SAN DIEGO GAS & ELECTRIC COMPANY

EAST COUNTY SUBSTATION PROJECT
BOULEVARD SUBSTATION LANDSCAPE SCREENING PLAN

DECEMBER 17, 2013

PREPARED BY:

ENVIRONMENTAL VISION

PREPARED FOR:

SDGE

A Sempra Energy utility℠

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LIST OF ATTACHMENTS

1 – INTRODUCTION

This Landscape Screening Plan (Plan) outlines the measures to be taken by San Diego Gas & Electric Company (SDG&E) to reduce the potential long-term visual impacts associated with the construction and operation of the East County (ECO) Substation Project (Project) at the Boulevard Substation rebuild site. The Project involves the construction of a new 500/230/138 kilovolt (kV) ECO Substation east of Jacumba, the rebuild of the Boulevard Substation near the community of Boulevard, and the installation of a new approximately 14-mile-long 138 kV transmission line consisting of overhead and underground segments to connect the two substations.

This Plan is being prepared in accordance with Mitigation Measure (MM) VIS-3h of the Mitigation Monitoring, Compliance and Reporting Program (MMCRP) for the Project, which requires the installation of landscape screening elements to reduce visibility of the substation and ancillary facilities and help the facility blend in with the surrounding landscape setting. This Plan specifically addresses the MM VIS-3h requirement to partially screen substation equipment and ancillary facilities in order to minimize long-term visual contrasts associated with the presence of the new substation facility. In addition, the Plan provides the procedures necessary to restore areas of disturbed terrain at the Boulevard Substation site in accordance with applicant-proposed measure (APM) ECO-AES-2.

2 – OBJECTIVES

The purpose of this Plan is to delineate landscape elements that partially screen Boulevard Substation facilities from public view and help them blend in with the landscape, and to prescribe technical implementation measures to guide installation of this landscape screening, as required by MM VIS-3h and APM ECO-AES-2. The implementation practices and procedures described herein are intended to accomplish the following:

- Ensure that landscape screening reduces visibility of ancillary facilities and helps the facility blend in with the landscape.
- Provide screening to reduce the overall visibility of the Boulevard Substation rebuild as seen from Old Highway 80.
- Provide for planting of additional native coast live oak trees (*Quercus agrifolia*), including at least 18 coast live oak trees (six 15-gallon and twelve 5-gallon container trees) to replace the removal of one existing mature live oak as a result of substation construction in conformance with the Project Tree Replacement Plan and MM VIS-3m requirements.
- Facilitate restoration of disturbed terrain at the Boulevard Substation site through recontouring, revegetation, and landscaping, pursuant to APM ECO-AES-2 requirements.

3 – MITIGATION MEASURES

MM VIS-3h states that "SDG&E shall provide a Final Screening/Landscape Plan for screening vegetation, walls, and fences that reduces visibility of ancillary facilities and helps the facility blend in with the landscape. Similar to the use of berms in the Conceptual Landscape Plans prepared for the PEA, the use of berms to facilitate project screening may also be incorporated into the Final Plan. SDG&E shall submit the Plan to the CPUC for review and approval at least 90 days before installing the landscape screening. If the CPUC notifies SDG&E that revisions to the Plan are needed before the Plan can be approved, within 30 days of receiving that notification, SDG&E shall prepare and submit for review and approval a revised Plan."

The measure stipulates that "the plan shall include but not necessarily be limited to:

- An 11 x 17-inch color simulation of the proposed landscaping at 5 years
- A plan view to scale depicting the project and the location of screening elements
- A detailed list of any plants to be used, their size and age at planting, the expected time to maturity, and the expected height at five years and at maturity
- SDG&E shall complete installation of the screening/landscape plan before the start of project operation
- SDG&E shall notify the CPUC within 7 days after completing installation of the screening/landscape plan that the screening components are ready for inspection."

In addition, as provided in the Proponent's Environmental Assessment and Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Project, APM ECO-AES-2 states: "When project construction has been completed, all disturbed terrain at the Boulevard Substation site will be restored through recontouring, revegetation, and landscaping in accordance with the Boulevard Substation Landscape Concept Plan included as Appendix 5: Landscape Concept Plans." MM VIS-3m requires mitigation for the removal of one existing mature live oak as a result of substation construction by replacing this tree at a minimum ratio of five to one.

