



Don Houston
Environmental Project Manager
1010 Tavern Road
Alpine, CA 91901
(T) XXX-XXX-XXXX
(F) XXX-XXX-XXXX

June 27, 2013

Ms. Amy Baker
Project Manager
California Public Utilities Commission
505 Van Ness Avenue, 4th Floor
San Francisco, CA 94102

Re: Notice to Proceed (NTP) Request #6 to Construct the East County (ECO) Substation 138 kV Underground Transmission Line in the Southern Access Road

Dear Ms. Baker:

On June 21, 2012, the California Public Utilities Commission (CPUC) selected the ECO Substation Alternative Site combined with the ECO Partial Underground 138 kilovolt (kV) Transmission Route Alternative (Decision A.09-08-003) as the approved ECO Substation Project (Project). The decision grants San Diego Gas & Electric Company (SDG&E) a Permit to Construct and conditionally authorizes construction of the Project with the implementation of pre-construction mitigation measures. A Notice of Determination was submitted to the State Clearinghouse on June 21, 2012, indicating the CPUC's approval of the Project.

Purpose

SDG&E is formally requesting authorization from the CPUC to begin construction of the 138 kV Underground Transmission Line within the ECO Substation Southern Access Road. This underground section will extend the underground infrastructure, consisting of two duct bank packages and access vaults, from the edge of Old Highway 80 right-of-way approximately 2,000 feet down the Southern Access Road to Steel Riser Poles 105A and 105B, which are also located within the access road limits. The two trenches will each be approximately 2.5 to 6.5 feet wide by 6 to 11 feet deep. The activities associated with the installation of the 138 kV Underground Transmission Line in the Southern Access Road were described in Minor Project Refinement (MPR) Request #4, which was originally submitted to the CPUC on May 17, 2013 and resubmitted to the CPUC on June 12, 2013. Construction methods, equipment, and Project components associated with underground construction were described in detail in the Final Environmental Impact Report (EIR)/Environmental Impact Statement (EIS). The location of the Southern Access Road Underground route covered under this NTP request is depicted in Attachment A: Overview Map. The Southern Access Road is located on land owned by SDG&E and one private landowner.

Pre-Construction Mitigation Measures

The pre-construction measures relevant to the construction of the Southern Access Road (as identified in the Mitigation Monitoring, Compliance, and Reporting Plan [MMCRP]) and their status were previously included and submitted to the CPUC with the ECO Substation NTP request, which was approved by the CPUC on February 1, 2013. An additional four mitigation measures—HYD-5, HYD-7, PSU-1b, and PSU-1c—that were previously deemed not applicable for the ECO Substation NTP request are relevant to the 138 kV Underground Transmission Line within the Southern Access Road and are listed in Attachment B: Pre-Construction Status Report. In addition, eight mitigation measures—BIO-1a, BIO-2a, BIO-2c, VIS-3d, VIS-3e, VIS-3f, CUL-1d, and TRA-2—were previously included in the ECO Substation NTP request and will be satisfied through submittal of additional documents attached to this NTP request. These eight measures, are

also included in Attachment B: Pre-Construction Status Report. Attachment B: Pre-Construction Status Report provides the full text of the measures; their corresponding status; an explanation of their status; and explanation of how some of the measures have been divided into tasks to facilitate identification and completion of the pre-construction components of those tasks. In order to facilitate tracking and implementation, some of the measures have been organized into tasks so that the pre-construction and construction components of the measures can be tracked separately. These measures may appear on more than one line in the attachment and are identified by different task numbers. The pre-construction components of these measures may be identified as “complete,” while the rest of the measure will either be marked as “to be implemented during construction” or will not be included in the report, depending on the specific language of the measure.

Attachment A: Overview Map depicts the location of the Southern Access Road Underground route as well as the limits of the approved work area, temporary disturbance areas, and drainages demonstrating compliance with Mitigation Measures BIO-1a and BIO-2a. Attachment C: Final Engineering Plans contains the final engineering plans for the installation of the 138 kV Underground Transmission Line in the Southern Access Road and depicts the limits of the approved work area, the angle of the road relative to Old Highway 80, and archaeological monitoring requirements in order to demonstrate compliance with Mitigation Measures BIO-1a, BIO-2c, VIS-3d, VIS-3e, VIS-3f, CUL-1d, and HYD-7. Attachment D: Scour Analysis contains a scour evaluation from a registered civil engineer for the 138 kV Underground Transmission Line within the Southern Access Road in order to demonstrate compliance with Mitigation Measure HYD-7. SDG&E has obtained a San Diego County-issued curb/grade permit for work at the entrance to the Southern Access Road per Mitigation Measure TRA-2, which is included as Attachment E: Curb/Grade Permit. Attachment F: Utility Provider Coordination contains a memorandum and associated documentation of coordination with utility providers in order to demonstrate compliance with Mitigation Measures PSU-1b and PSU-1c. Construction of the 138 kV Underground Transmission Line in the Southern Access Road will not begin until all of the pre-construction measures have been fulfilled. All other required mitigation measures, as stated in the MMCRP, will be implemented during construction.

Activity Summary

Construction of the 138 kV Underground Transmission Line in the Southern Access Road will occur in accordance with the descriptions provided in MPR Request #4 and the Final EIR/EIS. The information described in these documents includes specific details pertaining to trenching and disturbance areas, material staging and storage, vault construction, and conduit pulling and splicing.

Construction of the 138 kV Underground Transmission Line in the Southern Access Road is anticipated to take approximately 4 months from initial site development through completion. Once the access vaults and underground conduit packages have been installed the trenches will be backfilled with flowable thermal backfill and the permanent footprint of the road will be completed and paved and will serve as the main access road into the ECO Substation site. Temporary impact areas associated with the Southern Access Road Underground will be restored. Restoration activities will include removal of any temporary facilities; collection and proper disposal of any waste, trash, and debris; and revegetation of temporary disturbance areas.

We respectfully request authorization of this NTP request by July 2, 2013, so that we can begin trench excavation and 138 kV Underground Transmission Line installation within the Southern Access Road in early July. Should you have any questions or need additional information, please do not hesitate to contact me at (XXX) XXX-XXXX.

Sincerely,

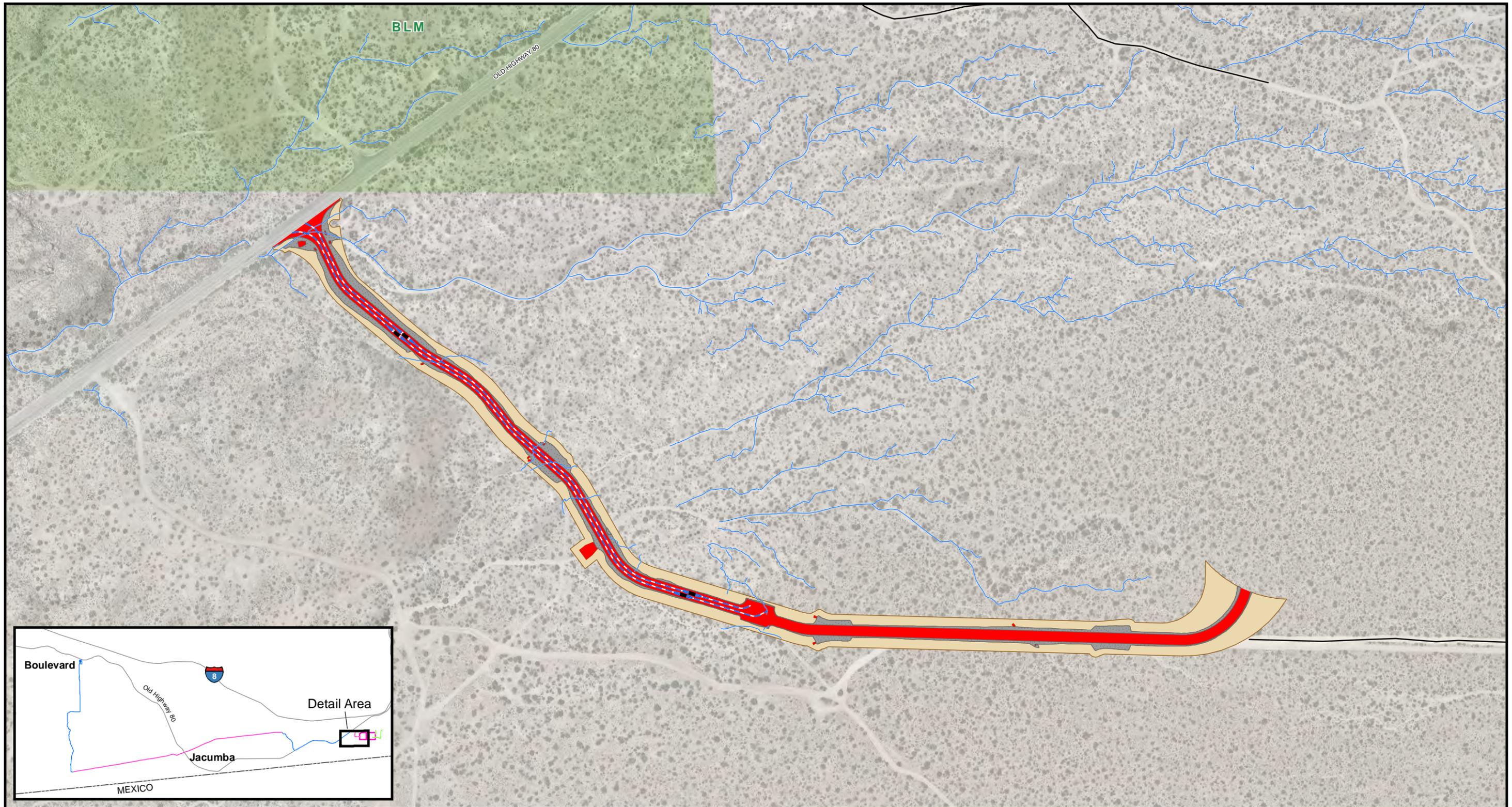


Don Houston
Environmental Project Manager
San Diego Gas & Electric Company

Attachment A: Overview Map
Attachment B: Pre-Construction Status Report
Attachment C: Final Engineering Plans
Attachment D: Scour Analysis
Attachment E: Curb/Grade Permit
Attachment F: Utility Provider Coordination

cc: Kirstie Reynolds, SDG&E
David Hochart, Dudek
Anne Marie McGraw, Insignia Environmental
Jeffry Coward, Insignia Environmental

ATTACHMENT A: OVERVIEW MAP



Attachment A: Overview Map

East County Substation Project

- 138 kV Underground
- Permanent Grading
- Existing Access Road Centerline
- Permanent Project
- Drainage
- Temporary Construction Area
- Bureau of Land Management Land
- Vault

1:3,500

ATTACHMENT B: PRE-CONSTRUCTION STATUS REPORT



Attachment B: Pre-Construction Status Report

- To Be Implemented During Construction
- Pending OR To Be Implemented Immediately Prior to Construction
- Complete
- Not Applicable

Report Criteria:

AGENCY: CPUC
 SOURCE: MMCRP
 TIMING: Design; Design and During; Design and Post; Pre; Pre and During; Pre and Post; Pre, During, and Post
 LOCATION: ECO Substation
 MM NUMBER: BIO-01a; BIO-02a; BIO-02c; CUL-01d; HYD-05; HYD-07; PSU-01b; PSU-01c; TRP-02; VIS-03d; VIS-03e; VIS-03f

Location: ECO Substation

Measure Category	MMNo	TaskNo	Mitigation Measure Title	Task Text	Comments	Timing	Status
Biological	BIO-01a	01	Confine all construction and construction-related activities to the minimum necessary area as defined by the final engineering plans	All construction areas, access to construction areas, and construction-related activities shall be strictly limited to the areas identified on the final engineering plans. The limits of the approved work space shall be delineated with stakes and/or flagging that shall be maintained throughout the construction period. An environmental monitor shall complete regular observations to ensure that all work is completed within the approved work limits, and in the event any work occurs beyond the approved limits, it shall be reported.	SDG&E submitted GIS data showing the limits of approved work space to the CPUC on November 27, 2012. In addition, SDG&E submitted a map of the ECO Substation's construction work limits to the CPUC on January 7, 2013. SDG&E submitted a map of the Southern Access Road's refinement areas and construction work limits to the CPUC with Minor Project Refinement Request #4 on June 12, 2013. Project maps showing the approved work space limits for the Southern Access Road have been included as Attachment A: Overview Map and Attachment C: Final Engineering Plans of this NTP request. The limits of the approved work space were delineated with stakes and/or flagging immediately prior to construction. Environmental Inspectors will be present during construction to ensure that all work is completed within the approved work limits.	Pre and During	To Be Implemented During Construction

Measure Category Title	MMNo	TaskNo	Mitigation Measure	Task Text	Comments	Timing	Status
Biological	BIO-02a	01	Limit temporary and permanent impacts to jurisdictional features to the minimum necessary as defined by the final engineering plans	Obtain and implement the terms and conditions of agency permit(s) for unavoidable impacts to jurisdictional wetlands and waters. All construction areas, access to construction areas, and construction-related activities shall be strictly limited to the areas within the approved work limits identified on the final engineering plans. The limits of the approved work space shall be delineated with stakes and/or flagging that shall be maintained throughout the construction period. The project applicant shall obtain applicable permits and provide evidence of permit approval, which may include but not be limited to a Clean Water Act Section 404 Permit, a Clean Water Act Section 401 water quality certification, and a Section 1602 streambed alteration agreement with the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game for impacts to jurisdictional features prior to project construction. The terms and conditions of these authorizations shall be implemented.	<p>The Section 401 Water Quality Certification was issued on July 31, 2012 and was submitted to the CPUC on August 10, 2012. The USACE 404 Permit was issued on September 19, 2012 and submitted to the CPUC on September 19, 2012. The CDFG 1600 Agreement was issued on October 30, 2012 and submitted to the CPUC on November 6, 2012. The Project construction drawings were approved by the USACE on November 21, 2012. SDG&E submitted the construction limits drawing with waters depicted for the ECO Substation site to the CPUC on January 10, 2013. A Project map showing the approved work space limits for the Southern Access Road with waters marked on them has been included as Attachment A: Overview Map to this NTP request.</p> <p>SDG&E will submit updated grading plans for the Southern Access Road to the USACE. The terms and conditions of the permits will be implemented during construction.</p>	Pre and During	To Be Implemented During Construction
Biological	BIO-02c	01	Where drainage crossings are unavoidable, construct access roads at right angles to drainages	Unless not possible due to existing landforms or site constraints, access roads shall be built perpendicular to drainages to minimize the impacts to these resources and prevent impacts along the length of jurisdictional features.	<p>The ECO Substation construction drawings were approved by the USACE on November 21, 2012. SDG&E submitted the final grading plans for the ECO Substation to the CPUC on January 3, 2013. Construction drawings for the Southern Access Road have been included as Attachment C: Final Engineering Plans of this NTP request.</p> <p>The Southern Access Road will be rebuilt and paved in accordance with the Project construction drawings and final grading plans during construction.</p>	Pre and During	To Be Implemented During Construction
Visual	VIS-03d	01	Reduce in-line views of land scars	Construct access or spur roads at appropriate angles from the originating primary travel facilities to minimize extended in-line views of newly graded terrain, when feasible. Contour grading should be used where feasible to better blend graded surfaces with existing terrain. SDG&E shall submit final construction plans demonstrating compliance with this measure to the CPUC and BLM for review and approval at least 60 days prior to the start of construction.	<p>The existing access road to the ECO Substation will be rebuilt and paved. No new access or spur roads will be constructed to the ECO Substation site. SDG&E submitted the final grading plans for the ECO Substation to the CPUC on January 3, 2013. Final engineering plans for the Southern Access Road have been included as Attachment C: Final Engineering Plans to this NTP request.</p> <p>Grading will be conducted in accordance with the final grading plans and final engineering plans during construction.</p>	Pre and During	To Be Implemented During Construction

Measure Category Title	MMNo	TaskNo	Mitigation Measure	Task Text	Comments	Timing	Status
Visual	VIS-03e	01	Reduce visual contrast from unnatural vegetation lines	In those areas where views of land scars are unavoidable, the boundaries of disturbed areas shall be aggressively revegetated to create a less distinct and more natural-appearing line to reduce visual contrast. Furthermore, all graded roads and areas not required for ongoing operation, maintenance, or access shall be returned to preconstruction conditions. In those cases where potential public access is opened by construction routes, SDG&E shall create barriers or fences to prevent public access and shall patrol construction routes to prevent vandalized access and litter cleanup until all areas where vegetation was removed are returned to pre-project state. SDG&E shall submit final construction and restoration plans demonstrating compliance with this measure to the CPUC and BLM for review and approval at least 60 days before the start of construction.	SDG&E submitted the final grading plans for the ECO Substation to the CPUC on January 3, 2013. Final engineering plans for the Southern Access Road have been included as Attachment C: Final Engineering Plans to this NTP request. The existing access road to the ECO Substation will be rebuilt and paved in accordance with the final grading plans and final engineering plans.	Pre, During, and Post	To Be Implemented During Construction
Visual	VIS-03f	01	Minimize vegetation removal	Only the minimum amount of vegetation necessary for the construction of structures and facilities will be removed. Topsoil located in areas to be restored shall be conserved during excavation and reused as cover on disturbed areas to facilitate re-growth of vegetation. Topsoil located in developed or disturbed areas is excluded from this measure.	SDG&E submitted the final grading plans for the ECO Substation to the CPUC on January 3, 2013. Final engineering plans for the Southern Access Road have been included as Attachment C: Final Engineering Plans to this NTP request. The plan for revegetation of temporarily disturbed areas is described in the Habitat Restoration Plan (HRP). The HRP was approved by the CDFW on December 11, 2012, by the USFWS on December 21, 2012, and by the CPUC on December 27, 2012. The HRP will be implemented during and following construction.	Pre and During	To Be Implemented During Construction
Cultural and Paleontological	CUL-01d	01	Construction monitoring	Prior to issuance of grading permit(s), the SDG&E shall retain a qualified archaeologist, in accordance with the Secretary of the Interior's Standards and Guidelines (Secretary's Standards) (36 CFR 61), and Native American observer to monitor ground-disturbing activities in culturally sensitive areas in an effort to identify any unknown resources. A qualified archaeologist shall attend preconstruction meetings, as needed, to make comments and/or suggestions concerning the monitoring program and to discuss excavation plans with the excavation contractor. The requirements for archaeological monitoring shall be noted on the construction plans.	SDG&E has contracted with ASM Affiliates under Insignia Environmental to provide qualified archaeologists and Native American observers for the Project. SDG&E held a pre-construction orientation meeting with the BLM, tribal cultural consultants, and archaeological monitors on December 13, 2012. A qualified archaeologist and Native American observer will be present to monitor ground-disturbing activities in culturally sensitive areas during construction. Archaeological monitoring will be required for ground-disturbing activities conducted within 100 feet of environmentally sensitive areas that have been established to protect cultural resources. SDG&E submitted a map of the ECO Substation and Southern Access Road construction work limits with the requirements for archaeological monitoring noted on them to the CPUC on January 7, 2013 and submitted clarification to the CPUC on January 9, 2013 that the submittal of the map satisfies the requirements of this mitigation measure. Final engineering plans for the Southern Access Road that include the requirements for archaeological monitoring have been included as Attachment C: Final Engineering Plans to this NTP request.	Pre	Complete

