POWERFLEX SOLAR GROUND MOUNT SYSTEM AT OMYA - LUCERNE VALLEY

LUCERNE VALLEY SAN BERNARDINO COUNTY, CALIFORNIA

Jurisdictional Delineation

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The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.

Travis J. McGill Biologist/Director

Thomas J. McGill, Ph.D. Managing Director

Executive Summary

ELMT Consulting (ELMT) has prepared this Delineation of State and Federal Jurisdictional Waters Report for PowerFlex's Solar Ground Mount System at OMYA - Lucerne Valley (Project site or site) located in Lucerne Valley, San Bernardino County, California. The jurisdictional delineation documents the regulatory authority of the U.S. Army Corps of Engineers (Corps), the Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act, and Sections 1600 *et. seq.* of the California Fish and Game Code. ¹

Five (5) unnamed ephemeral drainage features (Drainages 1 through 5) were observed within the boundaries of the project site during the field delineation. All on-site drainage features generally flow in a south to north direction across the project site. All of the drainages that pass through-and in proximity of-the site, have been removed from historic flow patterns since at least 1968 due to on-site and surrounding development including roadways, residential development, and the pump station on-site.

The on-site ephemeral drainage features are not relatively permanent, standing, or continuously flowing bodies of water and, therefore, will not qualify as waters of the United States under the regulatory authority of the Corps (*Sackett v. EPA* (2022) 143 S. Ct. 1322, 1336). However, the onsite drainage features will qualify was waters of the State and fall under the regulatory authority of the Regional Board and CDFW. Table ES-1 identifies the on-site jurisdictional including the total acreage of jurisdiction and anticipated impacts for each regulatory agency within the boundaries of the project site.

Table ES-1: Jurisdictional Area and Impact Analysis

			CI. 6	Regional Board Jurisdiction		CDFW Jurisdictional Streambed	
Jurisdictional Feature	Stream Flow	Cowardin Class	Class of Aquatic Resource	On-Site Jurisdiction Acreage (Linear Feet)	Jurisdictional Impacts Acreage (Linear Feet)	On-Site Jurisdiction Acreage (Linear Feet)	Jurisdictional Impacts Acreage (Linear Feet)
Drainage 1	Ephemeral	Riverine	Non-Section 10 Non-Wetland	0.057 (740)	0.018 (211)	0.057 (740)	0.018 (211)
Drainage 2	Ephemeral	Riverine	Non-Section 10 Non-Wetland	0.05 (470)	_	0.05 (470)	_
Drainage 3	Ephemeral	Riverine	Non-Section 10 Non-Wetland	0.062 (730)	0.005 (105)	0.062 (730)	0.005 (105)
Drainage 4	Ephemeral	Riverine	Non-Section 10	0.077 (1,476)	_	0.077 (1,476)	_

The field surveys for this jurisdictional delineation were conducted on April 3 and 11, 2024 pursuant to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008); and Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (Corps 2017); The MESA Field Guide: Mapping Episodic Stream Activity (CDFW 2014); and a Review of Stream Processes and Forms in Dryland Watersheds (CDFW 2010).

			Non-Wetland				
Drainage 5	Ephemeral	Riverine	Non-Section 10 Non-Wetland	0.094 (365)	-	0.094 (365)	-
TOTALS		0.34 (3,781)	0.023 (316)	0.34 (3,781)	0.023 (316)		

The project applicant will likely be required to obtain the following regulatory approvals prior to impacts occurring within the identified jurisdictional areas: Corps Approved Jurisdictional Determination/Waiver; Regional Board CWA Section Report of Waste Discharge; and CDFW Section 1602 Streambed Alteration Agreement (SAA). Refer to Sections 1-7 for a detailed analysis of site conditions and regulatory requirements.

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Methodology

Section 1 Introduction

This jurisdictional delineation has been prepared for PowerFlex's Solar Ground Mount System at OMYA - Lucerne Valley (Project site or site) in order to document the potential jurisdictional authority of the U.S. Army Corps of Engineers (Corps), the Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act and Sections 1600 *et seq.* of the California Fish and Game Code. The analysis presented in this report is supported by field surveys and verification of site conditions conducted on April 3 and 11, 2024.

This jurisdictional delineation explains the methodology undertaken by ELMT Consulting (ELMT) to define the regulatory authority of CDFW and documents the findings made by ELMT. This report documents the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies.

1.1 PROJECT LOCATION

The project site is generally located north of the San Bernardino Mountains, west and south of State Route 18, and east of Interstate 15 in the census-designated place Lucerne Valley, San Bernardino County, California (refer to Exhibit 1, *Regional Vicinity*). The site is depicted on both the Lucerne Valley and Fawnskin quadrangles of the United States Geological Survey's (USGS) 7.5-minute map series within Sections 1 and 2 of Township 3 North, Range 1 West (Exhibit 2, *Site Vicinity*). Specifically, the project site is located at the northeast corner of the intersection of Crystal Creek Road and Crescent Road within Assessor Parcel Numbers 0446-033-18, and -19, and within portions of the existing OMYA facility located at 7225 Crystal Creek Road (Exhibit 3, *Project Site*).

1.2 PROJECT DESCRIPTION

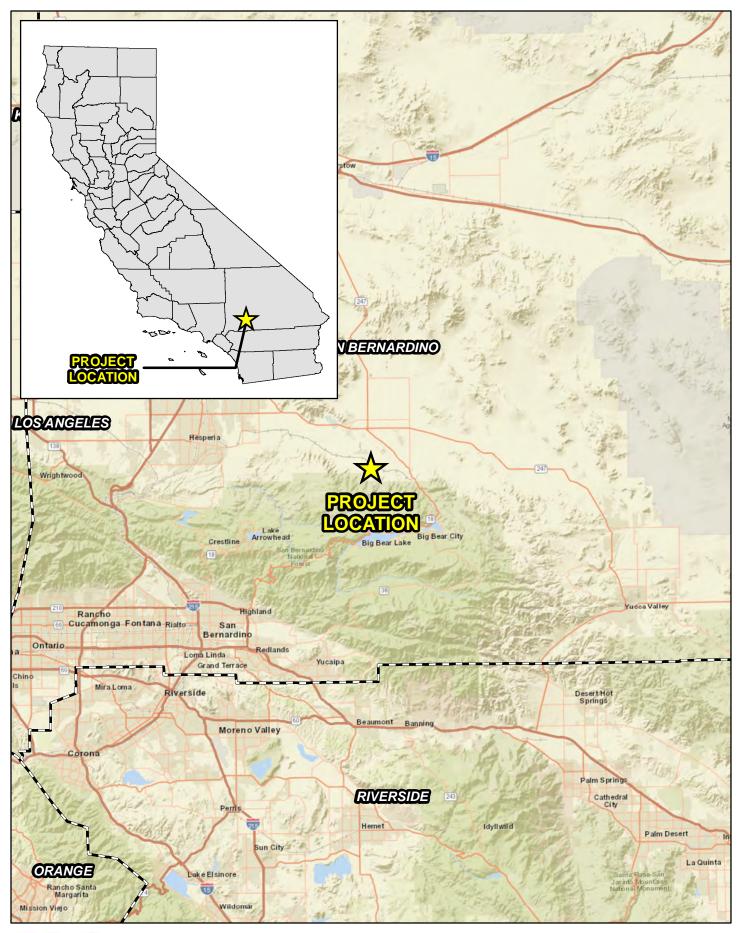
The project proposes the installation of a 5 MW AC - 6.5 MW DC ground-mounted solar system on approximately 29 acres of vacant land and 0.6-mile of a new interconnection for the purpose of power generation for onsite consumption by the OMYA mining plant, located at 7225 Crystal Creek Road in the unincorporated community of Lucerne Valley. Refer to Appendix A, *Site Plan*.

The Project would be located in the unincorporated community of Lucerne Valley in San Bernardino County. The OMYA mine and SCE interconnection point is located at 7225 Crystal Creek Road, Lucerne Valley, CA 92356, at the intersection of Crystal Creek Road and Furnace Creek Road, Lucerne Valley; Assessor Parcel Numbers: 0446-033-39, -06, -07, -09, -11, -13.

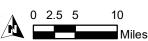
• APN: 0446-033-39 (26.37 AC, Project acreage: 0.2 AC): Point of interconnection at SCE meter in the 115 kV substation at ground level, and solar medium voltage (MV) Switchgear pad-mounted outside this substation at ground level. This parcel is not owned by the OMYA, however, the interconnection facilities would be located within an existing SCE easement.

- APN 0446-033-08, -09, -17: 5 kV new underground duct bank (Project acreage: 0.14 AC). Duct bank to be 2 feet wide and 3 feet deep and approximately 3,168 linear feet (0.6 mile) to connect the solar field with the OMYA plant facilities. The total acres of the parcels where the ductbank would occur are as follows.
 - -08: 4.94 AC
 - -09: 4.94 AC
 - -17: 29.04 AC
- APN: 0446-033-18 (38.95 AC). 0446-033-19 (38.95 AC): solar array, transformers, switchgear, and inverters. These parcels are owned by Pluess-Staufer, now known as OMYA. Of the 77.90 total acres, approximately 29.3 AC would be used for the solar field and facilities, and approximately 1 acre would be used for construction staging and storage.

Ground disturbance for Project development includes approximately 4.9 acres of trenching for the interconnection, road improvements adjacent to the solar field, stormwater basin development and minor grading for some of the ground mount system. Overall, the solar field would be installed via a small pile driver on native ground.

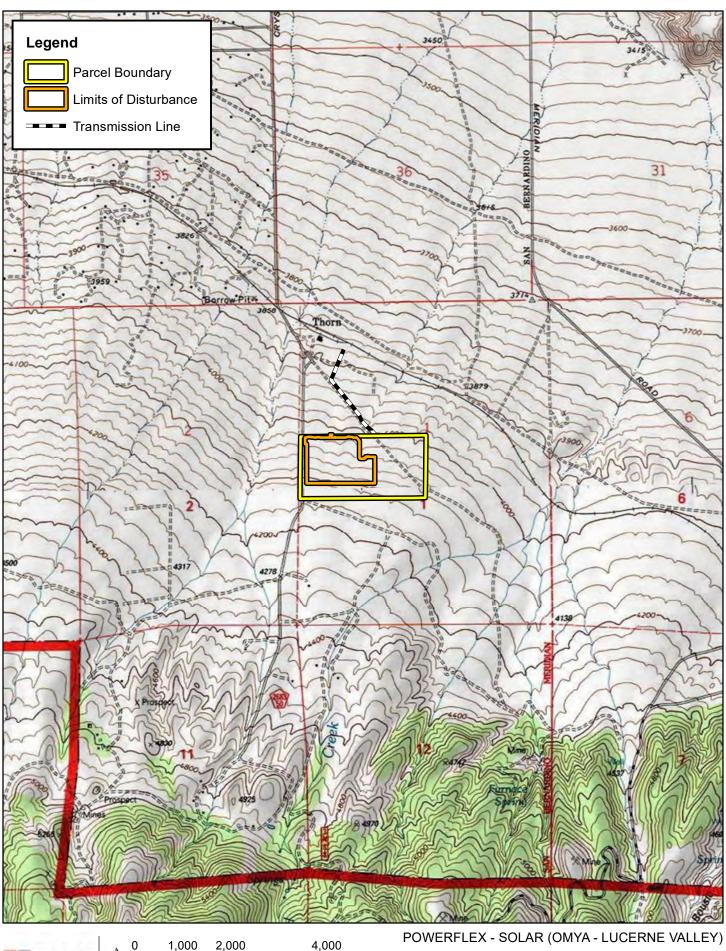






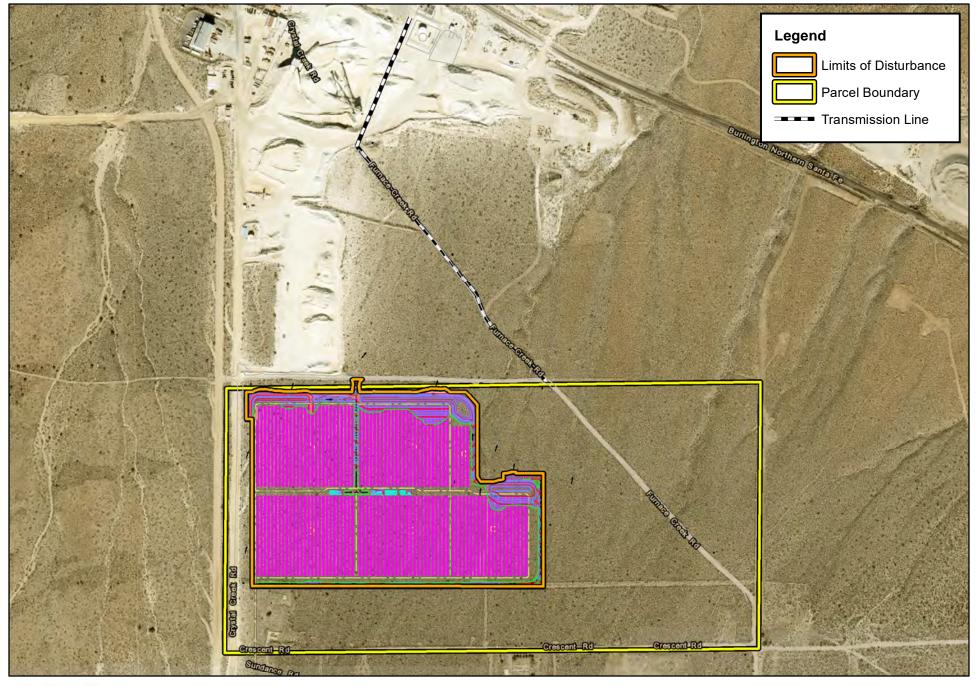
POWERFLEX - SOLAR (OMYA - LUCERNE VALLEY)

Regional Vicinity



Feet

Site Vicinity





250 500 1,000 Feet POWERFLEX - SOLAR (OMYA - LUCERNE VALLEY)

Project Site

Section 2 Regulations

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Division regulates activities pursuant to Section 404 of the CWA, Section 10 of the Rivers and Harbors Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act. The Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act and the CDFW regulates activities under Sections 1600 *et seq*. of the California Fish and Game Code.

2.1 U.S. ARMY CORPS OF ENGINEERS

In accordance with the Revised Definition of "Waters of the United States"; Conforming (September 8, 2023), "waters of the United Sates" are defined as follows:

- (a) Waters of the United States means:
 - (1) Waters which are:
 - (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
 - (ii) The territorial seas; or
 - (iii) Interstate waters;
 - (2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;
 - (3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
 - (4) Wetlands adjacent to the following waters:
 - (i) Waters identified in paragraph (a)(1) of this section; or
 - (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;
 - (5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section
- (b) The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:
 - (1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;
 - (2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted

- cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;
- (3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;
- (4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;
- (5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
- (6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;
- (7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and
- (8) Swales and erosional features (*e.g.*, gullies, small washes) characterized by low volume, infrequent, or short duration flow.
- (c) In this section, the following definitions apply:
 - (1) *Wetlands* means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
 - (2) Adjacent means having a continuous surface connection
 - (3) *High tide line* means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.
 - (4) *Ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
 - (5) *Tidal waters* means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the

water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

2.2 REGIONAL WATER QUALITY CONTROL BOARD

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits and helps ensure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Boards that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board (SWRCB) assumes this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

Additionally, the California Porter-Cologne Water Quality Control Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Water Quality Control Act has become an important tool post *Solid Waste Agency of Northern Cook County vs. United States Corps of Engineers* ² (SWANCC) and *Rapanos v. United States* ³ (Rapanos) court cases with respect to the State's regulatory authority over isolated and insignificant waters. Generally, any applicant proposing to discharge waste into a water body must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include discharge of dredged and fill material into water bodies.

Under the State Water Resources Control Board Sate Wetland Definition, an area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

2.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Sections 1600 *et seq.* of the California Fish and Game Code establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not substantially adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided. Pursuant to Section 1602 of the California Fish and Game Code, a notification must be submitted to the CDFW for any activity that will divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream or use material from a streambed. One CDFW guidance document, although not a formally adopted rule or policy, requires notification for activities taking place within rivers or streams that flow perennially or episodically and that

Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001)

³ Rapanos v. United States, 547 U.S. 715 (2006)

are defined by the area in which surface water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical and biological indicators. If the project will not "substantially adversely affect an existing fish or wildlife resource," following notification to CDFW, the project may commence without an agreement with CDFW. (Fish & G. Code, § 1602(a)(4)(A)(i).)

Section 3 Methodology

The analysis presented in this report is supported by field surveys and verification of site conditions conducted on April 3 and 11, 2024. ELMT conducted a field delineation to determine the jurisdictional limits of the "waters of the United States", "waters of the State" and jurisdictional streambed (including potential wetlands), located within the boundaries of the Project site. While in the field, jurisdictional features were recorded on an aerial base map at a scale of 1" = 50' using topographic contours and visible landmarks as guidelines. Data points were obtained with a Garmin Map62 Global Positioning System to record and identify specific widths for ordinary high water mark (OHWM) indicators and the locations of photographs, soil pits, and other pertinent jurisdictional features, if present. This data was then transferred as a .shp file and added to the Project's jurisdictional exhibits. The jurisdictional exhibits were prepared using ESRI ArcInfo Version 10 software.

3.1 WATERS OF THE UNITED STATES

In the absence of adjacent wetlands, the limits of the Corps jurisdiction in non-tidal waters extend to the OHWM, which is defined as "... that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." Indicators of an OHWM are defined in A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (Corps 2008). In addition to characteristics listed above, wracking; vegetation matted down, bent, or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; bed and banks; water staining; and/or change in plant community.

Pursuant to the Corps Wetland Delineation Manual (Corps 1987), the identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. In order to qualify as a wetland, a feature must exhibit at least minimal characteristics within each of these three parameters. It should also be noted that both the Regional Board and CDFW follow the methods utilized by the Corps to identify wetlands. For this Project, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps 2008).

3.2 WATERS OF THE STATE

3.2.1 REGIONAL WATER QUALITY CONTROL BOARD

The California *Porter-Cologne Water Quality Control Act* gives the Regional Board very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline

⁴ CWA regulations 33 CFR §328.3(e).

waters. The Regional Board shares the Corps' methodology for delineating the limits of jurisdiction based on the identification of OHWM indicators and utilizing the three parameter approach for wetlands.

3.2.2 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Sections 1600 *et seq.* of the California Fish and Game Code applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. CDFW Regulations define "stream" as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation." (14 Cal. Code Regs., § 1.72.) For this Project location, CDFW jurisdictional limits were delineated using this definition of "stream."

