INFORMATION HANDOUT

For Contract No. 03-1F4004
At 03-Pla-80-35.1/38.3

Identified by
Project ID 0300020420

PERMITS

United States Army Corps of Engineers

Non-Reporting Nationwide 404

WATER QUALITY

California Regional Water Quality Control Board

Central Valley Region
Board Order No. 2003-0017-DWQ

AGREEMENTS

California Department of Fish and Wildlife

Notification No. 1600-2015-0003-R2

ENCROACHMENT PERMITS

Placer County Department of Public Works

MATERIALS INFORMATION

Geotechnical Design Report

Asbestos Survey Report

Aerially Deposited Lead Site Investigation Report and Asbestos Bridge Survey Report

Water Source Information

Revised Foundation Report for Cape Horn Undercrossing

Revised Foundation Report for Magra Wall

14. Linear Transportation Projects. Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 31.) (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

A. **Regional Conditions**

1. **Regional Conditions for California, excluding the Tahoe Basin**

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-CA.pdf

2. **Regional Conditions for Nevada, including the Tahoe Basin**

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-NV.pdf

3. **Regional Conditions for Utah**

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-UT.pdf

4. **Regional Conditions for Colorado**.

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps//2012-NWP-RC-CO.pdf

B. **Nationwide Permit General Conditions**

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

☐ 1. **Navigation**.

☐ (a) No activity may cause more than a minimal adverse effect on navigation.

☐ (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

☐ (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters,

the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

☐ 2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

☐ 3. **Spawning Areas**. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

☐ 4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

☐ 5. **Shellfish Beds**. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

☐ 6. **Suitable Material**. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

☐ 7. **Water Supply Intakes**. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

☐ 8. **Adverse Effects From Impoundments**. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

☐ 9. **Management of Water Flows**. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

☐ 10. **Fills Within 100-Year Floodplains**. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

☐ 11. **Equipment**. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

☐ 12. **Soil Erosion and Sediment Controls**. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

☐ 13. **Removal of Temporary Fills**. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

☐ 14. **Proper Maintenance**. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

☐ 15. **Single and Complete Project**. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

☐ 16. **Wild and Scenic Rivers**. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

☐ 17. **Tribal Rights**. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

☐ 18. **Endangered Species**.

☐ (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

☐ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to

demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

☐ (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

☐ (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

☐ (f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.noaa.gov/fisheries.html respectively.

☐ 19. **Migratory Birds and Bald and Golden Eagles**. The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

☐ 20. **Historic Properties**.

☐ (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

☐ (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified

historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

☐ (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non- Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

☐ (e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

☐ 21. **Discovery of Previously Unknown Remains and Artifacts**. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

☐ **22. Designated Critical Resource Waters**. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

☐ (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

☐ **23. Mitigation**. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

☐ (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

☐ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

☐ (1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

☐ (2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

☐ (3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

☐ (4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

☐ (5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

☐ (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

☐ (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

☐ (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

☐ (g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

☐ **24. Safety of Impoundment Structures**. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

☐ **25. Water Quality**. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

☐ **26. Coastal Zone Management**. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

☐ **27. Regional and Case-By-Case Conditions**. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

☐ **28. Use of Multiple Nationwide Permits**. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

☐ **29. Transfer of Nationwide Permit Verifications**. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

> "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."
>
> ----------
> (Transferee)
>
> ----------
> (Date)

☐ **30. Compliance Certification**. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

☐ (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

☐ (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

☐ (c) The signature of the permittee certifying the completion of the work and mitigation.

☐ **31. Pre-Construction Notification**.

☐ (a) **Timing**. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

☐ (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

☐ (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2)..

☐ (b) <u>Contents of Pre-Construction Notification</u>: The PCN must be in writing and include the following information:

☐ (1) Name, address and telephone numbers of the prospective permittee;

☐ (2) Location of the proposed project;

☐ (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

☐ (4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

☐ (5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

☐ (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

☐ (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

☐ (c) Form of Pre-Construction Notification: he standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

☐ (d) Agency Coordination:

☐ (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

☐ (2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where

there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

☐ (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

☐ (4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

C. District Engineer's Decision

☐ 1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. For a linear project, this determination will include an evaluation of the individual crossings to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to intermittent or ephemeral streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51 or 52, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in minimal adverse effects. When making minimal effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

☐ 2. If the proposed activity requires a PCN and will result in a loss of greater than 1/10- acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

☐ 3. If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (a) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (c) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period, with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

D. **Further Information**

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project.

E. **Definitions**

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

I**ntermittent stream**: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a jurisdictional wetland is adjacent – meaning bordering, contiguous, or neighboring – to a waterbody determined to be a water of the United States under 33 CFR 328.3(a)(1)-(6), that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

16 June 2015

Sutha Suthahar
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CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION; CALIFORNIA DEPARTMENT OF TRANSPORTATION, I-80 COLFAX TRUCK CLIMBING LANES PROJECT (WDID#5A31CR00405), PLACER COUNTY

This Order responds to the 2 January 2015 application submitted by California Department of Transportation (Applicant) for the Water Quality Certification of the I-80 Colfax Truck Climbing Lanes Project (Project), permanently impacting approximately 1,163 linear feet and temporarily impacting 541 linear feet of waters of the United States.

This Order serves as certification of the United States Army Corps of Engineers' Nationwide Permit #14 (SPK-2015-00078) under § 401 of the Clean Water Act, and a Waste Discharge Requirement under the Porter-Cologne Water Quality Control Act and State Water Board Order 2003-0017-DWQ.

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

1. This Order serves as a Water Quality Certification (Certification) action that 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 the California Code of Regulations.

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 § 3855(b) of the California Code of Regulations, 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 § 3860(c) of the California Code of Regulations.

4. This Certification is no longer valid if the project (as described) is modified, or coverage under § 404 of the Clean Water Act has expired.

5. All reports, notices, or other documents required by this Certification or requested by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) shall be signed by a person described below or by a duly authorized representative of that person.

   (a) For a corporation: by a responsible corporate officer such as: 1) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function; 2) any other person who performs similar policy or decision-making functions for the corporation; or 3) the manager of one or more manufacturing, production, or operating facilities if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
   (b) For a partnership or sole proprietorship: by a general partner or the proprietor.
   (c) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

6. Any person signing a document under Standard Condition number 5 shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

TECHNICAL CERTIFICATION CONDITIONS:

In addition to the above standard conditions, the Applicant shall satisfy the following:

1. The Applicant shall notify the Central Valley Water Board in writing seven (7) days in advance of the start of any work within waters of the United States.

2. Except for activities permitted by the United States Army Corps of Engineers 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. The Applicant 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.

4. The Applicant shall perform surface water sampling:
   a) when performing any in-water work;
   b) in the event that project activities result in any materials reaching surface waters; or
   c) when any activities result in the creation of a visible plume in surface waters.

   The sampling requirements in Table 1 shall be conducted upstream out of the influence of the project, and 300 feet downstream of the work area. The sampling frequency may be modified for certain projects with written approval from Central Valley Water Board staff.

Table 1:

Parameter	Unit	Type of Sample	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity	NTU	Grab(1)	Every 4 hours during in-water work	(2, 4)
Settleable Material	mL/L	Grab(1)	Every 4 hours during in-water work	(2)
Visible construction related pollutants (3)	Observations	Visual Inspections	Continuous throughout the construction period	—

(1) Grab samples shall not be collected at the same time each day to get a complete representation of variations in the receiving water.
(2) Pollutants shall be analyzed using the analytical methods described in 40 Code of Federal Regulations Part 136; where no methods are specified for a given pollutant, the method shall be approved by Central Valley Water Board staff.
(3) Visible construction-related pollutants include oil, grease, foam, fuel, petroleum products, and construction-related, excavated, organic or earthen materials.
(4) A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring shall be maintained onsite.

   Surface water sampling shall occur at mid-depth. A surface water monitoring report shall be submitted within two weeks of initiation of in-water construction, and every two weeks thereafter. In reporting the sampling data, the Applicant shall arrange the data in tabular form so that the sampling locations, date, constituents, and concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the project complies with Certification requirements. The report shall include surface water sampling results, visual observations, and identification of the turbidity increase in the receiving water applicable to the natural turbidity conditions specified in the turbidity criteria below.

   If no sampling is required, the Applicant shall submit a written statement stating, "No sampling was required" within two weeks of initiation of in-water construction, and every two weeks thereafter.

5. The Central Valley Water Board adopted a *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*, Fourth Edition, revised October 2011 (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed

through the plan. Turbidity and settleable matter limits are based on water quality objectives contained in the Basin Plan and are part of this Certification as follows:

a) Activities shall not cause turbidity increases in surface water to exceed:
   i. where natural turbidity is less than 1 Nephelometric Turbidity Units (NTUs), controllable factors shall not cause downstream turbidity to exceed 2 NTUs;
   ii. where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU;
   iii. where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
   iv. where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs; and
   v. 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 NTUs over background turbidity. 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 used with prior approval of the Central Valley Water Board staff.

b) Activities shall not cause settleable matter to exceed 0.1 mL/L in surface waters as measured in surface waters within 300 feet downstream of the project.

6. The Applicant shall notify the Central Valley Water Board immediately if the above criteria for turbidity and settleable matter or other water quality objectives are exceeded.

7. In-water work shall occur during periods of no flow and no precipitation. The Applicant shall perform surface water sampling in accordance with Technical Certification Condition No. 4, if any of the following conditions occur: 1) in-water work is conducted during an unanticipated flow event; 2) project activities result in any materials reaching surface waters; or 3) project activities result in the creation of a visible plume in surface waters.

8. Activities shall not cause visible oil, grease, or foam in the receiving water.

9. Raw epoxy, asphalt, drilling fluids, lubricants, paints, coating material, oil, petroleum products, or any other substances which could be hazardous to fish and wildlife resulting from or disturbed by project-related activities, shall be prevented from contaminating the soil and/or entering waters of the United States.

10. Epoxy must be completely cured before coming into contact with waters of the United States.

11. Surface water that contacts wet epoxy must be pumped out and disposed of at an appropriate off-site commercial facility, which is authorized to accept concrete wastes.

12. Epoxy shall not be placed within four days of projected rainfall or when flows are anticipated.

13. Refueling of equipment within the floodplain or within 300 feet of the waterway is prohibited. If critical equipment must be refueled within 300 feet of the waterway, spill prevention and countermeasures must be implemented to avoid spills. Refueling areas shall be provided with secondary containment including drip pans and/or placement of absorbent material. No hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, or other construction-related potentially hazardous substances should be stored within a floodplain or within 300 feet of a waterway. The Applicant must perform frequent inspections of construction equipment prior to utilizing it near surface waters to ensure leaks from the equipment are not occurring and are not a threat to water quality.

14. The Applicant shall develop and maintain onsite a project-specific Spill Prevention, Containment and Cleanup Plan outlining the practices to prevent, minimize, and/or clean up potential spills during construction of the project. The Plan must detail the project elements, construction equipment types and location, access and staging and construction sequence.

15. Silt fencing, straw wattles, or other effective management practices must be used along the construction zone to minimize soil or sediment along the embankments from migrating into the waters of the United States through the entire duration of the project.

16. The use of netting material (e.g., monofilament-based erosion blankets) that could trap aquatic dependent wildlife is prohibited within the project area.

17. All areas disturbed by project activities shall be protected from washout and erosion.

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

19. All materials resulting from the project shall be removed from the site and disposed of properly.

20. This Certification does not allow permanent water diversion of flow from the receiving water. This Certification is invalid if any water is permanently diverted as a part of the project.

21. The discharge of petroleum products, any construction materials, hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, raw cement, concrete, asphalt, paint, coating material, drilling fluids, or other construction-related potentially hazardous substances to surface water and/or soil is prohibited. In the event of a prohibited discharge, the Applicant shall notify the Central Valley Water Board Contact within 24-hours of the discharge.

22. The Applicant shall apply for a name change or amendment to this Certification should any of the following occur: a) a change in the ownership of all or any portion of the I-80 Colfax Truck Climbing Lanes Project; b) any change in the project description; c) any change involving discharge amounts, temporary impacts, or permanent impacts; or d) amendments, modifications, revisions, extensions, or changes to the United States Army Corps of

Engineers' Nationwide Permit #14 or the California Department of Fish and Wildlife Streambed Alteration Agreement.

23. The Applicant shall comply with all California Department of Fish and Wildlife requirements, including those requirements described in Lake or Streambed Alteration Agreement No. 1600-2015-0003-R2.

24. The Conditions in this Certification are based on the information in the attached "Project Information Sheet." If the actual project, as described in the attached Project Information Sheet, is modified or changed, this Certification is no longer valid until amended by the Central Valley Water Board.

25. The Applicant shall implement each of the mitigation measures specified in the approved Mitigated Negative Declaration for the project, as they pertain to biology, hydrology and water quality impacts as required by § 21081.6 of the Public Resource Code and § 15097 of the California Code of Regulations.

26. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under state and federal law. 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 with this Certification.

    (a) If the Applicant or a duly authorized representative of the project fails or refuses to furnish technical or monitoring reports, as required under this Certification, or falsifies any information provided in the monitoring reports, the applicant is subject to civil liability, for each day of violation, and/or criminal liability.

    (b) In response to a suspected violation of any condition of this Certification, the Central Valley Water Board may require the Applicant 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) The Applicant shall allow the staff 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.

27. Prior to commencing construction, the Applicant shall provide evidence of all on-site and off-site compensatory mitigation to the Central Valley Water Board. Compensatory mitigation must be made at a minimum ratio of 1:1 for permanent impacts. Evidence of mitigation

includes, but is not limited to, the enhancement of 0.15 acre of stream habitat as required by the California Department of Fish and Wildlife.

NOTIFICATIONS AND REPORTS:

28. The Applicant shall provide a Notice of Completion (NOC) no later than 30 days after the project completion. The NOC shall demonstrate that the project has been carried out in accordance with the project description in the Certification and in any approved amendments. The NOC shall include a map of the project location(s), including final boundaries of any on-site restoration area(s), if appropriate, and representative pre and post construction photographs. Each photograph shall include a descriptive title, date taken, photographic site, and photographic orientation.

29. The Applicant shall submit all notifications, submissions, materials, data, correspondence, and reports in a searchable Portable Document Format (PDF). Documents less than 50 MB must be emailed to: centralvalleysacramento@waterboards.ca.gov. In the subject line of the email, include the Central Valley Water Board Contact, Project name, and WDID number as shown in the subject line above. Documents that are 50 MB or larger must be transferred to a disk and mailed to the Central Valley Water Board Contact.

CENTRAL VALLEY WATER BOARD CONTACT:

Trevor Cleak, Environmental Scientist
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-8114
Trevor.Cleak@waterboards.ca.gov
(916) 464-4684

CALIFORNIA ENVIRONMENTAL QUALITY ACT:

The California Department of Transportation is the Lead Agency responsible for compliance with the California Environmental Quality Act for the I-80 Colfax Truck Climbing Lanes Project pursuant to § 21000 et seq. of the Public Resources Code. The California Department of Transportation approved the Mitigated Negative Declaration on 10 April 2014. The California Department of Transportation filed a Notice of Determination with the State Clearinghouse on 23 April 2014 (SCH No. 2014022031).

The Central Valley Water Board is a responsible agency for the project. The Central Valley Water Board has determined that the Mitigated Negative Declaration is in accordance with the requirements of the California Environmental Quality Act.

The Central Valley Water Board has reviewed and evaluated the impacts to water quality identified in the Mitigated Negative Declaration. The mitigation measures discussed in the Mitigated Negative Declaration to minimize project impacts to State waters are required by this Certification.

With regard to the remaining impacts identified in the Mitigated Negative Declaration the corresponding mitigation measures proposed are within the responsibility and jurisdiction of other public agencies.

WATER QUALITY CERTIFICATION:

I hereby issue an Order certifying that any discharge from the California Department of Transportation, I-80 Colfax Truck Climbing Lanes Project (WDID#5A31CR00405) 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 compliance with the conditions of this Certification, California Department of Transportation's application package, 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 Basins*, Fourth Edition, revised October 2011.

Original Signed by Adam Laputz for

Pamela C. Creedon
Executive Officer

Enclosure: Project Information Sheet

Attachment: Figure 1 – Project Location Map

cc: Distribution List, page 15

PROJECT INFORMATION SHEET

Application Date: 2 January 2015

Applicant: Sutha Suthahar
California Department of Transportation
703 B Street
Marysville, CA 95901

Applicant Representative: Jason Meigs
California Department of Transportation
2379 Gateway Oaks Drive, Suite 150
Sacramento, CA 95833

Project Name: I-80 Colfax Truck Climbing Lanes Project

Application Number: WDID#5A31CR00405

Date on Public Notice: 9 January 2015

Date Application Deemed Complete: 26 May 2015

Type of Project: Transportation – Roads and Highways

Approved Months of Project Implementation: The Project will be constructed in dry conditions as required by the Department of Fish and Wildlife.

Project Location:
Start: Latitude: 39°7‘9.8“N and Longitude: 120°56’29.4” W
End: Latitude: 38°8’59.5“N and Longitude: 120°53’54.0” W

County: Placer County

Receiving Water(s) (hydrologic unit): Unnamed drainages which are tributaries of the Bear River and North Fork American River, Sacramento Hydrologic Basin, American River Hydrologic Unit #514.53, Gold Run HSA

Water Body Type: Streambed

Designated Beneficial Uses: The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*, Fourth Edition, revised October 2011 (Basin Plan) has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include, but are not limited to: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND); Hydropower Generation (POW); Groundwater Recharge (GWR); Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD);

Preservation of Biological Habitats of Special Significance (BIOL); Rare, Threatened, or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and/or Early Development (SPWN); and Wildlife Habitat (WILD). A comprehensive and specific list of the beneficial uses applicable for the project area can be found at http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml.

303(d) List of Water Quality Limited Segments: Unnamed drainages which are tributaries of the Bear River and North Fork American River are the receiving waters for the I-80 Colfax Truck Climbing Lanes Project. The unnamed drainages are not listed on the 303(d) list; therefore, this project will not impact an impaired water body. The most recent list of approved water quality limited segments is found at:
http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml

Project Description: The 66-acre I-80 Colfax Truck Climbing Lanes Project (Project) consists of widening the shoulders and constructing a 12-foot wide truck climbing lane on eastbound I-80. The Project is located on I-80, between the Long Ravine Underpass and Alpine Overcrossing, 2 miles north of Colfax in Placer County.

Widening the road and constructing the climbing lanes will require extending thirteen culverts, installing thirteen precast concrete headwalls, and sealing the interior of thirteen culverts with cast-in-place epoxy, along I-80. The culvert work is the only activity within the Project area that will impact waters of the United States by placing approximately 52 cubic yards of native soil and steel pipe. Impacts to waters of the United States are summarized in the Table below:

Table 2

Drainage ID	Project Activity	Culvert Diameter (Inches)	Culvert Extension Length (Feet)	Permanent Impacts (Linear Feet)	Temporary Impacts (Linear feet)
OWUS-01 OWUS-01a	Extend an existing culvert and install a headwall on one end, and seal the culvert.	24	49.5	49.5	40.1
OWUS-02 OWUS-03 OWUS-04	Extend an existing culvert and install a headwall on both ends and seal the culvert.	36	61.6	61.6	47.4
OWUS-06 OWUS-07	Seal the existing culvert.	24	-	-	34.4
OWUS-08 OWUS-09	Extend an existing culvert and install a headwall on one end, and seal the culvert.	24	37.3	37.3	44.8

Drainage ID	Project Activity	Culvert Diameter (Inches)	Culvert Extension Length (Feet)	Permanent Impacts (Linear Feet)	Temporary Impacts (Linear feet)
OWUS-10 OWUS-11	Extend an existing culvert and install a headwall on one end, and seal the culvert.	24	32.8	32.8	35.1
OWUS-12 OWUS-13	Extend an existing culvert and install a headwall on one end, and seal the culvert.	30	28.8	28.8	17.4
OWUS-14 OWUS-15	Extend an existing culvert and install a headwall on one end, and seal the culvert.	24	14.7	14.7	40.7
OWUS-17	Extend an existing culvert and install a headwall.	24	49.2	49.2	37.2
OWUS-18 OWUS-19	Extend an existing culvert and install a headwall on one end, and seal the culvert.	24	31	31	22.8
OWUS-20 OWUS-21	Extend an existing culvert and install a headwall on one end, and seal the culvert.	24	27.4	27.4	42.4
OWUS-23 OWUS-32	Extend an existing culvert and install a headwall on one end, and seal the culvert.	24	25.9	25.9	43.9
OWUS-24 OWUS-24a	Extend an existing culvert and install a headwall on one end, and seal the culvert.	36	68.9	68.9	39.4
OWUS-25 OWUS-26 OWUS-27	Extend an existing culvert and install a headwall on both ends and seal the culvert.	48	716.1	716.1	50.8
OWUS-29 OWUS-30	Extend an existing culvert and install a headwall on one end, and seal the culvert.	24	19.9	19.9	44.4
Total				**1,163.1**	**540.8**

The Project will avoid an unnamed wetland (WET-1 on Figure 1) and two unnamed drainages (OWUS-05 and OWUS-19a on Figure 1). No dewatering will occur within the Project area. No wet concrete will be placed into waters of the United States. All of the headwalls installed are precast concrete. The epoxy will be completely cured before coming into contact with waters of the United States. The epoxy will not be placed within four days of projected rainfall or when flows are anticipated.

The Project will permanently impact approximately 1,163 linear feet and temporarily impact 541 linear feet of waters of the United States.

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

Proposed Mitigation to Address Concerns: The Applicant will implement Best Management Practices to control sedimentation and erosion. This Certification requires all work to be conducted during periods of no flow. In the event that project activities result in any materials reaching surface waters or unanticipated in-water work occurs, the Applicant will conduct turbidity and settleable matter testing. During this testing, the Applicant will stop work if Basin Plan criteria are exceeded or observations indicate an exceedance of a water quality objective. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities.

Excavation/Fill Area: Approximately 52 cubic yards of native soil and steel pipe will be placed into 1,163 linear feet of waters of the United States.

Dredge Volume: None

California Integrated Water Quality System Impact Data: The Project will permanently impact 1,163 linear feet of stream bed habitat and temporarily impact 541 linear feet of stream bed habitat from fill activities.

Table 3: Impacts from Fill Activities

Aquatic Resource Type	Temporary			Permanent					
				Physical Loss of Area			Degradation of Ecological Condition Only		
	Acres	Cubic-yards	Linear-feet	Acres	Cubic-yards	Linear-feet	Acres	Cubic-yards	Linear-feet
Stream Channel	-	-	541	-	-	1,163	-	-	-

United States Army Corps of Engineers File Number: SPK-2015-00078

United States Army Corps of Engineers Permit Type: Nationwide Permit #14

California Department of Fish and Wildlife Lake or Streambed Alteration Agreement: 1600-2015-0003-R2

Possible Listed Species: California red-legged frog, Valley elderberry longhorn beetle, Foothill yellow-legged frog, Pacific fisher, Northwestern pond turtle, Coast horned lizard, California spotted owl, and Cooper's hawk.

Status of CEQA Compliance: The California Department of Transportation approved the Mitigated Negative Declaration on 10 April 2014. The California Department of Transportation filed a Notice of Determination with the State Clearinghouse on 23 April 2014 (SCH No. 2014022031).

The Central Valley Water Board will file a Notice of Determination with the State Clearinghouse as a responsible agency within five (5) days of the date of this Certification.

Compensatory Mitigation: Prior to commencing construction, the Applicant shall provide evidence of all on-site and off-site compensatory mitigation to the Central Valley Water Board. Compensatory mitigation must be made at a minimum ratio of 1:1 for permanent impacts. Evidence of mitigation includes, but is not limited to, the enhancement of 0.15 acre of stream habitat, determined adequate by the United States Army Corps of Engineers, to compensate for the 1,163 linear feet of permanent impacts at a ratio of approximately 1:1, as required by the California Department of Fish and Wildlife.

Table 4: Compensatory Mitigation for Permanent Physical Loss of Area

Aquatic Resource Type	Comp Mitigation Type			Units		Established	Re-established	Rehabilitated	Enhanced	Preserved	Unknown
	In-Lieu	Mit. Bank	Permittee Responsible	Acres	Linear Feet						
Stream Channel			X	X					0.15		

Table 5: Compensatory Mitigation for Temporary Impacts and for Permanent Degradation of Ecological Condition; Ecological Restoration/Enhancement Projects

Aquatic Resource Type	Comp Mitigation Type			Units		Established	Re-established	Rehabilitated	Enhanced	Preserved	Unknown
	In-Lieu	Mit. Bank	Permittee Responsible	Acres	Linear Feet						
Stream Channel			X		X			541			

Application Fee Provided: Total fees of $21,323.00 have been submitted to the Central Valley Water Board as required by § 3833(b)(3)(A) and § 2200(a)(3) of the California Code of Regulations.

DISTRIBUTION LIST

Leah M Fisher (Electronic Copy Only)
United States Army Corps of Engineers
Leah.M.Fisher@usace.army.mil

Department of Fish and Wildlife (Electronic Copy Only)
Isabel.Baer@wildlife.ca.gov

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

Bill Orme (Electronic Copy Only)
State Water Resources Control Board
Stateboard401@waterboards.ca.gov

Jason A. Brush (Electronic Copy Only)
United States Environmental Protection Agency
R9-WTR8-Mailbox@epa.gov

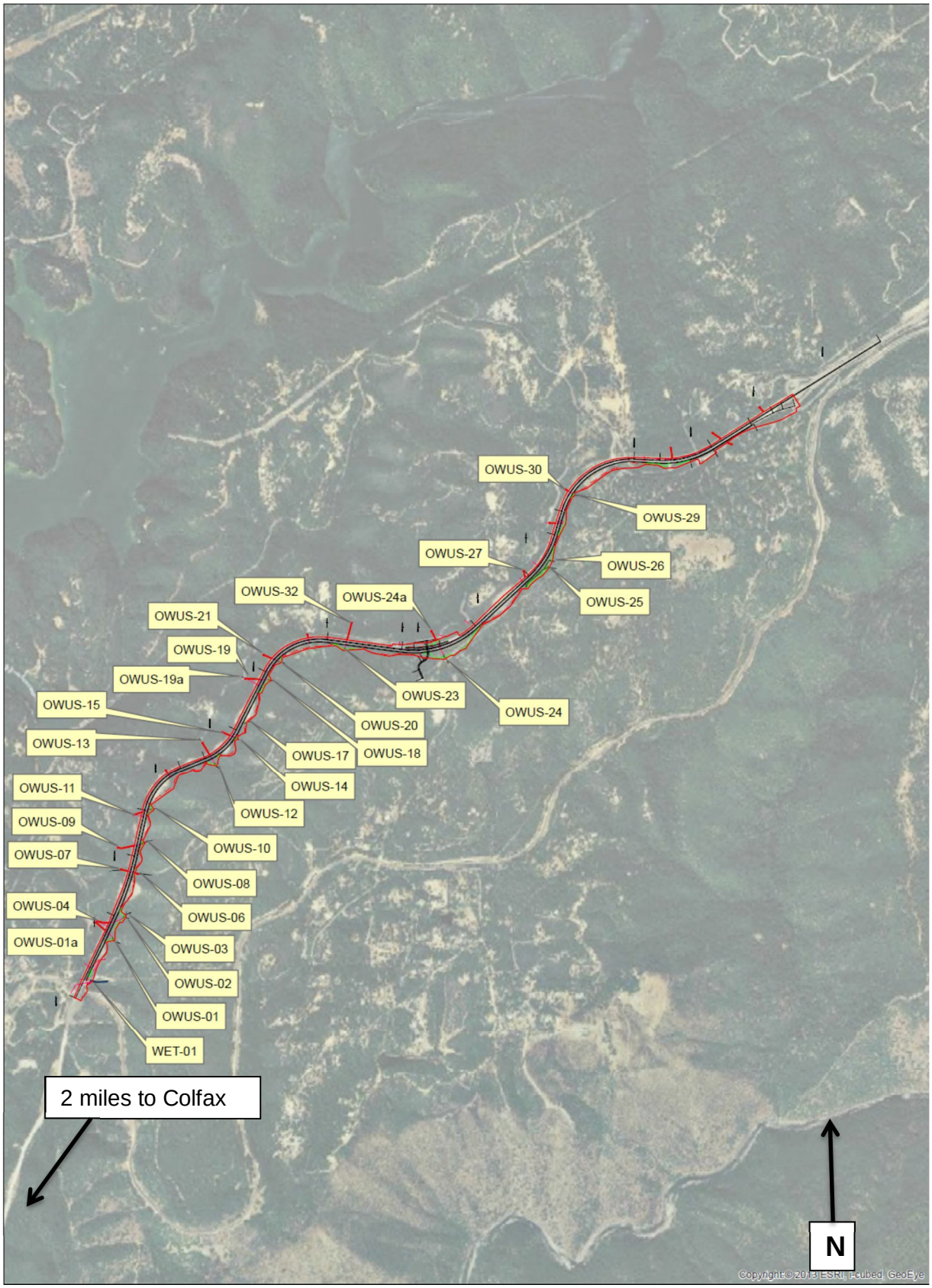


Figure 1 – Project Location Map

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*

MAY 08 2015
Date

Sutha Shuthahar
California Department of Transportation
703 B St.
Marysville, CA 95901

Subject: Final Lake or Streambed Alteration Agreement
Notification No. 1600-2015-0003-R2

Dear Mr. Shuthahar:

Enclosed is the final Streambed Alteration Agreement (Agreement) for the I-80 Colfax Truck Climbing Lanes 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,

for 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. 1600-2015-0003-R2 (REVISION 1)

CALIFORNIA DEPARTMENT OF TRANSPORTATION
I-80 COLFAX TRUCK CLIMBING LANES 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 Sutha Shuthahar.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified the Department on January 2, 2015, 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 Interstate (I) 80 from post mile (PM) 35.1 to PM 38.5, within 15 unnamed ephemeral streams tributary to Bear and North Fork American River, in the County of Placer, State of California. The project is located on the Colfax California U.S. Geological Survey (USGS) 7.5-minute quadrangle, , R9E, T14N, Sections 2, and 3; R9E T15N Sections 26 and 35; and on the Chicago Park California USGS 7.5-minute quadrangle, R9E, T15N, Sections 13, 23, 26 and 24, and R10E, T 15N, Section 18. Longitude 120°58'7.60"W, Latitude 39° 3'29.19"N.

Exhibit A includes Figure 1 depicting the project location.

PROJECT DESCRIPTION

Caltrans proposes to widen shoulders and construct a 12' wide truck climbing lane on eastbound Interstate 80. The proposed project will include the following features:

- Widen shoulders and construct a 12' wide truck climbing lane on eastbound lane;
- Extension and replacement of existing drainage facilities and construction of new drainage facilities such as inlets, cross culverts, under-drains, side ditches, and overside drains;
- Replacement and relocation of metal beam guard rail and roadside signs;
- Widening of Cape Horn undercrossing (Bridge Number 19-0091);
- Construction of mountable concrete barrier approaching and through Magra overcrossing to shield bents on right shoulder;
- Construction of a retaining wall along Interstate 80 between Magra overcrossing and Alpine overcrossing.

The construction of the project will result in 0.15 acres of impacts to CDFW jurisdictional areas consisting of unvegetated stream.

Construction equipment would include, but would not be limited to backhoes, front end loaders, road graders, dozers, and dump trucks.

Exhibit A includes Figure 2 depicting the project impacts.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: nesting birds and aquatic and terrestrial plant and wildlife species.

The adverse effects the project could have on the fish or wildlife resources identified above include: disruption to nesting birds, disruption to aquatic or terrestrial plant and wildlife species, change in contour of channel or bank, soil compaction or other disturbance.

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 in Dry Weather Only. Work within waters of the State shall be restricted to periods of low stream flow (below five cubic feet per second) and dry weather. Precipitation forecasts and potential increases in stream flow shall be considered when planning construction activities. Construction activities shall cease and all necessary erosion control measures shall be implemented prior to the onset of precipitation. Construction activities halted due to precipitation may resume when precipitation ceases and the National Weather Service 72-hour weather forecast indicates a 20% or less chance of precipitation; provided low stream flow conditions are still present. If a construction phase may cause the introduction of sediments into the stream: 1) no phase of the project shall be started, unless all work for that phase and all associated erosion control measures are completed prior to the onset of precipitation; and 2) no phase of the project shall commence unless all equipment and materials are removed from the channel at least 12 hours prior to the onset of precipitation and all associated erosion control measures are in place prior to the onset of precipitation. No work

shall occur during a dry-out period of 24 hours after the above referenced wet weather. Weather forecasts shall be documented and provided upon request by the Department.

2.2 Nesting Birds. If Permittee begins project activities during the nesting period for birds (February 1 to September 1), then the Permittee shall avoid impacts to nesting birds. Permittee shall initiate pre-construction surveys to avoid impacts to nesting birds if any construction activities have the potential to be in conflict with nesting migratory birds during the nesting period. If active nests are found, the Permittee shall notify the department and 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 and will no longer be impacted by the project.

2.3 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. Only certified weed-free materials shall be used in BMP applications. 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. **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.**

2.4 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.

2.4.1 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.

2.4.2 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.

2.4.3 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.

2.4.4 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.

2.4.5 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.

2.5 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.

2.6 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.

2.7 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.

2.8 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.

2.9 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.

2.10 Stabilized Areas with Soil. Soils exposed by project operations shall be treated to prevent sediment run-off and transport. Erosion control measures shall include the proper installation of BMPs and may include applications of seed, certified weed free straw, compost, fiber, commercial fertilizer, stabilizing emulsion mulch, or combinations thereof. Following construction all disturbed upland areas shall be stabilized and re-seeded with an erosion control mix consisting of regionally appropriate, native grass and forb species. Revegetation of such sites shall be completed as soon as possible after project activities in those areas cease

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 off-site enhancements of 0.15 acres of stream. At a minimum, the HMMP shall include the following information: (a) a description of the existing physical conditions of the proposed enhancement site, including water resources and habitat types, and a map that identifies the location of the site; (b) and a plan for the preparation of the enhancement site, including the removal of nonnative plant species, and grading. Monitoring and maintenance of the habitat enhancement site shall be conducted annually for a minimum of five years, or until the Department determines the mitigation site is successful.

3.2 Habitat Enhancement. Permittee shall enhance 0.15 acres of stream. The habitat enhancement activities 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 site 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 ephemeral streams. 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 established in the HMMP described in measure 3.1 of this Agreement. 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
Sutha Shuthahar
703 B Street
Marysville, CA 95901
Phone: 530-741-5448
Email: nadarajah.suthahar@dot.ca.gov

Contact person:

Jason Meigs
2379 Gateway Oaks Drive, Suite 150
Sacramento, CA 95833
Phone: 916-274-0564
Email: Jason.Meigs@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 #: 1600-2015-0003-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 21, 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

Sutha Shuthahar
Project Manager

4/8/15
Date

FOR DEPARTMENT OF FISH AND WILDLIFE

for Tina Bartlett
Regional Manager

5/8/15
Date

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

Exhibit A
Figure 1 – Project Location

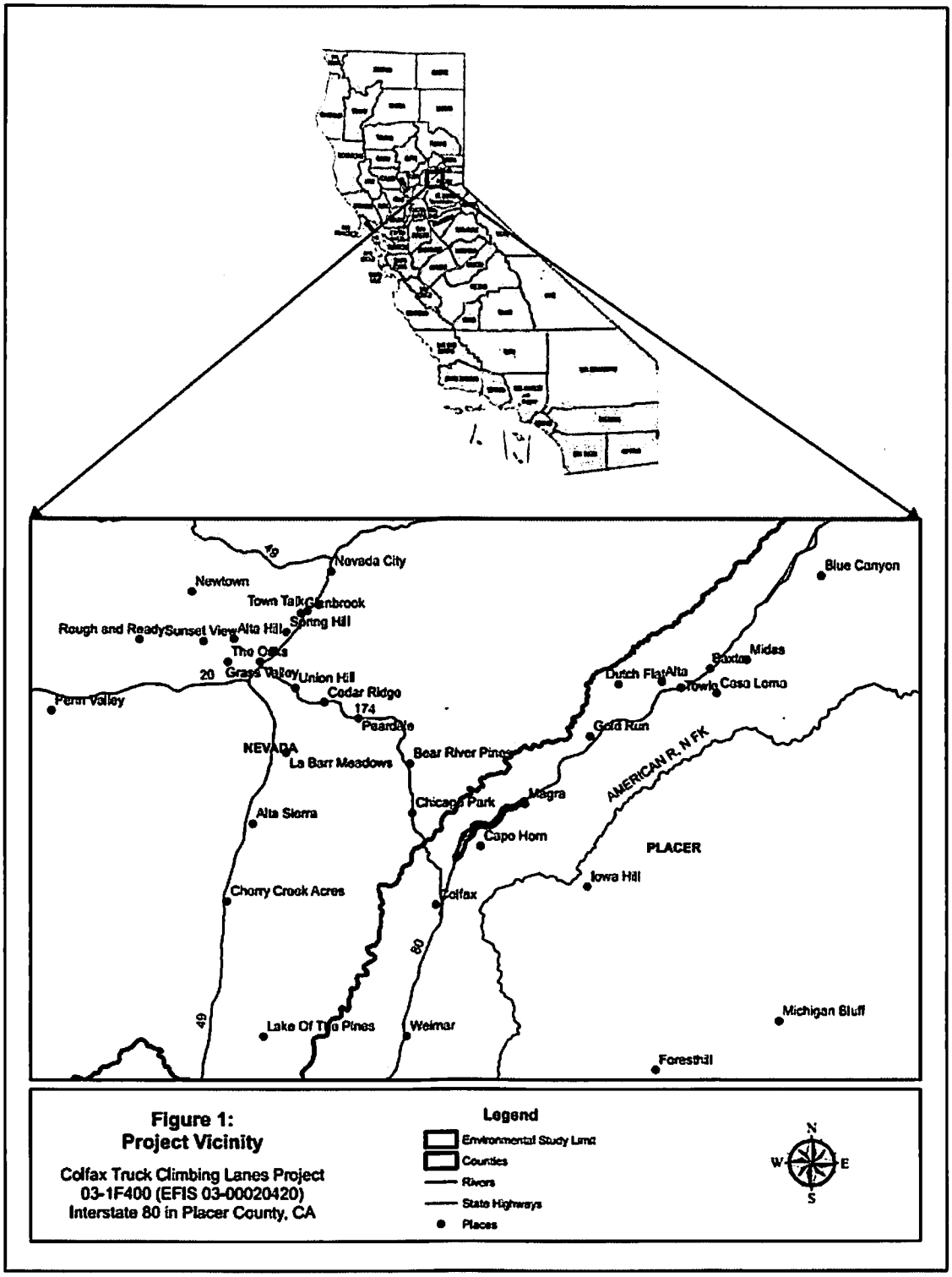
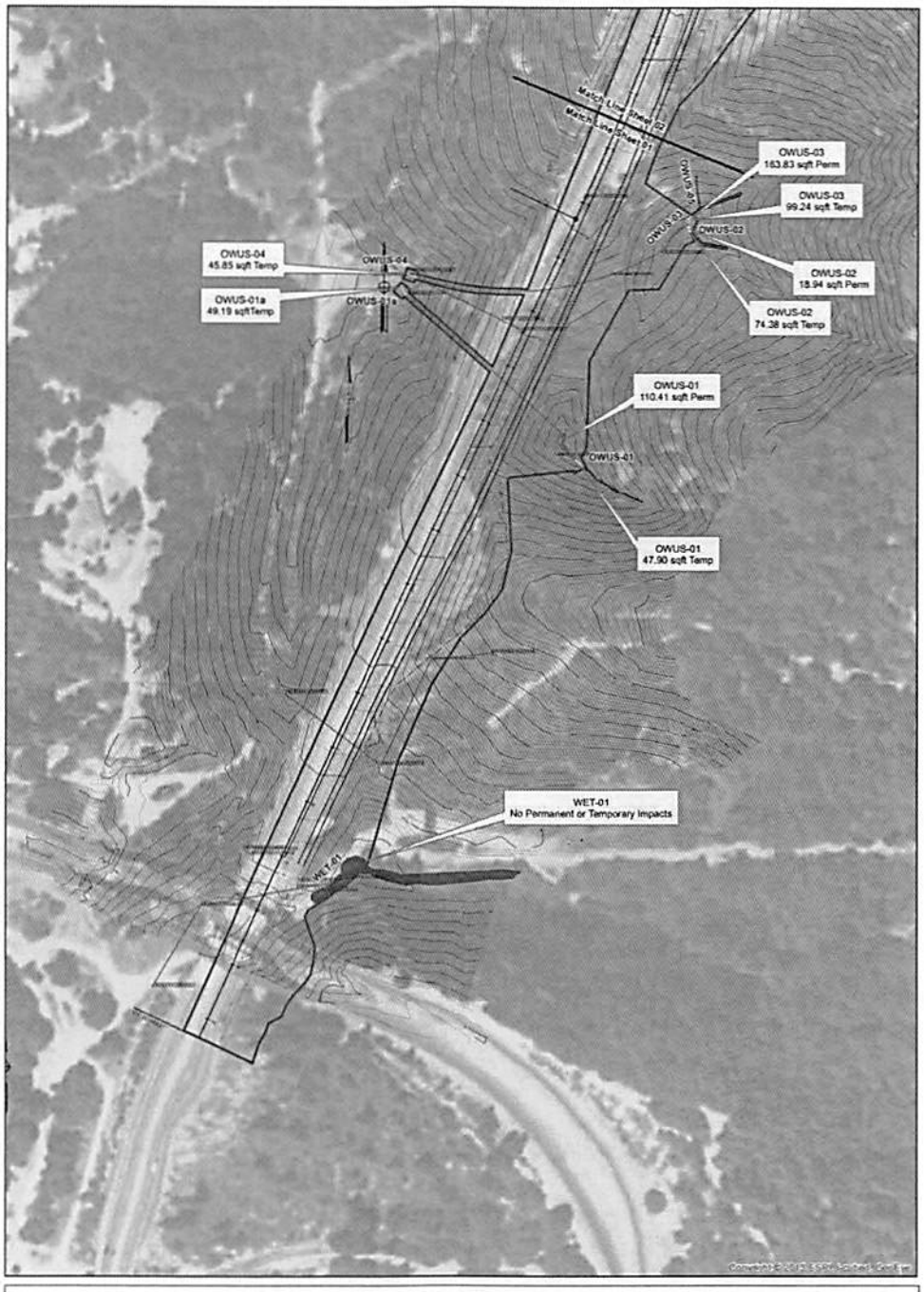


Figure 1:
Project Vicinity

Colfax Truck Climbing Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate 80 in Placer County, CA

Figure 2 – Impact Map



Impact Map - Sheet 01
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

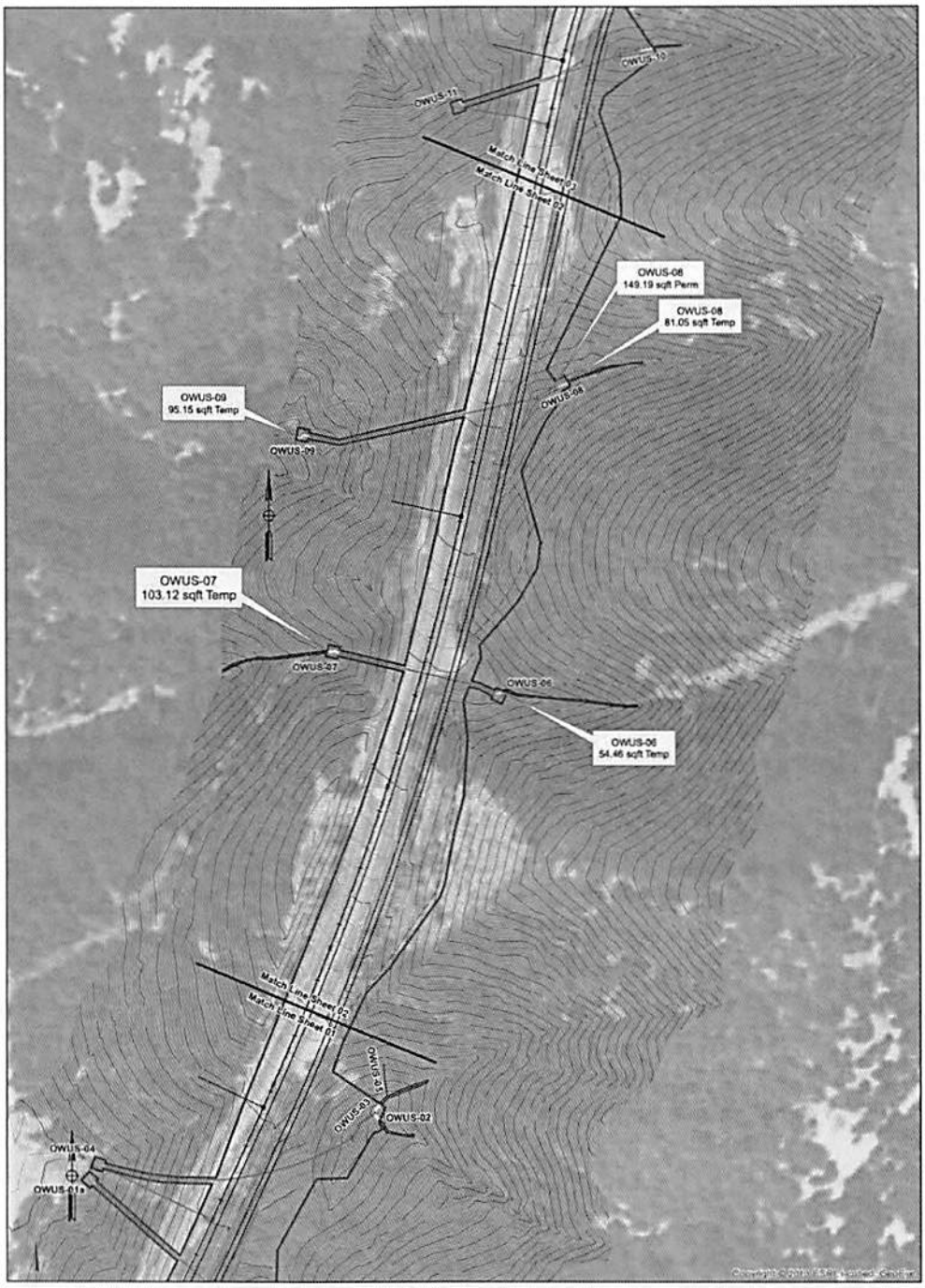
Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend
USACE Waters and Wetlands
Environmental Study Limit
Jurisdictional Impacts
Perm
Temp
Existing Culverts
Topographic Contours (2-ft Intervals)
Existing Man-Made Features

0 37.5 75 150 225 300 Feet
1:1,800
1 inch = 150 feet
N W E S



Impact Map - Sheet 02
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend
- USACE Waters and Wetlands
- Environmental Study Limit

Jurisdictional Impacts
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N W E S

Delineation Map - Sheet 03
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Delineation Map Prepared on September 22, 2014 By
Jason Meiga, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

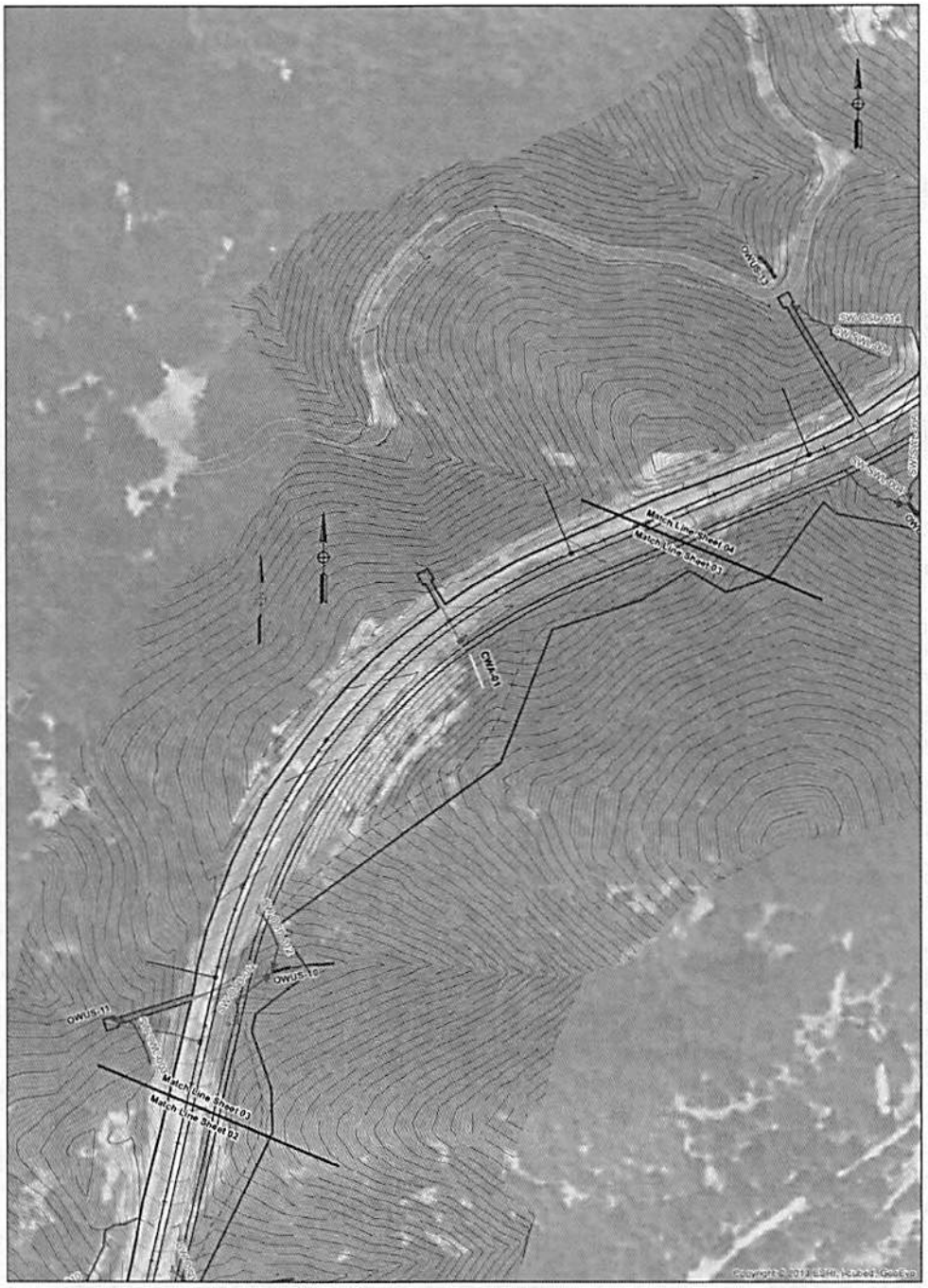
Legend
- USACE Waters and Wetlands
- Environmental Study Limit
- Stormwater Drainage
- CFGC Sec 1600 Waters
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features
- Data Point

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N W E S



Delineation Map - Sheet 03
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Delineation Map Prepared on September 22, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend
- USACE Waters and Wetlands
- Environmental Study Limit
- Stormwater Drainage
- CFGC Sec 1600 Waters
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features
- Data Point

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N
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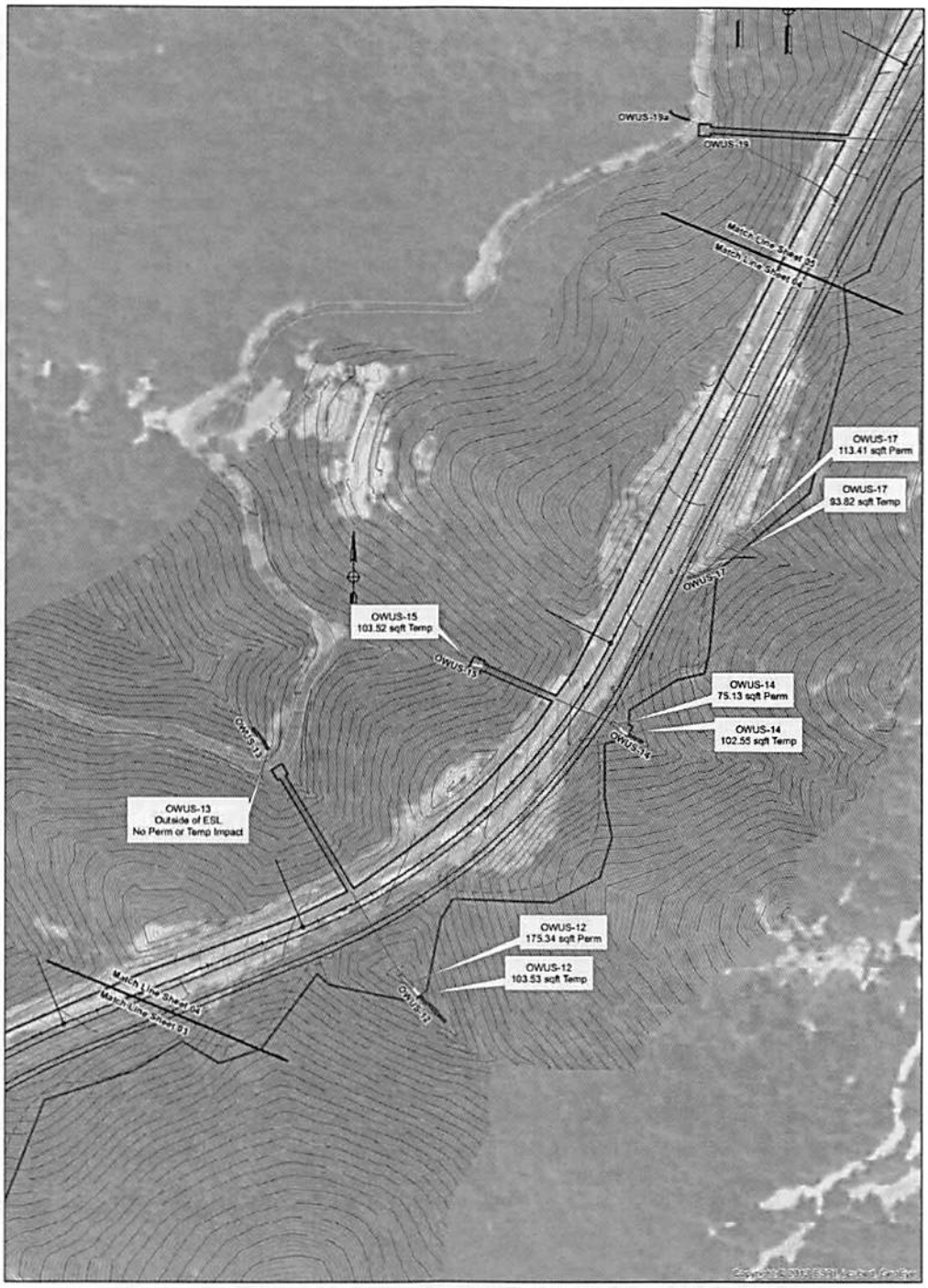
S



Impact Map - Sheet 04
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend
- USACE Waters and Wetlands
- Environmental Study Limit

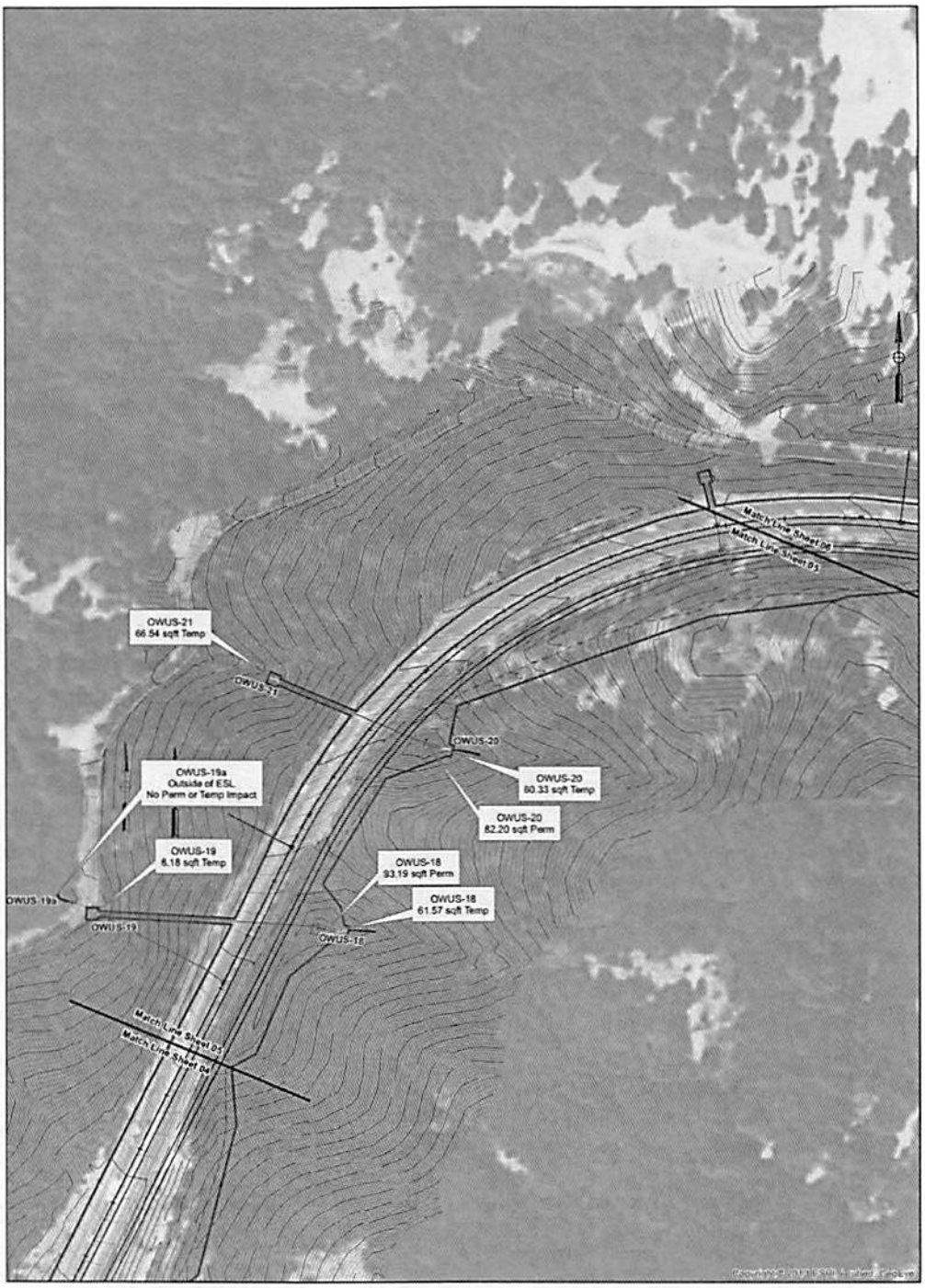
Jurisdictional Impacts
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N W E S



Impact Map - Sheet 05
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

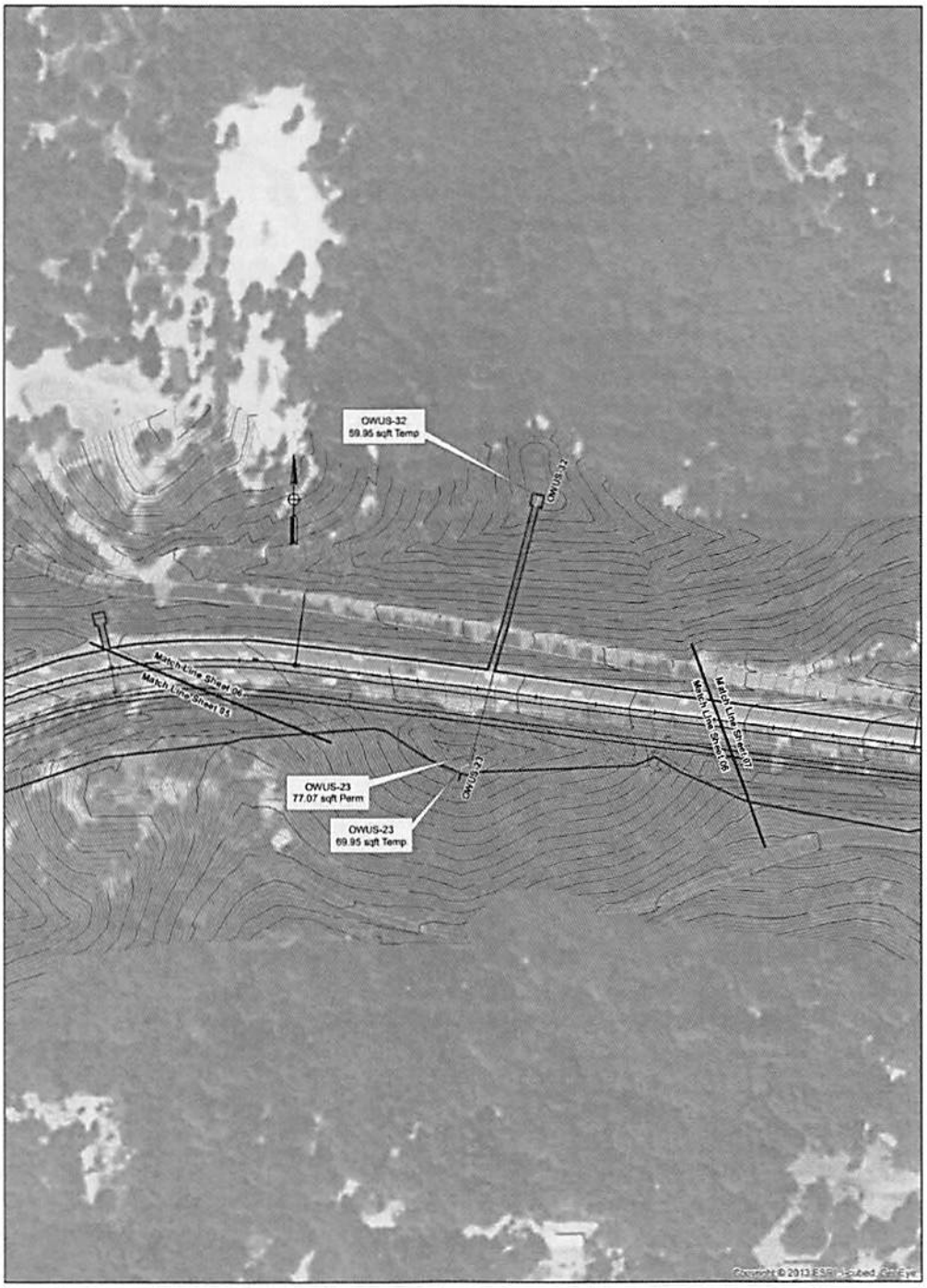
Legend
- USACE Waters and Wetlands
- Environmental Study Limit
- **Jurisdictional Impacts**
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N W E S



Impact Map - Sheet 06
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend
- USACE Waters and Wetlands
- Environmentall Study Limits
- **Jurisdictional Impacts**
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N
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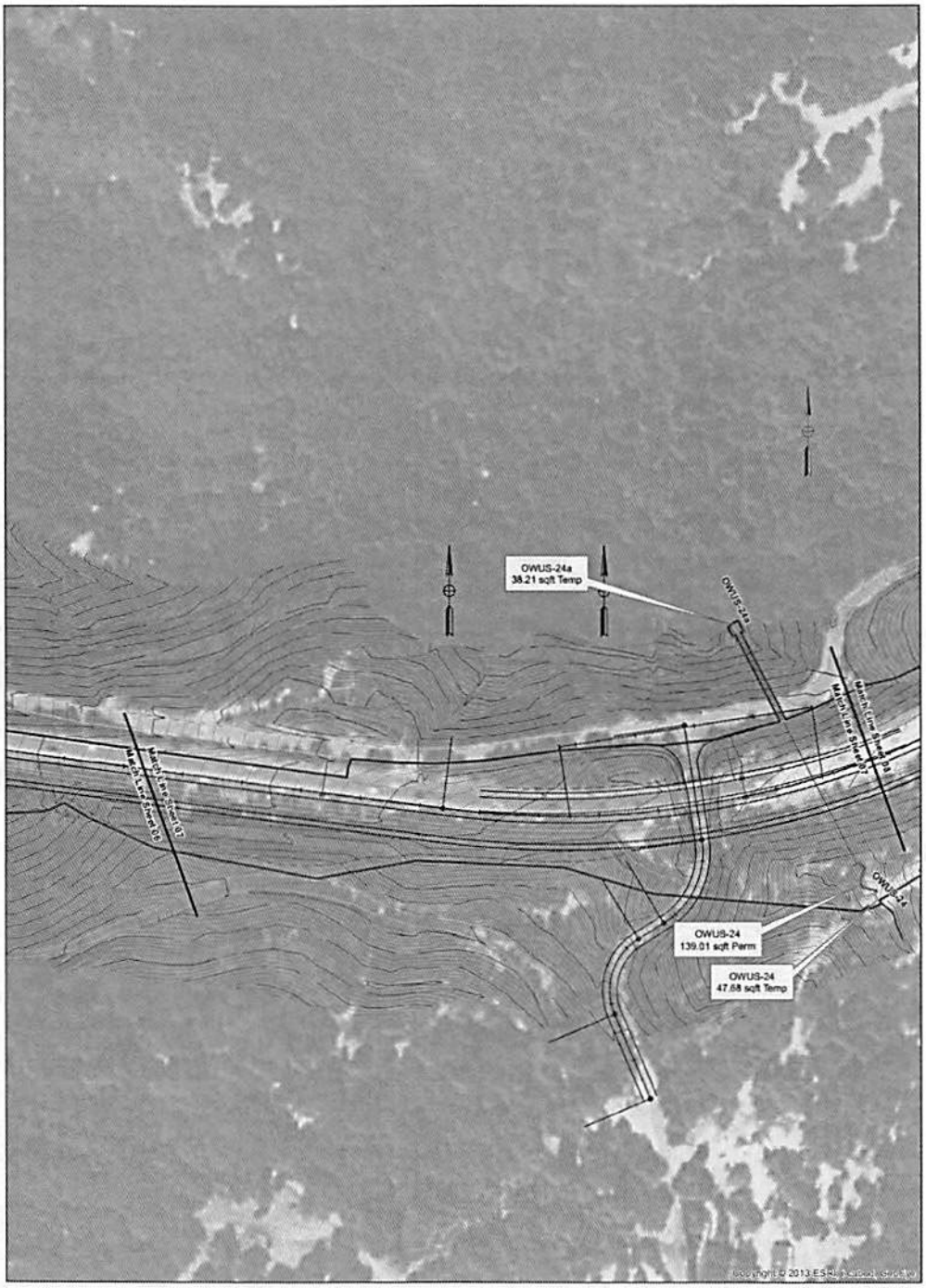
S