Measure Category Title	MMNo	TaskNo	Mitigation Measure	Task Text	Comments	Timing	Status
Hydrology and Water	HYD-05	01	Implementation of creek-crossing procedures	<p>Where creek crossings can be completed during dry season, with no flows present in the creek, seasonally timed restorative open trenching will be completed. This procedure will use minimum trench widths. Trench cut material will not be placed outside of the creek bed and outside of 100-year inundated areas. Trench fill will be compacted and replaced to existing conditions, including matching existing creek bed gradations, and restoring vegetation. Open trenching restoration will be completed prior to any wet season flows, and will include anti-erosion action plans for any unplanned rainfall during construction. The applicant shall obtain all required permits prior to completing open trenching through drainages. In any case, flows will be isolated from open trenching by best management practices mandated by the General Construction Permit. Areas of trenching would be restored and/or vegetated at completion of work. Where creek crossing cannot be completed during the dry season creek crossing shall use jack-and-bore procedures to avoid direct impacts and shall be conducted in a manner that does not result in sediment-laden discharge or hazardous materials release to the water body. The following measures shall be implemented during horizontal boring (jack-and-bore) operations:</p> <p>(1) Site preparation shall begin no more than 10 days prior to initiating horizontal bores to reduce the time soils are exposed adjacent to creeks and drainages.</p> <p>(2) Trench and/or bore pit spoil shall be stored a minimum of 25 feet from the top of the bank or wetland/riparian boundary. Spoils shall be stored behind a sediment barrier and covered with plastic or otherwise stabilized (i.e., tackifiers, mulch, or detention).</p> <p>(3) Portable pumps and stationary equipment located within 100 feet of a water resource (i.e., wetland/riparian boundary, creeks, and drainages) shall be placed within secondary containment with adequate capacity to contain a spill (i.e., a pump with 10-gallon fuel or oil capacity should be placed in secondary containment capable of holding 15 gallons). A spill kit shall be maintained on site at all times.</p> <p>(4) Immediately following backfill of the bore pits, disturbed soils shall be seeded and stabilized to prevent erosion, and temporary sediment barriers shall be left in place until restoration is deemed successful.</p> <p>(The applicant shall obtain the required permits prior to conducting creek crossing work. Required permits may include ACOE CWA Section 404, Regional Water Quality Control Board Clean Water Act 401, and CDFG Streambed Alteration Agreement 1602. The applicant shall implement all pre- and post-construction conditions identified in the permits issued. The plan shall be submitted to the CPUC, County of San Diego, and ACOE 60 days prior to construction.)</p>	Jack-and-bore and horizontal directional drilling procedures will not be utilized for construction of the underground segment of the 138 kV Transmission Line within the Southern Access Road. The Section 401 Water Quality Certification was issued on July 31, 2012 and was submitted to the CPUC on August 10, 2012. The USACE 404 Permit was issued on September 19, 2012 and was submitted to the CPUC on September 19, 2012. The CDFG 1600 Agreement was issued October 30, 2012 and was submitted to the CPUC on November 6, 2012. SDG&E will implement all the pre- and post-construction conditions identified in the permits during construction.	Pre, During, and Post	To Be Implemented During Construction
Hydrology and Water	HYD-07	01	Bury power line below 100-year scour depth	At locations where the buried power line is to be at or adjacent to a streambed capable of scour, the power line shall be located below the expected depth of scour from a 100-year flood, or otherwise protected from exposure by scour that, for purposes of this mitigation measure, also includes lateral (stream bank) erosion and potential scour associated with flows overtopping or bypassing a culvert or bridge crossing.	<p>Final engineering plans for the installation of the 138 kV Underground Transmission Line within the Southern Access Road have been provided as Attachment C: Final Engineering Plans of this NTP request. A scour analysis has been provided as Attachment D: Scour Analysis of this NTP request.</p> <p>The 138 kV Underground Transmission Line within the Southern Access Road will be constructed in accordance with the final engineering plans.</p>	Design and During	To Be Implemented During Construction
Hydrology and Water	HYD-07	02	Bury power line below 100-year scour depth	During final design, a registered civil engineer with expertise in hydrology, hydraulics, and river mechanics shall make a determination of where the underground line could be at risk of exposure through scour or erosion from a 100-year event.	Final engineering plans for the installation of the 138 kV Underground Transmission Line within the Southern Access Road have been provided as Attachment C: Final Engineering Plans of this NTP request. A scour analysis has been provided as Attachment D: Scour Analysis of this NTP request.	Pre	Complete

Location: ECO Substation

Measure Category Title	MMNo	TaskNo	Mitigation Measure	Task Text	Comments	Timing	Status
Public Services and Utilities	PSU-01b	01	Protect underground utilities	<p>Prior to construction of the transmission/gen-tie line, SDG&E shall submit to the CPUC and BLM written documentation, including evidence of review by the appropriate jurisdictions, including the following:</p> <ul style="list-style-type: none"> · Construction plans designed to protect existing utilities and that show the dimensions and location of the finalized alignment · Records that the applicant provided the plans to affected jurisdiction for review, revision, and final approval · Evidence that the project meets all necessary local requirements · Evidence of compliance with design standards · Copies of necessary permits, agreements, or conditions of approval · Records of discretionary decisions made by the appropriate agencies. 	A memo that confirms approval and completion of review of the items listed in this measure has been included as Attachment F - Utility Provider Coordination to the Southern Access Road Underground NTP Request.	Pre	Complete
Public Services and Utilities	PSU-01c	01	Coordinate with utility providers	<p>SDG&E shall coordinate with all applicable utility providers with facilities located within or adjacent to the project to ensure that design does not conflict with other facilities prior to construction. In the event of a conflict, the project will be aligned vertically and/or horizontally as appropriate to avoid other utilities and provide adequate operational and safety buffering. Alternately, the other existing facilities may be relocated. Long-term operations and maintenance of the project will be negotiated through easement, purchased ROW, franchise agreement, or joint use agreement.</p>	Documentation of coordination with applicable utility providers regarding the location of facilities and potential conflicts has been included as Attachment F - Utility Provider Coordination to the Southern Access Road Underground NTP Request.	Design	Complete

ATTACHMENT C: FINAL ENGINEERING PLANS

GENERAL NOTES

- LOCATIONS OF ALL UNDERGROUND FACILITIES ARE TAKEN FROM AVAILABLE MAPS AND RECORDS. ACTUAL FIELD LOCATIONS OF ALL FOREIGN UTILITIES MUST BE VERIFIED BY CONTRACTOR PRIOR TO TRENCHING. CONTACT USA DIGALERT, 1-800-227-2600, PRIOR TO DIGGING.
- ALL WORK SHALL COMPLY WITH ENGINEERING DRAWINGS, SPECIFICATION NO. TE-0100 & TE-0107, CONTRACT DOCUMENT AND ALL APPLICABLE PROVISIONS OF THE SDG&E UNDERGROUND STANDARDS HANDBOOK, LATEST REVISION.
- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF G.O. 128.
- ALL WORK SHALL COMPLY WITH ALL STATE AND LOCAL TRAFFIC CONTROL REGULATIONS.
- ANY DEVIATION FROM ENGINEERING DRAWINGS MUST BE APPROVED BY SDG&E PRIOR TO CONSTRUCTION. MAINTAIN AND UPDATE THE AS-BUILT RECORDS TO DOCUMENT ALL FIELD CHANGES.
- CONDUIT INSTALLATION SHALL FOLLOW SDG&E SPECIFICATIONS 3374.1 THROUGH 3374.3. IF CONDUITS ARE NOT CHAMFERED BY THE MANUFACTURER, THEY MUST BE CHAMFERED IN THE FIELD.
- PROVIDE NECESSARY ANCHORING TO PREVENT CONDUITS FROM FLOATING WHILE THEY ARE BEING ENCASED IN CONCRETE.
- WHEN REQUIRED, USE ONLY PLASTIC STRAPS TO SECURE CONDUITS UNLESS OTHERWISE APPROVED. NO FERROUS METAL SHALL ENCIRCLE AN INDIVIDUAL DUCT.
- CONTRACTOR TO INSTALL NON-MAGNETIC MARKER TAPE ABOVE EACH COLUMN OF CONDUIT ON TOP OF THERMAL BACKFILL PRIOR TO PLACEMENT OF COMPACTED SOIL.
- UNLESS OTHERWISE SPECIFIED OR APPROVED, THE CONDUIT SPACERS SHALL BE INSTALLED AT AN INTERVAL NOT TO EXCEED 6'.
- MINIMUM DEPTH OF BACKFILL ABOVE TOP OF CONDUIT SHALL BE 36" UNLESS NOTED OTHERWISE.
- TWO SEPARATE 4/0 7 STRAND COPPER GROUNDING CABLES TO BE INSTALLED PER CIRCUIT.
- ANY CONDUIT BENDS, SWEEPS OR ELBOWS, WITH A RADIUS GREATER OR EQUAL TO 200 FEET MAY BE BENT IN THE FIELD. ANY BENDS, SWEEPS OR ELBOWS WITH A RADIUS LESS THAN 200" SHALL BE FABRICATED BY A MANUFACTURER TO ENSURE NO DISTORTION TO THE CROSS-SECTION. FABRICATED BENDS, SWEEPS OR ELBOWS CANNOT BE CUT IN THE FIELD.
- CLEARANCE BETWEEN EXISTING UTILITIES AND DUCT BANK SHALL BE A MINIMUM OF 1' UNLESS OTHERWISE NOTED.
- 1' MINIMUM VERTICAL SEPARATION FROM THE BOTTOM OF THE 12KV AND THE TOP OF THE PROPOSED TRENCH WORK.
- CONTRACTOR TO MAINTAIN ACCESS TO ALL PRIVATE DRIVEWAYS DURING CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A PERMIT FOR TEMPORARY CONSTRUCTION DEWATERING. A PERMIT IS REQUIRED FROM THE REGIONAL WATER QUALITY CONTROL BOARD FOR ANY DISCHARGE OF GROUNDWATER TO THE ENVIRONMENT. THE CONTRACTOR SHALL COMPLY WITH REGIONAL WATER QUALITY CONTROL BOARD WASTE DISCHARGE PERMIT REQUIREMENTS, AS APPLICABLE, BEFORE STARTING DEWATERING OPERATIONS. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION, AS REQUIRED, FOR THE DISPOSAL OF GROUNDWATER. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAMPLING, TESTING MONITORING, AND REPORTING REQUIREMENTS.
- CONDUITS TO BE SWABBED UNTIL THEY ARE CLEAR OF ALL DEBRIS BY USING MECHANICAL METHODS AND VERIFIED BY SDG&E CONTRACT ADMINISTRATOR. CONTRACTOR TO BLOW AIR AND INSTALL 2500 POUND MULE TAPE, DOCUMENT AND MARK UP PHASING ON VAULT WALLS TO IDENTIFY CORRECT PHASING ALONG ENTIRE ROUTE.
- ALL CABLES AND PULL LINES SHALL BE LABELED IN ACCORDANCE WITH SDG&E SPECIFICATIONS AND PRACTICES. ALL VAULTS AND HAND HOLDS SHALL BE LABELED AND STENCILED IN ACCORDANCE WITH SDG&E SPECIFICATIONS AND PRACTICES.
- FOR TYPICAL ROAD AND VAULT SECTIONS SEE DRAWING 13844-SEC.3-PP-18 - 19.
- ASPHALT CONCRETE SURFACING MATERIAL SHALL BE HAND-RAKED AND COMPACTED TO FORM SMOOTH TAPERED CONNECTIONS ALONG ALL EDGES ADJACENT TO SOIL. THE EDGES OF ASPHALT CONCRETE SHALL BE HAND-RAKED AT 45 DEGREES OR FLATTER, SO AS TO PROVIDE A SMOOTH TRANSITION NEXT TO EXISTING SOIL, INCLUDING THOSE AREAS SCHEDULED FOR SHOULDER BACKING. THE ABOVE SHALL BE DONE TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.
- FOR EVERY 1000 FEET OF DUCT BANK INSTALLED, CONTRACTOR SHALL COLLECT TWO (2) TEST CYLINDERS (CONTACT TESTING CONSULTANT FOR APPROPRIATE CYLINDER SIZE) OF DUCT BANK CONCRETE FOR THERMAL TESTING AND APPROVAL.
- FOR EVERY 500 FEET OF DUCT BANK INSTALLED CONTRACTOR SHALL COLLECT TWO (2) TEST CYLINDERS (CONTACT TESTING CONSULTANT FOR APPROPRIATE CYLINDER SIZE) OF THERMAL BACKFILL FOR THERMAL TESTING AND APPROVAL.
- CONTRACTOR IS REQUIRED TO RE-ESTABLISH THE EXISTING EARTHEN DRAINAGE DITCHES TO ORIGINAL CONDITION OR BETTER AFTER CONSTRUCTION.
- CLEARANCE BETWEEN COUNTY MAINTAINED CULVERTS AND 138KV TRENCH MUST BE 2' MINIMUM.
- CONTRACTOR IS REQUIRED TO RESURFACE THE FULL ROAD WIDTH OF OLD HWY 80 AND CARRIZO GORGE WITH RUBBERIZED HOT MIX ASPHALT (RHMA.) MINIMUM OVERLAY THICKNESS WILL BE DETERMINED BY DPW MATERIAL LAB.
- DIRT SHOULDERS ON OLD HWY 80 AND CARRIZO GORGE ROAD ARE TO BE BACKFILLED WITH DG TO THE ELEVATION OF THE NEW OVERLAY FOR THE ENTIRE LENGTH OF THE PROJECT. THE SHOULDER BACKFILL SHALL EXTEND 6' FEET FROM THE EDGE OF PAVEMENT (BUT NOT OUTSIDE SDG&E'S ENVIRONMENTAL LIMITS OF DISTURBANCE) AND COMPACTED TO 90% RC.
- ALL BMP WORK SHALL COMPLY WITH SDG&E'S "BEST MANAGEMENT PRACTICE MANUAL FOR WATER QUALITY CONSTRUCTION," PREPARED BY GEOSYNTEC CONSULTANTS AND REVISED BY SDG&E JULY 2011.
- ENVIRONMENTALLY SENSITIVE AREAS (ESAs) DESIGNATED BY MARKED BOUNDARIES IN THE FIELD ARE OFF-LIMITS TO CONSTRUCTION ACTIVITIES. ARCHAEOLOGICAL MONITORING OF ANY GROUND DISTURBANCE AND/OR NEW CONSTRUCTION ACTIVITY NEAR AN ESA MAY BE REQUIRED, FOLLOWING THE INITIATION OF CONSTRUCTION ACTIVITIES, THE ON-SITE PROFESSIONAL ARCHAEOLOGIST MAY DETERMINE THAT FULL-TIME MONITORING IS NO LONGER REQUIRED.

TL13844 UNDERGROUND TRENCH RISER POLE Z100117 TO RISER POLE Z100118

SURVEY CONTROL

BASIS OF COORDINATES
THE COORDINATES ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 AND ARE EXPRESSED IN TERMS OF THE CALIFORNIA COORDINATE SYSTEM 1983, ZONE VI, AT EPOCH 1991.35 AND ARE BASED ON MONUMENT "SAN DIEGO GPS 31 1990" LOCATED 2.5 MILES NORTHEAST OF JACUMBA, ON THE SOUTH SIDE OF INTERSTATE FREEWAY 8 AT POST MILE 74.9, 400 FEET WEST OF TELEPHONE CALL BOX 8-750 SET AT THE TOP OF A 20' HIGH ROCK CUT.

BASIS OF BEARINGS

BEARINGS ARE REFERENCED TO GRID NORTH AS DEFINED BY THE CALIFORNIA COORDINATE SYSTEM 1983, ZONE VI.

BASIS OF ELEVATION

ELEVATION ARE REFERENCED TO NAVD88 AS DETERMINED LOCALLY BY VERTICAL BENCHMARK "W-612", WITH THE PUBLISHED ELEVATION OF 3203.325FT (NAVD88 DATUM) LOCATED 10.95 MILES EAST ALONG THE EAST BOUND LANES OF INTERSTATE HIGHWAY 8 FROM THE RIBBONWOOD ROAD OVERPASS AT BOULEVARD, 104.5' SOUTHEAST OF THE CENTERLINE OF THE EASTBOUND HIGHWAY LANES, IN THE TOP OF THE SOUTHWEST END OF THE SOUTHEAST CONCRETE HEADWALL OF CONCRETE BOX CULVERT BC57-201-G-755-00 OF US HIGHWAY 80, 9.5 FEET NORTHEAST OF THE SOUTHWEST HEADWALL.