4 – PLAN IMPLEMENTATION

This Plan will be implemented in conjunction with the Tree Replacement Plan and the Habitat Restoration Plan, which respectively call for the replacement of trees removed during construction, as well as the restoration of temporarily disturbed areas from construction activities. This Plan also follows the guidelines set forth in the Project Fire Prevention Plan, which contains specific landscape maintenance requirements.

In order to minimize the visibility of ancillary structures—such as fences, walls, and graded slopes—as seen by the public, including motorists traveling along Old Highway 80, the Plan calls for the installation of native deciduous and evergreen trees and shrubs, as well as annuals and perennials. As shown in Attachment A: Landscape Screening Element Plan Drawing, these plantings will be located along the perimeter fence east, west, and south of the site; between Old Highway 80 and the substation entry access road; and beyond the fence to the east of the facility.

Augmenting existing clusters of coast live oaks situated north and south of the substation site, the proposed landscape plan emphasizes native live oaks—along with lower growing desert scrub and chaparral species typical of the region—to be arranged in informal drifts characteristic of the surrounding undisturbed landscape. The plant species to be installed are provided in Attachment B: Planting List. Attachment C: Visual Simulation with Landscaping at Five Years presents a simulated view from Old Highway 80 that portrays the rebuilt Boulevard Substation with landscaping at five years of maturity. The simulation demonstrates that the landscaping will reduce the overall visual contrast of facility structures by partially screening the structures and creating more natural-looking site boundaries that blend in with the surroundings. In addition, the landscape screening effectively reduces the overall visibility of the facility as seen from Old Highway 80.

4.0 LANDSCAPE CONTRACTOR

A Landscape Contractor in possession of a valid California C-27 landscape contractor's license will be retained to install plant material at the site in accordance with this Plan. Proof of the Landscape Contractor's license will be provided to California Public Utilities Commission (CPUC) at least 14 days prior to commencing any landscaping improvements identified as part of this Plan. The Landscape Contractor will be responsible for implementing the following activities related to the Plan:

- Communicating with SDG&E regarding the timing and placement of screening elements.
- Installing plant material at the Boulevard Substation rebuild site.
- Watering trees and shrubs during the time period described in Section 4.1.5 Warranty. Watering of plants beyond the time period specified in this section will be the responsibility of designated maintenance personnel as outlined in Section 4.3.2 Maintenance.

4.1 PLANTING

4.1.0 Site Preparation

All existing grades and flow lines will be maintained after completion of any ground-disturbing activities related to planting of trees and shrubs. In the planting areas that are not within previously disturbed and restored areas, disturbance of existing native vegetation will be minimized wherever possible, as described in Section 4.1.1 Layout.

4.1.1 Layout

Attachment A: Landscape Screening Element Plan Drawing will guide the layout of container plants. The Landscape Contractor will flag or stake locations and make adjustments, where warranted by field conditions in consultation with the Habitat Restoration Specialist (HRS).

4.1.2 Planting Procedures

Seeding

Using Boulevard Substation Custom Seed Mix A (annuals), seeding of all graded slopes and disturbed areas within the limits of this Plan will be completed prior to the installation of container plants. Application of Custom Seed Mix B (evergreen shrub/perennials) will occur following the installation of container plants. Attachment B: Planting List includes specific information regarding the two custom seed mixes for the Boulevard Substation that are appropriate to achieve the restoration of surrounding native vegetation while providing erosion control, screening, and fire prevention.

No soil additives or amendment will be applied to the seeded areas. Seed will be broadcast at a rate recommended by the distributor. Seed broadcast directly on bare soil will be lightly raked into the soil surface by hand or with a drag chain to ensure adequate soil-to-seed contact. All seeding will occur after final grading and seedbed preparation has been completed and in accordance with the schedule described in Section 4.2 Schedule.