Impact Map - Sheet 07
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend
- USACE Waters and Wetlands
- Environmental Study Limit

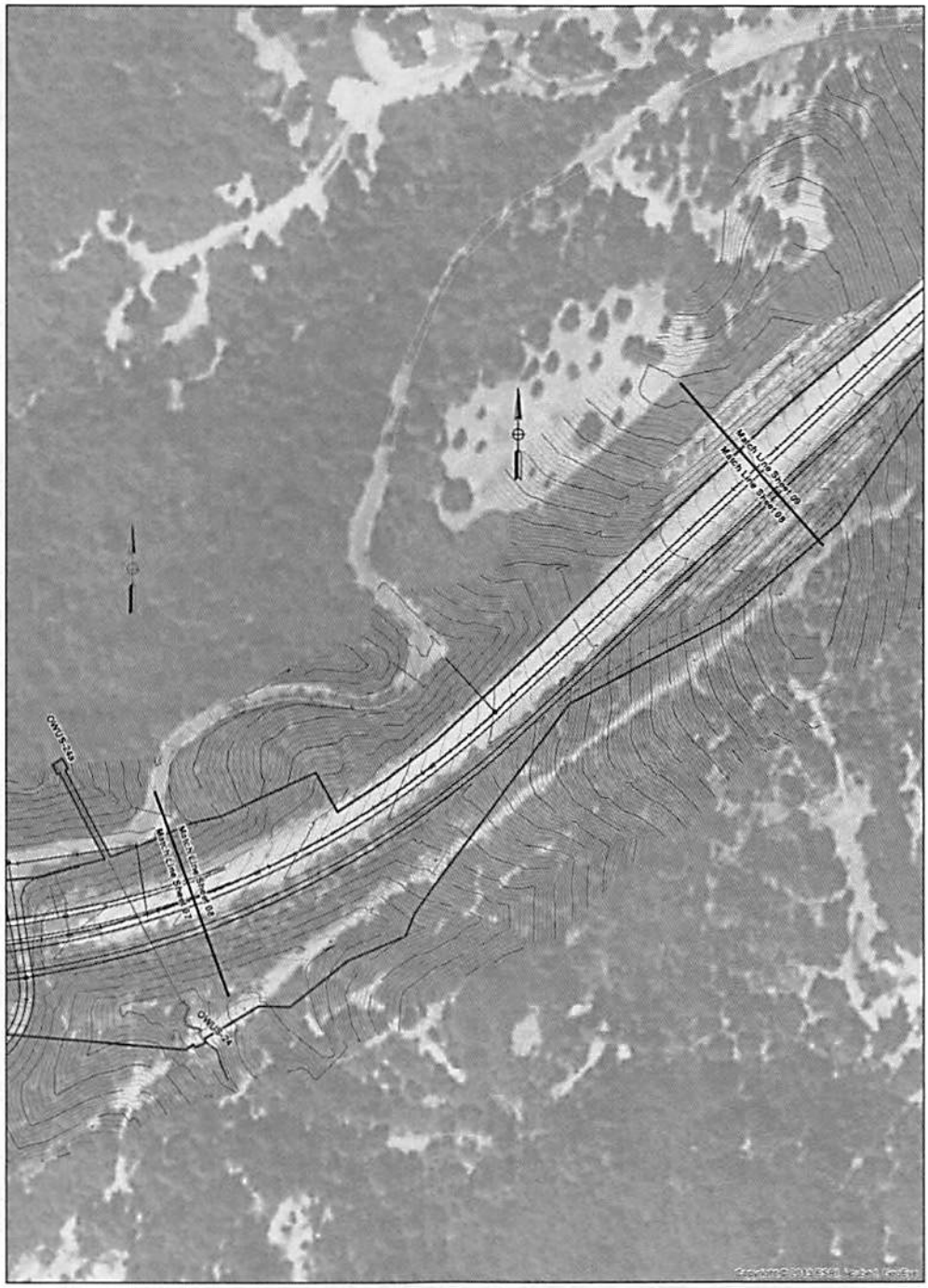
Jurisdictional Impacts
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N W E S



Impact Map - Sheet 08
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend
- USACE Waters and Wetlands
- Environmental Study Limit

Jurisdictional Impacts
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N
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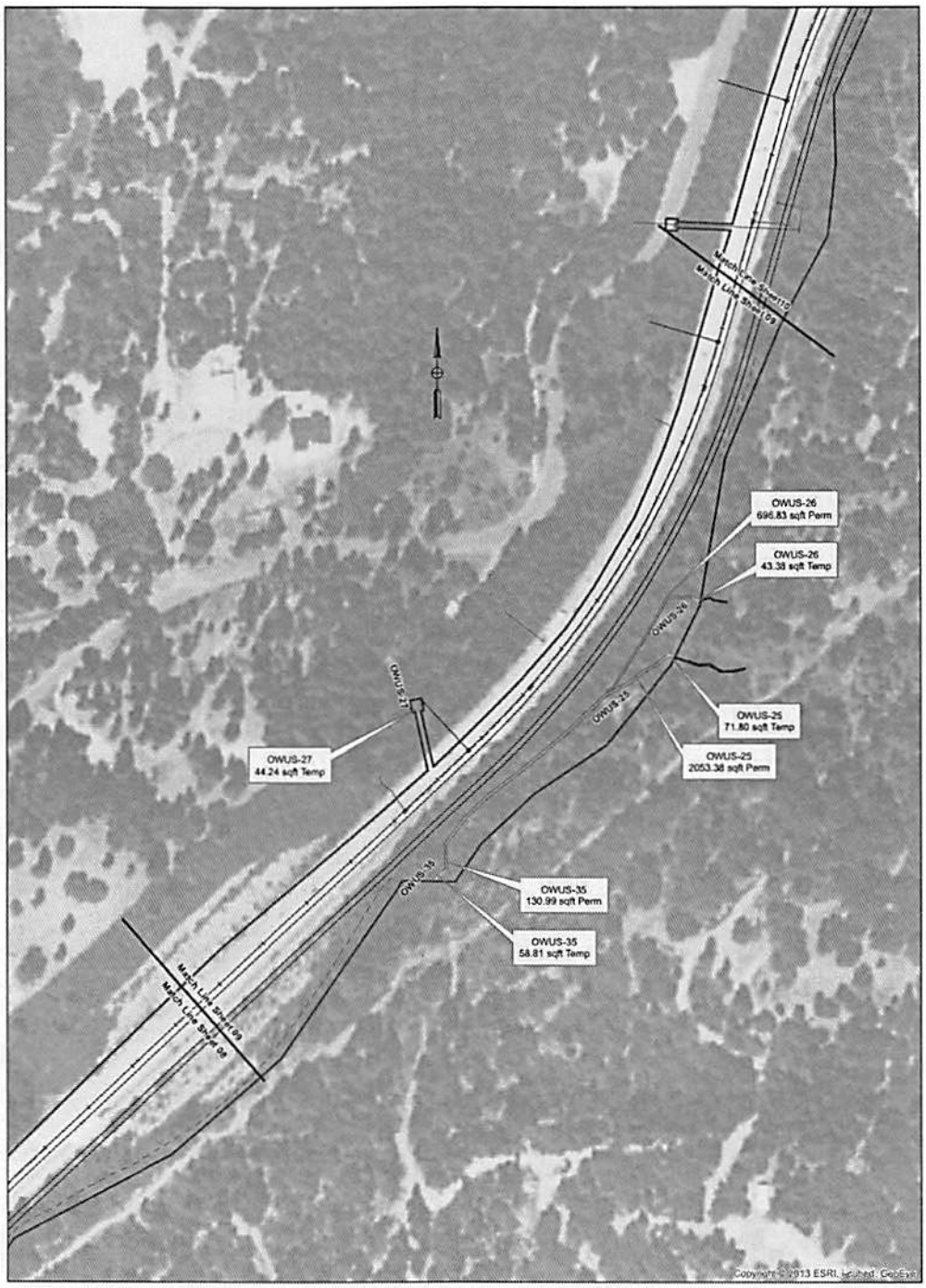


Impact Map - Sheet 09
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend
- USACE Waters and Wetlands
- Environmental Study Limit

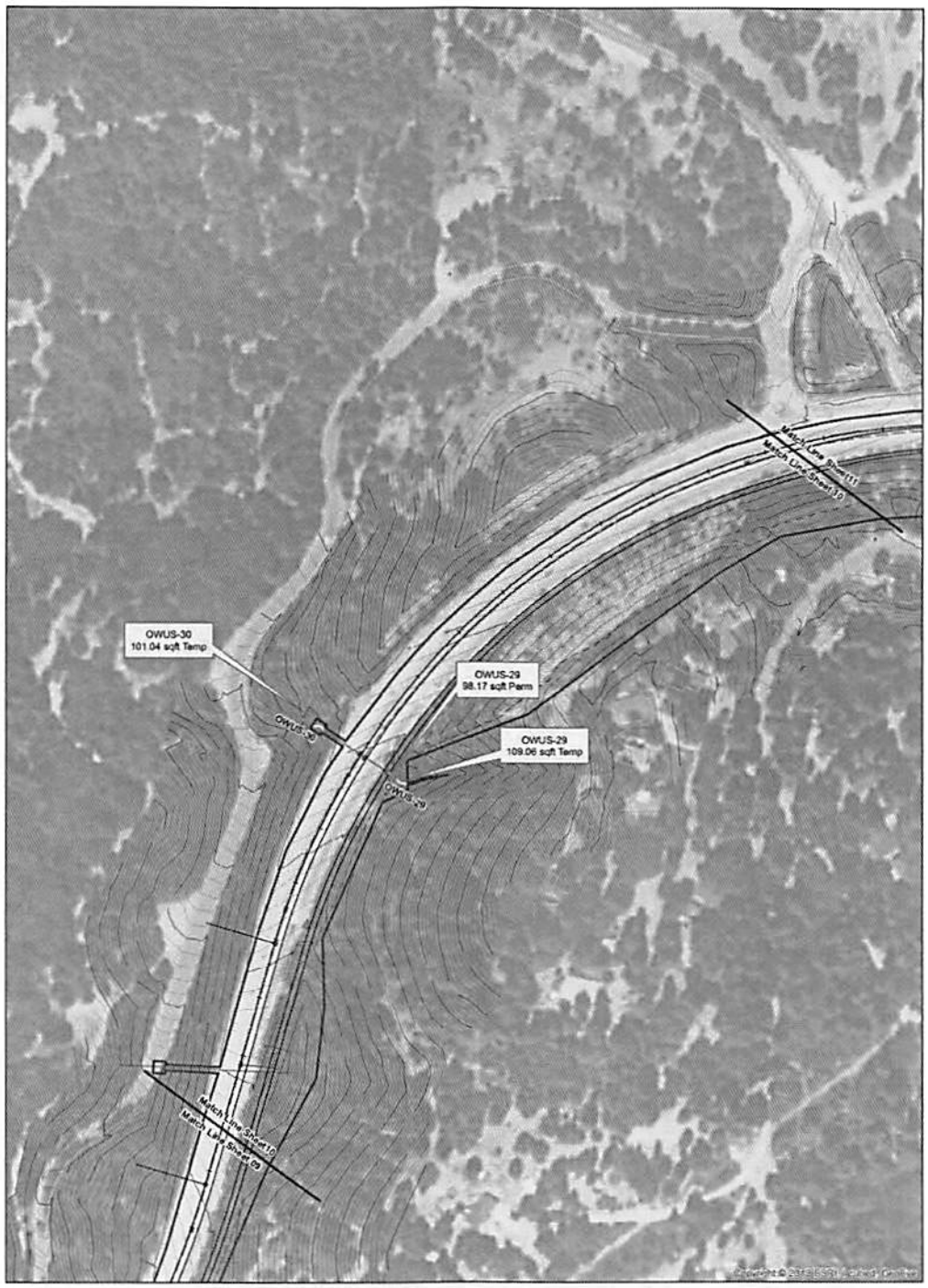
Jurisdictional Impacts
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N W E S



Impact Map - Sheet 10
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend
- USACE Waters and Wetlands
- Environmental Study Limit

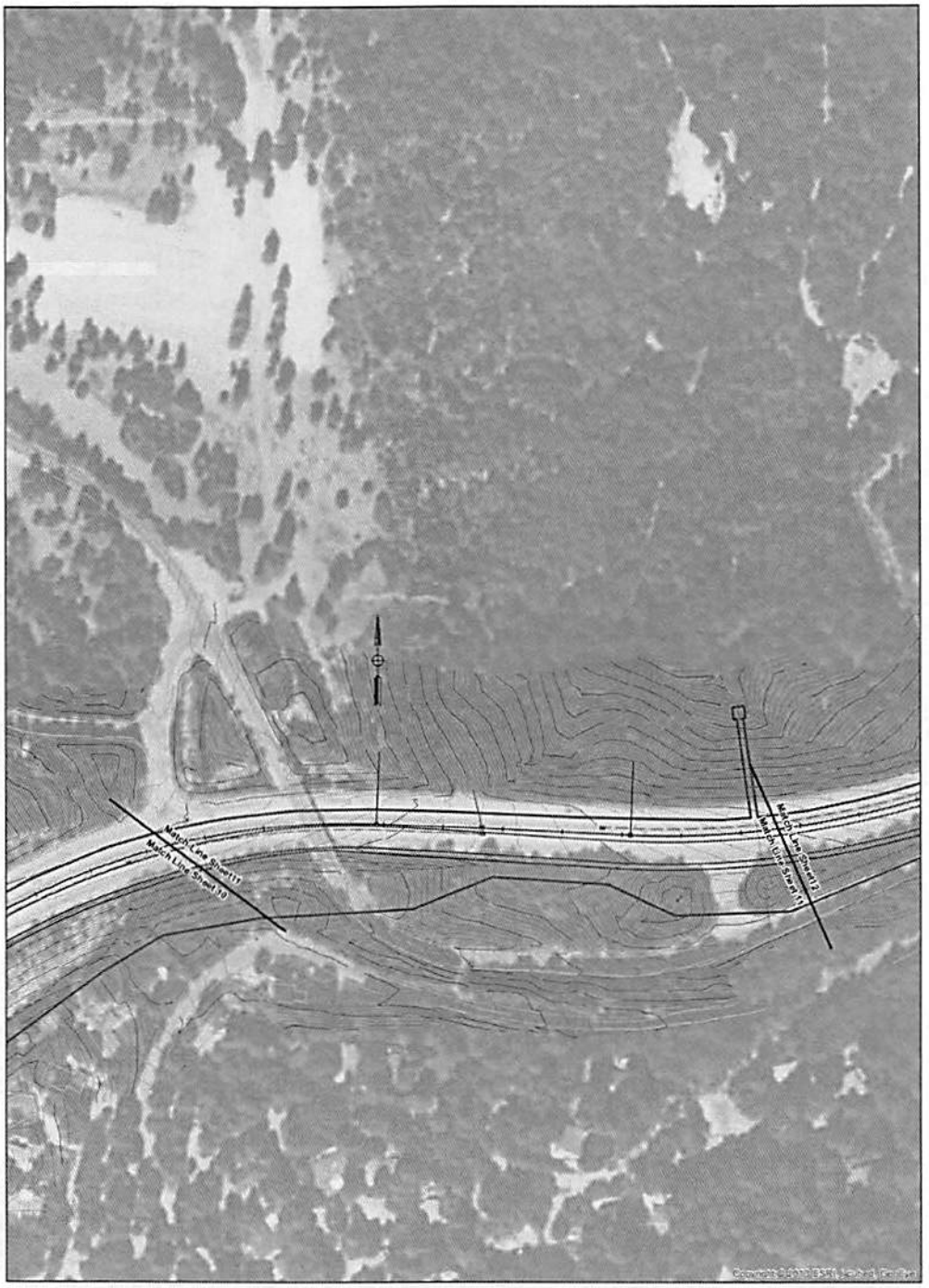
Jurisdictional Impacts
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N
W E
S



Impact Map - Sheet 11
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Mergs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

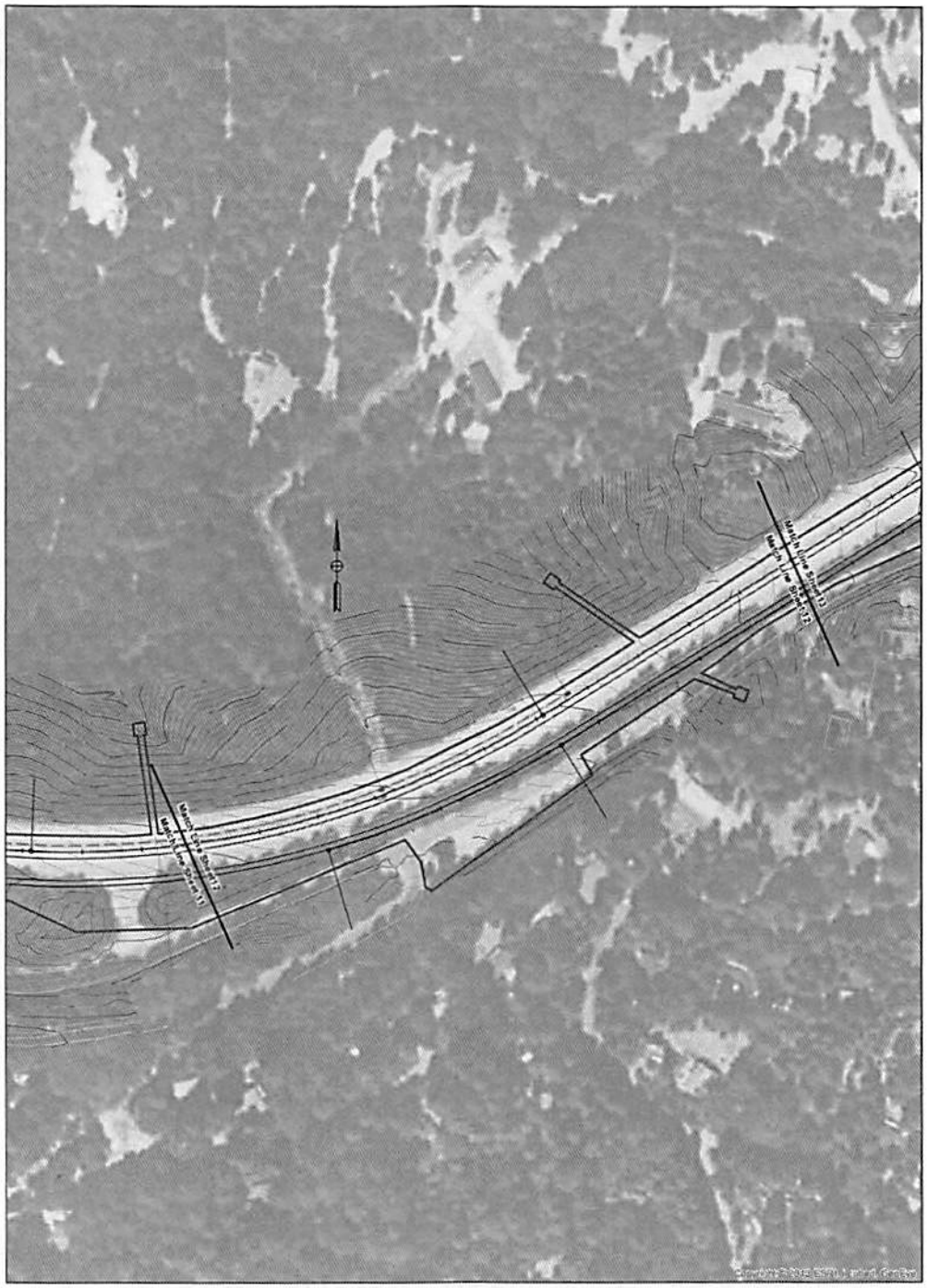
Legend
- USACE Waters and Wetlands
- Environmental Study Limit
- **Jurisdictional Impacts**
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N
W E
S



Impact Map - Sheet 12
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend
- USACE Waters and Wetlands
- Environmental Study Limit

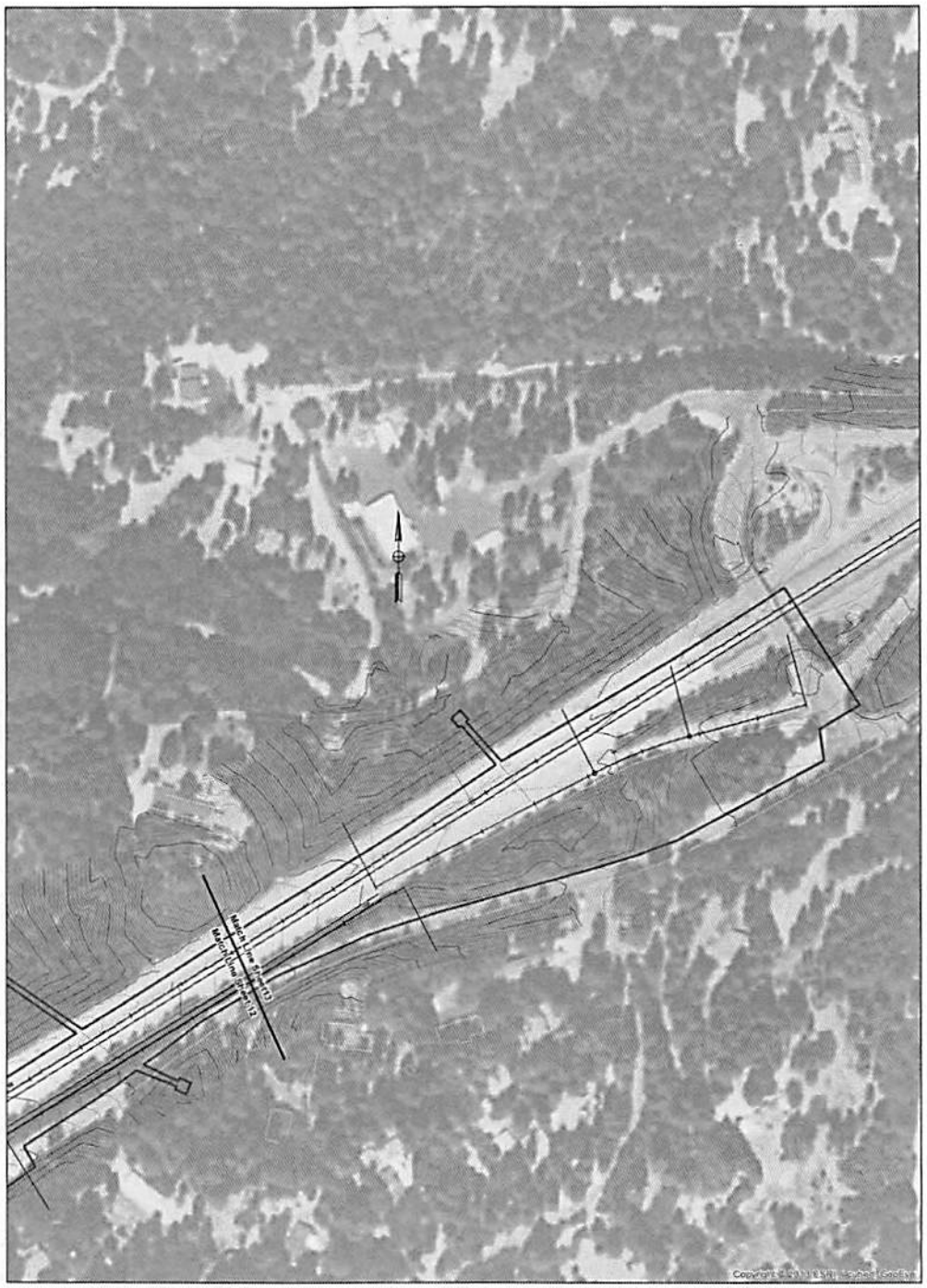
Jurisdictional Impacts
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N W E S



Impact Map - Sheet 13
Colfax Truck Climbimng Lanes Project
03-1F400 (EFIS 03-00020420)
Interstate Highway 80 in Placer County, CA

Datum: North American Datum 1983
Projection: California State Plane, Zone 2

Impact Map Prepared on December 15, 2014 By
Jason Meigs, AssociateEnvironmental Planner - NS
California Department of Transportation, District 3

Aerial Photography: ESRI "ESRI_Imagery_2D.lyr"
This Photo Taken on August 27, 2005

Legend

USACE Waters and Wetlands
- USACE Waters and Wetlands
- Environmental Study Limit

Jurisdictional Impacts
- Perm
- Temp
- Existing Culverts
- Topographic Contours (2-ft Intervals)
- Existing Man-Made Features

0 37.5 75 150 225 300 Feet

1:1,800

1 inch = 150 feet

N W E S

PLACER COUNTY
DEPARTMENT OF PUBLIC WORKS

Utility Encroachment Permit

Auburn Office: 3091 County Center Drive, Suite 220 (530) 745-3000
Auburn Road Department: (530) 889-7585
Tahoe City Office: 775 North Lake Blvd (530) 581-6204

APN:	000-000-000-000	**Permit:**	**ENCR15-00129**
Site Address:		Application Date:	Thursday, 26 March, 2015
Location:	Cape Horn & Magra Rd.	Encroachment Description:	Improvement Plan
Job Description:	Caltrans plans on constructing a climbing lane near Cape Horn and Magra Rd.	Associated Permits:	ESD15-00045

Owner Information:
Caltrans
Design South, S4
703 B. Street
Marysville, Ca 95901
530-741-5437

Applicant Information:
CALTRANS

Design South, S4
703 B. Street
Marysville, Ca 95901

Comments:

DECLARATIONS:
The County of Placer, State of California, having received an application therefore, hereby authorizes and grants revocable license to the owner/applicant of this permit to do the work, construction and/or otherwise encroach upon the right of way of County Roadway(s), as described above, in accordance with the Placer County Code Chapter 12 and the attached General Provisions of Encroachment. In the event the future improvements of the highway necessitates the relocation of such encroachment the permittee will relocate the same at his/her sole expense.

This permit shall be void unless the work herein contemplated shall have been completed before the expiration date. Permit approved subject to payment of fees and CONDITION OF WORK and is revocable at any time.

PERMIT SHALL BE PRESENT AT JOB SITE.

APPLICATION FOR ENCROACHMENT
I hereby apply for a permit to encroach on Placer County Right of Way and hereby agree to adhere to all Provisions of Encroachment stated in the General Provisions of Encroachment, all County Codes and Ordinances, Street and Highway Codes, Vehicle Codes and all special conditions placed on this permit if granted.

Applicant Signature: _____ Date: 7/28/15

Approved: Robert Cole Issued: 7-28-15 Expires: 10/15/2017

Prepared by: Joe Clement

Inspection Task

- Work to conform to approved Plans and Specifications.
- Work to conform to Placer County General Specifications.
- Work to conform to General Provisions of Encroachment (included).
- Trench work to conform to Placer County General Specs. Section 19 and Plates U-26.1, U-26.2, U-29.
- Traffic control per Caltrans Specifications and California MUTCD.
- Pave excavated area with 3 in. HMA or match existing, whichever is greater.
- No stockpiling or storage of equipment or materials on County roads.
- Call 48 Hr before construction:(530)889-7565-Auburn, (530)745-7558-Construction, (530)581-6227-Tahoe
- Backfill material to be ¾ in. Type II AB at 95 percent compaction.
- BMPs (erosion/sediment control measures) to be in place at all times. Standard Plates C-4, C-5, C-6.
- All County Codes and Ordinances, Street and Highways Codes and Vehicle Codes to be adhered to.
- See plans titled: Project Plans for State Highway from Long Ravine Underpass to 0.4 Mile east of Magra Road Overcrossing and see General Provisions Exhibit "A".

GENERAL PROVISIONS
ENCROACHMENT PERMIT

1. DEFINITIONS: Encroachment Permits are issued under Chapter 12 of the County Code. Permits may be referred to as "permit," "encroachment permit," or "utility encroachment permit." The Department of Public Works is herein called "Department." Except as otherwise provided for public agencies and franchise holders, Encroachment Permits shall be revocable as hereinafter provided.

2. REVOCATION: Terms and conditions for any Encroachment Permit issued are revocable, subject to modification, or abrogation at any time. However, to prior rights, including those evidenced by joint use agreement, franchise rights, or reserved right for operating purposes in a grant of highway easement are not so subjected to revocation.

3. NO PRECEDENT ESTABLISHED: Permits are issued with the understanding that any particular action is not to be considered as establishing precedent (1) in the question of expediency of permitting any certain kind of encroachment to be erected within right-of-ways, or (2) as to any utility, of the acceptability of such permits as to any other or future situation.

4. NOTICE PRIOR TO STARTING WORK: The Permittee shall notify the Department forty-eight (48) hours in advance of the day the work is to begin.

5. PERMIT AT THE WORK: A copy of the Permit shall be kept at the site of the work and shown to any representative of the Department or any law enforcement officer on demand.

6. PERMITS FROM OTHER AGENCIES: The party to whom a permit is issued shall, whenever required by law, secure the written order or consent to work from the Public Utilities Commission of the State of California or any other public agency having jurisdiction.

7. LOCATION PLAN: For installation of any facility, the Permittee shall furnish a plan showing location and details with his application. Upon completion of the work, the Permittee shall furnish a set of "As Built Plans" where substantial variation has been made.

8. FUTURE MOVING OF INSTALLATION: It is agreed that whenever construction, reconstruction, or maintenance work on the highway may require, the installation shall, upon request of the Department, be immediately moved or modified by and at the sole expense of the Permittee, except as otherwise provided by law, or by any applicable permit provisions.

9. BONDING: A Faithful Performance Bond or acceptable sureties shall be furnished to the Department in the amount established by the Department to insure the work being done in conformance with the Permit.

10. COUNTY INSPECTION AND INSPECTION FEE: The County will inspect all work within right-of-ways. Inspection on underground facilities will begin one (1) foot above the facilities. An Inspection Fee is to be paid in accordance with the provisions of Sec. 12.04 of the County Code.

11. STANDARDS OF CONSTRUCTION: All work performed within the County Highway shall conform to the County Land Development Manual and subject to inspection and approval by the Department.

12. PROTECTION OF TRAFFIC: Adequate provisions shall be made for the protection of the traveling public. The warning signs, lights and other safety, shall conform to and follow the requirements of Section 21401 of the Vehicle Code and of any sign manual issued by the Department. Convenient access to driveways, houses and buildings shall be maintained. Nothing in the permit is intended as to third parties.

13. MINIMUM INTERFERENCE WITH TRAFFIC. All work shall be planned and carried out so that there will be the least possible inconvenience to the traveling public. Permittee is authorized to place flagmen to stop and warn traffic for necessary protection to public safety, but traffic shall not be unreasonably delayed.

The Highway shall not be closed or traffic lanes blocked unless specifically authorized by the permit or without first obtaining permission from the Department. When permission is obtained, the applicant shall notify Highway Patrol, Sheriff's Department, and Fire Department prior to closing the road.

14. STORAGE OF MATERIAL: Construction material shall not be stored, nor equipment parked, within four (4) feet from the edge of pavement or traveled way. Permittee may, however, stop, stand or park subject to the provisions of Section 25301 of the Vehicle Code, essential construction or maintenance vehicles or equipment at the edge of pavement or in the traveled way, while permittee's employees are in attendance when necessary to install or maintain its facilities.

15. CROSSING ROADWAY: Pavement or roadway shall not be cut unless specifically authorized by the permit. Service and other small diameter pipes shall be jacked or otherwise forced underneath pavement without disturbing same. Service pipes will not be permitted inside of culverts used as drainage structures.

16. LIMIT OF EXCAVATION: Excavation shall not be made closer than four (4) feet from the edge of the pavement except as may be specifically authorized by the permit.

17. TUNNELING: Tunneling is not permitted, except in major installations as may be specifically authorized by the permit.

18. TREES: Trees located within the right-of-way shall not be removed, trimmed or roots disturbed unless specifically authorized on this permit (Ref. Sec. 12.04 County Code)

19. LOCATION ON POLE LINES, ETC.: Pole lines shall be located as shown on the plan.

20. PUBLIC UTILITIES COMMISSION ORDERS: All clearances and type of construction shall be in accordance with the applicable orders of the Public Utilities Commission of the State of California.

21. REMOVE OLD POLES, GUYS AND STUBS: When removing poles, guys and stubs, the entire length shall be removed from the ground and the holes backfilled and thoroughly tamped.

22. CLEAN UP RIGHT-OF-WAY: Upon completion of the work, the right-of-way shall be left in as presentable a condition as existed before the work started.

23. LIABILITY FOR DAMAGES: The permittee is responsible for all liability imposed by law for personal injury or property damage which may arise out of work performed by permittee or which may arise out of failure on the permittee's part to perform obligations under any permit in the respect to maintenance. In the event any claim of such liability is made against the County of Placer, or any Department, Officer, or Employee thereof, permittee shall defend, indemnify and hold them, and each of them harmless from such claim. Nothing herein is intended to impose on permittee any different or higher standard of care than that required by law.

24. MAKING REPAIRS: In every case,. the permittee shall be responsible for restoring to its former condition any portion of the highway which has been excavated or otherwise disturbed, except where the Department elects to make repairs to paving and except where provision to the contrary is made in the permit. If the highway is not restored as herein provided, or if the Department elects to make repairs, permittee agrees by acceptance of the permit to bear the cost thereof.

25. GUARANTEE OF WORK: The permittee shall maintain the surface over facilities for a period of five years after completion of work under the permit.

26. MAINTENANCE: The permittee agrees, to exercise reasonable care to maintain properly any installation placed in the right-of-way and to exercise reasonable care in inspecting and preventing injury in any portion of the highway resulting from the work.

27. ROUTINE OR EMERGENCY MAINTENANCE OF PERMITTEE'S FACILITIES: The Permittee is hereby given permission to enter upon the right-of-way to perform routine or emergency maintenance on permittee's facilities, subject to the following terms, conditions, and limitations: Tree trimming for overhead utilities shall be considered routine maintenance.

Permittee, before proceeding with Maintenance involving excavation within the traveled way or other work interfering with the Public Traffic, shall notify the Highway Superintendent prior to starting the work. In emergencies, the Superintendent shall be notified as soon as possible.

Permittee is authorized to make routine inspection and repairs from the manhole without notification.

28. SERVICE CONNECTIONS: These terms and conditions do not authorize installation of gas or water service connections within County highway right-of-way, regardless of location of main. All new pipe services, main extensions or excavations to abandon services must be covered by individual applications.

I. General Encroachment Permit Specifications:

A. Note the General Provisions incorporated as a part of this permit by reference. Attention is directed to items 2, 5, and 8. All work within County right-of-way shall conform to all provisions of encroachment stated in the permit specifications and general provisions of encroachment.

B. COUNTY, DEPARTMENT, or ENGINEER, as used in this permit refers to the Department of Public Works (DPW), the Director of the Department of Public Works, or an authorized agent appointed by the Director.

C. All construction materials and methods shall conform to the requirements of County of Placer General Specifications dated August 2005. All references to State of California, Department of Transportation Standard Specifications shall refer to the 2010 edition of the Standard Specifications. Attention is also directed to the Standard Plates contained in the Placer County Land Development Manual and the current edition of the Caltrans Standard Plans, which, when applicable, are included in these drawings and/or referenced by Plate or Standard Plan number. Contractor is responsible to have available a current set of Placer County General Specifications with Plates, Caltrans Standard Specifications, and Caltrans Standard Plans.

D. The Contractor is hereby notified that prior to commencing construction, Contractor is responsible for contacting all utility companies for verification of the locations of all underground facilities where such facilities may possibly conflict with the placement of the improvements shown on these plans. Call "Underground Service Alert" at 811 or 800-227-2600, at least two (2) days minimum, but not more than fourteen (14) days maximum, before any excavation is started.

E. A registered civil engineer or licensed land surveyor shall do any field staking necessary at the request of the COUNTY in accordance with Section 5-1.07 of the Placer County General Specifications.

F. Contractor is responsible for the preservation and protection of all existing survey and property corner monuments that exist at the time of construction in the area where construction activities occur. Monuments disturbed or lost due to construction activities shall be replaced, in kind, by a California Licensed Land Surveyor at the Contractor's expense. The Land Surveyor will be required to file either a Corner Record or a Record of Survey with the COUNTY for all disturbed or lost monuments as necessary to meet the requirements of the California Land Surveyors Act, Section 8771(b).

G. Contractor shall maintain adequate dust control per Section 14-9.03, Caltrans Standard Specifications.

H. Any conflict resolution in the field shall be approved by the COUNTY prior to construction or implementation of said resolution.

I. A County approved set of plans for this encroachment permit shall be kept at the site of the work and used by the Contractor as reference for construction. This set shall be shown to any representative of the COUNTY or any other enforcing agency upon demand.

J. Adjacent public streets shall be kept clear of "tracked dirt." Daily street sweeping may be required when deemed necessary, or if requested by the COUNTY.

K. All driveways shall be accessible at all times. Trenches shall be backfilled and compacted, or plated where trench plates have been permitted, immediately following excavation across a driveway.

L. The COUNTY may require the Contractor to uncover any improvements in the public right-of-way that have been completed without proper County inspection and/or approval. If the installation is found not to meet COUNTY standards or previously approved alternatives shown on the plans, the Contractor may be required to remove and replace such improvements at Contractor's sole expense.

M. For all work within close proximity of natural resources, such as wetlands, riparian vegetation, other sensitive habitats, or trees to be protected, construction fencing shall be provided to prevent encroachment into the habitat to be preserved. These shall be shown on all plans submitted for approval by the COUNTY.

N. Before construction begins, a tree permit may need to be obtained from the Placer County Planning Services Division for protected trees impacted by the project.

O. All current Federal, State, and local codes regarding safety and safe work practices shall be adhered to.

P. Applicant shall secure/confirm appropriate easements/rights-of-entry as needed for proposed work or for any work falling outside of the right-of-way or appropriate easements.

Q. All trenches shall be backfilled and compacted daily unless the COUNTY approves the use of trench plates in advance. The extent and duration of trench plate use shall be strictly adhered to. Where trench plates are not approved, daily backfill and compaction shall include placement of compacted Class 2 aggregate base (AB) or compactable slurry from the intermediate backfill up to a minimum of AB final grade, and resurfaced with either temporary hot mix asphalt concrete (HMA) compacted by a steel drum roller or with the final Hot Mix Asphalt (HMA) resurfacing. Temporary HMA shall be uniform in depth and a minimum of 2 inches thick. All temporary paving shall be maintained and repaired to the lines and grades of the adjacent road surface until final restoration is complete.

R. Contractor may use steel trench plates in paved areas of Placer County right-of-way in lieu of daily backfill and patch operations only as approved in advance by the COUNTY, subject to the following conditions:

a) Plates shall be traffic-rated for appropriate loads, pinned, and the edges transitioned with cut-back or temporary HMA. Plates shall be skid-resistant, and shored where necessary for large trenches.
b) Plates shall be checked each day at the close of business to ensure movement has not occurred. Plates that have moved shall be reset, pinned, and new edge transitions placed.
c) Plates shall not be permitted for use over any weekend or any holiday period.
d) Plates will not be permitted for use for elevations 3,500 feet and higher between the period of October 15th and May 1st.
e) For elevations 3,500 feet or higher, plates will not be permitted if a snow event is forecasted before October 15th or after May 1st.
f) COUNTY reserves the right to revoke the use of trench plates where Contractor is found to not comply with these trench plate provisions.

S. Once construction has begun within Placer County right-of-way, the Contractor is required to complete, to the extent the plans and conditions of encroachment state, all necessary work to restore the road, pavement, right-of-way, sidewalks, curb and gutter, existing facilities, shoulders, and drainage ditches to the satisfaction of the COUNTY.

T. Contractor shall sawcut, or grind to a depth of at least 0.20-foot, a neat straight line of all existing AC surfaces a minimum of one foot beyond the limits of excavation and/or beyond any damaged AC. Sawcuts/grinds shall parallel and perpendicular to the traveled way, to the extent possible, and shall be uniformly linear and non-meandering. Sawcuts/grinds shall be outside the vehicle wheel paths. The exposed edges shall be sealed with emulsion prior to paving. The exposed base material shall be graded, recompacted and resealed prior to paving. Sawcuts and/or grinds shall be parallel and perpendicular to the traveled way, to the extent possible, or as shown on the approved encroachment plans.

U. The Contractor shall remove all road markings, pavement markers, and other delineation that are in conflict with the delineation shown on the plans or as directed by the COUNTY. The Contractor shall layout all pavement markings for approval by the COUNTY. After approval, the Contractor shall apply all painted markings and thermoplastic pavement markings to the satisfaction of the County.

V. The Contractor must provide temporary traffic striping if existing delineation is destroyed during trenching or other work. Painted markings or striping tape may be used. The temporary striping must be approved for material and layout by the COUNTY before trenching or other work is started. The Contractor shall sandblast for removal all temporary painted markings as necessary.

W. Prior to any construction activity occurring within 200 feet of a traffic signal, advanced signal loops, or signal interconnects, the Contractor shall contact the DPW Road Maintenance Division at 530-745-7565 a minimum

of 48 hours before beginning work, and request from DPW marking of the underground signal facilities on the pavement. This shall be in addition to any required USA utility locate needed. Any underground signal facilities lost or damaged by the Contractor shall be replaced or repaired by the Contractor as directed by the COUNTY.

X. The Contractor shall take all necessary and proper precautions to protect adjacent properties from any and all damage that may result from any and all work under this permit.

Y. Work in public roads and streets, once started, shall be performed to completion without delay so as to provide minimum inconvenience to utility customers, adjacent property owners and to the traveling public. The construction of utility improvements shall allow for the perpetuation of all existing accesses.

Z. The Contractor shall provide all necessary horizontal and vertical transitions between new construction and existing surfaces to provide for proper drainage and ingress/egress to said construction. The extent of transition is to be determined by the ENGINEER.

AA. For Tahoe Basin Projects, all disturbed areas shall be revegetated per TRPA standards.

II. Restoration Specifications:

A. Trenching shall conform to the appropriate Placer County backfill and restoration standards, namely Plates U-26.1, U-26.2, U-28, and U-29.

B. Trench restoration shall consist of new Hot Mix Asphalt concrete (HMA) 3 inches minimum or match existing, whichever is greater, over new Class 2 aggregate base (AB) 8 inches minimum or match existing, whichever is greater, or over compactable concrete of approved mix design.

C. In areas outside the trench that are to be repaved and/or restored, the existing base shall be reworked and recompacted to 95% prior to repaving. The new pavement shall match the existing pavement, unless otherwise directed by the COUNTY.

D. All areas of disturbed pavement shall be slurry sealed with Caltrans Type II slurry following road restoration, a minimum of one foot beyond the sawcut/grind limits and/or limits of disturbance.

E. For Slurry Seal In-Lieu Program Projects, all pavement joints shall be sealed with a polymer-based crack sealant prior to COUNTY acceptance of the encroachment permit improvements as complete.

F. Damage to the structural section or the pavement surface resulting from work under this permit shall be restored by the Permittee to equal or better conditions as directed by the COUNTY. Extensive damage may require restoration via creation of a new structural section.

G. Unless otherwise approved by the COUNTY, all weather coating and pavement repair work will be completed within 30 days of completion of construction.

H. All roadway restoration shall be completed as shown by the conditions of this permit, the project plans, or to match the existing conditions. The most stringent requirements shall govern.

I. If an underdrain system is encountered during trenching, it shall be immediately reported to the COUNTY and shall be repaired or replaced to existing or better conditions and to the satisfaction of the COUNTY.

J. All culverts shall be inspected prior to any work in that area, and damaged culverts shall be reported to the COUNTY. If an unknown or unmarked culvert is encountered during trenching, it shall be immediately reported to the COUNTY and shall be repaired or replaced to existing or better condition and to the satisfaction of the COUNTY.

K. Where groundwater is encountered, all work in that area shall cease until a plan is submitted and approved that will prevent current and future damage to the roadway from the trenching operations.

L. All disturbed soils shall be recompacted to not less than 90% relative compaction. Baserock, structural backfill and trench backfill shall be recompacted to not less than 95% relative compaction.

M. All roadside ditches and shoulders impacted under this permit shall be restored to original grades and conditions to the satisfaction of the COUNTY. Trenching that crosses or runs along a roadside drainage ditch may need to be asphalt lined following restoration to assure functional integrity of the ditch. Other options for trench stabilization may be suitable at the discretion of the COUNTY.

N. Any rock apron shoulder protection or rock outfall erosion protection disturbed by construction shall be replaced or repaired to the original condition or better as determined by the COUNTY.

O. Any driveways damaged during construction (dirt or paved) shall be repaired to the original condition or better as determined by the COUNTY.

P. All curb, gutter, and sidewalk impacted under this permit shall be restored to original grades and conditions to the satisfaction of the COUNTY. When cutting through sidewalk and/or curb and gutter, replacement of a full panel of sidewalk and/or curb and gutter may be required from score line to score line, or nearest expansion joint. Any new placement of sidewalk, or repair of existing sidewalk, is subject to compliance with State and Federal accessibility and ADA standards.

III. Utility Specifications:

A. When crossing under or over existing County drainage culverts the installation shall provide a minimum of 12 inches of vertical clearance.

B. If the cover depth is found to be less than the standard 30 inches, the County is not responsible for any damage to the new installation due to subgrade failure, future encroachments, or from any type of maintenance work whether by the COUNTY or its Permittees. Repair to the utility from possible said damage shall be performed by the Permittee at their sole expense.

C. Potholing within County right-of-way shall not be done without 48 hours notice to the COUNTY and upon issuance of a respective encroachment permit. The COUNTY reserves the right to require a list of approximate locations where potholing may occur for review and approval prior to potholing.

D. Only the approximate locations of the existing sanitary sewer and other utilities have been shown. The Contractor shall verify exact locations in field and immediately notify the COUNTY if said location(s) is significantly different from that shown on the approved encroachment plans.

IV. Traffic Specifications:

A. **This Encroachment Permit <u>does not</u> authorize any road closures.** If road closure is required for construction, such as in areas where deep cuts are to be made, the Permittee shall request a road closure, in writing, to the Director of the Placer County Department of Public Works. All County roads can only be closed with advanced written approval from the Director. A detour plan must be submitted with all road closure requests.

B. Special advisory signs shall be posted by the Contractor prior to construction as approved by the COUNTY alerting motorists of possible delays during specific dates and times due to construction. It is the responsibility of the Permittee to contact the Placer County Office of Emergency Services (530-886-5300) to advise them of any detours and possible delays at or near the construction site due to construction activity. It is the responsibility of the Permittee to contact the local school districts and advise them of the same. **<u>At all times, emergency vehicles must have access through the construction area and be able to by-pass delays and detours. Plating and/or equipment shall always be available to accommodate emergency access.</u>**

C. Excessive traffic delays shall not be permitted unless an approved detour for traffic is provided. All delays due to blasting or other reasons must be approved by the COUNTY prior to scheduling.

D. Contractor must immediately reinstall any traffic signs removed in the course of construction. Any signs lost or damaged by Contractor shall be repaired or replaced by the Contractor as directed by COUNTY.

E. Prior to any activity occurring within the right-of-way, the Contractor shall install W20-1 signs in accordance with Part 6 of the California MUTCD. The signs shall be professionally made, metal, reflectorized, and placed on wooden posts for the duration of the project. The minimum size shall be 36 inches. The signs shall be replaced or repaired if stolen or damaged. The placement, type, and location of the traffic control devices shall be reviewed and approved by the County Inspector. The Inspector shall direct the installation or changes to signs, striping, cones, barricades, etc. during the course of construction for traffic safety.

F. Public safety and traffic control shall conform to General Provision #13 and/or the approved "Traffic Control Plan," as directed by the COUNTY. Safe vehicular and pedestrian access shall be provided at all times during construction.

V. Blasting Specifications:

A. In the event of blasting, a plan shall be submitted to the COUNTY for approval not less than 10 days prior to the scheduled blasting.

B. A blasting permit must be obtained from the Placer County Sheriff's Department for all blasting to be done in Placer County. Additionally, the COUNTY must be notified and give approval for all blasting done within COUNTY right-of-way. If utility companies are in the vicinity where blasting is to occur, the appropriate utility companies must be notified to determine possible damage prevention measures.

C. If blasting is required, the blasting schedule shall be approved by the COUNTY and any other utility companies with facilities in the area prior to the commencement of work.

VI. Construction Material Specifications:

A. Permanent traffic signs shall conform to the California MUTCD traffic sign standards for "standard" size, character dimensions and letter stroke width. All stop signs shall be 30 inches minimum size of high intensity grade sheeting.

B. Hot Mix Asphalt (HMA) shall conform to Section 39 of the Placer County General Specifications and the following: For areas below 1000 feet elevation; Type A, ½-inch maximum, with PG 64-10: For areas between 1000 feet and 3500 feet elevation; Type A, ½-inch maximum, with PG 64-16: For areas above 3500feet elevation, Type A, ½-inch maximum, with PBA 6B or PG 64-28. If existing pavement is RHMA-G or OGFC, paving repairs shall be installed with those materials. Unless otherwise requested by the Contractor and approved by the COUNTY, HMA shall be placed in accordance with section 39-3 "Method Construction Process" of the Caltrans Standard Specifications. All HMA placed, whether new roadway or overlay, shall be matched to grade with an aggregate base shoulder. This shoulder backing shall be a minimum of 1 foot wide or match the project plans, whichever is greater.

C. The upper 8 inches of aggregate base shall be Class 2, ¾-inch maximum grading. Where the base thickness exceeds 6 inches, the depth below 6 inches may be Class 2, 1 ½-inch maximum grading. Aggregate base shall conform to Section 26 of the County General Specifications.

D. After stripping the debris, any existing loose fill, unsuitable soil, silty sand deposits, or disturbed natural soils shall be excavated and properly disposed of to the satisfaction of the COUNTY.

E. Any spoils that are to be disposed of in Placer County that are in excess of 250 cubic yards (3 cubic yards in Tahoe Basin) will require a Grading Permit, in accordance with the Placer County Grading, Erosion, and Sediment Control Ordinance, from the owner of the property on which the spoils will be deposited. Spoils shall not impede or disturb any drainage or other sensitive areas. A grading plan must be prepared showing the placement and proper compaction of the spoils and giving details of topography and other features of the property for both pre- and post-project conditions. Any other required permits must be obtained before the Grading Permit can be issued.

F. The Department of Public Works (DPW) shall have first right of refusal for asphalt grindings and/or reusable road base material that is removed from existing public roadways as part of a private development. Contractor shall notify DPW Road Maintenance Division at (530) 745-7565 at least 24 hours prior to beginning work within the public roadway to determine if DPW intends to retain asphalt grindings and/or reusable road base material. If DPW opts to retain any material, they will provide the Contractor with a local site (within approximately six miles) for the Contractor to deposit at Contractor's expense the reusable materials for the benefit of DPW. If DPW opts to not retain any material, the Contractor shall be solely responsible for final material disposition.

G. Stockpiling of spoils or any other material in a public right-of-way is prohibited. Stockpiling shall be limited to the existing easement or any other temporary construction easements that are established. At no time will stockpiling or equipment staging be allowed to interfere or in any way cause potential harm to motorists.

VII. Erosion Control Specifications:

A. No construction shall be done between October 15 and May 1 without a Sediment and Erosion Control Plan to prevent soil erosion. All erosion and sedimentation control measures shall, at a minimum, be in accordance with the specifications and recommendations contained in the California Stormwater Quality Association (CASQA) Stormwater BMP Handbook for New Development and Redevelopment, "Erosion and Sediment Control Guidelines for Developing Areas of the Sierra Foothills and Mountains," dated October, 1991, or equivalent resources. Applicant and/or Contractor shall secure any necessary State of California coverage as needed under Statewide Construction General Permit Order Number 2009-0009-DWQ, NPDES No CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ, or within the Tahoe Basin, the Tahoe Basin Construction General Permit Order Number R6T-2011-0019, NPDES NO CAG616002, for storm water discharges under the National Pollutant Discharge Elimination System (NPDES). Contractor shall maintain appropriate measures under said permit as outlined in the project Permit Registration Documents and the project Stormwater Pollution Prevention Plan (SWPPP).

B. Installation and maintenance of erosion control measures are the responsibility of the Contractor. The Contractor is responsible for the prevention of significant erosion and siltation entering the storm drain system, natural drainage courses, and/or intruding upon adjacent roadways and properties. Additional erosion control measures may be required as determined in the field and approved by the COUNTY. This responsibility shall apply throughout the course of construction and until all disturbed areas have become stabilized and shall not be limited to wet weather periods.

VIII. Boring Specifications:

A. If boring is proposed, an acceptable boring plan shall be submitted to the COUNTY for review and approval at least one week prior to beginning the bore. COUNTY has the right to deny and/or request relocation of proposed bore pits as needed for roadway safety or restoration reasons.

B. All boring must be in conformance with the State of California, Department of Transportation, Encroachment Permits Manual, Chapter 600.

M e m o r a n d u m

Serious drought.
Help Save Water!

To: MR. SCOTT W. MANN
Chief, Design Branch S-4
North Region Division of –
Engineering - Office of Design South
District 3

Date: June 18, 2015

File: 03-PLA-80
PM 35.1-38.3
03-1F4001
0300020420
Colfax Truck
Climbing Lane
(Colfax Narrows)

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

Subject: GEOTECHNICAL DESIGN REPORT

INTRODUCTION

As requested, the Office of Geotechnical Design North (OGDN) has prepared this Geotechnical Design Report (GDR) for the proposed truck climbing lane to be constructed on eastbound Interstate 80 (I-80), between postmile (PM) 35.1 and 38.3, in Placer County (see Plate No. 1).

Scope of Work

The scope of our work included performing a literature and historical review in an effort to obtain geological and geotechnical data pertaining to the subject site that could provide insight into the design and construction of proposed facilities. The historical review included contacting Caltrans Maintenance regarding maintenance history, and searching Caltrans intranet As-Built and geotechnical report records from the Bridge Inspection Records Information System (BIRIS), the Document Retrieval System (DRS), and the Digital Archive of Geotechnical Data (GeoDOG) databases. OGDN previously provided a District Preliminary Geotechnical Report (DPGR) for this project (dated March 27, 2014); the contents of this GDR supersede all contents of the DPGR. A field investigation was performed by OGDN which included site visits to the project area; during the site visits the geological and geotechnical related features were mapped, and samples of formational rock were collected from existing cut slopes and brought to the Transportation Laboratory for strength testing. Safe accessibility within the project limits was limited during the site visits by the presence of steep terrain, short sight distances and

narrow shoulder widths. Subsurface exploration of site materials was limited to a seismic refraction investigation performed by the Geophysics and Geology Branch (GGB) of Caltrans Geotechnical Services. Subsurface exploration utilizing borings was omitted from the scope of work for field exploration for the development of this GDR. OGDN has performed an engineering analysis and prepared this report summarizing findings, conclusions and recommendations. OGDN has prepared Foundation Reports (FRs) for the Cape Horn Undercrossing (UC) replacement structure (PM 36.86, Bridge No. 19-0091) and the new Magra Wall structure (PM 38.01-38.23, Structure No. 19E0010), both of which are part of the proposed truck climbing lane project.

Proposed Improvements

New construction will be limited to the eastbound (EB) direction of traffic between PM 35.1 and PM 38.3 on I-80 in Placer County. The purpose of the project will be to add a 12 foot truck climbing lane and standard shoulders to the EB direction due to heavy truck volumes and a sustained profile grade of 5% for 3 miles. Specifically, the widening will initiate at PM 35.15 to avoid impact to the Long Ravine Structures (Bridge Nos. 19-0087 thru 19-0090, see Plate No. 1), and will terminate at PM 38.15. The initiation point is considered a restriction to the ideal beginning point for a truck climbing lane when taking into account the speed differential between large trucks and passenger vehicles, whereas the termination point is based on the ideal ending point for the speed differential consideration. The widening will provide a 12 foot wide truck climbing lane, and include standard 10 foot wide inside and outside paved shoulders (with a 3 foot wide unpaved additional outside shoulder) in all eastbound locations except for the Magra Overcrossing (OC) at PM 37.78. The Magra OC is still within its useful life according to the most recent Structure Maintenance and Investigation (SM&I) bridge report; to avoid affecting the structure, inside shoulders will be reduced to 2 feet wide and outside shoulders to 4.5 feet wide as I-80 passes beneath the Magra OC. The roadway facility at the Cape Horn UC (PM 36.86) will be widened by approximately 17 feet, resulting in the proposed replacement of the existing Cape Horn UC. An earth retaining system (ERS) is proposed right of “C1” stations 355+00 and 365+60 (between approx. PM 38.01 and 38.23), where the widening encroaches as close as approximately 8 feet upon Magra Road (a County road) to the south. The Magra Road ERS is expected to extend approximately 1,200 feet in length, and reach a maximum height of approximately 16 feet.

The project information utilized to develop this report included plans and associated information provided by the District 3 North Region Division of Engineering, Office of Design South, Design Branch S-4 (Design S-4), in a request memo dated August 9, 2011 (Reference Nos. 25 and 26). Project information was also obtained from the Draft Project Report (approved February 13, 2014), and updated information was provided continuously in correspondence from Design S-4. Design S-4 provided layout sheets and cross-sections depicting 1H:1V slope ratios for the proposed cut slopes in an effort to assess the impact of proposed excavations. The extent of the impact of proposed 1H:1V cut slopes are summarized in Table No. 1 below; slope bench restoration was not considered in the impact assessment. In many cases the existing bench would be removed (see Table No. 1 “comments”) as a result of the proposed cut slope. Based on an earthwork factor of 1.0, excavation volumes are estimated to total roughly 265,000 cubic yards, and proposed embankment volumes total roughly 175,000 cubic yards.

Table No. 1. Proposed and Existing Cut Slope Data
(Based on proposed 1H:1V cut slope ratio presented on cross-sections provided by District 3 North Region Division of Engineering, Office of Design South, Design Branch S-4; Postmile locations based on Station "C1" 190+00 corresponding to Postmile 34.9)

GENERAL CUTSLOPE DATA						SPECIFIC CUTSLOPE DATA						
Location Reference No.	STATION "C1"		PM		Cutslope Length (feet)	Specific Location (STA "C1")	Cutslope Height (feet)		Height of Bench Above Existing Cutslope Toe (feet)	Existing Cutslope Ratio (H:V)		Comments
	START	END	START	END			Existing	Proposed		Below Bench	Above Bench	
1	207+90	212+15	35.24	35.32	425	209+80	50	50	NA	1.3:1	NA	
2	218+40	224+00	35.44	35.54	560	221+40	123	32	25	1.3:1	1.5:1	bench removed on proposed cut
3	225+10	228+00	35.56	35.62	290	226+80	46	58	NA	1.1:1	NA	
4	229+60	234+50	35.65	35.74	490	232+40	55	66	NA	NA	NA	
5	236+00	248+35	35.77	36.01	1235	238+20	80	80	NA	1.1:1	NA	
						240+20	127	131	83	1.1:1	1.2:1	bench removed on proposed cut
						242+40	68	80	NA	1.1:1	NA	
						247+00	71	77	NA	1.1:1	NA	
6	251+00	254+40	36.06	36.12	340	252+40	92	102	NA	1:1	0	
7	255+00	263+00	36.13	36.28	800	257+60	26	28	26	1:1	1.7:1	bench removed on proposed cut
						258+60	55	57	55	1:1	1.3:1	bench removed on proposed cut
						259+60	91	91	56	1:1	1.2:1	bench removed on proposed cut
8	266+65	268+70	36.35	36.39	205	268+20	0	9	NA	NA	NA	
9	270+50	280+00	36.42	36.60	950	275+20	65	65	47	1.1:1	1.7:1	bench removed on proposed cut
						278+80	53	47	43	1.1:1	2.5:1	bench removed on proposed cut
10	285+00	294+30	36.70	36.88	930	288+80	65	65	40	1:1	1.2:1	bench removed on proposed cut
11	305+40	314+10	37.09	37.25	870	310+20	87	87	58	1:1	1.2:1	bench removed on proposed cut
						312+60	49	46	NA	1.1:1	NA	
12	323+00	325+00	37.42	37.46	200	324+40	0	7	NA	NA	NA	
13	328+95	331+50	37.53	37.58	255	330+20	0	10	NA	NA	NA	
14	332+50	343+00	37.60	37.80	1050	337+60	89	31	69	1:5	1.8:1	bench not impacted on proposed cut

FINDINGS

Physical Setting (Topography & Drainage)

The proposed project is located in the foothills on the westerly portion of the Sierra Nevada Mountain Range. The project segment of highway stretches along the northerly side of an ascending, southwest to northeast trending ridge line extending roughly three miles between Cape Horn to the west and Hayford Hill to the east (see Plate No. 2). The ridgeline is located in the divide of the drainages of the Bear River (Rollins Reservoir) and the North Fork of the American River, to the north and south, respectively. The I-80 roadway facility transects a natural surface drainage pattern directed northwesterly (or right to left), which is generally accommodated by culverts crossing the highway at various locations. Based on topography data provided by Design S-4, the EB I-80 roadway elevation climbs from 2,300 feet at approx. PM 35.1 to 2,980 feet at approx. PM 37.8, with an average grade of roughly 5%, and with grades on portions up to 6.5%.

Climate

According to the Western Regional Climate Center (WRCC) one of the closest weather stations to the project site is the Colfax Station (NCDC COOP ID 041912) located at elevation 2,380 feet above sea level, at a distance of roughly 3 miles south of the project site. The WRCC provides monthly climate summaries at the Colfax Station for the period of record between 1948 and 2005. The WRCC data reports the average annual precipitation at the Colfax Station to be 47.7 inches, and the average annual snowfall to be 13.7 inches. Additional WRCC data is presented in Chart Nos. 1a and 1b (below) and includes the monthly averages for precipitation, snowfall, and maximum and minimum temperatures. According to a climate narrative for the State of California provided by the WRCC, in the Sierra Nevada, snow in moderate amounts is reported nearly every winter at elevations as low as 2,000 feet. Amounts and intensities increase with elevation to around 7,000 or 8,000 feet. Above 4,000 feet elevation snow remains on the ground for appreciable lengths of time each winter.

Chart No. 1a. Average Monthly Precipitation/Snowfall

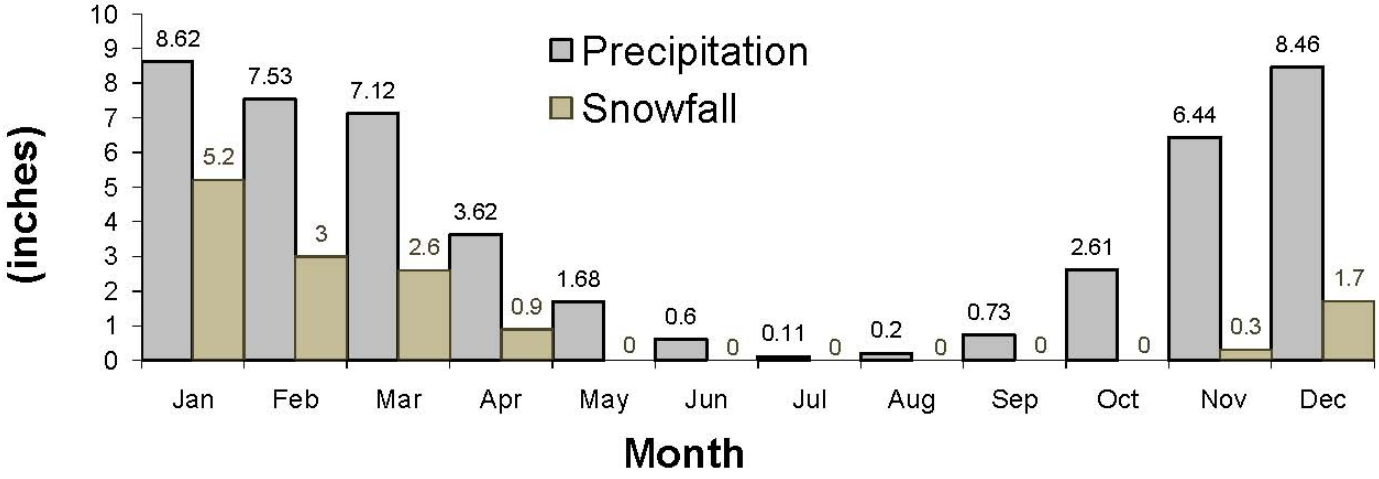
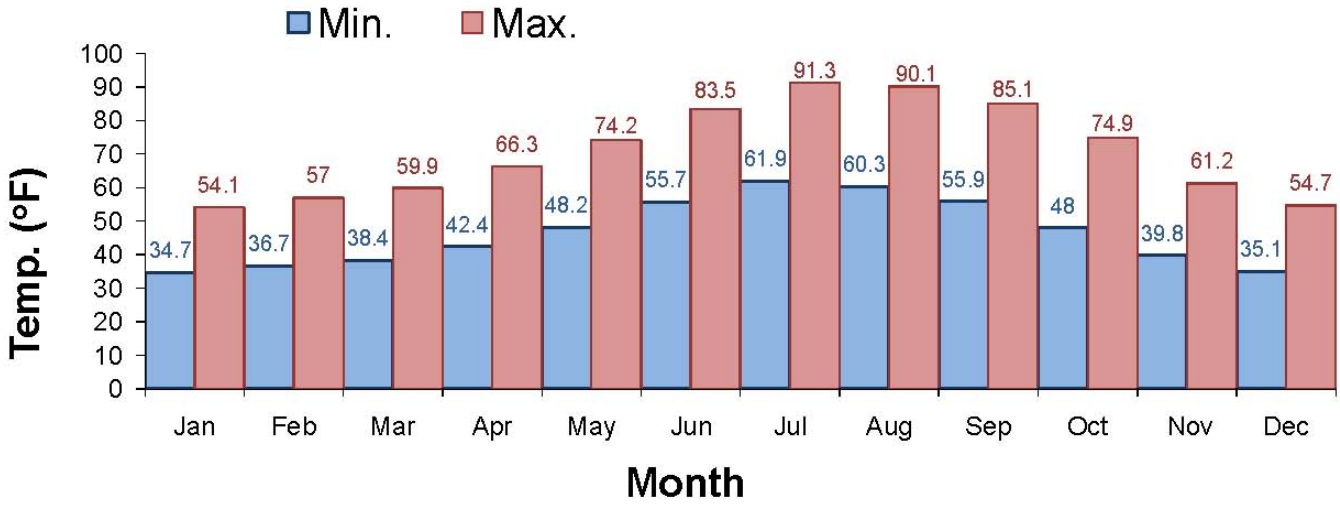


Chart No. 1b. Average Monthly Temperatures



<u>Source:</u> Western Regional Climate Center (at www.wrcc.dri.edu/) located in Placer County, California at about 39°05'N/120°57'W; Elevation about 2,380 feet above sea level. Data compiled from 57 complete years between 1948 and 2005.