Section 4 Literature Review

ELMT conducted a thorough review of relevant literature and materials to preliminarily identify areas that may fall under the jurisdiction of the regulatory agencies. A summary of materials utilized during ELMT's literature review is provided below and in Appendix B, *Documentation*. In addition, refer to Section 8 for a complete list of references used throughout the course of this delineation.

4.1 WATERSHED REVIEW

The project site is located within the northwest portion of the Southern Mojave Watershed (HUC 181000100). The Southern Mojave Watershed is a large, closed basin in the Southern Mojave Desert that straddles the San Bernardino/Riverside County Line and drains an approximate total of 8,800 square miles. This watershed encompasses multiple mountain ranges and valleys and contains an array of ephemeral waterways and catchment areas. The Southern Mojave Watershed is roughly bounded by portions of the San Bernardino, San Jacinto, Turtle, and Sacramento Mountains. The northwest portion of the Southern Mojave Watershed encompasses Lucerne Valley. During extreme storm events, surface flows within Lucerne Valley generally drain to Lucerne Dry Lake. Lucerne Dry Lake remains dry most of the year. The project site is located approximately 7 miles to the south of Lucerne Dry Lake.

4.2 LOCAL CLIMATE

The Mojave Desert is found at elevations of 2,000 to 5,000 feet above mean sea level (msl) and is characterized by cool winter temperatures and warm summer temperatures, with its rainfall occurring almost entirely in the winter. Climatological data obtained from nearby weather stations indicates the annual precipitation in Lucerne Valley averages 7.0 inches per year. Almost all of the precipitation occurs December through March, with hardly any occurring between May and September. The wettest month is February, with a monthly average total of 1.5 inches. The average maximum and minimum temperatures for Lucerne Valley are 73- and 51-degrees Fahrenheit (°F), respectively, with July being the hottest month (93°F average) and December being the coldest (45°F average). Temperatures during the site visits were in the high-50's to low-70's (degrees Fahrenheit) with light winds and little to no cloud cover.

4.3 USGS TOPOGRAPHIC QUADRANGLE

The USGS 7.5 Minute Series Topographic Quadrangle maps show geological formations and their characteristics, describing the physical setting of an area through contour lines and major surface features including lakes, rivers, streams, buildings, landmarks, and other factors that may fall under an agency's jurisdiction. Additionally, the maps depict topography through color and contour lines, which are helpful in determining elevations and latitude and longitude within the project site.

According to the topographic map, the project site occurs within the Lucerne Valley and Fawnskin 7.5-minute quadrangles. The topographic map indicates that the site is entirely undeveloped, with access roads along the western boundary and permeating the eastern portion of the site. On-site elevation ranges from approximately 4,006 to 4,153 feet above mean sea level and slopes marginally from southwest to northeast, with topography being generally flat except for shallow, undulating depressions in the northern portion.

4.4 AERIAL PHOTOGRAPHS

Prior to conducting the field delineation, ELMT reviewed current and historical aerial photographs (1985-2023) of the project as available from Google Earth Pro Imaging. Aerial photographs can be useful during the delineation process, as they often indicate the presence of drainage features and riverine habitat within the boundaries of the project site, if any.

The project site is located in a predominantly undeveloped area in the southern limits of Lucerne Valley, at the base of the San Bernardino Mountains foothills. Predominant development in the vicinity of the site consists of commercial aggregate mining, stockpiling, and processing facilities to the north and east of the site and sparse residential development to the south. The project site is bounded to the west by Crystal Creek Road with undeveloped, vacant land beyond; to the south by Crescent Road with scattered residential developments and undeveloped, vacant land; to the east by Ladera Road, with undeveloped, vacant land beyond; and to the north by undeveloped, vacant land and the existing OMYA quarries and materials plant. In addition, the site is transected by Furnace Creek Road which enters the northern boundary and leads southeast through the site before exiting the site at the eastern boundary.

The site itself is primarily comprised of vacant, undeveloped land that supports natural plant communities and has been subjected to various anthropogenic disturbances. In addition, the site supports developed land where boundaries overlap with existing OMYA facilities.

4.5 SOILS

Soils within and adjacent to the Project site were researched prior to the field delineation using the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Custom Soil Resource Report for San Bernardino County, Mojave River Area. Soil surveys furnish soil maps and interpretations originally needed in providing technical assistance to farmers and ranchers; in guiding other decisions about soil selection, use, and management; and in planning, research, and disseminating the results of the research. In addition, soil surveys are now heavily utilized in order to obtain soil information with respect to potential wetland environments and jurisdictional areas (i.e., soil characteristics, drainage, and color).

Based on the NRCS USDA Web Soil Survey, the project site is historically underlain by Kimberlina gravelly sandy loam (cool, 2 to 5 percent slopes) and Yermo-Kimberlina (cool, associated sloping). Soils along site boundaries have been compacted by development and disturbances associated with the adjacent and on-site roadways and development. Soils underlying portions of the site that occur outside of these areas are relatively undisturbed. Refer to Exhibit 4, *Soils*.

4.6 HYDRIC SOILS LIST OF CALIFORNIA

ELMT reviewed the USDA NRCS Hydric Soils List of California in an effort to verify whether on-site soils are considered to be hydric⁵. It should be noted that lists of hydric soils along with soil survey maps

Solar Ground Mount System near OMYA
Delineation of State and Federal Jurisdictional Waters Report

A hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

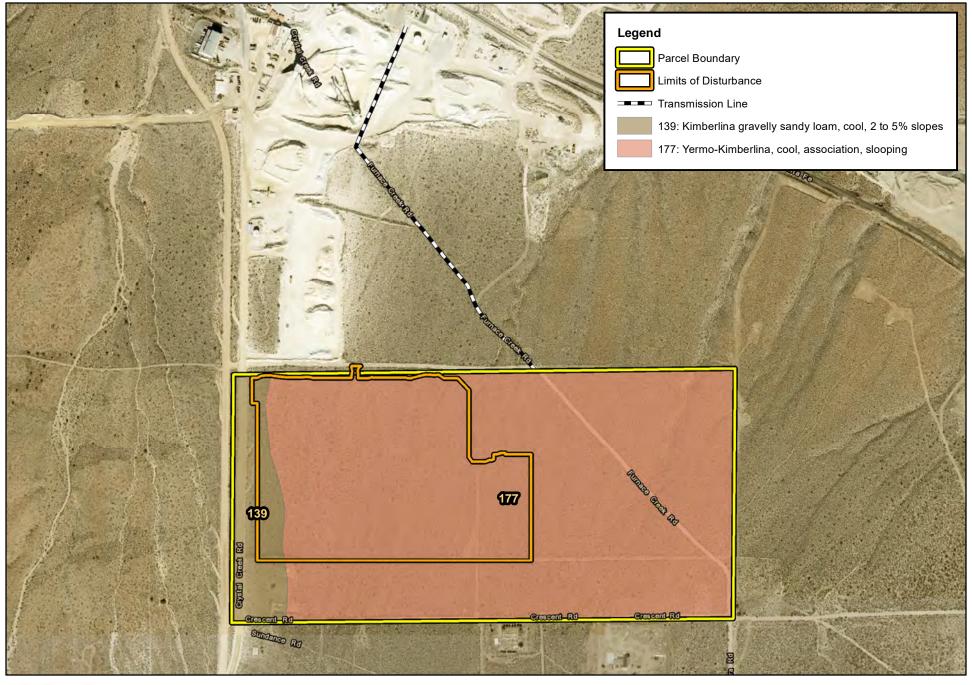
provide off-site ancillary tools to assist in wetland determinations, but they are not a substitute for field investigations. The presence of hydric soils is initially investigated by comparing the mapped soil series for the site to the County list of hydric soils. According to the hydric soils list, Yermo-Kimberlina (cool, associated sloping) is listed as hydric for San Bernardino County, California, Mojave River Area.

4.7 NATIONAL WETLANDS INVENTORY

ELMT reviewed the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) maps. Based on the NWI maps, no riverine resources are mapped within or adjacent to the boundaries of the project site. Mapping for this area was photo interpreted using 1:40,000 scale color infrared imagery from 1996. Refer to Appendix B, *Documentation*.

4.8 FLOOD ZONE

The Federal Emergency Management Act (FEMA) website was searched for flood data for the project site. Based on Flood Insurance Rate Maps Nos. 06071C6575H, 06701C7280H, and 06071C7285H the project site is located within Zone D – areas of undetermined flood hazard. Refer to Appendix B, *Documentation*.



ELMT



POWERFLEX - SOLAR (OMYA - LUCERNE VALLEY)

Section 5 Site Conditions

ELMT biologists Travis J. McGill, Jacob H. Lloyd Davies, Rachael A. Lyons, and Megan E. Peukert conducted a field delineation on April 3 and 11, 2024, to verify existing site conditions and document the extent of potential jurisdictional areas within the boundaries of the project site. ELMT field staff encountered no limitations during the field delineation.

The project site is primarily composed of undeveloped land that supports natural plant communities, with disturbed undeveloped land and development also present. Undeveloped land that is relatively undisturbed supports Mojavean desert scrub and Joshua tree woodland plant communities, disturbed undeveloped land occurs along access roads that bound site boundaries, and development occurs where site boundaries overlap with existing OMYA facilities and quarries, and a remnant building foundation in the southeast portion of the site.

5.1 ON-SITE FEATURES

5.1.1 DRAINAGE FEATURES

Five (5) unnamed ephemeral drainage features (Drainages 1-5) were observed within the boundaries of the project site during the field investigation. Drainage 1 is located on the western boundary of the project site and generally flows from north to south before terminating at the existing OMYA facility near the northwest corner of the project site. Drainages 2-5 generally flow in a southwest to northeast direction where the drainages converge into a larger drainage feature offsite that eventually terminates into the High Grade Materials Quarry, approximately 2 miles northwest of the project site. The onsite features only convey surface flow in direct response to precipitation, and are not expected to be intermittent or permanent water features. Refer to Exhibit 5, *Jurisdictional Areas*.

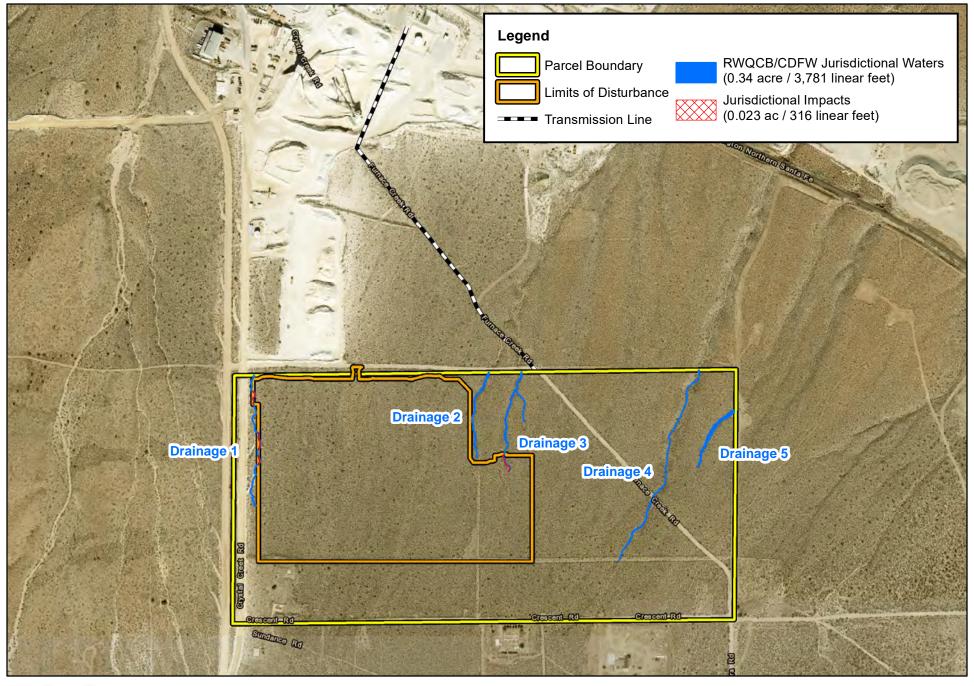
The OWHM of on-site drainage features ranged from 2 to 20 feet in width. None of the on-site features support riparian vegetation.

The on-site drainage features primarily consisted of gravelly substrate consisting of small cobble with minimal vegetation. The banks of the drainage features are unconsolidated and were vegetated with upland plant species indicative of the surrounding Mojavean desert scrub plant community. Common native species observed on-site include black brush (*Coleogyne ramosissima*), Mojave yucca (*Yucca schidigera*), and western Joshua tree (*Yucca brevifola*).

5.1.2 WETLAND FEATURES

In order to qualify as a wetland, a feature must exhibit all three wetland parameters (i.e., vegetation, soils, and hydrology) described in the Corps Arid West Regional Supplement. Although evidence of hydrology (i.e., scour, changes in substrate, lack of vegetation) was present within the on-site drainages, these areas were dominated by upland plant species. Further, water does not persist long enough on the Project site to create hydric soil (anaerobic) conditions, and none of the on-site drainages supported a dominance of

hydrophytic vegetation. As a result, no features on-site meet the Corps' or Regional Board's wetland definition to qualify as jurisdictional wetlands.







POWERFLEX - SOLAR (OMYA - LUCERNE VALLEY)

Drainage Features

Section 6 Findings

This report presents the extent of jurisdictional features using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. Please refer to the following sections for a summary of jurisdictional areas within the Project site.

6.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

6.1.1 WATERS OF THE UNITED STATES DETERMINATION

The on-site ephemeral drainage features are not relatively permanent, standing, or continuously flowing bodies of water and, therefore, will not qualify as waters of the United States under the regulatory authority of the Corps (*Sackett v. EPA* (2022) 143 S. Ct. 1322, 1336).

6.1.2 FEDERAL WETLAND DETERMINATION

An area must exhibit all three wetland parameters described in the Corps Arid West Regional Supplement to be considered a jurisdictional wetland. Based on the results of the field delineation, it was determined that no areas within the Project site met all three wetland parameters. Therefore, no jurisdictional wetland features exist within the Project site.

6.2 REGIONAL WATER QUALITY CONTROL BOARD

6.2.1 WATERS OF THE STATE DETERMINATION

The onsite drainage features exhibit characteristics consistent with the Regional Board's methodology and would be considered jurisdictional waters of the State. Approximately 0.34 acre (3,781 linear feet) of non-wetland waters of the State occur onsite. Based on the preferred site plan, approximately 0.023 acre (316 liner feet) of impacts will occur to Regional Board waters of the State. Refer to Exhibit 5 for an illustration of impacts to Regional Board waters of the State.

Table 1: Regional Board Jurisdictional Waters and Impacts

	Regional Board Jurisdiction			
Jurisdictional Feature	On-Site Jurisdiction	Impacts		
	Acreage (Linear Feet)	Acreage (Linear Feet)		
Drainages 1	0.057 (740)	0.018 (211)		
Drainage 2	0.05 (470)	_		
Drainage 3	0.062 (730)	0.005 (105)		
Drainage 4	0.077 (1,476)	_		
Drainage 5	0.094 (365)	_		
TOTAL	0.34 (3,781)	0.023 (316)		

6.2.2 STATE WETLAND DETERMINATION

Under the State Water Resources Control Board State Wetland Definition, an area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Based on the results of the field delineation, it was determined that no areas within the Project site meet the State Wetland Definition. Therefore, no state wetland features exist within the Project site.

6.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The on-site drainage features exhibit characteristics consistent with CDFW's methodology and would be considered CDFW streambed. Approximately 0.34 acre (3,781 linear feet) of CDFW jurisdiction was mapped within boundaries of the project site. Based on the preferred site plan, approximately 0.023 acre (316 liner feet) of impacts will occur to CDFW jurisdictional streambed. Refer to Exhibit 5, for an illustration of impacts to CDFW jurisdictional areas.

Table 2: CDFW Jurisdictional Areas and Impacts

	CDFW Jurisdictional Streambed			
Jurisdictional Feature	On-Site Jurisdiction	Impacts		
	Acreage (Linear Feet)	Acreage (Linear Feet)		
Drainages 1	0.057 (740)	0.018 (211)		
Drainage 2	0.05 (470)	_		
Drainage 3	0.062 (730)	0.005 (105)		
Drainage 4	0.077 (1,476)	_		
Drainage 5	0.094 (365)	-		
TOTAL	0.34 (3,781)	0.023 (316)		

Section 7 Regulatory Approval Process

The following is a summary of the various permits, certifications, and agreements that may be necessary prior to construction and/or alteration within jurisdictional areas. Ultimately the regulatory agencies make the final determination of jurisdictional boundaries and permitting requirements.

7.1 UNITED STATES ARMY CORPS OF ENGINEERS

The Corps regulates discharges of dredged or fill materials into waters of the United States and wetlands pursuant to Section 404 of the CWA. No Corps jurisdictional areas were identified within the project site and a CWA Section 404 permit would not be required for the proposed project.

It recommended that the project applicant coordinate with the Corps to confirm existing site conditions and document the absence of Corps jurisdiction within the boundaries of the project site. The Corps may require an Approved Jurisdictional Determination (AJD) to be processed to confirm the absence of waters of the United States; however, they may waive the need for a AJD to be processed.

7.2 REGIONAL WATER QUALITY CONTROL BOARD

The Regional Board regulates discharges to surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. Impacts to on-site jurisdictional areas will require a Report of Waste Discharge prior to project implementation. Therefore, it will be necessary for the applicant to acquire a Report of Waste Discharge Certification prior to impacts occurring within Regional Board jurisdictional areas. The Regional Board also requires that California Environmental Quality Act (CEQA) compliance be obtained prior to obtaining the 401 Certification. A Regional Board Application fee is required with the application package and is calculated based on the acreage and linear feet of jurisdictional impacts.

7.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Pursuant to Section 1602 of the California Fish and Game Code, the CDFW regulates any activity that will divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream. A Section 1602 Streambed Alteration Agreement from the CDFW will be required for impacts to the onsite drainage features prior to project implementation. The notification is based on the term and cost of a Project. The Section 1602 Streambed Alteration Agreement will not be issued until all fees are paid to the CDFW. CDFW also requires that CEQA compliance be obtained prior to issuance of the Streambed Alteration Agreement.

