

INFORMATION HANDOUT

PERMIT

FISH AND WILDLIFE SERVICE PERMIT

SAN JOAQUIN COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
PERMIT

ENCROACH PERMIT FOR AUTHORIZATION FOR ROADWAY WORK BY CENTRAL
VALLEY FLOOD PROTECTION BOARD

MATERIALS INFORMATION

GEOTECHNICAL REPORT FOR CMS

ALTERNATIVE IN-LINE TERMINAL SYSTEM

ALTERNATIVE FLARED TERMINAL SYSTEM

Water Source

ROUTE: 10-SJ-132, 5801-0.2, L0/15.3



United States Department of the Interior



In Reply Refer to:
08ESMF00-
2015-I-0183

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

APR 14 2015

Ms. Dena Gonzalez
Chief, Central Valley Biology Branch North
State of California
Department of Transportation
855 M Street, Suite 200
Fresno, California 93721

Subject: Informal Consultation on the SR580 CAPM Roadway Rehab and ITS Elements (EAs:
10-0G810, 10-0Q170, 10-0W750)

Dear Ms. Gonzalez:

This letter is in response to Caltrans' March 2, 2015, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed SR580 CAPM Roadway Rehab and ITS Elements Project (proposed project) in San Joaquin County, California. Your request was received by the Service on March 10, 2015. At issue are the proposed project's effects on the federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*) and the federally threatened central California distinct population segment of the California tiger salamander (*Ambystoma californiense*)(central California tiger salamander) and California red-legged frog (*Rana draytonii*).

Under the provisions of the Moving Ahead for Progress in the 21st Century Act that was signed into law on July 16, 2012, Caltrans was approved to assume responsibilities under the National Environmental Policy Act, as well as Federal Highway Administration's consultation and coordination responsibilities under Federal environmental laws for the majority of transportation projects in California. The federal action we are consulting on is the installation of Intelligent Transportation System Elements (ITS) and safety improvements to SR580 and the Chrisman Road interchange in San Joaquin County. Pursuant to 50 CFR 402.12(j), you submitted a biological assessment for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect and is not likely to adversely affect the San Joaquin kit fox, central California tiger salamander, and California red-legged frog. Critical Habitat for these three species does not overlap the action area.

This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)(Act) and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402). The findings and recommendations of this document are based on: (1) Caltrans' March 3, 2015, request for consultation; (2) the February 2015 biological assessment; (3) site visits; (4) email correspondence and telephone discussions; and (5) other

information available to the Service. The Service received complete information for this project on March 10, 2015.

Description of the Action

Caltrans proposes to combine three projects within the action area including: (1) the installation of ITS elements with associated fiber optics cable; (2) surface improvements including widening shoulders, repairing surface irregularities, and resurfacing the roadway; and (3) widening interchange ramps at Chrisman Road. The proposed action will temporarily impact 12.5 acres of grasslands (primarily within the existing median) and permanently impact 1.5 acres of grassland on the outside of the roadway. Staging will occur within the median and on shoulders. Temporary K-rail may be used at some locations throughout the project footprint.

Construction is planned to start December 2015 and will last approximately 291 working days. Night work will include the cutting, removing, and replacing concrete slabs, and will take approximately 58 working days. The majority of work, including trenching for fiber optic cable and ITS installation will be done during the daytime. The roadway is defined as the outer edge of shoulder backing on the west side to the outer edge of shoulder backing on the east side of SR580.

ITS Elements

Caltrans proposes to install four types of ITS elements within and adjacent to the roadway along SR580 in San Joaquin County between the Stanislaus County line and the Alameda County line. Caltrans proposes to install 4 Changeable Message Signs (CMS), 7 Closed Circuit Television (CCTV) locations, 14 Traffic Monitoring Stations (TMS) and 2 Regional Weather Information Systems (RWIS). A fiber optic cable and associated electronics will be installed in the median for the entire length of the proposed project. Fiber optic feeder cables will be installed connecting the main cable to the ITS elements. Fiber optic cables and their associated electronics boxes will be buried in trenches that have a minimum depth of 32 inches. All cable will pass under travel lanes in tunnels that will be directionally drilled. Conduit for fiber optic and electrical power cables will have an inside diameter of 2 inches. All cable placed along the outside of the roadway will be trenched within the existing shoulder or shoulder backing. Power cables will be placed within 3 feet of the edge of pavement along arterial roads and within disturbed areas around existing roadside power poles.

The installation of each CMS includes constructing a 20-foot by 50-foot Maintenance Vehicle Pullout (MVP) and installing a guardrail to protect each structure at PMs 2.3 and 4.8 on the east side of the roadway and at PMs 9.1 and 14.1 along the west side of the highway. Within the fill placed for the pullout and during a single day, a 5-foot diameter hole will be augured to a depth of 22 feet. Formed rebar will be placed in the hole and the hole will be filled with cement. Bolts will extend upward from the pad to allow the supporting pole to be connected to the footer. When the cement has cured, the pole and sign will be installed. A controller box will be placed on a small pad adjacent to the pole and behind the guardrail. Electric cable will be trenched within the shoulder/shoulder backing to the nearest utility pole. Each CMS will have a CCTV installed as part of the overhead unit.

The installation of TMS includes the placement of in-lane plates that are connected to the controller box that will be placed on a small pad (10 feet by 10 feet) adjacent to the shoulder edge. TMS

elements will be installed at eastbound and westbound PMs 2.5, 3.2, 5.7, 6.4, 9.8, and 13.3, and at eastbound PM 14.1. Individual CCTV cameras will be installed on poles adjacent to a controller cabinet on a small cement pad at PMs 4.1 (westbound), 8.1 (westbound), and 12.1 (median). RWIS will be installed along the eastside of the roadway at PM 5.7 and within the median at PM 12.1. A 10-foot by 10-foot pad will be installed for placement of the RWIS controller box.

Surface Improvements

The inside shoulders of both travel lanes will be widened to 5 feet to correct the existing cross slope to 2 percent. The outside paved shoulder will be overlain with 0.25 feet of Asphalt Concrete and the shoulder backing will be extended on the outside shoulders 2 feet past the edge of shoulder. Rumble strips will be installed along the edge of the inside and outside shoulders. Existing asphalt concrete dike and concrete curbs will be replaced and all guardrails and bridge approach rails will be upgraded to current standards.

On SR580 between PM L0.1 and PM 5.0, the proposed project will crack, seal, and overlay with Rubberized Hot Mix Asphalt-Type G (RHMA-G) the existing Portland Cement Concrete pavement. On SR580 between PM 5.0 and 15.4, the proposed project will dig out and repair areas of localized failure and place RHMA-G over the existing Portland Cement Concrete for the length of this component.

Interchange Ramps

On State Route 132 at Chrisman Road, the proposed project will widen and replace the shoulders on the eastbound on-ramp and eastbound off-ramp to full travel-way structural section and to accommodate trucks turning onto and from Chrisman Road. The guardrails and bridge approach rails at ramps will be upgraded to current standards.

Conservation Measures

The following conservation measures are proposed by the action agency and will be implemented as part of the proposed action.

1. A Service-approved biologist will conduct San Joaquin kit fox surveys within the action area to determine the presence of natal, potential, or atypical San Joaquin kit fox dens as defined in *Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (Service 2011) no more than 30 days prior to operations and maintenance activities that involve ground disturbance or excessive noise generation within or adjacent to San Joaquin kit fox habitat. Any natal, potential, or atypical den would be monitored for evidence of San Joaquin kit fox use by placing a wildlife monitoring camera or tracking media at the entrance for at least three consecutive nights to survey suspected dens for use. Active dens will be marked with a 100-foot no disturbance buffer. All work within 200 feet of a natal or pupping den will be delayed until the den is vacated.
2. Construction personnel will participate in a Service-approved worker environmental awareness program prior to the onset of construction activities. A qualified biologist will inform all construction personnel about the life history of the central California tiger salamander, California red-legged frog, and San Joaquin kit fox, how to identify these species

and their habitats, what to do if these species are encountered during construction activities, and explain the State and Federal laws pertaining to them.

3. Temporary exclusion fencing (or similar materials which lack openings that might cause the central California tiger salamander or California red-legged frog to become stranded or otherwise become entangled) will be installed around all areas outside of the roadway where construction activities will occur along the west side of the action area including areas for directional drilling, MVPs, and trenching away from the roadway. Prior to construction, a Service-approved biologist will ensure that enclosure fencing has been installed properly around the project footprint.
4. When K-rails are used, gaps will be placed between individual rails every 1,000 feet to allow animals trapped between travel lanes and the cement railing to escape into non-traffic areas.
5. No plastic, monofilament, jute, or similar erosion control matting that could entangle central California tiger salamanders or California red-legged frogs will be employed. Possible substitutions include coconut coir matting, tackified hydro seeding compounds, or other material approved by the Service.
6. A Service-approved biologist will conduct clearance surveys for central California tiger salamander and California red-legged frog in all staging areas, temporary and permanent impact areas for ITS elements, MVP, and directional drilling locations on the west side of SR580 within 3 days of work in each specific area and after the installation of temporary exclusion fencing.
7. Project related vehicles will observe a 20 mile per hour speed limit in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night work will be limited as defined above. Off-road traffic outside of the designated project footprint will be prohibited.
8. To prevent inadvertent entrapment of kit foxes, salamanders, or frogs during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2 feet deep will be covered at the close of each working day with plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. All covered holes will be inspected by a Service-approved biologist every day to ensure that no kit fox, salamanders, or frogs are entrapped in the covered hole.
9. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped or injured San Joaquin kit fox, central California tiger salamander, or California red-legged frog is discovered, work will stop in the area until the animal leaves the construction site on its own and Caltrans will contact the Service for further guidance.
10. Kit foxes are attracted to den-like structures such as pipes and may enter a stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods will be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a

pipe, that section of pipe will not be moved or impacted in any way until the Service has been contacted for guidance.

11. All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed daily from the construction site.
12. No firearms will be allowed on the project site.
13. To prevent harassment, mortality of kit foxes, or destruction of dens by dogs or cats, no pets will be permitted on project sites.
14. No rodenticides or herbicides will be used as part of this project.
15. A representative will be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped individual. The representative will be identified during the employee education program. The representative's name and telephone number will be provided to the Service.
16. Upon completion of the proposed project, all areas subject to temporary ground disturbances, including storage and staging areas will be recontoured to preconstruction conditions and revegetated.
17. Any contractor, employee, or agency personnel who inadvertently kills or injures a San Joaquin kit fox, central California tiger salamander, or California red-legged frog will immediately report the incident to the project biologist. This project biologist will contact the Service immediately to report the finding.
18. All refueling, maintenance, and staging of equipment and vehicles will occur at least 100 feet from riparian habitat or water bodies and not in a location where a spill would drain directly toward aquatic habitat.
19. Construction will be suspended during any rain event, defined as precipitation of more than one half inch in 24 hours and for a subsequent 24 hour drying-out period, including night work.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the proposed project, the action area encompasses the entire 15.4 mile project length including all permanent and temporary impact areas and the area out to 200 feet on either side of the project footprint to include all potential San Joaquin kit fox denning sites.

Effects Analysis

The majority of work will be completed within the existing roadway including trenching within the median, outside shoulders/shoulder backing, along the edge of pavement of local arterial roads, and short distances across disturbed areas to existing power poles and controller cabinets. Work outside

of the existing roadway will occur at CMS locations PMs 4.8, 9.1, and 14.1. CMS location PM 2.3 is at an existing graveled pullout on flat ground level with adjacent agricultural fields. The 5-foot diameter holes drilled 22 feet deep will be filled with rebar forms and concrete on the same day as the hole is drilled. If some form of delay occurred between the time the hole is drilled and the concrete poured that resulted in the hole being open overnight, then the covering of the hole with plywood or some other sheeting material will prevent the San Joaquin kit fox from entering the open hole. All trenching will be backfilled at the end of each day and the inside diameter of pipe used for conduit is 2 inches. All areas where work will be implemented outside of the roadway have been surveyed and no areas within the proposed project footprint contain signs of burrowing mammals other than voles which do not create suitable habitat for the listed species that occur in the area. Temporary K-rail will be placed with gaps every 1,000 feet to prevent kit foxes from becoming entrapped in a travel lane where it could be struck by a motor vehicle. In areas where K-rail will be installed, speed limits will be reduced for construction and lane closures will reduce speeds to a level where motor vehicles can avoid animals moving along the K-rail to opening for escape.

According to the California Natural Diversity Database (CNDDDB: CDFW 2015), there are numerous recorded observations (between the early 1970's and late 1990's) of San Joaquin kit fox along both sides of the roadway. In addition, a habitat suitability model (Cypher et al. 2013) suggests that habitat to the west of the roadway is a mixture of high and moderate quality San Joaquin kit fox habitat extending from the roadway to the sloping foothills to the west. The model also shows a narrow strip of moderate and high quality habitat to the east of the roadway that is fragmented by the two aqueducts that parallel the roadway. No recent sightings have been recorded on the private lands to the west of the roadway. Caltrans Right of Way staff have not noted a San Joaquin kit fox as road kill on SR580 along this stretch of highway in the last ten years.

According to the CNDDDB (CDFW 2015), there are numerous sightings of California red-legged frog along the northern end of the project between PMs 7.5 and 14.5. A review of aerial photos of the habitat west of the action area shows numerous stock ponds and streams and extensive flatlands that likely supports vernal pools. A field review of the project footprint adjacent to the existing roadway for CMS, directional drilling, and trenching showed dry uplands with no upland refugia for California red-legged frog.

According to CNDDDB (CDFW 2015), there is a recorded observation of central California tiger salamander within 0.61 miles west of the Corral Hollow Interchange located at PM 8.1. A review of aerial photos suggests the potential for vernal pools in the area around the sighting and towards SR580. A field review of the proposed project footprint within 1.3 miles of the observation showed no sign of small mammal burrowing within the limits of the proposed action.

Although the habitat surrounding the action area has extensive ground squirrel and pocket gopher colonies, none of these burrows overlap the proposed project footprint. Based on these factors, the Service has determined that the proposed action is reasonably likely to cause no harm to San Joaquin kit fox, central California tiger salamander, and California red-legged frog.

Determination

Caltrans has concluded that the project may affect, but is not likely to adversely affect the San Joaquin kit fox, central California tiger salamander, and California red-legged frog. This

determination is based on the lack of suitable habitat present within the proposed project footprint and the conservation measures proposed to minimize potential effects to the species.

After reviewing Caltrans' written correspondence, reviewing the site in the field, and discussions via teleconference, the Service concurs that it is reasonably likely that effects to individual San Joaquin kit fox, central California tiger salamander, and California red-legged frog will be discountable, and that effects to habitat for the species will be insignificant; the proposed action, therefore, is not likely to adversely affect the San Joaquin kit fox, central California tiger salamander, and California red-legged frog.

Closing Statement

This concludes the Service's review of Caltrans action to construct the SR580 CAPM Roadway Rehab and ITS Elements Project and the Service's consideration of the proposed project's effects on the San Joaquin kit fox, central California tiger salamander, and California red-legged frog. No further coordination with the Service under the Act is necessary at this time. Note that take of listed species is not exempted from the prohibitions described under section 9 of the Act. If conditions change so that the project may adversely affect listed species, initiation of formal consultation, as provided in 50 CFR §402.14, is required

If you have any questions regarding this SR580 CAPM Roadway Rehab and ITS Elements Project, please contact John DiGregoria, Transportation Liaison (John_DiGregoria@fws.gov), or me (Thomas_Leeman@fws.gov), at the letterhead address, or at (916) 414-6600.

Sincerely,



Thomas Leeman
Chief, San Joaquin Valley Division

cc:

Craig Bailey, California Department of Fish and Wildlife, Fresno, CA

Literature Cited

California Department of Fish and Wildlife. 2015. California Natural Diversity Database.

Cypher, B.L., S.E. Phillips, and P.A. Kelly. 2013. Quantity and distribution of suitable habitat for endangered San Joaquin kit foxes: conservation implications. *Canid Biology and Conservation* 16(7): 25-31.

US Fish and Wildlife Service. 2011. Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance. Sacramento Office.



SAN JOAQUIN COUNTY
**FLOOD CONTROL & WATER
CONSERVATION DISTRICT**

P.O. BOX 1810
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
TELEPHONE (209) 468-3000
FAX NO. (209) 468-2999

MICHAEL SELLING
ACTING FLOOD CONTROL ENGINEER

May 7, 2015

Mr. Sam Wong
California Department of Transportation
1976 East Charter Way
Stockton, California 95205

SUBJECT: WATERCOURSE ENCROACHMENT PERMIT NO. PW-1500007 FOR THE CALIFORNIA DEPARTMENT OF TRANSPORTATION TO CONSTRUCT IMPROVEMENTS TO HIGHWAY INTERSTATE 580 BRIDGES OVER HOSPITAL CREEK

Dear Mr. Wong:

Enclosed is Encroachment Permit No. PW-1500007 (Permit) to Construct Improvements to Highway Interstate 580 Bridges across Hospital Creek (Project). The Project is located on Highway Interstate 580 over Hospital Creek, west of Highway Interstate 5, in San Joaquin County in Section 7, Township 4 South, Range 6, East Mount Diablo Base and Meridian.

You (Permittee) are required to accomplish the work under the General and Special Conditions of the Permit of the San Joaquin County Department of Public Works. Please note that your Permit describes the work as proposed in your application and plans. This Permit is subject to 12 General Conditions and certain Special Conditions, which could place limitations on or require modifications to your Project. Therefore, you are advised to read all Conditions prior to starting work.

Encroachment Permit No. PW-1500007 does not relieve you of the responsibility of obtaining authorization for your proposed Project from any other local, State, or Federal agency.

Should you have any questions on this matter, please contact me at 953-7617.

Sincerely,



JOHN I. MAGUIRE, P.E.
Engineering Services Manager

Enclosure

JIM:MW:me
FM-15D064-ME1

Enclosure

DEPARTMENT OF PUBLIC WORKS

PERMIT NO. PW-1500007

This Permit is issued to:

California Department of Transportation
1976 East Charter Way
Stockton, California 95205

Date: 5-26-15

Approved: _____



Engineering Services Manager

COUNTY OF SAN JOAQUIN

The Department of Public Works (Department) has approved the Application and the Plans, which were submitted as part of the Application. Permission is granted to proceed with the work described in the Application, which is incorporated herein by reference, subject to the following General and Special Conditions:

Special Conditions are attached.

GENERAL CONDITIONS:

- ONE: Only work described in the subject Application is hereby authorized.
- TWO: This Permit does not grant a right to use or construct works on land not owned by or under legal control of the Permittee.
- THREE: The approved work shall be accomplished under the conditions of this Permit and shall conform to all San Joaquin County Ordinances and other applicable laws governing such action.
- FOUR: Unless the work herein contemplated has commenced within one year after issuance of this Permit, the Department reserves the right to change any conditions in this Permit as may be consistent with current flood control standards and policies of the Department.
- FIVE: This Permit shall remain in effect until revoked. In the event any conditions in this Permit are not complied with, it may be revoked upon a 15-day notice.
- SIX: It is understood and agreed to by the Permittee that the start of any work under this Permit shall constitute an acceptance of the conditions in this Permit and an agreement to perform in accordance therewith.
- SEVEN: This Permit does not establish any precedent with respect to any other Application received by the Department.
- EIGHT: The Permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction over the proposed work.

- NINE:** The Permittee is responsible for all personal liability and property damage, which may arise out of failure on the Permittee's part to perform the obligations under this Permit. If any claim of liability is made against the United States of America, the State of California, a local District or the County of San Joaquin and the officers, agents or employees thereof, as a result of Permittee's failure to perform the said obligations, the Permittee shall defend and shall hold each of them harmless from each claim.
- TEN:** The Permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any work necessary to any plan of flood control, or interfere with the successful execution, functioning, or operation of any plan of flood control.
- ELEVEN:** Should any of the work not conform to the Conditions of this Permit, the Permittee, upon order by the authorized representative of the Department shall, in the manner prescribed by the Department, be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.
- TWELVE:** Permittee acknowledges that the plan of flood control encompasses the real property, which is the subject of this Permit, and agrees that the plan of flood control is of primary importance to the health, safety, and welfare of residents within the environs of the real property, which is the subject of this Permit. Therefore, Permittee agrees that Permittee shall, at the Permittee's sole cost and expense, remove, alter, relocate, or reconstruct all or any part of the work herein approved, within 30 days after receiving written notice, and in the manner prescribed thereby, should said work or any portion thereof not conform to the provisions of this Permit, or should said work or any portion thereof be injurious to or damage any work necessary to any plan of flood control of San Joaquin County or any Federal or State agency or should it interfere with the successful execution, functioning, or operation of any such plan of flood control, or should such removal, alteration, relocation, or reconstruction be necessary under, or in conjunction with, any present or future flood control plans for the area in which the work herein approved is to be accomplished, and in case Permittee delays acting upon any such written notice of the Department, the Department may proceed to perform the required work and the cost shall be paid by Permittee. In executing this Application, Permittee specifically acknowledges that from time-to-time, there may be emergency situations in which the Department may not be able to reasonably notify Permittee to remove, alter, relocate, or reconstruct all or any part of the work herein approved, and in such emergency situations, Permittee agrees the Department may proceed to perform the required work and the cost shall be paid by the Permittee.

