INFORMATION HANDOUT

For Contract No. 03-4E8604
At 03-Pla-193-4.4/5.5

Identified by
Project ID 0300000725

PERMITS

United States Army Corps of Engineers

WATER QUALITY

California Regional Water Quality Control Board

AGREEMENTS

California Department of Fish and Wildlife

Notification No. 1600-2014-0221-R2

MATERIALS INFORMATION

Geotechnical Design Report and Addendum

Water Source Information

Contact Information for United Auburn Indian Community (UAIC)

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

February 24, 2015

Regulatory Division (SPK-2011-00671)

State of California
Department of Transportation, District 3
Attn: Mr. John Holder
703 B Street
Marysville, California 95901-0911

Dear Mr. Holder:

This letter of permission (LOP) authorizes your proposed activities in approximately 1.221 acres of waters of the United States, including wetlands, for the State Route (SR) 193 Curve Correction project. The project is located on SR 193, from post mile (PM) 4.4 to 5.4, near Auburn Ravine, in Section 16, Township 12 North, Range 7 East, Mount Diablo Meridian, Latitude 38.8865°, Longitude -121.2094°, Newcastle, Placer County, California.

The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer. **Work in waters of the United States must be in accordance with the following conditions of authorization and the enclosed General LOP Conditions listed in Attachment A, "General LOP Conditions" (enclosure 1):**

Special Conditions:

1. To mitigate for the loss of 0.908 acre of palustrine habitat, 0.027 acre of riverine habitat, and indirect affects to waters of the United States, you shall purchase 1.87 credits of vernal pool establishment at Toad Hill Mitigation Bank. Evidence of this purchase shall be provided to this office prior to initiation of construction activities within waters of the U.S.

2. Prior to construction, and to ensure your project complies with the National Historic Preservation Act, you shall complete subsurface testing at P-31-5466, to confirm your preliminary evaluation of the site as not eligible, and submit to this office, a SHPO concurrence letter and associated documents to support your finding of affect for P-31-5466.

3. The enclosed document entitled *Placer 193 Curve Correction (Impact Map) (enclosure 2), Pages 1 – 4*, dated September 15, 2014, prepared by Caltrans, is incorporated by reference as a condition of this authorization. Any deviations from the work as proposed in this document, which result in additional impacts to waters of the U.S., including wetlands, must be coordinated with this office prior to impacts.

4. Off-site staging, disposal, and stockpile areas, not within the permit area as shown on enclosure 2, must be reviewed and approved by this office prior to commencement of construction activities. Plans, maps and/or drawings may be submitted electronically to regulatory-info@usace.army.mil. Excavated materials from the project area shall not be stockpiled or disposed of outside project limits, unless otherwise approved by this office.

5. Within 30 days prior to initiation of construction activities within waters of the U.S., you shall submit to this office pre-construction photographs of the waters of the U.S., proposed to be impacted, which have been taken no more than 180 days prior to initiation of construction activities. Within 30 days following construction activities, you shall submit post-construction photographs of the impact areas, to this office, showing the completed work. The camera positions and view angles of post-construction photographs shall be identified on a map, aerial photo, or project drawing.

6. You shall comply with all terms and conditions of the enclosed September 18, 2014, (WDID# 5A31CR00390) Section 401 Water Quality Certification (enclosure 3).

7. You shall notify this office of the start and completion dates for the authorized work within 15 calendar days prior to initiation of construction activities within waters of the U.S. and 30 calendar days following completion of construction activities.

8. Within 180 days following completion of the authorized work or at the expiration of the construction window of this permit, whichever occurs first, you shall submit as-built drawings of the competed work to this office for review. The drawings shall be signed and sealed by a registered professional engineer and include the following:

a. The Department of the Army Permit number.

b. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in the same scale as the attached permit drawings. The drawing should show all "earth disturbance," wetland impacts, structures, and the boundaries of any avoidance areas. The drawings shall contain, at a minimum, 105-foot topographic contours of the entire site.

c. Ground and/or aerial photographs of the completed work. The camera positions and view-angles of the ground photographs shall be identified on a map, aerial photograph, or project drawing.

d. A description and list of all deviations between the work as authorized by this permit and the work as constructed, clearly indicating on the as-built drawings the location of any deviations that have been listed.

9. You are responsible for all work authorized herein and ensuring that all contractors and workers are made aware and adhere to the terms and conditions of this permit authorization. You shall ensure that a copy of the permit authorization and associated drawings are available for quick reference at the project site until all construction activities are completed.

10. No construction activities shall be conducted in standing or flowing water. Temporary dewatering or diversion plans must be approved, in writing, by this office prior to commencement of construction activities. Plans, maps and/or drawings may be submitted electronically to regulatory-info@usace.army.mil.

11. You shall employ a wetland scientist to continuously monitor construction activities in, and around, waters of the U.S., including wetlands, to ensure against unauthorized activity during construction. The monitor shall observe all construction activities in waters of the U.S. and within 50 feet of avoided waters of the U.S.

12. You shall employ a qualified archeologist, meeting the Secretary of Interior's Professional Qualifications Standards for Archeology (48 FR 44738-39), to monitor all project-related initial ground-disturbing activities, including excavation, grading, etc., to ensure against unauthorized activity during construction. The monitor shall observe all initial ground-disturbing activities, including excavation activities, sidewalls, and dirt piles.

13. This Corps permit does not authorize you to take an endangered species, in particular, the Federally-listed as threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) and California red-legged frog (*Rana aurora draytonii*). In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., an Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with "incidental take" provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Service file number 08ESMF00-2012-F-0566-1, dated November 14, 2012) (enclosure 4), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with "incidental take" of the attached Biological Opinion, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The U. S. Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. You must comply with all conditions of this Biological Opinion.

14. You shall clearly identify the limits of disturbance in the field with highly visible markers (e.g. construction fencing, flagging, silt barriers, etc.) prior to commencement of construction activities within waters of the U.S. You shall maintain such identification properly until construction is completed and the soils have been stabilized. You are prohibited from any activity (e.g. equipment usage or materials storage) that impacts waters of the U.S. outside of the permit limits (as shown on enclosure 2).

15. You shall follow specifications and standards described in the Storm Water Pollution Prevention Plan (SWPPP) and/or Water Pollution Control Plan (WPCP) to prevent erosion and sedimentation during and after construction. Between construction seasons all equipment and materials, with the exception of protective Environmentally Sensitive Area

(ESA) fencing, will be removed from waters of the U.S. and all disturbed areas will be stabilized to prevent erosion and sedimentation.

16. You shall restore all temporary impacts to waters of the U.S. and adjacent upland areas within 50 feet of waters of the U.S. to their original contour and condition within 30 days following completion of construction activities. In order to ensure compliance with this condition, you shall:

a. Prior to initiation of any construction activities within waters of the U.S., submit to this office, for review and approval, a plan for the restoration of temporary impact areas prior to initiation of any construction activities. You shall include the following information within this plan:

(1) A description of and drawings showing the existing contours (elevation) and existing vegetation of the temporary impact areas. This information shall include site photographs taken of the temporary impact areas. For linear projects, these photographs shall be taken from the alignment, in both directions and taken every 50 feet for the length of the temporary impact area;

(2) The methods used to restore the site to the original contour and conditions, as well as a plan for the revegetation of the site following construction activities;

(3) The proposed schedule for the restoration activities, and;

(4) A Mitigation and Monitoring Plan, to be approved by this office, for the temporary impact area to ensure success of the restoration. Monitoring shall be conducted for a minimum of three growing seasons after completion of restoration activities. The plan shall be presented in the format of the South Pacific Division's *Regional Compensatory Mitigation and Monitoring Guidelines*, dated January 12, 2015.

b. Within 30 days following completion of restoration activities, submit to this office a report describing the restoration activities including color photographs of the restored areas. The compass angle and position of all photographs shall be similar to pre-construction photographs, and their locations identified on a plan, map or drawing.

c. Submit to this office a Monitoring Report by October 1 of each year of required monitoring period. This report shall be submitted in the format required by the South Pacific Division's *Regional Compensatory Mitigation and Monitoring Guidelines*, dated January 12, 2015. Reports may be submitted in hard copy or electronically.

d. Your responsibility to complete the required restoration will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from this office.

General Conditions:

1. The time limit for completing the work authorized by this permit ends on **February 24, 2020**. If you find that you need more time to complete the authorized activity, submit a request for time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of these requirements if you abandon the permitted activity. This permit may be transferred upon request provided the work complies with the terms and conditions of this authorization. When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Should you wish to cease to maintain the authorized activity or abandon it without a good faith transfer, you must obtain a permit modification from this office.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate, or designate you to consult on our behalf, the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register.

4. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

5. You must sign the enclosed *Compliance Certification* (enclosure 5) and return it to this office within 45 days after completion of the authorized work.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

This letter contains an initially proffered permit for your proposed project. If you object to this decision, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a *Notification of Appeal Process* (NAP) fact sheet and *Request for Appeal* (RFA) form (enclosure 6). If you request to appeal this decision, submit a completed RFA form to the South Pacific Division Office at the following address: Tom Cavanaugh, Administrative Appeal Officer, Army Engineer District-South Pacific (CESPD-PDS-O), 1455 Market Street, San Francisco CA 94103-1399, Phone 415-503-6574, FAX 415-503-6646.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the NAP fact sheet. It is not necessary to submit an RFA for the Division Office if you do not object to the decision in this letter.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2011-00671 in any correspondence concerning this project. If you have any questions, please contact Ms. Leah Fisher at our California North Branch Office, Regulatory Division, U.S. Army Corps of Engineers, 1325 J Street, Room 1350, Sacramento, California 95814-2922, by email at *Leah.M.Fisher@usace.army.mil*, or telephone at 916-557-6639. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx*.

For and on the behalf of Colonel Michael J. Farrell, District Engineer.

Sincerely,

Nancy A. Haley

Nancy A. Haley
Chief, California North Branch
Regulatory Division

Enclosures

cc: (w/o encls)
Ms. Maureen Doyle, Caltrans, maureen.doyle@dot.ca.gov
Mr. Jason Brush, USEPA, brush.jason@epa.gov
Ms. Jessica Tudor, jessica.tudor@parks.ca.gov
Mr. George Day, CRWQCB, george.day@waterboards.ca.gov
CA Department of Fish and Wildlife, R2Info@wildlife.ca.gov

STATE WATER RESOURCES CONTROL BOARD

WATER QUALITY ORDER NO. 2003 - 0017 - DWQ

STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR DREDGED OR FILL DISCHARGES THAT HAVE RECEIVED STATE WATER QUALITY CERTIFICATION (GENERAL WDRs)

The State Water Resources Control Board (SWRCB) finds that:

1. Discharges eligible for coverage under these General WDRs are discharges of dredged or fill material that have received State Water Quality Certification (Certification) pursuant to federal Clean Water Act (CWA) section 401.

2. Discharges of dredged or fill material are commonly associated with port development, stream channelization, utility crossing land development, transportation water resource, and flood control projects. Other activities, such as land clearing, may also involve discharges of dredged or fill materials (e.g., soil) into waters of the United States.

3. CWA section 404 establishes a permit program under which the U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged or fill material into waters of the United States.

4. CWA section 401 requires every applicant for a federal permit or license for an activity that may result in a discharge of pollutants to a water of the United States (including permits under section 404) to obtain Certification that the proposed activity will comply with State water quality standards. In California, Certifications are issued by the Regional Water Quality Control Boards (RWQCB) or for multi-Region discharges, the SWRCB, in accordance with the requirements of California Code of Regulations (CCR) section 3830 et seq. The SWRCB's water quality regulations do not authorize the SWRCB or RWQCBs to waive certification, and therefore, these General WDRs do not apply to any discharge authorized by federal license or permit that was issued based on a determination by the issuing agency that certification has been waived. Certifications are issued by the RWQCB or SWRCB before the ACOE may issue CWA section 404 permits. Any conditions set forth in a Certification become conditions of the federal permit or license if and when it is ultimately issued.

5. Article 4, of Chapter 4 of Division 7 of the California Water Code (CWC), commencing with section 13260(a), requires that any person discharging or proposing to discharge waste, other than to a community sewer system, that could affect the quality of the waters of the State,[1] file a report of waste discharge (ROWD). Pursuant to Article 4, the RWQCBs are required to prescribe waste discharge requirements (WDRs) for any proposed or existing discharge unless WDRs are waived pursuant to CWC section 13269. These General WDRs fulfill the requirements of Article 4 for proposed dredge or fill discharges to waters of the United States that are regulated under the State's CWA section 401 authority.

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[1] "Waters of the State" as defined in CWC Section 13050(e)

6. These General WDRs require compliance with all conditions of Certification orders to ensure that water quality standards are met.

7. The U.S. Supreme Court decision of *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (the *SWANCC* decision) called into question the extent to which certain "isolated" waters are subject to federal jurisdiction. The SWRCB believes that a Certification is a valid and enforceable order of the SWRCB or RWQCBs irrespective of whether the water body in question is subsequently determined not to be federally jurisdictional. Nonetheless, it is the intent of the SWRCB that all Certification conditions be incorporated into these General WDRs and enforceable hereunder even if the federal permit is subsequently deemed invalid because the water is not deemed subject to federal jurisdiction.

8. The beneficial uses for the waters of the State include, but are not limited to, domestic and municipal supply, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources.

9. Projects covered by these General WDRs shall be assessed a fee pursuant to Title 23, CCR section 3833.

10. These General WDRs are exempt from the California Environmental Quality Act (CEQA) because (a) they are not a "project" within the meaning of CEQA, since a "project" results in a direct or indirect physical change in the environment (Title 14, CCR section 15378); and (b) the term "project" does not mean each separate governmental approval (Title 14, CCR section 15378(c)). These WDRs do not authorize any specific project. They recognize that dredge and fill discharges that need a federal license or permit must be regulated under CWA section 401 Certification, pursuant to CWA section 401 and Title 23, CCR section 3855, et seq. Certification and issuance of waste discharge requirements are overlapping regulatory processes, which are both administered by the SWRCB and RWQCBs. Each project subject to Certification requires independent compliance with CEQA and is regulated through the Certification process in the context of its specific characteristics. Any effects on the environment will therefore be as a result of the certification process, not from these General WDRs. (Title 14, CCR section 15061(b)(3)).

11. Potential dischargers and other known interested parties have been notified of the intent to adopt these General WDRs by public hearing notice.

12. All comments pertaining to the proposed discharges have been heard and considered at the November 4, 2003 SWRCB Workshop Session.

13. The RWQCBs retain discretion to impose individual or general WDRs or waivers of WDRs in lieu of these General WDRs whenever they deem it appropriate. Furthermore, these General WDRs are not intended to supersede any existing WDRs or waivers of WDRs issued by a RWQCB.

IT IS HEREBY ORDERED that WDRs are issued to all persons proposing to discharge dredged or fill material to waters of the United States where such discharge is also subject to the water quality certification requirements of CWA section 401 of the federal Clean Water Act (Title 33 United States Code section 1341), and such certification has been issued by the applicable RWQCB or the SWRCB, unless the applicable RWQCB notifies the applicant that its discharge will be regulated through WDRs or waivers of WDRs issued by the RWQCB. In order to meet the provisions contained in Division 7 of CWC and regulations adopted thereunder, dischargers shall comply with the following:

1. Dischargers shall implement all the terms and conditions of the applicable CWA section 401 Certification issued for the discharge. This provision shall apply irrespective of whether the federal license or permit for which the Certification was obtained is subsequently deemed invalid because the water body subject to the discharge has been deemed outside of federal jurisdiction.

2. Dischargers are prohibited from discharging dredged of fill material to waters of the United States without first obtaining Certification from the applicable RWQCB or SWRCB.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on November 19, 2003.

AYE: Arthur G. Baggett, Jr.
Peter S. Silva
Richard Katz
Gary M. Carlton
Nancy H. Sutley

NO: None.

ABSENT: None.

ABSTAIN: None.

Debbie Irvin
Clerk to the Board

18 September 2014

Mr. John Holder
Caltrans
703 B Street
Marysville, CA 95901

CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE PLACER 193 CURVE CORRECTION PROJECT (WDID#5A31CR00390), NEWCASTLE, PLACER COUNTY

ACTION:

1. ☐ Order for Standard Certification
2. ■ Order for Technically-conditioned Certification
3. ☐ Order for Denial of Certification

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and §3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required under 23 CCR §3833, unless otherwise stated in writing by the certifying agency.

4. Certification is valid for the duration of the described project. Caltrans shall notify the Central Valley Water Board in writing within 7 days of project completion.

ADDITIONAL TECHNICALLY CONDITIONED CERTIFICATION CONDITIONS:

In addition to the four standard conditions, Caltrans shall satisfy the following:

1. Caltrans shall notify the Central Valley Water Board in writing 7 days in advance of the start of any in-water activities.

2. Except for activities permitted by the U.S. Army Corps under §404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.

3. All areas disturbed by project activities shall be protected from washout or erosion.

4. Caltrans shall maintain a copy of this Certification and supporting documentation (Project Information Sheet) at the Project site during construction for review by site personnel and agencies. All personnel (employees, contractors, and subcontractors) performing work on the proposed project shall be adequately informed and trained regarding the conditions of this Certification.

5. An effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working during all phases of construction.

6. All temporarily affected areas will be restored to pre-construction contours and conditions upon completion of construction activities.

7. Caltrans shall perform surface water sampling: 1) When performing any in-water work; 2) In the event that project activities result in any materials reaching surface waters or; 3) When any activities result in the creation of a visible plume in surface waters. The following monitoring shall be conducted immediately upstream out of the influence of the project and 300 feet downstream of the active work area. Sampling results shall be submitted to this office within two weeks of initiation of sampling and every two weeks thereafter. The sampling frequency may be modified for certain projects with written permission from the Central Valley Water Board.

Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	NTU	Grab	Every 4 hours during in water work
Settleable Material	ml/l	Grab	Same as above.
Visible construction related pollutants	Observations	Visible Inspections	Continuous throughout the construction period

8. Activities shall not cause turbidity increases in surface water to exceed:

   (a) where natural turbidity is less than 1 Nephelometric Turbidity Units (NTUs), controllable factors shall not cause downstream turbidity to exceed 2 NTU;
   (b) where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU;
   (c) where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
   (d) where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;
   (e) where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

   Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected. Averaging periods may only be assessed by prior permission of the Central Valley Water Board.

9. Activities shall not cause settleable matter to exceed 0.1 ml/l in surface waters as measured in surface waters 300 feet downstream from the project.

10. The discharge of petroleum products or other excavated materials to surface water is prohibited. Activities shall not cause visible oil, grease, or foam in the work area or downstream. Caltrans shall notify the Central Valley Water Board immediately of any spill of petroleum products or other organic or earthen materials.

11. Caltrans shall notify the Central Valley Water Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.

12. Caltrans shall comply with all Department of Fish and Wildlife 1600 requirements for the project.

13. Caltrans must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board for any project disturbing an area of 1 acre or greater.

14. The Conditions in this water quality certification are based on the information in the attached "Project Information." If the information in the attached Project Information is modified or the project changes, this water quality certification is no longer valid until amended by the Central Valley Water Board.

15. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under State law and section 401 (d) of the federal Clean Water Act. The applicability of any State law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance into this Order.

a. If Caltrans or a duly authorized representative of the project fails or refuses to furnish technical or monitoring reports, as required under this Order, or falsifies any information provided in the monitoring reports, the applicant is subject to civil monetary liabilities, for each day of violation, or criminal liability.

b. In response to a suspected violation of any condition of this Order, the Central Valley Water Board may require Caltrans to furnish, under penalty of perjury, any technical or monitoring reports the Central Valley Water Board deems appropriate, provided that the burden, including cost of the reports, shall be in reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

c. Caltrans shall allow the staff(s) of the Central Valley Water Board, or an authorized representative(s), upon the presentation of credentials and other documents, as may be required by law, to enter the project premises for inspection, including taking photographs and securing copies of project-related records, for the purpose of assuring compliance with this certification and determining the ecological success of the project.

ADDITIONAL STORM WATER QUALITY CONDITIONS:

Caltrans shall also satisfy the following additional storm water quality conditions:

1. During the construction phase, Caltrans must employ strategies to minimize erosion and the introduction of pollutants into storm water runoff. These strategies must include the following:

   (a) the Storm Water Pollution Prevention Plan (SWPPP) must be prepared during the project planning and design phases and before construction;
   (b) an effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working prior to the rainy season and during all phases of construction.

2. Caltrans must minimize the short and long-term impacts on receiving water quality from the Placer 193 Curve Correction Project by implementing the following post-construction storm water management practices:

   (a) minimize the amount of impervious surface;
   (b) reduce peak runoff flows;
   (c) provide treatment BMPs to reduce pollutants in runoff;
   (d) ensure existing waters of the State (e.g., wetlands, vernal pools, or creeks) are not used as pollutant source controls and/or treatment controls;
   (e) preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones;
   (f) limit disturbances of natural water bodies and natural drainage systems caused by development (including development of roads, highways, and bridges);
   (g) use existing drainage master plans or studies to estimate increases in pollutant loads and flows resulting from projected future development and require incorporation of structural and non-structural BMPs to mitigate the projected pollutant load increases in surface water runoff;

(h) identify and avoid development in areas that are particularly susceptible to erosion and sediment loss, or establish development guidance that protects areas from erosion/ sediment loss;
(i) control post-development peak storm water run-off discharge rates and velocities to prevent or reduce downstream erosion, and to protect stream habitat.

3. Caltrans must ensure that all development within the project provides verification of maintenance provisions for post-construction structural and treatment control BMPs. Verification shall include one or more of the following, as applicable:

(a) the developer's signed statement accepting responsibility for maintenance until the maintenance responsibility is legally transferred to another party; or
(b) written conditions in the sales or lease agreement that require the recipient to assume responsibility for maintenance; or
(c) written text in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to a home owner's association, or other appropriate group, for maintenance of structural and treatment control BMPs; or
(d) any other legally enforceable agreement that assigns responsibility for storm water BMP maintenance.

4. Staff of the Central Valley Water Board has prepared total maximum daily load (TMDL) allocations that, once approved, would limit methylmercury in storm water discharges to the Sacramento-San Joaquin Delta. The Central Valley Water Board has scheduled these proposed allocations to be considered for adoption. When the Central Valley Water Board adopts the TMDL and once approved by the Environmental Protection Agency, the discharge of methylmercury may be limited from the proposed project. The purpose of this condition is to provide notice to Caltrans that methylmercury discharge limitations and monitoring requirements may apply to this project in the future and also to provide notice of the Central Valley Water Board's TMDL process and that elements of the planned construction may be subject to a TMDL allocation.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

George D. Day, P.E.,Redding Branch Office, 364 Knollcrest Drive, Suite 205, Redding, California 96002, (530) 224-4845

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from Caltrans, Placer 193 Curve Correction Project (WDID# 5A31CR00390) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Resources Control Board Water Quality Order No. 2003-0017 DWQ "Statewide General Waste Discharge Requirements For Dredged Or Fill Discharges That Have Received State Water Quality Certification (General WDRs)."

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in

strict compliance with Caltrans's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Water Quality Control Plan *for the Sacramento River and San Joaquin River*, Fourth Edition, revised October 2011 (Basin Plan).

Any person aggrieved by this action may petition the State Water Quality Control Board to review the action in accordance with California Water Code § 13320 and California Code of Regulations, title 23, § 2050 and following. The State Water Quality Control Board must receive the petition by 5:00 p.m., 30 days after the date of this action, except that if the thirtieth day following the date of this action falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Quality Control Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

(for) PAMELA C. CREEDON
Executive Officer

GDD:lmw

Enclosure: Water Quality Order No. 2003-0017 DWQ

cc w/o enclosures: Mr. Will Ness, U.S. Army Corp of Engineers, Sacramento
Department of Fish and Wildlife, Region 2, Rancho Cordova
U.S. Fish and Wildlife Service, Sacramento
Mr. Bill Jennings, CALSPA, Stockton

cc w/o enclosures by email: U.S. EPA, Region 9, San Francisco
Mr. Bill Orme, SWRCB, Certification Unit, Sacramento

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PROJECT INFORMATION

Application Date: 20 June 2014

Application Complete Date: 12 September 2014

Applicant: Caltrans, Attn: Mr. John Holder

Project Name: Placer 193 Curve Correction Project

Application Number: WDID No. 5A31CR00390

U.S. Army Corps File Number: SPK-2011-00671

Type of Project: Improvements to a one-mile stretch of State Route 193, in Placer County.

Project Location: Section 16, Township 12 North, Range 07 East, MDB&M.
Latitude: 38°53'11" and Longitude: -121°12'46"

County: Placer County

Receiving Water(s) (hydrologic unit): Unnamed intermittent and ephemeral tributaries to Auburn Ravine, which is tributary to American River. Valley-American Hydrologic Unit-Pleasant Grove Hydrologic Subarea No. 519.22

Water Body Type: Wetlands, Streambed

Designated Beneficial Uses: The Basin Plan for the Central Valley Water Board has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND), Hydropower Generation (POW); Groundwater Recharge, Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and /or Early Development (SPWN); and Wildlife Habitat (WILD).

