquakes, no surface trace of the Silver Creek fault is evident in the alluvial plain and few recorded earthquakes are located near the fault. The United States Geological Survey (2010) presumes that the Silver Creek fault has continued, albeit very slow strike-slip movement which would yield very infrequent earthquakes of a damaging magnitude.

In 1868 an earthquake with an estimated maximum intensity of X on the MM scale occurred on the southern segment (between San Leandro and Fremont) of the Hayward Fault. The estimated M_w for the earthquake is 7.0. In 1861, an earthquake of unknown magnitude (probably an M_w of about 6.5) was reported on the Calaveras Fault. The most recent significant earthquake on this fault was the 1984 Morgan Hill earthquake (M_w = 6.2).

The most recent earthquake with M_w greater than 5.0 to affect the Bay Area occurred on 24 August 2014 and was located on the West Napa fault, approximately 108 kilometers north of the site, with an M_w of 6.0.

The 2014 WGCEP at the U.S. Geologic Survey (USGS) predicted a 72 percent chance of a magnitude 6.7 or greater earthquake occurring in the San Francisco Bay Area by 2043. More specific estimates of the probabilities for different faults in the Bay Area are presented in Table 3.

TABLE 3
WGCEP (2014) Estimates of 30-Year Probability (2014-2043) of a Magnitude 6.7 or Greater Earthquake

Fault	Probability (percent)
Hayward-Rodgers Creek	32
N. San Andreas	33
Calaveras	25
San Gregorio	6
Greenville	6

6.0 SEISMIC HAZARDS

During a major earthquake on a segment of one of the nearby faults, strong to very strong shaking is expected to occur at the site. Strong shaking during an earthquake can result in ground failure such as that associated with soil liquefaction[5], landslides, lateral spreading[6], and seismic

[5] Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits.

[6] Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces.

densification[7]. Each of these conditions has been evaluated based on our literature review, field investigation, and analyses, and is discussed in this section.

6.1 Liquefaction and Associated Hazards

When a saturated soil with little to no cohesion liquefies during a major earthquake, it experiences a temporary loss of shear strength as a result of a transient rise in excess pore water pressure generated by strong ground motion. Flow failure, lateral spreading, differential settlement, loss of bearing, ground fissures, and sand boils are evidence of excess pore pressure generation and liquefaction.

As shown on Figure 5 the site is within a zone designated with the potential for liquefaction, as identified by the California Geological Survey (formerly the California Division of Mines and Geology), on a map titled, "State of California Seismic Hazard Zones, San Jose East Quadrangle" (California Geological Survey 2001). Specifically, the map shows the site is in an area "where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693 (c) would be required."

To evaluate the liquefaction potential at this site, we performed liquefaction analysis on the CPTs in accordance with the State of California Special Publication 117A, Guidelines for Evaluation and Mitigation of Seismic Hazards in California (2008).

We used the procedures presented in Idriss and Boulanger (2008) to evaluate the liquefaction potential at the site. The Idriss and Boulanger procedures are updates of the simplified procedures developed by Seed et al. (1971) and later by the 1996 NCEER and the 1998 NCEER/NSF workshops on the Evaluation of Liquefaction Resistance of Soils (Youd and Idriss 2001). To estimate volumetric strain and associated liquefaction-induced settlement, we used the procedure developed by Tokimatsu and Seed (1987) for the borings and CPTs.

These analytical methods calculate a factor of safety against liquefaction triggering by taking the ratio of soil strength (resistance of the soil to cyclic shaking) to the seismic demand that can be expected from a design level seismic event. Specifically, two distinct terms are used in the liquefaction triggering analyses:

[7] Seismic densification (also referred to as Differential Compaction) is a phenomenon in which non-saturated, cohesionless soil is densified by earthquake vibrations, causing ground-surface settlement.

- Cyclic Resistance Ratio (CRR), which quantifies the soil's resistance to cyclic shaking; a function of soil depth, relative density, depth of groundwater, earthquake magnitude, and overall soil behavior;

- Cyclic Stress Ratio (CSR), which quantifies the stresses that may develop during cyclic shaking.

The factor of safety (FS) against liquefaction triggering can be expressed as the ratio of CRR over CSR. For our analyses, if the FS for a soil layer is less than 1.3, we judge the soil layer may generate excess pore pressure and liquefy during a large seismic event.

The primary design parameters used in our liquefaction triggering calculations are summarized in Table 4.

TABLE 4
Values Used in Liquefaction Evaluation

Parameter	Value
Depth to groundwater (Historic depth to high groundwater)	Approximately 10 feet below ground surface (about Elevation 90.5 to 94.5 feet, NGVD29)
Peak Ground Acceleration (PGA_M)	0.66g
Predominant Earthquake Moment Magnitude (M_w)	7.3
Factor of Safety for Liquefaction Triggering	1.3
CPT conversion factor for tip resistance to SPT N-value	4 to 5

In our analyses soil that has significant amount of plastic fines, plasticity index greater than 18 or I_c greater than 2.6 (for the borings and CPTs, respectively) were considered too cohesive to liquefy. Additionally, a corrected blow count greater than 30 blows per foot or cone tip resistance q_{c1N} greater than 160 tons per square foot (tsf) were considered too dense to liquefy. Because the predominant earthquake is a moment magnitude 7.3, the cyclic resistance ratio (CRR) has been scaled to a moment magnitude of 7.5 using magnitude scaling factors developed by Idriss (Youd and Idriss 2001).

The proposed building will be at-grade. We understand State guidelines (SCEC 1999) recommend a minimum depth of 50 feet below lowest proposed bottom of excavation grade for evaluation of liquefaction potential. During our investigation, Boring B-1 and cone penetration tests CPT-1, CPT-2, CPT-3 and CPT-4 were performed to depths ranging approximately between 50 to 93 feet bgs to meet the State's guidelines.

Layers of very loose to medium dense saturated sand, silty sand and sandy silt varying in thickness from less than approximately ¼- to 5½- feet were encountered below the historic high groundwater level of approximately 10 feet bgs.

On the basis of the results of our analyses, we conclude several of these layers could potentially liquefy during a major earthquake and may experience liquefaction-induced settlement. A summary of our boring and CPT subsurface data for the exploration points, as well as other pertinent parameters regarding liquefaction triggering and associated settlement, are presented in Tables 5 and 6, respectively.

TABLE 5
Summary of Liquefaction Potential and Estimated Settlement from CPT Results

CPT No.	Approx Depth (feet, bgs)	Elevation of top of layer (feet)	Layer Thickness (feet)	I_c	$(q_{c1N})_{cs}$	CSR_{EQ}	$CRR_{7.5}$	Factor of Safety	Volumetric Strain ε_v (%)	Estimated Vertical Settlement (in)
CPT-1	10.2	90.5	0.2	2.5	56	0.40	0.08	0.16	4.6	0.1
									Total Settlement at CPT-1	**~0.1**
CPT-2	11.1	89.9	0.1	2.5	57	0.42	0.09	0.16	4.5	0.1
									Total Settlement at CPT-2	**~0.1**
CPT-3	20.4	82.6	0.1	2.2	76	0.53	0.11	0.16	2.8	<0.1
									Total Settlement at CPT-3	**<0.1**

TABLE 6
Summary of Liquefaction Potential and Estimated Settlement from Boring Results

Boring No.	Approx. Depth (feet, bgs)	Elevation of top of layer (feet)	Layer Thickness (feet)	$(N_1)_{60\text{-}cs}$	$CSR_{7.5}$	$CRR_{7.5}$	Factor of Safety	Volumetric Strain ε_v (%)	DF	Estimated Vertical Settlement (in)
B-1	23.5	80.7	5	5.5	0.58	0.09	0.16	5.0	0.5	1.4
									Total Settlement at B-1	**1.4**

We also used the CPT data to evaluate contractive and dilative behavior of the soil based on the findings by Robertson (2016). Robertson suggests a boundary line between contractive and dilative behavior, when plotting normalized cone resistance versus normalized friction ratio CPT data, where soil with data points that plot below that line exhibit contractive behavior and can potentially liquefy, whereas soil with behavior that plots above the line tends to dilate during shearing and, therefore, is not potentially liquefiable. As a dilative soil dilates during shearing, pore pressures dissipate and liquefaction would not occur. We applied a contractive-dilative boundary of 70, per Robertson (2016), to the CPT data obtained at the site. We extrapolated the

results of the contractive-dilative soil behavior type from Kleinfelder CPT-2 to Boring B-1, which is located approximately 40 feet from the boring.

During the maximum considered earthquake, as defined by the provisions of 2019 California Building Code (CBC) and ASCE 7-16, we conclude the potentially liquefiable layers that exhibit contractive behavior could liquefy and result in seismically-induced settlement. In general, the thickness of the liquefiable soil was less than 1 foot with the exception of Boring B-1, where up to approximately 5 feet of liquefiable soil was encountered.

We conclude areas of the site may experience liquefaction-induced settlements of up to 1½ inches and differential settlements of up to 1 inch in 50 horizontal feet. The draft geotechnical study previously performed on site by Kleinfelder concluded liquefaction-induced settlement on the order of 1 to 2 inches, which is generally consistent with the results of our analyses. Although isolated regions of the site may settle during a strong to very strong earthquake, due to the heterogeneity of the alluvium, we conclude that, where explored, the liquefiable layers are not uniform or continuous. No foundation bearing capacity loss is anticipated during or after a strong to very strong earthquake.

6.2 Landslides

Because the site is relatively level and is not mapped in earthquake-induced landslide as shown on Figure 5, we, conclude the potential for landslide or co-seismic landslides is negligible.

6.3 Lateral Spreading

Lateral spreading occurs when a continuous layer of soil liquefies at depth and the soil layers above move toward an unsupported face, such as an open slope cut, or in the direction of a regional slope or gradient. The potential for lateral spreading to occur at a site is typically evaluated using an empirical relationship developed by Youd, Hansen, and Bartlett (2002). This relationship incorporates the thickness, fines content, mean grain-size diameter, and relative density of the liquefiable layer, the magnitude and distance of the earthquake from the site, the slope of the ground surface, and boundary conditions (such as a free face or edge of shoreline), to estimate the horizontal ground movement. These empirical relationships indicate that sandy soil layers with $(N_1)_{60}$ values greater than 15 blows per foot are sufficiently dense to resist the potential for lateral spreading (Youd et al 2001).

The site and surrounding area are generally flat and are more than 2,900 feet from the nearest free face (Coyote Creek). Based on the topography of the site and surrounding area, as well as

the distance to the nearest free face and the non-continuous nature of the potentially liquefiable soil layers present at the site, we judge the potential for lateral spreading is negligible.

6.4 Sand Boils

We estimated the potential for surface manifestations (sand boils, ground fissures) using the Youd and Garris (1995) method using the non-liquefiable soil cover thickness, liquefiable sand thickness and maximum acceleration. Soil layers at the site that may potentially liquefy are relatively thin and have sufficient non-liquefiable soil cover; therefore, we conclude that the potential for surface manifestations at the site is low.

6.5 Seismic Densification

Seismic densification (also referred to as cyclic densification and differential compaction) can occur during strong ground shaking in loose, clean granular deposits above the water table, resulting in ground surface settlement.

The CPTs indicate that the materials above the water table include several layers of medium dense clayey sands and silty sands. Using the Tokimatsu and Seed (1984) method for evaluating seismically-induced settlement in dry sand, we estimate settlement will be less than ¼ inch.

6.6 Fault Rupture

Historically, ground surface fault rupture closely follows the trace of geologically young faults. The site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, and no known active or potentially active faults exist on the site. Additionally, the site is not within an area mapped as having the fault rupture potential (County of Santa Clara, 2015). We therefore conclude the risk of fault offset rupture at the site from a known active fault is low. In a seismically active area, the remote possibility exists for future faulting in areas where no faults previously existed; however, we conclude the risk of surface faulting and consequent secondary ground failure is low.

7.0 DISCUSSION AND CONCLUSIONS

On the basis of our subsurface investigation, we conclude the project is feasible from a geotechnical standpoint provided the recommendations presented in this report are incorporated into the project plans and specifications and implemented during construction. The primary geotechnical issues for this project include:

- selection of an appropriate foundation system to support the building loads and to accommodate estimated static and seismic settlements;
- relatively shallow groundwater;
- corrosion potential of near surface soils.

Our conclusions regarding these and other geotechnical issues are discussed in the remainder of this section.

7.1 Foundations and Settlement

We conclude that the proposed building can be supported on shallow footings, provided the estimated settlements discussed in this section are tolerable. Localized soft soil, if encountered under footing locations, should be excavated and recompacted.

The proposed building is susceptible to the following potential sources of settlement:

- consolidation of the underlying alluvial deposits under the weight of new building loads or new fill
- presence of moderately expansive soil
- seismically-induced (liquefaction and seismic densification) settlement.

Design recommendations for building footings are presented in Section 8.2. Based on an interior column load of 90 kips, which was provided to us by the project structural engineer, VAA, and an allowable soil bearing pressure of 2,500 psf, we estimate that static settlement of seven-foot-square footings should be about 1 inch (¼ inch as loads are applied and about ¾ inch as long-term consolidation settlement) with differential settlement over a distance of about 50 feet on the order of ½ inch.

As discussed previously, we estimate that up to 1¾ inches of total seismically-induced settlements could occur; differential settlement over a distance of 50 may be on the order of 1 inch during a major earthquake. These settlements are in addition to the predicted static settlement discussed above. The structural engineer should evaluate the impact of liquefaction-induced settlement to structures supported on shallow foundations. If the total and differential settlements are not tolerable, then a stiffer foundation system, such as an interconnected grid system or mat, should be used or the ground could be improved to densify/stiffen soil within the foundation load influence zone.

Because of the presence of expansive soil footings may need to be deepened to reduce the potential effects, shrinkage and swelling of the soils.

7.2 Groundwater Considerations

The depth to groundwater can fluctuate by several feet depending upon the amount of rainfall and the amount of groundwater pumping and/or recharge in the local area.

Groundwater levels measured in the borings ranged from depths of 10 to 12 feet bgs. Groundwater elevations ranged from Elevation 89.6 feet at KB-4 to Elevation 94.3 feet at KB-2. Based on published maps (CGS, 2000), the historic high groundwater in the project vicinity is approximately 10 feet bgs (Elevation 90.5 to 94.5 feet, depending upon location across the site). We conclude that a design groundwater elevation of 94.5 feet should be used for the site.

7.3 Construction Considerations

The soil to be excavated from the site consists of materials that can be excavated with conventional earthmoving equipment such as loaders and backhoes, except where foundations and slabs of existing buildings are encountered. Removal of these will likely require the use of jackhammers and/or hoe-rams. Excavations resulting from the removal of foundations, slabs and underground utilities that extend below the bottom of the proposed foundation/floor level should be cleaned of any loose soil/debris and backfilled with lean concrete or properly compacted fill.

Where explored, the surficial soil is predominantly clayey with low expansion potential. The near-surface soil encountered in Boring KB-4 had a PI of 18, indicating it has a moderate expansion potential. There may be other unexplored areas within the areas to be improved with near-surface moderately to perhaps even highly expansive soil. If earthwork is performed in wet weather conditions, it may be difficult to compact these soils; they may need to be either aerated during dry weather or treated with lime. Light grading equipment may be needed to avoid damaging the subgrade when working in these soils.

7.4 Corrosion Potential

Because corrosive soil can adversely affect underground utilities and foundation elements, laboratory testing was performed to evaluate the corrosivity of the near surface soil. CERCO Analytical performed tests on a soil sample are summarized in Table 7.

TABLE 7
Summary of Corrosivity Test Results

Boring	Sample Depth (feet)	pH	Sulfates (mg/kg)	Resistivity (ohms-cm)	Redox (mV)	Chlorides (mg/kg)
B-3	4 to 5	8.37	110	1,400	250	N.D.

N.D. = None Detected

Based upon resistivity measurements, the soil sample tested is classified as "corrosive" to buried iron, steel, cast iron, ductile iron, galvanized steel and dielectric coated steel or iron. Corrosivity test results are presented in Appendix E.

8.0 RECOMMENDATIONS

Recommendations for site preparation, shallow foundations, seismic design, and other geotechnical issues are presented in the following sections of this report.

8.1 Earthwork

The following subsections present recommendations for site preparation.

8.1.1 Site Preparation

Demolition in areas to be developed should include removal of existing pavement and underground obstructions, including foundations of existing structures. Any vegetation and organic topsoil should be stripped in areas to receive new site improvements. Provided it is non-hazardous material, stripped organic soil can be stockpiled for later use in landscaped areas, if approved by the owner and architect; organic topsoil should not be used as engineered fill.

Demolished asphalt and concrete at the site may be crushed to provide recycled construction materials, including sand and Class 2 aggregate base (AB), provided it is acceptable from an environmental standpoint. Where recycled Class 2 AB will be used beneath pavements, it should meet requirements of the Caltrans Standard Specifications (Section 26). Recycled Class 2 AB that does not meet the Caltrans specifications is acceptable for use as select fill within building pads and beneath concrete flatwork, provided it meets the requirements for select fill as presented later in this section.

Existing underground utilities beneath areas to receive new improvements should be removed or abandoned in-place by filling them with grout. The procedure for in-place abandonment of utilities should be evaluated on a case-by-case basis, and will depend on location of utilities

relative to new improvements. However, in general, existing utilities within four feet of final grades should be removed, and the resulting excavation should be properly backfilled based on the recommendations presented in this section.

Existing underground foundations beneath areas to receive new improvements should be removed and backfilled. The resulting excavation should be properly backfilled based on the recommendations presented in this section.

8.1.2 Lime or Cement Treatment

Lime or cement treatment of the upper 12 inches could be considered if it is desired to winterize the site or to provide a stabilized base for new fill. We recommend that at least 5 percent lime or cement by weight of the soil be used to treat the upper 12 inches of native soil for at-grade structures. The lime or cement treatment should extend at least five feet beyond building; landscape areas should not be lime or cement treated because the treated soil may make it difficult for the plants to survive. In landscape areas adjacent to building footprints and exterior slabs, select fill should be placed. The lime or cement treatment contractor should evaluate the type and amount of lime or cement to reduce the plasticity index of the soil to meet the select fill criteria or to increase its strength depending on the objective.

Lime or cement treatment of fine-grained soils generally includes site preparation, application of lime or cement, mixing, and compaction. Lime treatment typically also include curing of the lime treated soil. Field quality control measures should include checking the depth of lime or cement treatment, degree of pulverization, spread rate measurement, content measurement, and moisture content and density measurements, and mixing efficiency. Quality control may also include laboratory tests for unconfined compressive strength tests on representative samples.

The lime or cement treatment process should be designed by a contractor specializing in its use and who is experienced in the application of lime or cement in similar soil conditions. Based on our experience with lime or cement treatment, we judge that the specialty contractor should be able to treat the low- to moderately- expansive on-site material to produce a non-expansive fill for building subgrade.

If the lime or cement treatment alternative is selected, we recommend that the specialty contractor prepare a treatment specification for our review prior to construction and perform laboratory tests on the soil with the proposed mix design to check if the treated soil will meet the criteria for select fill.

8.1.3 Fill Placement

Prior to placing fill, the subgrade exposed after stripping and site clearing, as well as other portions of the site that will receive new fill or site improvements, should be scarified to a depth of at least eight inches, moisture-conditioned to over the optimum moisture content and compacted to at least 90 percent relative compaction. Exceptions to this general procedure are where new fill will be placed within the building footprint and within the proposed building footprint or vehicle pavement areas, where the upper six inches of the subgrade should be compacted to at least 95 percent relative compaction.

Any select fill placed during grading should meet the following criteria:

- be free of organic matter
- contain no rocks or lumps larger than three inches in greatest dimension
- have a low expansion potential (defined by a liquid limit of less than 40 and plasticity index lower than 12)
- have a minimum R-value of 30
- have a low corrosion potential[8]
- able to be compacted to at least 95 percent relative compaction
- be approved by the geotechnical engineer.

At a minimum, the upper foot of fill beneath improvements (including new slabs and foundations) should meet the criteria for select fill previously mentioned in this section. We anticipate that the onsite material will not meet the criteria for use as select fill. Onsite material that does not meet the criteria for use as select fill can be used as general fill beneath the select fill, provided it is approved by the geotechnical engineer and can be compacted to a minimum of 95 percent relative compaction. All select fill should be moisture-conditioned to above optimum moisture content, placed in horizontal lifts not exceeding eight inches in loose thickness, and be compacted to at least 90 percent relative compaction, except for fill that is placed beneath the building or in proposed pavement areas. Beneath the building areas, all fill should be compacted to at least 95 percent relative compaction. In pavement areas the upper six inches of the soil subgrade, new fill, and all aggregate baserock materials should be compacted to at least

[8] Low corrosion potential is defined as a minimum resistivity of 2,000 ohms-cm and maximum sulfate and chloride concentrations of 250 parts per million.

95 percent relative compaction. Any sand containing less than 10 percent fines (particles passing the No. 200 sieve) should also be compacted to at least 95 percent relative compaction. Samples of on-site and proposed import fill materials should be submitted to the geotechnical engineer for approval at least three business days prior to use at the site.

8.2 Foundations

The footprint of nearly the entire proposed structure was inaccessible because it is within the footprint of the existing building. To locate potentially liquefiable layers, quantify the potential liquefaction-induced settlement within the building footprint, and confirm the bearing capacity of the soil in those areas is consistent with the areas already explored, we will perform a supplemental geotechnical investigation once demolition of the existing structure has been completed.

However, on the basis of the exploration performed at the site, we conclude the building may be supported on shallow, spread footings bearing on firm, native soil provided the static and seismically-induced settlements discussed in Section 7.1 are tolerable. A firm subgrade consisting of native soil or compacted, engineered select fill should be exposed at the bottom of the proposed footing excavations. If isolated areas of soft material or fill are encountered in the bottom of the excavation, they should be removed to expose firm material. Resulting overexcavations should be backfilled with lean or structural concrete.

The recommended bearing capacity for spread footings for dead plus live loading is 2,500 psf; the allowable capacity may be increased by one-third for total loads including wind or seismic. We estimate that foundations can be designed for a long- and short-term modulii of subgrade reaction of 30 kips per cubic foot (kcf) and 60 kcf, respectively. We recommend that footings be bottomed at least 18 inches below the lowest adjacent soil subgrade. Footings should be at least 18 inches wide for continuous footings and 24 inches for isolated spread footings. Footings adjacent to utility trenches (or other footings) should bear below an imaginary 1.5:1 (horizontal to vertical) plane projected upward from the bottom edge of the utility trench (or adjacent footings).

Lateral loads on footings can be resisted by a combination of passive resistance acting against the vertical faces of the footings and friction along the bases of the footings. Passive resistance may be calculated using lateral pressures corresponding to an equivalent fluid weight of 250 pounds per cubic foot (pcf); the upper foot of soil should be ignored unless confined by a concrete slab or pavement. Frictional resistance should be computed using a base friction

coefficient of 0.3. The passive resistance and base friction values include a factor of safety of about 1.5 and may be used in combination without reduction.

Uplift loads may be resisted by the weight of the footing and any overlying soil. If footings are inadequate to provide the necessary uplift resistance, drilled piers or anchors may be used. If drilled piers or anchors are required, we should present design recommendations and/or review design submittals.

Footing excavations should be free of standing water, debris, and disturbed materials prior to placing concrete. The bottoms and sides of the footing excavations should be moistened following excavation and maintained in a moist condition until the capillary break or concrete are placed. We should check footing excavations prior to placement of reinforcing steel.

8.3 Floor Slabs

We understand the proposed floor slabs are anticipated to be conventional slab-on-grade construction bearing on approximately 1 to 4½ feet of engineered select fill, which we conclude this is appropriate. Based on a floor slab load of 350 psf, we estimate that slabs-on-grade can be designed for a long-term modulus of subgrade reaction of 30 kcf. Based on correlations presented by the American Concrete Institute (ACI 2006) and our recommendation for the use of select fill beneath the floor slab, we preliminarily estimate that the slabs-on-grade can be designed for a short-term modulus of subgrade reaction of 160 lbs/in^3. This assumes a minimum R-Value of at least 30 is achieved. If a higher R-Value is achieved, then a higher modulus could be used. If the floor slab subgrade is lime or cement treated and the R-Value is increased above 30, we can provide a revised short-term modulus of subgrade reaction.

Where soft or loose soil is present at the subgrade elevation prior to placing select fill, the weak soil should be removed and replaced with engineered fill or lean concrete.

Where slab-on-grade floors are to be cast, the soil subgrade should consist of engineered select fill that has been moisture conditioned to at least optimum moisture content, and rolled to provide a firm, non-yielding surface compacted to 95 percent relative compaction. If the subgrade is disturbed during excavation for footings and utilities, it should be re-rolled. Loose, disturbed materials should be excavated, removed, and replaced with engineered fill during final subgrade preparation.

Moisture is likely to condense on the underside of the slabs, even though they will be above the design groundwater table. Consequently, a moisture barrier should be installed beneath the slabs

if movement of water vapor through the slabs would be detrimental to its intended use. A typical moisture barrier consists of a capillary moisture break and a water vapor retarder.

A capillary moisture break should consist of at least four inches of clean, virgin free-draining gravel or crushed rock. We recommended the vapor retarder meet the requirements for Class C vapor retarders stated in ASTM E1745-97 and for the vapor retarder to be placed in accordance with the requirements of ASTM E1643-98. These requirements include overlapping seams by six inches, taping seams, and sealing penetrations in the vapor retarder. Gradation parameters for the gravel/crushed rock are presented in Table 8. A materials testing inspector should be retained to observe the condition of the vapor retarder.

TABLE 8
Gradation Requirements for Capillary Moisture Break

Sieve Size	Percentage Passing Sieve
Gravel or Crushed Rock	
1 inch	90 – 100
3/4 inch	30 – 100
1/2 inch	5 – 25
3/8 inch	0 – 6

Concrete mixes with high water/cement (w/c) ratios result in excess water in the concrete, which increases the cure time and results in excessive vapor transmission through the slab. Therefore, concrete for floor slabs should have a low w/c ratio - less than 0.45. Water should not be added in the field. If necessary, workability may be increased by adding plasticizers.

Furthermore, the slab should be properly cured. Before the floor covering is placed, the contractor may check that the concrete surface and the moisture emission levels (if emission testing is required) meet the manufacturer's requirements.

8.4 Flexible Pavements

The State of California flexible pavement design method was used to develop the recommended asphalt concrete pavement sections. We expect the final soil subgrade in asphalt-paved areas will generally consist of clay or clayey sand. On the basis of the laboratory test results on this soil, we selected an R-value of 5 for design. Therefore, additional tests should be performed on the proposed fill to measure its R-value. Depending on the results of the tests, the pavement design may need to be revised.

Based on the Design Criteria and Outline Specifications (AMZL 2020) provided by the client, we understand that the pavement will be designed for a 15-year service life experiencing 200 truck movements in and 200 truck movements out per day with typical trailer weights of approximately 75,000 pounds, equivalent to a traffic index (TI) of 7. We have assumed TIs of 5 and 6 for parking lots and roadways, respectively. Recommended pavement sections for these traffic indices are presented in Table 9.

TABLE 9
Pavement Section Design

TI	Asphaltic Concrete (inches)	Class 2 Aggregate Base R = 78 (inches)
5.0	3	10
6.0	4	11.5
7.0	6	12

Pavement components should conform to the current State of California Department of Transportation (Caltrans) Standard Specifications. The upper six inches of the soil subgrade in pavement areas should be moisture-conditioned to above optimum and compacted to at least 95 percent relative compaction and rolled to provide a smooth non-yielding surface. Aggregate base should also be compacted to at least 95 percent relative compaction.

8.5 Concrete Pavements and Exterior Slabs

We recommend exterior concrete flatwork and the equipment pads be underlain by at least six inches of select fill consisting of aggregate base compacted to at least 95 percent relative compaction for non-vehicular areas. The subgrade should be compacted to at least 95 percent relative compaction, and should provide a smooth, non-yielding surface for support of the concrete slabs.

Where rigid pavement is required for loading and service areas, we recommend a minimum of six inches of concrete for medium traffic and a minimum of eight inches of concrete for heavy traffic. The modulus of rupture of the concrete should be at least 500 psi at 28 days. Contraction joints should be constructed at 15-foot spacing. Where the outer edge of a concrete pavement meets asphalt pavement, the concrete slab should be thickened by 50 percent at a taper not to exceed a slope of 1 in 10. For loading docks, we recommend the slab be reinforced with a minimum of No. 4 bars at 16-inch-spacing in both directions. The upper six inches of subgrade should be compacted to at least 95 percent relative compaction and should provide a smooth,

non-yielding surface. The concrete should be underlain by at least 6 inches of Class 2 aggregate base compacted to 95 percent relative compaction and provide a smooth, non-yielding surface.

All aggregate base material should conform to the current Caltrans Standard Specifications.

8.6 Retaining and Below-Grade Wall Design

We understand that several retaining walls will be constructed as part of the project along the west and south sides of the structure as well as northwest and southeast of the building to create grade breaks. Additionally, we understand that although there are no basement walls associated with the structure; elevator pits, underground vaults, or other underground structures may be part of the development.

We recommend all retaining or below-grade walls be designed to resist lateral pressures imposed by the adjacent soil and vehicles. Lateral earth pressures on retaining or below-grade walls will depend partially on the restraint at the top of the walls. Accordingly, walls should be designed for the equivalent fluid weights (triangular distribution) presented in Table 10.

Table 10 presents the active, at-rest, and total pressures (active plus seismic pressure increment) for soil with level backfill for drained and undrained conditions. The increment during seismic loading (triangular distribution) should be added to active earth pressures (Sitar et al. 2012) for retaining or below-grade walls greater than six feet in height. We used the procedures outlined in Sitar et al. (2012) to compute the seismic active pressure. The more critical condition of either at-rest pressure or active pressure plus a seismic increment (total pressure) should be checked.

TABLE 10

Retaining or Below-grade Wall Design
(for drained walls, level backfill)

Retained Material	Static Conditions		Seismic Conditions[1]			
	Unrestrained Walls Active Condition (pcf)	Restrained Walls At-Rest Condition (pcf)	Seismic Increment (pcf)		Total (Active Plus Seismic Increment) (pcf)	
			DE[2]	MCE_R[3]	DE	MCE_R
Soil Above the Groundwater Level[4], Drained	40	60	40	50	80	90
Undrained Soil (or Soil below the Groundwater Level)	80	90	20	25	100	105

Notes:
1. Seismic loads need not be applied to walls shorter than 6 feet.
2. DE = Design Earthquake
3. MCE_R = Risk-Targeted Maximum Considered Earthquake
4. Elevation 94.5 feet is the recommended design groundwater level; if walls extend below this elevation they should be designed for undrained condition.
5. Structural engineer to determine appropriate load combinations for design of retaining or below-grade walls.

Surcharge loads from traffic and the foundations of adjacent structures should be included in the wall design. If surcharge loads occur above an imaginary 30-degree line (from the horizontal) projected up from the bottom of a retaining/basement wall, a surcharge pressure should be included in the wall design. If this condition exists, we should be consulted to estimate the added pressure on a case-by-case basis. Where truck traffic will pass within 10 feet of below-grade walls, temporary traffic loads should be considered in the design of the walls. Traffic loads may be modeled by a uniform pressure of 100 pounds per square foot applied in the upper 10 feet of the walls.

The recommended design pressures for drained walls do not include hydrostatic pressures. One acceptable method for backdraining retaining or basement walls is to place a prefabricated drainage panel against the back of the wall. Where shoring is used, the drainage panel may be attached to the shoring and the wall cast directly against it. The drainage panel should extend down to a perforated PVC collector pipe or an equivalent "flat" pipe (such as AdvanEdge) at the base of the wall. The PVC pipe should be surrounded on all sides by at least four inches of crushed rock wrapped in filter fabric or Caltrans Class 2 permeable material (Caltrans Standard Specifications Section 68-1.025). If a flat pipe surrounded by a filter fabric is used, it is not necessary to surround it with rock. We should check the manufacturer's specifications regarding

the proposed prefabricated drainage panel material to verify that it is appropriate for the intended use.

Another acceptable alternative is to backdrain the wall with crushed rock wrapped in filter fabric or Caltrans Class 2 permeable material at least one foot wide, extending down to the base of the wall. The gravel drain should be at least 12 inches wide and extend up the back of the wall to within about two feet of the ground surface; the upper two feet should consist of a clay cap to reduce infiltration of surface water. This system is usually not used where shoring is used as the backside form for the walls. A perforated PVC pipe should be placed at the bottom of the gravel, as described for the first alternative. The pipe in either alternative should be sloped to drain into an appropriate outlet.

For the design of below-grade interior walls, such as for elevator pits, the wall backdrains can be eliminated provided the walls are designed for the undrained conditions shown in Table 10. Additionally, to protect against moisture migration, below-grade walls should be waterproofed and water stops should be placed at all construction joints.

The footings of the retaining walls should be designed using the same design values presented in Section 8.2.

8.7 2019 CBC Mapped Values

For seismic design in accordance with the provisions of 2019 California Building Code (CBC) we recommend the following:

- Site Class D;
- Risk Targeted Maximum Considered Earthquake (MCE_R) S_S and S_1 of 1.5g and 0.6g, respectively;
- Site Coefficients F_a and F_v of 1.2 and 1.7, respectively, assuming the structure meets the exceptions of Section 11.4.8;
- MCE_R spectral response acceleration parameters at short periods, S_{MS}, and at one-second period, S_{M1}, of 1.8g and 1.02, respectively;
- Design Earthquake (DE) spectral response acceleration parameters at short period, S_{DS}, and at one-second period, S_{D1}, of 1.2g and 0.68, respectively;
- PGA_M of 0.659g.

If the structure does not meet the exceptions in Section 11.4.8 of ASCE 7-16, site-specific spectra will be required. Site-specific spectra evaluation was not requested by the client or included in our scope of services.

8.8 Utilities

The corrosivity results provided in Appendix E of this report should be reviewed and corrosion protection measures used, if needed. A corrosion engineer should be retained if additional recommendations are needed.

Utility trenches should be excavated a minimum of four inches below the bottom of pipes or conduits and have clearances of at least four inches on both sides. Where necessary, trench excavations should be shored and braced, in accordance with all safety regulations, to prevent cave-ins. Where sheet piling is used as shoring, and is to be removed after backfilling, it should be placed a minimum of two feet away from the pipes or conduits to prevent disturbance to them as the sheet piles are extracted. It may be difficult to drive sheet piles through any dense sand layers. Although not anticipated, where trenches extend below the groundwater level, it will be necessary to dewater to keep the trench base from softening and to allow for placement of the pipe utilities and backfill.

The subsurface soils at the site consists mainly of clays. Where open-graded gravel such as crushed rock or drain rock is used near or below the design groundwater elevation (Elevation 94.5 feet), we recommend the gravel be wrapped with a filter fabric, such as Mirafi 140N or equivalent, to reduce the potential for fines migration into the gravel.

Backfill for utility trenches should be compacted according to the recommendations presented for the general fill. Jetting of trench backfill is not permitted. To provide uniform support, pipes or conduits should be bedded on a minimum of four inches of sand or fine gravel. After pipes and conduits are tested, inspected (if required), and approved, they should be covered to a depth of six inches with sand or fine gravel, which should then be mechanically tamped. Backfill within the building footprint or backfill more than five feet thick should be placed in lifts of eight inches or less, moisture-conditioned, and compacted to at least 95 percent relative compaction. Backfill outside the building should be placed in lifts of eight inches or less, moisture-conditioned, and compacted to at least 90 percent relative compaction. If sand or gravel with less than 10 percent fines (particles passing the No. 200 sieve) is used, it should be compacted to 95 percent relative compaction.

Special care should be taken in controlling utility backfilling in pavement areas. Poor compaction may cause excessive settlements, resulting in damage to exterior improvements.

Per the City of San Jose standard details, anchor and thrust blocks, such as those for high-pressure underground utilities, should bear on undisturbed native soil (City of San Jose Department of Public Works 1992). In our opinion, engineered fill should also be sufficient to provide support for thrust blocks.

8.9 Site Drainage

Positive surface drainage should be provided around the building to direct surface water away from the existing building foundations. To reduce the potential for water ponding adjacent to the buildings, we recommend the ground surface within a horizontal distance of five feet from the buildings be designed to slope down and away from the buildings with a surface gradient of at least two percent in unpaved areas and one percent in paved areas. In addition, roof downspouts should be discharged into controlled drainage facilities to keep the water away from the foundations.

8.10 Bioretention Systems

Bioretention areas are landscaping features used to treat stormwater runoff within a development site. They are commonly located in parking lot islands and landscape areas. Surface runoff is directed into shallow, landscaped depressions, which usually include mulch and a prepared soil mix. Typically, the filtered runoff is collected in a perforated underdrain beneath the bioretention system and returned to the storm drain system. For larger storms, runoff is generally diverted past the bioretention areas to the storm drain system.

The soil within a bioretention system should typically have an infiltration rate sufficient to draw down any pooled water within 48 hours after a storm event. Based on the "C.3 Stormwater Handbook" prepared by Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP, 2016), the infiltration rate of the soil should allow standing water to drain within 72 hours; cohesionless soils like sand meet this criteria. Cohesive soils like clay and silts do not meet the infiltration rate requirement and are considered unsuitable in a bioretention system, particularly when they are expansive. For areas where there are unsuitable in-situ soils, the bioretention system can be created by importing a suitable soil mix and providing an underdrain. Based on our observation of near-surface soil at the site (the upper four to nine feet), the in-situ clays are relatively impervious and do not meet the infiltration rate requirements. The bioretention

systems will need to be constructed with suitable imported soil and include an underdrain system.

Underdrains are typically at the invert of the bioretention system to intercept water that does not infiltrate into the surrounding soils. Underdrains consist of a perforated PVC pipe in a blanket of Caltrans Class 2 permeable material. The Class 2 permeable material should consist of virgin material and should meet the requirements of Section 68 of the latest edition of the Caltrans specifications. The perforated PVC pipe cross-sectional area should be determined based on the desired hydraulic conductivity of the underdrain. The PVC pipe should be bedded on two to three inches of Class 2 permeable material.

We recommend that the base and vertical sides of the treatment area be lined with an impermeable membrane. Overflow from bioretention areas should be directed to the storm drain system away from building foundations and slabs. The bottom of the treatment area within bioretention systems should be set back a minimum of five feet from building foundations or slabs.