PERMIT NO. PW-1500007
Date: April 21, 2015

SPECIAL CONDITIONS:

1. The San Joaquin County Flood Control and Water Conservation District (District) shall not be responsible for the maintenance of the facilities specified in this Permit.
2. The District shall not be held liable for damage(s) to the permitted encroachment(s) due to the District's operation, maintenance, flood fight, inspection, or emergency repairs.
3. The Permittee or the Successors-In-Interest shall be responsible for the modification or possible removal of the facilities, as requested by the District, if required for any future flood control plans at the Permittee or the Successors-in-Interest sole cost and expense.
4. The Permittee shall be liable for any damage to Hospital Creek that may occur as a result of this Project.
5. The Project shall be constructed in accordance with the plans dated April 15, 2015, submitted with the application dated April 7, 2015. Any revisions to the Project will require the submittal of the revised plans to the District for review and approval.
6. No work shall be allowed in the Hospital Creek's channel between November 1st and April 15th without prior approval of the District.
7. The Permittee or Successors-in-Interest shall keep the encroachments properly maintained in accordance with applicable current or future local, State and Federal standards.
8. Future maintenance of the improvements shall be the ongoing responsibility of the Permittee or Successors-in-Interest.

APPLICANT

I hereby agree to the General and Special
Conditions of this Permit

Print Name Torrua Akiwa

For Caltrans

Address 1976 E. Dr. MLK Jr. Blvd.
Stockton, CA 95205

Telephone No. (209) 941-1958

Signature [Signature]
Owner or Authorized Agent

Date 5/26/15



SAN JOAQUIN COUNTY
**FLOOD CONTROL & WATER
CONSERVATION DISTRICT**

P.O. BOX 1810
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
TELEPHONE (209) 468-3000
FAX NO. (209) 468-2999

MICHAEL SELLING
ACTING FLOOD CONTROL ENGINEER

May 7, 2015

Mr. Sam Wong
California Department of Transportation
1976 East Charter Way
Stockton, California 95205

SUBJECT: WATERCOURSE ENCROACHMENT PERMIT NO. PW-1500008 FOR THE CALIFORNIA DEPARTMENT OF TRANSPORTATION TO CONSTRUCT IMPROVEMENTS TO HIGHWAY INTERSTATE 580 BRIDGES ACROSS PATTERSON RUN

Dear Mr. Wong:

Enclosed is Encroachment Permit No. PW-1500008 (Permit) to construct improvements to Highway Interstate 580 Bridges across Patterson Run (Project). The Project is located on Highway Interstate 580 Bridges over Patterson Run, east of Patterson Pass Road, in San Joaquin County, in Section 28, Township 2 South, Range 4, East Mount Diablo Base and Meridian.

You (Permittee) are required to accomplish the work under the General and Special Conditions of the Permit of the San Joaquin County Department of Public Works. Please note that your Permit describes the work as proposed in your application and plans. This Permit is subject to 12 General Conditions and certain Special Conditions, which could place limitations on or require modifications to your Project. Therefore, you are advised to read all Conditions prior to starting work.

Encroachment Permit No. PW-1500008 does not relieve you of the responsibility of obtaining authorization for your proposed Project from any other local, State, or Federal agency.

Should you have any questions on this matter, please contact me at 953-7617.

Sincerely,



JOHN I. MAGUIRE, P.E.
Engineering Services Manager

JIM:MW:me
FM-15D064-ME2

Enclosure

DEPARTMENT OF PUBLIC WORKS

PERMIT NO. PW-1500008

This Permit is issued to:

California Department of Transportation
1976 East Charter Way
Stockton, California 95205

Date:

5-26-15

Approved:



Engineering Services Manager

COUNTY OF SAN JOAQUIN

The Department of Public Works (Department) has approved the Application and the Plans, which were submitted as part of the Application. Permission is granted to proceed with the work described in the Application, which is incorporated herein by reference, subject to the following General and Special Conditions:

Special Conditions are attached.

GENERAL CONDITIONS:

- ONE: Only work described in the subject Application is hereby authorized.
- TWO: This Permit does not grant a right to use or construct works on land not owned by or under legal control of the Permittee.
- THREE: The approved work shall be accomplished under the conditions of this Permit and shall conform to all San Joaquin County Ordinances and other applicable laws governing such action.
- FOUR: Unless the work herein contemplated has commenced within one year after issuance of this Permit, the Department reserves the right to change any conditions in this Permit as may be consistent with current flood control standards and policies of the Department.
- FIVE: This Permit shall remain in effect until revoked. In the event any conditions in this Permit are not complied with, it may be revoked on 15-day notice.
- SIX: It is understood and agreed to by the Permittee that the start of any work under this Permit shall constitute an acceptance of the conditions in this Permit and an agreement to perform in accordance therewith.
- SEVEN: This Permit does not establish any precedent with respect to any other Application received by the Department.
- EIGHT: The Permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction over the proposed work.

- NINE:** The Permittee is responsible for all personal liability and property damage which may arise out of failure on the Permittee's part to perform the obligations under this Permit. If any claim of liability is made against the United States of America, the State of California, a local District or the County of San Joaquin and the officers, agents or employees thereof, as a result of Permittee's failure to perform the said obligations, the Permittee shall defend and shall hold each of them harmless from each claim.
- TEN:** The Permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any work necessary to any plan of flood control, or interfere with the successful execution, functioning, or operation of any plan of flood control.
- ELEVEN:** Should any of the work not conform to the Conditions of this Permit, the Permittee, upon order by the authorized representative of the Department shall, in the manner prescribed by the Department, be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.
- TWELVE:** Permittee acknowledges that the plan of flood control encompasses the real property, which is the subject of this Permit, and agrees that the plan of flood control is of primary importance to the health, safety, and welfare of residents within the environs of the real property which is the subject of this Permit. Therefore, Permittee agrees that Permittee shall, at the Permittee's sole cost and expense, remove, alter, relocate, or reconstruct all or any part of the work herein approved, within 30 days after receiving written notice, and in the manner prescribed thereby, should said work or any portion thereof not conform to the provisions of this Permit, or should said work or any portion thereof be injurious to or damage any work necessary to any plan of flood control of San Joaquin County or any Federal or State agency or should it interfere with the successful execution, functioning, or operation of any such plan of flood control, or should such removal, alteration, relocation, or reconstruction be necessary under, or in conjunction with, any present or future flood control plans for the area in which the work herein approved is to be accomplished, and in case Permittee delays acting upon any such written notice of the Department, the Department may proceed to perform the required work and the cost shall be paid by Permittee. In executing this Application, Permittee specifically acknowledges that from time-to-time, there may be emergency situations in which the Department may not be able to reasonably notify Permittee to remove, alter, relocate, or reconstruct all or any part of the work herein approved, and in such emergency situations, Permittee agrees the Department may proceed to perform the required work and the cost shall be paid by the Permittee.

PERMIT NO. PW-1500008

Date: April 21, 2016

SPECIAL CONDITIONS:

1. The San Joaquin County Flood Control and Water Conservation District (District) shall not be responsible for the maintenance of the facilities specified in this Permit.
2. The District shall not be held liable for damage(s) to the permitted encroachment(s) due to the District's operation, maintenance, flood fight, inspection, or emergency repairs.
3. The Permittee or the Successors-in-Interest shall be responsible for the modification or possible removal of the facilities, as requested by the District, if required for any future flood control plans at the Permittee or the Successors-in-Interest sole cost and expense.
4. The Permittee shall be liable for any damage to Patterson Run that may occur as a result of this Project.
5. The Project shall be constructed in accordance with the plans dated January 15, 2015, submitted with the application dated April 7, 2015. Any revisions to the Project will require the submittal of the revised plans to the District for review and approval.
6. No work shall be allowed in the Patterson Run's channel between November 1st and April 15th without prior approval of the District.
7. The Permittee or Successors-in-Interest shall keep the encroachments properly maintained in accordance with applicable current or future local, State and Federal standards.
8. Future maintenance of the improvements shall be the ongoing responsibility of the Permittee or Successors-in-Interest.

APPLICANT

I hereby agree to the General and Special
Conditions of this Permit

Print Name Torzua Akeva

For Caltrans

Address 1976 E. Dr. MLK Jr. Blvd.
Stockton, CA 95205

Telephone No. (209) 941-1958

Signature 
Owner or Authorized Agent

Date 5/26/15



SAN JOAQUIN COUNTY
**FLOOD CONTROL & WATER
CONSERVATION DISTRICT**

P.O. BOX 1810
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
TELEPHONE (209) 468-3000
FAX NO. (209) 468-2999

MICHAEL SELLING
ACTING FLOOD CONTROL ENGINEER

May 7, 2015

Mr. Sam Wong
California Department of Transportation
1976 East Charter Way
Stockton, California 95205

SUBJECT: WATERCOURSE ENCROACHMENT PERMIT NO. PW-1500009 FOR CALIFORNIA
DEPARTMENT OF TRANSPORTATION TO CONSTRUCT IMPROVEMENTS TO
INTERSTATE 580 BRIDGES ACROSS CORRAL HOLLOW CREEK

Dear Mr. Wong:

Enclosed is Encroachment Permit No. PW-1500009 (Permit) to construct improvements to Interstate 580 Bridges across Corral Hollow Creek (Project). The Project is located on Highway Interstate 580 Bridges over Corral Hollow Creek, east of Corral Hollow Road, in San Joaquin County, in Section 18, Township 3 South, Range 5, East Mount Diablo Base and Meridian.

You (Permittee) are required to accomplish the work under the General and Special Conditions of the Permit of the San Joaquin County Department of Public Works. Please note that your Permit describes the work as proposed in your application and plans. This Permit is subject to 12 General Conditions and certain Special Conditions, which could place limitations on or require modifications to your Project. Therefore, you are advised to read all Conditions prior to starting work.

Encroachment Permit No. PW-1500009 does not relieve you of the responsibility of obtaining authorization for your proposed Project from any other local, State, or Federal agency.

Should you have any questions on this matter, please contact me at 953-7617.

Sincerely,



JOHN I. MAGUIRE, P.E.
Engineering Services Manager

JIM:MW:me
FM-15D064-ME3

Enclosure

DEPARTMENT OF PUBLIC WORKS

PERMIT NO. PW-1500009

This Permit is issued to:

California Department of Transportation
1976 East Charter Way
Stockton, California 95205

Date: 5-26-15

Approved:



Engineering Services Manager

COUNTY OF SAN JOAQUIN

The Department of Public Works (Department) has approved the Application and the Plans, which were submitted as part of the Application. Permission is granted to proceed with the work described in the Application, which is incorporated herein by reference, subject to the following General and Special Conditions:

Special Conditions are attached.

GENERAL CONDITIONS:

- ONE: Only work described in the subject Application is hereby authorized.
- TWO: This Permit does not grant a right to use or construct works on land not owned by or under legal control of the Permittee.
- THREE: The approved work shall be accomplished under the conditions of this Permit and shall conform to all San Joaquin County Ordinances and other applicable laws governing such action.
- FOUR: Unless the work herein contemplated has commenced within one year after issuance of this Permit, the Department reserves the right to change any conditions in this Permit as may be consistent with current flood control standards and policies of the Department of Public Works.
- FIVE: This Permit shall remain in effect until revoked. In the event any conditions in this Permit are not complied with, it may be revoked on 15-day notice.
- SIX: It is understood and agreed to by the Permittee that the start of any work under this Permit shall constitute an acceptance of the conditions in this Permit and an agreement to perform in accordance therewith.
- SEVEN: This Permit does not establish any precedent with respect to any other Application received by the Department.
- EIGHT: The Permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction over the proposed work.

- NINE:** The Permittee is responsible for all personal liability and property damage which may arise out of failure on the Permittee's part to perform the obligations under this Permit. If any claim of liability is made against the United States of America, the State of California, a local District or the County of San Joaquin and the officers, agents or employees thereof, as a result of Permittee's failure to perform the said obligations, the Permittee shall defend and shall hold each of them harmless from each claim.
- TEN:** The Permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any work necessary to any plan of flood control, or interfere with the successful execution, functioning or operation of any plan of flood control.
- ELEVEN:** Should any of the work not conform to the Conditions of this Permit, the Permittee, upon order by the authorized representative of the Department shall, in the manner prescribed by the Department, be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.
- TWELVE:** Permittee acknowledges that the plan of flood control encompasses the real property, which is the subject of this Permit, and agrees that the plan of flood control is of primary importance to the health, safety, and welfare of residents within the environs of the real property which is the subject of this Permit. Therefore, Permittee agrees that Permittee shall, at the Permittee's sole cost and expense, remove, alter, relocate, or reconstruct all or any part of the work herein approved, within 30 days after receiving written notice, and in the manner prescribed thereby, should said work or any portion thereof not conform to the provisions of this Permit, or should said work or any portion thereof be injurious to or damage any work necessary to any plan of flood control of San Joaquin County or any Federal or State agency or should it interfere with the successful execution, functioning, or operation of any such plan of flood control, or should such removal, alteration, relocation, or reconstruction be necessary under, or in conjunction with, any present or future flood control plans for the area in which the work herein approved is to be accomplished, and in case Permittee delays acting upon any such written notice of the Department, the Department may proceed to perform the required work and the cost shall be paid by Permittee. In executing this Application, Permittee specifically acknowledges that from time-to-time, there may be emergency situations in which the Department may not be able to reasonably notify Permittee to remove, alter, relocate, or reconstruct all or any part of the work herein approved, and in such emergency situations, Permittee agrees the Department may proceed to perform the required work and the cost shall be paid by the Permittee.

PERMIT NO. PW-1500009

Date: April 21, 2015

SPECIAL CONDITIONS:

1. The San Joaquin County Flood Control and Water Conservation District (District) shall not be responsible for the maintenance of the facilities specified in this Permit.
2. The District shall not be held liable for damage(s) to the permitted encroachment(s) due to the District's operation, maintenance, flood fight, inspection, or emergency repairs.
3. The Permittee or the Successors-in-Interest shall be responsible for the modification or possible removal of the facilities, as requested by the District, if required for any future flood control plans at the Permittee or the Successors-in-Interest sole cost and expense.
4. The Permittee shall be liable for any damage to Corral Hollow Creek that may occur as a result of this Project.
5. The Project shall be constructed in accordance with the plans dated September 30, 2014, submitted with the application dated April 7, 2015. Any revisions to the Project will require the submittal of the revised plans to the District for review and approval.
6. No work shall be allowed in the Corral Hollow's channel between November 1st and April 15th without prior approval of the District.
7. The Permittee or Successors-in-Interest shall keep the encroachments properly maintained in accordance with applicable current or future local, State, and Federal standards.
8. Future maintenance of the improvements shall be the ongoing responsibility of the Permittee or Successors-in-Interest.

APPLICANT

I hereby agree to the General and Special
Conditions of this Permit

Print Name Torzua Akwa

For Caltrans

Address 1976 E. Dr. MLK Jr. Blvd.
Stockton, CA 95205

Telephone No. (209) 941-1958

Signature [Signature]
Owner or Authorized Agent

Date 5/26/15



SAN JOAQUIN COUNTY
**FLOOD CONTROL & WATER
CONSERVATION DISTRICT**

P.O. BOX 1810
1810 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
TELEPHONE (209) 468-3000
FAX NO. (209) 468-2999

MICHAEL SELLING
ACTING FLOOD CONTROL ENGINEER

May 7, 2015

Mr. Sam Wong
California Department of Transportation
1976 East Charter Way
Stockton, California 95205

SUBJECT: WATERCOURSE ENCROACHMENT PERMIT NO. PW-1500010 FOR CALIFORNIA
DEPARTMENT OF TRANSPORTATION TO CONSTRUCT IMPROVEMENTS TO
INTERSTATE 580 BRIDGES ACROSS DEEP GULCH

Dear Mr. Wong:

Enclosed is Encroachment Permit No. PW-1500010 (Permit) to construct improvements to Interstate 580 Bridges across Deep Gulch (Project). The Project is located on Interstate 580 Bridges over Deep Gulch, west of Chrisman Road, in San Joaquin County, in Section 34, Township 3 South, Range 5, East Mount Diablo Base and Meridian.

You (Permittee) are required to accomplish the work under the General and Special Conditions of the Permit of the San Joaquin County Department of Public Works. Please note that your Permit describes the work as proposed in your application and plans. This Permit is subject to 12 General Conditions and certain Special Conditions, which could place limitations on or require modifications to your Project. Therefore, you are advised to read all Conditions prior to starting work.

Encroachment Permit No. PW-1500010 does not relieve you of the responsibility of obtaining authorization for your proposed Project from any other local, State, or Federal agency.

Should you have any questions on this matter, please contact me 953-7617.

Sincerely,



JOHN I. MAGUIRE, P.E.
Engineering Services Manager

JIM:MW:me
FM-15D064-ME4

Enclosure

DEPARTMENT OF PUBLIC WORKS

PERMIT NO. PW-1500010

This Permit is issued to:

California Department of Transportation
1976 East Charter Way
Stockton, California 95205

Date:

5-26-15

Approved:



Engineering Services Manager

COUNTY OF SAN JOAQUIN

The Department of Public Works (Department) has approved the Application and the Plans, which were submitted as part of the Application. Permission is granted to proceed with the work described in the Application, which is incorporated herein by reference, subject to the following General and Special Conditions:

Special Conditions are attached.

GENERAL CONDITIONS:

- ONE: Only work described in the subject Application is hereby authorized.
- TWO: This Permit does not grant a right to use or construct works on land not owned by or under legal control of the Permittee.
- THREE: The approved work shall be accomplished under the conditions of this Permit and shall conform to all San Joaquin County Ordinances and other applicable laws governing such action.
- FOUR: Unless the work herein contemplated has commenced within one year after issuance of this Permit, the Department reserves the right to change any conditions in this Permit as may be consistent with current flood control standards and policies of the Department.
- FIVE: This Permit shall remain in effect until revoked. In the event any conditions in this Permit are not complied with, it may be revoked on 15-day notice.
- SIX: It is understood and agreed to by the Permittee that the start of any work under this Permit shall constitute an acceptance of the conditions in this Permit and an agreement to perform in accordance therewith.
- SEVEN: This Permit does not establish any precedent with respect to any other Application received by the Department.

- EIGHT: The Permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction over the proposed work.
- NINE: The Permittee is responsible for all personal liability and property damage which may arise out of failure on the Permittee's part to perform the obligations under this Permit. If any claim of liability is made against the United States of America, the State of California, a local District or the County of San Joaquin and the officers, agents or employees thereof, as a result of Permittee's failure to perform the said obligations, the Permittee shall defend and shall hold each of them harmless from each claim.
- TEN: The Permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any work necessary to any plan of flood control, or interfere with the successful execution, functioning, or operation of any plan of flood control.
- ELEVEN: Should any of the work not conform to the Conditions of this Permit, the Permittee, upon order by the authorized representative of the Department shall, in the manner prescribed by the Department, be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.
- TWELVE: Permittee acknowledges that the plan of flood control encompasses the real property, which is the subject of this Permit, and agrees that the plan of flood control is of primary importance to the health, safety, and welfare of residents within the environs of the real property which is the subject of this Permit. Therefore, Permittee agrees that Permittee shall, at the Permittee's sole cost and expense, remove, alter, relocate, or reconstruct all or any part of the work herein approved, within 30 days after receiving written notice, and in the manner prescribed thereby, should said work or any portion thereof not conform to the provisions of this Permit, or should said work or any portion thereof be injurious to or damage any work necessary to any plan of flood control of San Joaquin County or any Federal or State agency or should it interfere with the successful execution, functioning, or operation of any such plan of flood control, or should such removal, alteration, relocation, or reconstruction be necessary under, or in conjunction with, any present or future flood control plans for the area in which the work herein approved is to be accomplished, and in case Permittee delays acting upon any such written notice of the Department, the Department may proceed to perform the required work and the cost shall be paid by Permittee. In executing this Application, Permittee specifically acknowledges that from time-to-time, there may be emergency situations in which the Department may not be able to reasonably notify Permittee to remove, alter, relocate, or reconstruct all or any part of the work herein approved, and in such emergency situations, Permittee agrees the Department may proceed to perform the required work and the cost shall be paid by the Permittee.