Background History of Existing Facilities

General

Historically, the stretch of I-80 between from Colfax and the Magra OC has been referred to as the "Colfax Narrows", a segment of freeway with two lanes in each direction that contains steep grades (roughly 6 percent) and narrow shoulders (a small as 2 to 4 feet width). Based on review of project As-Built plans (see Reference No. 1), the project segment of highway was constructed in 1957 and 1958 as a realignment of the State Highway Route 37 Sections "B" and "C". A few years after construction, Route 37 became part of I-80. For ease of cross-referencing, Table No. 2 below provides correlations between the I-80 postmiles, and both the III-PLA-37 (1958) As-Builts and current project stationing.

Table No. 2. Historic Project Stationing

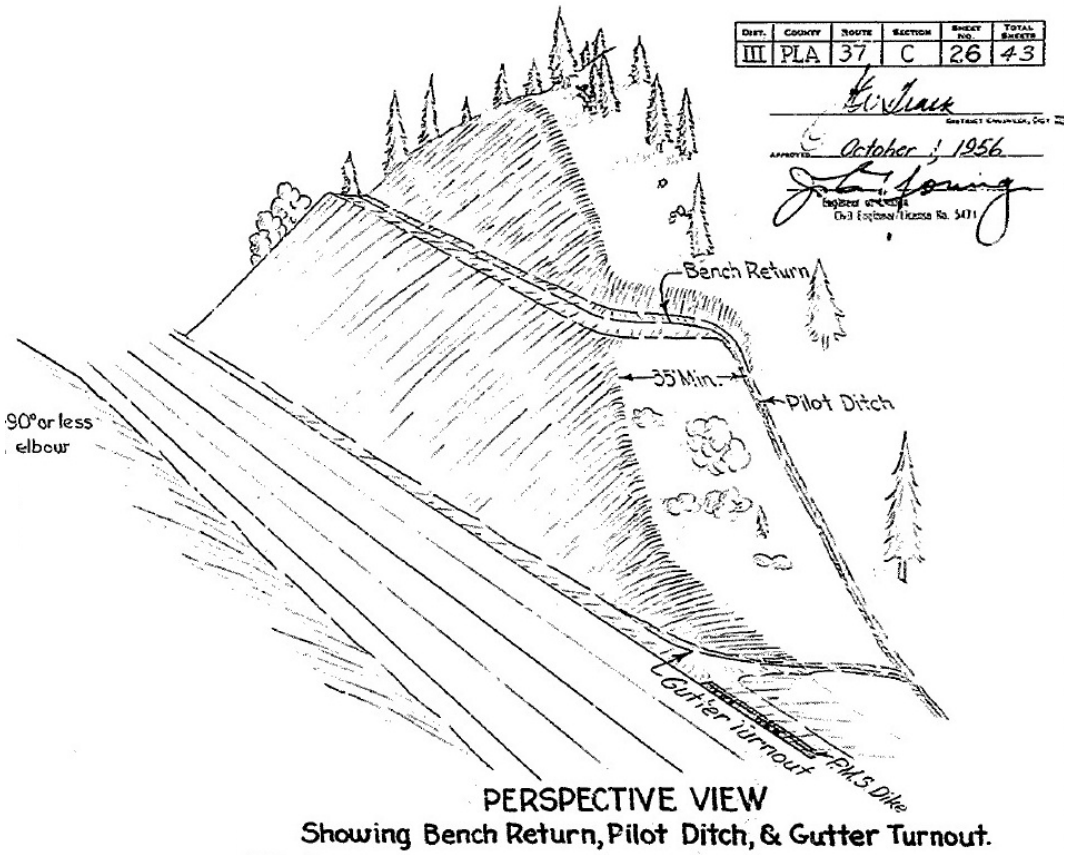
POSTMILE	CONTRACT NO. 57-3TC22-F III-PLA-37 (1956); STATION LINE "B","C" or "D"	CONTRACT NO. 03-1F4004 (2014); STATION LINE "C1"	COMMENTS
33.44	"B" 392+02.27 "C" 00+00	--	END "B"; START "C"
34.99	"C" 82+21.51	197+30	LONG RAVINE UC BRIDGE NO. 19-0090
35.87	"C" 128+25	243+33; left 27'	1961 BORING D-3
35.88	"C" 129+00	244+08; left 28'	1961 BORING D-2
35.99	"C" 134+48	249+56; left 27'	1961 BORING D-1
35.99	"C" 134+80	249+88; left 24'	1961 BORING D-4
37.58	"C" 218+60	333+68	BEGIN AS-BUILT 1.5H:1V CUTSLOPE
37.78	"C" 229+02.96	344+11	MAGRA OC BRIDGE NO. 19-0092
37.82	"C" 231+10	346+18	END AS-BUILT 1.5H:1V CUTSLOPE
41.08	"C" 403+64.78 "D" 00+00	--	END "C"; START "D"

As-Built Documents

Original Facility

The typical cross-sections on the 1957/1958 As-Built plans indicate the realigned facility was generally constructed as four, 12 foot wide lanes with 4 foot shoulders. Cut slopes are detailed with slope ratios of 1H:1V, except for between approximately PM 37.6 and PM 37.8, where 1.5H:1V cut slopes are depicted (see Table No. 2 above). A 20 foot wide bench is detailed for slopes greater than 60 feet in height. A detail is provided on the As-Built plans depicting bench drainage construction and associated facilities ("bench return", "pilot ditch", etc.), and is provided as Figure No. 1, below. Fill slopes are detailed as 1.5H:1V, or flatter. Pipe underdrains utilizing 8 inch diameter perforated metal pipe (PMP) were noted on the plan-view layouts of the 1957/1958 As-Built plans as being installed in the locations summarized in Table No. 3 below. Roughly 4,000 lineal feet of pipe underdrain appears to have been selectively placed longitudinally, just outside of the uphill (southerly) edge-of-traveled-way (ETW), to function as a seepage intercept for groundwater at the toe of a cut slope (see Underdrain Nos. 9 thru 13, 15 and 19, Table No. 3, below). In general, the remainder of the underdrains appear to have been installed transverse to the roadway in select locations at a downhill end of a cut section. Networks of pipe underdrains are noted to have been placed around approximately PM 36.5 and PM 37.3, which is an indicator that excessive groundwater seeps were encountered during construction at these locations. The underdrain network at PM 37.3 appears to be mitigating groundwater associated with a large spring encountered outside of the roadway.

Figure No. 1. Cut Slope Detail with Bench and Pilot Ditch (from 1957/1958 As-Built Plans)



2006 Failed Underdrain PM 37.57-37.85

According to a Director's Order Request (Reference No. 13) during storm events between December 2005 and early April 2006 damage began occurring in the Portland Cement Concrete (PCC) slabs in the traveled way. The damage was reportedly attributed to a higher than normal groundwater table beneath the slabs and a collapsed underdrain which resulted in "pumping" of the base material and the formation of voids beneath the slab. Upon the application of high truck traffic the PCC slabs began to rock, crack and fail. The As-Built plans (Reference No. 14) indicate 1,420 lineal feet of underdrain was replaced. The existing perforated metal pipe underdrain is indicated to have been replaced by a 5 foot deep underdrain with perforated plastic pipe. The plans also show several sections where pavement was replaced in the southerly-most (uphill), eastbound lane.

Table No. 3. Locations of Underdrains detailed as 8-inch dia. Perforated Metal Pipe (PMP) per 1957/1958 As-Built Plans

Underdrain Location No.	PM	"C1" STATION LINE (2011)	III-PLA-37 "C" STATION LINE (1956)	Lineal Feet	Offset Direction	Description
1	34.60	176+08	61+00	215	right	Longitudinal; outside roadway
2	34.91	192+68	77+60	180	left and right	Transverse subdrain in fill
3	34.97	195+78	80+70	226	left and right	Transverse subdrain in fill
4	35.00	197+38	82+30	130	left	Outside of roadway at Long Ravine UC
5	35.13	204+38	89+30	120	right	Outside of roadway at Long Ravine Bridge
6	35.14 to 35.21	205+08 to 208+68	90+00 to 93+60	440	left and right	Transverse subdrain in fill
7	35.33	215+08	100+00	360	left and right	Transverse subdrain in fill
8	35.58	228+08	113+00	409+130+430	left	Transverse, braided subdrain network in fill
9	35.91 to 35.96	245+58 to 248+08	130+50 to 133+00	249	right	Longitudinal, roadway perimeter drain in cut
10	36.01 to 36.06	250+58 to 253+58	135+50 to 138+50	291	right	Longitudinal, roadway perimeter drain in cut
11	36.09 to 36.21	255+08 to 261+08	140+00 to 146+00	609	right	Longitudinal, roadway perimeter drain in cut
12	36.49 to 36.54	276+08 to 278+83	161+00 to 163+75	275	right	Longitudinal, roadway perimeter drain in cut
13	36.65 to 36.74	284+58 to 289+58	169+50 to 174+50	500	right	Longitudinal, roadway perimeter drain in cut
14	36.9 to 36.93	297+58 to 299+58	182+50 to 184+50	552	left and right	Transverse subdrain in fill
15	37.04 to 37.16	305+08 to 311+48	190+00 to 196+40	640	right	Longitudinal, roadway perimeter drain in cut
16	37.26	316+58	201+50	186	left and right	Transverse subdrain in fill
17	37.3 to 37.33	319+08 to 320+48	204+00 to 205+40	600	left and right	Transverse subdrain network below spring in fill
18	37.34	320+88	205+80	180	left	Drains 10' X 10' X 35' deep spring @ approx. 80 feet left
19	37.64 to 37.83	337+08 to 347+08	222+00 to 232+00	660+880	right	Longitudinal, roadway perimeter drain in cut (failed to function and replaced 1,420 LF as part of Director's Order in 2006)
20	37.83 to 37.87	347+08 to 349+08	232+00 to 234+00	288	right	Longitudinal, approx. 200 feet right (at Magra Road)

Geotechnical Services Records

Although a Memorandum of "Project Geology" was found in the Geotechnical Services records for construction of the new alignment of III-PLA-37-B (dated 1954), no Project Geology Memos were found for the III-PLA-37-C realignment.

1961 Embankment Settlement (PM 35.88 and 35.99)

According to reports obtained from Geotechnical Services' records (Reference Nos. 2 thru 4), by August of 1961 (roughly 3 years after construction) "several" embankments within the project segment (at unidentified locations) exhibited distress. An investigation described the distress as "sags" in the embankments at roadway grade and "bulging" just above the toe of the embankments. The investigation included four borings placed in the westbound (WB) lanes at two sites (PM 35.88 and 35.99) where the distressed embankments extended above 50 feet in height. The reports indicated that a grayish-colored talc schist material was prevalent in the cut slopes (borrow sites) adjacent to the distressed embankments, and that the explored fill materials contained significant amounts of phyllite in various stages of weathering. The investigation concluded that the distress was a result of inadequate compaction of the embankment materials, which could be attributed to the inability to achieve "efficient" operation of compaction equipment due to the steep-sided and deep (35 to 80 feet) ravines that were being filled. The investigation stated that the embankments were "in a state of equilibrium", and although movement "may continue for years", recommended corrective measures were limited to frequent patching or resurfacing. A copy of the report with the investigation findings is attached as Appendix B and includes boring logs associated with the study.

1971 Horizontal Drain Installation PM 37.5

In 1971, roadway cracking and differential settlement was noted to be occurring in a Placer County frontage road (Norton Grade Road) adjacent north in I-80 at PM 37.5. The road was supported on an embankment which was situated at the toe of a slope immediately below I-80. A 1971 memo (Reference No. 5) concluded that the primary cause of the roadway distress appeared to be excessive groundwater. Four horizontal drains were installed and a flow rate of up to 100,000 gallons per day was measured. Based on groundwater levels in monitoring wells, and on the flow rates produced, it was concluded that the horizontal drains provided "marked improvement in stability" of the county road.

2007 Rock Slide WB PM 34.8-34.9

In 2011, OGDN recommended in a Memo (see Reference No. 27) the construction of an anchored cable mesh system on a 1H:1V cut slope adjacent to I-80 WB, between PM 34.8 and 34.9, in an effort to mitigate slope instability. Several rock slides had occurred at this location since 2007 (see No, 17), and OGDN had attributed that instability to adverse dipping of the foliated rock (Mariposa Formation slate), exposure to rainfall, and the susceptibility of the rock to high decomposition rates. The recommended anchored cable mesh system repair was reported constructed in 2013.

Consultation of Maintenance Personnel

Based on communications with the former Caltrans Auburn Area Maintenance Supervisor, Shelley Pangman, historically, the occurrence of rockfall or slope instability has not been significant on the EB (right) slopes between the Long Ravine UP (PM 35.11) and the Magra OC (PM 37.78). Ms. Pangman did indicate that during winter storm events, significant amounts of surface water has been noted flowing down the right shoulder throughout the project area; Ms. Pangman suggested that the project design should pay particular attention to accommodating water flow in the right shoulder to minimize the potential for sheet flows across the roadway towards the median. Ms. Pangman also indicated that occasionally seeps have been noted to occur within the faces of the EB cut slopes.

Geologic Conditions

Geologic Setting

The project site lies within the Central Metamorphic Terrane (CMT), a geologic terrane on the north-westerly portion of the Sierra Nevada Geomorphic Province. The CMT is located within a northerly trending belt (sometimes referred to the as Foothills Metamorphic Belt) composed of a wide variety of metamorphic and igneous rocks. These rocks were emplaced on the western edge of North America through convergent plate-tectonism (colliding of earth's crustal plates) that occurred from about 100 million to more than 300 million years ago (Paleozoic and Mesozoic Eras). During the Cenozoic Era, from about 66 million years ago to the present, volcanic and sedimentary rocks were deposited on top of this basement of older rocks. Within the CMT, most of the Cenozoic rocks have been removed by erosion promoted by Cenozoic uplift, which continues in the current-day Sierra Nevada geologic environment. The older basement rocks have been variously deformed by several episodes of folding and faulting. The overlying Cenozoic deposits show little or no deformation.

Site Geology

Based on the review of published geologic mapping of the region (see Plate No. 3), the segment of Interstate 80 proposed for improvements is underlain by materials of the Mariposa Formation and the Calaveras Complex, two geologic units situated westerly and easterly, respectively, of their mutual boundary the northerly-trending Gillis Hill Fault (at approximately PM 35.5). Within Placer County, the Mariposa Formation (Jm) is composed predominately of black slate of Late Jurassic age, and the exposure within the CMT is reported to be the result of both thrust faulting and normal faulting of younger over older (DMG OFR 95-10, Reference No. 10). Within the project highway segment, the Calaveras Complex (Pzcc) materials are noted to be Paleozoic age and composed of moderately metamorphosed chert, argillite and slate. DMG OFR 95-10 describes the materials of the two formations with more detail as follows:

Mariposa Formation (Jm): Dark-gray to black slate with subordinate tuff, conglomerate, greywacke, and metavolcanic rocks.

Calaveras Complex - metasedimentary unit (Pzcc): Dark gray, highly fissile, pyritic slate containing lenticular masses of greenstone, limestone, chert and greywacke. These rocks are pervasively foliated with original textures and structures are rarely preserved.

Groundwater/Hydrogeology

The project site is located in the Dept. of Water Resources (DWR) Sacramento River Hydrologic Region. The project site is also located in Zone 3 of the Placer County Water Agency (PCWA) Western Water System. Zone 3 of the PCWA consists of a surface water management system which generally provides water service to the urbanized zones encompassing I-80 from Alta down to Applegate. According to the PCWA 2010 Urban Water Management Plan (See Reference No. 23), the supply of treated and irrigation water in Zone 3 is provided by Pacific Gas and Electric (PG&E) and does not utilize groundwater sources.

Within the project area, there is no known single, well-defined phreatic water surface. Instead, groundwater is likely present in multiple, irregular, perched water tables, and in confined zones of higher permeability materials where both static and flowing groundwater occurs. In the shallow rock subsurface conditions at the site, higher permeability and greater water storage capacity will be associated with the formational rock fracture system characteristics, including: fracture aperture (opening size), fracture density (spacing), fracture interconnection, and the presence of soil cover. Groundwater recharge in the project area is primarily from infiltration of precipitation into fractures in bedrock (especially associated with faults), into the soil and fill materials that overlie much of the bedrock. Groundwater is recharged over the entire extent of the flow path, except where the land surface is impermeable or where the groundwater table coincides with land surface. Stream flow also recharges ground water when the groundwater-table elevation is lower than the water-surface elevation of the stream. Within the project area, mountain slopes extend significantly far above I-80, hence, the potential recharge area for groundwater seepage zones at the highway is very large. Therefore, there is a great potential during highway construction of encountering high groundwater flow volumes and relatively long durations of groundwater flow subsequent to precipitation events. It is possible that underdrain facilities placed near the Gillis Hill Fault crossing around PM 35.5 (see Plate No. 3), such as the braided underdrain network at PM 35.58, could be associated with fault related hydro-geologic conditions.

As-Built LOTB records for bridge structures located within the project limits (Bridge Nos. 19-0087 thru 19-0092) were retrieved from the Caltrans Structure Maintenance and Investigations intranet database (BIRIS). Notations of groundwater conditions was limited to the LOTBs for Bridge No. 19-0089 (PM 35.1) where groundwater was noted as high as elevation 2,287.9 (on 7-5-85), and within slate bedrock.

Review of the California Department of Water Resources (DWR) online Water Data Library (http://www.water.ca.gov/waterdatalibrary/) and the California State Water

Resources Control Board Geotracker website (for environmental data for regulated facilities, http://geotracker.swrcb.ca.gov/),did not reveal any groundwater data within or adjacent to the project site.

Faulting

The project highway segment is also located among the various alignments of the Foothills Fault Zone, described by the California Geologic Survey (CGS) as a Mesozoic (approximately 225 million years ago) fault system that has been reactivated in Cenozoic time (65 million years ago to present). It is believed that this system originated from tectonic forces exerted by the uplift of the Sierra Nevada Mountain Range. That makes this fault system different from most other fault zones in California, in that it is not generated by the tectonic pressures of plates moving past one another (i.e., the San Andreas Fault system). This fault zone is generally considered inactive; however, in the vicinity of the project two short segments along the fault system have ruptured. Evidence of an earthquake has been found near Spenceville and is believed to have occurred sometime during the late Quaternary Period (approximately the last 700,000 years before present). More recently (1975), an earthquake measuring 5.7 on the Richter Scale occurred near Oroville along a fault segment known as the Cleveland Hill fault, approximately 33 miles northwest of the project site (see Plate No. 5).

The Caltrans ARS Online web-based tool (v2.3.06) indicates that the closets “active” fault (defined as a fault that has ruptured in late-Quaternary to present) to the site is the North Central Reach Section (Highway 49 section) of the Foothills Fault System (Caltrans Fault ID 424). The web tool indicates the closest surface trace of this fault to be a distance of approximately Rx = 7.7 miles, and that this fault is a “normal” fault type capable of generating a Maximum Movement Magnitude (Mmax) of 6.2. This fault is located southwesterly of the project site and is identified on the “Fault Map” (Plate No. 5) as the “Wolf Creek Fault Zone”. The CGS Geologic Data Map No. 6 (Reference No. 21) report indicates a second late-Quaternary fault of the Foothills Fault System to be within 10 miles of the site, however, the current Caltrans ARS Online does not recognize this fault as active. This second fault is located 8 miles northeasterly of the project site (see Plate No. 5) and is called the Giant Gap Fault of the Melones Fault System of Clark. The site is not within an Alquist-Priolo Earthquake Fault Zone. As noted above, no late Quaternary faults are known to be within or extend across the project boundaries. A summary of the active faults within 100 km of the project site is presented in Table No. 4, below. As previously noted in the “Site Geology” section, the northerly-trending Gillis Hill Fault extends across the highway around approximately PM 35.5; the CGS Geologic Data Map No. 6 indicates the Gillis Hill Fault to be Pre-Quaternary, lacking recognizable activity in the last 1.6 million years.

Table No. 4. Active Faults within 100 km of Project Site.

Fault Name	FID	R_{RUP} (km)	STYLE	AGE	Dip Angle & Dip Direction	M_{Max}	Slip Rate (mm/yr)
Hwy 49 Fault	424	12.86	N	LQ	50°, W	6.2	NA
Dewitt Fault	423	23.87	N	LQ	50°, W	6.3	NA
Deadman Fault	422	26.17	N	LQ	50°, W	6.2	NA
Spenceville Fault	81	27.06	N	H	50°, W	6.5	0.1
Mohawk Valley 2011 CFM	62	58.52	SS	H	90°, V	6.6	0.6
Dog Valley	68	59.64	SS	H	90°, V	6.7	0.1
West Tahoe	77	67.48	N	H	50°, E	7.0	0.6
Carson Range (Genoa)	83	89.38	N	H	50°, E	7.2	2.0

Notes:

(1) FID N-S: Caltrans fault number, generally starting in the north.
(2) R_{RUP} = Closest distance from the site to the fault rupture plane.
(3) STYLE: N- normal, R- reverse, SS- strike-slip.
(4) AGE (youngest observed): H (Historic, Holocene or latest Pleistocene; 15,000 years or younger); LQ (750,000 years or younger).
(5) NA = Not Available

Seismicity

For seismicity assessment, a V_{S30} of 2,500 feet/sec (760 m/sec, i.e. soft bedrock conditions) was conservatively assumed for the project site. According to the Caltrans ARS Online web-based tool (v2.3.06), a peak ground acceleration (PGA) ranging between 0.104g and 0.135g was derived for the project limits based on the deterministic criteria and the controlling fault designated as the Highway 49 Fault. At a period, T=0, the deterministic criteria PGA exceeded the probabilistic criteria PGA. However, a PGA of 0.135 would be applicable, per ARS Online, based on the statewide, minimum deterministic spectrum, which recognizes the potential for earthquakes to occur on previously unknown faults.

Geotechnical and Geologic Hazards

Geotechnical and geologic hazards such as soil liquefaction, lateral spreading, seismically induced settlement or “active” fault displacement as a result of earthquake events, are not known to exist within the project area. Localized slope failures could occur in relation to weak fault contact planes associated with the non-active Gillis Hill Fault extending across the highway around approximately PM 35.5. However, it is expected that (based on site history) design and construction mitigation measures would minimize slope failure potential. The potential presence of naturally occurring asbestos (NOA) in materials at the project site is addressed in the “Conclusions and Recommendations” section of this GDR.

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Field Investigation - OGDN

A field investigation was performed by OGDN which included site visits to the project area intermittently between the dates of October 20, 2011 and October 16, 2014. Activities conducted during the site visits included mapping of geological and geotechnical related features; it should be noted that safe accessibility within the project limits was limited by the steep terrain, short sight distances of traffic, and narrow shoulder widths. Table No. 5 below provides a summary of the locations of photographs taken during the field investigation. The photographs are presented on the plates of Appendix A, attached.

Table No. 5. Summary of Photographs Taken During Field Investigation.

Cut Slope Location Reference No. (see Table No. l)	Location		Plate No. (see Appendix A)	Photo Nos.
	Postmile	Station Line "C1"		
2	35.44-35.54	218+40-224+00	A-1	1 and 2
3	35.56-35.62	225+10-228+00	A-1	3
4	35.65-35.74	229+60-234+50	A-2	4 and 5
5	35.77-36.01	236+00-248+35	A-2 and A-3	6,7,8 and 9
6	36.06-36.12	251+00-254+40	A-4	10
7	36.13-36.28	255+00-263+00	A-4 and A-5	11,12,13, and 14
9	36.42-36.6	270+50-280+00	A-6	15,16,17 and 18
10	36.70-36.88	285+00-294+30	A-7	19,20 and 21
Cape Horn UC And Tallest Fill Section	36.86-37.09	295+70-305+40	A-8	22,23 and 24
11	37.09-37.25	305+40-314+10	A-9	25,26 and 27
14	37.60-37.80	332+50-343+00	A-10	28 and 29
Magra Wall ERS	38.03-38.23	355+00-365+60	A-11 and A-12	30,31,32,33,34, 35 and 36

In general, cut and fill slopes were built as noted on the 1957/1958 As-Built plans, with exceptions as called out on Table No. 1. The existing cut slope data on Table No. 1 was generated utilizing topography data provided by Design Branch S-4, and includes modifications based on observations in the field. The observed cut and fill slopes generally appeared to be performing well. Notations of formational rock conditions were made throughout the project area, primarily at the base of cut slopes. The formational rock materials at the base of cut slopes were observed to be composed of metasedimentary rocks including slate, phyllite and schist. The rock materials at the base of the slopes were noted to be from moderately to slightly weathered, and from moderately hard to very hard. Discontinuities in the observed rock outcrops appear to be set in patterns that are favorable to the current cut slope orientation. When measured, the discontinuities were noted to dip between 53 and 77 degrees, and generally to dip in the northeasterly direction. Isolated instabilities were noted and were generally limited to small block failures at the toe of slopes (see Location 7, below). When noted, foliations in the rock materials (see Photo No. 13) did not appear to be attributing to instability of the cut slopes. At some locations the rock appeared highly fissile (see Photo No. 9). The degree of weathering of the exposed rock materials on cut slopes generally increased along the height of the slope. More detailed descriptions of field conditions observed are provided at select locations as identified below.

<u>(Location 2) STA “C1” 218+40 to 224+00 (PM 35.44 to 35.54)</u>

The cut slope at this location appears to have been constructed flatter and the bench placed at lower elevation on the slope than the As-Built plans indicate. Design S-4 survey data indicates this cut slope to be as high as 100 feet, with a cut slope ratio of roughly 1.3H:1V adjacent to roadway level, with flatter ratios of around 1.6H:1V above the bench grade. The highest point of the bench grade is approximately 25 feet above roadway grade. Sparse volunteer vegetation was noted on this cut slope and was generally limited to pine trees. A ground surface crack (see Photo No. 1) was noted near the top of the cut slope around STA “C1” 220+90 (approximately PM 35.49). The ground cracking appeared to be part of a head scarp of a relatively shallow translational failure; the failure appears to be within sheared materials likely associated with the locality of the Gillis Hill Fault (see “Fault” section).

(Location 5) STA "C1" 236+00 to 248+35 (PM 35.77 to 36.01)

The cut slope at this location appears to be the highest in the project area and is performing well. Design S-4 survey data indicates the cut slope to be as high as 130 feet, with a cut slope ratio of roughly 1H:1V on the lower portion. A bench extends between STA "C1" 238+60 to 241+60 at approximately 80 feet above the roadway grade. Above the bench the cut slope has a slightly flatter ratio of roughly 1.2H:1V. Formational rock appeared to be phyllite (Photo Nos. 7 and 9). The 1961 embankment settlement report (see "Background History…" section) described cut slope materials at this location to be "talc schist". Surficial erosion was noted in the rock cut slope materials above the bench (see Photo No. 6).

(Location 7) STA "C1" 255+00 to 263+00 (PM 36.13 to 36.28)

The area extent of hard slate rock at this location appeared to be the most noted within the project limits(see Photo No. 12). Isolated locations of small rock block failures (less than 8 inches in maximum dimension) were noted where discontinuities intersected the slope face (see Photo No. 13). Scraping marks from the teeth of a backhoe bucket could be seen in an over-side swale that had been previously cut into the hard rock (see Photo No. 14).

(Location 10) STA "C1" 285+00 to 294+30 (PM 36.70 to 36.88)

Perennial vegetation and seepage was noted on the cut slope right of STA "C1" 289+00 (PM 36.78) as seen in the Photo Nos. 20 and 21. Underdrain clean-out access pipes were also noted (Photo No. 19) on this section of roadway, suggesting groundwater seepage is prevalent.

(Tallest Embankment Section) STA "C1" 296+00 to 303+00 (PM 36.91 to 37.04)

One of the tallest existing embankment slopes in the project area is located northeasterly of the Cape Horn UC structure and appears to be performing well at a slope ratio of around 1.6H:1V (see Photo No. 22). Further discussion of site conditions and results of subsurface exploration performed for the Cape Horn UC replacement (Bridge No. 19-0206) are presented on LOTBs and in the FR prepared by OGDN (see Reference No. 36).

(Location 11) STA "C1"305+40 to 314+10 (PM 37.09 to 37.25)

Outcrops of hard slate rock with quartz veins (see Photo No. 27) were noted within the existing cut face at this location.

(Location 14) STA "C1" 332+50 to 343+00 (PM 37.60 to 37.80)

The materials comprising the cut slope were noted to be moderately hard to hard slate at the base and transitioned to weathered rock and soil-like materials at roughly mid-slope height. The soil-like materials appeared to be composed of reddish brown, very stiff and hard clayey materials. A small community of homes exists above the slope with the closest home set-back approximately 65 feet from the crest of the cut slope (see Photo No. 29). A slope stability analysis was performed for this location and is presented in the "Cut Slope Stability", section below.

(Proposed Magra Wall ERS) STA "C1" 355+00 to 365+60 (PM 38.03 to 38.23)

The Magra Wall ERS layout line (LOL) or wall face is proposed to stretch across the existing upward slope adjacent to the southerly side of I-80 (see Photo Nos. 30, 32 and 33). The existing slope face is covered with mature trees, and occasional exposures of rock were observed in varying locations on the slope face (see Photo No. 31). Locally, the shallow presence of formational rock is exhibited by the rock materials observed on the cut slope opposite (south) of Magra Road (see Photo Nos. 33 thru 36). Further discussion of site conditions and results of subsurface exploration performed for the Magra Wall ERS (Bridge No. 19-0206) are presented on LOTBs and in the revised FR prepared by OGDN (see Reference No. 37).

Laboratory Testing

Laboratory testing was performed on selected samples obtained during field visits. Rock samples were taken from existing cut slope locations and brought to the Transportation Laboratory. Selected rock samples were trimmed into irregular block specimens for strength testing per the Point Load test (ASTM D5731-08). The results of laboratory testing are presented in Appendix B, attached. The Point Load strength index was converted to Uniaxial Compressive Strengths (UCS) utilizing correlations offered in ASTM D5731-08. Certain point load tests were noted to have been performed parallel to a “plane of weakness”; thus, with the rock specimens exhibiting anisotropic strength, and the actual intact rock UCS should be considered significantly greater in value.

Corrosion testing of soil samples was performed as part the geotechnical studies for the Cape Horn UC (replace) and the Magra Wall FRs. As a courtesy, the results of the corrosion tests are being included as part of this GDR (see Appendix B). The corrosion test results are summarized in the “Corrosion Evaluation” section of this report.

Field Investigation – GGB Seismic Refraction

The Caltrans Geotechnical Services, Geophysics and Geology Branch (GGB) performed field work for a seismic refraction investigation for the project in November of 2014. Seismic velocity data was acquired for ten seismic lines placed at six of the fourteen cut slopes, and employed an energy source composed of a hammer and a striker plate. The six cut slope locations are indentified as Location Nos. 5, 6, 7, 9, 11 and 14 as presented in Table No. 1. In February of 2015, a "Rippability Investigation, Colfax Trucklane" report was provided by GGB, which presents the results of the seismic refraction measurements and discussion regarding material ripping ability (or "rippability") for excavation utilizing a Caterpillar D9 series bulldozer with a single-tooth ripper.

According to the GGB 2015 report, seismic refraction results for one of the ten seismic lines was performed on the topographic bench on the cut slope, and was analyzed using the "GRM" method in which wave arrivals are picked and refractor layers are assigned to these picks. A profile for this seismic line was developed in terms of "velocity units" and is presented on Plate No. 6b. The GGB 2015 reports states that "high noise conditions" associated with the I-80 traffic "did not permit GRM analysis for a majority of the project". The report indicated that seismic refraction results for the remaining nine seismic lines (performed at road grade) and did not use the GRM method. Instead, these nine lines employed varying of the spacing and number of geophones, which was to compensate for the potential interference from "high noise conditions" associated with the adjacent traffic. Consequently, results for the nine lines at road grade are presented in the report as "scattered plots" of the derived average compressional velocities over the line distance; the distribution of the plots were analyzed to assign rippability values. More details regarding the seismic refraction testing is provided in the GGB 2015 report (attached as Appendix C), which includes a rippability assessment at each of the seismic lines and the limitations of the investigation. The provided results of seismic refraction testing were also utilized for deriving earthwork factors for the project. Additional discussion regarding site rippability and earthwork factors is presented in the "Conclusion and Recommendations" section of this GDR.

Cut Slope LEM Stability Analyses

Based on field observations and investigations, and on slope stability analyses, the excavations proposed for the project are not expected to significantly reduce the stability of adjacent slopes. Stability analyses were performed with the Slope/W software (Reference No. 32) which utilizes a limit equilibrium method (LEM) of analysis. The analysis included utilizing rock mass strength parameters produced by RocLab software (Reference No. 30) which generates a Mohr-Coulomb fit based on Hoek-Brown failure criterion. Included in this GDR is a slope stability analysis performed at the location where the proposed cut excavation occurs below existing residential structures (Location 14). The stability analysis was performed for a cross-section extending through the approximate high-point of the existing slope (section A-A' on the Site Plan, Plate No. 6a). The seismic refraction data acquired on the bench (see X-Section B-B', Plate No. 6b) was utilized to estimate the strength of the cut slope materials. The analysis utilized the entry and exit method for circular slip surface generation, along with the Bishop's Simplified Method (for factor of safety computation). The results of the analysis indicated a minimum Factor of Safety (FS) of 2.86 as shown on Plate No. 7, attached. According to the Caltrans Geotechnical Manual (Reference No. 29), the typical target design minimum FS for rock cut slopes range between values of 1.3 to 1.5.

Corrosion Evaluation

Soil samples for corrosion testing were collected from borings during the 2014 subsurface investigations for the Cape Horn UC replacement and the new Magra Wall. The Caltrans Materials Engineering and Testing Services, Corrosion and Structure Concrete Field Investigation Branch (C&SC-FIB) performed the testing which assesses corrosive potential. According to the Caltrans 2012 Corrosion Guidelines, C&SC-FIB considers a site to be corrosive if one or more of the following conditions exist for the representative soil samples: chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater, or the pH is 5.5 or less. The minimum resistivity serves as an indicator for the possible presence of soluble salts and is not used to define a site as being corrosive. The 2012 Corrosion Guidelines state that soils samples having a minimum resistivity of less than 1000 ohm-cm will be tested for sulfates and chlorides.

The results of the laboratory tests determined that the some of the soil samples are considered to be "corrosive to foundation elements". Table No. 6, below, provides a summary of the corrosion test results (CTB lab results are included in Appendix B). OGDN recommends referring to MTD 3-1 (June 2014), MTD 10-5 (June 2010), and Table 5.12.3-1 of the November 2011 California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) for guidance on corrosion protection measures for concrete and steel structures. The 2012 Corrosion Guidelines and Chapter 850 of the Highway Design Manual can be referred to for corrosion protection of culverts.

Table No. 6 - Corrosion Test Summary of Soil Samples for Cape Horn UC (PM 36.86) and Magra Wall (PM 38.01-38.23)

Location ("C1" Line)	Boring Number	Sample Depth (ft)	pH	Minimum Resistivity (ohm-cm)	Chloride Content (ppm)	Sulfate Content (ppm)
STA 294+87.7; 23.9' Rt. (Cape Horn UC)	RC-14-002	9.5 - 16.0	5.12	12953	47	5.4
STA 295+68.9; 41.2' Rt. (Cape Horn UC)	RC-14-003	6.5 – 9.5	5.31	23600	15	5.6
STA 295+68.9; 41.2' Rt. (Cape Horn UC)	RC-14-003	48 - 50	6.61	8334	Not performed	Not performed
STA 360+93.9; 88.2' Rt. (Magra Wall)	RC-14-001	0.0-5.0	5.72	8262	Not performed	Not performed
STA 363+63.5; 78.6' Rt. (Magra Wall)	RC-14-002	5.0-16.5	5.11	30160	15	0

CONCLUSIONS AND RECOMMENDATIONS

General

Based on the literature review, site investigations, the results of field and laboratory testing, and analyses, the following recommendations are provided for development of plans and specifications for the project.

Earthwork Factor

The earthwork factor is the ratio of embankment volume to excavation volume. A factor of 1.0 indicates no volumetric change from excavation to emplacement. Based on the available seismic refraction data, empirical correlations between seismic velocity of rock and earthwork factors published in a 1978 Caltrans/FHWA report (Reference No. 7) were considered in estimating earthwork factors. The 1978 Caltrans/FHWA report states the criteria that affect the earthwork factor are:

1. Size of particle or pieces.
2. Degree of compaction.
3. Mixture of particle sizes in embankment.
4. Loss of material over the side of embankments.
5. Cut or fill slopes that deviate from plans.

A generalized earthwork factor of 1.15±0.05 has been estimated for the project and assumes that effort will be made to reduce rock material particle sizes and incorporate material mixing to minimize void space in embankment fills. Hence, the earthwork factor is dependent upon the Contractors methods, such as the extent of blasting for excavation (see “Construction Considerations”), which can reduce rock particle sizes and be conducive to material transport and embankment fill placement. The provided earthwork factor may not be appropriate for materials designated for offsite disposal fills which do not meet Caltrans Standard Specifications requirements. The provided generalized earthwork factor is intended as an average for the entire project; it should be expected that the earthwork factor could vary significantly when cross-hauling within the project from specific cut slope locations.

Subsurface Drainage Facilities

As discussed in the "Groundwater/Hydrology" section of this report, confined zones of higher permeability can be present and flowing groundwater can occur. These flowing groundwater zones can intersect the ground surface and pavement subgrade areas supporting the structural section. Underdrains have been utilized to intersect groundwater potentially affecting pavement and embankment performance (see Table No. 3), and have even incorporated more elaborate braided networks (at PM 35.58). Failure to preserve, restore or expand underdrain function according to the facility needs is crucial, as exemplified by the 2006 underdrain failure at PM 37.57-37.85 (see "Background History..." section). The truck climbing lane is proposed to be added on the up-slope side of the highway, therefore, ideally, longitudinal underdrains should be placed around the EB right ETW at the locations provided in Table No. 3. It may be preferable to maintain functionality of the existing right ETW longitudinal underdrains even if a new longitudinal underdrain is added. It is recommended that the District Materials Engineer (DME) should be consulted on all underdrain installation matters. It would be desirable to have a contingency for the addition of underdrains (say 300 lineal feet) during construction if excessive groundwater flow conditions are encountered outside of the Table No. 3 locations. However, it is very probable that even with the presence of underdrains, some adverse conditions related to sub-drainage could occur following the project construction. Hence, the activation of future projects (i.e. by Director's Order Request, Minor A and B, etc.) may be necessary to place additional subsurface drainage facilities to remedy such cases.

Cut Slope Stability/Rockfall

As noted in the "Background History..." section , historically, the occurrence of rockfall or slope instabilities emanating from the existing cut slopes was reported to be not significant on the EB (right) slopes between the Long Ravine UP (PM 35.11) and the Magra OC (PM 37.78). Based on field mapping, formational rock discontinuity orientations appear favorable to the azimuthal orientation of the slope ratio of existing cut slopes (with the exception of small, isolated instabilities noted at Location 7). Furthermore, the stability analysis performed for existing and proposed cut slopes yielded FS values above typical target values (per the Caltrans Geotechnical Manual). Therefore, it is recommended that proposed cut slope ratios attempt to mimic the slope ratios of current cut slopes. Hence, a cut slope ratio of no steeper than 1H:1V can be utilized throughout the project with the following exceptions:

Table No. 7. Proposed Cut Slope Ratios

Cut Slope Location No. (see Table No. 1)	Station ("C1" Line)	Design Cut Slope Ratio (i.e. no steeper than)	Comments
1 and 2	207+90 thru 224+00	1.3H:1V	Slate of the Mariposa Formation; Gillis Hill Fault
14	332+50 thru 343+00	1.5H:1V	Slate of the Calaveras Complex
Else Where		1H:1V	Slate of the Calaveras Complex

As can be seen in Table No. 1 comments, removal of the existing mid-slope benches will occur as part of the proposed excavations. It is the recommendation of OGDN that any existing mid-slope benches not be reestablished as they do not appear to have the purpose of a "lithologic bench" (per the Caltrans Geotechnical Manual), and the benefit of reducing proposed excavation impacts and quantities will be gained. Where proposed cuts form a prominent hinge edge at the crest, slope rounding of the upper 10 feet of the cut slope could be performed to minimize localized slumps that could occur in the weathered rock horizon.

Although, it is expected that in some cases, the effective height of slopes for potential rockfall generation will increase as part of the project improvements, the effective catchment width (the distance between the right ETW and the cut slope hinge point) is also proposed to increase from about 4 feet to 13 feet (10 feet paved, 3 feet unpaved) throughout the project. Therefore, as a result of the proposed truck climbing lane improvements, it is anticipated that the potential for rockfall to enter the facility traveled way will remain the same or be lower with respect to the current conditions, conditions that are reportedly considered acceptable. Additional measures to reduce the potential for rock fall hazards (rock fall entering the traveled way) could be identified during construction where locations of localized slope instability are identified. These measures could include rock removal, rock bolting, and/or the installation of anchored cable mesh systems. Hence, a contingency allocation for slope instability may be desired for the contract.

Embankments

Embankments constructed using local borrow material may be built with side slopes no steeper than 2H:1V. If imported borrow material is to be used in the proposed embankments, that material should be tested in consultation with the Office of Geotechnical Design - North to ensure it meets strength requirements applicable to a 2:H:1V slope ratio. If a steepened embankment, with a slope inclination ratio steeper than 2H:1V is desired, a reinforced soil slope is an alternative; however, the rocky nature of locally generated materials would need to be considered in regards to damaging of the geosynthetic reinforcement elements.

Construction Considerations

Excavations (Ripability/Blasting)

As previously discussed in this GDR, the investigations for this GDR included OGDN field reviews, laboratory testing, and the 2015 GGB Rippability Investigation of soil and rock exposures on existing cut-slopes. The findings of the investigations were used to assess the presence of materials in proposed excavations that could necessitate more intensive excavating techniques (such as hydraulic splitters, pneumatic hammers, blasting, etc.). These techniques require the implementation of the Standard Special Provision (SSP) for "Rock Excavation" (SSP19-4.X1) in the project contract. It should be noted that the project site stretches through residentially developed areas and contains bridges and other highway structures; the locality of structures (including underground utilities) will need to be considered for methods that utilize blasting. If Caltrans concludes that structures are within a distance of concern with respect to potential damage associated with blasting operations, then SSP19-4.X1 should be replaced with SSP19-4.X2, "Rock Excavation (Controlled Blasting)" in the project contract. SSP19-4.X2 requires a preblast survey of all buildings and structures within a distance of 330 feet of blasting activities. Commentary ground vibrations as a result of rock blasting operations are presented in FHWA Report No. FHWA/CA/OR-2001/03.

Based on the GDR investigations, from moderately hard to very hard slate rock materials were noted at the base of existing cut slopes, adjacent to the eastbound lane, throughout the project limits. Although the slate was observed to be generally foliated with a dipping fracture orientation, the exposed fractures were predominately noted to be tight. The penetration of the ripper tooth into fractures is often the key to the success of ripping with large tractors for excavating. Therefore, blasting to open fractures may improve ripping production. In many cases, light blasting may satisfactory achieve loosening of the

fractures for tooth penetration; in some cases where the rock is hard to very hard, more significant blasting may be required.

2015 GGB Rippability Investigation report evaluated the ripping ability based on a Caterpillar D9 series bulldozer with a single ripper tooth. The 2015 GGB report described the materials at six of the fourteen proposed cut slope conditions as "moderately difficult ripping", "difficult ripping", and/or "unrippable".

Based on the OGDN and GGB investigations, OGDN estimates that 70% of the combined volume of the proposed project excavations could be considered to require rock excavation techniques that would be itemized as unit costs under either SSP19-4.X1 or SSP19-4.X2.

It should be noted that blasting operations will likely require holding of traffic on I-80 for relatively short periods (around 10 minutes), and in the case of misfire events the I-80 transportation corridor could be closed for an extended period (60 minutes or more).

Naturally Occurring Asbestos (NOA)

Within the region geologically mapped on Plate No. 3, CGS Special Report 190 (Reference No,. 12), considers units of ultramafic rocks and serpentinite ("um") as areas "most likely" to contain naturally occurring asbestos (NOA). In addition, SR 190 considers units of metamorphosed mafic volcanic rocks ("mv" and "Pzcv"), gabbro rocks (gb) and diabase (db) as areas "moderately likely" to contain NOA. None of the above-mentioned units were noted to be present within the proposed project construction area based on available published geologic mapping and on surface conditions observed during site reconnaissance work by OGDN. Mapping presented in SR 190 (see Plate No. 4a) indicates the proposed project construction area to be considered "least likely" to contain NOA. However, west of roughly PM 36 the SR 190 map denotes an area of "faulting and shearing" (depicted by stippling) associated with the Gillis Hill Fault Zone. Per SR 190, the stippling on the map is intended to draw attention to areas as localities with increased likelihood for the presence of NOA above that of unfaulted or unsheared areas. Yet, SR 190 does indicate that the overall likelihood of the presence of NOA within the project area west of PM 36 is still "low" because of the chemical compositions and physical conditions of many of the underlying rocks. SR 190 states "Each of these faults would have to be investigated on a case-by-case basis to determine if the likelihood for the presence of NOA is increased." Subsequent to the SR 190 map, the "NOA Hazard" map of Plate No. 4b was developed by the County of Placer reportedly as a "derivative" map of the SR 190 map with an increase in scale per scale bar; Therefore, the Plate No. 4b map incorporated a reported "1,000 foot buffer" to account for inaccuracies in the boundaries of the SR 190 map. The North Region Hazardous Material

Officer should be contacted to determine if materials at the site meet the classification as Naturally Occurring Asbestos (NOA) materials and the need for Airborne Toxic Control Measures (ATCMs) during project construction.

The recommendations provided in this report are based on specific project information provided to OGDN as of April 28, 2015. If any conceptual changes are made during design, OGDN should review those changes to determine if these recommendations still apply. Any questions regarding the above recommendations should be directed to the attention of Jacqueline A Martin (916) 227-1051 or Mark Hagy (916) 227-1077, Geotechnical Services, Office of Geotechnical Design-North.

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Attachments
References
Plate No. 1. Vicinity Map
Plate No. 2: Google 3D Terrain Tilted Imagery
Plate No. 3: Geology Map
Plate Nos. 4a and 4b. Placer County NOA Maps
Plate No. 5. Fault Map
Plate No. 6a. STA 337+55 Site Plan
Plate No. 6b. Seismic Line 14 Bench
Plate Nos. 7 Slope Stability Results
Appendix A: Photographs
Plate Nos. A-1 thru A-12.
Appendix B: Lab Testing
Plate Nos. B-1 thru B-3.
Appendix C
2015 Rippability Investigation, Colfax Truck Lane (Reference No. 35)
Appendix D
1963 Report of Subsidence of Embankments (Reference No. 4)

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REFERENCES

1. Dept of Public Works (1956) "Plan and Profile of State Highway, In Placer County, between Colfax and Magra Overhead", III-PLA-37-B,C (New PLA 80 PM 33.1/38.8), State of Calif. Dept. of Public Works, Division of Highways As-Built Plans approved on October 1, 1956, Document NO. 30000691, Contract No. 57-3TC22-F, Federal Project No. I-103(II), Sheets 1 through 95, As-Builts dated December 17 and 18, 1957, January 17, 1958, April 8, 1958.

2. Dept of Public Works (1961) "Intra-Division Correspondence", from F. N. Hveem, Materials and Research Department, dated August 31, 1961.

3. Dept of Public Works (1961) "Subsidence of Embankments", III-PLA-37-C, Colfax to Magra OH, Intra-Division Correspondence from F. N. Hveem, Materials and Research Department, dated December 8, 1961.

4. Dept of Public Works (1963) "Report of Subsidence of Embankments on Road III-Pla-37-C (New III-Pla-80) between Colfax and Magra Road, Vicinity of Station 128 and Vicinity of Station 134", by John L. Beaton, Materials and Research Department, W.O. 3T10H818-R, dated December 26, 1963.

5. Division of Highways (1971) Horizontal Drain Installation, Road 03-Pla-80, PM 37.5 (Norton Grade Road)", Materials and Research Department, State of California, Division of Highways, memo dated March 24, 1971.

6. USGS (1977) "Colfax 7.5 minute Quadrangle", Placer County, California, United States Geologic Survey (USGS), dated 1977, Scale 1:24,000.

7. Caltrans/FHWA (1978) "Calculating Earthwork Factors Using Seismic Velocities", FHWA Report No. FHWA-CA-TL-78-23, prepared by E. Stephens, Caltrans Office of Transportation Laboratory, dated August 1978.

8. Loyd, R. & Clinkenbeard, J. (1990) "Mineral Land Classification of Nevada County, California"; California Dept. of Conservation, Division of Mines and Geology Special Report 164.

9. DMG (1992) "Geologic Map of the Chico Quadrangle", California Department of Conservation, Division of Mines and Geology, Regional Map Series Map N. 7A, compiled by G. J. Suacedo and D. L. Wagner, Scale 1: 250,000, 1992.

10. Loyd, R. (1995) "Mineral Land Classification of Placer County, California"; California Dept. of Conservation, Division of Mines and Geology Open File Report 95-10.

11. Caltrans (2001) "Ground Vibration Monitoring for Construction Blasting in Urban Areas", Report No. FHWA/CA/OR-2001/03, April 2001.

12. Higgens, C.T. and Clinkenbeard, J.P. (2006) "Relative Likelihood for the Presence of naturally Occurring Asbestos in Placer County, California", California Geologic Survey Special Report 190.

13. Caltrans (2006) "Director's Order, Request", 03-PLA-80 PM 37.57/37.85, EA 03-1E8601, Incident date May 15, 2006.

14. Caltrans (2006) "Project Plans for the Construction on State Highway in Placer County; Near Colfax from 0.21 Mile West to 0.07 Mile East of Magra Overcrossing", As-Built Plans, Contract No. 03-1E8604, 4 Sheets, dated December 7, 2006.

15. AASHTO (2007) "AASHTO LRFD Bridge Design Specifications", 4th Edition.

16. Caltrans (2007) "2007 Caltrans Deterministic PGA Map", M. Merriam, Division of Engineering Services, and T. Shantz, Division of Research & Innovation, Caltrans, from http://dap3.dot.ca.gov/shake_stable/references/Deterministic_PGA_Map_8-12-09.pdf.

17. Caltrans (2007) "Storm Damage Restoration", Office of Geotechnical Design North, Geotechnical Services, Caltrans, PLA-80 PM 34.8/34.9, 03-2E9500, July 16, 2007.

18. County of Placer (2008) "Colfax and Vicinity – NOA Hazard Map", from the Placer County Air Pollution Control District website at: http://www.placer.ca.gov/departments/air/noa/noamapsandresources; Updated January 18, 2013.

19. Caltrans (2009) "Geotechnical Services Design Manual", Version 1.0, Division of Engineering Services, Geotechnical Services, Caltrans, August 2009.

20. Caltrans (2010) "Soil and Rock, Logging, Classification, and Presentation Manual, 2010 Edition", State of California, Department of Transportation, Division of Engineering Services, Geotechnical Services.

21. CGS (2010) "2010 Fault Activity Map of California", California Geologic Survey Geologic Data Map No. 6, dated 2010, obtained at http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html.

22. Caltrans (2010) "Protection of Reinforcement Against Corrosion Due To Chlorides, Acids and Sulfates", Caltrans memo To Designers 10-5, dated June 2010.

23. PCWA (2010) "Placer County Water Agency 2010 Urban Water Management Plan", prepared by Tully and Young, adopted June 16, 2011.

24. Caltrans (2011) "Typical Cross Sections", Sheets X-1 through X-5, 03-PLA-80 PM 35.1/38.0, Project Number 03000204200, from W. Keith Mack, District 3 North Region Division of Engineering, Office of Design South, Design Branch S-4, plotted at 12:36 on August 9, 2011.

25. Caltrans (2011) "Layout", Sheets L-1 through L-14, 03-PLA-80 PM 35.1/38.0, Project Number 03000204204, from W. Keith Mack, District 3 North Region Division of Engineering, Office of Design South, Design Branch S-4, plotted at 16:19 on August 23, 2011.

26. Caltrans (2011) "03-1F4000 Preliminary Geotechnical Report", Memo Request from W. Keith Mack, District 3 North Region Division of Engineering, Office of Design South, Design Branch S-4, August 9 2011.

27. Caltrans (2011) "Foundation Report for Long Ravine Rock Slide Project", Office of Geotechnical Design North, Geotechnical Services, Caltrans, PLA-80 PM 34.8/34.9, 03-2F260, September 1, 2011.

28. Caltrans (2012) "Corrosion Guidelines", Corrosion and Structure Concrete Field Investigation Branch, Materials Engineering and Testing Services, Caltrans, Version 2.0, November 2012.

29. Caltrans (2013) "Rock Cut Slope Design", section form the Caltrans Geotechnical Manual, dated June 2013.

30. Rocscience Inc. (2013) "RocLab", Version 1.033, Build date July 8, 2013, Copyright 2002-2013, Rocscience Inc.

31. WRCC (2013) Western Regional Climate Center at www.wrcc.dri.edu/.

32. GEOSLOPE International Ltd (2014) SLOPE/W software, GeoStudio 2012, Version 8.13.0.9042, copyright 1991-2014.

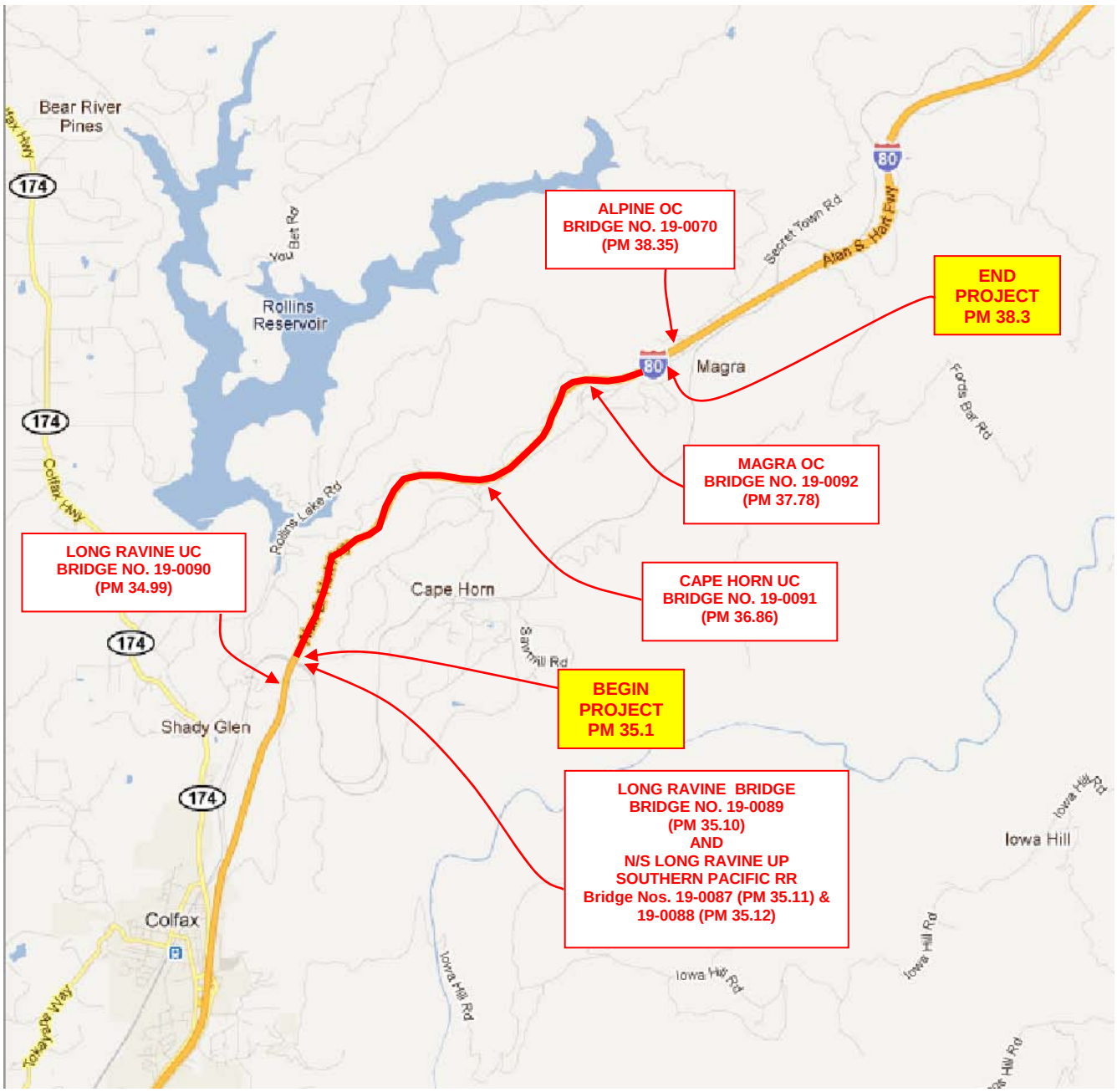
33. Caltrans (2014) "Draft Project Report To Authorize Public Release of the Draft Environmental Document", Colfax Truck Climbing Lane, 03-PLA-80-PM 35.1/38.3, 03-1F400 (0300020420), approved by Jody Jones on February 13, 2014.

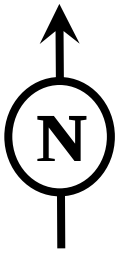
34. Caltrans (2014) "District Preliminary Geotechnical Report", I-80 3 Mile Truck Lane, 03-1F4000 (0300020420) , prepared b the Caltrans Geotechnical Services, Office of Geotechnical Design - North, dated March 27, 2014.

35. Caltrans (2015) "Rippability Investigation, Colfax Truck Lane", prepared by the Caltrans Geotechnical Services, Geophysics and Geology Branch, 03-PLA-80 PM 35.1/38.3, Project No. 0300030420, dated February 23, 2015.

36. Caltrans (2015) "Revised Foundation Report (FR) for Cape Horn Undercrossing", 03-PLA-80-PM 36.86, Bridge No. 19-0206, EA 03-1F4001, EFIS 0300020420, prepared by Caltrans Geotechnical Services, Office of Geotechnical Design North, dated May 14, 2015.

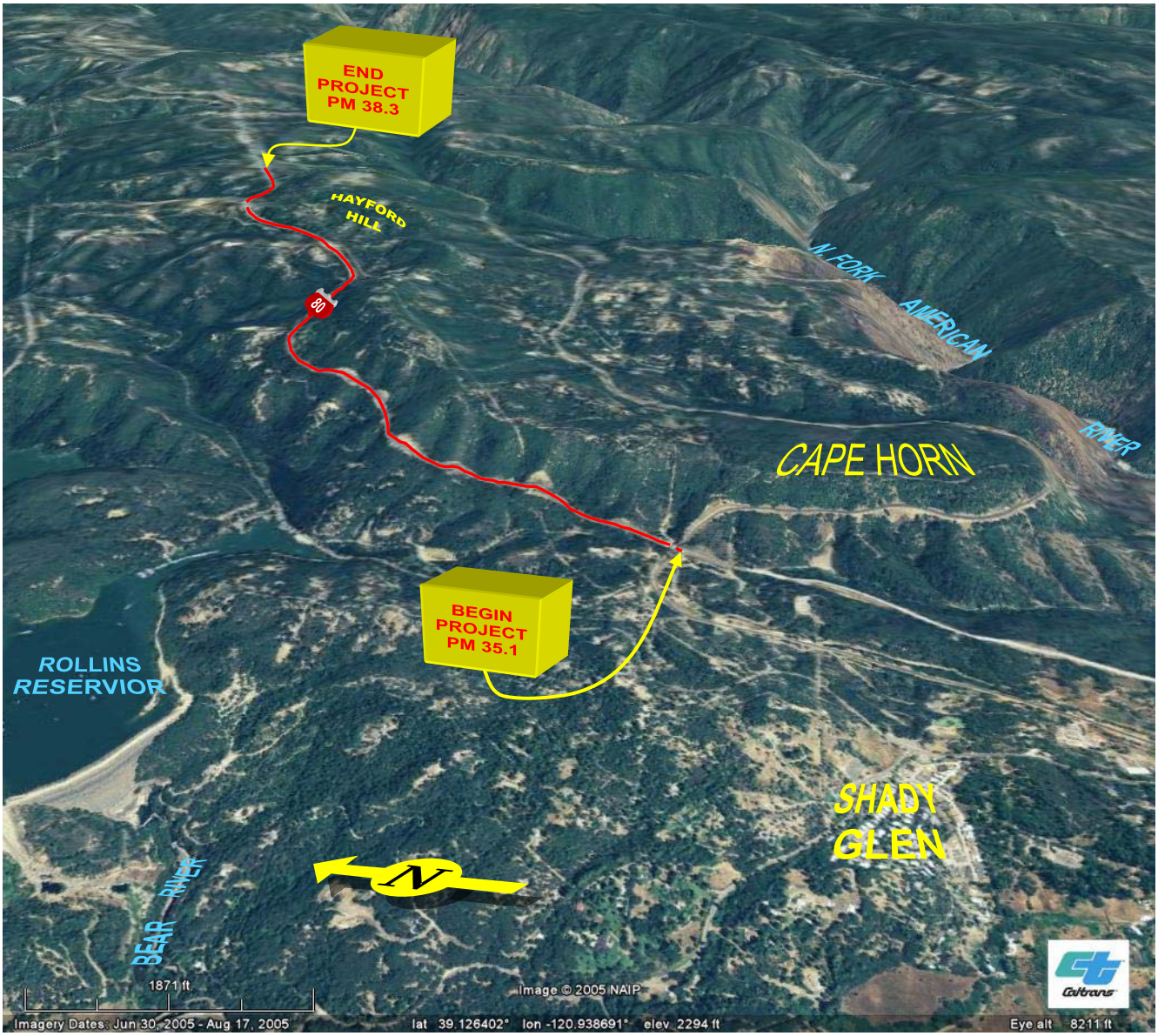
37. Caltrans (2015) "Revised Foundation Report for Magra Wall", 03-PLA-80-PM 38.01/38.23, Structure No. 19E0010, EA 03-1F4001, EFIS 0300020420, prepared by Caltrans Geotechnical Services, Office of Geotechnical Design North, dated May 21, 2015.



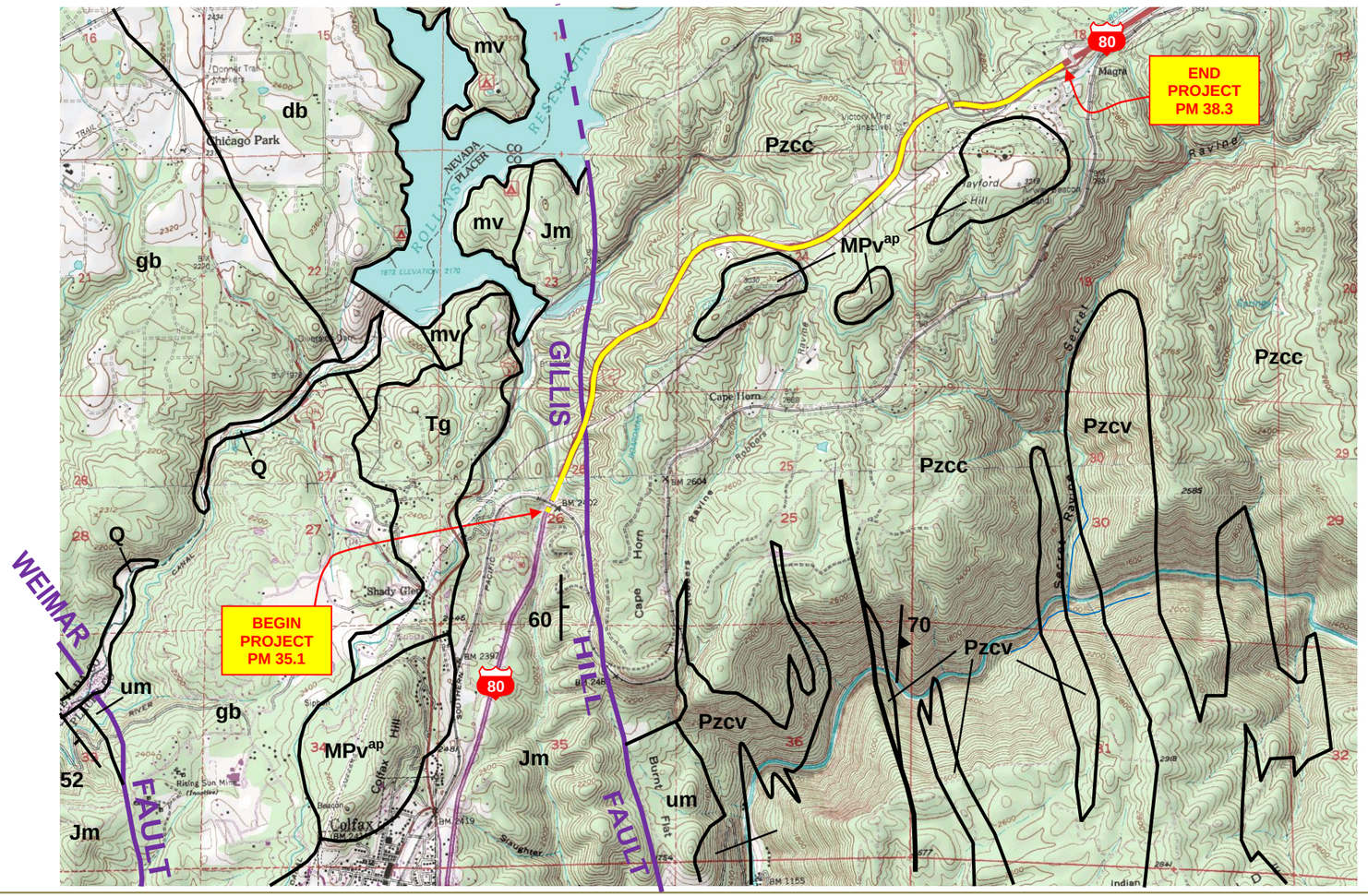


NO SCALE

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: June 2015	**VICINITY MAP**
	03-PLA-80 PM 35.1-38.3 "3 MILE" TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT	Plate No. 1



CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: June 2014	**GOOGLE 3D TERRAIN TILTED IMAGERY**
	03-PLA-80 PM 35.1-38.3 "3 MILE" TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT	Plate No. 2



Map based on interpretation of data compiled by the following references:

1. Base Map: Portion of the Colfax 7.5 minute Quadrangle, Placer County, California, United States Geologic Survey (USGS), dated 1977, Scale 1:24,000.
2. G.J. Saucedo & Wagner, D.L. (1992) "Geologic Map of the Chico Quadrangle", scale 1:250,000, California Department of Conservation - Division of Mines and Geology, RGM 7A.
3. Loyd, R. & Clinkenbeard, J. (1990) "Mineral Land Classification of Nevada County, California"; California Dept. of Conservation, Division of Mines and Geology Special Report 164.
4. Loyd, R. (1995) "Mineral Land Classification of Placer County, California"; California Dept. of Conservation, Division of Mines and Geology Open File Report 95-10.
5. Higgens, C.T. and Clinkenbeard, J.P. (2006) "Relative Likelihood for the Presence of naturally Occurring Asbestos in Placer County, California", California Geologic Survey Special Report 190.