BENCH MARK

POINT IS BENCHMARK DISK SET IN A CONCRETE HEADWALL "W 612 1941". NAVD88 ELEVATION = 3203.325FT.

SHEET INDEX

- DWG NO.
1.....COVER SHEET
2-16.....TL13844 TRENCH PLAN & PROFILE STA 0+00 TO 150+33.81
17.....DETAILS
18-19.....ROAD TYPICAL DETAILS
20-21.....TRANSMISSION BORE, TRENCH & CONDUIT

ABBREVIATIONS

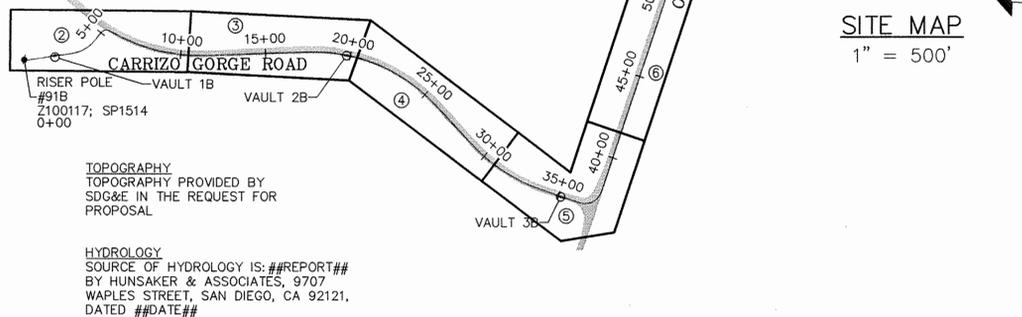
AC	ASPHALT CONCRETE	LF	LINEAR FEET
APN	ASSESSORS PARCEL NUMBER	LT	LEFT
BC	BEGIN OF CURVE	MH	MANHOLE
CL	CENTER LINE	OD	OUTSIDE DIAMETER
CMP	CORRUGATED METAL PIPE	OH	OVERHEAD
CNTR	CENTER	PCC	PORTLAND CEMENT CONCRETE
CONC	CONCRETE	POB	POINT OF BEGINNING
CP	CABLE POLE	PVC	POLY-VINYL-CHLORIDE
DIA	DIAMETER	PVT	PRIVATE
DWG	DRAWING	R/W	RIGHT-OF-WAY
EC	END OF CURVE	RCP	REINFORCED CONCRETE PIPE
EL	ELEVATION	REF	REFERENCE
ELEV	ELEVATION	RIM	RIM ELEVATION
EOP	EDGE OF PAVEMENT	RT	RIGHT
EX	EXISTING	SD	STORM DRAIN
FX	FINISH GRADE	SF	SQUARE FEET
FL	FLOW LINE	STA	STATION
FS	FINISH SURFACE	TOP	TOP OF PIPE
HDPE	HIGH-DENSITY POLYETHYLENE	TYP	TYPICAL
HH	HANDHOLE	W/	WITH
IE	INVERT ELEVATION		
LAT	LATERAL		

LEGEND

- OH — OH — OH — EXISTING OVERHEAD UTILITIES
 - T — T — T — EXISTING TELEPHONE/FIBER OPTIC LINE
 - SD — SD — SD — EXISTING STORM DRAIN LINE
 - TL13844 TRENCH
 - FUTURE TRENCH
 - RIGHT OF WAY
 - EXISTING EASEMENT
 - PROPOSED EASEMENT
 - PROPERTY LINE
 - TRENCH LIMITS
 - 1013
 - ACOE WATERWAY
 - DAYLIGHT LINE
- Ⓛ EX FIBER OPTIC BOX
 - Ⓜ EX TELEPHONE PULL BOX
 - EX FIBER OPTIC HANDHOLE
 - EX HWY 80 9" THICK PCC SLABS 10' WIDTH CENTERED ON CL
 - EXISTING AC SURFACE
 - 100 ELEVATION POINT NUMBER
 - Ⓢ EX FIBER OPTIC VAULT
 - Ⓟ EX TELEPHONE POLE
 - ① DRAWING NO.
 - Ⓛ PROPOSED VAULT
 - PROPOSED HANDHOLE (3313 HH)
 - CABLE PULLING DIRECTION

TRENCH DISTANCES TL13844 TRENCH			CABLE PULLING TENSIONS TL13844 TRENCH			
FROM	TO	LENGTH	FROM	TO	TENSION	LENGTH
STA. 0+00.00 C.P. Z100117	STA. 1+83.01 VAULT 1B	183.01'	VAULT 1B	RISER POLE Z100117	0000.00 LBS	183.01'
STA. 1+83.01 VAULT 1B	STA. 19+79.01 VAULT 2B	1796.00'	VAULT 2B	VAULT 1B	0000.00 LBS	1796.00'
STA. 19+79.01 VAULT 2B	STA. 35+14.01 VAULT 3B	1535.00'	VAULT 2B	VAULT 3B	0000.00 LBS	1535.00'
STA. 35+14.01 VAULT 3B	STA. 53+91.01 VAULT 4B	1877.00'	VAULT 3B	VAULT 4B	0000.00 LBS	1877.00'
STA. 53+91.01 VAULT 4B	STA. 74+06.01 VAULT 5B	2015.00'	VAULT 4B	VAULT 5B	0000.00 LBS	2015.00'
STA. 74+06.01 VAULT 5B	STA. 94+54.76 VAULT 6B	2048.75'	VAULT 5B	VAULT 6B	0000.00 LBS	2048.75'
STA. 94+54.76 VAULT 6B	STA. 108+76.83 VAULT 7B	1422.07'	VAULT 6B	VAULT 7B	0000.00 LBS	1422.07'
STA. 108+76.83 VAULT 7B	STA. 128+57.82 VAULT 8B	1980.99'	VAULT 7B	VAULT 8B	0000.00 LBS	1980.99'
STA. 128+57.82 VAULT 8B	STA. 147+59.88 VAULT 10B	1902.06'	VAULT 8B	VAULT 10B	0000.00 LBS	1902.06'
STA. 147+59.88 VAULT 10B	STA. 150+33.84 C.P. Z100118	273.93'	VAULT 10B	RISER POLE Z100118	0000.00 LBS	273.93'

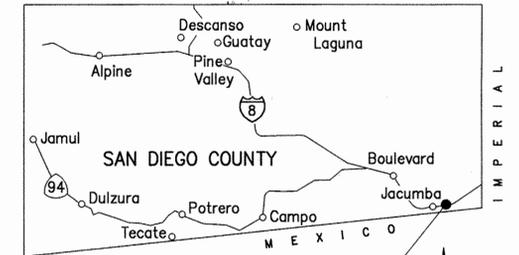
TOTAL CP. TO CP.=15,033.84'



DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS. I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY SAN DIEGO GAS AND ELECTRIC COMPANY IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS DESIGNER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

ROSS TIDWELL R.C.E. NO. 77511



PROJECT LOCATION

VICINITY MAP
NO SCALE



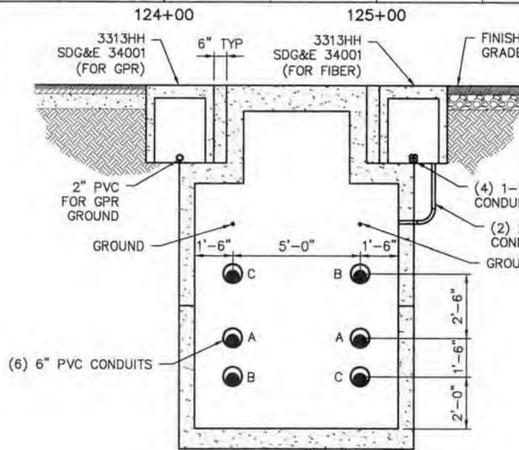
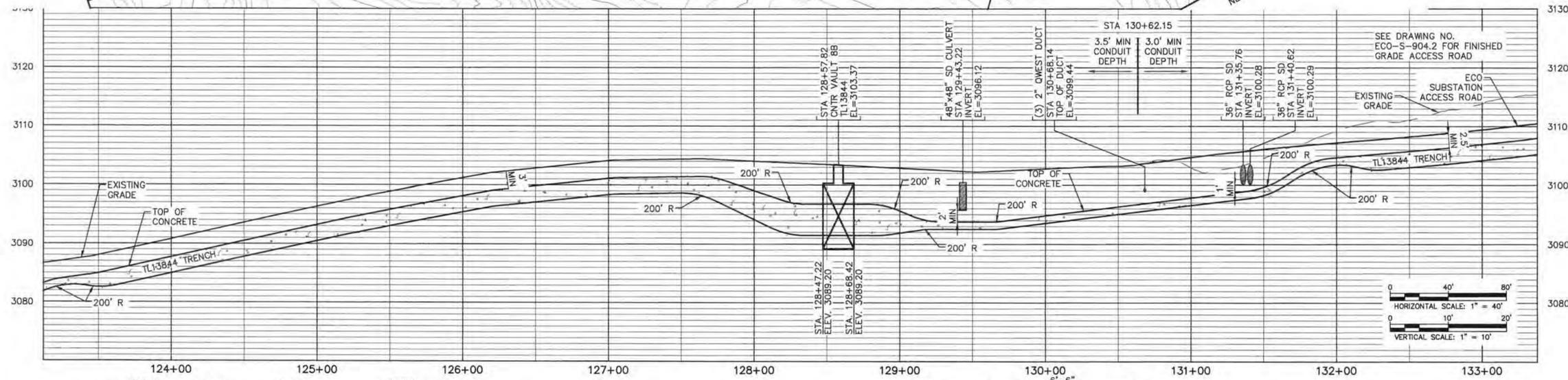
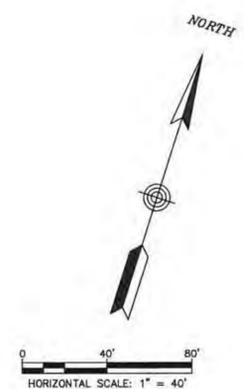
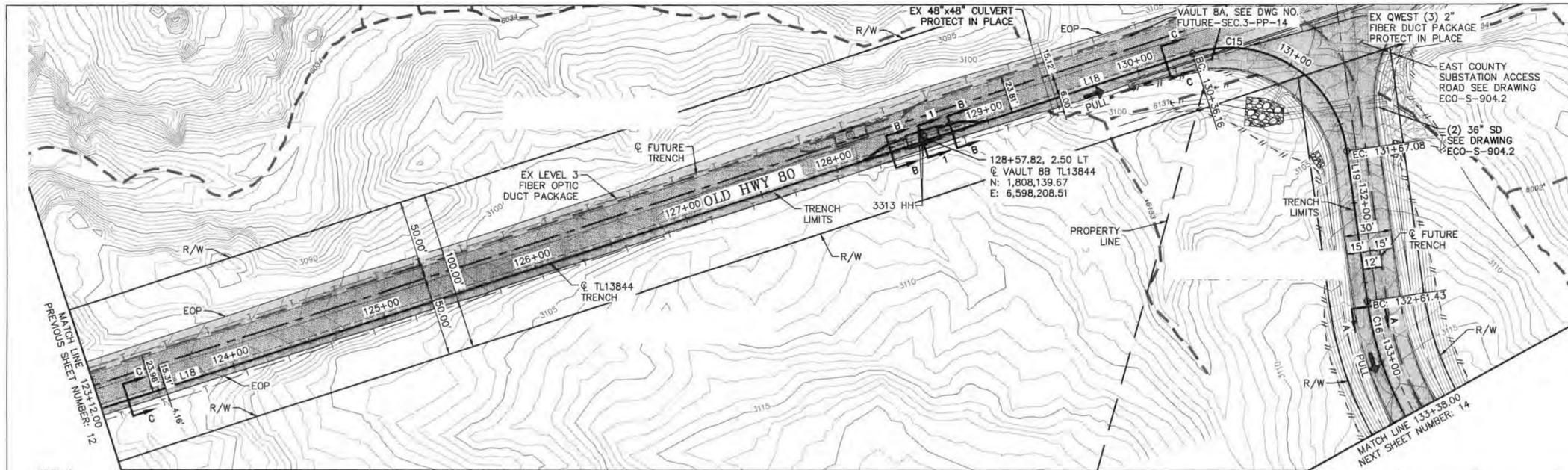
DRAWN BY:	JAB	E							
DATE:	08/31/12	D	XXXX	XXXX	REVISED ALIGNMENT AND NOTES	BETA			6/7/13
THO. BROS.:	N/A	C	XXXX	XXXX	ADDED NOTE 18	BETA			5/29/13
PROJ. NO.:		B	XXXX	XXXX	REVISED PER SDG&E COMMENTS	BETA			4/19/13
CONST. NO.:		A	XXXX	XXXX	TRENCH / SUBSTRUCTURES AND CABLE INSTALLATION	BETA			11/14/12
PLAN & PROFILE									
HORIZONTAL:	N/A								
VERTICAL:	N/A	REV	BUDGET	CONST ORDER	CHANGE	DWN	CHKD	APPV	DATE

SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING

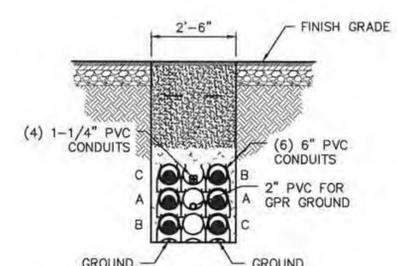
TL13844 UNDERGROUND 138 kV
BOULEVARD S/S TO EAST COUNTY S/S

SCALE AS NOTED SHEET 1 OF 1

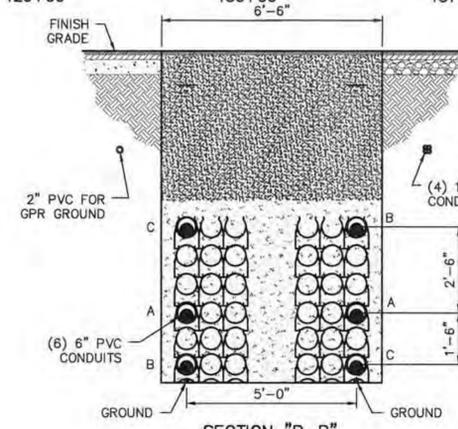
PLAN AND PROFILE
TITLE SHEET
Z100117 TO Z100118
DRAWING NUMBER
13844-SEC.3-PP-01



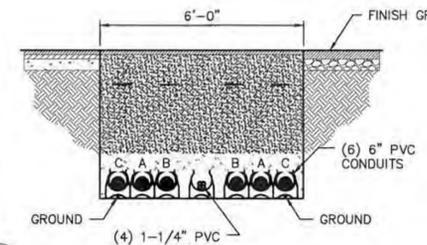
SECTION "1-1"
STA. 128+57.82 VAULT # BB TL13844
138KV VAULT AND PHASING SECTION
REF. VAULT DWG. 13844-SEC.3-V-01-04



SECTION "A-A"
REF. TRENCH DETAIL 1C & 1D
DWG. 13844-SEC.3-PP-17
(SEE TRENCH NOTES (RIGHT) FOR STATION RANGE)



SECTION "B-B"
REF. TRENCH DETAIL 2E
DWG. 13844-SEC.3-PP-17
(SEE TRENCH NOTES (RIGHT) FOR STATION RANGE)



SECTION "C-C"
REF. TRENCH DETAIL 3B & 3C
SEE DWG. NO. 13844-SEC.3-PP-17
(SEE TRENCH NOTES (RIGHT) FOR STATION RANGE)

HORIZONTAL CENTERLINE DATA					
SEGMENT	START STATION	END STATION	BEARING/Delta	RADIUS	DISTANCE
L18	111+83.92	130+36.16	N54° 13' 05"E	1852.24'	1852.24'
C15	130+36.16	131+67.08	100° 01' 01"	75.00'	130.92'
L19	131+67.08	132+61.43	S25° 45' 53"E	94.35'	94.35'
C16	132+61.43	133+49.44	24° 28' 45"	206.00'	88.01'

TRENCH NOTES

STA 123+12 TO 123+26.38 REF. SECTION "C-C" DETAIL 3B
 STA 123+62.35 TO 128+15.20 MAX. REF. SECTION "A-A" DETAIL 1D
 STA 128+37.22 TO 128+78.42 REF. SECTION "B-B" DETAIL 2E
 STA 129+28.29 MIN. TO 130+64.07 REF. SECTION "C-C" DETAIL 3B
 STA 130+64.07 TO 131+98.26 REF. SECTION "C-C" DETAIL 3C
 STA 132+32.65 TO 133+38.00 REF. SECTION "A-A" DETAIL 1C