Project Description (purpose/goal): The Placer 193 Curve Correction Project consists of curve and super-elevation improvements which will also include shoulder widening along a one-mile stretch of State Route 193 from Post Mile (PM) 4.4 to 5.4. Starting at the western extent of the project, PM 4.4, the new roadway will tie into the existing road approximately 405' west of Clark Tunnel road. As the proposed new alignment of State Route 193 proceeds east, the new centerline is shifted to the south of the existing roadway, flattening out the first curve encountered east of Clark Tunnel Road. At approximately 100' east of Clark Tunnel Road, the existing road curves sharply north. At this curve point the proposed new alignment will be shifted north, eliminating the sharp curve, continue east at a broad radius, crossing back over the existing roadway at approximately PM 5.04. Next the new proposed road continues at a straighter alignment approximately 150' north of the existing roadway before crossing back over the existing roadway at PM 5.26. This portion of new alignment will straighten out a large curve that extends from PM 5.04 to PM 5.26. At PM 5.26, the new alignment will be shifted approximately 60' to the south and finally tie back into the existing roadway at Mandarin Hill Road (PM 5.44).

Construction activity anticipated for this project will include, but is not limited to, earthwork, clearing of riparian vegetation, tree removal, drainage and stream channel work, cut and fill work, new culverts and culvert extensions, removal of the existing road bed, slope re-grading and shoulder widening. All culvert and drainage relocations will maintain the same hydrological functions that currently exist in the study area.

Preliminary Water Quality Concerns: Construction activities may impact surface waters with increased turbidity and settleable matter.

Proposed Mitigation to Address Concerns: Caltrans will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. Caltrans will conduct turbidity and settleable matter testing during in-water work, stopping work if Basin Plan criteria are exceeded or are observed.

Fill/Excavation Area: Project implementation will permanently impact 0.70 acre of jurisdictional wetlands and 390 linear feet of un-vegetated streambed and temporarily impact 0.16 acre of jurisdictional wetland and 79 linear feet of un-vegetated streambed.

Dredge Volume: Not Applicable

U.S. Army Corps of Engineers Permit Number: Letter or Permission

Department of Fish and Wildlife Streambed Alteration Agreement: Caltrans applied for a Streambed Alteration Agreement.

Possible Listed Species: Valley elderberry longhorn beetle and California re-legged frog.

Status of CEQA Compliance: The California Department of Transportation signed a final Notice of Determination approving a Mitigated Negative Declaration on 30 April 2013 in compliance with Section 21108 or 21152 of the Public Resources Code, stating the project will not have a significant effect on the environment. Mitigation measures were made a condition of approval. A mitigation reporting or monitoring plan was adopted for this project and a statement of Overriding Considerations was not adopted for this project. (State Clearinghouse Number 2012122068).

Compensatory Mitigation: Caltrans will purchase 0.745 acre of stream and wetland mitigation credits from the National Fish & Wildlife Foundation, for the unavoidable impacts to jurisdictional waters.

Application Fee Provided: On 20 June 2014 a certification application fee of $14,186.00 was submitted as required by 23 CCR §3833b(3)(A) and by 23 CCR §2200(e).

DISTRIBUTION LIST

Mr. Will Ness
U.S. Army Corp of Engineers
Sacramento District Office
1325 J Street
Sacramento, CA 95814-2922

R9-WTR8-Mailbox@epa.gov
Wetlands Section Chief (W-3)
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

United States Fish & Wildlife Service
Sacramento Fish & Wildlife Office
2800 Cottage Way
Sacramento, CA 95825

Ms. Donna Cobb
Department of Fish and Wildlife,
Region 1
601 Locust Street
Redding, CA 96001

Mr. Bill Orme
WB-DWQ-Stateboard401@waterboards.ca.gov
State Water Resources Control Board, Certification Unit
P.O. Box 944213
Sacramento, CA 94244-2130

Bill Jennings
CA Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, CA 95204

State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670-4599
916-358-2900
www.wildlife.ca.gov

EDMUND G. BROWN, Jr. Governor
Charlton H. Bonham, Director

MAR 2 0 2015

Date

John Holder
California Department of Transportation
703 B St.
Marysville, CA 95901

Subject: Final Lake or Streambed Alteration Agreement
Notification No. 1600-2014-0221-R2

Dear Mr. Holder:

Enclosed is the final Streambed Alteration Agreement (Agreement) for the State Route 193 Curve Improvement Project (Project). Before the California Department of Fish and Wildlife (Department) may issue an Agreement, it must comply with the California Environmental Quality Act (CEQA). In this case, the Department, acting as a responsible agency, filed a notice of determination (NOD) on the same date it signed the Agreement. The NOD was based on information contained in the Mitigated Negative Declaration the lead agency prepared for the Project.

Under CEQA, filing a NOD starts a 30-day period within which a party may challenge the filing agency's approval of the Project. You may begin your Project before the 30-day period expires if you have obtained all necessary local, State, and federal permits or other authorizations. However, if you elect to do so, it will be at your own risk.

If you have any questions regarding this matter, please contact Juan Lopez Torres, Senior Environmental Scientist (Specialist) at (916) 358-2951 or juan.torres@wildlife.ca.gov.

Sincerely,

Tina Bartlett
Regional Manager

ec: Juan Lopez Torres, Senior Environmental Scientist (Specialist),
juan.torres@wildlife.ca.gov

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
NORTH CENTRAL REGION
1701 NIMBUS ROAD, SUITE A
RANCHO CORDOVA, CA 95670

STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2014-0221-R2 (REVISION 1)

CALIFORNIA DEPARTMENT OF TRANSPORTATION
STATE ROUTE 193 CURVE IMPROVEMENT PROJECT

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (Department) and California Department of Transportation (Permittee) as represented by John Holder.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified the Department on September 17, 2014, that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, the Department has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located at State Route 193 from post mile (PM) 4.4 to PM 5.5, within four unnamed tributaries to Auburn Ravine in the County of Placer, State of California; Section 16, Township 12N, Range 07E; Gold Hills, California U.S. Geological Survey (USGS) 7.5-minute quadrangle map, at Latitude 38°53'21.71" N, Longitude -121°11'57.36"W.

Exhibit A includes Figure 1 depicting the project location.

PROJECT DESCRIPTION

The project proposes curve and super-elevation improvements which will also include shoulder widening along a one mile stretch of State Route 193 in Placer County from PM 4.4 to 5.4. Starting at the western extent of the project, PM 4.4, the new roadway will tie into the existing road approximately 405 feet west of Clark Tunnel Road. As the

proposed new alignment of SR 193 proceeds east, the new centerline is shifted to the south of the existing roadway, flattening out the first curve encountered east of Clark Tunnel Road. At approximately 100 feet east of Clark Tunnel, the existing road curves sharply north. At this curve point the proposed new alignment will be shifted north, eliminating the sharp curve, continue east at a broad radius, crossing back over the existing roadway at approximately PM 5.04. Next, the new proposed road continues at a straighter alignment approximately 150 feet north of the existing roadway before crossing back over the existing roadway at PM 5.26. This portion of new alignment will straighten out a large curve that extends from PM 5.04 to PM 5.26. At PM 5.26, the new alignment will be shifted approximately 60 feet to the south and finally tie back into the existing roadway at Mandarin Hill Road (PM 5.44). Exhibit A includes detailed project maps and impacted areas.

Construction activity anticipated for this project will include, but is not limited to, earthwork, clearing of riparian vegetation, tree removal, drainage and stream channel work, cut and fill work, new culverts and culvert extensions, removal of the existing road bed, slope regrading and shoulder widening.

The construction of the project will result in 4.96 acres of impacts to CDFW jurisdictional areas consisting of 1.72 acres of riparian habitat, 3.22 acres of oak woodlands, and 0.02 acres of unvegetated stream. In addition, the project will temporarily impact 2.47 acres of CDFW jurisdictional areas entailing 0.65 acres of riparian habitat and 1.82 acres of oak woodland.

Construction equipment would include, but would not be limited to backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, and other moderate to large diesel engines.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include western pond turtle (*Actinemys marmorata*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), California red-legged frog (*Rana draytonii*) as well as rare plants, other amphibians, other fish species, and other aquatic and terrestrial plant and wildlife species.

The adverse effects the project could have on the fish or wildlife resources identified above include: loss of natural bed or bank; change in contour of bed, channel or bank; degradation of channel; loss of bank stability during construction; increase of bank erosion during construction; restriction or increase in sediment transport; debris transport impedance (from culverts and bridges); short-term release of contaminants (e.g., incidental from construction); colonization by exotic plant or animal species; change to, or loss or decline of natural bed substrate; direct take of fish and other aquatic species; disruption to nesting birds and other wildlife: direct take of terrestrial species; disturbance from project activity; loss or impediment of terrestrial animal species travel routes due to temporary structures (e.g., survey tape, sandbags, erosion protection materials etc.); diversion of flow water from, or around, activity site;

dewatering; impediment to migration of aquatic and terrestrial species during construction; and direct loss of resources for aquatic organisms.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to Department personnel, or personnel from another State, federal, or local agency upon request.

1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

1.3 Notification of Conflicting Provisions. Permittee shall notify the Department if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, State, or federal agency. In that event, the Department shall contact Permittee to resolve any conflict.

1.4 Project Site Entry. Permittee agrees that CDFW personnel may, with notification of the Resident Engineer, enter the project site at any time to verify compliance with the Agreement.

1.5 Does Not Authorize "Take." This Agreement does not authorize "take" of any listed species. Take is defined as hunt, pursue, catch, capture or kill or attempt to hunt, pursue, catch, capture, or kill. If there is potential for take of any listed species to occur, the Permittee shall consult with the Department as outlined in FGC Section 2081 and shall obtain the required state and federal threatened and endangered species permits.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

2.1 Work Period. Work shall be timed during the driest time within the channel. If water is present at the time of construction, water shall be diverted around the work area and work shall begin after the site is dry. The time period for completing the work within the flowing or standing water of the watercourses shall be confined to the period between July 15th and October 15th of the same calendar year during the term of this Agreement. Work within the dry portion of the stream shall be

timed with awareness of precipitation forecasts and likely increases in stream flow. Construction activities within the stream shall cease until all reasonable erosion control measures, have been implemented prior to all storm events. Construction equipment and material shall be removed from the floodplain if inundation is likely. Revegetation, restoration, and erosion control work is not confined to this time period.

2.2 Onsite Designated Biologist. **At least thirty (30) days before initiating ground- or vegetation-disturbing activities**, Permittee shall submit to the Department in writing the name, qualifications, business address, and contact information for a biological monitor (Designated Biologist). Permittee shall obtain the Department's written approval of the Designated Biologist prior to the commencement of project activities. The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of local fish and wildlife resources present at the project site. The Designated Biologist shall be present during all proposed work within Department jurisdictional areas and is responsible for monitoring all project activities, including preparation, construction, restoration, and any ground- or vegetation-disturbing activities in areas subject to this Agreement.

2.3 On-site Biologist with Stopwork Authorization. Permittee shall have a qualified designated biologist on site daily during project activity to ensure that Agreement conditions are being met and minimize impacts to fish and wildlife habitat. The biologist shall be authorized to stop construction if necessary to protect fish and wildlife resources. If any sensitive, State-listed, Species of Special Concern, rare, or threatened or endangered species, are found the biologist shall inform the Department. If there is a threat of harm to any sensitive species, or other aquatic wildlife the biologist shall halt construction in coordination with the Resident Engineer and notify the Department (see Contact Information section below). Consultation with the Department is required before re-commencing work.

2.4 On-site Education. Permittee shall conduct an education program for all persons employed or otherwise working on the project site prior to performing any work on-site. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology of the habitats and species identified in this Agreement and present at this site. The Designated Biologist shall also include as part of the education program information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations and project-specific protective measures included in this Agreement. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. Permittee shall prepare and distribute wallet-sized cards or a fact sheet that contains this information for workers to carry on-site. Upon completion of the education program, employees shall sign a form stating they attended the program and understand all protection measures. These forms shall be filed at the worksite offices and submitted as instructed in Contact Information section below. Email notification is preferred.

2.5 Western Pond Turtle Surveys. **No later than 90 days prior to the initiation of any project activities in jurisdictional areas**, Permittee shall submit to the Department for review and approval a western pond turtle survey plan. The plan shall include specific survey methodologies, relocation methods, construction monitoring, and exclusionary fencing specific to this project in the event that the species is encountered during preconstruction surveys.

2.6 California Red-legged Frog Surveys. **Prior to the initiation of any project activities,** Permittee shall perform preconstruction surveys for California red-legged frog (*Rana draytonii*) within all Department's jurisdictional areas where potential habitat for this species is present. Documentation of surveys and findings shall be received by the Department prior to conducting project activities.

2.7 Wildlife Crossing. No later than 60 days prior to commencing construction activities, Permittee shall submit to the Department for review and concurrence, final design plans for a 14 feet wide by 12 tall box culvert. The wildlife crossing will be installed along a creek and its associated riparian corridor.

2.8 Nesting Birds. If Permittee begins project activities during the nesting period for birds (February 1st to September 1st), then the Permittee shall initiate pre-commencement surveys to avoid impacts to nesting birds. These surveys shall include the areas within 500 feet of the edge of the proposed impact area(s) or within the extension of Caltrans right of way. If active nests are found, a temporary no-disturbance buffer as approved by the Department shall be created to protect the nest and the birds. No habitat removal or any other work shall occur within the temporary disturbance buffer (even if the nest continues active beyond September 1st) until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project. Vegetation clearing may occur other than as described above if Department-approved avoidance measures are in place to ensure no impacts to nesting birds may occur and the Permittee receives confirmation from the Department that the vegetation removal at a specific site is allowed on a specified date. Permittee shall submit the mapped survey results to the Department for review and approval prior to vegetation removal to ensure full avoidance measures are in place.

2.9 Water Diversion Plan. If flowing water is present or reasonably anticipated, the Permittee shall submit for approval a detailed water diversion and/or dewatering plan to the Department **no later than 10 days prior commencing construction activities**. Dewatering structures may include the use of sand bag, Port-a-dams, water bladder dams, K-rails or driven sheet metal coffer dams. The Department will review the proposed water diversion method, to approve the plan or provide the requirements for that approval. The Permittee may not commence the dewatering of the stream and/or the diversion of water without the explicit approval from the Department.

2.10 Maintain Aquatic Life. When any dam or other artificial obstruction is being constructed, maintained, or placed in operation, Permittee shall allow sufficient water at all times to pass downstream to maintain aquatic life below the dam pursuant to FGC §5937.

2.11 Stranded Aquatic Life. The Permittee shall check daily for stranded aquatic life as the water level in the dewatering area drops. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets and by hand. Captured aquatic life shall be released immediately in the closest body of water adjacent to the work site. A qualified biologist shall be onsite during all dewatering and diversion activities. **This condition does not allow for the take or disturbance of any State or federally listed species, or State-listed species of special concern.**

2.12 Shall Not Impede Fish Passage. The water diversion structures shall be designed, constructed, and maintained such that they do not constitute a barrier to upstream or downstream movement of aquatic life. This includes but is not limited to the supply of water at an appropriate depth, temperature, and velocity to facilitate upstream and downstream fish movement and migration. Fish passage shall be provided as directed and approved by the Department.

2.13 Flow Velocities. Permittee shall design all diversion channels to maintain velocities at levels acceptable to fish species.

2.14 Maintain Water Quality. Permittee shall divert flow in a manner that prevents turbidity, siltation, or pollution and provides flows to downstream reaches. Flows to downstream reaches shall be provided during all times that the natural flow would have supported aquatic life. Said flows shall be sufficient quality and quantity, and of appropriate temperature to support fish and other aquatic life both above and below the diversion. Normal flow shall be restored to the affected stream immediately upon completion of work at that location.

2.15 Demarcate Work Area and Access Boundaries. In consultation with the designated Biologist and approved by the Department, the Permittee or Designated Representative shall demarcate the boundaries of the confirmed disturbance area within the stream or streambed. The area shall be marked at intervals of no less than five (5) feet. All forms of markings shall be in place prior to and during periods of operation. All persons employed or otherwise working on the project site shall be instructed by Permittee or Designated Representative about the restrictions that the flagging represents. The work area and access boundaries shall be clearly shown on all engineering drawings for the project.

2.15.1 Construction Fencing. Permittee or Designated Representative shall install temporary construction fencing to designate the work area. The protective fencing shall be placed at a distance no greater than five (5) feet upstream

and five (5) feet downstream from outer edges of the work area. The length and type of fencing shall be disclosed and pre-approved by the Department.

2.16 Remove Temporary Flagging, Fencing, and Barriers. Permittee shall remove all temporary flagging, fencing, and/or barriers from the project area and vicinity of the stream immediately upon completion of project activities.

2.17 Best Management Practices. Permittee shall actively implement best management practices (BMPs) to prevent erosion and the discharge of sediment in to streams and lakes during project activities. BMPs shall be monitored daily and repaired if necessary to ensure maximum erosion and sediment control. All fiber rolls, straw waddles, and/or hay bales utilized within and adjacent to the project site shall be free of nonnative plant materials. Fiber rolls or erosion control mesh shall be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber, or other products without welded weaves. Non-welded weaves reduce entanglement risks to wildlife by allowing animals to push through the weave, which expands when spread.

2.18 Pollution and Litter. Permittee shall comply with all litter and pollution laws. All contractors, subcontractors, and employees shall also obey these laws and it shall be the responsibility of Permittee to ensure compliance.

2.11.1 Permittee shall not allow water containing mud, silt, or other pollutants from grading, aggregate washing, or other activities to enter a lake, streambed, or flowing stream or be placed in locations that may be subjected to high storm flows.

2.11.2 Spoil sites shall not be located within a lake, streambed, or flowing stream or locations that may be subjected to high storm flows, where spoil shall be washed back into a lake, streambed, or flowing stream where it will impact streambed habitat and aquatic or riparian vegetation.

2.11.3 Raw cement/concrete or washings thereof, asphalt, paint, or other coating material, oil or other petroleum products, or any other substances which could be hazardous to fish and wildlife resources resulting from project related activities shall be prevented from contaminating the soil and/or entering the waters of the State. These materials, placed within or where they may enter a lake, streambed, or flowing stream by Permittee or any party working under contract or with the permission of Permittee, shall be removed immediately.

2.11.4 No broken concrete, cement, debris, soil, silt, sand, bark, slash, sawdust, rubbish, or washings thereof, oil or petroleum products, or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the State. When operations are

completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 100 feet of the high water mark of any lake, streambed, or flowing stream.

2.11.5 No equipment maintenance or fueling shall be done within or near any lake, streambed, or flowing stream where petroleum products or other pollutants from the equipment may enter these areas under any flow.

2.19 Inspection of Project Equipment. Permittee shall inspect all vehicles, watercraft, tools, waders and boots, and other project-related equipment and remove all visible soil/mud, plant materials, and animal remnants prior to entering and exiting the project site.

2.20 Operating Equipment and Vehicle Leaks. Any equipment or vehicles driven and/or operated within or adjacent to the stream shall be checked and maintained daily to prevent leaks of materials that could be deleterious to aquatic and terrestrial life or riparian habitat.

2.21 Stationary Equipment Leaks. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak.

2.22 Minimize Vehicle Parking. Vehicles may enter and exit the work area as necessary for project activities, but may not be parked overnight within ten (10) feet of the drip line of any trees within the Department jurisdiction; nor shall vehicles be parked where mechanical fluid leaks may potentially enter the waters of the State.

2.23 Staging and Storage Areas. Staging and storage areas for equipment, materials, fuels, lubricants, and solvents shall be located more than one hundred (100) feet from the stream channel and banks. All equipment and fuel stored on site shall be bermed to contain any spilled material and shall be protected from rain. Berms shall consist of plastic covered dirt or sand bags.

2.24 Leave Wildlife Unharmed. If any wildlife is encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed. If any listed wildlife is encountered, the Permittee shall contact the Department immediately or proceed as described in the Incidental Take Permit for the project.

2.25 Stream Materials. Rock, gravel, and/or other materials shall not be imported to, taken from or moved within the bed or banks of the stream except as otherwise addressed in this Agreement.

2.25.1 Cobble Only in Stream. No fill material, other than clean round river cobble,

shall be allowed to enter the stream.

2.26 Return Low Flow Channel to Pre-project Conditions. If a stream channel has been altered during the operations, Permittee shall return its low flow channel, as nearly as possible, to pre project conditions without creating a possible future bank erosion problem or a flat wide channel or sluice like area. Permittee shall return the gradient of the streambed margin to pre project grade unless such operation is part of a restoration project, in which case, the change in grade shall be approved by the Department prior to project commencement.

2.27 Sediment Control. Precautions to minimize turbidity/siltation shall be taken into account during project planning and implementation. This may require the placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches. **Products with plastic monofilament or cross joints in the netting that are bound/stitched (such as found in straw wattles/fiber rolls and some erosion control blankets) which may cause entrapment of wildlife, shall not be allowed.**

Passage of sediment beyond the sediment barrier(s) is prohibited. If any sediment barrier fails to retain sediment, corrective measures shall be taken. The sediment barrier(s) shall be maintained in good operating condition throughout the construction period and the following rainy season. Maintenance includes, but is not limited to, removal of accumulated silt and/or replacement of damaged silt fencing, coir logs, coir rolls, and/or straw bale dikes. Upon the Department's determination that turbidity/siltation levels resulting from project related activities constitute a threat to aquatic life, activities associated with the turbidity/siltation shall be halted until effective Department approved control devices are installed or abatement procedures are initiated.

3. Compensatory Measures

3.1 Habitat Mitigation and Monitoring Plan (HMMP). **No later than 60 days prior to commencing construction activities**, Permittee shall submit to the Department for review and approval a HMMP for the on-site and off-site restoration/creation of 2.37 acres of riparian habitat, 6.44 acres of oak woodland, and 0.002 acres of unvegetated stream. At a minimum, the HMMP shall include the following information: (a) a description of the existing physical conditions of the proposed creation or restoration site, including water resources and habitat types, and a map that identifies the location of the site; (b) a plan for the preparation of the creation or restoration site, including the removal of nonnative plant species, non-wetland/riparian plant species, and grading; (c) a local California native plant palette; (d) a planting plan, including monitoring and maintenance measures and a timeline; (e) an irrigation plan; (f) procedures to ensure that nonnative plants are not introduced or allowed to sustain within the creation or restoration site and a nonnative plant removal plan; and (g) success standards with contingency

measures. Monitoring and maintenance of the creation or restoration site shall be conducted annually for a minimum of five years, or until the Department determines the mitigation site is successful.

3.2 Habitat Restoration/Creation. Permittee shall restore/create 2.37 acres of riparian habitat, 6.44 acres of oak woodland, and 0.002 acres of unvegetated stream. This habitat restoration/creation shall occur on-site as much as feasible and off-site at the Permittee's Hanley mitigation property. The habitat creation/enhancement shall follow the HMMP stipulations and conditions listed in Section 3.1 of this Agreement.

3.3 Conservation Easement. **Within seven years of the execution of this Agreement**, Permittee shall place a conservation easement on the habitat created/restored pursuant to condition 3.2, in favor of a Department approved local conservation entity. Permittee shall obtain Department approval of the site prior to placing the conservation easement. The Permittee shall be responsible for all costs in recording and funding the conservation easement. The Permittee shall provide sufficient funds to manage the area in perpetuity.

4. Reporting Measures

Permittee shall meet each reporting requirement described below.

4.1 Notification of Project Initiation. The Permittee shall notify the Department two (2) working days prior to beginning work within any of the unnamed streams or associated riparian habitat. Notification shall be submitted as instructed in Contact Information section below. Email notification is preferred.

4.2 Notification of Project Completion. Upon completion of the project activities described in this agreement, the project activities within the watercourse work area shall be digitally photographed. Photographs shall be submitted to the Department **within fifteen (15) days of completion**. Photographs and project commencement notification shall be submitted as instructed in Contact Information section below. Email submittal is preferred.

4.3 Annual Monitoring. Permittee shall submit an annual monitoring report to the Department **for five (5) years** after completion of the construction project. The report shall discuss the mitigation performance as it relates to the success criteria as required by the HMMP. The report shall include photos from designated photo stations and other relevant information including: a summary of invasive species control, methods used to remove non-native plants, and a list of wildlife observed on site.

CONTACT INFORMATION

Any communication that Permittee or the Department submits to the other shall be in writing and any communication or documentation shall be delivered to the address

below by U.S. mail, fax, or email, or to such other address as Permittee or the Department specifies by written notice to the other.

