Facilities Color Treatment, Screening, and Landscape Plan

Sycamore - Peñasquitos 230 Kilovolt (kV) Transmission Line Project

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LIST OF ATTACHMENTS

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1.0 INTRODUCTION

This Facilities Color Treatment, Screening, and Landscape Plan (Plan) outlines the proposed actions to be taken by San Diego Gas & Electric (SDG&E) and its contractors to satisfy the requirements of Mitigation Measure (MM) Aesthetics-2, MM Aesthetics-3 and MM Aesthetics-4 as described in the Sycamore–Peñasquitos 230 kilovolt (kV) Transmission Line Project's (Project) Final Environmental Impact Report (FEIR) Mitigation Monitoring, Compliance and Reporting Program (MMCRP).

2.0 PROJECT DESCRIPTION

The Project proposes the construction and operation of a new approximately 14-mile 230 kV transmission line between the existing Sycamore Canyon and Peñasquitos Substations. The Project route traverses through developed residential and commercial areas as well as undeveloped areas and includes the following components:

- Segment A. Construction of approximately 0.65 mile of new overhead 230 kV transmission line and approximately 0.74 mile of relocated existing overhead 138kV power line on one new tubular steel pole (mono-pole structure) and one new steel H-frame structure that will replace existing wood structures, all within existing SDG&E Right-of-Way (ROW). Construction of two new cable poles at the transition points from overhead to underground, outside of the Sycamore Canyon Substation. Construction of approximately 0.2 mile of new underground 230-kV transmission line and approximately 0.15 mile of relocated underground 138-kV power line into the existing Sycamore Canyon Substation.
- Segment B. Construction of approximately 11.55 miles of 230 kV underground transmission line in existing roads and bridges and two new cable poles at the transition point from overhead to underground.
- Segment C. Installation of approximately 2.08 miles of new 230 kV transmission line and all-dielectric self-supporting (ADSS) communication cable on existing 230 kV tubular steel poles and one new interset structure within existing SDG&E ROW from approximately Carroll Canyon Road to the Peñasquitos Substation.
- Minor modifications of the existing Sycamore Canyon and Peñasquitos Substations to allow for connection of the new 230 kV transmission line.

3.0 OBJECTIVES

The purpose of the Plan is to identify treatments to be implemented by SDG&E on all new structures and facilities associated with construction of the Project. This Plan provides specific information for complying with MM Aesthetics-3, MM Aesthetics-2 and MM Aesthetics-4. The contents of this Plan are intended to accomplish the following:

- Describe the proposed color and finish that will be applied to reduce the visual contrast of new structures with the surrounding environment, including transmission line structures, retaining walls, and fencing;

- Provide the design and color of retaining wall blocks and fencing to be installed around cable poles;
- Provide color simulations of the proposed treatment from identified key observation points (KOP) found in the FEIR for the Project;
- Provide a schedule for treatment completion; and
- Provide treatment maintenance procedures that will be implemented for the life of the Project.

4.0 APPLICABLE MITIGATION AND APPLICANT PROPOSED MEASURES

MM Aesthetics-2: Retaining Wall Screening

Retaining walls shall use blocks that accommodate plants along the wall face. The block color shall be similar in hue and value to the native soil or up to 2 shades darker. All retaining walls shall be planted with native, drought tolerant vegetation common to the area. SDG&E shall submit a retaining wall design and vegetation plan to the CPUC for review and approval. The retaining wall design shall show the planting pockets in the blocks and the color of the blocks for all project retaining walls. SDG&E shall not order or procure the blocks until CPUC approves the design and color of the blocks. The vegetation plan shall include a list of all species to be planted in the retaining walls and the container size for the plantings. Vegetation planted in the retaining walls shall be maintained and watered as needed until plant material is established. Plants that die shall be replaced with similar specimens. SDG&E shall monitor the vegetation planted in the retaining wall pockets for three years or until plants are fully established.

MM Aesthetics-3: Facilities Color Treatment Plan

SDG&E shall prepare a Facilities Color Treatment Plan describing the application of colors to all new structures. The proposed color treatments shall minimize visual intrusion and contrast by matching the new structure's color to the adjacent existing structures and surroundings. Ancillary structures shall use colors that are congruent with the landscape in which they are proposed. Color treatments shall reduce new structure contrast making new structures less noticeable. The Plan shall be submitted to CPUC for review and approval at least 90 days prior to ordering the first structure to be color treated. The Facilities Color Treatment Plan shall include:

- *Specification, and 11 x 17 inch color simulations at real-world scale, of the treatment proposed for use on project structures from identified KOPs. Structures include TSPs, retaining wall faces, and fences for cable poles and staging areas*
- *List of each major project structure, specifying the color and finish proposed*
- *Two sets of brochures and/or color chips for the proposed color for each project element*
- *A detailed schedule for completion of the treatment*
- *A procedure to ensure proper treatment maintenance for the life of the project*

SDG&E shall not specify to the vendors the treatment of any structures treated during manufacture or perform the final treatment on any structures treated onsite during construction until SDG&E receives notification of approval of the Color Treatment Plan by the CPUC.

MM Aesthetics-4: Cable Pole Screening

SDG&E shall prepare a Landscape Plan that details the landscape treatment and fence design around the cable poles. The Landscape Plan shall include vegetation to screen the base of the cable pole and fence to the extent feasible. Vegetation around the cable pole shall consist of container plantings due to the need to visually screen the cable pole. The vegetation type selected shall be drought-tolerant and compatible with the surrounding vegetation communities. Within City of San Diego Open Space Parks, vegetation shall consist of locally native species and shall be approved by the City of San Diego's MSCP Biologist. Vegetation planted around the cable pole shall be maintained and watered as needed until plant material is established. Plants that die shall be replaced with similar specimens. SDG&E shall monitor the vegetation around the cable pole until all container plants are fully established. SDG&E shall submit the Landscape Plan to the CPUC for review and approval at least 60 days prior to construction of the cable pole. No work shall be conducted at the cable pole prior to CPUC approval of the Landscape Plan.

5.0 PLAN IMPLEMENTATION

5.1 PROPOSED STRUCTURE OVERVIEW

The following subsections of the Plan identify new Project structures, the proposed color treatment, design of certain structures, the schedule for application of treatments, and the procedure SDG&E will implement to maintain the treatments for the life of the Project. Permanent new Project facilities covered by this Plan includes construction of one 138 kV steel cable pole, three 230 kV steel cable poles, one 230 kV steel tubular pole, one 138 kV steel H-frame pole, one ADSS interset pole, two retaining walls, and two cable pole security fences (around the 230kV cable poles at P05 and CC MM CP) located between the existing Sycamore Canyon and Penasquitos Substations.

This Plan also satisfies MM Aesthetics-2 and MM Aesthetics-4, which calls for the installation of landscaping/vegetation to reduce the potential visibility and visual contrast associated with Project structures. The colors that will be used on new facilities have been selected with the intention of minimizing glare, visual intrusion, and contrast with the surrounding environment. The color treatments to be implemented during construction of the Project are summarized in Table 1: Proposed Treatments for New Structures. Maps of structures are provided in Attachment A: Pole Maps and Key Observation Points.

Table 1: Proposed Treatments for New Structures

Structure Number1	Structure Description	Structure Height2	Structure Material	Structure Color & Surface Treatment	Justification for Treatment
P03A	Single-circuit 138 kV Steel Cable Pole	85 feet	Galvanized Steel	Pole color: Dull grey Surface Treatment: Galvanized	Dull galvanized steel to reduce glare and conform to color of existing structures.
P03B	Single-circuit 230 kV Steel Cable Pole	159.5 feet	Galvanized Steel	Pole color: Dull grey Surface Treatment: Galvanized	Dull galvanized steel to reduce glare and conform to color of existing structures.
P04	Double-circuit 230 kV Steel Tubular Pole	120 feet	Galvanized Steel	Pole color: Dull grey Surface Treatment: Galvanized	Dull galvanized steel to reduce glare and conform to color of existing structures.
P05	Single-circuit 230 kV Steel Cable Pole	159.5 feet	Galvanized Steel	Pole color: Dull grey Surface Treatment: Galvanized	Dull galvanized steel to reduce glare and conform to color of existing structures.
P06	Single-circuit 138 kV steel H-frame Pole	55 feet	Galvanized Steel	Pole color: Dull grey Surface Treatment: Galvanized	Dull galvanized steel to reduce glare and conform to color of existing structures.
CC MM CP	Single-circuit 230 kV Steel Cable Pole	165 feet	Galvanized Steel	Pole color: Dull grey Surface Treatment: Galvanized	Dull galvanized steel to reduce glare and conform to color of existing structures.
N/A	ADSS Interset	61 feet	Galvanized Steel	Pole color: Dull grey Surface Treatment: Galvanized	Dull galvanized steel to reduce glare and conform to color of existing structures.
N/A	P05 Retaining Wall – Fill Wall	12 feet	Pre- engineered Concrete Retaining Block System (Verdura)	Block Color: Buff / Tan[3] Surface Treatment: None[4]	Retaining wall blocks are colored to approximate the surrounding soil color(s). Container plants will be planted within wall planting pockets and at the base of the wall.
N/A	CC MM CP Retaining Wall – Cut Wall	5 feet	Concrete Masonry Unit Block	Block Color: Buff / Tan[3] Surface Treatment: None[4]	Retaining wall blocks are colored to approximate the surrounding soil color(s). Container plants will be planted at the base of the wall.
N/A	P05 Security Fence	8 feet	Clear VU Fencing	Fence Color: Brown Surface Treatment: Artificial Green Ivy Leaf Strands	Brown fencing is proposed as it will blend well with the muted colors found within the surrounding native soil and vegetation. Artificial green ivy added to screen the security fence and cable pole structure.

Structure Number1	Structure Description	Structure Height2	Structure Material	Structure Color & Surface Treatment	Justification for Treatment
					Artificial ivy is used to minimize water use and comply with SDG&E design standards for access described in Section 5.1.2.
N/A	CC MM CP Security Fence	8 feet	Clear VU Fencing	Fence Color: Brown Surface Treatment: Artificial Green Ivy Leaf Strands	Brown fencing is proposed as it will blend well with the muted colors found within the surrounding native soil and vegetation. Artificial green ivy is added to screen the security fence and cable pole structure. Artificial ivy is used to minimize water use and comply with SDG&E design standards for access described in Section 5.1.2.

Notes:
1 Refer to Attachment A for structure locations. Retaining walls and cable pole security fences do not have structure numbers.
2 Structure foundations can add approximately 2 feet to structure elevation.
3 Block color will be utilized to blend the retaining wall with the surrounding soil color palette.
4 Block colors are applied during manufacture, and surface treatment is not required.

5.1.1 Steel Pole Surface Treatment

The landscape consists of exposed rock and soil, small trees, shrubs and grasses. The installation of dulled galvanized steel monopoles in this area will reduce glare associated with newly galvanized steel and will be similar to the color of the aged galvanized steel structures currently located in portions of the ROW. Attachment B: Color and Material Samples provides a color sample of the dulled galvanized steel. Attachment C: Representative Photo Simulations of the Proposed Structure Treatment contains existing condition photographs and computer generated visual simulations of the proposed steel pole surface treatment from two KOP locations analyzed in the FEIR. Specifically, visual simulations of Structure P05 (KOP 1)[1] and CC MM CP (KOP 2) are provided within Attachment C. Note that because SDG&E is planning to install the new 230 kV transmission line within the Pomerado Bridge (Interstate 15 crossing); the Key View of Alternative 5, I-15 Crossing (FEIR Figures 4.2-51, 4.2-52, and 4.2-53) is not included in this Plan.

5.1.2 Cable Pole Security Fencing and Screening

In accordance with MM Aesthetics-4, SDG&E has detailed the landscape treatment and fence design for each cable pole structure in this Plan. The base of each of the 230 kV cable poles at P05 and CC MM CP will be surrounded with reinforced steel security fencing, approximately 6 feet from the edge of the structure foundation and approximately 8 feet in height. No security fence is proposed at P03B, as it is located on MCAS Miramar and not accessible to the public. The security fencing will be constructed with *Castle Spike* anti-scale installed along the fence top. See Attachment D: Cable Pole Security Fence Manufacturer Specifications for additional details on fencing and cable pole security system, as well as an example photograph of the *Castle Spike* anti-scale. As outlined in Table 1, SDG&E will utilize a brown color fencing as it will blend well with the muted colors found within the surrounding native soil and vegetation (refer to Attachment B).

SDG&E proposes to utilize artificial ivy as the landscape/screening treatment to screen the base of proposed cable pole structures at P05 and CC MM CP to fulfill the requirements of MM Aesthetics-4. SDG&E proposes to utilize a “creeping” ivy design to closely mimic natural vegetation (refer to Attachment B for ivy specifications). Pursuant to SDG&E design standards and maintenance requirements, transmission line support structures, access roads, and maintenance pads must be kept clear from obstruction to allow for 360-degree access to each structure. Based on the height of the cable poles to be installed on the Project, a condor or crane would be utilized in combination with scaffolding and various other equipment and materials. With the outriggers extended, the condor and crane are approximately 35-feet in width and would be set approximately 30-feet from the base of the pole. Other equipment and materials, such as scaffolding and cable would then be staged in the 30-feet of space between the pole and the condor or crane. Thus, the entire maintenance pad may be needed to accommodate the equipment and materials needed to repair and/or perform maintenance on the poles. The fence would also be removed during any repair activities and replaced once complete. The area

[1] Note that KOPs have been renumbered. Within the FEIR, Plan KOP 1 (Structure P5) correlates to FIER Figures 4.2-49 and 4.2-50 (Key View of Alternative 5 Eastern Cable Pole), and Plan KOP 2 (CC MM CP) correlates to FEIR Figures 4.2-54 and 4.2-55 (Key View Alternative 5 Western Cable Pole).

between the security fence and the structure, as well as the area immediately adjacent to the fencing must be kept clear from obstruction.

Due to the location of Project structures within natural areas, structure footprints are limited to the minimum amount of space required for access to, and maintenance of, each new structure. Based on these standards, SDG&E concluded that any landscaping would need to be installed beyond the edge of the maintenance pad. Installing traditional landscaping at this distance would not provide substantive screening of the fence or base of the cable pole from the KOP, whereas the artificial ivy would provide screening in a similar hue as the surrounding vegetation.

The artificial ivy will be attached directly to the cable pole security fencing and does not require additional space. The artificial ivy can then be replaced in discreet sections should damage occur. The strands of artificial ivy, together, will provide a congruent vegetation facade. Specifications and example photographs of the proposed artificial ivy surface treatment have been included within Attachment B. The photo simulations in Attachment C include renderings of the cable pole security fencing and surface treatment. Sites where artificial vegetation screening is installed will be periodically monitored for maintenance as described in 5.4: Surface Treatment Maintenance Plan.

5.1.3 Retaining Wall Design and Surface Treatment

Per MM Aesthetics-2: Retaining Wall Screening, SDG&E has detailed the treatment of the Project Retaining Walls below. The Project involves the installation of two retaining walls, one at Structure P05 and one at CC MM CP.

Retaining Wall at Structure P05

The retaining wall at Structure P05 will be a fill wall utilizing Pre-engineered Concrete Retaining Block System (Verdura). This is essentially a mechanically stabilized earthen wall that protects the slope from erosion, but the blocks do not provide structural support at P05. The P05 retaining wall will be approximately 206 feet long and approximately 12 feet tall at its tallest point. A plan and profile for the retaining wall is provided in Attachment E: Retaining Wall Plan and Profile Drawings. SDG&E proposes to use blocks with neutral shades (buff/tan). The blocks will be similar in hue and value to the native soil in order to reduce the contrast of new structures with the surrounding environment and the potential for reflective glare. Refer to Attachment B for examples of the proposed retaining wall blocks that will be used for the retaining wall at Structure P05. Attachment C contains a visual simulation of Structure P05, including the required retaining wall.

Retaining Wall at CC MM CP

Unlike the retaining wall at Structure P05, the retaining wall at Structure CC MM CP will be a vertical cut wall utilizing concrete masonry unit (CMU) blocks. The retaining wall has been designed and will be built per City of San Diego specifications for retaining walls. This wall is needed to construct the maintenance pad around the cable pole and does provide structural support for the slope above the pole. The retaining wall will be approximately 58 feet long and approximately 5 feet tall at its tallest point. A plan and profile for the retaining wall is provided

in Attachment E. SDG&E proposes the use of blocks with neutral shades (buff/tan; refer to photo of Verdura blocks in Attachment B [page 4] for example of the buff/tan color). The blocks will be similar in hue and value to the native soil in order to reduce the contrast of new structures with the surrounding environment and the potential for reflective glare. Refer to page 5 of Attachment B for an example of the proposed retaining wall (CMU) blocks that will be used for the retaining wall at Structure CC MM CP.