NOTE:
 MIN. / MAX. VALUES ALLOW CONTRACTOR TO
 ADJUST TRANSITION LENGTHS AS NECESSARY



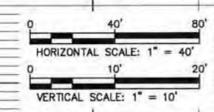
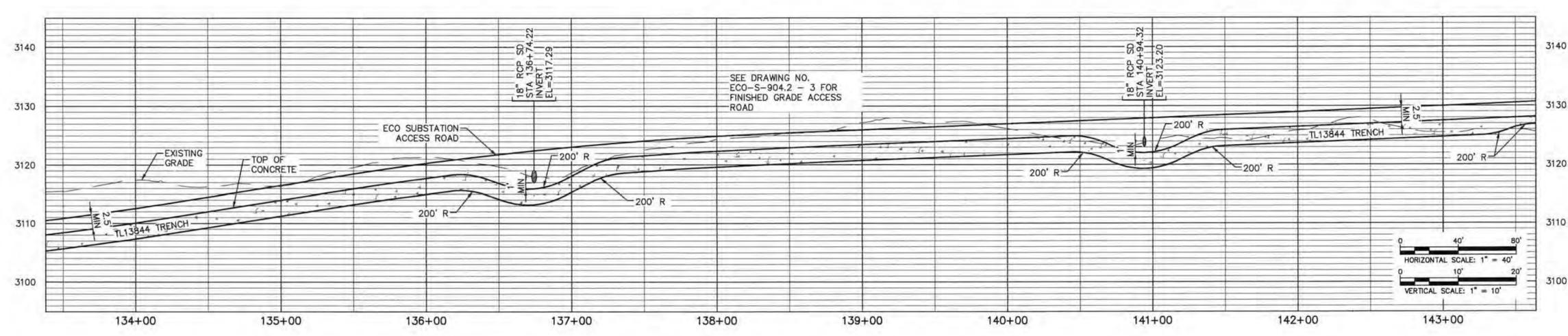
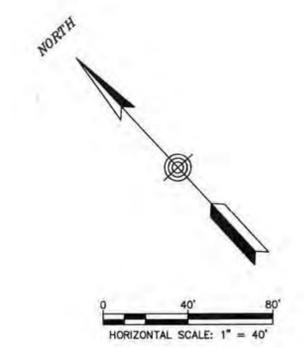
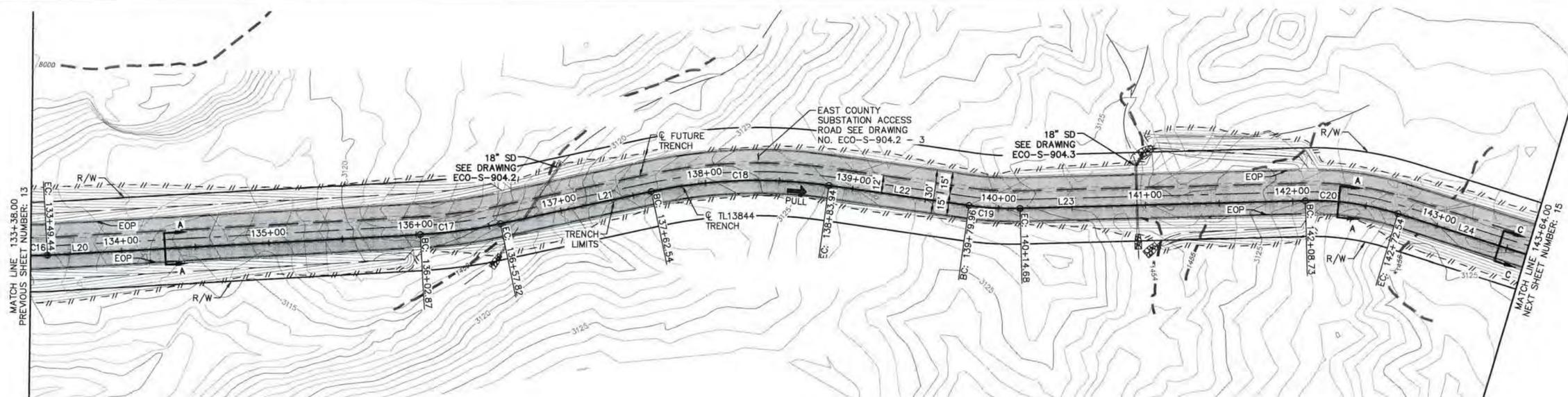
DRAWN BY:	JAB	G	XXXX	XXXX	REVISED PROFILE AND DETAILS	BETA	6/14/13		
DATE:	08/31/12	F	XXXX	XXXX	REVISED ALIGNMENT AND DETAILS	BETA	6/7/13		
THO. BROS.:	N/A	E	XXXX	XXXX	LABELLED ACQE WATERWAYS, ADDED R/W & DAYLIGHT LINE	BETA	6/4/13		
PROJ. NO.:		D	XXXX	XXXX	ADDED ACQE WATERWAYS	BETA	5/29/13		
CONST. NO.:		C	XXXX	XXXX	REVISED TO START WORK AT R/W	BETA	5/24/13		
		REV	BUDGET	CONST ORDER	CHANGE	DWN	CHKD	APPV	DATE

SDGE SAN DIEGO GAS & ELECTRIC TRANSMISSION ENGINEERING

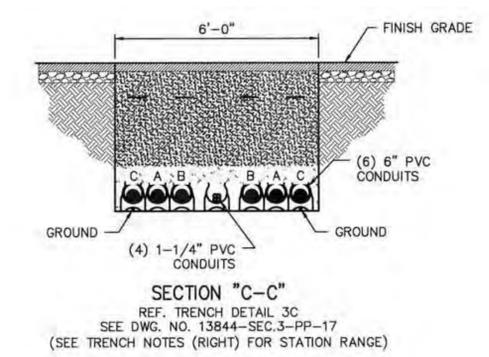
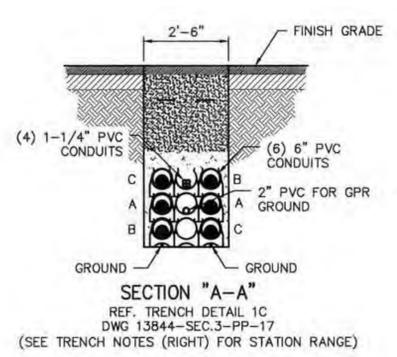
TL13844 UNDERGROUND 138 KV BOULEVARD S/S TO EAST COUNTY S/S

SCALE 1"=40' SHEET 13 OF 18

PLAN AND PROFILE
 STA 123+12 TO STA 133+38
 Z10017 TO Z10018
 DRAWING NUMBER
 13844-SEC.3-PP-14



HORIZONTAL CENTERLINE DATA					
SEGMENT	START STATION	END STATION	BEARING/Delta	RADIUS	DISTANCE
C16	132+61.43	133+49.44	24° 28' 45"	206.00'	88.01'
L20	133+49.44	136+02.87	S50° 14' 38"E		253.43'
C17	136+02.87	136+57.82	8° 50' 40"	356.00'	54.95'
L21	136+57.82	137+62.54	S59° 05' 18"E		104.72'
C18	137+62.54	138+83.94	20° 13' 15"	344.00'	121.40'
L22	138+83.94	139+79.96	S38° 52' 04"E		96.02'
C19	139+79.96	140+14.68	9° 39' 17"	206.00'	34.71'
L23	140+14.68	142+08.73	S48° 31' 21"E		194.05'
C20	142+08.73	142+72.54	18° 50' 52"	194.00'	63.82'
L24	142+72.54	144+91.13	S29° 40' 29"E		218.59'



TRENCH NOTES
 STA 133+38 TO 143+27.62 REF. SECTION "A-A" DETAIL 1C
 STA 143+62.05 TO STA 143+64 REF SECTION "C-C" DETAIL 3C

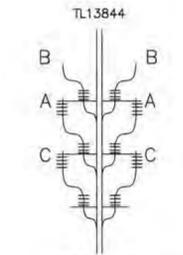
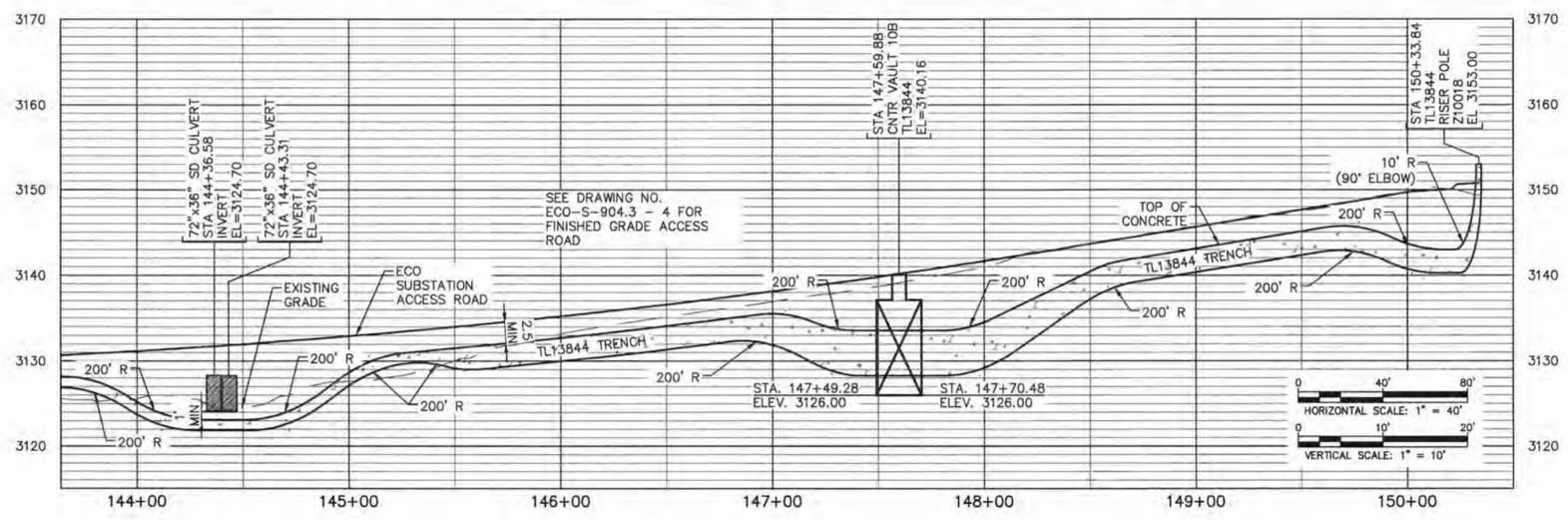
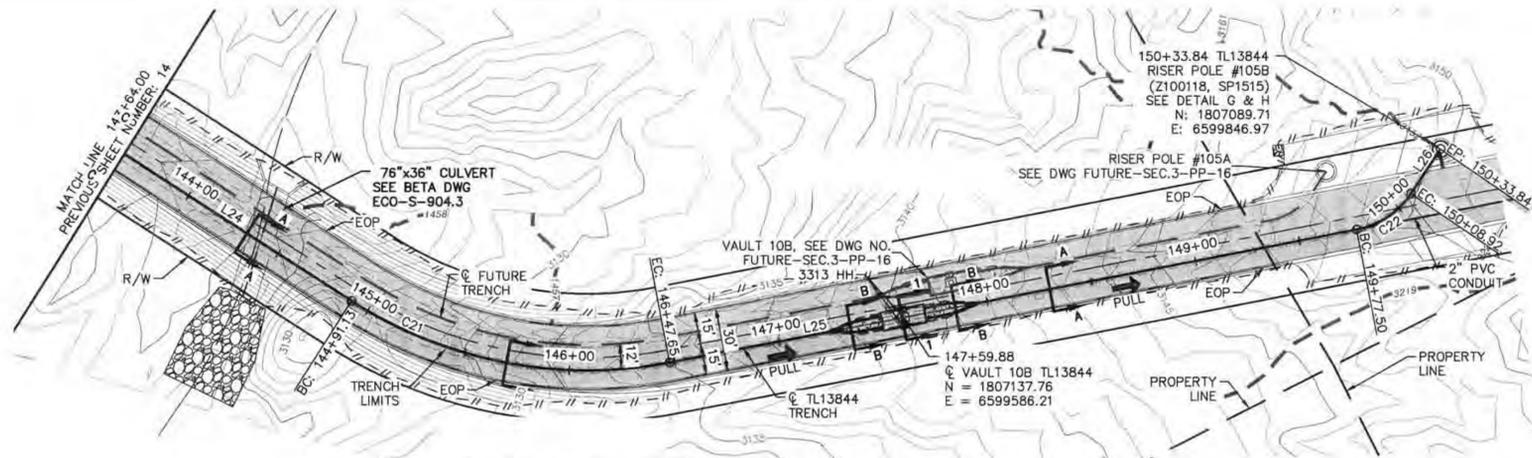


UNDERGROUND SERVICE ALERT
 OF SOUTHERN CALIFORNIA
 CALL TOLL FREE 1-800-227-2600
 TWO WORKING DAYS BEFORE YOU DIG

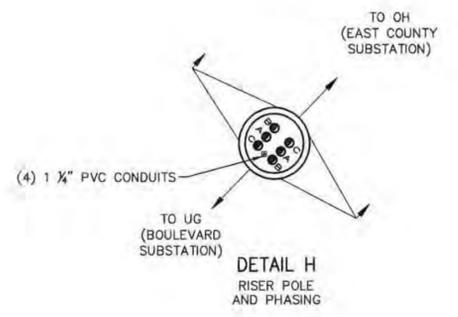
DRAWN BY:	JAB	G	XXXXX	XXXXX	REVISED PROFILE AND DETAILS	BETA		6/14/13	
DATE:	08/31/12	F	XXXXX	XXXXX	REVISED ALIGNMENT AND DETAILS	BETA		6/7/13	
THO. BROS.:	N/A	E	XXXXX	XXXXX	ADDED R/W & DAYLIGHT LINE	BETA		6/4/13	
PROJ. NO.:		D	XXXXX	XXXXX	ADDED ACOE WATERWAYS	BETA		5/29/13	
CONST. NO.:		C	XXXXX	XXXXX	REMOVED VAULT 9	BETA		5/24/13	
		REV	BUDGET	CONST ORDER	CHANGE	DWN	CHKD	APPV	DATE

SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
TL13844 UNDERGROUND 138 kV
BOULEVARD S/S TO EAST COUNTY S/S
 SCALE 1"=40' SHEET 14 OF 18

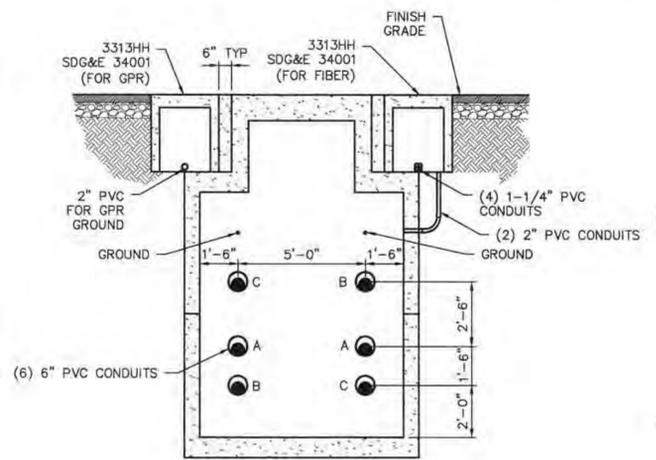
PLAN AND PROFILE
STA 133+38 TO STA 143+64
Z10017 TO Z10018
DRAWING NUMBER
13844-SEC.3-PP-15



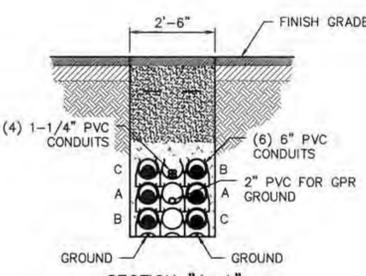
DETAIL G
STEEL RISER POLE PHASING
DETAIL LOOKING UPSTATION



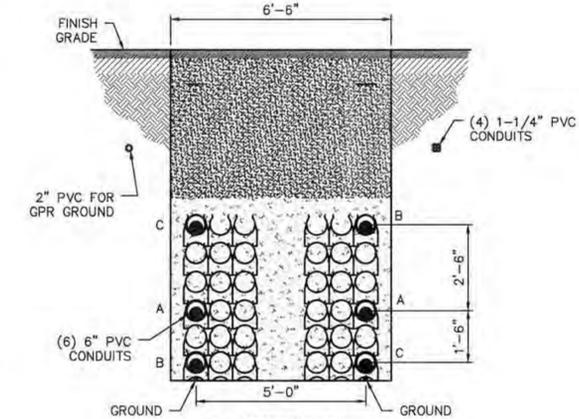
DETAIL H
RISER POLE
AND PHASING



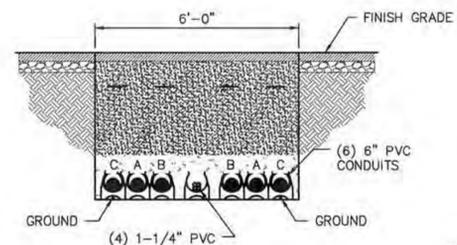
SECTION "1-1"
STA. 147+59.88 VAULT # 10B TL13844
138KV VAULT AND PHASING SECTION
REF. VAULT DWG. 13844-SEC.3-V-01-04



SECTION "A-A"
REF. TRENCH DETAIL 1C
DWG 13844-SEC.3-PP-17
(SEE TRENCH NOTES (RIGHT) FOR STATION RANGE)



SECTION "B-B"
REF. TRENCH DETAIL 2C
DWG 13844-SEC.3-PP-17
(SEE TRENCH NOTES (RIGHT) FOR STATION RANGE)



SECTION "C-C"
REF. TRENCH DETAIL 3C
SEE DWG. NO. 13844-SEC.3-PP-17
(SEE TRENCH NOTES (RIGHT) FOR STATION RANGE)

HORIZONTAL CENTERLINE DATA					
SEGMENT	START STATION	END STATION	BEARING/Delta	RADIUS	DISTANCE
L24	142+72.54	144+91.13	S29° 40' 29"E		218.59'
C21	144+91.13	146+47.65	43° 32' 01"	206.00'	156.52'
L25	146+47.65	149+77.50	S73° 12' 29"E		329.85'
C22	149+77.50	150+08.92	45° 00' 00"	40.00'	31.42'
L26	150+08.92	150+33.84	N61° 47' 31"E		24.92'

TRENCH NOTES

STA 143+64.00 TO 145+28.06 REF SECTION "C-C" DETAIL 3C
 STA 145+63.20 TO 147+21.77 MAX. REF. SECTION "A-A" DETAIL 1C
 STA 147+39.27 TO 147+80.47 REF. SECTION "B-B" DETAIL 2C
 STA 147+97.97 MIN. TO 150+33.84 REF. SECTION "A-A" DETAIL 1C