APPROXIMATE SCALE:

0 2000 4000 6000 8000 10,000 feet

0 1 2 miles

SYMBOLS:

- geologic contact
- fault
- Thrust fault, barbs on upper plate
- 70 strike & dip of bed
- 70 strike & dip of foliation
- 70 vertical strike & dip of foliation

EXPLANATION:

- **Pzcv** — Calaveras Complex: Metavolcanic and related hypabyssal rocks.
- **Pzcc** — Calaveras Complex: Chert, argillite, slate.
- **um** — Ultramafic Rocks: Peridotite, serpentinite and metaserpentinite.
- **mv** — Metavolcanic Rocks: Mafic to felsic flows, tuffs, breccias, and volcaniclastic rocks.
- **gb** — Gabbro: Locally includes diorite and related rocks.
- **db** — Massive Diabase, Some Dikes: Locally includes diorite and gabbro.
- **Jm** — Mariposa Formation: Slate, sandstone, conglomerate, and sedimentary breccias. Marine
- **Tg** — Auriferous Gravel: River channel depoits; pebbles, cobbles, and boulders of pre-Tertiary basement rock types, in places predominately quartzose gravels and sands.
- **MPv^ap** — Miocene-Pliocene Volcanic Rocks: Andesite mudflow breccias; tuffs, volcanic sediments and conglomerate. Locally includes flows traditionally mapped as Mehrten formation.
- **Q** — Alluvium: Undivided alluvial deposits of unconsoilidated gravel, sand and silt.

Epoch:						Eocene	Oligocene	Miocene	Pliocene	Pliestocene	Holocene		
Period:	....	Triassic	Jurassic	Cretaceous		Tertiary				Quaternary			
Era:	Paleozoic	Mesozoic				Cenozoic							

CALTRANS
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Geotechnical Services
Office of Geotechnical Design - North

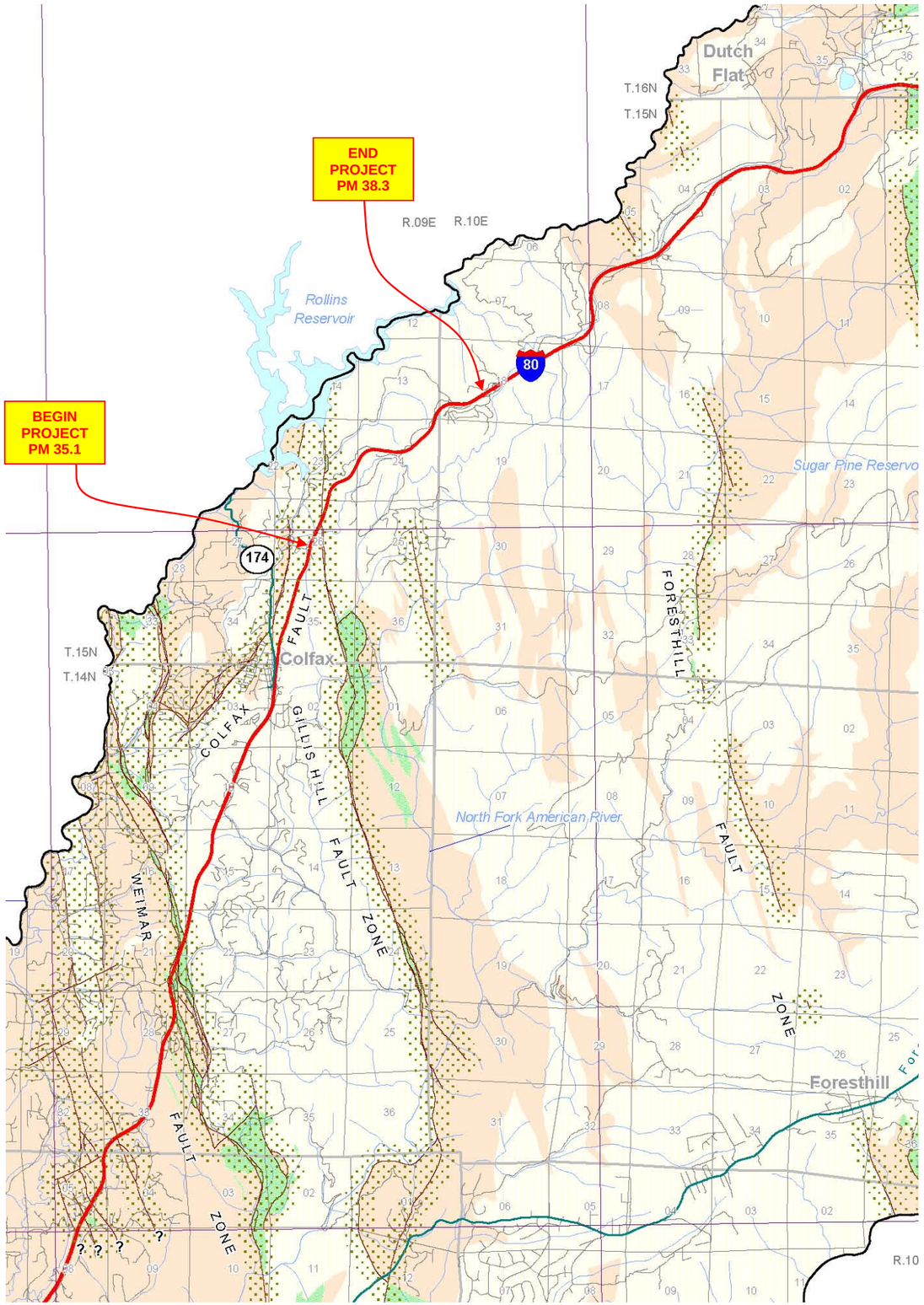
EA: 03-1F4001

Date: June 2015

GEOLOGY MAP

03-PLA-80 PM 35.1-38.3
"3 MILE" TRUCK CLIMBING LANE
GEOTECHNICAL DESIGN REPORT

Plate No. 3



Areas of Relative Likelihood for the Presence of NOA

Areas Most Likely to Contain NOA: These areas include ultramafic rock and serpentinite (serpentine rock), and associated soils, which are most likely to contain NOA.

Areas Moderately Likely to Contain NOA: These areas include those metamorphic and igneous rocks that are moderately likely to contain NOA.

Areas Least Likely to Contain NOA: These areas include those metamorphic, igneous, and sedimentary rocks that are least likely to contain NOA.

Areas of Faulting or Shearing: These areas are zones of faulted or sheared rock that may locally increase the relative likelihood for the presence of NOA within or adjacent to areas moderately or most likely to contain NOA. The solid lines represent mapped traces of fault and shear zones; question marks indicate uncertainty regarding the continued extent of the traces.

Mapped trace of fault or shear zone. These features may locally increase the likelihood for the presence of NOA within areas least likely to contain NOA. The presence of NOA along these features is more likely within areas mapped as most likely or moderately likely to contain NOA as described above.

N

1 0 1 2 3 4
Miles

2 0 2 4
Kilometers

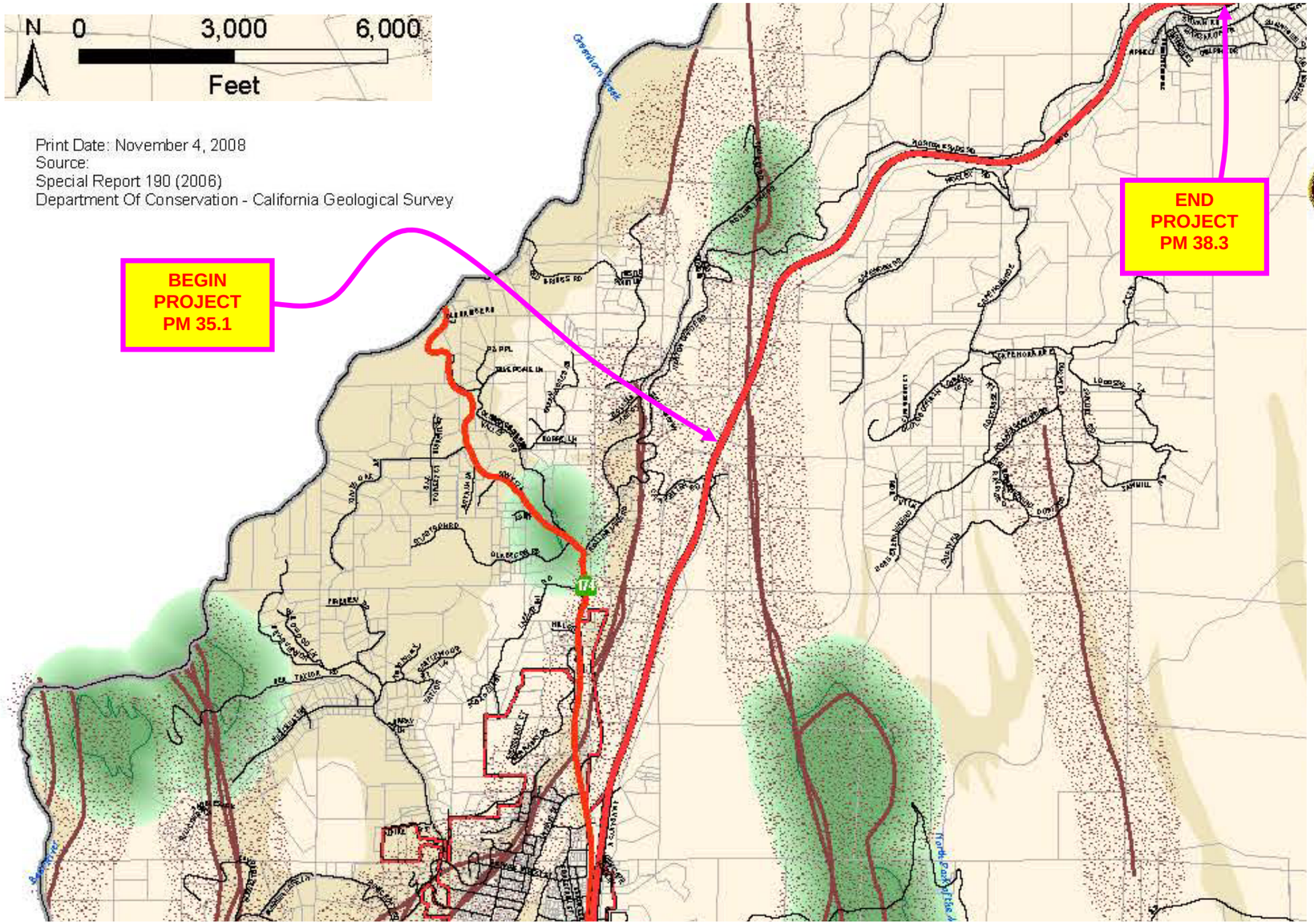
Scale: 1:100,000

Reference: **Higgens, C.T. and Clinkenbeard, J.P. (2006) "Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California", California Geologic Survey Special Report 190.**

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: June 2015	**CGS NATURALLY OCCURRING ASBESTOS (NOA) MAP**
	03-PLA-80 PM 35.1-38.3 "3 MILE" TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT	Plate No. 4a

Naturally Occurring Asbestos Hazard

Colfax and Vicinity



AREAS OF RELATIVE LIKELIHOOD FOR THE PRESENCE OF NOA

- Area Least Likely to Contain NOA includes those metamorphic, igneous, and sedimentary rocks that are least likely to contain NOA
- Area Moderately Likely to Contain NOA includes those metamorphic and igneous rocks that are moderately likely to contain NOA
- Area Most Likely to Contain NOA includes ultramafic rock and serpentine rock (serpentinite), and associated soils, which are most likely to contain NOA
- Areas of Faulting or Shearing are zones of faulted or sheared rock that may locally increase the likelihood for the presence of NOA where they exist in or adjacent to areas most or moderately likely to contain NOA
- Mapped Trace of Fault or Shear Zone may locally increase the likelihood for the presence of NOA in areas least likely to contain NOA
- Interstate
- Highway
- Roads
- Major Streams
- **City Limits**
- **Placer Boundary**
- **Parcels**

USE AND LIMITATIONS OF MAP

This map, NATURALLY OCCURRING ASBESTOS HAZARD IN PLACER COUNTY, is a derivative of the California Department of Conservation, California Geological Survey (CGS) 1:100,000-scale map RELATIVE LIKELIHOOD FOR THE PRESENCE OF NATURALLY OCCURRING ASBESTOS IN PLACER COUNTY, CALIFORNIA. The 1:100,000-scale map's sources are identified on the map and in its accompanying report, SPECIAL REPORT 190. Users are encouraged to consult this report for further mapping det

The purpose of this map, NATURALLY OCCURRING ASBESTOS HAZARD IN PLACER COUNTY, is to provide information to government agencies and the public about the likelihood of encountering NOA within Placer County. This information includes mapped faults and fault zones, along with rock and soil types with potential for containing NOA.

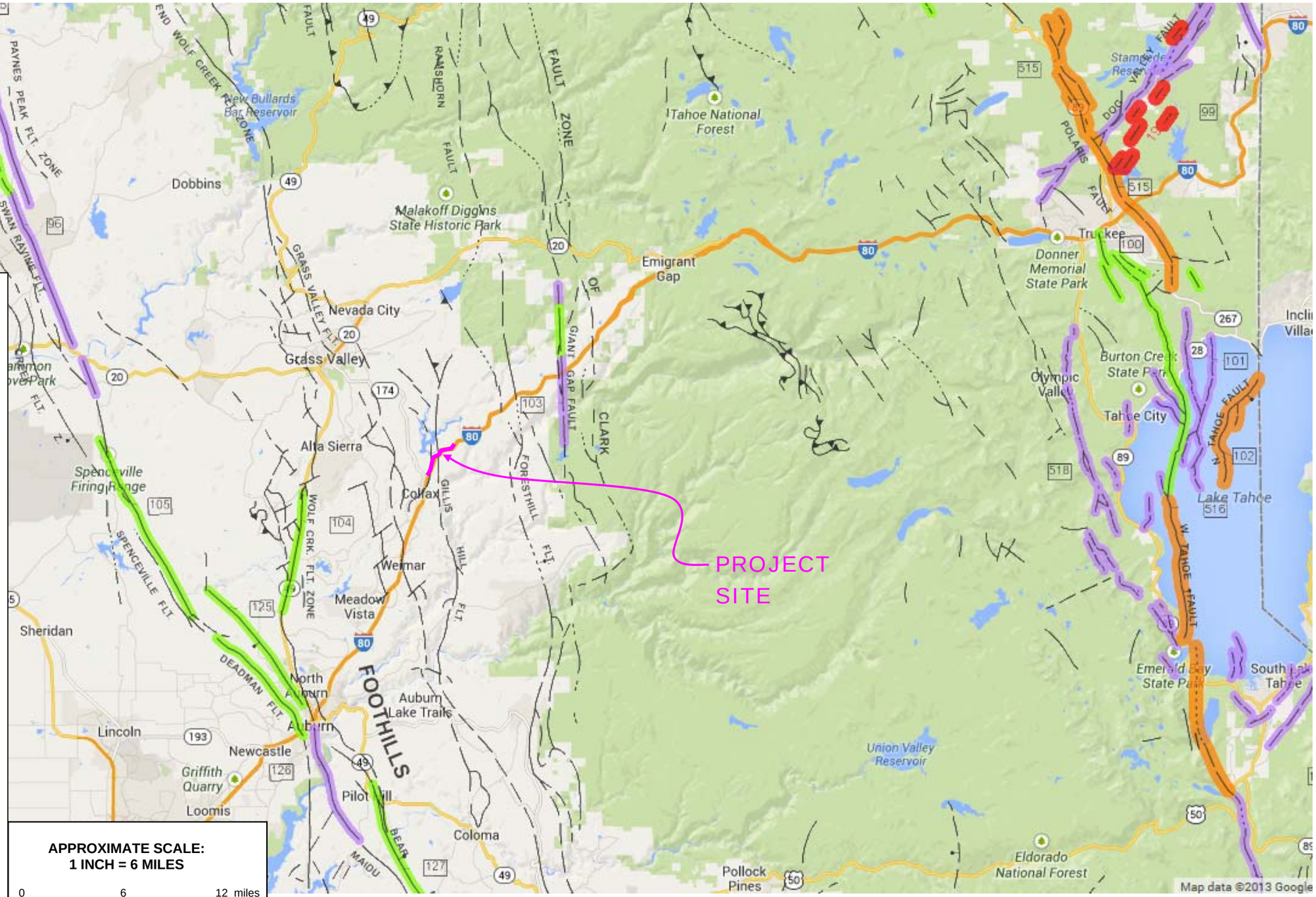
Development of the parent map was based primarily on geologic information accumulated and interpreted from published and unpublished geologic and soil maps available at the time of its creation, and on limited geologic fieldwork by staff of the CGS. The scale of this derivative map is per scale bar – an increase from the 1:100,000-scale parent map.

The boundaries of the NOA areas shown on the map were derived principally from geologic boundaries shown on the geologic maps used for this study. Consequently, the accuracy of the boundaries of the NOA areas is dependent on the accuracy of the previously mapped geologic boundaries. Overall, available information suggests that the accuracy of the boundaries of the areas of relative likelihood for the presence of NOA shown on the map is better than plus or minus 1,000 feet. The CGS map was intended for use and interpretation at 1:100,000-scale and therefore the increase in scale per scale bar may introduce increased boundary inaccuracies. To counter this possibility the boundaries of the "Areas Most Likely to Contain NOA" that are depicted on the derivative map have been provided with a 1,000 foot buffer.

A site-specific investigation is required to determine whether bedrock or soil at a particular location contains natually occurring asbestos.

Base Map Reference: **Portion of "Colfax and Vicinity – NOA Hazard Map", from the Placer County Air Pollution Control District website at: http://www.placer.ca.gov/departments/air/noa/noamapsandresources Updated January 18, 2013.**

Caltrans	CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: June 2015	**COUNTY OF PLACER NATURALLY OCCURRING ASBESTOS HAZARD MAP**
		03-PLA-80 PM 35.1-38.3 "3 MILE" TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT	Plate No. 4b



EXPLANATION:

Fault traces on land are indicated by solid lines where well located, by dashed lines where approximately located or inferred, and by dotted lines where concealed by younger rocks or by lakes or bays. Fault traces are queried where continuation or existence is uncertain.

FAULT CLASSIFICATION COLOR CODE
(Indicating Recency of Movement)

Fault along which historic (last 200 years) displacement has occurred.

Holocene fault displacement (during past 11,700 years) without historic record.

Late Quaternary fault displacement (during past 700,000 years).

Quaternary fault (age undifferentiated).

Pre-Quaternary fault (older that 1.6 million years) or fault without recognized Quaternary displacement.

ADDITIONAL FAULT SYMBOLS

Bar and ball on downthrown side (relative or apparent).

Arrows along fault indicate relative or apparent direction of lateral movement.

Arrow on fault indicates direction of dip.

Low angle fault (barbs on upper plate).

APPROXIMATE SCALE:
1 INCH = 6 MILES

0 6 12 miles

Reference: Portion of the "2010 Fault Activity Map of California"; California Geological Survey, Geologic Data Map No. 6; Compilation and Interpretation by: Charles W. Jennings and William A. Bryant; Graphics by: Milind Patel, Ellen Sander, Jim Thompson, Barbara Wanish and Milton Fonseca; Obtained at http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html

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

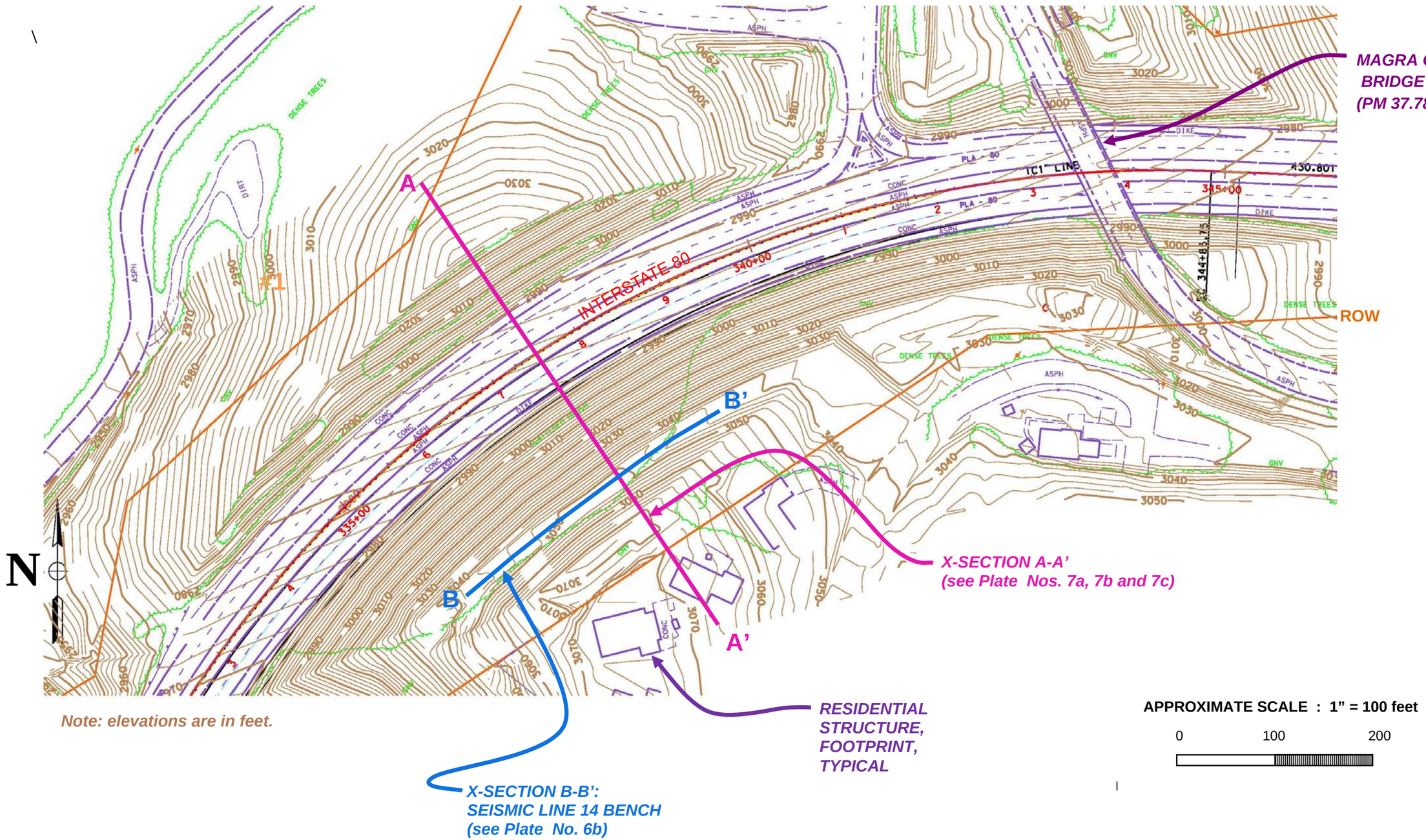
EA: 03-1F4001

Date: June 2015

FAULT MAP

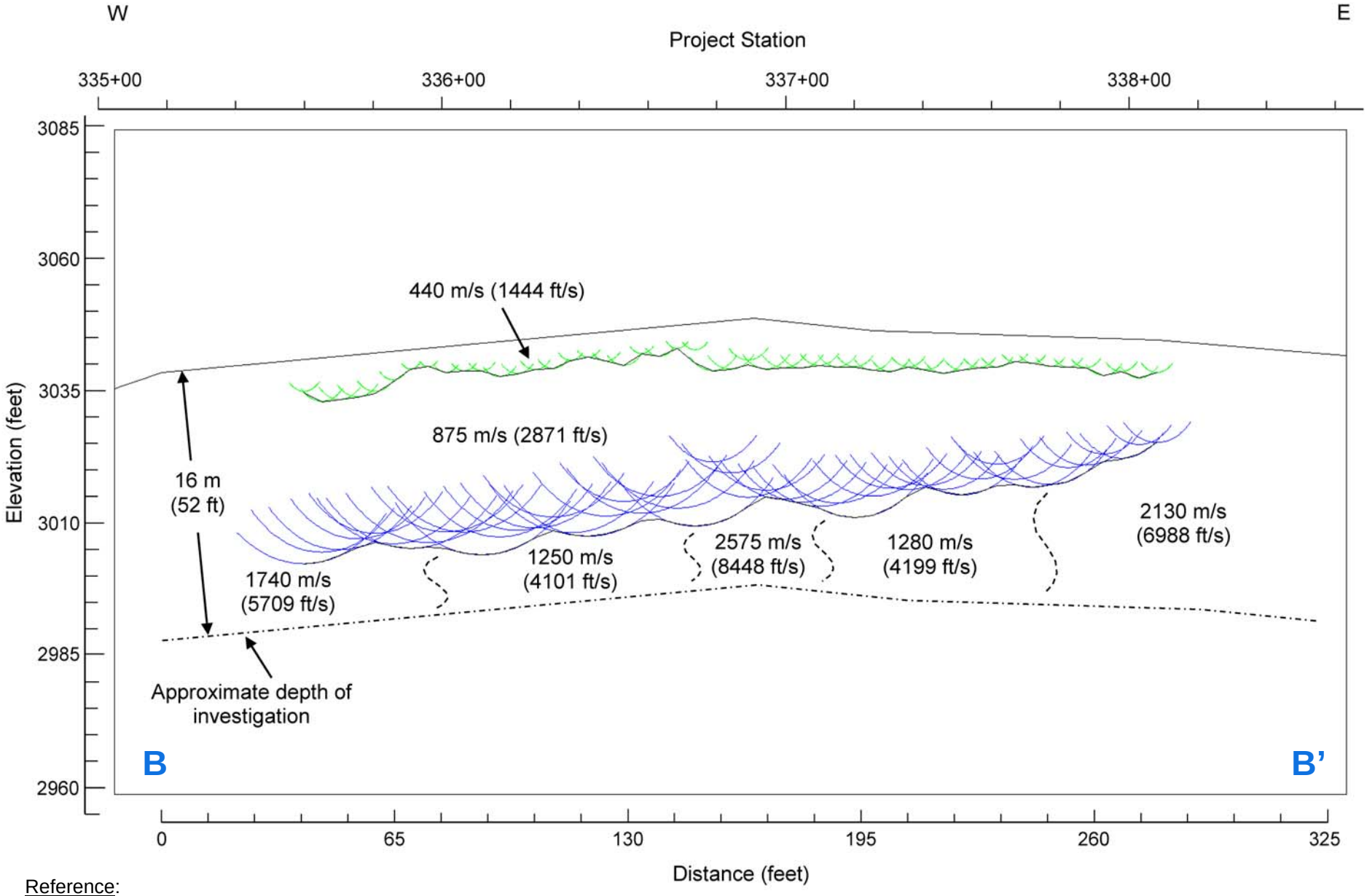
03-PLA-80 PM 35.1-38.3
"3 MILE" TRUCK CLIMBING LANE
GEOTECHNICAL DESIGN REPORT

Plate No. 5



Base Plan Reference:
Topography plan from Microstation file "MSv8_aa001.dgn" provided by Caltrans District 3 North Region Division of Engineering, Office of Design South, Design Branch S-4. Contour interval = 2 feet.

Caltrans	CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design -	EA: 03-1F4001 Date: June 2015	X-SECTION "C1" STA 337+55 **SITE PLAN**
		03-PLA-80 PM 35.1-38.3 "3 MILE" TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT	Plate No. 6a



Reference:
From Plate No. 16 "Seismic Line 14 Bench", of the "Rippability Investigation, Colfax Trucklane", prepared by the Caltrans Geotechnical Services, Geophysics and Geology Branch, dated February 23, 2015.

***See "Site Plan", Plate No. 6a for location of X-Section B-B'.**

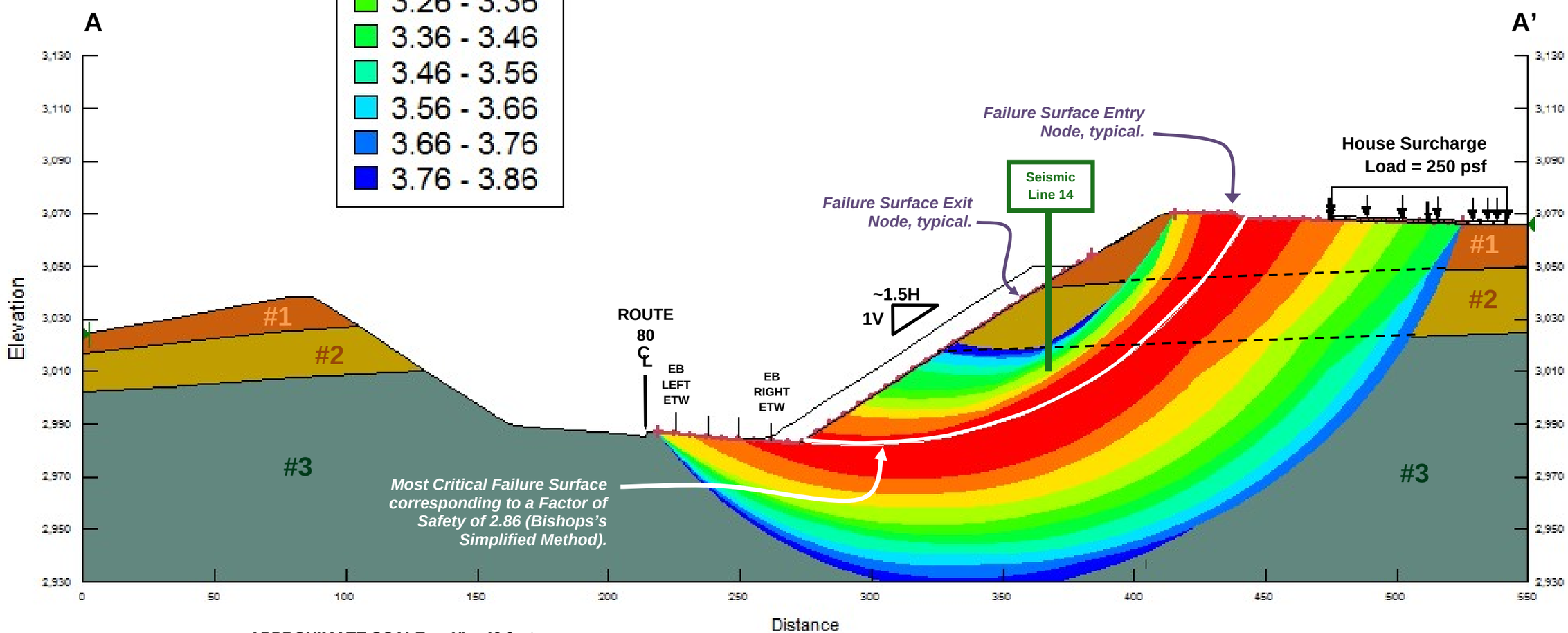
CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: June 2015	**GRM ANALYSIS SEISMIC LINE 14 BENCH @ X-SECTION B-B'**
	03-PLA-80 PM 35.1-38.3 "3 MILE" TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT	Plate No. 6b

Idealized 2-D General Limit-Equilibrium Method Slope Stability Analyses

#1 – Soil-Like Materials: Very Stiff and Hard Clay:
$\gamma = 125$ pcf; $\varphi = 0^o$; c = 2,000 psf

#2 – Soft to Modrately Hard Weathered Rock:
$\gamma = 130$ pcf; $\varphi = 0^o$; c = 4,000 psf

#3 – Meta-Sedimentary Rock:
$\gamma = 155$ pcf; $\varphi = 27^o$; c = 2900 psf



APPROXIMATE SCALE : 1" = 40 feet
(vertical = horizontal)

0 40 80

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design -	EA: 03-1F4001 Date: June 2015	**X-SECTION @ "C1" STA 337+55** **SLOPE STABILITY RESULTS**
	03-PLA-80 PM 35.1-38.3 "3 MILE" TRUCK CLIMBING LANE **GEOTECHNICAL DESIGN REPORT**	Plate No. 7

Appendix A

Photographs

Photo No. 1. Translational slope failure near crest of existing cutslope right of STA “C1” 220+90 (~PM 35.49), viewing easterly; Near Gillis Hill Fault crossing of highway (photo date 10-20-11).

Photo No. 2. Existing cutslope right of STA “C1” 222+00 (~PM 35.51), viewing easterly; Near Gillis Hill Fault crossing of highway (stitched photos taken on 3-14-14).

Photo No. 3. Rock materials at the toe of existing cutslope right of highway at approx STA “C1” 227+00 (~PM 35.60); (photo taken on 10-31-

Photo No. 4. Existing cutslope right of highway viewing easterly from approx STA “C1” 232+00 (~PM 35.70); (photo taken on 10-31-13).

Photo No. 5. Existing cutslope right of highway viewing southerly from approx STA “C1” 232+00 (~PM 35.70); (photo taken on 10-31-13).

Photo No. 6. Surficial erosion feature characterized by natural terracing of the rock materials near the top of the cutslope right of STA “C1” 240+00 (~PM 35.85) viewing southerly (photo date 10-20-11).

Photo No. 7. Rock materials on the upper portion of the existing cutslope right of highway at approx STA “C1” 240+50 (~PM 35.85); (photo taken on 10-31-13).

Photo No. 8. Rock materials at the base of the existing cutslope around drop inlet drain right of highway at approx STA “C1” 242+00 (~PM 35.88); (photo taken on 10-31-13).

Photo No. 9. Rock materials on the toe of the existing cutslope right of highway at approx STA “C1” 240+00 (~PM 35.85); (photo taken on 10-31-13).

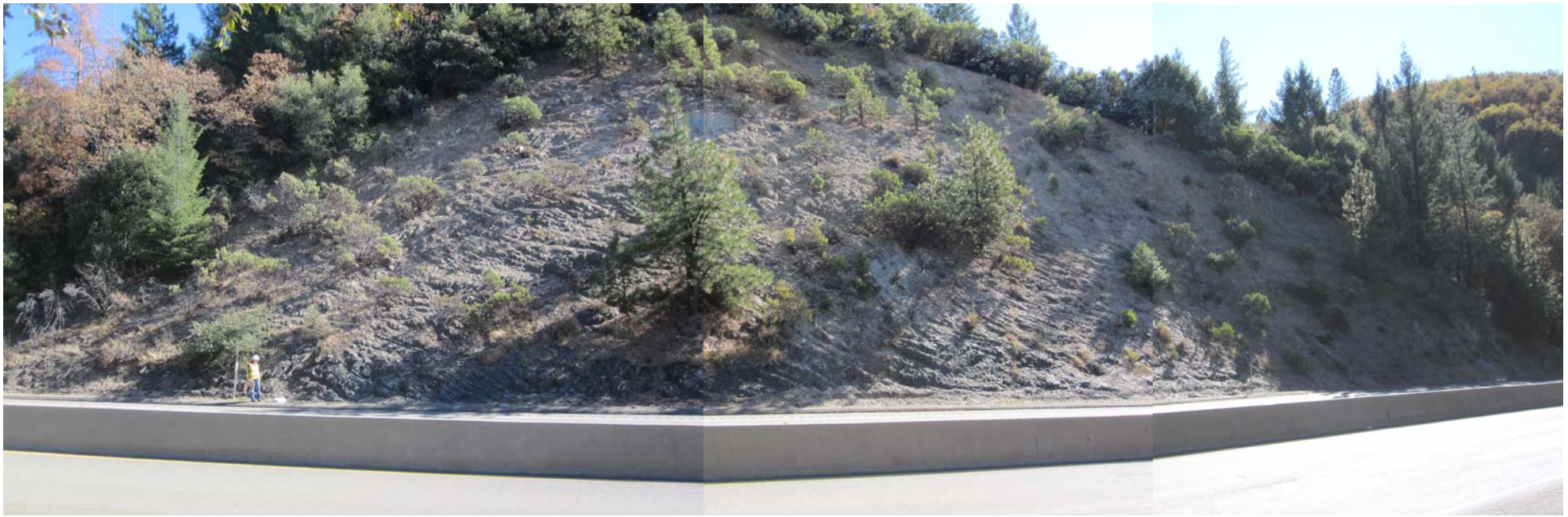


Photo No. 10. Existing cutslope right of highway viewing southeasterly from approx STA “C1” 253+00 (~PM 36.09). (stitched photos taken on 11-4-13).

Photo No. 11. Existing cutslope, right of highway; viewing northeasterly from approx. STA “C1” 256+00 (~PM 36.15).); note over-side swale of Photo No. 14. (photo taken on 11-4-13).

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001	**PHOTOGRAPHS**	
	Date: June 2015		
	03-PLA-80 PM 35.1-38.3 “3 MILE” TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT		Plate No. A-4

Photo No. 12. Existing cutslope right of highway viewing easterly from approx STA “C1” 259+00 (~PM 36.21); note over-side swale. (stitched photos taken on 11-4-13).

Photo No. 13. Slate rock materials on toe of cutslope right of highway at STA “C1” 260+00 (~PM 36.21). (photos taken on 11-4-13).

Photo No. 14. Over-side swale grooved in hard rock cutslope adjacent to roadway right of STA “C1” 257+40 (~PM 36.18) viewing southeasterly (photo date 10-20-11).

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001	**PHOTOGRAPHS**	
	Date: June 2015		
	03-PLA-80 PM 35.1-38.3 “3 MILE” TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT		Plate No. A-5

Photo No. 15. Drop inlet drain right of STA “C1” 276+00 (~PM 36.53); (photo date 11-4-13).

Photo No. 16. Existing cutslope right of highway viewing westerly from approx STA “C1” 280+50 (~PM 36.61); (photo taken on 11-4-13).

Photo No. 17. Possible underdrain outlet pipes right of highway at approx STA “C1” 280+50 (~PM 36.61); (photo taken on 11-4-13).

Photo No. 18. Cabin structure located upslope, right of approx STA “C1” 279+00 (~PM 36.59); (photo taken on 11-4-13).

Photo No. 19. Slope and probable underdrain cleanout right of approx. STA “C1” 288+50 (~PM 36.77); note green vegetation at seepage area on slope (photo date 11-4-13).

Photo No. 20. Seepage from slope noted right of highway at approx. STA “C1” 289+00 (~PM 36.78); (photo taken on 11-4-13).

Photo No. 21. Seepage from slope noted right of highway at approx. STA “C1” 289+00 (~PM 36.78); (photo taken on 11-4-13).

Photo No. 22. Existing approx. 70 feet high, 1.6H:1V fill slope right of highway viewing northeasterly from approx STA "C1" 296+00 (~PM 36.91); (stitched photos taken on 11-4-13).

Photo No. 23. Cape Horn UC (Bridge No. 19-0091) viewing northerly from approx STA "C1" 295+75 (~PM 36.90); (photo taken on 11-4-13).

Photo No. 24. Access road adjacent to the Cape Horn UC (Bridge No. 19-0091) viewing easterly from approx STA "C1" 294+25 (~PM 36.87); (photo taken on 11-4-13).

Caltrans	CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: June 2015	**PHOTOGRAPHS**
		03-PLA-80 PM 35.1-38.3 "3 MILE" TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT	Plate No. A-8

Photo No. 25. Existing cutslope right of highway viewing easterly from approx STA “C1” 308+00 (~PM 37.13); (stitched photos taken on 11-4-13).

Photo No. 26. Exposed rock materials at base of existing cutslope, right of highway; viewing southeasterly from approx. STA “C1” 309+00 (~PM 37.15); (photo taken on 11-4-13 at location shown above).

Photo No. 27. Quartz vein in exposed rock materials at base of existing cutslope, right of highway; viewing southeasterly from approx. STA “C1” 308+00 (~PM 37.13); (photo taken on 11-4-13 at location shown above).

Caltrans	CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: June 2015	**PHOTOGRAPHS**
		03-PLA-80 PM 35.1-38.3 “3 MILE” TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT	Plate No. A-9

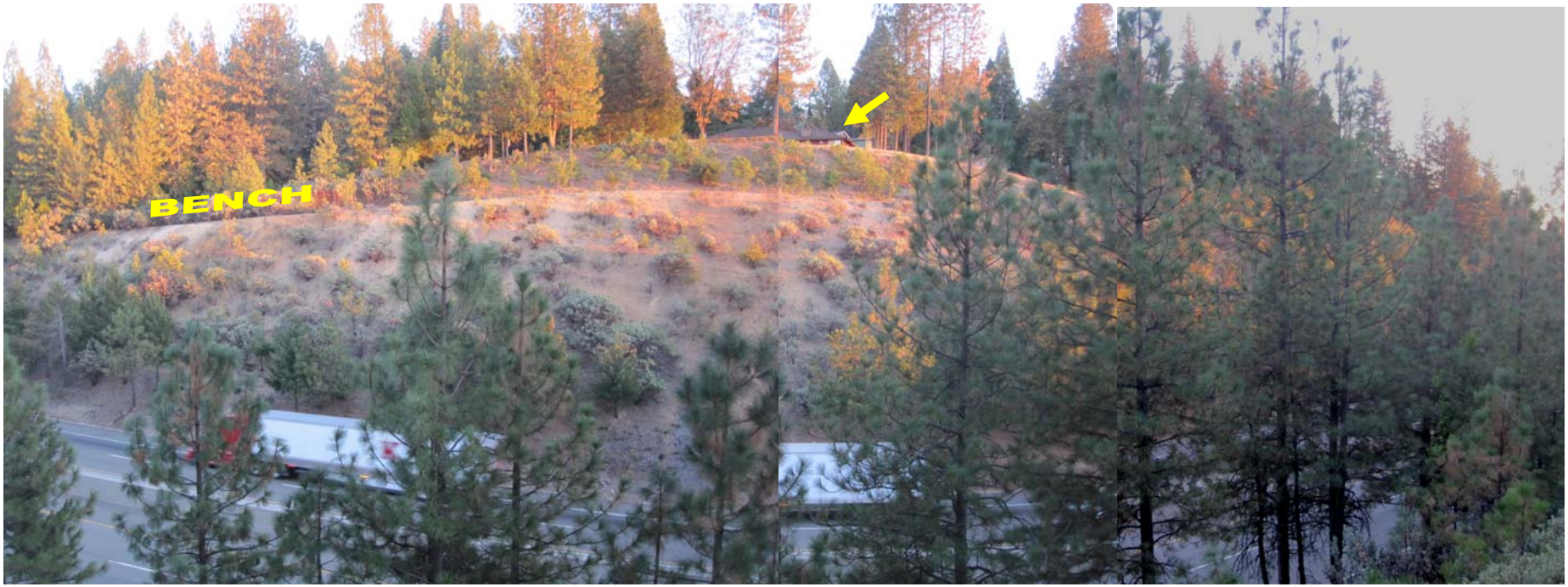


Photo No. 28. Existing cutslope right of highway viewing southeasterly from approx STA “C1” 337+00 (~PM 37.68); note home behind top of cutslope (stitched photos taken on 11-4-13).

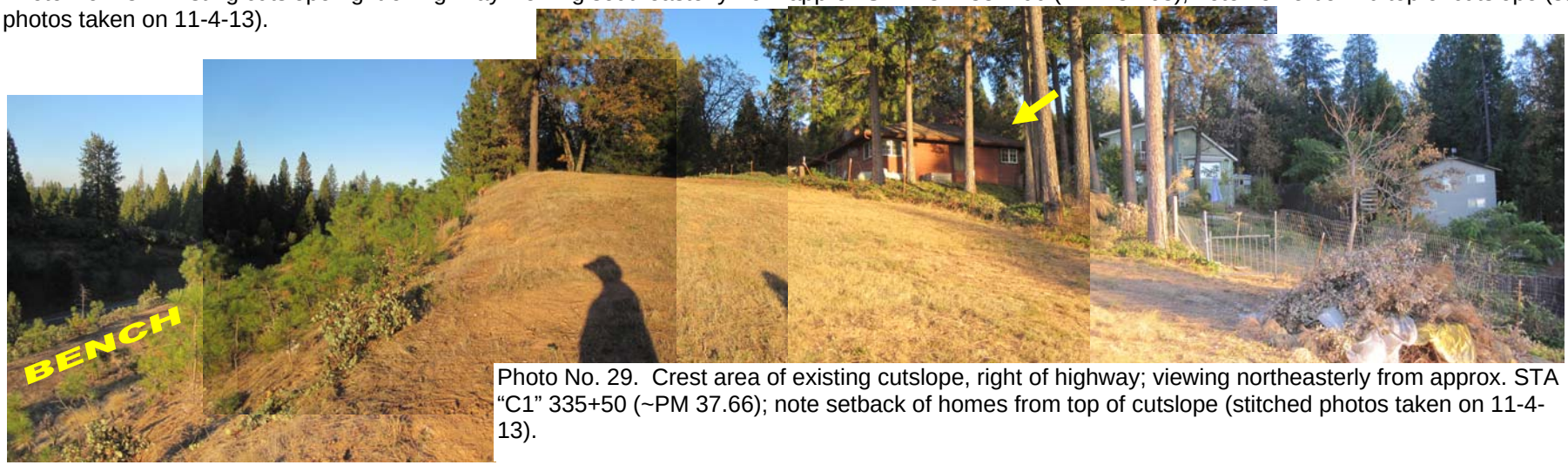


Photo No. 29. Crest area of existing cutslope, right of highway; viewing northeasterly from approx. STA “C1” 335+50 (~PM 37.66); note setback of homes from top of cutslope (stitched photos taken on 11-4-13).

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001	**PHOTOGRAPHS**	
	Date: June 2015		
	03-PLA-80 PM 35.1-38.3 “3 MILE” TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT		Plate No. A-10

Photo No. 30. Existing slope right of highway viewing northeasterly from approx STA “C1” 354+00 (~PM 38.01); (stitched photos taken on 11-4-13).

Photo No. 31. Rock materials exposed on existing slope right of highwayat approx STA “C1” 363+50 (~PM 38.19); (photo taken on 11-4-13).

Photo No. 32. Existing slope right of highway viewing southwesterly from approx STA “C1” 360+00 (~PM 38.12); (photo taken on 11-4-13).

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001	**PHOTOGRAPHS**	
	Date: June 2015		
	03-PLA-80 PM 35.1-38.3 “3 MILE” TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT		Plate No. A-11

Photo No. 33. Magra Road above and adjacent to eastbound I-80, viewing northeasterly at approx. STA "C1" 358+50 (~PM 38.09); note adjacent cut slope; (stitched photos taken on 11-4-13).

Photo No. 34. Rock materials in cutslope above and adjacent to Magra Road, viewing southwesterly from approx. STA "C1" 359+00 (~PM 38.10); (photo taken on 11-4-13).

Photo No. 35. Magra Road above and adjacent to eastbound I-80, viewing southwesterly at approx. STA "C1" 365+00 (~PM 38.21); note adjacent cut slope; (stitched photos taken on 11-4-13).

Photo No. 36. Rock materials in cutslope above and adjacent to Magra Road, viewing southwesterly from approx. STA "C1" 363+40 (~PM 38.18); (photo taken on 11-4-13).

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001	**PHOTOGRAPHS**	
	Date: June 2015		
	03-PLA-80 PM 35.1-38.3 "3 MILE" TRUCK CLIMBING LANE GEOTECHNICAL DESIGN REPORT		Plate No. A-12

Appendix B

Lab Testing

Point Load Strength Index of Rock; ASTM D 5731 - 08

Dist-EA: 03-1F4001 **Dist-Co-Rte-PM: PLA-80 PM 35.1-38.3** **GL Tracking Nos.: 14-068**

Report Date: January 27, 2015

Sample Approximate Location (On Right Existing Cutslope)	Sample No.	Test Type	Initial Distance Between Contact Points, D (mm)	Final Distance Between Contact Points, D' (mm)	Equivalent Diameter, D_e (mm) per Section 10.1 of ASTM D 5731-08	Width, W (mm)	Length, L (mm)	Failure Load (lbs)	Uncorrected Point Load Strength Index, I_s; per EQ. #1 of ASTM D 5731-08		Size Correction Factor, F; per EQ. #4 of ASTM D 5731-08	Size Corrected Point Load Strength Index, $I_{s(50)}$; per EQ. #3 of ASTM D 5731-08		Generalized Index to Strength Conversion Factor, K, per Table 1 of ASTM D 5731-08 (approximated where appropriate)	Estimated Uniaxial Comp. Strength, s_c per EQ. #6 of ASTM D 5731-08		Remarks
									(MPa)	(PSI)		(MPa)	(PSI)		(MPa)	(PSI)	
STA 253+30	6	I-P	45	28	48.06	64.8	42.5	557.92	1.07	155.81	0.98	1.06	153	23	25	3,584	
STA 260+00	7	I-P	27.8	21	38.63	55.8	49	841.28	2.51	363.78	0.89	2.23	324	21	53	7,639	
STA 276+50	9	I-L	40	28	41.28	47.8	58.6	265.76	0.69	100.61	0.92	0.64	92	21	15	2,113	
STA 308+20	11A	I-L	30	24	30.78	31	36.36	867.68	4.07	590.94	0.80	3.28	475	19	77	11,228	
STA 308+20	11B	I-L	25	21	37.64	53.0	32.8	802.56	2.52	365.38	0.88	2.22	322	20	50	7,308	

NOTES:

Test Type Abbreviations: D - Diametral, A -Axial, B - Block, I - Irregular Lump.

Orientation of Load (if anisotropic): P - Perpendicular to plane of weakness, L - Parallel to plane of weakness

253_6

260_7

276_9

308_11A

308_11B

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

EA: 03-1F4001
Date: June 2015

POINT LOAD STRENGTH INDEX OF ROCK TEST RESULTS

03-PLA-80; PM 35.1-38.3; I-80 3 MILE TRUCK CLIMBING LANE
GEOTECHNCIAL DESIGN REPORT

Plate No. B-1

Results sent to: MARK HAGY

Division of Engineering Services
Materials Engineering and Testing Services
Corrosion and Structural Concrete Field Investigation Branch

Report Date: 12/22/2014
Reported by Michael Mifkovic

CORROSION TEST SUMMARY REPORT - SOIL

EFIS: **0300020420**

Dist/Co/Rte/PM **03 / PLA /080/ / 38.85 PM**

CORROSION LAB #	TL101 #	BORE #	DEPTH (FT) START	DEPTH (FT) END	MINIMUM RESISTIVITY[1] (ohm-cm)	pH[1]	CHLORIDE CONTENT[2] (ppm)	SULFATE CONTENT[3] (ppm)	IS SAMPLE CORROSIVE?
SOIL SAMPLE FROM: MAGRA RETAINING WALL									
CR20140398	**C835555**	RC-14-002	5	16.5	30160	5.11	15	0	**YES**
CR20140399	**C835554**	RC-14-001	1	5	8262	5.72			NO

This site is corrosive to foundation elements (see note below).

Controlling corrosion parameters are as follows:

- pH is 5.5 or less

Note: For Structural Elements, the Department considers a site corrosive if one or more of the following conditions exist: pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater. Resistivity is not considered for Structural Elements. MSE backfill shall conform to the requirements of section 47-2.02C Structure Backfill in the 2010 Standard Specifications.

[1]CT 643, [2]CT 422, [3]CT 417

CR20140398 - CR20140399

12/22/2014

Results sent to: MARK HAGY

Division of Engineering Services
Materials Engineering and Testing Services
Corrosion and Structural Concrete Field Investigation Branch

Report Date: 12/22/2014
Reported by Michael Mifkovic

CORROSION TEST SUMMARY REPORT - SOIL

EFIS: **0300020420** Bridge # **19-0091**

Dist/Co/Rte/PM **03 / PLA /080/ / 36.86 PM** Bridge Name **CAPE HORN UC**

CORROSION LAB #	TL101 #	BORE #	DEPTH (FT) START	DEPTH (FT) END	MINIMUM RESISTIVITY[1] (ohm-cm)	pH[1]	CHLORIDE CONTENT[2] (ppm)	SULFATE CONTENT[3] (ppm)	IS SAMPLE CORROSIVE?
SOIL SAMPLE FROM:									
CR20140395	**C701632**	RC-14-002	9.5	16	12953	5.12	47	5.4	**YES**
CR20140396	**C701633**	RC-14-003	6.5	9.5	23600	5.31	15	5.6	**YES**
CR20140397	**C701634**	RC-14-003	48	50	8334	6.61			NO

This site is corrosive to foundation elements (see note below).

Controlling corrosion parameters are as follows:

- pH is 5.5 or less

Note: For Structural Elements, the Department considers a site corrosive if one or more of the following conditions exist: pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater. Resistivity is not considered for Structural Elements. MSE backfill shall conform to the requirements of section 47-2.02C Structure Backfill in the 2010 Standard Specifications.

[1]CT 643, [2]CT 422, [3]CT 417

CR20140395 - CR20140397

12/22/2014

Appendix C

"Rippability Investigation, Colfax Truck Lane", prepared by the Caltrans Geotechnical Services, Geophysics and Geology Branch, 03-PLA-80 PM 35.1/38.3, Project No. 0300030420, dated February 23, 2015.

M e m o r a n d u m

Serious drought.
Help save water.

To: **Qiang Huang**
Senior Materials and Research Engineer
Office of Geotechnical Design North, Branch C
Division of Engineering Services

Date: February 23, 2015

File: 03-PLA-80-35.1/38.3

Project: 0300020420

Attn: Mark Hagy

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

Subject: **RIPPABILITY INVESTIGATION, COLFAX TRUCK LANE**

Introduction

This report documents results of a seismic refraction investigation to determine rippability values of existing cut slopes along eastbound Interstate 80, near Colfax, CA. Roadway widening will require trimming of existing cut slopes, and the rippability of the material comprising those cut slopes is in question.

Results and Discussion

Limited roadway shoulder widths and continuous truck traffic created very noisy conditions for acquiring seismic data. For most of the locations that we investigated, we were limited to analysis of relative P-wave travel times to determine average compressional velocities of the rock cuts along the proposed project. That type of evaluation is more tolerant of noisy data than determination of layer thicknesses, but does not enable the calculation of refractor depths. Since we were investigating the possibility of excavating existing road cuts, rock was already exposed along most of the cut faces, so refractor depths were not a primary feature of concern, and the method provided a reasonable means to accommodate the high ambient noise conditions.

Seismic velocity data were acquired along six cut slopes identified by the project engineer and in consultation with Geophysics personnel during planning for the work. The locations are shown in Plate 1. At one location (Location 14 as shown on Plate 1) one profile was acquired on a cut bench approximately 50 feet above road grade. At that location, data quality was sufficient to permit refraction analysis and development of a standard refraction model for that profile.

For the average compressional velocities, profiles were acquired along the road at the toe of the existing cuts. Therefore, we anticipate that the assigned rippabilities occur at or slightly below

road grade and behind the existing cut face. Locations of seismic lines and rippabilities are shown on Plates 1 through 6. Graphs of velocities are shown on Plates 7 through 16.

All six cut slopes appear to be composed of marginal or unrippable material. A summary of results is shown on Table 1 and discussed below.

Table 1. Results of Seismic Refraction Investigation at Colfax Truck Lane

Seismic Line	Approximate Project Station	Line Length	Rippability
5	236+20 to 238+56	72 m (236 ft)	Alternating moderate to difficult ripping and unrippable. See Plate Nos. 2 and 7.
5B	245+60 to 246+78	36 m (118 ft)	Alternating moderate to difficult ripping and unrippable. See Plate Nos. 2 and 8.
6	251+20 to 253+56	72 m (236 ft)	Unrippable with some moderate to difficult ripping. See Plate Nos. 3 and 9.
7A	255+50 to 257+86	72 m (236 ft)	Unrippable. See Plate Nos. 3 and 10.
7B	257+86 to 259+04	36 m (118 ft)	Mostly unrippable; some moderate to difficult ripping. See Plate Nos. 3 and 11.
7C	259+04 to 260+22	36 m (118 ft)	Mostly unrippable; some moderate to difficult ripping. See Plate Nos. 3 and 12.
9	273+00 to 275+36	72 m (236 ft)	Unrippable. See Plate Nos. 4 and 13.
11	306+00 to 308+36	72 m (236 ft)	Unrippable. See Plate Nos. 5 and 14.
14	336+20 to 338+56 (at road grade)	72 m (236 ft)	Moderately difficult ripping to unrippable. See Plate Nos. 6 and 15.
14	335+20 to 338+35 (on bench)	96 m (315 ft)	Alternating moderate to difficult ripping and unrippable. See Plate Nos. 6 and 16.

The rock of Seismic Line 5 alternates between moderate to difficult ripping and unrippable.

The first 26 m for Line 5B is unrippable. The rock from 26 m to 36 m varies between difficult ripping and unrippable.

Line 6 is largely unrippable with a small region of moderate to difficult ripping.

The first 72 m (236 ft) of Line 7, designated Line 7A, is unrippable. The next two 36-m (118-ft) sections of Line 7, designated Lines 7B and 7C, are mostly unrippable, with small sections of moderate to difficult ripping.

Lines 9 and 11 are unrippable.

Line 14 at road grade is unrippable beyond 30 m (98 ft) and will experience easy to moderately difficult ripping from 0 to 30 m.

Line 14 on the topographic bench alternates between moderate to difficult ripping and unrippable.

This survey did not investigate significantly below existing road grade; we therefore cannot confirm rippability if road cuts are extended deeper. Additional surveys should be requested if grading plans are deepened below existing road elevation.

Data Acquisition and Processing

Seismic refraction data were recorded using an EG&G Smartseis 24-channel seismograph with 14-Hz geophones. The profiles varied in length. 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 external memory 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 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.

For the seismic line on the topographic bench at Location 14, analysis was performed using the Generalized Reciprocal Method (GRM). Refraction data were processed using GeoGiga Refractor, a commercially available computer application. Initial P-wave arrivals were picked and refractor layers were assigned to these picks.

For the seismic lines at road grade, data were interpreted using average compressional velocity measurements. The analysis of the rock velocities and assignment of rippability followed this procedure:

1. Average compressional velocities were derived by calculating direct velocities from forward and reversed shots.

2. Intervals of three, five, and seven geophones were employed to evaluate heterogeneity and to compensate for the impact of noise on the results.
3. Results were graphed as scatter plots of velocity over line distance, and the distribution of the data points were analyzed to assign rippability values.
4. Rippability was assigned to one of three categories: Easily Ripped, Moderate to Difficult Ripping, and Unrippable. Discussion of these categories is provided below.

This approach allowed us to partially compensate for high noise conditions that did not permit GRM analysis for the majority of the project. The method assumes that no layering is present and that the velocities measured occur at or very close to the ground surface or cut face. An important limitation to this approach is that it does not allow us to evaluate the rippability of any potential overburden above rock. A possibility exists that thin, rippable soil layers or weathering rinds may be present at road grade and within the cut faces. If those conditions exist, the volume of unrippable material may be slightly overestimated and an unknown but limited volume of material may be ripped during construction.

Rippability

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

Velocity	Rippability
<3440 ft/s (<1050 m/s)	Easily Ripped
3440-4920 ft/s (1050-1500 m/s)	Moderately Difficult
4920-6560 ft/s (1500-2000 m/s)	Difficult Ripping
>6560 ft/s (>2000 m/s)	Unrippable

Different excavation equipment may experience different results. Penetrating efficacy of the ripping tooth is often more important in predicting ripping success than seismic velocity. Undetected blocks or lenses of high-velocity material may also be present within rippable zones, requiring blasting for excavation. Specific to this project, although the results may indicate some material may be removed without blasting or mechanical reduction, it may not be economical to remove it separately due to its limited volume or its embedment within the embankment adjacent to unrippable rock.

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

Report by:

Dennison Leeds
Engineering Geologist
Geophysics and Geology Branch

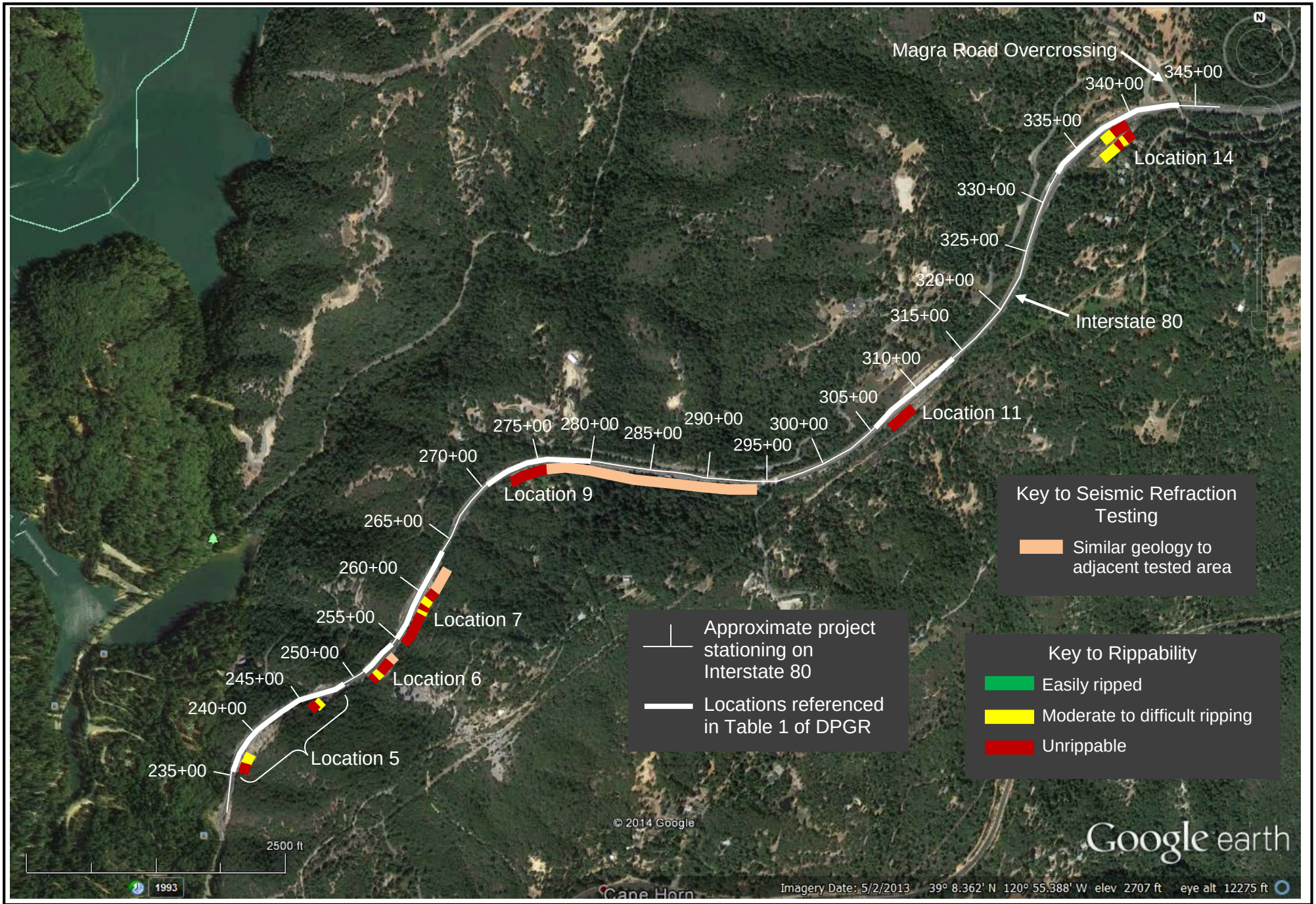
Reviewed By:

William Owen, PGP 1031
Chief, Geophysics and Geology Branch

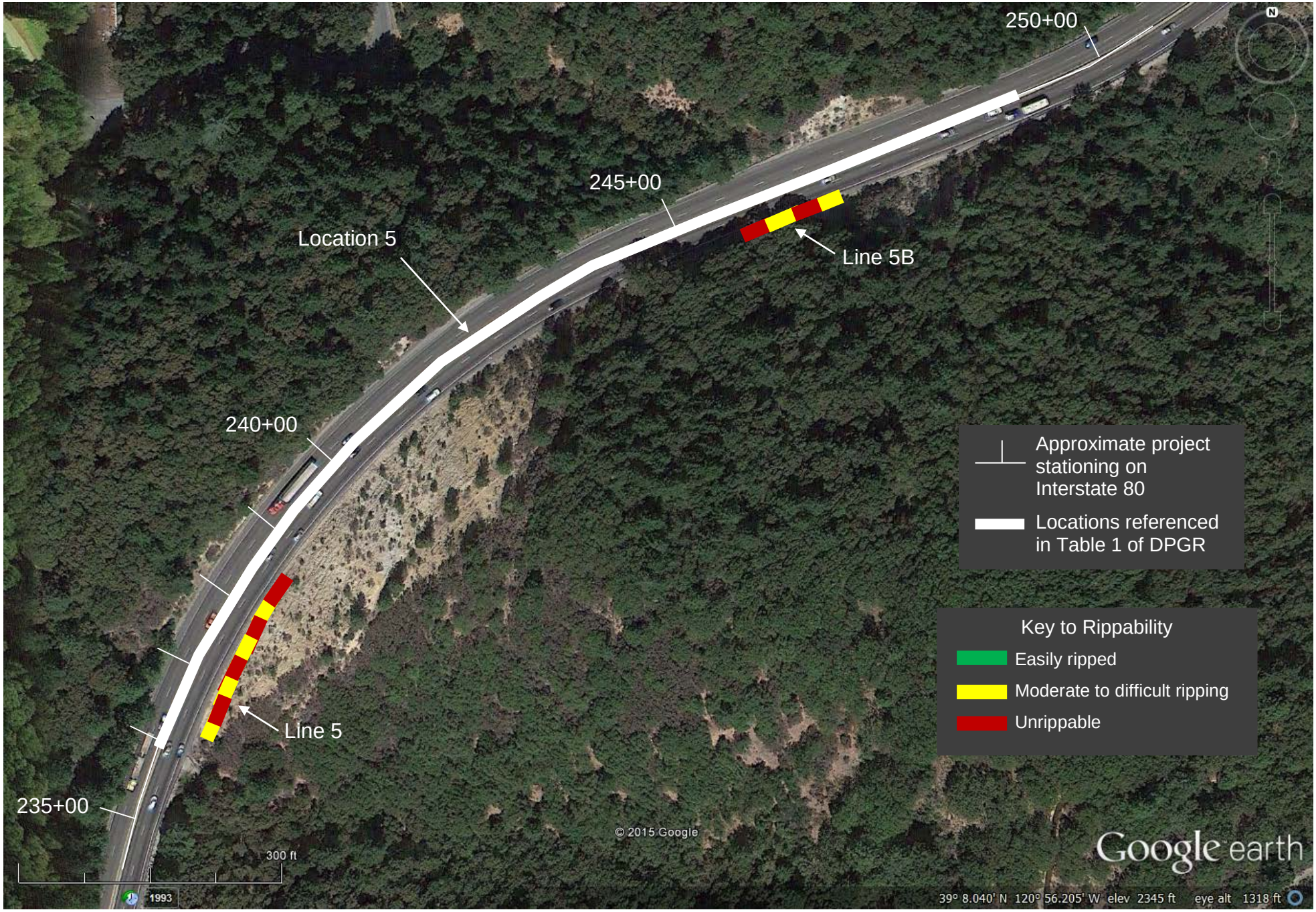
c: Project File.