5.2 RETAINING WALL LANDSCAPING AND IRRIGATION

The proposed landscaping and irrigation for each Project retaining wall is described below.

5.2.1 Retaining Wall at Structure P05

The retaining wall at Structure P05 will be a fill wall utilizing Pre-engineered Concrete Retaining Block System (Verdura). The Verdura wall blocks contain pockets where vegetation may be planted (refer to Attachment B). SDG&E proposes to plant native, drought resistant shrubs within the retaining wall pockets, as detailed in Attachment F: Retaining Wall Landscape Plans. SDG&E also proposes to install native, drought tolerant vegetation at the base of the retaining wall. Attachment C contains a visual simulation of Structure P05, including the required retaining wall and landscaping as visible from KOP 1.

5.2.2 Retaining Wall at CC MM CP

As mentioned above, the retaining wall at Structure CC MM CP will be a vertical cut wall that is composed of a poured concrete footing along with CMU blocks that do not contain plantable pockets. The CMU wall minimizes impacts to the native vegetation that cover the existing 2:1 slope adjacent to the proposed cable pole. Installation of a plantable wall (mechanically stabilized wall or MSE wall) would require a large over-excavation of the existing soil and vegetation to make room for the import fill required to develop the MSE wall system. This work could possibly impact the structural integrity of an existing parking lot that is located above the existing slope. Therefore, SDG&E proposes to plant native, drought tolerant vegetation along the base of the retaining wall, as shown in Attachment F. Attachment C contains a visual simulation of Structure CC MM CP, including the required retaining wall and landscaping as visible from KOP 2[2].

5.2.3 Irrigation Plans

Attachment G: Irrigation Plans, contain specific, detailed Irrigation Plans for each retaining wall where landscaping is proposed. Shrubs installed at the base of both retaining walls will be irrigated with bubblers, and shrubs within the retaining wall planting pockets at Structure P05 will be irrigated with spray heads mounted along the top of the retaining wall, with one intermediate row where the wall is tallest. The irrigation systems will be fed by water trucks, which will connect to each irrigation system during watering. SDG&E anticipates using a maximum of 5,000 gallons of water per week to irrigate the retaining wall at Structure P05 and a maximum of 850 gallons per week to irrigate the retaining wall at Structure CC MM CP.

[2] Note that the landscaping is shown at full growth, and the retaining wall is not visible.

In addition, SDG&E anticipates installing the landscaping immediately prior to the winter rainy season. The rainfall will help in establishment of the landscaping, and would limit the amount of supplemental irrigation that would be needed. However, supplemental irrigation would be required through the following summer (dry) season. Accordingly, SDG&E anticipates at least 12 months of supplemental watering. Following that, the amount of supplemental irrigation will depend upon the various environmental factors affecting the growth of the plants, including season temperatures, amount of precipitation, wind factors, etc. Specific watering schedules are provided in Table 2: Potential Irrigation Schedules. As discussed above, actual irrigation may vary from what is prescribed herein to take into account seasonal weather patterns. Irrigation will be monitored by a qualified biologist. SDG&E will irrigate the plants as needed until they become established.

Table 2: Potential Irrigation Schedules

Landscaping Location	Frequency	Estimated Irrigation Schedule (weather dependent)
CC MM CP retaining wall	Weeks 1–2	Irrigate for one 10-minute interval, every other day
	Weeks 3–6 (1 month)	Irrigate for one 10-minute interval, every three days
	Remaining time until plants established	Irrigate for one 10-minute interval, twice per week
P05 retaining wall pockets	Week 1	Irrigate for 6 minutes, in two 2-minute intervals, with a 30 minute pause between intervals. Irrigate every day for first week.
	Weeks 2–3	Irrigate for one 10-minute interval, every other day
	Weeks 4–7 (1 month)	Irrigate for one 10-minute interval, every three days
	Remaining time until plants established	Irrigate for one 10-minute interval, twice per week
P05 base of retaining wall	Weeks 1–2	Irrigate for one 10-minute interval, every other day
	Weeks 3–6 (1 month)	Irrigate for one 10-minute interval, every three days
	Remaining time until plants established	Irrigate for one 10-minute interval, twice per week

5.3 IMPLEMENTATION SCHEDULE

SDG&E shall not commence final treatment of any facilities prior to approval of this Plan by the CPUC. Table 3: Implementation Schedule provides specific implementation schedules and mechanisms for structure treatment.

Table 3: Implementation Schedule

Project Facility	Proposed Treatment(s)	Treatment Schedule	Month/Year
Tubular Steel Poles	Dull Grey and Galvanized	Structures will be colored and surface treated (galvanized) during manufacturing	1st quarter 2017
Steel Cable Poles	Dull Grey and Galvanized	Structures will be colored and surface treated (galvanized) during manufacturing	1st quarter 2017
Retaining Wall	Colored (Buff/Tan)	Blocks are made of colored concrete during manufacturing	2nd quarter 2017
Cable Pole Security Fencing	Brown with applied artificial ivy surface treatment	Fencing is color treated during manufacturing. Surface treatment (artificial ivy) is added following fence installation.	3rd quarter 2017

5.4 SURFACE TREATMENT MAINTENANCE PLAN

5.4.1 Steel Pole Color Treatment

Steel poles are inspected every three years as outlined in SDG&E's standard procedures for maintaining its electric transmission system and General Order (GO) 95. Inspection of overhead structures and attachments (e.g. insulators, cross arms, conductors, etc.) is performed to identify possible safety hazards and system defects while ensuring compliance with Public Resource Codes 4292 and 4293, as well as CPUC GO 95 and GO 128. These inspections also include an assessment of pole condition, including rust, vandalism, or other damage to the existing surface treatment. Additionally, annual visual and infrared helicopter inspections are conducted on overhead electric power and transmission lines. Visual irregularities to surface treatment of steel poles are noted during these inspections. When surface treatment irregularities are noted, the specific structure is field-checked by SDG&E transmission engineering staff or its designated contractor to determine the extent of the damage to the surface treatment. Where damage to the surface treatment is noted, the structure is added to a roster of structures to be re-treated. Re-treatment is typically completed within 12 months once the structure is added to the roster.

5.4.2 Cable Pole Screening

SDG&E is proposing to install artificial vegetation (creeping artificial ivy) on the fencing around the 230 kV cable poles at P05 and CC MM CP (refer to Section 5.1.2 above). The use of artificial vegetation will also eliminate the need to water landscaping during the life of the Project. SDG&E will monitor the condition of the artificial vegetation treatments during routine ground patrols (typically on an annual basis) performed by Transmission Construction and Maintenance crews and will note any damage or defacement to the security fencing or vegetation treatments. SDG&E's Land Services department (or its contractors) will clean, repair, or replace any broken artificial vegetation strands found to be in disrepair. SDG&E's Land Services group (or its contractors) will repair or replace damaged artificial vegetation, as needed, on a bi-annual or annual basis.

5.4.3 Retaining Walls

The new retaining wall structures would be inspected along the same schedule as the detailed structure inspection described in Section 5.4.1 above. However, because the retaining wall blocks are manufactured using colored concrete, re-treatment for color is not anticipated to be required. Damaged blocks that threaten the integrity of the wall will be replaced.

6.0 REFERENCES

California Public Utilities Commission. 2016. Sycamore to Peñasquitos 230-KV Transmission Line Project Final Environmental Impact Report. March 2016.

Google Earth. 2016. Site accessed June 2016.

Ivy-It, Inc. 2016 and 2017. Site accessed June 2016 and April 2017. Personal communication between Joshua Taylor (TRC) and Sergio Martinez (Ivy-It). Site address: http://ivy-it.com/index.html

ATTACHMENT A

Pole Maps and Key Observation Points

Sycamore to Penasquitos 230kV Transmission Line Project

Attachment A - Pole Maps and Key Observation Points

- Photograph Viewpoint Location and Direction
- Proposed Structure
- Proposed New ADSS Interset Structure
- Removed Pole
- Existing Structure *(Not part of Proposed Project)*
- Retaining Wall
- Underground Vault
- New 230kV Overhead
- New 230kV Underground
- Reconductor 230kV Overhead
- Reconductor 138kV Overhead
- Reconductor 138kV Underground

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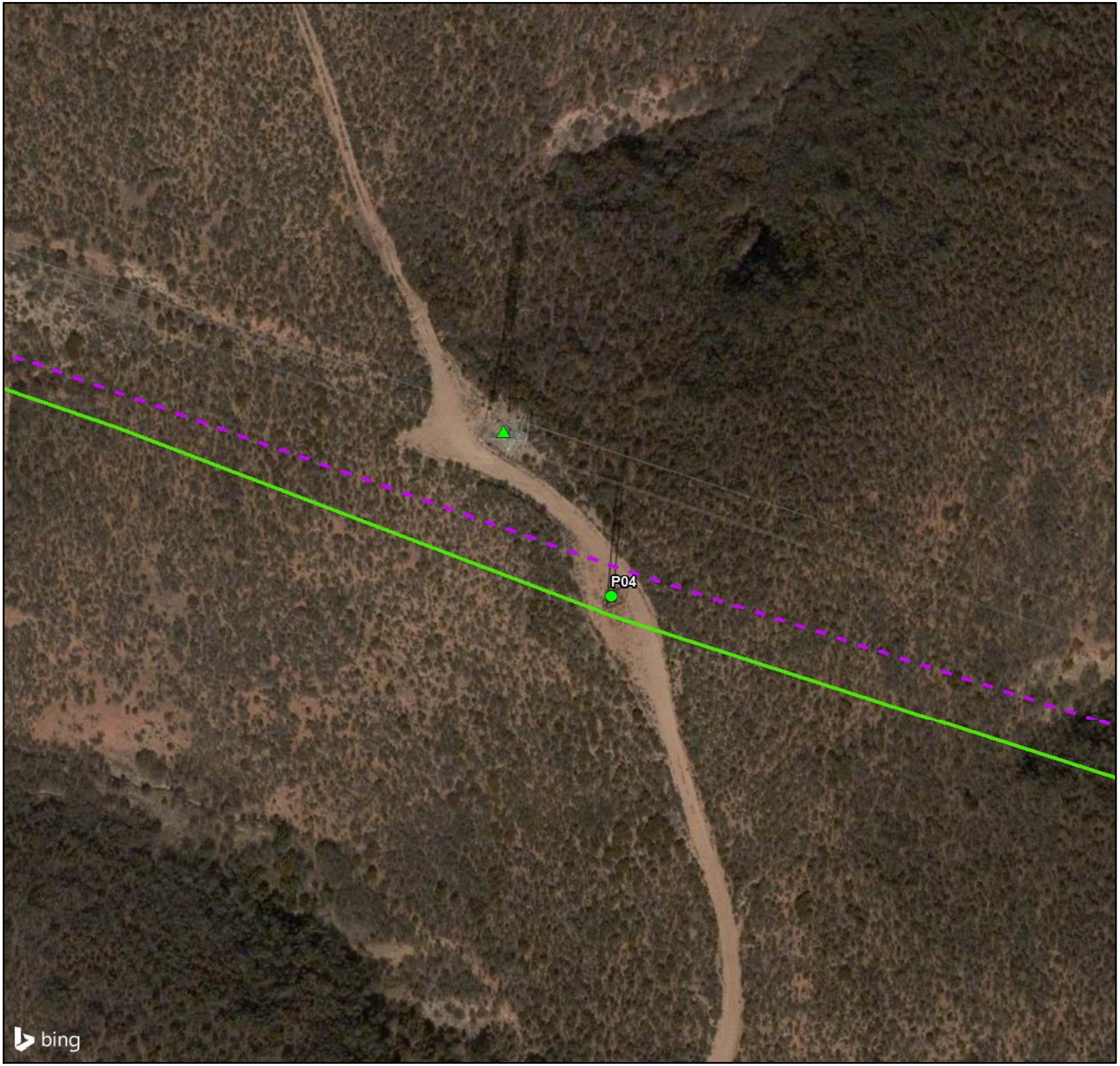

Sycamore to Penasquitos 230kV Transmission Line Project

Attachment A - Pole Maps and Key Observation Points

Sheet 2 of 6

- Photograph Viewpoint Location and Direction
- Proposed Structure
- Proposed New ADSS Interset Structure
- Removed Pole
- Existing Structure *(Not part of Proposed Project)*
- Cable Pole Security Fence
- Retaining Wall
- Underground Vault
- New 230kV Overhead
- New 230kV Underground
- Reconductor 230kV Overhead
- Reconductor 138kV Overhead
- Reconductor 138kV Underground

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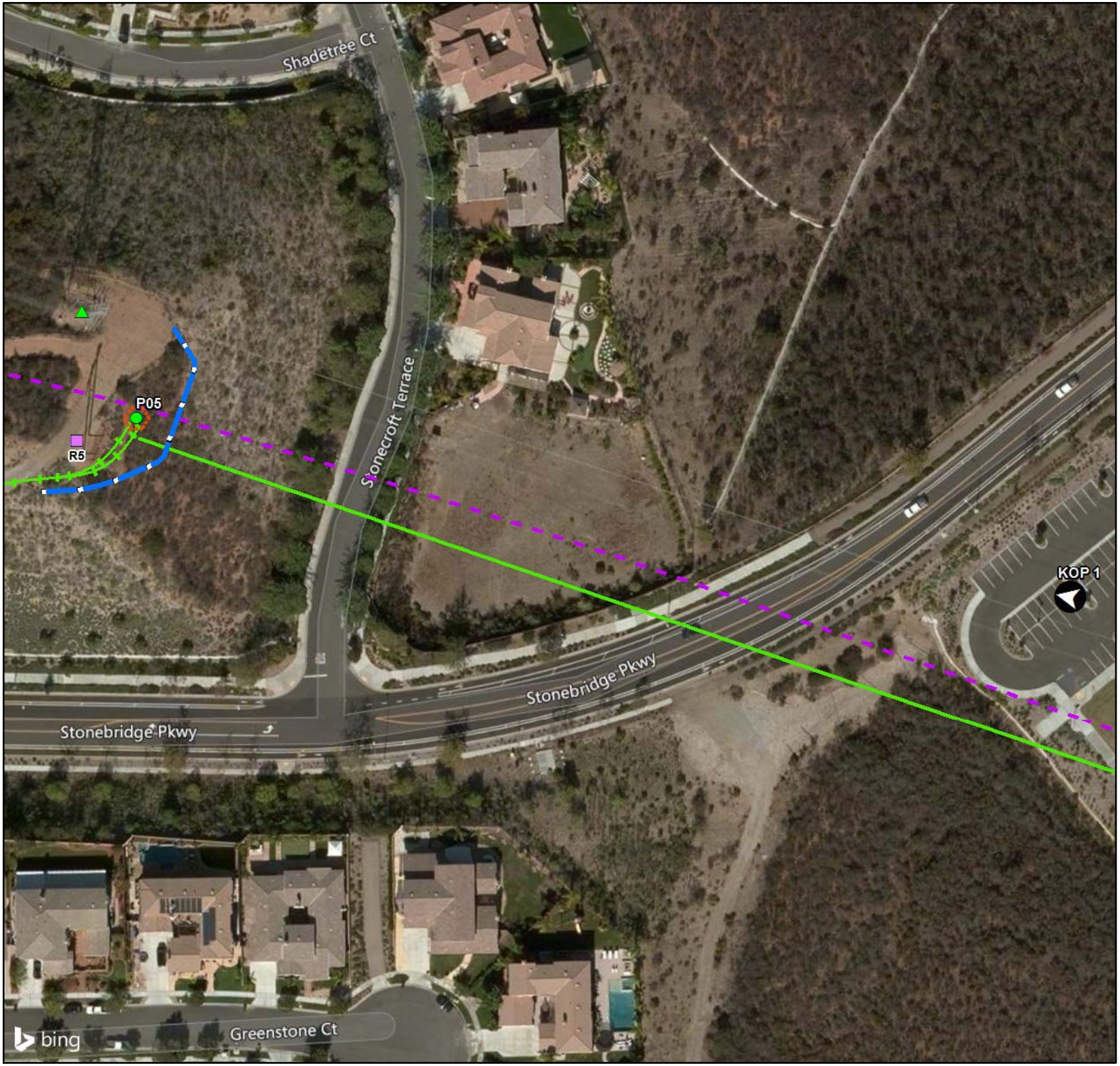