NOTE:
 MIN. / MAX. VALUES ALLOW CONTRACTOR TO
 ADJUST TRANSITION LENGTHS AS NECESSARY



UNDERGROUND
SERVICE ALERT
OF SOUTHERN CALIFORNIA

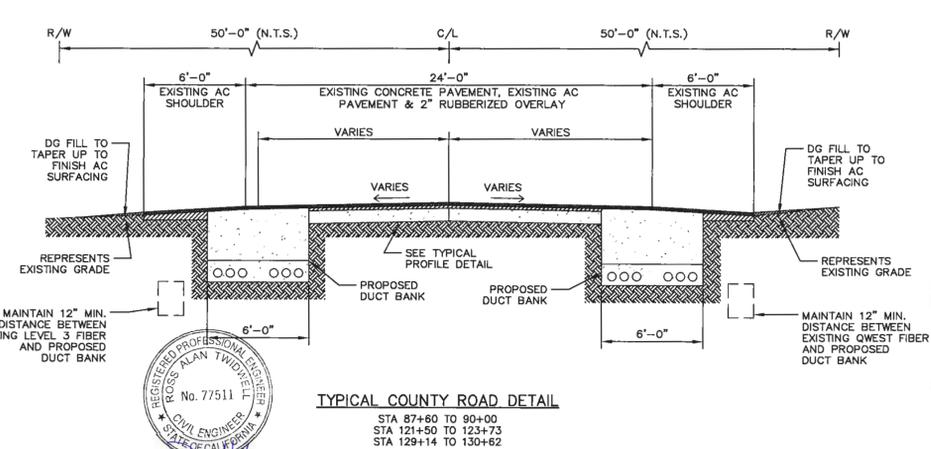
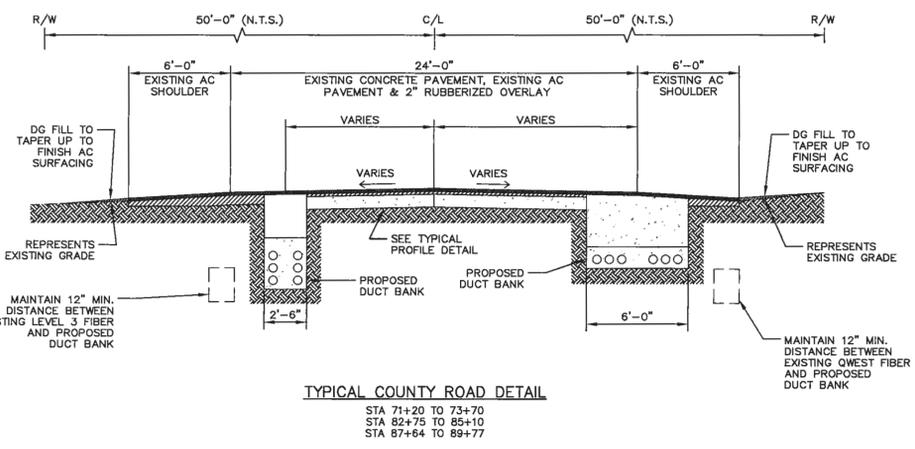
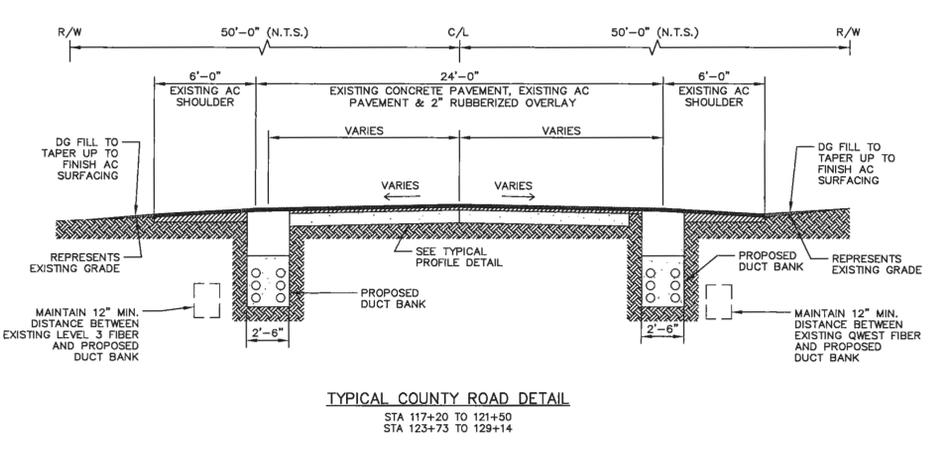
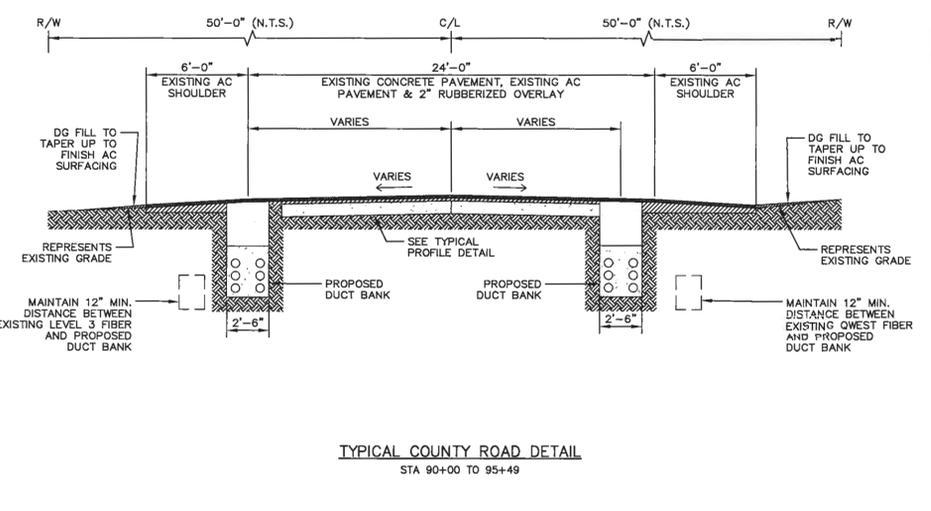
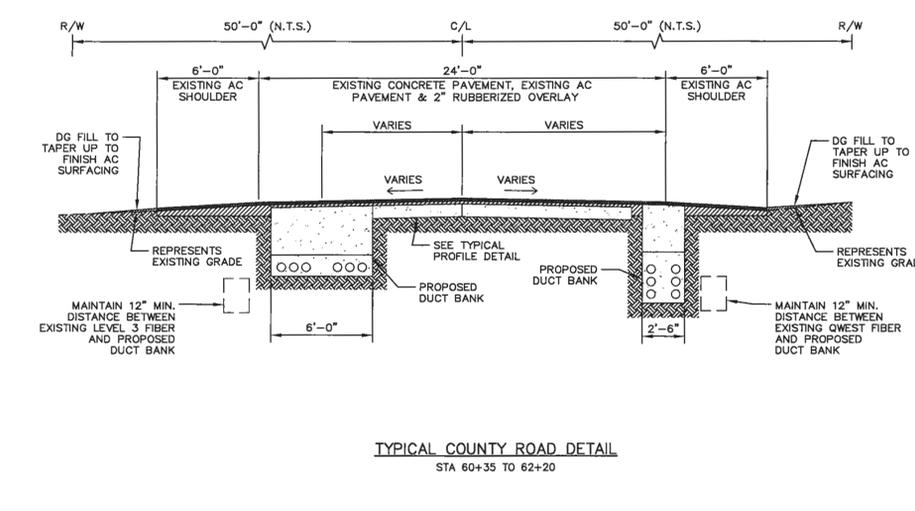
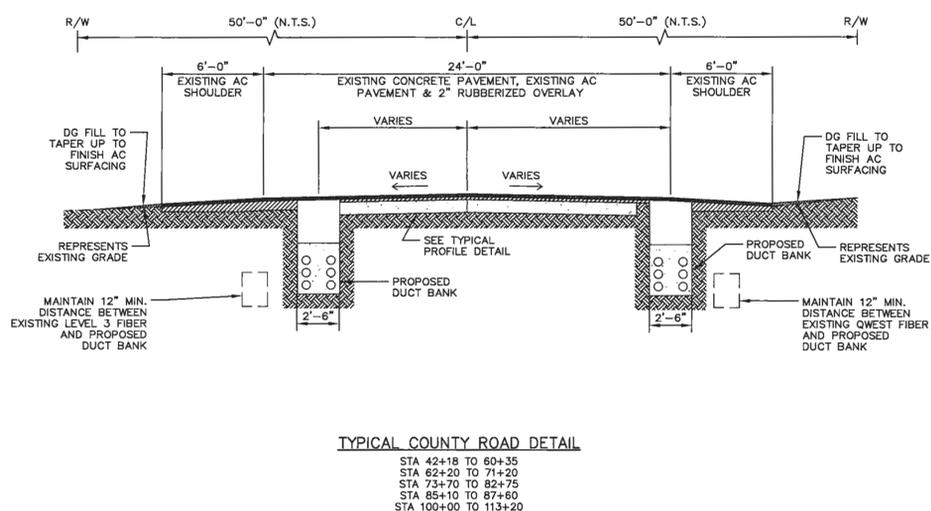
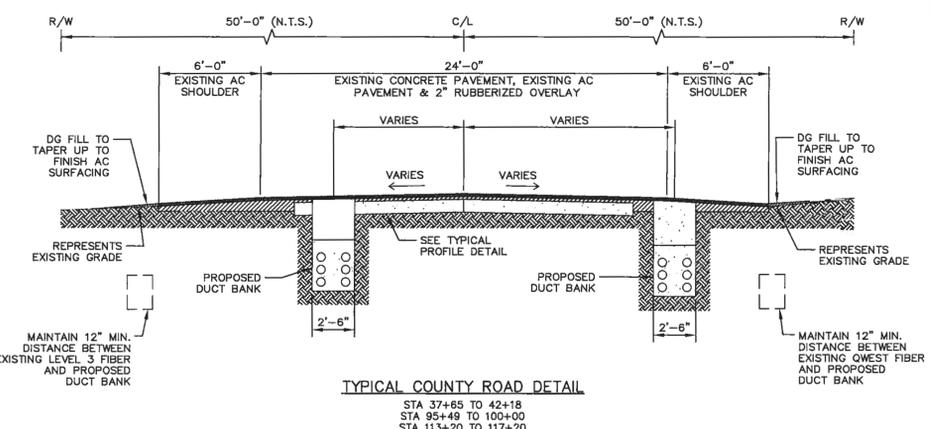
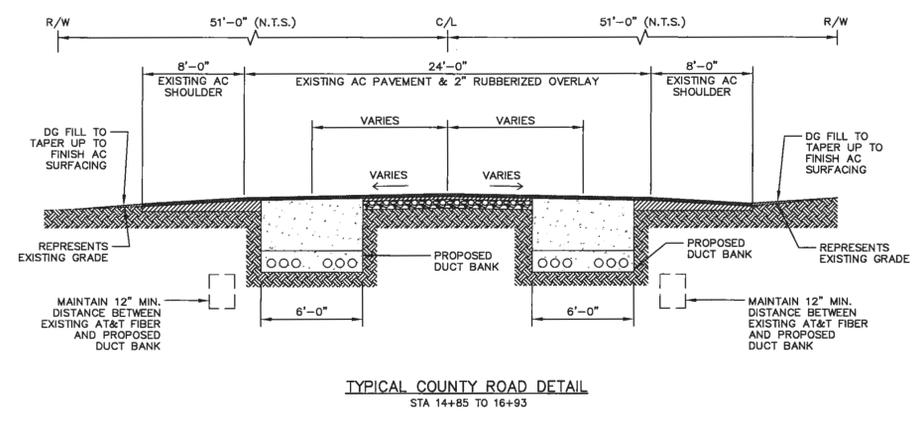
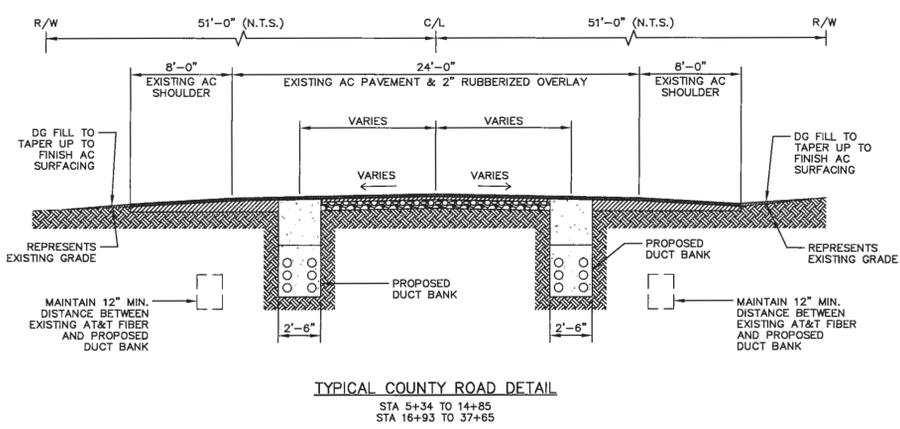
CALL: TOLL FREE
1-800-227-2600

TWO WORKING DAYS BEFORE YOU DIG

DRAWN BY:	JAB	F	XXXX	XXXX	REVISED PROFILE AND DETAILS	BETA	6/14/13		
DATE:	08/31/12	E	XXXX	XXXX	REVISED ALIGNMENT AND DETAILS	BETA	6/7/13		
THO. BROS.:	N/A	D	XXXX	XXXX	ADDED R/W & DAYLIGHT LINES	BETA	6/4/13		
PROJ. NO.:		C	XXXX	XXXX	ADDED ACOE WATERWAYS	BETA	5/29/13		
CONST. NO.:		B	XXXX	XXXX	REVISED PER SDG&E COMMENTS	BETA	4/19/13		
PLAN & PROFILE									
HORIZONTAL:	1"=40'								
VERTICAL:	1"=10'								
REV	BUDGET	CONST	ORDER	CHANGE		DWN	CHKD	APPV	DATE

SDGE SAN DIEGO GAS & ELECTRIC
 TRANSMISSION ENGINEERING
 TL13844 UNDERGROUND 138 kV
 BOULEVARD S/S TO EAST COUNTY S/S
 SCALE 1"=40' SHEET 15 OF 18

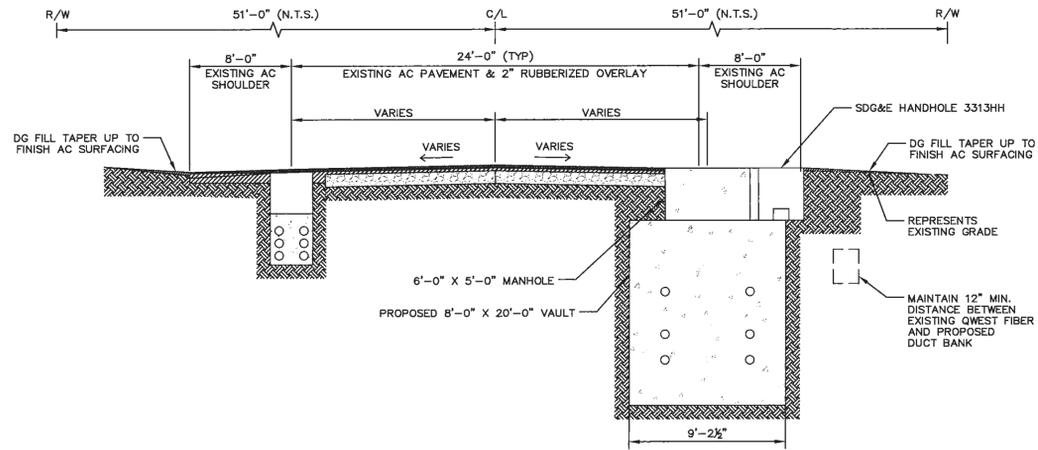
PLAN AND PROFILE
 STA 143+64 TO STA 150+33.84
 Z10017 TO Z10018
 DRAWING NUMBER
 13844-SEC.3-PP-16



DRAWN BY:	JAB	E								
DATE:	08/31/12	D								
THO. BROS.	N/A	C	XXXXX	XXXXX	ADDED NEW DETAILS & UPDATED STATIONS	BETA		6/14/13		
PROJ. NO.		B	XXXXX	XXXXX	ADDED STATION RANGE	BETA		6/7/13		
CONST. NO.		A	XXXXX	XXXXX	NEW DRAWING	BETA		4/19/13		
PLAN & PROFILE		REV	BUDGET	CONST ORDER	CHANGE	DWN	CHKD	APPV	DATE	
HORIZONTAL:	N/A									
VERTICAL:	N/A									

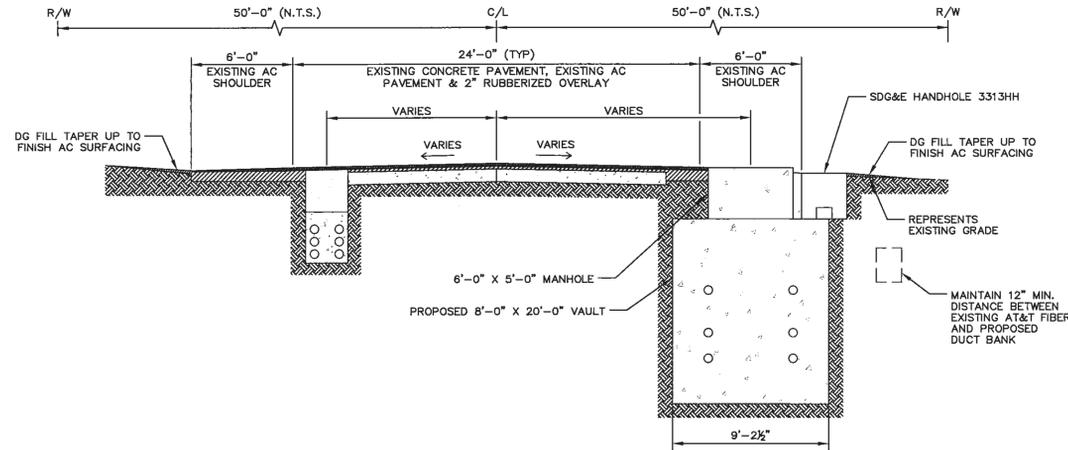
SDGE SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
 TL13844 UNDERGROUND 138 kV
 BOULEVARD S/S TO EAST COUNTY S/S
 SCALE N/A SHEET 17 OF 18