To Permittee:

California Department of Transportation
John Holder
703 B Street
Marysville, CA 95901
Phone: 530-741-5448
Email: John.Holder@dot.ca.gov

To Contact:

Maureen Doyle
703 B Street
Marysville, CA 95901
Phone: 530-741-4470
Email: Maureen.Doyle@dot.ca.gov

To The Department:

Department of Fish and Wildlife
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
Attn: Lake and Streambed Alteration Program
Notification #: 1600-2014-0221-R2
Phone: 916-358-2885
Fax: 916-358-2912
Email: R2LSA@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute the Department's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

The Department may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers,

employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before the Department suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before the Department suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused the Department to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes the Department from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects the Department 's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, State, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq.* (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

The Department may amend the Agreement at any time during its term if the Department determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by the Department and Permittee. To

request an amendment, Permittee shall submit to the Department a completed Department "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in the Department's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter the Department approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to the Department a completed Department "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in the Department's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to the Department a completed Department "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in the Department's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). The Department shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (FGC § 1605, subd. (f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of the Department's signature, which shall be: 1) after Permittee's signature; 2) after the Department complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html.

TERM

This Agreement shall expire **December 1, 2018**, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to

protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

EXHIBITS

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

A. Figure 1 – Project Location
   Figure 2 – Impact Map

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify the Department in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR PERMITTEE

John Holder
Project Manager

2-27-15
Date

FOR DEPARTMENT OF FISH AND WILDLIFE

Tina Bartlett
Regional Manager

3/20/15
Date

Prepared by: Juan Lopez Torres
Senior Environmental Scientist (Specialist)

Exhibit A
Figure 1 – Project Location

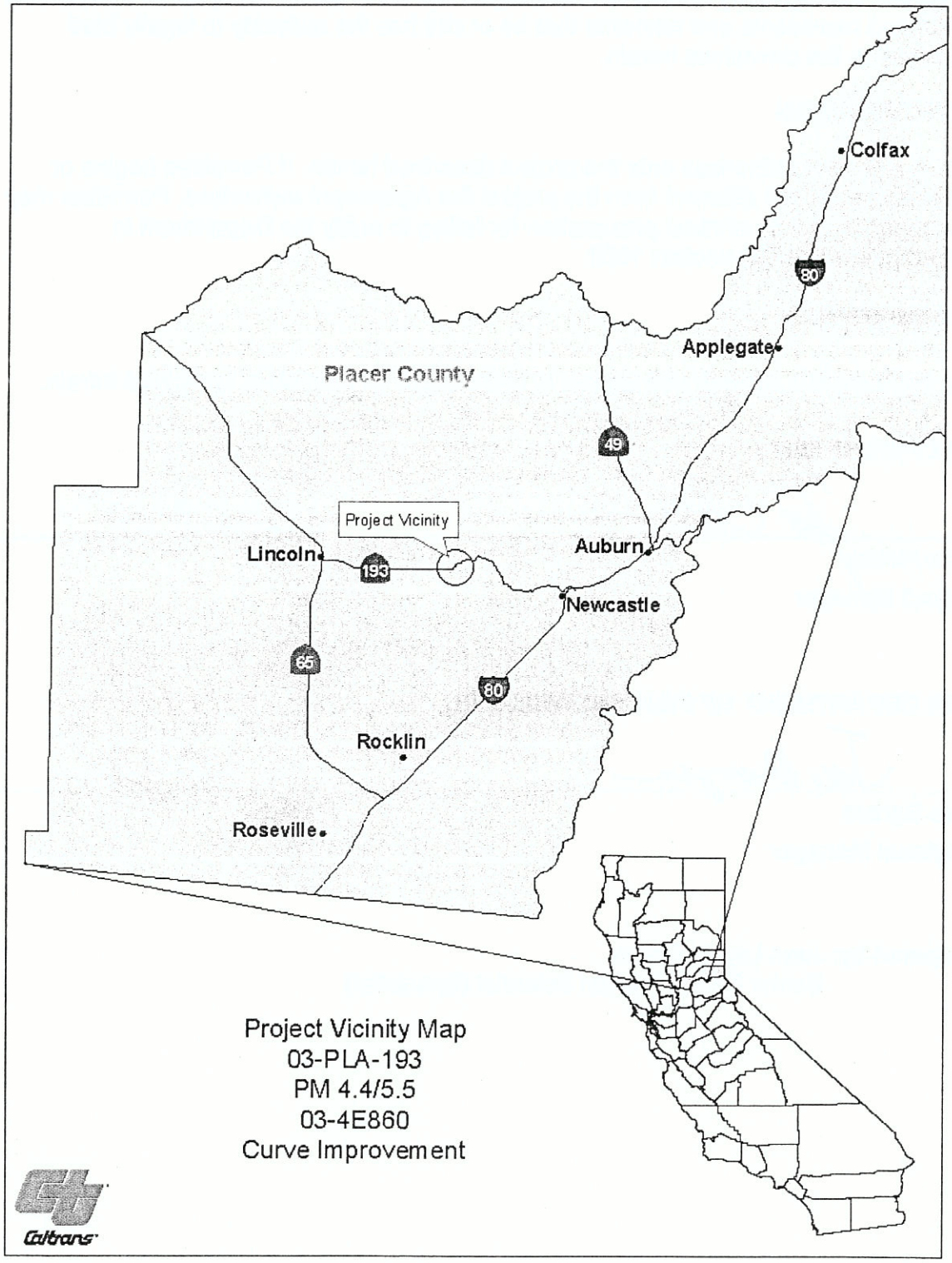
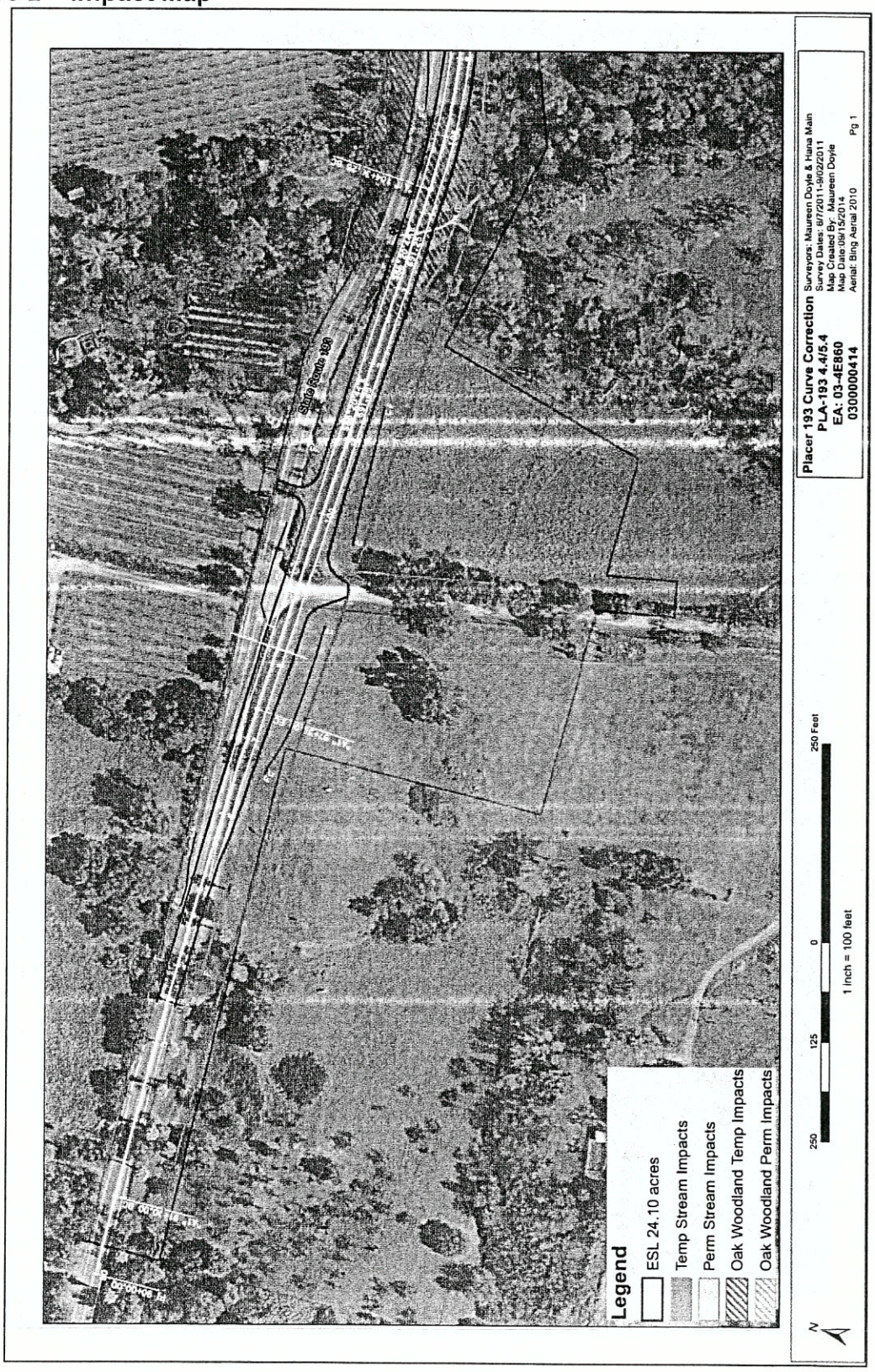
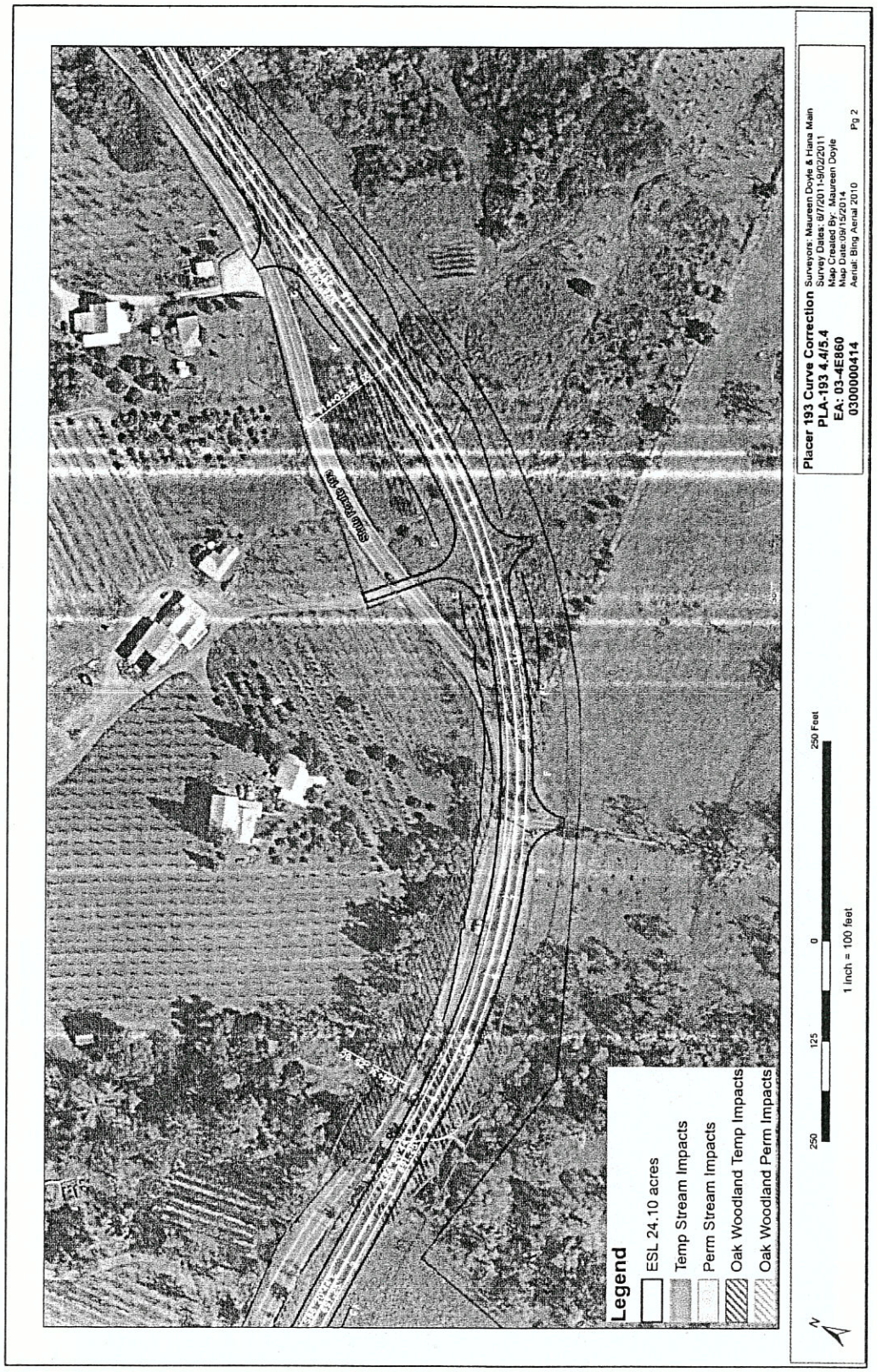
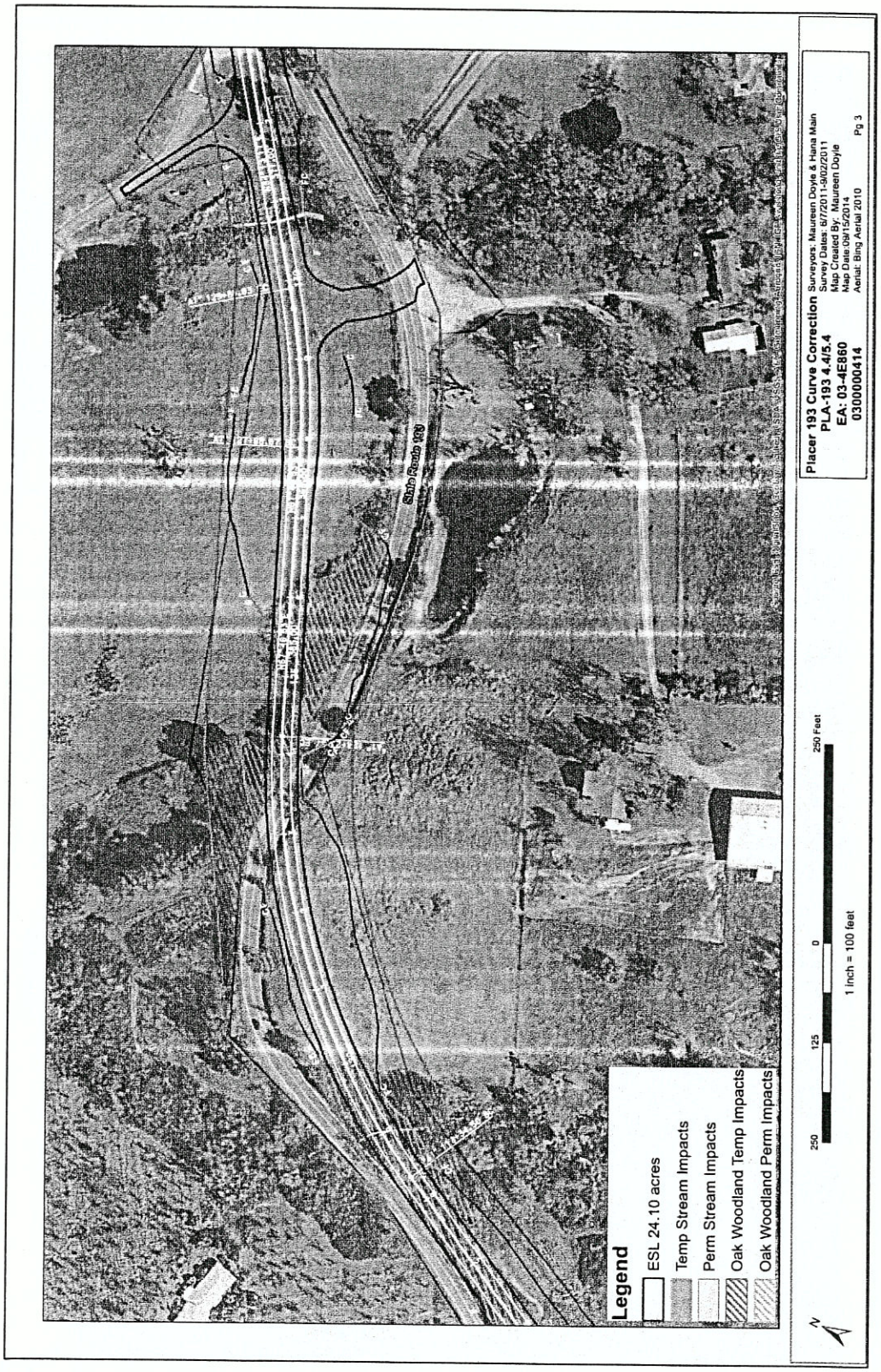


Figure 2 – Impact Map




Legend
ESL 24.10 acres
Temp Stream Impacts
Perm Stream Impacts
Oak Woodland Temp Impacts
Oak Woodland Perm Impacts
250
125
0
250 Feet
1 inch = 100 feet
Placer 193 Curve Correction
PLA-193 4.4/5.4
EA: 03-4E860
0300000414
Surveyors: Maureen Doyle & Hana Main
Survey Dates: 6/7/2011-5/02/2011
Map Created By: Maureen Doyle
Map Date: 5/5/2014
Aerial: Bing Aerial 2010
Pg 2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ESL 24.10 acres
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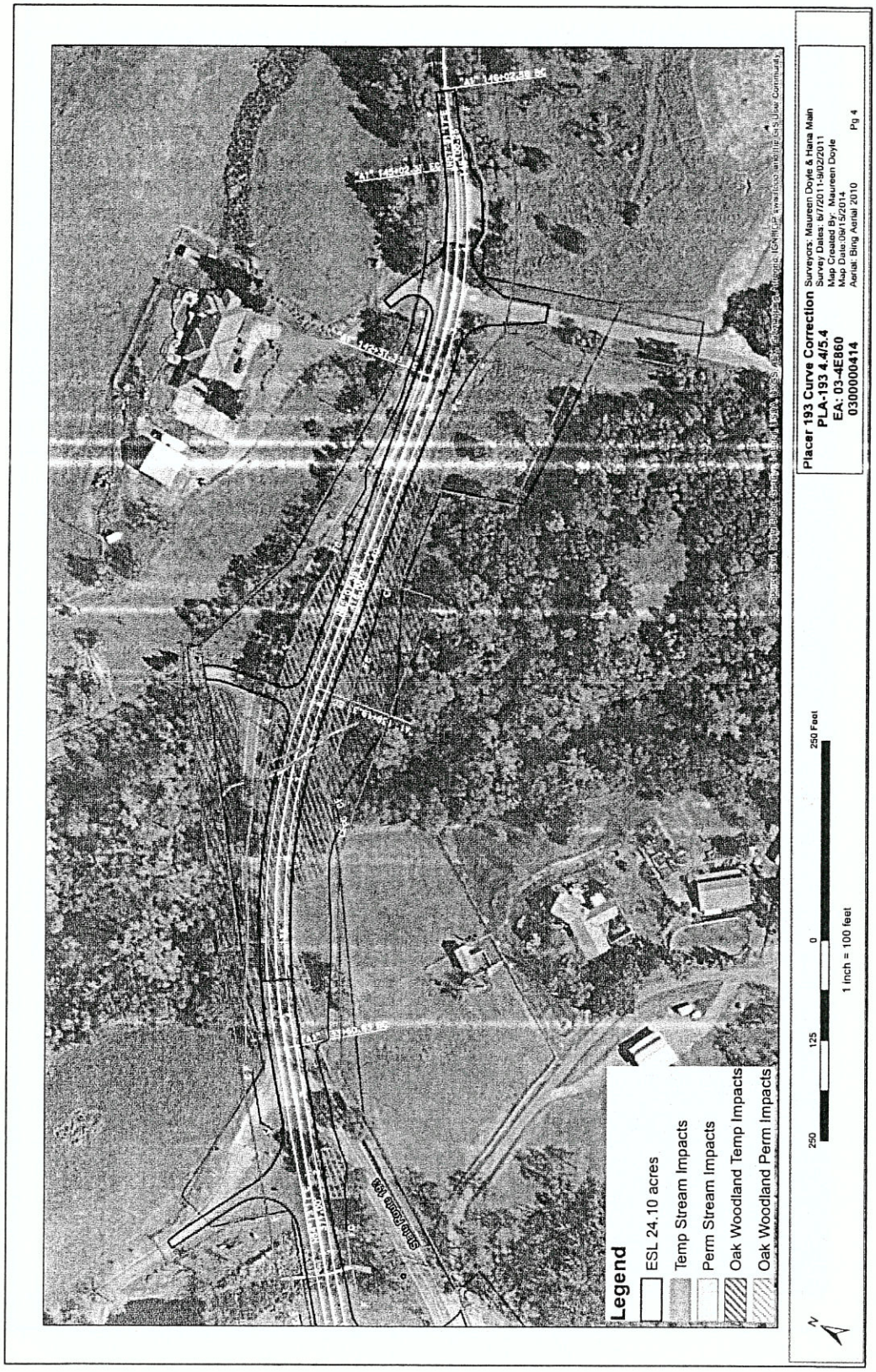
Placer 193 Curve Correction
PLA-193 4.4/5.4
EA: 03-4E860
0300000414
Surveyors: Maureen Doyle & Hana Main
Survey Dates: 8/7/2011-9/02/2011
Map Created By: Maureen Doyle
Map Date:09/15/2014
Aerial: Bing Aerial 2010
Pg 3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ESL 24.10 acres
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Placer 193 Curve Correction
PLA-193 4.4/5.4
EA: 03-4E860
0300000414
Surveyors: Maureen Doyle & Hana Main
Survey Dates: 8/7/2011-9/02/2011
Map Created By: Maureen Doyle
Map Date:09/15/2014
Aerial: Bing Aerial 2010
Pg 4

M e m o r a n d u m

Flex your power!
Be energy efficient!

To: MASTRI ALVANDI
BRANCH CHIEF
NORTH REGION DESIGN SOUTH

Date: August 4, 2014

File: 03-PLA-193 PM 4.4/5.5
03-4E8601
0300000725
Curve Improvements

Attn: Tom Langley
NORTH REGION DESIGN SOUTH - PROJECT ENGINEER

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

Subject: Geotechnical Design Report for Curve Improvements Project

1. Introduction

Per your request we are providing this Geotechnical Design Report (GDR) for the proposed curve improvements on State Route (SR) 193 in central Placer County, California. The curve improvement project is proposed between the approximate post miles 4.4 and 5.5. Our Office previously provided a District Preliminary Geotechnical Report (DPGR) for this project, dated February 29, 2012. The project site is located approximately 4.5 miles east of the town of Lincoln, California. It is our understanding that the proposed curve improvements are to provide better site distance around the existing curves, eliminate compound curves, improve super-elevation and widen existing paved shoulders within the project limits. The purpose of this report is to provide geotechnical recommendations for the project work proposed. Plate No. 1 presents a vicinity map showing the location of the project site. Plate No. 2 presents an aerial view of the proposed project limits.

This report includes a review of published data, previous site explorations, and a site reconnaissance.

Subsurface exploration in the form of seismic refraction surveys was completed for this report. No laboratory testing was completed for this report. Project layout plans and typical cross-sections provided by the District were utilized to determine recommendations provided in this report.

This report is intended for use by the project roadway design engineers, construction personnel, bidders and contractors.

2. Existing Facilities and Proposed Improvements

At the time of our field reconnaissance, within the project limits, Highway 193 consisted of a two-lane roadway paved with asphalt concrete (AC). Highway 193 has two 11 foot wide traveled ways with variable 6 inch to 2 foot wide paved shoulders. Unpaved shoulders (including drainage ditches) vary from approximately 2 feet to 15 feet throughout the project limits. Several culverts were observed to cross beneath the highway within the project area. Stacked rock headwalls were observed at most culvert inlets and some outlets. Relatively flat to gently rolling topography bounds both the north and south sides of the existing alignment. Numerous residential homes are located on both sides of the existing alignment. Overhead utilities were observed to parallel both sides of the highway throughout much of the project area, and cross the exiting alignment in several areas. Indications to the presence of underground utilities were not observed during our site reconnaissance(s). No other highway structures (bridges, retaining wall etc) were observed within the project limits.

As stated above, this project involves re-alignment and widening of the existing highway. Proposed improvements include cuts and fills on both sides of the existing highway to allow re-alignment and widening of the paved shoulder widths.