Sycamore to Penasquitos 230kV Transmission Line Project

Attachment A - Pole Maps and Key Observation Points

Sheet 3 of 6

- Photograph Viewpoint Location and Direction
- Proposed Structure
- Proposed New ADSS Interset Structure
- Removed Pole
- Existing Structure *(Not part of Proposed Project)*
- Cable Pole Security Fence
- Retaining Wall
- Underground Vault
- New 230kV Overhead
- New 230kV Underground
- Reconductor 230kV Overhead
- Reconductor 138kV Overhead
- Reconductor 138kV Underground

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Sycamore to Penasquitos 230kV Transmission Line Project

Attachment A - Pole Maps and Key Observation Points

Sheet 4 of 6

- Photograph Viewpoint Location and Direction
- Proposed Structure
- Proposed New ADSS Interset Structure
- Removed Pole
- Existing Structure *(Not part of Proposed Project)*
- Cable Pole Security Fence
- Retaining Wall
- Underground Vault
- New 230kV Overhead
- New 230kV Underground
- Reconductor 230kV Overhead
- Reconductor 138kV Overhead
- Reconductor 138kV Underground

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Sycamore to Penasquitos 230kV Transmission Line Project

Attachment A - Pole Maps and Key Observation Points

Sheet 5 of 6

- Photograph Viewpoint Location and Direction
- Proposed Structure
- Proposed New ADSS Interset Structure
- Removed Pole
- Existing Structure *(Not part of Proposed Project)*
- Cable Pole Security Fence
- Retaining Wall
- Underground Vault
- New 230kV Overhead
- New 230kV Underground
- Reconductor 230kV Overhead
- Reconductor 138kV Overhead
- Reconductor 138kV Underground

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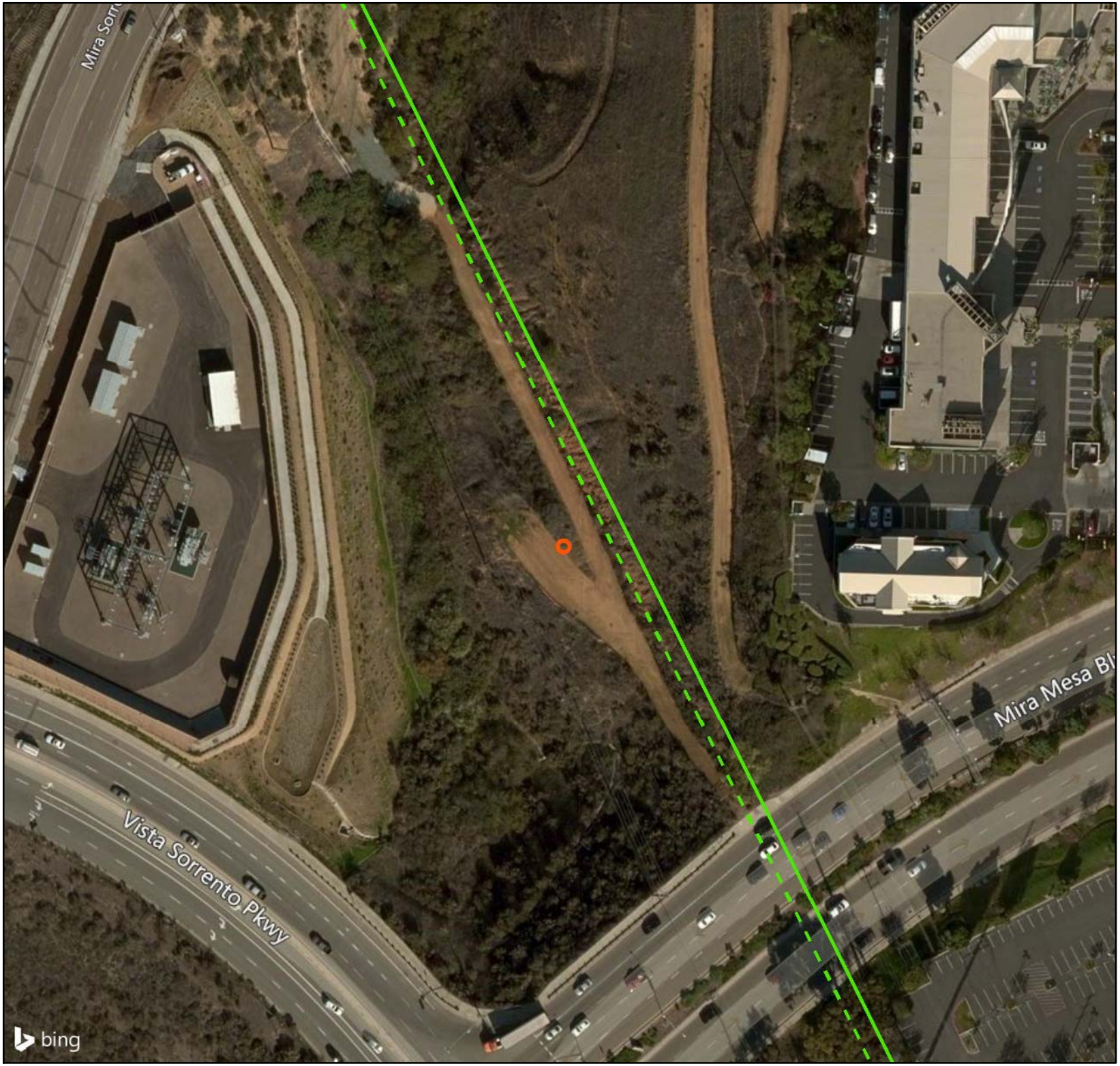

Sycamore to Penasquitos 230kV Transmission Line Project

Attachment A - Pole Maps and Key Observation Points

Sheet 6 of 6

- Photograph Viewpoint Location and Direction
- Proposed Structure
- Proposed New ADSS Interset Structure
- Removed Pole
- Existing Structure *(Not part of Proposed Project)*
- Cable Pole Security Fence
- Retaining Wall
- Underground Vault
- New 230kV Overhead
- New 230kV Underground
- Reconductor 230kV Overhead
- Reconductor 138kV Overhead
- Reconductor 138kV Underground

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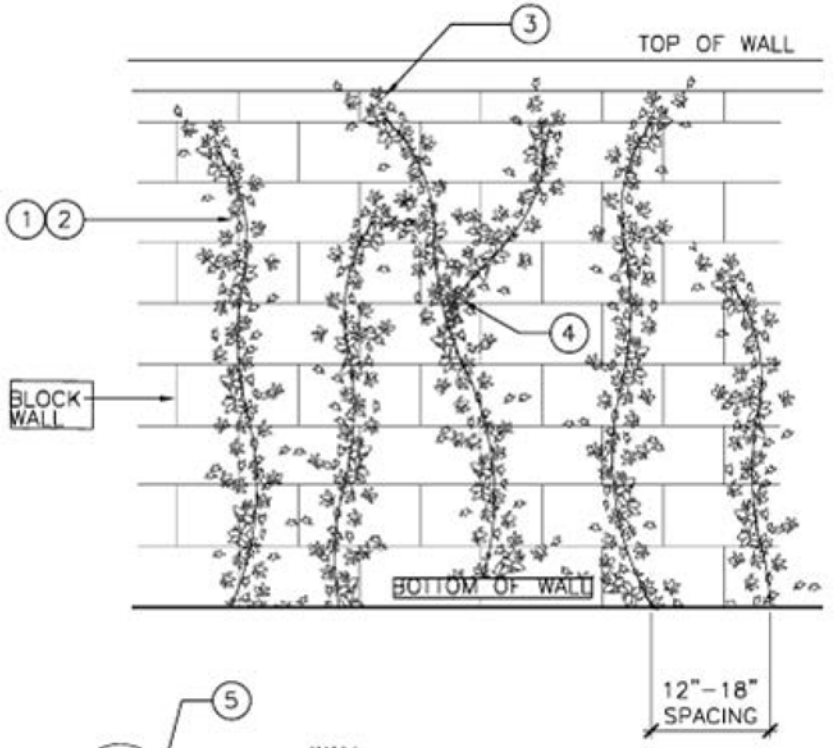
ATTACHMENT B

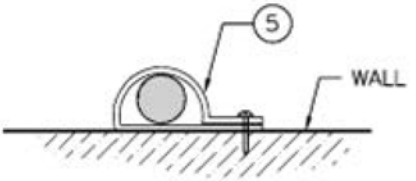
Color and Material Samples

Dull galvanized steel color sample

LEGEND:

1. 6' LONG IVY-IT STRAND.
2. SECURE STRAND 18" ON CENTER AT MININUM SEE ATTACHMENT DETAIL.
3. 3"-12" RANDOMLY SPACE FROM TOP OF WALL
4. RANDOMLY ATTACH SHORT STRAND TOGETHER
5. METAL LOOP RUBBER COATED FASTENER WITH ¾" STAINLESS STEEL CONCRETE SCREW.





ATTACHMENT ENLARGMENT

IVY-IT

CONTACT: SERGIO MARTINEZ
(909) 964-7595
WWW.IVY-IT.COM

SECTION
NOT TO SCALE

NOTES:

USE ¾" FLAT HEAD STAINLESS STEEL CONCRETE SCREWS OR PER MANUFACTURE RECOMMEDATION

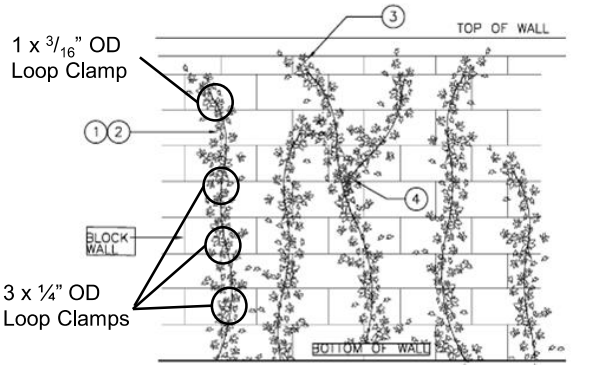
C IVY-IT STRAND ON VERTICAL WALL

Product Cut Sheet

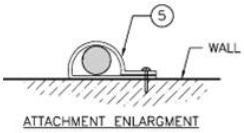
BLOCK/CONCRETE WALL MOUNT

SPECIFICATIONS	
DESCRIPTION	+- 6' Ivy-It artificial Vine Strand has fire-retardant and ultraviolet blocking chemicals that are impregnated into the materials during the manufacturing process.
ITEM ID(s) SHOWN	VINE STRAND
SIZES(s) SHOWN	+- 6' X 12"
PRODUCT INFORMATION	High-strength, integrated wire, plastic-coated vine.
	Low-density polyethylene resin - LDPE - 100% Recycled.
	ESK-NHF synthetic flame-retardant NHF-68L
	Chemical abstract number (CAS No.) 9002-88-4

IVY-IT VINE STRAND



1 x 3/16" OD, ½" wide & 3 x ¼" OD, ½" wide Vinyl Coated Loop Clamps



LEGEND

1. +- 6' LONG IVY-IT VINE STRAND.
2. SECURE STRAND 18" ON CENTER AT MINIMUM SEE ATTACHMENT DETAIL.
3. 3"-12 " RANDOMLY SPACE FROM TOP OF WALL.
4. RANDOMLY ATTACH SHORT STRAND TOGETHER.
5. METAL LOOP VINYL COATED FASTENER WITH 1" STEEL CONCRETE ANCHOR SCREW.

Concrete Anchor
Diameter 3/16" x ¼"

909-447-0469 email info@ivy-it.com

Ivy-It-Inc

112 Harvard Ave. #345, Claremont, CA

ivy-it.com

Source: It-Ivy.

Source: SDG&E

Example Photographs of creeping ivy strands.

Choose the Size, Finish & Style of Block to Fit Your Needs

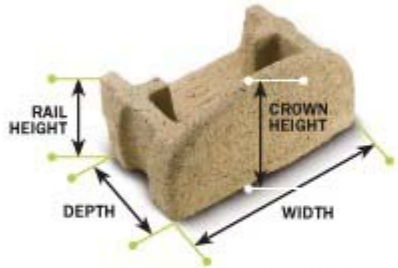

BUFF/TAN


TERRACOTTA


AGGREGATE


GRAY *(V30 Only)*

BLOCK TYPE	DIMENSIONS (inches) D x RH x W	CROWN HEIGHT	MAX BLOCK SPACING	COVERAGE PER BLOCK	WEIGHT PER BLOCK	COVERAGE STRENGTH	WALL INCLINATION (degrees)
Verdura 10	8" x 4" x 12"	6"	6"	0.5 sq. ft.	23 lbs	4,000	20 to 45
Verdura 30	12" x 6.5" x 18"	9.5"	9"	1.25 sq. ft.	70 lbs	4,000	20 to 45
Verdura 40	12" x 8" x 18"	11.5"	9"	1.5 sq. ft.	82 lbs	4,000	14 to 45
Verdura 50	18" x 6.5" x 18"	9.5"	9"	1.3 sq. ft.	119 lbs	4,000	20 to 45
Verdura 60	18" x 8" x 18"	11.5"	9"	1.5 sq. ft.	132 lbs	4,000	14 to 45
Verdura 60W	18" x 8" x 18"	11.5"	9"	1.5 sq. ft.	135 lbs	4,000	14 to 45



Depth (D) x Rail Height (RH) x Width (W)

Water absorption is less than 5% from vertical plane

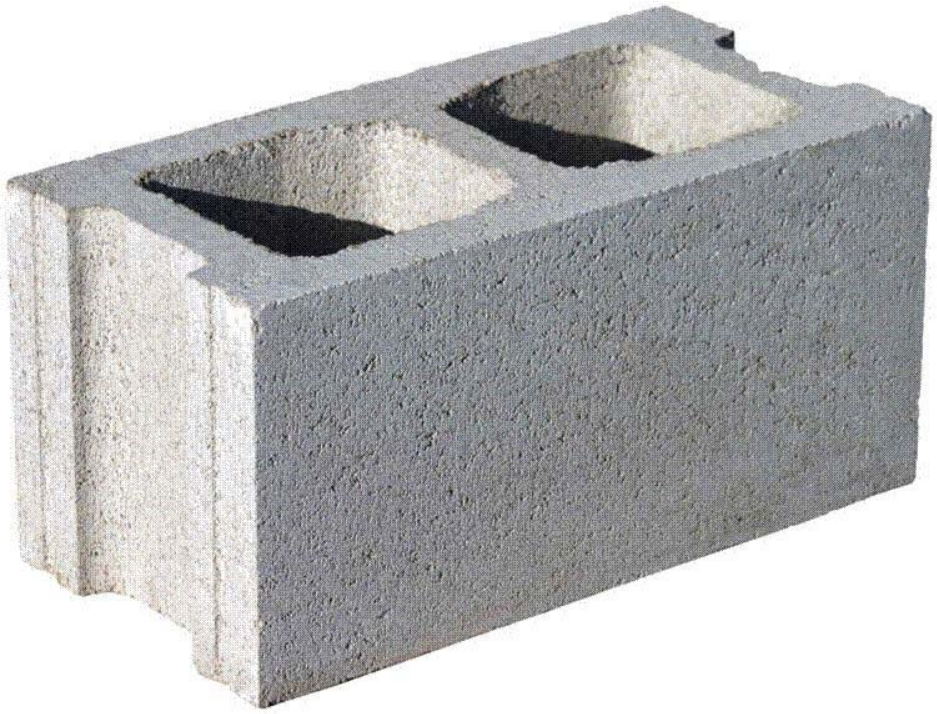
Professional | Do-it-Yourself

Verdura® 40
Commercial (82lb) block with a wall inclination of .25: 1 used for walls up to 60' high, and tested for high velocity streambank use.

Verdura® 50
Commercial (119lb) block with a wall inclination of .36:1 used for walls up to 60' high. This block is typically used in combination with the Verdura® 30 for high walls. As a deeper block, Verdura® 60 can be inclined at a flatter angle than Verdura® 40.