Section 8 References

- Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station, 1987.
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- Corps. 2008. A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States. August 2008.
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- Corps. 2016. *Arid West 2016 Regional Wetland Plant List*. 2016 NWPL v3.3. Accessed online at http://wetland-plants.usace.army.mil/nwpl_static/index.html.
- Corps. 2016. *Updated Map and Drawing Standards for the South Pacific Regulatory Division Regulatory Program.* February 2016.
- Corps. 2017. Los Angeles District Regulatory Program (www.spl.usace.army.mil/).
- Corps. 2017. Minimum Standards for Acceptance of Aquatic Resources Delineation Reports. March 2017.
- Corps. 2017. Reissuance of the Nationwide Permits and Issuance of Final Regional Conditions for the Los Angeles District. March 2017.
- Corps. 2020. The Navigable Waters Protection Rule: Definition of "Waters of the United States. 33 CFR Part 328. April 2020.
- State Water Resources Control Board. 2019. State wetland Definition and procedures for Discharges of Dredged or Fill Material to Waters of the State. Adopted May 28, 2020.
- U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). *List of Hydric Soils*. Accessed online at https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/.
- USDA NRCS. 2017. Field Indicators of Hydric Soils in the United States: A Guide to Identifying and Delineating Hydric Soils, Version 8.1. 2017.
- U.S. Department of Homeland Security, Federal Emergency Management Agency, National Flood Insurance Program, *Flood Insurance Rate Map No. 06071C5835H*.

U.S. Fish and Wildlife Service, Department of Habitat and Resource Conservation. 2019. *Wetland Geodatabase*. Accessed online at https://www.fws.gov/wetlands/data/Mapper.html.

Vyverberg, Kris. 2010. A Review of Stream Processes and Forms in Dryland Watersheds. California Department of Fish and Game. December 2010.

Appendix A Site Photographs



Photograph 1: From the start of Drainage 1, looking upstream to the southeast.



Photograph 2: From the middle of Drainage 1, looking upstream to the southeast.



Photograph 3: From the terminus of Drainage 1 at the northern boundary of the project site, looking upstream to the south.



Photograph 4: From inside Drainage 2, looking downstream toward Furnace Creek Road and the northern boundary of the project site.





Photograph 5: From the start of Drainage 2, looking downstream to the north.



Photograph 6: From Furnace Creek Road, looking upstream at the northern limits of Drainage 3 within the boundaries of the project site.





Photograph 7: At the start of the eastern portion of Drainage 3, looking downstream to the northeast.



Photograph 8: From the point of convergence of the western and eastern portions of Drainage 3 converge, looking upstream to the south.





Photograph 9: From the widest region of Drainage 4, looking upstream to the southwest.



Photograph 10: From Furnace Creek Road, at the break in Drainage 4, looking downstream to the northeast.



Photograph 11: From inside Drainage 5 near the northern boundary of the project site, looking upstream to the south.



Photograph 12: From inside Drainage 5 at the eastern limits of the project site, looking upstream to the southwest.





Photograph 13: A 36-inch culvert along the eastern boundary of the project site which directs flows from Drainage 5 to the northeast of the project site.



Appendix B Documentation

U.S. Fish and Wildlife Service National Wetlands Inventory

Solar Ground Mount System near OMYA



April 17, 2024

Wetlands

Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

011

Riverine

Other

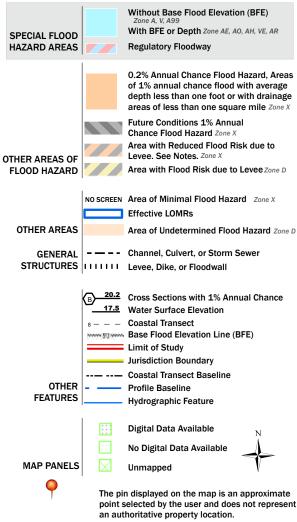
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/17/2024 at 7:57 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



Appendix C Site Plan

OMYA

SITE GRADING PLANS FOR PROPOSED SOLAR PLANT 7225 CRYSTAL CREEK ROAD LUCERNE VALLEY, CA 92356 6.49 MW DC RATED SOLAR ELECTRIC SYSTEM

PROJECT SCOPE **LOCATION MAP GENERAL NOTES** AS CONTAINED HEREIN, "CONTRACTOR" IS ASSUMED TO BE POWERFLEX, LLC AND "SUBCONTRACTOR" IS POWERFLEX LLC'S INSTALLATION SUBCONTRACTOR THESE NOTES SET MINIMUM TECHNICAL STANDARDS FOR CONSTRUCTION. THE DRAWINGS GOVERN OVER THESE THE PHOTOVOLTAIC OUTPUT POWER FROM DC TO AC. THE SOLAR ELECTRIC SYSTEM WILL BE INTERCONNECTED WITH THE EXISTING SITE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE APPLICABLE . ALL WORK SHELL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING: LOCAL BUILDING CODE, LOCAL ELECTRIC CODE AND UTILITY REQUIREMENTS. ELECTRICAL CODE, ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK AND THOSE CODES AND STANDARDS LISTED IN THESE DRAWINGS AND IN THE SUBCONTRACTOR AGREEMENT COORDINATE THESE DRAWINGS WITH SPECIFICATIONS AND MANUFACTURER INSTALLATION AND OPERATION MANUALS

SYSTEM DESCRIPTION

SYSTEM SIZE (DC STC)	6.49 MW	SYSTEM SIZE (AC)	5.00 MW
MODULES	(14,420) CANADIAN SOLAR CS3W-450MB-AG	STC RATED OUTPUT	450W
MODULES PER FRAME	23-28	# OF FRAMES	N/A
RACKING	PER MODULE MFG.	TILT ANGLE	30° (MAX.)
INVERTER	CPS SCH125KTL-DO/US-600	# OF INVERTERS	40
AZIMUTH	180° (SOUTH = 180°)	PARCEL ACREAGE	20.07 AC
		·	·

PROJECT DIRECTORY

OMYA NORTH AMERICA ADDRESS: 7225 CRYSTAL CREEK ROAD, LUCERNE VALLEY CA 92356 PHONE NUMBER: (760) 248-5200

AUTHORITY HAVING JURISDICTION COUNTY OF SAN BERNADINO 385 N. ARROWHEAD AVE. SAN BERNADINO, CA 92415

POWERFLEX CONTACT: NICHOLAS BUDZYNSKI PHONE: (917) 410-6420

TECTONIC ENGINEERING CONSULTANTS CONTACT: J. MARK PRIVETTE, P.E. PHONE: (845) 534-5959

ELECTRICAL ENGINEER PURE POWER ENGINEERING CONTACT: RICHARD A. IVINS, P.E. PHONE: (978) 610-2864

AERIAL VIEW



DRAWING LIST SHFFT TITLE 0 TITLE SHEET GENERAL CONSTRUCTION NOTES PROJECT AREA TOPOGRAPHY & SOILS OVERALL EARTHWORKS PLAN HORIZONAL CONTROL / SITE LAYOUT PLAN ENLARGED HORIZONAL CONTROL / SITE LAYOUT PLAN

OVERALL GRADING & DRAINAGE PLAN

ENLARGED GRADING & DRAINAGE PLAN

EROSION & SEDIMENT CONTROL PLAN

EROSION AND SEDIMENT CONTROL DETAILS

BASIN MAPS PRE-DEVELOPMENT

BASIN MAPS POST-DEVELOPMENT

SURVEY

SHEET NUMBER

C-3

C-5A

C-5B

C-5B

C-5C

C-5D

C-5F

C-5G

C-6A

C-6B

SVY-1



VORK ORDER # 11550.07 RAWING TITLE

TITLE SHEET

APPLICABLE CODES AND STANDARDS

THE FOLLOWING DOCUMENTS WERE UTILIZED IN THE DESIGN PROCESS:

16. TREES MAY GROW DURING THE LIFE OF THE SYSTEM AND IMPACT THE PRODUCTION.

• SAN BERNANDO COUNTY HYDROLOGY MANUAL (AUGUST 1986) AND COUNTY OF SAN BERNARDINO HYDROLOGY MANUAL ADDENDUM FOR ARID REGIONS (APRIL 2010).

CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE SUBCONTRACTOR AT HIS OWN

. SUBCONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO POWERFLEX, LLC. FOR APPROVAL PRIOR TO MAKING ANY CHANGES. APPROVED CHANGED REQUIRE A DRAWING REVISION TO MAINTAIN CONTROL OVER THE

10. ALL ITEMS TO BE REMOVED AND RELOCATED OR REPLACED SHALL BE HANDLED WITH PROPER CARE AND STORED

1. ALL EQUIPMENT SHALL BE MOUNTED AS SHOWN, WHERE DETAILS ARE NOT PROVIDED, THE SUBCONTRACTOR SHALL

12. ALL SURFACES SHALL BE PATCHED AND PAINTED AROUND NEW DEVICES AND EQUIPMENT TO MATCH EXISTING

13. ANY METAL SHAVINGS RESULTING FROM SITE WORK SHALL BE CLEANED FROM ROOF SURFACES, ENCLOSURES AND ANY ADDITIONAL AREAS WHERE OXIDIZED OF CONDUCTIVE METAL SHAVINGS MAY CAUSE RUST, ELECTRICAL SHORT

15. SUBCONTRACTOR ACKNOWLEDGES THAT THE SYSTEM AS INDICATED ON THE PLANS REQUIRES ALL COMPONENTS TO

COMPONENTS NOT YET INSTALLED DURING AND AFTER REGULAR WORKING HOURS. THIS MAY INCLUDE TEMPORARY

EXISTING FACILITY AS A RESULT OF THE UNFINISHED CONDITION NOT ADEQUATELY RESISTING WIND SHALL BE THE

9. UNLESS INDICATED AS EXISTING (E), ALL PROPOSED MATERIALS AND EQUIPMENT ARE NEW.

IN A SAFE PLACE TO PREVENT DAMAGE, OR BE REPLACED AT THE SUBCONTRACTOR'S EXPENSE.

USE DILIGENT EFFORTS TO MOUNT EQUIPMENT SUCH THAT IT WILL BE CLEAN, LEVEL AND SOLID.

14. NO STRUCTURAL MEMBER SHALL BE DRILLED UNLESS SPECIFICALLY AUTHORIZED BY POWERFLEX, LLC..

RESPONSIBILITY OF THE SUBCONTRACTOR TO REPAIR OR REPLACE AT THE SUBCONTRACTOR'S COST.

BE INSTALLED TO PROPERLY RESIST WIND LOADS, SUCH AS BALLAST, WIND DEFLECTORS, ETC. IT IS THE

RESPONSIBILITY OF THE SUBCONTRACTOR TO PROVIDE TEMPORARY MEANS TO RESIST WIND LOADS FOR ALL

TIE DOWNS, COVERING, BALLAST OR ANY OTHERS, DAMAGE TO ANY INSTALLED SYSTEM COMPONENT OR THE

THE SUBCONTRACTOR.

CIRCUITS OR OTHER DAMAGE.

APPROVED DESIGN. DEVIATION FROM THESE PLANS PRIOR TO POWERFLEX, LLC. APPROVAL PLACES ALL LIABILITY ON

- SAN BERNARDINO COUNTY DETENTION BASIN DESIGN MEMO (SEPT 1987).
- NOAA ATLAS 14, VOLUME 6, VERSION 2 POINT PRECIPITATION FREQUENCY ESTIMATES, (SOURCED ON 5/22/2024).
- OMYA LUCERNE VALLEY, GEOTECHNICAL ENGINEERING REPORT AS PREPARED BY TERRACON CONSULTANTS, INC., DATED 5/07/24 (PROJECT #60245013).
- OMYA LUCERNE VALLEY, STORMWATER MANAGEMENT REPORT, BY TECTONIC ENGINEERING, DATED 7/30/24.
- BOUNDARY AND TOPOGRAPHIC SURVEY BY PBLA SURVEYING, INC., DATED MAY 17, 2024 (JOB
- 2022 CALIFORNIA BUILDING STANDARDS CODE, TITLE 24
- 2022 CALIFORNIA FIRE CODE, TITLE 24, PART 9

SITE DATA:

ZONING: LV-IC

PROPERTY I.D.: APN: 446-033-18

OWNER/OPERATOR: OMYA NORTH AMERICA ADDRESS: 7225 CRYSTAL CREEK ROAD, LUCERNE VALLEY CA 92356

JURISDICTION: SAN BERNADINO COUNTY

PHONE NUMBER: (760) 248-5200

FLOOD ZONE: D, PANELS 06071C6575H 8/88/2008

PROPERTY AREA: 158.03 ACRES PROJECT AREA: 26.3± ACRES

SURVEY BY PBLA SURVEYING, INC. (JOB.NO. 5061-1) PLS 8403 SURVEY FIELD WORK COMPLETED ON 05/17/2024

> BUILDING AES DISTRIBUTED ENERGY CENTERLINE DATA ACQUISITION SYSTEM DIA DIAMETER ΕW EAST-WEST FBO FURNISHED BY OTHERS FORWARD FACING GALVANIZED GALV HDG HOT DIP GALVANIZED

HEATING VENTILATION AND AIR CONDITIONING INSIDE DIAMETER MFR MANUFACTURER SOLAR MODULE

OR APPROVED EQUAL ON CENTER OUTSIDE DIAMETER OWNER FURNISHED CONTRACTOR INSTALLED PHOTOVOLTTAIC POLY VINYL CHLORIDE SCHEDULE STAINLESS STEEL SOLAR SUPPORT STRUCTURE STANDARD TEST CONDITIONS TO BE DETERMINED TAMPER PROOF TYPICAL UON UNLESS OTHERWISE NOTED VERIFIED IN FIELD

WEATHER PROOF

GENERAL ABBREVIATIONS

NORTH-SOUTH AUTHORITY HAVING JURISDICTION NOT TO SCALE ALUMINUM APPROX APPROXIMATE ARRAY

GENERAL CONSTRUCTION NOTES

- A. IN THESE DOCUMENTS THE DEVELOPER IS POWERFLEX.
- B. ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO IN THESE PLANS SHALL BE OF THE CURRENT REVISION.
- C. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.
- D. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS ON ALL PRE-CAST AND MANUFACTURED ITEMS TO THE OWNER'S ENGINEER FOR APPROVAL. FAILURE TO OBTAIN APPROVAL BEFORE FABRICATION AND/OR INSTALLATION MAY RESULT IN REMOVAL AND REPLACEMENT AT CONTRACTOR'S EXPENSE.
- E. WORK PERFORMED UNDER THIS CONTRACT SHALL INTERFACE SMOOTHLY WITH OTHER WORK BEING PERFORMED BY OTHER CONTRACTORS AND UTILITY COMPANIES. IT WILL BE NECESSARY FOR THE CONTRACTOR TO COORDINATE AND SCHEDULE HIS ACTIVITIES, WHERE NECESSARY, WITH CONTRACTORS AND UTILITY COMPANIES (INCLUDING, BUT NOT LIMITED TO LIGHTING, POWER, TELEPHONE, CABLE, GAS, ETC...).
- F. CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE NPDES PERMIT FROM CALIFORNIA STATE WATER RESOURCES BOARD. CONTRACTOR SHALL COORDINATE ALL ENVIRONMENTAL ISSUES WITH THE ENVIRONMENTAL CONSULTANT.
- G. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND, THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED BY THE CONTRACTOR CALLED FOR IN THIS CONTRACT.
- H. ALL UNDERGROUND UTILITIES, INCLUDING DUCTBANKS NOT UNDER THE DRIVEWAY/TRAVELWAYS, MUST BE IN PLACE AND TESTED OR INSPECTED PRIOR TO BASE AND PAVEMENT CONSTRUCTION.
- I. SEVEN (7) DAYS NOTICE IS REQUIRED TO THE PERTINENT GOVERNMENT AGENCIES AND THE ENGINEER PRIOR TO SITE INSPECTIONS AND/OR WITNESSING ANY SITE/CIVIL TESTING.
- J. POWERFLEX WILL SCHEDULE PRE-CONSTRUCTION MEETINGS WITH OTHER JURISDICTIONAL AGENCIES AS NECESSARY.
- K. CONSTRUCTION SHALL ADHERE TO APPLICABLE AGENCY CRITERIA, PERMIT CONDITIONS, AS WELL AS SPECIFICATIONS PROVIDED BY OWNER.
- L. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH POWERFLEX CONCERNING LIMITS OF CONSTRUCTION, TRANSITIONS, ETC. WHICH MAY NOT BE SHOWN ON THESE PLANS.
- M. CONTRACTOR SHALL VERIFY LOCATIONS AND DEPTHS OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE OWNER OR ENGINEER IMMEDIATELY FOR RESOLUTION.

SAFETY NOTES

- A. DURING THE CONSTRUCTION AND MAINTENANCE OF THIS PROJECT, ALL OSHA AND NY STATE SAFETY REGULATIONS ARE TO BE ENFORCED. THE CONTRACTOR OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE CONTROL AND SAFETY OF THE TRAVELING PUBLIC AND THE SAFETY OF HIS PERSONNEL.
- B. LABOR SAFETY REGULATIONS SHALL CONFORM TO THE PROVISIONS SET FORTH BY OSHA IN THE FEDERAL REGISTER OF THE DEPARTMENT OF TRANSPORTATION AND CONSTRUCTION WORK PER STANDARD 1910.12.
- C. CONTRACTOR SHALL PROVIDE AND MAINTAIN ITS OWN SAFETY EQUIPMENT IN ACCORDANCE WITH ITS HEALTH & SAFETY PROGRAM AND ALL OTHER APPLICABLE LEGAL AND HEALTH AND SAFETY REQUIREMENTS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR PROVIDING ITS EMPLOYEES AND SUB CONTRACTORS WITH ADEQUATE INFORMATION AND TRAINING TO ENSURE THAT ALL EMPLOYEES AND SUB CONTRACTORS AND SUB CONTRACTOR'S EMPLOYEES COMPLY WITH ALL APPLICABLE REQUIREMENTS. CONTRACTOR SHALL REMAIN IN COMPLIANCE WITH ALL OCCUPATION SAFETY AND HEALTH REGULATIONS AS WELL AS THE ENVIRONMENTAL PROTECTION LAWS. THE FOLLOWING IS NOT TO BE PERCEIVED AS THE ENTIRE SAFETY PROGRAM BUT JUST BASIC REQUIREMENTS.
- D. ALL EXCAVATIONS BY THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF THE DEPARTMENT OF LABOR'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION RULES AND REGULATIONS. PARTICULAR ATTENTION MUST BE PAID TO THE CONSTRUCTION STANDARDS FOR EXCAVATIONS, 29 CFR PART 1926, SUBPART P.
- E. ALL TRAFFIC CONTROL MARKINGS AND DEVICES SHALL CONFORM TO THE PROVISIONS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PREPARED BY THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION.
- F. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY AND ENFORCE ALL APPLICABLE SAFETY REGULATIONS. THE ABOVE INFORMATION HAS BEEN PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY AND DOES NOT IMPLY THAT THE OWNER OR ENGINEER WILL INSPECT AND/OR ENFORCE SAFETY REGULATIONS.
- G. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES AND SHALL LOCATE ALL EXISTING BURIED UTILITIES BY HAND—DIG METHODS.
 THE CONTRACTOR SHALL OBTAIN PERTINENT APPROVALS AND PERMITS FROM THE LOCAL JURISDICTION PRIOR TO ALL EXCAVATIONS.