If the bioretention treatment areas need to be located less than five feet from the edge of new buildings, we recommend footings adjacent to bioretention treatment areas bear below an imaginary 1.5:1 (horizontal to vertical) place projected upward from the bottom edge of the bioretention area. In addition, the passive resistance against the vertical face of the footing should be ignored. The structural engineer will need to confirm that this is acceptable to their foundation design.

In Santa Clara County, the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) recommends that the bottom of the bioretention system be a minimum of five feet or more above the groundwater table (SCVURPPP 2016).

9.0 ADDITIONAL GEOTECHNICAL INVESTIGATION AND SERVICES DURING DESIGN AND CONSTRUCTION

To locate potentially isolated liquefiable layers and to quantify the potential liquefaction-induced settlement within the building footprint, and confirm the bearing capacity of the soil in those areas is consistent with the areas already explored, we should perform a supplemental geotechnical investigation once demolition of the existing structure has been completed. We should review the final project plans and specifications to check that they are in general conformance with the intent of our recommendations. During construction, our field engineer should provide on-site observation and testing during site preparation, grading, placement and

compaction of fill, and installation of building foundations. These observations will allow us to compare actual with anticipated soil conditions and to check that the contractor's work conforms to the geotechnical aspects of the plans and specifications.

10.0 LIMITATIONS

The conclusions and recommendations provided in this report result from our interpretation of the geotechnical conditions existing at the site inferred from a limited number of borings and CPTs, as well as architectural and structural information provided by MG2 and VAA. Actual subsurface conditions may vary. Recommendations provided are dependent upon one another and no recommendation should be followed independent of the others.

Any proposed changes in structures or their locations should be brought to Langan's attention as soon as possible so that we can determine whether such changes affect our recommendations. Information on subsurface strata and groundwater levels shown on the logs represent conditions encountered only at the locations indicated and at the time of investigation. If different conditions are encountered during construction, they should immediately be brought to Langan's attention for evaluation, as they may affect our recommendations.

This report has been prepared to assist the Owner, architect, and structural engineer in the design process and is only applicable to the design of the specific project identified. The information in this report cannot be utilized or depended on by engineers or contractors who are involved in evaluations or design of facilities (including underpinning, grouting, stabilization, etc.) on adjacent properties, which are beyond the limits of that which is the specific subject of this report.

Environmental issues (such as permitting or potentially contaminated soil and groundwater) are outside the scope of this study and should be addressed in a separate evaluation.

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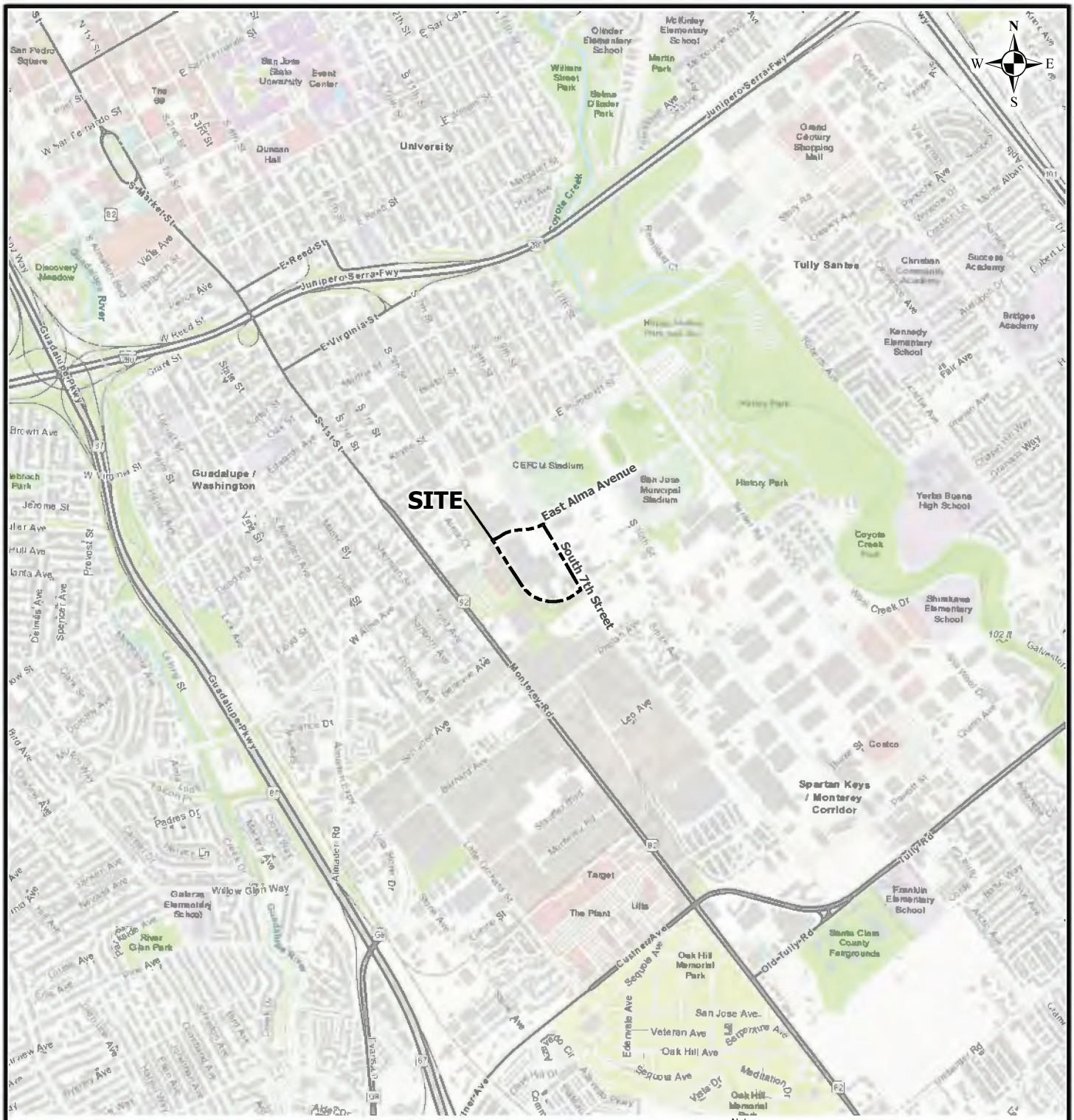
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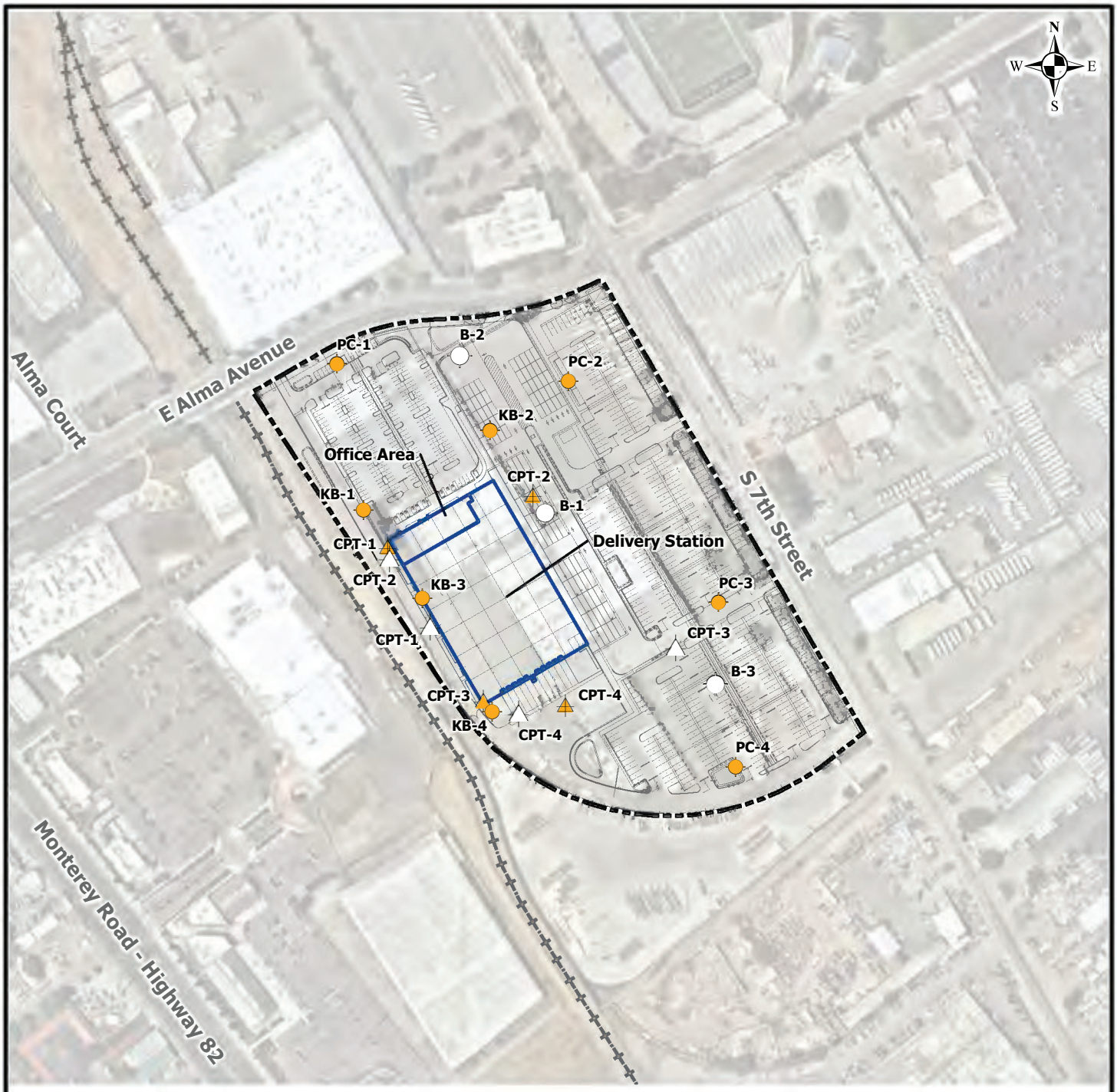
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FIGURES


SITE
East Alma Avenue
South 7th Street
N
W
E
S
Guadalupe / Washington
University
Tully Santee
Spartan Keys / Monterey Corridor
Guadalupe River
Guadalupe Parkway
Monterey Rd
Tully Rd
Almaden Rd
Coyote Creek
Juniper-Serra-Fwy
E Reed St
E Virginia St
W Alma Ave
San Jose Municipal Stadium
History Park
Yerba Buena High School
Kennedy Elementary School
Shimkaws Elementary School
Franklin Elementary School
Santa Clara County Fairgrounds
Oak Hill Memorial Park
Target
Costco
Willow Glen Way
Veterano Ave
Oak Hill Ave
San Jose Ave
Cushing Ave
Sequoia Ave
Edenvale Ave
Meditation Dr
Vista Dr
Galarza Elementary School
River Glen Park
Discovery Meadow
Grand Century Shopping Mall
Bridges Academy
Success Academy
Christian Community Academy
Duncan Hall
San Jose State University Event Center
McKinley Elementary School
Olinder Elementary School
Martin Park
Williams Street Park
Selena D'Ander Park
San Pedro Square
The 99
Brown Ave
Jerome St
Prevost St
Dennis Ave
Spencer Ave
Lincoln Ave
Bird Ave
Padres Dr
Almaden Expy
Leo Ave
Lincoln Ave
Virginia St
Reed St
Santa Clara St
San Fernando St
W San Fernando St
S Market St
S 1st St
S 4th St
S 7th St
S 10th St
S 11th St
Vine St
Delmas Ave
Lelong Dr
Falk Ave
Kooser Rd
Galveston Dr
Quimby Rd
Capitol Expy
Aborn Rd
Silver Creek Valley Rd
Meridian Ave
Bascom Ave
Race St
Autumn St
Almaden Expy
Coleman Ave
Guadalupe River Trail
Los Gatos Creek Trail
Los Gatos Creek
Coyote Creek Trail
Guadalupe River Trail
Guadalupe River Park
Discovery Meadow
Kelley Park
Lake Cunningham Park
Alum Rock Park
Alum Rock Ave
Story Rd
Capitol Ave
Tully Rd
Old Tully Rd
Monterey Rd
Almaden Rd
Guadalupe Parkway
Guadalupe River
Coyote Creek
Los Gatos Creek
Coyote Creek Trail
Guadalupe River Trail
Los Gatos Creek Trail



Explanation

- Approximate location of boring by Langan, August 2020
- Approximate location of cone penetration test (CPT) by Langan, August 2020
- Approximate location of boring by Kleinfelder, June 2020
- Approximate location of cone penetration test (CPT) by Kleinfelder, June 2020
- Approximate location of abandoned railroad owned by Union Pacific Railroad Company
- Approximate site boundary

Notes:
1. Aerial imagery provided by Near Map, 5/8/2020.
2. Site boundary is based on the 2020 Santa Clara County GIS parcel dataset, all features shown are approximate.
3. Preliminary building layout based on Progress Site Plan by Langan, 9/28/2020.

300 0 300
SCALE IN FEET

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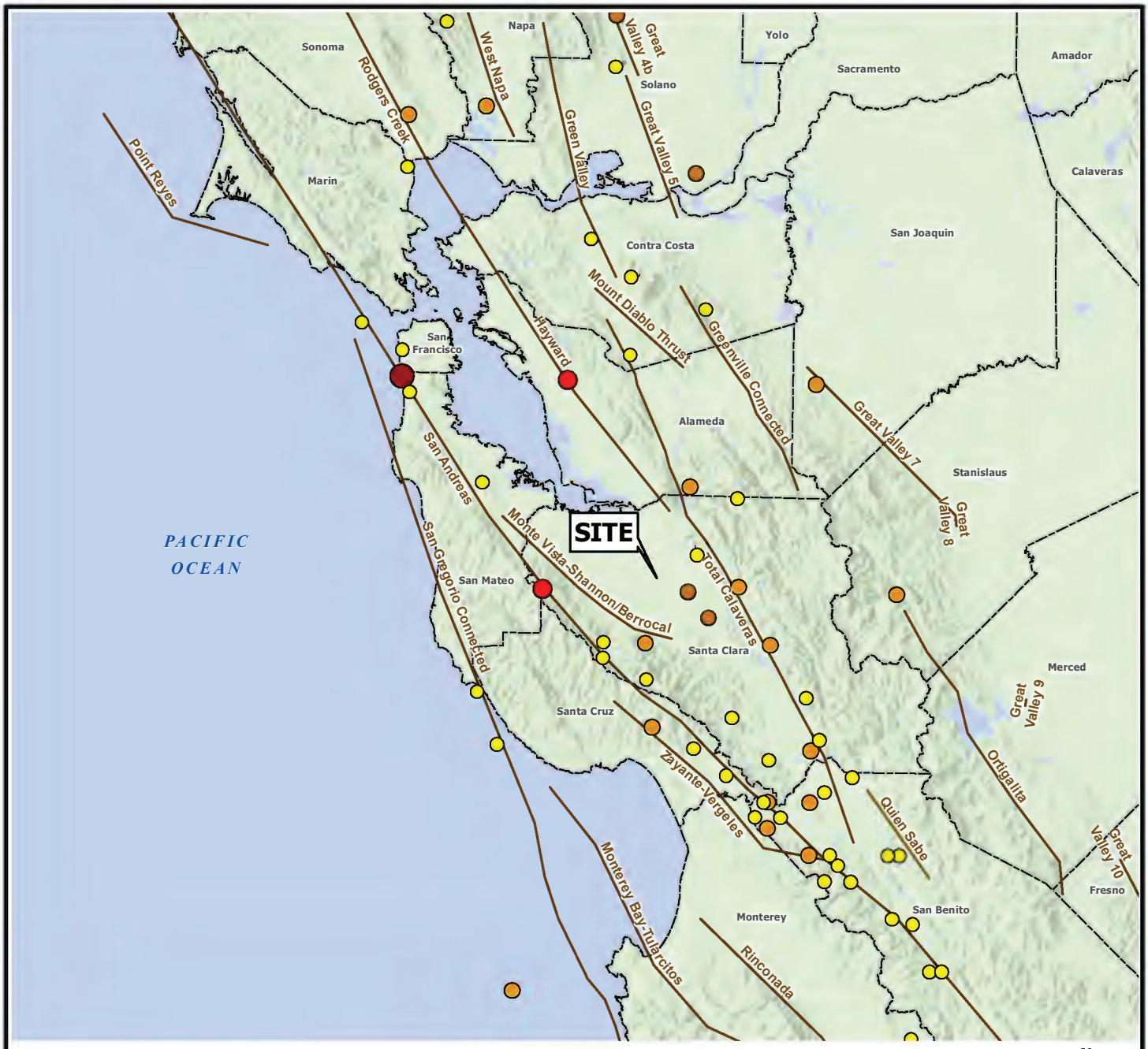
Project
AMAZON DFA8
1605 SOUTH 7TH STREET,
SAN JOSE, CALIFORNIA
SANTA CLARA COUNTY CALIFORNIA

Figure Title
SITE PLAN

Project No.	700080202
Date	10/27/2020
Scale	1 " = 300 '
Drawn By	BJS
Figure	2

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Path: \\langan.com\data\IRV\data2\700080202\Project Data\ArcGIS\MXD\Geotech_Figures\Site Plan.mxd



Explanation

County Boundary

Fault

Earthquake Epicenter

Magnitude

- Magnitude 5 to 5.9
- Magnitude 6 to 6.9
- Magnitude 7 to 7.4
- Magnitude 7.5 to 8

Notes:

1. Quaternary fault data displayed are based on a generalized version of USGS Quaternary Fault and fold database, 2010. For cartographic purposes only.
2. The Earthquake Epicenter (Magnitude) data is provided by the U.S Geological Survey (USGS) and is current through 08/26/2014.
3. Basemap hillshade and County boundaries provided by USGS and California Department of Transportation.
4. Map displayed in California State Coordinate System, California (Teale) Albers, North American Datum of 1983 (NAD83), Meters.

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Project

AMAZON DFA8

1605 SOUTH 7TH STREET,
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SANTA CLARA COUNTY CALIFORNIA

Figure Title

MAP OF MAJOR FAULTS AND EARTHQUAKE EPICENTERS IN THE SAN FRANCISCO BAY AREA

Project No.	700080202
Date	10/27/2020
Scale	1 " = 20 miles
Drawn By	JNE

Figure 3

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Path: \\langan.com\data\IRV\data2\700080202\Project Data\ArcGIS\MXD\Geotech_Figures\Fault Map.mxd Date: 10/27/2020 User: jenzminger Time: 12:07:11 PM

I **Not felt by people, except under especially favorable circumstances. However, dizziness or nausea may be experienced.**
Sometimes birds and animals are uneasy or disturbed. Trees, structures, liquids, bodies of water may sway gently, and doors may swing very slowly.

II **Felt indoors by a few people, especially on upper floors of multi-story buildings, and by sensitive or nervous persons.**
As in Grade I, birds and animals are disturbed, and trees, structures, liquids and bodies of water may sway. Hanging objects swing, especially if they are delicately suspended.

III **Felt indoors by several people, usually as a rapid vibration that may not be recognized as an earthquake at first. Vibration is similar to that of a light, or lightly loaded trucks, or heavy trucks some distance away. Duration may be estimated in some cases.**
Movements may be appreciable on upper levels of tall structures. Standing motor cars may rock slightly.

IV **Felt indoors by many, outdoors by a few. Awakens a few individuals, particularly light sleepers, but frightens no one except those apprehensive from previous experience. Vibration like that due to passing of heavy, or heavily loaded trucks. Sensation like a heavy body striking building, or the falling of heavy objects inside.**
Dishes, windows and doors rattle; glassware and crockery clink and clash. Walls and house frames creak, especially if intensity is in the upper range of this grade. Hanging objects often swing. Liquids in open vessels are disturbed slightly. Stationary automobiles rock noticeably.

V **Felt indoors by practically everyone, outdoors by most people. Direction can often be estimated by those outdoors. Awakens many, or most sleepers. Frightens a few people, with slight excitement; some persons run outdoors.**
Buildings tremble throughout. Dishes and glassware break to some extent. Windows crack in some cases, but not generally. Vases and small or unstable objects overturn in many instances, and a few fall. Hanging objects and doors swing generally or considerably. Pictures knock against walls, or swing out of place. Doors and shutters open or close abruptly. Pendulum clocks stop, or run fast or slow. Small objects move, and furnishings may shift to a slight extent. Small amounts of liquids spill from well-filled open containers. Trees and bushes shake slightly.

VI **Felt by everyone, indoors and outdoors. Awakens all sleepers. Frightens many people; general excitement, and some persons run outdoors.**
Persons move unsteadily. Trees and bushes shake slightly to moderately. Liquids are set in strong motion. Small bells in churches and schools ring. Poorly built buildings may be damaged. Plaster falls in small amounts. Other plaster cracks somewhat. Many dishes and glasses, and a few windows break. Knickknacks, books and pictures fall. Furniture overturns in many instances. Heavy furnishings move.

VII **Frightens everyone. General alarm, and everyone runs outdoors.**
People find it difficult to stand. Persons driving cars notice shaking. Trees and bushes shake moderately to strongly. Waves form on ponds, lakes and streams. Water is muddied. Gravel or sand stream banks cave in. Large church bells ring. Suspended objects quiver. Damage is negligible in buildings of good design and construction; slight to moderate in well-built ordinary buildings; considerable in poorly built or badly designed buildings, adobe houses, old walls (especially where laid up without mortar), spires, etc. Plaster and some stucco fall. Many windows and some furniture break. Loosened brickwork and tiles shake down. Weak chimneys break at the roofline. Cornices fall from towers and high buildings. Bricks and stones are dislodged. Heavy furniture overturns. Concrete irrigation ditches are considerably damaged.

VIII **General fright, and alarm approaches panic.**
Persons driving cars are disturbed. Trees shake strongly, and branches and trunks break off (especially palm trees). Sand and mud erupts in small amounts. Flow of springs and wells is temporarily and sometimes permanently changed. Dry wells renew flow. Temperatures of spring and well waters varies. Damage slight in brick structures built especially to withstand earthquakes; considerable in ordinary substantial buildings, with some partial collapse; heavy in some wooden houses, with some tumbling down. Panel walls break away in frame structures. Decayed pilings break off. Walls fall. Solid stone walls crack and break seriously. Wet grounds and steep slopes crack to some extent. Chimneys, columns, monuments and factory stacks and towers twist and fall. Very heavy furniture moves conspicuously or overturns.

IX **Panic is general.**
Ground cracks conspicuously. Damage is considerable in masonry structures built especially to withstand earthquakes; great in other masonry buildings - some collapse in large part. Some wood frame houses built especially to withstand earthquakes are thrown out of plumb, others are shifted wholly off foundations. Reservoirs are seriously damaged and underground pipes sometimes break.

X **Panic is general.**
Ground, especially when loose and wet, cracks up to widths of several inches; fissures up to a yard in width run parallel to canal and stream banks. Landsliding is considerable from river banks and steep coasts. Sand and mud shifts horizontally on beaches and flat land. Water level changes in wells. Water is thrown on banks of canals, lakes, rivers, etc. Dams, dikes, embankments are seriously damaged. Well-built wooden structures and bridges are severely damaged, and some collapse. Dangerous cracks develop in excellent brick walls. Most masonry and frame structures, and their foundations are destroyed. Railroad rails bend slightly. Pipe lines buried in earth tear apart or are crushed endwise. Open cracks and broad wavy folds open in cement pavements and asphalt road surfaces.

XI **Panic is general.**
Disturbances in ground are many and widespread, varying with the ground material. Broad fissures, earth slumps, and land slips develop in soft, wet ground. Water charged with sand and mud is ejected in large amounts. Sea waves of significant magnitude may develop. Damage is severe to wood frame structures, especially near shock centers, great to dams, dikes and embankments, even at long distances. Few if any masonry structures remain standing. Supporting piers or pillars of large, well-built bridges are wrecked. Wooden bridges that "give" are less affected. Railroad rails bend greatly and some thrust endwise. Pipe lines buried in earth are put completely out of service.

XII **Panic is general.**
Damage is total, and practically all works of construction are damaged greatly or destroyed. Disturbances in the ground are great and varied, and numerous shearing cracks develop. Landslides, rock falls, and slumps in river banks are numerous and extensive. Large rock masses are wrenched loose and torn off. Fault slips develop in firm rock, and horizontal and vertical offset displacements are notable. Water channels, both surface and underground, are disturbed and modified greatly. Lakes are dammed, new waterfalls are produced, rivers are deflected, etc. Surface waves are seen on ground surfaces. Lines of sight and level are distorted. Objects are thrown upward into the air.

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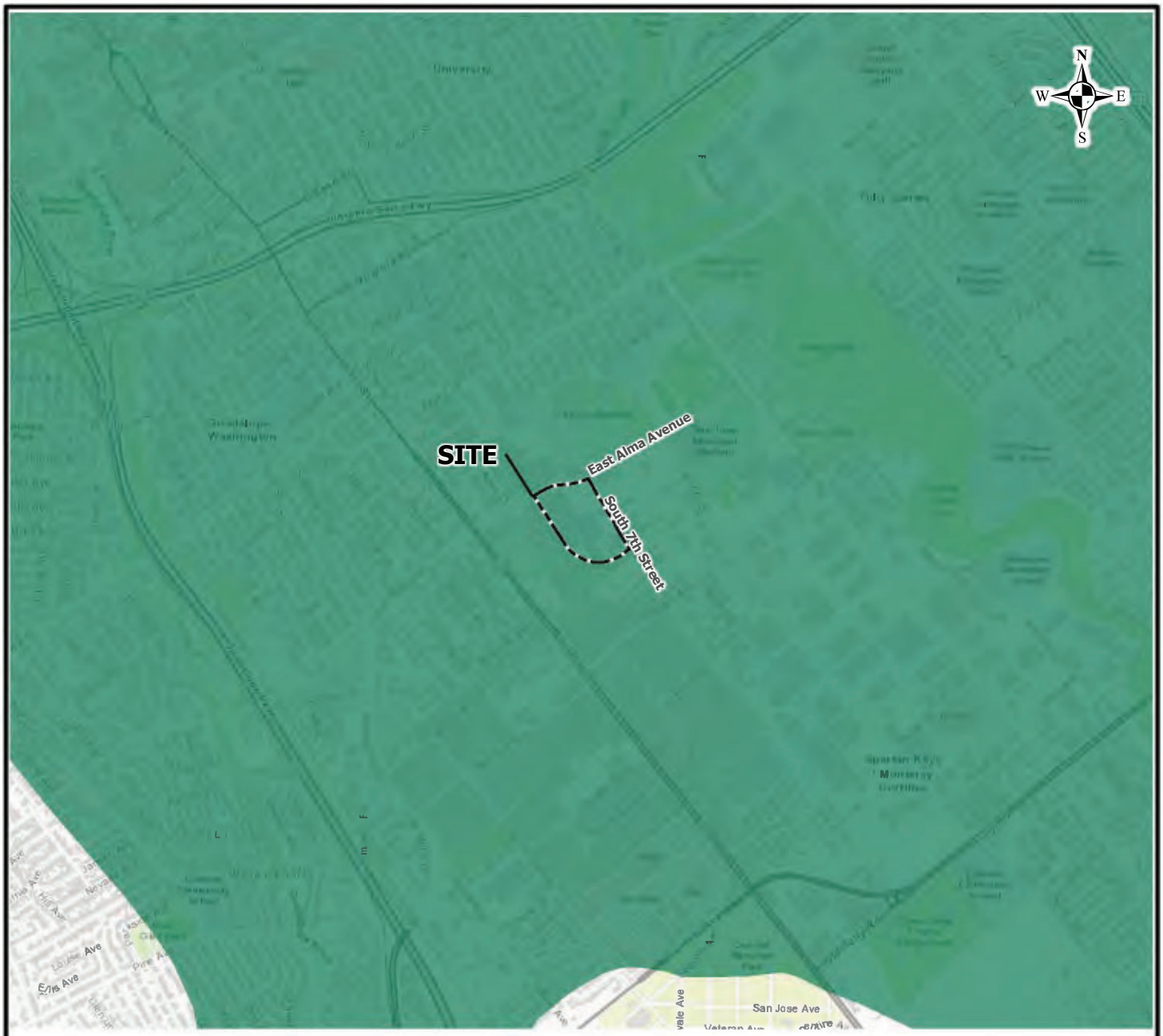
Project
AMAZON DFA8
1605 SOUTH 7TH STREET,
SAN JOSE, CALIFORNIA
SANTA CLARA COUNTY CALIFORNIA

Figure Title
MODIFIED MERCALLI INTENSITY SCALE

Project No. 700080202
Date 10/27/2020
Figure 4

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Path: \\langan.com\data\IRV\data2\700080202\Project Data\ArcGIS\MXD\Geotech_Figures\Modified Mercalli Intensity Scale.mxd



Legend

Approximate Site Boundary

Liquefaction Zones
Areas where historic occurrence of liquefaction, or local topographic, geological, geotechnical, and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in the in the Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslide Zones;
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in the Public Resources Code Section 2693(c) would be required.

Notes:
1. Site located in the San Jose East USGS Quadrangle.
2. Topographic basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online.
3. Regional seismic hazard zones provided by the CGS in GIS format, published in 2018.

2,000 0 2,000
SCALE IN FEET

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Project
AMAZON DFA8

1605 SOUTH 7TH STREET,
SAN JOSE, CALIFORNIA

SANTA CLARA COUNTY CALIFORNIA

Figure Title
REGIONAL SEISMIC HAZARDS MAP

Project No.	700080202
Date	10/28/2020
Scale	1 " = 2,000 '
Drawn By	JNE

Figure 5

Path: \\langan.com\data\IRV\data2\700080202\Project Data\ArcGIS\MXD\Geotech_Figures\Regional Seismic Hazards Map CGS Web Service.mxd

APPENDIX A

LOGS OF BORINGS

PROJECT: **AMAZON DFA8**
1605 South 7th Street
San Jose, California

Log of Boring B-1

Boring location: See Site Plan, Figure 1
Logged by: A. Barakat
Drilled By: Pitcher Services
Date started: 8/19/20 Date finished: 8/19/20
Drilling method: Rotary Wash
Hammer weight/drop: 140 lbs./30 inches Hammer type: Automatic
Samplers: Sprague & Henwood (S&H), Standard Penetration Test (SPT), Shelby Tube (PT), Hand Auger (HA)

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						Ground Surface Elevation: 104.2 feet[2]						
0					AC	3 inches asphalt concrete (AC)						
0.5					AB	6 inches aggregate base (AB)						
2	HA				CL	SANDY CLAY (CL) gray, moist, fine sand, trace silt and coarse subangular to subrounded gravel LL = 29, PI = 12, see Figure D-5					15.7	
4	HA				CL	CLAY (CL) gray-brown, moist, trace fine to coarse sand						
5											14.5	
6	SPT		5 4 4	10	CL	SANDY CLAY (CL) brown, stiff, moist, fine sand LL = 29, PI = 10, see Figure D-5						
9												
10	SPT		2 1 0	1	ML	SILT with SAND (ML) brown, very soft, moist, fine sand LL = 27, PI = 5, see Figure D-5				71.5	24.9	
15												
16	S&H		2 2 3	4		soft to medium stiff	TxUU	1,850	850	65	31.1	92
17	SPT		0 2 4	7	ML	SANDY SILT (ML) gray to brown, medium stiff, moist, fine sand at 16 feet, LL = 28, PI = 5, see figure D-5 at 16.5 feet, LL = 30, PI = 6, see Figure D-5 Triaxial Test, see Figure D-2					33.6	
20											21.2	104
21	ST			95 - 300 psi	CL	SANDY CLAY (CL) brown, stiff, moist, fine to medium sand Consolidation Test, see Figure D-1 Triaxial Test, see Figure D-3	TxUU PP	2,050	1,310 2,250		18.9	111
24												
25	SPT		0 0 0	0	SM	SILTY SAND (SM) brown, very loose, moist, fine- to medium-grained LL = 32, PI = 3, see Figure D-5				30.5	26.0	
28												
29					ML	SANDY SILT (ML) brown, medium stiff, moist, fine sand						
30												

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Project No.: 700080202
Figure: A-1a

TEST GEOTECH LOG 700080202 DFA8.GPJ TR.GDT 10/28/20

PROJECT: **AMAZON DFA8**
1605 South 7th Street
San Jose, California

Log of Boring B-1

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
31	SPT		1 2 2	5	ML	SANDY SILT (ML) (continued) LL = 24, PI = 3, see Figure D-5				50	25.6	
32												
33												
34						CLAY (CH) gray, medium stiff, moist							
35			2									
36	S&H		5 6	8		medium stiff Triaxial Test, see Figure D-4	TxUU PP	2,975	750 600		30.1	98
37												
38												
39												
40			5									
41	S&H		7 7	11		gray with black mottling, stiff, trace fine sand	TV		1,200			
42					CH							
43												
44												
45			2									
46	S&H		7 8	11			TV		1,300			
47												
48												
49												
50			3									
51	S&H		9 7	11			TV		1,300			
52												
53												
54												
55												
56												
57												
58												
59												
60												

Boring terminated at a depth of 51.5 feet below ground surface (bgs).
Boring backfilled with cement grout.
Groundwater level obscured by drilling method.
PP = pocket penetrometer.
TV = Torvane.

[1] S&H and SPT blow counts for the last two increments were converted to SPT N-Values using factors of 0.7 and 1.2, respectively to account for sampler type and hammer energy.
[2] Elevations based on National Geodectic Vertical Datum of 1929 (NGVD29)

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Project No.: 700080202
Figure: A-1b

TEST GEOTECH LOG 700080202 DFA8.GPJ TR.GDT 10/28/20

PROJECT:	**AMAZON DFA8** **1605 South 7th Street** San Jose, California	**Log of Boring B-2**

PAGE 1 OF 1

Boring location: See Site Plan, Figure 1

Logged by: A. Barakat
Drilled By: Pitcher Services

Date started: 8/19/20 Date finished: 8/19/20

Drilling method: Hand Auger

Hammer weight/drop: N/A Hammer type: N/A

Samplers: Hand Auger (HA)

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						Ground Surface Elevation: 103.4 feet[1]						
0					AC	6 inches asphalt concrete (AC)						
					AB	2 inches aggregate base (AB)						
1						SANDY CLAY (CL) brown, moist, fine to medium sand R-Value test, see Figure D-6						
2												
3	HA				CL							
4												
5												
6												
7												
8												
9												
10												
11												
12												
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29												
30												

Boring terminated at a depth of 5 feet below ground surface (bgs).
Boring backfilled with cement grout.
Groundwater was not encountered.

[1] Elevations based on National Geodectic Vertical Datum of 1929 (NGVD29)

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Project No.: 700080202 Figure: A-2

TEST GEOTECH LOG 700080202 DFA8.GPJ TR.GDT 10/28/20

PROJECT:	**AMAZON DFA8** **1605 South 7th Street** San Jose, California	**Log of Boring B-3**

Boring location: See Site Plan, Figure 1

Logged by: A. Barakat
Drilled By: Pitcher Services

Date started: 8/19/20 Date finished: 8/19/20

Drilling method: Hand Auger

Hammer weight/drop: N/A Hammer type: N/A

Samplers: Hand Auger (HA)

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						Ground Surface Elevation: 103 feet[1]						
0					AC	6 inches asphalt concrete (AC)						
1					SP-GP	SAND with GRAVEL (SP-GP) red, moist, medium- to coarse-grained, angular gravel						
2												
3	HA				CL	SANDY CLAY (CL) brown, moist, fine sand						
4						yellow						
5												
6												
7												
8												
9												
10												
11												
12												
13												
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30												

Boring terminated at a depth of 5 feet below ground surface (bgs).
Boring backfilled with cement grout.
Groundwater was not encountered.