Verdura® 60
Commercial (132lb) block with a wall inclination of .25:1 used for walls up to 60' high. This block is used in combination with the Verdura® 40 block for high walls. As a deeper block, Verdura® 60 can be inclined at a flatter angle than Verdura® 40.

Verdura® 60W
Commercial (132lb) block with a wall



Concrete Masonry Unit Block

Example Photograph of brown security fencing.

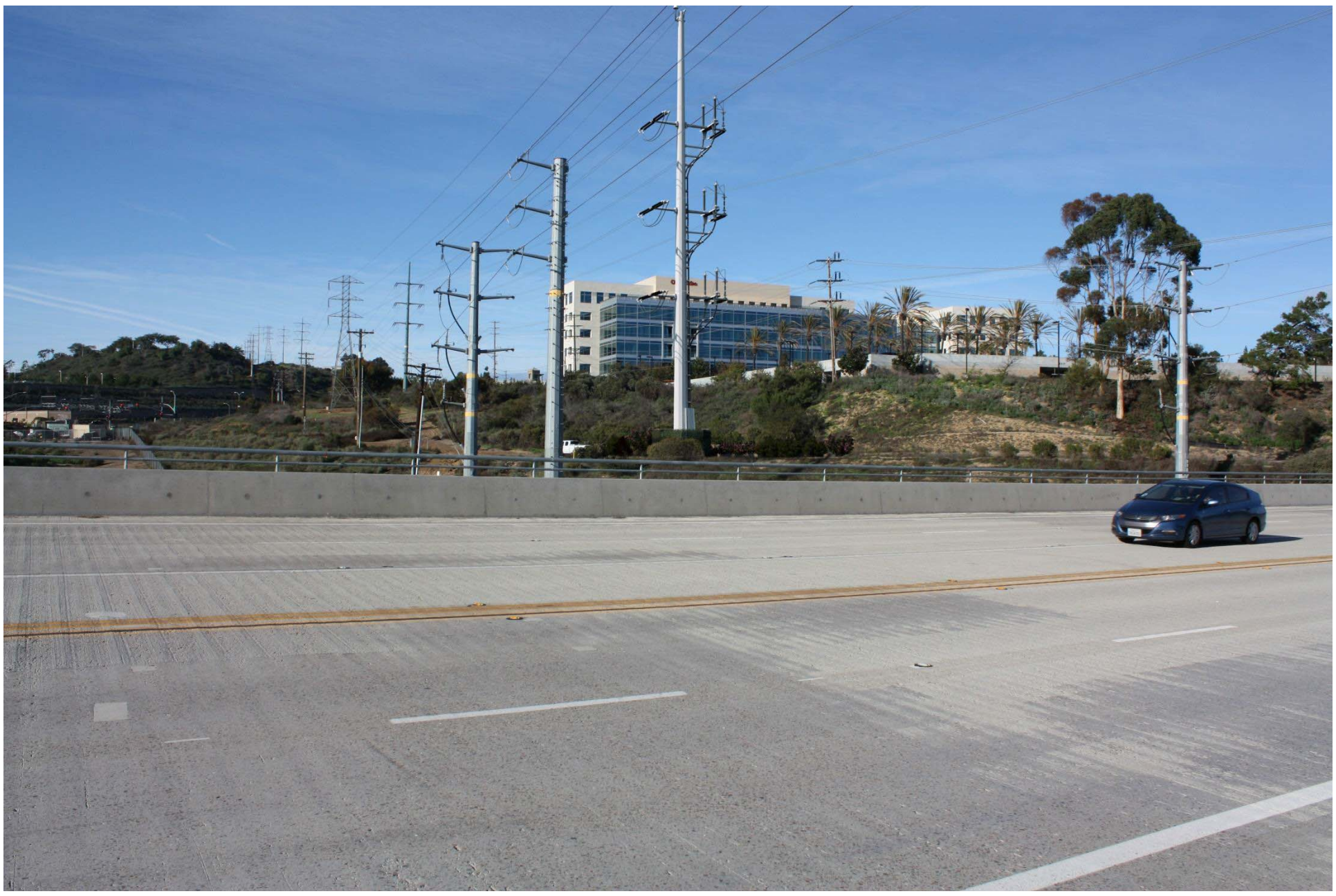
ATTACHMENT C

Representative Photo Simulations of the Proposed Structure Treatment

KOP No. 1 – Existing View from Sycamore Canyon Park.

KOP No. 1 – Visual Simulation of Structures P05 and P06.

KOP No. 2 – Existing View from Carroll Canyon Road.



KOP No. 2 – Visual Simulation of Structure CC MM CP.

ATTACHMENT D

Cable Pole Security Fence Manufacturer Specifications

ClearVu™
THE INVISIBLE WALL

ClearVu Invisible Wall is the world's most advanced Physical Perimeter Security Barrier. Over 30 patents and design registrations reflect ClearVu' s engineering and technology development. ClearVu offers the protection of a solid concrete wall in a near Invisible form.

Developed in collaboration with the architectural profession, Defence Agency tested, ClearVu is the worlds only design inspired, recognised high security barrier.

With this distinctive, ClearVu's crisp, unobtrusive finish enhances the appearance of any facility.

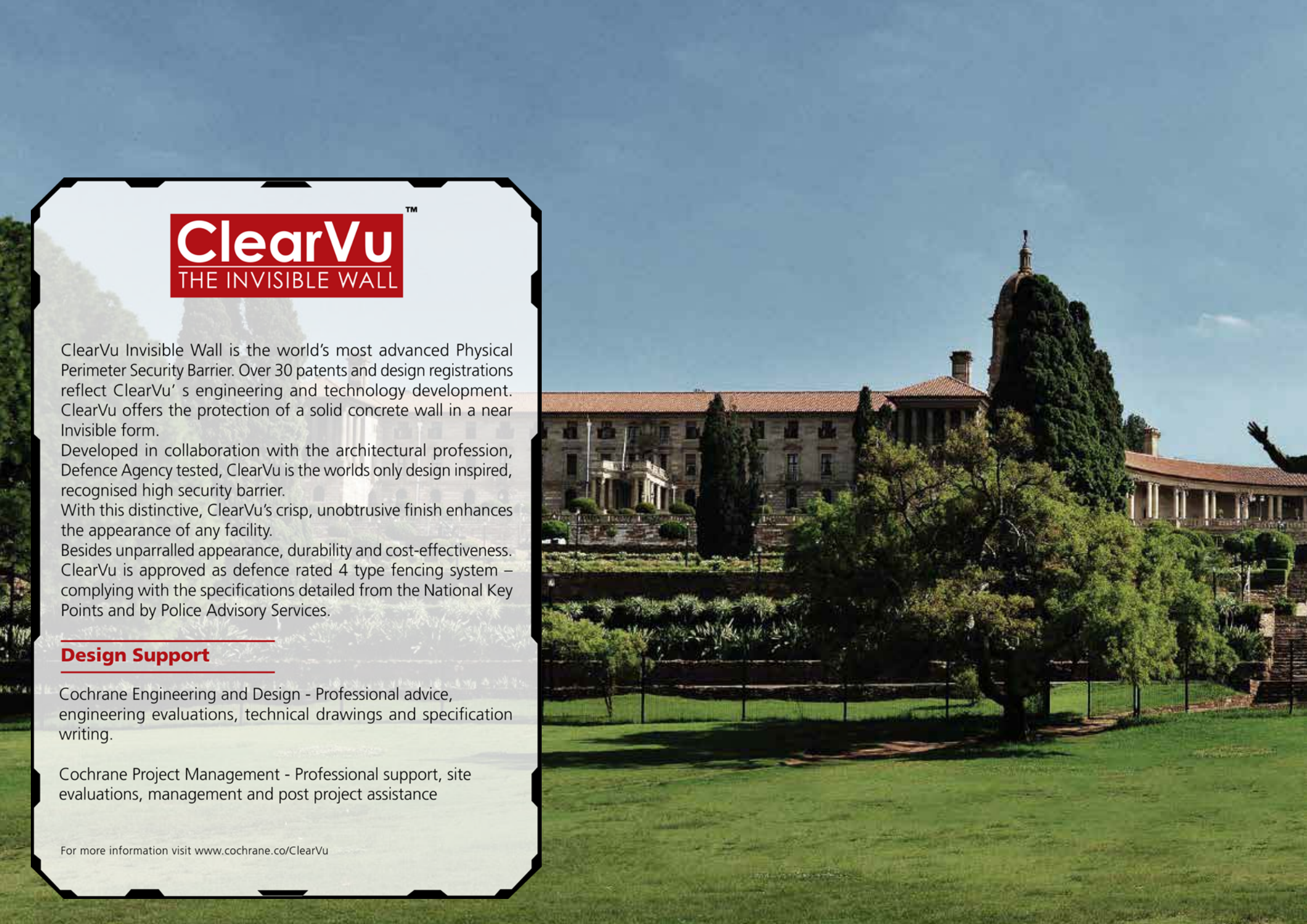
Besides unparralled appearance, durability and cost-effectiveness. ClearVu is approved as defence rated 4 type fencing system – complying with the specifications detailed from the National Key Points and by Police Advisory Services.

Design Support

Cochrane Engineering and Design - Professional advice, engineering evaluations, technical drawings and specification writing.

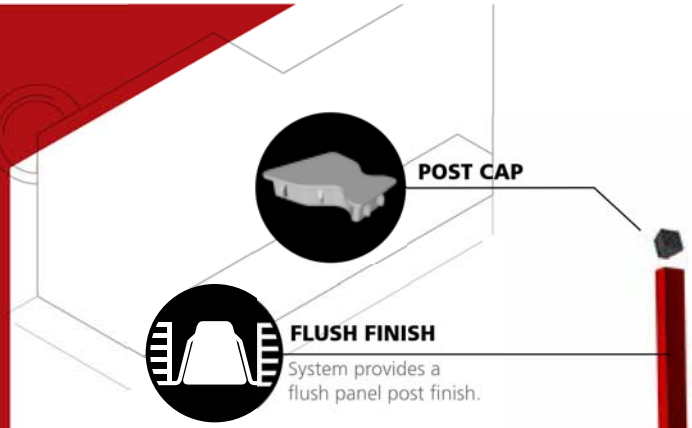
Cochrane Project Management - Professional support, site evaluations, management and post project assistance

For more information visit www.cochrane.co/ClearVu



SYSTEM FEATURES

THE WORLD'S FINEST FENCE SYSTEM

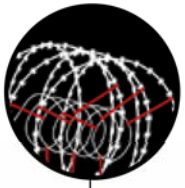


CASTLE SPIKES

SHARK TOOTH SPIKES

RIBBON STRIP

SMART COIL



HIGHLY TRANSPARENT

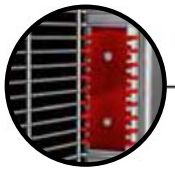
POST CAP

FLUSH FINISH

System provides a flush panel post finish.

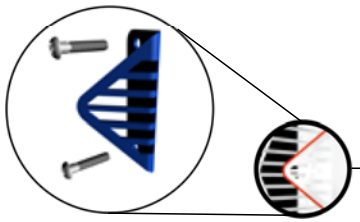
30°/ 90° INTEGRATED ANGLE

30° or 90° pressed arrow straight edges allowing for Cochrane Anti-Scale.

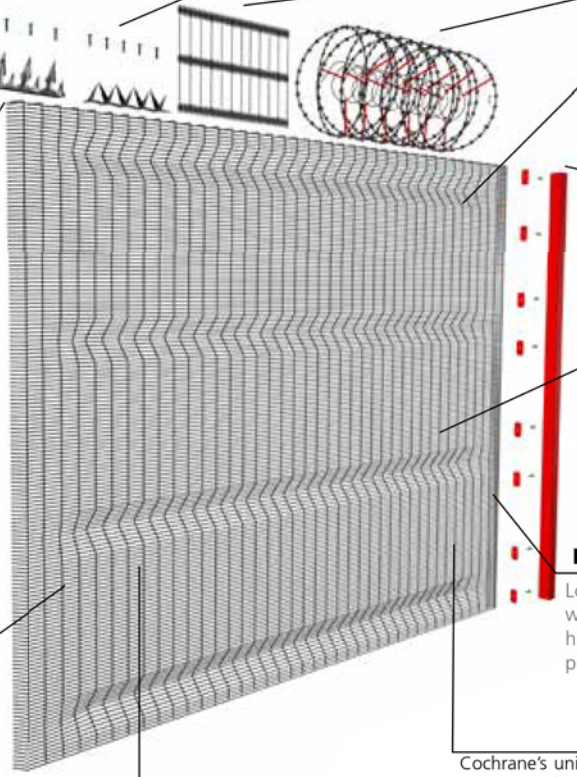


48 LINE WIRE CONNECTION THE ONLY FIXING SYSTEM THAT IS CNI (CRITICAL NATIONAL INFRASTRUCTURE) COMPLIANT

CCTV OPTIMISED



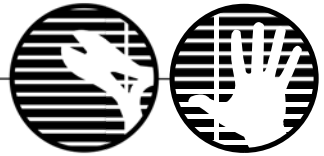
ANTI-SCALE CLAMP



TOP VIEW: POST - PATENTED LOCKING RECESS MECHANISM

ANTI - CUT / ANTI - CLIMB

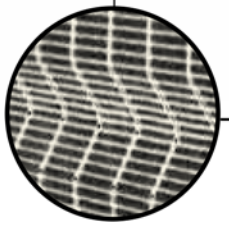
Apertures too narrow for finger and foothold, preventing any cutting with standard tools.



INTERNAL FIXTURES

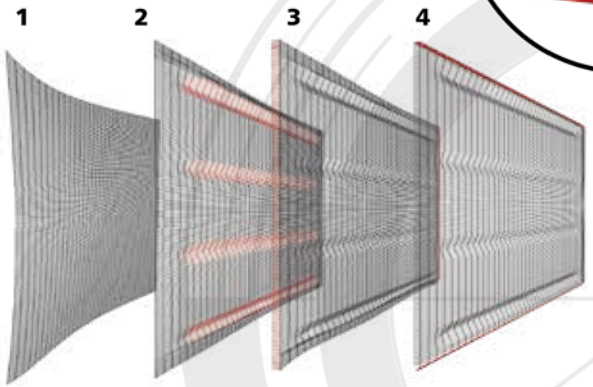
Locking post with 48 line wire connection. Fixtures are hidden from view and protected from attack.

Cochrane's unique method of galvanizing and our patent Marine Fusion Bond coating offers a 25-year-maintenance-free life (Under normal conditions).



RIGIDITY

ROCK RIGID PROCESS



1. **Floppy Panel**
2. **Process 1 -** 30% Rigidity: Horizontal Press
3. **Process 2 -** 60% Rigidity: Vertical Press
4. **Process 3 -** 100% Rigidity: Edge Press Rock Rigid Panel

Patented Protected

SPECIFICATIONS

GENERAL SPECIFICATIONS

HIGH SECURITY FENCES AND GATES
SECTION A1 HIGH SECURITY FENCES AND GATES

PART 1 – GENERAL

1.1 Scope

A. This specification covers material requirements and installation of security fencing and gates, for the _____ project.

1.2 Work Included

A. Furnish and install fence and gates, and accessories as required and shown.

1.3 Submittals

A. Certificate of compliance for materials and coatings
B. Shop drawing for gates
C. Quality control program shall be submitted to the Engineer for review prior to commencement of any work.

PART 2 – PRODUCTS

2.1 General

A. All steel materials shall be of good commercial quality, galvanized stee
B. All pipes shall be galvanized, one piece without joints. Furnish moistu proof caps for all posts.
C. Zinc coating shall be smooth and essentially free from lumps, globs, o points.
D. Miscellaneous material shall be galvanized.

2.2 Suggested Manufacturer: Cochrane

2.3 Description of Fence System

A. Post:

- Post shall be m long Cochrane Taper Locking Post.
- Post width shall be 85mm - tapering to 45mm with a depth of 85mm
- Post shall include 'Locking Recess Mechanism' to secure panel edge.
- Post shall be sealed with a UV stabilized polymer cap.
- Post finish shall be Galvanized.
- Post foundation shall be 600mm x 400mm² 15Mpa concrete

B. Panel:

- Panel shall be of 3,297m width and m in height.
- Panel aperture size (centres) shall be 76.2mm x 12.7mm.
- The panel shall be reinforced with 4 x 50mm deep 'V' formation horizontal recessed bands (rigidity)
- Panel shall have 2 x 70° flanges along sides (internal fixtures- all fixtures shall be on the inside of fence line)
- Panel shall have 2 x 30° flanges along top and toe (integrated rigid angle, anti-scale locking device)
- Panel post shall have a flush panel post finish with no climbing aid.
- Panel shall be affixed to post over 48 line wires using 8 x Double boltcomb clamps and 8 x Single bolt comb clamps using 24 x Anti vandal bolts.
- Panel and fixtures shall be Galvanized.