PERMIT NO. PW-1500010
Date: April 21, 2015

SPECIAL CONDITIONS:

1. The San Joaquin County Flood Control and Water Conservation District (District) shall not be responsible for the maintenance of the facilities specified in this Permit.
2. The District shall not be held liable for damage(s) to the permitted encroachment(s) due to the District's operation, maintenance, flood fight, inspection, or emergency repairs.
3. The Permittee or the Successors-In-Interest shall be responsible for the modification or possible removal of the facilities, as requested by the District, if required for any future flood control plans at the Permittee or the Successors-in-Interest sole cost and expense.
4. The Permittee shall be liable for any damage to Deep Gulch that may occur as a result of this Project.
5. The Project shall be constructed in accordance with the plans dated September 30, 2014, submitted with the application dated April 7, 2015. Any revisions to the Project will require the submittal of the revised plans to the District for review and approval.
6. No work shall be allowed in the Deep Gulch's channel between November 1st and April 15th without prior approval of the District.
7. The Permittee or Successors-in-Interest shall keep the encroachments properly maintained in accordance with applicable current or future local, State and Federal standards.
8. Future maintenance of the improvements shall be the ongoing responsibility of the Permittee or Successors-in-Interest.

APPLICANT

I hereby agree to the General and Special
Conditions of this Permit

Print Name Jovana Akeva

For Caltrans

Address 1976 E. Dr. MLK Jr. Blvd.
Stockton, CA 95205

Telephone No. (209) 941-1958

Signature Jovana Akeva
Owner or Authorized Agent

Date 5/26/15

DEPARTMENT OF TRANSPORTATION

DISTRICT 6
2015 EAST SHIELDS AVENUE, SUITE A-100
FRESNO, CA 93726-5428
PHONE (559) 243-3507
FAX (559) 243-3480
TTY 711
www.dot.ca.gov



*Serious drought.
Help save water!*

April 27, 2015

Mr. LEN MARINO, P.E.
Chief Engineer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, California 95821

SUBJECT: Request for Authorization for Roadway work on Route 580.

Dear Mr. Marino:

Caltrans submitted an encroachment permit recently to install fiber optic conduit across the Lone Tree Creek Bridge and other roadway work to improve safety of the highway. Upon review of the application by Nancy Moricz, Senior Engineer, CVFPB, it was determined that, in order to meet our schedule it is best to split the encroachment permit into two parts. 1. Executive Officer (EO) delegation for Fiber optic installation across the creek, 2. Authorization request for roadway work outside CVFPB jurisdiction.

This letter requests your authorization to conduct the following work associated with the Lone Tree Creek Bridge but outside CVFPB jurisdiction: (a). Crack, seal and overlay the existing travel way. (b). Widen NB and SB median shoulders to 5 feet, (c) Overlay outside shoulders, (d) Replace existing shoulder rumble strips (e). Replace/reconstruct exist AC dikes, Right shoulder guardrail, and bridge approach slabs. (f) Install shoulder backing to match the new edge of pavement. Work will not impact the existing creek banks or hydraulic flow in the creek. We have also added enclosures with map, design plans, photos and exhibits to provide details of the proposed work.

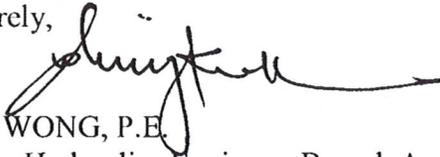
The above work will be conducted with the following conditions:

1. CALTRANS has a property right to occupy the project area arising from a rights-of-way, license, Permit and/or franchise agreement authorizing the pipeline(s), conduit(s) and or utility line(s) that are the subject of this request.
2. CALTRANS acknowledges that all work must be performed in accordance with the applicable standards, including backfill standards and minimum vertical clearances set forth in Title 23 of the California Code of Regulations, including, but not limited to, sections 123 (Pipelines, Conduits, and Utility Lines) and 124 (Abandoned Pipelines and Conduits).
3. Construction of the proposed CALTRANS electrical relocations within the Project limits require Approval of the California Environmental Quality Act (CEQA) document and the California Department of Fish and Wildlife (CDFW) 1602 permit which have been obtained.

4. The Executive Officer of the Central Valley Flood Protection Board has the right to revoke this request at any time based on weather and field conditions.
5. No construction work of any kind shall be done during the flood season from November 1 to April 1 without prior written approval of the Central Valley Flood Protection Board. Approval can be given on a two week basis dependent on the weather forecast and can be revoked at any time by the Board if inclement weather is pending.
6. CALTRANS will be responsible for any damages caused by the project
7. No other work will be performed except those approved by Central Valley Flood protection Board as part of this permit.
8. CALTRANS considers the proposed work as minor alterations within an adopted plan of flood control and would not be injurious to the adopted plan of flood control. Therefore pursuant to California Code of Regulations, Title 23, Article 3, Section 6, CALTRANS requests your authorization for this project.

Supporting documents have been submitted through this letter and Permit application, if you have any questions please feel free to contact me at (559) 243-3507.

Sincerely,



SAM WONG, P.E.
Senior, Hydraulics Engineer, Branch A

Attachments:

Endorsements from local Maintenance District

Design Plans

Photos and Exhibits

CEQA

By signing and dating below, I, Chief Engineer for CVFPB, approve this Authorization.

Signature: _____

Date: _____

Manne *5/28/15*

Memorandum

*Serious drought.
Help Save Water!*

To: MR. LAKACHEW LEYEW
Project Engineer, Branch B
Project Development Design IV

Date: January 15, 2015

File: 10-SJ-580
PM L0.1/15.3
EA 10-0W7501
ID 1012000047
Changeable Message Signs

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Geotechnical Design Report for Four Changeable Message Signs

Introduction

This Geotechnical Design Report (GDR) has been prepared to provide recommendations for four changeable message signs (CMS) to be constructed as part of the 580 rehab and IT Improvements. The project is located along Interstate 580, approximately 12 miles south of the City of Tracy in San Joaquin County.

Existing Facilities and Proposed Improvements

Within the project limits, Interstate 580 is a four lane divided highway that travels in a general northeast/southwest direction. **Table 1** lists the existing structures in proximity of the proposed signs for this project.

Table 1. Existing Structures Near Proposed CMS

| Structure | Post Mile | Foundation Type |
|----------------------------|-----------|-----------------|
| Bird Road OC | 1.41 | Spread Footings |
| Lone Tree Creek Bridge R/L | 1.69 | Spread Footings |
| Route 132 E-580 Separation | 4.35 | CIDH piles |
| Corral Hollow Road OC | 8.15 | Spread Footings |
| Valpico UC R/L | 9.71 | CIDH Piles |

| | | |
|--|--------|-----------------|
| Patterson Pass Road OC | 13.54 | Spread Footings |
| California Aquaduct (Patterson Pass Road Bridge R/L) | ~13.56 | CIDH piles |

All structures within the project limits appear to be performing favorably.

As part of this project, four changeable message signs are proposed. Design data for the proposed signs is presented in **Table 2**.

Table 2. Design Data for Proposed Changeable Message Signs

| Sign No. | Post Mile | Direction | Pile Type | Pile Diam. (in) | Pile Length (ft) | Ground Condition |
|----------|-----------|-----------|-----------|-----------------|------------------|------------------|
| 1 | 2.0 | FNBT | CIDH | 60 | 22.0 | Level |
| 2 | 4.8 | FNBT | CIDH | 60 | 22.0 | Level |
| 3 | 9.1 | FSBT | CIDH | 60 | 22.0 | Level |
| 4 | 14.1 | FSBT | CIDH | 60 | 22.0 | Level |

FNBT: Facing north bound traffic.

FSBT: Facing south bound traffic.

Pertinent Reports and Investigations

The following publications were reviewed to assist in the assessment of site conditions:

- Project Plans and Details, District Design.
- As-Built Log-of-Test-Borings, Bird Road OC, Br. No. 29-0170.
- As-Built Log-of-Test-Borings, Lone Tree Creek Bridge, Br. No. 29-0141 R/L.
- As-Built Log-of-Test-Borings, Route 132 E-580 Separation, Br. No. 29-0161 R.
- As-Built Log-of-Test-Borings, Corral Hollow Road OC, Br. No. 29-0080.
- As-Built Log-of-Test-Borings, Valpico UC, Br. No. 29-0165 R/L.
- As-Built Log-of-Test-Borings, Patterson Pass Road OC, Br. No. 29-0024.
- As-Built Log-of-Test-Borings, California Aqueduct (Patterson Pass Road Bridge), Br. No. 29C-0083 R/L.
- California Department of Water Resources (DWR) Water Well Data.

Site Geology

The project areas have been mapped by Dibblee, T.W. and Minch, J.A.. The “Geologic Map of the Midway and Tracy Quadrangles, Alameda and San Joaquin Counties California,” 2006 and “Geologic Map of The Solyo and Westly Quadrangles, San Joaquin and Stanislaus Counties, California,” 2007, covers the project sites. They are mapped as Surficial Sediments (Qa), Older Surficial Sediments (Qoa, Qoa2), and an interbedded gray to greenish gray alluvial pebble conglomerate, sandstone and claystone of the Orinda and Oro Loma Formations (Tol).

Geotechnical Conditions

Subsurface Soils

Subsurface conditions were evaluated from the As-Built LOTB for bridges in the project area. In general, the subsurface soils consist of stiff to hard clay, sandy clay, and clay with sand and gravel, loose to very dense sand, silt, clayey sandy gravel, silty and clayey sand, and sandstone and claystone.

Groundwater

Groundwater data was determined from the As-Built LOTB for bridges in the project area and DWR water well records and is presented in **Table 3** and **Table 4**, respectively.

Table 3. As-Built LOTB Groundwater Data

| Structure | Date | Average Ground Surface Elev. (ft) | Groundwater Elev. (ft) | Groundwater Depth (ft) | Maximum Depth Explored (ft) |
|----------------------------|------------|-----------------------------------|------------------------|------------------------|-----------------------------|
| Bird Road OC | Feb. 1964 | ~322 | Not Encountered | N/A | 18.0 |
| Lone Tree Creek Bridge R/L | Feb. 1964 | ~322 | Not Encountered | N/A | 68.0 |
| Route 132 E-580 Sep. | April 1962 | 282.8 | Not Encountered | N/A | 42.0 |
| Corral Hollow Road OC | Feb. 1961 | 293.1 | Not Encountered | N/A | 30.0 |
| Valpico UC R/L | July 1962 | 295.5 | Not Encountered | N/A | 21.0 |

| | | | | | |
|--|-----------|-------|-----------------|------|------|
| Patterson Pass Road OC | Feb. 1961 | 277.3 | Not Encountered | N/A | 62.0 |
| California Aquaduct (Patterson Pass Road Bridge R/L) | 8/14/1990 | 252.0 | 225.5 | 30.5 | 70.0 |

Table 4. DWR Groundwater Data

| Well Number | Date | Groundwater Elev. (ft) | Groundwater Depth (ft) |
|---------------|------------|------------------------|------------------------|
| 04S05E01L001M | 9/30/1965 | 82.3 | 259.2 |
| 03S05E26M001M | 10/24/2014 | 71.89 | 161.6 |
| 03S05E07C001M | 10/14/1974 | -38.9 | 232.2 |
| 02S04E28K001M | 10/7/1964 | 196.5 | 43.0 |

Groundwater is not anticipated during drilling of the CIDH piles. However, groundwater conditions can be expected to fluctuate in response to seasons, storm events, and other factors. Localized saturated conditions or perched groundwater conditions near the ground surface should be anticipated during and following periods of heavy precipitation.

Geotechnical Recommendations

The following recommendations are based on project plans provided by District Design, a review of existing structures within the project area, and a review and analysis of subsurface conditions as determined from As-Built boring data for existing structures within the project area.

A review of the As-Built boring data indicates that the soil conditions satisfy the current standard plan requirements for the proposed changeable message signs.

Based on the reviews described above, it is recommended that the proposed changeable message signs be constructed on standard plan CIDH foundations per Caltrans Standard Plans.

Construction Considerations

1. All earthwork should conform to current CT Standard Specifications.

2. According to As-Built boring data, layers of loose granular material may be encountered while drilling the CIDH piles. As such, temporary casing may be needed to control caving. To develop the required pile capacity, the temporary must be removed during concrete placement.
3. Groundwater is not anticipated during construction of the CIDH piles. However, localized saturated conditions or perched groundwater conditions near the ground surface should be anticipated during and following periods of heavy precipitation.

Project Information

“Project Information,” discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

Data and information attached with the project plans are:

- A. *None.*

Data and information included in the Information Handout provided to the bidders and Contractors are:

- A. *Geotechnical Design Report for EA 10-0W7501, dated 1/15/2015.*

Data and information available for inspection at the District Office:

- A. *None.*

Data and information available for inspection at the Transportation Laboratory are:

- A. *As-Built Log of Test Borings.*

The recommendations contained in this report are based upon subsurface conditions determined from As-Built borings and our current understanding of proposed project. We have judged that the information is representative of subsurface conditions at the sign locations. If the scope of the proposed project changes from that described in this report, the recommendations should be re-evaluated by this Office.

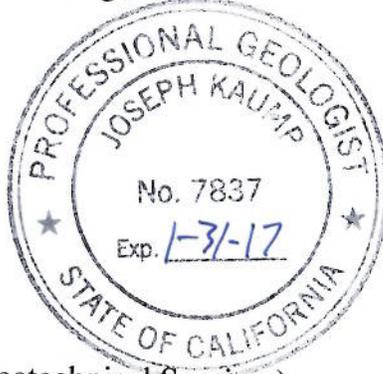
If there are any questions or comments in regards to this report, please contact Joe Kaump at 916 227-1044 or Ben Barnes at 916-227-1039.

Mr. Lakachew Leyew
January 15, 2015
Page 6

Geotechnical Design Report
10-SJ-580 PM L0.1/15.3
EA 10-0W7501, ID 1012000047



JOSEPH KAUMP, PG
Engineering Geologist
Office of Geotechnical Design-North



Attachments:
As-Built LOTBs

c: Reid Buell (Geotechnical Services)
Andrew TS Tan (PLE)
Iorzua Akuva (D10 Project Manager)



BENJAMIN M. BARNES, PE
Transportation Engineer-Civil
Office of Geotechnical Design-North



(OLD X-SJ-110-A)

| FED. ROAD DIST. NO. | STATE | F. A. PROJECT NO. | SHEET NO. | TOTAL SHEETS |
|---------------------|--------|-------------------|-----------|--------------|
| 7 | CALIF. | | | |

| DIST. | COUNTY | ROUTE | SECTION | SHEET NO. | TOTAL SHEETS |
|-------|--------|-------|---------|-----------|--------------|
| 10 | SJ | 580 | 00/68 | 119 | 129 |

DATE APPROVED June 20, 1966

LEGEND OF BORING PENETRATIONS

24" SOIL PENETROMETER
SAUNDER BORING (SMB)
ROTARY BORING (SMB)
AUGER BORING (SMB)
JET BORING
CORE BORING
TEST PIT

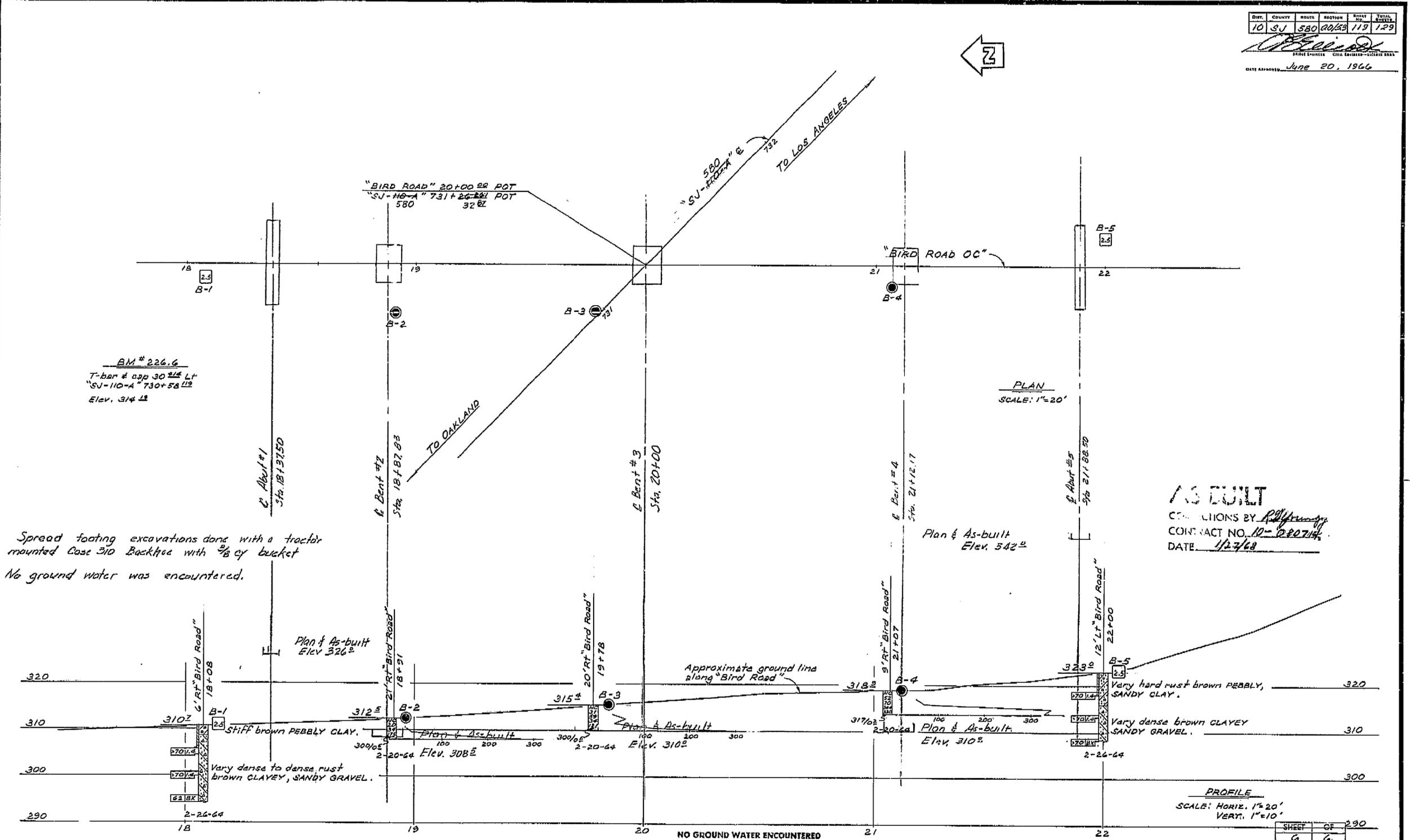
LEGEND OF EARTH MATERIALS

SILTY CLAY OR CLAYEY SILT
CLAY
SAND
GRAVEL
SANDY CLAY OR CLAYEY SAND
SANDY SILT OR SILTY SAND
SEMISOLID ROCK
METAMORPHIC ROCK

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

Diagrams showing the basis for estimates of percentages of coarse materials in earth materials. If gravel is present in appreciable amounts the term "GRAVELLY" may precede the terms "CLAYEY" and "SANDY". The terms "CLAYEY" and "SANDY" are used to describe earth materials which contain more than 10% clay or more than 30% sand, respectively, by weight.

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



Spread footing excavations done with a tractor mounted Case 310 Backhoe with 3/8 of bucket
No ground water was encountered.