Container Planting

Plants will be obtained from a regional nursery and installed under the direct supervision of a licensed Landscape Contractor, according to Attachment B: Planting List and the following specifications listed below. For installation of container plants, the goal is to place plants in moist soil with the root crown at or slightly above the soil surface in a shallow basin, constructed in such a manner to facilitate the capture and retention of rainwater, as well as irrigation water without runoff, in accordance with the following specifications:

1. Excavate planting basins at least twice as wide as the depth of the root ball. Fill planting holes with water and allow the holes to drain for approximately 24 hours. If water does not fully drain with the 24-hour period, enlarge the planting hole to three times the root ball diameter, and do not plant until the water has completely percolated into the soil. Carefully inspect the bottom and sides of the root ball, and loosen as needed to prevent root binding. Place the root ball in the hole and partially backfill with native soil. Tamp the backfill and re-wet the soil, then add remaining backfill and tamp to eliminate air pockets.

2. Construct a watering basin with sides that are sufficiently high on the down-slope side to prevent runoff of irrigation water when applied with a hose (approximately three to six inches high and approximately two to three times the root ball diameter, or at the drip line of the plant, whichever is greater). The size of watering basin will be contingent upon the ability of the basin to hold the volume of water required per each watering cycle during initial establishment period, and will be at least two to three times the root ball diameter.

3. Thoroughly irrigate plants at time of installation.

4. If determined necessary by the Landscape Contractor or HRS, fit plants with a protective enclosure to prevent herbivore damage and provide protection from wind.

4.1.3 Mulch

Mulch consisting of coarse organic material, such as chipped tree trimmings or weed-free straw, will be applied in a radius at least equal to the watering basin diameter to a depth of two to three inches at the time of installation. If needed to minimize wind disruption, mulch will be hand tacked into soil around the root ball.

4.1.4 Irrigation

No irrigation system will be installed. Watering will be limited to newly installed, container plants called for in this Plan. Watering will be performed by hand with a small crew using water trucked to the site and placed in watering basins around each plant. Hand-held hoses with diffuser nozzles—or other acceptable application methods, such as slow-release water reservoirs (Tree-Gator or similar)—will be used to maintain moisture in the soil at a depth of between 12 to 24 inches. The frequency and quantity will depend on evapotranspiration demand, as well as analysis of available soil moisture within the active root zone of plants by use of a soil probe. The optimal time for planting will be in the fall. While the schedule may require periodic adjustment per recommendation of the Landscape Contractor or HRS, the following schedule is recommended to facilitate successful planting and to optimize growth rates:

- If planting occurs in the summer, plants will need to be watered at least three to four times a week for the first month, then twice weekly until the onset of winter rains.
- If planted in the fall, plants will need to be watered one to two times per week until the onset of winter rains.
- If planted in the winter, plants will need to be watered at least once a week if rainfall is less than 0.5 inch per week.
- At the end of the first rainy season, weekly watering will be continued through the following summer.
- After the first full growing season (at the end of the second summer for plants installed in spring or summer, and at the end of the first summer for plants installed in fall or winter), plants will need to be watered at least twice each month during the following 12 months and at least monthly during the subsequent 12 months. Watering will continue for a period of at least two to three years, or as determined by a Landscape Contractor or the HRS, as described in Section 4.3.0 Monitoring.

4.1.5 Warranty

The Landscape Contractor will maintain new plant material on a continuous basis from delivery through installation and as the work progresses, until final inspection by the HRS or a Certified Arborist, acceptance by SDG&E, and for a period of 30 calendar days thereafter. The warranty period will be extended at SDG&E's discretion if the planted areas are improperly maintained, or if significant plant replacement or other corrective work is required. During the warranty period, the Landscape Contractor will be responsible for keeping all planted areas free of invasive weeds, pest control, and maintaining appropriate soil moisture levels to ensure optimum plant health. Any plants that fail to grow or are injured or damaged to the extent that they are rendered

unsuitable for their intended purpose, as determined by SDG&E, during this time will be replaced at the Landscape Contractor's expense.