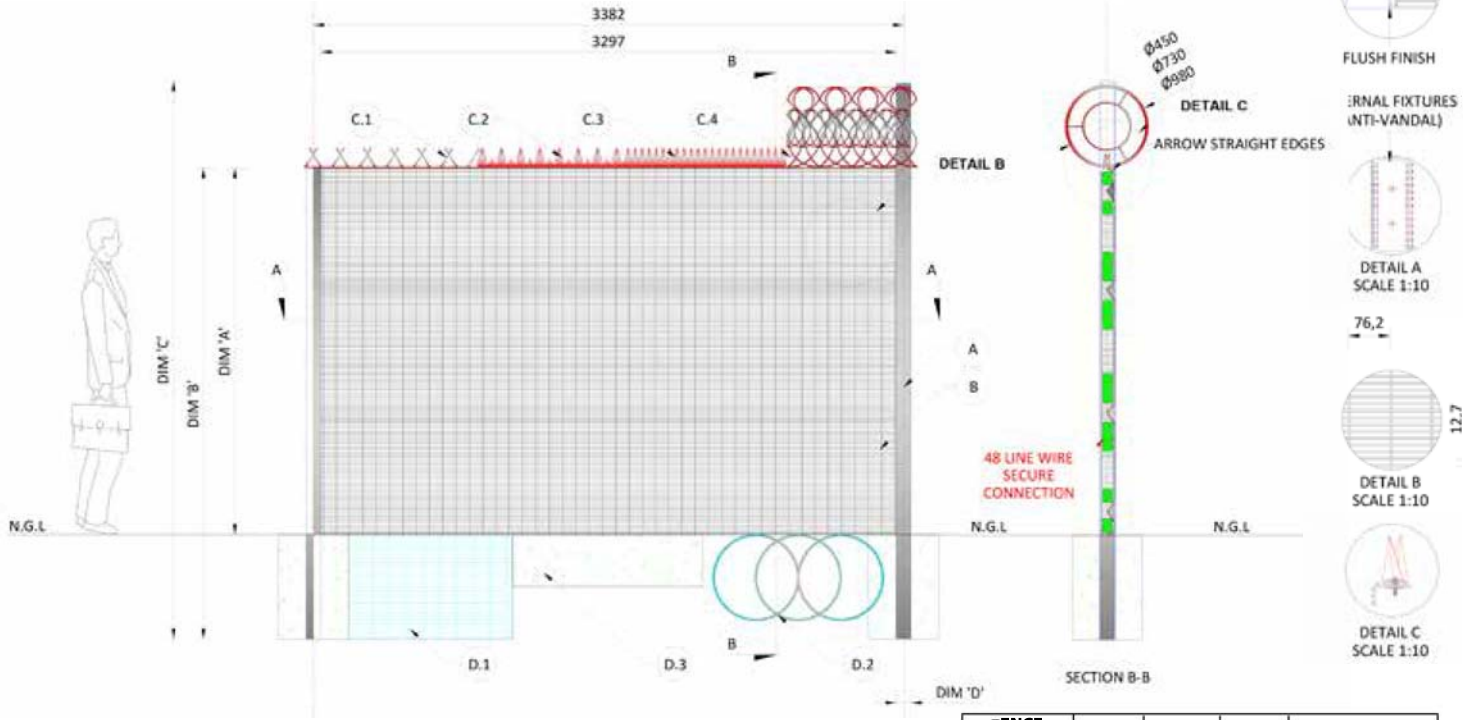
C. Topping Options

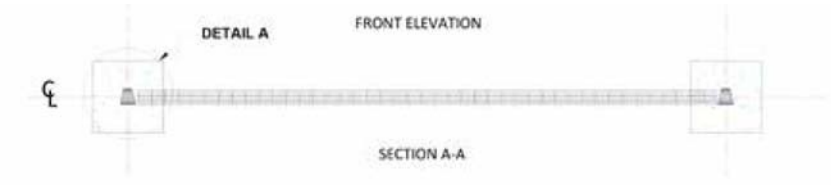
1) A 100mm high toughened steel Shark Tooth spike shall be affixed to panel edge, internally at 150mm intervals using Anti-vandal bolts. Spike finish shall be Hot Dipped Galvanized.
2) A 100mm high toughened steel Castle spike shall be affixed to panel edge, internally at 150mm intervals using Anti-vandal bolts. Spike finish shall be Hot Dipped Galvnized.
3) A 100mm high toughened steel Spear spike shall be affixed to panel edge, internally at 150mm intervals using Anti-vandal bolts. Spike finish shall be Hot Dipped Galvanized.
4) A 730mm high Ripper Blade Smart Concertina Coil shall be fixed to post as anti-scale topping.
NATO 5660-99-458-7414

D. Anti-Burrow Options

1) A 600mm ClearVu mesh extension shall be secured to the lower edge inte grated angle.
2) A 500mm Ripper Flatwrap shall be secured to the lower edge integrated angle.
3) A 200mm Concrete Sill shall be secured to the lower ed angle.

A full General Specification is available on request from:
engineering@cochrane.co



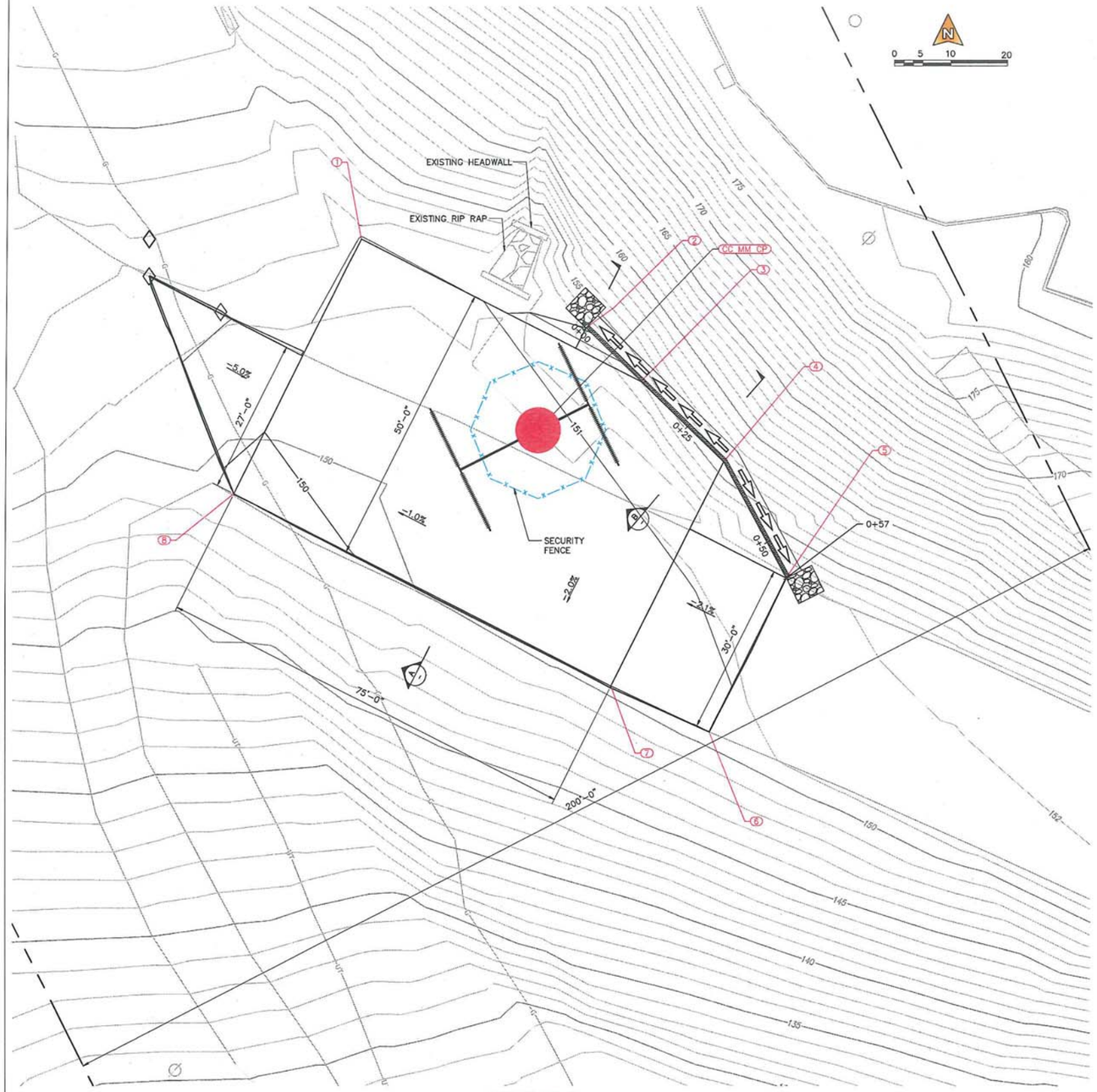


FENCE DESIGNATION	DIM 'A'	DIM 'B'	DIM 'C'	POST SIZE DIM 'D'
1800mm	1800mm	2400mm	2900mm 3100mm 3300mm	Taper: 85 x 45mm. Depth: 85mm
2100mm	2100mm	2700mm	3200mm 3400mm 3600mm	Taper: 85 x 45mm. Depth: 85mm
2400mm	2400mm	3000mm	3500mm 3700mm 3900mm	Taper: 85 x 45mm. Depth: 85mm
3000mm	3000mm	3600mm	4100mm 4300mm 4500mm	Taper: 85 x 45mm. Depth: 85mm

Example Photograph of Clear VU security fencing with *Castle Spike* anti-scale.

ATTACHMENT E

Retaining Wall Plan and Profile Drawings



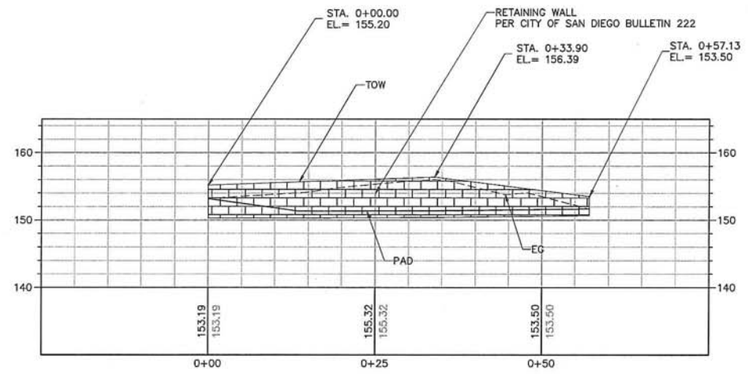
PLAN CC MM CP
SCALE: 1" = 10'

CC MM CP				
NORTHING	EASTING	ELEVATION	POLE HT.	DESCRIPTION
1904905.83	6269089.39	150.87	165'	230KV CABLE POLE

EARTH QUANTITIES:

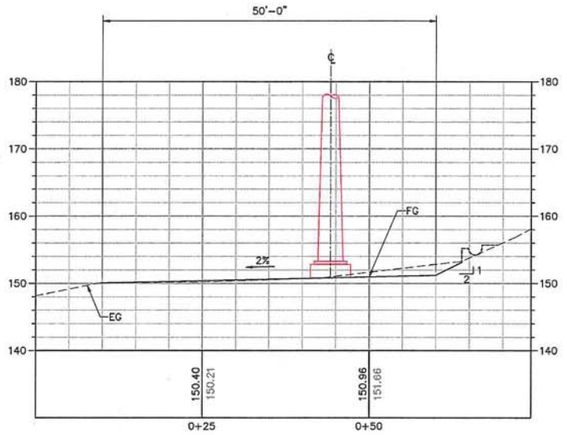
CUT: 40 cu.yd
FILL: 17. cy.yd
Disturbed Area: 4992 S.F.
Block Retaining Wall: 295 S.F.
Max Wall Height: 6 FT. 0 Inches
8 FT. Tall Security Fence Length: 75 L.F.

HORIZONTAL CONTROL				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1904939.30	6269057.96	150.76	PAD CORNER
2	1904923.73	6269097.82	155.20	BEG. WALL STA. 0+00.00
3	1904914.33	6269107.60	151.31	P.I. GRADING
4	1904900.24	6269122.27	156.39	P.I. RETAINING WALL STA. 0+33.90
5	1904879.89	6269133.47	153.50	END WALL STA. 0+57.13
6	1904852.90	6269119.89	150.72	TIE-IN EXIST.
7	1904860.93	6269102.50	150.51	PAD CORNER
8	1904894.63	6269035.50	149.76	PAD CORNER



RETAINING WALL PROFILE
SCALE: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
IN S MATHEY
C79972
Exp. 9-30-18
CIVIL
STATE OF CALIFORNIA



SECTION (A)
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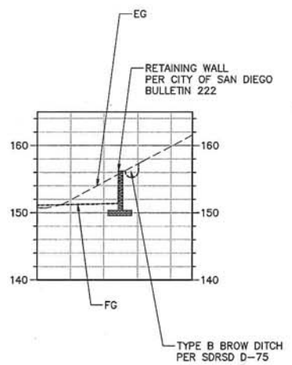


SECTION (B)
SCALE: 1" = 10'

REV	CHANGE	DWN	CHKD	APPV	DATE
0	IFC	AM	JW	KM	01/13/17

BURNS McDONNELL

SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING

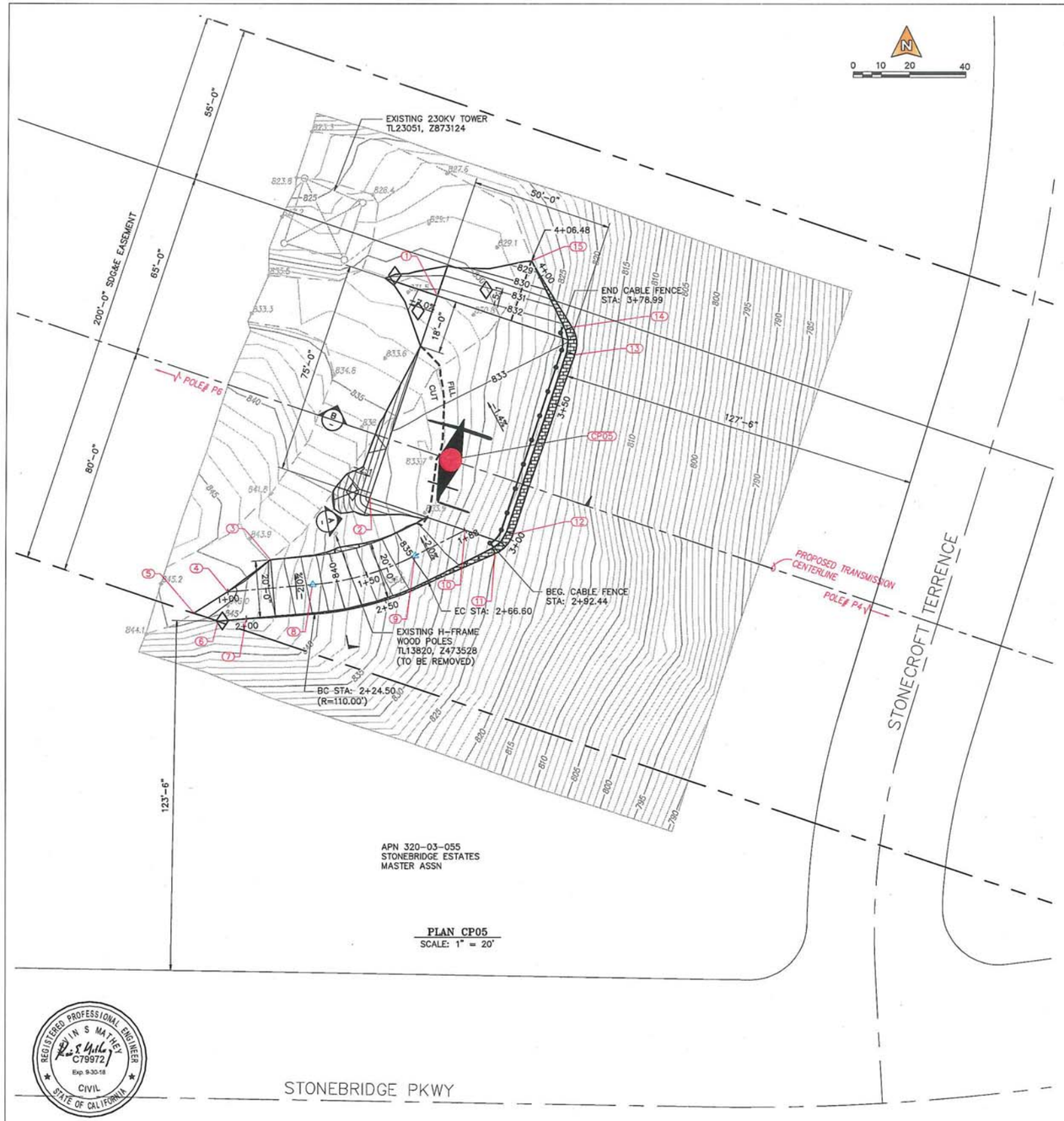
SYCAMORE CANYON SUB TO PENASQUITOS SUB
ALTERNATIVE 5