DL/WO/sm

03_PLA_80_35.1_38.3_2015_SEI.docx



Caltrans	Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 03-1F4000	Colfax Truck Lane 03-PLA-80-35.1/38.3	Plate No. 1
		ID 0300020420	Location Map of Seismic Lines and Bedrock Rippability	



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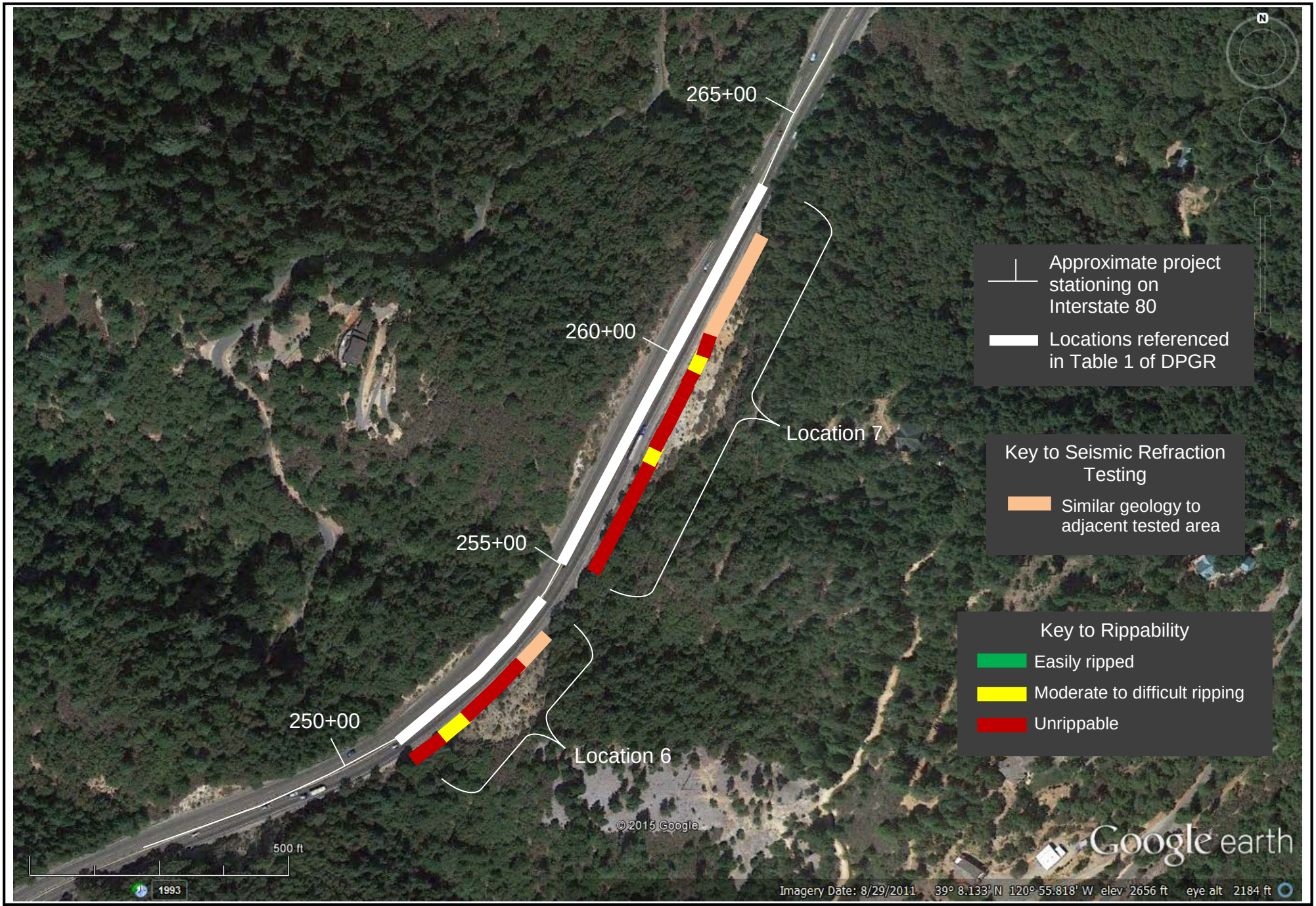
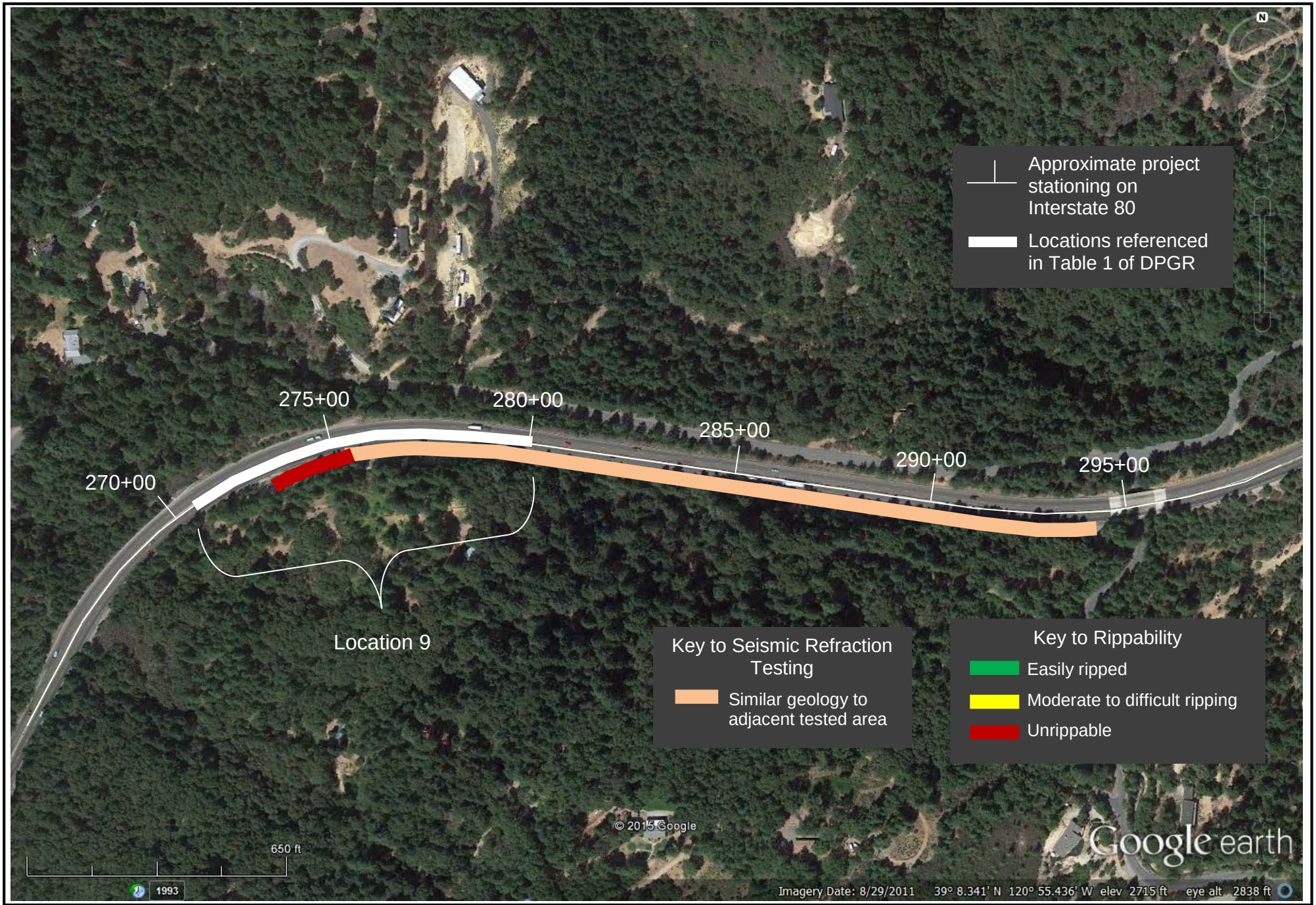
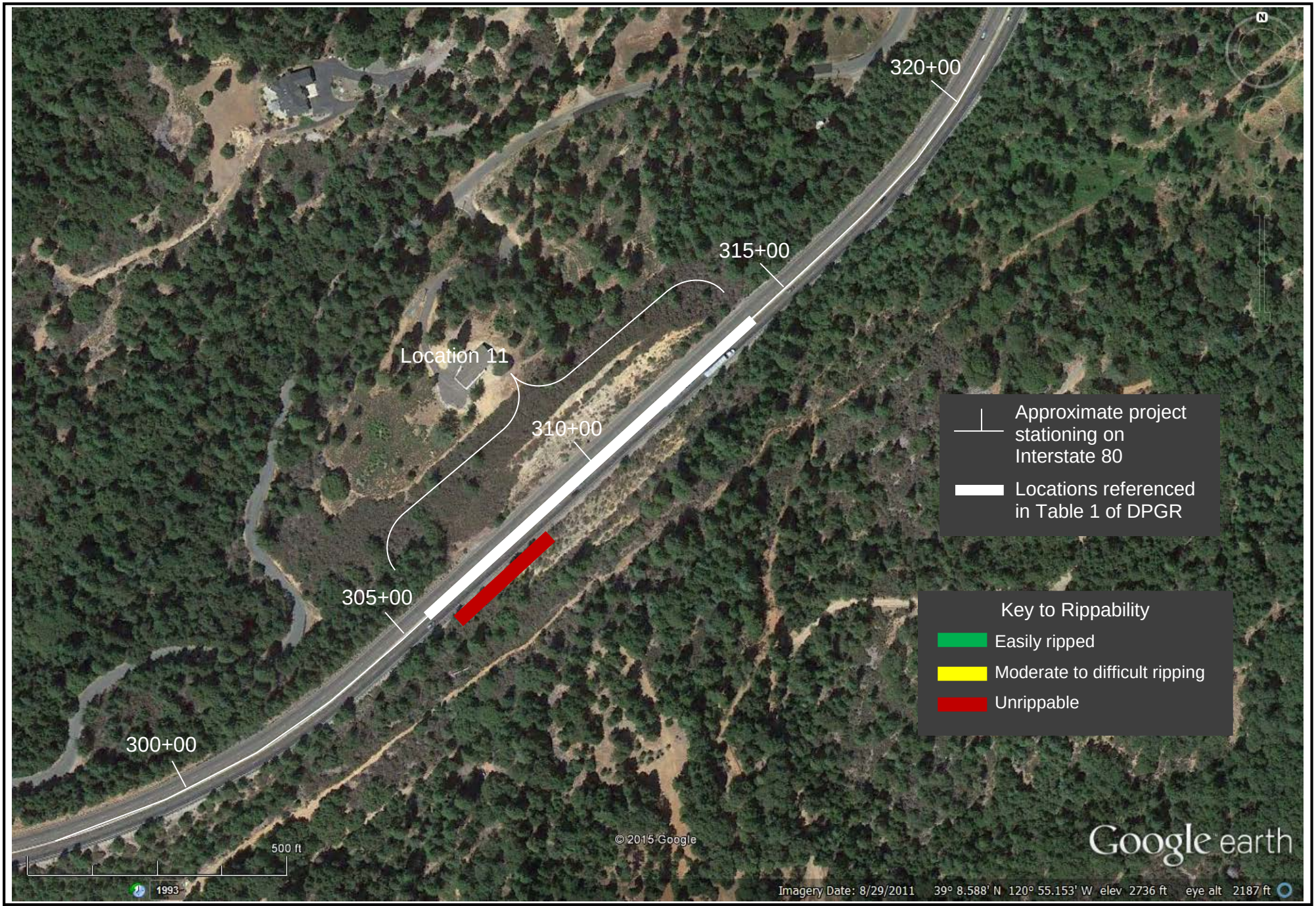
		ID 0300020420	Location Map of Seismic Line 5 and Bedrock Rippability	



Caltrans Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 03-1F4000	Colfax Truck Lane 03-PLA-80-35.1/38.3	Plate No. 3
	ID 0300020420	Location Map of Seismic Lines 6 & 7 and Bedrock Rippability	

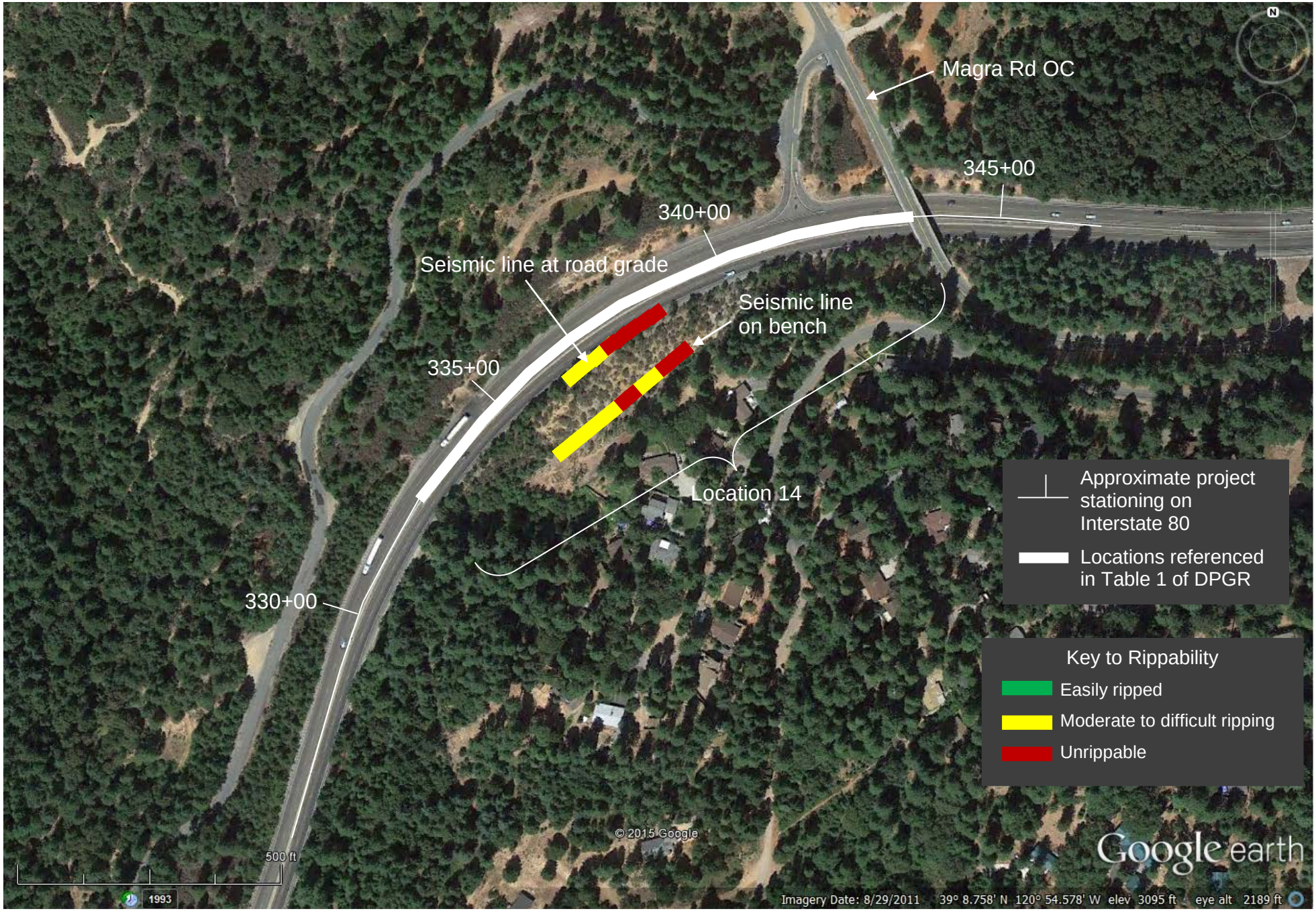


Caltrans Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 03-1F4000	Colfax Truck Lane 03-PLA-80-35.1/38.3	Plate No. 4
	ID 0300020420	Location Map of Seismic Line 9 and Bedrock Rippability	



Caltrans	Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 03-1F4000	Colfax Truck Lane 03-PLA-80-35.1/38.3
		ID 0300020420	Location Map of Seismic Line 11 and Bedrock Rippability

Plate No. 5



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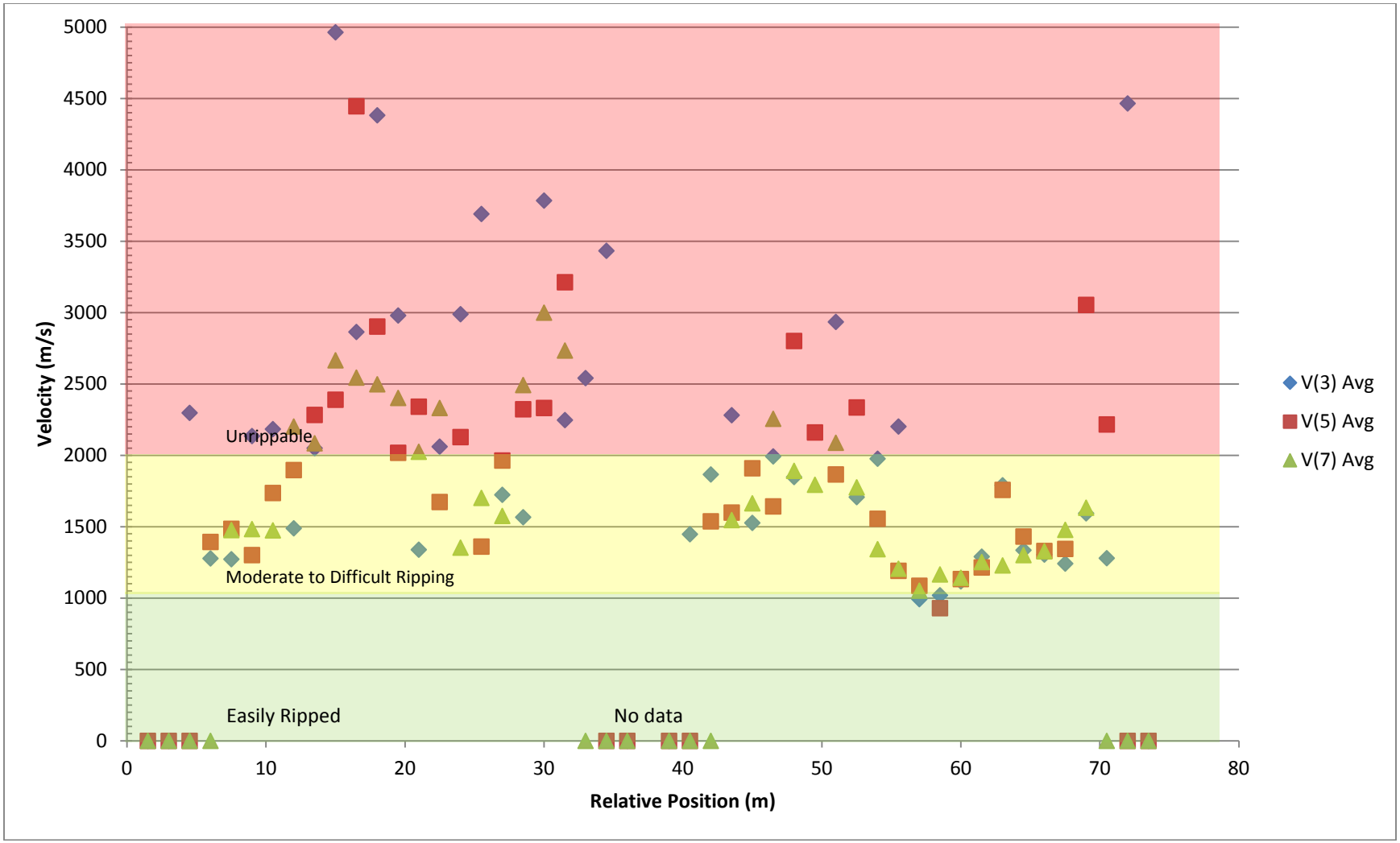
		ID 0300020420	Location Map of Seismic Line 14 and Bedrock Rippability	



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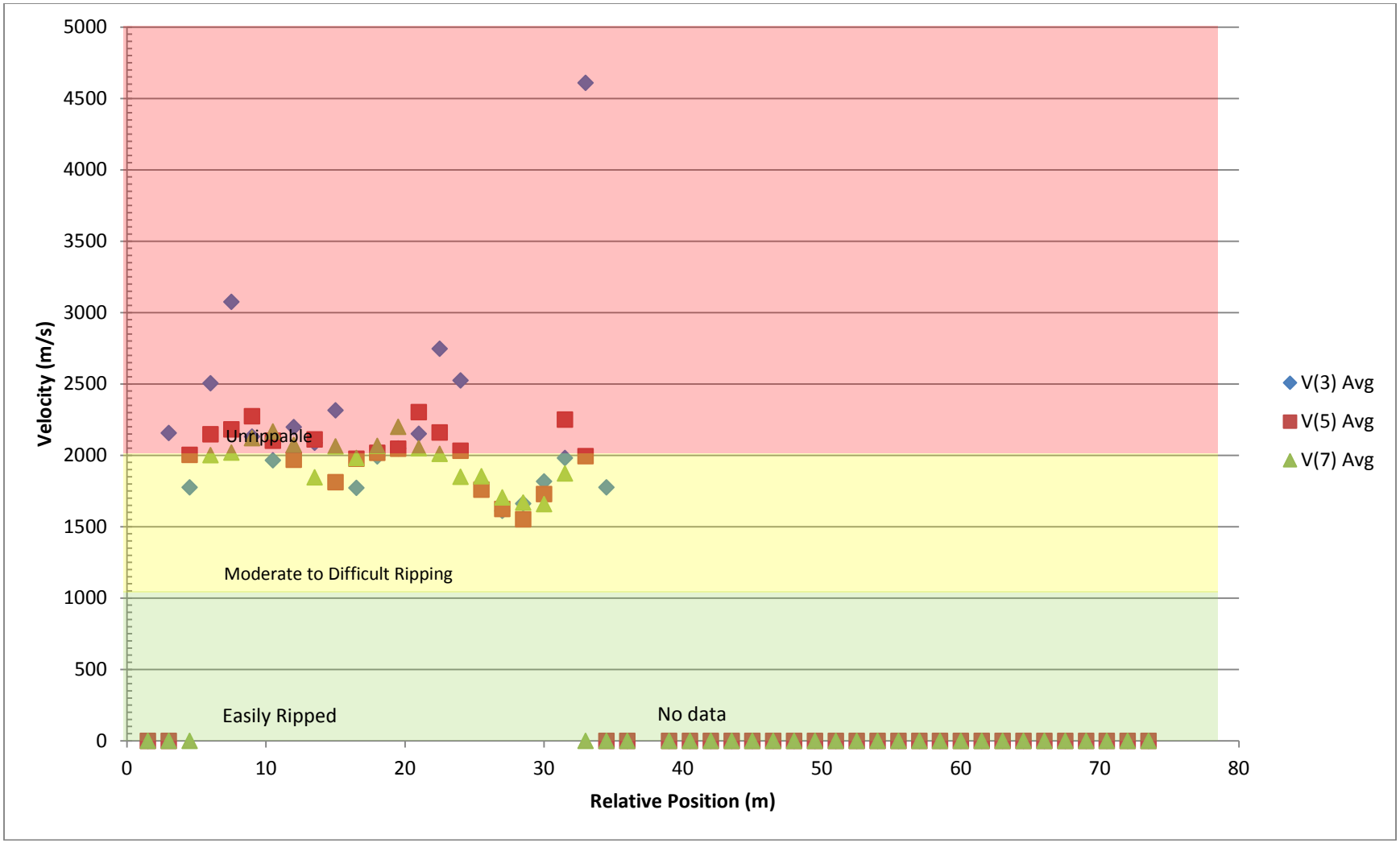
		ID 0300020420	Direct Velocities at Line 5	



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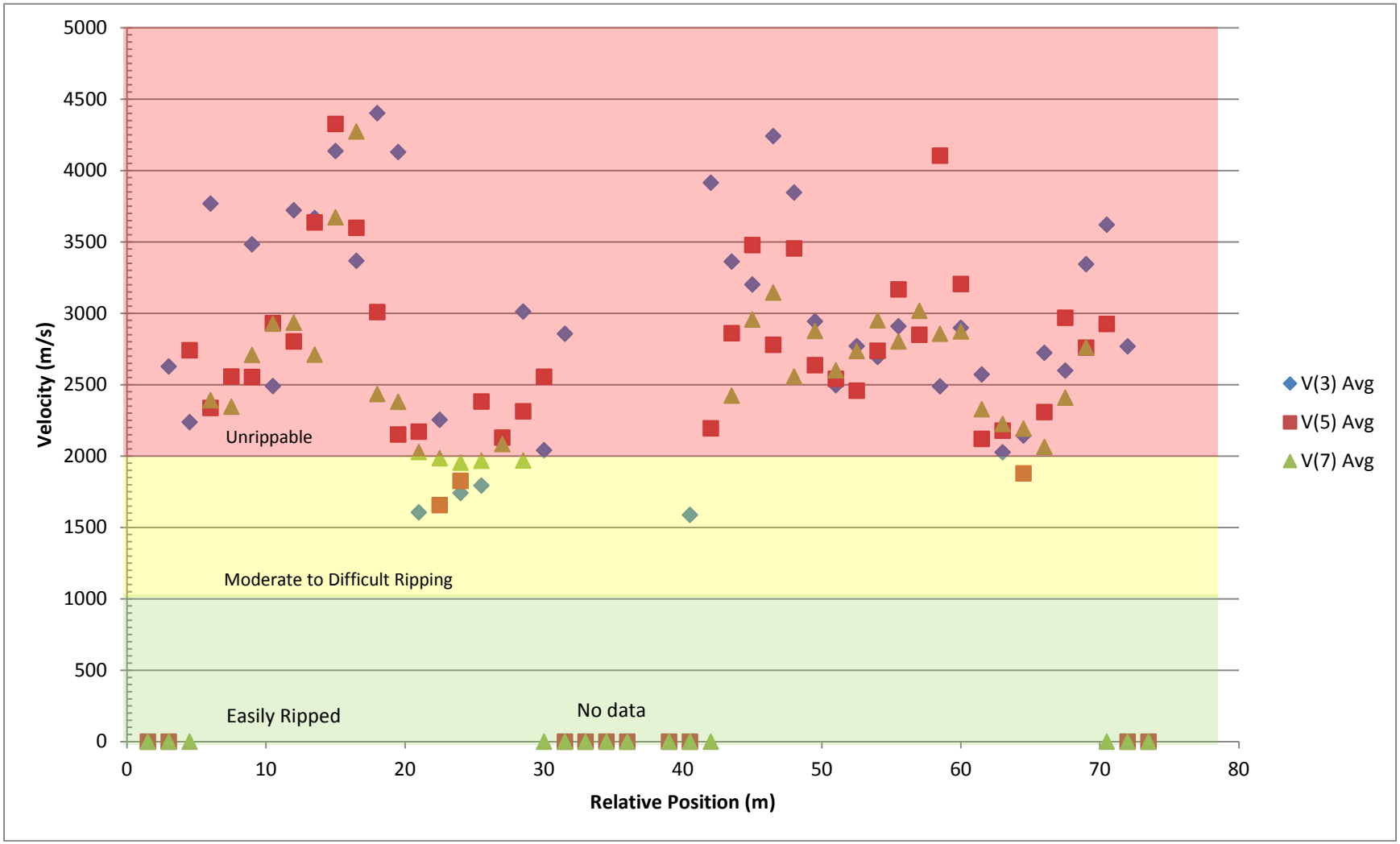
		ID 0300020420	Direct Velocities at Line 5B

Plate No. 8



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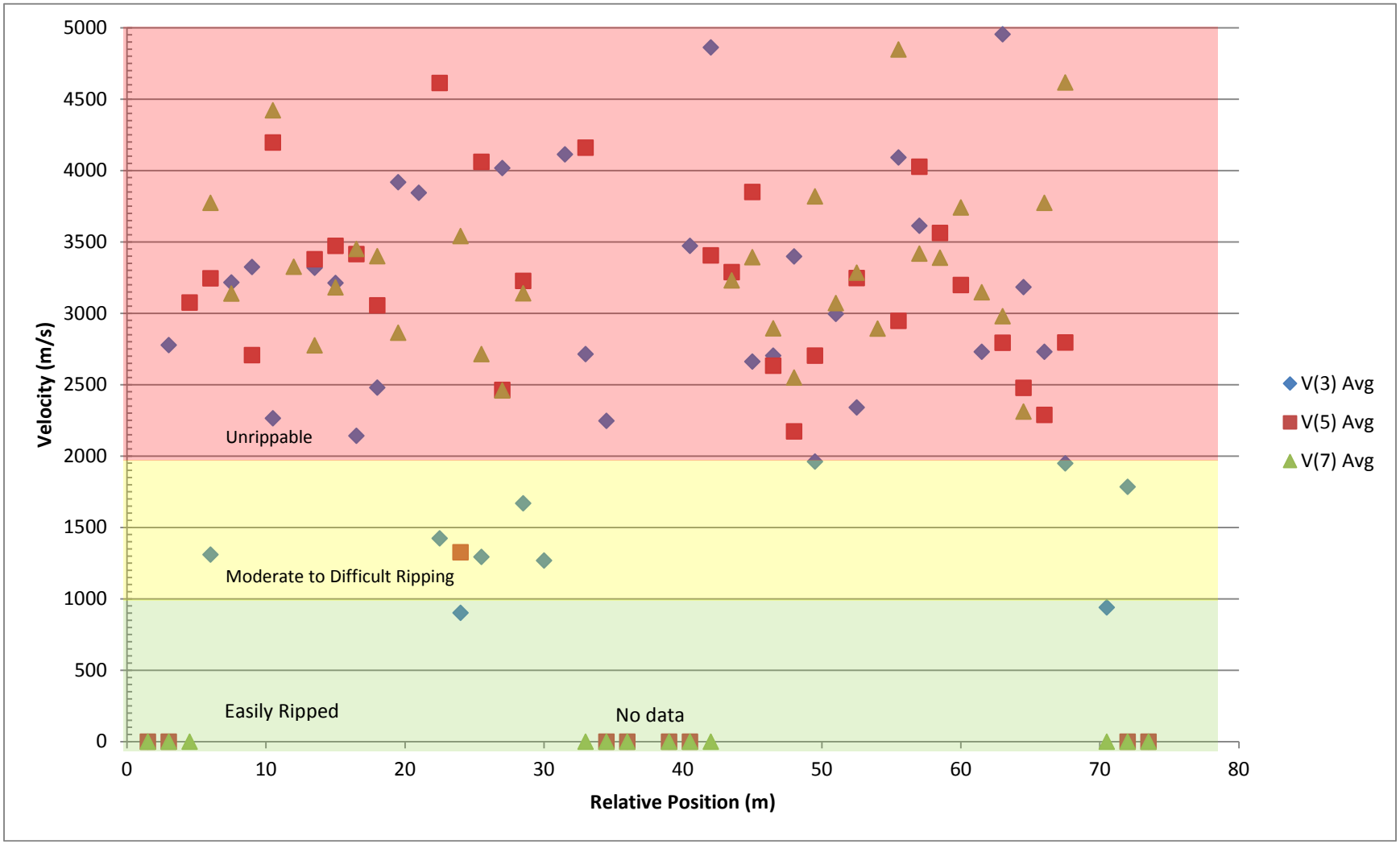
		ID 0300020420	Direct Velocities at Line 6

Plate No. **9**



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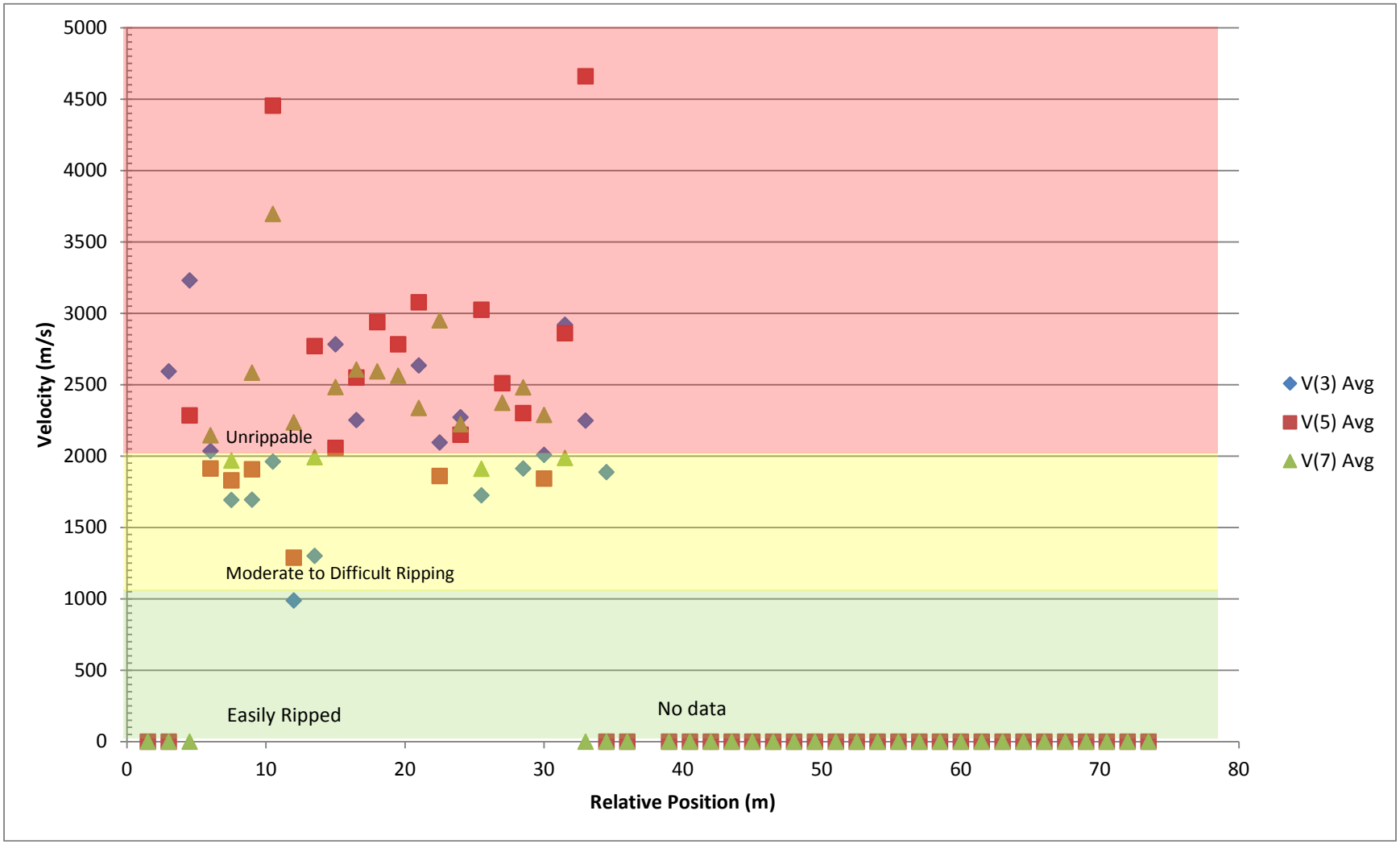
		ID 0300020420	Direct Velocities at Line 7A	



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		ID 0300020420	Direct Velocities at Line 7B	

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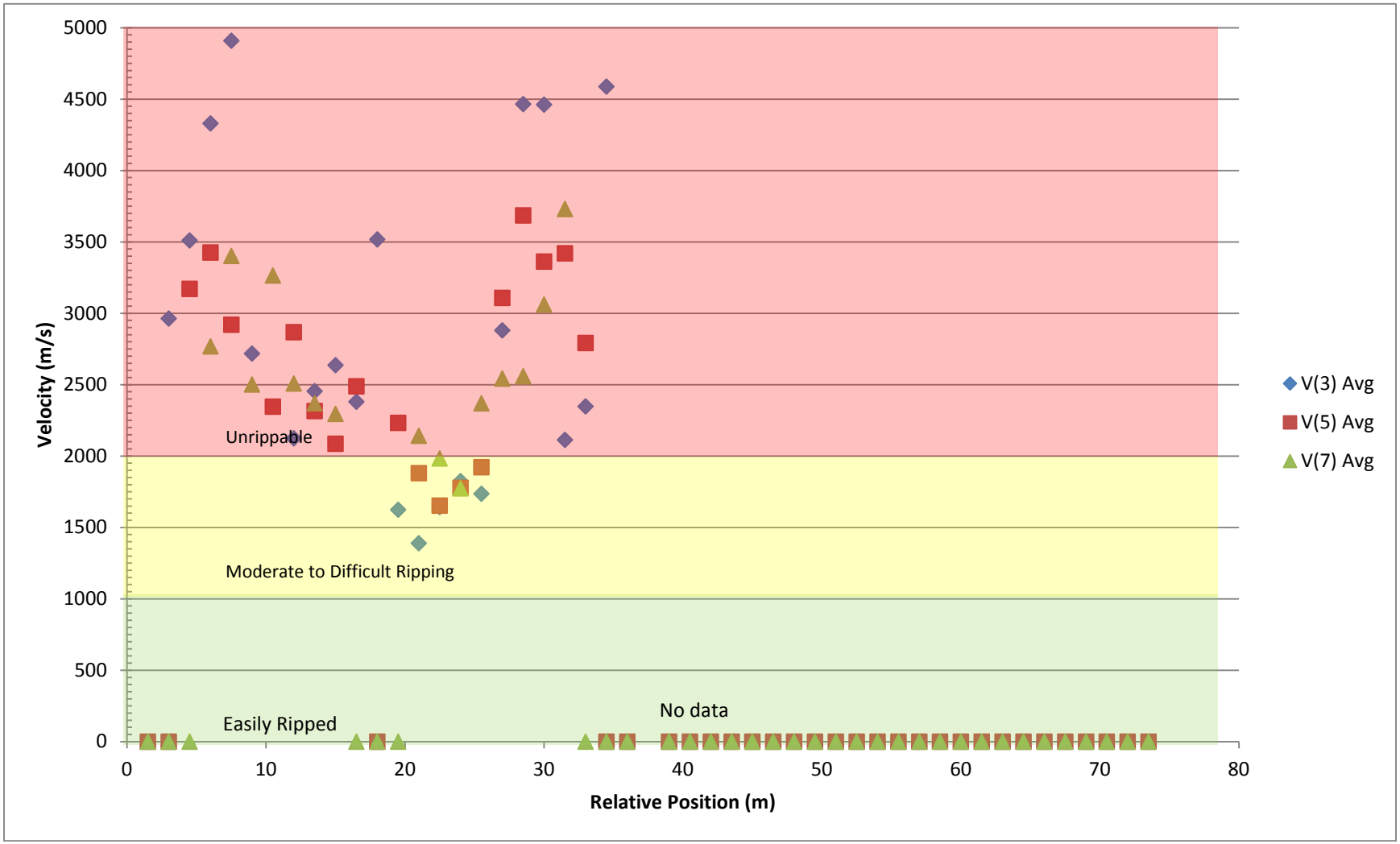

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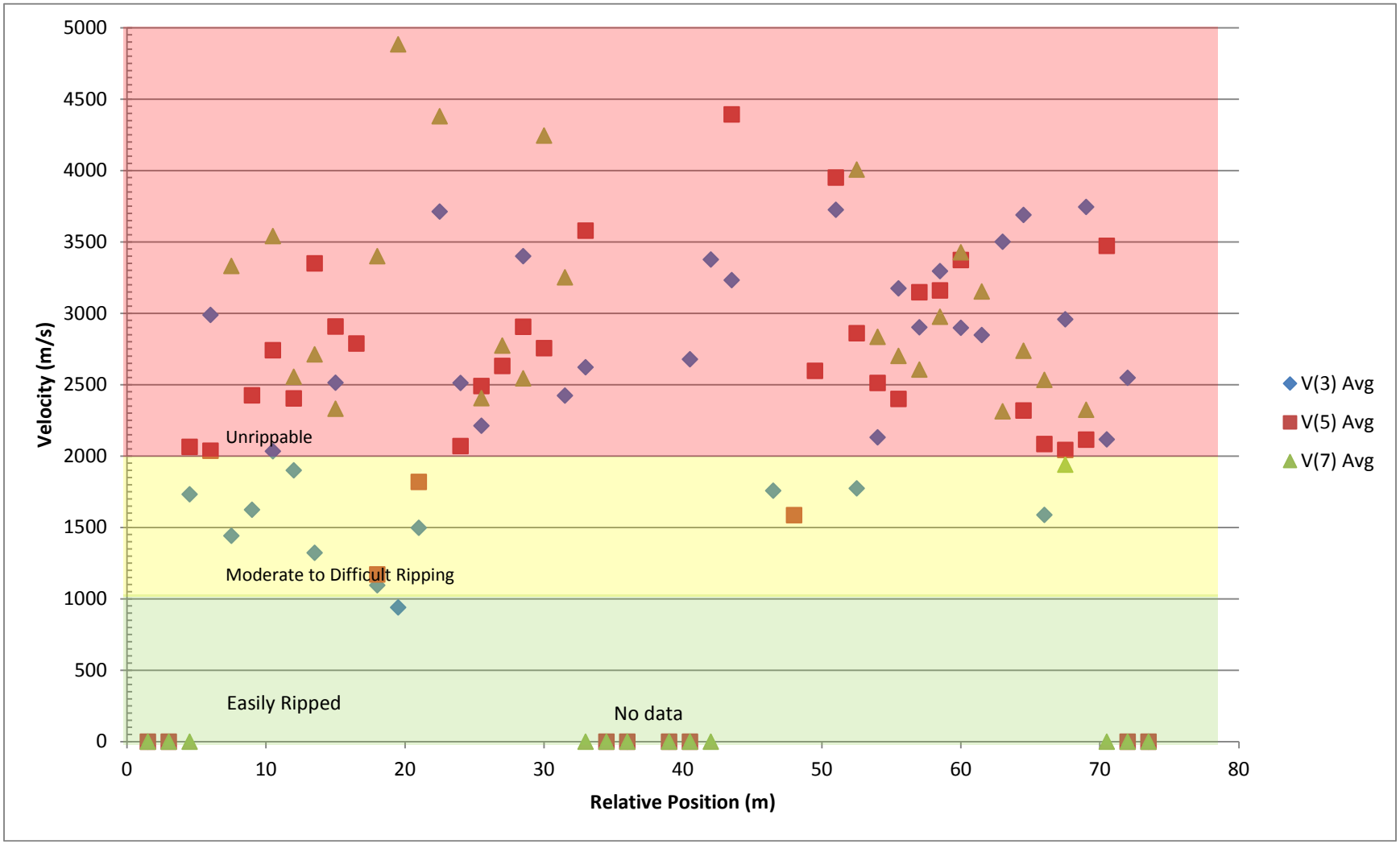

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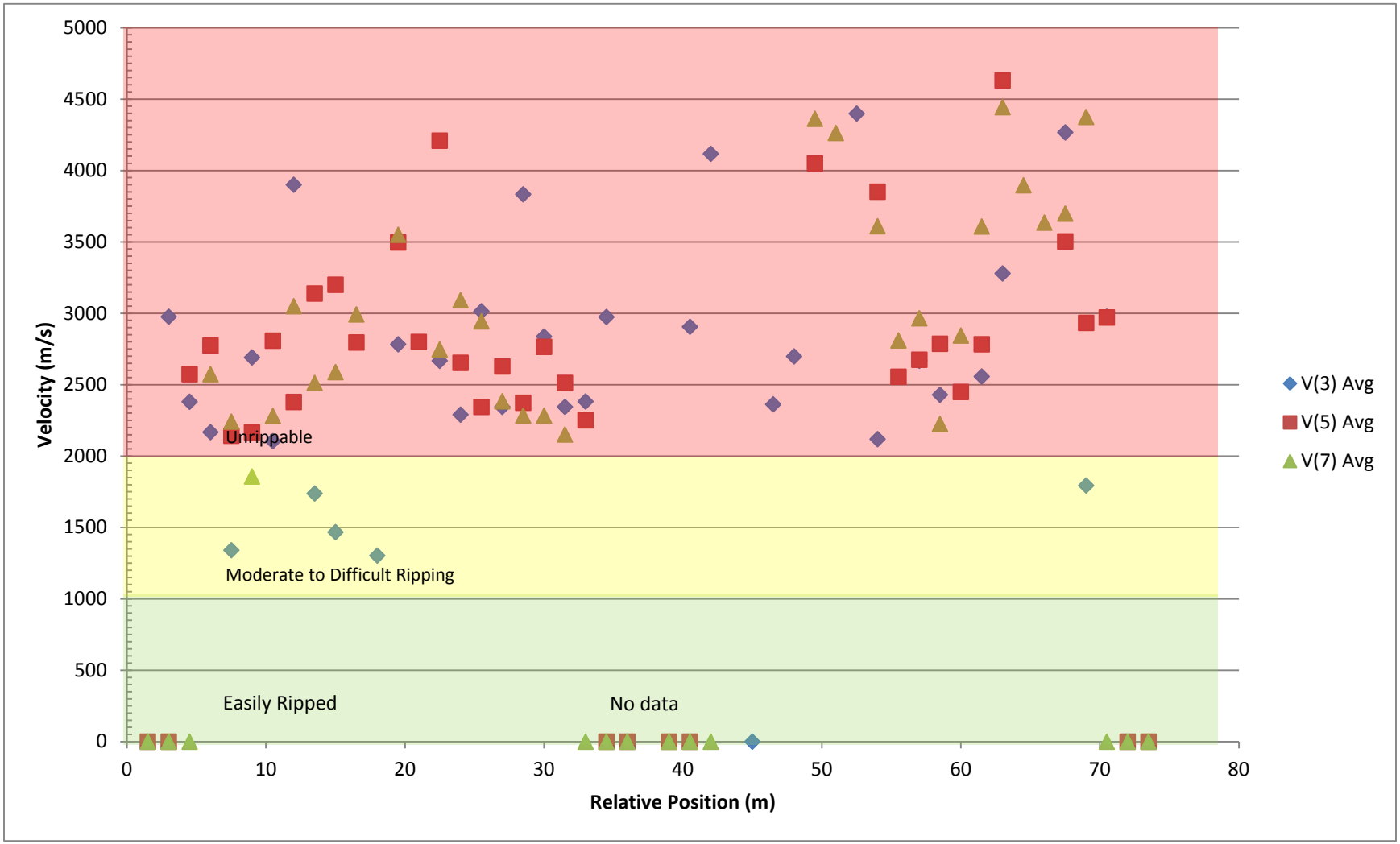
Plate No. 13



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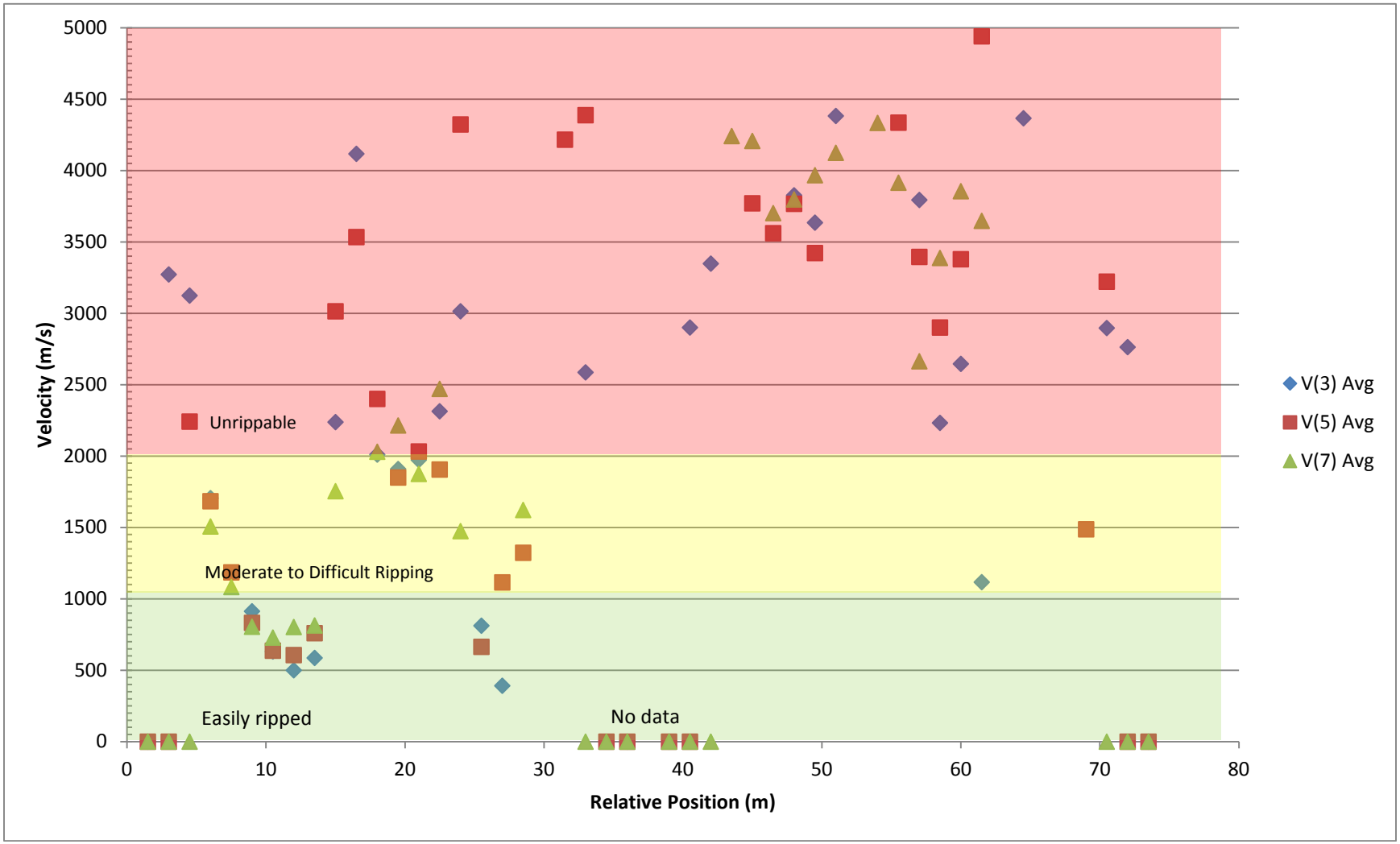

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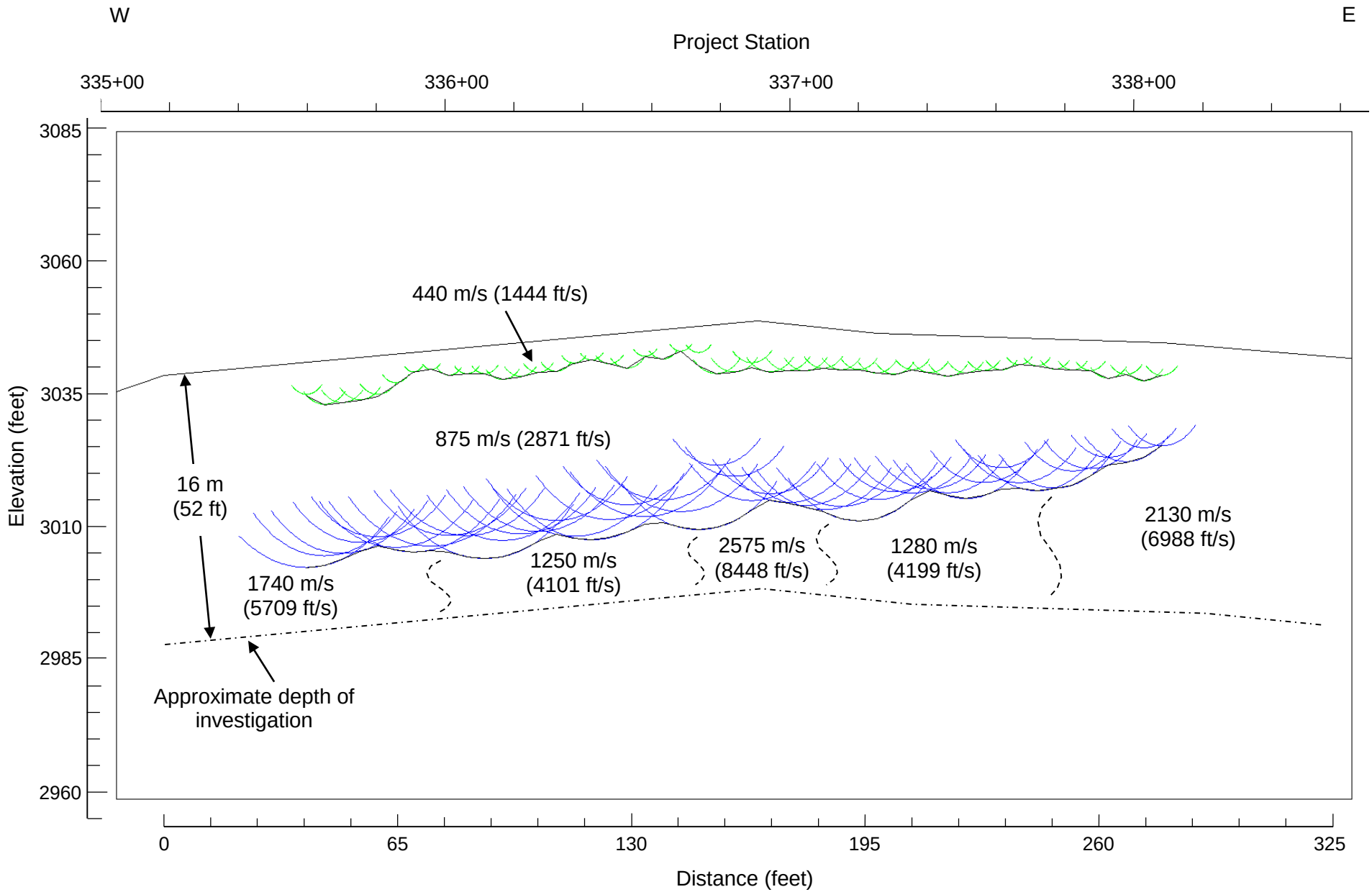
		ID 0300020420	Direct Velocities at Line 14 at road grade

Plate No. 15



Caltrans	Division of Engineering Services Office of Geotechnical Support Geophysics and Geology Branch	EA 03-1F4000	Colfax Truck Lane 03-PLA-80-35.1/38.3
		ID 0300020420	Seismic Line 14 bench

Plate No. 16

Appendix D

"Report of Subsidence of Embankments on Road III-Pla-37-C (New III-Pla-80) between Colfax and Magra Road, Vicinity of Station 128 and Vicinity of Station 134", by John L. Beaton, Materials and Research Department, W.O. 3T10H818-R, dated December 26, 1963.

State of California
Department of Public Works
Division of Highways
Materials and Research Department

December 26, 1963

ACC DEPT. FILE COPY JOB 2434

III-Pla-37-C
(New III-Pla-80)
Lab.P.A. No. 21434-S
W.O. 3T10H818-R

Mr. Alan S. Hart
Asst. State Highway Engineer
Division of Highways
Marysville, California

Dear Sir:

Submitted for your consideration is:

REPORT

of

SUBSIDENCE OF EMBANKMENTS

on

ROAD III-Pla-37-C
(New III-Pla-80)

between

COLFAX AND MAGRA ROAD

VICINITY OF STATION 128

and

VICINITY OF STATION 134

Study made by ..... Foundation Section
Under general direction of ..... T. W. Smith
Work supervised by ..... W. F. Kleiman
Report prepared by ..... W. C. Gray

Very truly yours,

JOHN L. BEATON
Materials and Research Engr.

Attach.
cc:LR Gillis Dist. Design Dept. - 2
WL Warren Dist. Const. Dept.
FE Baxter Res. Engr. File
C Hamma TL Sommers

Introduction

In 1957-58 Road III-Pla-37-C (New III-Pla-80) was reconstructed on new alignment between Colfax and Magra Road. The contract for this project was let on January 2, 1957 and work was started on January 22, 1957. Work was completed and the project accepted on November 21, 1958. By August of 1961 several embankments were showing signs of distress. Sags had developed in the grade line and bulging or lateral displacement was visible in the lower portion of the embankments. Soil samples were obtained from two embankments in October and November of 1961. A preliminary evaluation, based on partial test results, was given in our letter of December 8, 1961. Our testing and analysis has been completed and this report presents our evaluation of the problem.

Field Investigation

Samples were obtained from two embankments. Two borings, Nos. D2 and D3, were drilled in the embankment located near Station 128+50± and two borings, Nos. D1 and D4, were made in the embankment located in the vicinity of Station 134+50±. The locations of the four borings are shown on the attached plan, Sheet No. 2. The borings ranged in depth from 55 to 97 feet and penetrated 11 feet to 22 feet into original ground beneath the bottom of the embankments. Continuous drive samples were taken from the four borings with a 2-inch California type sampler. After the drive samples were obtained, bag samples of the embankment material were secured at the location of borings Nos. D2, D3 and D4 with continuous flight augers. A truck-mounted Joy Model 250 drill was used in the sampling operations. The location of the borings are shown on the attached plan and cross sections, Sheets Nos. 2 to 6, inclusive.

Bag samples were also obtained from shallow trenches excavated in the face of several cut slopes between Station 32 and Station 143. A stockpile or disposal area of uncompacted embankment material located near Station 127+30 was also sampled.

Inclinometers were installed in the four borings. These inclinometers consist of 3/4-inch I.D. rigid plastic tubing installed in the boring which is backfilled with gravel. A 11/16-inch O.D. probe (3/8" iron pipe) is then lowered down the tube. If movement or slippage has occurred in the surrounding ground the resulting bend in the tubing will not allow the probe to pass a certain point, giving some indication of the depth at which movement occurred. Three lengths of probe, 3.0 feet, 1.5 feet and 0.5 feet, are used. Some indication of the magnitude of movement is obtained when the long probe will not pass, but a short one will. The method is somewhat crude but by correlation with more precise instruments, which measure the same type of movement, it is known that a relatively small earth movement will prevent the passage of even the shortest probe.

Heave stakes were placed at several points on the slope of the embankment at Station 128+50. These stakes were installed and read by personnel from your department.

Soil Description

In general the soil found in the two embankments is a reddish-brown and gray or blue phyllite in various stages of weathering. The material is a heterogeneous mixture of phyllite or phyllite fragments in a clayey matrix. The clayey material is derived from the phyllite by weathering and/or by mechanical breakdown during construction and compaction of the embankments. Large fragments or "boulders" of phyllite in the embankment abraid or break down to clay size material quite easily. The embankment soil was easily penetrated with the drive sampler. Bag samples obtained by augering were much finer grained and did not appear similar to the "in place" soil due to the abrasive action of the augers.

A complete description of the soil, based on the drive samples, is given on the attached boring profiles, Sheets Nos. 7 to 10, inclusive.

Testing and Analysis

A considerable number of unconfined compression and triaxial compression tests were performed on the "undisturbed" samples obtained with the 2-inch drive sampler. California Impact tests were performed on the "disturbed" samples obtained with the auger flights and the samples from the trenches excavated in adjacent cut slopes. Triaxial compression tests were also performed on a number of remolded specimens of the "disturbed" material. These remolded samples were 2.8 inches in diameter by 5.6 inches high. They were compacted to various densities at various moisture contents. In addition a number of related classification tests such as grading, plasticity, moisture and sand equivalent were also performed.

The results of the compression tests were used to determine the resistance to shear of the embankment soils. The results of the impact tests were used to determine the relative compaction of the embankments.

All of the test results are shown on the attached boring profiles, Sheets Nos. 7 to 10, inclusive. The wet densities and moisture contents of the 2-inch samples are shown plotted at their appropriate depths on Sheets Nos. 11 and 12. Plots of percent gravel, sand, silt and clay versus depth are shown on Sheets Nos. 13 and 14.

Embankment Compaction

The in-place density of the embankment material was determined from the two-inch diameter by four-inch high drive samples. These drive samples were the only reasonable way to obtain in-place densities, within the scope of this investigation, but due to their small size they should not be considered adequate for construction control.

California Impact Tests were run on samples from the three auger borings, the trenches excavated in cut slopes adjacent to the embankments investigated and from the pile of uncompacted material near Station 127+30. Our study of the test data and a visual inspection of the various materials indicated that the material obtained

from the uncompacted stockpile is the most representative of the material as it exists in the embankments. The maximum test density of this uncompacted material was used in our calculations of relative compaction shown in the attachments to this report. However, maximum test densities from the three sources were not radically divergent and they all indicate that much of the embankments were not compacted to the required minimum.

In general the relative compaction, especially in the lower part of the embankment, was less than the specification limit of 90 percent. This is shown on the attached Sheets Nos. 15 and 16 where relative compaction has been plotted against depth. It should be pointed out that the steepsided ravines in which these embankments were constructed presented a problem to the efficient operation of compaction equipment in the bottom portion of the embankments.

Strength

Numerous unconfined and triaxial compression tests were run on samples obtained from the four drive sample borings. Values of cohesion and angles of internal friction were determined from the Mohr envelope. Using these values the height of embankment which could be supported by the various soil layers was computed with the aid of a standard stability chart based on the stability numbers presented in "Fundamentals of Soil Mechanics" by Donald W. Taylor.

Table No. 1 shows the maximum height of embankment, based on the above computations. The height of embankment which was actually placed on these soil layers is also shown in the table. A comparison of the actual embankment height versus the maximum safe height shows several locations where more embankment was placed than could apparently be supported. The heterogenous nature of an embankment would indicate that the layers or zones of weak material seen in profile at the boring location are laterally confined by stronger material. This has prevented a major shear failure. An evaluation of the inclinometer data indicates that some movement has occurred but the magnitude is small. The inclinometer readings are given in the attached Table No. II.

Summary

Within approximately two years after paving noticeable sags had developed in the profile grade on at least two embankments on Road III-Pla-37-C. It also appeared, by visual inspection, that some bulging had occurred in the bottom half of the embankment slopes. Our investigation was centered around two embankments. These embankments are located in the vicinity of Station 128 and Station 134.

Two inch diameter drive samples were obtained from the embankments. These samples were subjected to various strength tests and also were used for the determination of "in place" density. Auger samples were obtained from the two embankments and disturbed samples

were obtained from trenches dug in various cut slopes adjacent to the embankments and from a stockpile of uncompacted material near Station 127. These samples were used to determine maximum density by the California Impact Test Method.

Our analysis of these tests data indicates the embankment, especially the bottom portion of the embankment, was not compacted to 90 percent. Our evaluation of the in-place densities, relative compaction and a visual inspection of the material indicates there could be considerable settlement within the embankment. The strength test data shows the existence of lenses or pockets of weak material within the embankment, surrounded by stronger material. Readings from the inclinometers installed in the fills and visual observations of reference stakes on the slopes indicate some movement of the embankments during the past 18 months. The sagging and bulging of the embankments can be attributed to local failures within the embankments. There is a sufficient amount of high strength material in these embankments to prevent a major slipout but the pockets of weak material could cause a plastic flow type of failure as evidenced by the bulging of the slopes. Settlement within the embankments could have contributed to the sag which developed in the grade line. It is our opinion that the forces acting within these embankments are in a state of equilibrium. It is doubtful if movement will be serious but it may continue for years. Frequent patching or resurfacing will probably be necessary. No other corrective measures are believed to be necessary.