AS BUILT PLANS
Contract No. 10-080714
Date Completed _____
Document No. 00000036

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

BIRD ROAD OVERCROSSING

LOG OF TEST BORINGS

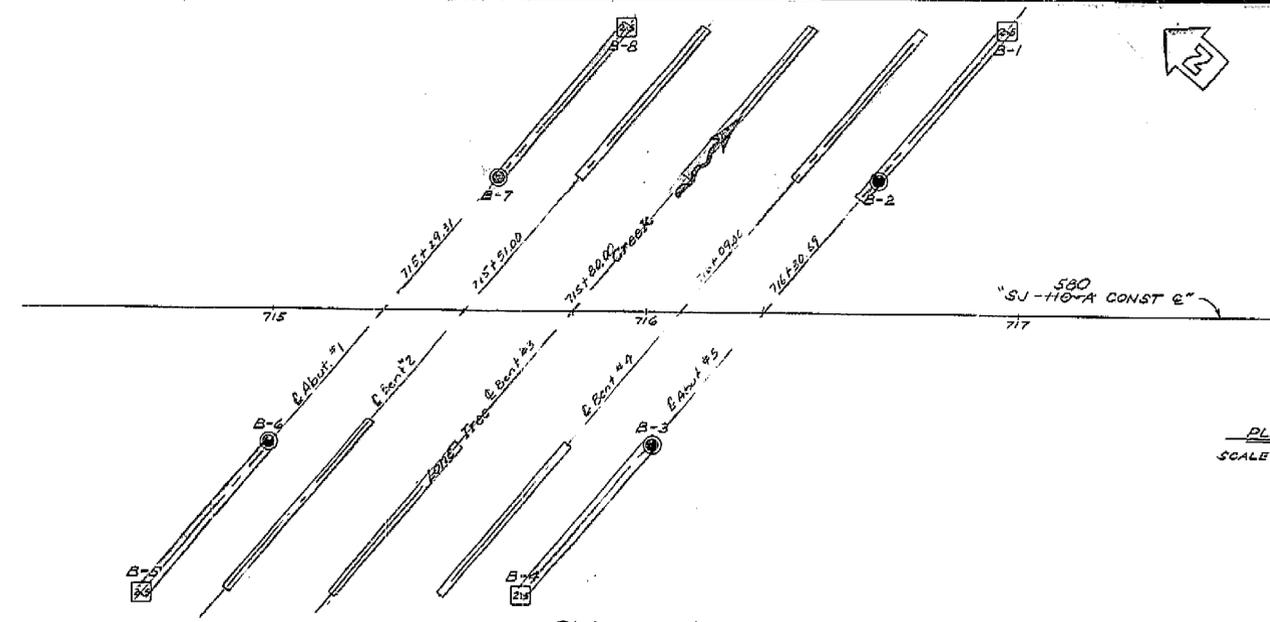
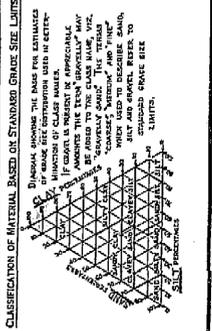
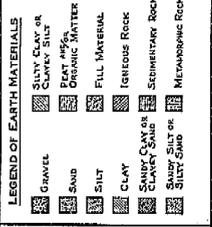
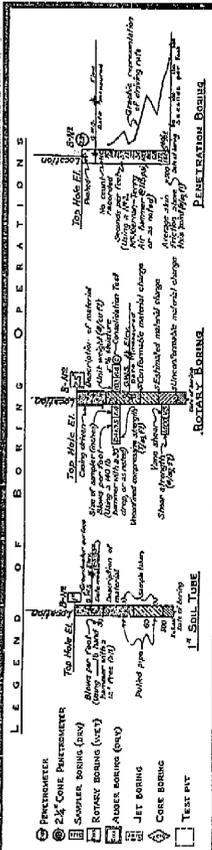
SCALE As Noted | BRIDGE 29-170 | FILE | DRAWING 29170-6

PREL. DRAWING NO. PR-29170-2

(OLD X-SU-110-A)

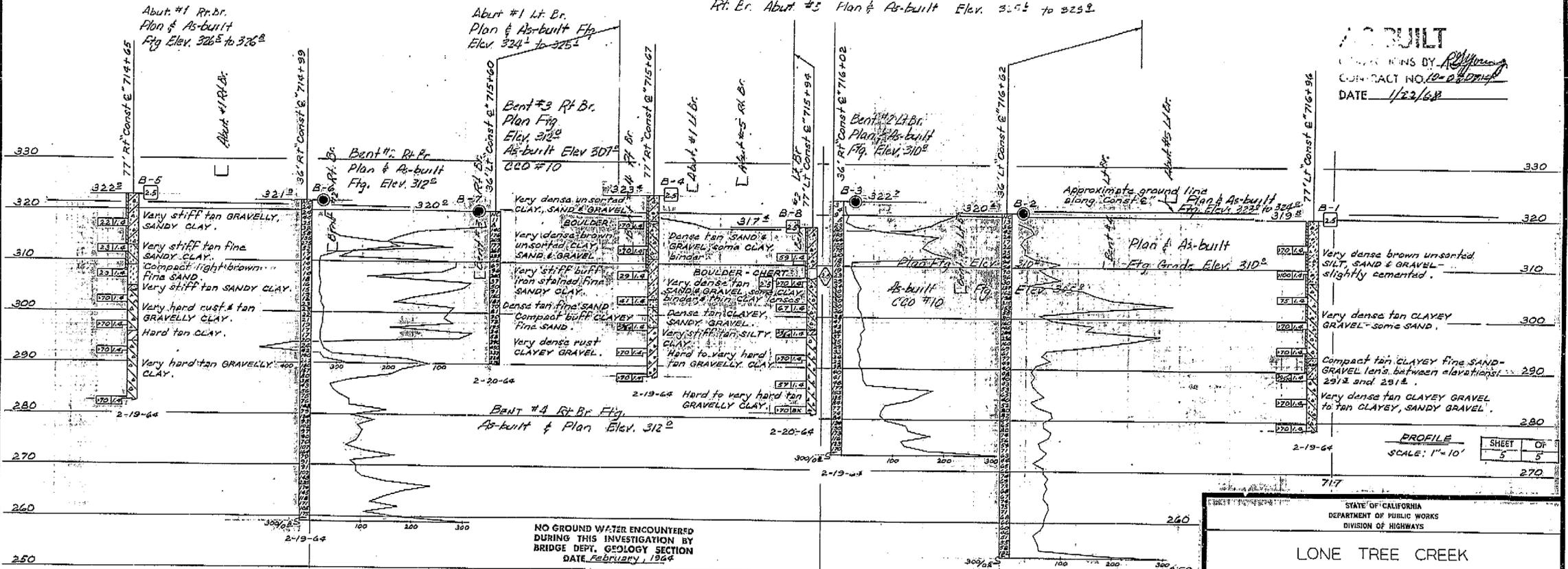
| FED. ROAD DIST. NO. | STATE | F.A. PROJECT NO. | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|------------------|-----------|--------------|
| 10 SU | 580 | 0043 | 119 | 129 |

DATE APPROVED: June 20, 1966



AS BUILT PLANS
Contract No. 10-280714
Date Completed _____
Document No. 00000036

AS BUILT
DRAWINGS BY: R. Hoffman
CONTRACT NO. 10-280714
DATE: 1/22/68



NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE February, 1966

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

LONE TREE CREEK

LOG OF TEST BORINGS

SCALE: As Noted BRIDGE 23-14174 FILE DRAWING 23-141-36

PREL. DRAWING No. PR-2946-2

FIELD STUDY: 10-5-61/107-3-7-64
DRAWN BY: K. ENZOW 3-7-64
CHECKED BY: S. ALLISON 3-30-64
Approval Authorized by: Jed C. Lennartz
Engineering Geologist

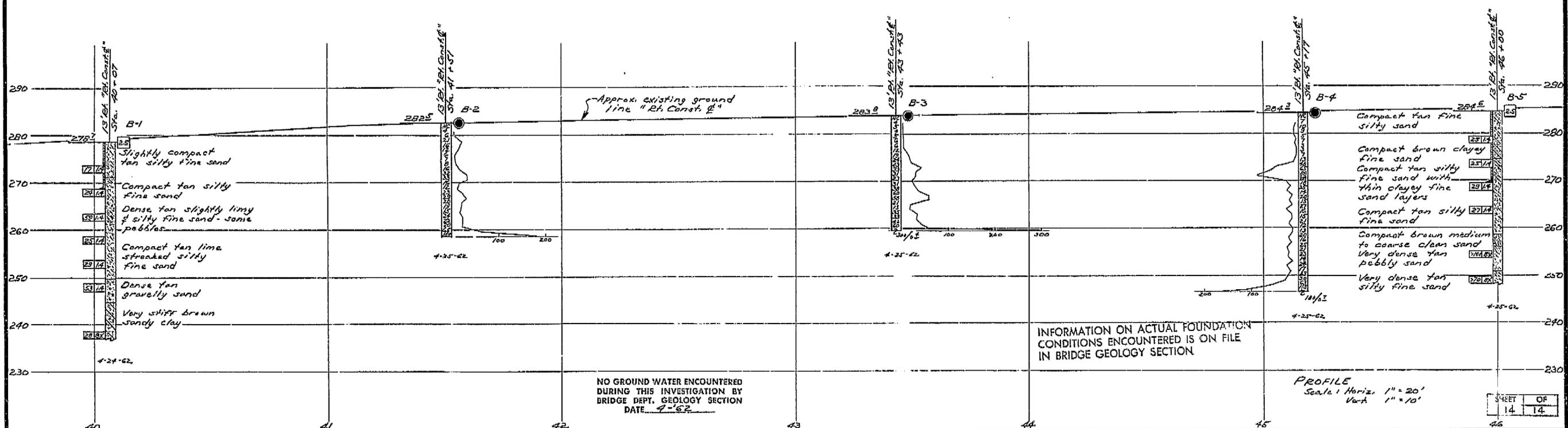
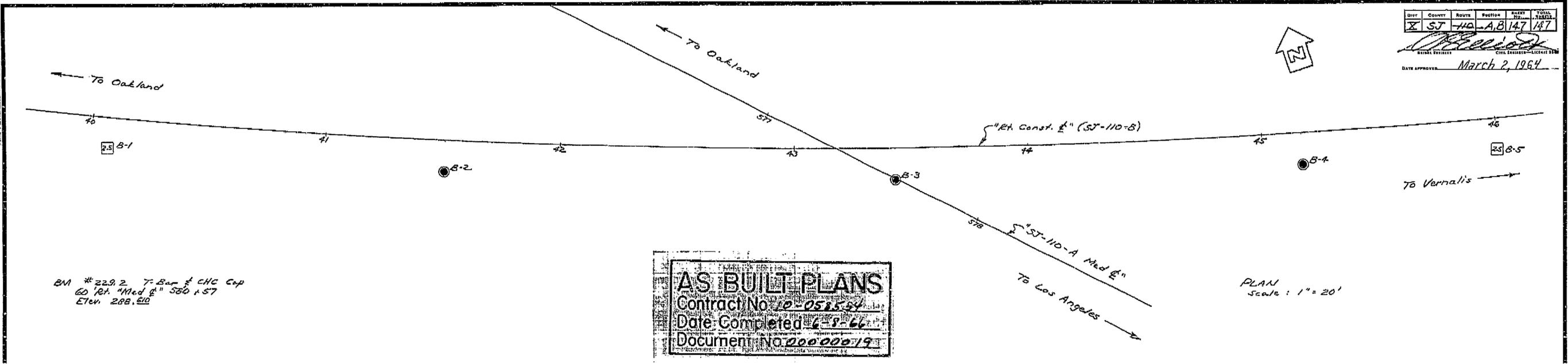
BRIDGE DEPARTMENT
ENGINEERING GEOLOGY SECTION

113

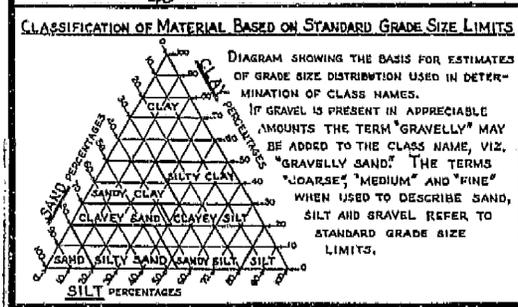
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| 7 | CAL. | | | | |

| DIST. | COUNTY | ROUTE | SECTION | SHEET NO. | TOTAL SHEETS |
|-------|--------|-------|---------|-----------|--------------|
| X | SJ | 140 | A, B | 147 | 147 |

DATE APPROVED: March 2, 1964

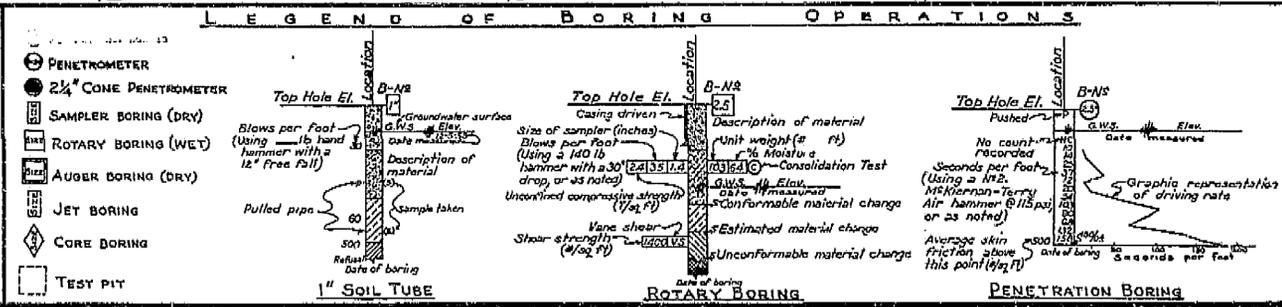


FIELD STUDY BY: J. J. [unclear] 4-62
 DRAWN BY: [unclear] 5-17-62
 CHECKED BY: [unclear] 5-21-62
 Approved: [unclear] for [unclear]



LEGEND OF EARTH MATERIALS

| | |
|---------------------------|----------------------------|
| GRAVEL | SILTY CLAY OR CLAYEY SILT |
| SAND | PEAT AND/OR ORGANIC MATTER |
| SILT | FILL MATERIAL |
| CLAY | IGNEOUS ROCK |
| SANDY CLAY OR CLAYEY SAND | SEDIMENTARY ROCK |
| SANDY SILT OR SILTY SAND | METAMORPHIC ROCK |



NOTE
 Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

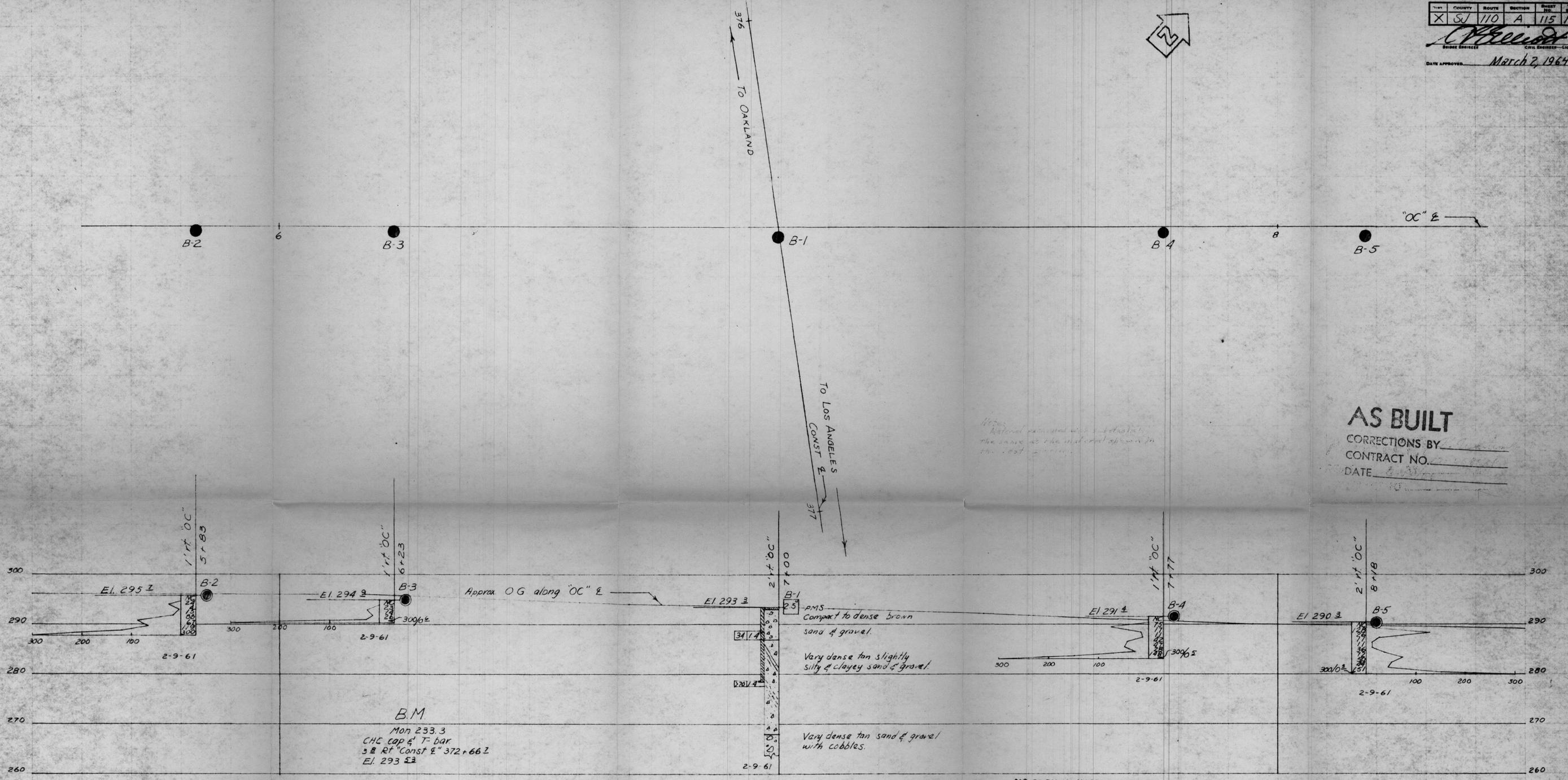
132/580
 ROUTE 140 SEPARATION

LOG OF TEST BORINGS

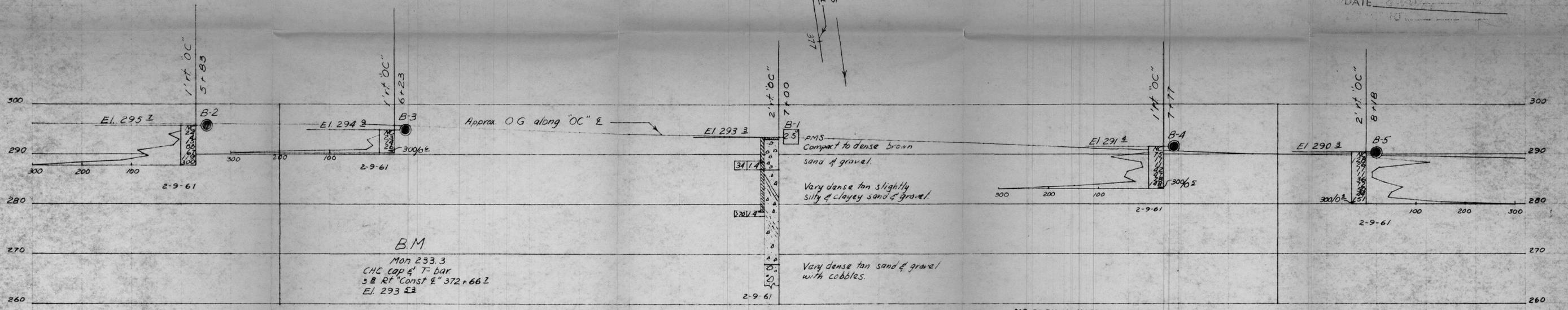
SCALE: As Noted BRIDGE 29-161 FILE DRAWING 29161-14
 PR-29161-4

147

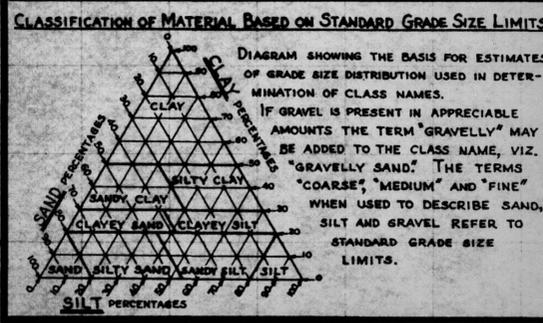
BRIDGE DEPARTMENT



AS BUILT
CORRECTIONS BY _____
CONTRACT NO. _____
DATE _____



FIELD STUDY
 DRAWN
 CHECKED
 APPROVAL
 DATE



LEGEND OF EARTH MATERIALS

| | |
|---------------------------|----------------------------|
| GRAVEL | SILTY CLAY OR CLAYEY SILT |
| SAND | PEAT AND/OR ORGANIC MATTER |
| SILT | FILL MATERIAL |
| CLAY | IGNEOUS ROCK |
| SANDY CLAY OR CLAYEY SAND | SEDIMENTARY ROCK |
| SANDY SILT OR SILTY SAND | METAMORPHIC ROCK |

LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- PENETROMETER
- 2 1/4" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT

1" SOIL TUBE
 ROTARY BORING
 PENETRATION BORING

NOTE

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

CORRAL HOLLOW ROAD OC

LOG OF TEST BORINGS

SCALE 1" = 10' BRIDGE 29-80 FILE DRAWING 2980-6

PREL DRAWING NO. P-2980-6/14

115

| FED. ROAD DIV. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|--------------------|-------|-----------|-------------|-----------|--------------|
| 7 | CAL. | | | | |

| OFF. | COUNTY | ROUTE | SECTION | PROJECT NO. | TOTAL SHEETS |
|------|--------|-------|---------|-------------|--------------|
| X | SJ | 110 | A | 109 | 147 |

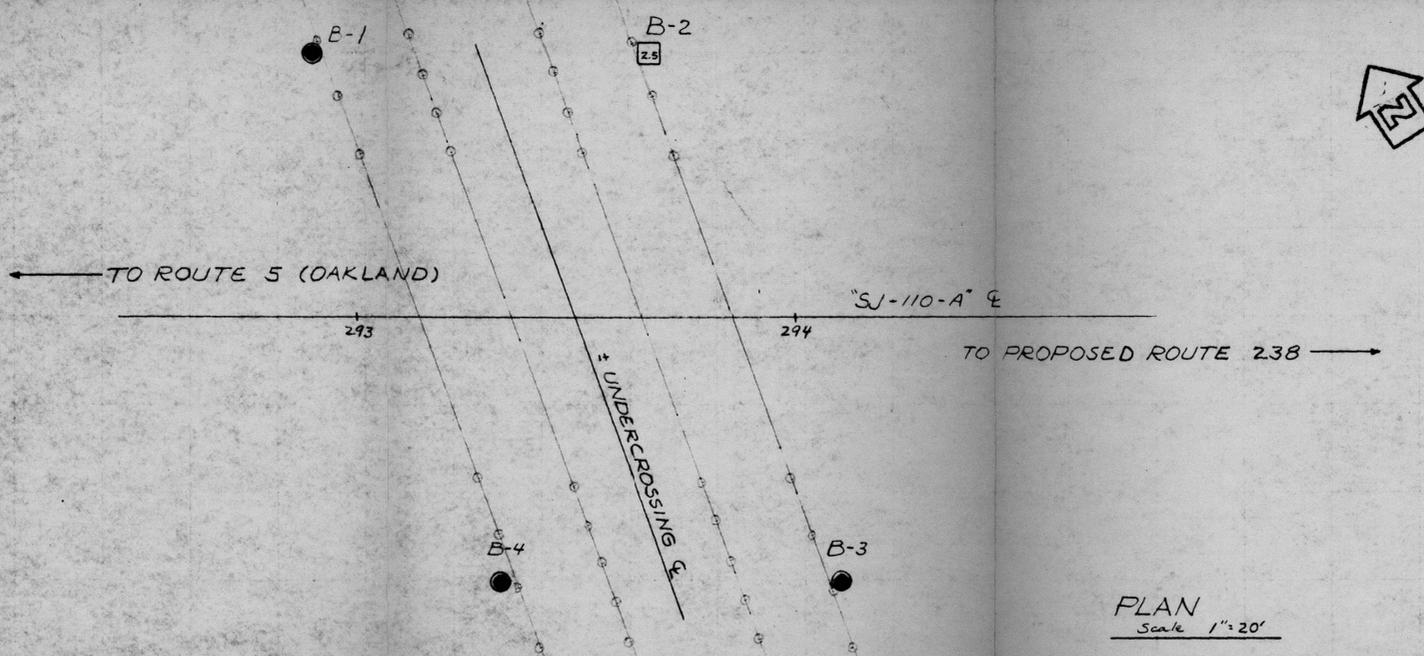
DATE APPROVED: March 7, 1964

PRINTED ON CLEARPRINT 1000 H

BRIDGE DEPARTMENT

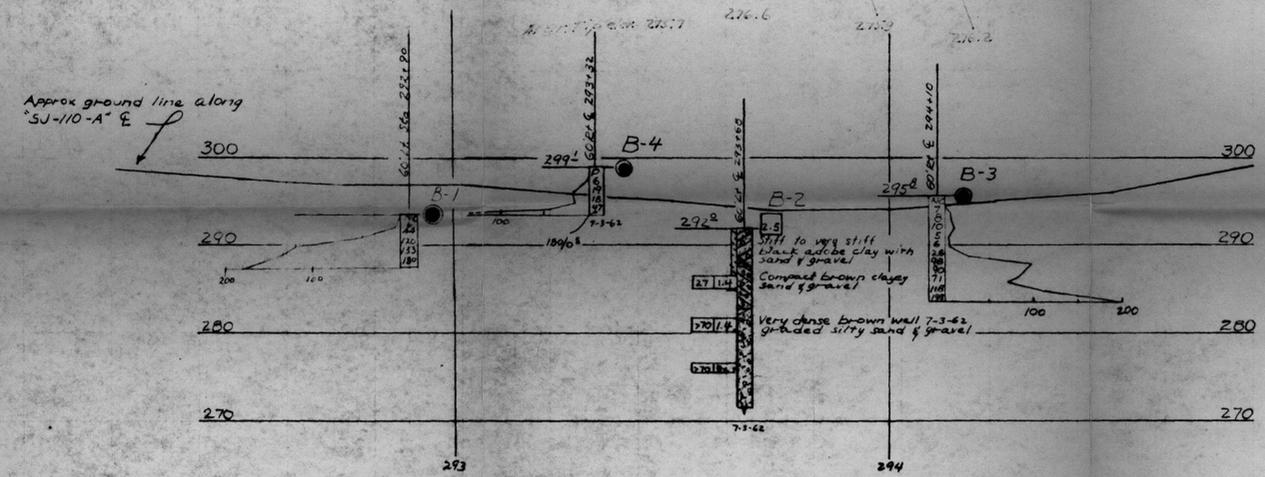
FIELD STUDY
DRAWN BY
CHECKED BY
APPROVED BY

Robert W. Reynolds
March 10, 1964



TEM "A"
1" Guinea 15' ± Lt. & 110-A
Sta 293+95 ±
Elev 293 ±

PLAN
Scale 1" = 20'



PROFILE
Scale
HORIZ 1" = 20'
VERT 1" = 10'

NO GROUND WATER ENCOUNTERED
DURING THIS INVESTIGATION BY
BRIDGE DEPT. GEOLOGY SECTION
DATE July 1962

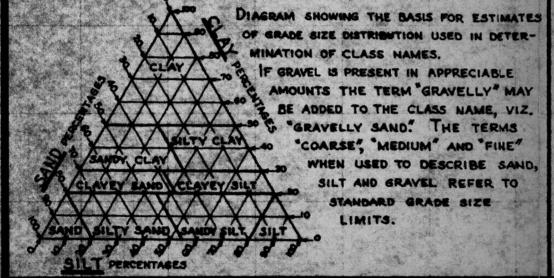
Notes:
Material removed from borings was found to be substantially the same as the soil.

12" Soil Plug drilled with a truck mounted rig. No ground water encountered.

AS BUILT
CORRECTIONS BY E. J. Williams
CONTRACT NO. 14-6585-6
DATE 10/1/64

| SHEET | OF |
|-------|----|
| 6 | 6 |

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS



LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT AND/OR ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

- PENETROMETER
 - 2 1/2" CONE PENETROMETER
 - SAMPLER BORING (DRY)
 - ROTARY BORING (WET)
 - AUGER BORING (DRY)
 - JET BORING
 - CORE BORING
 - TEST PIT
-

NOTE

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

VALPICO UNDERCROSSING
LOG OF TEST BORINGS

SCALE AS SHOWN | BRIDGE 29-165 R/L | FILE | DRAWING 29/65-6

109

(Old X-SJ-110-A)

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | SECTION | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|---------|-----------|--------------|
| 7 | CAL. | | | | |

| DATE | CHIEF ENGINEER | ROUTE | SECTION | SHEET NO. | TOTAL SHEETS |
|---------|----------------|-------|---------|-----------|--------------|
| 7/12/65 | | 580 | V13/16 | 125 | 153 |

DATE APPROVED: JULY 12, 1965

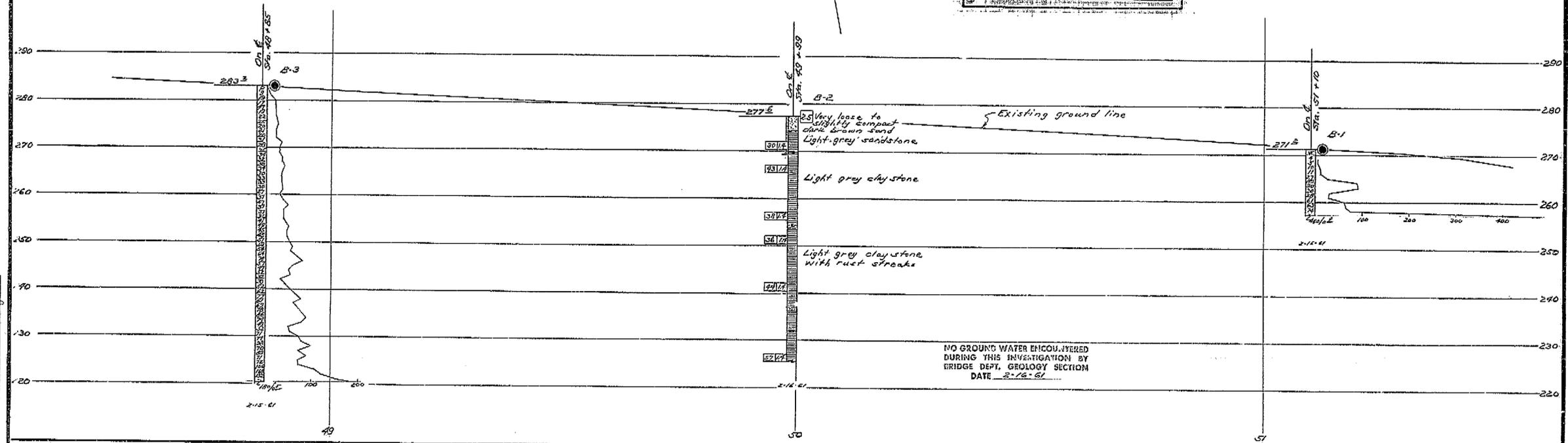


AS BUILT PLANS
 Contract No. 10-091504
 Date Completed 2-28-67
 Document No. 00000016

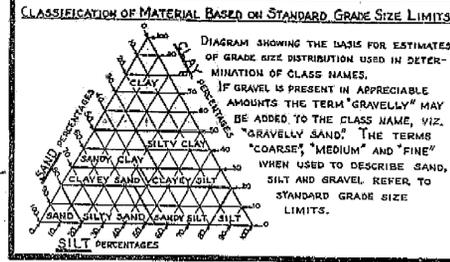
INFORMATION ON ACTUAL FOUNDATION CONDITIONS ENCOUNTERED IS ON FILE IN BRIDGE GEOLOGY SECTION

TBM "A" Top of stake near "X.S." on E. "Pat. Pass" Sta. 51+00.3 Elev. 272.47

BRIDGE DEPARTMENT



FILED IN 10-091504
 DRAWN BY 3-3-65
 CHECKED BY 3-24-65
 Approved: [Signature]
 [Signature]
 [Signature]



LEGEND OF EARTH MATERIALS

| | |
|---------------------------|----------------------------|
| GRAVEL | SILTY CLAY OR CLAYEY SILT |
| SAND | PEAT AND/OR ORGANIC MATTER |
| SILT | FILL MATERIAL |
| CLAY | IGNEOUS ROCK |
| SANDY CLAY OR CLAYEY SAND | SEDIMENTARY ROCK |
| SANDY SILT OR SILTY SAND | METAMORPHIC ROCK |

LEGEND OF BORING OPERATIONS

| | |
|--------------------------|--------------------|
| PLAN OF ANY BORING | 1" SOIL TUBE |
| PENETROMETER | ROTARY BORING |
| 2 1/2" CONE PENETROMETER | PENETRATION BORING |
| SAMPLER BORING (DRY) | |
| ROTARY BORING (WET) | |
| AUGER BORING (DRY) | |
| JET BORING | |
| CORE BORING | |
| TEST PIT | |

NOTE

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

| | |
|----------------------------|---------------|
| STATE OF CALIFORNIA | SHEET 6 OF 12 |
| DEPARTMENT OF PUBLIC WORKS | |
| DIVISION OF HIGHWAYS | |

PATTERSON PASS ROAD O.C.

LOG OF TEST BORINGS

SCALE 1" = 10' BRIDGE 29-24 FILE DRAWING 2424-6

125

621

10-091504

PREL. DRAWN

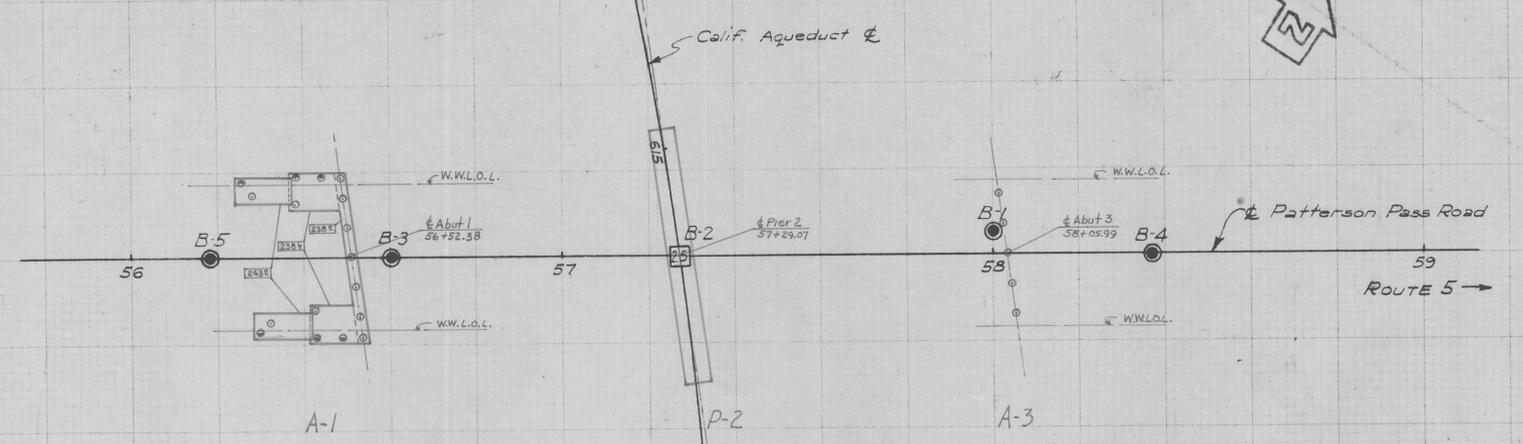
U. P. 2029-6

BRIDGE 29-24

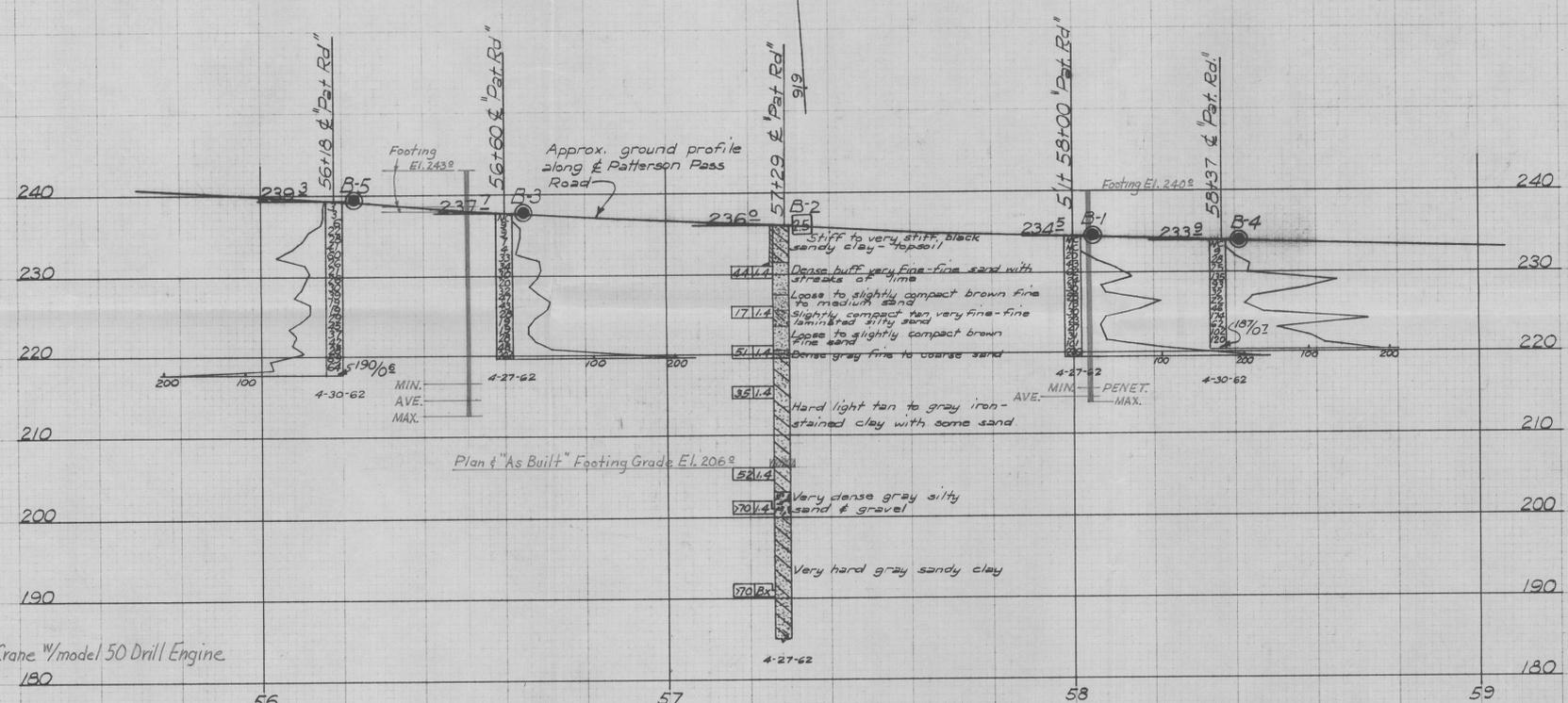
FILE

DRAWING 2424-6

FR-2924-4



BM Mon #238.8
 CHC cap & T-bar
 58' 1" Pat. Rd. 48+25
 Elev. 230.92

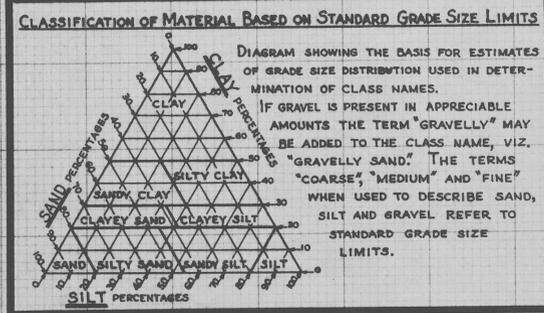


Design Pile Loading: -
 Type Pile: CIDH Concrete
 Diameter: 16"
 Total Number Piles: 22 (6-Battered)
 Lineal ft. Piles, As Built: 565.4 L.F.
 Lineal ft. Piles, Plans: 550 L.F.
 Equipment: William 550 Drill Rig, 20^{TON} Trk. Crane w/model 50 Drill Engine
 Remarks: - Spec. Tip elev. 215.0
 Sand lens encountered at approx. elevation 220'. Some sloughing and widening of holes resulted.

NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE April 1962

AS BUILT
 CORRECTIONS BY B.W. [Signature]
 CONTRACT NO. 14-0896.04
 DATE June 23, 1965

FIELD STUDY DRAWN BY [Signature] 4-62
 CHECKED BY [Signature] 5-62
 Approved & Recommended By [Signature]



LEGEND OF EARTH MATERIALS

| | | | | | |
|---------------------------|----------------------------|---------------|--------------|---------------------------|--------------------------|
| GRAVEL | SAND | SILT | CLAY | SANDY CLAY OR CLAYEY SAND | SANDY SILT OR SILTY SAND |
| SILTY CLAY OR CLAYEY SILT | PEAT AND/OR ORGANIC MATTER | FILL MATERIAL | IGNEOUS ROCK | SEDIMENTARY ROCK | METAMORPHIC ROCK |

LEGEND OF BORING OPERATIONS

| | | | | | | | |
|--------------|--------------------------|----------------------|---------------------|--------------------|------------|-------------|----------|
| PENETROMETER | 2 1/2" CONE PENETROMETER | SAMPLER BORING (DRY) | ROTARY BORING (WET) | AUGER BORING (DRY) | JET BORING | CORE BORING | TEST PIT |
|--------------|--------------------------|----------------------|---------------------|--------------------|------------|-------------|----------|

NOTE
 Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

SHEET 10 OF 10

CALIFORNIA AQUEDUCT BRIDGE
 (PATTERSON PASS ROAD)

LOG OF TEST BORINGS

Scale: Horiz: 1"=20', Vert: 1"=10'

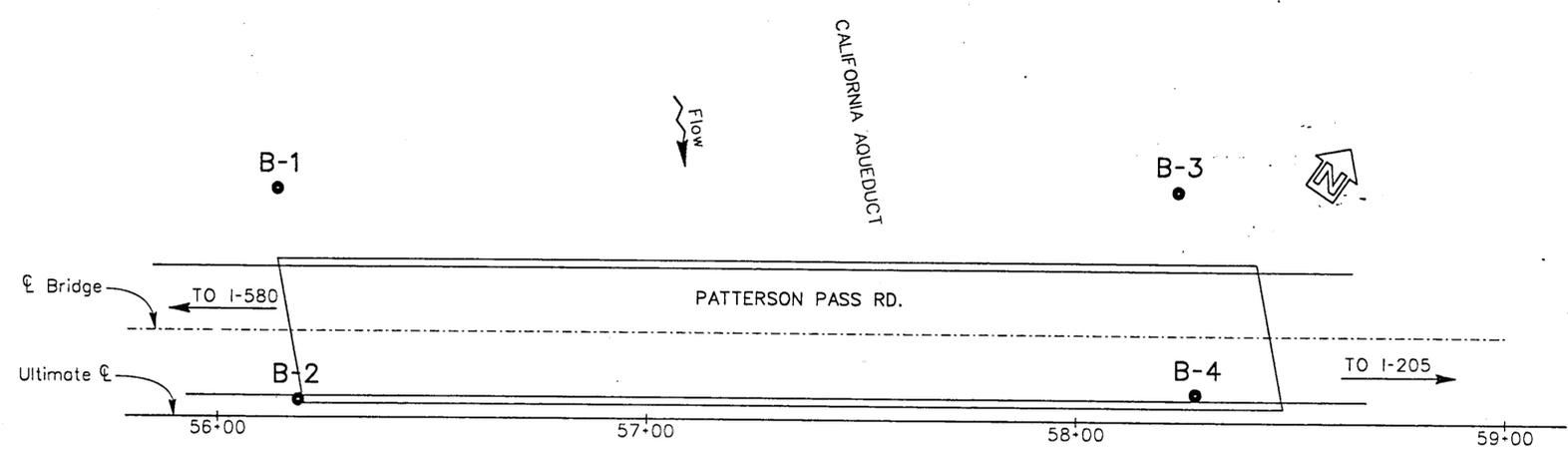
BRIDGE 29C-83 FILE DRAWING 29CP3-13

56

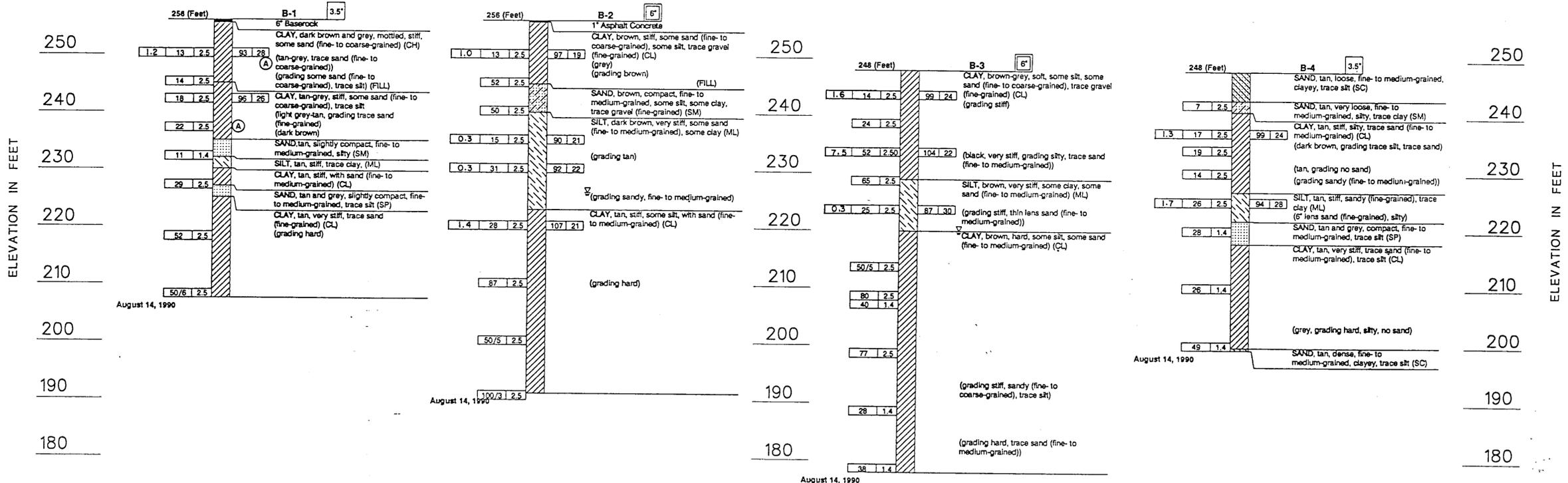
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO | TOTAL SHEETS |
|------|--------|-------|--------------------------|----------|--------------|
| | | | | | |

R. L. Bajuniem
 GEOTECHNICAL PROFESSIONAL
 7-25-91
 PLANS APPROVAL DATE

R. L. BAJUNIEMI
 NO. GE 112
 EXP. 12/1/93
 STATE OF CALIFORNIA



PLAN
 SCALE: 1" = 20'



- LEGEND**
- ⊖ - Consolidation
 - ⊙ - Direct Shear
 - ⊕ - Triaxial Compression
 - ⊖ - Expansion
 - ⊙ - Gradation
 - ⊕ - Atterberg Limit

NOTE: Classification of earth materials as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

LEGEND OF BORING OPERATIONS

3 1/2" CORE PENETRATION BORING

2 1/2" CORE PENETRATION BORING

ROTARY SAMPLE BORING (W.C.T.)

SAMPLE BORING (D.T.)

3 1/2" CORE PENETRATION BORING

2 1/2" CORE PENETRATION BORING

ROTARY SAMPLE BORING (W.C.T.)

SAMPLE BORING (D.T.)

3 1/2" CORE PENETRATION BORING

2 1/2" CORE PENETRATION BORING

ROTARY SAMPLE BORING (W.C.T.)

SAMPLE BORING (D.T.)

LEGEND OF EARTH MATERIALS

GRAVEL, SAND, SILT, CLAY, SANDY CLAY, CLAYEY SILT, SANDY SAND, SILTY SAND, SILTY CLAY, CLAYEY SILT, CLAYEY SAND, CLAYEY SILT, SANDY CLAY, CLAYEY SAND, SANDY SAND, SILTY SAND, SILTY CLAY.

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

| Penetration Index (Blows/Ft) | Cohesive | Non-cohesive |
|------------------------------|------------|------------------|
| 0-4 | Very soft | Very loose |
| 5-9 | Soft | Loose |
| 10-19 | Stiff | Slightly compact |
| 20-34 | Very stiff | Compact |
| 35-69 | Hard | Dense |
| >70 | Very hard | Very dense |

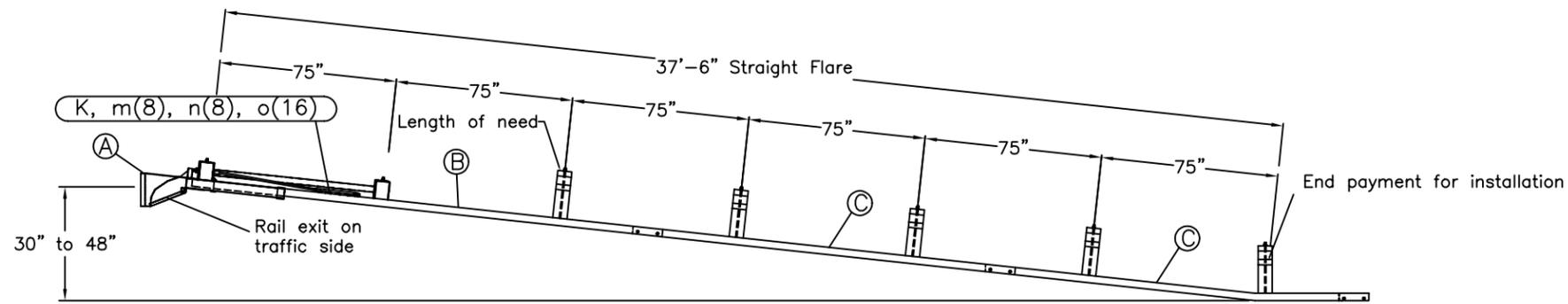
STATE NO. 29C-083L

1 1/2" As Built

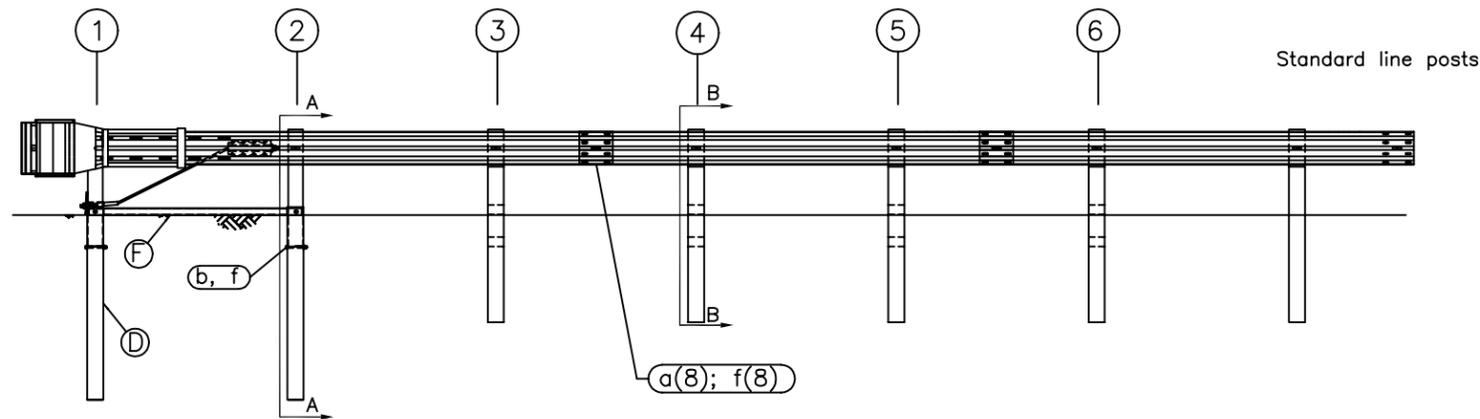
Sverdrup CORPORATION
 WALNUT CREEK, CALIFORNIA

PATTERSON PASS RD. BRIDGE 2
LOG OF TEST BORINGS

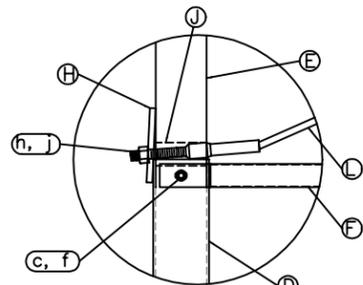
| | | |
|-----------------|-------------------------------|-------------------|
| SCALE: As Noted | SUBMITTED | DATE: 7-25-91 |
| DESIGNED: L. G. | APPROVED: <i>Thomas J. J.</i> | DRAWING NO. B4-13 |
| DRAWN: W. W. | CHECKED: T. J. | |



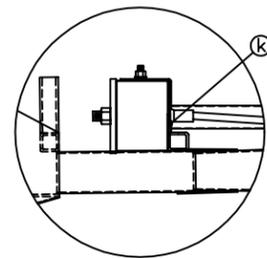
TRAFFIC → PLAN



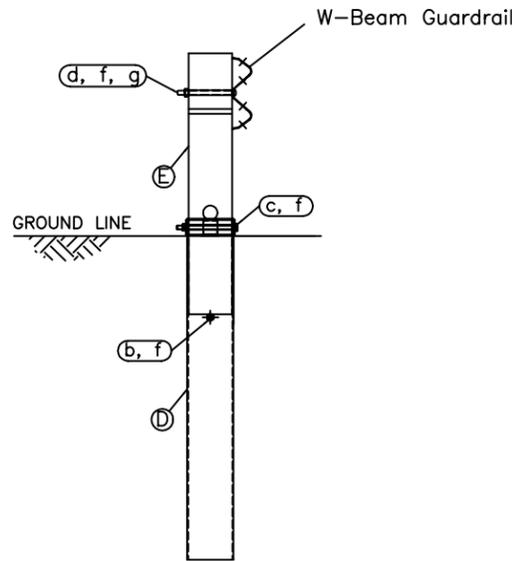
ELEVATION



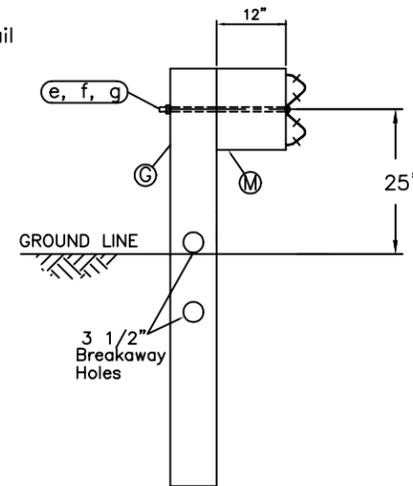
POST #1 CONNECTION DETAILS



IMPACT HEAD CONNECTION DETAIL



SECTION A-A
Post #2



SECTION B-B
Posts 3 thru 6

| ITEM | QTY | BILL OF MATERIALS | ITEM NO. |
|-------------------------------------|-----|--------------------------------------|-----------|
| A | 1 | IMPACT HEAD | F3000 |
| B | 1 | W-BEAM GUARDRAIL END SECTION, 12 Ga. | F1303 MGS |
| C | 2 | W-BEAM GUARDRAIL, 12 Ga. | G1203 MGS |
| D | 2 | FOUNDATION TUBE | E731 |
| E | 2 | BCT WOOD POST | P650 MGS |
| F | 1 | GROUND STRUT | E780 |
| G | 4 | CRT WOOD POST | P671 MGS |
| H | 1 | BEARING PLATE | E750 |
| J | 1 | PIPE SLEEVE | E740 |
| K | 1 | CABLE ANCHOR BOX | S760 |
| L | 1 | BCT CABLE ANCHOR ASSEMBLY | E770 |
| M | 4 | MGS TIMBER BLOCKOUT OR RECYC. EQUIV. | P618 |
| HARDWARE (ALL DIMENSIONS IN INCHES) | | | |
| a | 16 | 5/8 ϕ x 1 1/4 SPLICE BOLT | B580122 |
| b | 2 | 5/8 ϕ x 7 1/2 HEX BOLT | B580754 |
| c | 2 | 5/8 ϕ x 10 HEX BOLT | B581004 |
| d | 1 | 5/8 ϕ x 10 H.G.R. BOLT | B581002 |
| e | 4 | 5/8 ϕ x 22 H.G.R. BOLT | B582202 |
| f | 25 | 5/8 ϕ H.G.R. NUT | N050 |
| g | 5 | H.G.R. WASHER | W050 |
| h | 1 | ANCHOR CABLE HEX NUT | N100 |
| j | 2 | ANCHOR CABLE WASHER | W100 |
| k | 2 | 3/8 x 3 LAG SCREW | E350 |
| m | 8 | CABLE ANCHOR BOX SHOULDER BOLT | SB58A |
| n | 8 | 1/2 A325 STRUCTURAL NUT | N055A |
| o | 16 | 1 1/16 OD x 9/16 ID A325 STR. WASHER | W050A |

GENERAL NOTES:

1. Breakaway posts are required with the FLEAT.
2. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
3. The foundation tubes shall not protrude more than 4 in above the ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
4. When rock is encountered, a 12" ϕ post hole, 20 in into the rock surface may be used if approved by the engineer. Granular material will be placed in the bottom of the hole, approximately 2.5" deep to provide drainage. The first two posts can be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
5. The breakaway cable assembly must be taut. A locking device (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
6. The soil tubes may be driven with an approved driving head. They shall not be driven with the post in the tube.
7. The wood blockouts should be "toe-nailed" to the rectangular wood posts to prevent them from turning when the wood shrinks.



Road Systems, Inc.

Big Spring, TX
Phone: 432-263-2435
or Phone: 330-346-0721

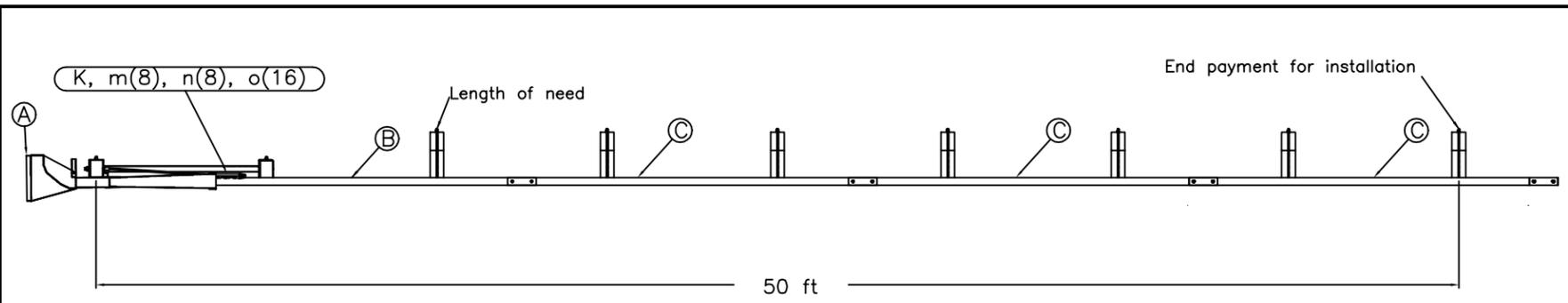
Flared Energy Absorbing
Terminal - FLEAT Assembly
Midwest Guardrail System

Wood Post System

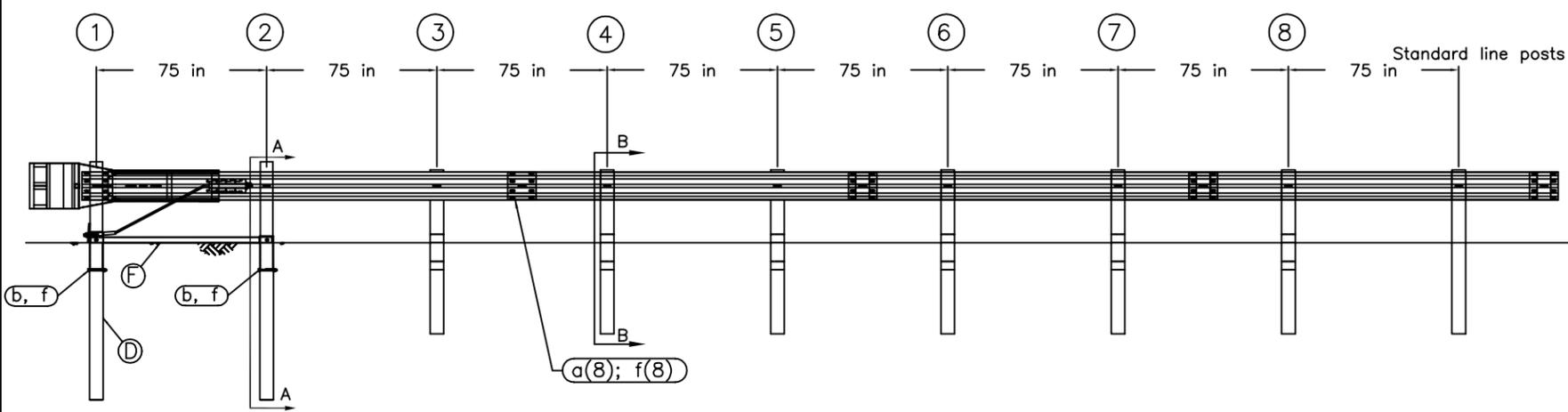
Drawing Name:
FLT-MGS-W-US

Scale:
None

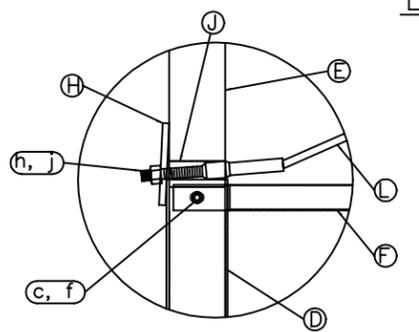
Sheet:
A1
Date:
12/01/2004
By:
JRR
Rev:
0