SCALE 1"=10' SHEET 9 OF 10

230KV LINE PROJECT
GRADING PLAN
PROPOSED POLE STRUCTURE CC MM CP

DRAWING NUMBER
SXPQ-009

G:\TND\SDGE\73493_SX-PQ\Engr\Trans\Civil_Struc\Grading\Drafting\TITLE SHEET & KEY MAP_ALT. 5\CC MM CP\CC MM CP-SHEET.dwg 1/18/2017 9:06 AM

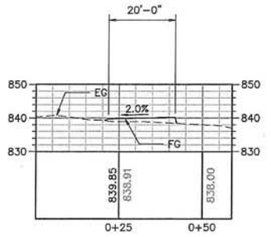


PLAN CP05
SCALE: 1" = 20'

REGISTERED PROFESSIONAL ENGINEER
KEVIN S MATHEY
C79972
Exp. 9-30-18
CIVIL
STATE OF CALIFORNIA

EARTH QUANTITIES:

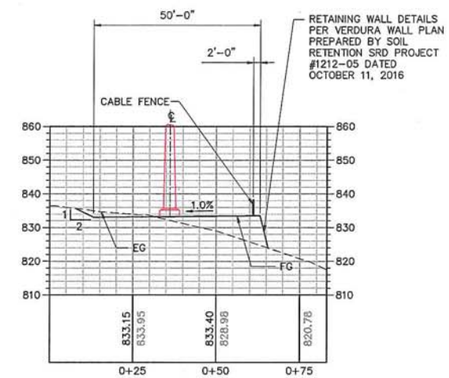
CUT: 49 cu.yd
FILL: 573 cy.yd
Disturbed Area: 6885 S.F.
Retaining Wall 1382 S.F.
Max Wall Height: 12 FT.



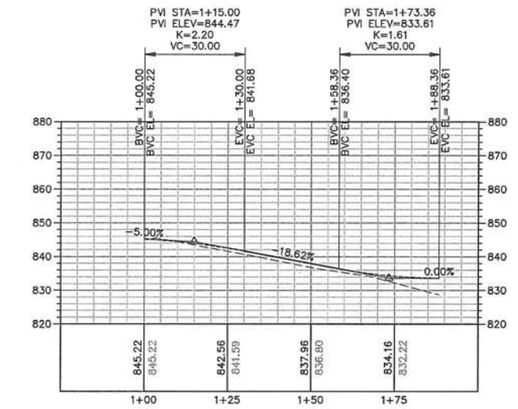
SECTION A
SCALE: 1" = 20'

CP05				
NORTHING	EASTING	ELEVATION	POLE HT.	DESCRIPTION
1916366.44	6318508.94	833.26	159.5'	230KV CABLE POLE DE/STRAIN STRUCTURE

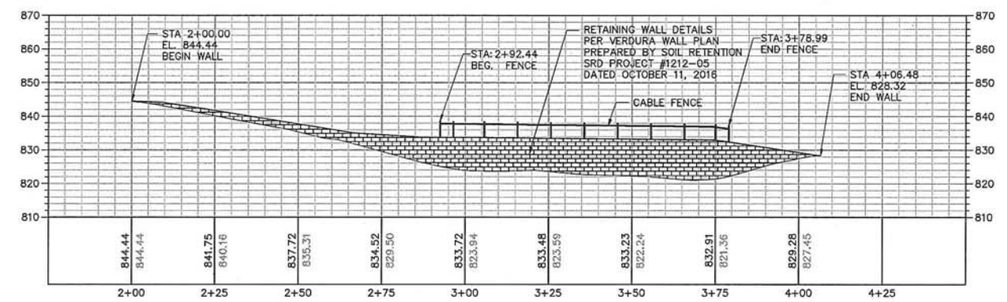
HORIZONTAL CONTROL				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1916424.23	6318503.95	832.50	PAD CORNER
2	1916353.09	6318480.22	833.25	PAD CORNER
3	1916331.30	6318444.99	843.92	BEG. DR. EDGE TIE-IN EXIST.
4	1916319.98	6318429.73	845.22	BEG. ACCESS CL STA. 0+00.00 TIE-IN EXIST.
5	1916312.53	6318417.69	845.29	BEG. DR. EDGE TIE-IN EXIST.
6	1916309.66	6318426.31	844.11	DR. EDGE TIE-IN EXIST.
7	1916310.50	6318436.40	844.44	BEG. WALL TIE-IN EXIST.
8	1916322.52	6318459.96	841.62	STA. 1+30.34 BC, R=100.00'
9	1916332.78	6318496.40	834.84	STA. 1+68.43 EC, R=100.00'
10	1916341.72	6318514.23	833.61	END ACCESS CL STA. 0+88.36
11	1916333.47	6318524.93	825.09	WALL STA. 2+92.44 BC, R=10.00'
12	1916340.40	6318531.30	823.81	WALL STA. 3+02.14' EC, R=10.00'
13	1916403.53	6318552.93	820.97	WALL STA. 3+68.87' BC, R=10.00'
14	1916413.26	6318551.82	822.14	WALL STA. 3+78.99' EC, R=10.00'
15	1916436.60	6318537.29	828.32	END OF WALL TIE-IN EXIST.



SECTION B
SCALE: 1" = 20'



ACCESS CL PROFILE
SCALE: 1" = 20'



RETAINING WALL PROFILE
SCALE: 1" = 20'

REV	CHANGE	DWN	CHKD	APPV	DATE
0	IFC	AM	JW	KM	01/13/17

BURNS McDONNELL

SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING

SYCAMORE CANYON SUB TO PENASQUITOS SUB
ALTERNATIVE 5

SCALE 1"=20' SHEET 7 OF 10

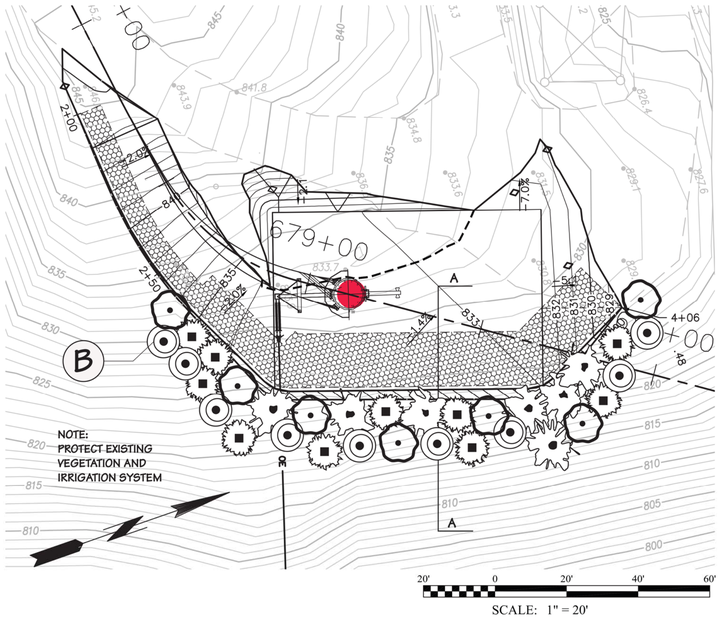
230KV LINE PROJECT
GRADING PLAN
PROPOSED POLE STRUCTURE CP05

DRAWING NUMBER
SXPQ-007

G:\TND\SDGE\73493_SX-PQ\Engr\Trans\Civil_Struc\Grading\Drafting\TITLE SHEET & KEY MAP_ALT. 5\P05\P05-SHEET.dwg 1/18/2017 9:03 AM

ATTACHMENT F

Retaining Wall Landscape Plans



SCALE: 1" = 20'

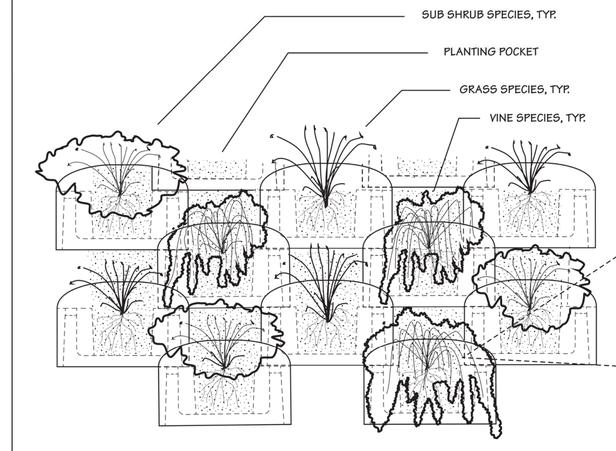
VERDURA RETAINING WALL PLANTING PLAN

PLANTING LEGEND					
	SYMBOL	BOTANIC/COMMON NAME	SIZE	QUANTITY	APPROXIMATE LOCATION
SHRUBS		MALOSMA LAURINA/LAUREL SUMAC	5 GALLON	18	PER PLANTING PLAN
		XYLOCOCCUS BICOLOR	5 GALLON	14	
		BACCHARIS PILULARIS ssp. CONSANGUINEA/COYOTE BUSH	5 GALLON	21	
		HETEROMELES ARBUTIFOLIA/TOYON	5 GALLON	12	
SUB SHRUBS WITHIN WALL PLANTING POCKETS		Lonicera subspicata var. denudata/Southern Honeysuckle	LINER	20%	NEAR TOP OF WALL
		Mirabilis californica/Wishbone Bush	LINER	25%	NEAR TOP OF WALL
		Festuca californica/California fescue	LINER	15%	ANYWHERE-FILLER
		Nasella pulchra/Purple Needle Grass	LINER	10%	ANYWHERE-FILLER
		Epilobium canum/California fuchsia	LINER	20%	MIDDLE OF WALL
		Monardella hypoleuca ssp. lanata/ Felt Leaf Monardella	LINER	10%	BOTTOM OF WALL

NOTES:

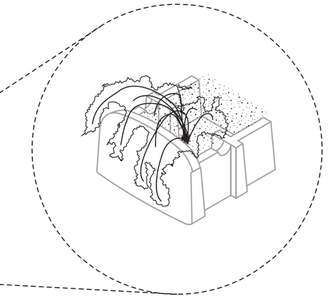
1. WALL HEIGHT AND LENGTH OF WALL VARY FOR EACH LAYER OF BLOCK, THEREFORE CONTRACTOR SHALL SUBMIT A UNIT PRICE FOR EACH TYPE AND SIZE OF PLANT, INCLUDING THE PLANTING THEREOF, WITH THE FINAL BID PROPOSAL.
2. FOR ESTIMATING PURPOSES, A 100' LENGHT OF A SINGLE COURSE OF BLOCK CONTAINS AN ESTIMATED 44 PLANTING SPACES.
3. PLANTING POCKETS SHALL BE FILLED WITH AN APPROVED COMPOST TYPE SOIL, AS AVAILABLE FROM MIRAMAR LANDFILL.
4. COMPOST APPROVAL SHALL BE SUBJECT TO THE CONTRACTOR SUBMITTING A SOILS ANALYSIS FROM A SOILS LAB TO THE LANDSCAPE ARCHITECT.
5. PRIOR TO PLACING THE COMPOST TYPE SOIL, IT SHALL BE BROUGHT TO OPTIMUM MOISTURE CONTENT.
6. COMPOST TYPE SOIL SHALL BE PLACED INTO THE WALL PLANTING POCKET AND LIGHTLY COMPACTED BY FOOT PRESSURE, I.E., BY STEPPING ON THE SOIL.
7. OMIT
8. PLANTS SHALL BE WATERED IN IMMEDIATELY UPON PLANTING, AND AS OFTEN AS NECESSARY THEREAFTER, BASED ON WEATHER CONDITIONS, UNTIL PLANTS HAVE BECOME ESTABLISHED, AS DETERMINED BY THE LANDSCAPE ARCHITECT. FOR IRRIGATION GUIDELINES REFER TO P05 IRRIGATION PLAN.
9. CONTRACTOR SHALL SUBMIT A PRELIMINARY WATERING SCHEDULE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT.
10. ALL PLANTS SHALL BE OBTAINED FROM A NATIVE PLANT NURSERY SUCH AS TREE OF LIFE NURSERY IN SAN JUAN CAPISTRANO, OR MOOSA CREEK NURSERY IN VALLEY CENTER, AND SHALL BE TAGGED AND APPROVED BY THE LANDSCAPE ARCHITECT AT THE NURSERY PRIOR TO DELIVERY.
11. NO SUBSTITUIONS TO THE PLANT SPECIES IDENTIFIED OR DEVIATIONS TO THIS PLAN ARE ALLOWED WITHOUT APPROVAL OF SDG&E AND THE CPUC.

1



CONCEPTUAL WALL PLANTING DETAIL

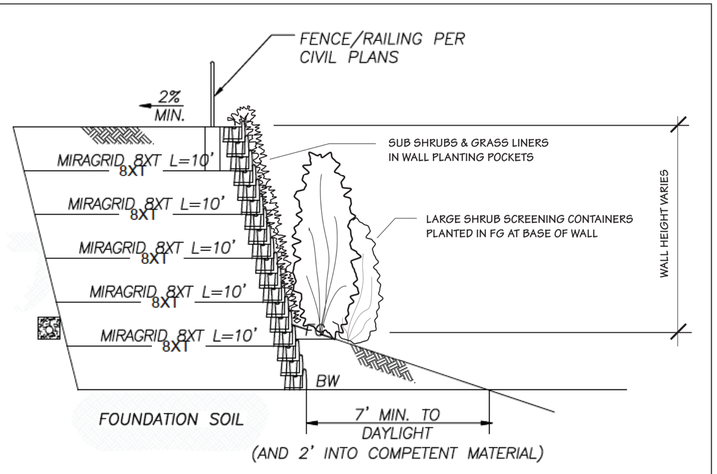
NTS



PLANTING POCKET CLOSEUP

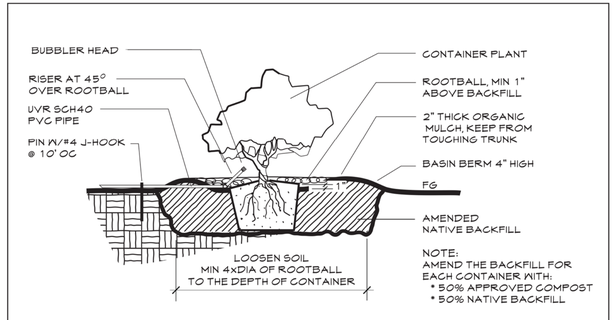
NTS

NOTE: ALL PLANTS SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE BLOCK CROWN AS POSSIBLE.



