NEGATIVE DECLARATION
and INITIAL STUDY
APNs 206-042-16, 28, and 29

April 14, 2020

Prepared for:

City of California City
21000 Hacienda Boulevard
California City, California 93505

Prepared by:
Mark Hagan
Wildlife Biologist
B.S. Degree, Wildlife Management
Humboldt State University

Table of Contents

CEQA
Transmittal Memorandum

This form must be completed and attached to each CEQA document filed with the County Clerk.
1) If notice requires F&W receipt, you must provide a minimum of 3 copies of the document.
2) If notice does not require F&W receipt, you must provide a minimum of 2 copies of the document.

TYPE OR PRINT CLEARLY

LEAD AGENCY City of California City Planning Department

PROJECT TITLE Negative Declaration and Initial Study, APNs 206-042-16, 28, and 29

PROJECT APPLICANT William Dennis

PHONE NUMBER (559) 827-3700

PROJECT APPLICANT ADDRESS 27515 Carlyle Springs Road

CITY Keene STATE CA ZIP CODE 93531

WORK ORDER # ☐ 30-Day Posting ☐ 35-Day Posting ☐ 45-Day Posting

CONTACT PERSON William Dennis PHONE NUMBER (___) above

CHECK DOCUMENT BEING FILED:

☐ Notice of Availability……..…No Fee

☐ Notice of Intent……..…No Fee

☐ Notice of Preparation……..No Fee

☐ Notice of Public Hearing……..No Fee

☐ Other Notice _____ ……...……...…No Fee

☐ Environmental Impact Report (EIR)……....$3070.00
- ☐ Previously paid (**must attach receipt**) Receipt Number#_____
- ☐ DFG No Effect Determination (**F&W letter must be attached**)……...……...No Fee
- ☐ County Administrative Fee……..…$50.00

☑ Mitigated Negative Declaration or Negative Declaration...……..……..$2210.25
- ☐ Previously paid (**must attach receipt**) Receipt Number#_____
- ☐ DFG No Effect Determination (**F&W letter must be attached**)……....……....No Fee
- ☐ County Administrative Fee…….$50.00

☐ Notice of Exemption……..…….No Fee
- ☐ County Administrative Fee……..….$50.00

TOTAL $_____

*Additional copies to be returned to:_____
*Method of return: ☐ Hold for pick-up/Call #_____ ☐ Interoffice Mail

PAYMENT METHOD: ALL APPLICABLE FEES MUST BE PAID AT THE TIME OF FILING

☐ Cash/Money Order ☐ JV - Dept_____ Fund_____ Expense Key _____
☐ Check
☐ Credit Card

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Negative Declaration and Initial Study, APNs 206-042-16, 28, and 29

Lead Agency: City of California City | Contact Person: Shawn Monk
Mailing Address: 21000 Hacienda Blvd | Phone: (760) 373-7141
City: California City | Zip: 93505 | County: Kern

Project Location: County: Kern | City/Nearest Community: California City
Cross Streets: Forest Boulevard and Neuralia Boulevard | Zip Code: 93505
Longitude/Latitude (degrees, minutes and seconds): ____° ____′ ____″ N / ____° ____′ ____″ W | Total Acres: 3
Assessor's Parcel No.: 206-042-16, 28, and 29 | Section: 34 | Twp.: T32S | Range: R37E | Base: MDBM
Within 2 Miles: State Hwy #: no | Waterways: Cache Creek is1,400 ft south; channalized, ephemeral
Airports: no | Railways: no | Schools: no

Document Type:

CEQA: ☐ NOP ☐ Early Cons ☑ Neg Dec ☐ Mit Neg Dec | ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ____ Other: ____
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other: ____

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☑ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other: ____

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational: ____
☐ Recreational: ____
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☐ Other: Cannabis growing facility

Project Issues Discussed in Document:

☑ Aesthetic/Visual
☑ Agricultural Land
☑ Air Quality
☑ Archeological/Historical
☑ Biological Resources
☐ Coastal Zone
☐ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☑ Flood Plain/Flooding
☐ Forest Land/Fire Hazard
☑ Geologic/Seismic
☑ Minerals
☑ Noise
☐ Population/Housing Balance
☐ Public Services/Facilities
☐ Recreation/Parks
☐ Schools/Universities
☐ Septic Systems
☐ Sewer Capacity
☐ Soil Erosion/Compaction/Grading
☐ Solid Waste
☐ Toxic/Hazardous
☑ Traffic/Circulation
☐ Vegetation
☑ Water Quality
☑ Water Supply/Groundwater
☐ Wetland/Riparian
☐ Growth Inducement
☑ Land Use
☑ Cumulative Effects
☐ Other: ____

Present Land Use/Zoning/General Plan Designation:

Previously graded lots, M-2, Heavy Industrial

Project Description: *(please use a separate page if necessary)*

See page 6

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

_____ Air Resources Board
_____ Boating & Waterways, Department of
_____ California Highway Patrol
_____ Caltrans District # 9
_____ Caltrans Division of Aeronautics
_____ Caltrans Planning
_____ Central Valley Flood Protection Board
_____ Coachella Valley Mtns. Conservancy
_____ Coastal Commission
_____ Colorado River Board
_____ Conservation, Department of
_____ Corrections, Department of
_____ Delta Protection Commission
_____ Education, Department of
_____ Energy Commission
_____ Fish & Game Region # _____
_____ Food & Agriculture, Department of
_____ Forestry and Fire Protection, Department of
_____ General Services, Department of
_____ Health Services, Department of
_____ Housing & Community Development
_____ Integrated Waste Management Board
_____ Native American Heritage Commission
_____ Office of Emergency Services
_____ Office of Historic Preservation
_____ Office of Public School Construction
_____ Parks & Recreation, Department of
_____ Pesticide Regulation, Department of
_____ Public Utilities Commission
_____ Regional WQCB # _____
_____ Resources Agency
_____ S.F. Bay Conservation & Development Comm.
_____ San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
_____ San Joaquin River Conservancy
_____ Santa Monica Mtns. Conservancy
_____ State Lands Commission
_____ SWRCB: Clean Water Grants
_____ SWRCB: Water Quality
_____ SWRCB: Water Rights
_____ Tahoe Regional Planning Agency
_____ Toxic Substances Control, Department of
_____ Water Resources, Department of
_____ Other: _____
_____ Other: _____

Local Public Review Period (to be filled in by lead agency)

Starting Date _____ Ending Date _____

Lead Agency (Complete if applicable):

Consulting Firm: Mark Hagan, Wildlife Biologist
Address: 44715 17th Street East
City/State/Zip: Lancaster CA 93535
Contact: Mark Hagan
Phone: (661) 433-9956

Applicant: City of California City
Address: 21000 Hacienda Blvd
City/State/Zip: California City, CA 93505
Phone: (760) 373-7141

Signature of Lead Agency Representative: _____ **Date:** _____

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

DATE: CASE NO.
(Issued by Planning Dept.)

CITY OF CALIFORNIA CITY PLANNING DEPARTMENT

21000 Hacienda Boulevard, California City, CA 93505-2293
Phone (760) 373-7141, Fax (760) 373-7529
email: Planning2@CaliforniaCity-ca.gov

APPLICANT'S INITIAL STUDY
INITIAL STUDY MUST ACCOMPANY APPLICATION

1. PROJECT TITLE: Negative Declaration and Initial Study, APNs 206-042-16, 28, and 29

2. LEAD AGENCY NAME AND ADDRESS: City of California City, 21000 Hacienda Boulevard, California City, California 93505-2293

3. CONTACT PERSON AND PHONE NUMBER:
   Mr. Shawn Monk, 760.373.7141

4. PROJECT LOCATION: APNs 206-042-16, 28, and 29, California City, California. The approximately 3-acre (1.2 ha) study area was located west of Neuralia Boulevard and north of Moss Avenue, T32S, R37E, a portion of the W1/2 of the NE1/4 of the SE1/4 of Section 34, M.D.B.M.

5. PROJECT SPONSOR'S NAME AND ADDRESS:

   Mr. William Dennis
   27515 Carlyle Springs Road
   Keene, California 93531

6. GENERAL PLAN DESIGNATION: Heavy Industrial, located in Planning Subarea 1.

7. ZONING: APNs 206-042-16, 28, and 29 are zoned M-2, Heavy Industrial

DESCRIPTION OF PROJECT: The 3 acre (1.2 ha) project will construct/install a 2 story warehouse (3,168 sq ft per floor), 16 greenhouses on concrete foundation (2,015 sq ft each), a septic tank/system, drainage basin, 6 shipping containers, and the infrastructure to support them. Infrastructure includes but is not limited to, 32 parking spaces, utility and electrical equipment (100 Kw generator, transformer and electrical panels), propane tanks, curb, gutter, sidewalk improvements, concrete pavement and driveway. Pole mounted light fixtures will be installed within the project site.

Grading and construction would be the actions creating the greatest amount of airborne dust and erosional run off; standard best management practices, which are not considered mitigations, will be developed and implemented as part of the project. The City of California City has developed

polices to guide construction (CCGP, 2009, page 5-38). The project is already required to follow East Kern County Air Pollution Control District, and the State Water Resources Control Board's regulations and construction permits. The Storm Water Pollution Plan (SWPPP) developed for the site prior to construction will further ensure environmental protection. Since the site is in a FEMA 100-year flood hazard zone the project will incorporate standard engineering controls to ensure facilities on and off site will not be damaged during an event of this magnitude. The geotechnical report for the project includes sloping the ground surface away from structures, development of swales, and maintenance of drainage gradients (Krazan and Associates, 2019). The area will be landscaped according to City ordinances.

The project includes security measures such as an 8-foot high chain link fence with razor wire and an 8-foot high block wall for aesthetic purposes, as required by the City.

Energy Code requirements, particularly the 2019 lighting requirements in Title 24, Part 6, will be incorporated into the design of the project along with the City's "Dark Sky" requirements as noted in Municipal Code 5-6.906 (CCGP 2009).

Other than propane for the emergency generator no hazardous material is projected to be used on-site. Transportation, storage and use of propane would comply with applicable laws and regulations for this material.

The project will comply with the State requirements/laws for cannabis cultivation and distribution, as well as the California City Code standards regulating cannabis operations within the City. Architecturally the buildings will follow City standards. All licenses required for cannabis activities will be applied for and received within the time schedule set by the State.

The operations are planned to be relatively small with less than 20 employees and 4 vehicles. The facility will be operated following the hours allowed within the City ordinances. All operations will be carried out inside the facilities.

8. SURROUNDING LAND USES AND SETTING: The project site is located within Planning Sub-area 1 which is in the central core of the City (California City, General Plan 2009 – 2028 (CCGP)). Located within the central core of the city, Sub-area 1 provides opportunities for additional residential, neighborhood commercial, community commercial, regional commercial, and light industrial land uses due to the existing development, roadways, airport, utilities, and public services and facilities (CCGP). M-2 (heavy manufacturing) exists adjacent to the north, east, west, and south of the project site. To the north, south, east, and west is previously graded lots, roads, and utility infrastructure. The plant biomass on the site and surrounding lots is comprised primarily of exotic and invasive weeds.

9. OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED (e.g., permits, financing approval, or participation agreement). Distribution of this document is appropriate to the following agencies:

Licenses may be required from California Department of Food and Agriculture, Bureau of Cannabis Control, California Department of Health.

Permit may be required from Lahontan Regional Water Quality Control Board for a Storm water Pollution Prevention Plan.

Permit for the 100 kw generator may be required from the Air Quality Control Board.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology /Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use / Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

_____ _____

Signature Date

This document incorporates the CalCannabis Program Environmental Impact Report (PEIR), Nov 2017, California City General Plan 2009 – 2028, and the Municipal Code, City of California City, Chapter 6, Medical Cannabis Related Businesses and Activity and Mitigated Negative Declaration Seed to Soul APN 216-010-20 in their entirety and specifically as noted below.

I. Aesthetics

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

No special scenic vistas are present. There is development to the east, west, and south of the study area. North of the study area is graded lots, roads, and development in the area. Moss Street is the south boundary and Forest Street is the north boundary.

North boundary looking south

South boundary looking north

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

According to the California Scenic Highway Mapping System there are no designated scenic highways nearby and the area is not considered a scenic resource. There are no trees, rock outcroppings or historic buildings.

c) 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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The project has incorporated the Design/Image Policies detailed in the California City General Plan, 2009 to 2028 (CCGP 2009), pg. 2-18 to provide an aesthetically pleasing exterior (CCGP 2009). Note aerial view below; there are currently no existing aesthetically pleasing views.

Red outlines the project site.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

This project will not create a new source of substantial light or glare. The site is within an area zoned M-2 for heavy manufacturing, has been fully graded and/or developed for 3,000 feet to the north, 1,800 feet to the west, more than 5,000 feet to the east, and 1,600 feet to the south.

II. Agriculture Resources

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

No conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would occur.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

No conflict would occur; this area is zoned for heavy manufacturing. Currently there are no Williamson Act contracts within California City. California City has determined cannabis growing operations are appropriate within this zoning.

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))?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

NOT APPLICABLE

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

NOT APPLICABLE

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

NOT APPLICABLE

III. Air Quality

a) Conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The project area is located within the Mojave Desert Air Basin. This area is overseen by the East Kern County Air Pollution Control District (EKCAPCD). EKCAPCD has established thresholds of significance for short and long term construction projects which includes both direct and indirect impacts on air quality. Analysis for a 7.5 acre, cannabis project in the California City area concluded that project would have a less than significant construction or operational impact (MSA 2018, page 26). This project is on a 2.7 acre site. No further analysis is considered necessary.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There will be no cumulatively considerable net increase of any criteria pollutant. Based on analysis for a 7.5 acre, cannabis project in the California City area concluded that project would have a less than significant construction or operational impact (MSA 2018, page 26).

c) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There are no sensitive receptors on or near the project site.

d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

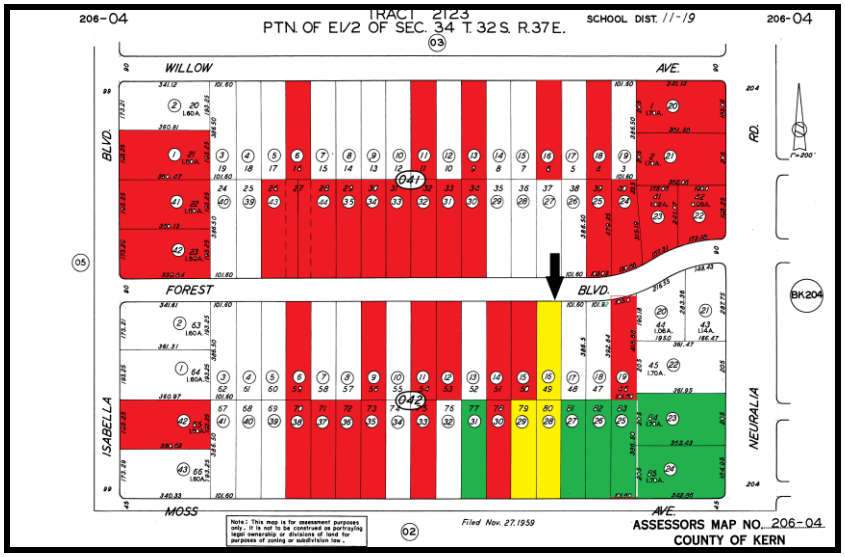
Appropriate odor control equipment to include special carbon filters will be permitted and installed to minimize offensive odors from emanating outside of the growing facility. The Municipal Code for Cannabis operations (City of California City 2018) will be complied with for this project.

IV. Biological Resources

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 Wildlife or U.S. Fish and Wildlife Service?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

A survey and report was accomplished by a qualified biologist with > 30 years of experience managing and surveying for Mojave Desert sensitive species of concern using the appropriate protocols/methodologies to determine presence absence (Hagan 2019). Habitat for desert tortoise consists of creosote bush, Joshua tree woodland, Mojave-saltbush, allscale scrub, blackbrush and/or juniper woodland communities (USFWS 2010). **None of this habitat is present** on or adjacent to this study site. Habitat for Mohave ground squirrel consist of desert sink scrub, Mohave creosote bush scrub, desert saltbush scrub, Mojave wash scrub, shadscale scrub, blackbush scrub, Mojave misc woody scrub, sagebrush scrub, and Joshua tree woodland (CDFG 2019). **None of this habitat is present** on or adjacent to this study site. It was noted that California ground squirrels were present within the study site. No cover sites or indicators of burrowing owl use was noted during the field survey (Hagan 2019). At the time of the survey the California ground squirrel burrows were not of the size needed by burrowing owls. The project site is so highly disturbed no sensitive plants would occur. To summarize, based on the biological report and previous reports adjacent to and in the area (below); impacts to sensitive species will not occur.



Approximate location of project area (yellow with black arrow) as depicted on APN map. APNs highlighted in red are previously completed surveys in the area from 2017 through 2019 with no sensitive species presence. Green highlight indicates development in immediate proximity to the site. Development occurs directly south of the project site, south of Moss Avenue. This entire area depicted by the APN map has been graded in the past.

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 (CDFW) and Wildlife or US Fish and Wildlife Service?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There is no riparian habitat or sensitive natural community present on the project site (Hagan 2019). Note photographs in Section Aesthetics a) above.

c) Have a substantial adverse effect on state or federally protected wetlands as (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There are no wetlands within the project site. There are no wetland indicators within or around the project area (Hagan 2019).

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

This project will not interfere with the movement of fish or wildlife species, migratory corridors, or wildlife nursery sites. There are no observable indicators of any wildlife corridors, or nursery sites within the project area (Hagan 2019).

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There are no local policies or ordinances protecting biological resources on or around this site.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

This project site is not within any approved Habitat Conservation Plan, Natural Community Conservation Plan, or any other local, regional, or state habitat conservation plan.

V. Cultural Resources

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There were no indications of historical resources on the project site. This site and surrounding area had been previously graded. Fill material was observed within the site during the geotechnical survey (Krazan & Associates, 2019, page 3).

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There were no indications of cultural resources on the project site. This site and surrounding area had been previously graded. Fill material was observed within the site during the geotechnical survey (Krazan & Associates, 2019, page 3).

c) Disturb any human remains, including those interred outside of formal cemeteries?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There were no indications of human remains on the project site. This site and surrounding area had been previously graded. Fill material was observed within the site during the geotechnical survey (Krazan & Associates, 2019, page 3).