3. Pertinent Reports and Investigations

The following documents were used in preparing this report.

a) Western Regional Climate Data Center http://www.wrcc.dri.edu/, June 2014.
b) United State Department of Agriculture, National Conservation Service Web Soil Survey http://websoilsurvey.nrcs.usda.gov, "Placer County, California, Western Parts", 2004/2007.
c) United States Geological Survey (USGS) 7.5 minute Topographic Map "Gold Hill Quadrangle" dated 1973.
d) California Geologic Survey (CGS), "Geologic Map of the Sacramento Quadrangle", D.L. Wagner, C.W. Jennings, T.L. Bedrossian and E.J. Bortugno, 1987.
e) CGS, Open File Report OFR-19-10 "Mineral Land Classification of Placer County, California", 1995
f) USGS, Open File Report OF-79-386 "Preliminary Geologic Map of Cenozoic Deposits of the Auburn Quadrangle, California", E.J. Helley and J.A. Bartow, 1979.

g) CGS, Open File Report 2000-19 "A General Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos", 2000.
h) Caltrans DOT, "Asbestos Locations Map District 3", 2001.
i) Caltrans ARS Online v 2.0.5 http://10.160.173.178/shake2/shake_index2.php, February 2012.
j) "Geology of California" Second Edition, Robert M. Norris and Robert W. Webb, 1990, P. 128-132

4. Caltrans Document and Reports Reviewed

"Results of Seismic Refraction Survey for Route 193 Curve Improvement, Placer County California", 03-PLA-193-4.4-5.5, Prepared by the Office of Geotechnical Support, March 2014.

"Geotechnical Report for Fowler Road Bridge", Prepared by Anderson Geotechnical Consultants, Inc., November 1984

"Fowler Road Bridge Placer County, California ADDENDUM TO GEOTECHNICAL DESIGN REPORT", Prepared by Anderson Geotechnical Consultants, Inc., July 1987.

"Preliminary Geotechnical Report", 03-PLA-193 PM 3.99/4.22, Prepared by the Office of Geotechnical Design North, May 2002.

"Preliminary Geotechnical Report – Addendum #1", 03-PLA-193 PM 4.0/4.2, Prepared by the Office of Geotechnical Design North, July 2004.

"Preliminary Plans", 03-PLA-193 PM 4.4/5.5, Prepared by District 3 Design, August 2013.

"AA1 Cross Sections", 03-PLA-193 PM4.4/5.5, Prepared by District 3 Design, July 2013

"District Preliminary Geotechnical Report for Placer 193 Curve Improvement Project", Prepared by the Office of Geotechnical Design North, February 2012.

5. Physical Setting

5.1 Climate

Climate information was obtained from the Western Regional Climate Data Center at http://www.wrcc.dri.edu/. The nearest weather station is COOP located in Rocklin, CA approximately six miles south of the project location. The Western Regional Climate Center includes monthly climate records for this location from 1906 through

1976. The average annual maximum temperature is 75°F, with the maximum for the warmest month, July, averaging 97°F. The average annual minimum temperature is 45°F, with the minimum for the coldest month, December, averaging 35°F. The average annual precipitation recorded by the Rocklin COOP is 23 inches, with the majority falling between October and April. No annual snowfall occurs within the area however snowfall has been known to occur a few times in a ten year period.

More current data for this general area can be obtained from the Auburn COOP station; however we did not utilize this information as Auburn is located further away from the project site and at a significant higher elevation.

5.2 Topography and Drainage

According to the USGS quadrangle reviewed, the existing highway within the project area roughly trends east/west. The highway is bounded on both the north and south by large lot residences located on relatively flat to gently rolling topography. Elevation along the current alignment varies slightly between approximately 350 to 400 feet above mean sea level throughout the project limits. An un-named intermittent stream and perennial stream are depicted crossing the current highway alignment in the western and eastern portions of the project limits; respectively. These streams were observed in the field during our site reconnaissance. In addition, a small pond is shown (and verified during site visit) adjacent to the south side of the highway in the eastern portion of the project limits. Surface drainage is generally northwest and west towards the Sacramento River valley with some local variations. Water was observed flowing in both stream locations during our site visit on February 10, 2012. In addition, ponding surface water was observed in several locations during our site reconnaissance. Native vegetation in the project area includes abundant grass/weeds, moderate brush, trees and pasture land.

5.3 Regional Geology and Seismicity

The project is located in western Placer County, on the eastern edge of the Great Valley geomorphic province. This geologic province is characterized as being an "asymmetrical synclinal trough" created by the uplift of the Sierra Nevadan mountains to the east and the Coast Range Mountains to the west. Western Placer County is dominated by poorly consolidated alluvial deposits underlain by ingenuous rocks. (R. Norris and R. Webb)

5.4 Site Geology

According to the geologic maps reviewed, the site is mapped within Mesozoic aged; igneous intrusive rocks of the Sierra Nevada batholith and associated plutons. Rock

types associated with these intrusions range in composition from Diorite to Granite. In some of the maps reviewed, the local area is referred to as being underlain by the "Penryn Pluton". Rocky outcrops observed during our site reconnaissance consisted of highly weathered often referred to as Decomposed Granite (DG) to moderately weathered "Granite" rock. Rocky outcrops observed in the field compare favorably with those described in the maps reviewed. A portion of the Geologic map utilized for this report is attach as Plate No. 3

5.5 Seismicity

Based on the Caltrans ARS Online Tool (Version 2.3.06), the nearest active fault for the site is the Foothills Fault System – north central reach section (Deadman Fault) (Fault ID No. 422) with MMax of 6.2. The closest distance from the site to the fault rupture plane is about 4 miles.

Seismic velocity data collected in the field and professional judgment was utilized to determine the appropriate V_{S30} at the site. A V_{S30} (the weighted shear wave velocity for the top 100 feet of foundation materials) of 2500 feet per second is considered to be applicable to the subsurface materials.

Based on the "Methodology for Developing Design Response Spectrum for Use in Seismic Design Recommendations, November 2012," the design ground motion is the highest spectral acceleration as obtained by any or a combination of the following three methods for the project site:

1) Statewide minimum deterministic spectrum requirements with MMax of 6.5, vertical strike- slip event with a rupture distance of 7.5 miles.
2) The nearest active fault as shown on the ARS Online Tool (Version 2.3.06).
3) The USGS 5% Probability of Exceedance in 50 years (975 years return period).

Based on the V_{S30}, the peak ground acceleration is estimated to be 0.38g.

The potential for soil liquefaction based on the foundation materials is considered to be insignificant.

5.6 Naturally Occurring Asbestos (NOA)

We have reviewed the State of California, Air Resources Board (ARB) Map of California Showing Principal Asbestos Deposits, 2000 and the Caltrans DOT "Asbestos Location Map, District 3", 2001. According to both maps, the site is not in

an area of naturally occurring asbestos. In addition, during our site reconnaissance the presence of serpentine was not observed in the bedrock exposed at the site.

5.7 National Resource Conservation Service Soil Survey

According to the soil survey reviewed, soils within the project area are mapped as Caperton-Andregg coarse sandy loam, Sierra sandy loam and Xerofluvents frequently flooded. Below is a brief explanation of each soil's pertinent information with regards to project applications.

Caperton-Andregg coarse sandy loam, 2-30 percent slopes. This soil consists of somewhat excessively drained sandy loams derived from weathered granite. Surface runoff is low to medium and the erosion potential is high (K factor 0.95). Corrosion potential is low to moderate for steel and moderate for concrete (pH 5.6-7.3). This soil has been assigned to Hydrologic Group D. Transmissivity is low, reported as 0.00 to 0.06 in/hr.

Sierra sandy loam, 9-30 percent slopes. This soil consists of well drained sandy loams derived from weathered granite. Surface runoff is low to medium to high and the erosion potential is high (K factor 0.95). Corrosion potential is moderate for both steel and concrete (pH 5.6-7.3). This soil has been assigned to Hydrologic Group C. Transmissivity is low, reported as 0.00 to 0.06 in/hr.

Xerofluvents frequently flooded 0-2 percent slopes. This soil consists of somewhat poorly drained alluvium associated with creek and drainage channel deposits. Surface runoff is very low and the erosion potential is slight. Corrosion potential is high for steel and low for concrete (pH 7.9-8.4). This soil has been assigned to Hydrologic Group C. Transmissivity is moderately high to high, reported as 0.98 to 1.98 in/hr.

6. Exploration

The Office of Geotechnical Support, Geophysics and Geology Branch completed seismic refraction surveys within the proposed project limits during the months of November and December, 2013. Nine seismic refraction lines were completed in areas of new alignment where significant cuts and/or exposures of granite rock were observed. The seismic refraction surveys were completed to estimate the depth to potentially non-rippable bedrock and provide estimated earthwork factors for material to be removed. A copy of the Seismic Refraction Survey Report is attached as Appendix 1.

7. Site and Geotechnical Conditions

Mr. Webster of the Office of Geotechnical Design North performed site visits for this

report between November 2013 and March 2014.

In general, the current alignment of the highway roughly trends east/west within the project limits. The highway is bounded on the both sides by relatively short vertical height cuts and fills. Existing cuts within the project limits range in vertical height up to approximately 15 feet with slope ratios of ¼H:1V to vertical. The existing cuts are comprised of light tan, sandy-clay/clayey-sand (decomposed granite) and tan to gray, highly to moderately weathered granitic rock. The existing cuts are performing well with regards to global stability. All of the cuts observed exhibit local erosion instability in the form of sheet rills. The existing cut faces are un-vegetated; the native slopes beyond the cuts are typically vegetated with weeds, some brush and a few trees. Existing fills within the project limits range in vertical height up to 18 feet and have slope ratios that are 1:1 or flatter. Typically the 1:1 slopes were observed associated with drainage inlet and outlet locations, all other fills were 1.5H:1V or flatter. All of the fills observed were performing well with regards to global stability. Local erosion instabilities were only observed in the 1:1 fills associated with some drainage channels. These local instabilities consisted of sheet rills and minor slumps. The existing fills are typically moderately vegetated with weeds and minor amounts of brush. Some fills have small trees growing on them.

Per conversation with Maintenance Supervisor from the Roseville Maintenance Station, they have not had issues from a geotechnical standpoint within the project limits under its current configuration.

8. Geotechnical Recommendations

It is our understanding that this project proposes to realign the highway to perform curve corrections and widen the paved shoulders.

All cuts and fills shall be constructed per Section 19 “Earthwork” of the 2010 Standard Specifications.

8.1 Fill Slopes

Based on the cross-sections provided by the District, both new through fills and widening of existing fills will be completed throughout the project limits. It is our understanding that the District proposes to utilize a maximum fill slope ratio of 2H:1V or flatter for the majority of the fills within the project. A noted difference is between project stations 103+12.25-105+13; in these limits, the District had originally proposed to utilize a Standard Plan Retaining structure and/or over-steepen fill slope to limit the lateral extent of fill placement. Subsequent communications from the District Project Engineer, indicates that the District will no longer utilize a wall or over-steepened fill at this location, but will utilize a fill slope with a maximum slope ratio of 1.5H:1V. Our Office

provided preliminary recommendations for this project in the District Preliminary Geotechnical Report (DPGR) dated February 2012. In the DPGR, our opinion was that a fill slope ratio of 1.5H:1V or flatter could be utilized for fill construction. Since the proposed slope ratios are at or flatter than those recommended in the DPGR, it is our opinion that additional slope ratio recommendations for fill construction are not warranted at this time.

It is our opinion that throughout the majority of the project limits, native surface soils shall provide a suitable foundation for fill placement except in the following areas: Station 103+00-104+50, Station 123+75-125+00 and Station 130+00-132+00. Within these areas, the contractor should anticipate encountering up to 2 feet of unsuitable material in the near surface and that additional effort will be required to prepare the native soils for fill placement. (See Section 8.9)

It is anticipated that material generated from cuts for this project will be utilized to construct the new fills and widen the existing fills. Due to the highly erosive nature of the native soils within the project limits our Office recommends that erosion protection on the final face of the fills be incorporated into the fill slope design. District Landscape Architecture and/or District Hydraulics should be consulted to verify and/or provide erosion control mitigation options that may be suitable at the fill locations.

8.2 Cut Slopes

Based on the cross-sections provided by the District, both new through cuts and widening of existing cut will be completed throughout the project limits. It is our understanding that the District proposes to utilize a maximum cut slope ratio of 2H:1V or flatter with cuts up to a maximum of 25 feet in vertical height. Our Office provided preliminary cut recommendations for this project in the DPGR dated February 2012. In the DPGR, it is was our opinion that a cut slope ratio of 1H:1V or flatter could be utilized for cut construction and maintain global stability of the proposed cuts. Since the Districts proposed slope ratios are flatter than those recommended in the DPGR, it is our opinion that additional slope ratio recommendations for cut construction are not warranted at this time.

The recommended slope ratio is provided with the sole consideration of global slope stability. It should be noted that the existing cuts in the project limits with similar slope ratios exhibit moderate erosion features. Erosion features noted during our site reconnaissance were small rills. District Landscape Architecture and/or District Hydraulics should be consulted to verify and/or provide other erosion control mitigation options that may be suitable at the cut locations.

8.3 Structures

Based on conversations with District Design personnel and cross-sections provided by the District, originally this project proposed to utilize as Standard Plan Retaining wall. The wall was proposed to limit the lateral extent of fill placement between project stations 103+12.25 to 104+87. Subsequent communication from the District Project Engineer informed our Office that the proposed structure was no longer needed and that the District would utilize a standard fill slope design with a maximum slope ratio of 1.5H:1V throughout these limits.

In addition, per conversation with the District Project Engineer, it is our understanding that a box culvert to be utilized as an "Animal Crossing" or combined crossing and drainage culvert, is proposed at a location to be determined in the eastern portions of the project limits. At the time of this report, our Office is un-aware of the location, size, final need or type of culvert proposed so the following recommendations are general in nature and should be reviewed for potential modifications once final design parameters are determined. It is anticipated, if the culvert is constructed outside of an existing drainage channel or identified wet land, the bearing capacity of the native soils should be adequate to support either a pre-cast or cast in-place culvert. If the culvert is constructed in an existing drainage and/or identified wet land, sub-grade enhancement may be required to support the culvert depending on the site materials. Likely recommend sub-grade enhancement would be sub-excavation of unsuitable materials and replacement with compacted aggregate base or similar material to provide adequate bearing capacity for the structure.

We recommend that our Office be contacted when the final design parameters of the structure are known. At that time our Office would complete a review of proposed plans, a site reconnaissance of the proposed structure location and provide an update to this GDR, with any additional recommendations if warranted.

8.4 Rockfall

Based on conversations with the local Maintenance Supervisor for the area and our site reconnaissance, rockfalls have not been a concern within the project limits. Due to the deeply weathered nature of the existing bedrock at the site, our Office does not anticipate rockfall to be a future concern as a result of the cuts proposed for this project.

8.5 Rippability

Our map review indicates that the project area is underlain by Mesozoic age intrusive igneous rock (Granite). During our site reconnaissance the presence of rock was observed in the some of the existing cut slopes surfaces; rock observed in existing cuts at the site is

predominately highly weathered to decomposed and weak to moderately hard. In addition to the outcrops observed in the existing cuts, we also observed granitic outcrops and boulders (up to 10ft. dia.) in areas of proposed excavation for the new alignment sections. Boulders and outcrops observed in area of the new alignment were noted to be moderately to slightly weathered and from moderately hard to very hard.

Seismic refraction surveys were preformed in areas of the new alignment where significant cuts are proposed to be completed. Based on the results of the surveys, the majority of the materials encountered within excavations are anticipated to be rippable with conventional excavation equipment except in the following project station locations:

Project Stationing 127+00-129+00: within these project limits, non-rippable material (seismic velocity ≥ 6000ft/sec.) at elevations below 407 feet. Based on the proposed excavations depths at this location, it is anticipated that up to 10 feet of hard rock requiring hard rock excavation techniques will be required to reach the proposed finish grade.

Project Stationing 134+00-135+50: Thou the seismic refraction survey indicates that non-rippable material is located below and elevation of 400 feet and the proposed finish grade for the excavation in this area is slightly above and elevation of 400 feet, based on our site observations it is anticipated that non-rippable material (seismic velocity ≥ 9100ft/sec.) could be encounter. We recommend for estimating purposes that the non-rippable material be considered to be at an elevation of 405 feet and any excavations below this elevation within these project station limits be considered to require hard rock excavation techniques.

A copy of the seismic refraction report is attached as Appendix 1.

In addition to the above mentioned areas of non-rippable material, our Office recommends that up to 2% of all excavations be considered to contain corestones and/or oversized boulders that will require hard rock excavation techniques to reduce to a workable size and/or suitable size for placement within fills.

Hard rock excavation techniques that a contractor may choose to utilize will include (but are not limited to) the use of hoe-rams, hydraulic splitters, chemical expanders and blasting. Due to the anticipated limited hard rock excavation needs for this project and the density of residential structures with associated septic and well systems within the area, we recommend the District evaluate the cost benefit of blasting as a hard rock excavation alternative for contractors. It is our opinion that the cost to perform the requirements of the “Controlled Blasting Specification” would exceed the cost savings that blasting may achieve over other hard rock excavation techniques.

8.6 Grading Factors

Based on the result of the Seismic Refraction Survey Report and our field reviews the majority of the cuts will be constructed in the decomposed to highly weathered granite with only minor amounts of harder, competent granite bedrock and corestones included. We recommend that the District utilize a grading factor of 0.95 for earth work volume estimating purposes.

8.7 Groundwater & Drainage

Based on our site reconnaissance, topography and geology, depending on time of construction there is the potential for groundwater and surface water to be encountered during the proposed construction activities.

During all of our site reconnaissances, surface water was observed in two wetland areas. The two wetland areas we noted of that will impact construction activities are located between the approximate project stations of 123+70-126+00 and 130+00-131+50. In addition, surface water was observed flowing year round within the un-named creek located at approximate project station 103+60. Water was not observed flowing in any of the drainage channels adjacent to the highway during our reconnaissances. Seepage and groundwater conditions will vary according variations in rainfall, construction activities and water levels within adjacent drainages.

District Hydraulics should be consulted to verify and/or provide other drainage recommendations that may be suitable for the project.

8.8 Corrosion

Based on the soil survey reviewed, soils at the site should be considered moderately to highly corrosive for steel and moderately corrosive for concrete.

District Materials Lab and with District Hydraulics should be consulted to determine if previous soil corrosion testing was completed in the project limits for existing culverts and if additional corrosion test should be completed for the placement or extension of new or existing culverts.

8.9 Pumping Subsurface Soils

Due to the potential presence of surface water between project stations; 103+00-104+50, 123+70-126+00 and 130+00-131+50, pumping subgrade soils are likely to occur during placement and compaction of fills within these limits. Options for stabilizing pumping subgrade soils consist of dewatering, lime stabilization and surface stabilization. Due to

potential time constraints of dewatering and costs for lime stabilization, we are providing recommendations for surface stabilization.

We recommend that in the above mentioned areas if water is encountered, areas where fill is to be placed, the native ground be cleared and grubbed per Section 16 of the Standard Specification. Grass maybe left in place to enhance stability where sub excavation is not required to accommodate the roadway structural section and additional material needed to provide stability for the pumping subgrade soils. After the site is striped and/or sub excavated a woven geotextile should be place on the ground surface and covered with variably deep rock material prior to the placement of fill material. The geotextile should be Class B2 Subgrade Enhancement Geotextile per section 88-1.02O of the Standard Specifications. We recommend that, Class 3 ¾" maximum aggregate base per Section 26-1.2C of the Standard Specifications or similar rock be utilized to cover the fabric prior to fill placement. In order to prevent the migration of fines from the overlying fill section we recommend that the fabric be wrapped around the rock to encapsulate it.

It is estimated that a 1 foot thick rock layer will be required where fill is to be placed between project stations 103+00-104+50. Where fill is to be placed between project stationing 123+70-126+00 and 130+00-131+50, we estimate a 2 foot rock layer will be required to provide subgrade stability.

9. Notes to Designers and Contractors

The District may consider utilizing a embankment (fill) slope ratio of 1.5H:1V for fills less than 30 feet thick in dry areas without additional geotechnical review.

Where embankments are to be placed between project stations 103+00-104+50, 123+70-126+00 and 130+00-131+50, surface and/or shallow groundwater is anticipated to be encountered and will require additional subgrade improvement prior to fill placement.

The District may consider utilizing a cut slope ratio of 1:1 or flatter for cuts less than 20 feet in vertical height without additional geotechnical review.

Based on proposed excavation elevations for the project, non-rippable bedrock is anticipated to be encountered between project stationing 127+00-129+00 and 134+00-135+50.

For estimating purposes, up to 2% of total excavation quantities for the project should be considered to consist of granitic corestones and/or boulders that will require hard rock excavation techniques to reduce to a workable size and/or reduce to a size suitable for placement within proposed project embankments.

District Landscape Architecture should be consulted to provide erosion control recommendations for all proposed cuts and fills.

10. Proposed Future Investigations

No other fieldwork is proposed at this time. Representatives from our Office are available to assist District Construction Personnel during construction if needed.

11. Project Information

Standard Special Provision S5-280, "Project Information", disclosed to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

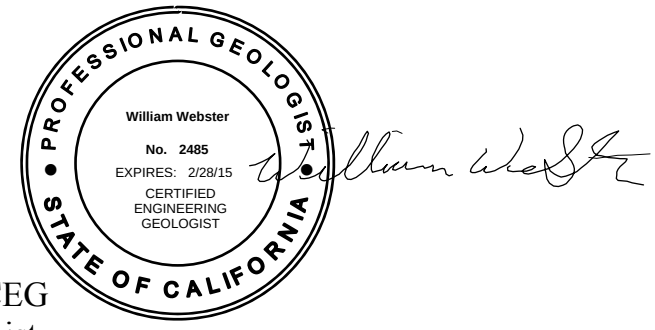
Data and information attached with the project plans are*:*
A. None

Data and Information included in the Information Handout provided to the bidders and Contractors are:
A. "Geotechnical Design Report for Curve Improvements", 03-PLA-193 PM 4.4/5.5, dated July 3, 2014
B. "Results of Seismic Refraction Survey for Route 193 Curve Improvements, Placer County California", 03-PLA-193 PM 4.4/5.52, dated March 3, 2014.

Data and Information available for inspection at the District Office:
A. None

Data and Information available for inspection at the Transportation Laboratory are:
A. None

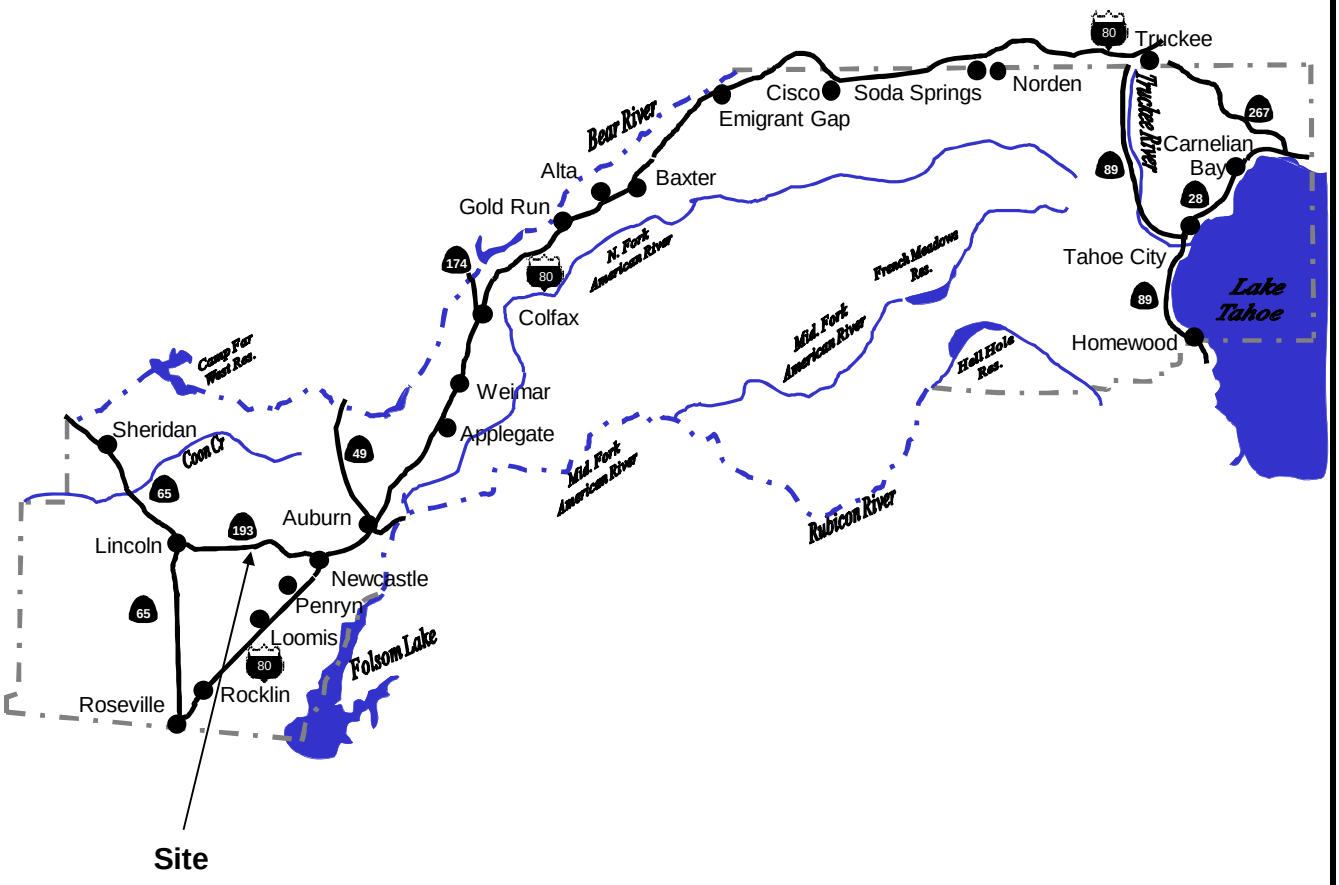
The recommendations contained in this report are based on the specific project information provided to this office through June 1, 2014. If any conceptual changes are made during final design or in the field that could relate to or are related to geotechnical issues, the Office of Geotechnical Design North should review those changes to determine if these recommendations still apply. If you have any questions, comments, or would like to request the additional support during construction for this project please call Bill Webster at (916) 227-1041 or Qiang (John) Huang at (916) 227-1037.