TABLE NO. I

Actual Height of Embankment and Maximum Safe Height of Embankment

D-1		D-2		D-3		D-4	
Act. Emb. Ht.	Max. Safe Ht.	Act. Emb. Ht.	Max. Safe Ht.	Act. Emb. Ht.	Max. Safe Ht.	Act. Emb. Ht.	Max. Safe Ht.
22-24	75	18-25	40	21-23	80	21-28	140
24-26	30	25-27	125	25-27	55	30-36	200
27-29	190	27-30	40	27-29	45	38-42	160
36-44	15	30-32	80	29-31	35	44-54	90
44-46	30	37-44	160	32-39	70	54-60	200
46-47	15	44-46	50			60-62	55
47-48	70	46-48	70			62-68	130
48-50	35	48-56	55			68-74	120
50-52	300	57-60	90			74-79	200
52-54	30						
54-58	85						
58-60	25						
60-70	80						
70-73	170						

TABLE NO. II

Root Inclinometer Measurements
depth of free movement of probe, feet

Boring No.	D-1			D-2			D-3			D-4		
Installed Depth, ft.	97			71			55			91		
Probe Length, ft.	3.0	1.5	0.5	3.0	1.5	0.5	3.0	1.5	0.5	3.0	1.5	0.5
Date of Reading												
11-2-61	5	85	85									
11-7-61	7	97	97	54	69	69						
11-9-61							53	53	53			
11-16-61										8	90	90
11-27-61	4	86	96	62	71	71	0	54	54	5	91	91
6-6-62	5	8	96	40	62	71	-	54	54	3	83	91
1-17-63	-	6	96	4	61	71	-	5	48	-	2	90
3-13-63	4	5	95	4	10	68	2	2	55	5	4	91
7-19-63	4	6	96	4	49	71	4	51	51	3	7	10

GEOLOGIC LEGEND

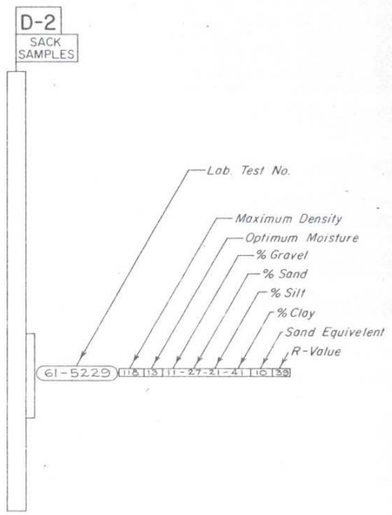
SOIL TYPES

- Gravel
- Sand
- Silt
- Clay
- Claypan
- Hardpan
- Sandy Gravel
- Gravelly Sand
- Loam
- Sandy Loam
- Silty Sand
- Sandy Silt
- Sandy Clay
- Clayey Sand
- Silty Clay
- Clayey Silt
- Peat
- Topsoil
- Organic Silt
- Organic Clay
- Shells
- Fill

ROCK TYPES

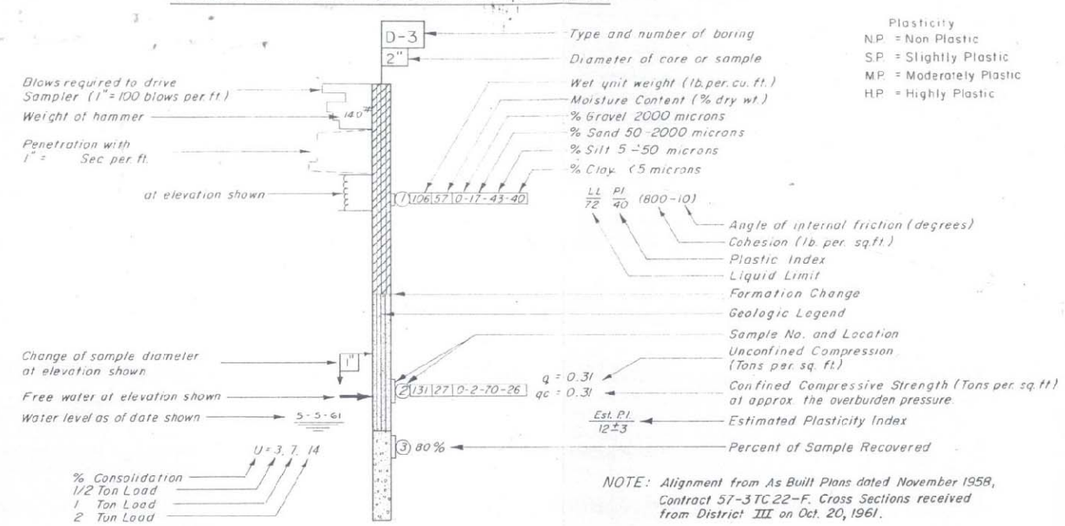
- Sandstone
- Shale
- Slate
- Schist
- Volcanics
- Unclassified Intrusives
- Ultra-basic Intrusives (Serpentine)
- Sandstone, Shale, Unclass.-Intrus. — Decomposed Weathered or Fractured

SACK SAMPLE LEGEND



BORING LEGEND

CROSS-SECTION & PROFILE SHEETS



Plasticity
- N.P. = Non Plastic
- S.P. = Slightly Plastic
- M.P. = Moderately Plastic
- H.P. = Highly Plastic

NOTE: Alignment from As Built Plans dated November 1958, Contract 57-3TC22-F. Cross Sections received from District III on Oct. 20, 1961.

BORING LEGEND - PLAN SHEETS

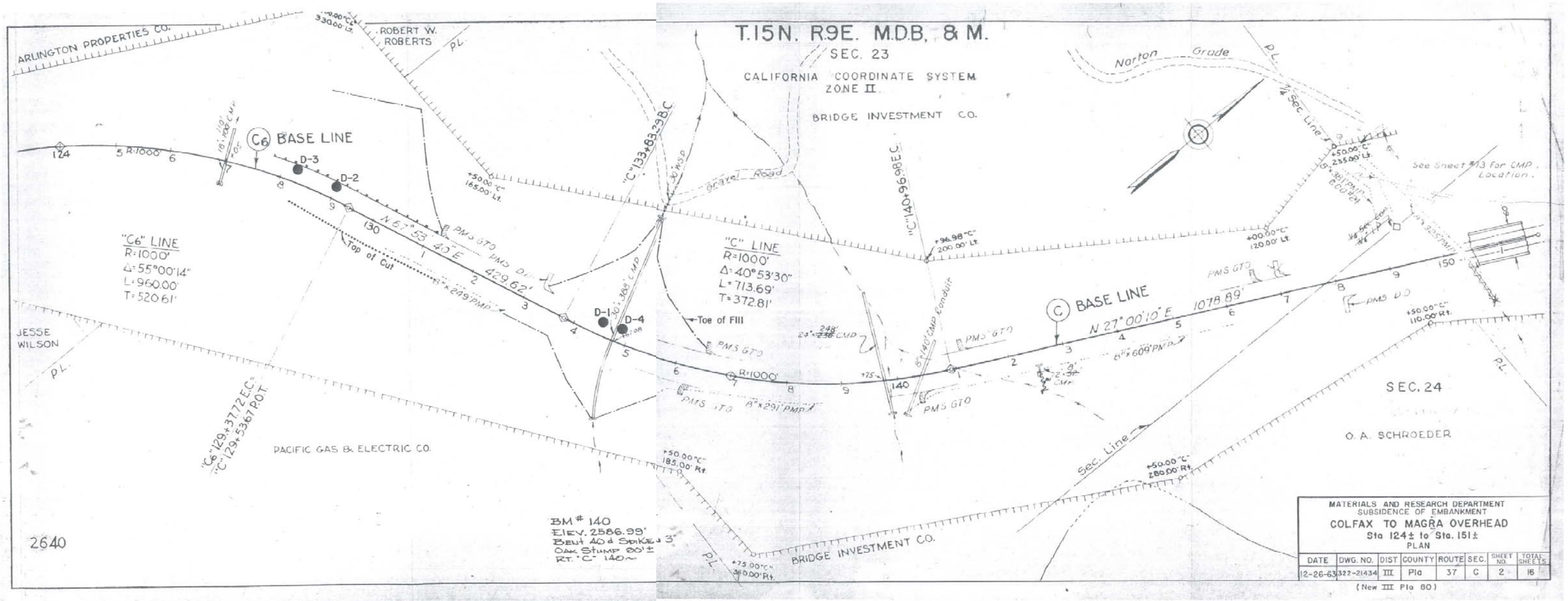
NOTE: All borings are numbered consecutively regardless of type of boring.

- D-0 Drive Boring
- D-0(P) Probe Boring

STATE OF CALIFORNIA DIVISION OF HIGHWAYS
MATERIALS & RESEARCH DEPARTMENT

SUBSIDENCE OF EMBANKMENT INVESTIGATION
Road III-Pla-37-C
(New III-Pla-80)
Colfax to Magra Overhead
LEGEND SHEET

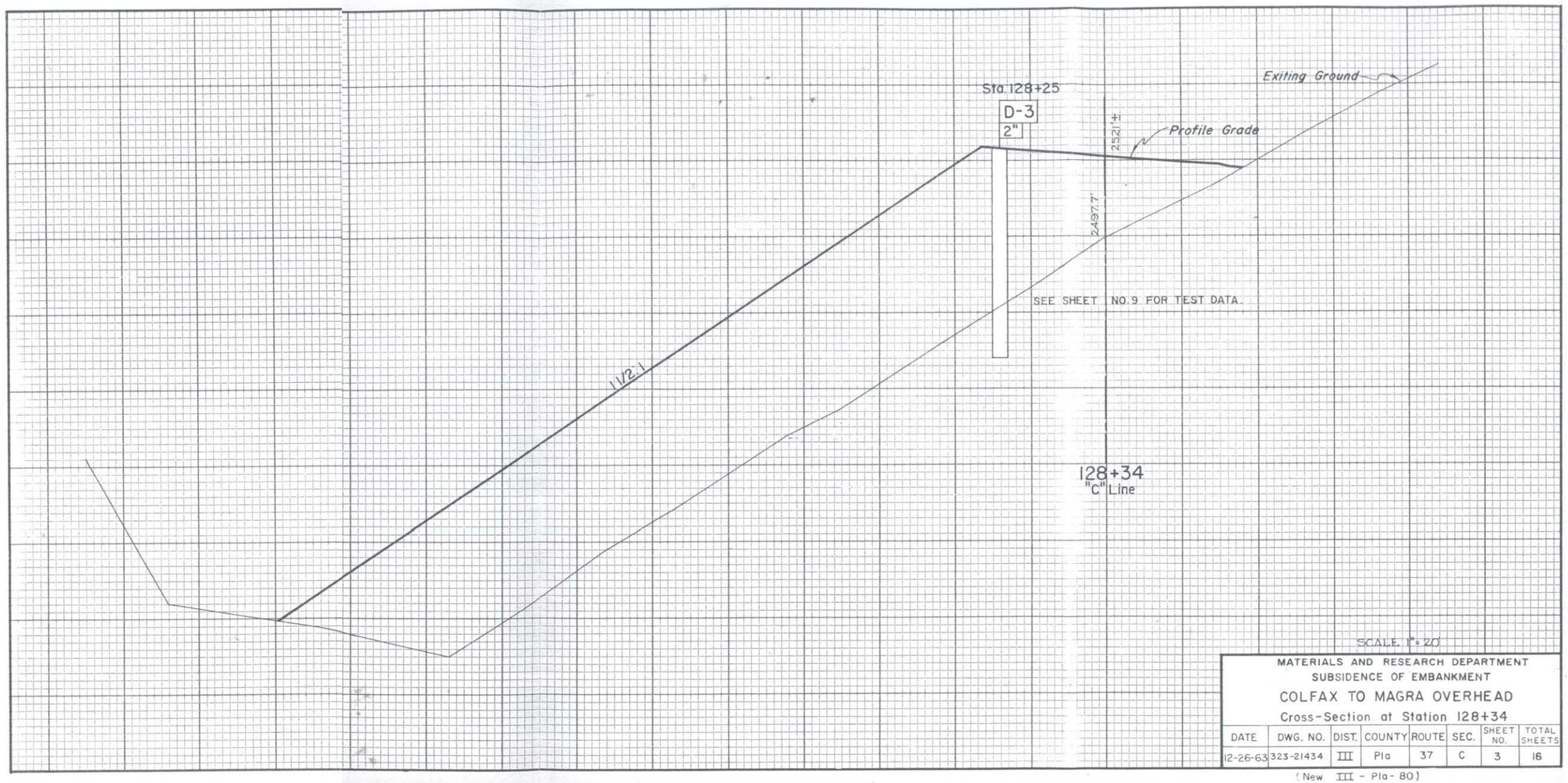
DATE 12-26-63	SUBMITTED BY: Irwin Smith, SUPV. HIGHWAY ENG'R.	DWG. NO. 321-21434
DRAWN BY D.D.	APPROVED BY: John L. Beaton, MATERIALS & RESEARCH ENG'R.	SHEET NO. 1.
CHECKED BY GREY		OF 16 SHEETS



MATERIALS AND RESEARCH DEPARTMENT
SUBSIDENCE OF EMBANKMENT
COLFAX TO MAGRA OVERHEAD
Sta 124± to Sta. 151±
PLAN

DATE	DWG. NO.	DIST	COUNTY	ROUTE	SEC.	SHEET NO.	TOTAL SHEETS
12-26-63	322-21434	III	Pla	37	C	2	16

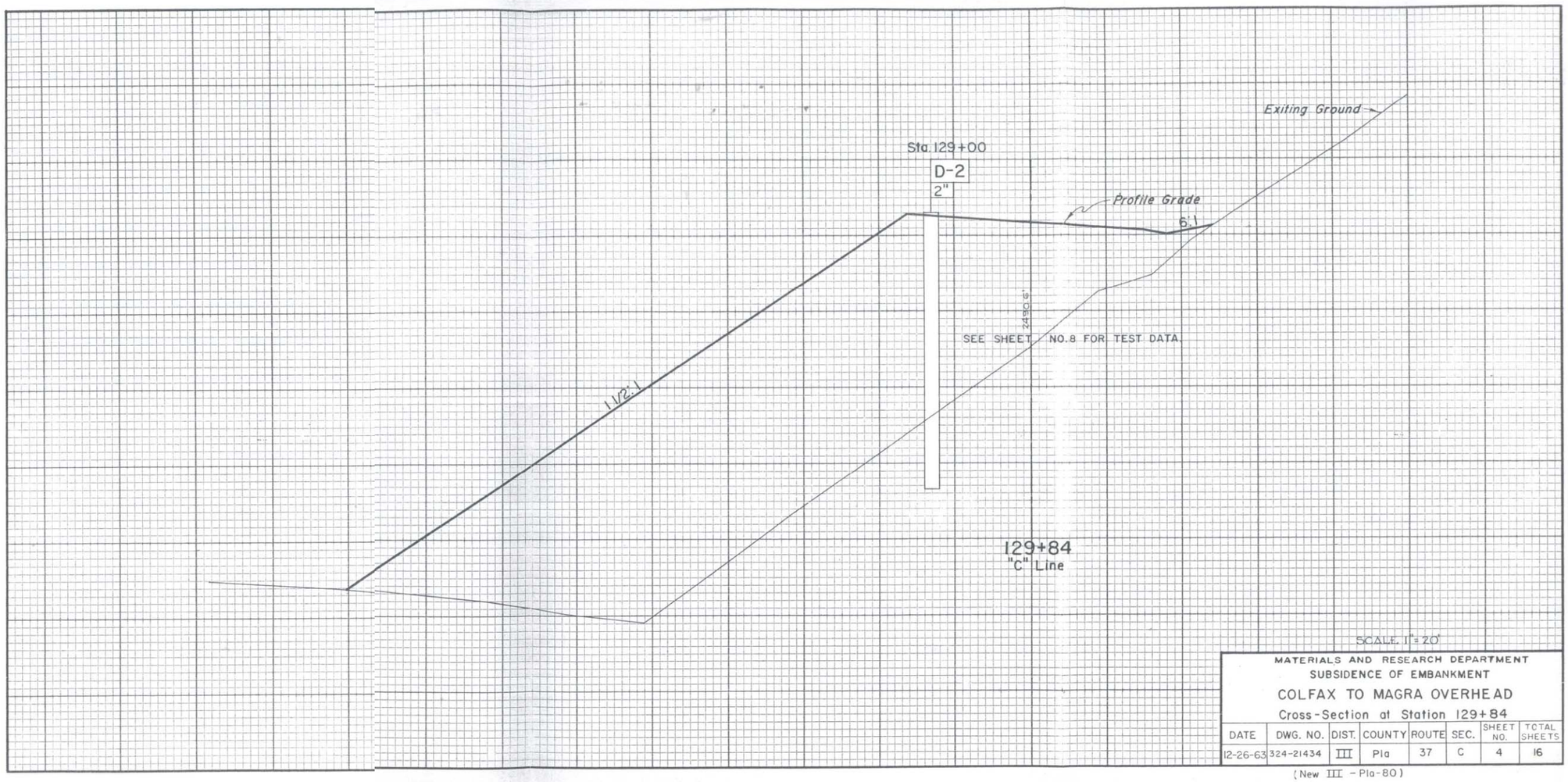
(New III Pla 80)



MATERIALS AND RESEARCH DEPARTMENT
SUBSIDENCE OF EMBANKMENT
COLFAX TO MAGRA OVERHEAD
Cross-Section at Station 128+34

DATE	DWG. NO.	DIST.	COUNTY	ROUTE	SEC.	SHEET NO.	TOTAL SHEETS
12-26-63	323-21434	III	Pla	37	C	3	16

(New III - Pla - 80)



MATERIALS AND RESEARCH DEPARTMENT
SUBSIDENCE OF EMBANKMENT
COLFAX TO MAGRA OVERHEAD
Cross-Section at Station 129+84

DATE	DWG. NO.	DIST.	COUNTY	ROUTE	SEC.	SHEET NO.	TOTAL SHEETS
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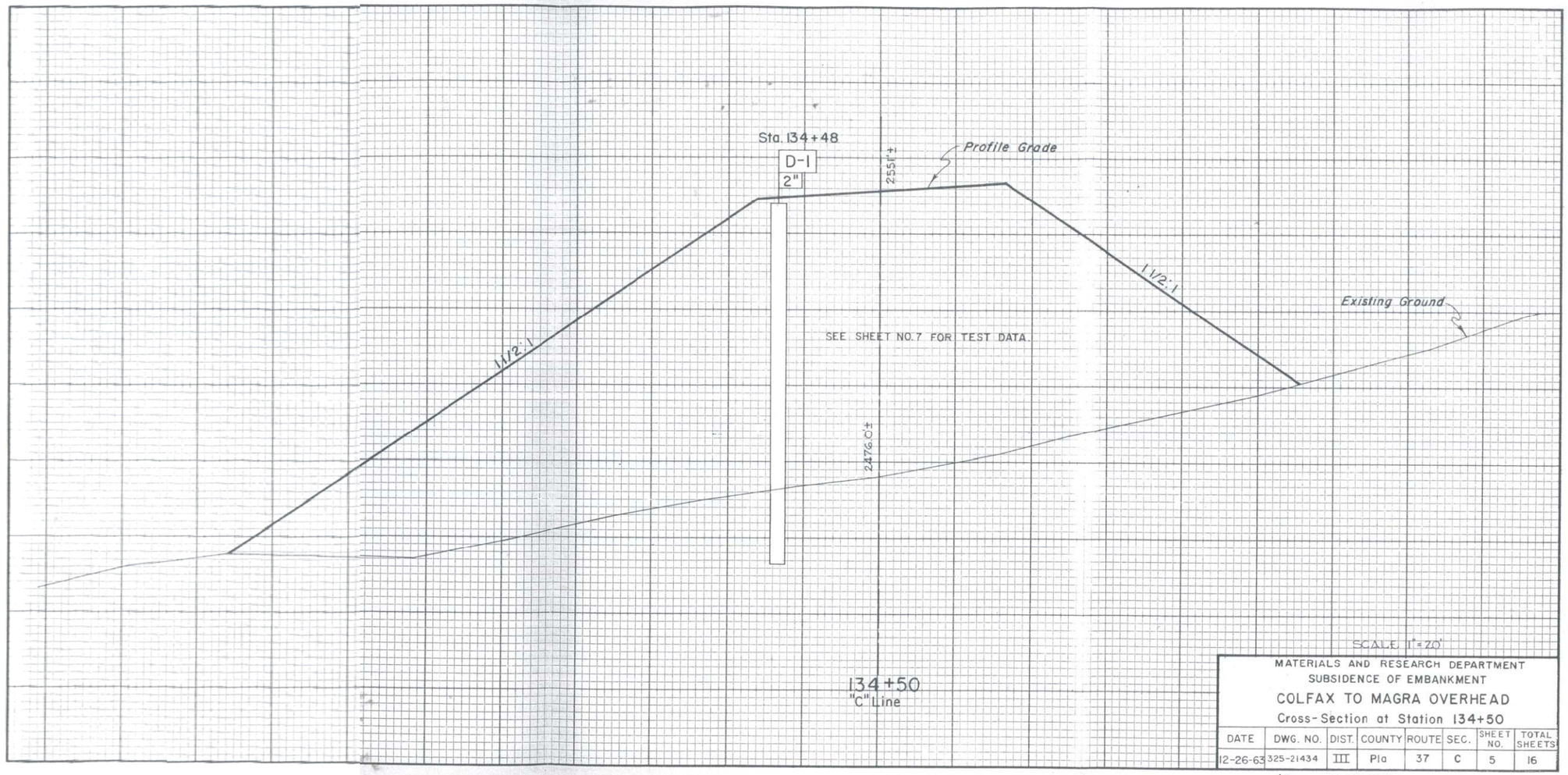
(New III - Pla-80)



MATERIALS AND RESEARCH DEPARTMENT
SUBSIDENCE OF EMBANKMENT
COLFAX TO MAGRA OVERHEAD
Cross-Section at Station 134+50

DATE	DWG. NO.	DIST.	COUNTY	ROUTE	SEC.	SHEET NO.	TOTAL SHEETS
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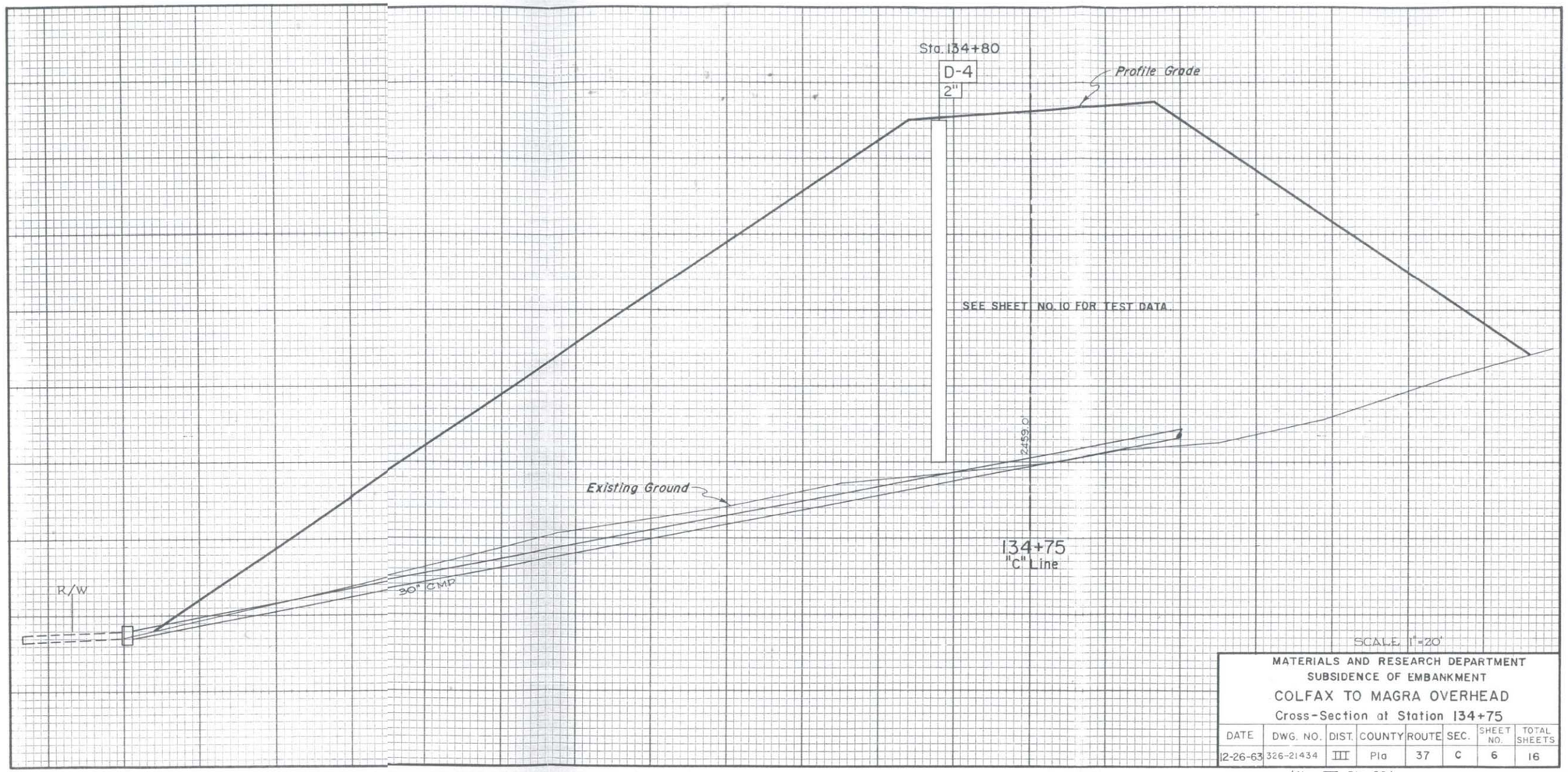

MATERIALS AND RESEARCH DEPARTMENT
SUBSIDENCE OF EMBANKMENT
COLFAX TO MAGRA OVERHEAD
Cross-Section at Station 134+75

DATE	DWG. NO.	DIST.	COUNTY	ROUTE	SEC.	SHEET NO.	TOTAL SHEETS
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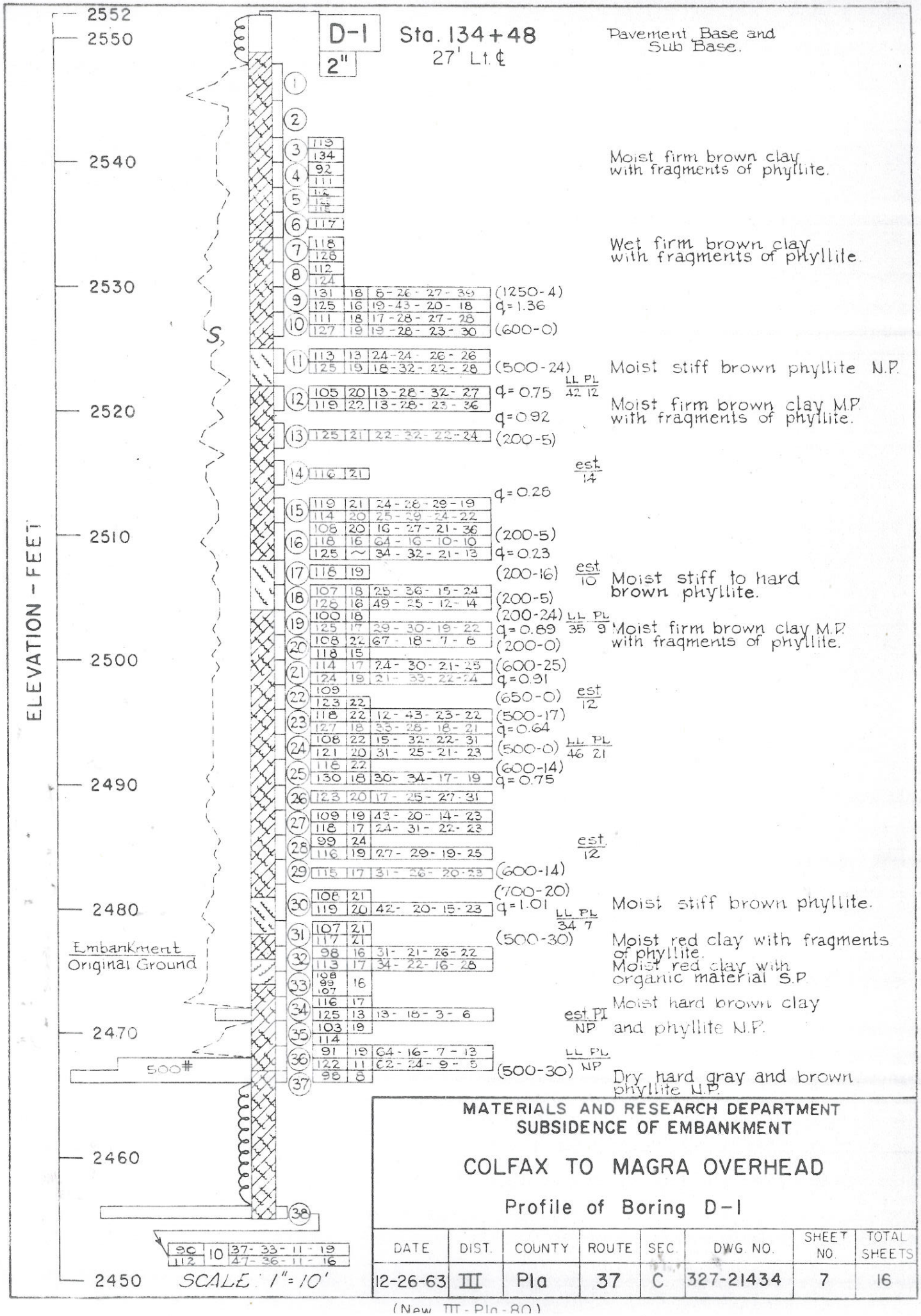
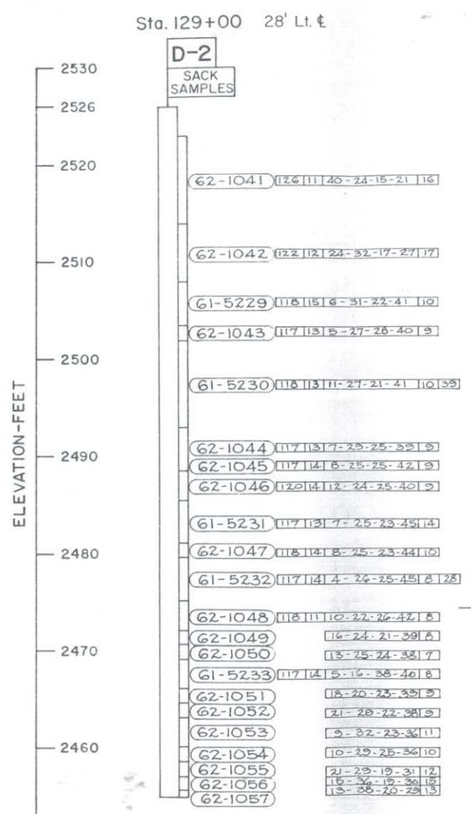
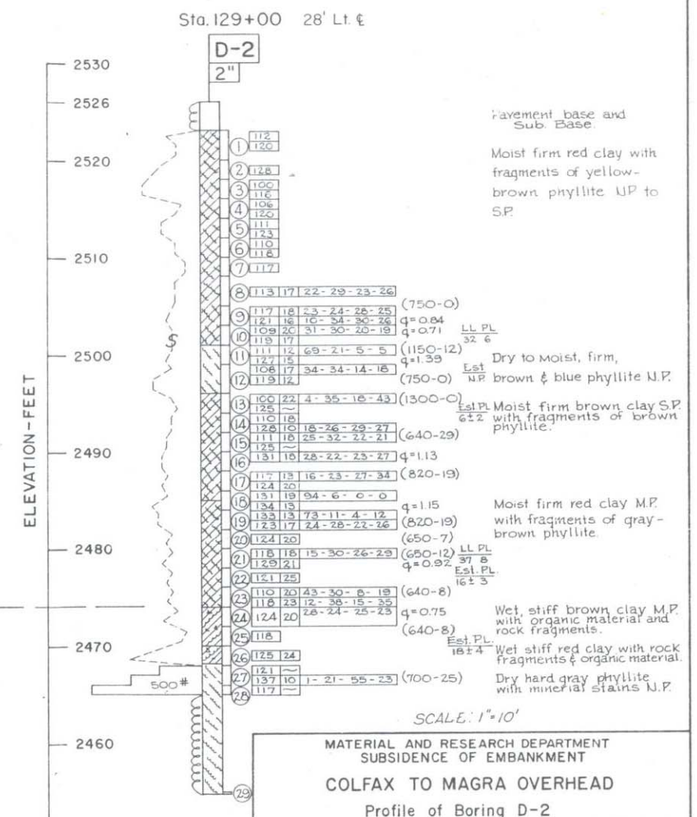
(New III-Pla-80)



(New III - Pla - 80)





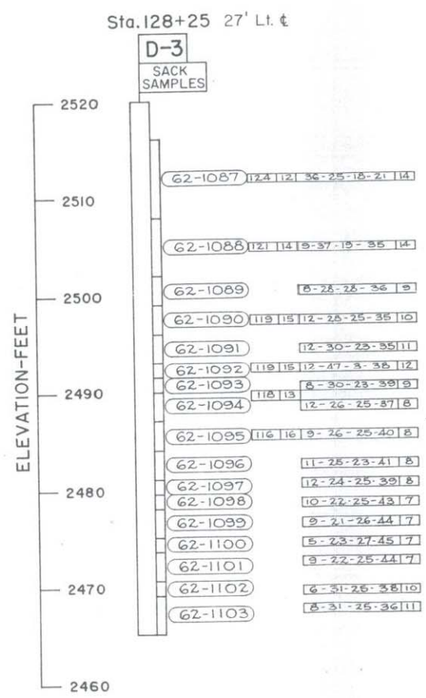
MATERIAL AND RESEARCH DEPARTMENT
SUBSIDENCE OF EMBANKMENT

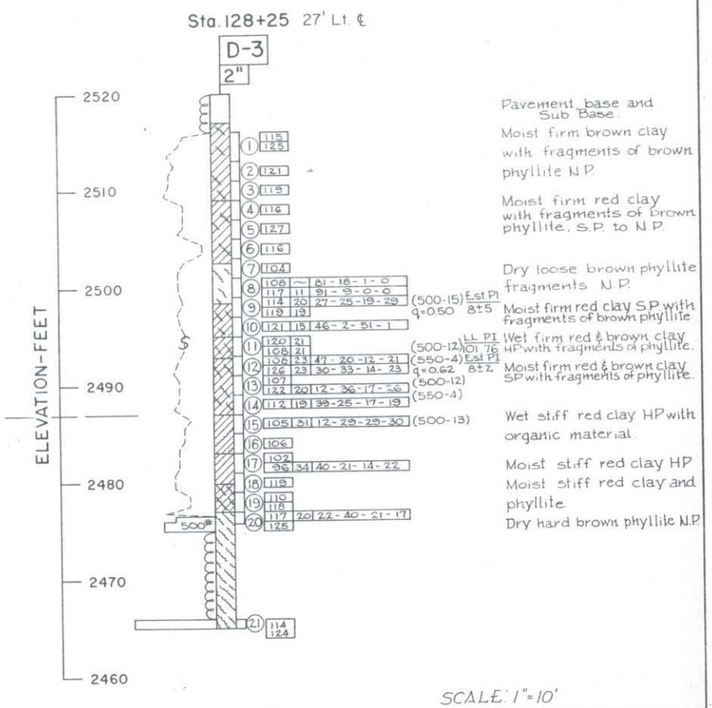
COLFAX TO MAGRA OVERHEAD

Profile of Boring D-2

DATE	DIST.	COUNTY	ROUTE	SEC.	DWG. NO.	SHEET NO.	TOTAL SHEETS
12-26-63	III	Pla	37	C	328-21434	8	16

(New III - Pla-80)





SCALE: 1" = 10'

MATERIAL AND RESEARCH DEPARTMENT
SUBSIDENCE OF EMBANKMENT

COLFAX TO MAGRA OVERHEAD

Profile of Boring D-3

DATE	DIST.	COUNTY	ROUTE	SEC.	DWG. NO.	SHEET NO.	TOTAL SHEETS
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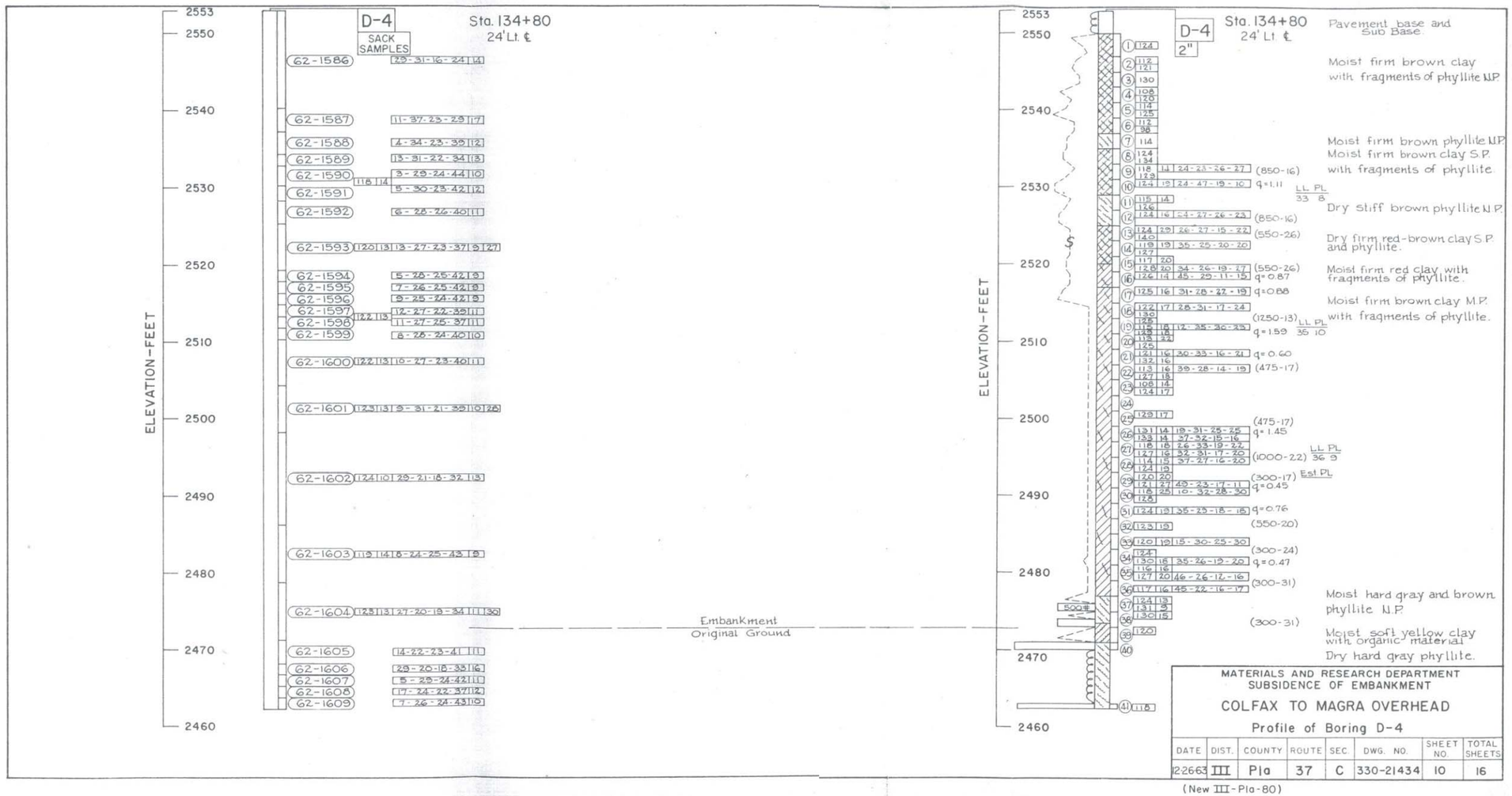
(New III - Pla - 80)



MATERIALS AND RESEARCH DEPARTMENT
SUBSIDENCE OF EMBANKMENT

COLFAX TO MAGRA OVERHEAD

Profile of Boring D-4

DATE	DIST.	COUNTY	ROUTE	SEC.	DWG. NO.	SHEET NO.	TOTAL SHEETS
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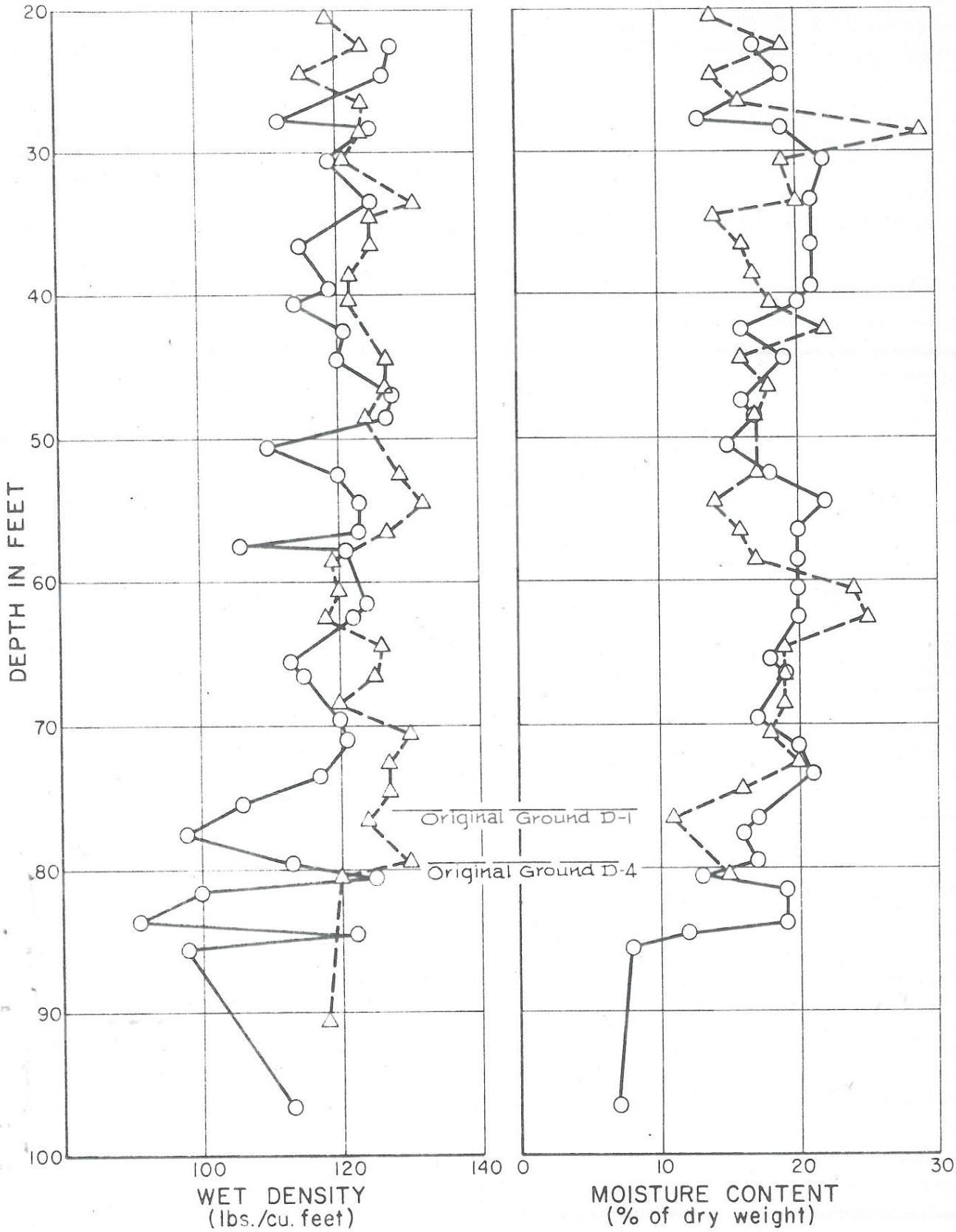
(New III-Pla-80)



Legend:

○ Boring D-1

△ Boring D-4

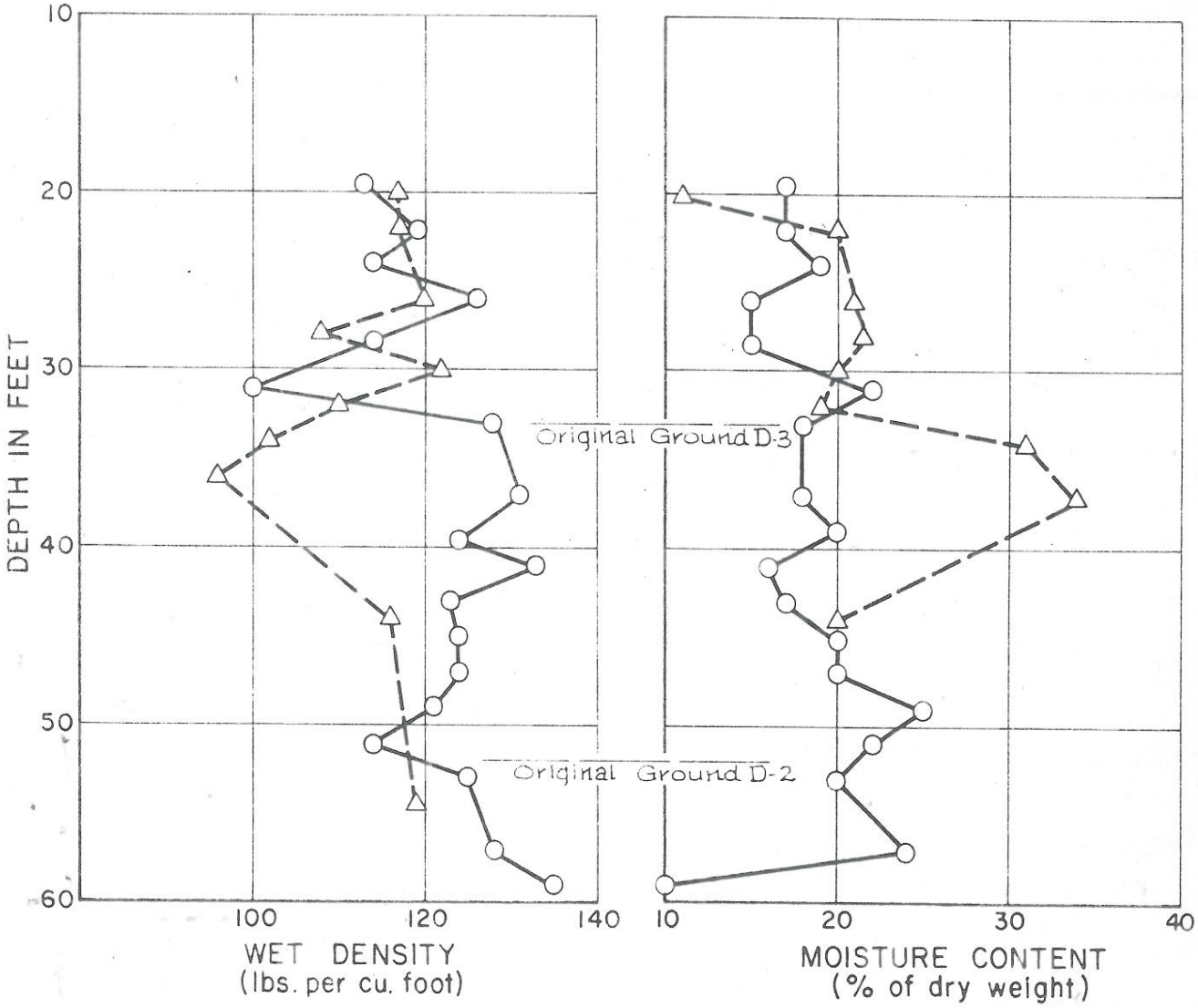
SUBSIDENCE OF EMBANKMENT

III-Pla-37-C(New III-Pla-80)

Sta. 133± to Sta. 137±

Borings D-1 & D-4

DWG. NO. 360-21434



Legend:

○ Boring D-2

△ Boring D-3

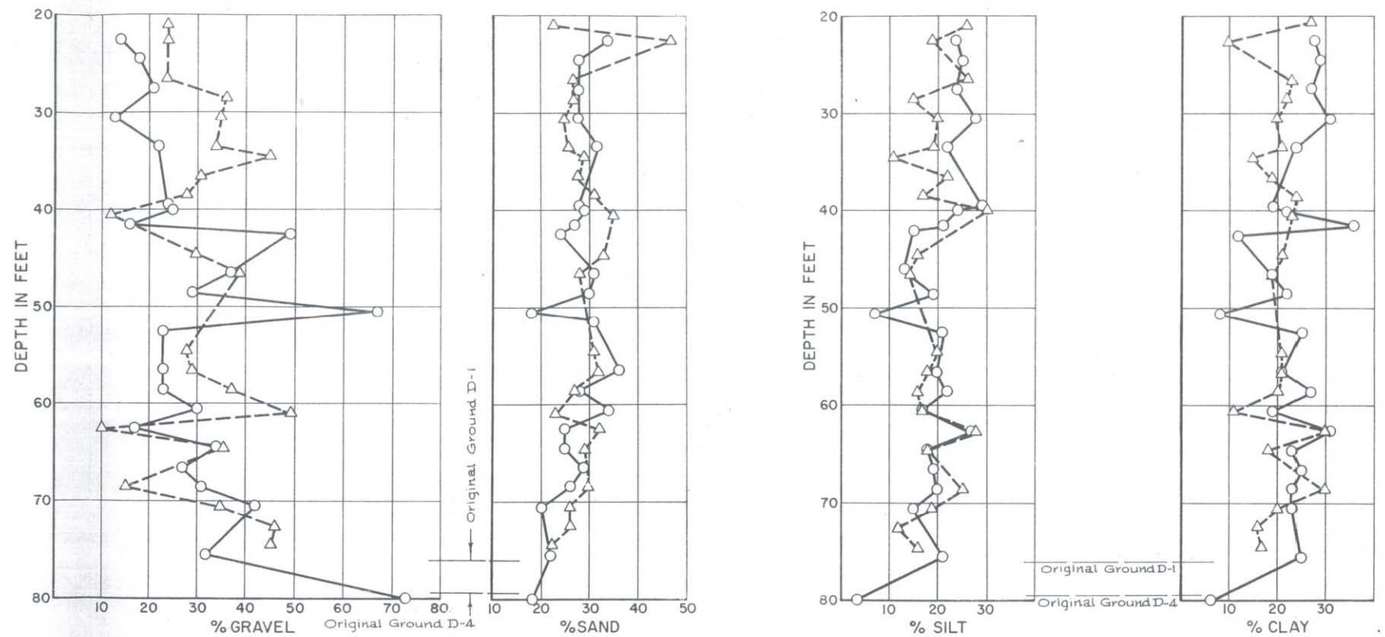
SUBSIDENCE OF EMBANKMENT

III-Pla-37-C (New III-Pla-80)

Sta. 127 ± to Sta. 131 ±

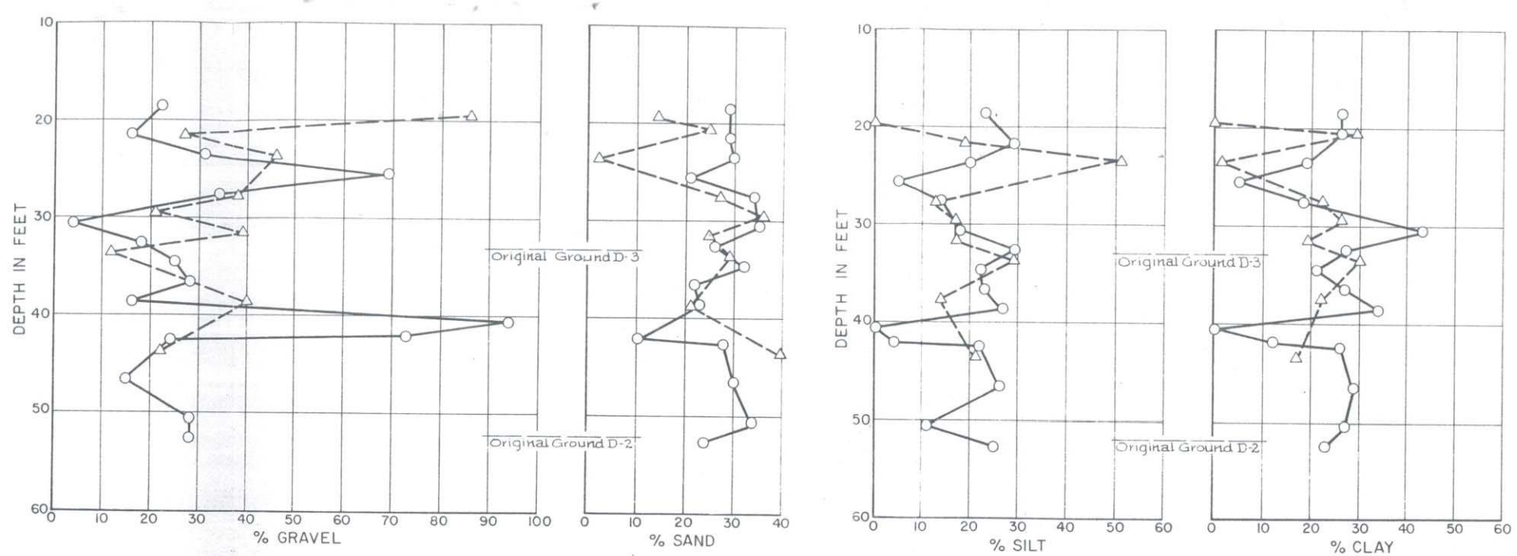
Borings D-2 & D-3

DWG. NO. 364-21434



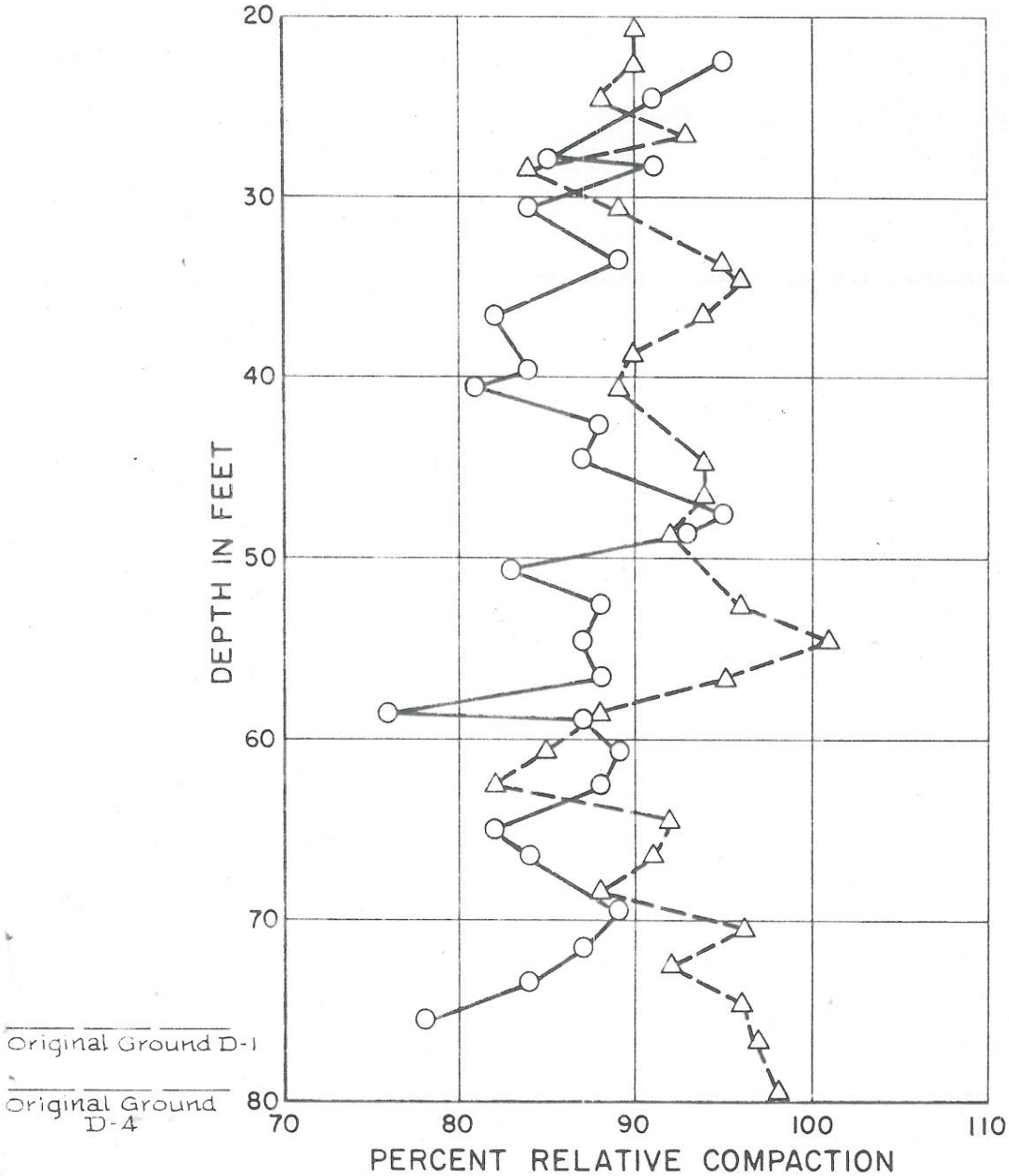
Legend:
○ Boring D-1
△ Boring D-4

SUBSIDENCE OF EMBANKMENT
III-Pla-37-C (New III-Pla-80)
Sta. 133± to Sta. 137±
Borings D-1 & D-4
DWG. NO. 362-21434



Legend:
○ Boring D-2
△ Boring D-3

SUBSIDENCE OF EMBANKMENT
III-Pla-37-C(New III-Pla-80)
Sta. 127± to Sta. 131±
Borings D-2 & D-3
DWG. NO. 36C-21434



Legend:

○ Boring D-1

△ Boring D-4

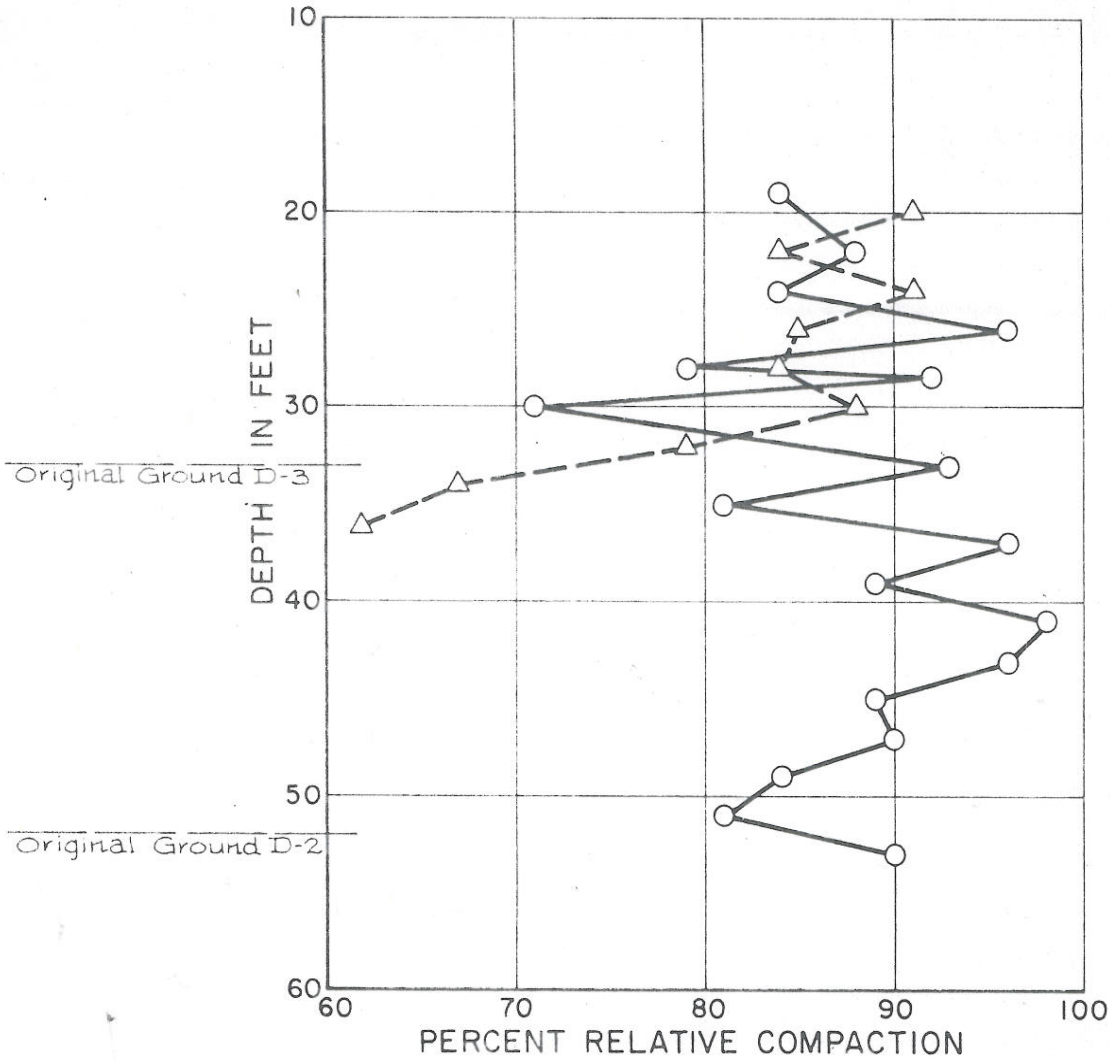
SUBSIDENCE OF EMBANKMENT

III-Pla-37-C (New III-Pla-80)

Sta. 133± to Sta. 137±

Borings D-1 & D-4

DWG. NO. 361-21434



Legend:

○ Boring D-2

△ Boring D-3

SUBSIDENCE OF EMBANKMENT

III-Pla-37-C (New III-Pla-80)

Sta. 127 ± to Sta. 131 ±

Borings D-2 & D-3

DWG. NO. 365-21434

Project No. S9300-06-28
March 10, 2008

Mr. Rajive Chadha
California Department of Transportation – District 3
703 B Street
Marysville, California 95901

Subject: INTERSTATE 80 BRIDGES, POST MILE 33.3 TO 44.8
PLACER COUNTY, CALIFORNIA
CONTRACT NO. 03A1368
TASK ORDER NO. 28, EA NO. 03-1A7900
ASBESTOS SURVEY REPORT

Dear Mr. Chadha:

In accordance with California Department of Transportation Contract No. 03A1368 and Task Order No. 28, we have performed an asbestos survey for the subject project in Placer County, California. The scope of services included surveying five bridges for suspect asbestos-containing materials, collecting bulk samples, and submitting the samples to a laboratory for analysis.

The accompanying report summarizes the services performed and laboratory analysis.

The contents of this report reflect the views of Geocon Consultants, Inc., who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

Please contact us if you have questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

David A. Watts, CAC
Senior Project Scientist

John E. Juhrend, PE, CEG
Project Manager

DAW:JEJ:jaj

(5 + 3 CDs) Addressee

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1.2 General Objectives 1
2.0 BACKGROUND 1
2.1 Asbestos 1
2.2 Architectural Drawings and Previous Survey Activities 2
3.0 SCOPE OF SERVICES 2
4.0 INVESTIGATIVE RESULTS 3
5.0 RECOMMENDATIONS 4
6.0 REPORT LIMITATIONS 4

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2. Site Plan

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1. Summary of Asbestos Results

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A. Analytical Laboratory Reports and Chain-of-custody Documentation

ASBESTOS SURVEY REPORT

1.0 INTRODUCTION

This asbestos survey report was prepared by Geocon Consultants, Inc. under Caltrans Contract No. 03A1368, Task Order No. 28 (TO-28).

1.1 Project Description

The project consists of five bridges (Bridges 19-0111 [Alta Road Undercrossing], 19-0028 [Magra Overhead], 19-0091 [Cape Horn Undercrossing], 19-0090 [Long Ravine Undercrossing], and 19-0089 [Long Ravine Overhead]) on Interstate 80 (I-80) between Post Mile 33.3 and 44.8 in Placer County, California. We performed asbestos survey activities at the project location. The project location is depicted on the Vicinity Map, Figure 1.

1.2 General Objectives

The purpose of the scope of services outlined in TO-28 was to determine the presence and quantity of asbestos at the bridge site locations prior to I-80 improvement activities. Caltrans will use the information obtained from this investigation for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos disturbance activities.

2.0 BACKGROUND

2.1 Asbestos

The *Code of Federal Regulations (CFR),* 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains *greater than* 1% asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- **Category I** – asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- **Category II** – all remaining types of nonfriable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM), a hazardous waste when friable, is classified as any manufactured material that contains *greater than* 1% asbestos by dry weight *and* is:

- Friable (can be crumbled, pulverized, or reduced to powder by hand pressure); or

- Category I material that has become friable; or
- Category I material that has been subjected to sanding grinding, cutting or abrading; or
- Category II nonfriable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard contained in Title 8, CCR Section 1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that must be followed. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains more than 0.1% asbestos (Title 8, CCR 341.6).

2.2 Architectural Drawings and Previous Survey Activities

We reviewed bridge architectural plans provided by Caltrans prior to field activities. We observed no evidence of asbestos use on the architectural plans provided. Previous survey reports were not available for our review.

3.0 SCOPE OF SERVICES

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2008), performed the asbestos survey at the project location on January 14, 2008.

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for condition (evidence of deterioration, physical damage, and water damage) and friability. We observed no suspect asbestos materials on

Bridge 19-0111. Consequently, no samples were collected from this bridge. A total of eight bulk asbestos samples of suspect materials were collected.

Our procedures for inspection and sampling in accordance with TO-28 are discussed below:

- Collected bulk asbestos samples after first wetting friable material with a light mist of water. The samples were then cut from the substrate and transferred to a labeled container. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).
- Relinquished bulk asbestos samples to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM) under chain-of-custody protocol. EMSL Analytical, Inc. is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a two-workday turn-around-time.