VI. Energy

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
		X	

Energy efficient construction and lighting per Title 24, Section 6 will be incorporated into this project. It is obvious given the size of the project and the application of regulatory requirements there would be not potentially significant impact.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Energy efficient construction and lighting per Title 24, Section 6 will be incorporated into this project. It is obvious given the size of the project and the application of regulatory requirements this project would not conflict with or obstruct state or local plans.

VII. Geology and Soils

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.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There are no Alquist-Priolo Earthquake Faults on or near the project site. The nearest fault from the central core of California City is the Garlock Fault (west) (CCGP 2009, Table 6-1, pg. 6-3). The Garlock Fault is greater than 8 miles away from the project. "The site is not located within an Earthquake Fault Zone (special studies zone) (Krazan & Associates, 2019, page 3). The project will be engineered to comply with the California State Building Codes and pursuant City Building Codes.

ii) Strong seismic ground shaking?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Seismic ground shaking, seismic-related ground failure, including liquefaction could occur without warning in any location in the state of California (CCGP 2009, Initial Study, pg. 12). The project will be engineered to comply with the California State Building Codes and pursuant City Building Codes.

iii) Seismic-related ground failure, including liquefaction?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

"According to the California Department of Water Resources Water Data Library, groundwater in the vicinity of the project site is typically encountered at depths greater than 250 feet" (Krazan & Associates, 2019, page 2). When groundwater is this deep seismic-related liquefaction is unlikely.

iv) Landslides?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

No slopes or hillsides are present in or around the project site. Slope within this area of California City is relatively flat. Within the CCGP, Figure 6-4, the slope in the area is considered 0 to 15%.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Within the CCGP, Figure 6-3, Erosion Hazards Map, this project is considered to have none to slight erosion hazards.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

This site is considered a Site Class D given the site soil conditions (Krazan & Associates, 2019, page 12). The project already includes replacing soils down to 4 to 5 feet and compressing to 90% along with other methods to ensure stability of the facilities. The project will comply with the California State Building Codes and pursuant City Building Codes.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The subject site and soil conditions, with the exception of the fill material, moderately compressible upper native soils, expansive nature of the clayey soils, and existing development, appear to be conducive to the development of the project (Krazan & Associates, 2019, page 5). The project will be engineered to comply with the California State Building Codes/Ordinances.

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 waste water?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The subject site and soil conditions, with the exception of the fill material, moderately compressible upper native soils, expansive nature of the clayey soils, and existing development, appear to be conducive to the development of the project (Krazan & Associates, 2019, page 5).

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There were no indications of paleontological resources on the project site. This site and surrounding area had been previously graded. Fill material was observed within the site during the geotechnical survey (Krazan & Associates, 2019, page 3).

VIII. Greenhouse Gas Emissions

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
		X	

Analysis for a 7.5 acre, cannabis project in the California City area concluded that project would not generate enough greenhouse gas emissions to have a significant construction or operational impact (MSA 2018, page 26). This project is on a 2.7 acre site. No further analysis is considered necessary.

In addition the PEIR stated "The implementation of the proposed cannabis program, which would include individual projects such as this, would have a beneficial impact on Greenhouse Gas Emissions in the long run" (CDFA 2017).

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Note VIII a) above, no conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases is anticipated.

IX. Hazards and Hazardous Materials

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Only propane for one generator is projected to be used at the site. No significant hazard would be reasonably be expected.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Only propane for one generator is projected to be used at the site. No significant hazard would be reasonably be expected.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There is no school within one-quarter mile of the project site.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The project site is not located on a hazardous material site as noted on the Envirostor database.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The proposed project is 3.4 miles (5,582 m) from the California Municipal Airport.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The project is expected to employ less than 20 employees. This is not a level that would interfere with the emergency response or emergency evacuation plan.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

No significant risk from wildland fires is expected. The Local Responsibility Area (LRA) maps indicate the area to be in a LRA Moderate rating and the State Responsibility Area (SRA) indicates there is no high fire rating in this area (CAL FIRE 2007). Wildland fires are uncommon with the California City planning area due to vegetation type, sparseness of vegetation and the lack of available ground cover (CCGP 2009, pg. 6-6). The California City Fire Department has mutual aid agreements with the Kern County Fire Department, the East Kern Airport District Fire Department, and the Bureau of Land Management. The development is approximately 3.5 miles from the California City Fire Department.

X. Hydrology and Water Quality

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Project will obtain any waste discharge permits required for construction and comply with all State Water Resources Control Board policies and directives. This will include complying with the State Water Quality Control Board's Construction General Permit (Order # 2009-0009-DWQ as amended by 2010-0014-DWQ, and 2012-006-DWQ) and any updates that may be issued if applicable. The 2017 California City Urban Water Management Plan and the Lahontan Water Quality Control Plan provide further standards and requirements.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
		X	

The water use for this project is considered a less than significant impact. All water will be provided by the City of California, Public Water System. The project's projected usage is expected to be 192,000 gallons per year (0.6 acre feet) which is equal to adding approximately 3 individuals to the population using an average of 66,795 gals of water per year (549 gallons per day).

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;

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Within the CCGP, Figure 6-3, Erosion Hazards Map, this project is considered to have none to slight erosion hazards. Procedures for controlling any erosion and siltation caused by construction are built into the project and outlined in the geotechnical report (Krazan & Associates, 2019).

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
		X	

This project will not substantially increase the rate or amount of surface runoff or flooding on- or offsite through built in project construction plans. The ground surface will be sloped away from the structures, swales will be constructed to move water into a retention basin, and operation of the facilities includes maintaining drainage gradients (Krazan & Associates, 2019). The pre-construction hydrograph of the area will be maintained upon completion of the development.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
		X	

The project site is designated a 100 year flood plain, Flood Hazard Zone A (CCGP 2009, Figure 5-6). Prior to development all the appropriate notifications to FEMA will be made. Construction of the facilities and design of the surrounding site is being engineered using features adapted from facilities within a 100 year flood plain. No release of hazardous materials (propane) would occur. Project will comply with all laws and regulations. There is no risk of a tsunami, or seiche zones.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The facility will follow all the State Water Resources Control Board requirements and comply with the Cannabis Policy 27 October 2017. No blue line streams were found on the USGS topographic map for the planned development area. There will be no pesticide use. As noted in the PEIR, licensees must comply with the State Water Resources Control Board, and environmental protection measures that will be contained in CDFA's regulations. Stormwater drainage systems will be designed following appropriate engineering specifications to ensure there are no additional sources of polluted runoff. Appropriate engineering is incorporated into the facilities and diversion channels to be constructed to prevent damage during a 100 year flood.

XI. Land Use and Planning

a) Physically divide an established community?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

No community development is present around the site.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The location of the project is in compliance with the California City General Plan. The project area and adjacent areas are within Zone M2, Heavy Industrial which is appropriate for cannabis facilities (CCGP 2009, Figure 2-2).

XII. Mineral Resources

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There are no known mineral resources or mineral resource recovery sites in the City (CCGP 2009, pg. 5-23).

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There are no known mineral resources or mineral resource recovery sites in the City (CCGP 2009, pg. 5-23).

XII. Noise

a) Generation of 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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Construction noise in the area would not be substantial. Noise-generating sources used on this project for cultivation operations (generally temperature and climate control equipment) would be the same as those evaluated in the PEIR and found to not be significantly different than other climate control equipment used for other land uses (CDFA 2017, pg. 4.10-16).

b) Generation of excessive ground borne vibration or ground borne noise levels?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
		X	

There would be no excessive ground borne vibration or noise levels. Vehicles and equipment that may generate ground borne vibration on this project site would be as those evaluated in the PEIR. A loaded truck, an HVAC system, and other potential equipment types expected to possibly be used at a cannabis site were evaluated within the PEIR and determined they would not generate substantial vibration (CDFA pg. 4.10-16). This type of equipment would be of similar type and noise levels therefore substantial vibration is not expected.

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, would the project expose people residing or working in the project area to excessive noise levels?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There are no private airstrips within the jurisdictional boundaries of the City.

XIV. Population and Housing

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)?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

No population growth would be expected from this development. No road extensions or additional infrastructure other than the project site are being constructed. No significant number of new homes, road extensions, etc. are expected. It is likely many of the employees for the project will come from individuals already residing in California City.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

No housing would be displaced due to this project. There is no existing housing within the site.

XV. Public Services

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:

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There will be no substantial adverse physical impacts to existing facilities or a need for new ones.

Fire protection

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The facility will comply with building, electrical, and fire codes, which would require installation of fire suppression systems, where appropriate. Response time for the Fire Department is estimated to be the same as the Google maps drive time to the area per Fire Marshall, Jeremy Kosick. Based on that information the quickest possible response time would be approximately 6 minutes. This project would not create a need for additional fire fighters. The fire department is notified by the City of California City of the presence of cannabis facilities. The issue of increased fire events at cannabis facilities was based on illegal grow facilities using inadequate electrical infrastructure. Any time the capacity of the electrical circuit is exceeded or more current flows across lines than they were designed to accommodate, heat is generated and fire risk increases (CDFA 2017). Licensed operations would be anticipated to have a substantially reduced risk of fire compared to baseline conditions (CDFA 2017).

Police protection

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Per California City Police Department Dispatch, the quickest response time would be the time it would take to normally drive from the Police Department to the response destination as plotted on a GPS mapping application. Based on that information the quickest possible response time would be approximately 6 minutes. Two studies found that after controlling for various sociodemographic factors, the implementation of laws allowing cultivation and business activities related to medicinal cannabis were not predictive of higher crime rates and may be related to reductions in rates of homicide and assault and that measures such as surveillance cameras and private security services may act as effective deterrents to crime (CDFA 2017).

Schools

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There are no public schools within 0.25 miles of the vicinity.

Parks

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

No impacts to parks are anticipated from a small project like this. Employees would most likely come from California City.

Other public facilities

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The project will not have enough employees to impact other public facilities.

XV. Recreation

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

This facility will not significantly increase a demand for these facilities.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The project does not include recreational facilities or require construction or expansion of recreational facilities.

XVII. Transportation

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

This project would not conflict with any program, plan, ordinance or policy addressing the circulation system planned in the CCGP 2009.

The addition of the few employee and delivery vehicles needed for a project this small does not have the potential to increase traffic by a substantial level.

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3., subdivision (b)?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

The project does not conflict and is consistent with CEQA Guidelines Section 15064.3, subdivision (b). Vehicle miles traveled (VMT) estimated for this project (less than 110 trips per day) is consistent with the 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA. No further analysis is needed.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

No increased hazards due to sharp curves or a dangerous intersection or other incompatible uses will be developed by this project. No change of road configurations are projected.

d) Result in inadequate emergency access?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

This project will not result in inadequate emergency access. This project has a minimal increase in traffic.

XVIII. TRIBAL CULTURAL RESOURCES.

Would the project 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:

a) 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)?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There were no indications of a Tribal cultural resource on the project site. This site and surrounding area had been previously graded. Fill material was observed within the site during the geotechnical survey (Krazan & Associates, 2019, page 3).

b) A resource determined by the lead agency, in its discretion and is 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 Resources Code section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

This site and surrounding area had been previously graded. Fill material was observed within the site during the geotechnical survey (Krazan & Associates, 2019, page 3). There is no significant resource to a California Native American Tribe on this site.

XIX. Utilities and Service Systems

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

None of the infrastructure to be constructed for the project (connections to the public utility system, septic system, retention basin and drainage conveyances) will cause a significant environmental effect. They all will be accomplished within the project site.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Currently sufficient water supplies are available. The current available water supply for California City is 2,851 MG for 2018 (California City 2017). California City used 963 MG of its available water in 2015 and is projected to use 1,741 MG in 2020 which would be 44.5% of its available water supply (California City 2017). This project is expected to use 192,000 gallons annually. Currently cannabis facilities that have been proposed within the City of California City have not increased the demand for water to a point of concern. The City of California City is tracking the amount of water each facility will be using. No new or expanded entitlements above those already planned for will be required due to this project.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

A septic system is to be utilized for wastewater requirements.

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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Solid waste will be disposed of using the local solid waste company, and private haulers depending on waste type. The landfills surrounding California City have between 3% and 90% of their capacity available. Less than 800 pounds of solid waste is expected. This is not anticipated to be enough to create an impact at the various disposal sites.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Project will comply with all federal, state, and local statutes and regulations to include waste reduction efforts. Recycling is being incorporated into the operations of this project.

XX. Wildfire. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

This project is not located in a high fire hazard severity zones.

XXI. Mandatory Findings of Significance

a) Does the project 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, 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?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

Project will not substantially reduce habitat, wildlife populations, restrict the range of rare/endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. No sensitive resources have been observed within the development area. No cultural or historical resources have been observed within the project area.

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)?

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

There are no expected cumulatively considerable impacts from this project. Environmental studies, biological studies, etc. are being required to ensure environmental and natural resources are being considered. This project has a relatively small footprint and no discernable impact on resources.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
			X

This project will not cause a substantial adverse effect on human beings directly or indirectly.

References and Sources Cited

CAL FIRE, 2007. Fire hazard severity zone maps, local responsibility zone maps, kern county, http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones, accessed 8 Dec 2018.

CCGP, 2009. City of California city final general plan, 2009-2028, sch 1992062069. 209 pp.

City of California City, 2017. Urban water management plan 2115 update, april 2017.

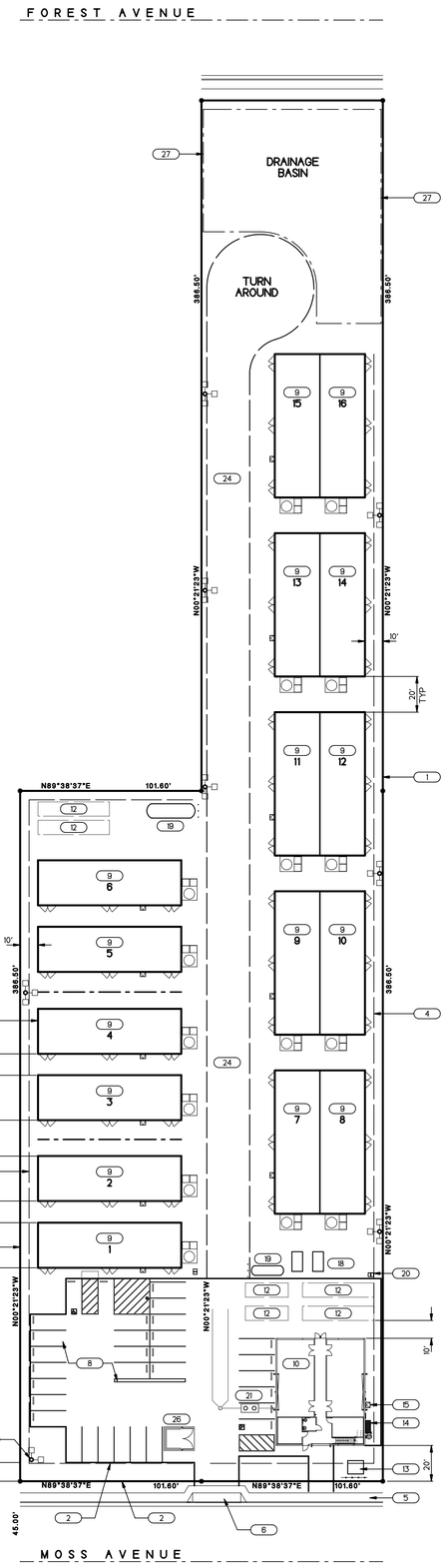
City of California City, 2019. Municipal code city of california city, california, chapter 6. medical cannabis related businesses and activity. https://library.municode.com/ca/california_city/codes/code_of_ordinances?nodeId=CD_ORD_TIT5PUWE_CH6MECAREBUAC

California Department of Food and Agriculture (CDFA), 2017. CalCannabis final program environmental impact report sch 2016082077 https://www.cdfa.ca.gov/calcannabis/PEIR.html

Envirostor, 2018. Envirostor database http://www.envirostor.dtsc.ca.gov/?surl=pf52g , accessed 2 July 2018.

Hagan, M. 2019. Biological resource assessment of apns 206-042-16, 28 and 29, california city, california. Mark Hagan, 44715 17th Street East, Lancaster, California. 14 pp.

Krazan & Associates, Inc. 2019. Geotechnical engineering investigation, proposed cal city greenhouse project, moss avenue, west of neuralia road, apn 206-042-28 and 206-042-16, california city, california. Krazan & Associates, Inc., Geotechnical Engineering Division, 2205 Coy Avenue, Bakersfield, California 93307.