[1] Elevations based on National Geodectic Vertical Datum of 1929 (NGVD29)

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Project No.: 700080202 Figure: A-3

TEST GEOTECH LOG 700080202 DFA8.GPJ TR.GDT 10/28/20

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		Symbols	Typical Names
Coarse-Grained Soils (more than half of soil > no. 200 sieve size)	Gravels (More than half of coarse fraction > no. 4 sieve size)	GW	Well-graded gravels or gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	Sands (More than half of coarse fraction < no. 4 sieve size)	SW	Well-graded sands or gravelly sands, little or no fines
		SP	Poorly-graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
Fine -Grained Soils (more than half of soil < no. 200 sieve size)	Silts and Clays LL = < 50	ML	Inorganic silts and clayey silts of low plasticity, sandy silts, gravelly silts
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
		OL	Organic silts and organic silt-clays of low plasticity
	Silts and Clays LL = > 50	MH	Inorganic silts of high plasticity
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic silts and clays of high plasticity
Highly Organic Soils		PT	Peat and other highly organic soils

GRAIN SIZE CHART

Classification	Range of Grain Sizes: U.S. Standard Sieve Size	Range of Grain Sizes: Grain Size in Millimeters
Boulders	Above 12"	Above 305
Cobbles	12" to 3"	305 to 76.2
Gravel	3" to No. 4	76.2 to 4.76
coarse	3" to 3/4"	76.2 to 19.1
fine	3/4" to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.075
coarse	No. 4 to No. 10	4.76 to 2.00
medium	No. 10 to No. 40	2.00 to 0.420
fine	No. 40 to No. 200	0.420 to 0.075
Silt and Clay	Below No. 200	Below 0.075

Unstabilized groundwater level

Stabilized groundwater level

SAMPLE DESIGNATIONS/SYMBOLS

Sample taken with Sprague & Henwood split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter. Darkened area indicates soil recovered

Classification sample taken with Standard Penetration Test sampler

Undisturbed sample taken with thin-walled tube

Disturbed sample

Sampling attempted with no recovery

Core sample

Analytical laboratory sample

Sample taken with Direct Push or Drive sampler

Sonic

SAMPLER TYPE

C Core barrel

CA California split-barrel sampler with 2.5-inch outside diameter and a 1.93-inch inside diameter

D&M Dames & Moore piston sampler using 2.5-inch outside diameter, thin-walled tube

O Osterberg piston sampler using 3.0-inch outside diameter, thin-walled Shelby tube

PT Pitcher tube sampler using 3.0-inch outside diameter, thin-walled Shelby tube

S&H Sprague & Henwood split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter

SPT Standard Penetration Test (SPT) split-barrel sampler with a 2.0-inch outside diameter and a 1.5-inch inside diameter

ST Shelby Tube (3.0-inch outside diameter, thin-walled tube) advanced with hydraulic pressure

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Project: AMAZON DFA8
1605 South 7th Street
San Jose, California
SANTA CLARA COUNTY CALIFORNIA

Figure Title: SOIL CLASSIFICATION CHART

Project No.: [redacted]
Date: 09/29/2020
Drawn By: AG
Checked By: HS

Figure: A-4

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APPENDIX B

CONE PENETROMETER TEST REPORT

PRESENTATION OF SITE INVESTIGATION RESULTS

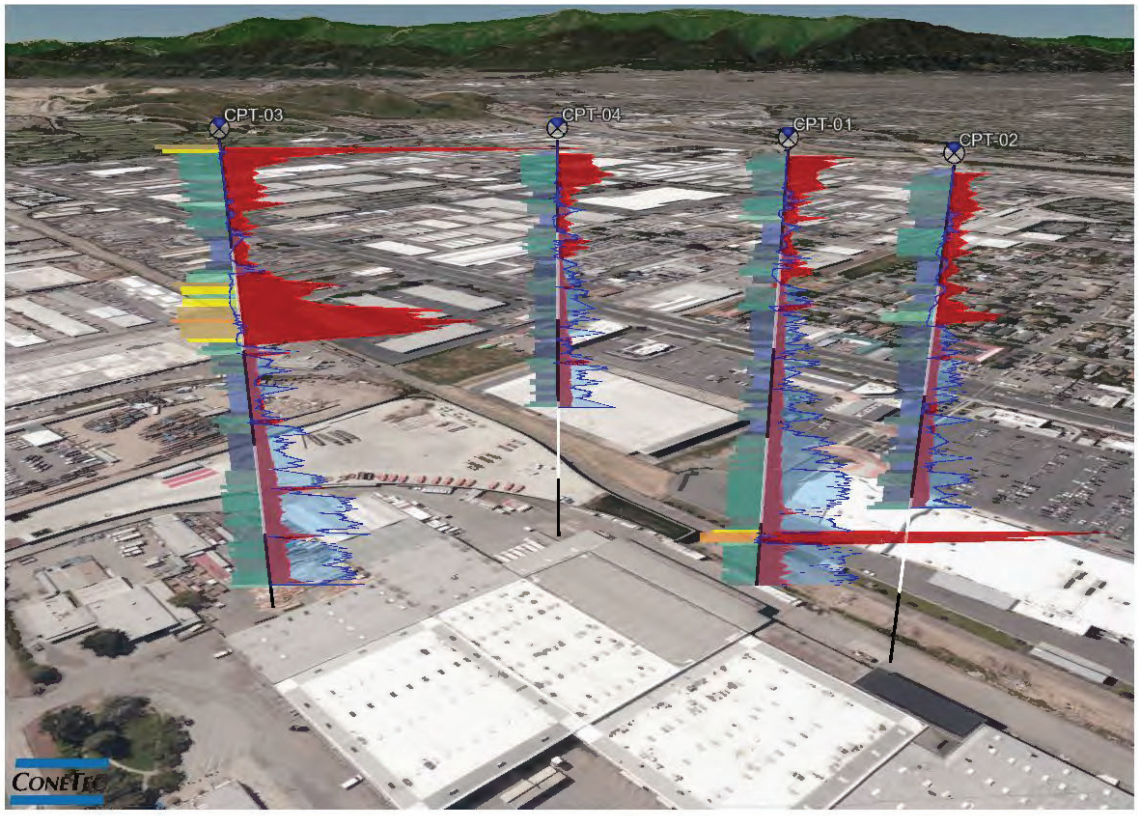
DFA8 Site

Prepared for:

Langan Engineering

ConeTec Job No: 20-56-21224

Project Start Date: 10-Aug-2020
Project End Date: 10-Aug-2020
Report Date: 13-Aug-2020



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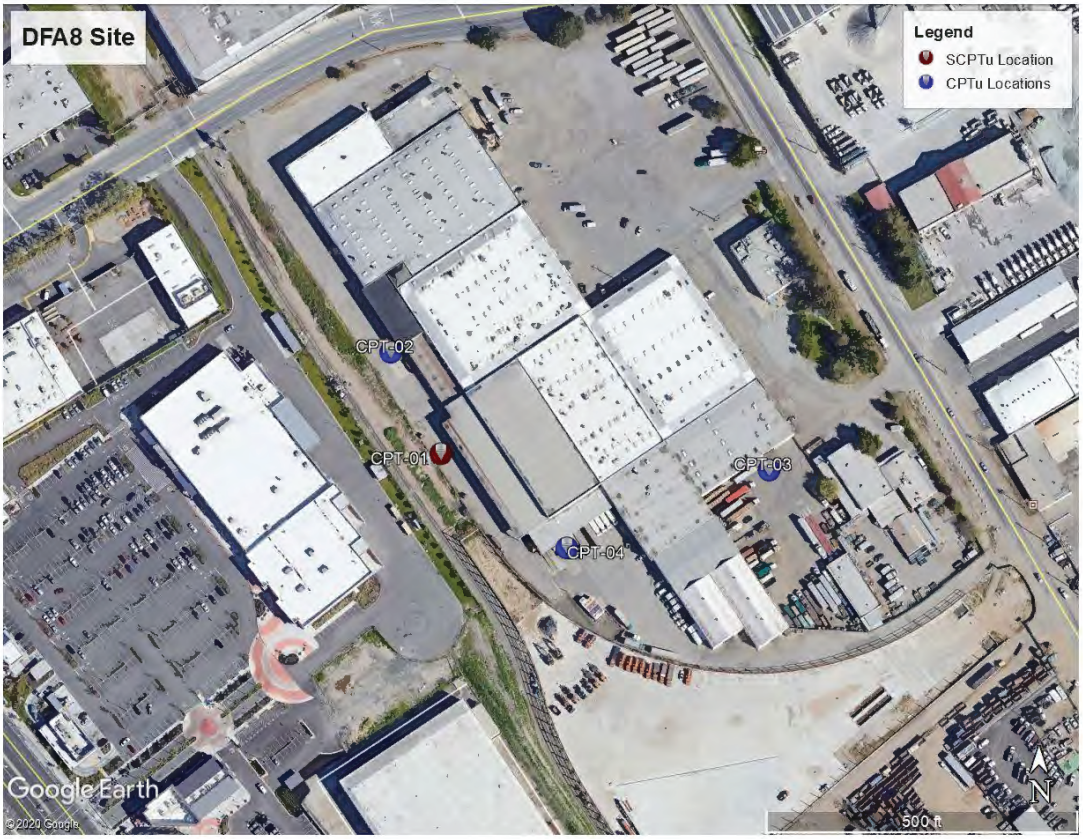
Introduction

The enclosed report presents the results of the site investigation program conducted by ConeTec Inc. for Langan Engineering of San Jose, CA. The program consisted of cone penetration testing (CPTu) at four (4) locations. Shear wave velocities were recorded in one sounding.

Project Information

Project	
Client	Langan Engineering
Project	DFA8 Site
ConeTec Project #	20-56-21224

An aerial overview from Google Earth including the CPT test locations is presented below.



Rig Description	Deployment System	Test Type
CPT truck rig (C15)	30-ton truck mounted cylinder	CPTu/SCPTu

Coordinates		
Test Type	Collection Method	EPSG Number
CPTu/SCPTu	Consumer grade GPS	32610

Cone Penetrometers Used for this Project						
Cone Description	Cone Number	Cross Sectional Area (cm^2)	Sleeve Area (cm^2)	Tip Capacity (bar)	Sleeve Capacity (bar)	Pore Pressure Capacity (psi)
496:T1500F15U1K	496	15	225	1500	15	1000
Cone 496 was used on both soundings.						

Cone Penetration Test	
Depth reference	Depths are referenced to the existing ground surface at the time of test.
Tip and sleeve data offset	0.1 Meter This has been accounted for in the CPT data files.
Additional Comments	Advanced plots with Ic, Phi, Su(Nkt), and N1(60)Ic, seismic plots, as well as Soil Behavior Type (SBT) Scatter plots have been included in the data release package.

Calculated Geotechnical Parameter Tables	
Additional information	The Normalized Soil Behaviour Type Chart based on Q_{tn} (SBT Q_{tn}) (Robertson, 2009) was used to classify the soil for this project. A detailed set of calculated CPTu parameters have been generated and are provided in Excel format files in the release folder. The CPTu parameter calculations are based on values of corrected tip resistance (q_t) sleeve friction (f_s) and pore pressure (u_2). Effective stresses are calculated based on unit weights that have been assigned to the individual soil behaviour type zones and the assumed equilibrium pore pressure profile. Soils were classified as either drained or undrained based on the Q_{tn} Normalized Soil Behaviour Type Chart (Robertson, 2009). Calculations for both drained and undrained parameters were included for materials that classified as silt mixtures (zone 4).

Limitations

This report has been prepared for the exclusive use of Langan Engineering (Client) for the project titled "DFA8 Site". The report's contents may not be relied upon by any other party without the express written permission of ConeTec, Inc. (ConeTec). ConeTec has provided site investigation services, prepared the factual data reporting, and provided geotechnical parameter calculations consistent with current best practices. No other warranty, expressed or implied, is made.

The information presented in the report document and the accompanying data set pertain to the specific project, site conditions and objectives described to ConeTec by the Client. In order to properly understand the factual data, assumptions and calculations, reference must be made to the documents provided and their accompanying data sets, in their entirety.

The cone penetration tests (CPTu) are conducted using an integrated electronic piezocone penetrometer and data acquisition system manufactured by Adara Systems Ltd. of Richmond, British Columbia, Canada.

ConeTec's piezocone penetrometers are compression type designs in which the tip and friction sleeve load cells are independent and have separate load capacities. The piezocones use strain gauged load cells for tip and sleeve friction and a strain gauged diaphragm type transducer for recording pore pressure. The piezocones also have a platinum resistive temperature device (RTD) for monitoring the temperature of the sensors, an accelerometer type dual axis inclinometer and a geophone sensor for recording seismic signals. All signals are amplified down hole within the cone body and the analog signals are sent to the surface through a shielded cable.

ConeTec penetrometers are manufactured with various tip, friction and pore pressure capacities in both 10 cm^2 and 15 cm^2 tip base area configurations in order to maximize signal resolution for various soil conditions. The specific piezocone used for each test is described in the CPT summary table presented in the first Appendix. The 15 cm^2 penetrometers do not require friction reducers as they have a diameter larger than the deployment rods. The 10 cm^2 piezocones use a friction reducer consisting of a rod adapter extension behind the main cone body with an enlarged cross sectional area (typically 44 mm diameter over a length of 32 mm with tapered leading and trailing edges) located at a distance of 585 mm above the cone tip.

The penetrometers are designed with equal end area friction sleeves, a net end area ratio of 0.8 and cone tips with a 60 degree apex angle.

All ConeTec piezocones can record pore pressure at various locations. Unless otherwise noted, the pore pressure filter is located directly behind the cone tip in the "u_2" position (ASTM Type 2). The filter is 6 mm thick, made of porous plastic (polyethylene) having an average pore size of 125 microns (90-160 microns). The function of the filter is to allow rapid movements of extremely small volumes of water needed to activate the pressure transducer while preventing soil ingress or blockage.

The piezocone penetrometers are manufactured with dimensions, tolerances and sensor characteristics that are in general accordance with the current ASTM D5778 standard. ConeTec's calibration criteria also meet or exceed those of the current ASTM D5778 standard. An illustration of the piezocone penetrometer is presented in Figure CPTu.

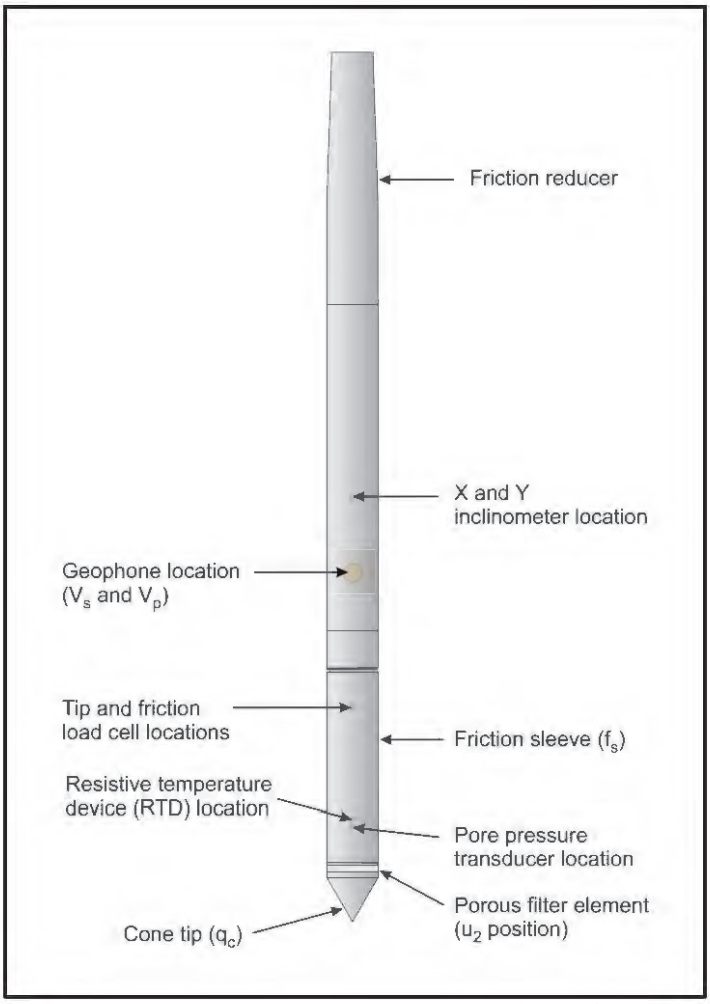


Figure CPTu. Piezocone Penetrometer (15 cm^2)

The ConeTec data acquisition systems consist of a Windows based computer and a signal conditioner and power supply interface box with a 16 bit (or greater) analog to digital (A/D) converter. The data is recorded at fixed depth increments using a depth wheel attached to the push cylinders or by using a spring loaded rubber depth wheel that is held against the cone rods. The typical recording intervals are either 2.5 cm or 5.0 cm depending on project requirements; custom recording intervals are possible. The system displays the CPTu data in real time and records the following parameters to a storage media during penetration:

- Depth
- Uncorrected tip resistance (q_c)
- Sleeve friction (f_s)
- Dynamic pore pressure (u)
- Additional sensors such as resistivity, passive gamma, ultra violet induced fluorescence, if applicable

All testing is performed in accordance to ConeTec's CPT operating procedures which are in general accordance with the current ASTM D5778 standard.

Prior to the start of a CPTu sounding a suitable cone is selected, the cone and data acquisition system are powered on, the pore pressure system is saturated with either glycerin or silicone oil and the baseline readings are recorded with the cone hanging freely in a vertical position.

The CPTu is conducted at a steady rate of 2 cm/s, within acceptable tolerances. Typically one meter length rods with an outer diameter of 1.5 inches are added to advance the cone to the sounding termination depth. After cone retraction final baselines are recorded.

Additional information pertaining to ConeTec's cone penetration testing procedures:

- Each filter is saturated in silicone oil or glycerin under vacuum pressure prior to use
- Recorded baselines are checked with an independent multi-meter
- Baseline readings are compared to previous readings
- Soundings are terminated at the client's target depth or at a depth where an obstruction is encountered, excessive rod flex occurs, excessive inclination occurs, equipment damage is likely to take place, or a dangerous working environment arises
- Differences between initial and final baselines are calculated to ensure zero load offsets have not occurred and to ensure compliance with ASTM standards

The interpretation of piezocone data for this report is based on the corrected tip resistance (q_t), sleeve friction (f_s) and pore water pressure (u). The interpretation of soil type is based on the correlations developed by Robertson (1990) and Robertson (2009). It should be noted that it is not always possible to accurately identify a soil type based on these parameters. In these situations, experience, judgment and an assessment of other parameters may be used to infer soil behavior type.

The recorded tip resistance (q_c) is the total force acting on the piezocone tip divided by its base area. The tip resistance is corrected for pore pressure effects and termed corrected tip resistance (q_t) according to the following expression presented in Robertson et al, 1986:

$$q_t = q_c + (1\text{-}a) \bullet u_2$$

where: q_t is the corrected tip resistance
q_c is the recorded tip resistance
u_2 is the recorded dynamic pore pressure behind the tip (u_2 position)
a is the Net Area Ratio for the piezocone (0.8 for ConeTec probes)

The sleeve friction (f_s) is the frictional force on the sleeve divided by its surface area. As all ConeTec piezocones have equal end area friction sleeves, pore pressure corrections to the sleeve data are not required.

The dynamic pore pressure (u) is a measure of the pore pressures generated during cone penetration. To record equilibrium pore pressure, the penetration must be stopped to allow the dynamic pore pressures to stabilize. The rate at which this occurs is predominantly a function of the permeability of the soil and the diameter of the cone.

The friction ratio (Rf) is a calculated parameter. It is defined as the ratio of sleeve friction to the tip resistance expressed as a percentage. Generally, saturated cohesive soils have low tip resistance, high

friction ratios and generate large excess pore water pressures. Cohesionless soils have higher tip resistances, lower friction ratios and do not generate significant excess pore water pressure.

A summary of the CPTu soundings along with test details and individual plots are provided in the appendices. A set of interpretation files were generated for each sounding based on published correlations and are provided in Excel format in the data release folder. Information regarding the interpretation methods used is also included in the data release folder.

For additional information on CPTu interpretations, refer to Robertson et al. (1986), Lunne et al. (1997), Robertson (2009), Mayne (2013, 2014) and Mayne and Peuchen (2012).

Shear wave velocity testing is performed in conjunction with the piezocone penetration test (SCPTu) in order to collect interval velocities. For some projects seismic compression wave (Vp) velocity is also determined.

ConeTec's piezocone penetrometers are manufactured with a horizontally active geophone (28 hertz) that is rigidly mounted in the body of the cone penetrometer, 0.2 meters behind the cone tip.

Shear waves are typically generated by using an impact hammer horizontally striking a beam that is held in place by a normal load. In some instances an auger source or an imbedded impulsive source maybe used for both shear waves and compression waves. The hammer and beam act as a contact trigger that triggers the recording of the seismic wave traces. For impulsive devices an accelerometer trigger may be used. The traces are recorded using an up-hole integrated digital oscilloscope which is part of the SCPTu data acquisition system. An illustration of the shear wave testing configuration is presented in Figure SCPTu-1.

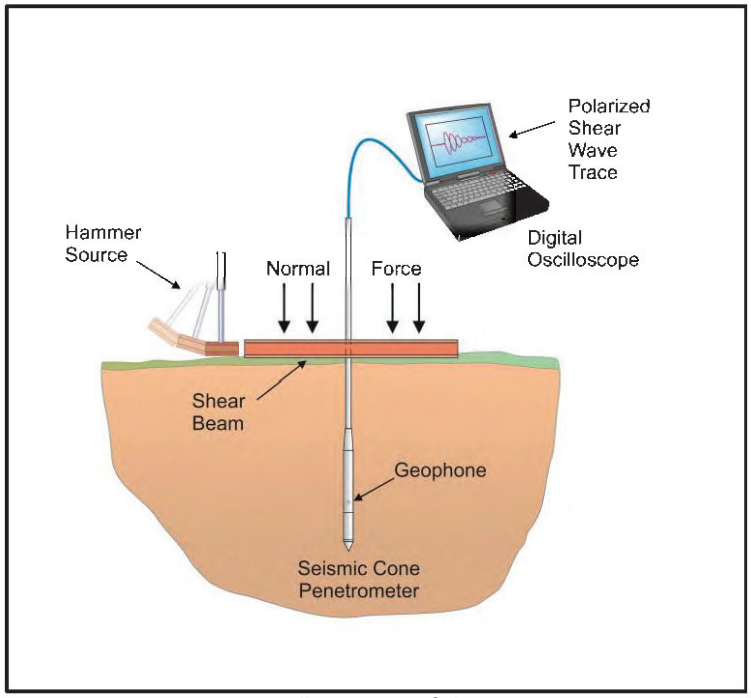


Figure SCPTu-1. Illustration of the SCPTu system

All testing is performed in accordance to ConeTec's SCPTu operating procedures.

Prior to the start of a SCPTu sounding, the procedures described in the Cone Penetration Test section are followed. In addition, the active axis of the geophone is aligned parallel to the beam (or source) and the horizontal offset between the cone and the source is measured and recorded.

Prior to recording seismic waves at each test depth, cone penetration is stopped and the rods are decoupled from the rig to avoid transmission of rig energy down the rods. Multiple wave traces are recorded for quality control purposes. After reviewing wave traces for consistency the cone is pushed to the next test depth (typically one meter intervals or as requested by the client). Figure SCPTu-2 presents an illustration of a SCPTu test.

For additional information on seismic cone penetration testing refer to Robertson et.al. (1986).

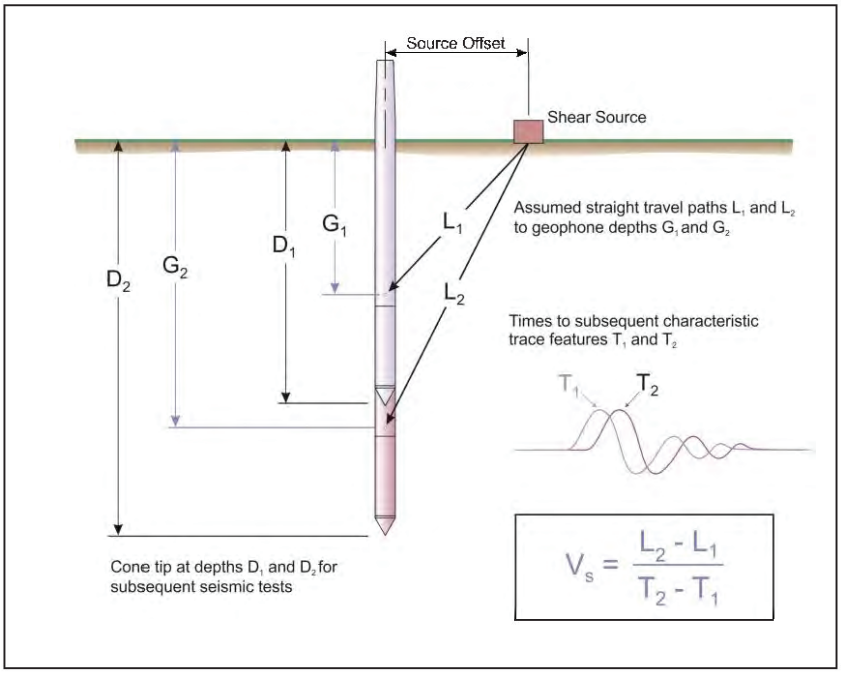


Figure SCPTu-2. Illustration of a seismic cone penetration test

Calculation of the interval velocities are performed by visually picking a common feature (e.g. the first characteristic peak, trough, or crossover) on all of the recorded wave sets and taking the difference in ray path divided by the time difference between subsequent features. Ray path is defined as the straight line distance from the seismic source to the geophone, accounting for beam offset, source depth and geophone offset from the cone tip.

The average shear wave velocity to a depth of 100 feet (30 meters) ($\bar{v}_s$) has been calculated and provided for all applicable soundings using the following equation presented in ASCE, 2010.

$$\bar{v}_s = \frac{\sum_{i=1}^{n} d_i}{\sum_{i=1}^{n} \frac{d_i}{v_{si}}}$$

where: $\bar{v}_s$ = average shear wave velocity ft/s (m/s)
d_i = the thickness of any layer between 0 and 100 ft (30 m)
v_{si} = the shear wave velocity in ft/s (m/s)
$\sum_{i=1}^{n} d_i$ = 100 ft (30 m)

Average shear wave velocity, $\bar{v}_s$ is also referenced to V_{s100} or V_{s30}.

The layer travel times refers to the travel times propagating in the vertical direction, not the measured travel times from an offset source.

Tabular results and SCPTu plots are presented in the relevant appendix.

The cone penetration test is halted at specific depths to carry out pore pressure dissipation (PPD) tests, shown in Figure PPD-1. For each dissipation test the cone and rods are decoupled from the rig and the data acquisition system measures and records the variation of the pore pressure (u) with time (t).

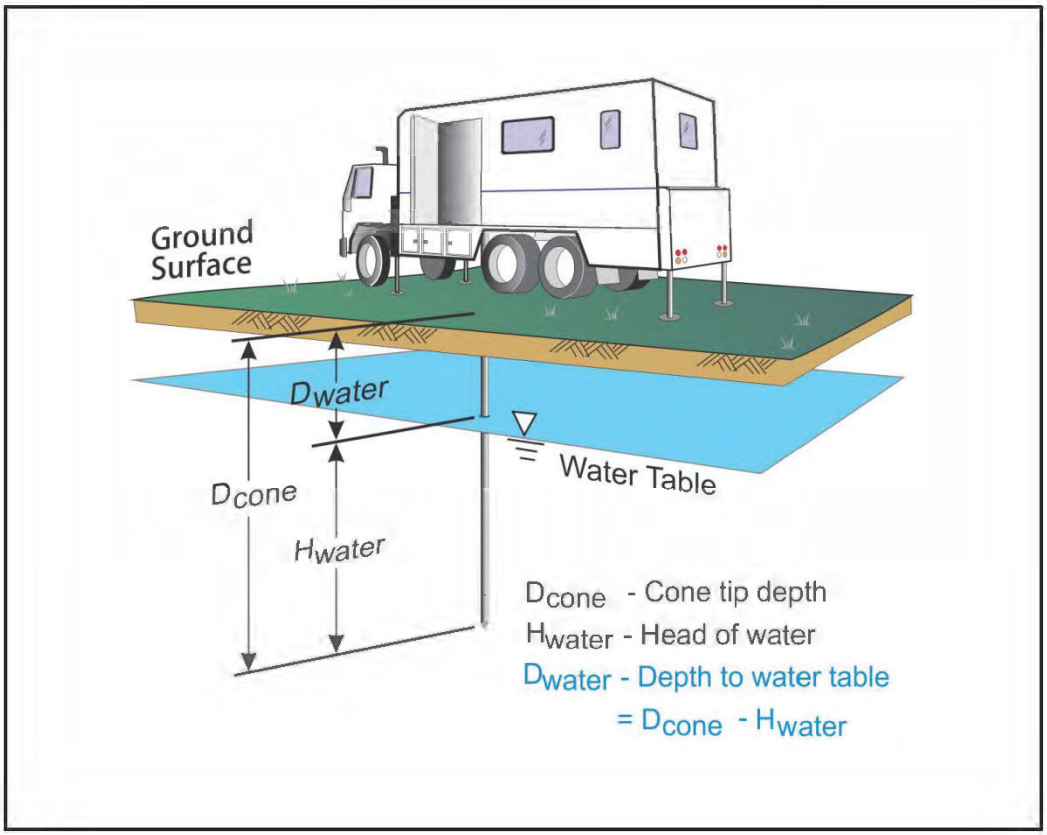


Figure PPD-1. Pore pressure dissipation test setup

Pore pressure dissipation data can be interpreted to provide estimates of ground water conditions, permeability, consolidation characteristics and soil behavior.

The typical shapes of dissipation curves shown in Figure PPD-2 are very useful in assessing soil type, drainage, in situ pore pressure and soil properties. A flat curve that stabilizes quickly is typical of a freely draining sand. Undrained soils such as clays will typically show positive excess pore pressure and have long dissipation times. Dilative soils will often exhibit dynamic pore pressures below equilibrium that then rise over time. Overconsolidated fine-grained soils will often exhibit an initial dilatory response where there is an initial rise in pore pressure before reaching a peak and dissipating.

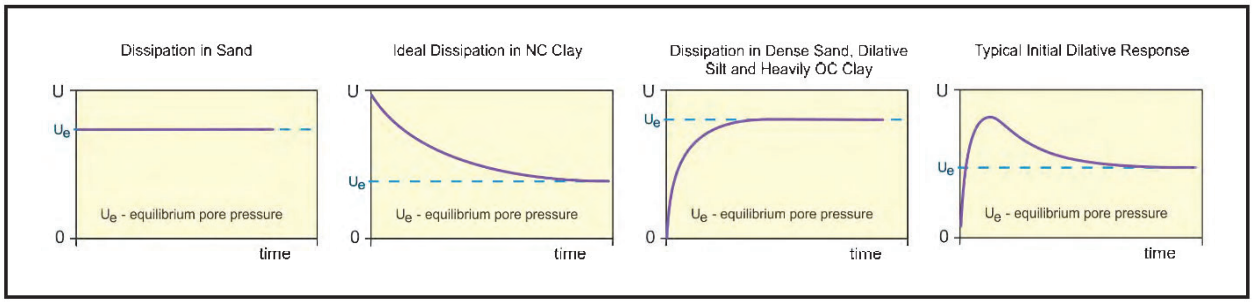


Figure PPD-2. Pore pressure dissipation curve examples

In order to interpret the equilibrium pore pressure (u_{eq}) and the apparent phreatic surface, the pore pressure should be monitored until such time as there is no variation in pore pressure with time as shown for each curve of Figure PPD-2.

In fine grained deposits the point at which 100% of the excess pore pressure has dissipated is known as t_{100}. In some cases this can take an excessive amount of time and it may be impractical to take the dissipation to t_{100}. A theoretical analysis of pore pressure dissipations by Teh and Houlsby (1991) showed that a single curve relating degree of dissipation versus theoretical time factor (T*) may be used to calculate the coefficient of consolidation (c_h) at various degrees of dissipation resulting in the expression for c_h shown below.

$$c_h = \frac{T^* \cdot a^2 \cdot \sqrt{I_r}}{t}$$

Where:

T* is the dimensionless time factor (Table Time Factor)
a is the radius of the cone
I_r is the rigidity index
t is the time at the degree of consolidation

Table Time Factor. T* versus degree of dissipation (Teh and Houlsby, 1991)

Degree of Dissipation (%)	20	30	40	50	60	70	80
T* (u_2)	0.038	0.078	0.142	0.245	0.439	0.804	1.60

The coefficient of consolidation is typically analyzed using the time (t_{50}) corresponding to a degree of dissipation of 50% (u_{50}). In order to determine t_{50}, dissipation tests must be taken to a pressure less than u_{50}. The u_{50} value is half way between the initial maximum pore pressure and the equilibrium pore pressure value, known as u_{100}. To estimate u_{50}, both the initial maximum pore pressure and u_{100} must be known or estimated. Other degrees of dissipations may be considered, particularly for extremely long dissipations.

At any specific degree of dissipation the equilibrium pore pressure (u at t_{100}) must be estimated at the depth of interest. The equilibrium value may be determined from one or more sources such as measuring the value directly (u_{100}), estimating it from other dissipations in the same profile, estimating the phreatic surface and assuming hydrostatic conditions, from nearby soundings, from client provided information, from site observations and/or past experience, or from other site instrumentation.

For calculations of c_h (Teh and Houlsby, 1991), t_{50} values are estimated from the corresponding pore pressure dissipation curve and a rigidity index (I_r) is assumed. For curves having an initial dilatory response in which an initial rise in pore pressure occurs before reaching a peak, the relative time from the peak value is used in determining t_{50}. In cases where the time to peak is excessive, t_{50} values are not calculated.

Due to possible inherent uncertainties in estimating I_r, the equilibrium pore pressure and the effect of an initial dilatory response on calculating t_{50}, other methods should be applied to confirm the results for c_h.

Additional published methods for estimating the coefficient of consolidation from a piezocone test are described in Burns and Mayne (1998, 2002), Jones and Van Zyl (1981), Robertson et al. (1992) and Sully et al. (1999).

A summary of the pore pressure dissipation tests and dissipation plots are presented in the relevant appendix.

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Robertson, P.K., Sully, J.P., Woeller, D.J., Lunne, T., Powell, J.J.M. and Gillespie, D.G., 1992, "Estimating coefficient of consolidation from piezocone tests", Canadian Geotechnical Journal, 29(4): 551-557.

Sully, J.P., Robertson, P.K., Campanella, R.G. and Woeller, D.J., 1999, "An approach to evaluation of field CPTU dissipation data in overconsolidated fine-grained soils", Canadian Geotechnical Journal, 36(2): 369-381.

Teh, C.I., and Houlsby, G.T., 1991, “An analytical study of the cone penetration test in clay”, Geotechnique, 41(1): 17-34.

The appendices listed below are included in the report:

- Cone Penetration Test Summary and Standard Cone Penetration Test Plots
- Advanced Cone Penetration Test Plots with Ic, Phi, Su(Nkt), and N1(60)Ic
- Soil Behavior Type (SBT) Zone Scatter Plots
- Seismic Cone Penetration Test Plots
- Seismic Cone Penetration Test Tabular Results
- Seismic Cone Penetration Test Shear Wave (Vs) Traces
- Pore Pressure Dissipation Summary and Pore Pressure Dissipation Plots

Cone Penetration Test Summary and Standard Cone Penetration Test Plots



Job No:	20-56-21224
Client:	Langan Engineering
Project:	DFA8 Site
Start Date:	10-Aug-2020
End Date:	10-Aug-2020

CONE PENETRATION TEST SUMMARY

Sounding ID	File Name	Date	Cone	Assumed Phreatic Surface[1] (ft)	Final Depth (ft)	Northing[2] (m)	Easting[2] (m)	Elevation[3] (ft)	Refer to Notation Number
CPT-01	20-56-21224_SP01	10-Aug-2020	496:T1500F15U1K	15.2	92.85	4130551	600126	104	
CPT-02	20-56-21224_CP02	10-Aug-2020	496:T1500F15U1K	15.0	50.85	4130600	600101	104	4
CPT-03	20-56-21224_CP03	10-Aug-2020	496:T1500F15U1K	12.3	75.54	4130545	600286	106	
CPT-04	20-56-21224_CP04	10-Aug-2020	496:T1500F15U1K	14.0	50.52	4130506	600188	104	4

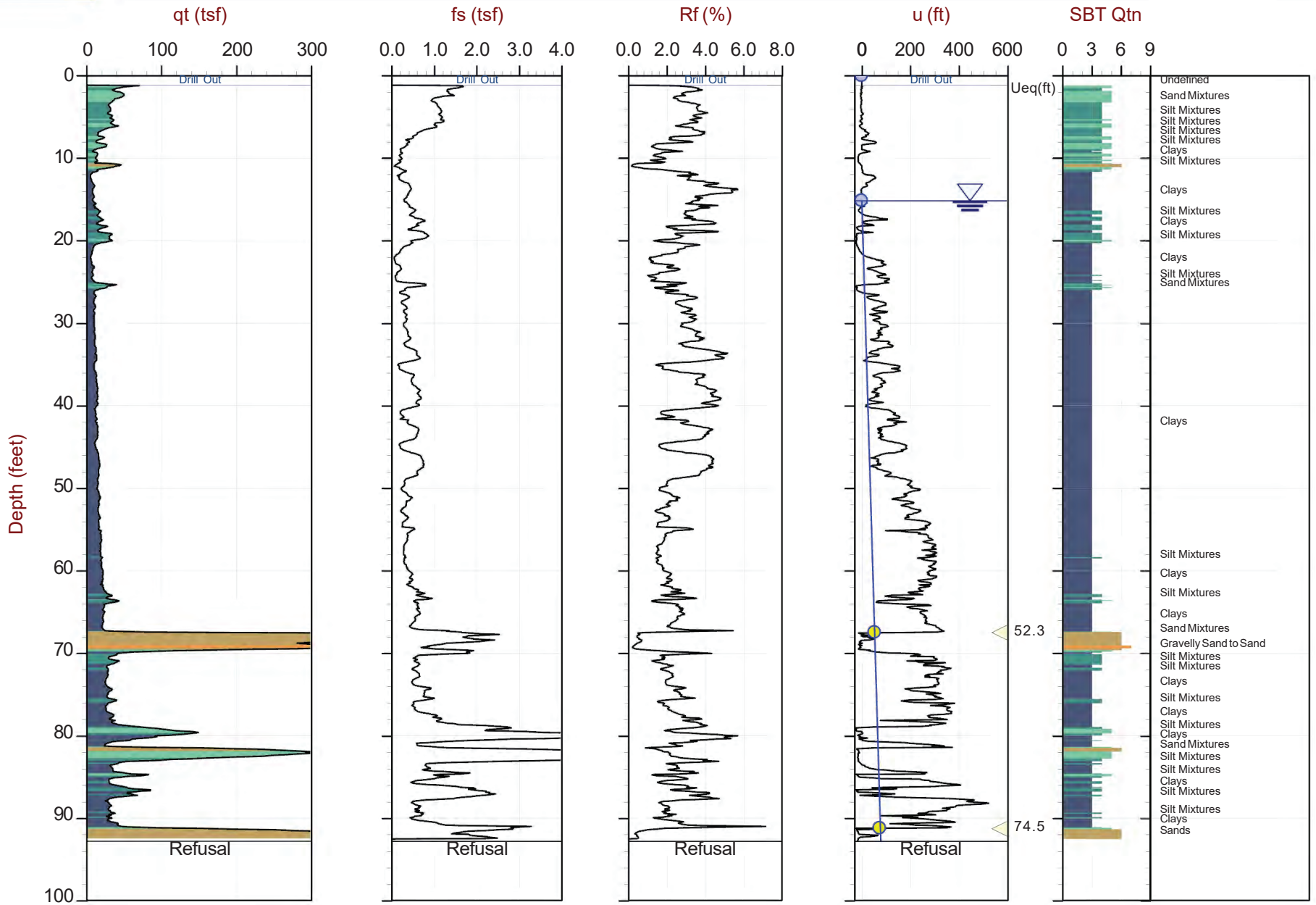
1. The assumed phreatic surface was based on the results of the shallowest pore pressure dissipation test performed within or nearest to each sounding.
2. The coordinates were acquired using consumer grade GPS equipment, datum: WGS 1984 / UTM Zone 10 North.
3. Elevations are refrenced to the ground surface and are derived from Google Earth Elevation for the recorded coordinates.
4. The assumed phreatic surface is based on the pore pressure dissipation test at a nearby sounding.