CONSTRUCTION SEQUENCING

CONSTRUCTION SEQUENCING WILL BEGIN WITH SITE MOBILIZATION, INCLUDING ESTABLISHMENT OF SITE SAFETY AND SECURITY MEASURES, SURVEY AND STAKING OF THE SITE PERIMETER TO ESTABLISH THE LIMITS OF DISTURBANCE. ALL STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MEASURES WILL THEN BE PUT IN PLACE AROUND THE PERIMETER AND IN OTHER AREAS AS INDICATED IN THE SWPPP PRIOR TO ANY SITE DISTURBANCES TO MANAGE STORMWATER THROUGHOUT CONSTRUCTION. SITE ACCESS ROADS AND TEMPORARY CONSTRUCTION ROADS WILL THEN BE CONSTRUCTED FOLLOWED BY ANY REQUIRED TREE CLEARING, REMOVAL OF VEGETATION AND REMOVAL OF ANY DEBRIS OR OTHER MATERIALS FROM SITE THAT CAN NOT BE USED ON THE PROJECT.

CIVIL EARTHWORKS WILL BEGIN BY GRADING THE PROPOSED ROADS & EQUIPMENT AREAS TO THE FINAL DESIGN TOPOGRAPHY THROUGHOUT THE ARRAY. THE INSTALLATION OF THE ARRAY RACKING SYSTEM WILL THEN BEGIN WITH THE INSTALLATION OF THE VERTICAL PILES, WITH TRENCHING FOR BURIED CABLING ALSO BEING DONE IN PARALLEL. SUPPORTING STRUCTURES FOR THE SOLAR PANELS WILL BE INSTALLED ON THE PILES ONCE A SIGNIFICANT PORTION OF PILES ARE INSTALLED. CIVIL CREWS WILL CONTINUE BY PREPARING EQUIPMENT SLABS AND FOUNDATIONS FOR MAJOR EQUIPMENT SUCH AS INVERTERS, TRANSFORMERS AND OTHER PAD MOUNTED EQUIPMENT.

WITH A SIGNIFICANT PORTION OF THE PANEL SUPPORT STRUCTURE IN PLACE, CREWS WILL THEN BEGIN INSTALLING THE SOLAR PANELS ON THE STRUCTURES AS WELL AS THE INSTALLATION OF ELECTRICAL CABLING WITHIN THE ARRAY AND INSTALLATION OF COMBINER BOXES AND EQUIPMENT INSTALLED WITHIN THE ARRAY ITSELF. CONSTRUCTION AT THE POINT OF INTERCONNECTION (POI) WILL BEGIN NEAR THE END OF TRENCHING TO ALIGN WITH THE MEDIUM VOLTAGE RUN FROM THE ARRAY TO THE POI. ONCE THE POI IS ESTABLISHED, EQUIPMENT AT THE POI WILL BE INSTALLED AND COORDINATION WITH THE UTILITY TO HAVE UTILITY OWNED EQUIPMENT INSTALLED WILL OCCUR. WHEN THE EQUIPMENT IS COMPLETELY INSTALLED AND ALL ELECTRICAL CABLING IS COMPLETE, ALL FINAL TERMINATIONS WITHIN EQUIPMENT CABINETS WILL BE COMPLETED AND ALL ELECTRICAL CHECKS AND TESTING WILL BE CONDUCTED. NOTE THAT, THE POI INSTALLATION TIME LINE MAY BE ADJUSTED SUBJECT TO COORDINATION WITH THE UTILITY.

THE SYSTEM WILL BE INSPECTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) TO ENSURE THE SYSTEM IS INSTALLED PER THE DESIGN AND ALL RELEVANT CODES. THE UTILITY WILL THEN CONDUCT TESTING PRIOR TO ALLOWING THE SYSTEM TO BE ENERGIZED FOR TESTING UNDER LOAD. WITH THE APPROVAL OF THE AHJS AND THE UTILITY, THE SYSTEM WILL THEN REMAIN ENERGIZED FOR PERFORMANCE TESTING WHILE ANY SITE RESTORATION ACTIVITIES ARE COMPLETED. ONCE THE SYSTEM HAS BEEN FULLY TESTED AND ALL DESIGN REQUIREMENTS HAVE BEEN MET, THE SITE WILL UNDERGO FINAL INSPECTIONS BY ALL AHJS. AFTER ALL FINAL INSPECTIONS ARE CARRIED OUT AND PERMITS ARE CLOSED, THE SWPPP MEASURES WILL BE REMOVED AND ANY REMAINING CONSTRUCTION ASSETS WILL BE DEMOBILIZED, CONCLUDING ALL CONSTRUCTION ACTIVITIES.

NOTE:

ALL CONSTRUCTION SHALL CONFROM TO THE COUNTY OF SAN BERNADINO DESIGN & CONSTRUCTION STANDARDS.

PROJECT SPECIFIC NOTES

- A. THE CONTRACTOR IS TO COORDINATE HIS WORK AND SITE ACCESS WITH THE OTHER ENTITIES THAT MAY BE WORKING ON SITE. ANY CONFLICTS ON COORDINATION ISSUES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND/OR ENGINEER FOR MUTUAL RESOLUTION.
- B. THE PROPOSED PROJECT WILL NOT ADVERSELY AFFECT SIGNIFICANT HISTORICAL OR ARCHEOLOGICAL RESOURCES UNDER THE PROVISIONS OF SECTION 106 AND 36 CFR PART 800 OR OTHER APPLICABLE STATE AND FEDERAL STATUTES. IF EVIDENCE OF THE EXISTENCE OF HISTORIC OR ARCHEOLOGICAL RESOURCES IS DISCOVERED OR OBSERVED AT DEVELOPMENT SITES OR DURING DEVELOPMENT ACTIVITIES AFTER FINAL APPROVAL, ALL WORK SHALL CEASE IN THE AREA OF EFFECT AS DETERMINED BY THE DIRECTOR. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER IMMEDIATELY, AND THE DEPARTMENT OF HISTORICAL RESOURCES WITHIN TWO WORKING DAYS. EXAMPLES OF EVIDENCE OF HISTORIC RESOURCES INCLUDE WHOLE OR FRAGMENTARY STONE TOOLS, SHELL TOOLS, ABORIGINAL OR HISTORIC POTTERY, HISTORIC GLASS, HISTORIC BOTTLES, BONE TOOLS, HISTORIC BUILDING FOUNDATIONS, SHELL MOUNDS, SHELL MIDDENS, OR SAND MOUNDS. THE APPROPRIATE NY STATE AGENCY SHALL ASSESS THE SIGNIFICANCE OF THE FINDS AND MITIGATE ANY ADVERSE EFFECTS AS SOON AS POSSIBLE, BUT NO LATER THAN THIRTY DAYS OF NOTIFICATION.
- C. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND SHALL NOT SCALE FROM DRAWINGS. THE DIMENSIONS OF SPECIFIED AND FURNISHED PRODUCTS AND MATERIALS TAKE PRECEDENCE OVER DIMENSIONS AND NOTES SHOWN ON THE DRAWINGS.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING OR PROPOSED UTILITIES, STRUCTURES, AND OTHER IMPROVEMENTS CAUSED BY HIS/HER ACTIVITIES.
- E. THE CONTRACTOR IS RESPONSIBLE FOR BRACING, SHORING, OR PROVIDING OTHER MEANS NECESSARY TO PROTECT AND SUPPORT EXISTING AND PROPOSED UTILITIES AND STRUCTURES EXPOSED OR UNEXPOSED DURING CONSTRUCTION.
- F. REFERENCES TO CALTRANS SPECIFICATIONS SHALL REFER TO THE CURRENT EDITION OF THE CAL TRANS ROADWAY AND TRAFFIC DESIGN STANDARDS.
- G. CALTRANS INDICES SHALL REFER TO THE CURRENT EDITION OF THE CALIFORNIA STATE DEPARTMENT OF TRANSPORTATION HIGHWAY SAFETY ADMINISTRATION DESIGN STANDARDS.

TESTING SCHEDULE

ITEM	TEST
PIPE TRENCH BACK FILL (SEE NOTE 1 BELOW) OVER PIPELINES AND AROUND STRUCTURES FROM R.O.W. LINE TO R.O.W. LINE AND IN STRUCTURAL AREAS	OPTIMUM MOISTURE/MAXIMUM DENSITY GRADATION (1 TEST PER 50 CY) DETERMINED BY AASHTO T180-57 (ASTM 95% OF MAXIMUM DENSITY AS D1557-70)
STABILIZED SUB GRADE	SCARIFIED AND COMPACTED TO A MINIMUM OF NINETY-FIVE PERCENT (95%) OF THE MAXIMUM STANDARD PROCTOR DENSITY (ASTM D698).
BASE COURSE (AASHTO #57 COARSE AGGREGATE)	OPTIMUM MOISTURE/MAXIMUM DENSITY MINIMUM 100 LBR COMPACTION OF OPEN GRADED AGGREGATE BY VIBRATORY OR PLATE COMPACTOR FOR A DUMPED HEIGHT REDUCTION OF 1" GRADATION: 100% PASSING 1-1/2" SCREEN, 95-100% PASSING 1" SCREEN, 25-60% PASSING ½" SCREEN, 0-10% PASSING #4 SCREEN, AND 0-5% #8 SCREEN
CONCRETE (SEE NOTE 3 BELOW) (PER AASHTO & ASTM SPECS)	SLUMP TEST MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS COMPRESSIVE STRENGTH CYLINDERS AIR CONTENT
RECLAIMED CRUSHED CONCRETE	OPTIMUM MOISTURE/MAXIMUM DENSITY GRADATION

- 1. ALL TESTING SHALL BE PERFORMED BY AN INDEPENDENT 3RD PARTY AND SUBSEQUENT REPORTS FURNISHED TO POWERFLEX. WITHIN FOURTEEN (14) DAYS OF COMPLETION.
- 2. PIPE TRENCH BACKFILL SHALL BE TESTED EVERY 50 FEET FOR EACH 12 INCH LIFT. TESTS SHALL BE PERFORMED ON EACH LIFT, EXCEPT THAT TESTS SHALL NOT BE FURTHER APART THAN ONE (1) FOOT VERTICALLY. FIELD DENSITIES SHALL BE TAKEN OVER ALL ROAD CROSSINGS. FIELD DENSITIES FOR SANITARY LINES SHALL BE STAGGERED TO INCLUDE RESULTS OVER SERVICE LATERALS. THERE SHALL BE A MINIMUM OF ONE (1) TEST SERIES FOR EACH 6 INCHES OF LIFT OVER PIPELINE BETWEEN MANHOLES. TESTS AROUND STRUCTURES SHALL BE SPIRALED IN 6 INCH LIFTS.
- 3. FOR FLEXIBLE PIPE (CORRUGATED STEEL OR ALUMINUM), 95% OF MAXIMUM DENSITY (AASHTO-T99) PER NYSDOT SPECIFICATIONS AS MODIFIED.
- 4. APPLIES TO SITE CONCRETE SUCH AS CURBS, GUTTERS, FLUMES, DRIVEWAYS AND SIDEWALKS.
- 5. ENGINEER OF RECORD SHALL RECEIVE MATERIAL TESTING REPORTS NO LATER THAN ONE (1) WEEK FROM THE TEST DATE.
- 6. EMBANKMENT, FILL, AND BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED TWELVE (12) INCHES VERTICALLY.

 ONE TEST PER 2,500 SQUARE FEET. EACH COMPACTED LIFT SHALL PASS THE AFOREMENTIONED TESTING CRITERIA BEFORE PROCEEDING TO THE NEXT VERTICAL LIFT.
- 6. IF SUCCESSIVE VERTICAL LIFTS ARE PLACED, THE DENSITY TESTS SHALL BE STAGGERED SO AS TO NOT BE REPEATED IN THE SAME LOCATION.

SURVEY NOTES

(AS PROVIDED BY SURVEYOR)

FIELD SURVEY DATE: 05/17/2024

SURVEY BY PBLA SURVEYING, INC.

FLOOD ZONE INFORMATION:

THE SUBJECT PROPERTY FALLS WITHIN FLOOD ZONE 'D' AS PER THE NATIONAL FLOOD INSURANCE RATE MAP FOR THE COUNTY OF SAN BERNADINO, STATE OF CALIFORNIA, COMMUNITY PANEL NO'S PANELS 06071C6575H, 8/28/2008 THIS DETERMINATION IS BASED ON SCALED MAP LOCATION AND GRAPHIC PLOTTING.

GENERAL FIRE PROTECTION NOTES

- AREAS WITHIN THE SOLAR ARRAY MUST BE MAINTAINED FREE OF FLAMMABLE MATERIALS; ANNUAL VEGETATION MUST BE MAINTAINED AT A HEIGHT OF LESS THAN THREE (3) INCHES.
- 2. A CLEAR, BRUSH—FREE AREA OF TEN FEET (THIRTY FEET IN THE SRA) SHALL BE REQUIRED AROUND GROUND—MOUNTED PHOTOVOLTAIC ARRAYS.
 THIS AREA SHALL ALSO BE CLEARED OF ALL DRY GRASS, WEEDS, RUBBISH, TRASH, LITTER, TIRES, TREE STUMPS, AND OTHER WASTE MATERIAL,
 OR ANY FLAMMABLE MATERIAL.
- 3. OWNER SHALL PROVIDE TRAINING FOR FIRE PERSONNEL TO BE ABLE TO INTERRUPT ELECTRICAL POWER SAFELY FOR EMERGENCY INCIDENTS REQUIRING FIRE SUPPRESSION OR RESCUE ACTIVITIES.
- 4. THE FIRE PROTECTION SYSTEM, INCLUDING FIXED AND PORTABLE EXTINGUISHING SYSTEMS MUST BE UP TO DATE ON REQUIRED ANNUAL FIRE INSPECTIONS AND TESTS AND BE APPROVED BY DFD.

FOR COMMENT - JMP GE
PER COMMENTS - JMP GE





PAGE SIZE DEN 36" x 24"

SYSTEM
DC SYSTEM SIZE: 6.49 MW
AC SYSTEM SIZE: 5.00 MW
MODULE TYPE: CSI SOLAR, CS3W-450MB-AG
MODULE QUANTITY: 14,420
ORIENTATION: 25° TILT, 180° AZIMUTH