SITE PLAN B 40'

LAND USE DESIGNATION			
ZONING CLASSIFICATION	M-2 (HEAVY INDUSTRIAL)		
ADDRESS	MOSS AVENUE; CALIFORNIA CITY, CA		
ASSESSOR PARCEL (PORTION OF E 1/2 SEC 34 T32S, R37E, MDB&M)	APN 206-042-29 APN 206-042-28 APN 206-042-16		
LEGAL DESCRIPTION	LOT 78; TRACT 2123 0.90 ACRES LOT 80; TRACT 2123 0.90 ACRES LOT 49; TRACT 2123 0.90 ACRES		
SITE AREA	2.70 ACRES		
GROSS FLOOR AREA: ALL BUILDINGS	43,468 SF		
	WAREHOUSE	3,168 SF	
	GREENHOUSE (4)	8,060 SF	
	FUTURE (16)	*32,240 SF*	
PARKING REQUIRED	31 SPACES		
	20,000 SF/1000	20 SPACES	
	20,000 SF/2000	10 SPACES	
	3,468 SF/4000	1 SPACE	
PARKING PROVIDED	32 SPACES		
	STANDARD SPACES	30 SPACES	
	ACCESSIBLE SPACES	2 SPACES	

1 SITE ANALYSIS

5 AERIAL VIEW

OWNER

B&D PARTNERS, INC.
2024 LAMBETH WAY
CARMICHAEL, CALIFORNIA 95608
TELEPHONE: (559)
E-MAIL: mdarchitect@sbcglobal.net
ALBERT DENNIS

CONTRACTOR

TO BE DETERMINED

TENANT

NOT APPLICABLE

METAL BUILDING

TO BE DETERMINED

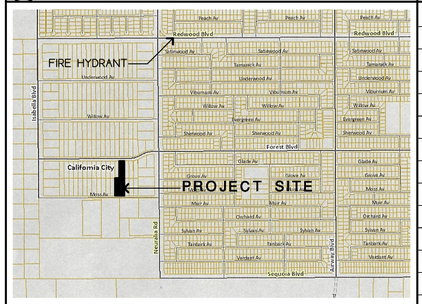
ARCHITECT

MICHAEL DHANENS ARCHITECT
PO BOX 82155
BAKERSFIELD, CALIFORNIA 93380
TELEPHONE: (661) 324-4141
E-MAIL: mdarchitect@sbcglobal.net
MICHAEL DHANENS (C-18790)

STRUCTURAL ENGINEER

TO BE DETERMINED

2 PROJECT DIRECTORY



3 VICINITY MAP

BUILDING USE			
OCCUPANCY GROUP	S-1	MODERATE HAZARD STORAGE	CBC SECTION 311
	U	UTILITY (GREENHOUSE)	CBC SECTION 312
CODE	2016 CALIFORNIA BUILDING CODE		
CONSTRUCTION TYPE	S-1: TYP II-B U: TYP V-B		
ALLOWABLE AREA PER CBC TABLE 506.2	S-1	NS: 17,500 SF	
	U	NS: 5,500 SF	
ALLOWABLE HEIGHT PER CBC TABLE 504.3	S-1	NS: 55'	
	U	NS: 40'	
ALLOWABLE STORIES PER CBC TABLE 504.4	S-1	NS: 2	
	U	NS: 1	
AREA SEPARATIONS	NONE REQUIRED		
OCCUPANCY SEPARATIONS	NONE REQUIRED		
FIRE SPRINKLERS	NOT PROVIDED		
GROSS FLOOR AREA	S-1: 3,250 SF < 17,500 SF; OK		
	U: 4,030 SF < 5,500 SF; OK		TOTAL AREA: 32,240 SF
	(2) GREENHOUSES	4,030 SF	

4 BUILDING ANALYSIS

6 FIRE HYDRANT

1.	PROPERTY LINE
2.	STREET RIGHT-OF-WAY
3.	EASEMENT:
4.	SETBACK LINE
5.	STREET IMPROVEMENTS; CURB, GUTTER AND SIDEWALK
6.	NEW CONCRETE DRIVEWAY
7.	CONCRETE DRIVE
8.	CONCRETE PAVEMENT
9.	GREENHOUSE STRUCTURE (2,015 SF)
10.	PRE-ENGINEERED METAL BUILDING; 3,168 SF
11.	ASSUMED LINE
12.	SHIPPING CONTAINER
13.	UTILITY COMPANY TRANSFORMER
14.	ELECTRICAL SWITCHGEAR/SERVICE EQUIPMENT
15.	TRANSFORMER
16.	ELECTRICAL PANEL
17.	DOMESTIC WATER POINT OF CONNECTION
18.	100 KW GENERATOR
19.	PROPANE TANK
20.	UTILITY BOX
21.	SEPTIC TANK & SYSTEM
22.	6"Ø CONCRETE FILLED STEEL PIPE BOLLARD
23.	POLE MOUNTED LIGHT FIXTURE ON CONCRETE BASE
24.	24' WIDE DRIVE; COMPACTED DECOMPOSED GRANITE OR EQUAL
25.	CONCRETE LANDING
26.	REFUSE BIN ENCLOSURE
27.	6' HIGH CHAIN LINK PER CITY STANDARDS (FOR DRAINAGE BASINS)
28.	LANDSCAPE AREA
29.	
30.	

8 PLAN NOTES (X)

MICHAEL DHANENS ARCHITECT
661/324-4141
P.O. BOX 82155
BAKERSFIELD, CALIFORNIA
9 3 3 8 0
C-18790

LICENSED ARCHITECT
MICHAEL DHANENS
NO. C-18790
RENEWAL 10/31/21
STATE OF CALIFORNIA

PROJECT
Greenhouse
Moss Avenue
Lot 79; Tract 2123 (APN 206-042-29)
Lot 80; Tract 2123 (APN 206-042-28)
Lot 49; Tract 2123 (APN 206-042-16)
California City, California

SITE PLAN B

NO.	REVISIONS
1	
2	
3	
4	
5	
6	

NO.	ISSUED FOR
E	
D	
C	
B	
A	

DATE	02/13/20	SHEET	
DRAWN			A-1.01
PROJECT NUMBER	844.02	ARCHITECTURAL	

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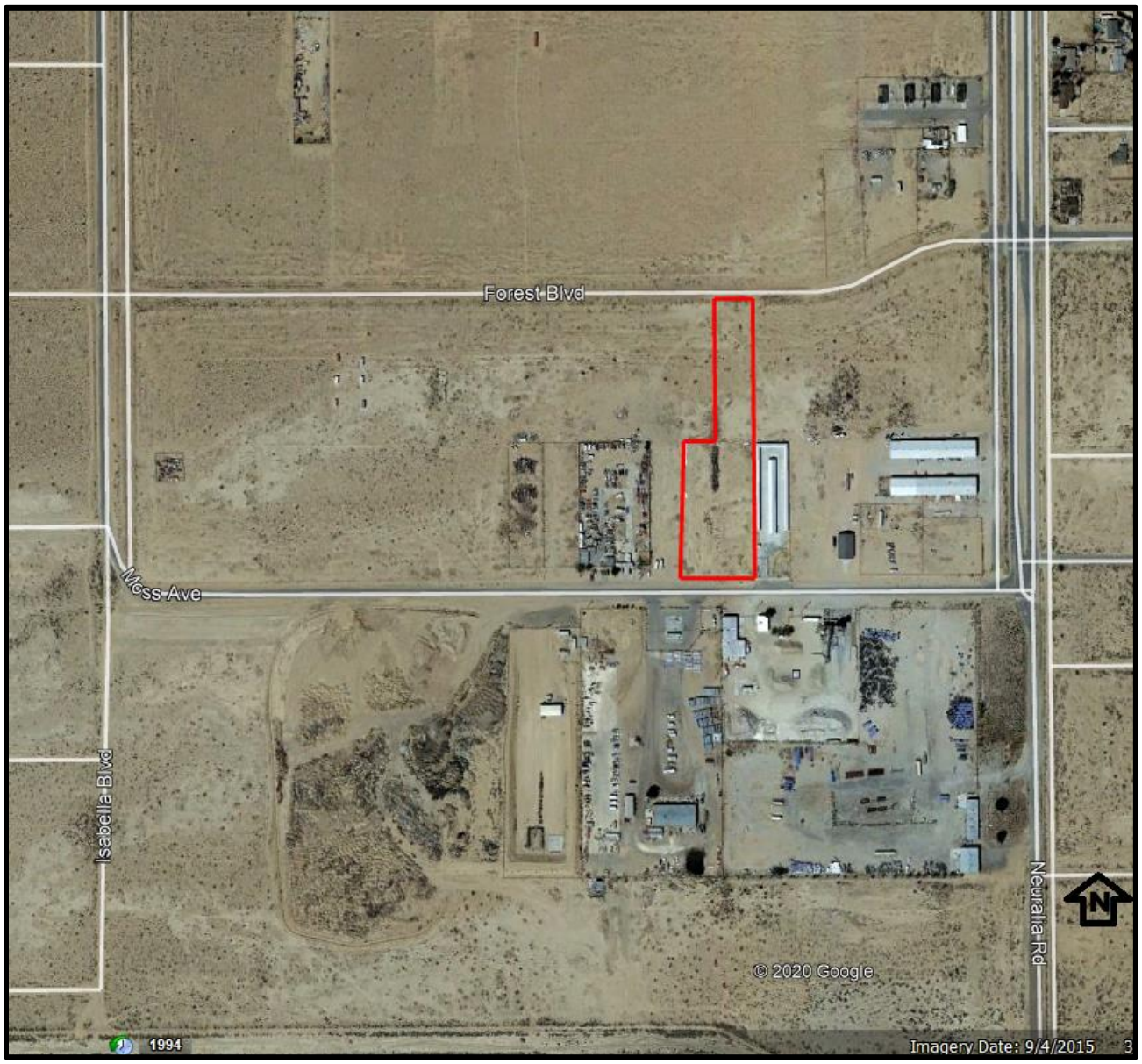
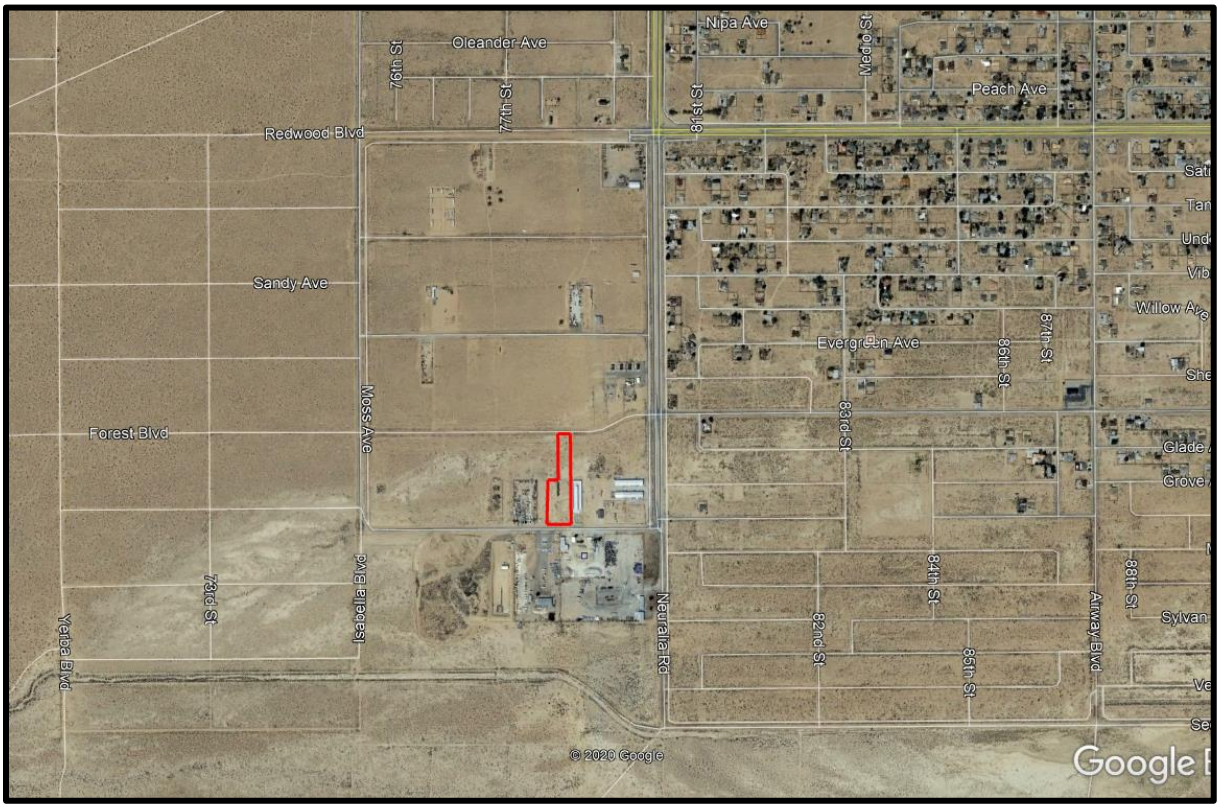
View from the southern boundary looking to the north (top photograph) and to the west (lower photograph) taken 18 November 2019.

View from the north boundary looking south taken 18 November 2019.



Land uses immediately adjacent to the project site, Google 2015.



The Project Site in relation to overall development within the general area Google 2015.

Biological Resource Assessment of
APNs 206-042-16, 28 and 29,
California City, California

November 27, 2019

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B.S. Degree, Wildlife Management
Humboldt State University

Biological Resource Assessment of APNs 206-042-16, 28 and 29, California City, California

Mark Hagan, Wildlife Biologist, 44715 17th Street East, Lancaster, CA 93535

Abstract

Commercial development has been proposed for APNs 206-042-16, 28 and 29, in California City, California. The approximately 3 acre (1.2 ha) study area was located west of Neuralia Boulevard and north of Moss Avenue, T32S, R37E, a portion of the W1/2 of the NE1/4 of the SE1/4 of Section 34, M.D.B.M. A line transect survey was conducted on 13 November 2019 to inventory biological resources. The proposed project area was characteristic of a highly disturbed habitat. A total of thirteen plant species and thirteen wildlife species or their sign were observed during the line transect survey. No desert tortoises (*Gopherus agassizii*) were observed during the field survey. No desert tortoise scat, tracks, or other desert tortoise sign were observed within the study site. The study site did not provide suitable habitat to support desert tortoises. The study site did not provide suitable habitat for Mohave ground squirrels (*Xerospermophilus mohavensis*). No desert kit foxes (*Vulpes macrotis*) were observed within the study area. One desert kit fox scat was observed within the study area. No other desert kit fox sign was observed within the study site. No burrowing owls (*Athene cunicularia*), or their sign were observed during the field survey. California ground squirrel (*Citellus beecheyi*) burrows observed within the study area provide potential cover sites for burrowing owls. No sensitive plants, specifically alkali mariposa lily (*Calochortus striatus*), desert cymopterus (*Cymopterus deserticola*), and Barstow woolly sunflower (*Eriophyllum mohanense*) are expected to occur within the study area due to the lack of suitable habitat. Prairie falcons (*Falco mexicanus*) and other raptors may fly over the site but there are no nesting or roosting opportunities available within the study site. Migratory birds would not be expected to nest in the limited vegetation within the study site. No other state or federally listed species are expected to occur within the proposed project area. No ephemeral streams or washes were observed within the study area.

Recommended Protection Measures:

Consistent with the "Staff Report on Burrowing Owl Mitigation" a pre-construction burrowing owl survey will be accomplished within 14 days of construction activities (CDFG 2012). If burrowing owls are detected during the pre-construction survey the Staff Report will be applied as appropriate.

Significance: This project is not expected to result in a significant adverse impact to biological resources.

Commercial development has been proposed for APNs 206-042-16, 28, and 29 in California City, California (Figure 1). Development would include installation of buildings, parking areas, fencing, etc. The project and surrounding areas consist of previously developed lots with utility and road infrastructure. Access roads may be improved but are already present, as are utilities (water, sewer, electric, etc.). The entire project area would be regraded prior to construction activities.

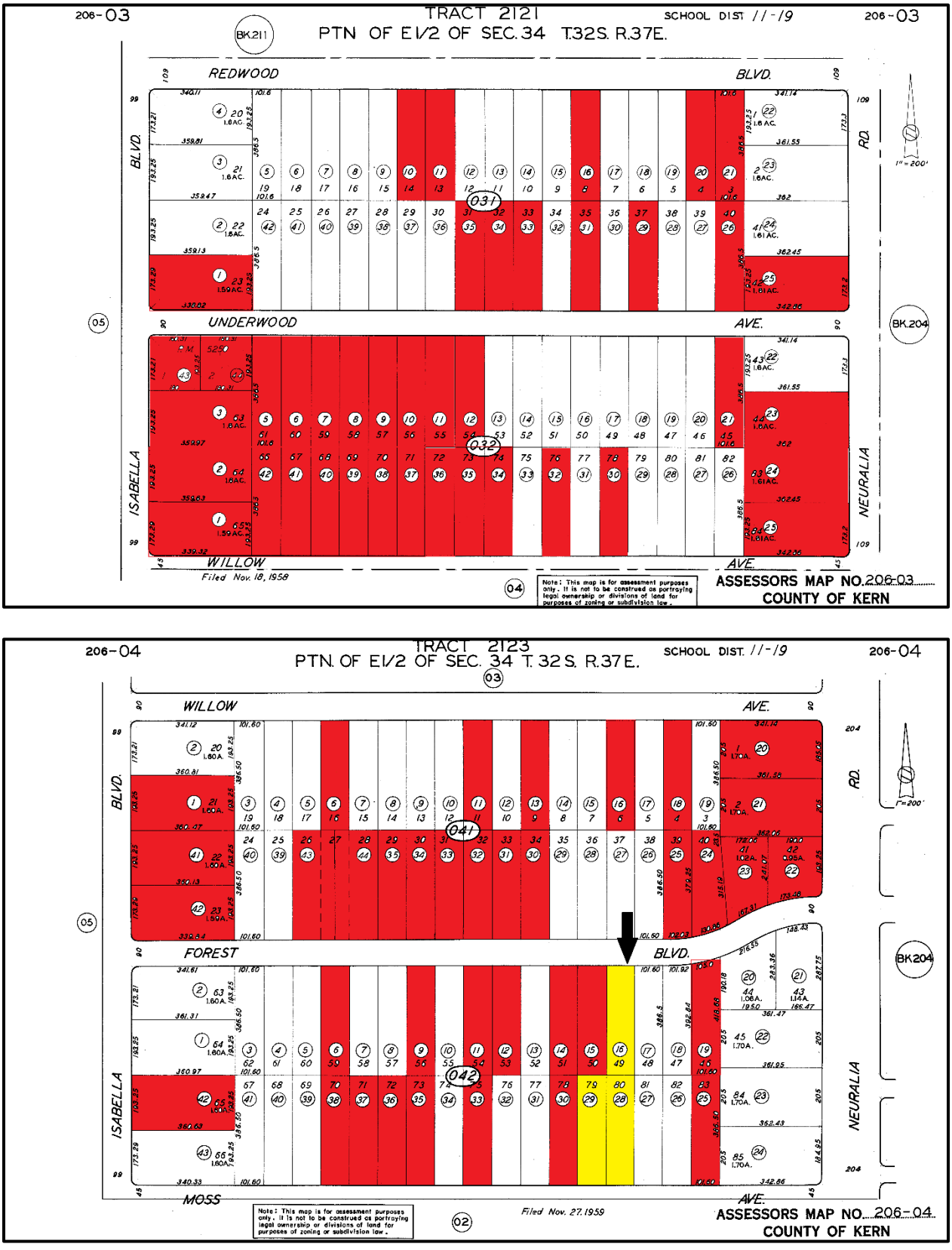

Figure 1. Approximate location of proposed project area (yellow with black arrow) as depicted on APN map. APNs highlighted in red are previously completed surveys in the area from 2017 through 2019 with no sensitive species presence.

An environmental analysis should be conducted prior to any development project. An assessment of biological resources is an integral part of environmental analyses (Gilbert and Dodds 1987). The purpose of this study was to provide an assessment of biological resources potentially occurring within, or utilizing the proposed project area. Specific focus was on the presence/absence of rare, threatened and endangered species of plants and wildlife. Species of concern included the desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), burrowing owl (*Athene cunicularia*), desert kit fox (*Vulpes macrotis)*, desert cymopterus (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohanense*), and alkali mariposa lily (*Calochortus striatus*).