PLANTED WALL - SECTION A-A

NTS



B CONTAINER PLANTING DETAIL

NTS

7

LICENSED LANDSCAPE ARCHITECT
GERHARD B. BOMBE NO. 2548
Signature
Renewal Date
8/31/17
Date
STATE OF CALIFORNIA

REVISIONS

1 3/21/17 - remove Note #7 and #11

230KV LINE PROJECT
PROPOSED POLE STRUCTURE P05

PLANTING PLAN

SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
SYCAMORE CANYON SUB TO PENASQUITOS SUB
P05

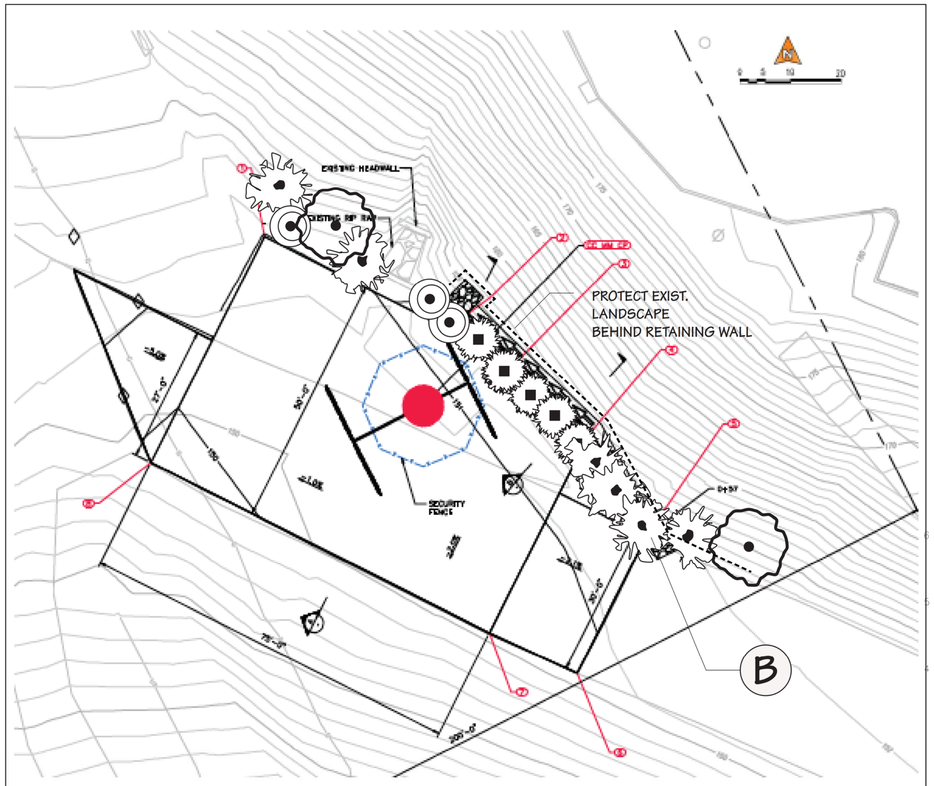
DRAWN: CB

DATE: 11/20/2016

SCALE: NA

JOB NO:

SHEET L-1 OF 2 SHEETS



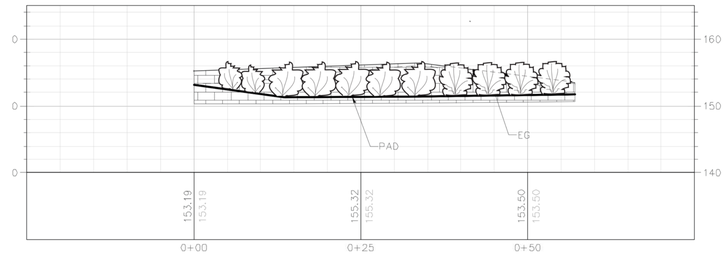
PLANTING PLAN @ CC MM CP

PLANTING LEGEND			
SYMBOL	BOTANIC/COMMON NAME	SIZE	QUANTITY
	MALOSMA LAURINA/LAUREL SUMAC	5 GALLON	20
	XYLOCOCCUS BICOLOR/SAN DIEGO MANZANITA	5 GALLON	13
	BACCHARIS PILULARIS ssp. CONSANGUINEA/COYOTE BUSH	5 GALLON	12
	HETEROMELES ARBUTIFOLIA/TOYON	5 GALLON	7

NOTES:

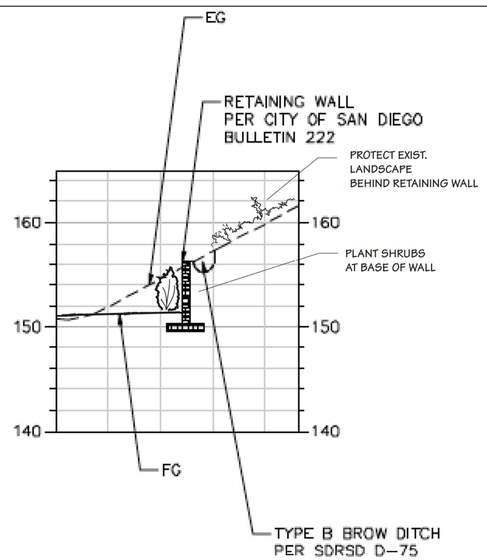
1. PLANTING BACKFILL SHALL CONSIST OF 50% ON SITE SOIL AND 50% OF AN APPROVED COMPOST TYPE SOIL, AS AVAILABLE FROM MIRAMAR LANDFILL.
2. COMPOST APPROVAL SHALL BE SUBJECT TO THE CONTRACTOR SUBMITTING A SOILS ANALYSIS FROM A SOILS LAB TO THE LANDSCAPE ARCHITECT.
3. PLANTS SHALL BE DISTRIBUTED AND PLANTED PER THE PLANTING PLAN, AND AS DIRECTED BY THE LANDSCAPE ARCHITECT.
4. FOR IRRIGATION GUIDELINES AND SCHEDULE, SEE CC MM CP IRRIGATION PLAN.
5. CONTRACTOR SHALL SUBMIT A PRELIMINARY WATERING SCHEDULE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT.
6. ALL PLANTS SHALL BE OBTAINED FROM A NATIVE PLANT NURSERY SUCH AS TREE OF LIFE NURSERY IN SAN JUAN CAPISTRANO, OR MOOSA CREEK NURSERY IN VALLEY CENTER, AND SHALL BE TAGGED AND APPROVED BY THE LANDSCAPE ARCHITECT AT THE NURSERY PRIOR TO DELIVERY.
7. NO SUBSTITUIONS TO THE PLANT SPECIES IDENTIFIED OR DEVIATIONS TO THIS PLAN ARE ALLOWED WITHOUT APPROVAL OF SDG&E AND THE CPUC.

1



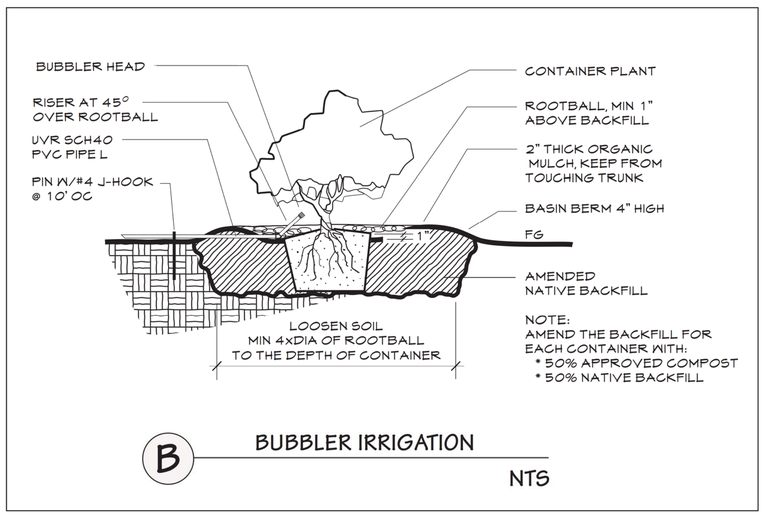
RETAINING WALL ELEVATION @ CC MM CP

NTS



PLANTED WALL - SECTION A-A

NTS



B BUBBLER IRRIGATION

NTS

LICENSED LANDSCAPE ARCHITECT
GERHARD A. BOMBE No. 2612
Renewal Date
8/31/17
Date
STATE OF CALIFORNIA

REVISIONS

1 3/21/17 - remove Note #7

230KV LINE PROJECT
PROPOSED POLE STRUCTURE CC MM CP

PLANTING PLAN

SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING

SYCAMORE CANYON SUB TO PENASQUITOS SUB

DRAWN: CB

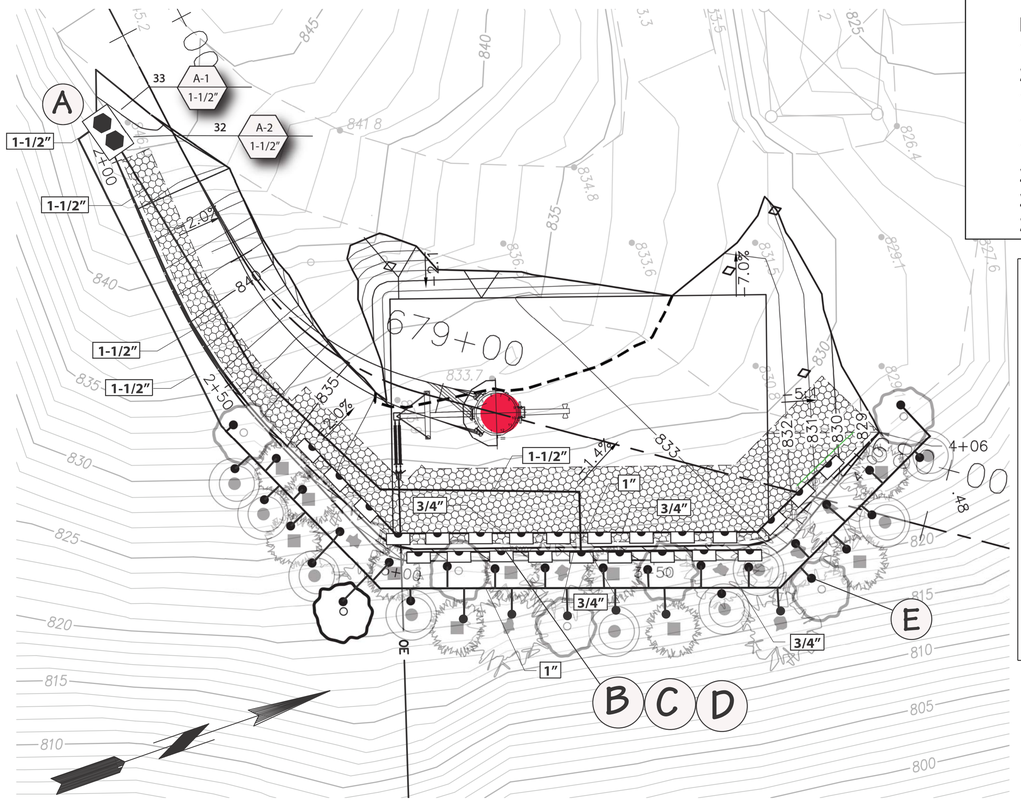
DATE: 11/20/2016

SCALE: NA

JOB NO:

SHEET L-2 OF 2 SHEETS

ATTACHMENT G
Irrigation Plans



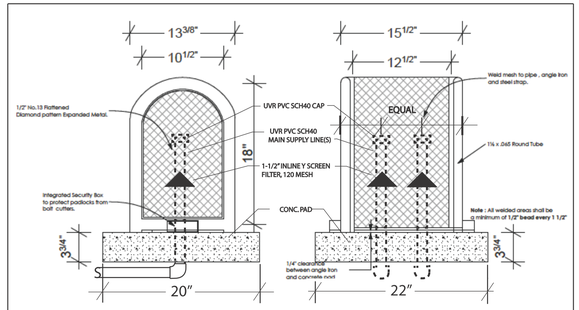
SCALE: 1" = 20'

PIPE SIZE SCHEDULE

PIPE	GPM
1/2"	0-5
3/4"	5-10
1"	10-20
1-1/4"	20-30
1-1/2"	30-40
2"	40-55
2-1/2"	55-85
3"	85 +

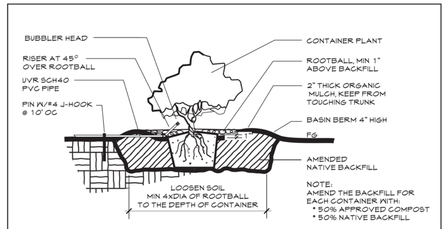
IRRIGATION LEGEND

SYMBOL	MANUFACTURER	MODEL NO.	DESCRIPTION	NOZZLE	RADIUS	GPM	PSI	PATTERN	SEE DETAIL
	RAINBIRD	1400 SERIES	PRESSURE COMPENSATING BUBBLER	1404	1'-3"	1.00	20	FULL CIRCLE	
	RAINBIRD	9SST	515 STRIP SERIES	MPR	9'x15'	1.34	15	STRIP	
	PVC SCH40 STANDPIPES (A-1 & A2) WITHIN SECURITY ENCLOSURE								
	ULTRA VIOLET RESISTANT - PVC SCH 40, FOR SIZES 1 1/2" AND SMALLER, ON GRADE, SIZE NOTED								
	INDICATES FLOW IN GPM INDICATES STANDPIPE NUMBER INDICATES PIPE SIZE								



NOTE: 1. ENCLOSURE AS AVAILABLE FROM: GUARDIAN ENCLOSURERS, MODEL GE - .5 (LIFT-OFF)
2. 1-1/2" INLINE Y SCREEN FILTER, 120 MESH, MODEL RKY 150, AS AVAILABLE FROM: IRRIGATIONKING.COM

A WATER TRUCK POC
NTS



E CONTAINER PLANT IRRIGATION
NTS

IRRIGATION NOTES:

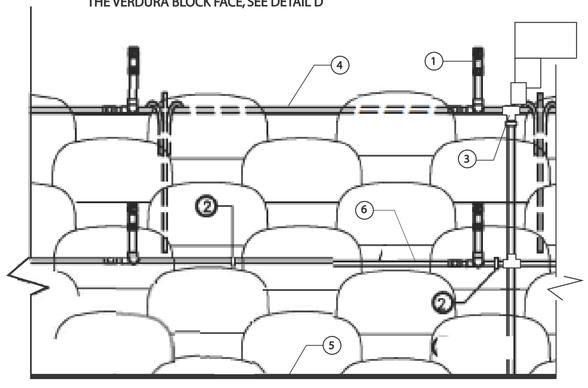
1. CONSTRUCT IRRIGATION SYSTEM PER "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (GREEN BOOK), CITY OF SAN DIEGO STANDARDS AND THESE PLANS, NOTES AND DETAILS.
2. CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH ALL PERTINENT PARTIES TO THIS PROJECT. THE CONTRACTOR SHALL PROVIDE ALL CONTACT INFORMATION OF ITS PROJECT STAFF.
3. CONTRACTOR SHALL SUBMIT A COMPLETE MATERIALS LIST AND ASSOCIATED CATALOG CUTS FOR ALL MANUFACTURED MATERIALS TO BE INCORPORATED IN THE PROJECT FOR APPROVAL BY THE LANDSCAPE ARCHITECT.
4. IRRIGATION PLANS ARE DIAGRAMMATIC. THE ACTUAL LOCATION OF IRRIGATION IMPROVEMENTS MAY BE RELOCATED, ADDED TO, DELETED AND OR CHANGED AS DIRECTED BY THE PROJECT BIOLOGIST.
5. ALL FITTINGS REQUIRE TEFLON TAPE.
6. ALL PIPE AND FITTINGS TO BE UVR PVC SCH40.
7. ALL PIPE ON GRADE, PIN WITH J-HOOKS AT 10' OC, SEE DETAIL E.
8. THE CONTRACTOR SHALL SCHEDULE IRRIGATION INSPECTIONS FORTY EIGHT (48) HOURS IN ADVANCE OF THE WORK BEING READY FOR INSPECTION.
9. IRRIGATION INSPECTIONS ARE REQUIRED FOR THE FOLLOWING:
   A. COVERAGE TEST PRIOR TO PLANTING
10. BUBBLERS SHALL BE INSTALLED UPHILL, AND ON THE EDGE, OF THE ROOTBALL, SO THAT WATER COMES IN DIRECT CONTACT WITH THE ROOTBALL.