4.2 SCHEDULE

Tree and shrub planting will take place following the completion of the Boulevard Substation construction. The optimal time for planting will be in the fall. If planting of container nursery stock occurs at other times, the watering schedule described in Section 4.1.4 Irrigation will need to be adjusted depending on the time of year when the plants are installed. Within seven days after completing the installation of the screening/landscape plan components, SDG&E will notify the CPUC that they are ready for inspection.

4.3 MONITORING, REPORTING, AND MAINTENANCE

4.3.0 Monitoring

SDG&E will designate the HRS or an HRS designee to perform an inspection of all container plantings at the end of the first growing season, or within the first 12 months, and annually thereafter for a period of up to five years, to monitor plant establishment. Monitoring activity will include assessing and documenting overall plant health and growth rates through direct observation and photo documentation, as well as inspecting planting for fire safety conditions. Monitoring will also include submitting specific written recommendations to SDG&E for supplementary/corrective measures to be undertaken by landscape maintenance personnel, as described in Section 4.3.2 Maintenance. This will include replacement of any trees that fail to survive at any time within the five-year establishment period.

In addition to the previously mentioned activities, monitoring activities will also include direct observation and photo documentation to assess progress toward meeting the MM VIS-3h goal to "reduce visibility of ancillary facilities and help the facility blend in with the landscape." This monitoring activity will occur at two locations:

- One along Old Highway 80, which corresponds approximately to the Key Observation Point (KOP) shown in Attachment C: Visual Simulation with Landscaping at Five Years; and
- The other along Old Highway 80, which corresponds approximately to the visual simulation view shown in KOP 8 – Existing Setting in Figure D.3-13A of the Final EIR/EIS.

4.3.1 Reporting

SDG&E will submit a Screening/Landscape Monitoring Report to the CPUC within 60 days of the first annual monitoring inspection; for the four subsequent years, a report will be submitted within 30 days of the anniversary of the first report submittal. This report will include the following information:

- Introduction;
- Summary of monitoring activities during the prior year;
- Summary of recommendations for supplementary/corrective measures to be undertaken by landscape maintenance personnel and a review of specific measures implemented;

- Progress of landscaping toward meeting goal outlined in MM VIS-3h of the MMCRP; and
- Conclusion and recommendations for any further corrective measures to ensure compliance with stated mitigation goals.

Monitoring and reporting of restoration progress will be conducted for up to five years, or until reasonable progress is demonstrated in terms of meeting the goal of MM VIS-3h.

4.3.2 Maintenance

In addition to carrying out routine watering tasks, as outlined in Section 4.1.4 Irrigation, SDG&E will retain a Landscape Contractor or utilize other qualified personnel to conduct quarterly maintenance of the landscaped area for the first year after planting and twice yearly for the ensuing five years with the following ongoing responsibilities:

- Maintaining a minimum of two inches of coarse organic mulch at all times over bare soil areas within the drip line of the plants, taking care not to place mulch against the root crown.

- Checking enclosures to ensure that the plants are not being damaged by girdling and abrasion, and removing enclosures as necessary when no longer required.

- Monitoring plants to identify pest problems, and either taking action or notifying the HRS for follow-up action to control pests that affect tree health and appearance when pest populations—including vertebrate pests, such as gophers, voles, and rabbits—or damage undermines the health of the plants. The application of pesticides and herbicides will be conducted in accordance with applicable federal, state, and local laws and regulations, as well as SDG&E standard practices.

- Maintaining the area within the drip line of plants to be free of invasive, non-native weeds for the duration of the maintenance period.

- Inspecting watering basins around plants to ensure sufficient water is applied to the root zone. The periodic enlargement of basins to match plant drip lines and/or the modification of the application method will be necessary to accommodate the lateral spread of roots, and will be determined by the HRS's annual inspection.

- Implementing recommendations described in Section 4.3.0 Monitoring, as needed.

In addition, landscape maintenance personnel designated by SDG&E will coordinate with SDG&E's Fire Coordinators on an ongoing basis to maintain all on-site vegetation in a fire-safe condition. This will include weeding, pruning, and limbing per the guidelines outlined in the Fire Prevention Plan, as needed to maintain a defensible fire perimeter. Pruning will be undertaken in conjunction with the recommendations of the designated arborist or the HRS, as indicated in Section 4.3.0 Monitoring, and must be performed by or under the direct supervision of a Certified Arborist.