Study Area

The approximately 3 acre (1.2 ha) study area was located west of Neuralia Boulevard and north of Moss Avenue, T32S, R37E, a portion of the W1/2 of the NE1/4 of the SE1/4 of Section 34, M.D.B.M. (Figures 2 and 3). Moss Avenue formed the southern boundary of APNs 206-042-28 and 29. Forest Boulevard formed the northern boundary of APN 206-042-16. A chain link fence enclosing a commercial facility is present along the southeast boundary of the study site. A storage facility exists within 100 feet (32 m) of the western boundary separated from the site by a similar highly disturbed lot. Similar lots existed adjacent to the northeast and northwest portion of the study area. Commercial development is immediately adjacent to the southern edge of Moss Avenue, directly across from the study site. Highly disturbed lots and commercial development exist throughout the E1/2 of Section 34.

Methods

A line transect survey was conducted to inventory plant and wildlife species occurring within the proposed project area (Cooperrider et al. 1986, Davis 1990). The USFWS (2010) has provided recommendations for survey methodology to determine presence/absence and abundance/distribution of desert tortoises. Line transects were walked in a north-south orientation. Consistent with survey protocol, line transects ranged from 385 to 773 feet (124 to 249 m) long and spaced about 25 feet (8 m) apart (U.S. Fish & Wildlife Service 2010). The California Department of Fish and Game (2012) prepared recommendations for burrowing owl survey methodology. Consistent with the survey protocol the entire site was surveyed and adjacent areas were evaluated (CDFG 2012). A habitat assessment was conducted for Mohave ground squirrels to determine whether habitat was present for the species (CDFW 2019, Leitner and Leitner 2017).

All observations of plant and animal species were recorded in field notes. Field guides were used to aid in the identification of plant and animal species (Arnett and Jacques 1981, Borror and White 1970, Burt and Grossenheider 1976, Gould 1981, Jaeger 1969, Knobel 1980, Robbins et al. 1983, Stark 2000). Observations were aided with the use of 10x42 binoculars. Observations of animal tracks, scat, and burrows were also utilized to determine the presence of wildlife species inhabiting the proposed project area (Cooperrider et al. 1986, Halfpenny 1986, Lowrey 2006, Murie 1974). Aerial photographs, and the USGS topographic maps were reviewed. Results of previous surveys accomplished in the area were considered (Figure 1). Photographs of the study site were taken (Figures 4 and 5).

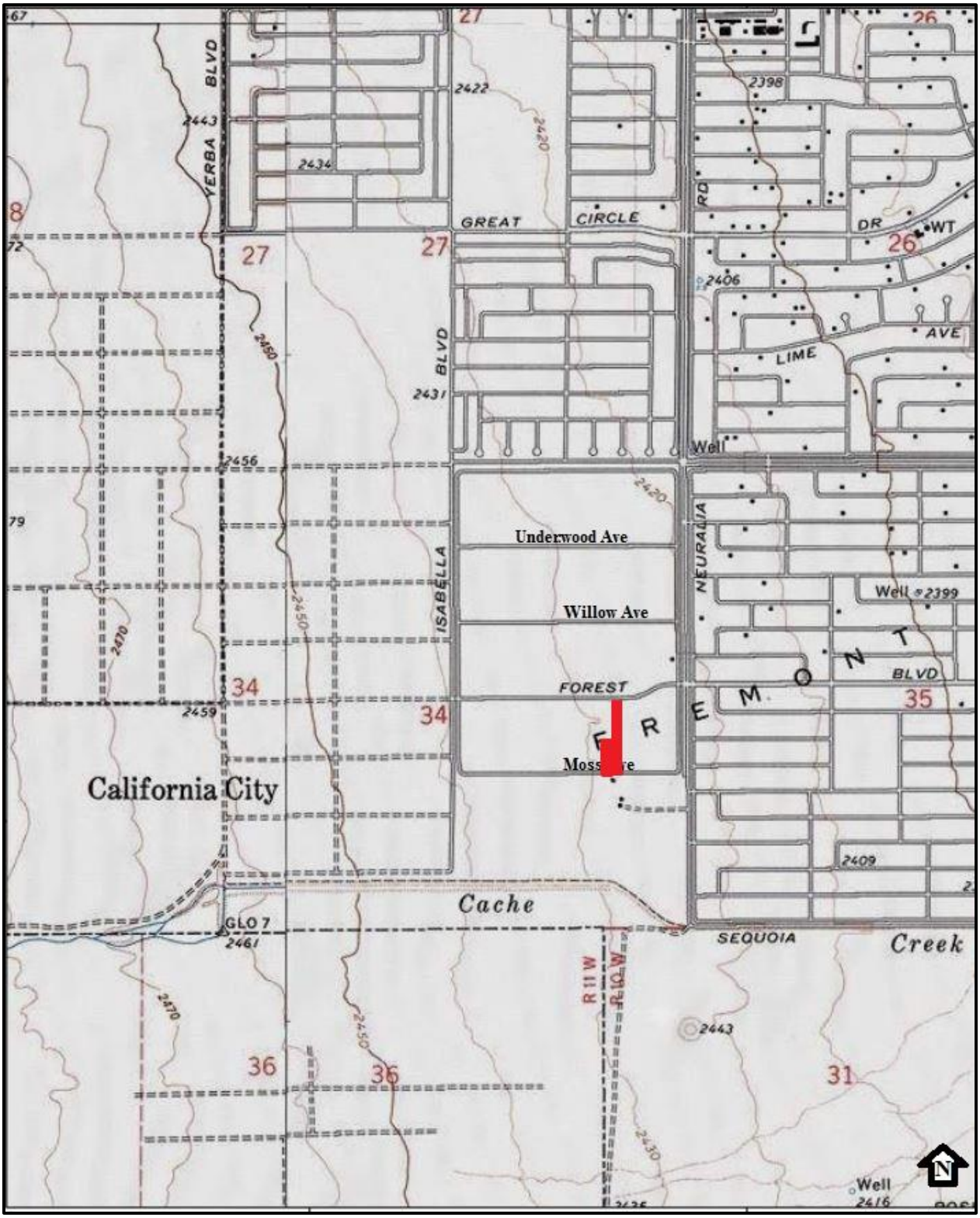

Figure 2. Approximate location of study area as depicted on U.S.G.S. Quadrangles, California City South, Calif., 7.5', 1973 and Sanborn, Calif., 7.5', 1973.

Figure 3. Aerial photograph depicting the study site showing surrounding land use (Kern County Tax Assessor GIS accessed November 2019).

Figure 4. View of the southern portion of the project site looking west from the southeast corner. Fence posts were present around most of the project site. Note utility box on west boundary.

Figure 5. View from the southwest boundary looking north. Building and fence is present on the east boundary and fence posts on west boundary.

Results

A total of 8 line transects were walked on 13 November 2019. Weather conditions consisted of warm temperatures (estimated 70 degrees F), 100% cloud cover, and no winds. Clay sandy loam and sandy loam surface soils were present throughout the study area. Topography of the study area was approximately 2,430 feet (784 m) above sea level. There were no blue line streams noted within the study area delineated on the U.S.G.S. topographic maps. There were no washes or streams observed within the project site.

The proposed project area was characteristic of a highly disturbed desert habitat. A total of thirteen plant species were observed during the line transect survey (Table 1). The study site was largely devoid of shrubs. Red-stemmed filaree (*Erodium cicutarium*) was the most commonly observed annual within the study area. No alkali mariposa lilies, Barstow woolly sunflowers, or desert cymopterus or suitable habitat were observed within the study site.

Thirteen wildlife species or their sign were observed during the line transect survey (Table 2). No desert tortoise or their sign were observed during the field survey. No suitable desert tortoise habitat was observed within the study site. No burrowing owls or their sign were observed within the study site during the field survey. California ground squirrel (*Citellus beecheyi*) burrows observed within the study area provide future potential cover sites for burrowing owls. No bird nests were observed within the study area. No desert kit foxes, dens, or tracks were observed on the study site. One desert kit fox scat was observed within the study site. No suitable Mohave ground squirrel habitat was present within the study site.

The study area was cleared, graded, and roads constructed prior to 2007, based on review of the earliest Google Earth aerial photographs. Construction and household debris were observed within the study site. Litter was observed within the study site. Old metal fence posts in concrete were observed along portions of the project site boundaries. Vehicle tracks were observed within the study site.

Discussion

It is possible that some annual species were not visible during the time the field survey was performed. Greater than 75% of the annual biomass within the project site consisted of weedy species. Based on the habitat, no sensitive plant species are expected to exist within the study site. Although not observed, several wildlife species would be expected to occur within the proposed project area (Table 3).

Human impacts are expected to increase as urban development continues to occur in the area. Habitat in the general area is severely degraded and fragmented based on numerous surveys conducted in the area (Figure 1) and review of present and historical aerial photography. The presence of domestic dogs would be expected to impact wildlife species. Domestic dogs have been observed within this area during current and previous field surveys. Burrowing animals within the proposed project area are not expected to survive construction activities. More mobile species, such as lagomorphs (rabbits and hares), coyotes (*Canis latrans*), and birds are expected to survive, but they will have less cover and foraging habitat available.

Table 1. List of plant species that were observed during the line transect survey of APNs 206-042-16, 28 and 29, California City, California.

Common Name	Scientific Name
Creosote bush	*Larrea tridentata*
Allscale	*Atriplex polycarpa*
Rabbit brush	*Chrysothamnus nauseosis*
Desert straw	*Stephanomeria pauciflora*
Davy gilia	*Gilia latiflora davyi*
Goldfields	*Lasthenia californica*
Fiddleneck	*Amsinckia tessellata*
Annual burweed	*Franseria acanthicarpa*
Tumble mustard	*Sisymbrium altisissiimum*
Red stemmed filaree	*Erodium cicutarium*
Cheatgrass	*Bromus tectorum*
Red brome	*Bromus rubens*
Schismus	*Schismus* sp.

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of APNs 206-042-16, 28 and 29, California City, California.

Common Name	Scientific Name
Rodents	Order: Rodentia
California ground squirrel	*Citellus beecheyi*
Desert cottontail	*Sylvilagus auduboni*
Desert kit fox	*Vulpes macrotis*
Coyote	*Canis latrans*
Domestic dog	*Canis familiaris*
Common raven	*Corvus corax*
House finch	*Carpodacus mexicanus*
Side blotched lizard	*Uta stansburiana*
Harvester ant	Order: Hymenoptera
Ants, black, small	Order: Hymenoptera
Termites	Order: Isoptera
Grasshopper	Order: Orthoptera

Table 3. List of wildlife species that may occur within the study area of APNs 206-042-16, 28 and 29, California City, California.

Common Name	Scientific Name
Deer mouse	*Peromyscus maniculatus*
Black-tailed jackrabbit	*Lepus californicus*
Mourning dove	*Zenaida macroura*
Rock dove	*Columba livia*
Horned lark	*Eremophila alpestris*
Fly	Order: Diptera

The desert tortoise is a federal and state listed threatened species. The study area was located within the geographic range of the desert tortoise. The study area was not located in critical habitat designated for the Mojave population of the desert tortoise. No desert tortoise habitat is present within, adjacent, or in close proximity to the project site. Based on field observations desert tortoises are not present within the study area. No protection measures are recommended for desert tortoises.

The Mohave ground squirrel (MGS) is a state listed threatened species. The study area was located within the geographic range of MGS. MGS habitat consists of a variety of desert scrub habitats, none of which occur any longer within, adjacent, or in close proximity to the project site. A table of MGS habitats can be found in the 2019 CDFW publication titled "A Conservation Strategy for the Mohave Ground Squirrel." No MGS are expected to be present within the study area. No protection measures are recommended for MGS.

Desert kit foxes are a fully protected species. Other than one desert kit fox scat no sign of desert kit fox activity was observed. Based on the habitat condition, lack of dens, and presence of domestic dogs, desert kit fox are not expected to be resident on the study site. No protection measures are recommended for desert kit foxes.

Burrowing owls are considered a species of special concern by the California Department of Fish and Wildlife (CDFW). No burrowing owls or their sign were observed during the field survey. Multiple surveys in the area over several years without burrowing owl sign suggest their future presence is unlikely. However, California ground squirrel burrows which can be considered potential future cover sites, were observed within the study site (CDFG 2012).

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. Prairie falcons and other raptors may fly over the site but would not be expected to nest within the study area due to a lack of suitable nesting habitat. Migratory birds would not be expected to nest in the limited vegetation within the study site. No protection measures are recommended for nesting migratory birds.

No suitable habitat for alkali mariposa lily, Barstow woolly sunflower or desert cymopterus was observed within the study site. Based on the results of the field survey these species are not expected to occur within the study area and no protection measures are recommended. No other state or federally listed species are expected to occur within the proposed project area (California Department of Fish and Wildlife 2015, Smith and Berg 1988, U.S. Fish & Wildlife Service 2016).

Landscape design should incorporate the use of native plants to the maximum extent feasible. Native plants that have food and cover value to wildlife should be used in landscape design (Adams and Dove 1989). Diversity of native plants should be maximized in landscape design (Adams and Dove 1989).

Recommended Protection Measures:

Consistent with the "Staff Report on Burrowing Owl Mitigation" a pre-construction burrowing owl survey will be accomplished within 14 days of construction activities (CDFG 2012). If burrowing owls are detected during the pre-construction survey the Staff Report will be applied as appropriate.

Significance: This project is not expected to result in a significant adverse impact to biological resources.

Literature Cited

Adams, L.W. and L.E. Dove. 1989. Wildlife reserves and corridors in the urban environment. National Institute for Urban Wildlife, Columbia, MD. 91pp.

Arnett, R.H., Jr. and R.L. Jacques, Jr. 1981. Simon and Schuster's guide to insects. Simon and Schuster, Inc. New York. 511pp.

Borror, D.J. and R.E. White. 1970. A field guide to insects. Houghton Mifflin Company, Boston. 404pp.

Burt, W.H. and R.P Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Company, Boston. 289pp.

California Department of Fish and Wildlife. 2015. State & federally listed endangered & threatened animals in california. Calif. Dept. of Fish and Wildlife California Natural Diversity Database, Sacramento, CA. 14pp.

California Department of Fish and Wildlife. 2015. Special vascular plants, bryophytes, and lichens list.. Calif. Dept. of Fish and Wildlife California Natural Diversity Database,Sacramento, CA. 144pp.

California Department of Fish and Wildlife. 2019. A conservation strategy for the mohave ground squirrel. Calif. Dept. of Fish and Wildlife, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=171301&inline . 129pp.

Cooperrider, A.L., Boyd, R.J. and H.R. Stuart, Eds. 1986. Inventory and monitoring of wildlife habitat. U.S. Dept. of Inter., Bur. Land Manage. Service Center, CO. 858pp.

Davis, D.E. 1990. Handbook of census methods for terrestrial vertebrates. CRC Press, Boca Raton, FL. 397pp.

Gilbert, F.F. and D.G. Dodds. 1987. The philosophy and practice of wildlife management. Krieger Publishing Company, Malabar, FL. 279pp.

Gould, F.W. 1981. Grasses of southwestern united states. Univ. of Arizona Press, Tucson, AZ. 343pp.

Halfpenny, J. 1986. A field guide to mammal tracking in western america. Johnson Publishing Company, Boulder, CO. 161pp.

Jaeger, E.C. 1969. Desert wild flowers. Stanford Univ. Press, Stanford, CA. 322pp.

Knobel, E. 1980. Field guide to the grasses, sedges and rushes of the united states. Dover Publications Inc. New York, NY 83pp.

Lowery, J.C. 2006. The tracker's field guide. The Globe Pequot Press, Gilford, CT 408pp.

Murie, O.J. 1974. A field guide to animal tracks. Houghton Mifflin Company, Boston. 375pp.

Robbins, C.S., Bruun, B. and H.S. Zim. 1983. A field guide to identification: birds of north america. Golden Press, NY. 360pp.

Stark, M. 2000. A flower-watchers guide to wildflowers of the western mojave desert Published by Milt Stark. Lancaster, CA 160pp.

U.S. Fish & Wildlife Service. 2016. Listed species believed to or known to occur in California. 8pp. http://ecos.fws.gov/tess_public/reports/species-listed-by-state-report?state=CA&status=listed , accessed 1 March 2016.

U.S. Fish & Wildlife Service. 2010. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*), 2010 field season. U.S. Fish & Wildl. Serv., 18pp.

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED CAL CITY GREENHOUSE PROJECT
MOSS AVENUE, WEST OF NEURALIA ROAD
APN 206-042-28 AND 206-042-16
CALIFORNIA CITY, CALIFORNIA

KA PROJECT NO. 022-19036
MAY 2, 2019

Prepared For:

MR. WILL DENNIS
27515 CARLYLE SPRINGS ROAD
KEENE, CALIFORNIA 93531

Prepared By:

KRAZAN & ASSOCIATES, INC.
GEOTECHNICAL ENGINEERING DIVISION
2205 COY AVENUE
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(661) 837-9200

Krazan & ASSOCIATES, INC.
SITE DEVELOPMENT ENGINEERS

Krazan & ASSOCIATES, INC.
GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

May 2, 2019

KA Project No. 022-19036

Mr. Will Dennis
27515 Carlyle Springs Road
Keene, California 93531

RE: Geotechnical Engineering Investigation
Proposed Cal City Greenhouse Project
Moss Avenue, West of Neuralia Road
APN 206-042-28 and 206-042-16
California City, California

Dear Mr. Dennis:

In accordance with your request, we have completed a Geotechnical Engineering Investigation for the above-referenced site. The results of our investigation are presented in the attached report.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (661) 837-9200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Ryan K. Privett, PE
Project Engineer
RCE No. 59372

RKP:ht

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

TABLE OF CONTENTS

May 2, 2019 KA Project No. 022-19036

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED CAL CITY GREENHOUSE PROJECT
APN 206-042-28 AND 206-042-16
MOSS AVENUE, WEST OF NEURALIA ROAD
CALIFORNIA CITY, CALIFORNIA

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Cal City Greenhouse Project to be located on Moss Avenue, west of Neuralia Road, in California City, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, and soil cement reactivity.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs, and the boring log legend are presented in Appendix A. Appendix A contains a description of the laboratory testing phase of this study; along with the laboratory test results. Appendix B contains a guide to earthwork specifications. When conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated March 20, 2019 (KA Proposal No. P030-19) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
- A field investigation consisting of drilling 9 borings to depths ranging from approximately 10 to 25 feet for evaluation of the subsurface conditions at the project site.
- Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.

- Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

PROPOSED CONSTRUCTION

We understand that design of the proposed development is currently underway; structural load information and other final details pertaining to the structures are unavailable. On a preliminary basis, it is understood the development will include construction of a 3,250 square foot pre-engineered steel building and 5 approximately 2,200 square foot greenhouse buildings. It is anticipated the buildings will be single-story structures utilizing concrete slab-on-grade construction. Footing loads are anticipated to be light to moderate. On-site parking areas are also planned for the development of the project.

In the event these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION AND SITE DESCRIPTION

The site is roughly rectangular in shape and encompasses approximately 2.1 acres. The site is located along the north side of Moss Avenue, approximately 750 feet west of Neuralia Road, in California City, California. The site is identified as Kern County Assessor's Parcel Number 206-042-28 and 16. Vacant land is located north of the site. A self-storage facility is located east of the site. A ready mix concrete plant is located south of the site. Vacant land and an auto salvage yard are located west of the site.

Presently, the area of proposed development consists of a vacant lot. Metal fence posts for a former chain-link fence are located along the site boundaries. Buried utility lines are located along the edges of the site and extend into the project site. The site presently contains a sparse weed growth, and the surface soils have a loose consistency. The site is relatively level with no major changes in grade.

GEOLOGIC SETTING

The project site is located in the eastern portion of the Mojave Desert which, in turn, is situated on the Mojave Block. The Mojave Block is a triangular fault block bound on the north by the Garlock Fault, on the southwest by the San Andreas Fault, and on the east by the Colorado River. The project site is underlain by Quaternary age alluvium derived from local granitic rocks. The alluvium consists mainly of silts, sands, and gravels with minor amounts of clay.

According to the California Department of Water Resources Water Data Library, groundwater in the vicinity of the project site is typically encountered at depths greater than 250 feet.

SIMPLIFIED GEOLOGIC MAP OF CALIFORNIA

CORRELATION OF MAP UNITS

SEDIMENTARY AND VOLCANIC ROCKS

Cenozoic nonmarine (continental) sedimentary rocks and alluvial deposits

Cenozoic marine sedimentary rocks

Cenozoic volcanic rocks

Late Mesozoic (latest Jurassic and Cretaceous) marine sedimentary rocks; Great Valley Sequence and related rocks

Mesozoic sedimentary and volcanic rocks in places strongly metamorphosed

Late Mesozoic (latest Jurassic and Cretaceous) rocks of the Franciscan Complex

Paleozoic sedimentary and volcanic rocks; in places strongly metamorphosed

Precambrian rocks of all types including coarse-grained intrusives

INTRUSIVE IGNEOUS AND METAMORPHIC ROCKS

Granitic rocks chiefly Mesozoic

Serpentinized ultramafic rocks chiefly Mesozoic

Pre-Cenozoic metamorphic rocks of unknown age

Age in Millions of Years

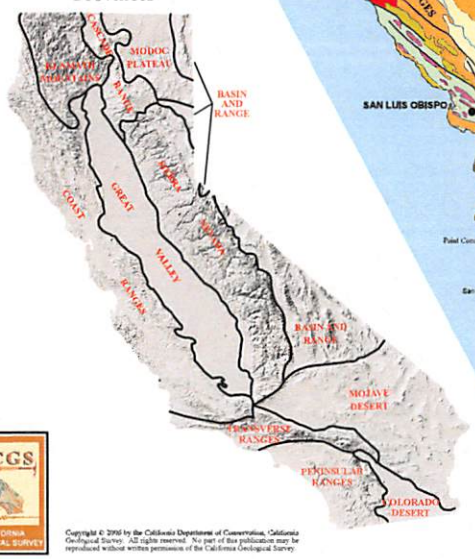
0.011	Holocene	Quaternary	Cenozoic
1.6	Pleistocene		
5.3	Pliocene	Tertiary	
24	Miocene		
37	Oligocene		
58	Eocene		
65	Paleocene	Tertiary-Cretaceous	
144	Cretaceous	Cretaceous	Mesozoic
208	Jurassic	Jurassic	
245	Triassic	Triassic	
286	Permian	Permian	
360	Carboniferous	Carboniferous	Paleozoic
408	Devonian	Devonian	
505	Cambrian	Cambrian	
570			Precambrian

Contact

Fault

Dotted where concealed; includes low-angle faults; arrows indicate direction or relative movement on strike-slip faults

Shaded relief map showing the natural Geomorphic Provinces



EUREKA, REDDING, UKIAH, SUSANVILLE, ACTURAS, MODOC PLATEAU, LASSEN PEAK, MT. SHASTA, CASCADE MOUNTAINS, SACRAMENTO, GREAT VALLEY, SUTTER BUTTES, SAN FRANCISCO, MONTEREY, FRESNO, BISHOP, SAN LUIS OBISPO, BAKERSFIELD, SANTA BARBARA, LOS ANGELES, SAN BERNARDINO, MOJAVE DESERT, NEEDLES, SALTON TROUGH, EL CENTRO, SAN DIEGO

0 50 100 MILES

Scale ≈1:2,250,000

No evidence was observed that indicated surface faulting has occurred across the property during the Holocene time. Faults not yet identified, however, may exist. The site is not located within an Earthquake Fault Zone (special studies zone).

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling 9 borings to depths ranging from approximately 10 to 25 feet below existing site grade, using a truck-mounted drill rig. In addition, 3 shallow percolation tests were performed to use in design of the proposed septic system. The approximate boring and percolation test locations are shown on the site plan. During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsoils. Soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, shear strength, consolidation potential, and moisture-density relationships of the materials encountered. In addition, chemical tests were performed to evaluate the soil cement reactivity. Details of the laboratory test program and results of the laboratory tests are summarized in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. In general, the upper soils consisted of approximately 6 to 12 inches of very loose silty sand. Some of these soils contained trace amounts of clay. These soils are disturbed, have low strength characteristics, and are highly compressible when saturated.

Approximately 1 foot of fill material was encountered within one of the soil borings drilled at the site. The fill material predominately consisted of silty sand with trace amounts of clay. The thickness and extent of fill material was determined based on limited test borings and visual observations. Thicker fill may be present at the site. Limited testing was performed on the fill soils during the time of our field and laboratory investigations. The limited testing indicates the fill soils were loosely placed.

Below the very loose surface soils and fill material, approximately 3 to 4 feet of medium dense silty sand was encountered. Some of these soils contained trace amounts of clay. Field and laboratory tests suggest that these soils are moderately strong and moderately compressible. Penetration resistance ranged from 17 to 30 blows per foot. Dry densities ranged from 97 to 107 pcf. Representative soil samples consolidated approximately 4½ to 5 percent under a 2 ksf load when saturated. A representative soil sample had an angle of internal friction of 36 degrees.

Below 4 to 5 feet, predominately medium dense to very dense silty sand, clayey sand, silty clayey sand, or sand were encountered. Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Penetration resistance ranged from 17 blows per foot to more than 50 blows per 6 inches. Dry densities ranged from 101 to 119 pcf. These soils had similar strength characteristics as the upper soils and extended to the termination depth of our borings.

For additional information about the soils encountered, please refer to the logs of borings in Appendix A.

PERCOLATION TESTING

Three percolation tests were performed on the site. The percolation tests were performed at depths ranging from 3 to 7 feet. The tests were conducted in accordance with the criteria set in the "Manual of Septic Tank Practice" published by the Department of Health, Education, and Welfare. The tests were performed within the project site to represent the anticipated sewage disposal areas. Results of the tests are as follows:

Test No.	Depth (feet)	Percolation rate (min/in)	UPC Soil Type	Soil Type
P1	3	40.0	V	Silty Sand (SM) w/ clay
P2	5	5.0	III	Silty Sand (SM)
P3	7	4.0	III	Silty Sand (SM)

The percolation tests indicate that these soils are Types III and V soil, based on the Plumbing Code. The percolation rates given are based on 1 inch of fall within a 6-inch diameter hole with a 6-inch head of water.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Free groundwater was not encountered.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site and soil conditions, with the exception of the fill material, moderately compressible upper native soils, expansive nature of the clayey soils, and existing development, appear to be conducive to the development of the project. Approximately 1 foot of fill material was encountered within one of the soil borings drilled at the site. The fill material predominately consisted of silty sand with trace amounts of clay. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Verification of the extent of fill should be determined during site grading. Limited testing was performed on the fill soils during the time of our field and laboratory investigations. The limited testing indicates that the fill soils were loosely placed. Fill soils that have not been properly compacted and certified should be excavated and stockpiled so that the native soils can be properly prepared. These soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics and debris. Prior to backfilling, Krazan & Associates, Inc., should inspect the bottom of the excavation to verify no additional removal is required.

The upper native soils are very loose and moderately compressible. In order to reduce the amount of differential settlement and provide uniform building support for the structures, it is recommended following stripping, fill removal, and demolition operations, the exposed subgrade within proposed structure foundation areas be excavated an additional depth of 3 feet, worked until uniform and free from large clods, moisture-conditioned to at least 2 percent above optimum moisture content and recompacted to a minimum of 90 percent of maximum density based on the ASTM Test Method D1557. In addition, it is recommended the proposed structure foundations be supported by a minimum of 2 feet of Engineered Fill. Over-excavation should extend to a minimum of 5 feet beyond structural elements. The on-site, native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics and debris. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan & Associates to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. Fill material should be moisture-conditioned to at least 2 percent above optimum moisture content and compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. As an alternative, the structures can be supported on drilled caissons extending below the fill and moderately compressible upper native soils.

Existing structures are located within the project site vicinity. Associated with these developments are buried structures, such as utility lines that may extend into the project site. Demolition activities should include proper removal of any buried structures encountered. Any buried structures, including utilities or loosely backfilled excavations encountered during construction should be properly removed and the resulting excavations backfilled. It is suspected that demolition activities of the existing structures will disturb the upper soils. After demolition activities, it is recommended that these disturbed soils be removed and/or recompacted. This compaction effort should stabilize the upper soils and locate any unsuitable or pliant areas not found during our field investigation.

The upper on-site native soils and fill material are predominately silty sand and silty sand with trace amounts of clay. The clayey soils appeared to have a low swell potential. The estimated swell pressures of the clayey soils may cause minor movement effecting slabs and possible stucco or similar brittle exterior finishes. To reduce potential soil movement, it is recommended the upper 12 inches of soil within slab-on-grade and exterior flatwork areas consist of non-expansive Engineered Fill. The on-site soils that do not contain clay will be suitable for reuse as non-expansive Engineered Fill provided they are cleansed of excessive organics and debris. During construction, it is recommended that additional tests should be performed on the on-site soils to verify their physical and index properties.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy soils.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed utilizing an allowable bearing pressure of 2,500 psf for dead-plus-live loads. Conventional footings, if utilized, should have a minimum embedment depth of 18 inches and be supported on a minimum of 2 feet of Engineered Fill. Alternatively, the proposed structures may be supported on drilled caissons. If drilled piers or caissons will be utilized, over-excavation of the existing fill and native soils will not be required. Recommendations regarding conventional foundations and drilled piers are provided in the Foundations section of this report.

Groundwater Influence on Structures/Construction

Based on our findings and historical records, it is not anticipated that groundwater will rise within the zone of structural influence or affect the construction of foundations and pavements for the project. However, if earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated, "pump," or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

Site Preparation

General site clearing should include removal of vegetation; existing utilities; irrigation lines; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum depth of 2 to 4 inches, or until all organics in excess of 3 percent by volume are removed. These materials will not be suitable for use as Engineered Fill. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas.

Approximately 1 foot of fill material was encountered within one of the soil borings drilled at the site. The fill material predominately consisted of silty sand with trace amounts of clay. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Verification of the extent of fill should be determined during site grading.

Limited testing was performed on the fill soils during the time of our field and laboratory investigations. The limited testing indicates that the fill soils were loosely placed. Fill soils that have not been properly compacted and certified should be excavated and stockpiled so that the native soils can be properly prepared. These soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics and debris. Prior to backfilling, Krazan & Associates, Inc., should inspect the bottom of the excavation to verify no additional removal is required.

The upper native soils are very loose and moderately compressible. In order to reduce the amount of differential settlement and provide uniform building support for the structures, it is recommended following stripping, fill removal, and demolition operations, the exposed subgrade within proposed structure foundation areas be excavated an additional depth of 3 feet, worked until uniform and free from large clods, moisture-conditioned to at least 2 percent above optimum moisture content and recompacted to a minimum of 90 percent of maximum density based on the ASTM Test Method D1557. In addition, it is recommended the proposed structure foundations be supported by a minimum of 2 feet of Engineered Fill. Over-excavation should extend to a minimum of 5 feet beyond structural elements. The on-site, native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics and debris. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan & Associates to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. Soft of pliant areas should be excavated to firm native ground. Fill material should be moisture-conditioned to at least 2 percent above optimum moisture content and compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Existing structures are located within the project site vicinity. Associated with these developments are buried structures, such as utility lines that may extend into the project site. Any buried structures, including utilities or loosely backfilled excavations, encountered during construction should be properly removed and the resulting excavations backfilled. It is suspected that demolition activities of the existing structures will disturb the upper soils. After demolition activities, it is recommended that these disturbed soils be removed and/or recompacted. Excavations, depressions, or soft and pliant areas extending below planned finished subgrade levels should be cleaned to firm undisturbed soil and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Existing concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill.

Following stripping operations and demolition activities, it is recommended that at a minimum, the upper 12 inches of exposed subgrade soils beneath the slab-on-grade, exterior flatwork, and pavement areas be excavated, worked until uniform and free from large clods, moisture-conditioned to at least 2 percent above optimum moisture content, and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan & Associates, Inc. to verify stability. This compaction effort should stabilize the upper soils and locate any unsuitable or pliant areas not found during our field investigation.

It is recommended that the upper 12 inches of soil within proposed slab-on-grade and exterior flatwork areas consist of non-expansive Engineered Fill. The intent is to support slab-on-grade and exterior flatwork areas with 12 inches of non-expansive fill. The fill placement serves two functions: 1) it provides a uniform amount of soil, which will more evenly distribute the soil pressures and 2) it reduces moisture content fluctuation in the clayey material beneath the building area. The non-expansive fill material should be a well-graded silty sand or sandy silt soil. A clean sand or very sandy soil is not acceptable for this purpose. A sandy soil will allow the surface water to drain into the expansive clayey soil below, which may result in soil swelling. Imported Fill should be approved by the Soils Engineer prior to placement. The fill should be placed as specified as Engineered Fill. In addition, it is recommended slabs and footings be nominally reinforced to reduce cracking and vertical offsets.

The upper soils, during wet winter months, become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Engineered Fill

The organic-free, on-site, upper native soils and fill material are predominately silty sand. Some of the silty sand soils contain trace amounts of clay. Soils with an expansion index of 15 or less will be suitable for reuse as non-expansive Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. The on-site clayey soils with an expansion index above 15 will not be suitable for reuse as non-expansive Engineered Fill. The clayey soils may be used for General Engineered Fill within non-structural areas, paved areas, and within slab-on-grade and exterior flatwork areas below 12 inches from finished pad grade provided they are cleansed of excessive organics, debris, and are moisture-conditioned to at least 2 percent above optimum moisture. During construction, it is recommended that additional tests be performed on these soils to verify their physical and index properties.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill material should be predominately granular material with a plasticity index less than 10 and an expansion index less than 15. Imported Fill should be free from rocks and lumps greater than 4 inches in maximum dimension. All Imported Fill material should be submitted for approval to the Soils Engineer at least 48 hours prior to delivery to the site.

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned as to at least 2 percent above optimum moisture content, and compacted to achieve at least 90 percent maximum density based on ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

Drainage and Landscaping

The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2016 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative means of drainage conveyance. Swales used for conveyance of drainage and located within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete flatwork, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water to collection facilities and off-site. These grades should be maintained for the life of the project.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practice following OSHA (Occupational Safety and Health Administration) standards by a Contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the Contractor. Traffic and vibration adjacent to trench walls should be reduced and cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy soils.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 90 percent of maximum density based on ASTM Test Method D1557. The utility trench backfill placed in pavement areas should be compacted to at least 90 percent of maximum density based on ASTM Test Method D1557. Pipe bedding should be in accordance with pipe manufacturer's recommendations.

The Contractor is responsible for removing all water sensitive soils from the trench regardless of the backfill location and compaction requirements. The Contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structures may be supported on a shallow foundation system bearing on a minimum of 2 feet of Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,875 psf
Dead-Plus-Live Load	2,500 psf
Total Load, Including Wind or Seismic Loads	3,325 psf

The footings should have a minimum embedment depth of 18 inches below pad subgrade (soil grade) or adjacent exterior grade. Footings should have a minimum width of 12 inches, regardless of load.

The total settlement is not expected to exceed 1 inch. Differential settlement should be less than ½ inch. Most of the settlement is expected to occur during construction, as the loads are applied. However, additional post-construction settlement may occur if the foundation soils are flooded or saturated.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.40 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 350 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A ⅓ increase in the value above may be used for short duration wind or seismic loads. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

Foundations - Drilled Caissons

The proposed structures can be supported on caissons using an allowable sidewall friction of 350 psf. This value is for dead-plus-live loads. This value may be increased ⅓ for short duration loads, such as wind or seismic. Uplift loads can be resisted by caissons using an allowable sidewall friction of 200 psf of the surface area and the weight of the pier. Caissons should have a minimum embedment depth of 6 feet or bottomed at least 3 feet into the firm native soil, whichever is greater. The upper 2 feet should be neglected from friction calculations. The total and differential settlement should be less than ½ inch. Most of the settlement is expected to occur during construction as the loads are applied. If drilled piers or caissons will be utilized, no over-excavation of the fill and native soils will be required.

Drilled piers or caissons may be designed using a lateral bearing capacity of 175 psf/ft using the applicable formula for unconstrained or constrained conditions in the 2016 California Building Code. This value can be doubled if a lateral deflection of ½-inch is acceptable. Unconstrained or flexible cap conditions apply to isolated piers, and constrained or rigid cap (fixed against rotation) conditions apply to piers with a rigid connection to the structure.

Sandy soils were encountered at the site. These sandy soils may be subject to caving during drilling operations. Accordingly, cased caissons may be required. The drilled holes should be left open for as short of time as possible and should be protected from run-off.