CONETEC

Langan

Job No: 20-56-21224
Date: 2020-08-10 09:47
Site: DFA8 Site

Sounding: CPT-01
Cone: 496:T1500F15U1K



Max Depth: 28.300 m / 92.85 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 20-56-21224_SP01.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM 10N N: 4130551m E: 600126m

Equilibrium Pore Pressure (Ueq) | Assumed Ueq | Dissipation, Ueq achieved | Dissipation, Ueq not achieved | Hydrostatic Line

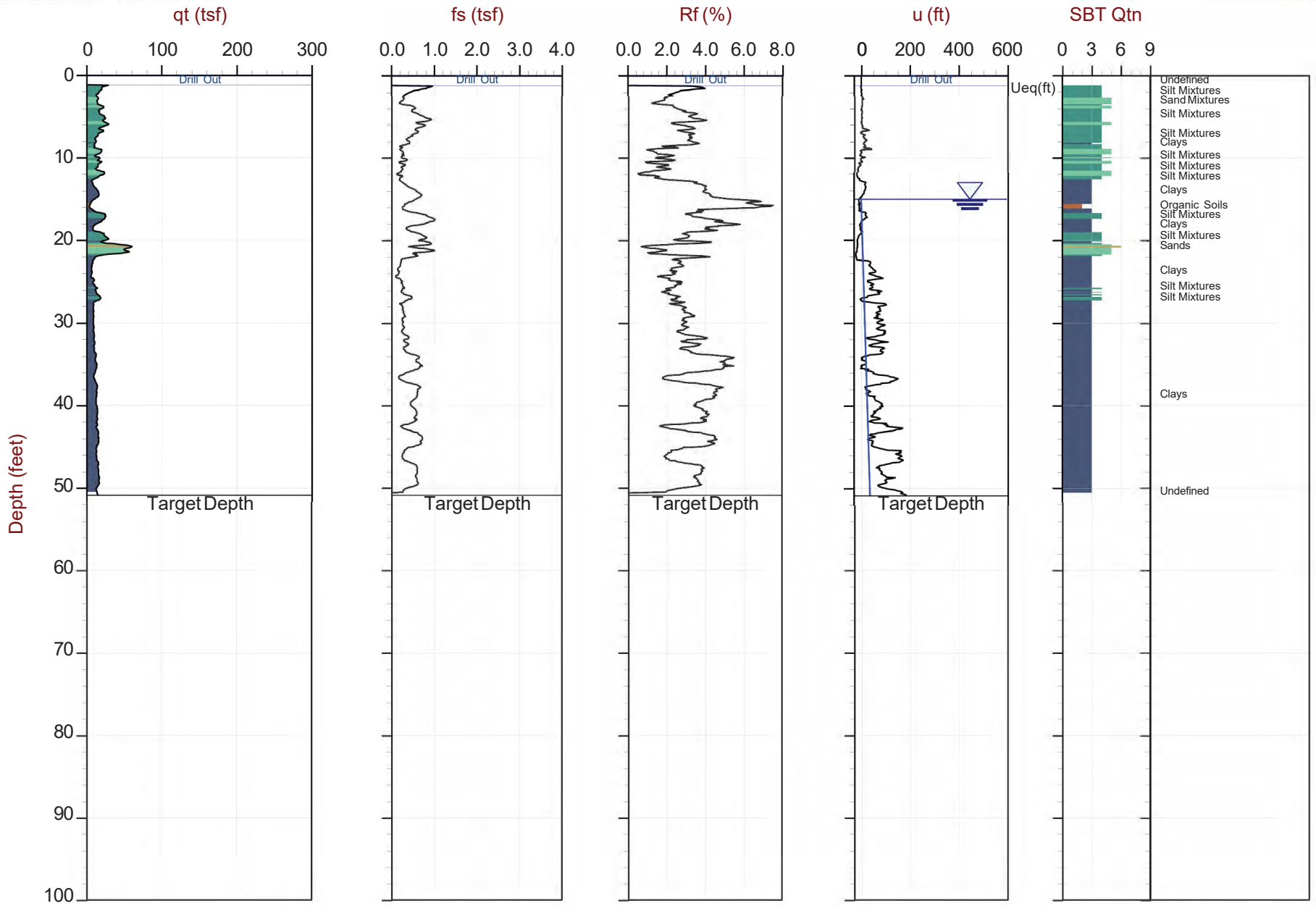
The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

Langan

Job No: 20-56-21224
Date: 2020-08-10 12:00
Site: DFA8 Site

Sounding: CPT-02
Cone: 496:T1500F15U1K



Max Depth: 15.500 m / 50.85 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 20-56-21224_CP02.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM 10N N: 4130600m E: 600101m

Equilibrium Pore Pressure (Ueq) | Assumed Ueq | Dissipation, Ueq achieved | Dissipation, Ueq not achieved | Hydrostatic Line

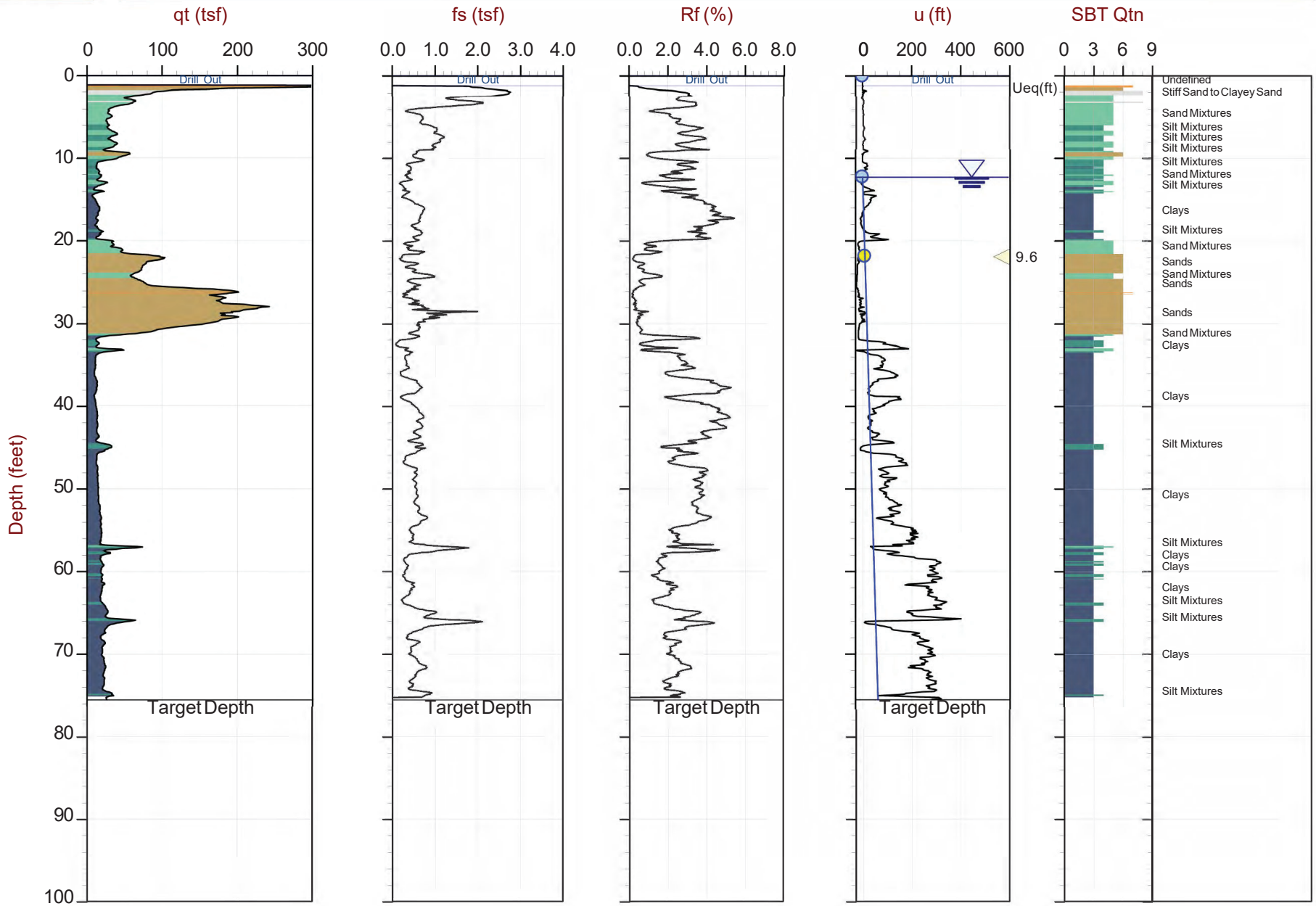
The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

Langan

Job No: 20-56-21224
Date: 2020-08-10 12:53
Site: DFA8 Site

Sounding: CPT-03
Cone: 496:T1500F15U1K



Max Depth: 23.025 m / 75.54 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 20-56-21224_CP03.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM 10N N: 4130545m E: 600286m

Equilibrium Pore Pressure (Ueq) | Assumed Ueq | Dissipation, Ueq achieved | Dissipation, Ueq not achieved | Hydrostatic Line

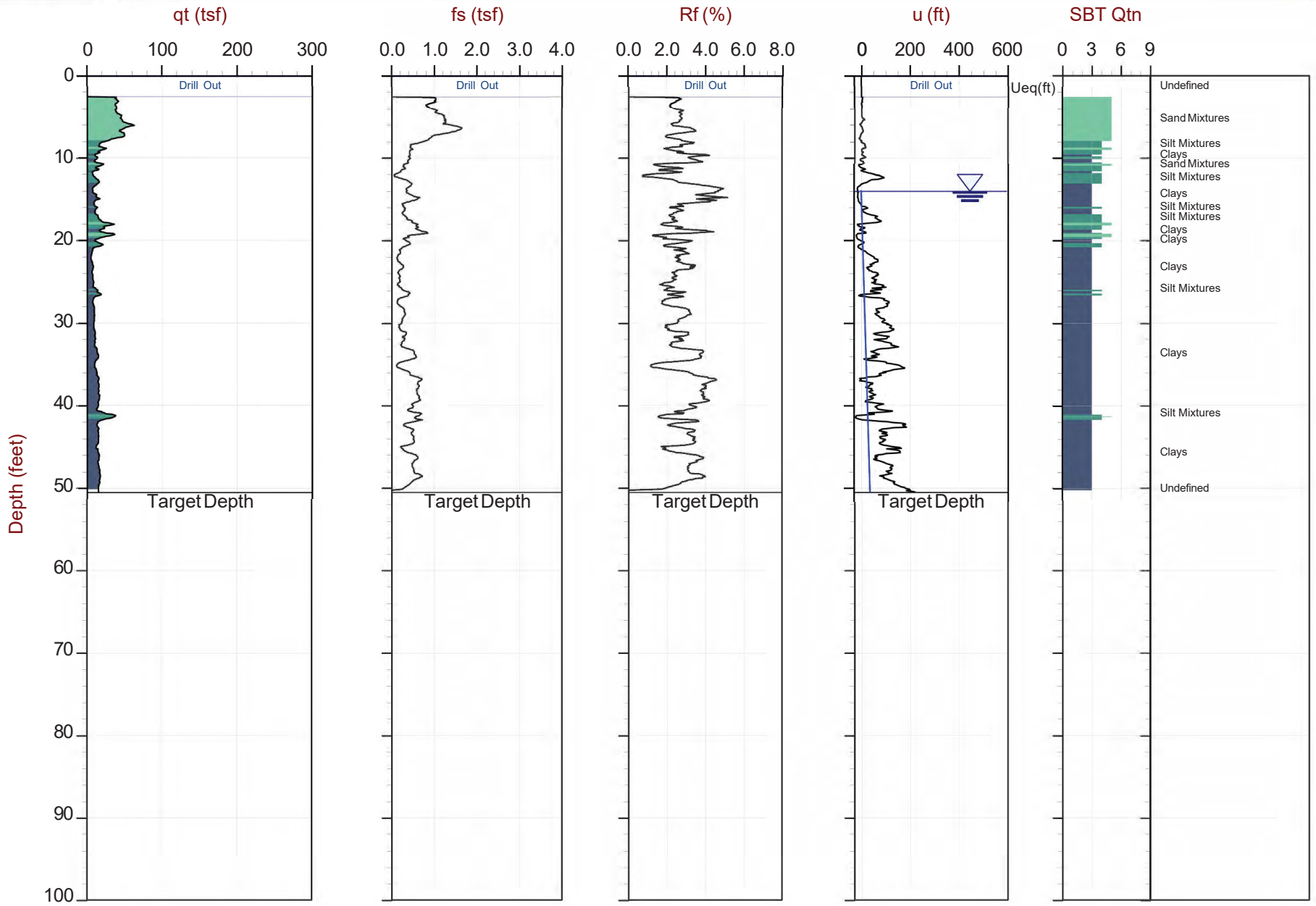
The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

CONETEC

Langan

Job No: 20-56-21224
Date: 2020-08-10 08:35
Site: DFA8 Site

Sounding: CPT-04
Cone: 496:T1500F15U1K



Max Depth: 15.400 m / 50.52 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 20-56-21224_CP04.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM 10N N: 4130506m E: 600188m

Equilibrium Pore Pressure (Ueq) | Assumed Ueq | Dissipation, Ueq achieved | Dissipation, Ueq not achieved | Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Advanced Cone Penetration Test Plots with Ic, Phi, Su(Nkt), and N1(60)Ic

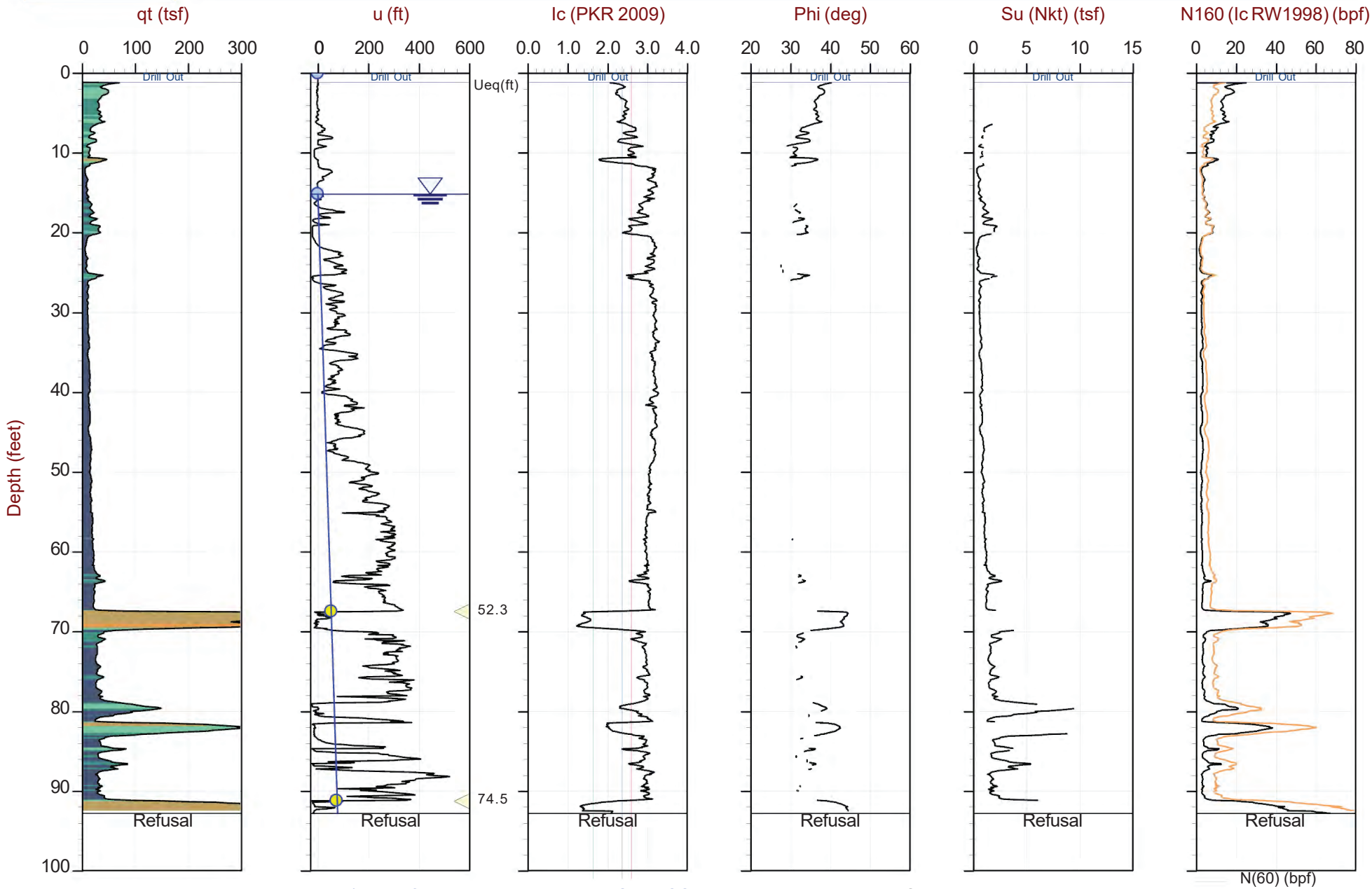


CONETEC

Langan

Job No: 20-56-21224
Date: 2020-08-10 09:47
Site: DFA8 Site

Sounding: CPT-01
Cone: 496:T1500F15U1K



Max Depth: 28.300 m / 92.85 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 20-56-21224_SP01.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt: 15.0

SBT: Robertson, 2009 and 2010
Coords: UTM 10N N: 4130551m E: 600126m

Equilibrium Pore Pressure (Ueq) | Assumed Ueq | Dissipation, Ueq achieved | Dissipation, Ueq not achieved | Hydrostatic Line

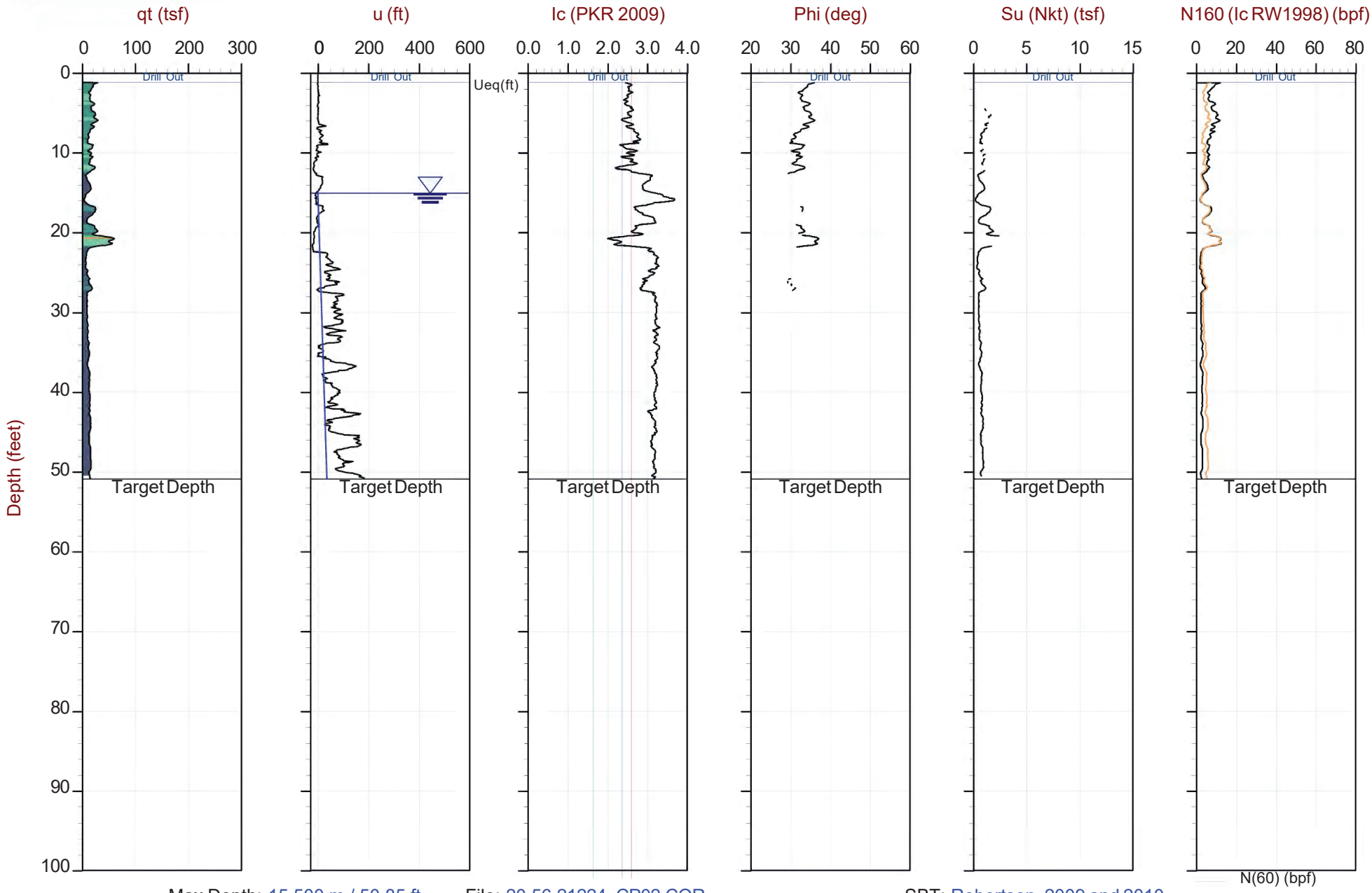
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CONETEC

Langan

Job No: 20-56-21224
Date: 2020-08-10 12:00
Site: DFA8 Site

Sounding: CPT-02
Cone: 496:T1500F15U1K



Max Depth: 15.500 m / 50.85 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 20-56-21224_CP02.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt: 15.0

SBT: Robertson, 2009 and 2010
Coords: UTM 10N N: 4130600m E: 600101m

Equilibrium Pore Pressure (Ueq) | Assumed Ueq | Dissipation, Ueq achieved | Dissipation, Ueq not achieved | Hydrostatic Line

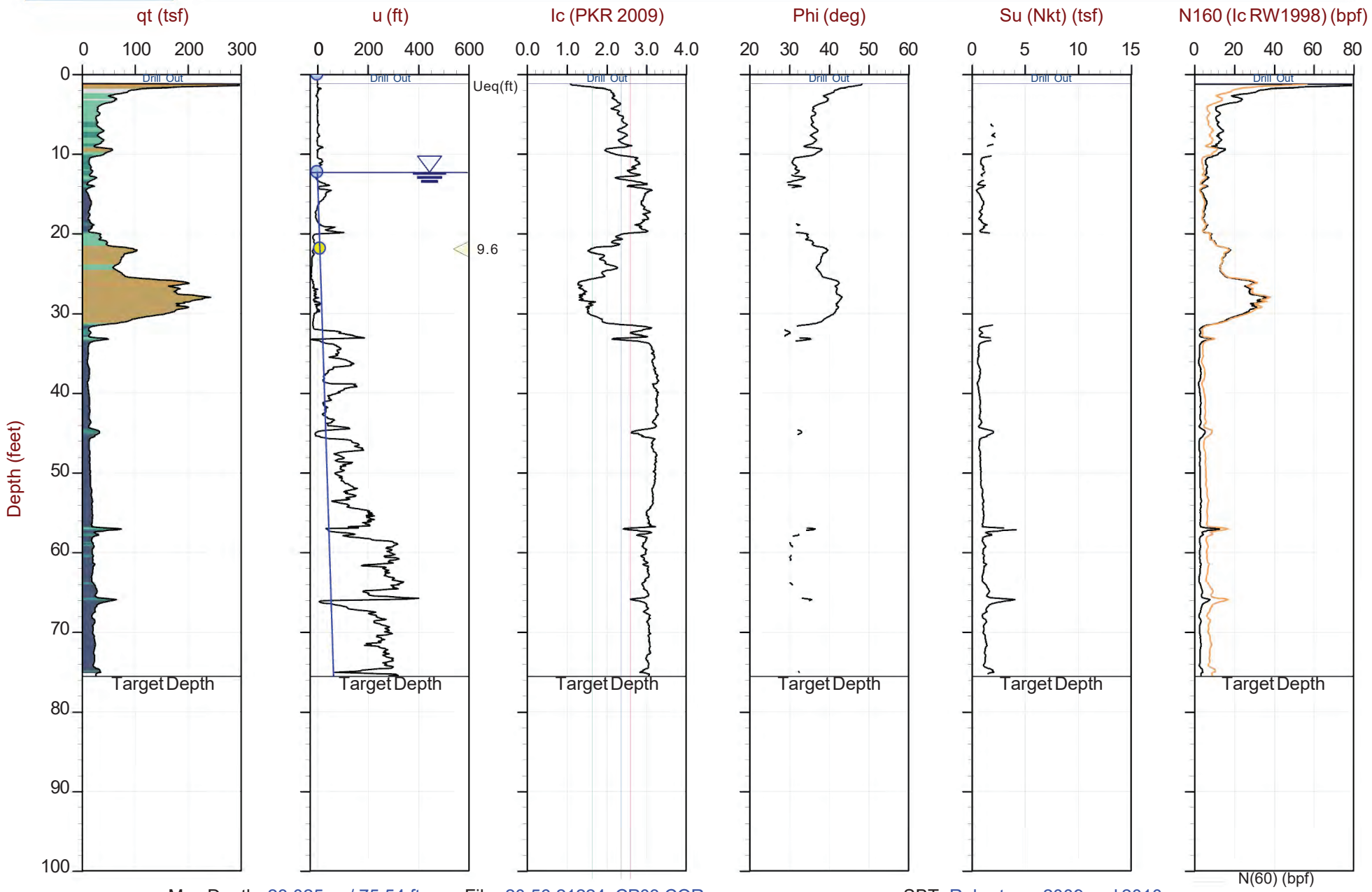
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CONETEC

Langan

Job No: 20-56-21224
Date: 2020-08-10 12:53
Site: DFA8 Site

Sounding: CPT-03
Cone: 496:T1500F15U1K



Max Depth: 23.025 m / 75.54 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 20-56-21224_CP03.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt: 15.0

SBT: Robertson, 2009 and 2010
Coords: UTM 10N N: 4130545m E: 600286m

Equilibrium Pore Pressure (Ueq) | Assumed Ueq | Dissipation, Ueq achieved | Dissipation, Ueq not achieved | Hydrostatic Line

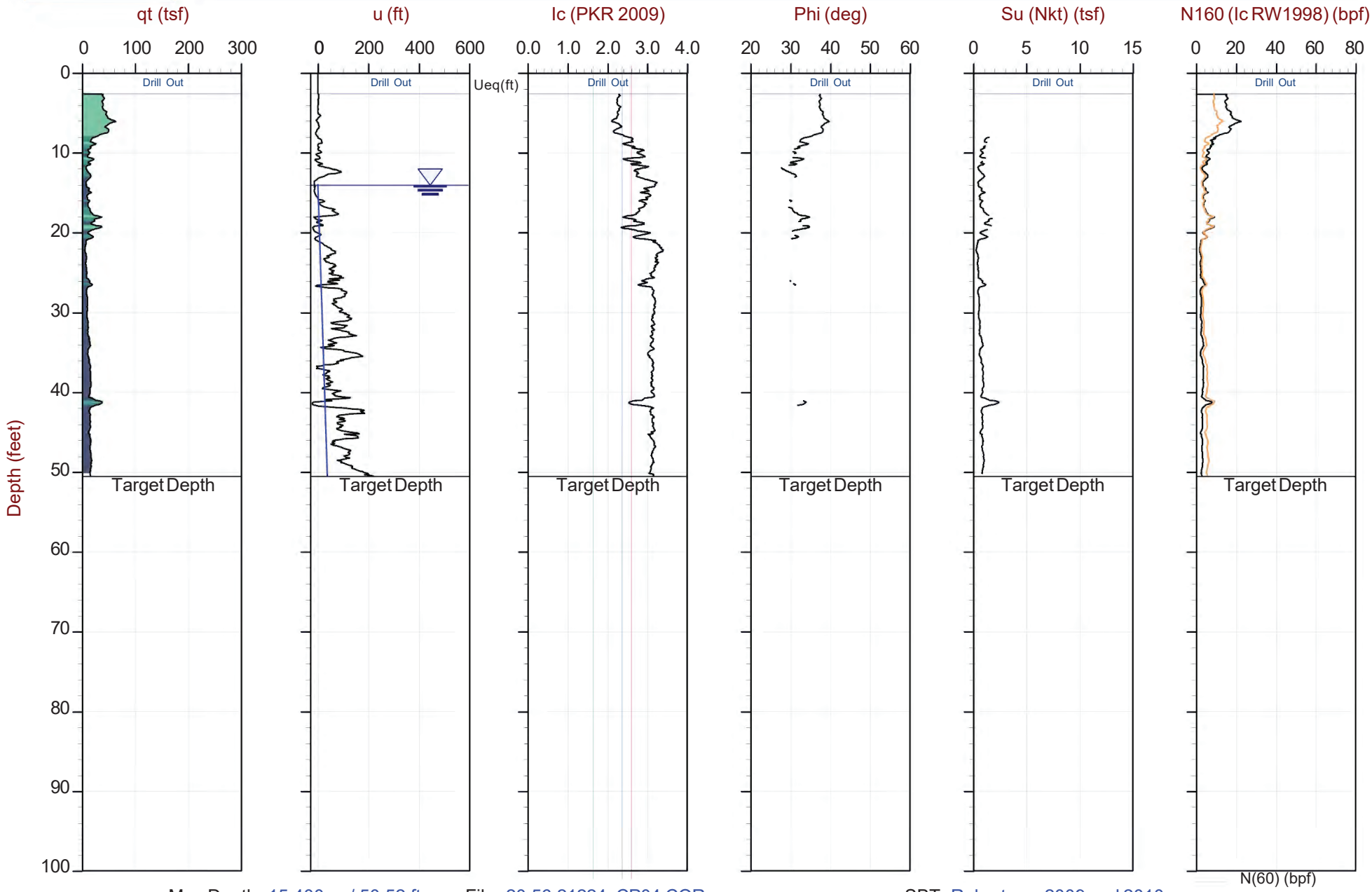
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CONETEC

Langan

Job No: 20-56-21224
Date: 2020-08-10 08:35
Site: DFA8 Site

Sounding: CPT-04
Cone: 496:T1500F15U1K



Max Depth: 15.400 m / 50.52 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 20-56-21224_CP04.COR
Unit Wt: SBTQtn (PKR2009)
Su Nkt: 15.0

SBT: Robertson, 2009 and 2010
Coords: UTM 10N N: 4130506m E: 600188m

Equilibrium Pore Pressure (Ueq) | Assumed Ueq | Dissipation, Ueq achieved | Dissipation, Ueq not achieved | Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Soil Behavior Type (SBT) Scatter Plots

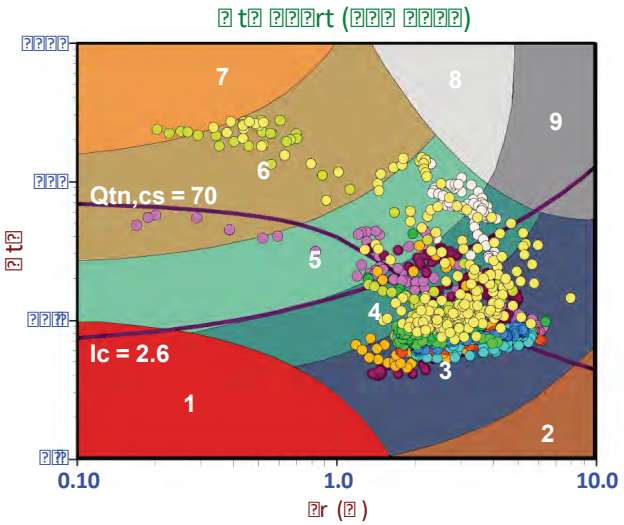
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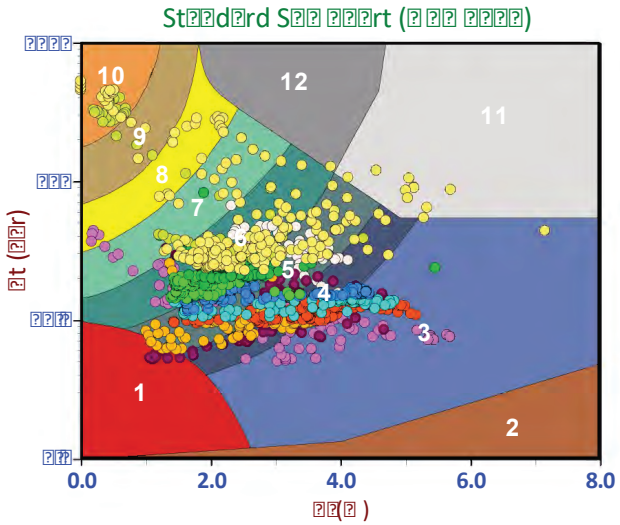
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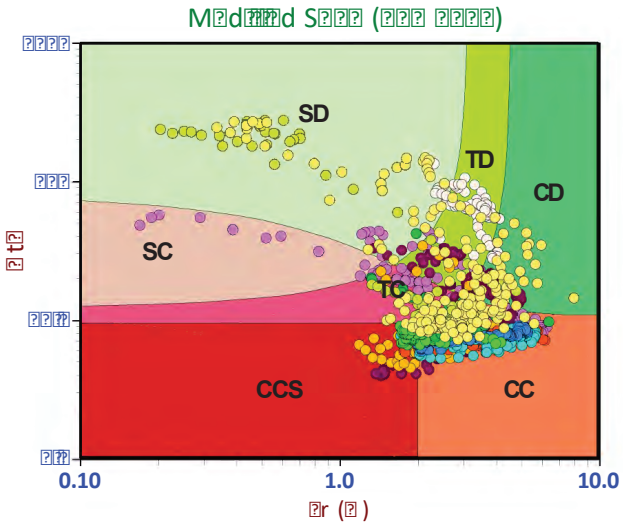
Langan

Job No: 20-56-21224
Date: 2020-08-10 09:47
Site: DFA8 Site

Sounding: CPT-01
Cone: 496:T1500F15U1K







Depth Ranges
- >0.0 to 7.5 ft
- >7.5 to 15.0 ft
- >15.0 to 22.5 ft
- >22.5 to 30.0 ft
- >30.0 to 37.5 ft
- >37.5 to 45.0 ft
- >45.0 to 52.5 ft
- >52.5 to 60.0 ft
- >60.0 to 67.5 ft
- >67.5 to 75.0 ft
- >75.0 ft

Legend
- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend
- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

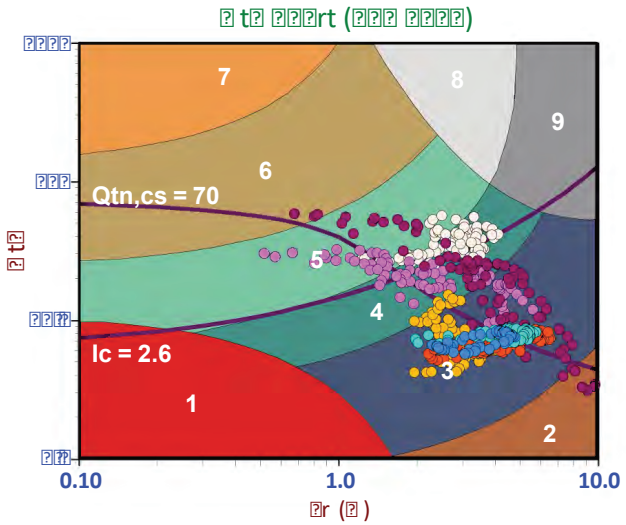
Legend
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

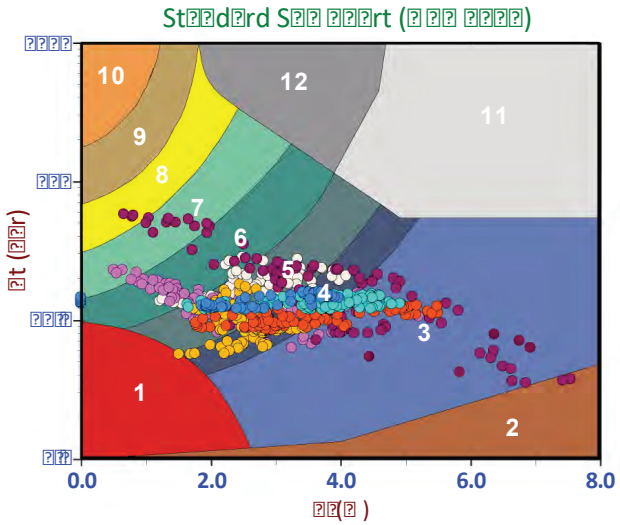
CONETEC

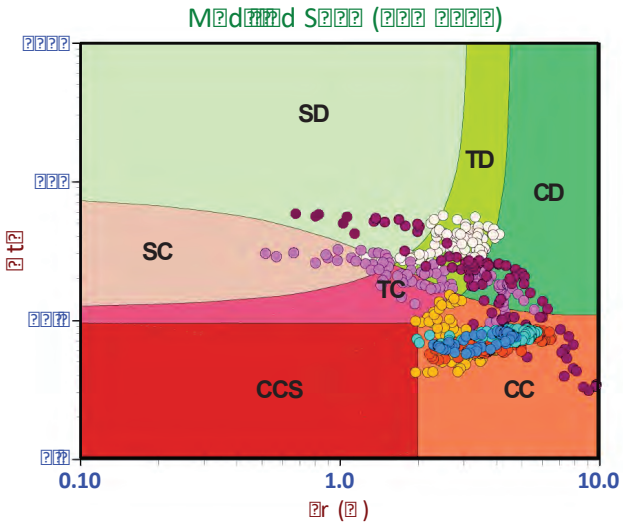
Langan

Job No: 20-56-21224
Date: 2020-08-10 12:00
Site: DFA8 Site

Sounding: CPT-02
Cone: 496:T1500F15U1K







Depth Ranges

- >0.0 to 7.5 ft
- >7.5 to 15.0 ft
- >15.0 to 22.5 ft
- >22.5 to 30.0 ft
- >30.0 to 37.5 ft
- >37.5 to 45.0 ft
- >45.0 to 52.5 ft
- >52.5 to 60.0 ft
- >60.0 to 67.5 ft
- >67.5 to 75.0 ft
- >75.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