William Webster, CEG
Engineering Geologist
Office of Geotechnical Design North
Branch C

Attachments
1. Plate 1. Vicinity Map
2. Plate 2. Aerial Photograph of Project Area
3. Plate 3. Geologic Map
4. Appendix 1. Seismic Refraction Survey Report

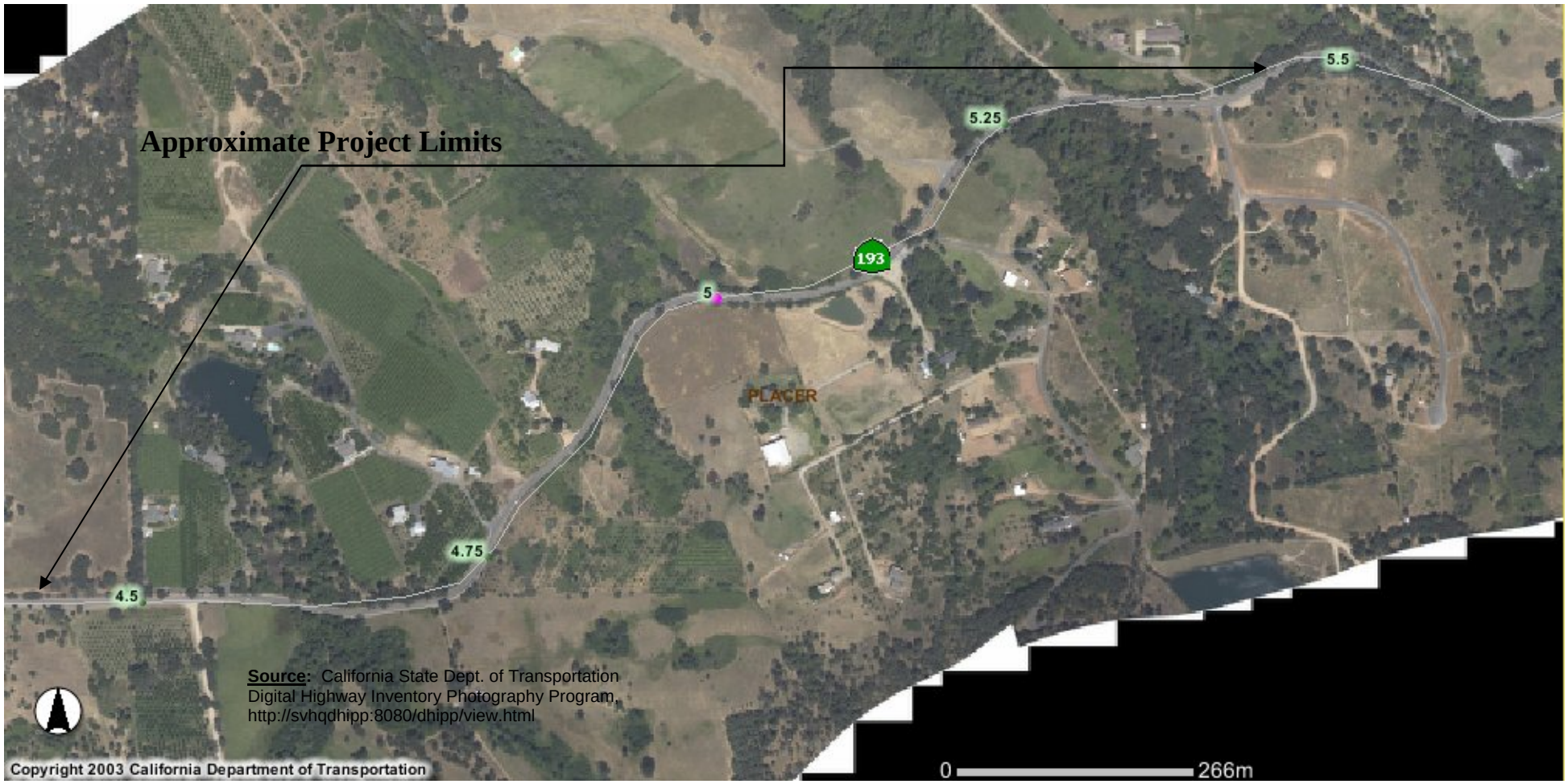
C: Qiang Huang, (OGDN)
e-Copy: John Holder, (D3-PM)
John Cosmez, (PCE)
GS Corporate
D3 - RE Pending Files (c/o Thomas Langley)
Dan Ferchaud, (D3-DME)



N

NO SCALE

CALTRANS Engineering Services Office of Geotechnical Services Geotechnical Design Branch - North	EA: 03-4E8600	VICINITY MAP	
	Date: July 2014		
	03-PLA-193; PM 4.4/5.5 District Preliminary Geotechnical Report		PLATE NO. 1



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Not to Scale

Caltrans

Department of Transportation
Division of Engineering Services
Geotechnical Services
Geotechnical Design - North

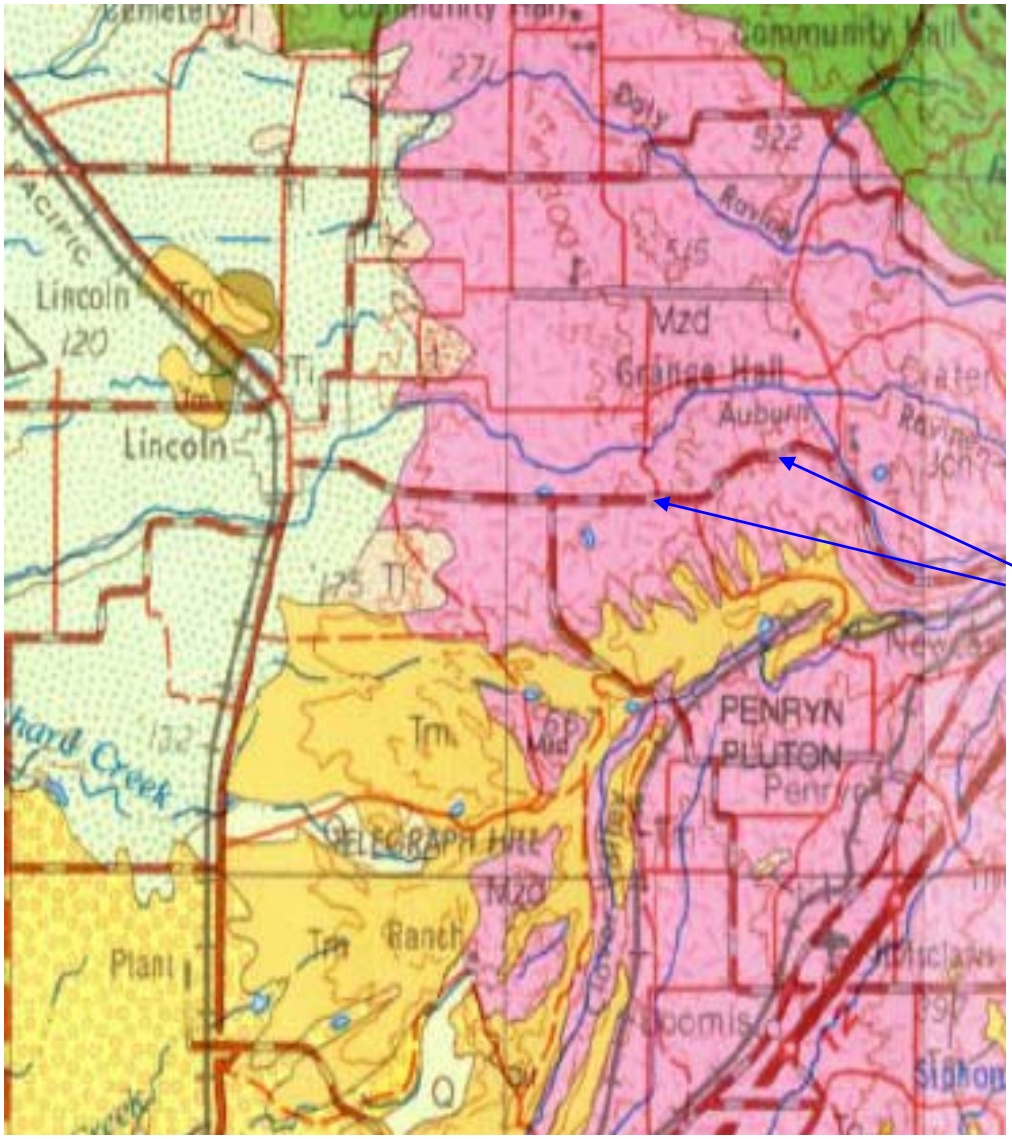
EA: 03-4E8600

Date: July 2014

Aerial Photo

03-PLA-193; PM 4.4/5.5
DISTRICT PRELIMINARY GEOTECHNICAL REPORT

Plate 2



PROJECT LIMITS

PERTINENT GEOLOGIC UNIT

Mzd	Mesozoic Age Dioritic Rocks
Qr	Quaternary Age Riverbank Formation (alluvium)
Tm	Mesozoic Age Merten Formation (andesitic conglomerate, sandstone, and breccia)

N

Not to Scale

Base Map Reference: Geologic Map of the Sacramento Quadrangle, 1:250,000, Department of Conservation, Division of Mines and Geology, 1987.

CALTRANS
Division of Engineering Services
Geotechnical Services
Office of Geotechnical Design-North

EA: 03-4E8600

Date: July 2014

GEOLOGIC MAP

03-PLA-193; PM 4.4/5.5
DISTRICT PRELIMINARY GEOTECHNCIAL REPORT

Plate No. 3

APPENDIX 1

Seismic Refraction Surveys for Route 193

Curve Improvements

Placer County, California

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

M e m o r a n d u m

Flex your power!
Be energy efficient!

To: **Qiang (John) Huang**
Senior M&R Engineer
Office of Geotechnical Design North
Division of Engineering Services

Date: March 3, 2014

File: 03-PLA-193-4.4/5.5
Project: 0300000725

Attn: Bill Webster

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES-MS#5

Subject: Results of Seismic Refraction Survey for Route 193 Curve Improvement, Placer County California.

Introduction

This memo documents the results of a refraction seismic survey to assist in the design of a roadway curve improvement project in Placer County. This survey was intended to evaluate the rippability of the material to be excavated and to evaluate the site for the potential of unrippable corestones.

Results and Discussion

The results of our findings are summarized in Table 1 on the following pages. Nine seismic refraction profiles were acquired. The profiles were established at proposed cut locations. Profile locations are shown on Plates 1 and 2. For reference, temporary benchmarks (TBM's) were established for each seismic profile. We estimated elevations and project stationing from plans furnished by the Office of Geotechnical Design North. These estimates should be verified and corrected where needed for final design.

A rock mass often has a weathering profile grading from extremely weathered material near the surface to fresh material at depth. Weathering does not necessarily occur uniformly and tends to migrate into fresh rock along joints and fractures, resulting in hard "corestones" (unrippable blocks of relatively fresh rock) distributed within a rippable, weathered matrix. The geologic environment at the project site supports the potential for corestones to be present within the weathering horizon. Blasting or other *in situ* mechanical reduction may be required during construction for removal of these corestones. Where indicated by the refraction data, the potential for corestones at the profile locations are noted in the discussion below.

Seismic Line 1 was located at the west end of the project. The seismic line was 123 feet long with geophones placed every 5 feet. The site is currently used as a pasture. The processed model (Plate 3) shows three velocity units. The proposed road grade is also shown. The model indicates the proposed road grade will encounter material that will be easily ripped except for the initial 30 feet, where moderately difficult ripping is expected.

Seismic Line 2 was 164 feet long with 6.6-ft geophone spacing. It was located on fallow farmland. Plate 4 shows the processed model of our findings. The proposed road grade will encounter easily ripped material except for the last 40 feet, where the rippability increases to moderately difficult.

Seismic Line 3 was also located in a fallow field. Plate 5 shows the processed model of our findings. The model indicates five velocity units were defined, but the proposed road grade will only encounter the upper two layers, both of which should be easily ripped.

Plate 6 shows the results of our findings at Seismic Line 4, Center. This seismic line was laid out about 25 feet north of and parallel to Seismic Line 4 South. The area is currently pasture land. The proposed road grade is expected to be within 20 feet of the existing ground surface. Excavation should encounter material that is easily ripped, except at the extreme eastern 40 feet where ripping is expected to be difficult.

Plate 7 shows the processed model for Seismic Line 4, South. Ripping is expected to be easy throughout the profile.

Plates 8-10 show the processed models for Seismic Lines 5 North, 5 Center, and 5 South. This area is currently pasture and is the highest in elevation of all the sites; thus, it involves the deepest cuts (up to 30 feet).

Although Seismic Line 5 North indicates ripping will be easy, the profile indicates that base elevation along the eastern third of the cut will terminate within 4 feet of unrippable material. Therefore, expect to encounter corestones along that eastern third.

Seismic Line 5 Center indicates ripping will be easy. However, based on the proposed road grade, the excavation will be very close (within 4 feet) to non-rippable material and corestones should be expected.

At Seismic Line 5 South, the proposed road grade will encounter the second and third velocity units (layers 2 and 3). The second velocity unit (Layer 2) is not well defined to the southwest before station 127+50. There, Layer 2 thins and may pinch out. The third velocity unit (Layer 3) is not rippable. From the start of the profile to station 129+00, anticipate unrippable conditions beginning about five feet above proposed road grade. The basement layer is also unrippable and is not well-defined in the refraction model. It may be as shallow as 13 feet below proposed road grade at station 127+30 and appears to plunge deeper to the northeast. We have no data on its depth before station 127+30.

For Seismic Line 6 (Plate11), refraction data indicate a three-layer case. Tentatively, the basement layer appears to exist well below the proposed road grade and dips steeply to the southwest. However, data from the basement layer are insufficient to reliably model and are omitted here. Because of this uncertainty, we inspected the site again in late January. We observed outcrops of competent granitic rock in a stream cut beyond station 135+50. There, rock is exposed near the base of the proposed road grade. At Line 6, corestones are observed at the ground surface at both ends of the profile (Bill Webster, pers. commun.). Based on all of these observations, blocks of unrippable material should be anticipated near the base of the proposed grade at both ends of the profile, before station 134+50 (approximately) and again near the end of the line and beyond, starting at about station 135+50.

Table 1. Results of Seismic Refraction Study for Route 193 Safety Improvement Project

Line	Layer	Average Thickness (ft)	Velocity Range (ft/s)	Line Length (ft)	Project Stationing	Inferred Material	Rippability
1	1	6	1700	123	99+33 – 100+56	Colluvium	ER
	2	34	3700			Intensely Weathered Granite	MD
	3	N/A	12,600			Granite	NR
2	1		1800	164	111+33 – 112+97	Colluvium	ER
	2	25	3100			Intensely Weathered Granite	MD
	3	N/A	12,000 – 14,700			Granite	NR
3	1	4	1200	164	115+30 – 116+94	Colluvium	ER
	2	11	3100			Intensely Weathered Granite	MD
	3	28	6200			Moderately Weathered Granite	DR
	4	N/A	12,500 – 25,400			Granite	NR
4 Center	1	3.0	1400	243	120+19.7 – 122+63	Colluvium	ER
	2	23	3100			Intensely Weathered Granite	ER
	3	25	5400			Moderately Weathered Granite	DR
	4	N/A	12,000			Granite	NR
4 South	1	5.0	1400	243	120+15 – 122+58	Colluvium	ER
	2	20	3100			Intensely Weathered Granite	ER
	3	25	6400			Moderately Weathered Granite	DR
	4	N/A	12,400			Granite	NR
5 North	1	6.5	1400	322	126+13 – 129+35	Colluvium	ER
	2	17	3400			Intensely Weathered Granite	ER
	3	40	8800			Moderately Weathered Granite	NR
	4	N/A	15,000			Granite	NR
5 Center	1	4.0	1200	322	126+55 – 129+77	Colluvium	ER
	2	23	3100			Intensely Weathered Granite	ER
	3	25	7100			Moderately Weathered Granite	NR
	4	N/A	11,700			Granite	NR
5 South	1	7.0	1500	322	126+78 – 130+00	Colluvium	ER
	2	20?	3800			Intensely Weathered Granite	MD

Line	Layer	Average Thickness (ft)	Velocity Range (ft/s)	Line Length (ft)	Project Stationing	Inferred Material	Rippability
5 South	3	25	6800	322	126+78 – 130+00	Moderately Weathered Granite	NR
	4	N/A	11,600			Granite	NR
6	1	6.0	1700	164	133+92 – 135+56	Colluvium	ER
	2	N/A	9100			Moderately Weathered Granite	NR

[1] ER = Easily Ripped, MD = Moderately Difficult, DR = Difficult Ripping, NR = Not Rippable,

Ripping ability is based on unpublished Caltrans data for the Caterpillar D9 series bulldozer with a single-tooth ripper. These values are as follows:

Velocity ft/s	**Rippability**
<3440	Easily Ripped
3440-4920	Moderately Difficult
4920-6560	Difficult Ripping
>6560	Not Rippable

Different excavation equipment may experience different results. Penetrating efficacy of the ripping tooth is often more important in predicting ripping success than seismic velocity alone. Undetected blocks or lenses of high-velocity material should be expected within rippable zones, requiring blasting or other means of mechanical breakage for excavation.

Data Acquisition and Processing

Seismic refraction data were recorded using an EG&G Smartseis 24-channel seismograph with 14 MHz geophones. The energy source employed was a hammer and striker plate. Refraction data from each shot were stored in the seismograph's memory. Both profile geometry and refraction data were backed up to paper and floppy disk upon completion of the survey.

Profiles in this report are presented in terms of velocity units. A velocity unit is a three-dimensional unit, which due to its elastic properties and density, propagates seismic waves at a characteristic velocity or within a characteristic velocity range. Velocities denoted in this report and in the seismic refraction sections are expressed in feet per second. At least one velocity is present within a geological rock unit. In addition, each zone of weathering, or fracturing within that geological unit can constitute its own velocity unit. Conversely, when two rock units such as water saturated gravel and moderately weathered rock propagate seismic waves at the same velocity and are adjacent to each other, both units would be part of the same velocity unit. Lastly, discontinuous velocities might result from variation in the degree of alteration in the form of physical and chemical weathering and should be considered in the interpretation of the data.

Thank you for the opportunity to work on this project. If you have any questions or need additional assistance, please contact Dennison Leeds at (916) 227-1307 or Bill Owen at (916) 227-0227.

Dennison Leeds
Engineering Geologist
Geophysics and Geology Branch

William Owen, PGP 1031
Chief, Geophysics and Geology Branch

c: Project File.
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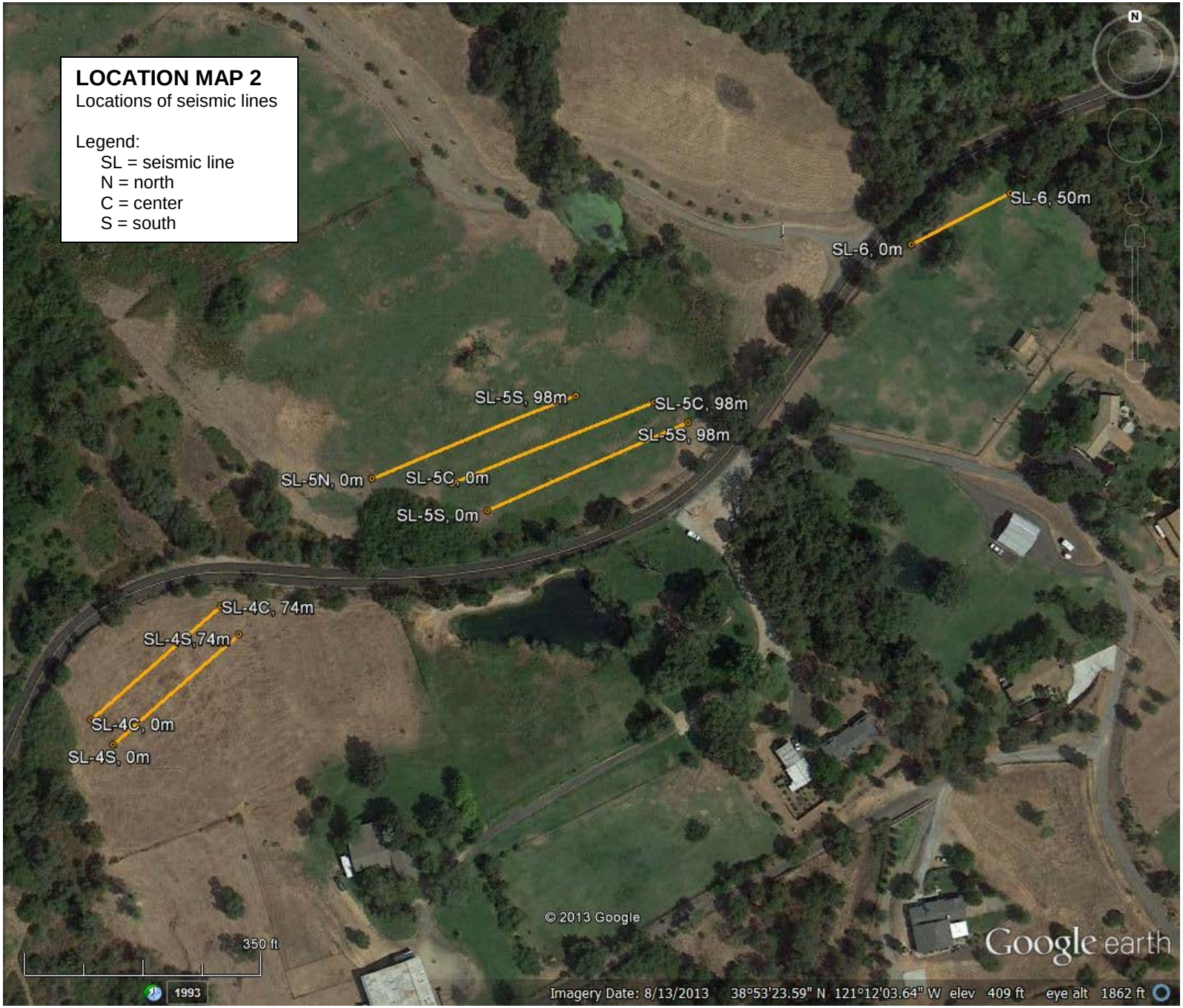
Caltrans	Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 4E8604	Hwy 193 Location Map 1	Plate No. 1
		ID 0300000725	03-PLA-193-4.4/5.5	