Floor Slabs and Exterior Flatwork

In areas that will utilize moisture-sensitive floor coverings or be used for storage of moisture-sensitive materials, concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with accepted engineering practice. The water vapor retarder should consist of a vapor retarder sheeting underlain by a minimum of 3 inches of compacted, clean, gravel of ¾-inch maximum size. To aid in concrete curing an optional 2 to 4 inches of granular fill may be placed on top of the vapor retarder. The granular fill should consist of damp clean sand with at least 10 to 30 percent of the sand passing the 100 sieve. The sand should be free of clay, silt, or organic material. Rock dust which is manufactured sand from rock crushing operations is typically suitable for the granular fill. This granular fill material should be compacted.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. All fills required to bring the building pads to grade should be Engineered Fills.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To reduce moisture vapor intrusion, it is recommended that a vapor retarder be installed. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to reduce the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

Lateral Earth Pressures and Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 35 pounds per square foot per foot of depth. Walls incapable of this deflection or are fully constrained walls against deflection may be designed for an equivalent fluid at-rest pressure of 55 pounds per square foot per foot of depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill

material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations, or roadways. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand-operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

Seismic Parameters – 2016 California Building Code

The Site Class per Section 1613 of the 2016 California Building Code (2016 CBC) and Table 20.3-1 of ASCE 7-10 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2016 CBC, we recommend the following parameters:

Seismic Item	Value	CBC Reference
Site Class	D	Section 1613.3.2
Site Coefficient F_a	1.059	Table 1613.3.3 (1)
S_s	1.102	Section 1613.3.1
S_{MS}	1.167	Section 1613.3.3
S_{DS}	0.778	Section 1613.3.4
Site Coefficient F_v	1.550	Table 1613.3.3 (2)
S_1	0.450	Section 1613.3.1
S_{M1}	0.697	Section 1613.3.3
S_{D1}	0.465	Section 1613.3.4

Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and CBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected from these soil samples were less than 150 ppm and are below the maximum allowable values established by HUD/FHA and CBC. Therefore, no special requirements are necessary to compensate for sulfate reactivity with the cement.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill material passing the required percent compaction is a fill which has been compacted with an in situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc., should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc., will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils report is completed may require the soils report to be professionally reviewed. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that 2 years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.

This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of statements, in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (661) 837-9200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Ryan K. Privett, PE
Project Engineer
RCE No. 59372

David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

RKP/DRJ:ht

PERCOLATION TEST DATA LOG

COMPLETE THE FOLLOWING SHEET AND SUBMIT WITH PERCOLATION REPORT

SITE ADDRESS: Moss Avenue, California City, CA

APN: 206-042-16 and 28 **TEST PERFORMED BY:** David Adams

TEST DATE: 4-10-19 **TEST HOLES WERE PRESATURATED FOR** 4 **HOURS**

HOLE #	1				2				3			
DEPTH	3 Feet				5 Feet				7 Feet			
	TIME (MIN)		WATER LEVEL DROP (IN)	PERC RATE (MIN/IN)	TIME (MIN)		WATER LEVEL DROP (IN)	PERC RATE (MIN/IN)	TIME (MIN)		WATER LEVEL DROP (IN)	PERC RATE (MIN/IN)
	INITIAL	FINAL			INITIAL	FINAL			INITIAL	FINAL		
	2:20	2:30	0.5	20.0	2:24	2:34	3.5	2.9	2:27	2:37	3.75	2.7
	2:30	2:40	0.5	20.0	2:34	2:44	3.5	2.9	2:37	2:47	3.75	2.7
	2:40	2:50	0.5	20.0	2:44	2:54	3.0	3.3	2:47	2:57	3.75	2.7
	2:50	3:00	1.0	10.0	2:54	3:04	2.5	4.0	2:57	3:07	3.25	3.1
	3:00	3:10	0.5	20.0	3:04	3:14	2.5	4.0	3:07	3:17	3.0	3.3
	3:10	3:20	0.5	20.0	3:14	3:24	3.0	3.3	3:17	3:27	3.0	3.3
	3:20	3:30	0.25	40.0	3:24	3:34	2.25	4.4	3:27	3:37	2.5	4.0
	3:30	3:40	0.25	40.0	3:34	3:44	2.5	4.0	3:37	3:47	2.75	3.6
	3:40	3:50	0.25	40.0	3:44	3:54	2.0	5.0	3:47	3:57	2.5	4.0
	3:50	4:00	0.25	40.0	3:54	4:04	3.0	3.3	3:57	4:07	2.75	3.6
	4:00	4:10	0.25	40.0	4:04	4:14	2.0	5.0	4:07	4:17	2.5	4.0
	4:10	4:20	0.25	40.0	4:14	4:24	2.0	5.0	4:17	4:27	2.5	4.0

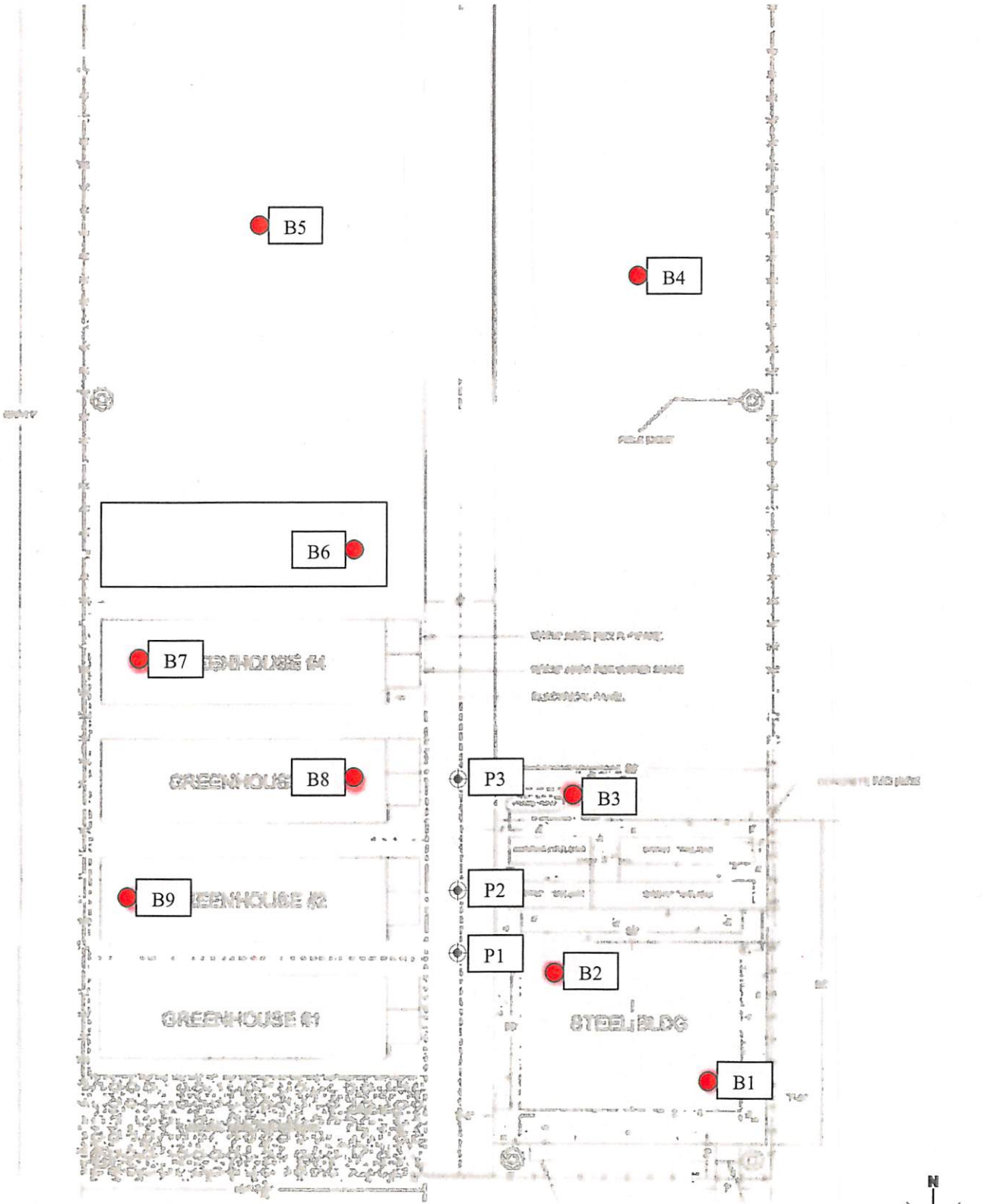
MINIMUM OF 2 TEST HOLES REQUIRED. MINIMUM OF 3 TEST PER HOLE REQUIRED. AVERAGE PERC RATE MAY BE USED IF 5 OR MORE TEST PER HOLE ARE PERFORMED OTHERWISE SLOWEST PERC RATE SHALL BE USED

REGISTERED PROFESSIONAL ENGINEER
RYAN K. PRIVETT
NO. 59372
EXP 9/30/2019
CIVIL
STATE OF CALIFORNIA

NUMBER OF TEST PER HOLE: 12

FINAL RATE TO BE USED IN DESIGN: 40 **MINUTES PER INCH.** **SOIL TYPE** 1 2 3 4 (5)

SIGNATURE OF QUALIFIED PROFESSIONAL: Ryan Privett



APPROXIMATE BORING LOCATION

APPROXIMATE PERCOLATION TEST LOCATION

SITE MAP	Scale: NTS	Date: May 2019	Krazan GEOTECHNICAL ENGINEERING
Cal City Greenhouse Project Moss Avenue California City, California	Drawn by: HT	Approved by: DJ	
	Project No. 022-19036	Figure No. 1	

Log of Borings & Laboratory Testing

Appendix A

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

The field investigation consisted of a surface reconnaissance and a subsurface exploratory program. Nine 4½-inch diameter exploratory soil borings were advanced. The boring locations are shown on the site plan.

The soils encountered were logged in the field during the exploration and, with supplementary laboratory test data, are described in accordance with the Unified Soil Classification System.

Modified standard penetration tests were performed at selected depths. This test represents the resistance to driving a 2½-inch diameter split barrel sampler. The driving energy was provided by a hammer weighing 140 pounds falling 30 inches. Relatively undisturbed soil samples were obtained while performing this test. Bag samples of the disturbed soil were obtained from the auger cuttings. All samples were returned to our Clovis laboratory for evaluation.

Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the foundation soil underlying the site. Test results were used as criteria for determining the engineering suitability of the surface and subsurface materials encountered.

In-situ moisture content, dry density, consolidation, direct shear, and sieve analysis tests were completed for the undisturbed samples representative of the subsurface material. These tests, supplemented by visual observation, comprised the basis for our evaluation of the site material.

The logs of the exploratory borings and laboratory determinations are presented in this Appendix.

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

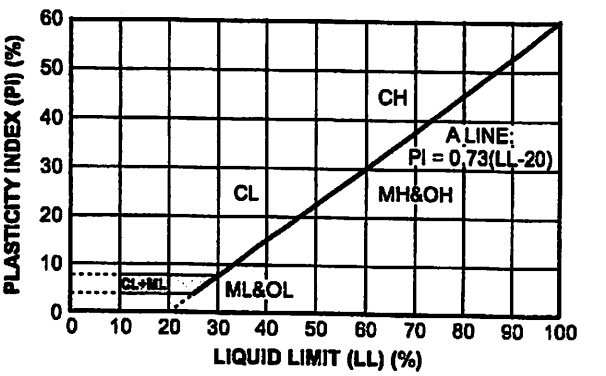
CONSISTENCY CLASSIFICATION

Description	Blows per Foot
Granular Soils	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
Cohesive Soils	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION

Grain Type	*Standard Sieve Size*	*Grain Size in Millimeters*
Boulders	Above 12 inches	Above 305
Cobbles	12 to 13 inches	305 to 76.2
Gravel	3 inches to No. 4	76.2 to 4.76
Coarse-grained	3 to ¾ inches	76.2 to 19.1
Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074
Coarse-grained	No. 4 to No. 10	4.76 to 2.00
Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074
Silt and Clay	Below No. 200	Below 0.074

PLASTICITY CHART



Log of Boring B1

Project: Cal City Greenhouses

Project No: 022-19036

Client: Mr. Will Dennis

Figure No.: A-1

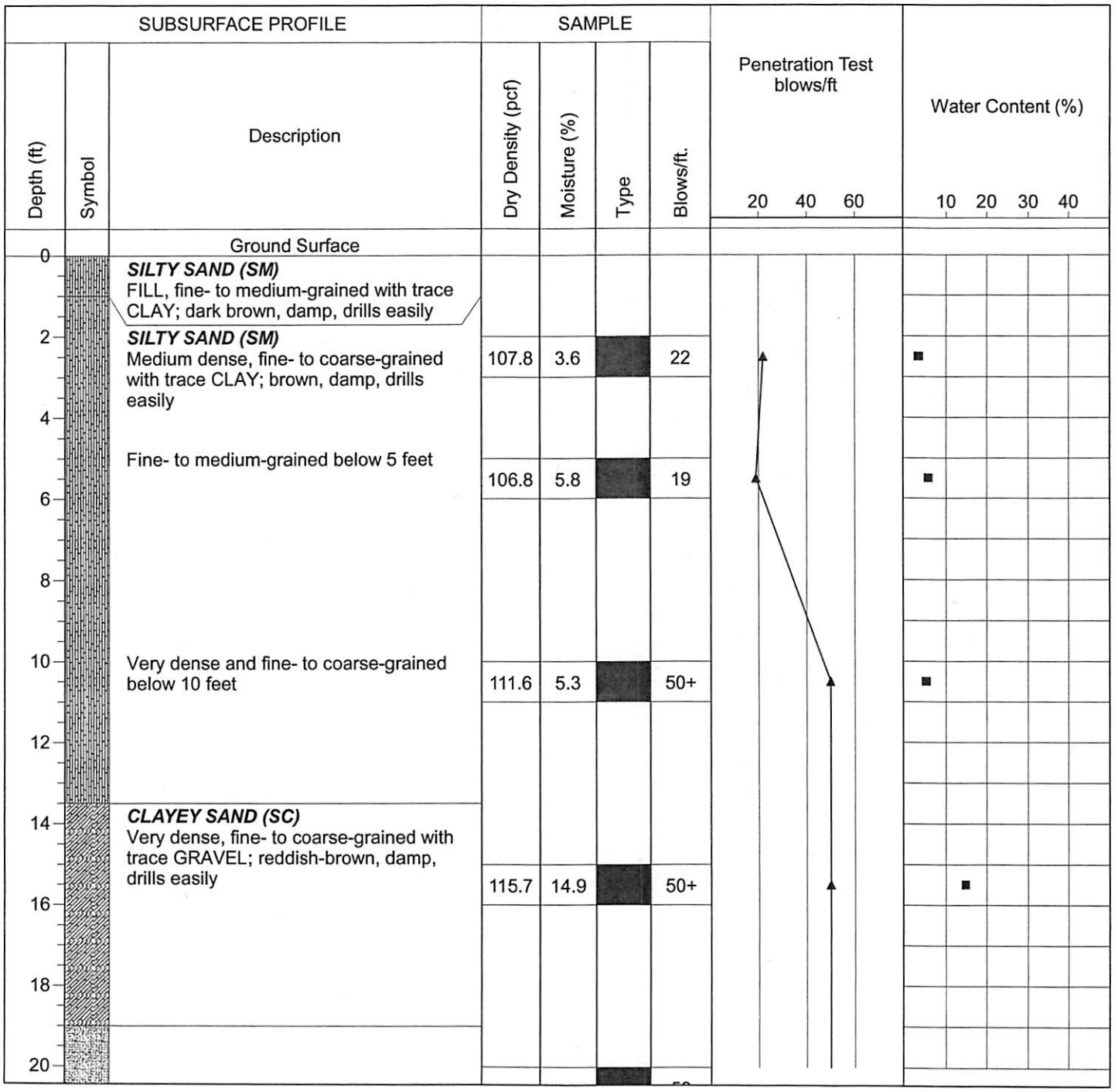
Location: Moss Avenue, California City, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Date: 4-10-19

Drill Rig: CME 45B

Krazan and Associates

Hole Size: 4½ Inches

Driller: Brent Snyder

Elevation: 25 Feet

Log of Boring B1

Project: Cal City Greenhouses

Project No: 022-19036

Client: Mr. Will Dennis

Figure No.: A-1

Location: Moss Avenue, California City, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
22		***SAND (SP)*** Dense, fine- to coarse-grained with trace CLAY; brown, damp, drills easily	107.0	6.5		50		
24								
26		End of Borehole						
28								
30								
32								
34								
36								
38								
40								

Drill Method: Solid Flight

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 4-10-19

Hole Size: 4½ Inches

Elevation: 25 Feet

Sheet: 2 of 2

Log of Boring B2

Project: Cal City Greenhouses

Project No: 022-19036

Client: Mr. Will Dennis

Figure No.: A-2

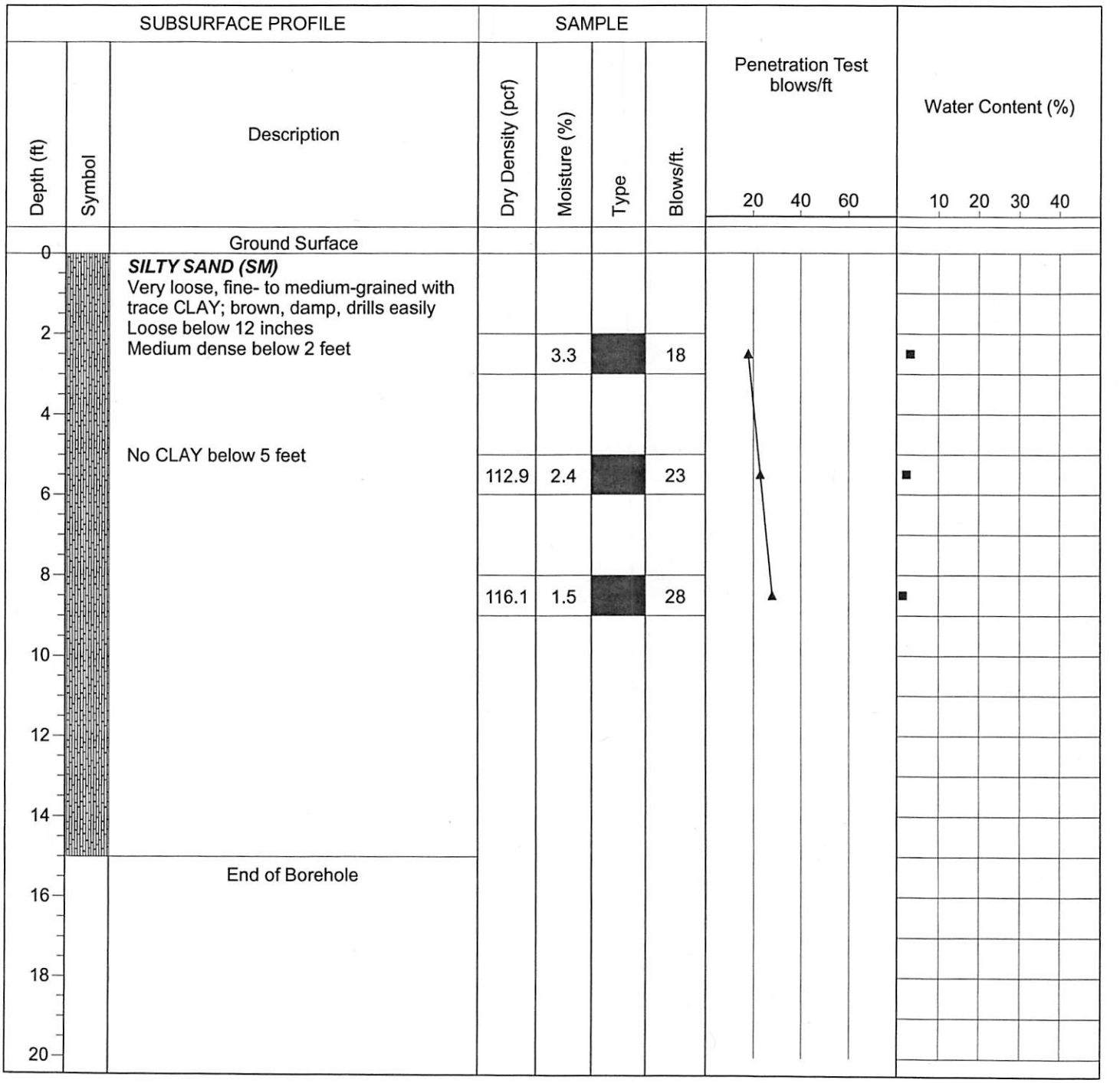
Location: Moss Avenue, California City, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 4-10-19