Sample group identification numbers, material descriptions, approximate quantities, friability assessments, and photo references are summarized on Table 1. Approximate sample locations are presented on the Site Plan, Figure 2. Materials represented by the samples collected are shown in the attached photographs.

4.0 INVESTIGATIVE RESULTS

Asbestos was not detected in samples representing suspect materials collected during our survey. A summary of the analytical laboratory test results for asbestos is presented on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

5.0 RECOMMENDATIONS

Since no asbestos was detected in samples collected during the survey, the Cal/OSHA asbestos standard does not apply for planned bridge improvement activities at the site. In addition, debris from planned improvement activities would not be considered as a California hazardous waste based on asbestos content.

Written notification to U.S. EPA Region IX and the California Air Resources Board is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not). For notification instructions, please see the following internet link: *http://www.arb.ca.gov/enf/asbestos/asbestosform.htm.*

6.0 REPORT LIMITATIONS

This asbestos survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos in structures. The survey addressed only the structures identified in Section 1.1. Due to the nature of structure surveys, asbestos use, and laboratory analytical limitations, some ACM at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases, may have been concealed to Geocon's investigator. Previous renovation work may have concealed or covered spaces or materials, or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced ACM with indistinguishable non-ACM. Asbestos may exist in areas of the structures that were not accessible or sampled in conjunction with this TO.

During renovation or demolition operations, suspect materials may be uncovered which are different from those accessible for sampling during this assessment. Personnel in charge of renovation/demolition should be alerted to note materials uncovered during such activities that differ substantially from those included in this or previous assessment reports. If suspect ACM are found, additional sampling and analysis should be performed to determine if the materials contain asbestos.

This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report, and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, expressed or implied, with

respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

AERIALLY DEPOSITED LEAD SITE INVESTIGATION REPORT AND ASBESTOS AND LEAD-CONTAINING PAINT BRIDGE SURVEY REPORT

Interstate 80 (03-PLA-80)
Post Mile 35.0 to 38.3
Placer County, California

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 3
ENVIRONMENTAL ENGINEERING OFFICE
703 B STREET
MARYSVILLE, CALIFORNIA 95901

PREPARED BY:

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GEOCON PROJECT NO. S9805-01-50
TASK ORDER NO. 50, EA 03-1F4001

MAY 2015

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. S9805-01-50
May 19, 2015

Mr. Rajive Chadha
California Department of Transportation – District 3
Environmental Engineering Office
703 B Street
Marysville, California 95901

Subject: AERIALLY DEPOSITED LEAD SITE INVESTIGATION REPORT
AND ASBESTOS BRIDGE SURVEY REPORT
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA
CONTRACT NO. 03A2132, TASK ORDER NO. 50, EA 03-1F4001

Dear Mr. Chadha:

In accordance with California Department of Transportation (Caltrans) Contract No. 03A2132, Task Order No. 50, and Expense Authorization 03-1F4001, we have performed environmental engineering services at the project site. The Site consists of Caltrans right-of-way along Interstate 80 from Post Mile 35.0 to 38.3 in Placer County, California. The accompanying report summarizes the services performed including the advancement of 95 direct-push and 114 hand-auger borings for the collection of soil samples for aerially deposited lead (ADL) analysis, and surveying one bridge deck and approaches for suspect asbestos-containing materials, collecting bulk samples, and submitting the samples to the laboratory for analysis. This report also presents lead data generated from a previous ADL investigation conducted by Geocon in 2012-2013 within the same project limits.

The contents of this report reflect the views of the author, who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

Please contact us if you have any questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

for

Gemma G. Reblando
Project Geologist

John E. Juhrend, PE, CEG
Principal/Senior Engineer

REGISTERED PROFESSIONAL ENGINEER
JOHN JUHREND
No. 46681
CIVIL
STATE OF CALIFORNIA

(2 + 2 CD) Addressee

Project No. S9805-01-50
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Mr. Rajive Chadha
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GEOCON CONSULTANTS, INC.

Gemma G. Reblando
Project Geologist

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Principal/Senior Engineer

(2 + 2 CD) Addressee

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AERIALLY DEPOSITED LEAD SITE INVESTIGATION REPORT AND ASBESTOS BRIDGE SURVEY REPORT

1.0 INTRODUCTION

This Aerially Deposited Lead (ADL) Site Investigation Report, and Asbestos Bridge Survey Report for the Interstate 80 (I-80) Post Mile (PM) 35.0 to 38.3 project was prepared under California Department of Transportation (Caltrans) Contract No. 03A2132, Task Order (TO) No. 50, and Expense Authorization (EA) 03-1F4001.

1.1 Project Description and Proposed Improvements

The project area consists of Caltrans right-of-way along the eastbound (EB) shoulder and slope areas of I-80 from approximate PM 35.0 to 38.3 (the Site) just east of Colfax, California. Caltrans proposes roadway improvements along the shoulder of EB I-80. The approximate project location is depicted on the Vicinity Map, Figure 1, and Site Plans, Figures 2-1 through 2-13.

1.2 General Objectives

The purpose of the scope of services outlined in TO No. 50 was to evaluate the Site for potential impacts due to ADL from motor vehicle exhaust in the surface and near-surface soils. The investigative results will be used by Caltrans to inform the construction contractor(s) if ADL-impacted soils are present within the project boundaries for construction worker health and safety, soil reuse evaluation and waste management/disposal purposes. Lead data generated from a previous ADL investigation conducted by Geocon in 2012-2013 are included in this study.

Additionally, we performed an asbestos-containing material (ACM) survey at the Cape Horn Undercrossing (19-0091) at PM 36.86 on I-80 in Placer County, California. The results of the ACM bridge survey are summarized in Sections 5.3 and 6.2, and the ACM bridge survey report is in Appendix A.

2.0 BACKGROUND

Regulatory criteria to classify a waste as “California hazardous” for handling and disposal purposes are contained in the California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 11, Article 3, § 66261.24. Criteria to classify a waste as “Resource, Conservation, and Recovery Act (RCRA) hazardous” are contained in Chapter 40 of the Code of Federal Regulations (40 CFR), Section 261.

2.1 Potential Lead Soil Impacts

Ongoing testing by Caltrans has indicated that ADL exists along major freeway routes due to emissions from vehicles powered by leaded gasoline.

2.2 Hazardous Waste Determination Criteria

For waste containing metals, the waste is classified as California hazardous when: 1) the representative total metal content equals or exceeds the respective Total Threshold Limit Concentration (TTLC); or 2) the representative soluble metal content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) based on the standard Waste Extraction Test (WET). A waste may have the potential of exceeding the STLC when the waste's total metal content is greater than or equal to ten times the respective STLC value, since the WET uses a 1:10 dilution ratio. Hence, when a total metal is detected at a concentration greater than or equal to ten times the respective STLC, and assuming that 100 percent of the total metals are soluble, soluble metal analysis is required. A material is classified as RCRA hazardous, or Federal hazardous, when the representative soluble metal content equals or exceeds the Federal regulatory level based on the Toxicity Characteristic Leaching Procedure (TCLP). The TTLC value for lead is 1,000 milligrams per kilogram (mg/kg). The STLC and TCLP values for lead are both 5.0 milligrams per liter (mg/l).

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability and corrosivity; however, for the purposes of this investigation, toxicity (i.e., representative lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or corrosivity. Waste that is classified as either California-hazardous or RCRA-hazardous requires management as a hazardous waste.

The Department of Toxic Substances Control (DTSC) regulates and interprets hazardous waste laws in California. DTSC generally considers excavated or transported materials that exhibit "hazardous waste" characteristics to be a 'waste' requiring proper management, treatment and disposal. Soil that contains lead above hazardous waste thresholds and is left in-place would not be necessarily classified by DTSC as a 'waste.' The DTSC has provided site-specific determinations that "movement of wastes within an area of contamination does not constitute 'land disposal' and, thus, does not trigger hazardous waste disposal requirements." Therefore, lead-impacted soil that is scarified in-place, moisture-conditioned, and recompacted during roadway improvement activities might not be considered a 'waste.' DTSC should be consulted to confirm waste classification. It is noted that in addition to DTSC regulations, health and safety requirements and other local agency requirements may also apply to the handling and disposal of lead-impacted soil.

2.3 DTSC Variance

The DTSC issued a statewide Variance effective July 1, 2009, regarding the management of ADL-impacted soils within Caltrans right-of-way. The original DTSC Variance expired on July 1, 2014, but was extended to June 30, 2015. Under the Variance, soil that originates from Caltrans right-of-way and is classified as a non-RCRA hazardous waste (i.e., California hazardous waste), based

primarily on ADL content (i.e., total lead ≥1,000 mg/kg and/or soluble WET lead ≥ 5 mg/l), may be suitable for reuse within Caltrans right-of-way. ADL soil that is classified as a RCRA hazardous waste is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste (Caltrans Type Z-3).

ADL soil reused under the Variance must always be at least 5 feet above the highest groundwater elevation and, depending on lead concentrations, must be covered with at least one foot of non-hazardous soil or a pavement structure. The ADL soil may not be placed in areas where it might contact groundwater or surface water (such as streams and rivers), and must be buried in locations that are protected from erosion that may result from storm water run-on and run-off.

Review of the statewide Variance indicates the following conditions regarding the reuse and management of ADL-impacted soil as fill material for construction and maintenance operations. If ADL soil meets the Variance criteria but is not intended to be reused within Caltrans right-of-way, then the excavated soil must be disposed of as a California hazardous waste (Caltrans Type Z2). Copies of the DTSC Variance and extension letters are presented in Appendix A.

Caltrans Type Y1

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a soluble lead concentration (based on a modified WET using deionized water as the extractant [DI-WET]) less than or equal to 1.5 mg/l, and a pH value greater than or equal to 5.5 may be reused within the same Caltrans corridor and must be covered with at least one foot of non-hazardous soil.

Caltrans Type Y2

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET soluble lead concentration less than or equal to 1.5 mg/l, and a pH value greater than 5 and less than 5.5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET soluble lead concentration greater than 1.5 mg/l and less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration greater than 1,411 mg/kg and less than or equal to 3,397 mg/kg, a DI-WET soluble lead concentration less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

Caltrans Type Z2

ADL soil exhibiting a total lead concentration greater than 3,397 mg/kg, a DI-WET soluble lead concentration greater than 150 mg/l, or a pH value less than or equal to 5 is not eligible for reuse under the Variance and must be disposed of as a California hazardous waste.

Caltrans Type Z3

ADL soil exhibiting a TCLP soluble lead concentration greater than or equal to 5.0 mg/l is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste.

2.4 Previous ADL Investigation

We conducted a previous ADL investigation along EB I-80 (Caltrans Contract 03A1368, TO No. 189, EA 03-1F4000) in 2012 and 2013. The results of the 2012-2013 ADL investigation were presented in Geocon's *Aerially Deposited Lead Site Investigation Report, Interstate 80 (03-PLA-80) Post Mile 35.0 to 38.3 (May 17, 2013).* The soil data from the 2012-2013 investigation are incorporated into this study.

3.0 SCOPE OF SERVICES

The scope of services requested by Caltrans in TO No. 50 included the collection of additional soil samples for analysis to determine ADL content in soil and the preparation of this report.

3.1 Pre-field Activities

- Provided a minimum 48-hour notification to Underground Service Alert (Ticket No. 155370) prior to job site mobilization.
- Retained the services of Advanced Technology Laboratories (ATL), a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil samples.

3.2 Field Activities

Between April 13 and 21, 2015, we advanced 95 direct-push and 114 hand-auger borings to an approximate maximum sampling depth of 5 feet along EB I-80. Borings were advanced at four lateral transects at the following distances relative to the edge of pavement (EOP).

- 68 borings advanced adjacent to the EOP (roadway shoulder);
- 47 borings advanced approximately 5 feet from the EOP primarily on the cut slopes;
- 47 borings advanced approximately 10 feet from the EOP on the cut slopes; and
- 47 borings advanced approximately 15 feet from the EOP on the cut slopes.

Soil samples from borings adjacent to the EOP were collected at depth intervals of 3 to 4 feet and/or 4 to 5 feet. Soil samples from borings advanced approximately 5, 10, and 15 feet from the EOP were collected at depth intervals of 0 to 0.5 foot, 1 to 1.5 feet, and at the greatest depth before refusal. Due to refusal conditions for the borings advanced approximately 5, 10, and 15 feet from the EOP, some soil samples were collected from an additional depth interval of 0.5 to 1 foot, and/or additional samples were collected at a depth interval of 0 to 0.5 foot.

The sample locations were selected in the field by the Caltrans Task Order Manager. Following sample collection, the borings were backfilled with the excess soil cuttings. Details of the field activities are presented in the following sections.

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2015) performed the limited asbestos survey at the project location on May 1, 2015.

4.0 INVESTIGATIVE METHODS

4.1 April 2015 ADL Soil Sampling Procedures

A total of 481 soil samples were collected from 209 borings excavated at the Site. Soil samples obtained from the direct-push borings were collected in cellulose thermoplastic (acetate) liners driven by the direct-push rig. The acetate liners were cut to separate the sample by depth, then the sample from a particular interval was opened and the soil sample was transferred to a Ziploc® re-sealable plastic bag. Soil samples collected using a hand-auger were transferred directly from the hand-auger to Ziploc® re-sealable plastic bags. The soil samples were field homogenized within the sample bags and subsequently labeled, placed in an ice chest, and delivered to ATL for analytical testing under chain-of-custody (COC) documentation.

The boring location coordinates were determined using a global positioning system (GPS). Coordinates for many borings could not be obtained due to failed satellite connections in the mountainous work area. The GPS was utilized during the field activities to locate the horizontal position of the boring locations with an error of no more than 3.3 feet. The latitude and longitude of the boring locations (including the 2012-2013 boring locations) are summarized on Table 1.

4.2 ACM

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for friability. A total of five bulk asbestos samples representing two suspect components (concrete and asphalt) were collected.

We collected bulk asbestos samples after first wetting friable materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers.

4.3 Quality Assurance/Quality Control Procedures

Quality Assurance/Quality Control (QA/QC) procedures were performed during the field exploration activities. These procedures included the decontamination of sampling equipment before each sample was collected and providing COC documentation for each sample submitted to the laboratories. The soil sampling equipment was cleansed between each boring by washing the equipment with an Alconox® solution followed by a double rinse with deionized water. The decontamination water was discharged to the ground surface within the Caltrans right-of-way, away from the roadway and storm drain inlets.

4.4 Laboratory Analyses

4.4.1 ADL Soil Samples

The soil samples collected within the project boundaries in April 2015 were submitted to ATL for the following analyses under expedited turnaround time (TAT). The laboratory was instructed to homogenize the soil samples prior to analysis in accordance with Contract 03A2132 requirements. The deepest samples from the borings located at distances 5, 10 and 15 feet off the EOP, and duplicate surface samples collected at select locations where refusal was encountered, were not analyzed based on the initial laboratory results.

- Three hundred eighty-one soil samples were analyzed for total lead following United States Environmental Protection Agency (EPA) Test Method 6010B.
- Seventy-three soil samples were further analyzed for WET soluble lead following EPA Test Method 7420.
- Fifty-one samples were further analyzed for DI-WET soluble lead following EPA Test Method 7420.
- Seven soil samples were analyzed for TCLP soluble lead following EPA Test Method 7420.
- Fifty-one soil samples selected for DI-WET lead analysis were also analyzed for pH following EPA Test Method 9045C.

4.4.2 ACM

We relinquished bulk asbestos samples to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with EPA Test Method 600/R-93/116 using polarized light microscopy under standard COC protocol. EMSL Analytical, Inc., is accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a five-day TAT.

4.4.3 Laboratory QA/QC Procedures

QA/QC procedures for the soil samples were performed by ATL as applicable for each method of analysis with specificity for each analyte listed in the test method's QA/QC. QA/QC measures for the various metals analyses included the following:

- One method blank for every ten samples, batch of samples or type of matrix, whichever was more frequent.
- One sample analyzed in duplicate for every ten samples, batch of samples or type of matrix, whichever was more frequent.
- One spiked sample for every ten samples, batch of samples or type of matrix, whichever was more frequent, with the spike made at ten times the reporting limit or at the analyte level.

Prior to submitting the soil samples to the laboratory, the COC documentation was reviewed for accuracy and completeness. Copies of the laboratory reports and COC documentation for the April 2015 samples are in Appendix B.

5.0 FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

5.1 Soil Description

Soil encountered in the borings generally consisted of sandy silt with gravel and clayey silt/silty clay. Refusal was encountered at depths between 0.5 and 4 feet in a number of borings along the EOP. Refusal on bedrock was encountered at depths between 0.5 and 3 feet in a number of borings located along the 5-foot, 10-foot, and/or 15-foot lateral transects. Groundwater was not encountered in the soil borings.

5.2 ADL Results

Total lead was detected in the 381 soil samples analyzed at concentrations ranging from 1.7 to 730 mg/kg. Seventy-three of the 381 soil samples with total lead concentrations greater than or equal to 50 mg/kg (ten times the STLC for lead of 5.0 mg/l) were analyzed for WET soluble lead. Fifty-one of the 73 soil samples were further analyzed for DI-WET soluble lead and soil pH. Seven of the 73 soil samples were further analyzed for TCLP soluble lead.

WET soluble lead was detected in 72 of the 73 soil samples analyzed at concentrations ranging from 1.2 to 28 mg/l.

DI-WET soluble lead was detected in 14 of the 51 soil samples analyzed at concentrations ranging from 1.1 to 5.8 mg/l.

TCLP soluble lead was detected in six of the seven soil samples analyzed at concentrations ranging from 0.063 to 0.55 mg/l, less than the Federal RCRA hazardous waste threshold for lead of 5.0 mg/l.

Soil pH values for the 51 samples analyzed ranged from 3.8 to 7.6.

A summary of the analytical results (including the 2012-2013 data) is presented on Table 2. Copies of the laboratory reports and COC documentation are in Appendix B.

5.3 ACM Results

No asbestos was detected in samples of the suspect materials collected during our survey. The ACM bridge survey report is in Appendix A.

5.4 Laboratory Quality Assurance/Quality Control

We reviewed the laboratory QA/QC provided with the soil laboratory reports. The relative percent difference for sample duplicates was outside acceptance criteria for several samples. Calculation is based on raw values as noted in the laboratory report. Based on the laboratory QA/QC data, no additional qualification of the data presented herein is necessary, and the data are of sufficient quality for the purposes of this report.

5.5 Statistical Evaluation for Lead Detected in Soil Samples

Statistical analysis was performed utilizing lead data for soil samples collected under this TO in conjunction with lead data from the 2012-2013 ADL investigation conducted by Geocon. A comprehensive summary of lead analytical results are presented on Table 2.

The total lead data were grouped into four sample populations according to four lateral distances relative to the EOP for statistical evaluation as described below.

- **Roadway Shoulders** consists of borings EB10 through EB92, EB109 through EB182, EHA1 through EHA20, B1 through B3, HA4, B5, B8 through B13, B15 through B22, B24 through B34, B36 through B38, HA39, HA40, B41 through B45, HA46 through HA48, HA50, B51 through B60, HA61, and B62 through B68.
- **Five-foot Laterals** consists of borings B2, B3, B6, B8, B10, B12, B14, B16, B18, B20, B22, HA25, B26, B27, B29, B31, B34, B35, B37, HA38, B41, B42, B44, B45, HA49, B51, B52, B54 through B59, HA62, B63 through B68, HA69, and HA70.
- **Ten-foot Laterals** consists of borings HA2, HA3, HA6, HA8, HA10, HA12, HA14, HA16, HA18, HA20, HA22, HA25 through HA27, HA29, HA31, HA34, HA35, HA37, HA38, HA41, HA42, HA44, HA45, HA49, HA51, HA52, HA54 through HA59, and HA62 through HA70.
- **Fifteen-foot Laterals** consists of borings HA2, HA3, HA6, HA8, HA10, HA12, HA14, HA16, HA18, HA20, HA22, HA25 through HA27, HA29, HA31, HA34, HA35, HA37, HA38, HA41, HA42, HA44, HA45, HA49, HA51, HA52, HA54 through HA59, and HA62 through HA75.

The 2012-2013 ADL investigation performed at the Site included soil sample collection to a maximum sampling depth of 3 feet.

5.5.1 Calculating the UCLs for the Arithmetic Mean

The upper one-sided 90% and 95% UCLs of the arithmetic mean are defined as the values that, when calculated repeatedly for randomly drawn subsets of site data, equal or exceed the true mean 90% and 95% of the time, respectively. Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the arithmetic mean concentration are used as the mean concentrations because it is not possible to know the true mean due to the essentially infinite number of soil samples that could be collected from a site. The UCLs therefore account for uncertainties due to limited sampling data. As data become less limited at a site, uncertainties decrease, and the UCLs move closer to the true mean.

Non-parametric bootstrap techniques were used to calculate the UCLs. For those samples in which total lead was not detected at concentrations exceeding the laboratory reporting limit (RL), a value equal to one-half of the RL was used in the UCL calculation. The bootstrap results are in Appendix D. The calculated UCLs and statistical results for each population are summarized in the following tables:

Roadway Shoulders

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0 to 0.5	135.7	141.6	116.8	5.0	1,400
0.5 to 1	130.3	138.7	104.1	0.5	2,100
0 to 1.5	68.7	74.6	48.0	1.1	2,500
1.5 to 2	44.6	49.6	29.7	0.5	1,800
2 to 3	24.5	26.0	18.1	1.2	580
3 to 4	12.2	12.8	9.7	2.1	120
4 to 5	13.6	14.4	10.8	1.7	84

mg/kg = milligrams per kilogram

The total lead mean (average) for the **Roadway Shoulders** lead data used in the statistical analysis is 59.6 mg/kg.

Five-foot Laterals

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0 to 0.5	78.3	84.5	55.5	4.6	730
0.5 to 1*	38.0	38.0	19.3	6.1	38.0
1 to 1.5	18.6	19.8	14.2	1.7	130

*The highest total lead value for this depth interval is used for the UCL due to insufficient amount of data collected from this interval.
mg/kg = milligrams per kilogram

The total lead mean (average) for the **Five-foot Laterals** lead data used in the statistical analysis is 34.4 mg/kg.

Ten-foot Laterals

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0 to 0.5	100.9	106.9	83.6	3.1	410
0.5 to 1	63.5	67.6	50.7	5.6	150
1 to 1.5	30.3	31.8	24.8	2.5	120

mg/kg = milligrams per kilogram

The total lead mean (average) for the **Ten-foot Laterals** lead data used in the statistical analysis is 57.9 mg/kg.

Fifteen-foot Laterals

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0 to 0.5	76.0	78.8	66.4	4.0	200
0.5 to 1	44.7	47.6	34.3	3.1	130
1 to 1.5	33.8	35.8	26.8	3.1	150

mg/kg = milligrams per kilogram

The total lead mean (average) for the **Fifteen-foot Laterals** lead data used in the statistical analysis is 50.8 mg/kg.

5.5.2 Correlation of Total and Soluble Lead (WET and TCLP)

Total and corresponding soluble lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of soluble lead concentrations based on the UCLs calculated above in Section 5.5.1.

To estimate the degree of interrelation between total and corresponding WET soluble lead values (x and y, respectively), the *correlation coefficient [r]* is used. The correlation coefficient is a ratio that ranges from +1 to –1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of –1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all.

WET Soluble Lead

The *correlation coefficient* for each population was calculated for the (x, y) data points (i.e., soil samples analyzed for both total lead [x] and WET soluble lead [y]). A *correlation coefficient* greater than or equal to 0.8 is an acceptable indicator that a correlation exists. Consequently, an acceptable *correlation coefficient* was achieved for the total and WET lead data for each population.

For the *correlation coefficient* that indicates a linear relationship between total and WET soluble lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression lines for the data populations are summarized in the table below, where x represents total lead concentrations and y represents predicted WET soluble lead concentrations.

LOCATION	CORRELATION COEFFICIENT	REGRESSION LINE EQUATION
Roadway Shoulders	0.9563	$y = 0.0589(x)$
Five-foot Laterals	0.9080	$y = 0.0417(x)$
Ten-foot Laterals	0.9520	$y = 0.0429(x)$
Fifteen-foot Laterals	0.8087	$y = 0.0453(x)$

These equations were used to estimate the expected WET soluble lead concentrations for the UCLs calculated in Section 5.5.1. Regression analysis results and scatter plots depicting the (x, y) data points along with the regression lines are in Appendix D. The 90% and 95% UCL-predicted WET soluble lead concentrations for each population are presented in Section 6.0.

TCLP Soluble Lead

Regression analysis was performed for total lead and TCLP soluble lead data. The *correlation coefficient* for the 26 (x, y) data points (i.e., soil samples analyzed for both total lead and TCLP soluble lead) was 0.8. A *correlation coefficient* greater than or equal to 0.8 is an acceptable indicator that a correlation exists. Consequently, an acceptable *correlation coefficient* was achieved for the total lead and TCLP soluble lead data.

For the *correlation coefficient* that indicates a linear relationship between total and TCLP soluble lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was $y = 0.007(x)$, where x represents the total lead concentration and y represents the predicted TCLP soluble lead concentration. This equation was used to estimate the expected TCLP soluble lead concentrations for the UCLs calculated in Section 5.5.1. Regression analysis results and scatter plot depicting the (x, y) data points along with the regression line are in Appendix D. The UCL-predicted TCLP soluble lead concentrations are presented in Section 6.0.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 ADL Soil Waste Classification/Disposal

Hazardous waste classification based on the 90% UCL is considered sufficient to satisfy a good faith effort as discussed in SW-846. Risk assessment characterization is typically based on the 95% UCL in accordance with the *Risk Assessment Guidance for Superfund (RAGS) Volume 1 Documentation for Exposure Assessment*. Per Caltrans, 90% UCLs are to be used to evaluate onsite reuse, and 95% UCLs are to be used to evaluate offsite reuse or disposal. In addition, the reuse of excavated soil has been evaluated, as applicable, based on the DTSC requirements for the statewide Variance.

6.1.1 Roadway Shoulders

Total lead concentrations for the combined (2012-2013 and 2015) data ranged from less than the laboratory reporting limit of 1.0 mg/kg to 2,500 mg/kg, with an average total lead concentration of 59.6 mg/kg. The table below summarizes the excavation scenarios, the predicted WET soluble lead concentrations, and the waste classification for excavated soil generated along the roadway shoulders based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL Total Lead (mg/kg)	90% UCL Predicted WET Lead (mg/l)	95% UCL Total Lead (mg/kg)	95% UCL Predicted WET Lead (mg/l)	Waste Classification
0 to 0.5 foot	135.7	8.0	141.6	8.3	Hazardous
Underlying soil (0.5 to 5 feet)	38.2	2.3	41.0	2.4	Non-hazardous
0 to 1 foot	133.0	7.8	140.2	8.3	Hazardous
Underlying soil (1 to 5 feet)	26.7	1.6	28.8	1.7	Non-hazardous
0 to 1.5 feet	111.6	6.6	118.3	7.0	Hazardous
Underlying soil (1.5 to 5 feet)	20.7	1.2	22.3	1.3	Non-hazardous
0 to 2 feet	94.8	5.6	101.1	6.0	Hazardous
Underlying soil (2 to 5 feet)	16.8	1.0	17.7	1.0	Non-hazardous
0 to 3 feet	71.4	4.2	76.1	4.5	Non-hazardous
Underlying soil (2.25 to 5 feet)	12.9	0.8	13.6	0.8	Non-hazardous
0 to 4 feet	56.6	3.3	60.3	3.5	Non-hazardous
Underlying soil (2.25 to 5 feet)	13.6	0.8	14.4	0.8	Non-hazardous
0 to 5 feet	48.0	2.8	51.1	3.0	Non-hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal
Predicted WET lead concentrations were calculated using the equation of the regression line: $y = 0.0589x$

6.1.2 Five-foot Laterals

Total lead concentrations ranged from 1.7 to 730 mg/kg, with an average total lead concentration of 34.4 mg/kg. The table below summarizes the excavation scenarios, the predicted WET soluble lead concentrations and the waste classification for excavated soil generated from the five-foot lateral sections based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL Total Lead (mg/kg)	90% UCL Predicted WET Lead (mg/l)	95% UCL Total Lead (mg/kg)	95% UCL Predicted WET Lead (mg/l)	Waste Classification
0 to 0.5 foot	78.3	3.3	84.5	3.5	Non-hazardous
Underlying soil (0.5 to 1.5 feet)	28.3	1.2	28.9	1.2	Non-hazardous
0 to 1 foot	58.2	2.4	61.3	2.6	Non-hazardous
Underlying soil (1 to 1.5 feet)	18.6	0.8	19.8	0.8	Non-hazardous
0 to 1.5 feet	45.0	1.9	47.4	2.0	Non-hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal
Predicted WET lead concentrations were calculated using the equation of the regression line: $y = 0.0417x$

6.1.3 Ten-foot Laterals

Total lead concentrations ranged from 2.5 to 410 mg/kg, with an average total lead concentration of 57.9 mg/kg. The table below summarizes the excavation scenarios, the predicted WET soluble lead concentrations and the waste classification for excavated soil generated from the ten-foot lateral sections based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL Total Lead (mg/kg)	90% UCL Predicted WET Lead (mg/l)	95% UCL Total Lead (mg/kg)	95% UCL Predicted WET Lead (mg/l)	Waste Classification
0 to 0.5 foot	100.9	4.3	106.9	4.6	Non-hazardous
Underlying soil (0.5 to 1.5 feet)	46.9	2.0	49.7	2.1	Non-hazardous
0 to 1 foot	82.2	3.5	87.3	3.7	Non-hazardous
Underlying soil (1 to 1.5 feet)	30.3	1.3	31.8	1.4	Non-hazardous
0 to 1.5 feet	64.9	2.8	68.8	3.0	Non-hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal
Predicted WET lead concentrations were calculated using the equation of the regression line: $y = 0.0429x$

6.1.4 Fifteen-foot Laterals

Total lead concentrations ranged from 3.1 to 200 mg/kg, with an average total lead concentration of 50.8 mg/kg. The table below summarizes the excavation scenarios, the predicted WET soluble lead concentrations and the waste classification for excavated soil generated from the fifteen-foot lateral sections based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL Total Lead (mg/kg)	90% UCL Predicted WET Lead (mg/l)	95% UCL Total Lead (mg/kg)	95% UCL Predicted WET Lead (mg/l)	Waste Classification
0 to 0.5 foot	76.0	3.4	78.8	3.6	Non-hazardous
Underlying soil (0.5 to 1.5 feet)	39.3	1.8	41.7	1.9	Non-hazardous
0 to 1 foot	60.4	2.7	63.2	2.9	Non-hazardous
Underlying soil (1 to 1.5 feet)	33.8	1.5	35.8	1.6	Non-hazardous
0 to 1.5 feet	51.5	2.3	54.1	2.4	Non-hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal
Predicted WET lead concentrations were calculated using the equation of the regression line: $y = 0.0453x$

6.1.5 ADL Summary

Based on the above tables, if the top 3 to 5 feet of soil within the project limits is excavated and managed as a whole, then soil generated from the top 3 to 5 feet would not be classified as a California-hazardous waste since the 90% and 95% UCL-predicted WET soluble lead concentrations are less than the STLC for lead of 5.0 mg/l. Consequently, the top 3 to 5 feet of excavated soil could be reused, relinquished to the contractor, or disposed of as non-hazardous soil with respect to lead content.

Five of the 19 soil samples collected from the roadway shoulders in 2012-2013 had TCLP soluble lead concentrations exceeding the RCRA hazardous waste threshold of 5.0 mg/l. The highest calculated total lead UCL for the roadway shoulders is 141.6 mg/kg. A waste may have the potential of exceeding the RCRA threshold when the waste's representative total lead concentration is greater than or equal to 100 mg/kg (20 times the RCRA threshold) since TCLP soluble lead analysis uses a 1:20 dilution ratio. Based on the TCLP regression analysis (i.e., soil samples analyzed for both total lead and TCLP soluble lead), soil excavated from the top 5 feet or shallower would not require disposal as a RCRA hazardous waste since the highest calculated total lead UCL of 141.6 mg/kg would yield a TCLP soluble lead concentration of 1.0 mg/l, less than the federal RCRA hazardous waste threshold of 5.0 mg/l. Thus, soil generated within the roadway shoulders will not require disposal as a RCRA hazardous waste. The designated disposal facility may require additional testing to confirm waste classification.

If soil within the project limits is scarified in-place, moisture-conditioned, and recompacted during roadway improvement activities, it may not be considered a 'waste.'

6.2 ACM

Since no asbestos was detected, the Cal/OSHA asbestos standard does not apply for planned activities affecting materials represented by samples collected during our survey. In addition, associated debris would not be considered a California hazardous waste based on asbestos content. Written notification to the United States EPA Region IX and the California Air Resources Board is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

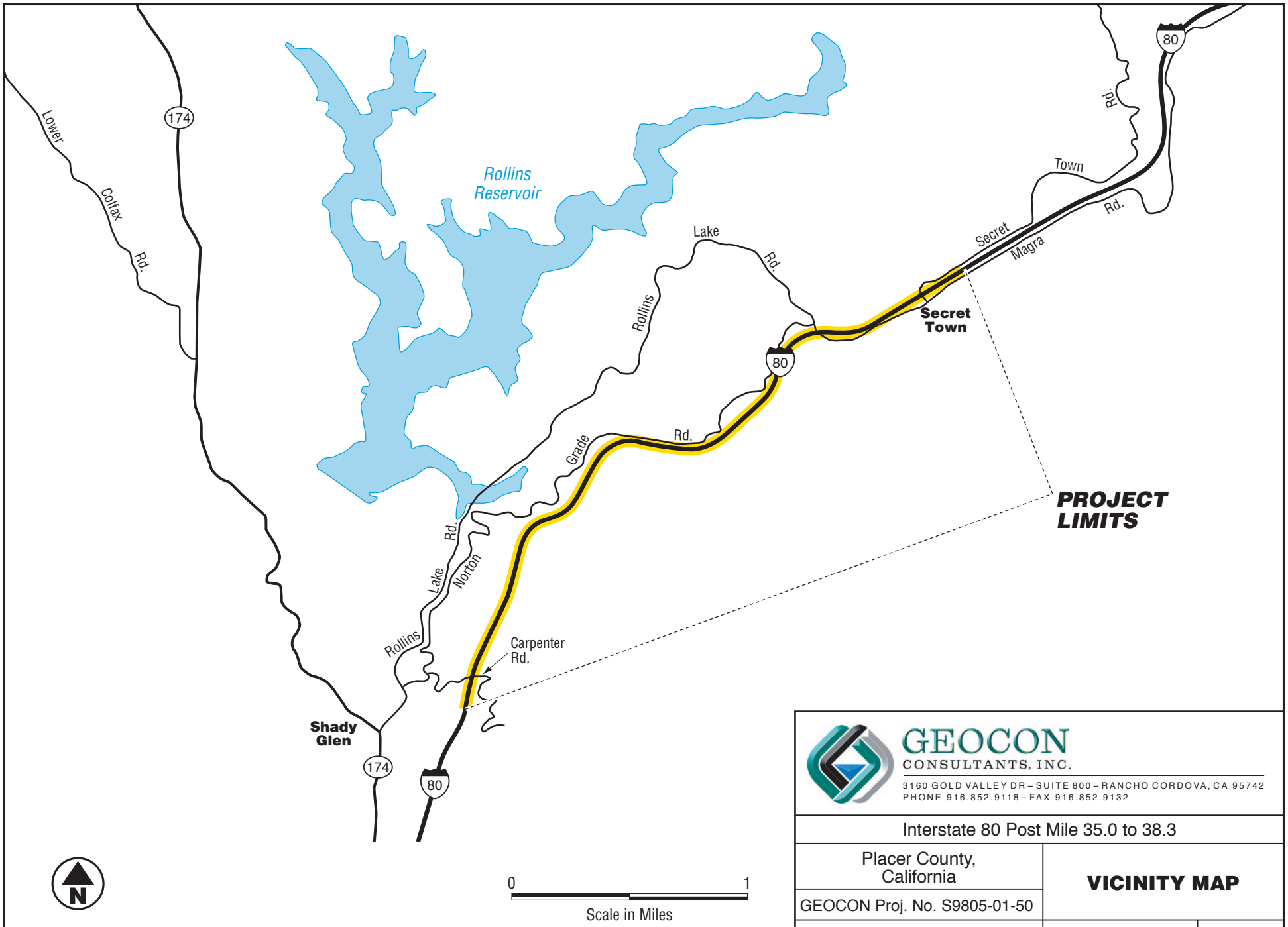
6.3 Worker Protection

The contractor(s) should prepare a project-specific Lead Compliance Plan (CCR Title 8, §1532.1, the "Lead in Construction" standard) to minimize worker exposure to lead-impacted soil. The plan should include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

7.0 REPORT LIMITATIONS

This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. We strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.



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Interstate 80 Post Mile 35.0 to 38.3		
Placer County, California	**VICINITY MAP**	
GEOCON Proj. No. S9805-01-50		
Task Order No. 50	May 2015	Figure 1

LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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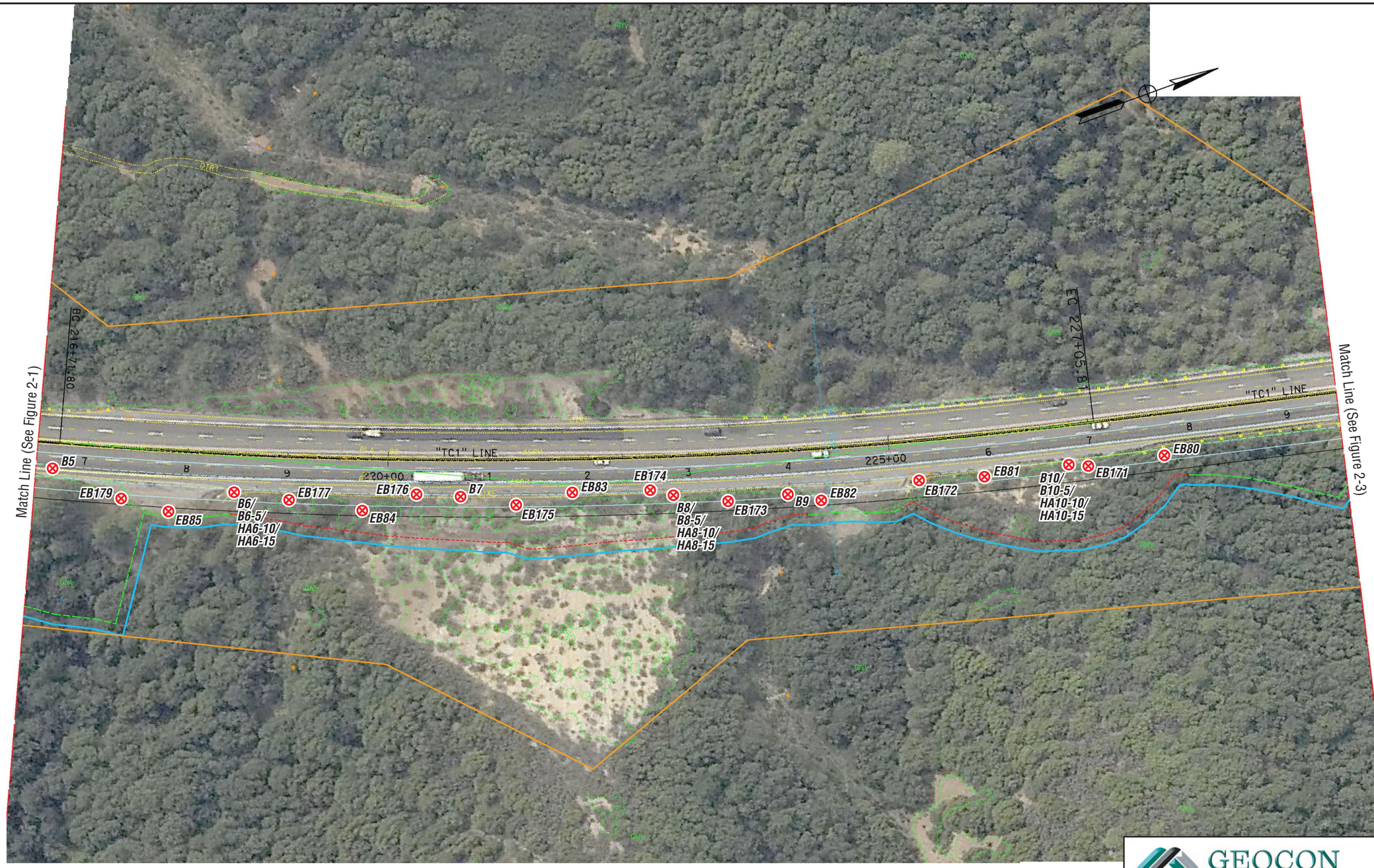
Interstate 80 Post Mile 35.0 to 38.3		
Placer County, California	**SITE PLAN**	
GEOCON Proj. No. S9805-01-50		
Task Order No. 50	May 2015	Figure 2-1



LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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Interstate 80 Post Mile 35.0 to 38.3		
Placer County, California	**SITE PLAN**	
GEOCON Proj. No. S9805-01-50		
Task Order No. 50	May 2015	Figure 2-2

LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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Interstate 80 Post Mile 35.0 to 38.3

Placer County, California

SITE PLAN

GEOCON Proj. No. S9805-01-50

Task Order No. 50 | May 2015 | Figure 2-3

LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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GEOCON Proj. No. S9805-01-50

Task Order No. 50 | May 2015 | Figure 2-4

LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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Interstate 80 Post Mile 35.0 to 38.3

Placer County, California

SITE PLAN

GEOCON Proj. No. S9805-01-50

Task Order No. 50 | May 2015 | Figure 2-5

LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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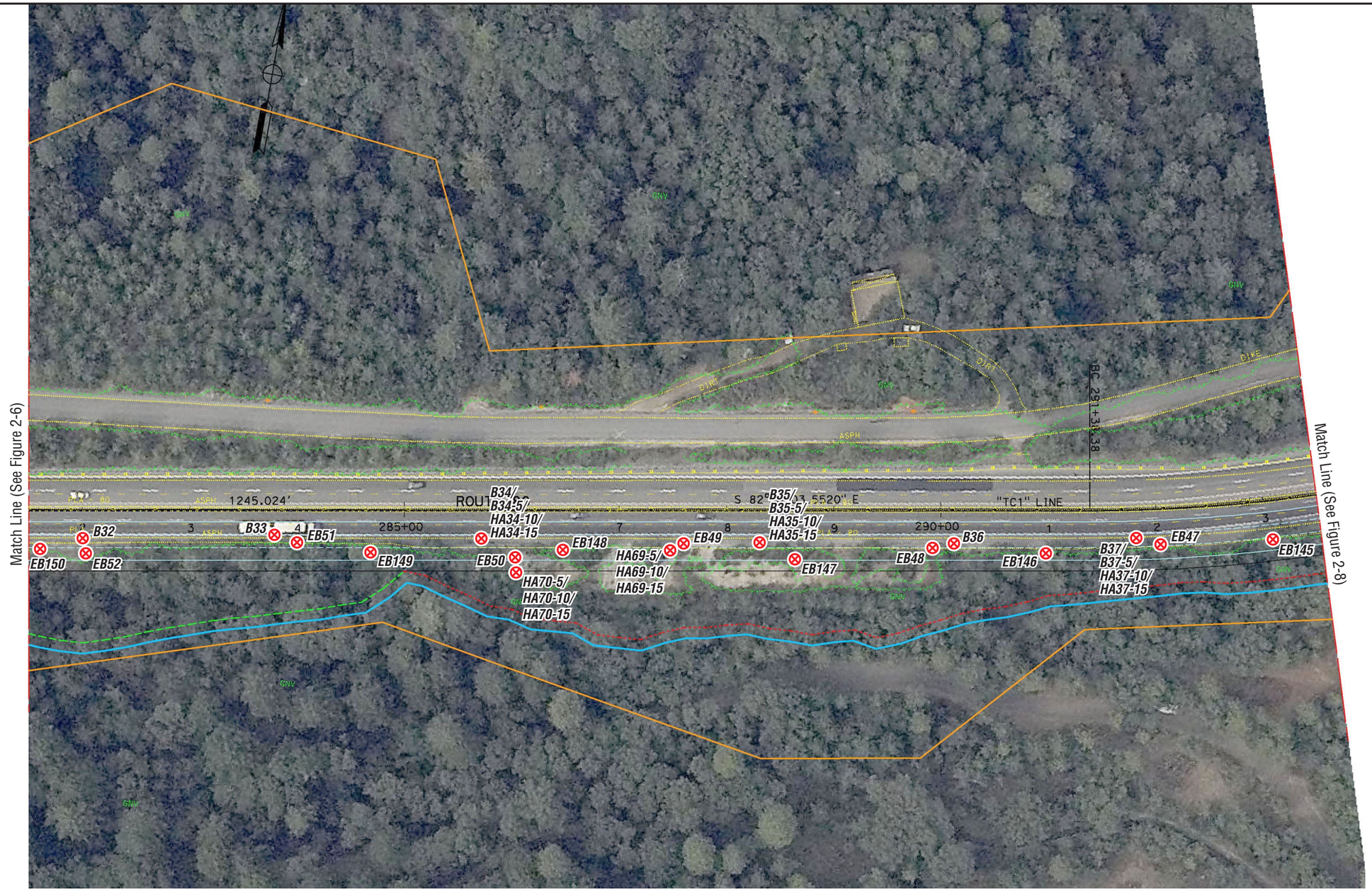
Interstate 80 Post Mile 35.0 to 38.3		
Placer County, California	**SITE PLAN**	
GEOCON Proj. No. S9805-01-50		
Task Order No. 50	May 2015	Figure 2-6



LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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Interstate 80 Post Mile 35.0 to 38.3

Placer County, California

SITE PLAN

GEOCON Proj. No. S9805-01-50

Task Order No. 50 | May 2015 | Figure 2-7

LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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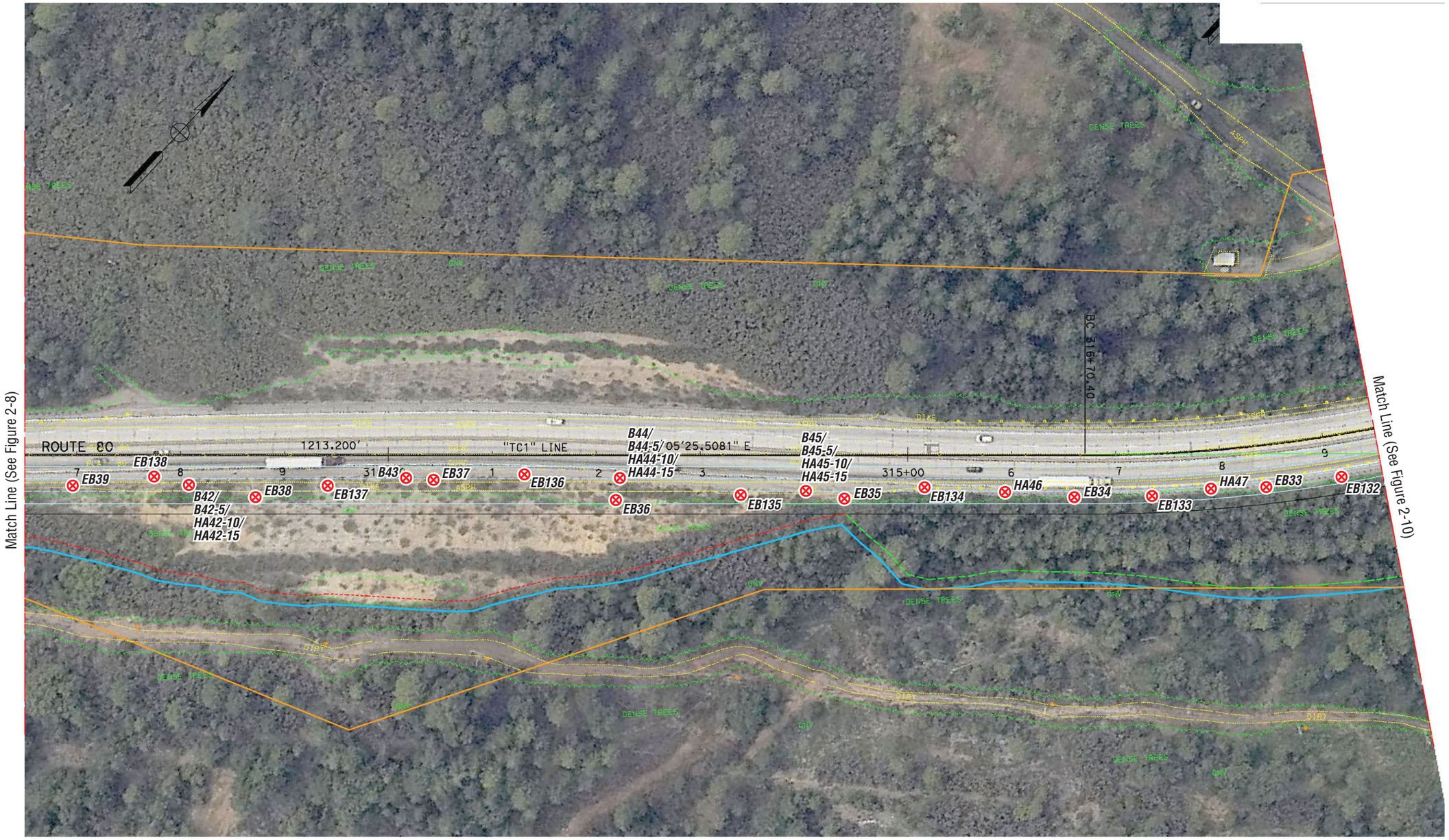
Interstate 80 Post Mile 35.0 to 38.3

Placer County, California

SITE PLAN

GEOCON Proj. No. S9805-01-50

Task Order No. 50 | May 2015 | Figure 2-8



LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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SITE PLAN

GEOCON Proj. No. S9805-01-50

Task Order No. 50 | May 2015 | Figure 2-9

LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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Placer County, California	**SITE PLAN**	
GEOCON Proj. No. S9805-01-50		
Task Order No. 50	May 2015	Figure 2-10

LEGEND:

EB1 ⊗ Approximate Boring Location

⊗ Boring Located Beneath Overcrossing

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

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LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 – FAX 916.852.9132

Interstate 80 Post Mile 35.0 to 38.3

Placer County, California

SITE PLAN

GEOCON Proj. No. S9805-01-50

Task Order No. 50 | May 2015 | Figure 2-12

Match Line (See Figure 2-12)

LEGEND:

EB1 ⊗ Approximate Boring Location

B2/B2-5/ HA2-10/ HA2-15 ⊗ Approximate boring location adjacent to the edge of pavement (EOP)/ 5 feet from EOP/10 feet from EOP/15 feet from EOP.

0 100
Scale in Feet

GEOCON CONSULTANTS, INC.
3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
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Interstate 80 Post Mile 35.0 to 38.3

Placer County, California	**SITE PLAN**	
GEOCON Proj. No. S9805-01-50		
Task Order No. 50	May 2015	Figure 2-13

TABLE 1
SUMMARY OF SOIL BORING COORDINATES
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE
March and August 2012 Soil Sampling			
EB99	3/30/2012	39.11974903	-120.94129320
EB98	3/30/2012	39.12036190	-120.94119050
EB97	3/30/2012	39.12088690	-120.94106420
EB96	3/30/2012	39.12138697	-120.94087460
EB95	3/30/2012	39.12186702	-120.93989170
EB94	3/30/2012	39.12248586	-120.94047440
EB93	3/30/2012	39.12302727	-120.94026740
EB92	3/30/2012	39.12367569	-120.93981200
EB91	3/30/2012	39.12394764	-120.93967090
EB90	3/30/2012	39.12447752	-120.93926800
EB89	3/30/2012	39.12503949	-120.93896940
EB88	3/30/2012	39.12561568	-120.93862050
EB182	8/16/2012	NA	NA
EB87	3/30/2012	39.12607306	-120.93841010
EB181	8/16/2012	NA	NA
EB86	3/30/2012	39.12649451	-120.93813730
EB180	8/16/2012	NA	NA
EB179	8/16/2012	39.12684697	-120.93787088
EB85	3/30/2012	39.12698257	-120.93769370
EB178	8/16/2012	39.12710252	-120.93777515
EB177	8/16/2012	39.12744132	-120.93761816
EB84	3/30/2012	39.12745527	-120.93757580
EB176	8/16/2012	39.12784738	-120.93740528
EB175	8/16/2012	39.12799860	-120.93735838
EB83	3/30/2012	39.12797960	-120.93731670
EB174	8/16/2012	39.12832218	-120.93720575
EB173	8/16/2012	39.12847786	-120.93710888
EB82	3/30/2012	39.12870846	-120.93696930
EB172	8/16/2012	39.12882682	-120.93693450
EB81	3/30/2012	39.12893430	-120.93693930
EB171	8/16/2012	39.12928098	-120.93683920
EB80	3/30/2012	39.12947658	-120.93672730
EB79	3/30/2012	39.12993404	-120.93654820
EB170	8/16/2012	39.13006964	-120.93660071
EB78	3/30/2012	39.13047242	-120.93640180
EB169	8/16/2012	39.13052476	-120.93646536
EB77	3/30/2012	39.13089971	-120.93628710
EB168	8/16/2012	39.13108423	-120.93630458
EB76	3/30/2012	39.13143880	-120.93614910
EB167	8/16/2012	39.13191543	-120.93594972
EB75	3/30/2012	39.13191842	-120.93591370
EB166	8/16/2012	39.13231370	-120.93566464
EB74	3/30/2012	39.13237173	-120.93552530
EB73	3/30/2012	39.13276416	-120.93520940
EB165	8/16/2012	39.13276809	-120.93516574

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SUMMARY OF SOIL BORING COORDINATES
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE
EB72	3/30/2012	39.13302353	-120.93460910
EB164	8/16/2012	39.13314785	-120.93449730
EB71	3/30/2012	39.13328362	-120.93407010
EB163	8/16/2012	39.13339303	-120.93370716
EB70	3/30/2012	39.13345337	-120.93345420
EB162	8/16/2012	39.13354380	-120.93327445
EB69	3/30/2012	39.13360204	-120.93293280
EB161	8/16/2012	39.13385678	-120.93237813
EB68	3/30/2012	39.13390292	-120.93198590
EB67	3/30/2012	39.13421484	-120.93161490
EB160	8/16/2012	39.13458499	-120.93120032
EB66	3/30/2012	39.13469321	-120.93095210
EB65	3/30/2012	39.13489844	-120.93080940
EB159	8/16/2012	NA	NA
EB64	3/30/2012	39.13535067	-120.93052240
EB63	3/30/2012	39.13583288	-120.93023200
EB158	8/16/2012	39.13573481	-120.93032521
EB62	3/30/2012	39.13633430	-120.92987650
EB157	8/16/2012	NA	NA
EB61	3/30/2012	39.13658266	-120.92974450
EB156	8/16/2012	39.13672317	-120.92968823
EB60	3/30/2012	39.13732799	-120.92920850
EB59	3/29/2012	39.13771695	-120.92896030
EB155	8/16/2012	39.13784875	-120.92888508
EB58	3/29/2012	39.13811753	-120.92861150
EB57	3/29/2012	39.13855670	-120.92805360
EB154	8/16/2012	39.13851022	-120.92810576
EB56	3/29/2012	39.13883126	-120.92746590
EB153	8/16/2012	39.13883063	-120.92748083
EB55	3/29/2012	NA	NA
EB152	8/16/2012	39.13906655	-120.92643043
EB54	3/29/2012	NA	NA
EB151	8/16/2012	39.13907435	-120.92559337
EB53	3/29/2012	39.13906264	-120.92561290
EB150	8/16/2012	39.13897415	-120.92470553
EB52	3/29/2012	39.13896778	-120.92497250
EB51	3/29/2012	39.13891551	-120.92410820
EB149	8/16/2012	39.13890014	-120.92390706
EB50	3/29/2012	39.13872856	-120.92347290
EB148	8/16/2012	39.13876666	-120.92259185
EB49	3/29/2012	39.13859288	-120.92230300
EB147	8/16/2012	39.13867490	-120.92195625
EB48	3/29/2012	39.13861417	-120.92160350
EB146	8/16/2012	39.13858957	-120.92128600
EB47	3/29/2012	39.13854297	-120.92091440
EB145	8/16/2012	39.13853925	-120.92058521
EB46	3/29/2012	39.13847274	-120.92013130

TABLE 1
SUMMARY OF SOIL BORING COORDINATES
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE
EHA1	4/16/2013	39.13847050	-120.91992210
EB144	8/16/2012	39.13849604	-120.92004696
EHA2	4/16/2013	39.13838806	-120.91987100
EB45	3/29/2012	39.13859221	-120.91989470
EHA3	4/16/2013	39.13842446	-120.91970210
EHA4	4/16/2013	39.13840098	-120.91955450
EB143	8/16/2012	39.13866877	-120.91893841
EHA5	4/16/2013	39.13855228	-120.91922850
EB44	3/29/2012	39.13864937	-120.91895920
EHA6	4/16/2013	39.13861182	-120.91908270
EHA7	4/16/2013	39.13861196	-120.91897850
EB142	8/16/2012	39.13885551	-120.91829393
EHA8	4/16/2013	39.13865340	-120.91868260
EHA9	4/16/2013	39.13874539	-120.91852560
EB43	3/29/2012	39.13886631	-120.91832550
EHA10	4/16/2013	39.13881443	-120.91832830
EHA11	4/16/2013	39.13884413	-120.91820340
EB141	8/16/2012	39.13911827	-120.91762736
EHA12	4/16/2013	39.13889510	-120.91805080
EHA13	4/16/2013	39.13899035	-120.91784070
EHA14	4/16/2013	39.13902353	-120.91780710
EB42	3/29/2012	39.13905818	-120.91771320
EHA15	4/16/2013	39.13910095	-120.91761870
EHA16	4/16/2013	39.13913983	-120.91742630
EHA17	4/16/2013	39.13925001	-120.91734380
EB140	8/16/2012	39.13936883	-120.91702229
EHA18	4/16/2013	39.13932690	-120.91715670
EHA19	4/16/2013	39.13943086	-120.91701120
EB41	3/29/2012	39.13938570	-120.91711750
EB139	8/15/2012	39.13986880	-120.91642000
EHA20	4/16/2013	39.13961181	-120.91675220
EB40	3/29/2012	39.13974779	-120.91644330
EB39	3/29/2012	39.14003557	-120.91609030
EB138	8/15/2012	NA	NA
EB38	3/29/2012	39.14042794	-120.91563570
EB137	8/15/2012	39.14057650	-120.91543844
EB37	3/29/2012	39.14075228	-120.91517870
EB136	8/15/2012	39.14084687	-120.91505456
EB36	3/29/2012	39.14108584	-120.91463200
EB135	8/15/2012	NA	NA
EB35	3/29/2012	39.14145300	-120.91439610
EB134	8/15/2012	39.14162297	-120.91393366
EB34	3/29/2012	39.14173549	-120.91378230
EB133	8/15/2012	39.14203857	-120.91334349
EB33	3/29/2012	39.14233560	-120.91302570
EB132	8/15/2012	39.14248131	-120.91289452
EB32	3/29/2012	39.14277461	-120.91262900

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SUMMARY OF SOIL BORING COORDINATES
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE
EB131	8/15/2012	NA	NA
EB31	3/29/2012	39.14329025	-120.91230290
EB130	8/15/2012	NA	NA
EB30	3/29/2012	39.14376638	-120.91208700
EB129	8/15/2012	39.14389907	-120.91198487
EB29	3/29/2012	39.14427906	-120.91184140
EB128	8/15/2012	39.14441769	-120.91175362
EB28	3/29/2012	39.14476724	-120.91167760
EB127	8/15/2012	39.14490060	-120.91159202
EB27	3/29/2012	39.14517473	-120.91153320
EB126	8/15/2012	39.14530666	-120.91140707
EB26	3/29/2012	39.14546176	-120.91099360
EB125	8/15/2012	39.14575267	-120.91106035
EB124	8/15/2012	39.14614194	-120.91060881
EB25	3/29/2012	39.14601597	-120.91068030
EB123	8/15/2012	39.14650130	-120.91006914
EB24	3/29/2012	39.14645769	-120.91014760
EB122	8/15/2012	39.14676366	-120.90954164
EB23	3/29/2012	39.14663120	-120.90962230
EB22	3/29/2012	39.14687415	-120.90905640
EB121	8/15/2012	39.14695071	-120.90887178
EB21	3/29/2012	39.14699116	-120.90835480
EB120	8/15/2012	39.14705218	-120.90834284
EB20	3/29/2012	39.14703724	-120.90769080
EB119	8/15/2012	39.14708035	-120.90757920
EB19	3/29/2012	39.14707027	-120.90707590
EB118	8/15/2012	39.14705628	-120.90691295
EB18	3/29/2012	39.14699917	-120.90647550
EB117	8/15/2012	39.14700235	-120.90614768
EB17	3/29/2012	NA	NA
EB116	8/15/2012	39.14696509	-120.90528601
EB115	8/15/2012	39.14709324	-120.90450877
EB16	3/29/2012	NA	NA
EB114	8/15/2012	39.14729360	-120.90371928
EB15	3/29/2012	39.14733980	-120.90385230
EB113	8/15/2012	39.14748879	-120.90313355
EB14	3/29/2012	39.14748975	-120.90309880
EB112	8/15/2012	NA	NA
EB13	3/29/2012	39.14786721	-120.90262520
EB111	8/15/2012	39.14806945	-120.90191929
EB12	3/29/2012	39.14809036	-120.90219400
EB110	8/15/2012	39.14834290	-120.90136623
EB11	3/29/2012	39.14832541	-120.90125480
EB109	8/15/2012	39.14858543	-120.90075417
EB10	3/29/2012	39.14856332	-120.90065900
EB108	8/15/2012	39.14882317	-120.90020024
EB9	3/29/2012	39.14896553	-120.90008810

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SUMMARY OF SOIL BORING COORDINATES
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE
EB107	8/15/2012	39.14904835	-120.89955539
EB8	3/29/2012	39.14907746	-120.89940790
EB106	8/15/2012	39.14940314	-120.89906366
EB7	3/29/2012	39.14950291	-120.89879640
EB105	8/15/2012	39.14966267	-120.89845233
EB6	3/29/2012	39.14984864	-120.89808770
EB104	8/15/2012	39.14993172	-120.89786761
EB5	3/29/2012	39.15008921	-120.89754360
EB103	8/15/2012	39.15029230	-120.89717582
EB102	8/15/2012	39.15046926	-120.89665590
EB4	3/29/2012	39.15026249	-120.89696400
EB101	8/15/2012	39.15080385	-120.89599173
EB3	3/29/2012	39.15063394	-120.89628160
EB100	8/15/2012	39.15110833	-120.89542870
EB2	3/29/2012	39.15095058	-120.89574180
EB1	3/29/2012	39.15121745	-120.89518750
April 2015 Soil Sampling			
B1	4/13/2015	39.124474351	-120.939333880
B2	4/13/2015	39.124940063	-120.939057669
B2-5	4/13/2015	39.124923489	-120.939038043
HA2-10	4/13/2015	39.124925190	-120.939016914
HA2-15	4/13/2015	39.124907033	-120.938983435
B3	4/13/2015	39.125335909	-120.938839299
B3-5	4/13/2015	39.125412705	-120.938751184
HA3-10	4/13/2015	39.125398475	-120.938732764
HA3-15	4/13/2015	NA	NA
HA4	4/13/2015	NA	NA
B5	4/13/2015	39.126618957	-120.937997334
B6	4/13/2015	NA	NA
B6-5	4/13/2015	39.127181660	-120.937730761
HA6-10	4/13/2015	NA	NA
HA6-15	4/13/2015	NA	NA
B7	4/13/2015	39.127664066	-120.937474834
B8	4/13/2015	39.128206996	-120.937224888
B8-5	4/13/2015	39.128193522	-120.937241674
HA8-10	4/13/2015	NA	NA
HA8-15	4/13/2015	NA	NA
B9	4/13/2015	39.128710989	-120.936940787
B10	4/13/2015	39.129262364	-120.936871434
B10-5	4/13/2015	39.129267948	-120.936806797
HA10-10	4/13/2015	NA	NA
HA10-15	4/13/2015	NA	NA
B11	4/13/2015	39.130040082	-120.936584227
B12	4/13/2015	39.130593940	-120.936437354
B12-5	4/13/2015	39.130619781	-120.936407258
HA12-10	4/13/2015	NA	NA

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SUMMARY OF SOIL BORING COORDINATES
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE
HA12-15	4/13/2015	NA	NA
B13	4/13/2015	39.131093712	-120.936280706
B14	4/13/2015	NA	NA
B14-5	4/13/2015	39.131829252	-120.935966673
HA14-10	4/13/2015	NA	NA
HA14-15	4/13/2015	NA	NA
B15	4/13/2015	39.132309537	-120.935630723
B16	4/13/2015	39.132761994	-120.935158660
B16-5	4/13/2015	39.132761550	-120.935138607
HA16-10	4/13/2015	NA	NA
HA16-15	4/13/2015	NA	NA
B17	4/13/2015	39.133198765	-120.934314211
B18	4/13/2015	39.133411175	-120.933651453
B18-5	4/13/2015	39.133435654	-120.933669735
HA18-10	4/13/2015	NA	NA
HA18-15	4/13/2015	NA	NA
B19	4/13/2015	39.133622976	-120.932983211
B20	4/13/2015	39.134036070	-120.931869352
B20-5	4/13/2015	39.134054136	-120.931872104
HA20-10	4/13/2015	39.134013179	-120.931884544
HA20-15	4/13/2015	39.134005046	-120.931860410
B21	4/13/2015	39.134650966	-120.931123041
B22	4/13/2015	NA	NA
B22-5	4/13/2015	NA	NA
HA22-10	4/13/2015	NA	NA
HA22-15	4/13/2015	NA	NA
B23	4/13/2015	39.135605865	-120.930414386
B24	4/13/2015	39.136152862	-120.930048345
B25	4/13/2015	39.136603762	-120.929728360
HA25-5	4/13/2015	39.136670184	-120.929668958
HA25-10	4/13/2015	NA	NA
HA25-15	4/13/2015	NA	NA
B26	4/13/2015	39.137799556	-120.928924314
B26-5	4/13/2015	39.137779302	-120.928916389
HA26-10	4/13/2015	NA	NA
HA26-15	4/13/2015	39.137763856	-120.928864370
B27	4/13/2015	NA	NA
B27-5	4/13/2015	NA	NA
HA27-10	4/13/2015	NA	NA
HA27-15	4/13/2015	NA	NA
B28	4/15/2015	39.138836092	-120.927465733
B29	4/15/2015	39.139012061	-120.926800465
B29-5	4/15/2015	39.139002324	-120.926794435
HA29-10	4/15/2015	NA	NA
HA29-15	4/15/2015	NA	NA
B30	4/15/2015	39.139074586	-120.926057795
B31	4/15/2015	NA	NA