PLAN AND PROFILE
COUNTY ROAD SECTIONS
Z100117 TO Z100118
 DRAWING NUMBER
13844-SEC.3-PP-18



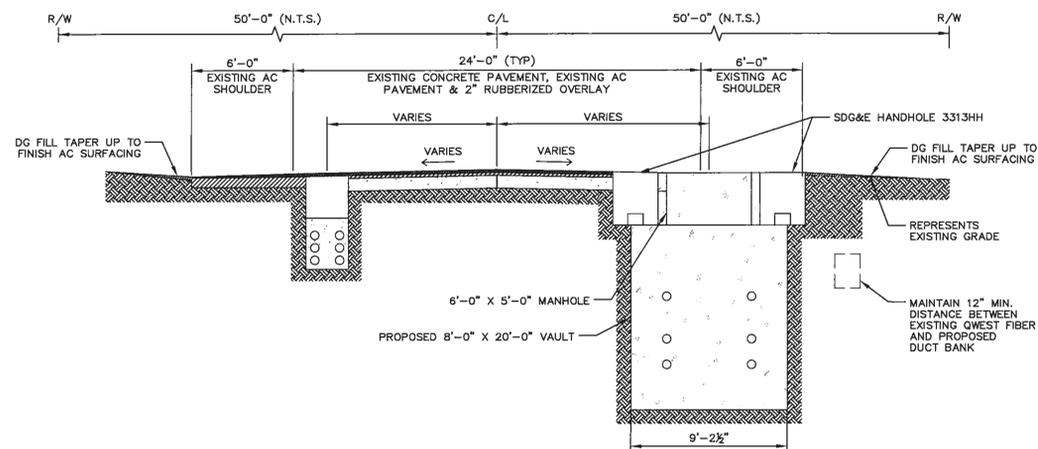
TYPICAL COUNTY ROAD DETAIL

STA 19+59 TO 19+99
STA 34+94 TO 53+34



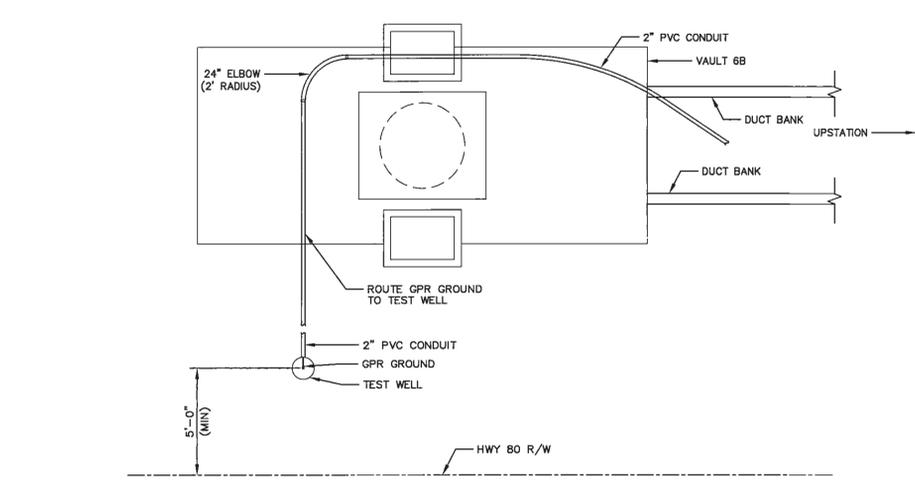
TYPICAL COUNTY ROAD DETAIL

STA 53+71 TO 54+11
STA 73+86 TO 74+26



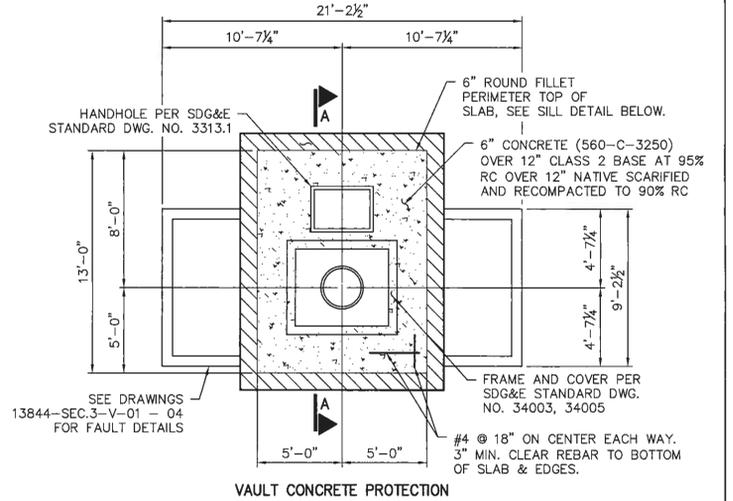
TYPICAL COUNTY ROAD DETAIL

STA 94+34 TO 94+74
STA 108+58 TO 108+96
STA 128+38 TO 128+77

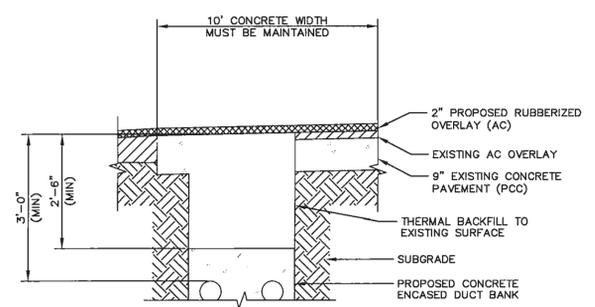


GPR GROUND TEST WELL LOCATION DETAIL

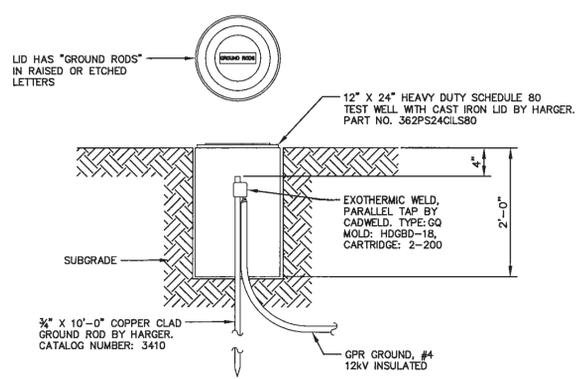
* TEST WELL PLACED WITHIN APPROVED PROJECT WORK LIMITS



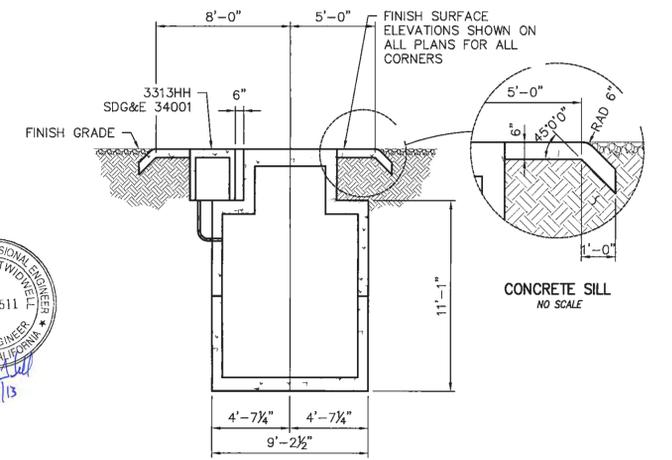
VAULT CONCRETE PROTECTION



TYPICAL HWY 80 PROFILE DETAIL



GPR GROUND TEST WELL DETAIL



SECTION A-A

NO SCALE



UNDERGROUND SERVICE ALERT
OF SOUTHERN CALIFORNIA
CALL TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

DRAWN BY:	JAB	E							
DATE:	08/31/12	D							
THO. BROS.	N/A	C	XXXXX	XXXXX	ADDED NEW DETAILS AND UPDATED STATIONS	BETA		6/14/13	
PROJ. NO.		B	XXXXX	XXXXX	ADDED STATION RANGE	BETA		6/7/13	
CONST. NO.		A	XXXXX	XXXXX	NEW DRAWING	BETA		4/19/13	
PLAN & PROFILE									
HORIZONTAL:	N/A								
VERTICAL:	N/A								
REV	BUDGET	CONST ORDER			CHANGE	DWN	CHKD	APPY	DATE

SDG&E SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING
TL13844 UNDERGROUND 138 kV
BOULEVARD S/S TO EAST COUNTY S/S
SCALE N/A SHEET 18 OF 18

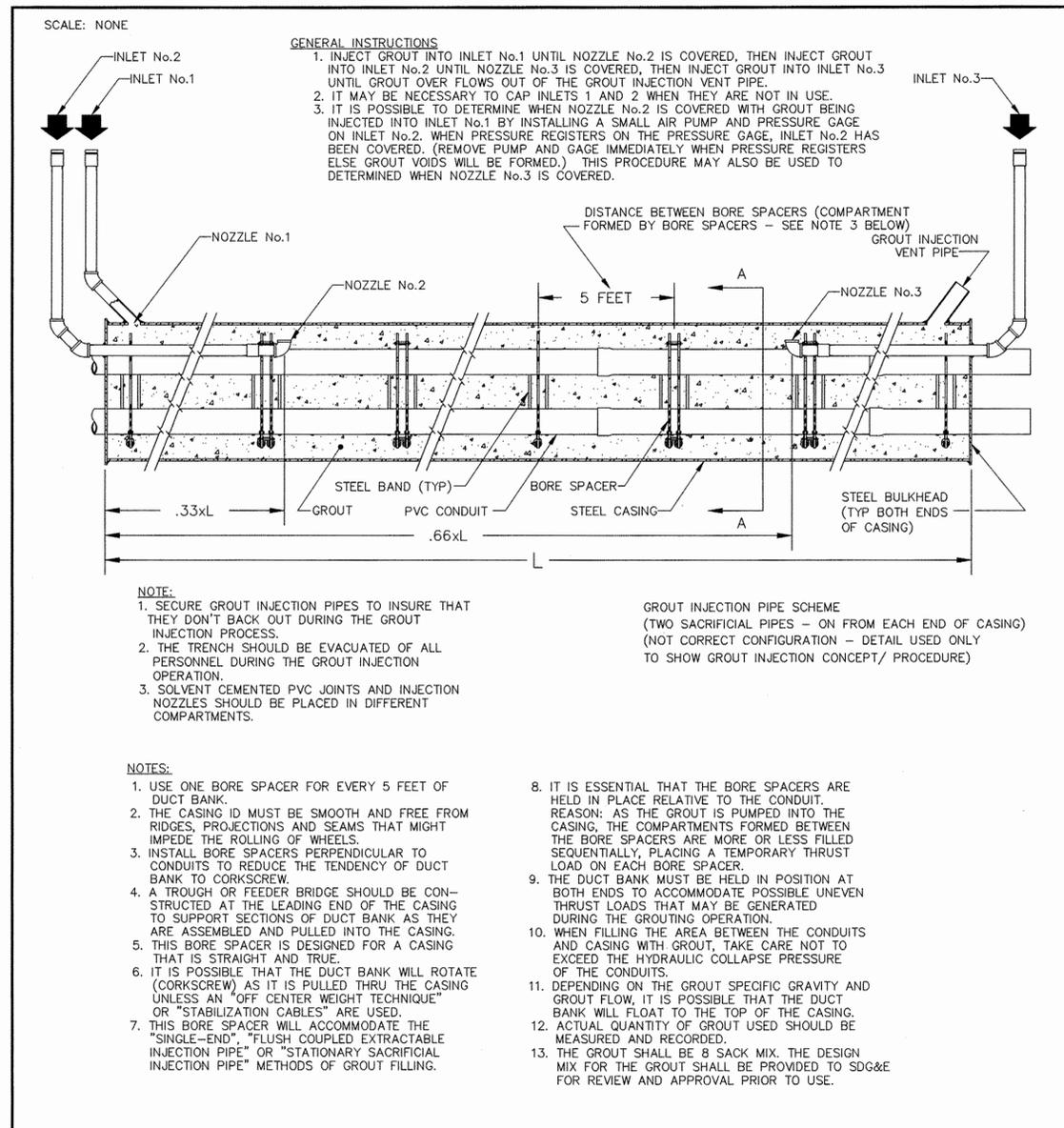
PLAN AND PROFILE
COUNTY ROAD SECTIONS
Z100117 TO Z100118
DRAWING NUMBER
13844-SEC.3-PP-19

TRANSMISSION BORE, TRENCH & CONDUIT

STANDARD CONSTRUCTION NOTES

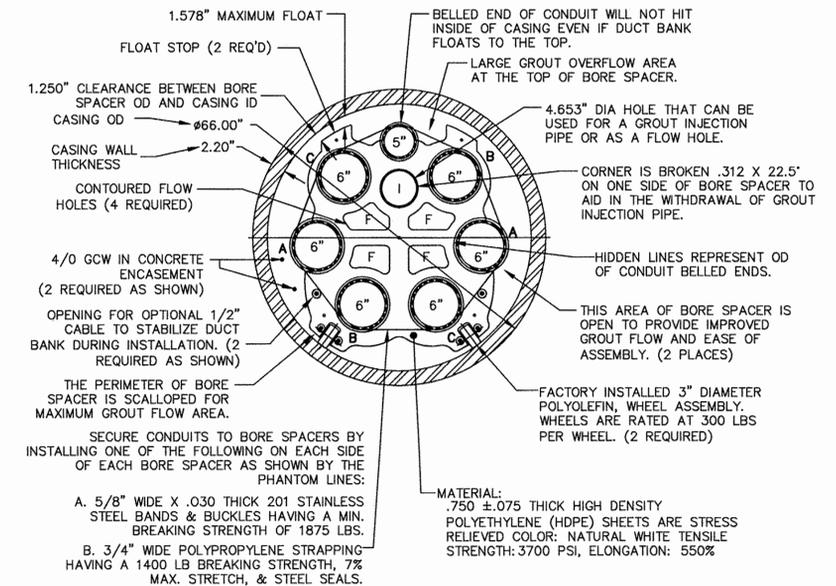
- SUBCONTRACTOR TO RESTORE ALL FACILITIES, IMPROVEMENTS, LANDSCAPING, ETC., TO THE ORIGINAL CONDITION BY THE COMPLETION OF WORK OR AS SHOWN ON PLANS.
- SUBCONTRACTOR SHALL NOT STORE EQUIPMENT, TOOLS, AND MATERIAL WITHIN FIFTEEN FEET FROM THE CENTERLINE OF ANY TRAVEL LANES.
- SUBCONTRACTOR SHALL REMOVE ALL TOOLS, EQUIPMENT, AND MATERIALS FROM PREMISES PROMPTLY UPON COMPLETION OF WORK, RESTORING PREMISES TO THE SAME STATE AND CONDITION AS WHEN SUBCONTRACTOR ENTERED THEREON.
- SUBCONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH APPLICABLE CALIFORNIA PUBLIC UTILITIES COMMISSION AND OSHA REGULATIONS.
- SUBCONTRACTOR SHALL NOT USE OR STORE HAZARDOUS SUBSTANCES, AS DEFINED BY THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT, AS AMENDED ("CERCLA") OR PETROLEUM OR OIL AS DEFINED BY APPLICABLE ENVIRONMENTAL LAWS ON THE RIGHT-OF-WAY.