SOLAR GROUND MOUNT SYSTEM AT OMYA 7225 CRYSTAL CREEK ROAD LUCERNE VALLEY, CA 92356

WORK ORDER # 11550.07

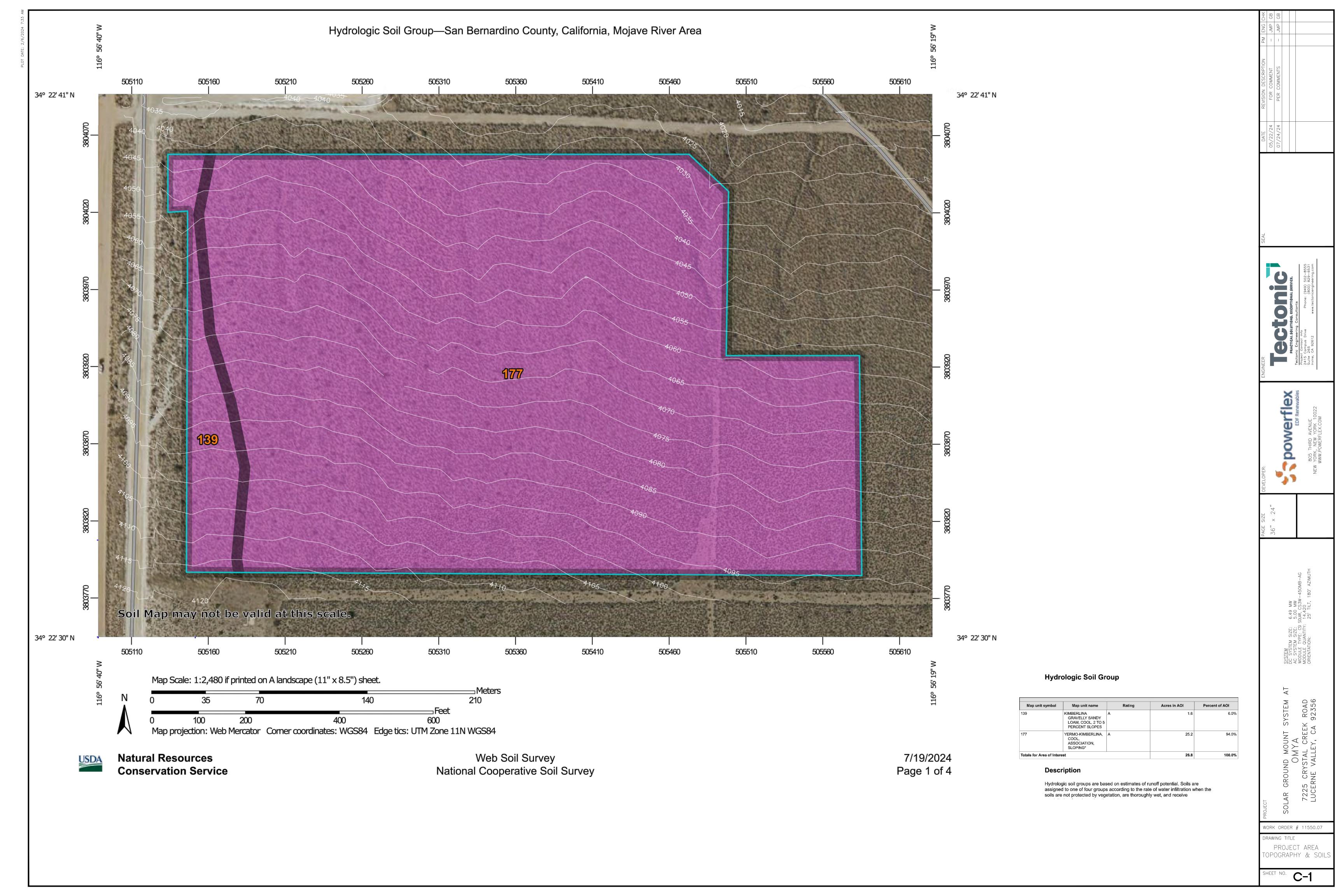
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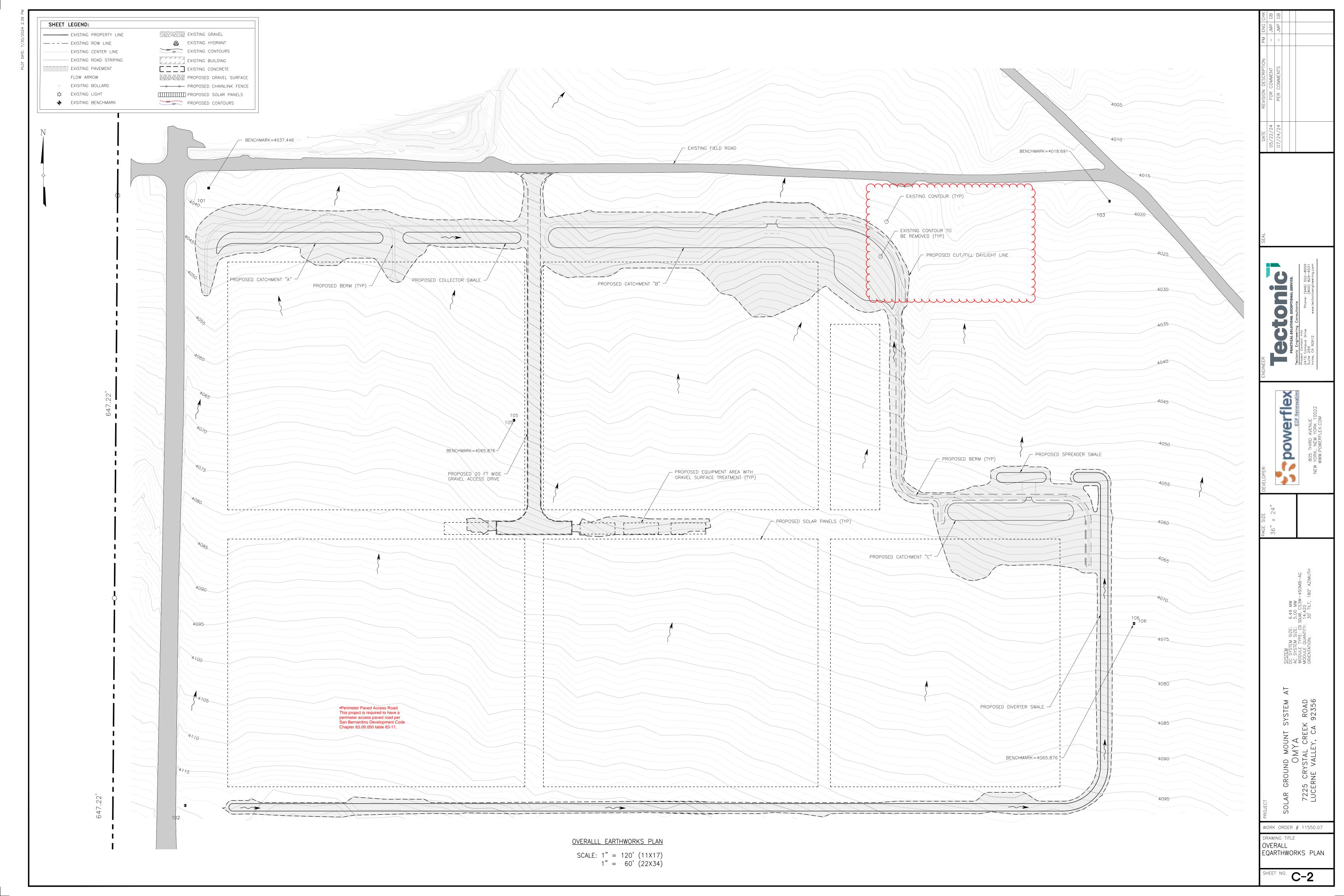
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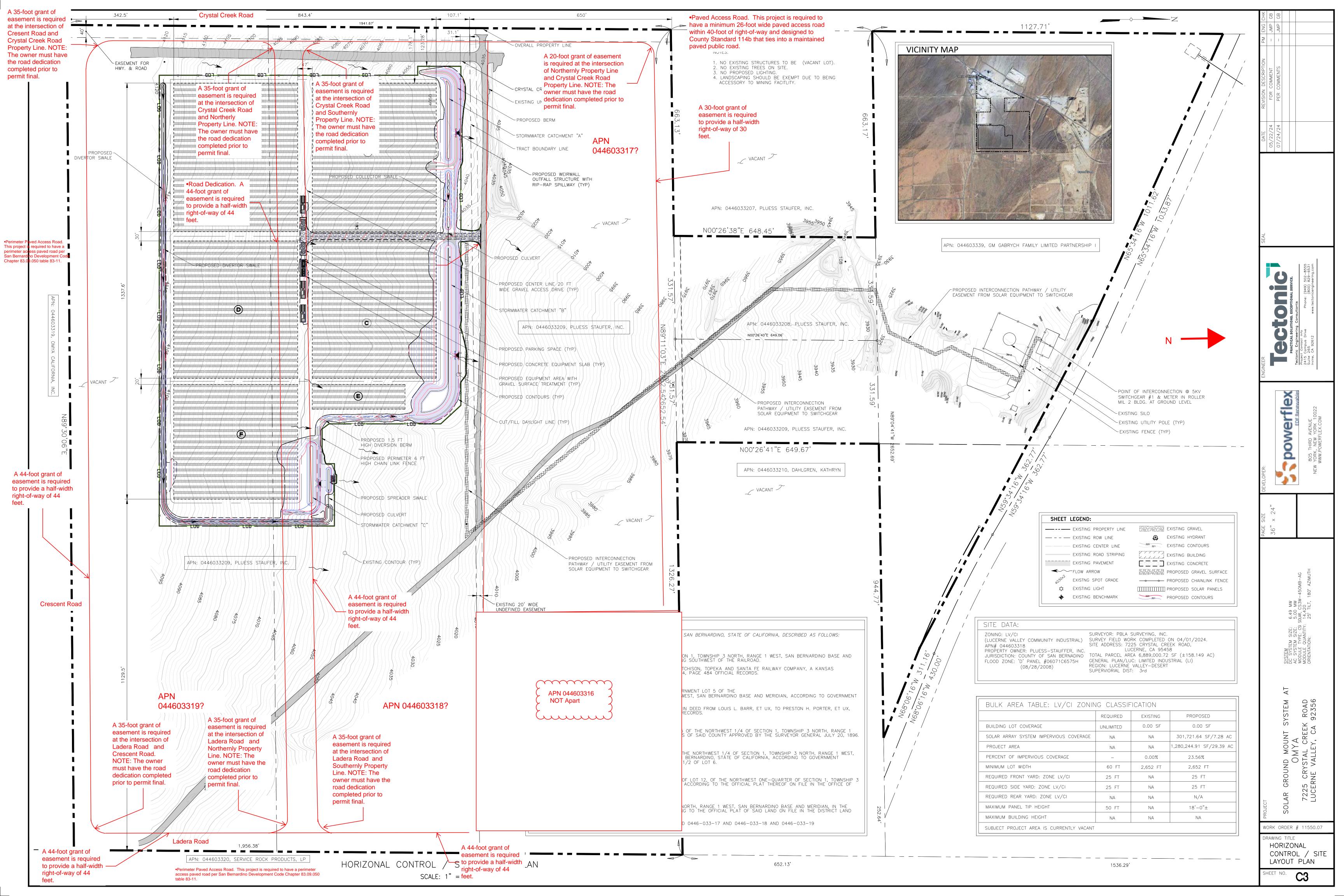
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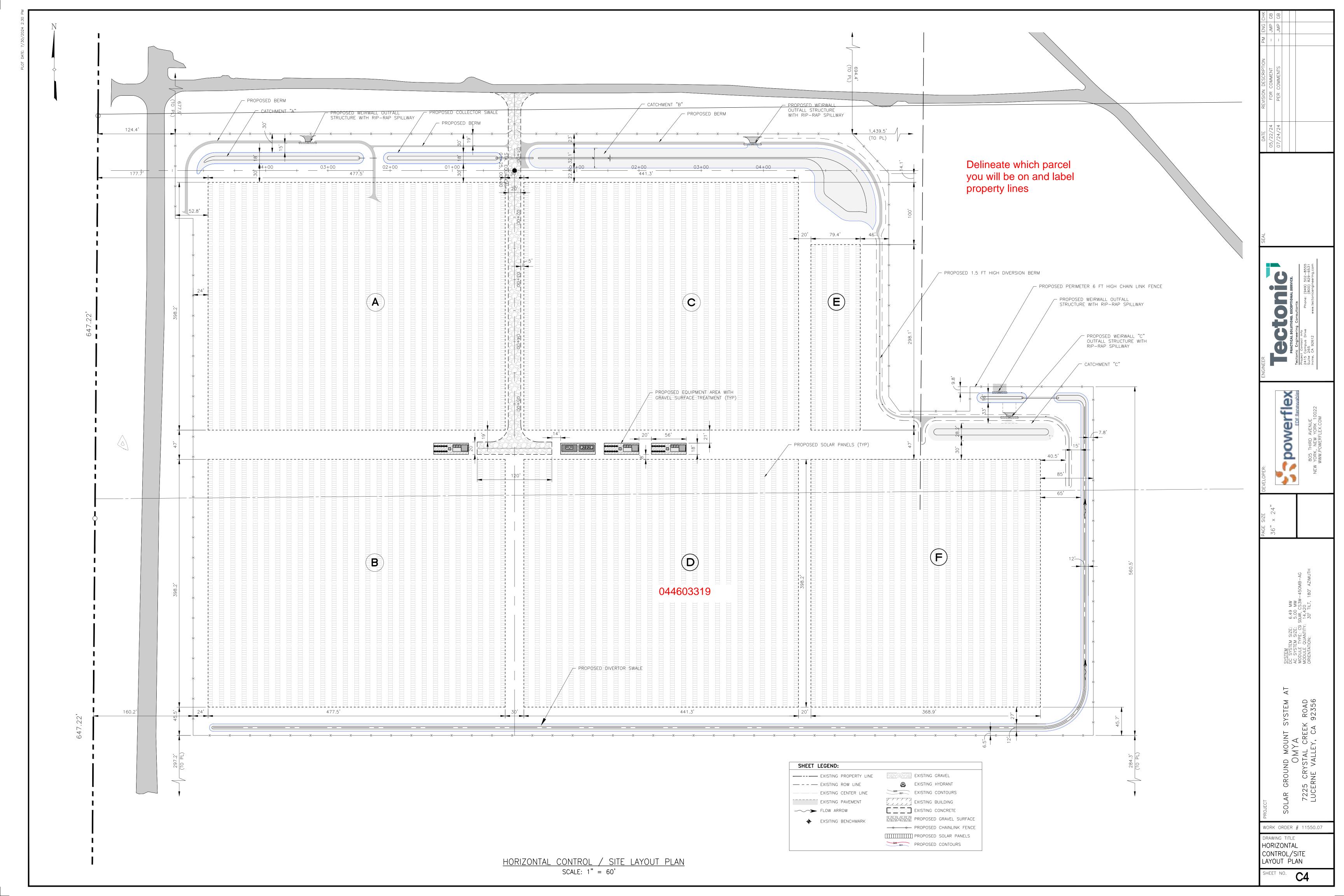
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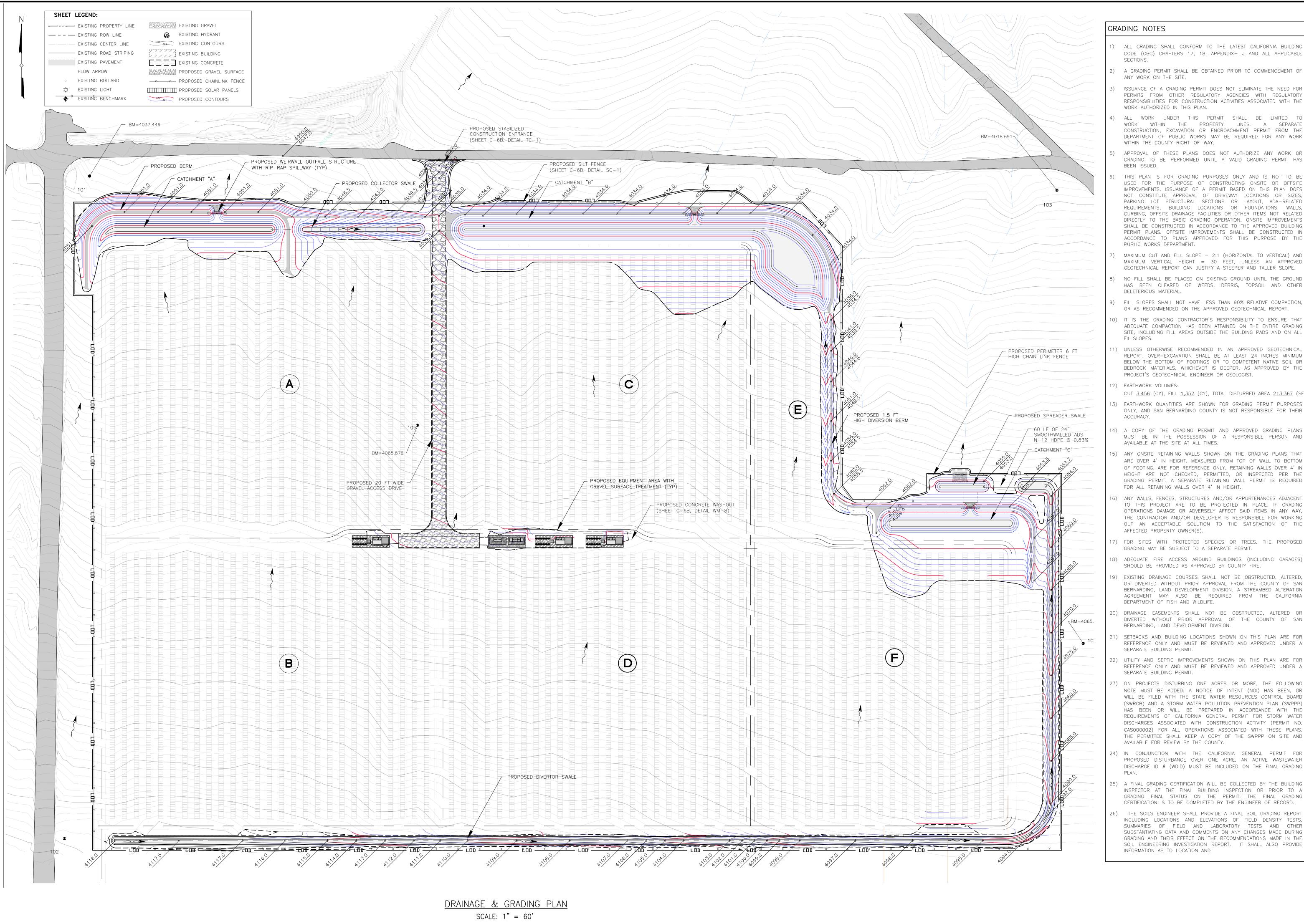
GN-3