Caltrans	Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 4E8604	Hwy 193 Location Map 2	Plate No. 2
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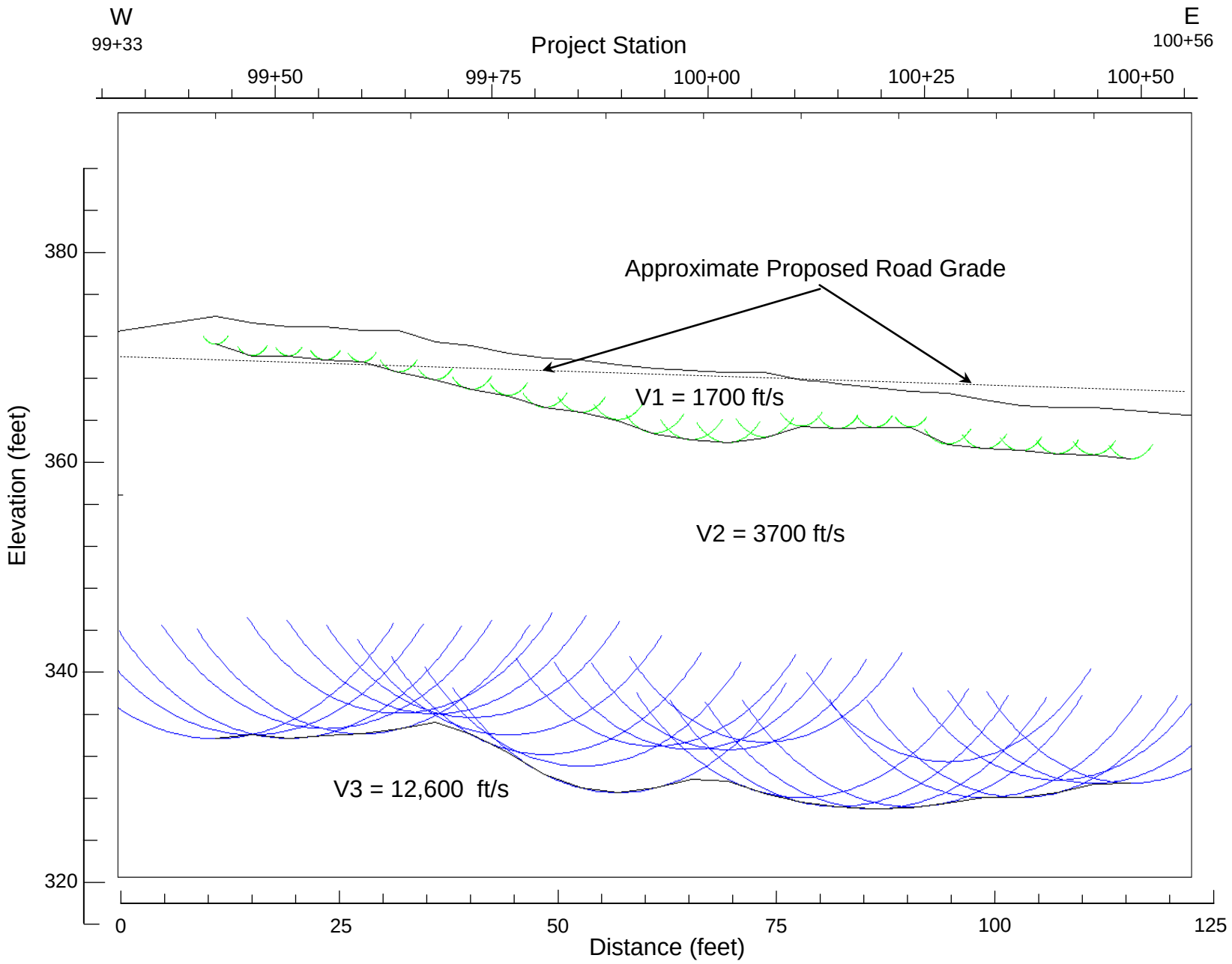

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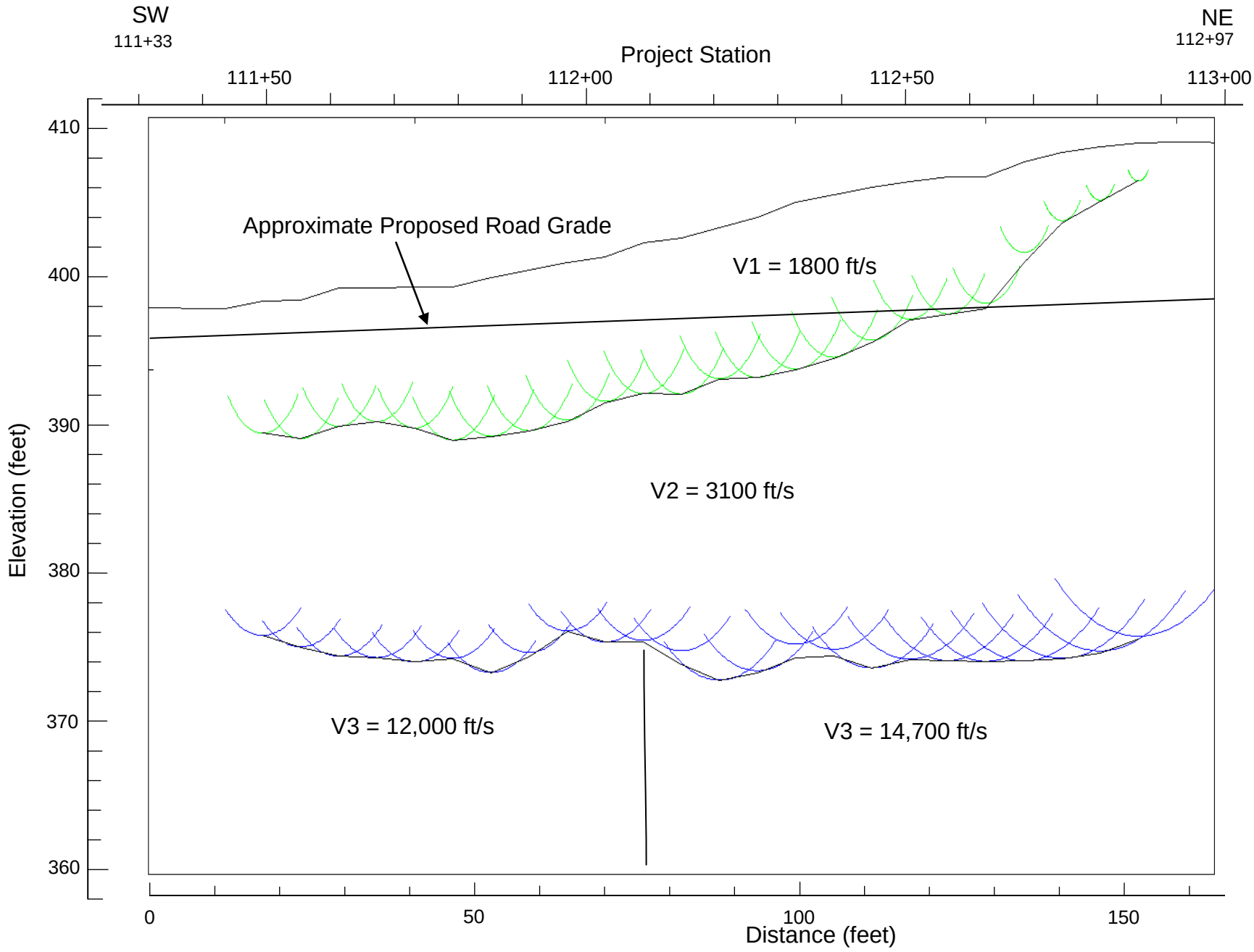

Caltrans Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 4E8604	Hwy 193 Seismic Line 2	Plate No. 4
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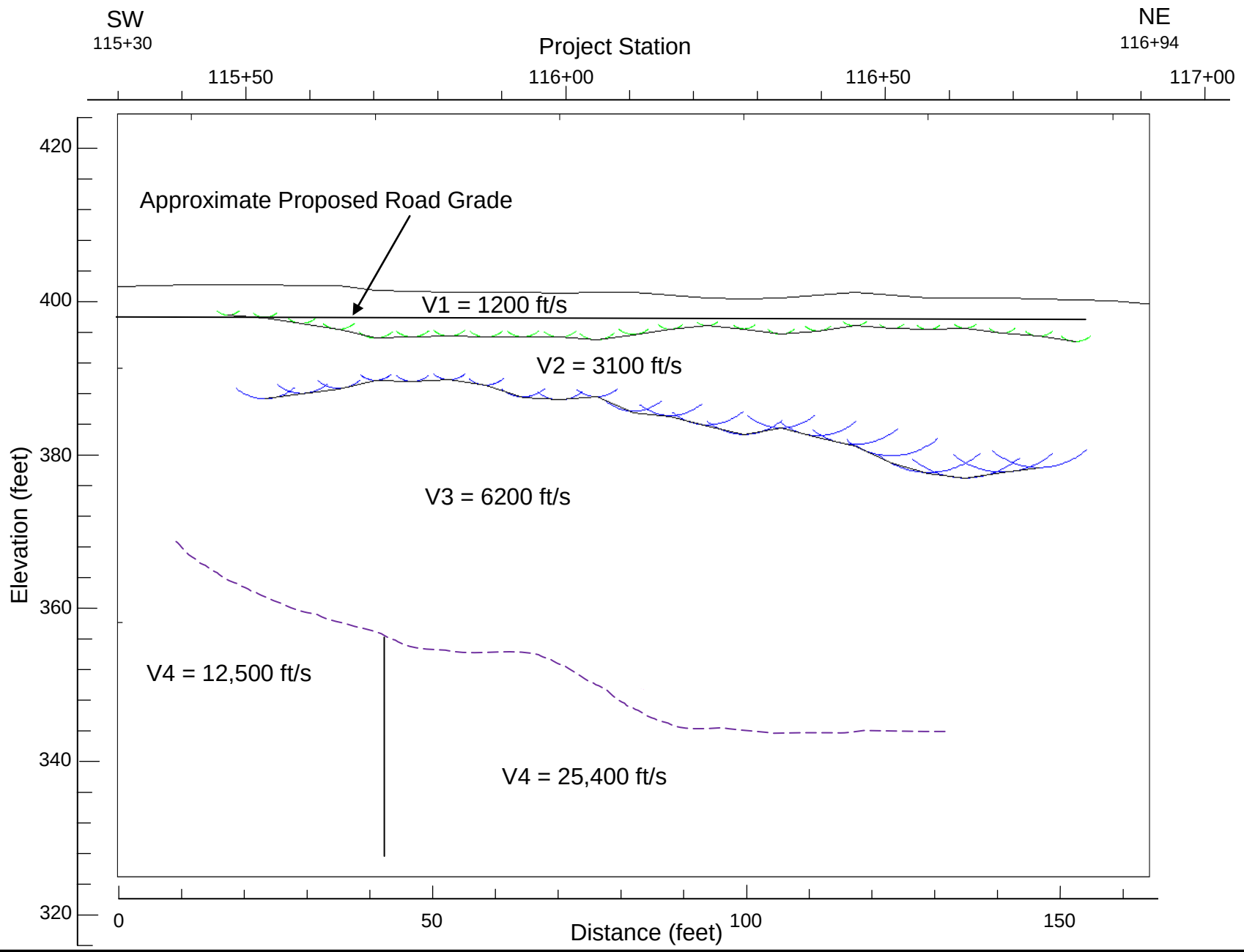

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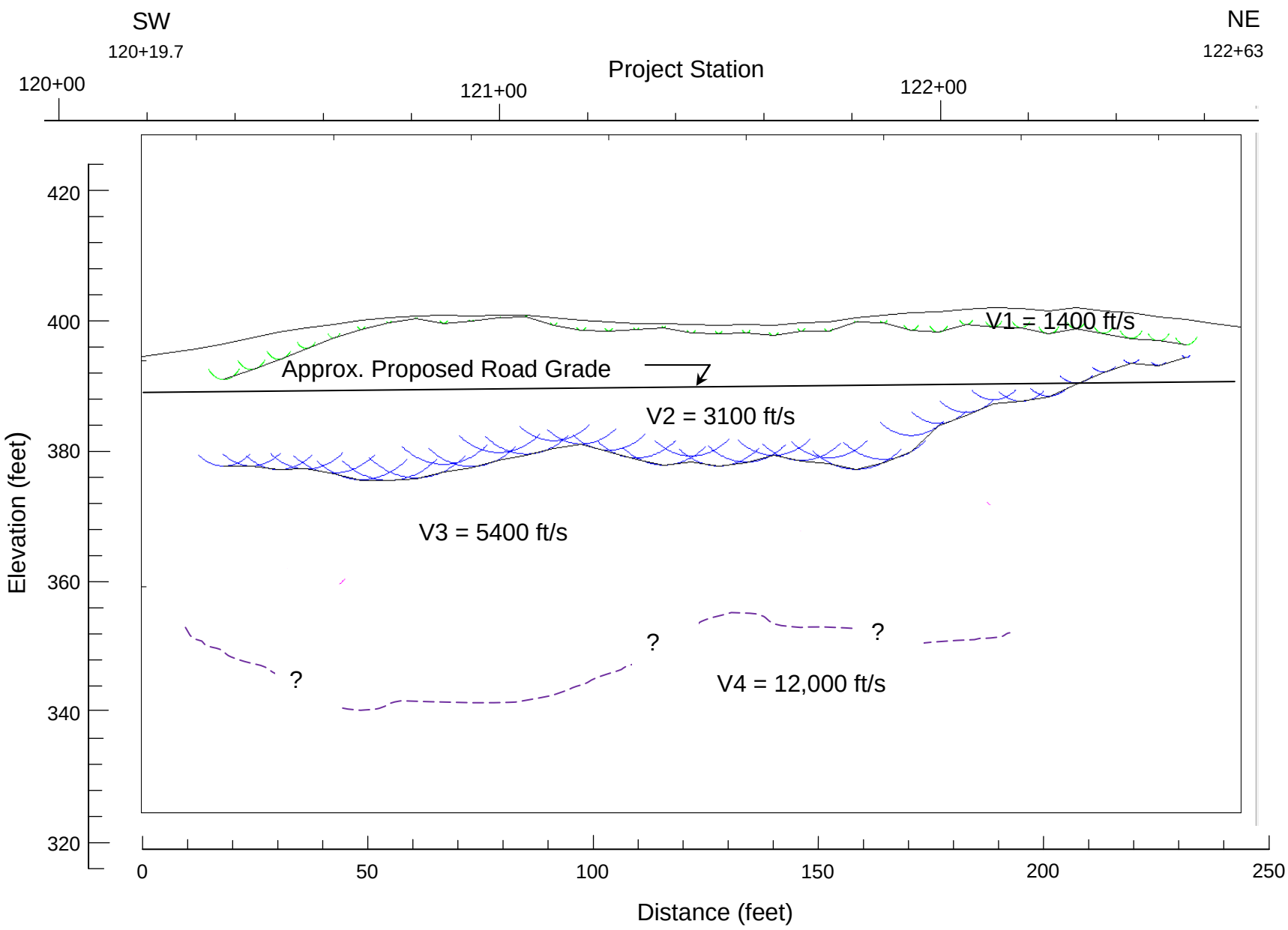

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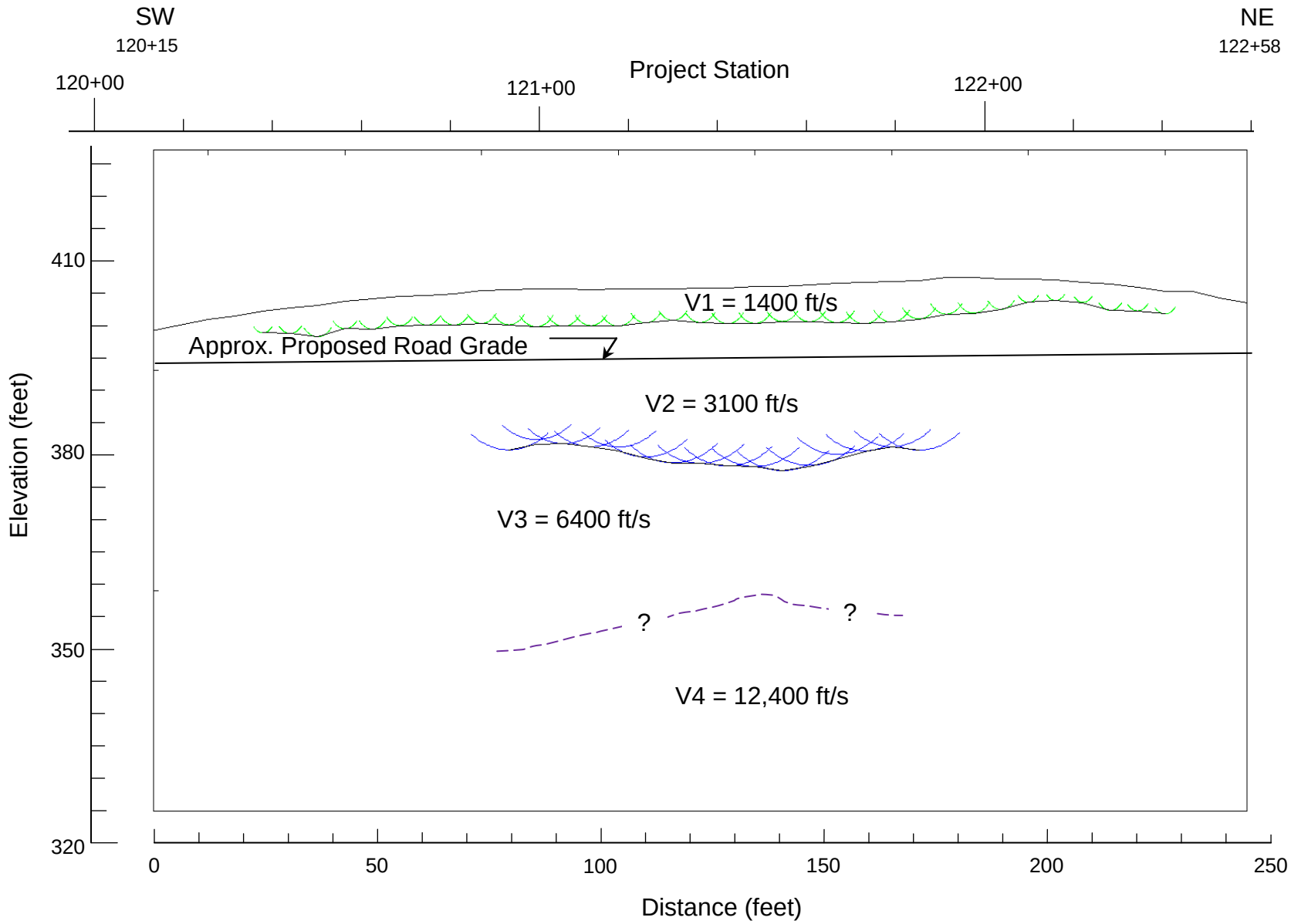

Caltrans Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 4E8604	Hwy 193 Seismic Line 4 South	Plate No. 7
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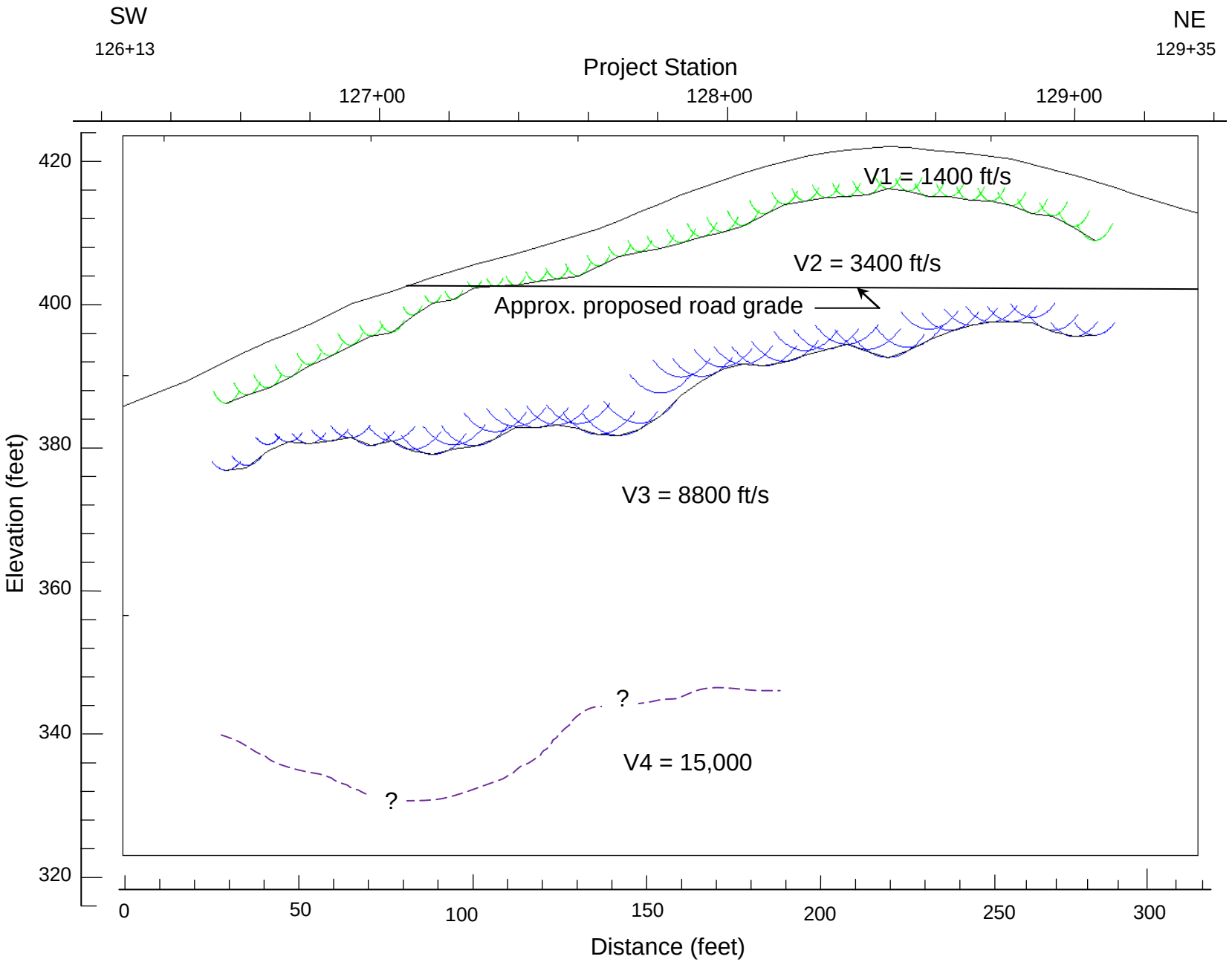

Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 4E8604	Hwy 193 Seismic Line 5 North	Plate No. 8
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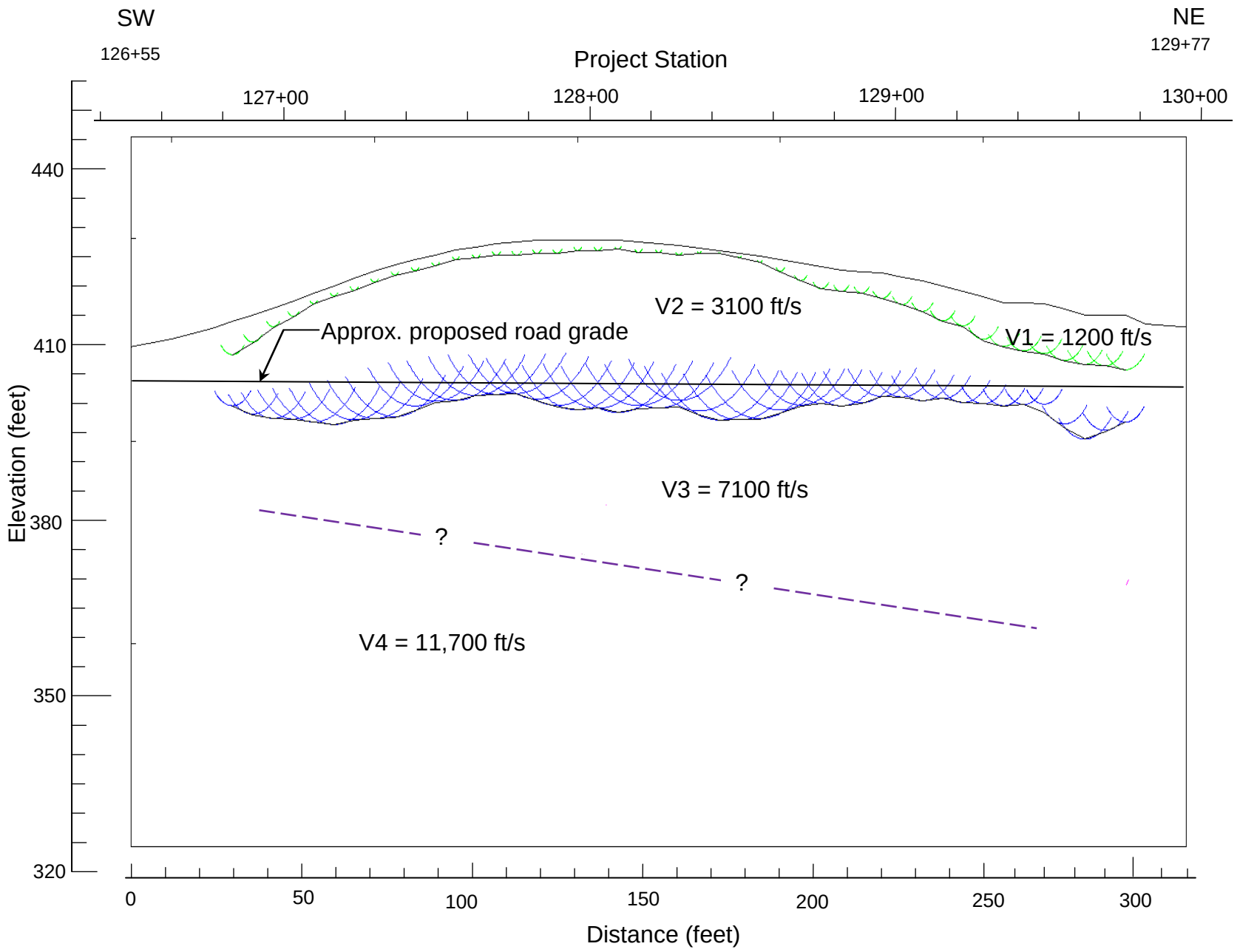
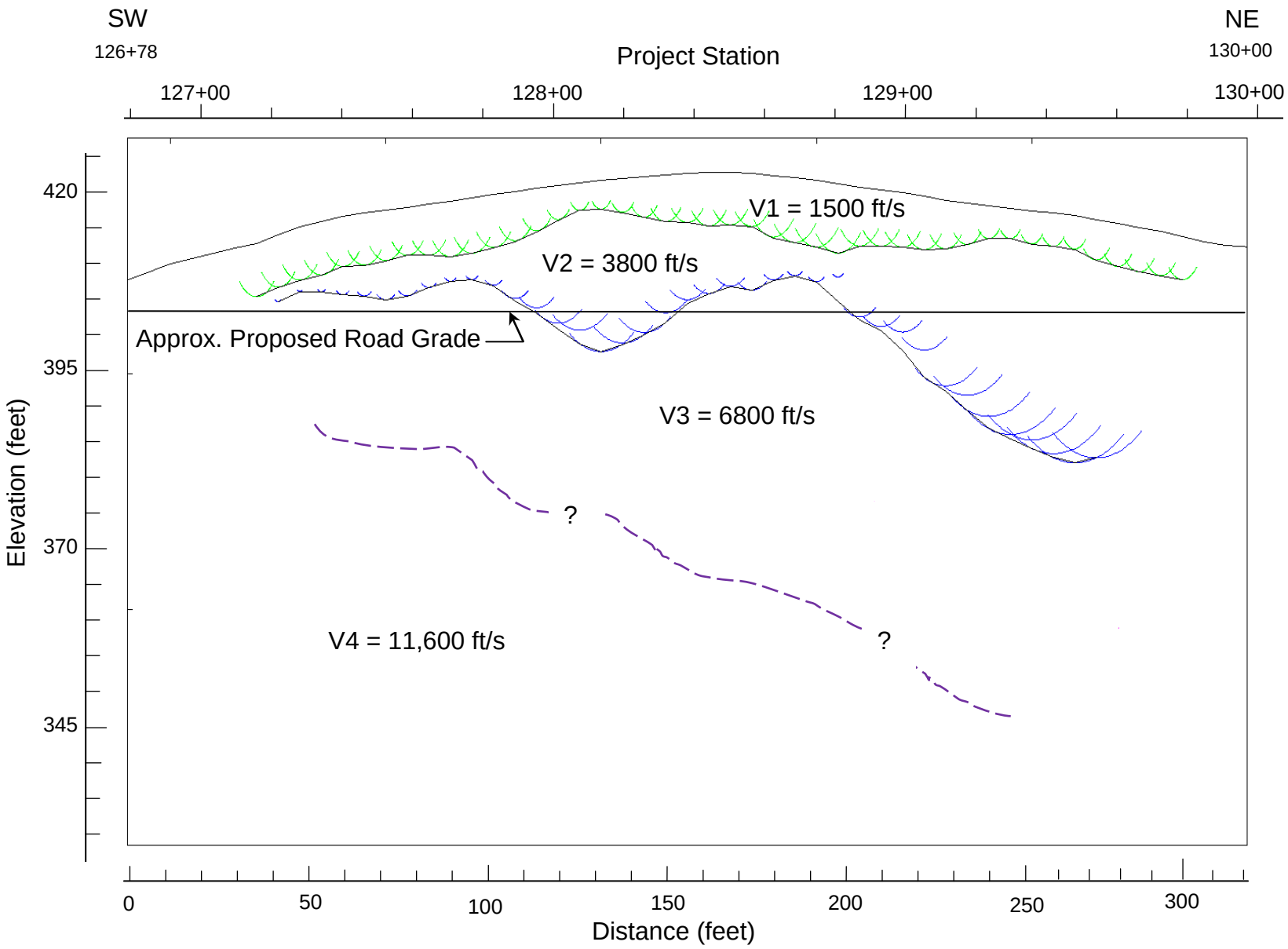
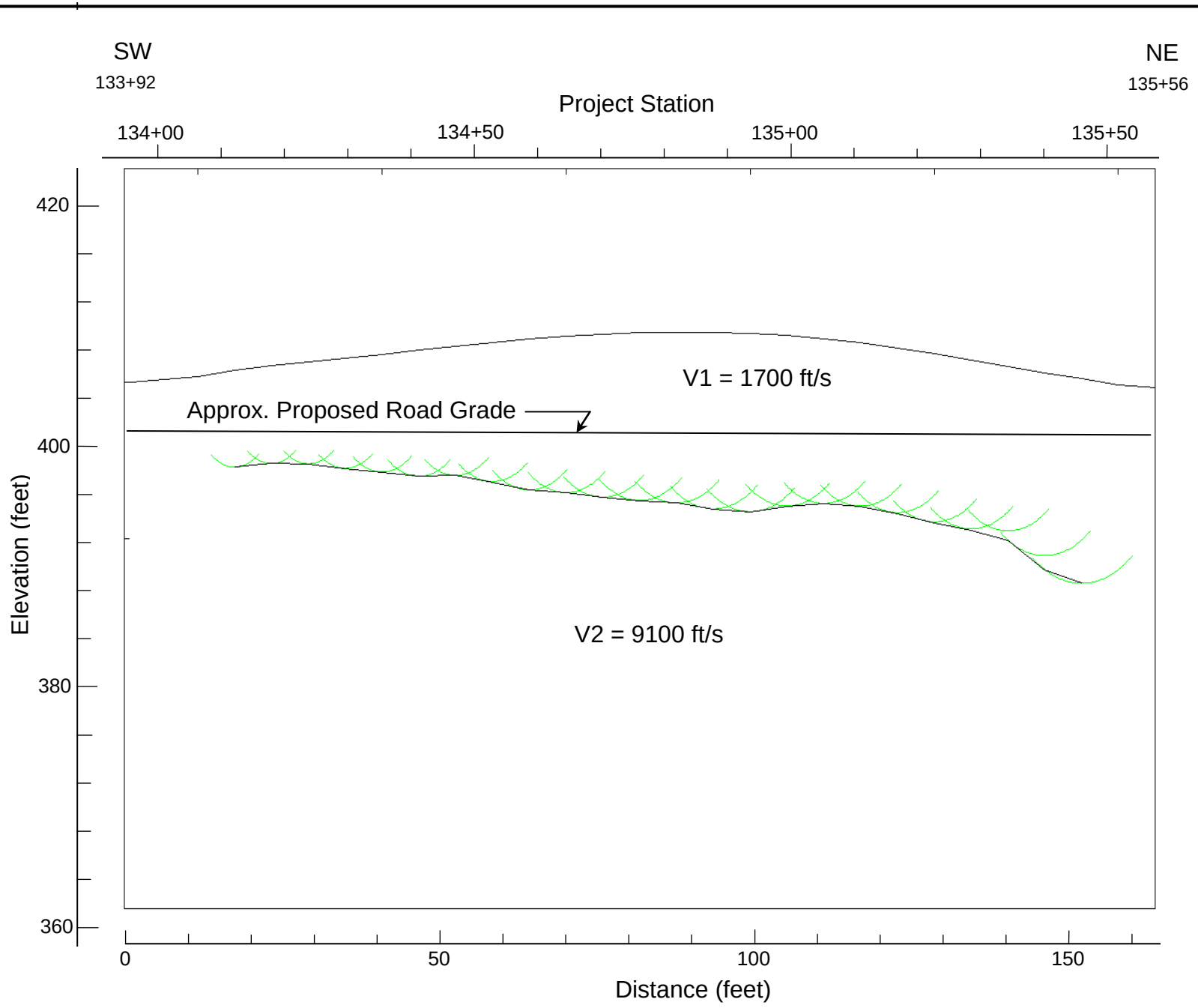


Caltrans Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 4E8604	Hwy 193 Seismic Line 5 Center	Plate No. 9
	ID 0300000725	03-PLA-193-4.4/5.5	



Caltrans Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 4E8604	Hwy 193 Seismic Line 5 South	Plate No. 10
	ID 0300000725	03-PLA-193-4.4/5.5	



Caltrans Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 4E8604	Hwy 193 Seismic Line 6	Plate No. 11
	ID 0300000725	03-PLA-193-4.4/5.5	

M e m o r a n d u m

Serious Drought!
Help Save Water!

To: MASTRI ALVANDI
BRANCH CHIEF
NORTH REGION DESIGN SOUTH

Date: December 19, 2014

File: 03-PLA-193 PM 4.4/5.5
03-4E8601
0300000725
Curve Improvements

Attn: Tom Langley
NORTH REGION DESIGN SOUTH - PROJECT ENGINEER

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

Subject: Geotechnical Design Report for Curve Improvements Project-Addendum #1

1. Introduction

Per your request we are providing this Addendum to the Geotechnical Design Report for the proposed curve improvements on State Route (SR) 193 in central Placer County, California. This addendum is to provide geotechnical recommendations for the proposed box culvert to be utilized as an animal undercrossing. Our Office provided a Geotechnical Design Report (GDR) for this project, dated August 4, 2014, however this box culvert was not addressed in the report as our Office had no information pertaining to it at that time. The proposed box culvert will be located at project station 137+28 (current alignment approximate post mile 5.27). The purpose of this report is to provide geotechnical recommendations for placement of the Reinforced Concrete Box culvert (RCB) and cuts and fills associated with the culvert placement. Plate No. 1 presents an aerial view of the proposed project limits with the area reviewed for this addendum outlined. References to post mile (PM) found within the report refer to the existing State Route 193 alignment. References to Project Stationing within the report refer to proposed re-alignment “A1” Line Route 193.

This report includes a review of published data, previous site explorations, and a site reconnaissance.

No subsurface exploration or laboratory testing was completed for this report. Project layout plans, typical cross-sections and culvert dimension provided by District Hydraulics were utilized to determine recommendations provided in this report.

This report is intended for use by the project roadway design engineers, construction personnel, bidders and contractors.

2. Existing Facilities and Proposed Improvements

At the time of our field reconnaissance (12/8/14), in the general vicinity of PM 5.27 (proposed RCB location), Highway 193 consisted of a two-lane roadway paved with asphalt concrete (AC). Highway 193 has two 11 foot wide traveled ways with 6 inch wide paved shoulders. Unpaved shoulders were measured to be 8 feet from the existing pavement to the existing culvert outlet headwall and 12 feet from the existing pavement to the existing culvert inlet headwall on the north and south sides of the highway respectively. At this location, the existing highway alignment is elevated on a through fill section with two 24 inch diameter culverts running underneath the fill. The existing fills range in vertical height from approximately 15 feet on the north side of the highway and 10 feet on the south side of the highway. The fills have slope ratios that vary from 1.5H:1V to as flat as 10H:1V. The culvert inlet and outlet headwalls are constructed of dry stacked granitic boulders up to 2 feet in maximum dimension.

Overhead utilities were observed to parallel and cross the existing highway alignment in the near vicinity of the area reviewed for this addendum. Indications to the presence of underground utilities were not observed during our site reconnaissance. No other highway structures (bridges, retaining wall etc) were observed within the vicinity of the project limits reviewed for this addendum.

This project involves re-alignment and widening of the existing highway throughout the project limits (PM 4.5-5.5). Proposed improvements at the site reviewed (PM 5.27) for this addendum include re-alignment of the highway to the south, installation of an RCB culvert to function for drainage and as a wildlife animal under-crossing, and cuts and fills associated with both the RCB installation and highway re-alignment.

3. Caltrans Document and Reports Reviewed

“Preliminary Drainage Plans”, Sheet D-4, DP-13 and DD-1, Prepared by District 3 Hydraulics, November 4, 2014.

“AA1 Cross Sections”, 03-PLA-193 PM4.4/5.5, Prepared by District 3 Design, July 2013

“Preliminary Plans”, 03-PLA-193 PM 4.4/5.5, Prepared by District 3 Design, August 2013.

“Geotechnical Design Report for Curve Improvements Project”, Prepared by the Office of Geotechnical Design North, August 2014.

4. Site and Geotechnical Conditions

Mr. Webster of the Office of Geotechnical Design North performed a site visit for this report on December 8, 2014.

In general, the current alignment of the highway roughly trends east/west within the project limits. The highway is bounded on the both sides by relatively short vertical height fills. Existing fills on each side of the highway range in vertical height up to 15 feet and have slope ratios that are 1.5H:1V or flatter. The drainage channel and surrounding fill slopes are heavily vegetated with grass and berry bushes. The surrounding native slopes are vegetated with grass and moderate amounts of oak trees. All of the fills observed were performing well with regards to global stability.

Currently there are two side by side 24 inch diameter corrugated metal pipe (CMP) culverts running beneath the existing highway alignment (PM 5.27) at the proposed RCB location. The existing headwalls at this culvert location consist of loosely stacked granitic boulders up to 2 feet in maximum dimension. On the inlet side of the culverts (south side of highway), a fill has been constructed on the west side of the drainage channel. This channel fill appears to have been constructed by placing vehicle tires and then filling and/or confining them with loosely compacted soil (see photo 1 below). Our review of Caltrans Document Retrieval System resulted in no As-built's or records of a Caltrans project at this location. The horizontal limits, to the south of the existing highway and to the west of the current drainage channel, of the observed tire/soil channel fill could not be determined during our field reconnaissance due to the amount of vegetation covering the area. It is unlikely that this channel fill extends north under the existing highway as it would not be considered adequate fill material for highway construction. It could not be determined during our field review if a similar channel fill was located on the east side of the drainage channel or if the slope was a native slope, as no exposed vehicle tires or indications of fill placement were observed.

Photo 1: View of practically exposed tire(s) in area identified as potential soil/tire channel fill.

During our site reconnaissance a hand push soil probe 4 feet in length was utilized to access the depth of loose and/or saturated surface soils that would be considered unsuitable for bearing or contribute to differential settlement below or adjacent to the proposed RCB. Tests were conducted by pushing the probe into the existing surface soils under hand pressure. Due to asphalt on the existing highway, probing could not be completed in the area where a portion of the RCB will be placed below the existing highway and embankment. Table 1 below contains probe penetration depths and approximate location of each probe test conducted.

Table 1

Location: References to distance are from the south edge of existing highway pavement and right/left of the existing drainage channel center line as viewed looking south.	**Geographical Location**	**Depth of Penetration**
2 feet south and 1 foot left	Existing highway fill	<1 inch
6 feet south and 2 foot right	Existing highway fill	<1 inch
11 feet south and on centerline	Existing highway fill	<1 inch
14 feet south and 20 feet left	Channel embankment east side	2 feet
18 feet south and pavement 20 feet left	Channel embankment east side	1 foot
18 feet south and 25 feet left	Channel embankment east side	3 feet
16 feet south and on centerline	Drainage channel	1 foot
25 feet south and on centerline	Drainage channel	1.5 feet
35 feet south and on centerline	Drainage channel	2 feet
15 feet south and 25 feet right	Channel embankment west side	>4 feet
20 feet south and 25 feet right	Channel embankment west side	>4 feet

Per conversation with the Maintenance Supervisor from the Roseville Maintenance Station, they have not had issues from a geotechnical standpoint within the project limits under its current configuration.

5. Geotechnical Recommendations

It is our understanding that this project proposes to realign the highway to perform curve corrections and widen the paved shoulders between Post Miles 4.5-5.5. Geotechnical recommendations for the overall project were previously provided in the Geotechnical Design Report (GDR) dated August 4, 2014. The geotechnical recommendations provided below pertain only to the proposed work to be completed between the approximate project stationing 136+00-138+00 (~PM 5.2).

All cuts and fills shall be constructed per Section 19 "Earthwork" of the 2010 Standard Specifications.

5.1 Fill Slopes

Based on the cross-sections provided by the District, a new elevated fill section will be constructed in this area to accommodate the new highway alignment. A portion of this new fill will be constructed over the existing highway alignment. It is our understanding that the District proposes to utilize a maximum fill slope ratio of 2H:1V or flatter within the project limits reviewed for this addendum. Our Office provided preliminary recommendations for this project in the District Preliminary Geotechnical Report (DPGR) dated February 2012. In the DPGR, our opinion was that a fill slope ratio of 1.5H:1V or flatter could be utilized for fill construction. These recommendations were further followed up in the GDR for the project indicating that fills could be constructed at a slope ratio of 1.5H:1V.

Based on the plans reviewed, fill depth above the wing wall on the north side of the highway will exceed 5 feet in thickness. Based on this information, our Office recommends that a maximum slope ratio of 2H:1V be utilized where fill is placed over the box culvert on the south side of the highway as specified in the 2010 Standard Plans (D84). If fill placement above the culvert on the south side of the highway is less than 5 feet in thickness as depicted on the plans, a slope ratio of 1.5H:1V may be utilized to construct this fill. If fill thickness exceeds 5 feet then a slope ratio of 2H:1V should be utilized as specified in the 2010 Standard Plans D84.

It is our opinion that throughout the project area reviewed for this addendum; native surface soils east of the existing drainage location (PM 5.27) will provide a suitable foundation for fill placement. West of the existing drainage channel (PM 5.27) beginning at Project Stationing 137+25 and extending possibly as far west as Project Stationing 136+65, existing ground surface materials are not considered suitable for placement of fill material. Within this area, the contractor should anticipate encountering up to 6 feet of unsuitable material in the near surface and that additional effort will be required to

prepare the native soils for fill placement. (See Section 5.9 below)

It is anticipated that material generated from cuts in other areas of the project will be utilized to construct the new fills and widen the existing fills. Due to the highly erosive nature of the native soils within the project limits our Office recommends that erosion protection on the final face of the fills be incorporated into the fill slope design. District Landscape Architecture and/or District Hydraulics should be consulted to verify and/or provide erosion control mitigation options that may be suitable at the fill locations.

5.2 Cut Slopes

Cut slopes are not proposed within the project area reviewed for this addendum, however temporary cut slopes may be utilized to prepare the existing ground for fill placement and/or installation of the RCB culvert.

Design of temporary cuts is the responsibility of the contractor.

5.3 Structures

Based on drainage plans provided by District Hydraulics, it is our understanding that a 12 foot by 12 foot precast RCB culvert will be placed beneath the proposed highway within the existing drainage channel located at project station 137+28.66. The proposed RCB is to be constructed per 2010 Standard Plan D83A. In addition, 2010 Standard Plan (D84) wing walls, 24 feet in length by 16 feet in height will be constructed on both sides of the RCB opening at both the inlet and outlet sides of the RCB, totaling 4 – 16x24 foot walls.

At this location, the centerline of the new highway alignment will be located approximately 50 feet south of the existing highway centerline, however due to widening and grade raise of the new alignment, portions of the highway fill for the new alignment will cover approximately one half of the old alignment.

It is our Office's opinion that suitable material for wing wall construction and RCB placement will be encountered below the existing highway fill. However, unsuitable material will be encountered south of the existing highway. Based on our soil probing penetration depths (see Table 1) our Office recommends that where the RCB is to placed and wing wall(s) constructed the entire area be excavated and material removed a minimum of 2 feet below the proposed bottom of RCB and bottom of footing elevation. Even though the area under the existing highway fill is likely suitable for wall and RCB placement, we recommend over excavation in this area also decreasing the potential for differential settlement between two non-uniform areas. The excavated area should be backfilled to design footing and bedding elevations with structure backfill material conforming to Section 19-3.02B of the 2010 Standard Specifications. Structure backfill

material shall be placed and compacted in conformance with 2010 Standard Specifications 19-3.03E(1) and 19-3.03H. Plate 2 provides estimated plan view limits where unsuitable material will need to be excavated for RCB and wing wall construction.

5.5 Rippability

Our previous work and report indicates that the project area is underlain by Mesozoic age intrusive igneous rock (Granite). During our site reconnaissance the presence of rock was observed in the some of the existing cut slopes surfaces; rock observed in existing cuts is predominately highly weathered to decomposed and weak to moderately hard. In addition to the outcrops observed in the existing cuts, we also observed granitic outcrops and boulders (up to 10ft. dia.) in areas within the overall project limits. Boulders and outcrops observed were noted to be moderately to slightly weathered and from moderately hard to very hard.

The presence of hard rock outcrops or boulders were not observed in the area reviewed for this addendum. It is our opinion that non-rippable hard rock will not be encountered in excavations for the proposed RCB culvert and wing walls.

Removal of the granitic boulders that the existing culvert headwalls are constructed of, will be required; based on the boulder size observed it is our opinion that this can be completed with conventional excavation equipment. These granitic boulders may be utilized as fill material in roadway fill sections but cannot be utilized in areas requiring structure backfill.

5.7 Groundwater & Drainage

Based on our site reconnaissance, topography and geology, depending on time of construction there is the potential for groundwater and surface water to be encountered during the proposed construction activities.

During our site reconnaissance conducted for this report, surface water was observed flowing within the drainage channel at PM 5.27, Project Station 137+28. Depending on the time of year the excavations are completed for the RCB and wing walls, within the vicinity of the drainage, surface and near surface water may impact the work to be completed. Our Office recommends that excavations within the vicinity of this and all drainage channels within the project area be completed during the dry months of the year, typically May-October in this area to limit the potential need for de-watering. Seepage and groundwater conditions will vary according to variations in rainfall, construction activities and water levels within or adjacent to drainages.

District Hydraulics should be consulted to verify and/or provide other drainage recommendations that may be suitable for the project.

5.8 Corrosion

Based on the information previously provided in the GDR for this project, soils at the site should be considered moderately to highly corrosive for steel and moderately corrosive for concrete.

The District Materials Lab should be consulted to determine if previous soil corrosion testing was completed in the project limits for existing culverts and if additional corrosion test should be completed for the placement or extension of new or existing culverts.

5.9 Unsuitable Subsurface Soils

As described in Section 4 above, it appears that a channel fill comprised of loose soil and vehicle tires has been constructed south of the existing highway alignment on the west side of the drainage channel located at PM 5.27. This channel fill was observed at approximate Project Station 137+25 and extends south and west an undetermined distance. It could not be determined during our field review if a similar channel fill has been placed on the east side of the drainage channel. Based on our review of the layout plans for the proposed widening project, fill for the new highway alignment is proposed to be placed in this area. It is our opinion that this material is unsuitable underlayment for fill placement.

We recommend that the material west of the center line of the drainage channel be excavated, unsuitable material removed (tires) and the excavation is backfilled with suitable material. The excavation limits should extend (east to west) beginning at the center line of the drainage channel located at project station 137+28 and extend a minimum of 10 feet west or a maximum towards the west of 5 feet beyond any unsuitable material encountered (unsuitable material determined by Engineer). The excavation should extend (north to south) beginning 5 feet south of the existing highway pavement and extend south to 5 feet beyond the toe of the proposed embankments for the “A1” line alignment. The excavation should extend from the existing ground surface down to a depth conforming to an elevation of 385 feet. Based on ground surface topography observed in the field it is our opinion that the unsuitable material (tires) would at worst case extend a maximum distance of 60 feet west of the drainage channel center line (approximate project station 136+65). Plate 2 provides estimated plan view limits where unsuitable soil/tire channel fill excavation may be required.

In addition, during excavation of the proposed RCB culvert, if any unsuitable material is

encountered in the channel embankment east of the existing drainage channel centerline, over excavation similar to that recommended for the westerly side of the drainage channel should occur at the direction of the Engineer.

Material generated from the excavation that is not considered unsuitable may be utilized for embankment (fill) construction. Placement of removed material shall done in conformance with Section 19 “Earthwork” of the 2010 Standard Specifications

6. Notes to Designers and Contractors

The District may consider utilizing an embankment (fill) slope ratio of 1.5H:1V for fills less than 30 feet thick in dry areas.

In areas where fill slopes are to be constructed above the RCB culvert or wing walls, fills slopes shall be constructed with slope ratios as defined in the 2010 Standard Plans for each culvert/wall type. See section 5.1.

Where the RCB is placed (Station 137+28), unsuitable subsurface materials will be encountered and will require additional subgrade improvement prior to RCB placement and wing wall construction. See section 5.3 & 5.9

Unsuitable subsurface material for fill placement will be encountered between approximate Project Stationing 136+65 to 137+28 that will require additional subgrade improvement prior to fill placement. See section 5.9

Unsuitable subsurface material for fill placement could be encountered between approximate Project Stationing 137+28 to 137+50 that would require additional subgrade improvement prior to fill placement. See section 5.9

District Landscape Architecture should be consulted to provide erosion control recommendations for all proposed fills.

7. Proposed Future Investigations

No other fieldwork is proposed at this time. Representatives from our Office are available to assist District Construction Personnel during construction if needed.