UNDERGROUND CONVERSION AT BRIDGE STA: 91+79.51 TO 92+54.51



	TRANSMISSION LINE TL13844	
	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	138kV TLS & TELECOMM	7 CONDUITS
OUTSIDE DIAMETER	6-6" & 1-5"	66"
PIPE MATERIALS	PVC	GRP
SPECIFICATION AND GRADE	EPC-80	63" HOBAS
WALL THICKNESS	.375"	2.20"
	.432"	
ACTUAL WORKING PRESSURE	---	---
TYPE OF JOINT	SOLVENT CEMENTED PVC	BELL SPIGOT
COATING	GROUT (8 SACK)	NONE
METHOD OF INSTALLATION	---	JACKING
SEALS: BOTH ENDS: <input checked="" type="checkbox"/>	TYPE: BULKHEADS	
BURY: (MIN.)	5 FT.	0 IN.
TYPE, SIZE AND SPACING OF INSULATORS OR SUPPORTS	0.75" THICK HDPE, 5' SPACING	
CATHODIC PROTECTION	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>

NOTES:
*ALL WORK SHALL CONFORM TO SPECIFICATIONS TE 0107 & DWG. No. 31001



SECTION "A-A" 63" HOBAS PIPE,
6-6" CONDUITS & 1-5" CONDUIT



UNDERGROUND SERVICE ALERT
OF SOUTHERN CALIFORNIA

CALL TOLL FREE
1-800-227-2600

TWO WORKING DAYS BEFORE YOU DIG

DRAWN BY:	JAB	E																		
DATE:	08/31/12	D																		
THO. BROS.	N/A	C	XXXX	XXXX	REVISED TO 63" HOBAS AND REVISED ALIGNMENT	BETA														6/7/13
PROJ. NO.		B	XXXX	XXXX	REVISED PER SDG&E COMMENTS	BETA														4/19/13
CONST. NO.		A	XXXX	XXXX	TRENCH / SUBSTRUCTURES AND CABLE INSTALLATION	BETA														11/14/12
PLAN & PROFILE																				
HORIZONTAL:	N/A																			
VERTICAL:	N/A																			
REV	BUDGET	CONST ORDER			CHANGE	DWN	CHKD	APPV	DATE											

SDG&E SAN DIEGO GAS & ELECTRIC
TRANSMISSION ENGINEERING

TL13844 UNDERGROUND 138 kV
BOULEVARD S/S TO EAST COUNTY S/S

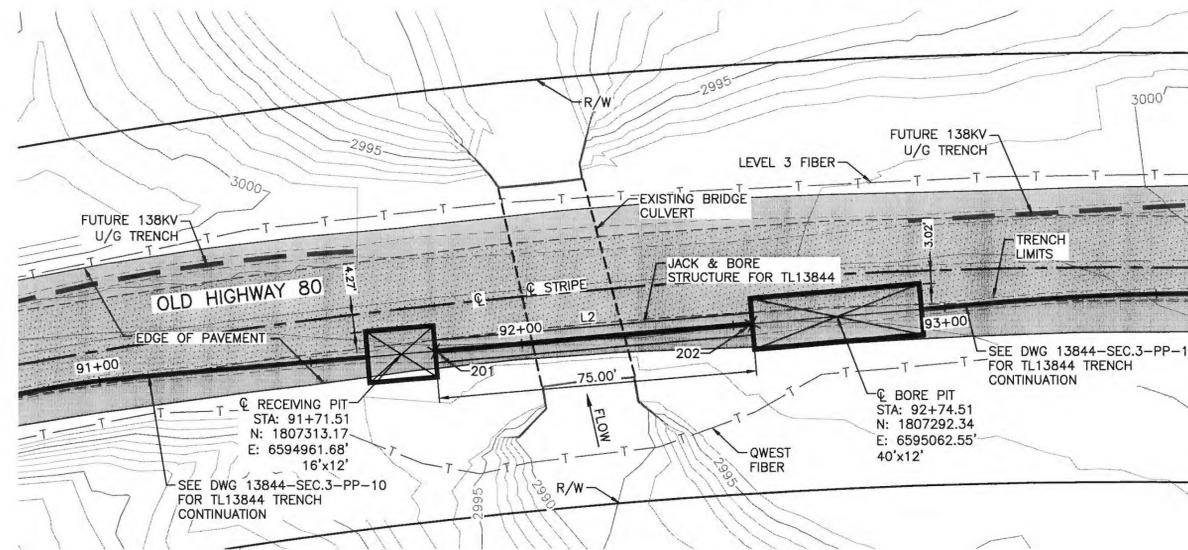
SCALE N/A SHEET 1 OF 2

PLAN AND PROFILE
JACK AND BORE
Z100117 TO Z100118

DRAWING NUMBER
13844-SEC.3-PP-20

TRANSMISSION BORE, TRENCH & CONDUIT

UNDERGROUND CONVERSION AT BRIDGE STA: 91+79.51 TO 92+54.51



GENERAL NOTES

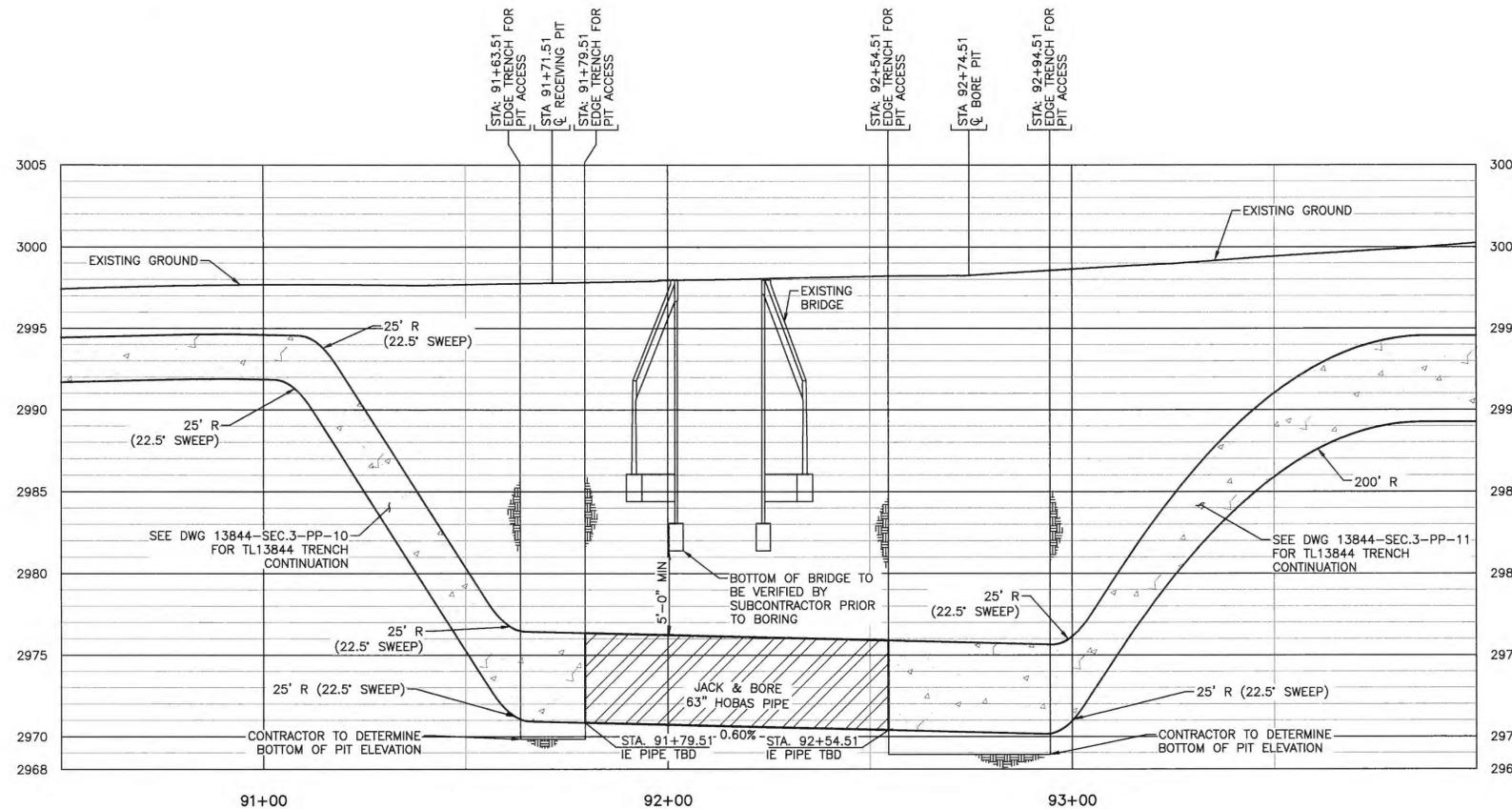
- LOCATIONS OF ALL UNDERGROUND FACILITIES ARE TAKEN FROM AVAILABLE MAPS AND RECORDS. ACTUAL FIELD LOCATIONS OF ALL FOREIGN UTILITIES MUST BE VERIFIED BY CONTRACTOR PRIOR TO TRENCHING. CONTACT USA DIGALERT, 1-800-227-2600, PRIOR TO DIGGING.
- ALL WORK SHALL COMPLY WITH ENGINEERING DRAWINGS, SPECIFICATION NO. TE-0107, CONTRACT DOCUMENT AND ALL APPLICABLE PROVISIONS OF THE SDG&E UNDERGROUND STANDARDS HANDBOOK, LATEST REVISION.
- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF G.O. 128.
- ALL WORK SHALL COMPLY WITH ALL STATE AND LOCAL TRAFFIC CONTROL REGULATIONS.
- ANY DEVIATION FROM ENGINEERING DRAWINGS MUST BE APPROVED BY BETA PRIOR TO CONSTRUCTION. MAINTAIN AND UPDATE THE AS-BUILT RECORDS TO DOCUMENT ALL FIELD CHANGES.
- CLEARANCE BETWEEN EXISTING UTILITIES AND DUCT BANK SHALL BE A MINIMUM OF 1' UNLESS OTHERWISE NOTED.
- CONTRACTOR TO POTHOLE ALL UTILITY CROSSING POSITIONS BEFORE CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE SHORING OF PITS AND SHALL ENSURE COMPLETE PROTECTION OF EXISTING CULVERT BOX.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A PERMIT FOR TEMPORARY CONSTRUCTION DEWATERING. A PERMIT IS REQUIRED FROM THE REGIONAL WATER QUALITY CONTROL BOARD FOR ANY DISCHARGE OF GROUNDWATER TO THE ENVIRONMENT. COUNTY OF SAN DIEGO DEPARTMENT REQUIRES A PERMIT FOR ANY DISCHARGE OF GROUNDWATER TO THE SANITARY SEWER SYSTEM. THE CONTRACTOR SHALL COMPLY WITH REGIONAL WATER QUALITY CONTROL BOARD WASTE DISCHARGE PERMIT REQUIREMENTS, AS APPLICABLE. BEFORE STARTING DEWATERING OPERATIONS, THE CONTRACTOR SHALL OBTAIN AUTHORIZATION, AS REQUIRED, FOR THE DISPOSAL OF GROUNDWATER. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAMPLING, TESTING MONITORING, AND REPORTING REQUIREMENTS.

ABBREVIATIONS

CL	CENTER LINE	RG	ROUGH GRADE
IE	INVERT ELEVATION	R/W	RIGHT-OF-WAY
Obs.	OBSCURE	STA	STATION

LEGEND

— T — T — T —	EXISTING TELCO LINE
— (dashed) —	EXISTING CONTOURS
— (solid) —	RIGHT OF WAY
— (dashed) —	CENTER LINE



RECEIVING PIT ACCESS		
START	END	TOTAL LENGTH
STA. 91+63.51	STA. 91+79.51	16'

63" CASING		
START	END	TOTAL LENGTH
STA. 91+79.51	STA. 92+54.51	75'

BORE PIT ACCESS		
START	END	TOTAL LENGTH
STA. 92+54.51	STA. 92+94.51	40'

POINT DATA TABLE			
POINT #	NORTHING	EASTING	REMARKS
201	1807311.55	6594969.51	BEGIN HOBAS
202	1807296.39	6595042.96	END HOBAS
L2	BEARING COURSE: S 78°19'59" E DISTANCE=75.00'		



DRAWN BY:	JAB	E							
DATE:	08/31/12	D	XXXX	XXXX	REVISED PROFILE	BETA		6/14/13	
THO. BROS.	N/A	C	XXXX	XXXX	REVISED TO 63" HOBAS AND REVISED ALIGNMENT	BETA		6/7/13	
PROJ. NO.		B	XXXX	XXXX	REVISED PER SDG&E COMMENTS	BETA		4/19/13	
CONST. NO.		A	XXXX	XXXX	TRENCH / SUBSTRUCTURES AND CABLE INSTALLATION	BETA		11/14/12	
		REV	BUDGET	CONST ORDER	CHANGE	DWN	CHKD	APPV	DATE

SDG&E SAN DIEGO GAS & ELECTRIC TRANSMISSION ENGINEERING

TL13844 UNDERGROUND 138 kV BOULEVARD S/S TO EAST COUNTY S/S

SCALE AS NOTED SHEET 2 OF 2

PLAN AND PROFILE JACK AND BORE Z100117 TO Z100118

DRAWING NUMBER **13844-SEC.3-PP-21**

ATTACHMENT D: SCOUR ANALYSIS

MEMORANDUM

TO: Brian Donald, PE – Beta Engineering

DATE: June 11, 2013

FROM: Scott Berkebile PE, CFM, QSD/QSP – Nolte Associates, Inc. (NV5)

SUBJECT: TL13844 Underground 138kV – Scour Potential Evaluation

The following is a summary of the qualitative scour evaluation prepared for the proposed underground transmission route along a proposed substation access road near Jacumba, California. The Proposed Conditions Drainage Analyses (hydrologic and hydraulic calculations) for the East County Substation and access road was prepared by Nolte Associates, Inc. (NV5) dated January 15, 2013. This study was used to provide the following scour evaluation for four proposed culvert crossings along the proposed substation access road. Scour equations are empirical in nature with inherent uncertainty and based on best available data to estimate scour depth potential. This evaluation is qualitative, not quantitative using scour equations.

There are four culvert crossings under the proposed substation access road. Each crossing was analyzed for flow volume, hydraulic capacity, and erosion mitigation measures. To mitigate for the outlet velocities, each culvert crossing will have rip rap installed as an energy dissipater to slow the flow prior to exiting the rip rap limits. This rip rap energy dissipation is designed to provide the necessary scour mitigation measures for the culvert outlet and significantly reduce the scour potential outside of the overall project limits. The rip rap sizing was performed using San Diego Regional Standard Drawing Number D-40 and Standard Specification for Public Works Construction, the "Greenbook".

Each of the four culverts will have a hardened bottom via a Reinforced Concrete Pipe (RCP). The underground duct package will be installed at least two feet below the bottom of the RCPs and have the same horizontal alignment as the proposed access road. Installing a cut-off wall or riprap at the upstream culvert entrance would further protect against undermining of the native soil. Undermining of native soil from the culvert entrance to the duct package is not a highly probably scenario due to the distance of the culvert entrance to the duct package, approximately 20 feet. Given the location of the duct package in relation to the RCP placement and rip rap outlets, the scour potential directly underneath each culvert crossing is none. Field checks of these crossings after significant storm events are recommended. The access road embankment will limit scour potential for the remaining underground duct package as the access road is elevated above the surrounding terrain which helps to slow stormwater runoff to non-erodible velocities.

Approximate Station (location)	Q ₁₀₀ (cfs)	V ₁₀₀ (ft/s)	Hard Bottom?	Rip Rap Outlet?
131+42.53	98.37	9.86	Yes - RCP	Yes = D-40
136+77.63	5.89	8.84	Yes - RCP	Yes = D-40
140+97.73	1.77	4.49	Yes - RCP	Yes = D-40
144+43.72	157.19	5.48	Yes - RCP	Yes = D-40



SCOTT BERKEBILE

RCE 66153

ATTACHMENT E: CURB/GRADE PERMIT



COUNTY OF SAN DIEGO
 DEPARTMENT OF PUBLIC WORKS
 PRIVATE DEVELOPMENT CONST.
 INSPECTION
 5510 OVERLAND AVE, SUITE 210
 SAN DIEGO, CALIFORNIA 92123-1239
 (858) 694-3165 FAX: (858) 694-2354



CONSTRUCTION PERMIT

DATE ISSUED: 05/16/2013
 EXPIRATION DATE: 05/16/2016

TRUST ACCOUNT NO.:

PERMIT NO.: DPW2013-RWCONP-00025

APPLICANT:
 SDG&E ECO SUBSTATION
 MATT HUBER
 1010 TAVERN RD
 ALPINE, CA 91901

CONTRACTOR:
 BETA ENGINEERING CALIFORNIA LP
 4727 HWY 28 E
 PINEVILLE, LA 713660
 318-487-9599

PERMIT OWNER:
 SDG&E ECO SUBSTATION
 JOSE LOPEZ

JOB LOCATION:

OLD HWY 80/JACUMBA TB 430 F9

APN:

Agency Job No.:

GPS COORD.:

DETAILED DESCRIPTION:

RGP53 Site within 500 Feet
 Related Permits: DPW2012-4920-33815, PDS2012-2510-4794 &
 DPW2013-RWTCP-00520.
 CHARGE NUMBER: 1017557 PWR SDGE ECO SUBSTATION

NOTES:

- A) Stormwater Best Management Practices (BMPs) are required at all times and shall be in accordance with the County's Watershed Protection Ordinance and County Director's Letter of Instruction DLI-LD-I.
 - B) Obtain an approved Traffic Control Permit prior to start of any work in the County's Right of Way.
 - C) Compaction shall be achieved by "Mechanical Compaction" methods and geotechnical compaction reports are required for all compacted sections of the trench, exceptions to compaction testing requirements at the discretion of the Director of Public Works.
 - D) Protect in place the existing culverts.
 - E) Culvert damaged during construction should be reported to DPW immediately.
 - F) All paved and unpaved areas damaged, disturbed, or removed by the work permitted shall be repaired to the satisfaction of DPW's Private Development Construction Inspection and Road Maintenance Sections.
- Permittee agrees to indemnify, hold harmless and defend the County and each of its officers and employees from any liability or responsibility for accident, loss or damage to persons or property arising by reason of the work done by permittee, or permittee's agents, employees or representatives.

IMPROVEMENTS TO BE INSTALLED:

TYPE:	LENGTH:	WIDTH:	DESCRIPTION:
Commercial / Residential Driveway	30	30	TEMPORARY GRAVEL ACCESS TC-1 & IMPROVEMENTS APPROVED UNDER SIGNED CG 4794.
Gutter	150	1	

Permittee agrees to indemnify, hold harmless and defend the County and each of its officers and employees from any liability or responsibility for accident, loss or damage to persons or property arising by reason of the work done by permittee, or permittees' agents, employees or representatives.

Before you dig, call UNDERGROUND SERVICE ALERT at 1-800-422-4133. Enter UNDERGROUND SERVICE ALERT Inquiry Identification No. here _____. This permit is not valid until an inquiry number is obtained.

Notify construction inspection at (858) 694-3165, 24 hours in advance of beginning any portion of the work, completion of work, backfill or concrete pour, and otherwise as required by the Director of Public Works.

Insuance of this permit does not authorize any work to be performed until the permission of the property has been obtained.

This permit is granted under provision of Title 7 of the San Diego County Code of Regulatory Ordinances. It is understood and agreed upon that if this location is under construction, the consent of the contractor must be obtained. This installation is granted with the strict understanding that same is subject to relocation, change of grade, or removal at the request of the Director, Department of Public Works. Permittee shall be entirely responsible for any liability due to any accident, loss or damage resulting from the design or performance of work involved.