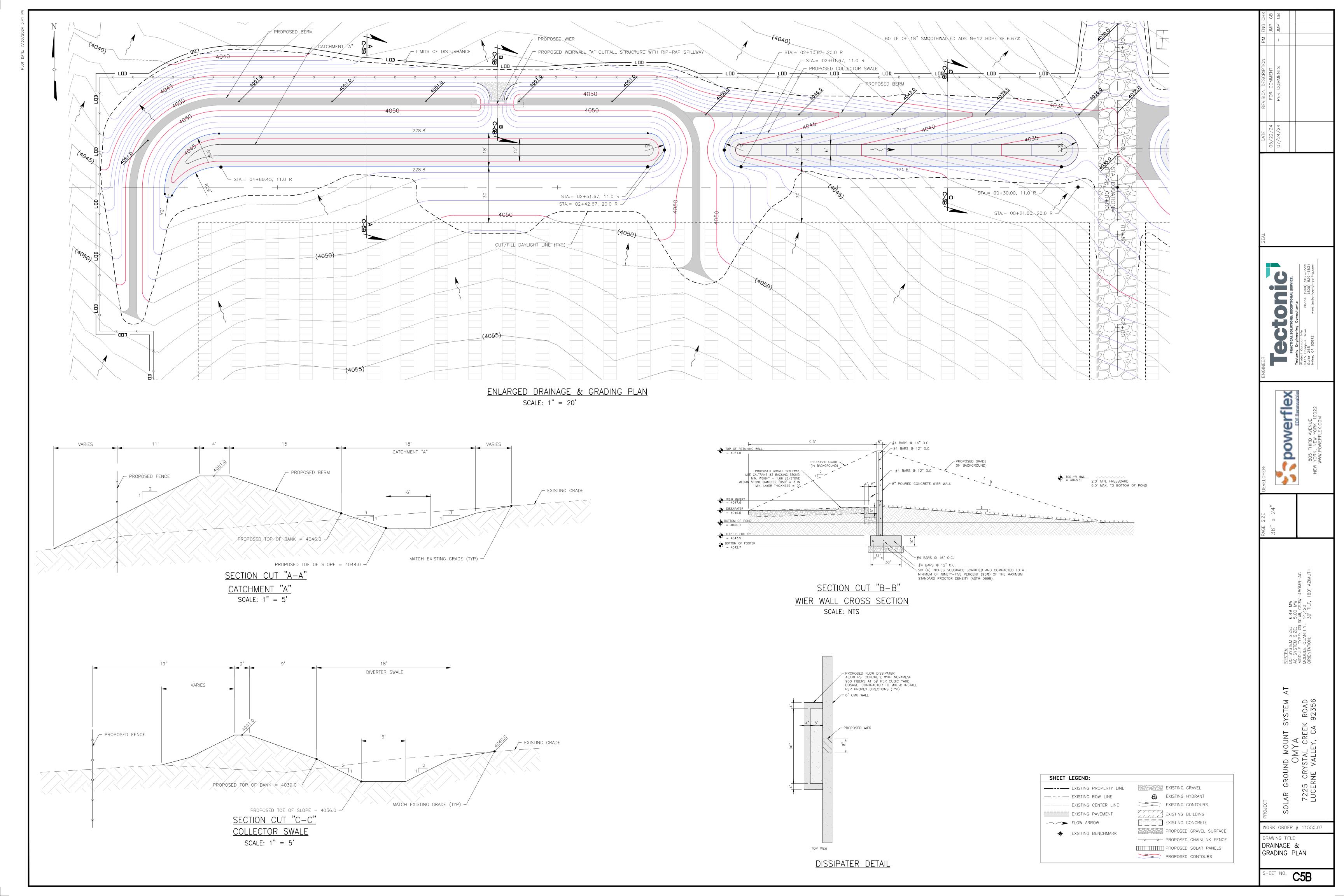


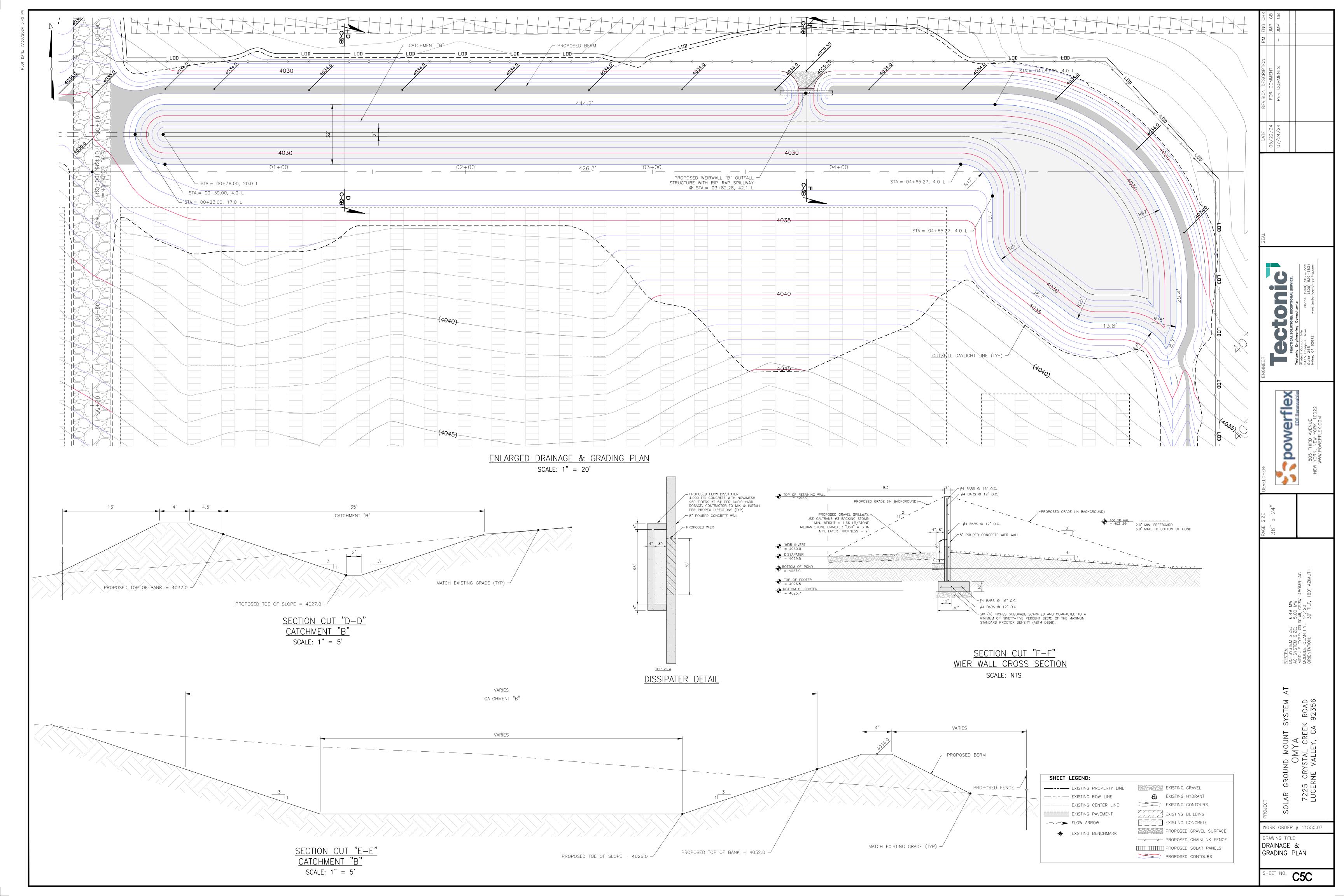


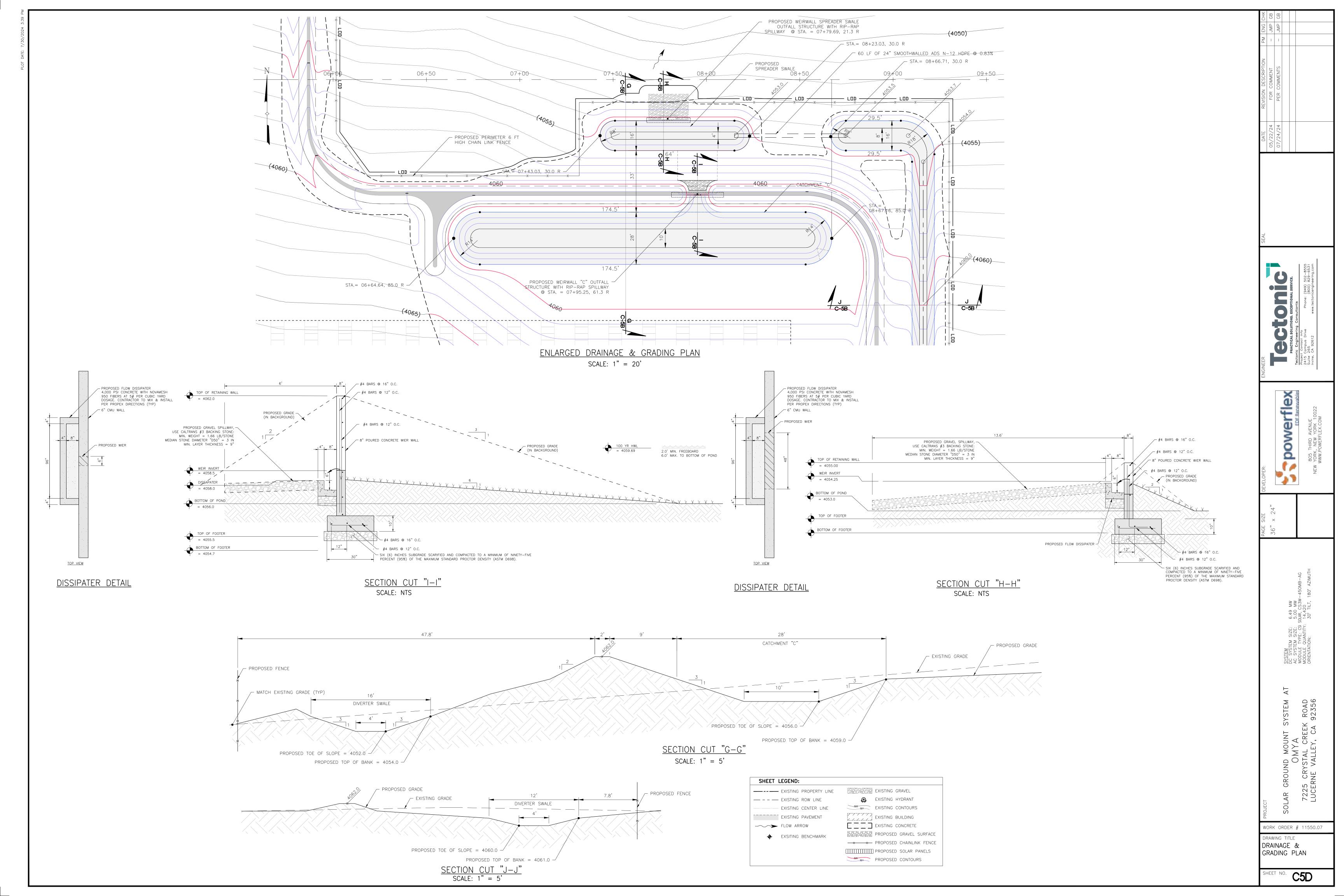
-) ALL GRADING SHALL CONFORM TO THE LATEST CALIFORNIA BUILDING CODE (CBC) CHAPTERS 17, 18, APPENDIX- J AND ALL APPLICABLE
-) A GRADING PERMIT SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF
- ISSUANCE OF A GRADING PERMIT DOES NOT ELIMINATE THE NEED FOR PERMITS FROM OTHER REGULATORY AGENCIES WITH REGULATORY RESPONSIBILITIES FOR CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE
- ALL WORK UNDER THIS PERMIT SHALL BE LIMITED TO WORK WITHIN THE PROPERTY LINES. A SEPARATE CONSTRUCTION, EXCAVATION OR ENCROACHMENT PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS MAY BE REQUIRED FOR ANY WORK
- APPROVAL OF THESE PLANS DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL A VALID GRADING PERMIT HAS
- THIS PLAN IS FOR GRADING PURPOSES ONLY AND IS NOT TO BE USED FOR THE PURPOSE OF CONSTRUCTING ONSITE OR OFFSITE IMPROVEMENTS. ISSUANCE OF A PERMIT BASED ON THIS PLAN DOES NOT CONSTITUTE APPROVAL OF DRIVEWAY LOCATIONS OR SIZES, PARKING LOT STRUCTURAL SECTIONS OR LAYOUT, ADA-RELATED REQUIREMENTS, BUILDING LOCATIONS OR FOUNDATIONS, WALLS, CURBING, OFFSITE DRAINAGE FACILITIES OR OTHER ITEMS NOT RELATED DIRECTLY TO THE BASIC GRADING OPERATION. ONSITE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE APPROVED BUILDING PERMIT PLANS. OFFSITE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE TO PLANS APPROVED FOR THIS PURPOSE BY THE
- MAXIMUM CUT AND FILL SLOPE = 2:1 (HORIZONTAL TO VERTICAL) AND MAXIMUM VERTICAL HEIGHT = 30 FEET, UNLESS AN APPROVED GEOTECHNICAL REPORT CAN JUSTIFY A STEEPER AND TALLER SLOPE.
- HAS BEEN CLEARED OF WEEDS, DEBRIS, TOPSOIL AND OTHER DELETERIOUS MATERIAL.
- FILL SLOPES SHALL NOT HAVE LESS THAN 90% RELATIVE COMPACTION, OR AS RECOMMENDED ON THE APPROVED GEOTECHNICAL REPORT.
- O) IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ADEQUATE COMPACTION HAS BEEN ATTAINED ON THE ENTIRE GRADING SITE, INCLUDING FILL AREAS OUTSIDE THE BUILDING PADS AND ON ALL
- 1) UNLESS OTHERWISE RECOMMENDED IN AN APPROVED GEOTECHNICAL REPORT, OVER-EXCAVATION SHALL BE AT LEAST 24 INCHES MINIMUM BELOW THE BOTTOM OF FOOTINGS OR TO COMPETENT NATIVE SOIL OR BEDROCK MATERIALS, WHICHEVER IS DEEPER, AS APPROVED BY THE PROJECT'S GEOTECHNICAL ENGINEER OR GEOLOGIST.
- CUT <u>3,456</u> (CY), FILL <u>1,352</u> (CY), TOTAL DISTURBED AREA <u>213,367</u> (SF 3) EARTHWORK QUANTITIES ARE SHOWN FOR GRADING PERMIT PURPOSES
- ONLY, AND SAN BERNARDINO COUNTY IS NOT RESPONSIBLE FOR THEIR
- 14) A COPY OF THE GRADING PERMIT AND APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE AT ALL TIMES.
- 5) ANY ONSITE RETAINING WALLS SHOWN ON THE GRADING PLANS THAT ARE OVER 4' IN HEIGHT, MEASURED FROM TOP OF WALL TO BOTTOM OF FOOTING, ARE FOR REFERENCE ONLY. RETAINING WALLS OVER 4' II HEIGHT ARE NOT CHECKED, PERMITTED, OR INSPECTED PER THE GRADING PERMIT. A SEPARATE RETAINING WALL PERMIT IS REQUIRED FOR ALL RETAINING WALLS OVER 4' IN HEIGHT.
- 6) ANY WALLS, FENCES, STRUCTURES AND/OR APPURTENANCES ADJACENT TO THIS PROJECT ARE TO BE PROTECTED IN PLACE. IF GRADING OPERATIONS DAMAGE OR ADVERSELY AFFECT SAID ITEMS IN ANY WAY, THE CONTRACTOR AND/OR DEVELOPER IS RESPONSIBLE FOR WORKING OUT AN ACCEPTABLE SOLUTION TO THE SATISFACTION OF THE AFFECTED PROPERTY OWNER(S).
- 7) FOR SITES WITH PROTECTED SPECIES OR TREES. THE PROPOSED GRADING MAY BE SUBJECT TO A SEPARATE PERMIT.
- 18) ADEQUATE FIRE ACCESS AROUND BUILDINGS (INCLUDING GARAGES) SHOULD BE PROVIDED AS APPROVED BY COUNTY FIRE.
- 9) EXISTING DRAINAGE COURSES SHALL NOT BE OBSTRUCTED, ALTERED, OR DIVERTED WITHOUT PRIOR APPROVAL FROM THE COUNTY OF SAN BERNARDINO, LAND DEVELOPMENT DIVISION. A STREAMBED ALTERATION AGREEMENT MAY ALSO BE REQUIRED FROM THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE.
- 20) DRAINAGE EASEMENTS SHALL NOT BE OBSTRUCTED, ALTERED OR DIVERTED WITHOUT PRIOR APPROVAL OF THE COUNTY OF SAN BERNARDINO. LAND DEVELOPMENT DIVISION.
- 21) SETBACKS AND BUILDING LOCATIONS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND MUST BE REVIEWED AND APPROVED UNDER A
- 22) UTILITY AND SEPTIC IMPROVEMENTS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND MUST BE REVIEWED AND APPROVED UNDER A
- 23) ON PROJECTS DISTURBING ONE ACRES OR MORE, THE FOLLOWING NOTE MUST BE ADDED: A NOTICE OF INTENT (NOI) HAS BEEN, OR WILL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN OR WILL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CASO00002) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. THE PERMITTEE SHALL KEEP A COPY OF THE SWPPP ON SITE AND
- (4) IN CONJUNCTION WITH THE CALIFORNIA GENERAL PERMIT FOR PROPOSED DISTURBANCE OVER ONE ACRE, AN ACTIVE WASTEWATER DISCHARGE ID # (WDID) MUST BE INCLUDED ON THE FINAL GRADING
- 25) A FINAL GRADING CERTIFICATION WILL BE COLLECTED BY THE BUILDING INSPECTOR AT THE FINAL BUILDING INSPECTION OR PRIOR TO A GRADING FINAL STATUS ON THE PERMIT. THE FINAL GRADING CERTIFICATION IS TO BE COMPLETED BY THE ENGINEER OF RECORD.
- 26) THE SOILS ENGINEER SHALL PROVIDE A FINAL SOIL GRADING REPORT INCLUDING LOCATIONS AND ELEVATIONS OF FIELD DENSITY TESTS, SUMMARIES OF FIELD AND LABORATORY TESTS AND OTHER SUBSTANTIATING DATA AND COMMENTS ON ANY CHANGES MADE DURING GRADING AND THEIR EFFECT ON THE RECOMMENDATIONS MADE IN THE SOIL ENGINEERING INVESTIGATION REPORT. IT SHALL ALSO PROVIDE INFORMATION AS TO LOCATION AND