Legend

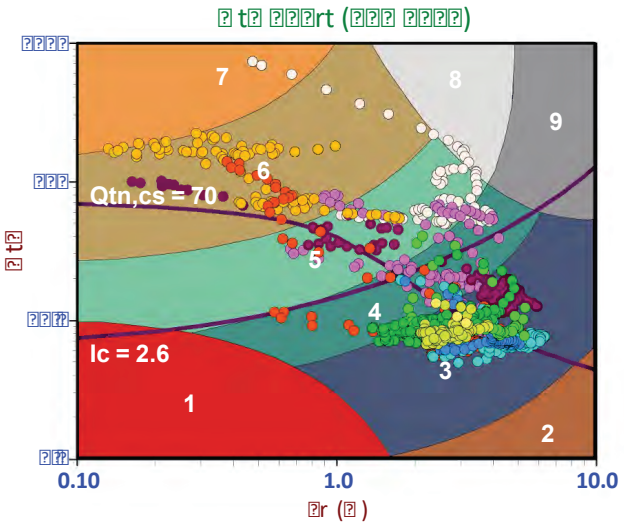
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

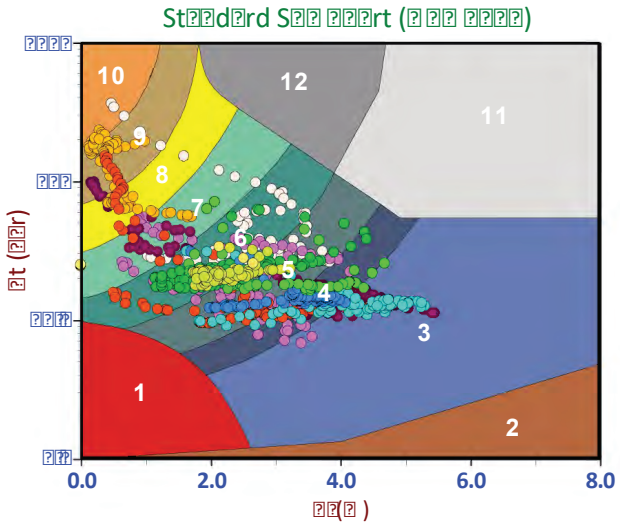
CONETEC

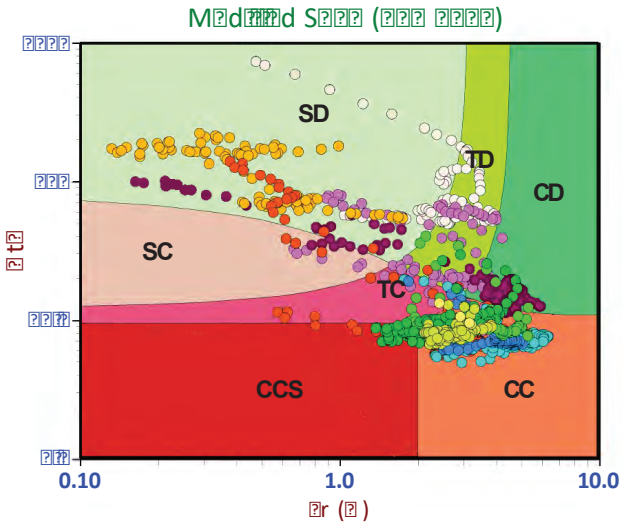
Langan

Job No: 20-56-21224
Date: 2020-08-10 12:53
Site: DFA8 Site

Sounding: CPT-03
Cone: 496:T1500F15U1K







Depth Ranges

- >0.0 to 7.5 ft
- >7.5 to 15.0 ft
- >15.0 to 22.5 ft
- >22.5 to 30.0 ft
- >30.0 to 37.5 ft
- >37.5 to 45.0 ft
- >45.0 to 52.5 ft
- >52.5 to 60.0 ft
- >60.0 to 67.5 ft
- >67.5 to 75.0 ft
- >75.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

Legend

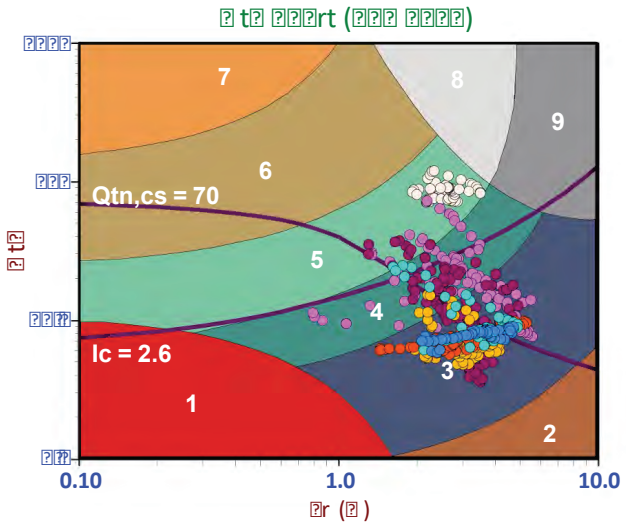
- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

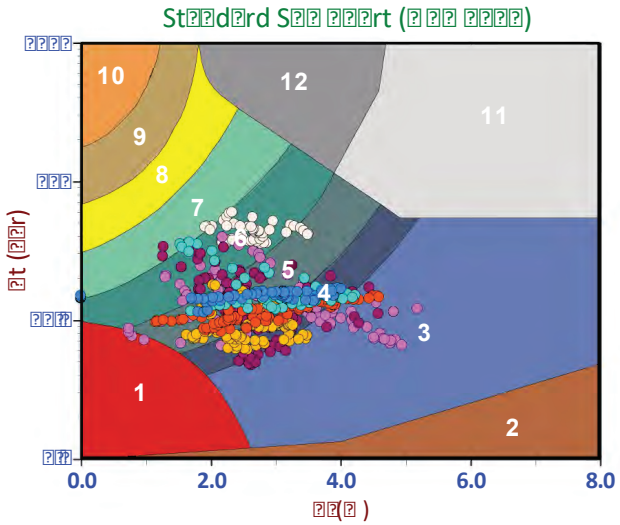
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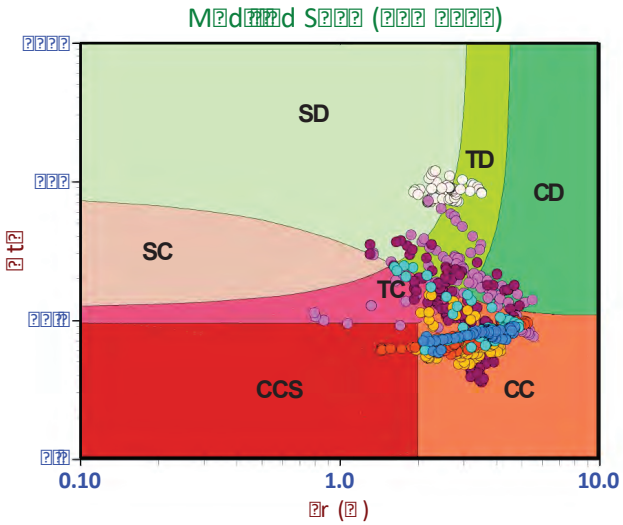
Langan

Job No: 20-56-21224
Date: 2020-08-10 08:35
Site: DFA8 Site

Sounding: CPT-04
Cone: 496:T1500F15U1K







Depth Ranges

- >0.0 to 7.5 ft
- >7.5 to 15.0 ft
- >15.0 to 22.5 ft
- >22.5 to 30.0 ft
- >30.0 to 37.5 ft
- >37.5 to 45.0 ft
- >45.0 to 52.5 ft
- >52.5 to 60.0 ft
- >60.0 to 67.5 ft
- >67.5 to 75.0 ft
- >75.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Seismic Cone Penetration Test Plots

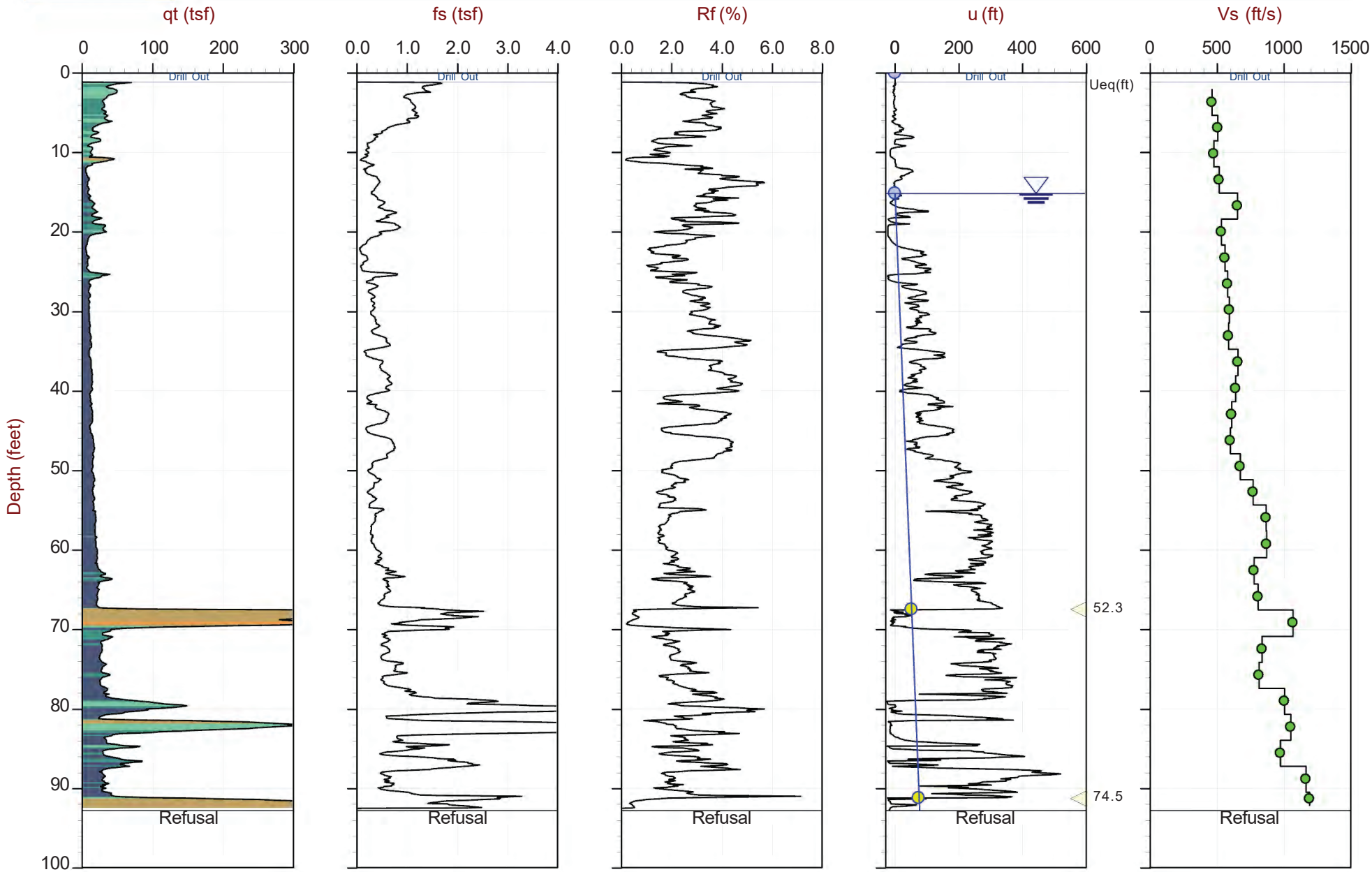


CONETEC

Langan

Job No: 20-56-21224
Date: 2020-08-10 09:47
Site: DFA8 Site

Sounding: CPT-01
Cone: 496:T1500F15U1K



Max Depth: 28.300 m / 92.85 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 20-56-21224_SP01.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM 10N N: 4130551m E: 600126m

Equilibrium Pore Pressure (Ueq) Assumed Ueq Dissipation, Ueq achieved Dissipation, Ueq not achieved Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Seismic Cone Penetration Test Tabular Results



Job No:	20-56-21224
Client:	Langan
Project:	DFA8 Site
Sounding ID:	CPT-01
Date:	08:10:20 09:47
Seismic Source:	Beam
Seismic Offset (ft):	1.87
Source Depth (ft):	0.00
Geophone Offset (ft):	0.66

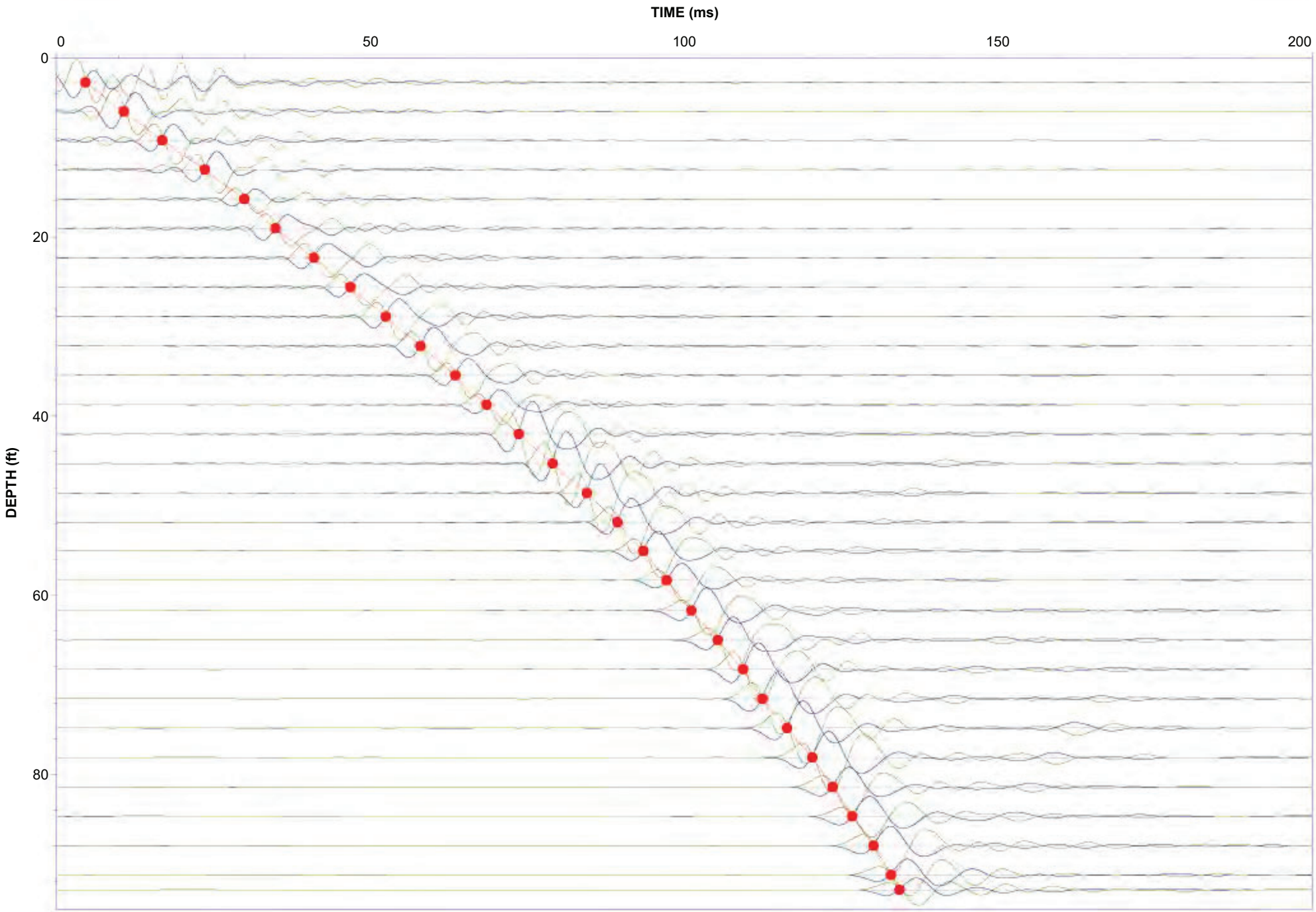
SCPTu SHEAR WAVE VELOCITY TEST RESULTS - Vs

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
2.72	2.07	2.79			
5.97	5.32	5.63	2.85	6.12	465
9.19	8.53	8.73	3.10	6.13	506
12.47	11.81	11.96	3.23	6.77	476
15.75	15.09	15.21	3.25	6.27	518
19.03	18.37	18.47	3.26	4.98	655
22.31	21.65	21.74	3.27	6.13	533
25.59	24.93	25.00	3.27	5.81	562
28.87	28.22	28.28	3.27	5.63	582
32.15	31.50	31.55	3.27	5.52	593
35.43	34.78	34.83	3.28	5.58	588
38.71	38.06	38.10	3.28	4.97	659
42.00	41.34	41.38	3.28	5.12	640
45.28	44.62	44.66	3.28	5.37	610
48.56	47.90	47.94	3.28	5.46	600
51.84	51.18	51.22	3.28	4.87	673
55.02	54.36	54.40	3.18	4.12	772
58.30	57.64	57.67	3.28	3.77	870
61.68	61.02	61.05	3.38	3.87	873
64.96	64.30	64.33	3.28	4.22	777
68.24	67.59	67.61	3.28	4.06	808
71.52	70.87	70.89	3.28	3.06	1071
74.80	74.15	74.17	3.28	3.92	837
78.08	77.43	77.45	3.28	4.02	816
81.36	80.71	80.73	3.28	3.26	1005
84.65	83.99	84.01	3.28	3.11	1053
87.93	87.27	87.29	3.28	3.37	975
91.21	90.55	90.57	3.28	2.81	1169
92.85	92.19	92.21	1.64	1.38	1193

Seismic Cone Penetration Test Shear Wave (Vs) Traces



Job No: 20-56-21224 Client: Langan Project Title: DFA8 Site Filter: BP 0-200 Hz Hole: CPT-01 Date: 08:10:20 09:47
Cone: 496:T1500F15U1K



Pore Pressure Dissipation Summary and Pore Pressure Dissipation Plots

Job No:	20-56-21224
Client:	Langan Engineering
Project:	DFA8 Site
Start Date:	10-Aug-2020
End Date:	10-Aug-2020

CPTu PORE PRESSURE DISSIPATION SUMMARY

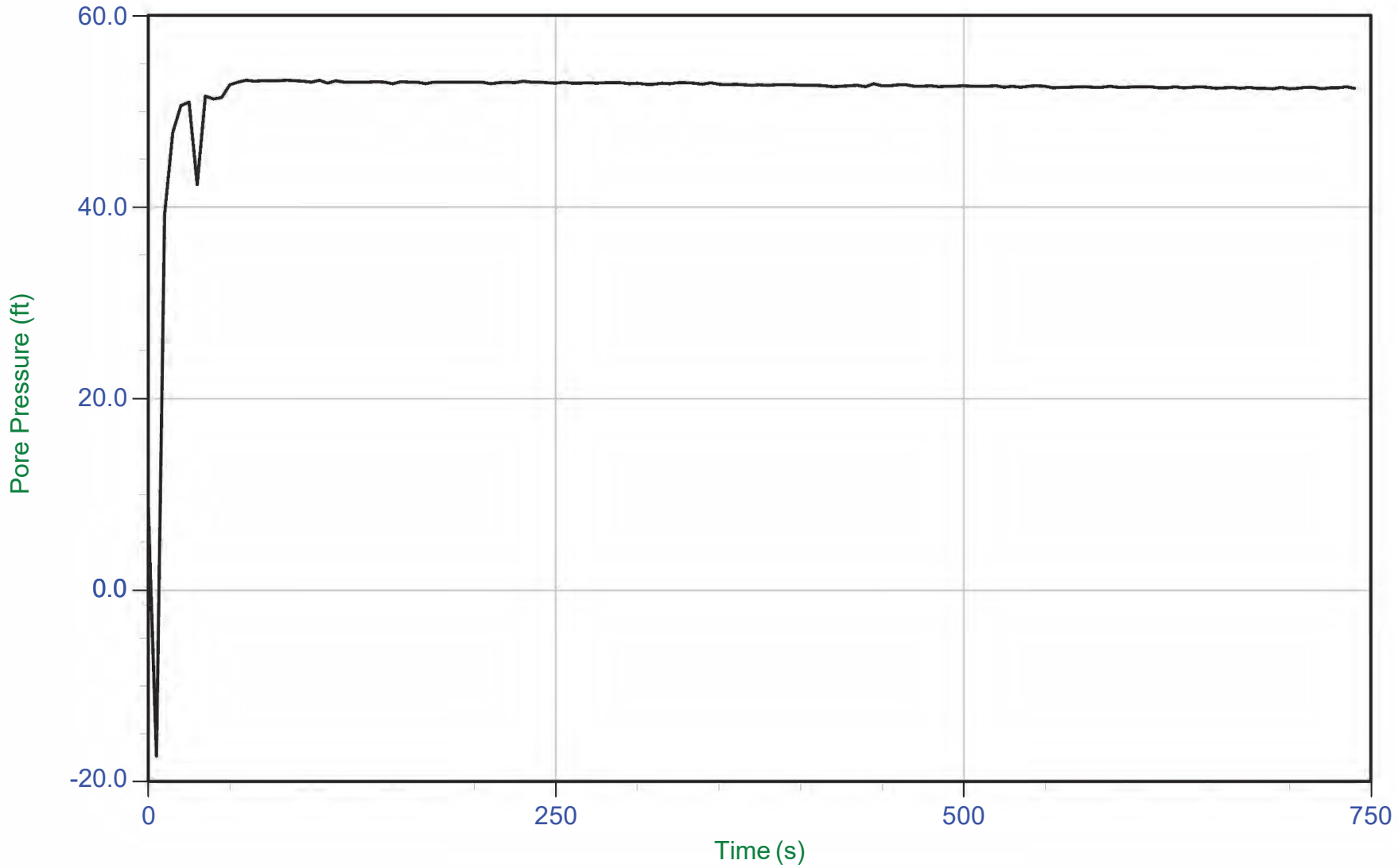
Sounding ID	File Name	Cone Area (cm^2)	Duration (s)	Test Depth (ft)	Estimated Equilibrium Pore Pressure U_{eq} (ft)	Calculated Phreatic Surface (ft)
CPT-01	20-56-21224_SP01	15	740	67.50	52.4	15.1
CPT-01	20-56-21224_SP01	15	435	91.29	74.6	16.7
CPT-03	20-56-21224_CP03	15	500	21.90	9.6	12.3

CONETEC

Langan

Job No: 20-56-21224
Date: 08/10/2020 09:47
Site: DFA8 Site

Sounding: CPT-01
Cone: 496:T1500F15U1K Area=15 cm²



Trace Summary:

Filename: 20-56-21224_SP01.PPF
Depth: 20.575 m / 67.502 ft
Duration: 740.0 s

u Min: -17.4 ft
u Max: 53.3 ft
u Final: 52.4 ft

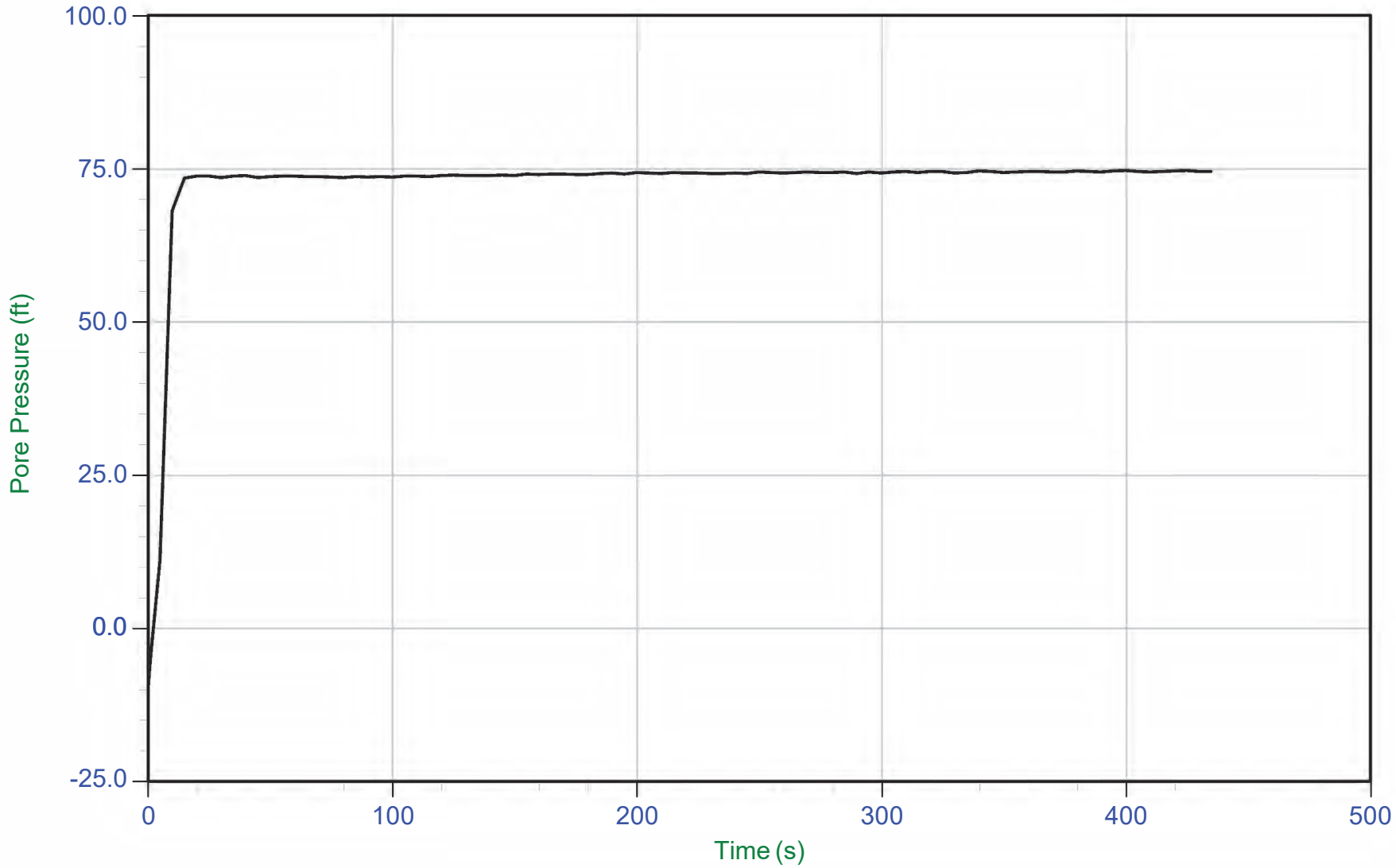
WT: 4.617 m / 15.146 ft
Ueq: 52.4 ft

CONETEC

Langan

Job No: 20-56-21224
Date: 08/10/2020 09:47
Site: DFA8 Site

Sounding: CPT-01
Cone: 496:T1500F15U1K Area=15 cm²



Trace Summary:

Filename: 20-56-21224_SP01.PPF
Depth: 27.825 m / 91.288 ft
Duration: 435.0 s

u Min: -9.3 ft
u Max: 74.7 ft
u Final: 74.5 ft

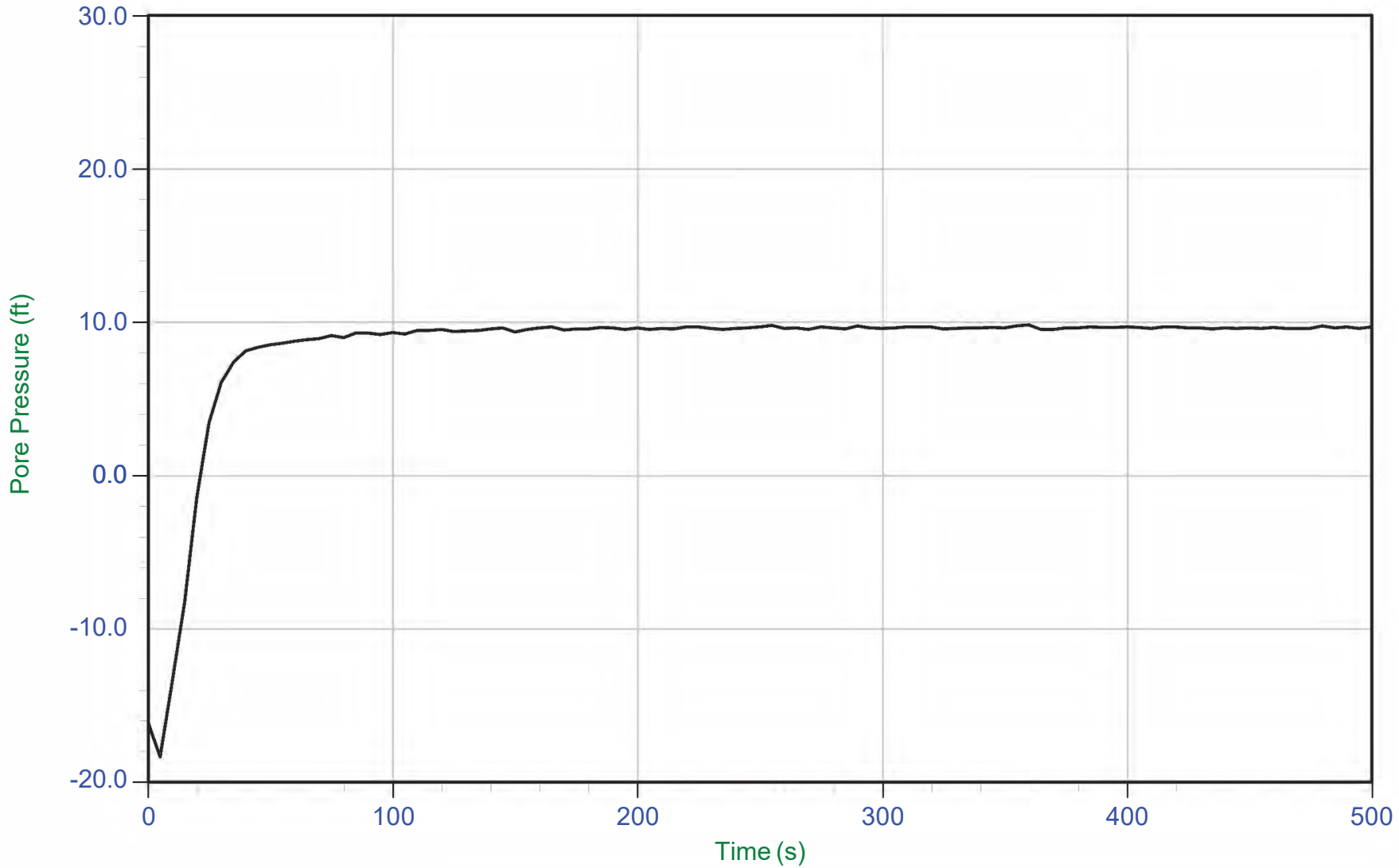
WT: 5.098 m / 16.724 ft
Ueq: 74.6 ft

CONETEC

Langan

Job No: 20-56-21224
Date: 08/10/2020 12:53
Site: DFA8 Site

Sounding: CPT-03
Cone: 496:T1500F15U1K Area=15 cm²



Trace Summary:

Filename: 20-56-21224_CP03.PPF
Depth: 6.675 m / 21.899 ft
Duration: 500.0 s

u Min: -18.3 ft
u Max: 9.8 ft
u Final: 9.7 ft

WT: 3.743 m / 12.282 ft
Ueq: 9.6 ft

APPENDIX C

PREVIOUS INVESTIGATION BY KLEINFELDER

APPENDIX A
FIELD EXPLORATIONS

GENERAL

We explored subsurface conditions at the site by drilling 8 borings and advancing 4 cone penetration tests (CPTs). The borings and CPTs were completed by Taber Drilling of Sacramento, California. Borings were drilled using truck-mounted, rotary-wash drilling equipment to depths of between approximately 5 to 51½ feet below the existing ground surface (bgs). The CPTs were pushed using a 30-ton CPT rig to depths approximately 60 feet bgs. The approximate locations of the borings and CPTs are presented on Figure 2.

Prior to commencement of the fieldwork, Underground Service Alert (USA) was notified and various geophysical techniques were used at the boring locations to identify potential conflicts with subsurface structures.

The boring logs and CPT plots are presented as Figures A-3 through A-14. An explanation to the log is presented as Figures A-1 and A-2. The boring logs and CPT plots describe the earth materials encountered, samples obtained and show field and laboratory tests performed. The logs also show the location, boring/CPT number, drilling/excavation date and the name of the drilling/excavation subcontractor. The borings were logged by a Kleinfelder engineer using the Unified Soil Classification System. The boundaries between soil types shown on the logs are approximate because the transition between different soil layers may be gradual. Bulk and drive samples of selected earth materials were obtained from the borings.

A modified-California sampler was used to obtain drive samples of the soil encountered. This sampler consists of a 3-inch O.D., 2.4-inch I.D. split barrel shaft that is pushed or driven a total of 18-inches into the soil at the bottom of the boring. An additional 2 inches of soil from each drive remained in the cutting shoe and was usually discarded after visually classifying the soil. The sampler was driven using a 140-pound hammer falling 30 inches. The total number of blows required to drive the sampler the final 12 inches is termed blow count and is recorded on the boring logs.

Samples were also obtained using a Standard Penetration Sampler (SPT). This sampler consists of a 2-inch O.D., 1-inch I.D. split barrel shaft that is advanced into the soils at the bottom of the drill hole a total of 18 inches. The sampler was driven using a 140-pound hammer falling

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30 inches. The total number of hammer blows required to drive the sampler the final 12 inches is termed the blow count (N) and is recorded on the Log of Boring. The procedures we employed in the field are generally consistent with those described in ASTM Standard Test Method D1586.

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SAMPLE/SAMPLER TYPE GRAPHICS



BULK SAMPLE

MODIFIED CALIFORNIA SAMPLER
(2 or 2-1/2 in. (50.8 or 63.5 mm.) outer diameter)

STANDARD PENETRATION SPLIT SPOON SAMPLER
(2 in. (50.8 mm.) outer diameter and 1-3/8 in. (34.9 mm.) inner diameter)

GROUND WATER GRAPHICS

- WATER LEVEL (level where first observed)
- WATER LEVEL (level after exploration completion)
- WATER LEVEL (additional levels after exploration)
- OBSERVED SEEPAGE

NOTES

- The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown.
- No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.
- In general, Unified Soil Classification System designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, ie., GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.
- If sampler is not able to be driven at least 6 inches then 50/X indicates number of blows required to drive the identified sampler X inches with a 140 pound hammer falling 30 inches.

ABBREVIATIONS

WOH - Weight of Hammer
WOR - Weight of Rod

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

COARSE GRAINED SOILS (More than half of material is larger than the #200 sieve)	GRAVELS (More than half of coarse fraction is larger than the #4 sieve)	CLEAN GRAVEL WITH <5% FINES	Cu≥4 and 1≤Cc≤3		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			Cu<4 and/ or 1>Cc>3		GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		GRAVELS WITH 5% TO 12% FINES	Cu≥4 and 1≤Cc≤3		GW-GM	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GW-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
			Cu<4 and/ or 1>Cc>3		GP-GM	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
					GP-GC	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
		GRAVELS WITH > 12% FINES			GM	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
					GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
					GC-GM	CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES
	SANDS (More than half of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH <5% FINES	Cu≥6 and 1≤Cc≤3		SW	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
			Cu<6 and/ or 1>Cc>3		SP	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		SANDS WITH 5% TO 12% FINES	Cu≥6 and 1≤Cc≤3		SW-SM	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SW-SC	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
			Cu<6 and/ or 1>Cc>3		SP-SM	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
					SP-SC	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
		SANDS WITH > 12% FINES			SM	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
					SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES
					SC-SM	CLAYEY SANDS, SAND-SILT-CLAY MIXTURES
FINE GRAINED SOILS (More than half of material is smaller than the #200 sieve)		SILTS AND CLAYS (Liquid Limit less than 50)			ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY
					CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
					CL-ML	INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
					OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
		SILTS AND CLAYS (Liquid Limit greater than 50)			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
					CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
					OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.:	20210495
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	8/15/2020
REVISED:	-

GRAPHICS KEY

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE

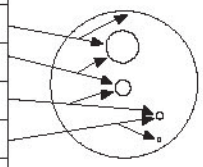
A-1

gINT FILE: Klf_glnt_master_2021
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PROJECT NUMBER: 20210495.001A
OFFICE FILTER: SAN JOSE
PLOTTED: 08/15/2020 02:10 PM BY: JSala

PLOTTED: 06/15/2020 02:11 PM BY: JSala
OFFICE FILTER: SAN JOSE
PROJECT NUMBER: 20210495.001A
[LEGEND 2 (SOIL DESC KEY)]
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GRAIN SIZE

DESCRIPTION		SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders		>12 in. (304.8 mm.)	>12 in. (304.8 mm.)	Larger than basketball-sized
Cobbles		3 - 12 in. (76.2 - 304.8 mm.)	3 - 12 in. (76.2 - 304.8 mm.)	Fist-sized to basketball-sized
Gravel	coarse	3/4 -3 in. (19 - 76.2 mm.)	3/4 -3 in. (19 - 76.2 mm.)	Thumb-sized to fist-sized
	fine	#4 - 3/4 in. (#4 - 19 mm.)	0.19 - 0.75 in. (4.8 - 19 mm.)	Pea-sized to thumb-sized
Sand	coarse	#10 - #4	0.079 - 0.19 in. (2 - 4.9 mm.)	Rock salt-sized to pea-sized
	medium	#40 - #10	0.017 - 0.079 in. (0.43 - 2 mm.)	Sugar-sized to rock salt-sized
	fine	#200 - #40	0.0029 - 0.017 in. (0.07 - 0.43 mm.)	Flour-sized to sugar-sized
Fines		Passing #200	<0.0029 in. (<0.07 mm.)	Flour-sized and smaller



SECONDARY CONSTITUENT

	AMOUNT	
Term of Use	Secondary Constituent is Fine Grained	Secondary Constituent is Coarse Grained
Trace	<5%	<15%
With	≥5 to <15%	≥15 to <30%
Modifier	≥15%	≥30%

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

CEMENTATION

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPT - N_{60} (# blows / ft)	Pocket Pen (tsf)	UNCONFINED COMPRESSIVE STRENGTH (Q_u)(psf)	VISUAL / MANUAL CRITERIA
Very Soft	<2	PP < 0.25	<500	Thumb will penetrate more than 1 inch (25 mm). Extrudes between fingers when squeezed.
Soft	2 - 4	0.25 ≤ PP <0.5	500 - 1000	Thumb will penetrate soil about 1 inch (25 mm). Remolded by light finger pressure.
Medium Stiff	4 - 8	0.5 ≤ PP <1	1000 - 2000	Thumb will penetrate soil about 1/4 inch (6 mm). Remolded by strong finger pressure.
Stiff	8 - 15	1 ≤ PP <2	2000 - 4000	Can be imprinted with considerable pressure from thumb.
Very Stiff	15 - 30	2 ≤ PP <4	4000 - 8000	Thumb will not indent soil but readily indented with thumbnail.
Hard	>30	4 ≤ PP	>8000	Thumbnail will not indent soil.