Hole Size: 4½ Inches

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B3

Project: Cal City Greenhouses

Project No: 022-19036

Client: Mr. Will Dennis

Figure No.: A-3

Location: Moss Avenue, California City, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Loose below 12 inches Medium dense below 2 feet				
2				3.6		20
4						
6			113.1	3.1		25
8						
10		End of Borehole				
12						
14						
16						
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Solid Flight

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 4-10-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B4

Project: Cal City Greenhouses

Project No: 022-19036

Client: Mr. Will Dennis

Figure No.: A-4

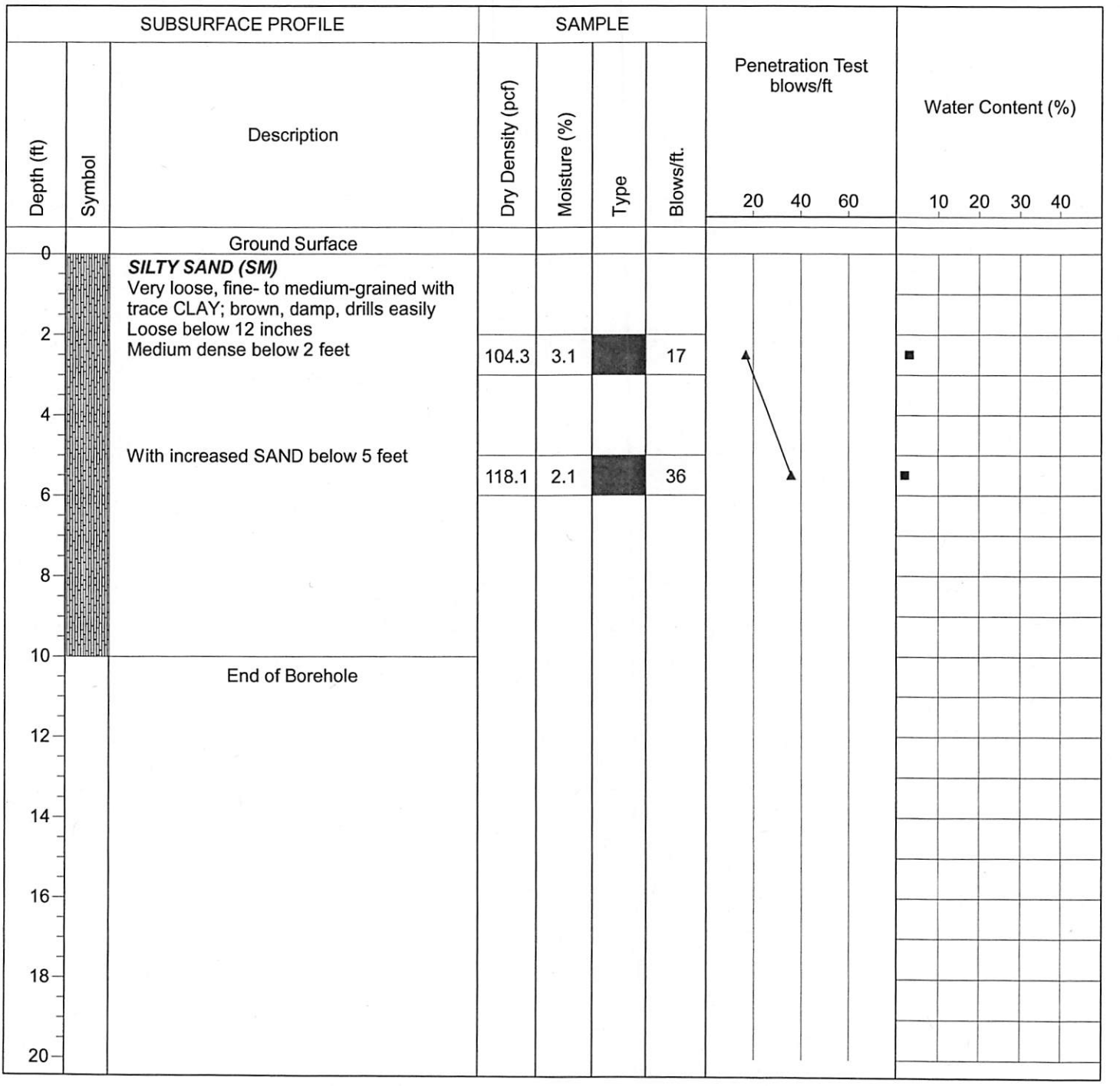
Location: Moss Avenue, California City, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Date: 4-10-19

Drill Rig: CME 45B

Krazan and Associates

Hole Size: 4½ Inches

Driller: Brent Snyder

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B5

Project: Cal City Greenhouses

Project No: 022-19036

Client: Mr. Will Dennis

Figure No.: A-5

Location: Moss Avenue, California City, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained with trace CLAY; brown, damp, drills easily				
2		Loose below 12 inches		4.5		17
2		Medium dense below 2 feet				
4						
6			102.2	5.7		21
8						
10		End of Borehole				
12						
14						
16						
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Solid Flight

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 4-10-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Log of Boring B6

Project: Cal City Greenhouses

Project No: 022-19036

Client: Mr. Will Dennis

Figure No.: A-6

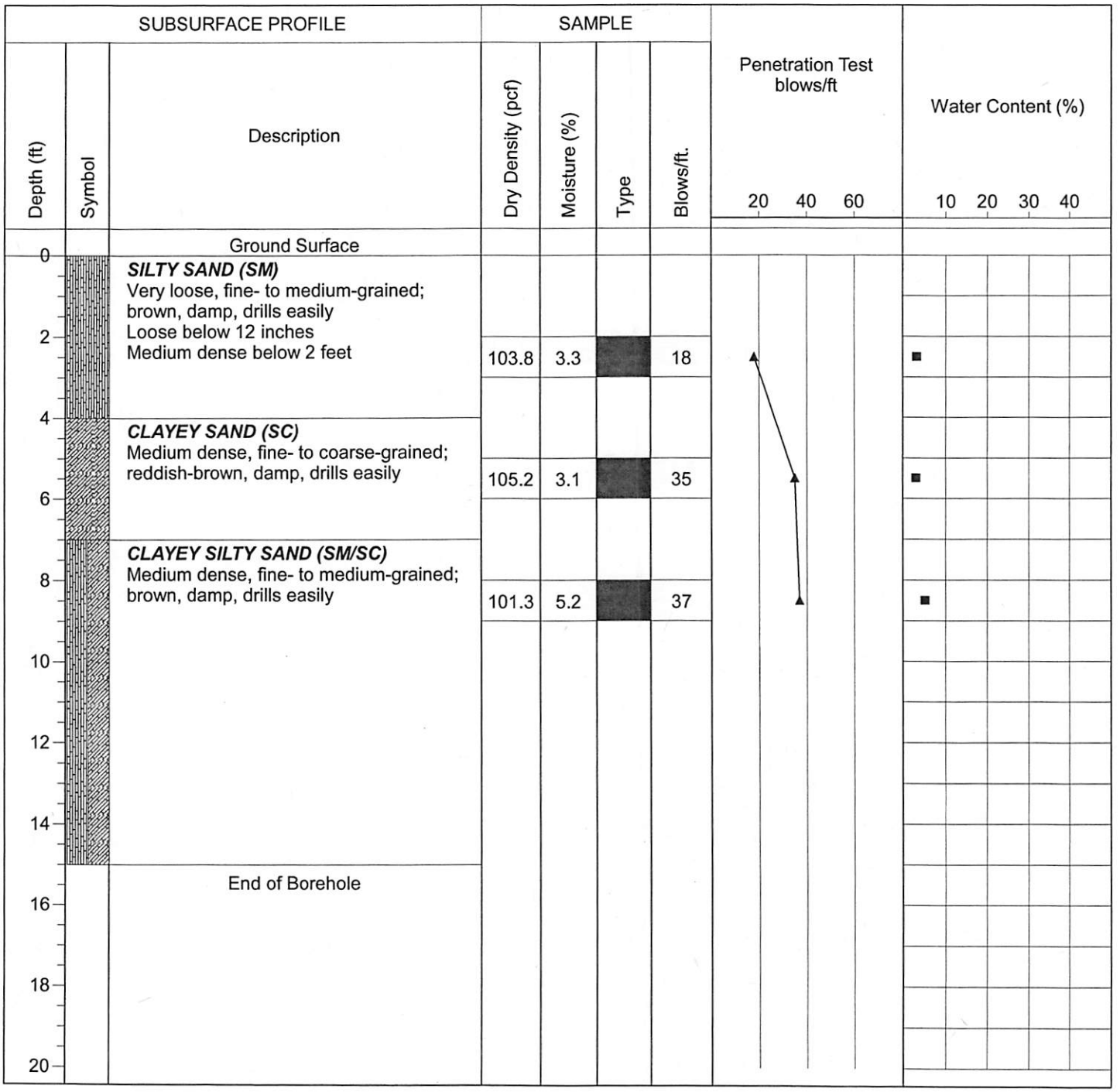
Location: Moss Avenue, California City, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 4-10-19

Hole Size: 4½ Inches

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B7

Project: Cal City Greenhouses

Project No: 022-19036

Client: Mr. Will Dennis

Figure No.: A-7

Location: Moss Avenue, California City, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
0		Ground Surface						
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained with trace CLAY; brown, damp, drills easily						
2		Loose below 12 inches	114.4	3.8		23		■
2		Medium dense below 2 feet						
4								
6			119.3	2.5		31		■
8								
10		End of Borehole						
12								
14								
16								
18								
20								

Drill Method: Solid Flight

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 4-10-19

Hole Size: 4½ Inches

Elevation: 10 Feet

Log of Boring B8

Project: Cal City Greenhouses

Project No: 022-19036

Client: Mr. Will Dennis

Figure No.: A-8

Location: Moss Avenue, California City, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained with trace CLAY; brown, damp, drills easily				
2		Loose below 12 inches	97.6	4.0		30
4		Medium dense below 2 feet				
6			110.4	2.5		19
8			110.9	2.9		31
10						
12						
14						
16		End of Borehole				
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Solid Flight

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 4-10-19

Hole Size: 4½ Inches

Elevation: 15 Feet

Log of Boring B9

Project: Cal City Greenhouses

Project No: 022-19036

Client: Mr. Will Dennis

Figure No.: A-9

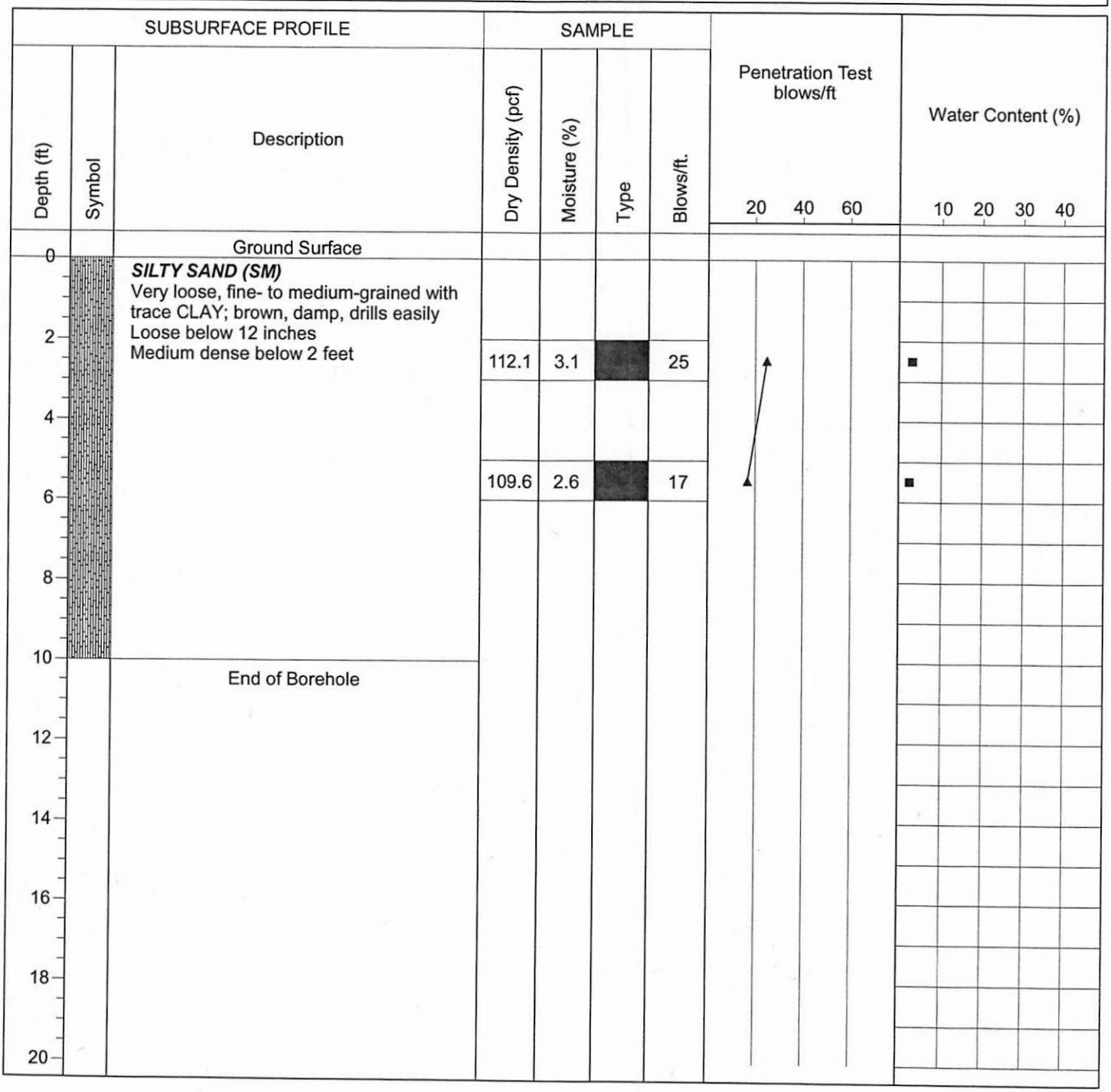
Location: Moss Avenue, California City, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Rig: CME 45B

Driller: Brent Snyder

Krazan and Associates

Drill Date: 4-10-19

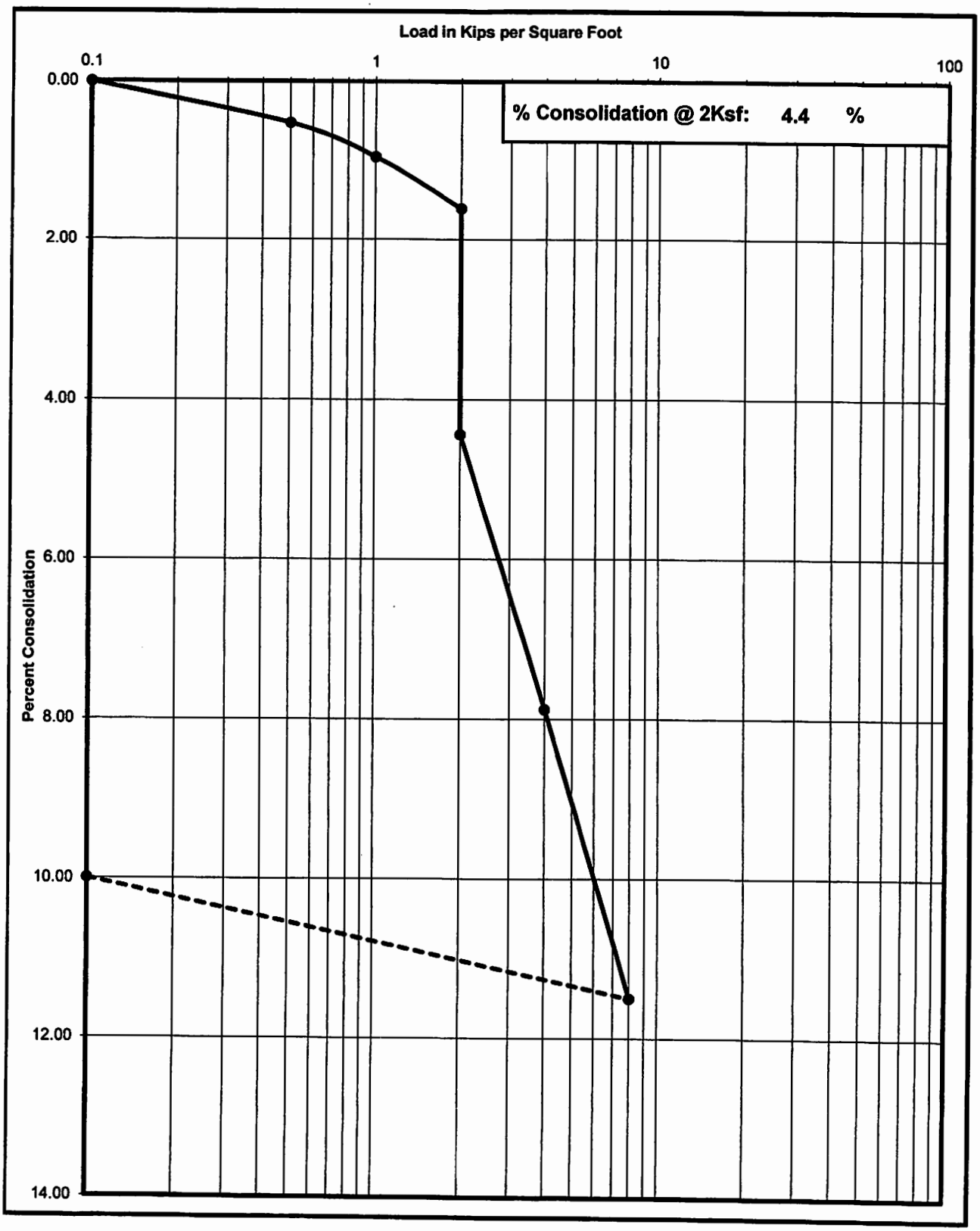
Hole Size: 4½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Consolidation Test