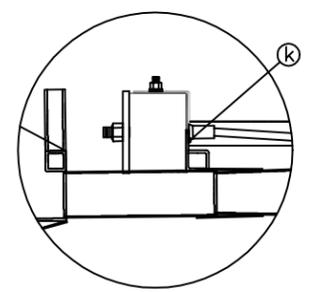
TRAFFIC → PLAN



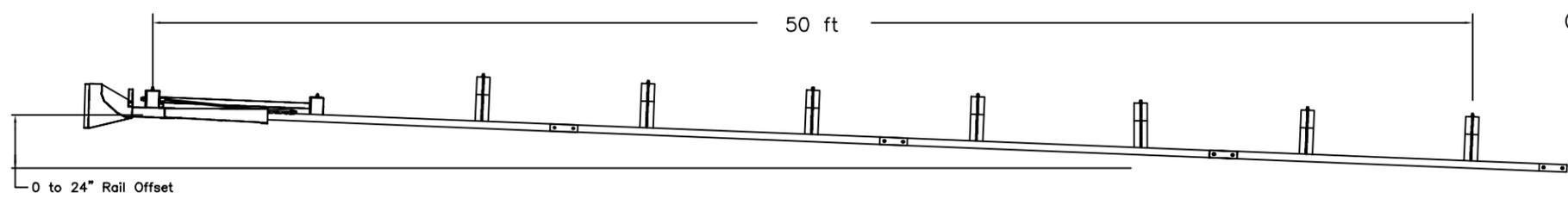
ELEVATION



POST #1 CONNECTION DETAIL



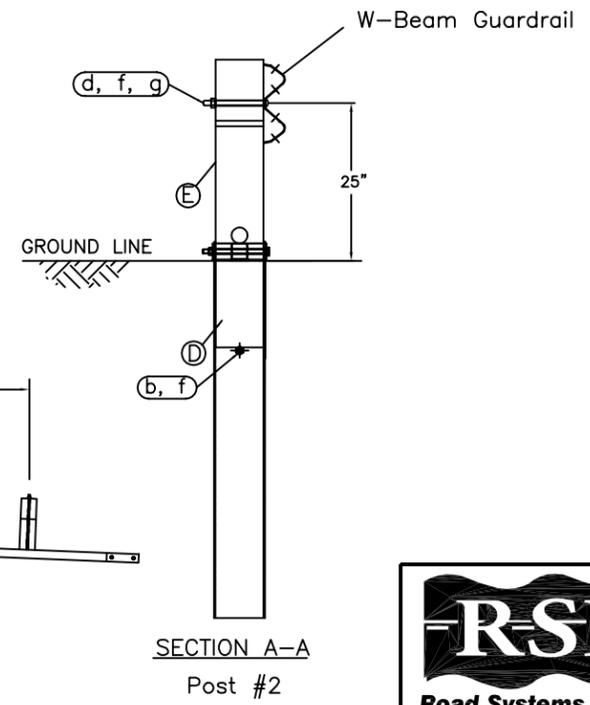
IMPACT HEAD CONNECTION DETAIL



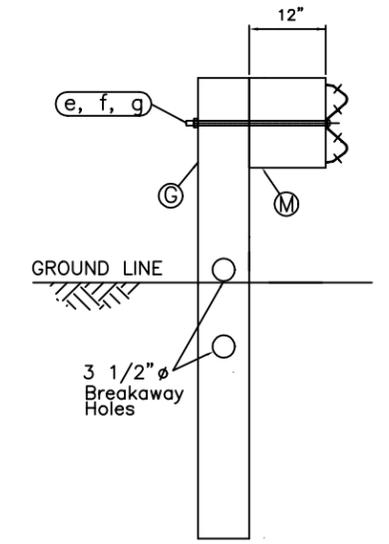
OPTIONAL FLARED INSTALLATION
25:1 maximum flare rate

- GENERAL NOTES:
1. Breakaway posts are required with the SKT.
 2. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
 3. The SKT can be flared at a rate of up to 25:1 to prevent the impact head from encroaching on the shoulder.
 4. The foundation tubes shall not protrude more than 4" above the ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
 5. When rock is encountered, a 12" Ø post hole, 20" into the rock surface may be used if approved by the engineer. Granular material will be placed in the bottom of the hole, approximately 2.5" deep to provide drainage. The first two posts can be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
 6. The breakaway cable assembly must be taut. A locking device (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
 7. A site evaluation should be considered if there is less than 25' between the outlet side of the terminal and any adjacent driving lane.
 8. The soil tubes may be driven with an approved driving head. They shall not be driven with the post in the tube.
 9. The wood blockouts should be "toe-nailed" to the rectangular wood posts to prevent them from turning when the wood shrinks.

| ITEM | QTY | BILL OF MATERIALS | ITEM NO. |
|-------------------------------------|-----|--------------------------------------|-----------|
| A | 1 | IMPACT HEAD | S3000 |
| B | 1 | W-BEAM GUARDRAIL END SECTION, 12 Ga. | S1303 MGS |
| C | 3 | W-BEAM GUARDRAIL, 12 Ga. | G1203 MGS |
| D | 2 | FOUNDATION TUBE | E731 |
| E | 2 | BCT WOOD POST | P650 MGS |
| F | 1 | GROUND STRUT | E780 |
| G | 6 | CRT WOOD POST | P671 MGS |
| H | 1 | BEARING PLATE | E750 |
| J | 1 | PIPE SLEEVE | E740 |
| K | 1 | CABLE ANCHOR BOX | S760 |
| L | 1 | BCT CABLE ANCHOR ASSEMBLY | E770 |
| M | 6 | MGS TIMBER BLOCKOUT OR EQUIV. | P618 |
| HARDWARE (ALL DIMENSIONS IN INCHES) | | | |
| a | 24 | 5/8Ø x 1 1/4 SPLICE BOLT | B580122 |
| b | 2 | 5/8Ø x 7 1/2 HEX BOLT | B580754 |
| c | 2 | 5/8Ø x 10 HEX BOLT | B581004 |
| d | 1 | 5/8Ø x 10 H.G.R. BOLT | B581002 |
| e | 6 | 5/8Ø x 22 H.G.R. BOLT | B582202 |
| f | 35 | 5/8Ø H.G.R. NUT | N050 |
| g | 7 | H.G.R. WASHER | W050 |
| h | 2 | 1 ANCHOR CABLE HEX NUT | N100 |
| j | 2 | 1 ANCHOR CABLE WASHER | W100 |
| k | 2 | 3/8 x 3 LAG SCREW | E350 |
| m | 8 | CABLE ANCHOR BOX SHOULDER BOLT | SB58A |
| n | 8 | 1/2 A325 STRUCTURAL NUT | N055A |
| o | 16 | 1 1/16 OD x 9/16 ID A325 STR. WASHER | W050A |



SECTION A-A
Post #2



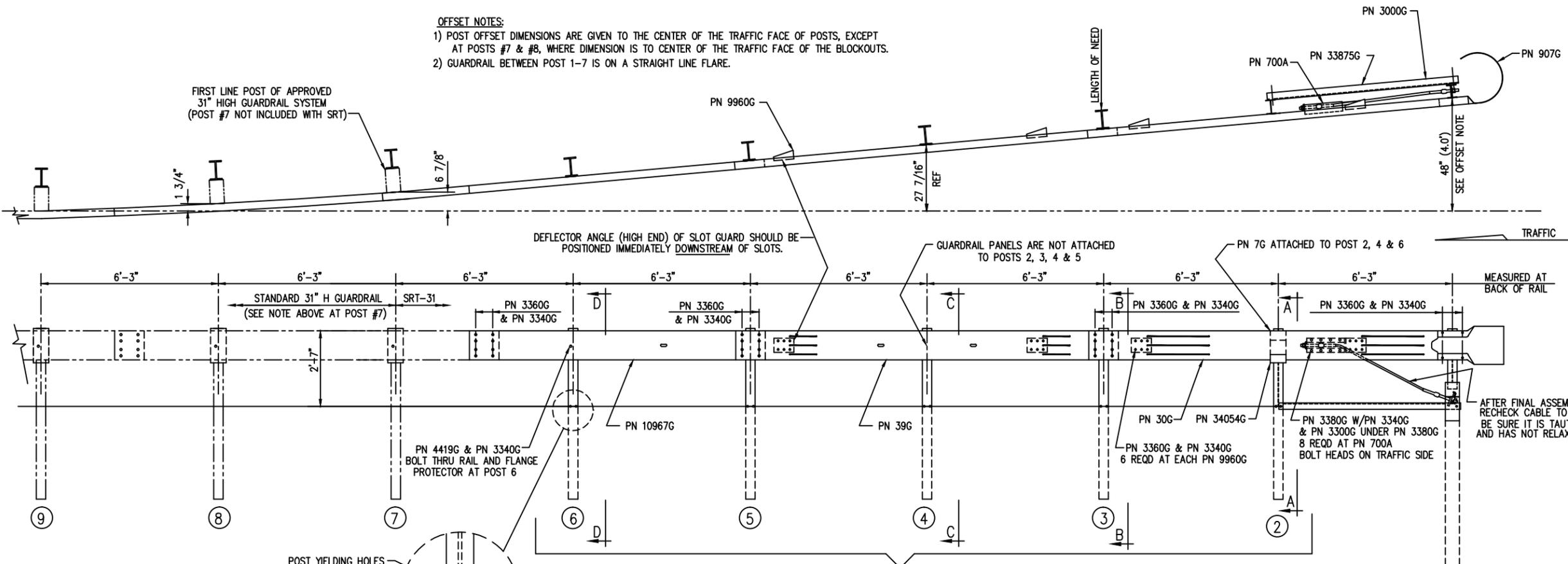
SECTION B-B
Posts 3 thru 8

RSI
Road Systems, Inc.
Big Spring, TX
Phone: 432-263-2435
or Phone: 330-346-0721

| | | |
|---|-----------------------|--------------------------|
| Sequential Kinking Terminal SKT - Assembly | | Sheet: A1 |
| Midwest Guardrail System Wood Post System | | Date: 12/01/04 |
| | | By: JRR |
| Drawing Name: SKT-MGS-W-US | Scale: NONE | Rev: 0 |

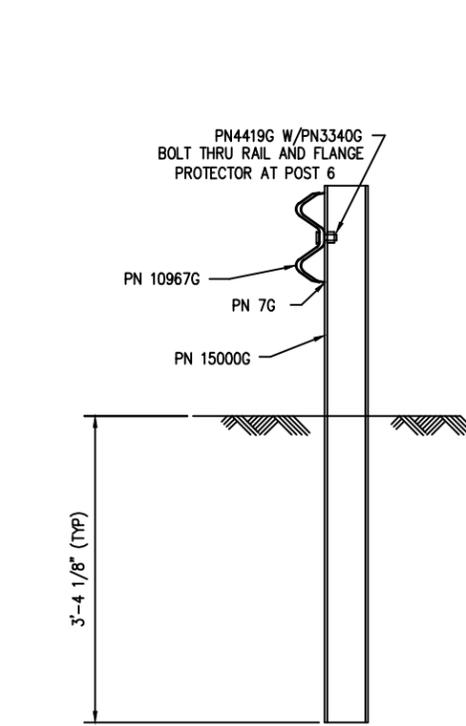
OFFSET NOTES:
 1) POST OFFSET DIMENSIONS ARE GIVEN TO THE CENTER OF THE TRAFFIC FACE OF POSTS, EXCEPT AT POSTS #7 & #8, WHERE DIMENSION IS TO CENTER OF THE TRAFFIC FACE OF THE BLOCKOUTS.
 2) GUARDRAIL BETWEEN POST 1-7 IS ON A STRAIGHT LINE FLARE.

FIRST LINE POST OF APPROVED 31" HIGH GUARDRAIL SYSTEM (POST #7 NOT INCLUDED WITH SRT)

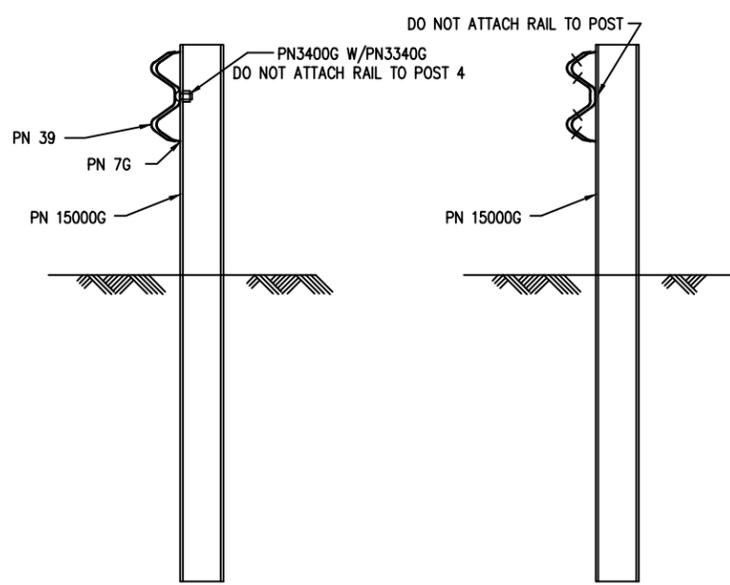


| BILL OF MATERIAL | | |
|------------------|-----|---|
| PN | QTY | DESCRIPTION |
| 7G | 3 | 12/6"/FLG PROTECTOR (AT POST 2, 4 & 6) |
| 30G | 1 | 12/12/6"/S SRT-1 (GUARDRAIL) |
| 39G | 1 | 12/12/6"/S SRT-2 (GUARDRAIL) |
| 700A | 1 | CABLE ANCHOR BRACKET |
| 907G | 1 | 12/BUFFER/ROLLED (TERMINAL) |
| 3000G | 1 | 3/4 x 6'-6" CABLE |
| HARDWARE | | |
| 3240G | 2 | 5/16" WASHER (AT POST 1) |
| 3245G | 2 | 5/16" HEX NUT (AT POST 1) |
| 3300G | 12 | 5/8" WASHER |
| 3340G | 67 | 5/8" HEX HGR NUT |
| 3360G | 52 | 5/8" x 1 1/4" HGR SPLICE BOLT |
| 3380G | 8 | 5/8" x 1 1/2" HEX HD BOLT |
| 3400G | 4 | 5/8" x 2" HGR POST BOLT (AT POSTS 1, 2 & 4) |
| 3391G | 2 | 5/8" x 1 3/4" HEX BOLT (A325) (AT STRUT) |
| 3900G | 2 | 1" WASHER (AT CABLE) |
| 3910G | 2 | 1" HEX NUT (AT CABLE) |
| 4211G | 2 | 5/16" x 1 3/4" HEX BOLT (AT POST 1) |
| 4419G | 1 | 5/8" x 1 3/4" COUNTERSUNK HD BOLT (AT POST 6) |
| 9960G | 4 | SLOT GUARD BRACKET |
| 10967G | 1 | 12/9/4.5/31.5/S SRT-3 (GUARDRAIL) |
| 15000G | 5 | 6'-0" SYT POST (W6 X 8.5) |
| 33909G | 1 | CABLE ANCHOR BRACKET (AT POST 1) |
| 33875G | 1 | ANGLE STRUT 3 x 3 x 1/4 |
| 34052A | 1 | CR POST 1 BOT (W6 X 15) |
| 34053A | 1 | CR POST 1 TOP (W6 X 8.5) |
| 34054G | 1 | POST SHELF ANGLE (AT POST 2) |

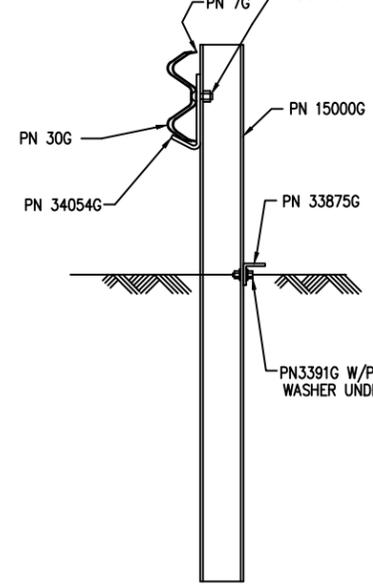
AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.



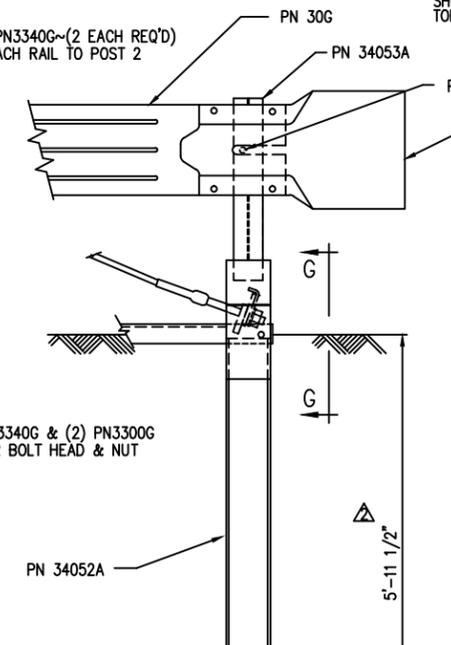
SECTION "D-D"
(@ POST #6)



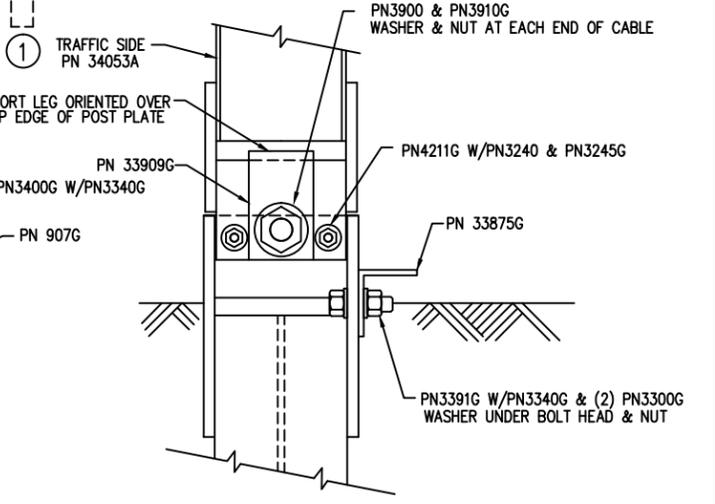
SECTION "C-C"
(@ POST #4)



SECTION "B-B"
(@ POST #3 & #5)



SECTION "A-A"
(@ POST #2)



ENLARGED VIEW @ POST #1

| REV. | CHK'D | BY | DATE | REMARKS |
|------|-------|----|---------|---|
| 4 | BT | LH | 10/6/10 | OFFSET POSTS #7 & #8 |
| 3 | BT | LH | 2/26/09 | REVISED HARDWARE |
| 2 | SG | LH | 7/28/08 | REVISED POST #1 LENGTH IN GROUND |
| 1 | SG | LH | 1/16/08 | REVISED HARDWARE QUANTITY IN BILL OF MATERIAL |