FROM TERZAGHI AND PECK, 1948; LAMBE AND WHITMAN, 1969; FHWA, 2002; AND ASTM D2488

REACTION WITH HYDROCHLORIC ACID

DESCRIPTION	FIELD TEST
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately

APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPT-N_{60} (# blows/ft)	MODIFIED CA SAMPLER (# blows/ft)	CALIFORNIA SAMPLER (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	<4	<5	0 - 15
Loose	4 - 10	5 - 12	5 - 15	15 - 35
Medium Dense	10 - 30	12 - 35	15 - 40	35 - 65
Dense	30 - 50	35 - 60	40 - 70	65 - 85
Very Dense	>50	>60	>70	85 - 100

FROM TERZAGHI AND PECK, 1948

PLASTICITY

DESCRIPTION	LL	FIELD TEST
Non-plastic	NP	A 1/8-in. (3 mm.) thread cannot be rolled at any water content.
Low (L)	< 30	The thread can barely be rolled and the lump or thread cannot be formed when drier than the plastic limit.
Medium (M)	30 - 50	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump or thread crumbles when drier than the plastic limit.
High (H)	> 50	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump or thread can be formed without crumbling when drier than the plastic limit.

STRUCTURE

DESCRIPTION	CRITERIA
Stratified	Alternating layers of varying material or color with layers at least 1/4-in. thick, note thickness.
Laminated	Alternating layers of varying material or color with the layer less than 1/4-in. thick, note thickness.
Fissured	Breaks along definite planes of fracture with little resistance to fracturing.
Slickensided	Fracture planes appear polished or glossy, sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness.

ANGULARITY

DESCRIPTION	CRITERIA
Angular	Particles have sharp edges and relatively plane sides with unpolished surfaces.
Subangular	Particles are similar to angular description but have rounded edges.
Subrounded	Particles have nearly plane sides but have well-rounded corners and edges.
Rounded	Particles have smoothly curved sides and no edges.

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SOIL DESCRIPTION KEY

PROPOSED AMZL DFAB
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE

A-2

Date Begin - End:	6/04/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215	**BORING LOG KB-1**	
Logged By:	EJ	**Drill Crew:**	Rick/Mike		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)	**Hammer Type - Drop:**	140 lb. Auto Trip - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	HSA/Mud Rotary	**Hammer Efficiency:**	78%
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.	**Hammer Cal. Date:**	10/21/2019

Latitude: 37.31689°
Longitude: -121.87051°
Surface Condition: Asphalt

Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		approximately 4.5-inches of asphalt												
		Sandy Lean CLAY (CL): low plasticity, olive brown, moist, [ALLUVIUM)	1					14.6						Hand Auger top 5 feet
			2					19.9						
5		**Clayey SAND (SC):** non-plastic, yellowish brown, moist, loose	3		BC=4 3 5	12"		20.2	104.6					
		Well-Graded SAND with Clay (SW-SC): non-plastic, olive, moist, medium dense	4		BC=4 5 5	12"		7.2						
10		**Poorly Graded SAND with Gravel (SP):** olive, moist, loose	5		BC=5 4 5	12"	SP	11.4		65	4.3			
15		**Clayey GRAVEL with Sand (GC):** light brownish gray, wet, loose	6		BC=4 4 6	12"	GC	12.3		54	19	31	16	Switch to Mud rotary at after sampling 15 foot sample
20			7		BC=4 6 6	12"	SM	16.4		81	12			
		Poorly Graded SAND with Clay and Gravel (SP-SC): olive grey, wet, medium dense												
25		**Clayey SAND (SC):** low plasticity, greenish grey, wet, loose	8		BC=3 2 3	12"		21.4			49			
		Fat CLAY (CH): medium plasticity, dark bluish gray, moist, medium stiff												
30			9		BC=3 3 4	13"								

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DATE:	8/15/2020

BORING LOG KB-1

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-3

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PROJECT NUMBER: 20210495.001A OFFICE FILTER: SAN JOSE
gINT FILE: KF_gint_master_2021 gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2021.GLB [_KLF_BORING/TEST PIT SOIL LOG]

Date Begin - End:	6/04/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215	**BORING LOG KB-1**	
Logged By:	EJ	**Drill Crew:**	Rick/Mike		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)	**Hammer Type - Drop:**	140 lb. Auto Trip - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	HSA/Mud Rotary	**Hammer Efficiency:**	78%
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.	**Hammer Cal. Date:**	10/21/2019

Latitude: 37.31689°
Longitude: -121.87051°
Surface Condition: Asphalt

Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Fat CLAY (CH): medium plasticity, dark bluish gray, moist, medium stiff	10		BC=3 3 4	7"		36.1	83.6					
40		stiff	11		BC=4 6 9	12"								
45			12		BC=4 5 6	12"								
50			13		BC=6 7 9	11"								
55														
60														
65														

The boring was terminated at approximately 51.5 ft. below ground surface. The boring was backfilled with grout on June 04, 2020.

GROUNDWATER LEVEL INFORMATION:
▽ Groundwater was observed at approximately 12 ft. below ground surface during drilling.
GENERAL NOTES:

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BORING LOG KB-1

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-3

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PROJECT NUMBER: 20210495.001A
OFFICE FILTER: SAN JOSE

Date Begin - End:	6/04/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215		**BORING LOG KB-2**
Logged By:	EJ	**Drill Crew:**	Rick/Mike		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)	**Hammer Type - Drop:**	140 lb. Auto Trip - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	HSA/Mud Rotary	**Hammer Efficiency:**	78%
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.	**Hammer Cal. Date:**	10/21/2019

Latitude: 37.31736°
Longitude: -121.86953°
Surface Condition: Asphalt

Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		approximately 7-inches of asphalt												Hand Auger top 5 feet
		Sandy Lean CLAY (CL): low plasticity, olive yellow, moist, [ALLUVIUM)	BULK					15.6				31	14	
5		**Clayey SAND (SC)**: yellowish brown, moist, loose	1,2		BC=5 4 5	17"		11.8	102.6					
			3		BC=3 4 5	16"								
10		**Clayey SAND (SC)**: low plasticity, olive yellow, moist, loose	4,5		BC=3 2 3	16"		25.0	98.6					
		Silty CLAY with Sand (CL-ML): low plasticity, olive brown, moist, soft												
15			6		BC=1 2 1	18"		33.4				27	7	
20			7,8		BC=5 7 9	18"								
		Sandy Lean CLAY (CL): medium plasticity, olive gray, moist to wet, stiff												
25		**Sandy Lean CLAY (CL)**: low plasticity, olive gray, wet, medium stiff			BC=3 3 3	NR"		21.0						
			9		BC=3 2 3	18"								Sample dropped out of CAL, chased with SPT & sand catcher
30		**Clayey SAND (SC)**: non-plastic, olive gray, wet, loose	10		BC=4 7 7	12"		25.0	105.4					
		Fat CLAY (CH): medium plasticity, dark bluish grey, moist, medium stiff												

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DATE:	6/15/2020

BORING LOG KB-2

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-4

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PROJECT NUMBER: 20210495.001A OFFICE FILTER: SAN JOSE
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Date Begin - End:	6/04/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215	**BORING LOG KB-2**	
Logged By:	EJ	**Drill Crew:**	Rick/Mike		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)	**Hammer Type - Drop:**	140 lb. Auto Trip - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	HSA/Mud Rotary	**Hammer Efficiency:**	78%
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.	**Hammer Cal. Date:**	10/21/2019

Latitude: 37.31736°
Longitude: -121.86953°
Surface Condition: Asphalt

Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Fat CLAY (CH): medium plasticity, dark bluish grey, moist, medium stiff	11		BC=2 3 3	18"								
40		**Fat CLAY with Sand (CH)**: medium plasticity, greenish grey, moist, stiff	12,13		BC=4 6 10	18"		37.0	88.4			56	31	
45			14		BC=4 5 7	6"								
50			15		BC=6 7 10	14"								
55														
60														
65														

The boring was terminated at approximately 51.5 ft. below ground surface. The boring was backfilled with grout on June 04, 2020.

GROUNDWATER LEVEL INFORMATION:
▽ Groundwater was observed at approximately 10 ft. below ground surface during drilling.
GENERAL NOTES:

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BORING LOG KB-2

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-4

PAGE: 2 of 2

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PROJECT NUMBER: 20210495.001A
OFFICE FILTER: SAN JOSE

Date Begin - End:	6/05/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215	**BORING LOG KB-3**	
Logged By:	EJ	**Drill Crew:**	Rick/Mike		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)	**Hammer Type - Drop:**	140 lb. Auto Trip - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	HSA/Mud Rotary	**Hammer Efficiency:**	78%
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.	**Hammer Cal. Date:**	10/21/2019

Latitude: 37.31643°
Longitude: -121.87010°
Surface Condition: Asphalt

Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		approximately 5-inches of asphalt												Hand Auger top 5 feet
		approximately 9-inches of aggregate baserock												
		Sandy Lean CLAY (CL): low plasticity, olive brown, moist, [ALLUVIUM]	1					14.9						
5		**Silty SAND (SM)**: non-plastic, olive yeloow, moist, loose	2,3		BC=5 5 8	14"		13.0	102.4					
			4		BC=2 3 4	18"		21.3						tip into gravels
10		**Poorly Graded SAND with Clay and Gravel (SP-SC)**: non-plastic, olive brown, wet, loose	5		BC=3 3 5	12"	SP-SM	12.1		73	7.4			
15		**Lean CLAY with Sand (CL)**: medium plasticity, olive gray, wet, medium stiff	6		BC=2 2 4	12"		22.7				29	12	
20					BC=2 2 3	NR"								
			7		BC=3 2 2	18"		24.3			83			Sample dropped out of CAL, retreived with sand catcher
25					BC=4 3 4	NR"		31.5						
		olive brown	8		BC=2 3 3	18"								Sample dropped out of CAL, retreived with sand catcher
30					BC=3 4 5	NR"								
		Fat CLAY (CH): high plasticity, dark bluish grey, moist, stiff	9		BC=3 4 5	15"								Sample dropped out of CAL, retreived with sand catcher

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PROJECT NO.: 20210495.001A
DRAWN BY: JDS
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DATE: 8/15/2020

BORING LOG KB-3

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-5

PAGE: 1 of 2

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gINT FILE: KF_gint_master_2021 [_KLF_BORING/TEST PIT SOIL LOG]
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Date Begin - End:	6/05/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215	**BORING LOG KB-3**	
Logged By:	EJ	**Drill Crew:**	Rick/Mike		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)	**Hammer Type - Drop:**	140 lb. Auto Trip - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	HSA/Mud Rotary	**Hammer Efficiency:**	78%
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.	**Hammer Cal. Date:**	10/21/2019

Latitude: 37.31643°
Longitude: -121.87010°
Surface Condition: Asphalt

Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Fat CLAY (CH): high plasticity, dark bluish grey, moist, stiff	10,11		BC=4 6 10	12"								
40			12		BC=4 7 9	9"								
45			13,14		BC=5 7 10	12"								
50					BC=8 9 11	NR"								
			15		BC=3 3 4	12"								
55		The boring was terminated at approximately 53 ft. below ground surface. The boring was backfilled with grout on June 05, 2020.												
60														
65														

GROUNDWATER LEVEL INFORMATION:
▽ Groundwater was observed at approximately 10.5 ft. below ground surface during drilling.
GENERAL NOTES:

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PROJECT NO.:	20210495.001A
DRAWN BY:	JDS
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DATE:	6/15/2020

BORING LOG KB-3

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-5

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Date Begin - End:	6/05/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215		**BORING LOG KB-4**
Logged By:	EJ	**Drill Crew:**	Rick/Mike		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)	**Hammer Type - Drop:**	140 lb. Auto Trip - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	HSA/Mud Rotary	**Hammer Efficiency:**	78%
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.	**Hammer Cal. Date:**	10/21/2019

Latitude: 37.31567°
Longitude: -121.86948°
Surface Condition: Asphalt

Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		approximately 6-inches of asphalt												Hand auger top 5 feet
		approximately 7-inches of aggregate baserock												
		Lean CLAY with Sand (CL): low plasticity, greyish black, moist, [ALLUVIUM]	1					19.0				36	18	
		yellow mottling at 4 feet												
5		**Silty SAND (SM)**: low plasticity, olive gray with olive yellow mottling, moist, loose	2,3		BC=6 8 9	16"		17.0	107.2					
			4		BC=2 2 2	18"		29.3						
10			5,6		BC=2 1 2	18"								
		Fat CLAY (CH): medium plasticity, greenish black, moist, soft						32.1						
15					BC=3 4 6	NR"								
		Sandy Lean CLAY (CL): low plasticity, olive brown, wet, medium stiff	7		BC=3 2 3	18"					56			Sample dropped out of CAL, retreieved with sand catcher
20		brown	8		BC=3 2 2	18"		26.1				29	10	
25					BC=2 3 7	NR"								
		Fat CLAY (CH): medium plasticity, dark bluish gray, moist, medium stiff	9		BC=3 3 4	18"		33.1						Sample dropped out of CAL, retreieved with sand catcher
30			10		BC=2 2 4	18"		35.2						swells around 30', have trouble dropping SPT&MC with out weight of hammer

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PROJECT NO.:	20210495.001A
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DATE:	6/15/2020

BORING LOG KB-4

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE

A-6

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Date Begin - End:	6/05/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215	**BORING LOG KB-4**	
Logged By:	EJ	**Drill Crew:**	Rick/Mike		
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)	**Hammer Type - Drop:**	140 lb. Auto Trip - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	HSA/Mud Rotary	**Hammer Efficiency:**	78%
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.	**Hammer Cal. Date:**	10/21/2019

Latitude: 37.31567°
Longitude: -121.86948°
Surface Condition: Asphalt

Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Fat CLAY (CH): medium plasticity, dark bluish gray, moist, medium stiff stiff	11		BC=4 6 10	10"								
40			12		BC=4 4 7	14"		30.0	95.8					
45			13		BC=5 7 11	15"								
50					BC=6 9 11	NR"								
			14		BC=5 6 7	14"								
55		The boring was terminated at approximately 53 ft. below ground surface. The boring was backfilled with grout on June 05, 2020.												
60														
65														

GROUNDWATER LEVEL INFORMATION:
▽ Groundwater was observed at approximately 11 ft. below ground surface during drilling.
GENERAL NOTES:

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PROJECT NO.:	20210495.001A
DRAWN BY:	JDS
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DATE:	6/15/2020

BORING LOG KB-4

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-6

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PROJECT NUMBER: 20210495.001A
OFFICE FILTER: SAN JOSE

Date Begin - End:	6/05/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215
Logged By:	EJ	**Drill Crew:**	Rick/Mike
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)
Plunge:	-90 degrees	**Drilling Method:**	Hand Auger
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.

BORING LOG PC-1

Depth (feet)	Graphical Log	Lithologic Description (Latitude: 37.31765° Longitude: -121.87068° Surface Condition: Asphalt)	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		approximately 8-inches of asphalt												
		Sandy Lean CLAY (CL): low plasticity, brown, moist, [ALLUVIUM]	1 BULK					9.6				25	8	
5														
10														
15														
20														

The boring was terminated at approximately 5 ft. below ground surface. The boring was backfilled with auger cuttings on June 05, 2020.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:

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PROJECT NO.:	20210495.001A
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	8/15/2020

BORING LOG PC-1

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-7

PAGE: 1 of 1

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Date Begin - End:	6/05/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215
Logged By:	EJ	**Drill Crew:**	Rick/Mike
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)
Plunge:	-90 degrees	**Drilling Method:**	Hand Auger
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.

BORING LOG PC-2

Depth (feet)	Graphical Log	Lithologic Description (Latitude: 37.31760° Longitude: -121.86904° Surface Condition: Asphalt)	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		approximately 7.5-inches of asphalt												
		Sandy Lean CLAY (CL): low plasticity, brown, moist, [ALLUVIUM]	1 BULK					10.5						Modified Proctor: 126.6 @ 8.9%
5														
10														
15														
20														

The boring was terminated at approximately 5 ft. below ground surface. The boring was backfilled with auger cuttings on June 05, 2020.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:

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PROJECT NO.:	20210495.001A
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	8/15/2020

BORING LOG PC-2

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-8

PAGE: 1 of 1

PLOTTED: 07/10/2020 03:47 PM BY: DDockendorf
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gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2021.GLB [__KLF_BORING/TEST PIT SOIL LOG]
PROJECT NUMBER: 20210495.001A
OFFICE FILTER: SAN JOSE

Date Begin - End:	6/05/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215	**BORING LOG PC-3**
Logged By:	EJ	**Drill Crew:**	Rick/Mike	
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)	
Plunge:	-90 degrees	**Drilling Method:**	Hand Auger	
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.	

Depth (feet)	Graphical Log	FIELD EXPLORATION Latitude: 37.31632° Longitude: -121.86795° Surface Condition: Asphalt Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	LABORATORY RESULTS USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		approximately 8-inches of asphalt												
		Sandy Lean CLAY with Gravel (CL): low plasticity, dark brown, moist, [ALLUVIUM]	1 BULK					6.6						R - Value: 4
5														
10														
15														
20														

The boring was terminated at approximately 5 ft. below ground surface. The boring was backfilled with auger cuttings on June 05, 2020.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:

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PROJECT NO.:	20210495.001A
DRAWN BY:	JDS
CHECKED BY:	DD
DATE:	8/15/2020

BORING LOG PC-3

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-9

PAGE: 1 of 1

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PROJECT NUMBER: 20210495.001A
OFFICE FILTER: SAN JOSE

Date Begin - End:	6/05/2020	**Drilling Co.-Lic.#:**	Taber - #CA 430215
Logged By:	EJ	**Drill Crew:**	Rick/Mike
Hor.-Vert. Datum:	Not Available	**Drilling Equipment:**	CME-75 (truck-mounted)
Plunge:	-90 degrees	**Drilling Method:**	Hand Auger
Weather:	Clear	**Exploration Diameter:**	4 in. O.D.

BORING LOG PC-4

Latitude: 37.31539°
Longitude: -121.86783°
Surface Condition: Asphalt

Depth (feet)	Graphical Log	Lithologic Description	Sample Number	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		approximately 4.5-inches of asphalt												
		Sandy Lean CLAY (CL): low plasticity, dark brown, moist, [ALLUVIUM]	1 BULK					10.8				31	14	
5														
10														
15														
20														

The boring was terminated at approximately 5 ft. below ground surface. The boring was backfilled with auger cuttings on June 05, 2020.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not observed during drilling or after completion.
GENERAL NOTES:

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PROJECT NO.:	20210495.001A
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CHECKED BY:	DD
DATE:	8/15/2020

BORING LOG PC-4

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
A-10

PAGE: 1 of 1

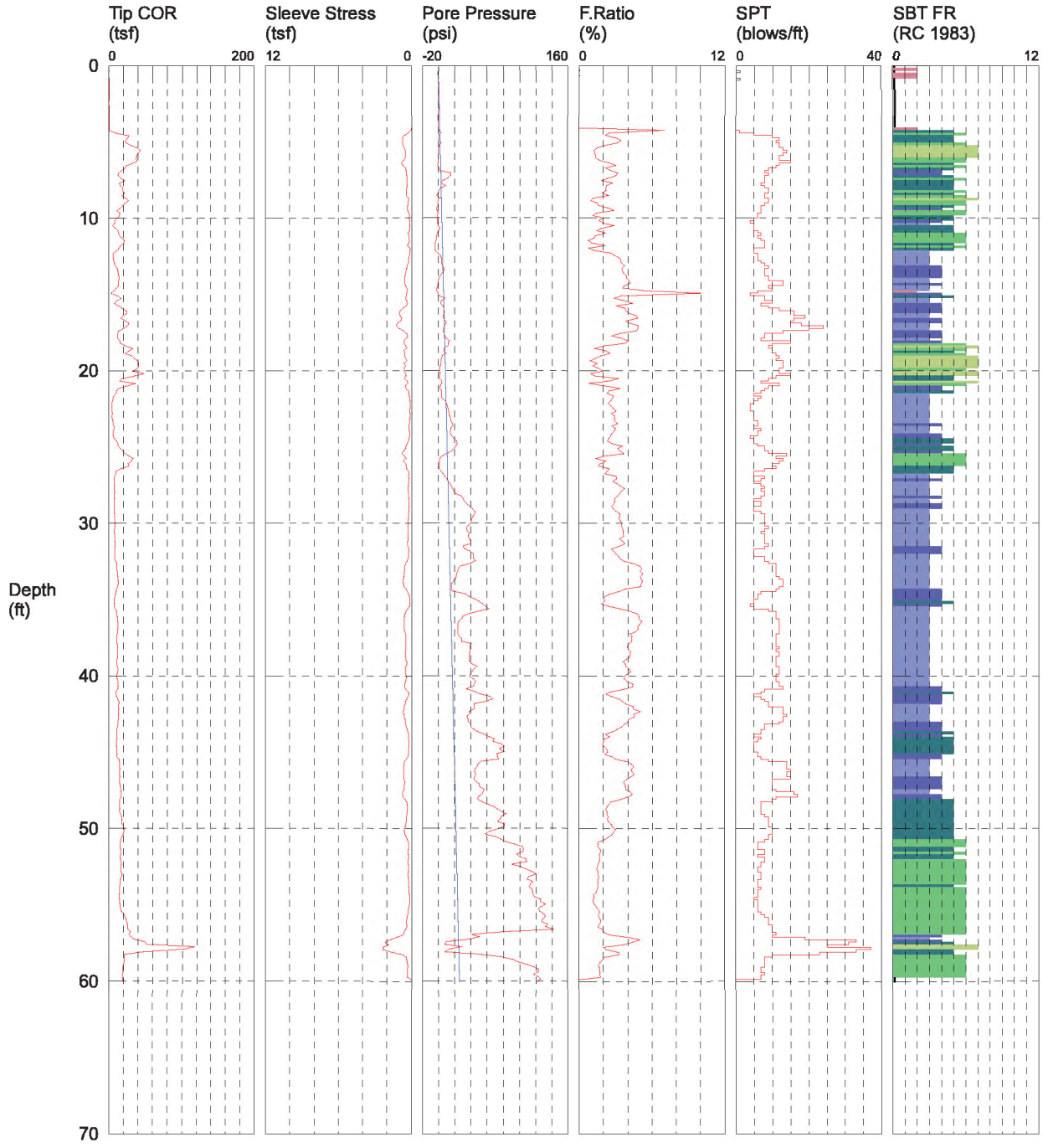
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SOUNDING

SOUNDING
CUSTOMER: Taber Drilling
OPERATOR: Tim
CONE ID: DDG1361
LOCATION:

JOB NUMBER: 20210395
HOLE NUMBER: CPT-1
TEST DATE: 6/4/2020 10:03:22 AM
COMMENT: Auto Enhance On
COMMENT: Filter On

COMMENT: Streetã Ìêl
GPS (LAT,LON,ALT): 0.00,0.00,0.0
LOCATION:
LOCATION:
LOCATION:



1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

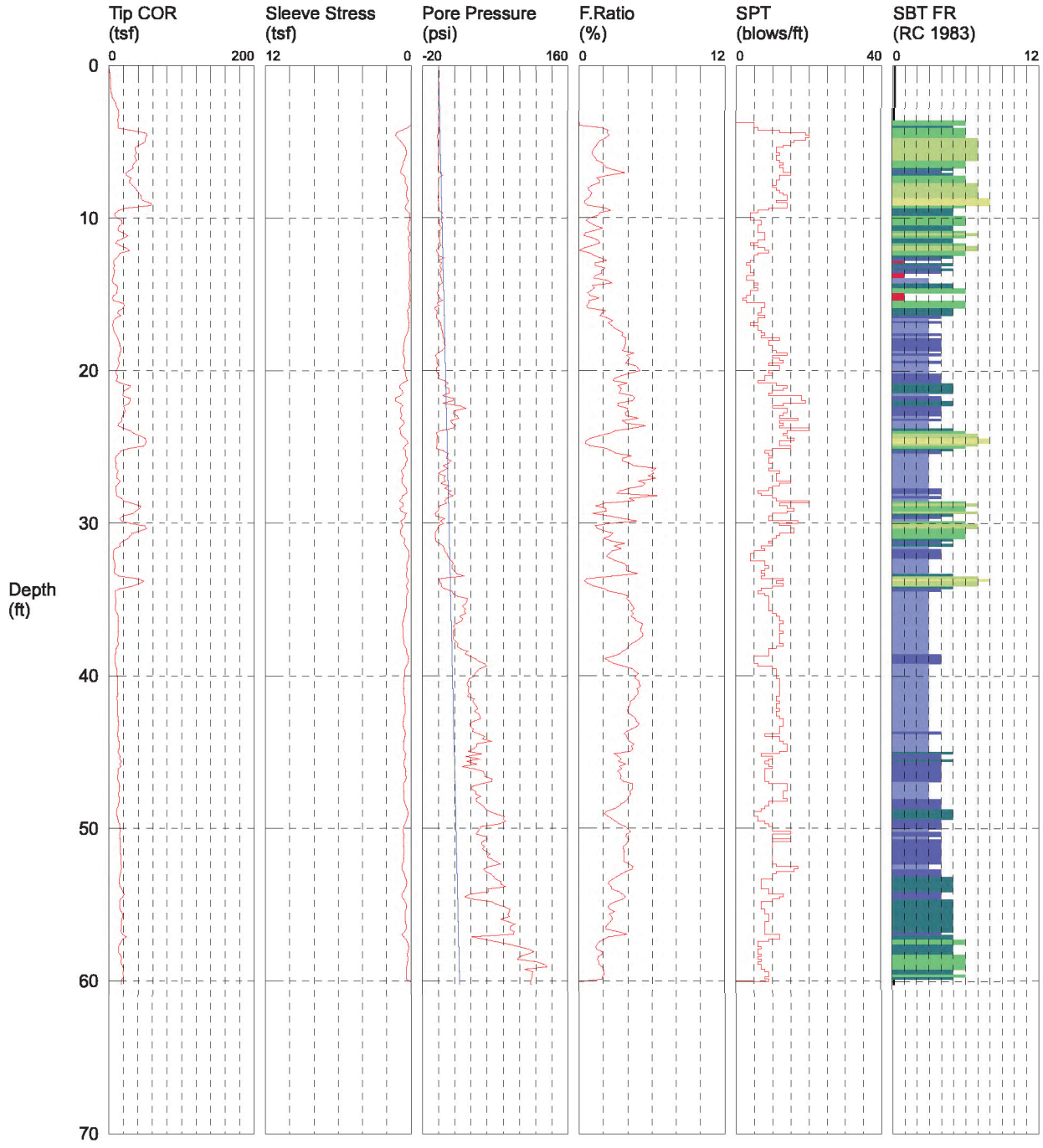
*SBT/SPT CORRELATION: UBC-1983

SOUNDING

SOUNDING
CUSTOMER: Taber Drilling
OPERATOR: TAD
CONE ID: DDG1361
LOCATION: 1605 south 7st

JOB NUMBER:
HOLE NUMBER: CPT-2
TEST DATE: 6/4/2020 8:18:48 AM
COMMENT: Auto Enhance On
COMMENT: Filter On

COMMENT:
GPS (LAT,LON,ALT): 0.00,0.00,0.0
LOCATION: 1605 south 7st
LOCATION: 1605 south 7st
LOCATION: 1605 south 7st



1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

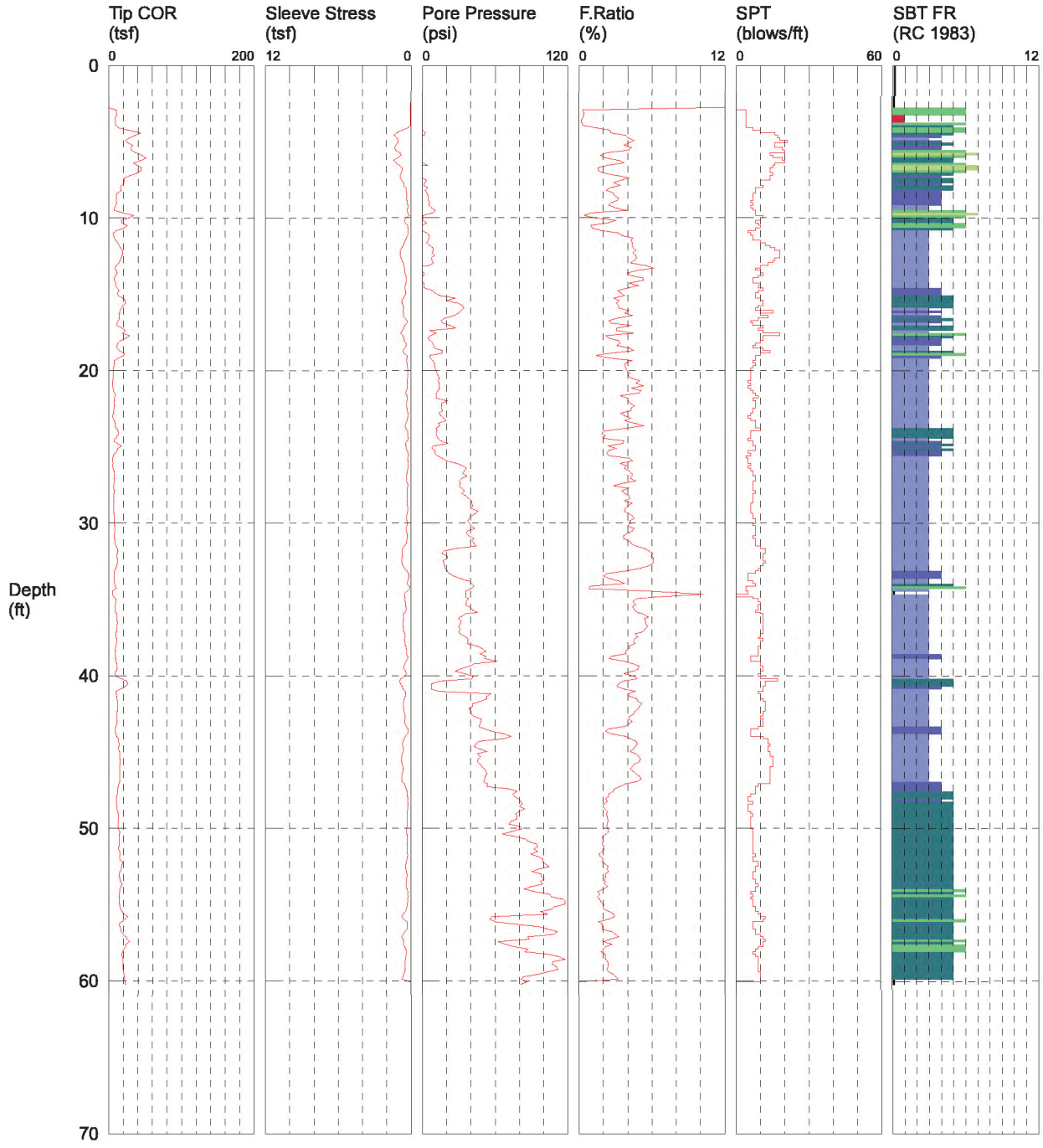
*SBT/SPT CORRELATION: UBC-1983

SOUNDING

SOUNDING
CUSTOMER: Taber Drilling
OPERATOR: Tim
CONE ID: DDG1361
LOCATION: south 7 st

JOB NUMBER:
HOLE NUMBER: CPT-3
TEST DATE: 6/4/2020 11:07:50 AM
COMMENT: Auto Enhance On
COMMENT: Filter On

COMMENT: Streetã Ìêl
GPS (LAT,LON,ALT): 0.00,0.00,0.0
LOCATION: south 7 st
LOCATION: south 7 st
LOCATION: south 7 st



1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

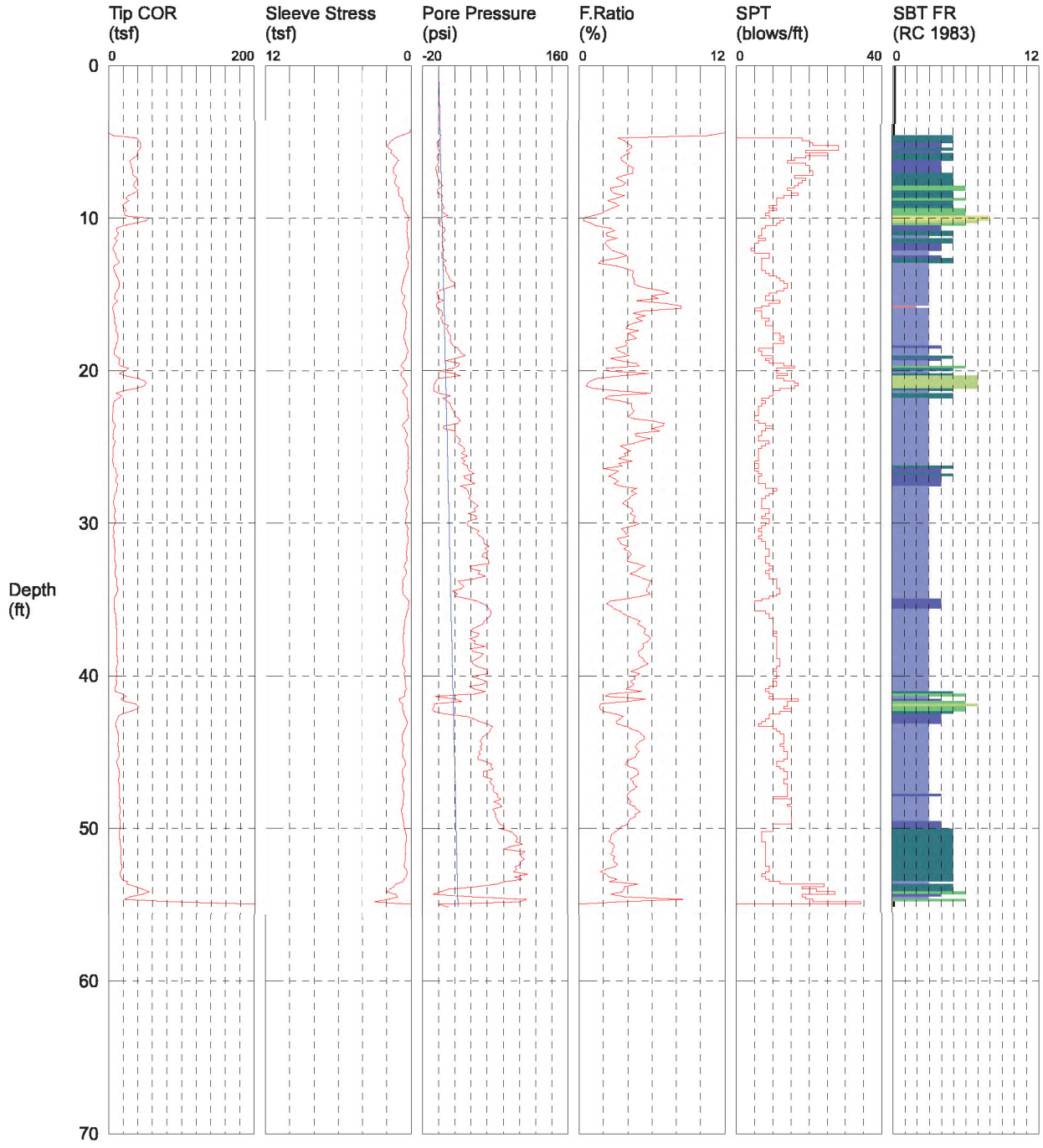
*SBT/SPT CORRELATION: UBC-1983

SOUNDING

SOUNDING
CUSTOMER: Taber Drilling
OPERATOR: Tim
CONE ID: DDG1361
LOCATION: south 7 st

JOB NUMBER:
HOLE NUMBER: CPT-4
TEST DATE: 6/4/2020 1:17:05 PM
COMMENT: Auto Enhance On
COMMENT: Filter On

COMMENT: Streetã Ìêl
GPS (LAT,LON,ALT): 0.00,0.00,0.0
LOCATION: south 7 st
LOCATION: south 7 st
LOCATION: south 7 st



1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

*SBT/SPT CORRELATION: UBC-1983

APPENDIX B
LABORATORY TESTING

GENERAL

Laboratory tests were performed on selected samples as an aid in classifying the soils and to evaluate physical properties of the soils that may affect foundation design and construction procedures. The tests were performed in general conformance with the current ASTM or Caltrans standards. A description of the laboratory-testing program is presented below.

MOISTURE AND UNIT WEIGHT

Moisture content and dry unit weight tests were performed on selected samples recovered from the borings. Moisture contents were determined in general accordance with ASTM Test Method D 2216; dry unit weight was calculated using the entire weight of the samples collected. Results of these tests are presented on the boring logs.

WASH SIEVE

Selected soil samples were tested for the percent passing the No. 200 sieve, which was performed by wash sieving in accordance with ASTM Standard Test Method D 1140. The test results are presented on the boring logs.

SIEVE ANALYSIS

Sieve analysis of selected samples was performed to evaluate the grain size distribution of the onsite soils and to aid in classification of the soils. Sieve analysis was performed in accordance with ASTM Standard Test Method D6913. The results of the tests are presented on the boring logs in Appendix A and as an attachment in this appendix.

R-VALUE

Resistance value (R-value) tests were performed on selected bulk soil samples obtained to evaluate pavement support characteristics of the near-surface onsite soils. R-value tests were performed in accordance with Caltrans Standard Test Method 301. The test results are attached.

MAXIMUM DENSITY AND OPTIMUM MOISTURE

Maximum density and optimum moisture content testing was performed on bulk samples of the near surface soils to evaluate the compaction characteristics of the onsite soils. Maximum density

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and optimum moisture content testing was performed in general accordance with ASMT Standard Test Method D1557, Method B. The test results are attached.