5 – REFERENCES

Dudek. 2011. East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects Final Environmental Impact Report/Environmental Impact Statement. Online. http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/ECO_Final_EIR-EIS.htm.

Lightner, James. 2006. San Diego County Native Plants. San Diego Flora.

SelecTree: A Tree Selection Guide. Online. http://selectree.calpoly.edu/.

SDG&E. 2009. 500/230/138 kV ECO Substation Project Proponent's Environmental Assessment.

ATTACHMENT A: LANDSCAPE SCREENING ELEMENT PLAN DRAWING

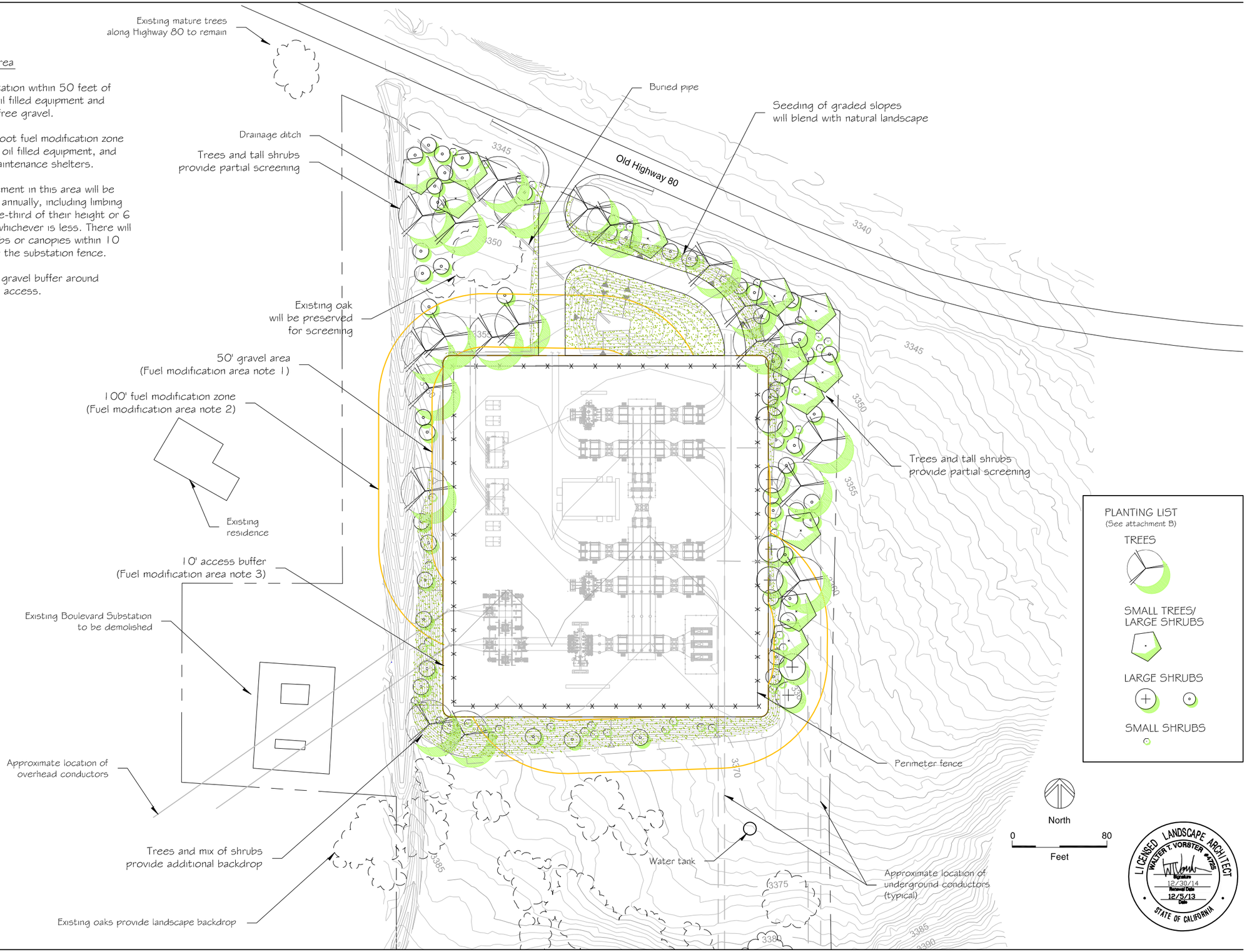
Fuel Modification Area

1. Remove all vegetation within 50 feet of transformers and oil filled equipment and replace with weed free gravel.

2. Maintain a 100-foot fuel modification zone from transformers, oil filled equipment, and from the control/maintenance shelters.