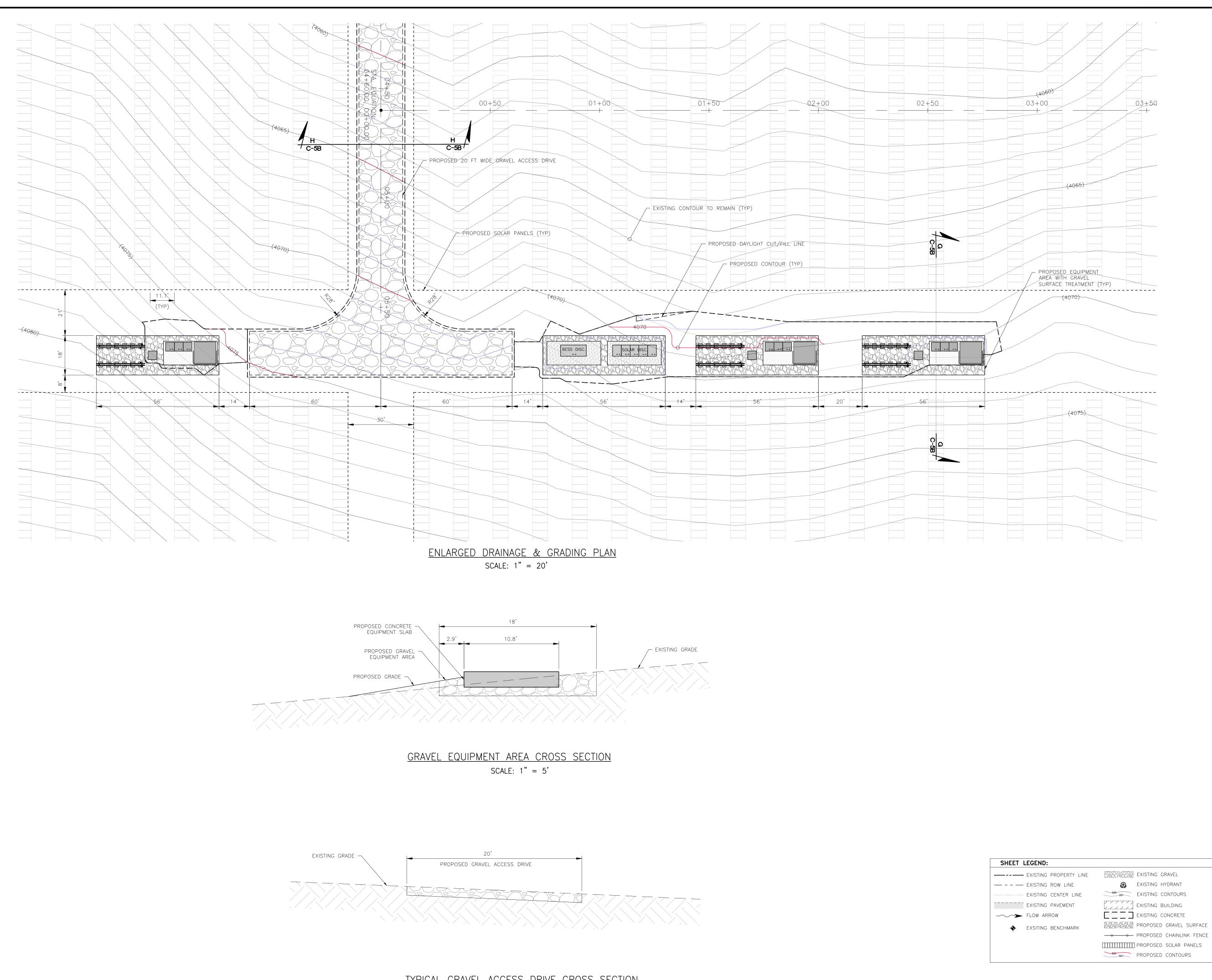
VORK ORDER # 11550.07

RAWING TITLE DRAINAGE & GRADING PLAN









EXISTING GRAVEL

EXISTING CONTOURS

EXISTING CONTOURS

EXISTING CONTOURS

PROPOSED GRAVEL SURFACE

PROPOSED GRAVEL SURFACE

PROPOSED CHAINLINK FENCE

PROPOSED CONTOURS

WORK ORDER # 11550.07

TYPICAL GRAVEL ACCESS DRIVE CROSS SECTION

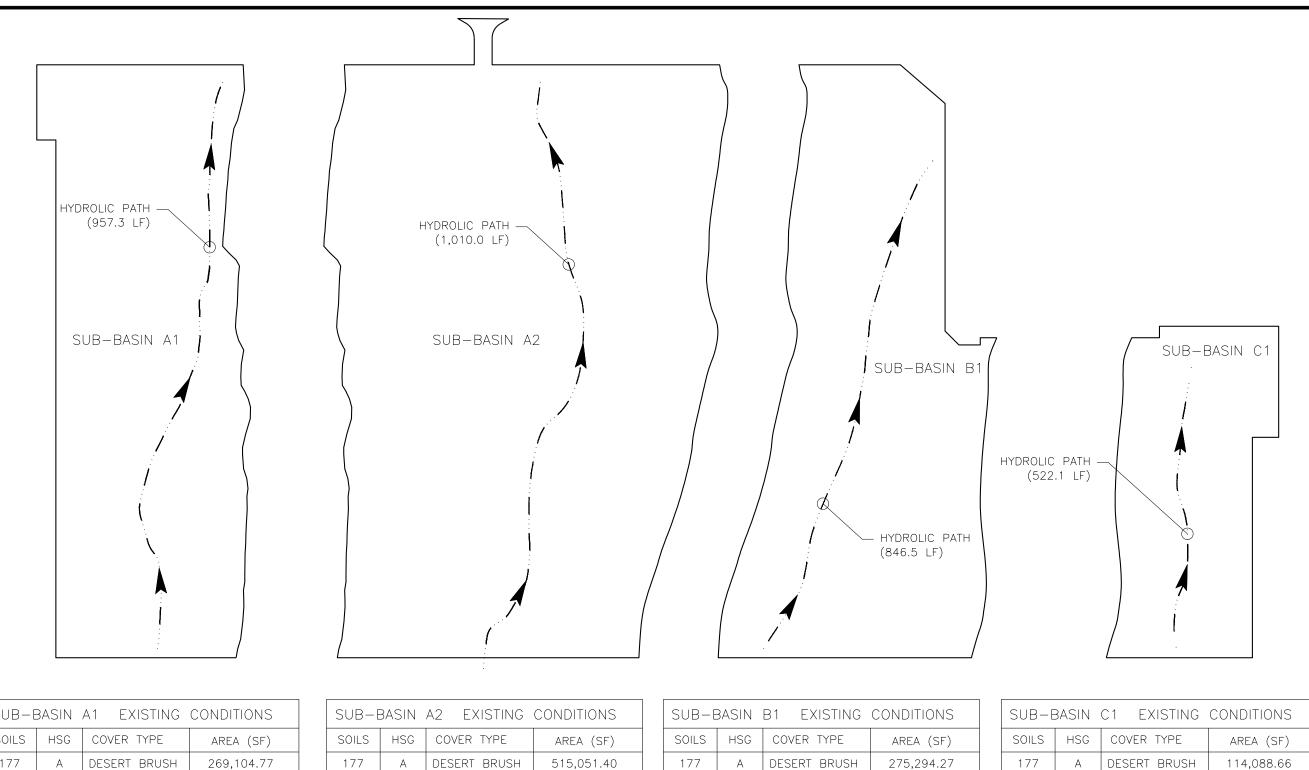
SCALE: 1" = 5'

SHEET NO. C5E

DRAINAGE & GRADING PLAN

DRAWING TITLE

SYSTEM
DC SYSTEM SIZE: 6.49 MW
AC SYSTEM SIZE: 5.00 MW
MODULE TYPE: CSI SOLAR, CS3W-4
MODULE QUANTITY: 14,420
ORIENTATION: 30° TILT, 18



CONDITIONS	SUB-BASIN A1 EXISTING CONDITIONS				
AREA (SF)	COVER TYPE	HSG	SOILS		
269,104.77	DESERT BRUSH	177 A			
269,104.77		TOTAL:			

SUB-BASIN A-1 EXISTING CONDITIONS HYDRAULIC PATH TOTAL LENGTH = 957.3 AVG. GRADIENT = 7.93% SHEET FLOW LENGTH (DESERT BRUSH) = 100 FT SHALLOW CHANNEL = 857.3 (7.58%)

TIME OF CONCENTRATION (MINUTES): 9.87

SUB-BASIN A2 EXISTING CONDITIONS								
SOILS	HSG	COVER TYPE	AREA (SF)					
177 A DESERT BRUSH 515,051.40								
TOTAL: 515,051.40								
SUB-BASIN A-2 EXISTING CONDITIONS								

HYDRAULIC PATH TOTAL LENGTH = 1,010.0 AVG. GRADIENT = 8.39% SHEET FLOW LENGTH (DESERT BRUSH) = 100 FT SHALLOW CHANNEL = 910.0 (8.48%)

TIME OF CONCENTRATION (MINUTES): 10.96

XISTING	CONDITIONS		SUB-E	BASIN	B1 EXISTING	CONDITIONS
R TYPE	AREA (SF)		SOILS	HSG	COVER TYPE	AREA (SF)
T BRUSH	515,051.40		177	А	DESERT BRUSH	275,294.27
	515,051.40		TOTAL:			275,294.27
]				

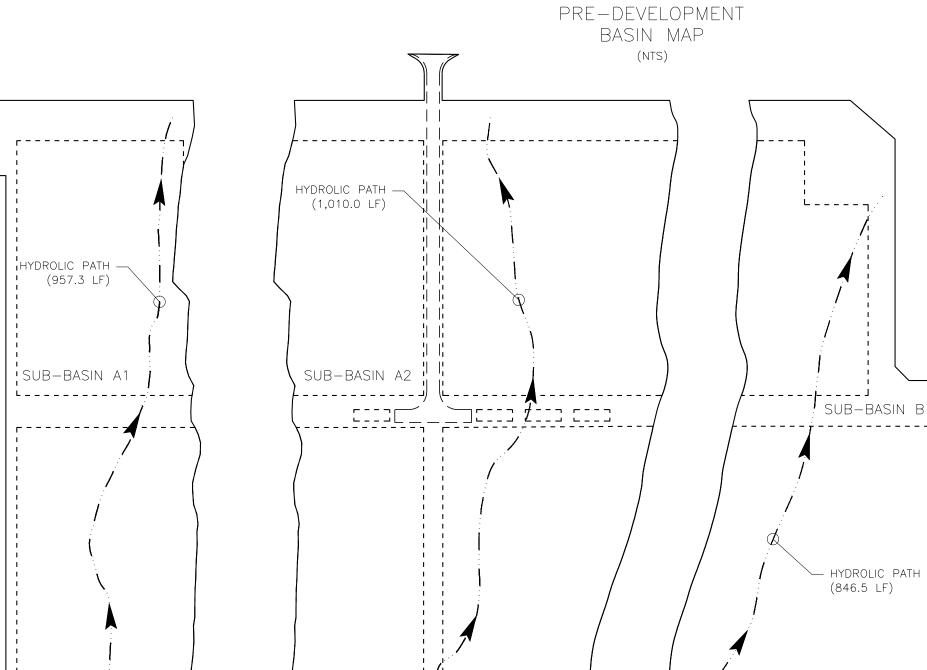
SUB-BASIN A-1 EXISTING CONDITIONS HYDRAULIC PATH TOTAL LENGTH = 846.5 AVG. GRADIENT = 8.82% SHEET FLOW LENGTH (DESERT BRUSH) = 100 FT SHALLOW CHANNEL = 746.5 (8.86%)

TIME OF CONCENTRATION (MINUTES): 9.92

UB-BASIN C1 EXISTING CONDITIONS							
OILS HSG COVER TYPE			AREA (SF)				
177	А	DESERT BRUSH	114,088.66				
OTAL:		114,088.66					

SUB-BASIN A-1 EXISTING CONDITIONS HYDRAULIC PATH TOTAL LENGTH = 522.1 AVG. GRADIENT = 7.78% SHEET FLOW LENGTH (DESERT BRUSH) = 100 FT SHALLOW CHANNEL = 422.1 (7.51%)

TIME OF CONCENTRATION (MINUTES): 8.81



				<i></i>		/	
SUB-E	BASIN	A1 EXISTING	CONDITIONS	SUB-E	BASIN	A2 EXISTING	CONDITIONS
SOILS	HSG	COVER TYPE	AREA (SF)	SOILS	HSG	COVER TYPE	AREA (SF)
177	А	DESERT BRUSH	198,134.16	177	А	DESERT BRUSH	359,697.70
177	А	CONCRETE	_	177	А	CONCRETE	1,384.10
177	А	GRAVEL DRIVE	_	177	А	GRAVEL DRIVE	14,217.58
177	А	SOLAR PANEL	70,970.61	177	А	SOLAR PANEL	137,104.13
177	А	GRAVEL EQUIP.	_	177	А	GRAVEL EQUIP.	2,647.89
177	А	STAGING AREA	_	177	А	STAGING AREA	-
TOTAL:			269,104.77	TOTAL:			515,051.40

SUB-BASIN A-1 EXISTING CONDITIONS HYDRAULIC PATH TOTAL LENGTH = 915.8 AVG. GRADIENT = 7.94% SHEET FLOW LENGTH (OPEN GRASS) = 100 FT SHALLOW CHANNEL = 815.8 (7.58%)

TIME OF CONCENTRATION (MINUTES): 9.17

SUB-E	BASIN	A2 EXISTING	CONDITIONS						
SOILS	HSG	COVER TYPE	AREA (SF)						
177	А	DESERT BRUSH	359,697.70						
177	Α	CONCRETE	1,384.10						
177	Α	GRAVEL DRIVE	14,217.58						
177	А	SOLAR PANEL	137,104.13						
177	А	GRAVEL EQUIP.	2,647.89						
177	Α	STAGING AREA	_						
TOTAL: 515,051.40									
SUB-BASIN A-2 EXISTING CONDITIONS									

HYDRAULIC PATH TOTAL LENGTH = 972.7 AVG. GRADIENT = 8.48% SHEET FLOW LENGTH (DESERT BRUSH) = 100 FT SHALLOW CHANNEL = 872.7 (8.59%) TIME OF CONCENTRATION (MINUTES): 10.80

SUB-E	BASIN	B1 EX	ISTING	CONDITIONS		SUB-E
SOILS	HSG	COVER	TYPE	AREA (SF)		SOILS
177	А	DESERT	BRUSH	208,083.85		177
177	А	CONCR	ETE	_		177
177	А	GRAVEL	DRIVE	_		177
177	А	SOLAR	PANEL	67,210.42		177
177	А	GRAVEL	EQUIP.	_		177
177	Α	STAGINO) AREA	_		177
TOTAL:				275,294.27		TOTAL:

SUB-BASIN A-1 EXISTING CONDITIONS HYDRAULIC PATH TOTAL LENGTH = 815.0 AVG. GRADIENT = 8.83% SHEET FLOW LENGTH (DESERT BRUSH) = 100 FT SHALLOW CHANNEL = 715.0 (8.87%) TIME OF CONCENTRATION (MINUTES): 9.81

— E	BASIN	C1 EXISTING	CONDITIONS
5	HSG	COVER TYPE	AREA (SF)
	А	DESERT BRUSH	89,036.28
	А	CONCRETE	_
	А	GRAVEL DRIVE	_
	А	SOLAR PANEL	25,052.38
	А	GRAVEL EQUIP.	_
	А	STAGING AREA	_
_:			114,088.66

SUB-BASIN C1

HYDROLIC PATH -(522.1 LF)

SUB-BASIN A-1 EXISTING CONDITIONS HYDRAULIC PATH TOTAL LENGTH = 444.3 AVG. GRADIENT = 7.97% SHEET FLOW LENGTH (DESERT BRUSH) = 100 FT SHALLOW CHANNEL = 344.3 (7.70%) TIME OF CONCENTRATION (MINUTES): 8.50

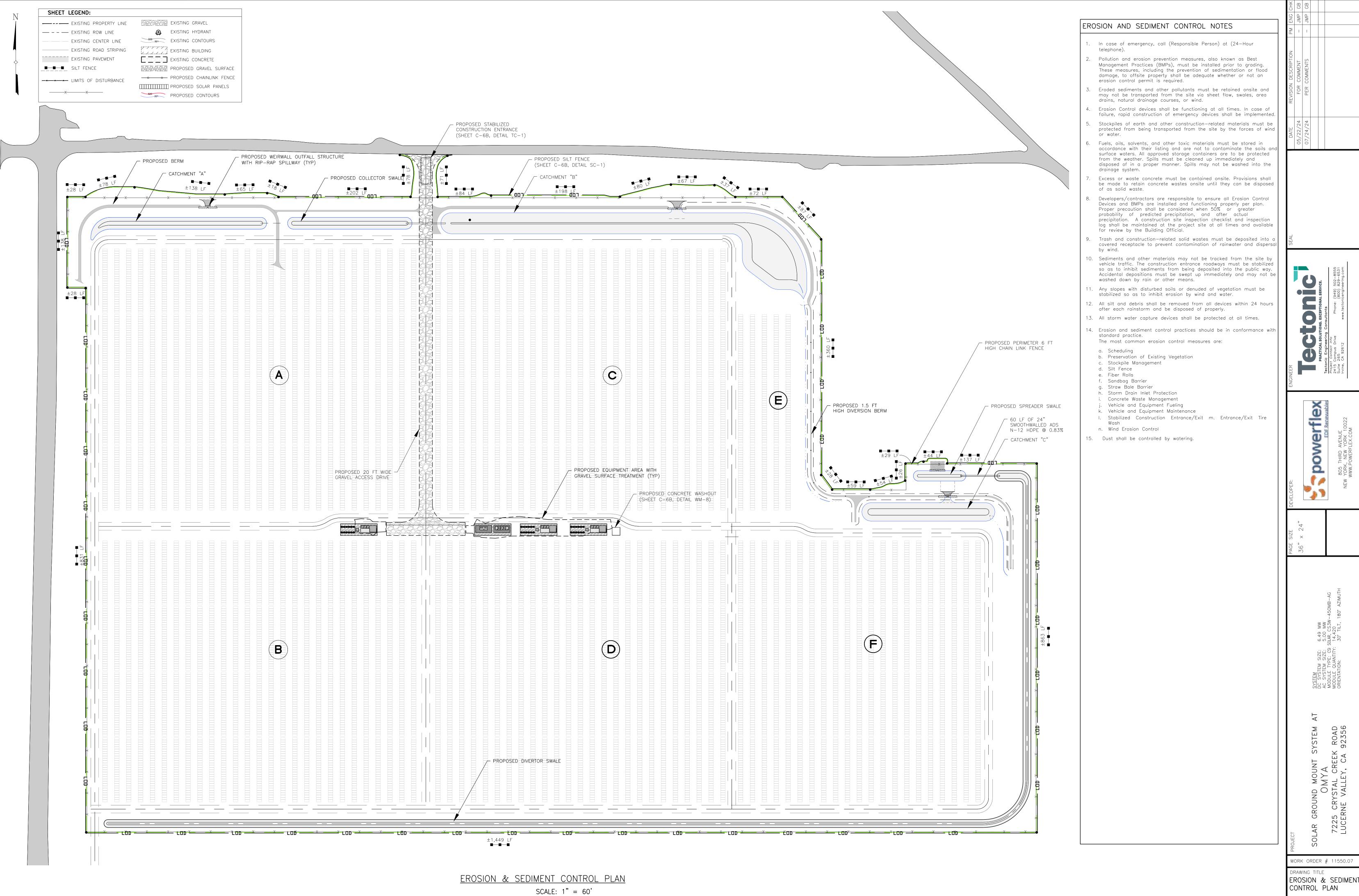
POST-DEVELOPMENT BASIN MAP (NTS)