ATTERBERG LIMITS

Plasticity Index (liquid and plastic limit) testing was performed on selected samples of the on-site soils to determine plasticity characteristics and to aid in the classification of the soil. The tests were performed in accordance with ASTM Standard Test Method D 4318. The results are presented on the boring logs and attached to this appendix.

CONSOLIDATION

Four consolidation tests were performed on selected undisturbed samples in accordance with ASTM D2435. The tests were performed on 1.0-inch-high, 2.42-inch diameter samples. After trimming the ends, the sample was placed in the consolidometer and an initial reading was recorded. The sample was saturated during loading, and thereafter, the sample was incrementally loaded, and the test results are attached to this appendix.

PRELIMINARY SOIL CORROSIVITY

A series of chemical tests were performed on a selected sample of the near-surface soils to estimate pH, resistivity and sulfate and chloride contents. The sample was tested in general accordance with California Test Methods 643, 422, and 417 for pH and minimum resistivity, soluble chlorides, and soluble sulfates, respectively. Test results may be used by a qualified corrosion engineer to evaluate the general corrosion potential with respect to construction materials. The tests were performed by AP Engineering and Laboratory, Inc. of Pomona, California. The results of the tests are presented in Table 4 of Section 4.9 of the report and attached to this appendix.

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Exploration ID	Depth (ft.)	Sample No.	Sample Description	Water Content (%)	Dry Unit Wt. (pcf)	Sieve Analysis (%)			Atterberg Limits			Additional Tests
						Passing 3/4"	Passing #4	Passing #200	Liquid Limit	Plastic Limit	Plasticity Index	
KB-1	0.5	1		14.6								
KB-1	2.5	2		19.9								
KB-1	6.0			20.2	104.5							
KB-1	7.5	4		7.2								
KB-1	10.5		OLIVE GREY POORLY GRADED SAND WITH GRAVEL (SP)	11.4		97	65	4.3				
KB-1	15.0	6	GREYISH BLACK CLAYEY GRAVEL WITH SAND (GC)	12.3		84	54	19	31	15	16	
KB-1	20.5		OLIVE GREY POORLY GRADED SAND WITH CLAY AND GRAVEL (SP-SC)	16.4		100	81	12				
KB-1	25.5		GREENISH GREY CLAYEY SAND (SC)	21.4				49				
KB-1	36.0			36.1	83.6							
KB-2	1.0		DARK BROWN SANDY LEAN CLAY (CL)	15.6					31	17	14	
KB-2	6.0			11.8	102.6							
KB-2	11.0			25.0	96.8							
KB-2	15.0	6	OLVE BROWN SILTY CLAY WITH SAND (CL-ML)	33.4					27	20	7	
KB-2	25.0			21.0								
KB-2	30.5			25.0	105.4							
KB-2	40.5			37.0	88.4							
KB-2	41.0		GREENISH GREY FAT CLAY WITH SAND (CH)						56	25	31	
KB-3	2.0	1		14.9								
KB-3	6.0			13.0	102.4							
KB-3	7.5	4		21.3								
KB-3	10.5		OLIVE BROWN POORLY GRADED SAND WITH CLAY AND GRAVEL (SP-SC)	12.1		97	73	7.4				
KB-3	15.0	6	OLIVE LEAN CLAY WITH SAND (CL)	22.7					29	17	12	
KB-3	22.0		OLIVE BROWN LEAN CLAY WITH SAND (CL)	24.3				83				
KB-3	25.0			31.5								
KB-4	1.5	1	GREYISH BLACK LEAN CLAY WITH SAND (CL)	19.0					36	18	18	
KB-4	6.0			17.0	107.2							

Refer to the Geotechnical Evaluation Report or the supplemental plates for the method used for the testing performed above.
NP = NonPlastic
NA = Not Available

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LABORATORY TEST RESULT SUMMARY

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
B-1

Exploration ID	Depth (ft.)	Sample No.	Sample Description	Water Content (%)	Dry Unit Wt. (pcf)	Sieve Analysis (%)			Atterberg Limits			Additional Tests
						Passing 3/4"	Passing #4	Passing #200	Liquid Limit	Plastic Limit	Plasticity Index	
KB-4	8.0			29.3								
KB-4	11.0			32.1								
KB-4	17.0		OLIVE BROWN SANDY LEAN CLAY (CL)					56				
KB-4	20.0	8	BROWN SANDY LEAN CLAY (CL)	26.1					29	19	10	
KB-4	27.0			33.1								
KB-4	30.0	10		35.2								
KB-4	41.0			30.0	95.8							
PC-1	1.0 - 5.0	Bulk	BROWN SANDY LEAN CLAY (CL)	9.6					25	17	8	
PC-2	1.0 - 5.0	Bulk	BROWN SANDY CLAY	10.5								Modified Proctor: 126.8 @ 8.9%
PC-3	1.0 - 5.0	Bulk	DARK BROWN SANDY CLAY WITH GRAVEL	6.6								R - Value: 4
PC-4	1.0	Bulk	DARK BROWN SANDY LEAN CLAY (CL)	10.8					31	17	14	

Refer to the Geotechnical Evaluation Report or the supplemental plates for the method used for the testing performed above.
NP = NonPlastic
NA = Not Available

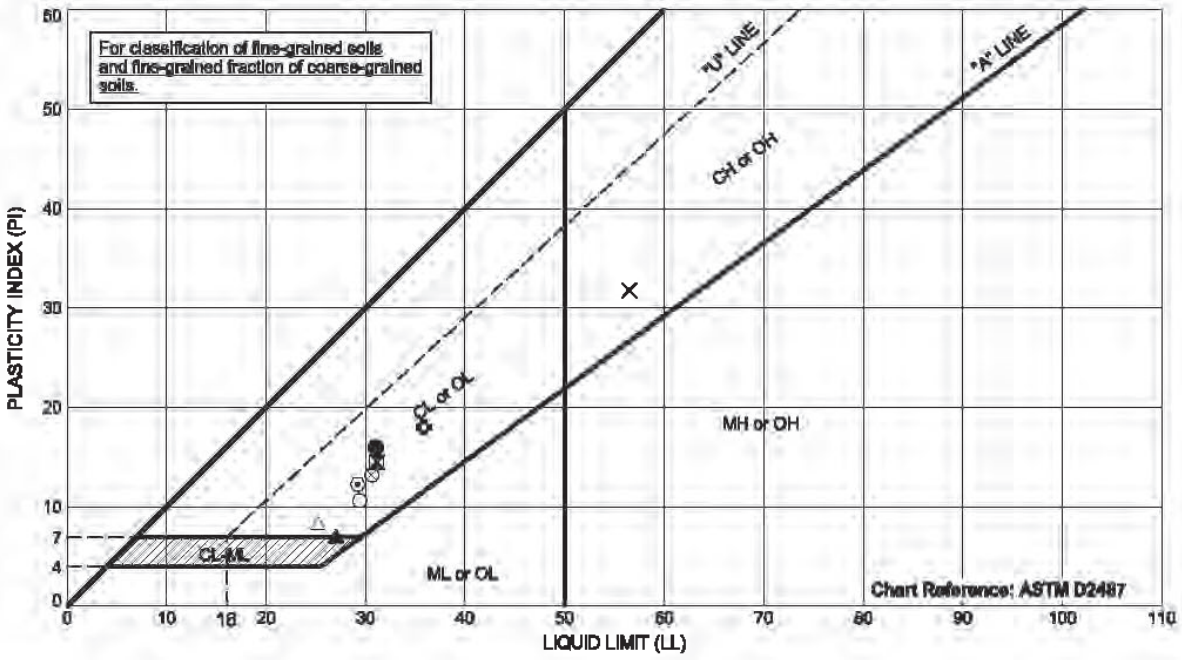
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PROJECT NO.: 20210495.001A
DRAWN BY: JDS
CHECKED BY: DD
DATE: 6/15/2020

LABORATORY TEST RESULT SUMMARY

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
B-2



Exploration ID		Depth (ft.)	Sample Number	Sample Description	Passing #200	LL	PL	PI
●	KB-1	15	6	GREYISH BLACK CLAYEY GRAVEL WITH SAND (GC)	19	31	15	16
■	KB-2	1 - 5	NA	DARK BROWN SANDY LEAN CLAY (CL)	NM	31	17	14
▲	KB-2	15	6	OLVE BROWN SILTY CLAY WITH SAND (CL-ML)	NM	27	20	7
×	KB-2	41	NA	GREENISH GREY FAT CLAY WITH SAND (CH)	NM	56	25	31
⊙	KB-3	15	6	OLIVE LEAN CLAY WITH SAND (CL)	NM	29	17	12
✿	KB-4	1.5	1	GREYISH BLACK LEAN CLAY WITH SAND (CL)	NM	36	18	18
○	KB-4	20	8	BROWN SANDY LEAN CLAY (CL)	NM	29	19	10
△	PC-1	1 - 5	Bulk	BROWN SANDY LEAN CLAY (CL)	NM	25	17	8
⊘	PC-4	1	Bulk	DARK BROWN SANDY LEAN CLAY (CL)	NM	31	17	14

Testing performed in general accordance with ASTM D4318.
NP = Nonplastic
NA = Not Available
NM = Not Measured

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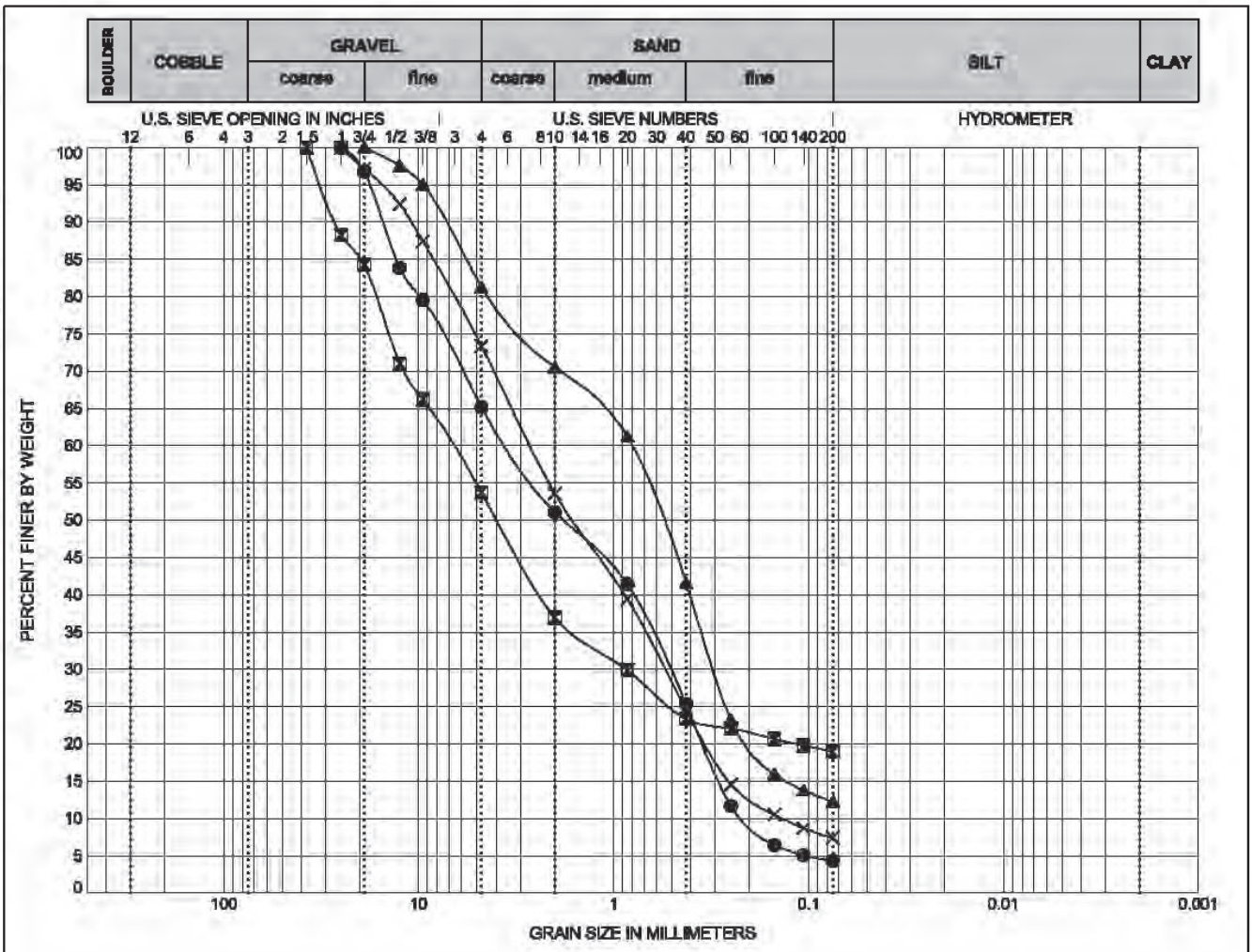
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DRAWN BY: JDS
CHECKED BY: DD
DATE: 6/15/2020

ATTERBERG LIMITS

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
B-3

PLOTTED: 06/16/2020 11:13 AM BY: rdiessner
OFFICE FILTER: SAN JOSE
PROJECT NUMBER: 20210495.001A
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Exploration ID		Depth (ft.)	Sample Number	Sample Description	LL	PL	PI
●	KB-1	10.5	NA	OLIVE GREY POORLY GRADED SAND WITH GRAVEL (SP)	NM	NM	NM
⊠	KB-1	15	6	GREYISH BLACK CLAYEY GRAVEL WITH SAND (GC)	31	15	16
▲	KB-1	20.5	NA	OLIVE GREY POORLY GRADED SAND WITH CLAY AND GRAVEL (SP-SC)	NM	NM	NM
×	KB-3	10.5	NA	OLIVE BROWN POORLY GRADED SAND WITH CLAY AND GRAVEL (SP-SC)	NM	NM	NM

Exploration ID		Depth (ft.)	D_{100}	D_{60}	D_{30}	D_{10}	Cc	Cu	Passing 3/4"	Passing #4	Passing #200	%Silt*	%Clay*
●	KB-1	10.5	25	3.459	0.52	0.213	0.37	16.26	97	65	4.3	NM	NM
⊠	KB-1	15	37.5	6.741	0.862	NM	NM	NM	84	54	19	NM	NM
▲	KB-1	20.5	19	0.614	0.304	NM	2.54	18.21	100	81	12	NM	NM
×	KB-3	10.5	25	2.65	0.548	0.137	0.83	19.41	97	73	7.4	NM	NM

*These numbers represent silt-sized and clay-sized content but may not indicate the percentage of the material with the engineering properties of silt or clay.
Sieve Analysis and Hydrometer Analysis testing performed in general accordance with ASTM D6913(Sieve Analysis) and ASTM D7928 (Hydrometer Analysis).
NP = Nonplastic
NA = Not Available
NM = Not Measured

Coefficients of Uniformity - $C_u = D_{60} / D_{10}$
Coefficients of Curvature - $C_c = (D_{30})^2 / D_{60} D_{10}$
D_{60} = Grain diameter at 60% passing
D_{30} = Grain diameter at 30% passing
D_{10} = Grain diameter at 10% passing

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PROJECT NO.: 20210495.001A
DRAWN BY: JDS
CHECKED BY: DD
DATE: 6/15/2020

SIEVE ANALYSIS

PROPOSED AMZL DFA8
NEW WAREHOUSE
1605 S 7th STREET
SAN JOSE, CALIFORNIA

FIGURE
B-4

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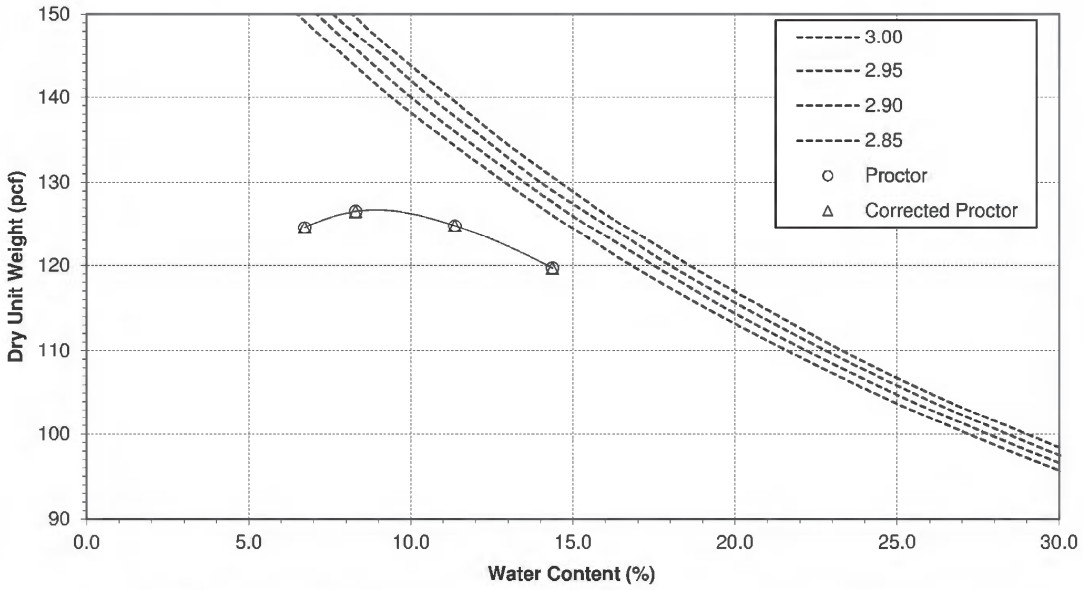
Laboratory Test Report

Client:	**MG2**	Report No.:	**20-HAY-00776 Rev. 0**	Issued:	**6/30/2020**
Project:	**20210495.001A**			Field ID:	**HL13067**
	CSM DFA8 BTS San Jose, CA Warehouse GEO	Sampled by:	**E. Jeffery**	Date:	**6/5/2020**
	01-000L - Lab Testing	Submitted by:	**E. Jeffery**	Date:	**6/15/2020**

Tested on **6/25/2020** by **B. O'neil**

Material Description: **Brown Sandy Clay**

Location: **PC-2 @ 1.0' - 5.0'**



Test Method: ASTM D1557 B	Uncorrected	Corrected
Maximum Dry Unit Weight (pcf)	**126.8**	**na**
Optimum Water Content (%)	**8.9**	**na**
Oversize Fraction, retained on (%)		**<5**
Bulk Specific Gravity of Oversize Fraction		**na**

Rammer Type: Mechanical

Specimen Preparation: Moist

Remarks:

HL13067

Reviewed on 6/30/2020 by Bryce O'Neil, Technician IV

Limitations: Pursuant to applicable building codes, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail statements (meets/did not meet), if provided. This report may not be reproduced, except in full, without written approval of Kleinfelder.

Laboratory Test Report

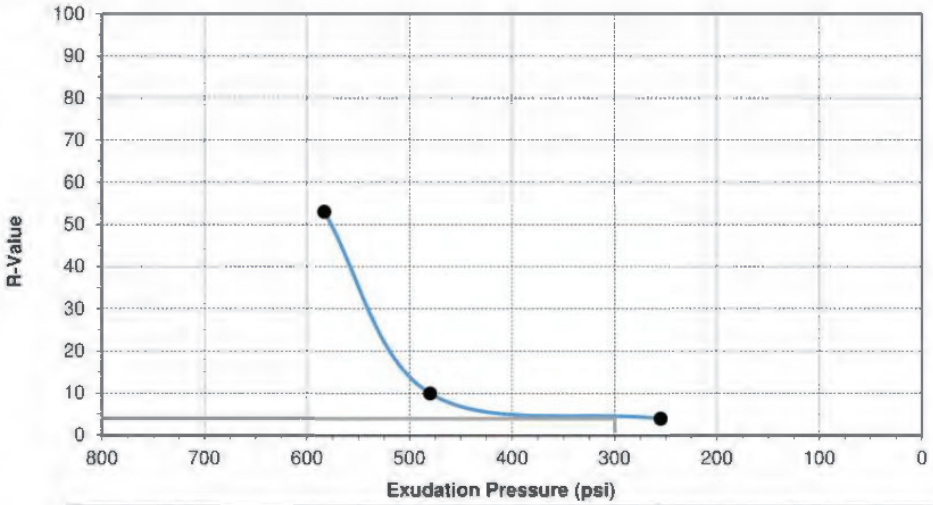
Client:	MG2	Report No.:	20-HAY-00776 Rev. 0	Issued:	6/30/2020
Project:	20210495.001A			Field ID:	HL13067
	CSM DFA8 BTS San Jose, CA Warehouse GEO	Sampled by:	E. Jeffery	Date:	6/5/2020
	01-000L - Lab Testing	Submitted by:	E. Jeffery	Date:	6/15/2020

Tested on 6/24/2020 by B. O'neil

Test Method: ASTM D2844

Material Description: Dark Brown Sandy Clay with Gravel

Specific Location: PC - 3 @ 1.0' - 5.0'

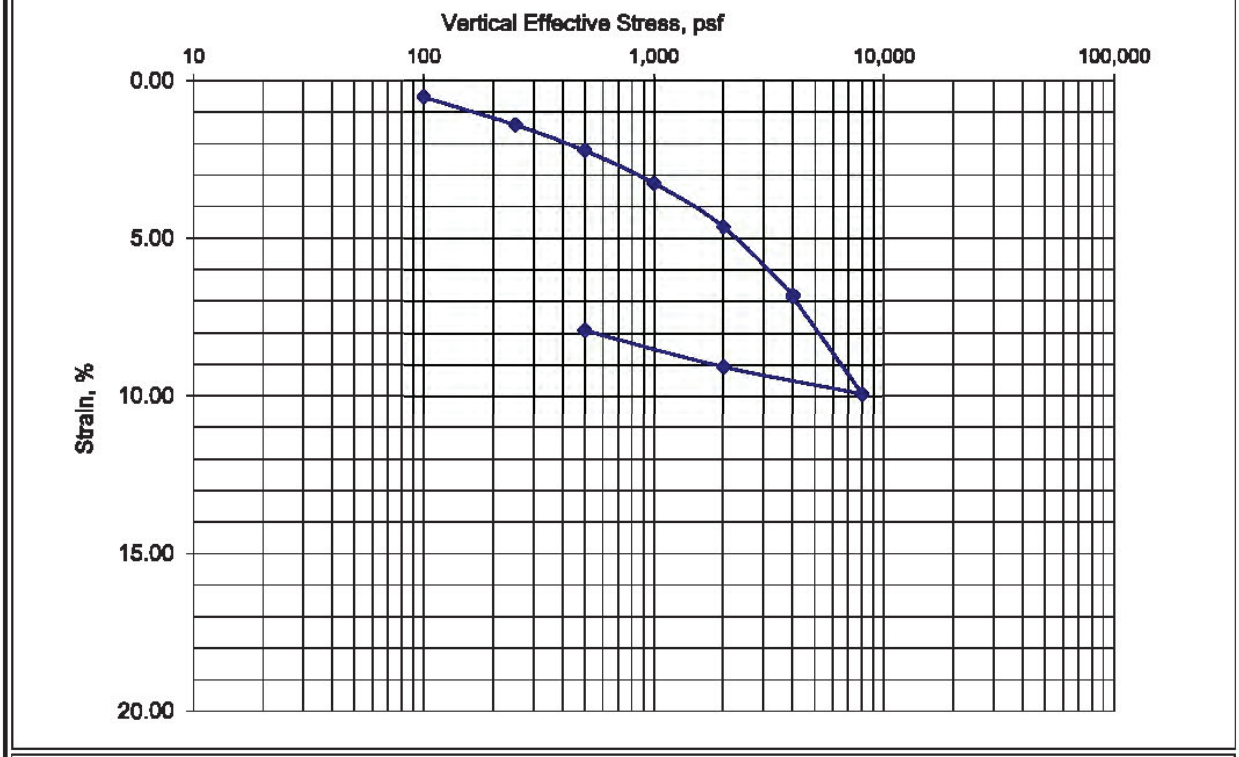


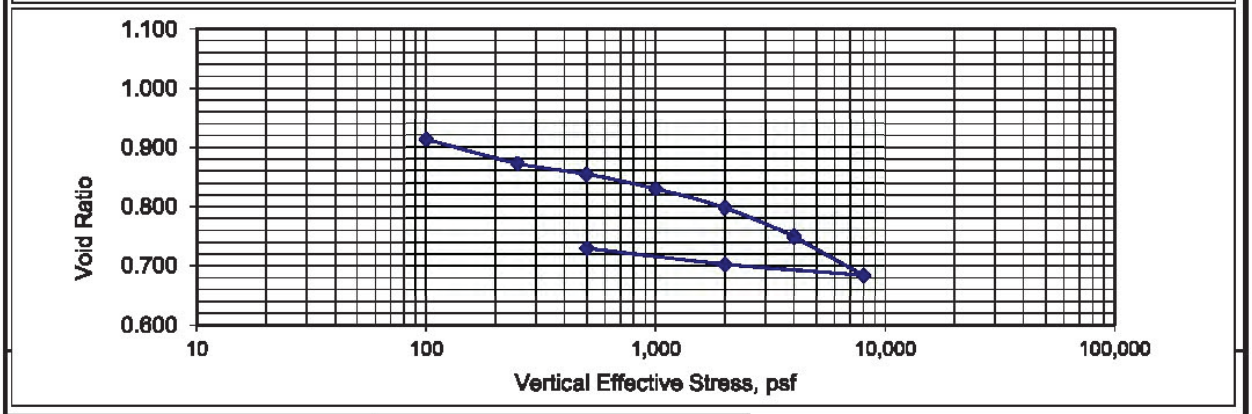
Briquette No.	A	B	C
Dry Unit Weight at Test (pcf)	117.6	119.9	114.7
Expansion Pressure (psf)	238	87	13
Exudation Pressure (psi)	583	480	255
Moisture at Time of Test (%)	11.5	13.8	16.1
Resistance Value	53	10	4
R - VALUE AT 300 PSI EXUDATION PRESSURE:			**4**

Remarks:
HL13067

Reviewed on 6/30/2020 by Bryce O'Neil, Technician IV

Limitations: Pursuant to applicable building codes, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail statements (meets/did not meet), if provided. This report may not be reproduced, except in full, without written approval of Kleinfelder.





Test Method: ASTM D2435			Sample Type: Intact				
Gs: 2.70 Assumed	LL: nm	PI: nm	Amount of Material Finer than the No. 200, %: nm				

	Height, in.	Diameter, in.	Water Content, %	Wet Density, lb/ft³	Dry Density, lb/ft³	Saturation, %	Void Ratio
Initial	1.000	2.415	33.1	117.3	88.1	98.0	0.913
Final	0.910	2.415	29.9	124.2	95.6	108.0	0.741

Boring:	KB-1
Sample:	9
Depth, ft:	30.5
Test Date:	6/25/20

Remarks: **Inundated at 4000 psf**

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Bright People. Right Solutions.
2601 Barrington Ct, Hayward, CA, 94545

Project Number:	20210495.001A
Date:	7/7/2020
Entry By:	AK/MS
Checked By:	AK
File Name:	HL13067

ONE DIMENSIONAL CONSOLIDATION TEST

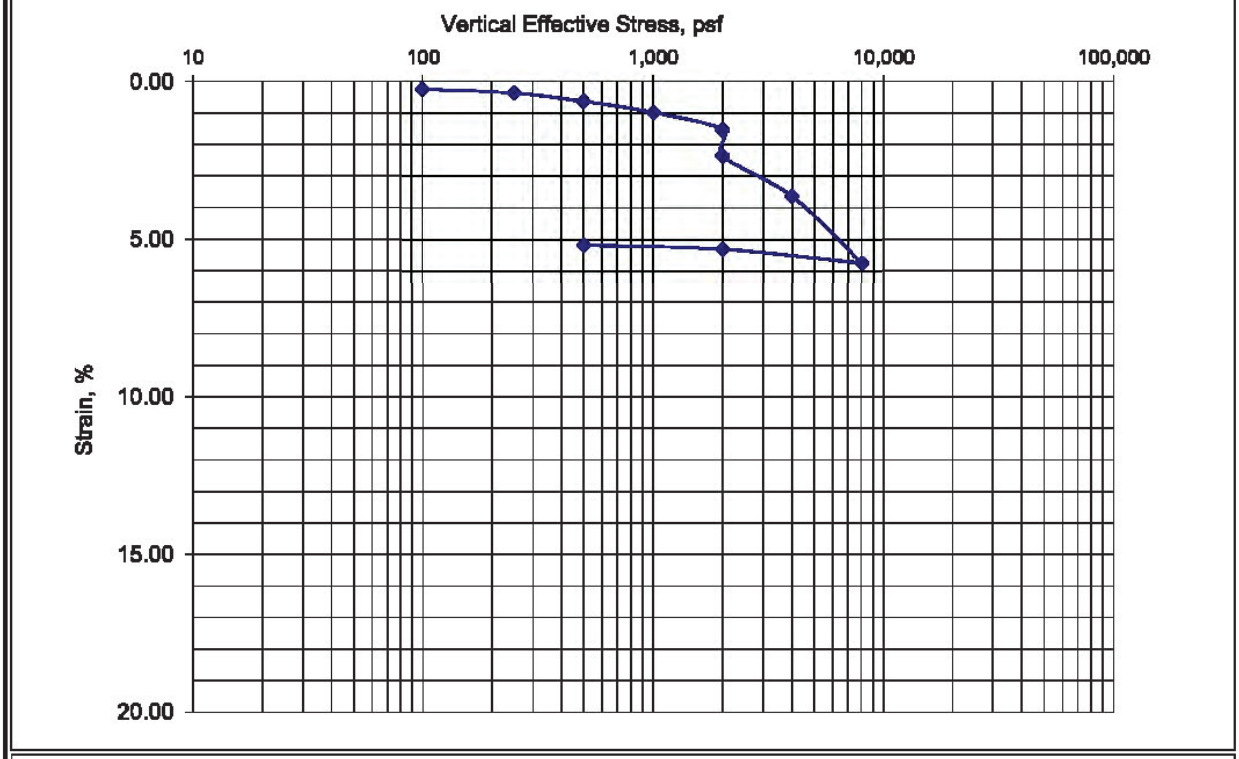
AMZL DFA8

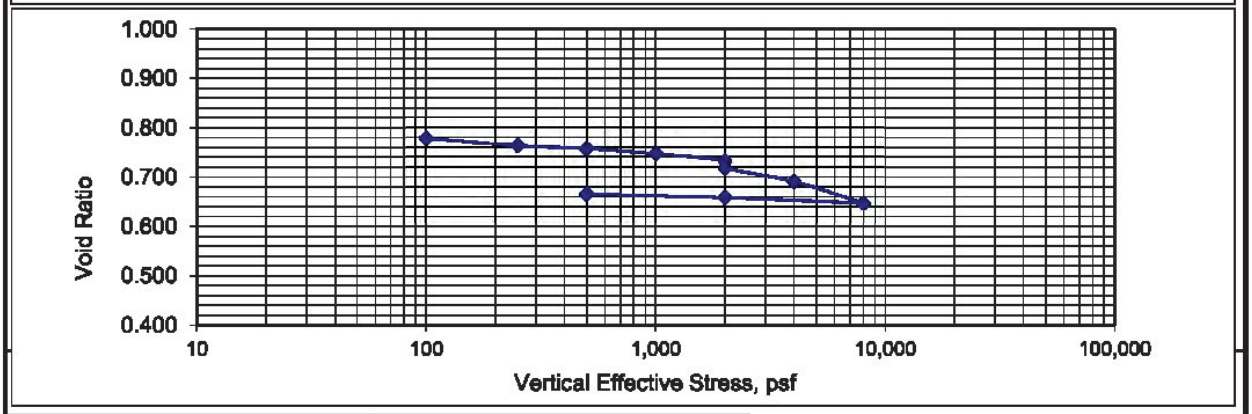
1605 S 7th Street

San Jose, CA.

FIGURE

B-7





Test Method: ASTM D2435			Sample Type: Intact				
Gs: 2.65 Assumed	LL: nm	PI: nm	Amount of Material Finer than the No. 200, %: nm				
	Height, in.	Diameter, in.	Water Content, %	Wet Density, lb/ft³	Dry Density, lb/ft³	Saturation, %	Void Ratio
Initial	1.000	2.415	18.1	109.9	93.1	62.0	0.777
Final	0.939	2.415	25.9	137.4	109.1	113.0	0.670

Boring:	KB-2
Sample:	3
Depth, ft:	8.5
Test Date:	6/25/20

Remarks: **Inundated at 2000 psf**

KLEINFELDER
Bright People. Right Solutions.
2601 Barrington Ct, Hayward, CA, 94545

Project Number:	20210495.001A
Date:	7/7/2020
Entry By:	AK/MS
Checked By:	AK
File Name:	HL13067

ONE DIMENSIONAL CONSOLIDATION TEST

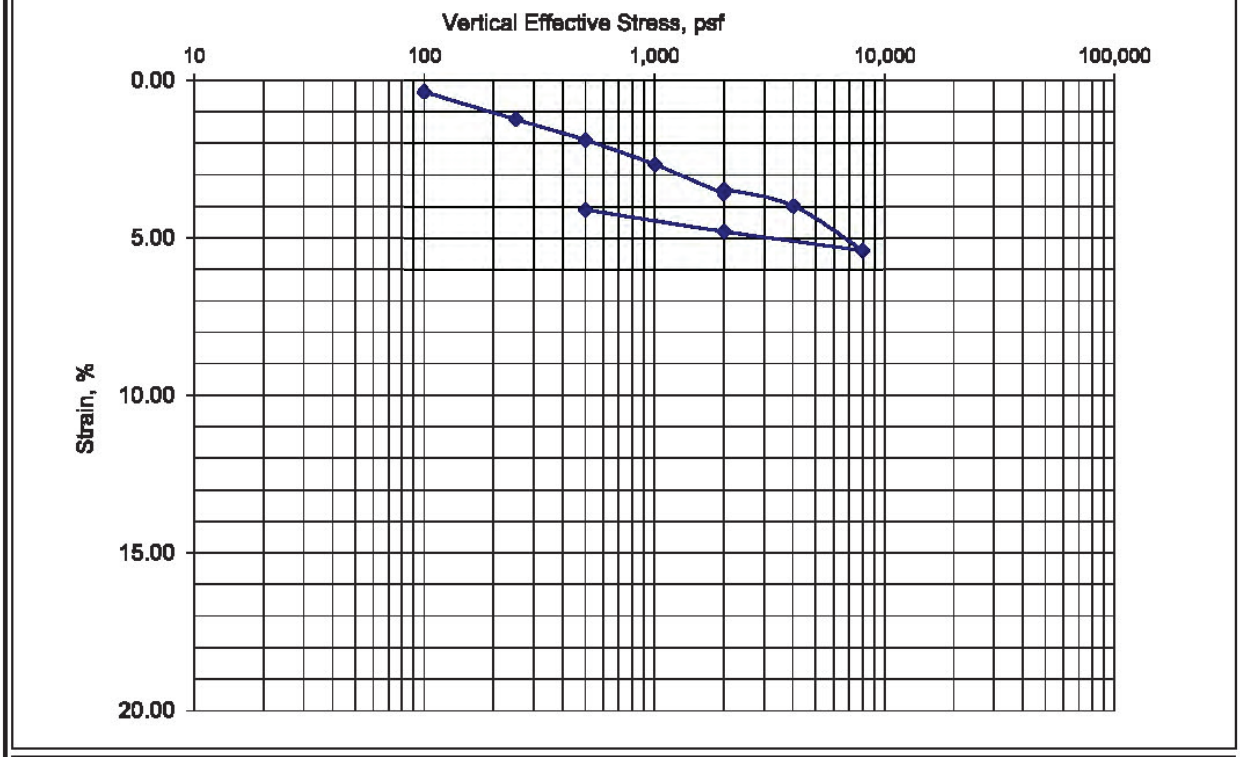
AMZL DFA8

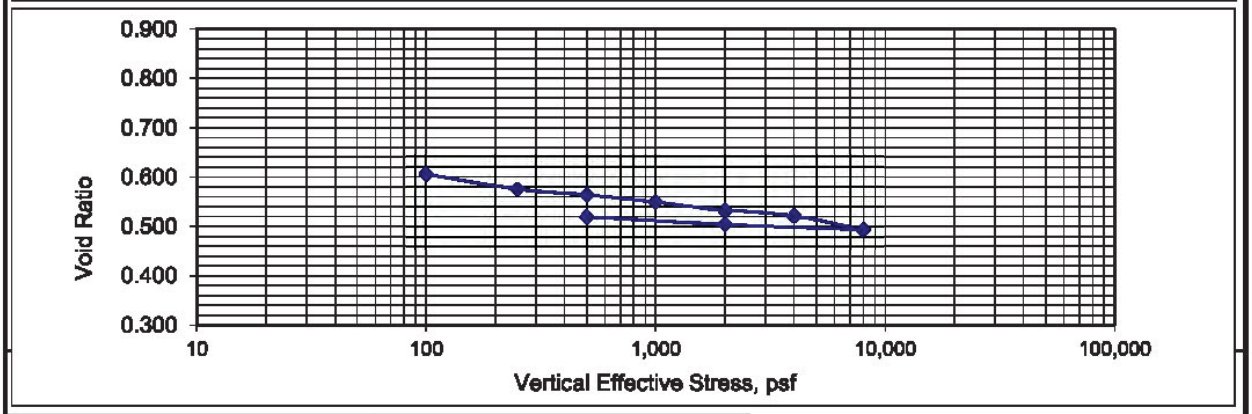
1605 S 7th Street

San Jose, CA.