Vegetation management in this area will be performed at least annually, including limbing mature trees up one-third of their height or 6 feet from ground, whichever is less. There will not be any tree limbs or canopies within 10 feet of buildings or the substation fence.

3. Allow a 10-foot gravel buffer around perimeter fence for access.



PLANTING LIST
(See attachment B)

TREES

SMALL TREES/ LARGE SHRUBS

LARGE SHRUBS

SMALL SHRUBS

North

0 80

Feet

LICENSED LANDSCAPE ARCHITECT
WALTER T. VORSTER #4725
Signature
12/30/14
Renewal Date
12/5/13
Date
STATE OF CALIFORNIA

ENVIRONMENTAL VISION

SDGE
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INSIGNIA ENVIRONMENTAL

Revisions	Date
XX	

Preliminary Set	
Design Review Set	
Plan Check Set	
Permit Set	
Construction Set	

BOULEVARD SUBSTATION
LANDSCAPE
SCREENING PLAN

East County Substation Project
San Diego County, California

ATTACHMENT A
LANDSCAPE SCREENING
ELEMENT PLAN DRAWING

DATE	12/5/2013
SCALE	
DRAWN	CIK
JOB	
DRAWING NUMBER	

OF SHEETS

ATTACHMENT B: PLANTING LIST

BOULEVARD SUBSTATION PLANT MATERIAL SUMMARY LIST - TREES AND SHRUBS

TREES

BOTANICAL NAME (COMMON NAME)	QUANTITY	SIZE AT PLANTING	SIZE AT 5 YEARS *See note 1	SIZE AT MATURITY *See note 1	TIME TO MATURITY *See note 1
Quercus agrifolia (Coast Live Oak) *See note 2	6	15 Gallon 5' Tall	8-10' Tall 8-10' Wide	30-50' Tall 40-60' Wide	35-50 Years
	15	5 Gallon 2-3' Tall	7-8' Tall 7-8' Wide	30-50' Tall 40-60' Wide	35-50 Years

FAST GROWING TREES/LARGE SHRUBS

BOTANICAL NAME (COMMON NAME)	QUANTITY	SIZE AT PLANTING	SIZE AT 5 YEARS *See note 1	SIZE AT MATURITY *See note 1	TIME TO MATURITY *See note 1
Chilopsis linearis (Desert Willow)	12	15 Gallon 6' Tall	14-18' Tall 14-18' Wide	15-25' Tall 15-25' Wide	12 Years
Fremontodendron californisum (Flannel Bush)		15 Gallon 4' Tall	14-18' Tall 14-18' Wide	15-25' Tall 15-25' Wide	12 Years

LARGE SHRUBS

BOTANICAL NAME (COMMON NAME)	QUANTITY	SIZE AT PLANTING	SIZE AT 5 YEARS *See note 1	SIZE AT MATURITY *See note 1	TIME TO MATURITY *See note 1
Prosopis glandulosa torreyana (Mesquite)	6	1 Gallon 1-2' Tall	6-10' Tall 6-10' Wide	15-25' Tall 15-25' Wide	12 Years
Quercus cornelius-mulleri (Desert Scrub Oak)	21	5 Gallon 2-3' Tall	6-7' Tall 3-4' Wide	8-15' Tall 8-15' Wide	18-20 Years
Rhus ovata (Sugarbush)	36	5 Gallon 2-3' Tall	6-10' Tall 6-10' Wide	8-15' Tall 8-15' Wide	15 Years