8. Project Information

Standard Special Provision S5-280, “Project Information”, disclosed to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating

from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

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 Curve Improvements", 03-PLA-193 PM 4.4/5.5, dated August 4, 2014.

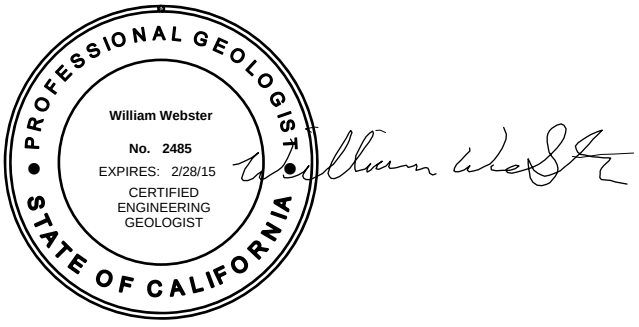
B. "Results of Seismic Refraction Survey for Route 193 Curve Improvements, Placer County California", 03-PLA-193 PM 4.4/5.52, dated March 3, 2014.

C. "Addendum #1- Geotechnical Design Report for Curve Improvements", 03-PLA-193 PM 4.4/5.5, dated December 19, 2014.

Data and Information available for inspection at the District Office:
A. None

Data and Information available for inspection at the Transportation Laboratory are:
A. None

The recommendations contained in this report are based on the specific project information provided to this office through June 1, 2014. If any conceptual changes are made during final design or in the field that could relate to or are related to geotechnical issues, the Office of Geotechnical Design North should review those changes to determine if these recommendations still apply. If you have any questions, comments, or would like to request the additional support during construction for this project please call Bill Webster at (916) 227-1041 or Reza Mahallati at (916) 227-1033.

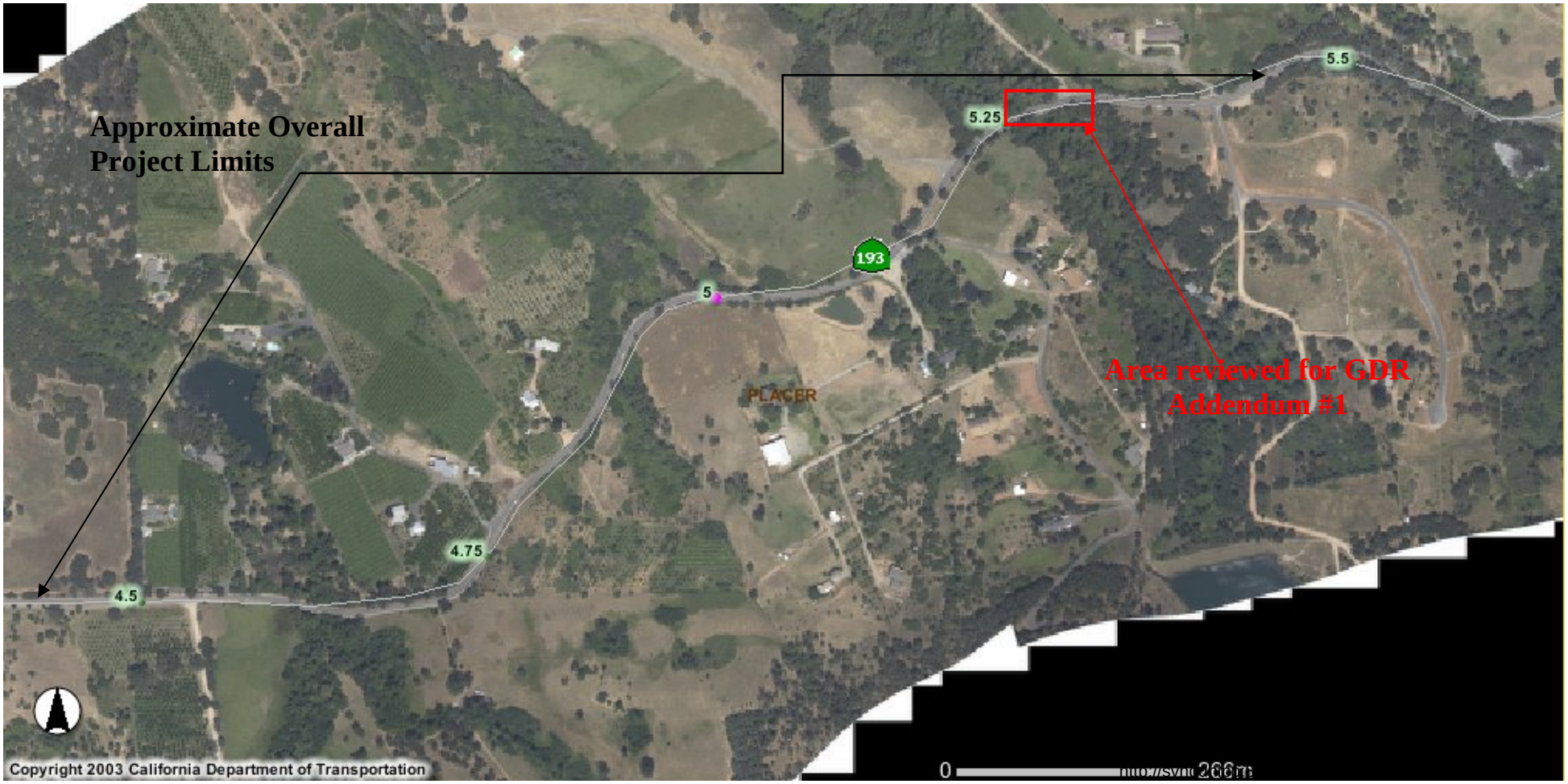


William Webster, CEG
Engineering Geologist
Office of Geotechnical Design North
Branch C

Attachments

1. Plate 1 - Aerial Photograph depicting overall project area and outlining area reviewed for Addendum #1
2. Plate 2 - Drainage Plan Sheet D-4 depicting estimated excavation limits for unsuitable material.

C: Reza Mahallati, (OGDN)
e-Copy: John Holder, (D3-PM)
John Cosmez, (PCE)
GS Corporate
D3 - RE Pending Files (c/o Thomas Langley)
Dan Ferchaud, (D3-DME)
Chris Rocky, (D3-Hydroluics)



N

Not to Scale

Outlines project area reviewed for Addendum #1

Department of Transportation
Division of Engineering Services
Geotechnical Services
Geotechnical Design - North

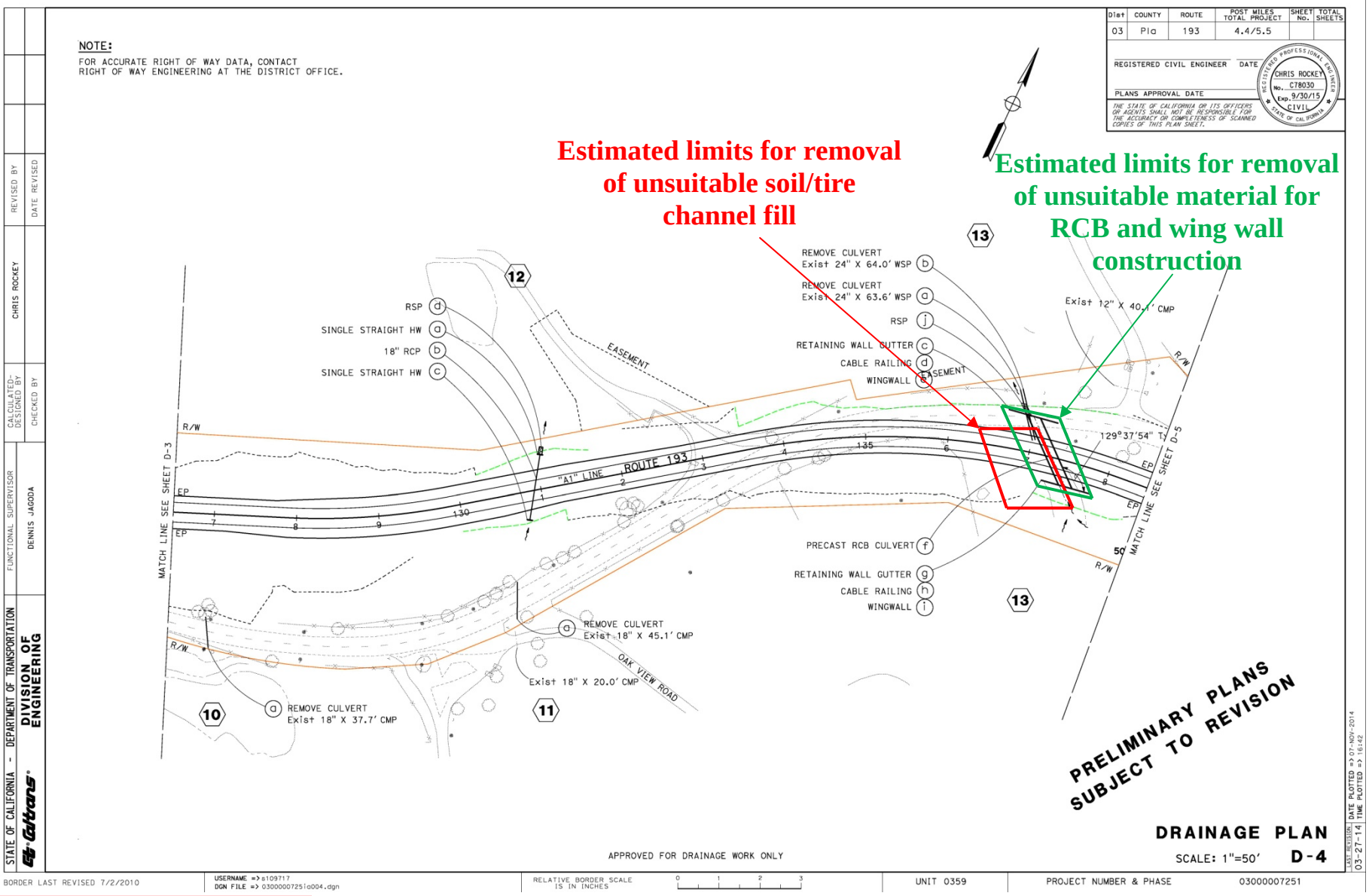
EA: 03-4E8600

Date: December 2014

Aerial Photo

03-PLA-193; PM 4.4/5.5
GEOTECHNICAL DESIGN REPORT-ADDENDUM #1

Plate
1



Outlines area where excavation of mixed soil/tire channel fill may be required.

Outlines approximate area where excavation of unsuitable material will be required for RCB and wing wall construction.

Department of Transportation
Division of Engineering Services
Geotechnical Services
Geotechnical Design - North

EA: 03-4E8600

Date: December 2014

Excavation Limits for Unsuitable Material

03-PLA-193; PM 4.4/5.5
GEOTECHNICAL DESIGN REPORT ADDENDUM #1

Plate 2

PCWA
water • energy • stewardship

PLACER COUNTY WATER AGENCY
SINCE 1957

BOARD OF DIRECTORS
Gray Allen, District 1
Primo Santini, District 2
Mike Lee, District 3
Robert Dugan, District 4
Joshua Alpine, District 5

David Breninger, General Manager
Ed Tiedemann, General Counsel

BUSINESS CENTER
144 Ferguson Road
MAIL
P.O. Box 6570
Auburn, CA 95604
PHONE
(530) 823-4850
(800) 464-0030
WWW.PCWA.NET

2/25/15

Department of Transportation
District 3
703 B Street
Marysville, CA 95901
Attn: Robert Tshiunza

Re: Request for Non-potable Water for SR 193 Realignment

Hello Robert,

Thank you for your inquiry. Your request for temporary, but long term non-potable water for the Caltrans project along SR 193 has been approved.

Field management identified two locations your contractor may draw from off the Agency's Caperton Canal: off Clark Tunnel Road, east of Sierra College Blvd and South of Hwy 193, and the Caperton Reservoir, off Sierra College Blvd., near Lincoln. I've attached a map showing the two approved locations for your reference. The Clark Tunnel Rd location has key access only so you will need to meet with the canal operator prior to drawing the first time to make arrangements for your crews' continued access.

The Agency has annual outages that will begin mid-October about the same time you begin your project. During this outage period you will be limited to drawing from the Caperton Reservoir.

I've attached the PCWA *Application for Untreated Water Load Count Permit* and *Load Count Rate Schedule* for you to review, complete and return to our Customer Services Center. You will be asked to estimate the number of loads you will pull daily and capacity of your truck(s). Because of the lengthy time-frame of the project, and as demand changes, it will be the applicant's responsibility to notify the Agency in advance of any significant change in draw. Prior to commencement of your project, a refundable deposit of $1,000.00 is required. Thereafter, a load count sheet must be turned in monthly and you will be billed accordingly. The permit, at all times, must be carried in the vehicle or vehicles drawing water.

As your project nears, and you are ready to proceed, if you have any questions, please call our Customer Services Center at 530.823.4850 or you may call Heidi Novaes who will be your contact for the duration of your project. Heidi can be reached directly at 530.823.4935.

The Applicant hereby acknowledges that all water supplied hereunder is untreated water from open ditches, canals, ponds and conduits and is not intended nor offered for domestic use and that PCWA does not represent nor guarantee that any water delivered hereunder is potable or of a quality suitable for human consumption.

The Agency does not guarantee a continuous and uninterrupted supply of untreated water and reserves the right to temporarily suspend delivery when necessary to take its system out of service for purposes of cleaning, maintaining, repairing or making repairs. Furthermore, given the drought conditions statewide, all water delivery is subject to mandatory State, regional and Agency restrictions or any other unforeseen conditions that may arise.

I hope this information is helpful. I can be reached at 530.823.4855 if you have any questions or if I can be of further help.

Sincerely,

Peggy Spurrier

Peggy Spurrier
Customer Services Representative II
Placer County Water Agency

PCWA Application for Untreated Water Load Count Permit

Billing Information

Company Name: _____

Mailing Address: _____

Phone Number: _____

Job Location

Job Address or Location: _____

Job Name & Number: _____

Purpose of Draw: _____

On-Site Supervisor: _____ Cell# _____

Please attach a copy of the company business card & driver's license of person picking up permit.

Truck Information *(attach any additional vehicle/license/capacity information)*

License Plate Number: _____ Truck Capacity: _____

Estimated Loads Per Day: _____ Estimated Gallons Per Day: _____

Conditions of Load Count Permits

The permit holder shall be responsible for any damages to Agency facilities as a result of the use herein authorized and shall be responsible for the cost of repairs and agree to pay such costs as soon as the amount thereof is authorized.

Water delivered/used under this application shall not be used or transported in any manner outside the Placer County Water Agency Service area.

The permit must, at all times, be carried in any/all vehicles drawing water, for inspection by the Agency, fire department or any person delegated by the Agency to inspect vehicles drawing water.

A load count sheet must be turned in monthly.

A $1000.00 REFUNDABLE DEPOSIT IS REQUIRED AT TIME OF APPLICATION

Please contact the PCWA Customer Services Center to confirm we have received the completed application *prior* to coming in to sign paperwork and permit issue.

LOAD COUNT RATE SCHEDULE - 2015

ZONE 1

(Schedule 4)

First	3,000 CF	Per 100 CF	$0.88
Next	7,000 CF	Per 100 CF	$0.84
Over	10,000 CF	Per 100 CF	$0.68

****CAPITAL FACILITES CHARGE = $8.38 PER MONTH****

LOAD COUNT RATE SCHEDULE - 2015

ZONE 3

(Schedule 4)

First	3,000 CF	Per 100 CF	$0.76
Next	7,000 CF	Per 100 CF	$0.72
Over	10,000 CF	Per 100 CF	$0.58

****CAPITAL FACILITES CHARGE = $6.87 PER MONTH**

SAMPLE

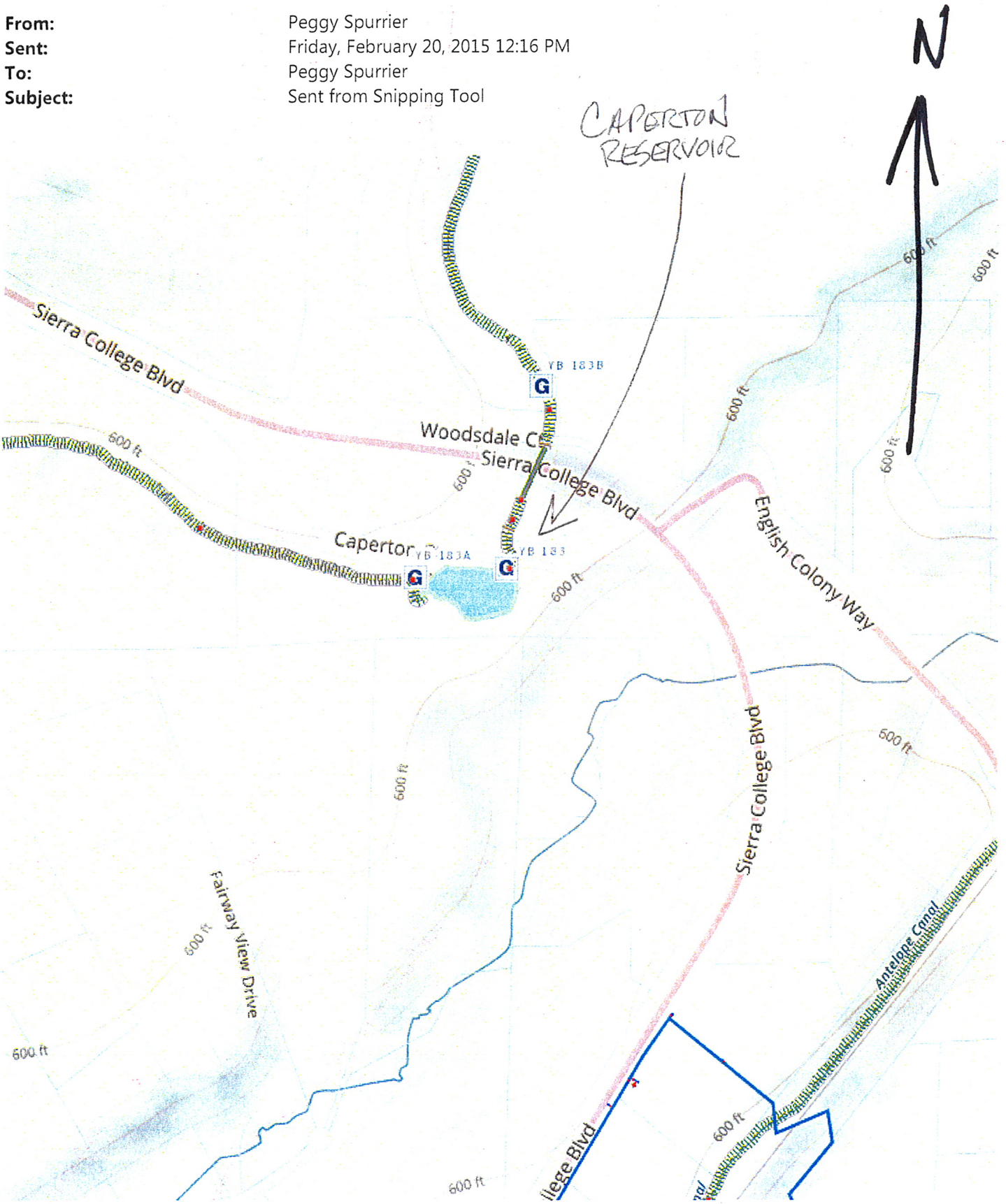
PCWA UNTREATED WATER LOAD COUNT WORK SHEET

Company: _____ **Driver:** _____

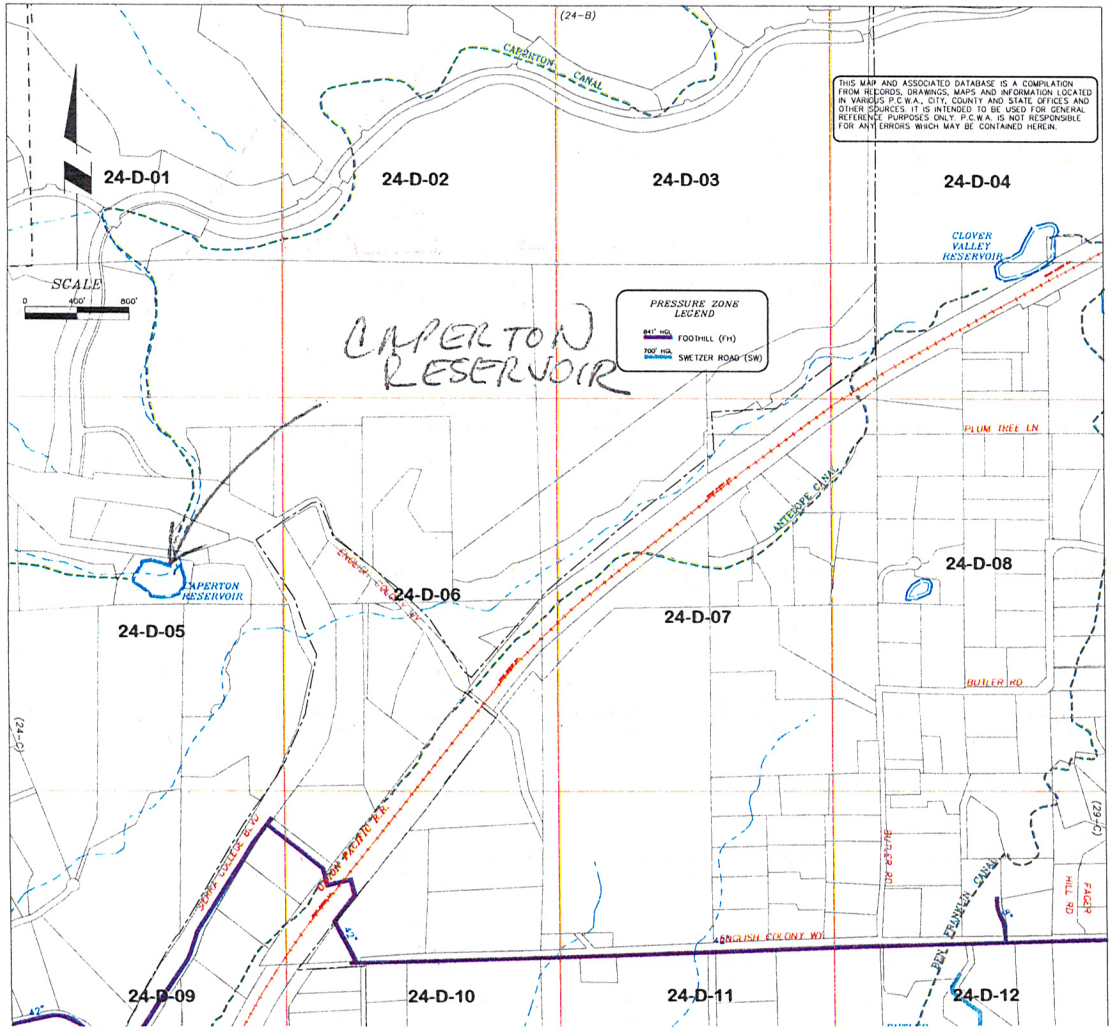
DATE	GALLONS PULLED

Peggy Spurrier

From: Peggy Spurrier
Sent: Friday, February 20, 2015 12:16 PM
To: Peggy Spurrier
Subject: Sent from Snipping Tool



http://pcwa-gis/viewer/index.html


(24-B)
CAPERTON CANAL
THIS MAP AND ASSOCIATED DATABASE IS A COMPILATION FROM RECORDS, DRAWINGS, MAPS AND INFORMATION LOCATED IN VARIOUS P.C.W.A., CITY, COUNTY AND STATE OFFICES AND OTHER SOURCES. IT IS INTENDED TO BE USED FOR GENERAL REFERENCE PURPOSES ONLY. P.C.W.A. IS NOT RESPONSIBLE FOR ANY ERRORS WHICH MAY BE CONTAINED HEREIN.
24-D-01
24-D-02
24-D-03
24-D-04
CLOVER VALLEY RESERVOIR
SCALE
0 400' 800'
PRESSURE ZONE LEGEND
841' HGL FOOTHILL (FH)
700' HGL SWETZER ROAD (SW)
CAPERTON RESERVOIR
PLUM TREE LN
ANTELOPE CANAL
CAPERTON RESERVOIR
24-D-05
24-D-06
24-D-07
24-D-08
BUTLER RD
(24-C)
(24-D)
SWETZER RD
ENGLISH COLONY WY
FEATHER RIVER CANAL
HILL RD
24-D-09
24-D-10
24-D-11
24-D-12

N
CLARK TUNNEL RD
Clark Tunnel Rd
Hwy 193
Twin Oaks
SIERRA COLLEGE BLVD
SIERRA COLLEGE BLVD
SIERRA COLLEGE BLVD
LOWER RANCH RD

CONTACT INFORMATION
FOR
UNITED AUBURN INDIAN COMMUNITY (UAIC)

Subject: Tribe-authorized Resource Monitor

Contact:

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