powerflex

WORK ORDER # 11550.07 DRAWING TITLE

BASIN MAPS

SHEET NO. C-5F

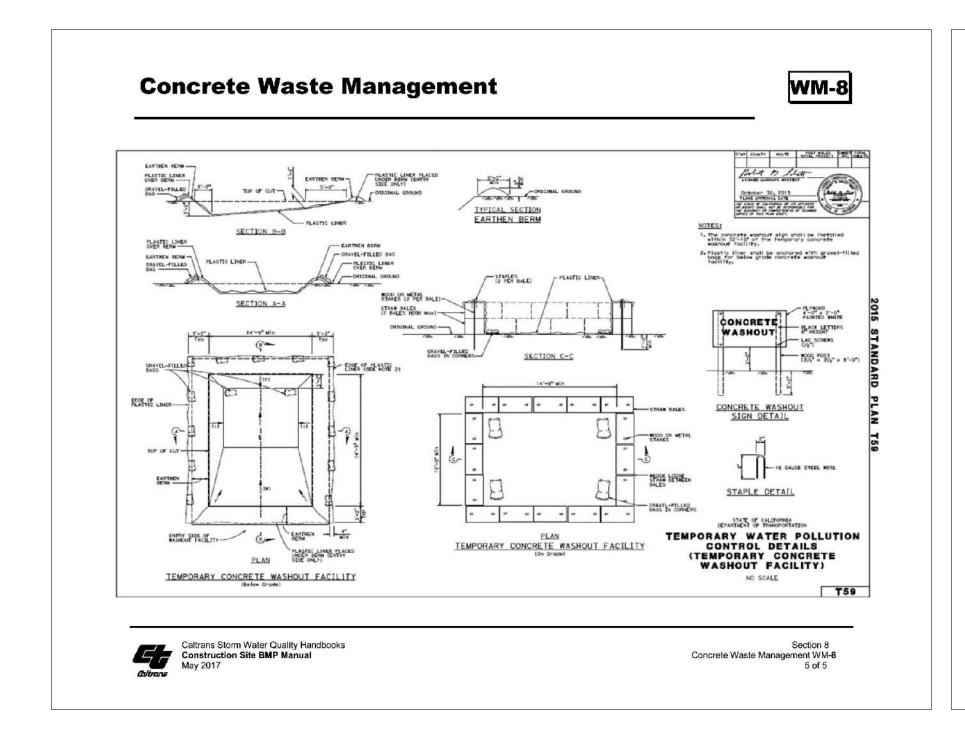


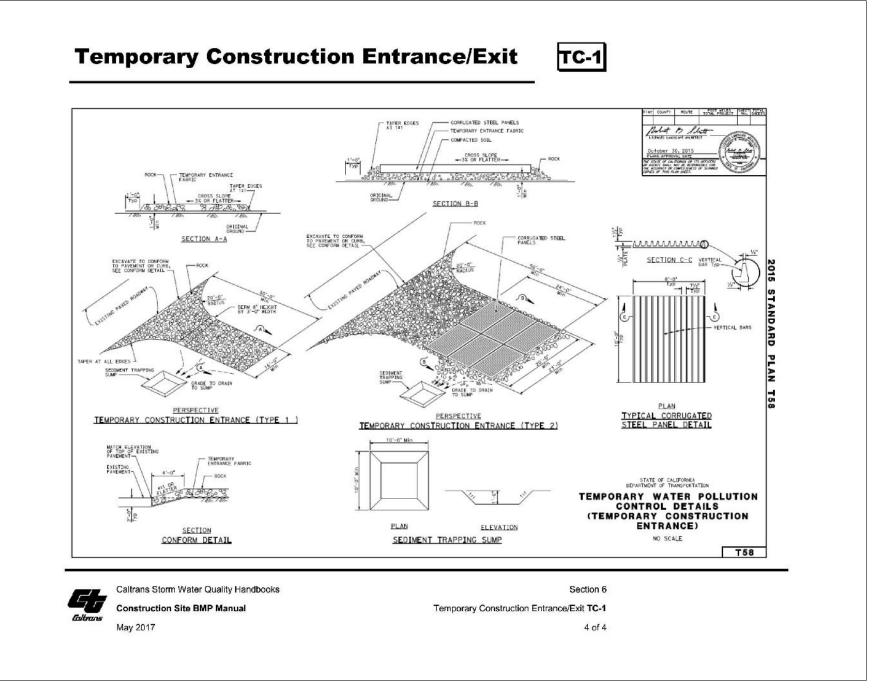
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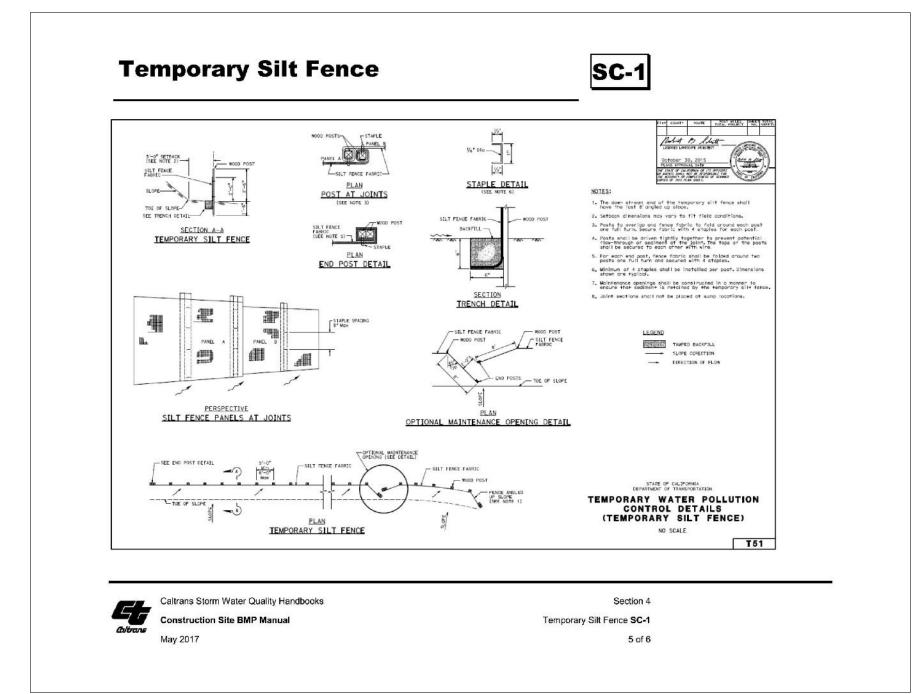
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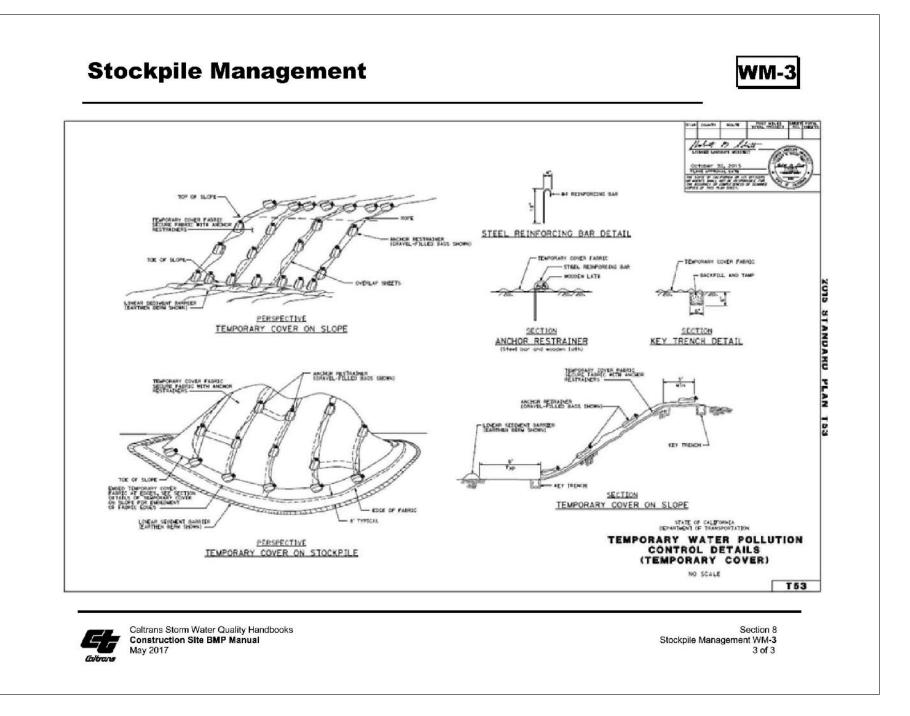
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PROPERTY IN THE CITY OF LUCERNE VAL

CENTERLINE OF THE 100.00 FOOT WIDE STRIP TO THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY A KANSAS CORPORATION, BY DEED RECORDED MAY 10 1956 IN BOOK 3934, PAGE 484, OFFICIAL RECORDS.

GOVERNMENT

GOVERNMENT LOTS 3 AND 4 OF THE NORTHWEST 1/4 OF SECTIC RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN ACCORDING THEREOF AND LYING SOUTHWEST OF THE RAILROAD.

EXCEPTING THEREFROM THAT PORTION AS CONVEYED TO THE ATMEDIANY COMPANY, A KANSAS CORPORATION, BY DEED RECC 3934, PAGE 484 OFFICIAL RECORDS.

THE WEST 1/2 OF THE EAST 1/2 OF THE NORTH 1/2 OF GOVER NORTHWEST 1/4 OF SECTION 1, TOWNSHIP 3 NORTH, RANGE 1 NAND MERIDIAN, ACCORDING TO GOVERNMENT SURVEY.

EXCEPTING 3% OF ALL OIL AND MINERAL RIGHTS AS RESERVED IN ET UX, TO PRESTON H. PORTER, ET UX, RECORDED APRIL 8, 19, OFFICIAL RECORDS.

TRACT: III (0446-033-09)

THE EAST 1/2 OF THE EAST 1/2 OF THE NORTH 1/2 OF LOT 5 OF THE NORTHWEST 1/4 OF SECTION 1, TOWNSHIP 3 NORTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN, OFFICIAL RECORDS OF SAID COUNTY APPROVED BY THE SURVEYOR GENERAL JULY 20, 1896.

TRACT: IV (0446-033-17)

THE SOUTH 1/2 OF LOT 5 AND THE SOUTH 1/2 OF LOT 6 OF THE NORTHWEST 1/4 OF SECTION 1, TOWNSHIP 3 NORTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN SECRETOR 1, TOWNSHIP 3 NORTH, RANGE 1 WEST, SAN BERNARDINO STATE OF CALFORNIA, ACCORDING TO GOVERNIMENT SURVEY.

EXCEPTING THEREFROM THE EAST 1/2 OF THE SOUTH 1/2 OF LOT 6.

TRACT: V (0446-033-18)

THE NORTH ONE-HALF OF LOT 11 AND THE NORTH ONE-HALF OF LOT 12, OF THE NORTHWE ONE-QUARTER OF SECTION 1, TOWNSHIP 3 NORTH, RANGE 1 WEST, SAN BERNARDINO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF ON FILE IN THE OFFICE OF THE SAN BERNARDINO COUNTY RECORDER.

THE SOUTH 1/2 OF LOTS 11 AND 12, SECTION 1, TOWNSHIP 3 NORTH, RANGE 1 WES BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND ON FILE IN THE DISTROFFICE.

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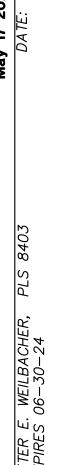
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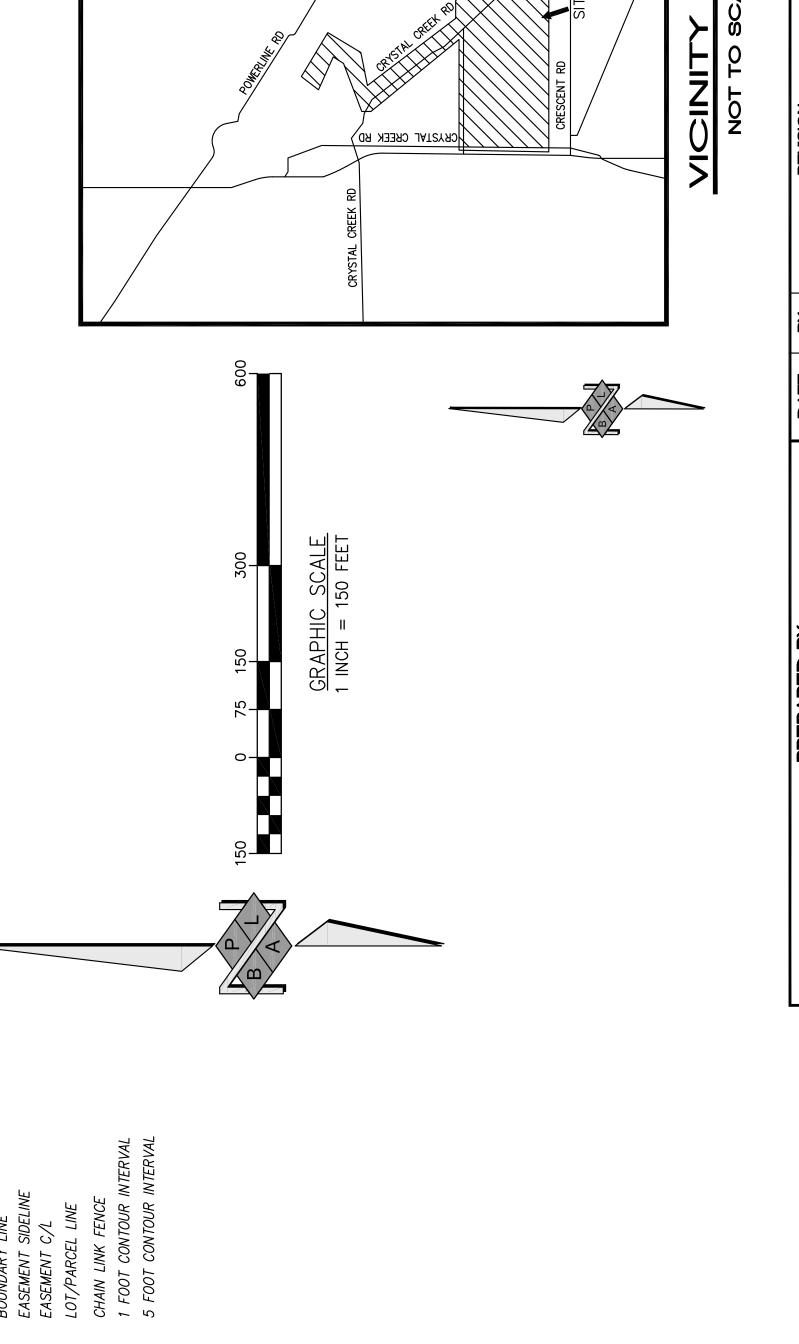
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Appendix D Methodology

WATERS OF THE UNITED STATES

Section 404 of the Clean Water Act

In accordance with the Revised Definition of "Waters of the United States"; Conforming (September 8, 2023), "waters of the United Sates" are defined as follows:

- (a) Waters of the United States means:
 - (1) Waters which are:
 - (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
 - (ii) The territorial seas; or
 - (iii) Interstate waters;
 - (2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under <u>paragraph (a)(5)</u> of this section;
 - (3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
 - (4) Wetlands adjacent to the following waters:
 - (i) Waters identified in paragraph (a)(1) of this section; or
 - (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;
 - (5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section
- (b) The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:
 - (1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;
 - (2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;
 - (3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;
 - (4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;



- (5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
- (6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;
- (7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and
- (8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.
- (c) In this section, the following definitions apply:
 - (1) **Wetlands** means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
 - (2) Adjacent means having a continuous surface connection
 - (3) *High tide line* means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.
 - (4) *Ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
 - (5) *Tidal waters* means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.



WETLANDS

For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008). This document is one of a series of Regional Supplements to the Corps Wetland Delineation Manual (Corps 1987). The identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. In order to be considered a wetland, an area must exhibit at least minimal characteristics within these three (3) parameters. The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. In the field, vegetation, soils, and evidence of hydrology are examined using the methodology listed below and documented on Corps wetland data sheets, when applicable. It should be noted that both the Regional Board and the CDFW jurisdictional wetlands encompass those of the Corps.

Vegetation

Nearly 5,000 plant types in the United States may occur in wetlands. These plants, often referred to as hydrophytic vegetation, are listed in regional publications by the U.S. Fish and Wildlife Service (USFWS). In general, hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation during growing season. Hydrophytic vegetation decisions are based on the assemblage of plant species growing on a site, rather than the presence or absence of particular indicator species. Vegetation strata are sampled separately when evaluating indicators of hydrophytic vegetation. A stratum for sampling purposes is defined as having 5 percent or more total plant cover. The following vegetation strata are recommended for use across the Arid West:

- Tree Stratum: Consists of woody plants 3 inches or more in diameter at breast height (DBH), regardless of height;
- Sapling/shrub stratum: Consists of woody plants less than 3 inches DBH, regardless of height;
- Herb stratum: Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size; and,
- Woody vines: Consists of all woody vines, regardless of size.

The following indicator is applied per the test method below. Hydrophytic vegetation is present if any of the indicators are satisfied.

Indicator 1 – Dominance Test

Although the Dominance Test is utilized in the majority of wetland delineations, other indicator tests may be employed. If

one indicator of hydric soil and one primary or two secondary indicators of wetland hydrology are present, then the Prevalence Test (Indicator 2) may be performed. If the plant community satisfies the Prevalence Test, then the vegetation is hydric. If the Prevalence Test fails, then the Morphological Adaptation Test may be performed, where the delineator analyzes the vegetation for potential morphological features.



Cover of vegetation is estimated and is ranked according to their dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% (also known as the "50/20 rule") of the total dominant coverage, are recorded on a wetland data sheet. Wetland indicator status in California (Region 0) is assigned to each species using the *National Wetland Plant List*, *version 2.4.0* (Corps 2012). If greater than 50% of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation is considered to be met. Plant indicator status categories are described below:

- ♦ Obligate Wetland (OBL): Plants that almost always occur in wetlands;
- ♦ Facultative Wetland (FACW): Plants that usually occur in wetlands, but may occur in non-wetlands;
- ◆ Facultative (FAC): Plants that occur in wetlands and non-wetlands;
- ♦ Facultative Upland (FACU): Plants that usually occur in non-wetlands, but may occur in wetlands; and,
- ♦ *Obligate Upland (UPL):* Plants that almost never occur in wetlands.

Hydrology

Wetland hydrology indicators are presented in four (4) groups, which include:

<u>Group A – Observation of Surface Water or Saturated Soils</u>

Group A is based on the direct observation of surface water or groundwater during the site visit.

<u>Group B – Evidence of Recent Inundation</u>

Group B consists of evidence that the site is subject to flooding or ponding, although it may not be inundated currently. These indicators include water marks, drift deposits, sediment deposits, and similar features.

<u>Group C – Evidence of Recent Soil Saturation</u>

Group C consists of indirect evidence that the soil was saturated recently. Some of these indicators, such as oxidized rhizospheres surrounding living roots and the presence of reduced iron or sulfur in the soil profile, indicate that the soil has been saturated for an extended period.

Group D – Evidence from Other Site Conditions or Data

Group D consists of vegetation and soil features that indicate contemporary rather than historical wet conditions, and include shallow aquitard and the FAC-neutral test.



If wetland vegetation criteria is met, the presence of wetland hydrology is evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil test pits. The lateral extent of the hydrology indicators are used as a guide for locating soil pits for evaluation of hydric soils and jurisdictional areas. In portions of the stream where the flow is divided by multiple channels with intermediate sand bars, the entire area between the channels is considered within the OHWM and the wetland hydrology indicator is considered met for the entire area.

Soils

A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper 16-20 inches.² The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. It should also be noted that the limits of wetland hydrology indicators are used as a guide for locating soil pits. If any hydric soil features are located, progressive pits are dug moving laterally away from the active channel until hydric features are no longer present within the top 20 inches of the soil profile.

Once in the field, soil characteristics are verified by digging soil pits along each transect to an excavation depth of 20 inches; in areas of high sediment deposition, soil pit depth may be increased. Soil pit locations are usually placed within the drainage invert or within adjoining vegetation. At each soil pit, the soil texture and color are recorded by comparison with standard plates within a *Munsell Soil Chart* (2009). Munsell Soil Charts aid in designating color labels to soils, based by degrees of three simple variables – hue, value, and chroma. Any indicators of hydric soils, such as organic accumulation, iron reduction, translocation, and accumulation, and sulfate reduction, are also recorded.

Hydric soil indicators are present in three groups, which include:

All Soils

"All soils" refers to soils with any United States Department of Agriculture (USDA) soil texture. Hydric soil indicators within this group include histosol, histic epipedon, black histic, hydrogen sulfide, stratified layers, 1 cm muck, depleted below dark surface, and thick dark surface.

Sandy Soils

"Sandy soils" refers to soil materials with a USDA soil texture of loamy fine sand and coarser. Hydric soil indicators within this group include sandy mucky mineral, sandy gleyed matrix, sandy redox, and stripped matrix.

According to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008), growing season dates are determined through on-site observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature.



Loamy and Clayey Soils

"Loamy and clayey soils" refers to soil materials with a USDA soil texture of loamy very fine sand and finer. Hydric soil indicators within this group include loamy mucky mineral, loamy gleyed matrix, depleted matrix, redox dark surface, depleted dark surface, redox depressions, and vernal pools.

SWANCC WATERS

The term "isolated waters" is generally applied to waters/wetlands that are not connected by surface water to a river, lake, ocean, or other body of water. In the presence of isolated conditions, the Regional Board and CDFW take jurisdiction through the application of the OHWM/streambed and/or the 3 parameter wetland methodology utilized by the Corps.