County of San Diego, Director of Public Works by: Kenneth J. Bragell Date: 5-17-13

This permit and all attachments must be kept on the work site, to be shown to any authorized agent of the County upon request.



County of San Diego

DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING SECTION

APPLICATION FOR TRAFFIC CONTROL PERMIT -- TCP-4 AND TCP7A
(type of traffic control: flag, shift, etc.)

DPW2013-RWTCP-00520

County of San Diego
DPW/Traffic Engineering Section
Traffic Control Permits, Mailstop O338
5469 Kearny Villa Road, Suite #201
San Diego, CA 92123-1159

ENCROACHMENT/EXCAVATION/CONSTRUCTION PERMIT # DPW2013-RWTCP-00520

Applicant Information

Company: Beta Engineering California LP
Agent/Applicant: Trinity Deville
Agent Phone Number: _____ Agent Fax Number: _____
Agent Mailing Address: 4725 Hwy 28 East
City: Pineville State: LA Zip Code: 71360

Reason for Traffic Control: ACCESS TO ECO SUBSTATION

Start Date: 05/20/2013 Start Time: 07:00 AM

Finish Date: 09/20/2013 End Time: 05:00 PM

It is requested that a permit be granted for traffic control on the following street/streets:

STREET 1 Old Hwy 80 From Carrizo Creek Rd To SW/Old Hwy 80

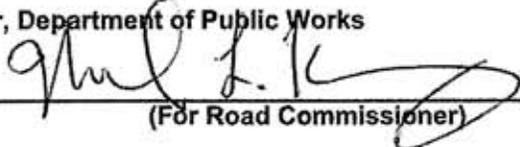
COMMUNITY JUCAMBA TB430-F9 Thomas Bros. Map Page and Grid # _____

(Agent's or Applicant's Signature) 05/16/2013
(Date)

See Attached Plan (s) and Traffic Control Notes

This request is / is not approved.

Director, Department of Public Works

By  5/17/13
(For Road Commissioner)

CC: Construction Inspection
Ref: Sec 72.75. County Code of Regulatory Ordinances

TRAFFIC CONTROL NOTES
FOR ECO STATION IN JACUMBA
SIDE OF ROAD WORK

Contractor shall make application to the Traffic Engineering Section of the Department of Public Works (Roads Division, 5510 Overland Ave, Suite 410, Rm 470, San Diego, CA, 92123-1239, Mail Station O334) for a traffic control permit, a minimum of three (3) weeks prior to commencement of work. There is no fee for this permit.

The closure of Old Hwy 80 will not be permitted at any time.

Work hours shall be from 07:00 AM to 05:00 PM, Monday thru Friday.

Traffic control shall be in accordance with San Diego Regional Standard Drawings TCP-4 and TCP7a.

No road closures, detours or striping changes will be allowed to start on a Friday, unless otherwise noted.

During non-working hours, the contractor shall provide a paved traveled way width of 26 feet minimum (two 12' lanes with 1' shoulders.)

During non-working hours, the Contractor shall provide the full road width, which existed prior to the start of construction.

The Contractor will not be allowed to work during peak hours on roads that carry commuter traffic.

During working hours, the Contractor shall provide either:

- 1) Two 12-foot wide (minimum) paved travel lanes to allow for two-way traffic with signing in accordance with San Diego Regional Standard Drawings TCP-4 and TCP-7A, or
- 2) Lane closure in accordance with San Diego Regional Standard Drawings TCP-4 and TCP-10A, or
- 3) Use one lane with alternate one-way flagging operation per San Diego Regional Standard Drawings TCP-4 and TCP-9. (See Flagging notes)

When the work zone is confined to the road shoulder with minimal or no road encroachment, refer to Chapter 6H "Typical Applications" of the "California Manual on Uniform Traffic Control Devices" (CA MUTCD), latest edition.

SIGNING

All signs shall conform to the specification set forth in the latest edition of Part 6, "Temporary Traffic Control" of the "California Manual on Uniform Traffic Control Devices for Streets and Highways" (CA MUTCD), latest edition.

All signs shall be in place prior to start of construction.

All advance warning signs shall be 48" x 48".

All other signs shall be standard size unless otherwise noted.

For continuous work lasting more than two weeks, all W20-1 or C23, and curve warning signs shall be mounted on 4"x 4" wooden posts at standard height and equipped with type "B" high-intensity flashers, unless otherwise noted.

For work of less than two weeks, all W20-1 signs can be either post-mounted on 4" x 4" wooden posts at standard height or on a portable type installation.

Post-mounted signs shall remain in place at all times until construction is completed. Other signs required for traffic control shall be laid down or covered during non-working hours.

All other signs may be mounted on a portable type installation as per Section 12-3.06B of Caltrans Standard Specifications unless otherwise noted.

Placement of all signs shall not interfere with sight distance at driveways and intersections.

Position of post-mounted signs may be adjusted as necessary to optimize visibility or sign and/or obtain suitable placement area.

W20-1 signs and all other yellow or orange signs shall have a reflective background constructed of at least high-intensity (Type III) retroreflective sheeting.

ACCESS

The closure of Old Hwy 80 will not be permitted at any time.

Emergency vehicle access shall be maintained at all times.

Adequate sight distance shall be maintained at all intersections in the vicinity of the work zone. If sight distance is affected by the traffic control, the contractor shall provide adequate distance per the County of San Diego Public Road Standards. The use of mirrors, or such devices, is not acceptable as an alternative to providing adequate sight distance.

GENERAL

Contractor shall be responsible for supplying and maintaining all traffic control devices for both the construction area and the detour.

The Contractor shall be responsible for supplying, installing and maintaining all traffic control devices as shown on the plan along with additional traffic control devices that may be required to ensure safe movement of traffic and pedestrians through work area.

The provisions of this section may be modified or altered if, in the opinion of the engineer, public traffic will be better served and the work expedited. Said modifications or alterations shall not be adopted until approved in writing by the engineer.

All dirt and debris shall be removed from the roadway each day before completion of work. Street must be maintained in drivable condition at all times.

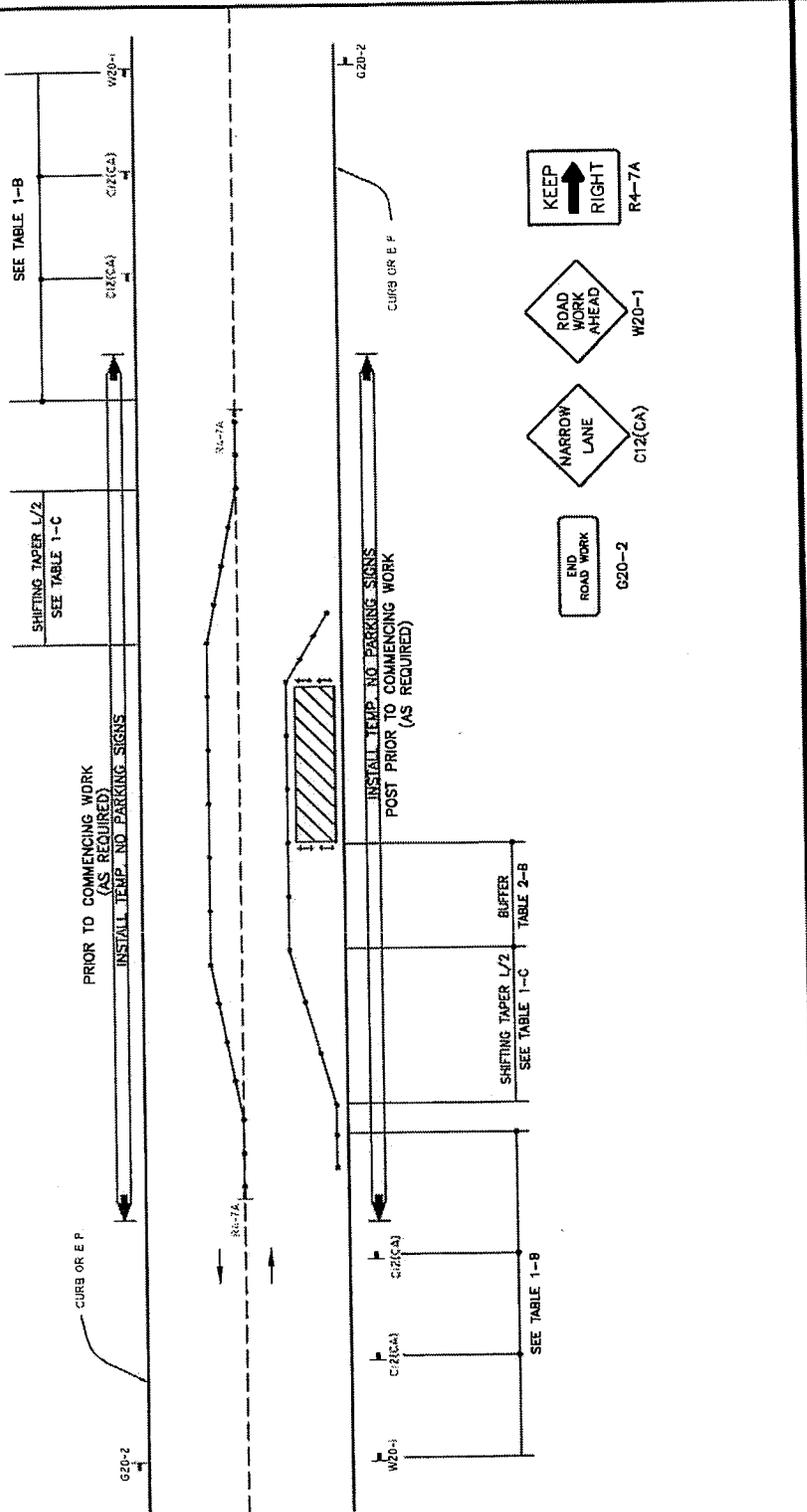
All advance warning signs, delineators, and barricades shall be removed from the roadway at the end of work each day (except W20-1 signs, if plate-bridging overnight.)

The Contractor is to replace roadway and all signing to normal conditions at the completion of work.

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
[Signature] 7/26/2012
 Chairperson R.C.E. 19246
 DRAWING NUMBER TCP-7A

SAN DIEGO REGIONAL STANDARD DRAWING
SIDE OF ROAD WORK AREA
 TWO LANE TRAFFIC CONTROL WITH CENTERLINE

Revision	By	Approved	Date
Revised	Buss		2/11



LEGEND

- CONE
- + + BARRICADE
- FLAGGER
- ▬ SIGN
- ▨ FLASHING ARROW SIGN
- ▨ WORK AREA
- ↔ TRAFFIC DIRECTION

GENERAL NOTES

For hours of darkness, change cones to vertical barricades with steady burn lights. This plan MAY NOT apply to signalized or multi-way stop intersections. Consult the local jurisdiction when preparing Traffic Control Plans near these intersections. This plan MAY NOT apply when the work area affects bike lanes, sidewalks, pedestrian access and/or curved or narrow roadway. Consult the approving agency when preparing the Traffic Control Plans of these areas.

Nothing contained on this drawing shall prevent local jurisdictions from modifying, changing or adopting new Traffic Control Plans. Criteria for position, location and use of Traffic Control Devices is solely for the purpose of guidance to exist in the set up of the Traffic Control Plans.

TCP is required for all Traffic Control Plans.

AGENCY USE

APPLICANT USE

AGENCY ENGINEER'S COMMENTS

SUBMITTED BY:
 NAME
 COMPANY
 ADDRESS
 PHONE

TABLE 1

RECOMMENDED SIGN SPACING FOR ADVANCE WARNING SIGN SERIES AND
MINIMUM TAPER LENGTH

A APPROACH SPEED (S) (MPH)	B MINIMUM DISTANCE (FEET) BETWEEN SIGNS AND FROM LAST SIGN TO TAPER	C MINIMUM TAPER LENGTHS (L) (FEET) FOR 12-FOOT LANE		
		L	1/2L	1/3L
25	100	125	63	42
30	100	180	90	60
35	350	245	123	82
40	350	320	160	107
45	500	540	270	180
50	500	600	300	200
55+	1000	660	330	220

L for Merge Taper
1/2L for Shift Taper
1/3L for Shoulder Taper

TABLE 2

RECOMMENDED TAPER LENGTH AND MAXIMUM CHANNELIZER/CONE SPACING

A APPROACH SPEED (S) (MPH)	B BUFFER LENGTH (FEET)	C MAX CONE SPACING		
		TAPER	TANGENT	CONFLICT(*)
25	155	25	50	12
30	200	30	60	15
35	250	35	70	17
40	305	40	80	20
45	360	45	90	22
50	425	50	100	25
55+	495	55	100	27

(*) Facing Opposing Traffic, Adjacent to Work Area
or Conflicting with Existing Striping

NOTES:

Taper Formula

$L = S \times W$ for speeds greater than 40 mph

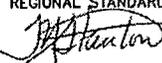
$L = \frac{W \times S^2}{60}$ for speeds of 40 mph or less

Where:

L = Minimum length of taper (feet)

S = Approach Speed (mph) =
Posted Speed Limit or
off-peak 85th % speed
prior to work starting
or anticipated operating
speed

W = Width of offset (feet)

Revision	By	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE	
Revised	BUSS		2/11			
				DEVICE SPACING TABLES SIGN SPACING TABLE TAPER LENGTH AND CONE SPACING TABLE	 7/26/2012 Chairperson R.C.E. 19246	
					DRAWING NUMBER	TCP-4

ATTACHMENT F: UTILITY PROVIDER COORDINATION



Mitigation Measure PSU-1b & PSU-1c for the East County Substation Project

MEMORANDUM

To: Amy Baker, California Public Utilities Commission, and Dave Hochart (Dudek)
From: Don Houston, San Diego Gas & Electric Company (SDG&E)
Date: June 25, 2013
Re: Mitigation Measures (MM) PSU-1b and PSU-1c for the East County Substation Project (Project)

This memorandum was prepared to demonstrate that SDG&E has satisfied the pre-construction requirements for MMs PSU-1b and PSU-1c of the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) of the Final Environmental Impact Report/Environmental Impact Statement. The full texts of the measures are inserted below for your reference.

MM PSU-1b. Protect underground utilities.

Prior to construction of the transmission/gen-tie line, SDG&E shall submit to the CPUC and BLM written documentation, including evidence of review by the appropriate jurisdictions, including the following:

- Construction plans designed to protect existing utilities and that show the dimensions and location of the finalized alignment
- Records that the applicant provided the plans to affected jurisdiction for review, revision, and final approval
- Evidence that the project meets all necessary local requirements
- Evidence of compliance with design standards
- Copies of necessary permits, agreements, or conditions of approval
- Records of discretionary decisions made by the appropriate agencies.

MM PSU-1c. Coordinate with utility providers.

SDG&E shall coordinate with all applicable utility providers with facilities located within or adjacent to the project to ensure that design does not conflict with other facilities prior to construction. In the event of a conflict, the project will be aligned vertically and/or horizontally as appropriate to avoid other utilities and provide adequate operational and safety buffering. Alternately, the other existing facilities may be relocated. Long-term operations and maintenance of the project will be negotiated through easement, purchased ROW, franchise agreement, or joint use agreement.

In accordance with the above measures, the utilities with facilities that may be impacted by the Project have been contacted to review the proposed Project and determine whether any conflicts exist. The utilities that may be affected during construction include:

- County of San Diego (the County)
- Metropolitan Transit System (MTS)
- AT&T Distribution
- Level 3 Communications and AT&T Fiber
- Qwest/CenturyLink National Network Services

There are no existing wet utilities (water, sewer) near the proposed transmission line that would require coordination with other agencies than those listed above.

The following is a summary of communications with these entities to date. The summary and associated attachments demonstrate that the requirements of the measures to coordinate with utility providers prior to construction, review construction plans, resolve potential conflicts, demonstrate compliance with local requirements and design standards, and obtain necessary permits and agreements have been met.

County of San Diego

Several meetings with the County have been held to review transmission line construction plans and obtain necessary permits and approvals. The communications between SDG&E, the construction contractor (Beta Engineering), and County officials are summarized in Attachment A: County of San Diego. The Project will be constructed in accordance with the Franchise Agreement between SDG&E and the County included as Attachment B: Franchise Agreement. In addition, as described in the Transmission Line Traffic Control Plan, associated with MM TRA-1, County approval of traffic control plans and issuance of curb-grade permits remains pending and will be submitted to the CPUC once obtained and prior to the start of construction activities on the affected Project component.

Metropolitan Transit System

Several meetings with MTS have been held to review transmission line construction plans. These communications between SDG&E, the construction contractor (Beta Engineering), and MTS are summarized in Attachment C: Metropolitan Transit System. The issuance of a Right-of-Entry Permit by MTS remains pending and will be submitted to the CPUC once obtained and prior to the start of construction activities associated with the railroad.

AT&T Distribution

Evidence of coordination with AT&T is included as Attachment D: AT&T Distribution. No additional agreements or easements are necessary between SDG&E and AT&T Distribution.

Level 3 Communications and AT&T Fiber

Evidence of coordination with Level 3 and AT&T Fiber is included as Attachment E: Level 3 and AT&T. No additional agreements or easements are necessary between SDG&E and Level 3 and AT&T Fiber.

Qwest/CenturyLink National Network Services

Evidence of coordination with Qwest/CenturyLink National Network Services is included as Attachment F: Qwest/CenturyLink. No additional agreements or easements are necessary between SDG&E and Qwest/CenturyLink.

In addition to coordinating with all of the utilities mentioned above, the plan and profile for Section 3 and the grading plans for Sections 1 and 2 include notes to contact Dig Alert before any subsurface work commences and instructions to protect identified utilities during construction.

Attachments A through F of Attachment F: Utility Provider Coordination have been redacted due to their confidential nature.