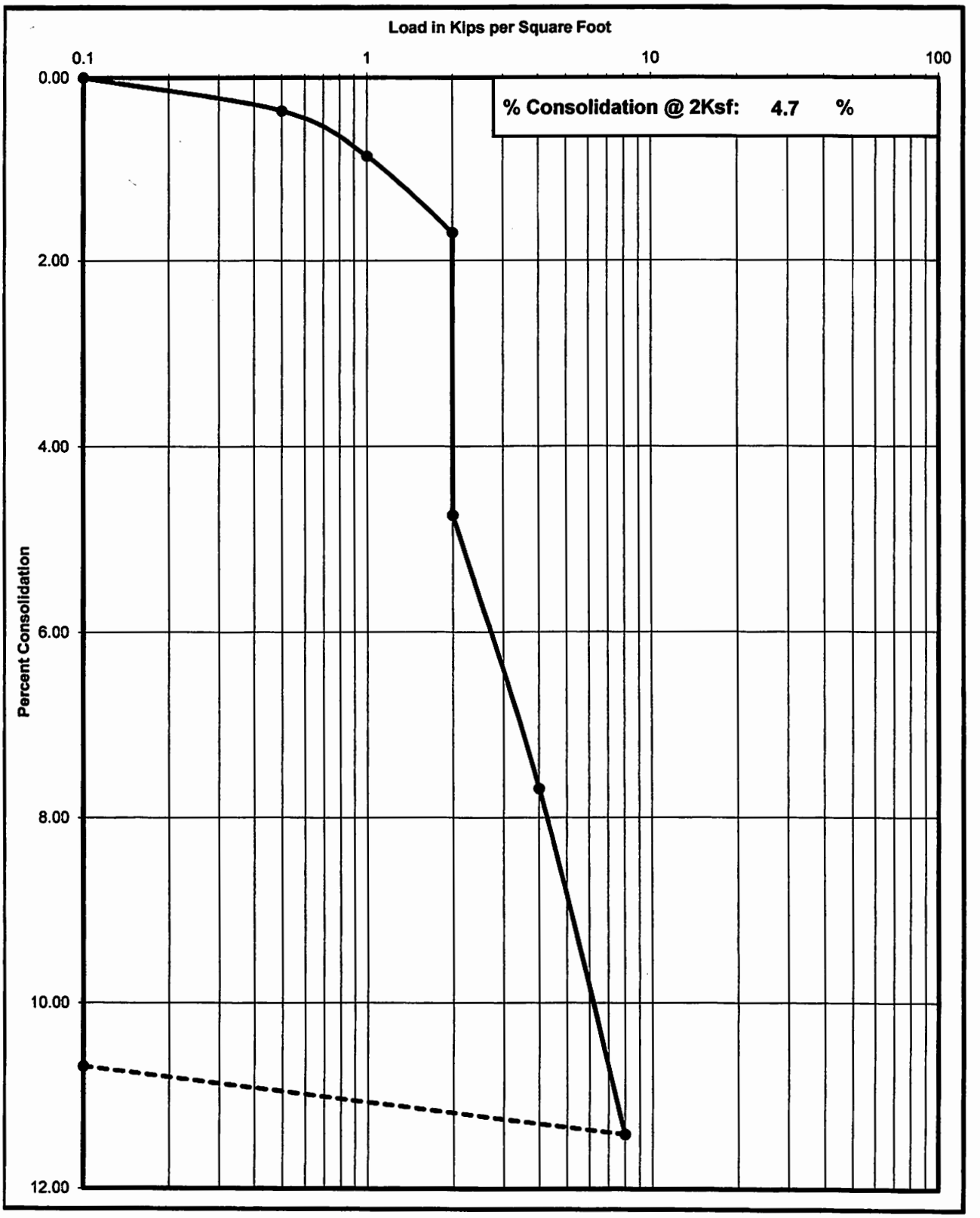
Project No	Boring No. & Depth	Date	Soil Classification
022-19036	B6 @ 2-3'	4/23/2019	SM



Krazan Testing Laboratory

Consolidation Test

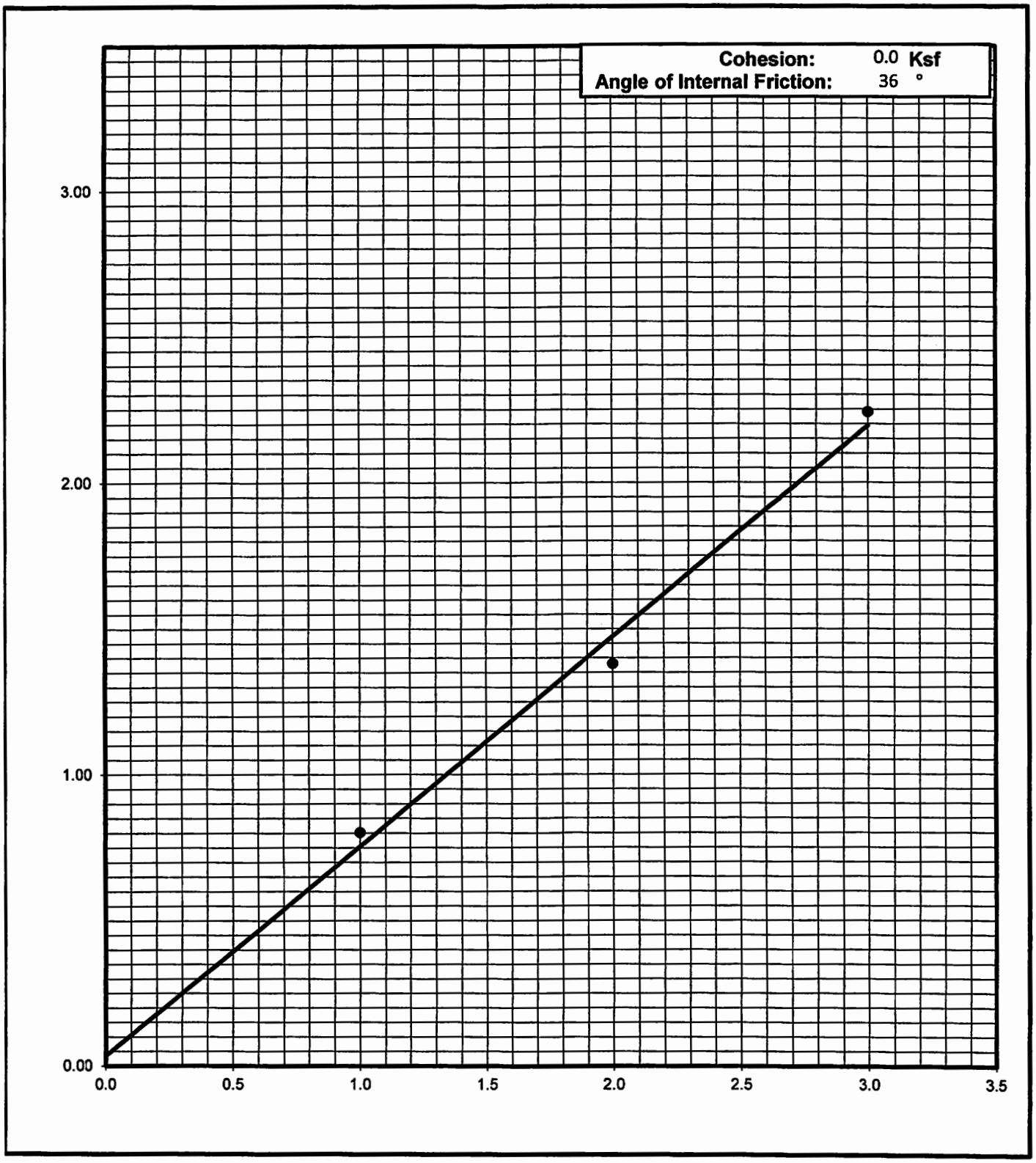
Project No	Boring No. & Depth	Date	Soil Classification
022-19036	B7 @ 2-3'	4/23/2019	SM



Krazan Testing Laboratory

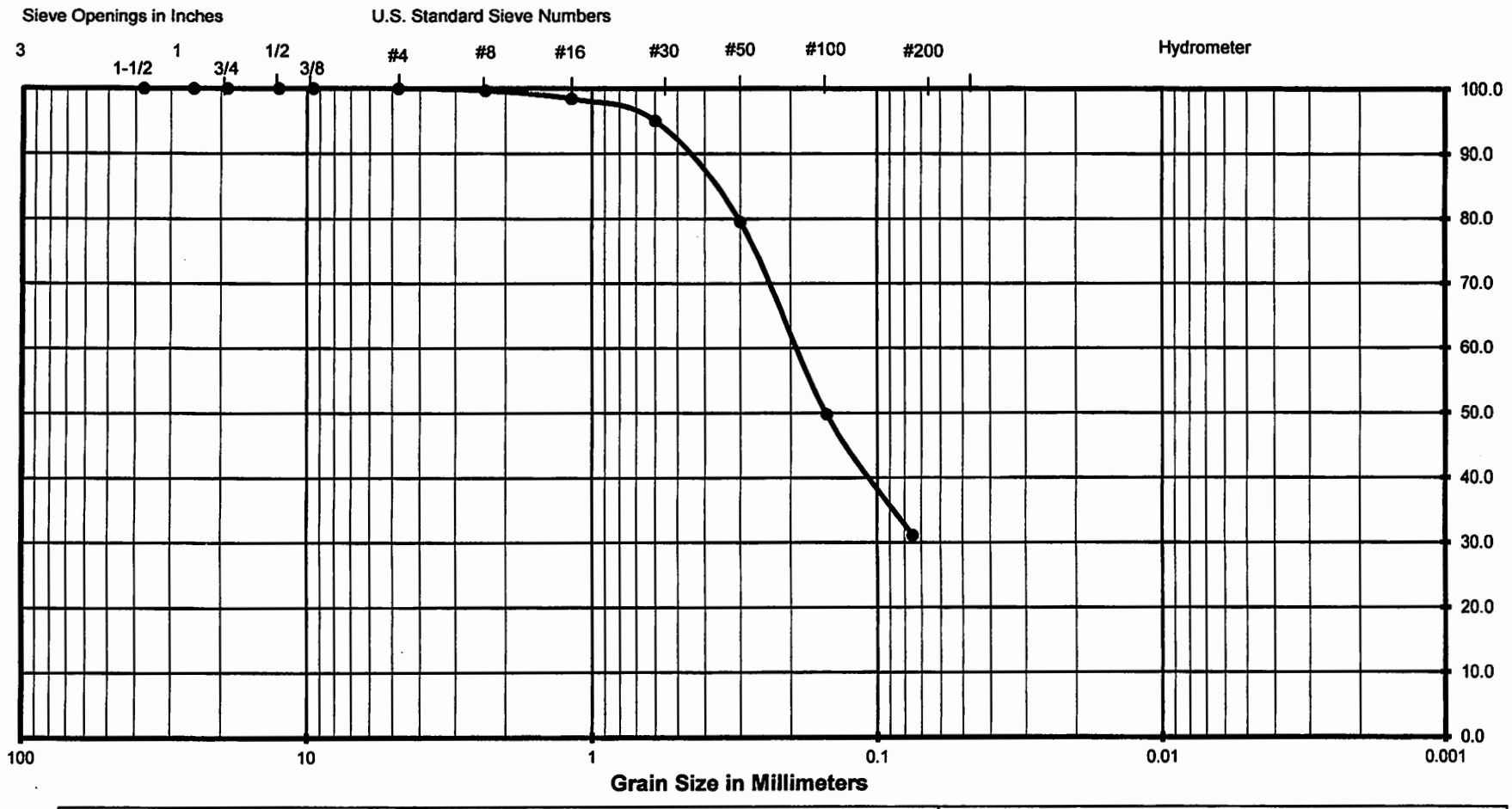
Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
022-19036	B4 @ 2-3'	SM	4/23/2019



Krazan Testing Laboratory

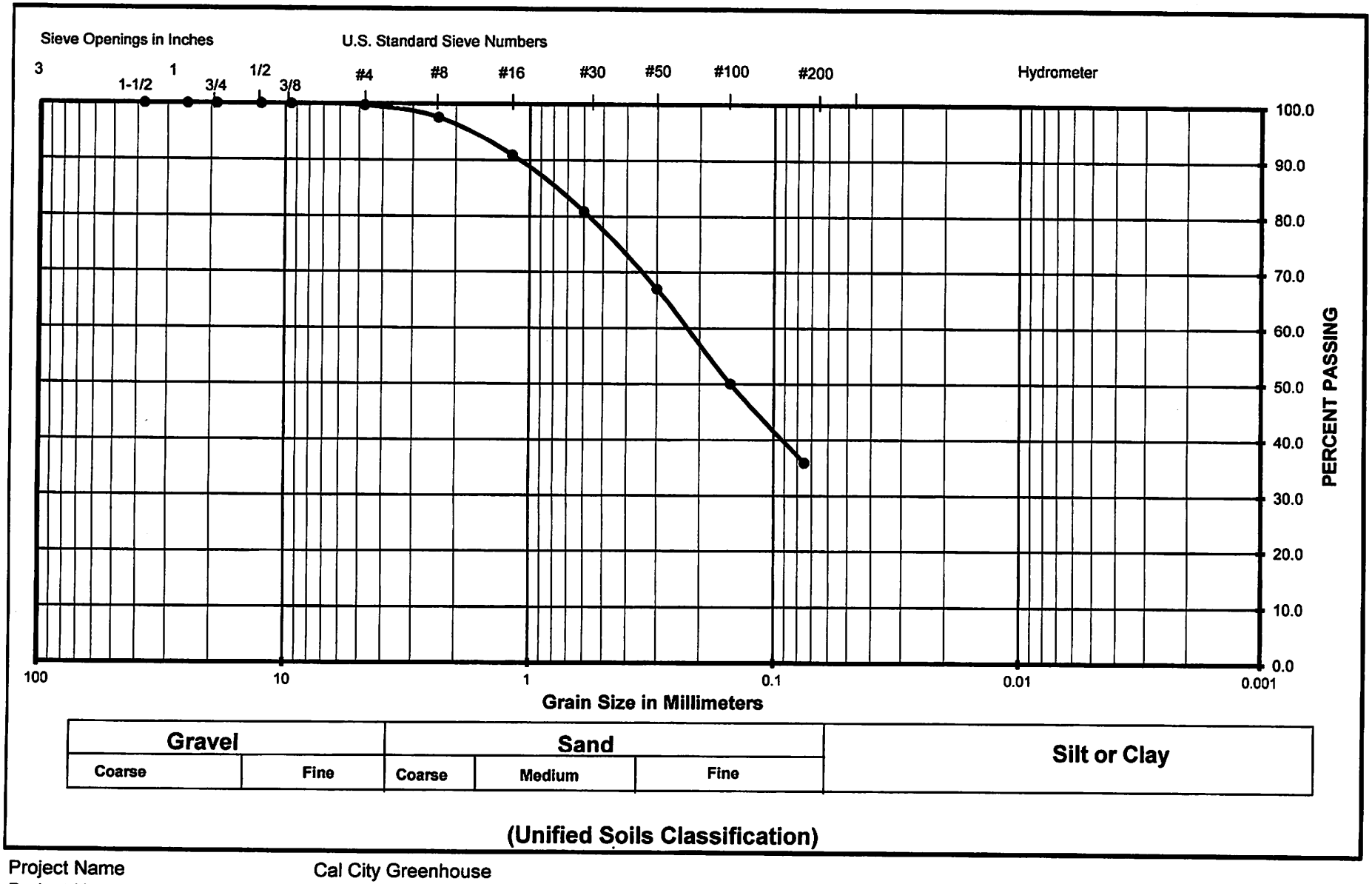
Grain Size Analysis



(Unified Soils Classification)

Project Name	Cal City Greenhouse
Project Number	022-19036
Soil Classification	SM
Sample Number	B6 @ 2-3'

Grain Size Analysis



(Unified Soils Classification)

Project Name	Cal City Greenhouse
Project Number	022-19036
Soil Classification	SM
Sample Number	B7 @ 2-3'

Appendix B

General Earthwork Specifications

APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including but not limited to the furnishing of all labor, tools, and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans, and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Inc., hereinafter known as the Soils Engineer and/or Testing Agency. Attainment of design grades when achieved shall be certified by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to a density not less than 90 percent relative compaction based on ASTM Test Method D1557 or CAL-216, as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be as determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the soil report.

The Contractor shall make his own interpretation of the data contained in said report, and the Contractor shall not be relieved of liability under the Contract documents for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing and the preparations of foundation materials for receiving fill.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter, and all other matter determined by the Soils Engineer to be deleterious or otherwise unsuitable. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots larger than 1 inch. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavations should not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill, building or slab loads shall be prepared as outlined above, excavated/scarified to a depth of 12 inches, moisture-conditioned as necessary, and compacted to 90 percent relative compaction.

Loose soil areas, areas of uncertified fill, and/or areas of disturbed soils shall be moisture-conditioned as necessary and recompacted to 90 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill materials shall be approved by the Soils Engineer prior to the placement of any of the fill material.

EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer.

Both cut and fill areas shall be surface-compacted to the satisfaction of the Soils Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill are as specified.