SMALL SHRUBS

BOTANICAL NAME (COMMON NAME)	QUANTITY	SIZE AT PLANTING	SIZE AT 5 YEARS *See note 1	SIZE AT MATURITY *See note 1	TIME TO MATURITY *See note 1
Ceanothus greggii (Desert Ceanothus)	28	1 Gallon 1' Tall	4-5' Tall 4-5' Wide	6-8' Tall 6-8' Wide	8-10 Years
Ericameria linarifolia (Interior Goldenbush)	18	1 Gallon 1' Tall	3-4' Tall 2-3' Wide	4-6' Tall 4-6' Wide	10 Years

* NOTES

1. Plant list size and time to maturity estimates are based on information from *SelecTree: A Tree Selection Guide* . Online: <http://selectree.calpoly.edu/> and Lightner, James, San Diego County Native Plants, San Diego Flora. 2006 in addition to collaboration with consulting arborist Nelda Metheney, president of HortScience, Inc. Plant growth rates are largely dependent on availability of water. Listed growth rates assume plants will be irrigated for approximately three years. Once supplementary irrigation is discontinued, growth rates can be expected to slow significantly with year-to-year variations reflecting the duration and timing of natural rainfall. The longer irrigation water is provided in appropriate amounts the faster plants will reach mature size.

2. Quercus agrifolia (Coast Live Oak) shall be natural form.

3. Seed to consist of two separate mixes- Seed Mix A (annuals); and Seed Mix B (evergreen shrubs/perennials). Seed mixes will be broadcast separately, with Seed Mix B to be broadcast no closer than five feet from center of Quercus agrifolia (Coast Live Oak) in order to facilitate fire safety guidelines.

4. Under direction of Habitat Restoration Specialist (HRS) a pre-planting treatment such as heat application or abrasion will be undertaken for evergreen shrubs within Custom Seed Mix B.

BOULEVARD SUBSTATION - CUSTOM SEED MIX - * See note 3

A) ANNUAL SEED MIX

BOTANICAL NAME (COMMON NAME)	HABIT	APPROXIMATE MATURE HEIGHT
Lasthenia gracilis (Goldfields)	Annual	Up to 1'
Lupinus bicolor (Dove Lupine)	Annual	Up to 1'
Vulpia microstachys (Rat Tail Fescue)	Annual	Up to 2'

B) EVERGREEN/PERENIAL SEED MIX - * See note 4

BOTANICAL NAME (COMMON NAME)	HABIT	APPROXIMATE MATURE HEIGHT
Ceanothus greggii (Desert Ceanothus)	Evergreen Shrub	Up to 8'
Cercocarpus betuloides (Mountain Mahogany)	Evergreen Shrub	Up to 20'
Ephedra californica (Ephedra)	Evergreen Shrub	Up to 4'
Eriodictyon trichocalyx (Shiny-leaf Yerba Santa)	Evergreen Shrub	Up to 5'
Eriophyllum confertiflorum (Golden Yarrow)	Perennial	Up to 3'
Penstemon centranthifolia (Scarlet Bugle)	Perennial	Up to 3'
Rhus ovata (Sugarbush)	Evergreen Shrub	Up to 10'
Ambrosia psilostachya (Western Ragweed)	Perennial	Up to 5'

LICENSED LANDSCAPE ARCHITECT
WALTER T. VORSTER #4758
Signature
12/30/14
Renewal Date
12/5/13
Date
STATE OF CALIFORNIA

ENVIRONMENTAL VISION

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INSIGNIA ENVIRONMENTAL

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Preliminary Set	
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BOULEVARD SUBSTATION LANDSCAPE SCREENING PLAN

East County Substation Project
San Diego County, California

ATTACHMENT B
PLANTING LIST

DATE	12/5/2013
SCALE	
DRAWN	CIK
JOB	
DRAWING NUMBER	

OF SHEETS

ATTACHMENT C: VISUAL SIMULATION WITH LANDSCAPING AT FIVE YEARS

Visual simulation from Old Highway 80 - Boulevard Substation with landscaping at five years of maturity

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Attachment C
Visual Simulation with Landscaping at Five Years
Boulevard Substation Landscape Screening Plan
East County Substation Project