FIGURE

B-8





Test Method:	ASTM D2435	Sample Type:	Intact		
Gs: 2.70	Assumed	LL: nm	PI: nm	Amount of Material Finer than the No. 200, %: nm	

	Height, in.	Diameter, in.	Water Content, %	Wet Density, lb/ft³	Dry Density, lb/ft³	Saturation, %	Void Ratio
Initial	1.000	2.415	21.8	128.0	105.0	97.0	0.605
Final	0.951	2.415	20.9	133.3	110.2	107.0	0.527

Boring:	KB-2
Sample:	8
Depth, ft:	21
Test Date:	6/25/20

Remarks: **Inundated at 2000 psf**

KLEINFELDER
Bright People. Right Solutions.
2601 Barrington Ct, Hayward, CA, 94545

Project Number:	20210495.001A
Date:	7/7/2020
Entry By:	AK/MS
Checked By:	AK
File Name:	HL13067

ONE DIMENSIONAL CONSOLIDATION TEST

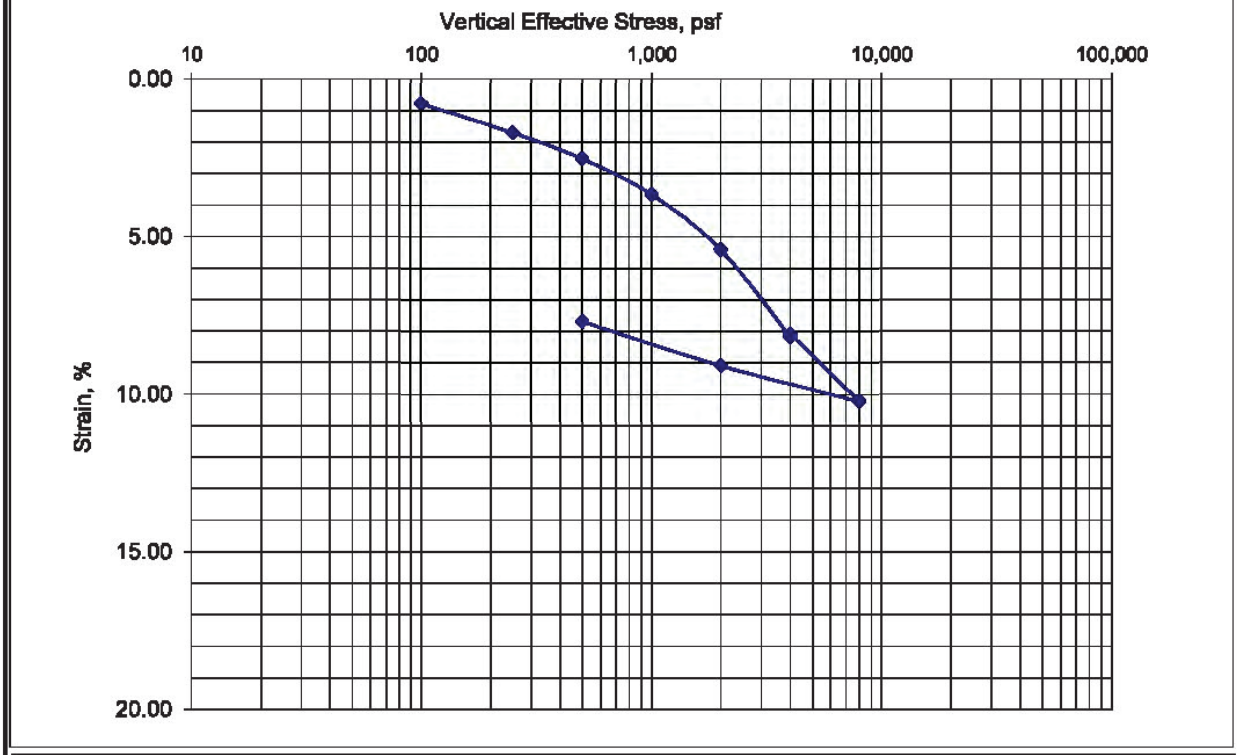
AMZL DFA8

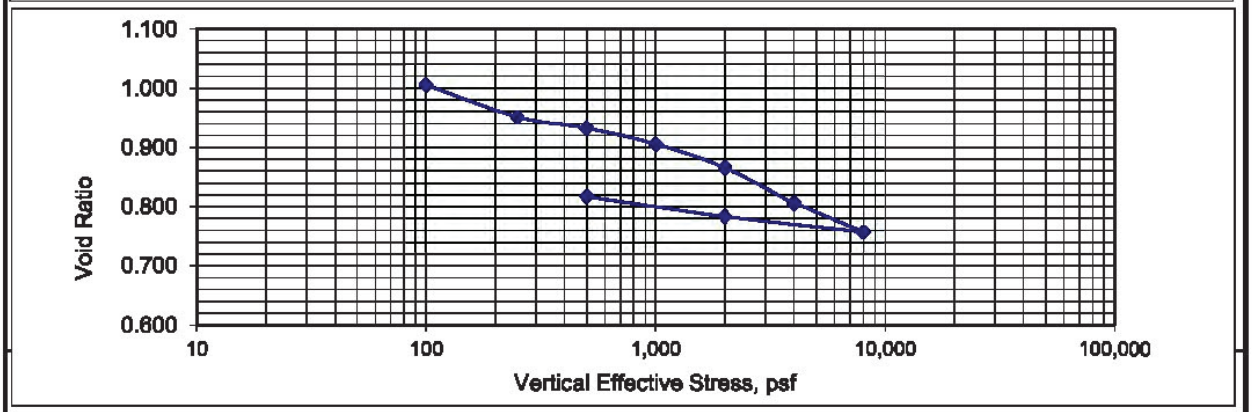
1605 S 7th Street

San Jose, CA.

FIGURE

B-9





Test Method: ASTM D2435			Sample Type: Intact				
Gs: 2.70 Assumed	LL: nm	PI: nm	Amount of Material Finer than the No. 200, %: nm				

	Height, in.	Diameter, in.	Water Content, %	Wet Density, lb/ft³	Dry Density, lb/ft³	Saturation, %	Void Ratio
Initial	1.000	2.415	34.4	113.0	84.1	92.0	1.005
Final	0.914	2.415	35.1	121.3	89.8	111.0	0.833

Boring:	KB-4
Sample:	11
Depth, ft:	36
Test Date:	6/25/20

Remarks: **Inundated at 4000 psf**

KLEINFELDER
Bright People. Right Solutions.
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Project Number:	20210495.001A
Date:	7/7/2020
Entry By:	AK/MS
Checked By:	AK
File Name:	HL13067

ONE DIMENSIONAL CONSOLIDATION TEST

AMZL DFA8

1605 S 7th Street

San Jose, CA.

FIGURE

B-10

AP Engineering and Testing, Inc.
D8E|MBE|SBE
2607 Pomona Boulevard | Pomona, CA 91768
t. 909.869.6316 | f. 909.869.6318 | www.aplaboratory.com

CORROSION TEST RESULTS

Client Name: Kleinfelder
Project Name: DFA8 San Jose, CA
Project No.: 20210495.001A

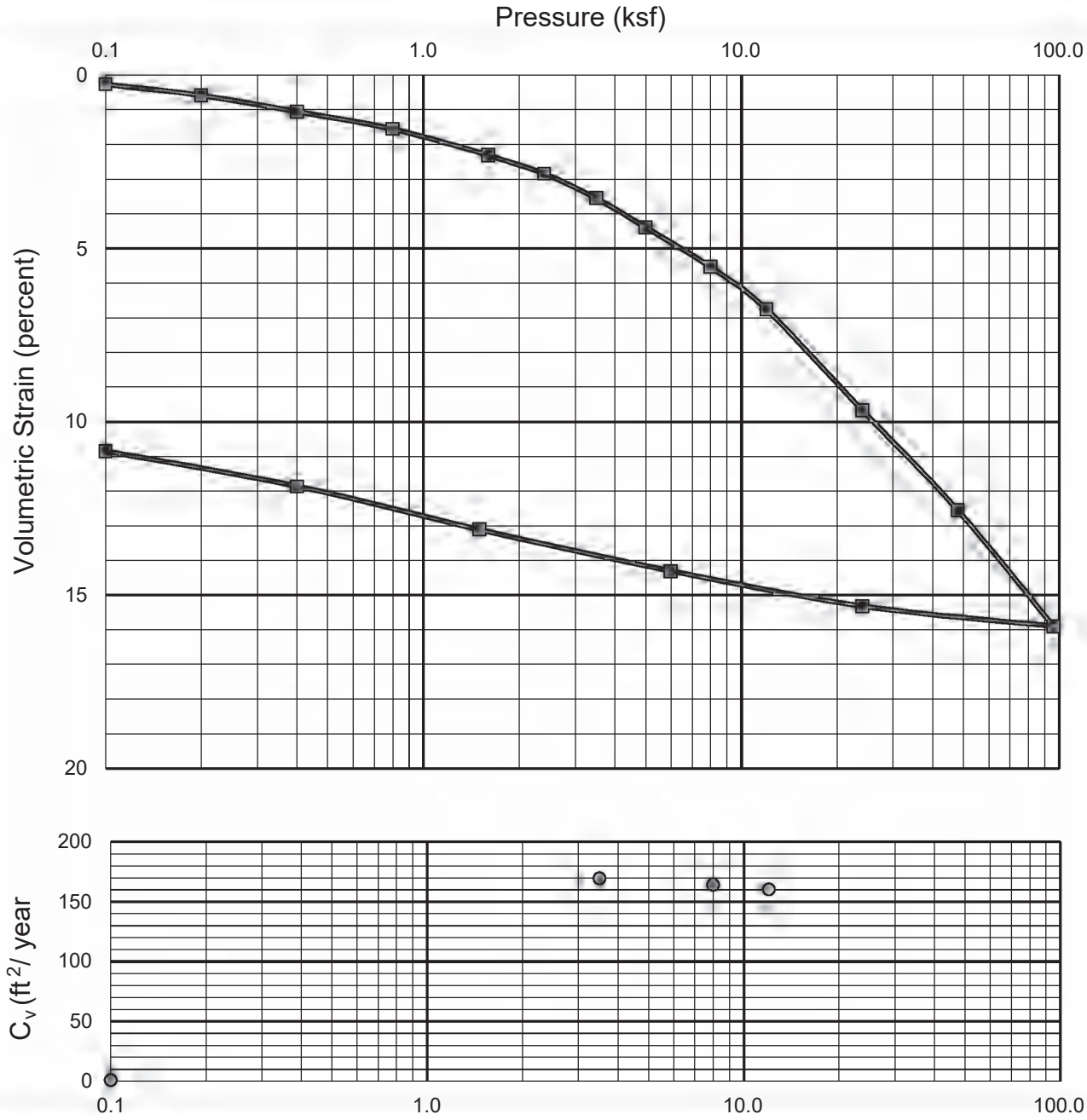
AP Job No.: 20-0654
Date: 06/23/20

Boring No.	Sample No.	Depth (feet)	Soil Group Symbol	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
KB-1	2	2.5-3	Lean Clay	1,431	8.7	45	43
KB-4	2	5.5	Lean Clay	5,040	8.9	41	35

NOTES: Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

APPENDIX D

LABORATORY TEST RESULTS



Sampler Type						Condition Before Test			After Test	
Shelby Tube	Diameter (in)	2.42	Height (in)	1.00		Water Content	w_o	21.2%	w_f	16.6%
Overburden Pressure	P_o	2,050 psf				Void Ratio	e_o	0.62	e_f	0.45
Preconsol. Pressure	P_c	6,000 psf				Saturation	S_o	92.0%	s_f	100.0%
Compression Ration	$C\varepsilon_c$	0.11				Dry Density	γ_d	104 pcf	γ_d	116 pcf
Liquid Limit:	--	Plastic Limit:	--	Plasticity Index:	--	G_s	2.70 (assumed)			
Classification:	SANDY CLAY (CL), brown					Source:	B-1 at 20.5 feet			

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
1 Almaden Boulevard, Suite 590
San Jose, CA 95113
T: 408.283.3600 F: 408.283.3601 www.langan.com

Project
AMAZON DFA8
1605 South 7th Street
San Jose, California
SANTA CLARA COUNTY CALIFORNIA

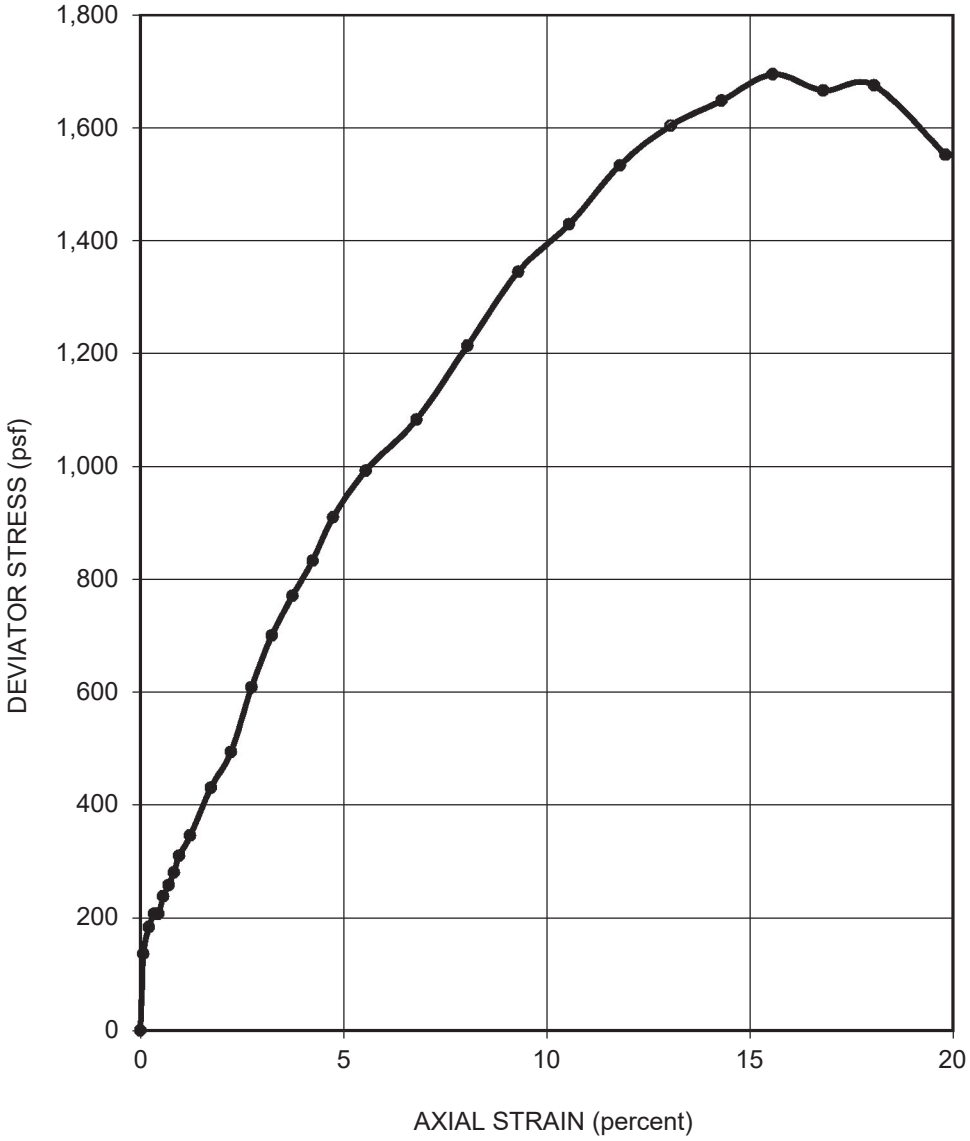
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CONSOLIDATION TEST REPORT

Project No. 700080202
Date 10/20/2020
Drawn By AG
Checked By HS

Figure
D-1

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Filename: \\langan.com\data\IRV\data2\700080202\Project Data\CAD\02\2D-DesignFiles\Geotechnical\700080202-B-GI0101_Lab-Classification.dwg Date: 10/27/2020 Time: 08:05 User: agekas Style Table: Langan.stb Layout: CONSOLIDATION TEST REPORT



SAMPLER TYPE: Sprague & Henwood			SHEAR STRENGTH:	850	psf
DIAMETER (in.): 2.38	HEIGHT (in.): 5.60		STRAIN AT FAILURE:	15.6	%
MOISTURE CONTENT:	31.1	%	CONFINING PRESSURE:	1,850	psf
DRY DENSITY:	92	pcf	STRAIN RATE:	0.50	% / min
DESCRIPTION: SANDY SILT (ML), gray to brown,			SOURCE: B-1 at 16 feet		

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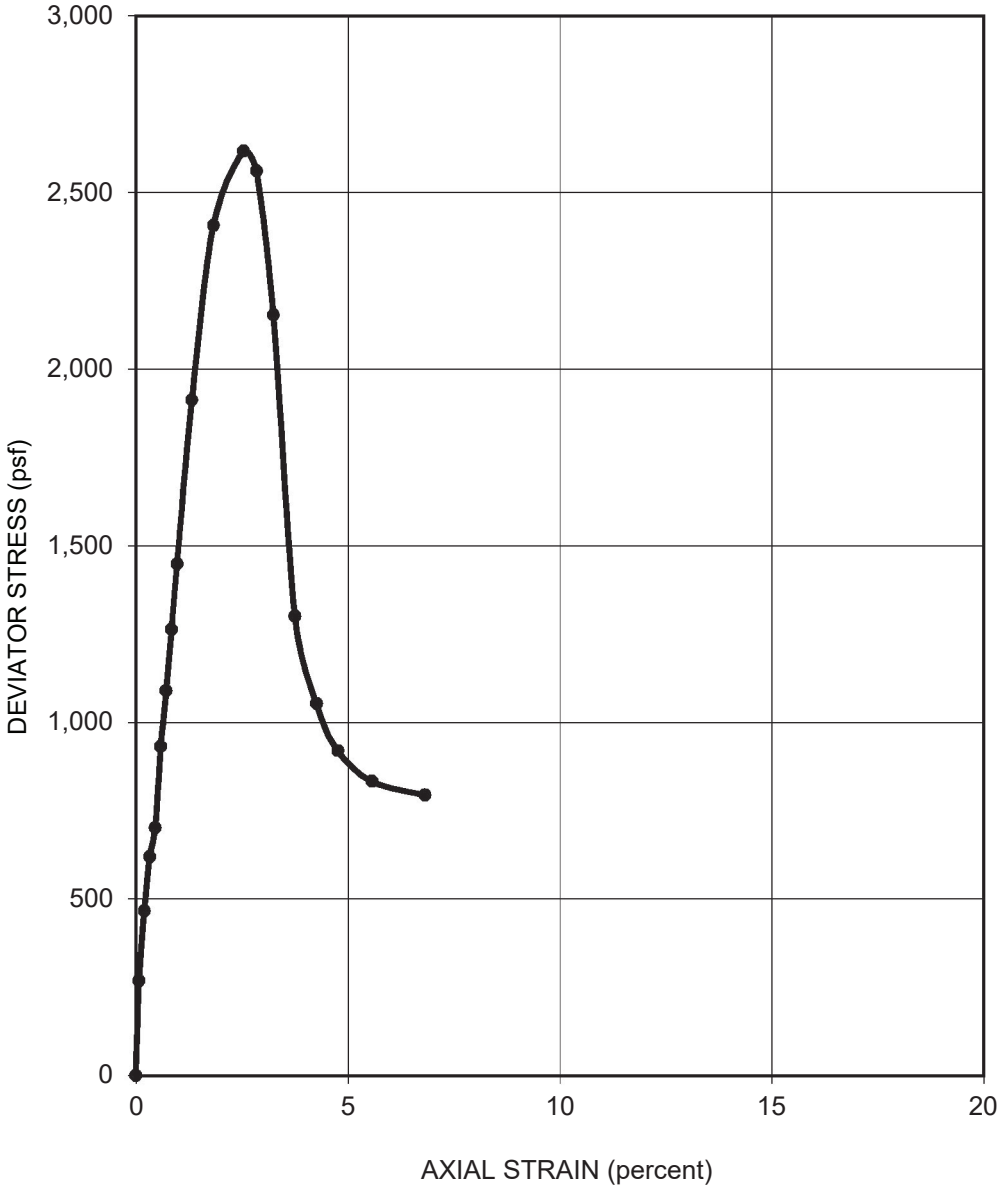
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UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST

Project No. 700080202
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Drawn By AG
Checked By HS

Figure
D-2

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SAMPLER TYPE: Sprague & Henwood			SHEAR STRENGTH:	1,310	psf
DIAMETER (in.): 2.86	HEIGHT (in.): 6.10		STRAIN AT FAILURE:	2.5	%
MOISTURE CONTENT:	18.9	%	CONFINING PRESSURE:	2,050	psf
DRY DENSITY:	111	pcf	STRAIN RATE:	0.75	% / min
DESCRIPTION: SANDY CLAY (CL), brown			SOURCE: B-1 at 20.5 feet		

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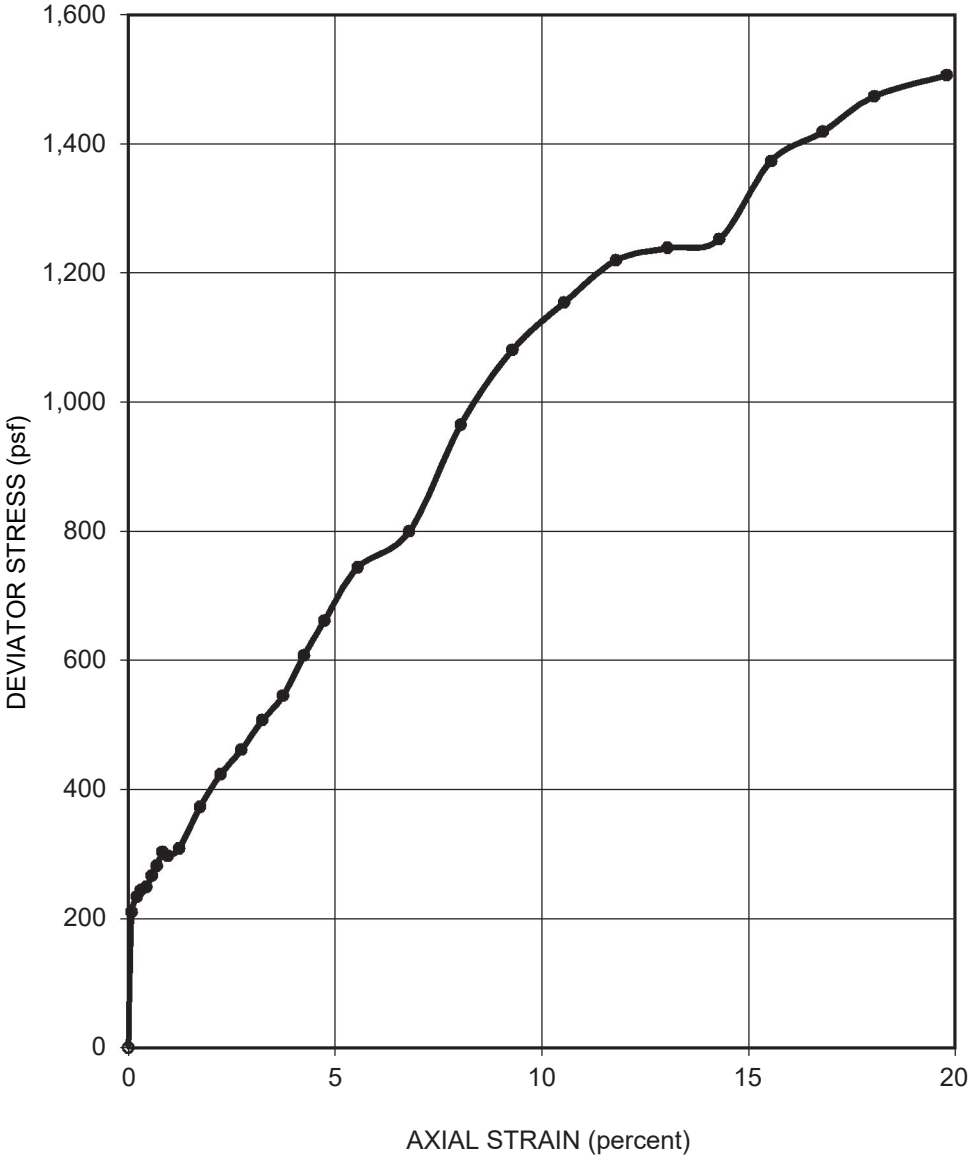
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UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST

Project No. 700080202
Date 10/20/2020
Drawn By AG
Checked By HS

Figure
D-3

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SAMPLER TYPE: Sprague & Henwood			SHEAR STRENGTH:	750	psf
DIAMETER (in.): 2.38	HEIGHT (in.): 5.67		STRAIN AT FAILURE:	19.8	%
MOISTURE CONTENT:	30.1	%	CONFINING PRESSURE:	2,975	psf
DRY DENSITY:	98	pcf	STRAIN RATE:	0.50	% / min
DESCRIPTION: CLAY (CH), gray			SOURCE: B-1 at 36 feet		

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San Jose, California
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Figure Title
UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST

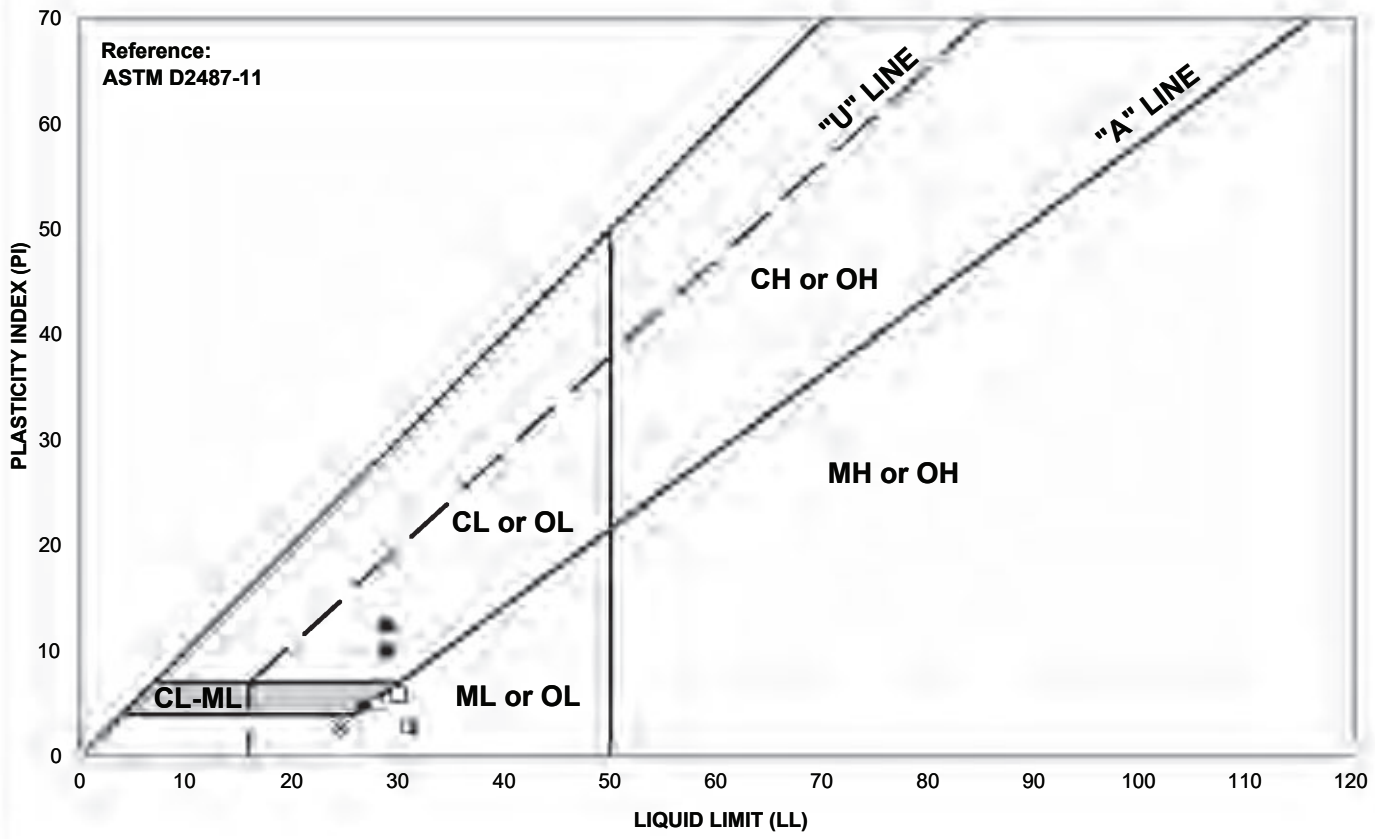
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D-4

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PLASTICITY CHART



Symbol	Source	Description and Classification	Natrual M.C.(%)	Liquid Limit (%)	Plasticity Index (%)	% Passing #200 Sieve
●	B-1 at 1.5 feet	SANDY CLAY (CL), gray	15.7	29	12	--
■	B-1 at 5 feet	SANDY CLAY (CL), brown	14.5	29	10	--
▲	B-1 at 10 feet	SILT with SAND (ML), brown	24.9	27	5	71.5
○	B-1 at 16 feet	SANDY SILT (ML), gray to brown	31.1	28	5	65
□	B-1 at 16.5 feet	SANDY SILT (ML), gray to brown	33.6	30	6	--
◨	B-1 at 25 feet	SILTY SAND (SM), brown	26.0	32	3	30.5
×	B-1 at 30 feet	SANDY SILT (ML), brown	25.6	24	3	50

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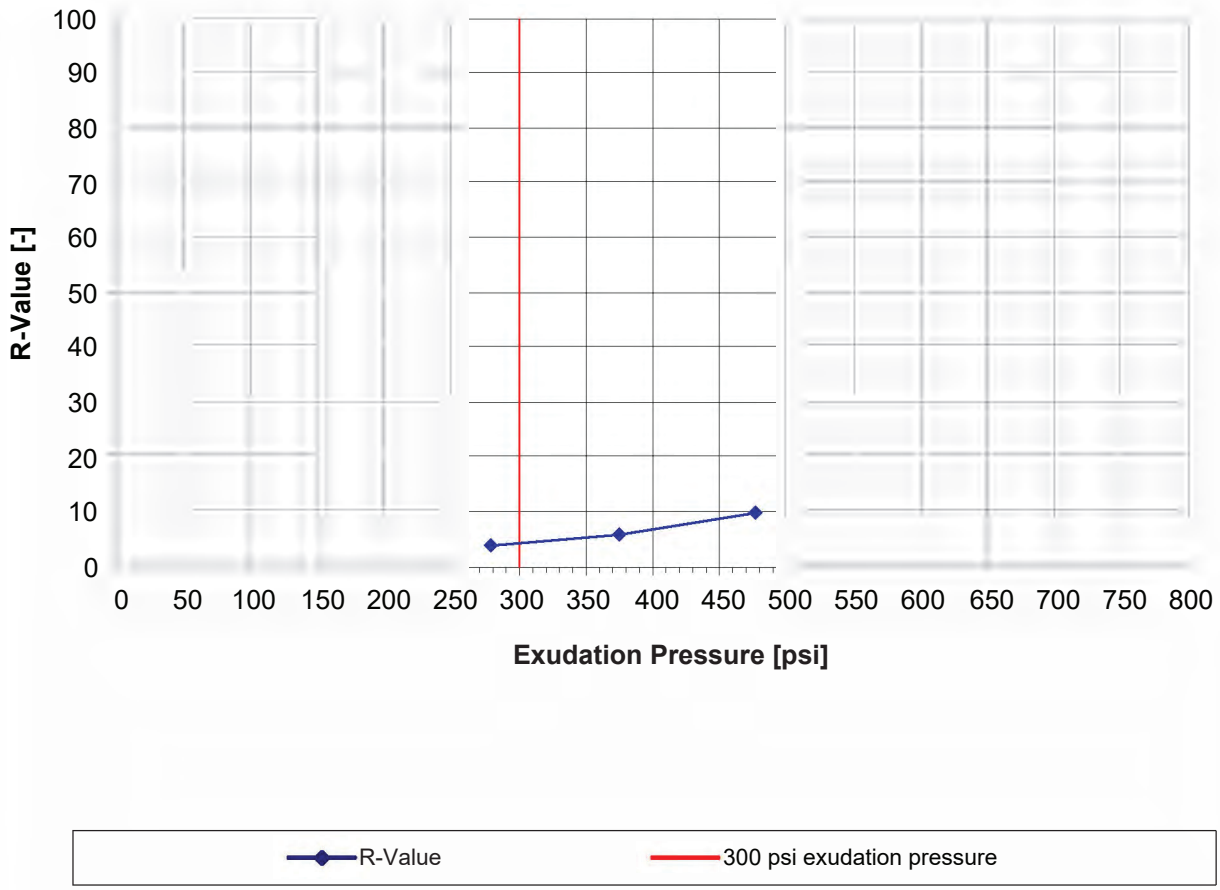
Figure Title: PLASTICITY CHART

Project No. 700080202
Date 10/08/2020
Drawn By JDF
Checked By HS

Figure: D-5

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Sample ID	A	B	C	D
Water Content (%)	18.2	16.5	14.8	--
Dry Density (pcf)	109.7	112.3	114.3	--
Exudation Pressuer (psi)	280	371	468	--
Expansion Pressure (psf)	0.0	0.0	0.0	--
Resistance Value (R)	3.6	5.8	9.8	--

Sample Source	Sample Description	Sand Equivalent	Expansion Pressure	R-Value
B-2 at 1 to 5 feet	SANDY CLAY (CL), brown	--	--	5

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RESISTANCE VALUE TEST REPORT

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D-6

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APPENDIX E

SOIL CORROSIVITY TEST RESULTS

California State Certified Laboratory No. 2153

CERCO analytical
1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 **462 2771** Fax. 925 **462 2775**
www.cercoanalytical.com

8 September, 2020

Job No. 2008136
Cust. No. 12242

Mr. Herman Sok
Langan
1 Almaden Blvd., Suite 590
San Jose, CA 95113

Subject: Project No.: 700080202/700/001.0
Project Name: DFA8 Site – Rotary wash boring
Corrosivity Analysis – ASTM Test Methods

Dear Mr. Sok:

Pursuant to your request, CERCO Analytical has analyzed the soil sample submitted on August 25, 2020. Based on the analytical results, a brief evaluation is enclosed for your consideration.

Based upon the resistivity measurement, both sample is classified as "corrosive". All buried iron, steel, cast iron, ductile iron, galvanized steel and dielectric coated steel or iron should be properly protected against corrosion depending upon the critical nature of the structure. All buried metallic pressure piping such as ductile iron firewater pipelines should be protected against corrosion.

The chloride ion concentration was none detected at a detection limit of 15 mg/kg.

The sulfate ion concentration was 110 mg/kg and is determined to be insufficient to damage reinforced concrete structures and cement mortar-coated steel at this location.

The pH of the soil was 8.37, which does not present corrosion problems for buried iron, steel, mortar-coated steel and reinforced concrete structures.

The redox potential was 250-mV which is indicative of potentially "slightly corrosive" soils resulting from anaerobic soil conditions.

This corrosivity evaluation is based on general corrosion engineering standards and is non-specific in nature. For specific long-term corrosion control design recommendations or consultation, please call *JDH Corrosion Consultants, Inc. at (925) 927-6630.*

We appreciate the opportunity of working with you on this project. If you have any questions, or if you require further information, please do not hesitate to contact us.

Very truly yours,
CERCO ANALYTICAL, INC.

J. Darby Howard, Jr., P.E.
President

JDH/jdl
Enclosure

California State Certified Laboratory No. 2153

CERCO analytical
1100 Willow Pass Court, Suite A
Concord, CA 94520-1006
925 462 2771 Fax. 925 462 2775
www.cercoanalytical.com

Client: Langan
Client's Project No.: 700080202/700/001.0
Client's Project Name: DFA8 Site-Rotary Wash Boring
Date Sampled: 19-Aug-20
Date Received: 25-Aug-20
Matrix: Soil
Authorization: Chain of Custody

Date of Report: 8-Sep-2020

Job/Sample No.	Sample I.D.	Redox (mV)	pH	Conductivity (umhos/cm)*	Resistivity (100% Saturation) (ohms-cm)	Sulfide (mg/kg)*	Chloride (mg/kg)*	Sulfate (mg/kg)*
2008136-001	B-3 @ 4-5'	250	8.37	-	1,400	-	N.D.	110

Method:	ASTM D1498	ASTM D4972	ASTM D1125M	ASTM G57	ASTM D4658M	ASTM D4327	ASTM D4327
Reporting Limit:	-	-	10	-	50	15	15
Date Analyzed:	3-Sep-2020	3-Sep-2020	-	8-Sep-2020	-	3-Sep-2020	3-Sep-2020

Cheryl McMillen
Laboratory Director

* Results Reported on "As Received" Basis
N.D. - None Detected

Quality Control Summary - All laboratory quality control parameters were found to be within established limits

Chain of Custody

200813G

Page 1 of 1

1100 Willow Pass Court
Concord, CA 94520-1006
925 462 2771
Fax: 925 462 2775

CERCO analytical

Job No.	CU#	Client Project I.D.
700080202/700/001.0	17222	DFA8 Site

Schedule:
Analyte:

Date Sampled: 8/19/2020

Date Due:

Full Name Herman Sok, hsok@langan.com

Phone 925-470-6200 X

Fax

Cell

Company and/or Mailing Address
Langan, 1 South Almaden Blvd, #590, San Jose, CA 95113

Sample Source
Rotary wash boring

ANALYSIS — **ASTM**

Lab No.	Sample I.D.	Date	Time	Matrix	Contain.	Size	Preserv.	Qtv.	Redox Potential	pH	Sulfate	Chloride	Resistivity-100% Saturated			Brief Evaluation					
001	B-3, 4-5'	8/19/2020	8:50a	Soil	Bag			1	X	X	X	X	X			X					

MATRIX: DW - Drinking Water; GW - Ground Water; SW - Surface Water; WW - Waste Water; Water; SL - Sludge; S - Soil; Product

ABBREVIATIONS: HB - Hosebib; PV - Petcock Valve; PT - Pressure Tank; PH - Pump House; RR - Restroom; GL - Glass; PL - Plastic; ST - Sterile

SAMPLE RECEIPT: Total No. of Containers; Rec'd Good Cond/Cold; Conforms to Record; Temp. a t Lab -°C; Sampler

Relinquished By: Herman Sok Date 2020-08-24 Time 10:00AM

Received By: Diana Smith Date 8/25/20 Time 0930

Relinquished By: Date Time

Received By: Date Time

Relinquished By: Date Time

Received By: Date Time

Comments:

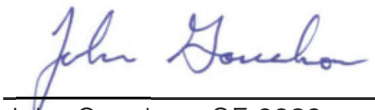
THERE IS AN ADDITIONAL CHARGE FOR EXTRUDING SOIL FROM METAL TUBES

Email Address: hsok@langan.com

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QUALITY CONTROL REVIEWER



John Gouchon, GE 2282
Principal/Vice President