IRRIGATION GUIDELINES:

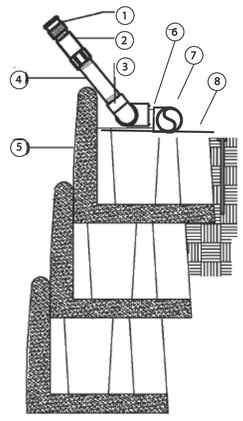
1. IRRIGATION REQUIREMENTS ARE HIGHLY VARIABLE, BASED ON THE EVAPOTRANSPIRATION (EVAPORATION AND TRANSPIRATION) RATE OF THE INSTALLED PLANTING.
2. IMMEDIATELY AFTER PLANT INSTALLATION, THE WALL AND THE PLANTING AREA BELOW THE WALL SHALL BE IRRIGATED VIA WATER TRUCK, WITH AN APPLIED WATER PRESSURE OF 30-40 PSI.
3. STANDPIPES A-1, 2 AND 4 SUPPLY WATER TO THE BUBBLERS, WHICH EMIT 1GPM. INITIAL IRRIGATION SHOULD BE APPLIED FOR 10 MINUTES, EVERY OTHER DAYFOR THE FIRST 2 WEEKS AFTER PLANTING. THEREAFTER THE IRRIGATION FREQUENCY, BUT NOT THE DURATION, CAN BE SHORTENED TO EVERY THREE DAYS, FOR A PERIOD OF ONE MONTH. AFTER ONE MONTH, THE FREQUENCY MAY BE REDUCED TO TWICE A WEEK. PRESSURE SHOULD BE BETWEEN 30-40 PSI.
4. STANDPIPE A-2 SUPPLIES WATER TO THE SPRAY HEADS INSTALLED ON TOP, AND IN THE MIDDLE, OF THE RETAINING WALL, WHICH EMIT 1.34GPM. INITIAL IRRIGATION SHALL BE APPLIED FOR 6 MINUTES, IN TWO 3 MINUTE INTERVALS, WHITH A 30 MINUTE PAUSE BETWEEN THE TWO CYCLES. THIS IS TO ALLOW THE WATER TO PENETRATE THE SMALL PLANTING POCKETS IN THE WALL, AND TO AVOID ANY RUNOFF. IRRIGATE EVERY DAY FOR A ONE WEEK. THEREAFTER, FOLLOW THE DIRECTIONS FOR A-1, ABOVE.
5. IRRIGATION APPLICATIONS, ESPECIALLY IMMEDIATELY AFTER PLANTING, MUST BE CAREFULLY MONITORED BY THE PROJECT BIOLOGIST. IRRIGATION FREQUENCY WILL VARY TO SEASONAL WEATHER PATTERNS, I.E., MORE WATER DURING WARM PERIODS, LESS WATER DURING COLD PERIODS.
6. NO DEVIATIONS TO THIS PLAN ARE ALLOWED WITHOUT APPROVAL OF SDG&E AND THE CPUC.

LEGEND

1. SPRINKLER HEAD REFER TO IRRIGATION LEGEND
2. #3 "J" HOOK REBAR PIPE STABILIZER, EMBEDDED IN OPEN CELL , SEE DETAIL
3. UVR PVC SCH40 TEE OR ELL
4. UVR PVC SCH 40 LATERAL INSTALLED BEHIND THE VERDURA BLOCK FACE., SEE DETAIL C
5. FINISH GRADE
6. UVR PVC SCH40 LATERAL INSTALLED IN FRONT OF THE VERDURA BLOCK FACE, SEE DETAIL D



B SPRAY HEADS - FRONT VIEW (TOP & MIDDLE) OF WALL
NTS

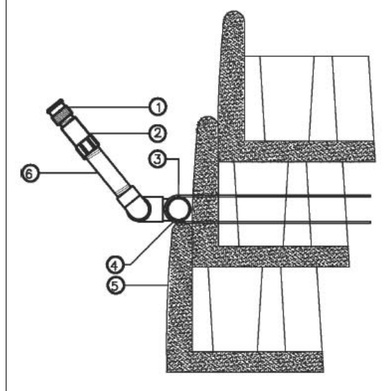


LEGEND:

1 SPRAY NOZZLE, PER IRRIGATION LEGEND
2 CHECK VALVE, AS REQUIRED
3 2-UVR PVC SCH40 ELLS & ONE UVR PVC SCH40 THREADED 6" NIPPLE
4 8" UVR PVC SCH40, THREADED RISER
5 VERDURA WALL
6 UVR PVC SCH40 NIPPLE, LENGTH AS REQUIRED
7 MAIN SUPPLY LINE, SIZE PER PLAN
8 FINISH GRADE

NOTE: ADJUST RISER TO PROVIDE OPTIMUM COVERAGE

C SPRAY HEADS - TOP OF WALL
NTS



LEGEND

1. SPRINKLER HEAD, REFER TO IRRIGATION LEGEND
2. CHECK VALVE, AS REQUIRED REFER TO SPECIFICATIONS
3. 2-UVR PVC SCH 40 ELLS (T X T) AND ONE UVR PVC SCH 40 THREADED, 2" LONG NIPPLE
4. #3 "J" HOOK REBAR PIPE STABILIZER, EMBEDDED IN OPEN CELL
5. VERDURA WALL
6. 6" LONG UVR PVC SCH 40 THREADED RISER

D SPRAY HEADS - MIDDLE OF WALL
NTS

LICENSED LANDSCAPE ARCHITECT
GERARD A. BOMBE No. 4211
Signature
Renewal Date: 8/31/17
Date
STATE OF CALIFORNIA

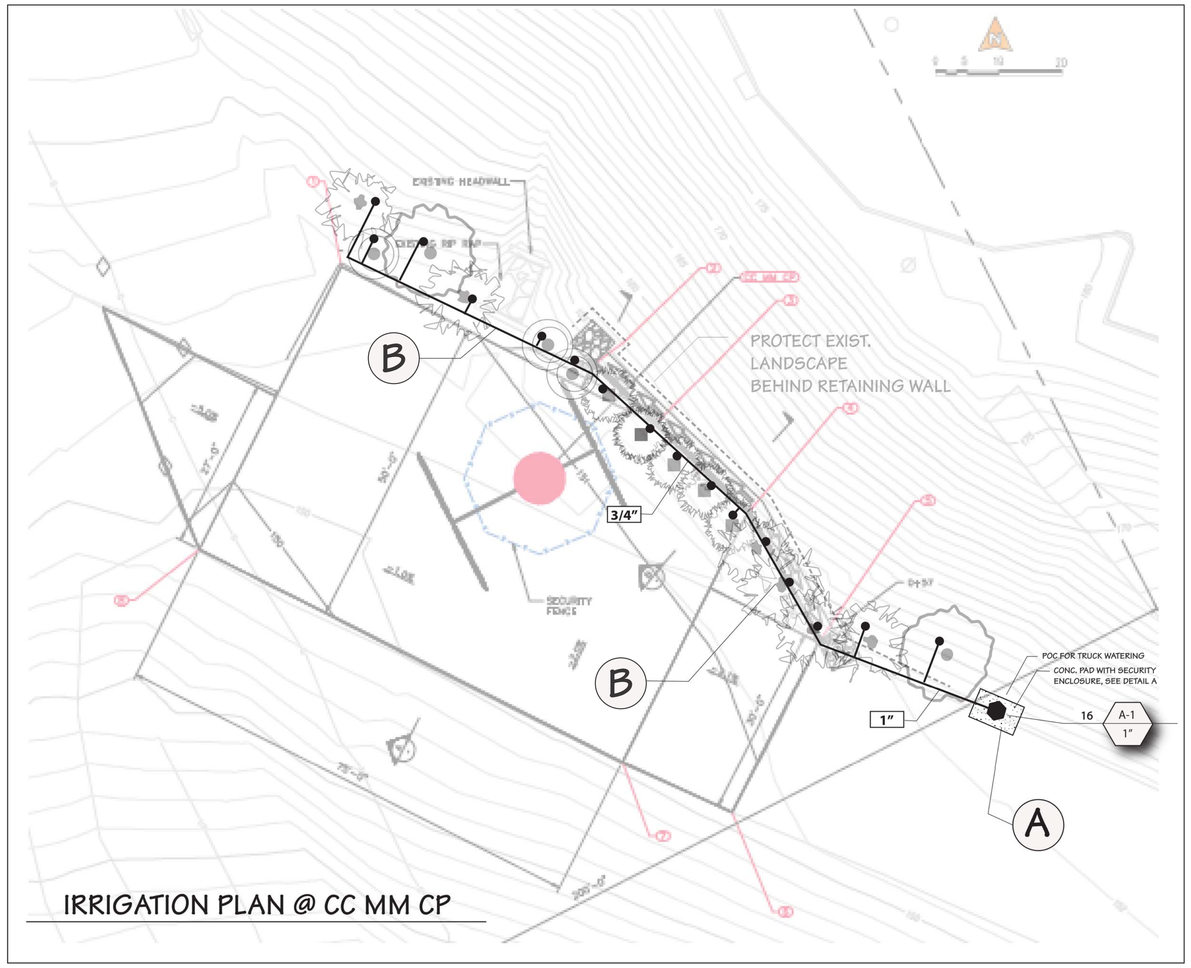
REVISIONS

230KV LINE PROJECT
PROPOSED POLE STRUCTURE P05

IRRIGATION PLAN

SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
SYCAMORE CANYON SUB TO PENASQUITOS SUB
P05

DRAWN: CP
DATE: 1/18/17
SCALE: NA
JOB NO:
SHEET L-1 OF 2 SHEETS



IRRIGATION PLAN @ CC MM CP

IRRIGATION LEGEND

SYMBOL	MANUFACTURER	MODEL NO.	DESCRIPTION	NOZZLE	RADIUS	GPM	PSI	PATTERN	SEE DETAIL
●	RAINBIRD	1400 SERIES	PRESSURE COMPENSATING BUBBLER	1404	1'-8'	1.00	20	FULL CIRCLE	
⬢	PVC SCH40 STANDPIPES WITHIN SECURITY ENCLOSURE								A
———	ULTRA VIOLET RESISTANT - PVC SCH 40, FOR SIZES 1-1/2" AND SMALLER, ON GRADE, SIZE NOTED								B
⬡	INDICATES FLOW IN GPM INDICATES STANDPIPE NUMBER INDICATES PIPE SIZE								

PIPE SIZE SCHEDULE

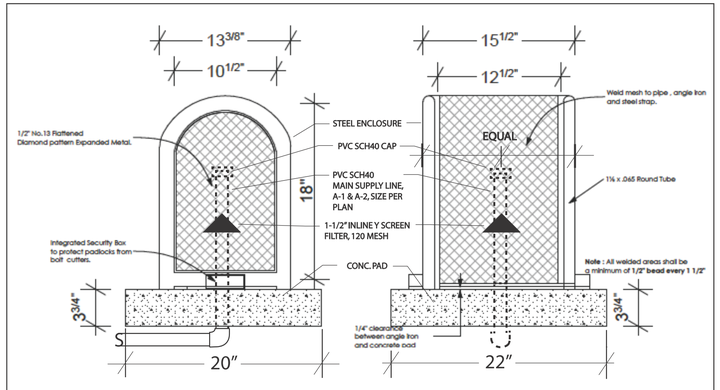
PIPE	GPM
1/2"	0-5
3/4"	5-10
1"	10-20
1-1/4"	20-30
1-1/2"	30-40
2"	40-55
2-1/2"	55-85
3"	85 +

IRRIGATION NOTES:

1. CONSTRUCT IRRIGATION SYSTEM PER "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (GREEN BOOK), CITY OF SAN DIEGO STANDARDS AND THESE PLANS, NOTES AND DETAILS.
2. CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH ALL PERTINENT PARTIES TO THIS PROJECT. THE CONTRACTOR SHALL PROVIDE ALL CONTACT INFORMATION OF ITS PROJECT STAFF.
3. CONTRACTOR SHALL SUBMIT A COMPLETE MATERIALS LIST AND ASSOCIATED CATALOG CUTS FOR ALL MANUFACTURED MATERIALS TO BE INCORPORATED IN THE PROJECT FOR APPROVAL BY THE LANDSCAPE ARCHITECT.
4. IRRIGATION PLANS ARE DIAGRAMMATIC. THE ACTUAL LOCATION OF IRRIGATION IMPROVEMENTS MAY BE RELOCATED, ADDED TO, DELETED AND OR CHANGED AS DIRECTED BY THE PROJECT BIOLOGIST.
5. ALL FITTINGS REQUIRE TEFLON TAPE.
6. ALL PIPE AND FITTINGS TO BE UVR PVC SCH40.
7. ALL PIPE ON GRADE, PIN WITH J-HOOKS AT 10' OC.
8. THE CONTRACTOR SHALL SCHEDULE IRRIGATION INSPECTIONS FORTY EIGHT (48) HOURS IN ADVANCE OF THE WORK BEING READY FOR INSPECTION.
9. IRRIGATION INSPECTIONS ARE REQUIRED FOR THE FOLLOWING:
   A. COVERAGE TEST PRIOR TO PLANTING
10. BUBBLERS SHALL BE INSTALLED UPHILL, AND ON THE EDGE, OF THE ROOTBALL, SO THAT WATER COMES IN DIRECT CONTACT WITH THE ROOTBALL.

IRRIGATION GUIDELINES:

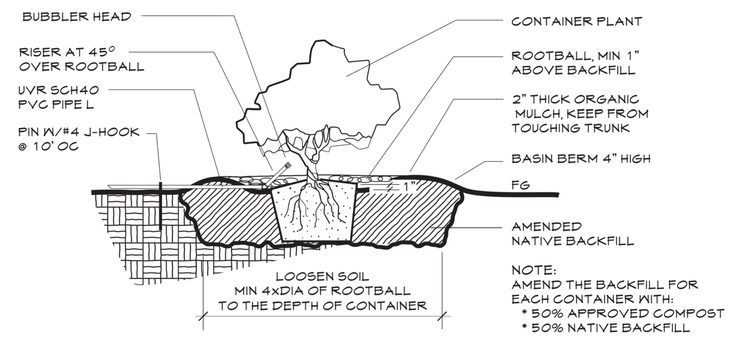
1. IRRIGATION REQUIREMENTS ARE HIGHLY VARIABLE, BASED ON THE EVAPOTRANSPIRATION (EVAPORATION AND TRANSPIRATION) RATE OF THE INSTALLED PLANTING.
2. IMMEDIATELY AFTER PLANT INSTALLATION, THE PLANTING AREAS SHALL BE IRRIGATED VIA WATER TRUCK, WITH AN APPLIED WATER PRESSURE OF 30-40 PSI.
3. STANDPIPE A-1 AND A-2 SUPPLY WATER TO THE BUBBLERS, WHICH EMIT 1GPM. INITIAL IRRIGATION SHOULD BE APPLIED FOR 10 MINUTES, EVERY OTHER DAY FOR THE FIRST 2 WEEKS AFTER PLANTING. THEREAFTER THE IRRIGATION FREQUENCY, BUT NOT THE DURATION, CAN BE SHORTENED TO EVERY THREE DAYS, FOR A PERIOD OF ONE MONTH. AFTER ONE MONTH THE FREQUENCY MAY BE REDUCED TO TWICE A WEEK.
4. Omit
5. IRRIGATION APPLICATIONS, ESPECIALLY IMMEDIATELY AFTER PLANTING, MUST BE CAREFULLY MONITORED BY THE PROJECT BIOLOGIST. IRRIGATION FREQUENCY WILL VARY ACCORDING TO SEASONAL WEATHER PATTERNS, I.E., MORE WATER DURING WARM PERIODS, LESS WATER DURING COLD PERIODS.
6. NO DEVIATIONS TO THIS PLAN ARE ALLOWED WITHOUT APPROVAL OF SDG&E AND THE CPUC.



NOTE: 1. ENCLOSURE AS AVAILABLE FROM: GUARDIAN ENCLOSURERS, MODEL GE - .5 (LIFT-OFF)
2. 1-1/2" INLINE Y SCREEN FILTER, 120 MESH, MODEL RKY 150, AS AVAILABLE FROM: IRRIGATIONKING.COM

A WATER TRUCK POC

NTS



B BUBBLER IRRIGATION

NTS

LICENSED LANDSCAPE ARCHITECT
GERHARD A. BOMBE No. 2498
Renewal Date 8/7/2017
Date
STATE OF CALIFORNIA

REVISIONS

230KV LINE PROJECT
PROPOSED POLE STRUCTURE CC MM CP

IRRIGATION PLAN

SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING

SYCAMORE CANYON SUB TO PENASQUITOS SUB

DRAWN: CB

DATE: 11/20/2016

SCALE: NA

JOB NO:

SHEET L-2 OF 2 SHEETS