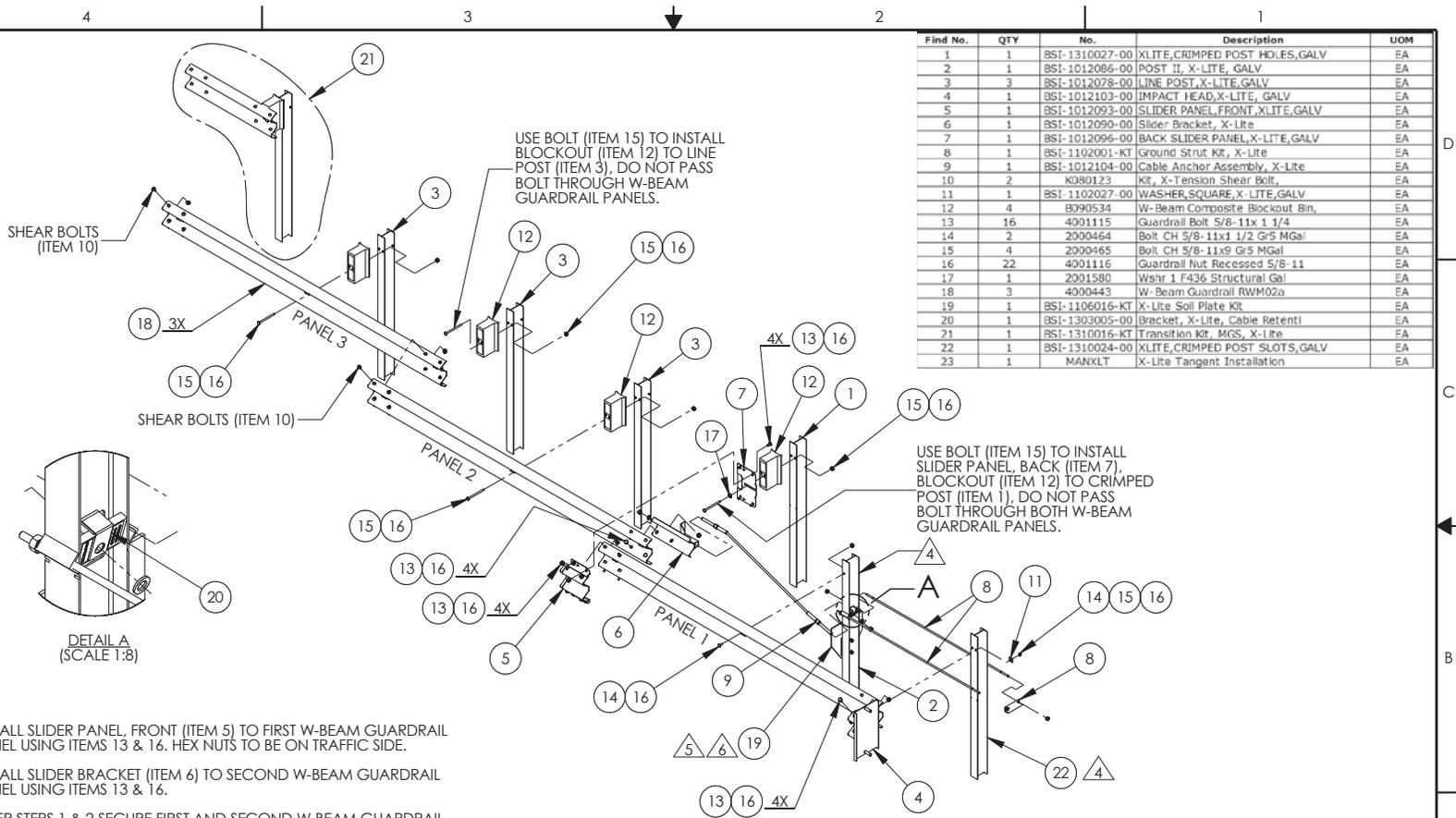


SLOTTED RAIL TERMINAL SRT-31 (31" H)
 ERECTION DETAILS
 (3 PANELS, CR AND SYT POSTS)

| | |
|---|--|
| TRINITY HIGHWAY PRODUCTS, LLC. 2525 STEMMONS FREEWAY DALLAS, TX 75207 | DRAWN BT CHECKED SG SCALE NTS DATE 10/30/07 ENG. FILE # SS436-01E SHT.No. E1 OF 1 DRAWING NO. SS 436 REV. 4 |
|---|--|

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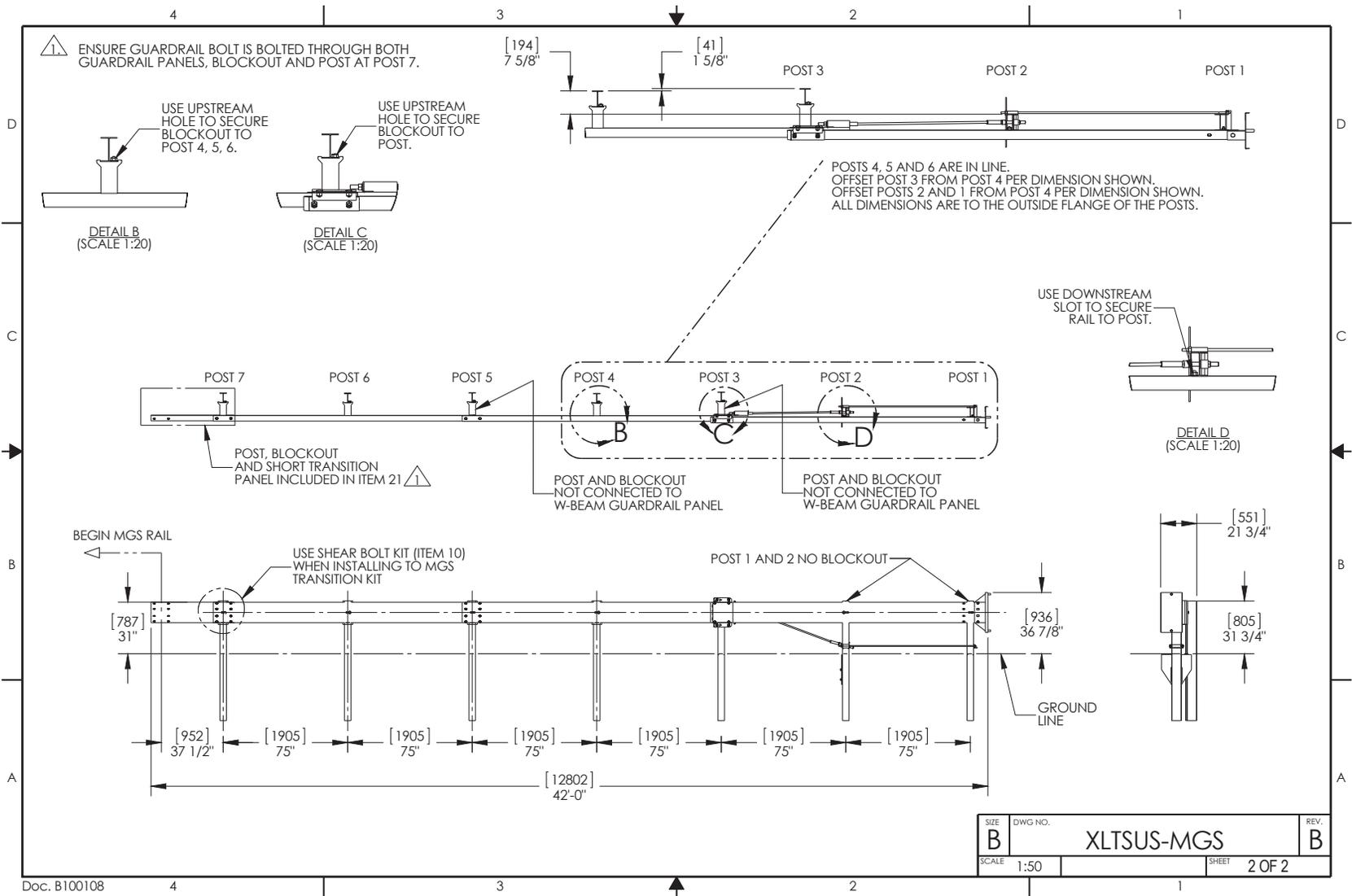
| Find No. | QTY | No. | Description | UOM |
|----------|-----|----------------|-----------------------------------|-----|
| 1 | 1 | BSI-1310027-00 | XLITE, CRIMPED POST HOLES, GALV | EA |
| 2 | 1 | BSI-1012066-00 | POST II, X-LITE, GALV | EA |
| 3 | 3 | BSI-1012078-00 | LINE POST, X-LITE, GALV | EA |
| 4 | 1 | BSI-1012103-00 | IMPACT HEAD, X-LITE, GALV | EA |
| 5 | 1 | BSI-1012093-00 | SLIDER PANEL, FRONT, X-LITE, GALV | EA |
| 6 | 1 | BSI-1012090-00 | Slider Bracket, X-Lite | EA |
| 7 | 1 | BSI-1012096-00 | BACK SLIDER PANEL, X-LITE, GALV | EA |
| 8 | 1 | BSI-1102001-KT | Ground Strut Kit, X-Lite | EA |
| 9 | 1 | BSI-1012104-00 | Cable Anchor Assembly, X-Lite | EA |
| 10 | 2 | KD80123 | Kit, X-Tension Shear Bolt, | EA |
| 11 | 1 | BSI-1102027-00 | WASHER, SQUARE, X-LITE, GALV | EA |
| 12 | 4 | B090534 | W-Beam Composite Blockout Bin, | EA |
| 13 | 16 | 4001115 | Guardrail Bolt 5/8-11x 1 1/4 | EA |
| 14 | 2 | 2000464 | Bolt CH 5/8-11x1 1/2 Gr5 MGal | EA |
| 15 | 4 | 2000465 | Bolt CH 5/8-11x9 Gr5 MGal | EA |
| 16 | 22 | 4001116 | Guardrail Nut Recessed 5/8-11 | EA |
| 17 | 1 | 2001580 | Wshr 1 F436 Structural Gal | EA |
| 18 | 3 | 4000443 | W-Beam Guardrail RWM02a | EA |
| 19 | 1 | BSI-1106016-KT | X-Lite Soil Plate Kit | EA |
| 20 | 1 | BSI-1303005-00 | Bracket, X-Lite, Cable Retenti | EA |
| 21 | 1 | BSI-1310016-KT | Transition Kit, MGS, X-Lite | EA |
| 22 | 1 | BSI-1310024-00 | XLITE, CRIMPED POST SLOTS, GALV | EA |
| 23 | 1 | MANXLT | X-Lite Tangent Installation | EA |

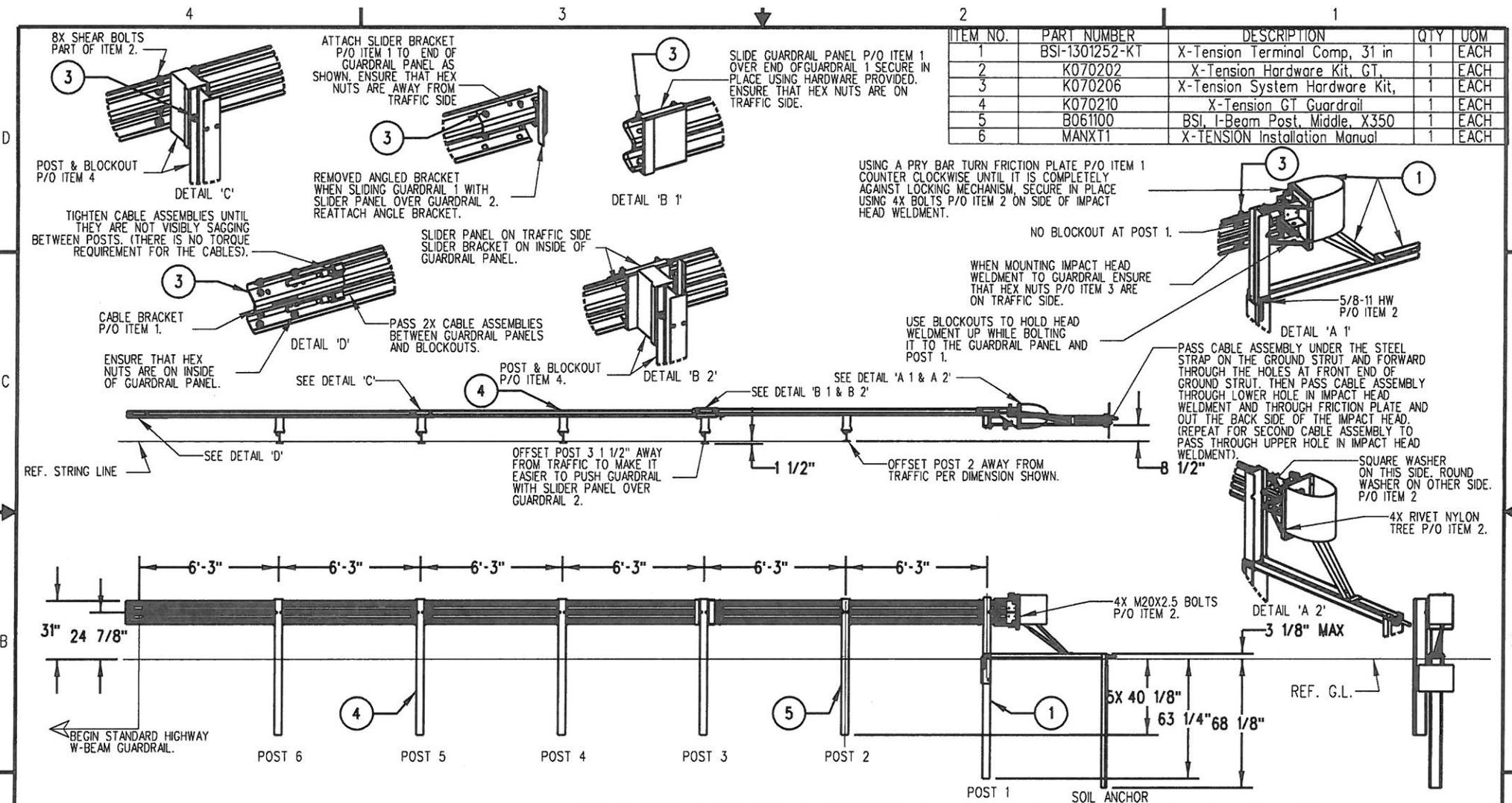


1. INSTALL SLIDER PANEL, FRONT (ITEM 5) TO FIRST W-BEAM GUARDRAIL PANEL USING ITEMS 13 & 16. HEX NUTS TO BE ON TRAFFIC SIDE.
2. INSTALL SLIDER BRACKET (ITEM 6) TO SECOND W-BEAM GUARDRAIL PANEL USING ITEMS 13 & 16.
3. AFTER STEPS 1 & 2 SECURE FIRST AND SECOND W-BEAM GUARDRAIL PANEL USING ITEMS 7, 13 & 16. HEX NUTS TO BE ON TRAFFIC SIDE.
4. SLOT ON POSTS 1 AND 2 TO FACE GUARDRAIL PANEL.
5. IF ROCK OR STIFF SOIL IS ENCOUNTERED, THE POST AND SOIL PLATE MAY BE INSTALLED BY AUGERING AND BACKFILLING THE HOLE. EXTRA CARE MUST BE TAKEN TO PREVENT SETTLEMENT OR LATERAL DISPLACEMENT OF THE POST. BACKFILL MATERIAL SHALL BE COMPACTED TO OPTIMUM COMPACTION.
6. IF ROCK IS ENCOUNTERED, THE SOIL PLATE MAY BE MODIFIED IF APPROVED BY THE PROJECT ENGINEER.

| | | | | | |
|---|--|--|--|--|--|
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| APPROVALS DRAWN BY: JMT DRAWN DATE: 10/09/2013 APPRD BY: GAD APPRD DATE: 10/09/13 | | THIRD ANGLE PROJECTION DO NOT SCALE DRAWING | | TITLE: X-LITE SYSTEM ASSEMBLY, TANGENT, TRANSITION TO MGS SIZE: B DWG NO.: XLTSUS-MGS SCALE: 1:40 SHEET: 1 OF 2 | |
| | | INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5-1994 | | REV. B DATE: 01/23/14 ECN#: 2151 DATE: 11/13/13 | |

Appendix A - System Configuration, 37' 6" MGS





| ITEM NO. | PART NUMBER | DESCRIPTION | QTY | UOM |
|----------|----------------|--------------------------------|-----|------|
| 1 | BSI-1301252-KT | X-Tension Terminal Comp, 31 in | 1 | EACH |
| 2 | K070202 | X-Tension Hardware Kit, GT, | 1 | EACH |
| 3 | K070206 | X-Tension System Hardware Kit, | 1 | EACH |
| 4 | K070210 | X-Tension GT Guardrail | 1 | EACH |
| 5 | B061100 | BSL I-Beam Post, Middle, X350 | 1 | EACH |
| 6 | MANXT1 | X-TENSION Installation Manual | 1 | EACH |

- NOTES: UNLESS OTHERWISE SPECIFIED.
- SYSTEM TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
 - ONLY TIGHTEN THE CABLE ASSEMBLIES USING THE NUTS AT THE CABLE BRACKET (SEE DETAIL 'D'). DO NOT TIGHTEN THE CABLES AT THE FRONT OF THE GROUND ANCHOR.
 - WHEN DRIVING STEEL POST, ENSURE THAT A DRIVING CAP WITH TIMBER OR PLASTIC INSERT IS USED TO PREVENT DAMAGE TO THE GALVANIZING TO THE TOP OF THE POST.

| | | | | | | | |
|--|---|--|---------------------|---|---|--|---------------------------------|
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| APPROVALS | | | | TITLE X-TENSION GUARDRAIL TERMINAL SYSTEM STEEL POST WITH COMPOSITE BLOCKOUT 31" RAIL HEIGHT | | | |
| <small>DRAWN BY:</small> NMV <small>DRAWN DATE:</small> 2/08/13 <small>APPR'D BY:</small> JMT <small>APPR'D DATE:</small> 2/08/13 | <small>THIRD ANGLE PROJECTION</small> | <small>REV</small> <small>ECN*</small> | <small>DATE</small> | <small>SIZE</small> B | <small>DWG NO.</small> 03/02/13 2708/13 | <small>SCALE</small> 1:50 | <small>REV.</small> B |
| <small>DO NOT SCALE DRAWING</small> | | | | | | <small>SHEET</small> 1 OF 1 | |

Kelley Geyer
Byron-Bethany Irrigation District
Director Administration/IT
Byron Sanitary District
7995 Bruns Road
Byron, California 94515-1625
Direct: 209-606-5016
Fax: 209-835-2869

Snehalatha Pavuluri

From: Kelley Geyer [k.geyer@bbid.org]
Sent: Monday, April 06, 2015 5:25 PM
To: Snehalatha Pavuluri; 'Kelley Geyer'
Cc: Nabaz Saieed
Subject: RE: I 580 Caltrans Freeway Improvements - Water Usage

Sneha,

Yes we can supply your project with water; the cost are \$986.50 per acre foot.

Kelley

From: Snehalatha Pavuluri [<mailto:snehalatha.pavuluri@tylin.com>]
Sent: Tuesday, March 31, 2015 9:04 AM
To: k.geyer@bbid.org
Cc: Nabaz Saieed
Subject: FW: I 580 Caltrans Freeway Improvements - Water Usage
Importance: High

Hi Kelley,

Any update on the water availability? Please let me know.

We need to provide Caltrans with the information by May 1st, 2015.

Thanks
Sneha

From: Snehalatha Pavuluri
Sent: Tuesday, March 10, 2015 11:28 AM
To: 'k.geyer@bbid.org'
Cc: Nabaz Saieed
Subject: I 580 Caltrans Freeway Improvements - Water Usage

Hi Kelley,

Here is the information.

Please let me know if you have any questions or need further information.

Thanks

Sneha Pavuluri PE
Design Engineer

TYLIN INTERNATIONAL

2010 Crow Canyon Place, Suite 350

San Ramon, CA 94583

925.365.3976 direct

925.275.0117 fax

snehalatha.pavuluri@tylin.com

Visit us online at www.tylin.com

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From: Snehalatha Pavuluri
Sent: Friday, February 13, 2015 11:33 AM
To: 'k.geyer@bbid.org'
Cc: Nabaz Saieed
Subject: I 580 Caltrans Freeway Improvements - Water Usage

Hi Kelley,

Thank you for getting back to me regarding the water availability.

Attached is the Project vicinity map and Title Sheet showing the construction. Also included is the spread sheet showing various construction activities requiring water usage.

We have estimated about 7.5 million gallons of water is needed for the project construction.

The construction of the project will begin in February of 2016 and will end in February of 2017.

All we need at this time is a confirmation email from you regarding water availability and whether or not Irrigation district can supply water during construction?

Please let me know if you need further information.

Thanks

Sneha Pavuluri PE
Design Engineer

TYLIN INTERNATIONAL
2010 Crow Canyon Place, Suite 350
San Ramon, CA 94583
925.365.3976 direct
925.275.0117 fax

snehalatha.pavuluri@tylin.com

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