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EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE
B31-5	4/15/2015	NA	NA
HA31-10	4/15/2015	NA	NA
HA31-15	4/15/2015	NA	NA
B32	4/15/2015	39.138944798	-120.924528932
B33	4/15/2015	39.138881816	-120.923882464
B34	4/15/2015	39.138705842	-120.923160127
B34-5	4/15/2015	NA	NA
HA34-10	4/15/2015	NA	NA
HA34-15	4/15/2015	NA	NA
B35	4/15/2015	NA	NA
B35-5	4/15/2015	NA	NA
HA35-10	4/15/2015	NA	NA
HA35-15	4/15/2015	NA	NA
B36	4/15/2015	NA	NA
B37	4/15/2015	39.138536828	-120.920945873
B37-5	4/15/2015	NA	NA
HA37-10	4/15/2015	NA	NA
HA37-15	4/15/2015	NA	NA
B38	4/21/2015	39.138507847	-120.920195459
HA38-5	4/21/2015	39.138496483	-120.920183417
HA38-10	4/21/2015	39.138482845	-120.920157051
HA38-15	4/21/2015	NA	NA
HA39	4/15/2015	39.138721740	-120.918741815
HA40	4/15/2015	39.139249704	-120.917410369
B41	4/15/2015	39.139910313	-120.916351377
B41-5	4/15/2015	39.139900917	-120.916380640
HA41-10	4/15/2015	NA	NA
HA41-15	4/15/2015	NA	NA
B42	4/15/2015	39.140279008	-120.915868383
B42-5	4/15/2015	39.140285753	-120.915852987
HA42-10	4/15/2015	NA	NA
HA42-15	4/15/2015	NA	NA
B43	4/15/2015	39.140638016	-120.915326687
B44	4/15/2015	39.141033073	-120.914774477
B44-5	4/15/2015	39.141052175	-120.914796656
HA44-10	4/15/2015	NA	NA
HA44-15	4/15/2015	NA	NA
B45	4/15/2015	39.141339302	-120.914357120
B45-5	4/15/2015	39.141349629	-120.914385725
HA45-10	4/15/2015	NA	NA
HA45-15	4/15/2015	NA	NA
HA46	4/15/2015	NA	NA
HA47	4/15/2015	39.142293227	-120.913120800
HA48	4/15/2015	39.142818697	-120.912629478
HA49	4/15/2015	NA	NA
HA49-5	4/15/2015	39.143432462	-120.912287732
HA49-10	4/15/2015	NA	NA

TABLE 1
SUMMARY OF SOIL BORING COORDINATES
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE
HA49-15	4/15/2015	NA	NA
HA50	4/15/2015	39.144051908	-120.911962480
B51	4/21/2015	39.145050698	-120.911523795
B51-5	4/21/2015	NA	NA
HA51-10	4/21/2015	NA	NA
HA51-15	4/21/2015	NA	NA
B52	4/21/2015	39.145550746	-120.911184361
B52-5	4/21/2015	39.145554035	-120.911174151
HA52-10	4/21/2015	NA	NA
HA52-15	4/21/2015	NA	NA
B53	4/21/2015	39.146014681	-120.910757081
B54	4/21/2015	39.146401119	-120.910245822
B54-5	4/21/2015	39.146390141	-120.910249531
HA54-10	4/21/2015	NA	NA
HA54-15	4/21/2015	NA	NA
B55	4/21/2015	39.146689960	-120.909645675
B55-5	4/21/2015	39.146685475	-120.909651527
HA55-10	4/21/2015	NA	NA
HA55-15	4/21/2015	NA	NA
B56	4/21/2015	39.146924096	-120.908975083
B56-5	4/21/2015	39.146908076	-120.909017877
HA56-10	4/21/2015	NA	NA
HA56-15	4/21/2015	NA	NA
B57	4/21/2015	39.147069879	-120.908299595
B57-5	4/21/2015	39.147025170	-120.908315696
HA57-10	4/21/2015	NA	NA
HA57-15	4/21/2015	NA	NA
B58	4/21/2015	39.147087535	-120.907576032
B58-5	4/21/2015	39.147078848	-120.907601035
HA58-10	4/21/2015	NA	NA
HA58-15	4/21/2015	NA	NA
B59	4/21/2015	39.147056997	-120.906913879
B59-5	4/21/2015	39.147041524	-120.906929271
HA59-10	4/21/2015	NA	NA
HA59-15	4/21/2015	NA	NA
B60	4/21/2015	39.147025683	-120.906196759
HA61	4/21/2015	39.147006487	-120.905398961
B62	4/21/2015	39.147088369	-120.904398241
HA62-5	4/21/2015	NA	NA
HA62-10	4/21/2015	NA	NA
HA62-15	4/21/2015	NA	NA
B63	4/21/2015	39.147267458	-120.903769221
B63-5	4/21/2015	39.147264266	-120.903763390
HA63-10	4/21/2015	NA	NA
HA63-15	4/21/2015	NA	NA
B64	4/21/2015	39.147497843	-120.903120524
B64-5	4/21/2015	39.147495166	-120.903146735

TABLE 1
SUMMARY OF SOIL BORING COORDINATES
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE
HA64-10	4/21/2015	NA	NA
HA64-15	4/21/2015	NA	NA
B65	4/21/2015	39.147777447	-120.902584900
B65-5	4/21/2015	39.147852958	-120.902399717
HA65-10	4/21/2015	NA	NA
HA65-15	4/21/2015	NA	NA
B66	4/21/2015	39.148106602	-120.901965393
B66-5	4/21/2015	39.148056386	-120.901967023
HA66-10	4/21/2015	NA	NA
HA66-15	4/21/2015	NA	NA
B67	4/21/2015	39.148301020	-120.901401578
B67-5	4/21/2015	39.148308162	-120.901397061
HA67-10	4/21/2015	NA	NA
HA67-15	4/21/2015	NA	NA
B68	4/21/2015	39.148621542	-120.900682121
B68-5	4/21/2015	39.148600595	-120.900694289
HA68-10	4/21/2015	NA	NA
HA68-15	4/21/2015	NA	NA
HA69-5	4/21/2015	NA	NA
HA69-10	4/21/2015	NA	NA
HA69-15	4/21/2015	NA	NA
HA70-5	4/21/2015	NA	NA
HA70-10	4/21/2015	NA	NA
HA70-15	4/21/2015	NA	NA
HA71-5	4/21/2015	NA	NA
HA71-10	4/21/2015	NA	NA
HA71-15	4/21/2015	NA	NA
HA72-5	4/21/2015	NA	NA
HA72-10	4/21/2015	NA	NA
HA72-15	4/21/2015	NA	NA
HA73-5	4/21/2015	NA	NA
HA73-10	4/21/2015	NA	NA
HA73-15	4/21/2015	NA	NA
HA74-5	4/21/2015	NA	NA
HA74-10	4/21/2015	NA	NA
HA74-15	4/21/2015	NA	NA
HA75-5	4/21/2015	NA	NA
HA75-10	4/21/2015	NA	NA
HA75-15	4/21/2015	NA	NA

Notes: NA= GPS data not available

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
March and August 2012 Soil Sampling						
EB10-0.0	0.0	21	---	---	---	---
EB10-0.5	0.5	2.2	---	---	---	---
EB10-1.0	1.0	3.2	---	---	---	---
EB11-0.0	0.0	130	5.3	---	---	---
EB11-0.5	0.5	40	---	---	---	---
EB11-1.0	1.0	4.6	---	---	---	---
EB11-1.5	1.5	4.7	---	---	---	---
EB11-2.0	2.0	3.2	---	---	---	---
EB12-0.0	0.0	81	3.8	---	---	---
EB12-0.5	0.5	4.1	---	---	---	---
EB12-1.0	1.0	5.1	---	---	---	---
EB12-1.5	1.5	6.3	---	---	---	---
EB12-2.0	2.0	4.9	---	---	---	---
EB13-0.0	0.0	15	---	---	---	---
EB13-0.5	0.5	1.8	---	---	---	---
EB13-1.0	1.0	1.8	---	---	---	---
EB13-1.5	1.5	1.5	---	---	---	---
EB13-2.0	2.0	2.0	---	---	---	---
EB14-0.0	0.0	35	---	---	---	---
EB14-0.5	0.5	7.8	---	---	---	---
EB14-1.0	1.0	8.9	---	---	---	---
EB14-1.5	1.5	8.9	---	---	---	---
EB14-2.0	2.0	7.8	---	---	---	---
EB15-0.0	0.0	59	2.8	---	---	---
EB15-0.5	0.5	14	---	---	---	---
EB15-1.0	1.0	11	---	---	---	---
EB15-1.5	1.5	11	---	---	---	---
EB15-2.0	2.0	11	---	---	---	---
EB16-0.0	0.0	140	5.5	---	---	---
EB16-0.5	0.5	7.7	---	---	---	---
EB16-1.0	1.0	6.6	---	---	---	---
EB16-1.5	1.5	7.5	---	---	---	---
EB16-2.0	2.0	7.5	---	---	---	---
EB17-0.0	0.0	13	---	---	---	---
EB17-0.5	0.5	6.1	---	---	---	---
EB17-1.0	1.0	38	---	---	---	---
EB17-1.5	1.5	12	---	---	---	---
EB17-2.0	2.0	4.4	---	---	---	---
EB18-0.0	0.0	31	---	---	---	---
EB18-0.5	0.5	4.0	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB18-1.0	1.0	2.7	---	---	---	---
EB18-1.5	1.5	3.0	---	---	---	---
EB18-2.0	2.0	3.6	---	---	---	---
EB19-0.0	0.0	50	0.64	---	---	---
EB19-0.5	0.5	44	---	---	---	---
EB19-1.0	1.0	2.0	---	---	---	---
EB19-1.5	1.5	3.4	---	---	---	---
EB19-2.0	2.0	4.1	---	---	---	---
EB20-0.0	0.0	42	---	---	---	---
EB20-0.5	0.5	14	---	---	---	---
EB20-1.0	1.0	6.6	---	---	---	---
EB20-1.5	1.5	4.5	---	---	---	---
EB20-2.0	2.0	11	---	---	---	---
EB21-0.0	0.0	12	---	---	---	---
EB21-0.5	0.5	19	---	---	---	---
EB21-1.0	1.0	3.6	---	---	---	---
EB21-1.5	1.5	4.3	---	---	---	---
EB21-2.0	2.0	7.9	---	---	---	---
EB22-0.0	0.0	29	---	---	---	---
EB22-0.5	0.5	11	---	---	---	---
EB23-0.0	0.0	80	4.0	---	---	---
EB23-0.5	0.5	360	18	---	---	---
EB23-1.0	1.0	42	---	---	---	---
EB23-1.5	1.5	8.3	---	---	---	---
EB23-2.0	2.0	9.1	---	---	---	---
EB24-0.0	0.0	56	3.0	---	---	---
EB24-0.5	0.5	1.5	---	---	---	---
EB24-1.0	1.0	1.6	---	---	---	---
EB24-1.5	1.5	1.4	---	---	---	---
EB24-2.0	2.0	1.8	---	---	---	---
EB25-0.0	0.0	110	5.4	---	---	---
EB25-0.5	0.5	140	4.5	---	---	---
EB25-1.0	1.0	6.2	---	---	---	---
EB25-1.5	1.5	7.4	---	---	---	---
EB25-2.0	2.0	6.9	---	---	---	---
EB26-0.0	0.0	190	9.8	---	---	---
EB26-0.5	0.5	41	---	---	---	---
EB26-1.0	1.0	7.1	---	---	---	---
EB26-1.5	1.5	6.2	---	---	---	---
EB26-2.0	2.0	6.5	---	---	---	---
EB27-0.0	0.0	340	32	---	---	---
EB27-0.5	0.5	150	5.6	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB27-1.0	1.0	38	---	---	---	---
EB27-1.5	1.5	11	---	---	---	---
EB27-2.0	2.0	15	---	---	---	---
EB28-0.0	0.0	310	32	---	---	---
EB28-0.5	0.5	14	---	---	---	---
EB28-1.0	1.0	8.5	---	---	---	---
EB28-1.5	1.5	9.3	---	---	---	---
EB28-2.0	2.0	8.2	---	---	---	---
EB29-0.0	0.0	91	4.2	---	---	---
EB29-0.5	0.5	97	3.9	---	---	---
EB29-1.0	1.0	8.5	---	---	---	---
EB29-1.5	1.5	4.0	---	---	---	---
EB29-2.0	2.0	19	---	---	---	---
EB30-0.0	0.0	330	28	---	---	---
EB30-0.5	0.5	27	---	---	---	---
EB30-1.0	1.0	15	---	---	---	---
EB30-1.5	1.5	7.9	---	---	---	---
EB30-2.0	2.0	6.4	---	---	---	---
EB31-0.0	0.0	120	4.8	---	---	---
EB31-0.5	0.5	620	36	---	1.4	---
EB31-1.0	1.0	52	3.5	---	---	---
EB31-1.5	1.5	140	6.2	---	<0.50	---
EB32-0.0	0.0	1,400	85	---	2.4	---
EB32-0.5	0.5	18	---	---	---	---
EB32-1.0	1.0	3.9	---	---	---	---
EB32-1.5	1.5	8.3	---	---	---	---
EB32-2.0	2.0	13	---	---	---	---
EB33-0.0	0.0	8.0	---	---	---	---
EB33-0.5	0.5	44	---	---	---	---
EB33-1.0	1.0	16	---	---	---	---
EB33-1.5	1.5	15	---	---	---	---
EB34-0.0	0.0	340	18	---	---	---
EB34-0.5	0.5	30	---	---	---	---
EB34-1.0	1.0	5.6	---	---	---	---
EB34-1.5	1.5	6.8	---	---	---	---
EB34-2.0	2.0	8.5	---	---	---	---
EB35-0.0	0.0	40	---	---	---	---
EB35-0.5	0.5	1.9	---	---	---	---
EB35-1.0	1.0	2.0	---	---	---	---
EB35-1.5	1.5	1.9	---	---	---	---
EB35-2.0	2.0	2.3	---	---	---	---
EB36-0.0	0.0	22	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB36-0.5	0.5	6.9	---	---	---	---
EB36-1.0	1.0	4.9	---	---	---	---
EB36-1.5	1.5	3.2	---	---	---	---
EB36-2.0	2.0	5.0	---	---	---	---
EB37-0.0	0.0	5.0	---	---	---	---
EB37-0.5	0.5	78	2.6	---	---	---
EB37-1.0	1.0	2.6	---	---	---	---
EB37-1.5	1.5	2.1	---	---	---	---
EB37-2.0	2.0	10	---	---	---	---
EB38-0.0	0.0	67	2.7	---	---	---
EB39-0.0	0.0	11	---	---	---	---
EB39-0.5	0.5	100	2.6	---	---	---
EB39-1.0	1.0	160	8.1	---	---	---
EB39-1.5	1.5	21	---	---	---	---
EB39-2.0	2.0	19	---	---	---	---
EB40-0.0	0.0	85	5.5	---	---	---
EB40-0.5	0.5	11	---	---	---	---
EB40-1.0	1.0	8.7	---	---	---	---
EB40-1.5	1.5	7.2	---	---	---	---
EB40-2.0	2.0	5.7	---	---	---	---
EB41-0.0	0.0	12	---	---	---	---
EB41-0.5	0.5	270	21	---	---	---
EB41-1.0	1.0	19	---	---	---	---
EB41-1.5	1.5	8.7	---	---	---	---
EB41-2.0	2.0	21	---	---	---	---
EB42-0.0	0.0	1,100	70	---	2.2	---
EB42-0.5	0.5	88	2.9	---	---	---
EB42-1.0	1.0	7.4	---	---	---	---
EB42-1.5	1.5	6.6	---	---	---	---
EB42-2.0	2.0	7.3	---	---	---	---
EB43-0.0	0.0	5.9	---	---	---	---
EB43-0.5	0.5	230	19	---	---	---
EB43-1.0	1.0	29	---	---	---	---
EB43-1.5	1.5	12	---	---	---	---
EB43-2.0	2.0	7.9	---	---	---	---
EB44-0.0	0.0	41	---	---	---	---
EB44-0.5	0.5	9.6	---	---	---	---
EB45-0.0	0.0	87	5.1	---	---	---
EB45-0.5	0.5	5.8	---	---	---	---
EB45-1.0	1.0	7.6	---	---	---	---
EB45-1.5	1.5	8.9	---	---	---	---
EB45-2.0	2.0	4.8	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB46-0.0	0.0	16	---	---	---	---
EB46-0.5	0.5	4.5	---	---	---	---
EB46-1.0	1.0	3.7	---	---	---	---
EB46-1.5	1.5	5.9	---	---	---	---
EB46-2.0	2.0	5.5	---	---	---	---
EB47-0.0	0.0	6.7	---	---	---	---
EB47-0.5	0.5	5.9	---	---	---	---
EB47-1.0	1.0	2.9	---	---	---	---
EB47-1.5	1.5	1.5	---	---	---	---
EB47-2.0	2.0	1.6	---	---	---	---
EB48-0.0	0.0	62	2.5	---	---	---
EB49-0.0	0.0	11	---	---	---	---
EB49-0.5	0.5	13	---	---	---	---
EB49-1.0	1.0	32	---	---	---	---
EB49-1.5	1.5	6.0	---	---	---	---
EB49-2.0	2.0	5.7	---	---	---	---
EB50-0.0	0.0	88	4.7	---	---	---
EB50-0.5	0.5	330	16	---	---	---
EB50-1.0	1.0	84	4.1	---	---	---
EB50-1.5	1.5	8.4	---	---	---	---
EB50-2.0	2.0	6.9	---	---	---	---
EB51-0.0	0.0	8.8	---	---	---	---
EB51-0.5	0.5	8.2	---	---	---	---
EB51-1.0	1.0	9.1	---	---	---	---
EB51-1.5	1.5	2.7	---	---	---	---
EB51-2.0	2.0	2.6	---	---	---	---
EB52-0.0	0.0	220	15	---	---	---
EB52-0.5	0.5	420	8.7	---	0.76	---
EB52-1.0	1.0	7.4	---	---	---	---
EB52-1.5	1.5	5.7	---	---	---	---
EB52-2.0	2.0	12	---	---	---	---
EB53-0.0	0.0	9.7	---	---	---	---
EB53-0.5	0.5	27	---	---	---	---
EB53-1.0	1.0	2.7	---	---	---	---
EB53-1.5	1.5	9.1	---	---	---	---
EB53-2.0	2.0	7.8	---	---	---	---
EB54-0.0	0.0	42	---	---	---	---
EB55-0.0	0.0	6.4	---	---	---	---
EB55-0.5	0.5	7.4	---	---	---	---
EB55-1.0	1.0	6.0	---	---	---	---
EB55-1.5	1.5	11	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB55-2.0	2.0	7.7	---	---	---	---
EB56-0.0	0.0	13	---	---	---	---
EB57-0.0	0.0	94	3.1	---	---	---
EB57-0.5	0.5	100	3.4	---	---	---
EB57-1.0	1.0	5.9	---	---	---	---
EB57-1.5	1.5	10	---	---	---	---
EB57-2.0	2.0	8.4	---	---	---	---
EB58-0.0	0.0	720	35	---	0.52	---
EB58-0.5	0.5	9.5	---	---	---	---
EB58-1.0	1.0	5.6	---	---	---	---
EB58-1.5	1.5	5.8	---	---	---	---
EB58-2.0	2.0	7.8	---	---	---	---
EB59-0.0	0.0	240	7.9	---	---	---
EB59-0.5	0.5	25	---	---	---	---
EB59-1.0	1.0	4.0	---	---	---	---
EB59-1.5	1.5	2.9	---	---	---	---
EB59-2.0	2.0	19	---	---	---	---
EB60-0.0	0.0	120	7.3	---	---	---
EB60-0.5	0.5	8.7	---	---	---	---
EB60-1.0	1.0	6.2	---	---	---	---
EB60-1.5	1.5	4.6	---	---	---	---
EB61-0.0	0.0	13	---	---	---	---
EB61-0.5	0.5	31	---	---	---	---
EB61-1.0	1.0	410	14	---	---	---
EB61-1.5	1.5	210	7.0	---	---	---
EB61-2.0	2.0	5.5	---	---	---	---
EB62-0.0	0.0	13	---	---	---	---
EB63-0.0	0.0	9.4	---	---	---	---
EB63-0.5	0.5	8.1	---	---	---	---
EB63-1.0	1.0	27	---	---	---	---
EB63-1.5	1.5	22	---	---	---	---
EB63-2.0	2.0	7.8	---	---	---	---
EB64-0.0	0.0	39	---	---	---	---
EB65-0.0	0.0	5.8	---	---	---	---
EB65-0.5	0.5	19	---	---	---	---
EB65-1.0	1.0	59	4.3	---	---	---
EB65-1.5	1.5	31	---	---	---	---
EB65-2.0	2.0	5.0	---	---	---	---
EB66-0.0	0.0	73	5.1	---	---	---
EB66-0.5	0.5	120	7.6	---	---	---
EB66-1.0	1.0	270	11	---	<0.50	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB66-1.5	1.5	130	6.3	---	---	---
EB66-2.0	2.0	37	---	---	---	---
EB67-0.0	0.0	37	---	---	---	---
EB67-0.5	0.5	29	---	---	---	---
EB67-1.0	1.0	31	---	---	---	---
EB67-1.5	1.5	43	---	---	---	---
EB67-2.0	2.0	8.8	---	---	---	---
EB68-0.0	0.0	10	---	---	---	---
EB68-0.5	0.5	6.9	---	---	---	---
EB68-1.0	1.0	6.6	---	---	---	---
EB68-1.5	1.5	10	---	---	---	---
EB68-2.0	2.0	8.3	---	---	---	---
EB69-0.0	0.0	9.4	---	---	---	---
EB69-0.5	0.5	4.0	---	---	---	---
EB69-1.0	1.0	9.4	---	---	---	---
EB69-1.5	1.5	10	---	---	---	---
EB69-2.0	2.0	19	---	---	---	---
EB70-0.0	0.0	13	---	---	---	---
EB71-0.0	0.0	51	2.2	---	---	---
EB71-0.5	0.5	810	53	---	<0.50	---
EB71-1.0	1.0	88	3.2	---	---	---
EB71-1.5	1.5	67	1.8	---	---	---
EB71-2.0	2.0	23	---	---	---	---
EB72-0.0	0.0	15	---	---	---	---
EB73-0.0	0.0	22	---	---	---	---
EB73-0.5	0.5	6.1	---	---	---	---
EB73-1.0	1.0	10	---	---	---	---
EB73-1.5	1.5	6.4	---	---	---	---
EB73-2.0	2.0	8.7	---	---	---	---
EB74-0.0	0.0	10	---	---	---	---
EB75-0.0	0.0	10	---	---	---	---
EB75-0.5	0.5	13	---	---	---	---
EB75-1.0	1.0	60	2.6	---	---	---
EB75-1.5	1.5	30	---	---	---	---
EB75-2.0	2.0	16	---	---	---	---
EB76-0.0	0.0	330	18	---	---	---
EB76-0.5	0.5	10	---	---	---	---
EB76-1.0	1.0	8.0	---	---	---	---
EB76-1.5	1.5	7.6	---	---	---	---
EB76-2.0	2.0	8.4	---	---	---	---
EB77-0.0	0.0	14	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB77-0.5	0.5	62	2.1	---	---	---
EB77-1.0	1.0	12	---	---	---	---
EB77-1.5	1.5	4.7	---	---	---	---
EB77-2.0	2.0	11	---	---	---	---
EB78-0.0	0.0	13	---	---	---	---
EB79-0.0	0.0	7.5	---	---	---	---
EB79-0.5	0.5	67	8.7	---	---	---
EB79-1.0	1.0	46	---	---	---	---
EB79-1.5	1.5	1.2	---	---	---	---
EB79-2.0	2.0	1.2	---	---	---	---
EB80-0.0	0.0	100	4.1	---	---	---
EB81-0.0	0.0	18	---	---	---	---
EB81-0.5	0.5	12	---	---	---	---
EB81-1.0	1.0	4.1	---	---	---	---
EB81-1.5	1.5	5.8	---	---	---	---
EB81-2.0	2.0	6.1	---	---	---	---
EB82-0.0	0.0	22	---	---	---	---
EB82-0.5	0.5	5.5	---	---	---	---
EB82-1.0	1.0	6.5	---	---	---	---
EB82-1.5	1.5	9.2	---	---	---	---
EB82-2.0	2.0	8.6	---	---	---	---
EB83-0.0	0.0	10	---	---	---	---
EB83-0.5	0.5	6.6	---	---	---	---
EB83-1.0	1.0	5.2	---	---	---	---
EB83-1.5	1.5	<1.0	---	---	---	---
EB83-2.0	2.0	1.4	---	---	---	---
EB84-0.0	0.0	140	5.6	---	---	---
EB84-0.5	0.5	50	1.3	---	---	---
EB84-1.0	1.0	5.6	---	---	---	---
EB84-1.5	1.5	7.1	---	---	---	---
EB84-2.0	2.0	9.3	---	---	---	---
EB85-0.0	0.0	92	8.6	---	---	---
EB85-0.5	0.5	4.4	---	---	---	---
EB85-1.0	1.0	7.0	---	---	---	---
EB85-1.5	1.5	6.0	---	---	---	---
EB85-2.0	2.0	7.4	---	---	---	---
EB86-0.0	0.0	550	28	---	0.67	---
EB86-0.5	0.5	26	---	---	---	---
EB87-0.0	0.0	7.7	---	---	---	---
EB87-0.5	0.5	67	3.2	---	---	---
EB87-1.0	1.0	97	4.9	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB87-1.5	1.5	7.6	---	---	---	---
EB87-2.0	2.0	33	---	---	---	---
EB88-0.0	0.0	170	7.2	---	---	---
EB88-0.5	0.5	8.2	---	---	---	---
EB88-1.0	1.0	5.3	---	---	---	---
EB88-1.5	1.5	1.6	---	---	---	---
EB88-2.0	2.0	2.0	---	---	---	---
EB89-0.0	0.0	8.5	---	---	---	---
EB89-0.5	0.5	8.7	---	---	---	---
EB89-1.0	1.0	3.9	---	---	---	---
EB89-1.5	1.5	6.0	---	---	---	---
EB89-2.0	2.0	2.8	---	---	---	---
EB90-0.0	0.0	15	---	---	---	---
EB90-0.5	0.5	15	---	---	---	---
EB90-1.0	1.0	47	---	---	---	---
EB90-1.5	1.5	46	---	---	---	---
EB90-2.0	2.0	9.0	---	---	---	---
EB91-0.0	0.0	17	---	---	---	---
EB91-0.5	0.5	24	---	---	---	---
EB91-1.0	1.0	21	---	---	---	---
EB91-1.5	1.5	2.4	---	---	---	---
EB91-2.0	2.0	1.4	---	---	---	---
EB92-0.0	0.0	80	2.8	---	---	---
EB92-0.5	0.5	33	---	---	---	---
EB92-1.0	1.0	94	2.7	---	---	---
EB92-1.5	1.5	65	1.8	---	---	---
EB92-2.0	2.0	74	3.9	---	---	---
EB109-0.0	0.0	53	3.1	---	---	---
EB109-0.5	0.5	37	---	---	---	---
EB109-1.0	1.0	11	---	---	---	---
EB109-1.5	1.5	14	---	---	---	---
EB110-0.0	0.0	20	---	---	---	---
EB110-0.5	0.5	89	3.3	---	---	---
EB110-1.0	1.0	15	---	---	---	---
EB110-1.5	1.5	16	---	---	---	---
EB111-0.0	0.0	270	22	<0.50	---	---
EB111-0.5	0.5	67	2.6	---	---	---
EB111-1.0	1.0	31	---	---	---	---
EB111-1.5	1.5	8.6	---	---	---	---
EB111-2.0	2.0	8.0	---	---	---	---
EB112-0.0	0.0	21	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB112-0.5	0.5	180	6.1	0.63	---	6.9
EB112-1.0	1.0	15	---	---	---	---
EB113-0.0	0.0	110	8.8	<0.50	---	---
EB113-0.5	0.5	34	---	---	---	---
EB113-1.0	1.0	12	---	---	---	---
EB113-1.5	1.5	11	---	---	---	---
EB113-2.0	2.0	13	---	---	---	---
EB114-0.0	0.0	170	8.8	<0.50	---	---
EB114-0.5	0.5	34	---	---	---	---
EB114-1.0	1.0	13	---	---	---	---
EB114-1.5	1.5	17	---	---	---	---
EB115-0.0	0.0	250	15	<0.50	---	---
EB115-0.5	0.5	11	---	---	---	---
EB115-1.0	1.0	9.4	---	---	---	---
EB115-1.5	1.5	8.4	---	---	---	---
EB115-2.0	2.0	7.6	---	---	---	---
EB116-0.0	0.0	14	---	---	---	---
EB116-0.5	0.5	8.1	---	---	---	---
EB116-1.0	1.0	5.7	---	---	---	---
EB116-1.5	1.5	10	---	---	---	---
EB116-2.0	2.0	6.0	---	---	---	---
EB117-0.0	0.0	19	---	---	---	---
EB117-0.5	0.5	67	3.8	---	---	---
EB117-1.0	1.0	110	4.9	---	---	---
EB117-1.5	1.5	14	---	---	---	---
EB117-2.0	2.0	6.3	---	---	---	---
EB118-0.0	0.0	6.8	---	---	---	---
EB118-0.5	0.5	5.6	---	---	---	---
EB118-1.0	1.0	9.3	---	---	---	---
EB118-1.5	1.5	11	---	---	---	---
EB118-2.0	2.0	14	---	---	---	---
EB119-0.0	0.0	89	1.9	---	---	---
EB119-0.5	0.5	10	---	---	---	---
EB119-1.0	1.0	5.5	---	---	---	---
EB119-1.5	1.5	3.7	---	---	---	---
EB119-2.0	2.0	3.3	---	---	---	---
EB120-0.0	0.0	10	---	---	---	---
EB120-0.5	0.5	33	---	---	---	---
EB120-1.0	1.0	2.1	---	---	---	---
EB120-1.5	1.5	2.1	---	---	---	---
EB120-2.0	2.0	4.2	---	---	---	---
EB120-2.5	2.5	4.0	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB121-0.0	0.0	29	---	---	---	---
EB121-0.5	0.5	7.2	---	---	---	---
EB121-1.0	1.0	5.8	---	---	---	---
EB121-1.5	1.5	5.4	---	---	---	---
EB121-2.0	2.0	4.7	---	---	---	---
EB122-0.0	0.0	140	5.6	<0.50	---	---
EB122-0.5	0.5	1,100	---	---	1.8	---
EB122-1.0	1.0	110	7.0	<0.50	---	---
EB122-1.5	1.5	3.3	---	---	---	---
EB122-2.0	2.0	8.2	---	---	---	---
EB123-0.0	0.0	100	5.3	<0.50	---	---
EB123-0.5	0.5	150	5.2	<0.50	---	---
EB123-1.0	1.0	6.5	---	---	---	---
EB124-0.0	0.0	11	---	---	---	---
EB124-0.5	0.5	110	4.7	---	---	---
EB124-1.0	1.0	61	2.2	---	---	---
EB124-1.5	1.5	2.8	---	---	---	---
EB124-2.0	2.0	3.5	---	---	---	---
EB125-0.0	0.0	76	2.2	---	---	---
EB125-0.5	0.5	5.8	---	---	---	---
EB125-1.0	1.0	8.8	---	---	---	---
EB125-1.5	1.5	7.6	---	---	---	---
EB125-2.0	2.0	7.8	---	---	---	---
EB126-0.0	0.0	61	3.4	---	---	---
EB126-0.5	0.5	510	29	<0.50	---	---
EB126-1.0	1.0	8.0	---	---	---	---
EB126-1.5	1.5	5.7	---	---	---	---
EB126-2.0	2.0	5.0	---	---	---	---
EB127-0.0	0.0	240	14	0.54	---	---
EB127-0.5	0.5	320	22	1.4	---	7.3
EB127-1.0	1.0	12	---	---	---	---
EB127-1.5	1.5	11	---	---	---	---
EB127-2.0	2.0	14	---	---	---	---
EB128-0.0	0.0	46	---	---	---	---
EB128-0.5	0.5	220	17	<0.50	---	---
EB128-1.0	1.0	470	30	<0.50	---	---
EB128-1.5	1.5	49	---	---	---	---
EB128-2.0	2.0	70	6.4	<0.50	---	---
EB129-0.0	0.0	110	7.1	<0.50	---	---
EB129-0.5	0.5	110	3.8	---	---	---
EB129-1.0	1.0	15	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB129-1.5	1.5	20	---	---	---	---
EB129-2.0	2.0	9.0	---	---	---	---
EB130-0.0	0.0	230	19	0.84	---	---
EB130-0.5	0.5	170	9.2	<0.50	---	---
EB130-1.0	1.0	21	---	---	---	---
EB130-1.5	1.5	11	---	---	---	---
EB130-2.0	2.0	5.5	---	---	---	---
EB130-2.5	2.5	13	---	---	---	---
EB131-0.0	0.0	300	16	1.2	---	6.9
EB131-0.5	0.5	57	2.0	---	---	---
EB131-1.0	1.0	110	4.5	---	---	---
EB131-1.5	1.5	26	---	---	---	---
EB131-2.0	2.0	7.8	---	---	---	---
EB132-0.0	0.0	62	2.0	---	---	---
EB132-0.5	0.5	150	10	<0.50	---	---
EB132-1.0	1.0	35	---	---	---	---
EB132-1.5	1.5	15	---	---	---	---
EB132-2.0	2.0	6.2	---	---	---	---
EB133-0.0	0.0	370	19	<0.50	---	---
EB133-0.5	0.5	34	---	---	---	---
EB133-1.0	1.0	40	---	---	---	---
EB133-1.5	1.5	5.7	---	---	---	---
EB133-2.0	2.0	7.6	---	---	---	---
EB134-0.0	0.0	20	---	---	---	---
EB134-0.5	0.5	1,700	---	---	10	---
EB134-1.0	1.0	390	22	<0.50	---	---
EB134-1.5	1.5	260	17	<0.50	---	---
EB134-2.0	2.0	120	8.0	<0.50	---	---
EB135-0.0	0.0	13	---	---	---	---
EB135-0.5	0.5	3.8	---	---	---	---
EB135-1.0	1.0	2.7	---	---	---	---
EB135-1.5	1.5	2.4	---	---	---	---
EB135-2.0	2.0	3.2	---	---	---	---
EB136-0.0	0.0	140	8.0	<0.50	---	---
EB136-0.5	0.5	13	---	---	---	---
EB136-1.0	1.0	4.2	---	---	---	---
EB136-1.5	1.5	3.2	---	---	---	---
EB136-2.0	2.0	5.3	---	---	---	---
EB137-0.0	0.0	130	9.5	<0.50	---	---
EB137-0.5	0.5	70	4.5	---	---	---
EB137-1.0	1.0	9.6	---	---	---	---
EB137-1.5	1.5	8.4	---	---	---	---
EB137-2.0	2.0	8.8	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB138-0.0	0.0	39	---	---	---	---
EB138-0.5	0.5	14	---	---	---	---
EB138-1.0	1.0	9.1	---	---	---	---
EB138-1.5	1.5	15	---	---	---	---
EB138-2.0	2.0	4.9	---	---	---	---
EB139-0.0	0.0	230	16	<0.50	---	---
EB139-0.5	0.5	12	---	---	---	---
EB139-1.0	1.0	7.0	---	---	---	---
EB139-1.5	1.5	4.5	---	---	---	---
EB139-2.0	2.0	4.5	---	---	---	---
EB140-0.0	0.0	17	---	---	---	---
EB140-0.5	0.5	2,100	---	---	26	---
EB140-1.0	1.0	2,500	---	---	26	---
EB140-1.5	1.5	1,800	---	---	18	---
EB140-2.0	2.0	580	35	<0.50	---	8.4
EB140-2.5	2.5	400	29	<0.50	---	---
EB141-0.0	0.0	65	3.4	---	---	---
EB141-0.5	0.5	40	---	---	---	---
EB141-1.0	1.0	16	---	---	---	---
EB141-1.5	1.5	9.9	---	---	---	---
EB142-0.0	0.0	21	---	---	---	---
EB142-0.5	0.5	1,300	---	---	8.7	---
EB142-1.0	1.0	32	---	---	---	---
EB142-1.5	1.5	110	7.2	<0.50	---	8.6
EB142-2.0	2.0	110	7.8	<0.50	---	---
EB143-0.0	0.0	170	11	<0.50	---	---
EB143-0.5	0.5	62	2.5	---	---	---
EB143-1.0	1.0	14	---	---	---	---
EB143-1.5	1.5	37	---	---	---	---
EB143-2.0	2.0	12	---	---	---	---
EB144-0.0	0.0	79	4.8	---	---	---
EB144-0.5	0.5	30	---	---	---	---
EB144-1.0	1.0	4.3	---	---	---	---
EB144-1.5	1.5	5.3	---	---	---	---
EB144-2.0	2.0	7.4	---	---	---	---
EB145-0.0	0.0	170	15	<0.50	---	---
EB145-0.5	0.5	29	---	---	---	---
EB145-1.0	1.0	11	---	---	---	---
EB145-1.5	1.5	4.2	---	---	---	---
EB145-2.0	2.0	4.6	---	---	---	---
EB146-0.0	0.0	8.7	---	---	---	---
EB146-0.5	0.5	12	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB146-1.0	1.0	3.4	---	---	---	---
EB146-1.5	1.5	7.3	---	---	---	---
EB146-2.0	2.0	13	---	---	---	---
EB147-0.0	0.0	12	---	---	---	---
EB147-0.5	0.5	2.4	---	---	---	---
EB147-1.0	1.0	3.3	---	---	---	---
EB147-1.5	1.5	3.1	---	---	---	---
EB147-2.0	2.0	3.9	---	---	---	---
EB148-0.0	0.0	29	---	---	---	---
EB148-0.5	0.5	14	---	---	---	---
EB148-1.0	1.0	6.2	---	---	---	---
EB148-1.5	1.5	4.6	---	---	---	---
EB149-0.0	0.0	8.4	---	---	---	---
EB149-0.5	0.5	9.3	---	---	---	---
EB149-1.0	1.0	20	---	---	---	---
EB149-1.5	1.5	19	---	---	---	---
EB149-2.0	2.0	1.6	---	---	---	---
EB150-0.0	0.0	14	---	---	---	---
EB150-0.5	0.5	53	4.4	---	---	---
EB150-1.0	1.0	160	5.9	<0.50	---	8.8
EB150-1.5	1.5	2.7	---	---	---	---
EB150-2.0	2.0	6.5	---	---	---	---
EB150-2.5	2.5	8.3	---	---	---	---
EB151-0.0	0.0	100	4.6	---	---	---
EB151-0.5	0.5	13	---	---	---	---
EB151-1.0	1.0	8.4	---	---	---	---
EB151-1.5	1.5	15	---	---	---	---
EB151-2.0	2.0	8.9	---	---	---	---
EB152-0.0	0.0	22	---	---	---	---
EB152-0.5	0.5	31	---	---	---	---
EB152-1.0	1.0	8.5	---	---	---	---
EB152-1.5	1.5	2.9	---	---	---	---
EB152-2.0	2.0	1.8	---	---	---	---
EB153-0.0	0.0	12	---	---	---	---
EB153-0.5	0.5	17	---	---	---	---
EB153-1.0	1.0	15	---	---	---	---
EB154-0.0	0.0	210	13	<0.50	---	---
EB154-0.5	0.5	310	20	<0.50	---	---
EB154-1.0	1.0	51	2.4	---	---	---
EB154-1.5	1.5	27	---	---	---	---
EB154-2.0	2.0	9.4	---	---	---	---
EB155-0.0	0.0	220	17	<0.50	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB155-0.5	0.5	22	---	---	---	---
EB155-1.0	1.0	13	---	---	---	---
EB155-1.5	1.5	13	---	---	---	---
EB155-2.0	2.0	14	---	---	---	---
EB156-0.0	0.0	14	---	---	---	---
EB156-0.5	0.5	360	24	0.68	---	---
EB156-1.0	1.0	160	13	0.60	---	---
EB156-1.5	1.5	82	5.6	<0.50	---	8.7
EB157-0.0	0.0	16	---	---	---	---
EB157-0.5	0.5	31	---	---	---	---
EB157-1.0	1.0	9.5	---	---	---	---
EB157-1.5	1.5	5.9	---	---	---	---
EB157-2.0	2.0	5.6	---	---	---	---
EB158-0.0	0.0	9.7	---	---	---	---
EB158-0.5	0.5	25	---	---	---	---
EB158-1.0	1.0	66	3.9	---	---	---
EB158-1.5	1.5	7.8	---	---	---	---
EB158-2.0	2.0	12	---	---	---	---
EB159-0.0	0.0	11	---	---	---	---
EB159-0.5	0.5	47	---	---	---	---
EB159-1.0	1.0	4.9	---	---	---	---
EB159-1.5	1.5	3.7	---	---	---	---
EB159-2.0	2.0	3.1	---	---	---	---
EB160-0.0	0.0	9.6	---	---	---	---
EB160-0.5	0.5	9.5	---	---	---	---
EB160-1.0	1.0	7.6	---	---	---	---
EB161-0.0	0.0	39	---	---	---	---
EB161-0.5	0.5	53	1.8	---	---	---
EB161-1.0	1.0	29	---	---	---	---
EB161-1.5	1.5	9.7	---	---	---	---
EB161-2.0	2.0	22	---	---	---	---
EB162-0.0	0.0	14	---	---	---	---
EB162-0.5	0.5	16	---	---	---	---
EB162-1.0	1.0	94	5.8	<0.50	---	7.3
EB162-1.5	1.5	8.4	---	---	---	---
EB162-2.0	2.0	6.3	---	---	---	---
EB163-0.0	0.0	12	---	---	---	---
EB163-0.5	0.5	17	---	---	---	---
EB163-1.0	1.0	99	6.8	<0.50	---	6.4
EB163-1.5	1.5	9.3	---	---	---	---
EB164-0.0	0.0	46	---	---	---	---
EB164-0.5	0.5	5.1	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB164-1.0	1.0	7.0	---	---	---	---
EB164-1.5	1.5	9.9	---	---	---	---
EB164-2.0	2.0	8.2	---	---	---	---
EB165-0.0	0.0	13	---	---	---	---
EB165-0.5	0.5	7.6	---	---	---	---
EB165-1.0	1.0	10	---	---	---	---
EB165-1.5	1.5	56	2.6	---	---	---
EB165-2.0	2.0	13	---	---	---	---
EB166-0.0	0.0	9.2	---	---	---	---
EB166-0.5	0.5	17	---	---	---	---
EB166-1.0	1.0	10	---	---	---	---
EB166-1.5	1.5	10	---	---	---	---
EB166-2.0	2.0	12	---	---	---	---
EB167-0.0	0.0	25	---	---	---	---
EB167-0.5	0.5	26	---	---	---	---
EB167-1.0	1.0	7.9	---	---	---	---
EB167-1.5	1.5	11	---	---	---	---
EB168-0.0	0.0	81	1.1	---	---	---
EB168-0.5	0.5	3.1	---	---	---	---
EB168-1.0	1.0	1.8	---	---	---	---
EB168-1.5	1.5	3.8	---	---	---	---
EB168-2.0	2.0	14	---	---	---	---
EB169-0.0	0.0	180	8.1	<0.50	---	---
EB169-0.5	0.5	270	9.3	<0.50	---	---
EB169-1.0	1.0	14	---	---	---	---
EB169-1.5	1.5	1.9	---	---	---	---
EB169-2.0	2.0	6.4	---	---	---	---
EB170-0.0	0.0	60	4.8	---	---	---
EB170-0.5	0.5	80	4.5	---	---	---
EB170-1.0	1.0	9.4	---	---	---	---
EB170-1.5	1.5	10	---	---	---	---
EB170-2.0	2.0	11	---	---	---	---
EB170-2.5	2.5	13	---	---	---	---
EB171-0.0	0.0	35	---	---	---	---
EB171-0.5	0.5	13	---	---	---	---
EB171-1.0	1.0	9.7	---	---	---	---
EB171-1.5	1.5	16	---	---	---	---
EB171-2.0	2.0	9.6	---	---	---	---
EB172-0.0	0.0	170	9.3	<0.50	---	7.1
EB172-0.5	0.5	9.2	---	---	---	---
EB172-1.0	1.0	8.5	---	---	---	---
EB172-1.5	1.5	4.7	---	---	---	---
EB172-2.0	2.0	5.1	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB173-0.0	0.0	42	---	---	---	---
EB173-0.5	0.5	33	---	---	---	---
EB173-1.0	1.0	2.8	---	---	---	---
EB173-1.5	1.5	6.5	---	---	---	---
EB173-2.0	2.0	11	---	---	---	---
EB174-0.0	0.0	61	3.5	---	---	---
EB174-0.5	0.5	9.4	---	---	---	---
EB174-1.0	1.0	7.5	---	---	---	---
EB174-1.5	1.5	8.2	---	---	---	---
EB175-0.0	0.0	12	---	---	---	---
EB175-0.5	0.5	<1.0	---	---	---	---
EB175-1.0	1.0	1.1	---	---	---	---
EB175-1.5	1.5	5.9	---	---	---	---
EB175-2.0	2.0	2.7	---	---	---	---
EB176-0.0	0.0	92	6.5	<0.50	---	---
EB176-0.5	0.5	12	---	---	---	---
EB176-1.0	1.0	9.5	---	---	---	---
EB177-0.0	0.0	34	---	---	---	---
EB177-0.5	0.5	9.9	---	---	---	---
EB177-1.0	1.0	8.8	---	---	---	---
EB177-1.5	1.5	10	---	---	---	---
EB177-2.0	2.0	22	---	---	---	---
EB178-0.0	0.0	360	11	<0.50	---	8.2
EB178-0.5	0.5	58	1.5	---	---	---
EB178-1.0	1.0	30	---	---	---	---
EB178-1.5	1.5	11	---	---	---	---
EB179-0.0	0.0	16	---	---	---	---
EB179-0.5	0.5	16	---	---	---	---
EB179-1.0	1.0	7.7	---	---	---	---
EB179-1.5	1.5	4.0	---	---	---	---
EB179-2.0	2.0	5.4	---	---	---	---
EB180-0.0	0.0	16	---	---	---	---
EB180-0.5	0.5	460	45	<0.50	---	---
EB180-1.0	1.0	370	26	<0.50	---	---
EB180-1.5	1.5	160	9.2	<0.50	---	---
EB180-2.0	2.0	28	---	---	---	---
EB180-2.5	2.5	22	---	---	---	---
EB181-0.0	0.0	1,200	---	---	0.54	---
EB181-0.5	0.5	32	---	---	---	---
EB181-1.0	1.0	19	---	---	---	---
EB181-1.5	1.5	12	---	---	---	---
EB181-2.0	2.0	10	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EB182-0.0	0.0	6.4	---	---	---	---
EB182-0.5	0.5	940	59	<0.50	---	---
EB182-1.0	1.0	71	4.8	---	---	---
EB182-1.5	1.5	150	11	<0.50	---	---
EB182-2.0	2.0	62	5.9	<0.50	---	---
EHA1-0.0	0.0	150	6.2	<1.0	---	---
EHA1-0.5	0.5	5.5	---	---	---	---
EHA1-1.0	1.0	3.6	---	---	---	---
EHA1-1.5	1.5	3.4	---	---	---	---
EHA1-2.0	2.0	3.3	---	---	---	---
EHA2-0.0	0.0	22	---	---	---	---
EHA2-0.5	0.5	4.6	---	---	---	---
EHA2-1.0	1.0	3.4	---	---	---	---
EHA2-1.5	1.5	6.7	---	---	---	---
EHA2-2.0	2.0	5.6	---	---	---	---
EHA3-0.0	0.0	60	1.9	---	---	---
EHA3-0.5	0.5	7.6	---	---	---	---
EHA3-1.0	1.0	8.4	---	---	---	---
EHA3-1.5	1.5	7.5	---	---	---	---
EHA3-2.0	2.0	6.3	---	---	---	---
EHA4-0.0	0.0	60	2.2	---	---	---
EHA4-0.5	0.5	7.2	---	---	---	---
EHA4-1.0	1.0	6.9	---	---	---	---
EHA4-1.5	1.5	5.2	---	---	---	---
EHA4-2.0	2.0	7.3	---	---	---	---
EHA5-0.0	0.0	830	50	<1.0	0.74	5.7
EHA5-0.5	0.5	17	---	---	---	---
EHA5-1.0	1.0	11	---	---	---	---
EHA5-1.5	1.5	11	---	---	---	---
EHA5-2.0	2.0	12	---	---	---	---
EHA6-0.0	0.0	71	3.8	---	---	---
EHA6-0.5	0.5	87	3.1	---	---	---
EHA6-1.0	1.0	12	---	---	---	---
EHA6-1.5	1.5	6.8	---	---	---	---
EHA6-2.0	2.0	4.4	---	---	---	---
EHA7-0.0	0.0	160	6.0	<1.0	---	6.0
EHA7-0.5	0.5	54	2.9	---	---	---
EHA7-1.0	1.0	15	---	---	---	---
EHA7-1.5	1.5	6.9	---	---	---	---
EHA7-2.0	2.0	6.7	---	---	---	---
EHA8-0.0	0.0	61	1.9	---	---	---
EHA8-0.5	0.5	8.2	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EHA8-1.0	1.0	6.2	---	---	---	---
EHA8-1.5	1.5	8.0	---	---	---	---
EHA8-2.0	2.0	5.5	---	---	---	---
EHA9-0.0	0.0	290	13	<1.0	---	6.3
EHA9-0.5	0.5	21	---	---	---	---
EHA9-1.0	1.0	6.2	---	---	---	---
EHA9-1.5	1.5	3.6	---	---	---	---
EHA9-2.0	2.0	7.5	---	---	---	---
EHA10-0.0	0.0	310	13	<1.0	---	---
EHA10-0.5	0.5	51	1.9	---	---	---
EHA10-1.0	1.0	70	3.1	---	---	---
EHA10-1.5	1.5	22	---	---	---	---
EHA10-2.0	2.0	41	---	---	---	---
EHA11-0.0	0.0	120	2.4	---	---	---
EHA11-0.5	0.5	23	---	---	---	---
EHA11-1.0	1.0	11	---	---	---	---
EHA11-1.5	1.5	6.7	---	---	---	---
EHA11-2.0	2.0	7.5	---	---	---	---
EHA12-0.0	0.0	26	---	---	---	---
EHA12-0.5	0.5	7.5	---	---	---	---
EHA12-1.0	1.0	7.6	---	---	---	---
EHA12-1.5	1.5	7.5	---	---	---	---
EHA12-2.0	2.0	8.7	---	---	---	---
EHA13-0.0	0.0	84	4.8	---	---	---
EHA13-0.5	0.5	5.2	---	---	---	---
EHA13-1.0	1.0	6.7	---	---	---	---
EHA13-1.5	1.5	4.4	---	---	---	---
EHA13-2.0	2.0	12	---	---	---	---
EHA14-0.0	0.0	550	37	<1.0	1.3	6.2
EHA14-0.5	0.5	12	---	---	---	---
EHA14-1.0	1.0	17	---	---	---	---
EHA15-0.0	0.0	290	15	<1.0	---	---
EHA15-0.5	0.5	12	---	---	---	---
EHA15-1.0	1.0	5.6	---	---	---	---
EHA15-1.5	1.5	9.1	---	---	---	---
EHA15-2.0	2.0	6.9	---	---	---	---
EHA16-0.0	0.0	51	3.1	---	---	---
EHA16-0.5	0.5	5.2	---	---	---	---
EHA16-1.0	1.0	3.5	---	---	---	---
EHA16-1.5	1.5	2.3	---	---	---	---
EHA16-2.0	2.0	2.5	---	---	---	---
EHA17-0.0	0.0	510	22	1.6	1.3	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
EHA17-0.5	0.5	9.3	---	---	---	---
EHA17-1.0	1.0	8.7	---	---	---	---
EHA17-1.5	1.5	18	---	---	---	---
EHA17-2.0	2.0	4.3	---	---	---	---
EHA18-0.0	0.0	140	6.4	<1.0	---	---
EHA18-0.5	0.5	8.5	---	---	---	---
EHA18-1.0	1.0	9.3	---	---	---	---
EHA19-0.0	0.0	460	23	<1.0	---	5.6
EHA19-0.5	0.5	49	---	---	---	---
EHA19-1.0	1.0	49	---	---	---	---
EHA20-0.0	0.0	220	8.1	<1.0	---	---
EHA20-0.5	0.5	16	---	---	---	---
EHA20-1.0	1.0	6.7	---	---	---	---
April 2015 Soil Sampling						
B1-3'	3.0	9.8	---	---	---	---
B1-4'	4.0	10	---	---	---	---
B2-3'	3.0	10	---	---	---	---
B2-5-0'	0.0	12	---	---	---	---
B2-5-1'	1.0	8.9	---	---	---	---
HA2-10'-0'	0.0	19	---	---	---	---
HA2-10'-1	1.0	11	---	---	---	---
HA2-15'-0	0.0	11	---	---	---	---
B3-3'	3.0	14	---	---	---	---
B3-5'-0'	0.0	17	---	---	---	---
B3-5'-1'	1.0	8.7	---	---	---	---
HA3-10'-0	0.0	24	---	---	---	---
HA3-15'-0	0.0	17	---	---	---	---
HA4-3'	3.0	21	---	---	---	---
B5-3'	3.0	6.8	---	---	---	---
B5-4'	4.0	4.2	---	---	---	---
B6-5'-0'	0.0	18	---	---	---	---
B6-5'-1'	1.0	5.3	---	---	---	---
HA6-10'-0'	0.0	57	2.0	---	---	---
HA6-10'-1'	1.0	9.0	---	---	---	---
HA6-15'-0'	0.0	77	3.1	---	---	---
HA6-15'-1'	1.0	20	---	---	---	---
B8-3'	3.0	9.5	---	---	---	---
B8-5'-0	0.0	20	---	---	---	---
HA8-10'-0	0.0	180	6.2	<1.0	---	7.6
HA8-15'-0	0.0	16	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
B9-3	3.0	10	---	---	---	---
B9-4	4.0	7.0	---	---	---	---
B10-3'	3.0	12	---	---	---	---
B10-4'	4.0	8.8	---	---	---	---
B10-5'-0'	0.0	19	---	---	---	---
B10-5'-1'	1.0	12	---	---	---	---
HA10-10'-0'	0.0	27	---	---	---	---
HA10-10'-0'B	0.0	36	---	---	---	---
HA10-15'-0	0.0	47	---	---	---	---
HA10-15'-1'	1.0	17	---	---	---	---
B11-3'	3.0	120	4.4	---	---	---
B11-4'	4.0	4.6	---	---	---	---
B12-3'	3.0	7.5	---	---	---	---
B12-5'-0'	0.0	43	---	---	---	---
B12-5'-1'	1.0	32	---	---	---	---
HA12-10'-0'	0.0	34	---	---	---	---
HA12-10'-1'	1.0	33	---	---	---	---
HA12-15'-0'	0.0	29	---	---	---	---
HA12-15'-1'	1.0	11	---	---	---	---
B13-3'	3.0	14	---	---	---	---
B14-5'-0'	0.0	15	---	---	---	---
B14-5'-1'	1.0	4.0	---	---	---	---
HA14-10'-0	0.0	110	5.3	<1.0	---	4.3
HA14-10'-1'	1.0	37	---	---	---	---
HA14-15'-0'	0.0	46	---	---	---	---
HA14-15'-1'	1.0	43	---	---	---	---
B15-3'	3.0	7.2	---	---	---	---
B15-4'	4.0	11	---	---	---	---
B16-3	3.0	4.9	---	---	---	---
B16-5'-0'	0.0	7.3	---	---	---	---
B16-5'-1'	1.0	5.4	---	---	---	---
HA16-10'-0'	0.0	84	3.7	---	---	---
HA16-10'-1'	1.0	23	---	---	---	---
HA16-15'-0'	0.0	16	---	---	---	---
HA16-15'-0'B	0.0	14	---	---	---	---
B17-3'	3.0	9.9	---	---	---	---
B17-4'	4.0	18	---	---	---	---
B18-3'	3.0	5.8	---	---	---	---
B18-4'	4.0	5.9	---	---	---	---
B18-5'-0'	0.0	93	8.3	1.3	---	5.9
B18-5'-1'	1.0	10	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
HA18-10-0'	0.0	150	6.6	<1.0	---	6.1
HA18-10'-0.5'	0.5	130	2.9	---	---	---
HA18-10'-1'	1.0	24	---	---	---	---
HA18-15'-0'	0.0	190	4.4	---	---	---
HA18-15'-1'	1.0	64	1.6	---	---	---
B19-3'	3.0	7.4	---	---	---	---
B20-3'	3.0	3.0	---	---	---	---
B20-5'-0'	0.0	5.5	---	---	---	---
B20-5'-1'	1.0	4.2	---	---	---	---
HA20-10'-0'	0.0	34	---	---	---	---
HA20-10'-1'	1.0	43	---	---	---	---
HA20-15'-0'	0.0	32	---	---	---	---
HA20-15'-0'B	0.0	27	---	---	---	---
B21-3'	3.0	5.5	---	---	---	---
B21-4'	4.0	10	---	---	---	---
B22-3'	3.0	3.7	---	---	---	---
B22-4'	4.0	3.6	---	---	---	---
B22-5'-0'	0.0	14	---	---	---	---
B22-5'-1'	1.0	130	<1.0	---	---	---
HA22-10'-0'	0.0	7.1	---	---	---	---
HA22-10'-0'B	0.0	140	5.8	<1.0	---	5.2
HA22-15'-0'	0.0	200	8.8	<1.0	<0.05	5.9
HA22-15'-0'B	0.0	170	7.4	<1.0	---	5.8
B24-3'	3.0	9.4	---	---	---	---
B24-4'	4.0	3.9	---	---	---	---
B25-3'	3.0	12	---	---	---	---
HA25-5'-0'	0.0	150	4.7	---	---	---
HA25-5'-1'	1.0	58	1.7	---	---	---
HA25-10'-0'	0.0	220	8.1	<1.0	0.067	5.5
HA25-10'-0.5'	0.5	73	3.2	---	---	---
HA25-15'-0'	0.0	74	2.1	---	---	---
HA25-15'-0'B	0.0	41	---	---	---	---
B26-3'	3.0	5.4	---	---	---	---
B26-5'-0'	0.0	130	5.4	<1.0	---	5.6
B26-5'-1'	1.0	7.2	---	---	---	---
HA26-10'-0'	0.0	27	---	---	---	---
HA26-10'-0.5'	0.5	18	---	---	---	---
HA26-10'-1'	1.0	12	---	---	---	---
HA26-15'-0'	0.0	60	3.7	---	---	---
HA26-15'-0.5'	0.5	15	---	---	---	---
HA26-15'-1'	1.0	16	---	---	---	---
B27-3'	3.0	12	---	---	---	---
B27-4'	4.0	23	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
B27-5'-0'	0.0	8.8	---	---	---	---
B27-5'-1'	1.0	14	---	---	---	---
HA27-10'-0'	0.0	23	---	---	---	---
HA27-10'-0'B	0.0	18	---	---	---	---
HA27-15'-0'	0.0	40	---	---	---	---
HA27-15'-0'B	0.0	23	---	---	---	---
B28-3	3.0	2.1	---	---	---	---
B29-3	3.0	11	---	---	---	---
B29-4	4.0	5.9	---	---	---	---
B29-5-0'	0.0	23	---	---	---	---
B29-5-1'	1.0	9.6	---	---	---	---
HA29-10-0	0.0	48	---	---	---	---
HA29-10-0B	0.0	62	2.4	---	---	---
HA29-15-0	0.0	19	---	---	---	---
HA29-15-0B	0.0	32	---	---	---	---
B30-3'	3.0	2.5	---	---	---	---
B31-3'	3.0	14	---	---	---	---
B31-4'	4.0	23	---	---	---	---
B31-5-0	0.0	220	14	2.1	---	4.7
B31-5-1	1.0	15	---	---	---	---
HA31-10-0	0.0	170	4.5	---	---	---
HA31-10-0.5	0.5	54	2.0	---	---	---
HA31-10-1	1.0	44	---	---	---	---
HA31-15-0	0.0	88	5.2	<1.0	---	4.8
HA31-15-0B	0.0	42	---	---	---	---
B32-3	3.0	6.5	---	---	---	---
B32-4	4.0	5.1	---	---	---	---
B33-3	3.0	4.6	---	---	---	---
B33-4	4.0	3.3	---	---	---	---
B34-3	3.0	4.8	---	---	---	---
B34-4	4.0	7.8	---	---	---	---
B34-5-0	0.0	4.6	---	---	---	---
B34-5-1	1.0	2.7	---	---	---	---
HA34-10-0	0.0	65	3.2	---	---	---
HA34-10-0B	0.0	15	---	---	---	---
HA34-15-0	0.0	140	7.1	1.1	---	5.0
HA34-15-0B	0.0	33	---	---	---	---
B35-5-0	0.0	60	1.9	---	---	---
B35-5-0.5	0.5	15	---	---	---	---
B35-5-1	1.0	9.7	---	---	---	---
HA35-10-0	0.0	340	17	5.8	0.55	5.6
HA35-10-0.5	0.5	30	---	---	---	---
HA35-10-1	1.0	16	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
HA35-15-0	0.0	200	11	2.9	---	5.1
HA35-15-0.5	0.5	130	7.7	2.1	---	4.9
HA35-15-1	1.0	27	---	---	---	---
B36-3	3.0	8.8	---	---	---	---
B37-3	3.0	3.5	---	---	---	---
B37-4	4.0	2.9	---	---	---	---
B37-5-0	0.0	26	---	---	---	---
B37-5-1	1.0	4.6	---	---	---	---
HA37-10-0	0.0	35	---	---	---	---
HA37-10-1	1.0	9.2	---	---	---	---
HA37-15-0	0.0	83	4.2	---	---	---
HA37-15-0.5	0.5	69	2.6	---	---	---
HA37-15-1	1.0	14	---	---	---	---
B38-3	3.0	7.3	---	---	---	---
B38-4	4.0	6.8	---	---	---	---
HA38-5-0	0.0	25	---	---	---	---
HA38-5-1	1.0	4.9	---	---	---	---
HA38-10-0	0.0	15	---	---	---	---
HA38-10-1	1.0	4.0	---	---	---	---
HA38-15-0	0.0	4.0	---	---	---	---
HA38-15-0.5	0.5	3.1	---	---	---	---
HA39-3	3.0	5.4	---	---	---	---
HA39-4	4.0	9.0	---	---	---	---
HA40-3	3.0	24	---	---	---	---
HA40-4'	4.0	84	3.9	---	---	---
B41-3	3.0	12	---	---	---	---
B41-4	4.0	30	---	---	---	---
B41-5-0	0.0	29	---	---	---	---
B41-5-1	1.0	3.9	---	---	---	---
HA41-10-0	0.0	49	---	---	---	---
HA41-10-0.5	0.5	150	7.7	<1.0	---	5.9
HA41-10-1	1.0	10	---	---	---	---
HA41-15-0	0.0	18	---	---	---	---
HA41-15-0.5	0.5	9.9	---	---	---	---
HA41-15-1	1.0	15	---	---	---	---
B42-3	3.0	3.3	---	---	---	---
B42-5-0	0.0	12	---	---	---	---
B42-5-1	1.0	3.0	---	---	---	---
HA42-10-0	0.0	11	---	---	---	---
HA42-10-0.5	0.5	5.6	---	---	---	---
HA42-10-1	1.0	3.7	---	---	---	---
HA42-15-0	0.0	4.0	---	---	---	---
HA42-15-1	1.0	3.1	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
B43-3	3.0	8.5	---	---	---	---
B44-3	3.0	14	---	---	---	---
B44-5-0	0.0	17	---	---	---	---
B44-5-0.5	0.5	6.1	---	---	---	---
B44-5-1	1.0	4.7	---	---	---	---
HA44-10-0	0.0	15	---	---	---	---
HA44-10-0.5	0.5	12	---	---	---	---
HA44-10-1	1.0	5.2	---	---	---	---
HA44-15-0	0.0	7.2	---	---	---	---
HA44-15-0.5	0.5	9.7	---	---	---	---
HA44-15-1	1.0	11	---	---	---	---
B45-3'	3.0	2.4	---	---	---	---
B45-4'	4.0	1.7	---	---	---	---
B45-5-0	0.0	6.8	---	---	---	---
B45-5-1	1.0	1.9	---	---	---	---
HA45-10-0	0.0	3.1	---	---	---	---
HA45-10-1	1.0	2.5	---	---	---	---
HA45-15-0	0.0	22	---	---	---	---
HA45-15-1	1.0	14	---	---	---	---
HA46-3	3.0	7.8	---	---	---	---
HA46-4	4.0	5.1	---	---	---	---
HA47-3	3.0	5.6	---	---	---	---
HA47-4	4.0	5.6	---	---	---	---
HA48-3	3.0	2.7	---	---	---	---
HA49-5-0	0.0	730	28	4.9	0.55	5.9
HA49-5-1	1.0	45	---	---	---	---
HA49-10-0	0.0	410	15	1.4	0.20	5.5
HA49-10-1	1.0	5.2	---	---	---	---
HA49-15-0	0.0	110	3.8	---	---	---
HA49-15-1	1.0	4.9	---	---	---	---
HA50-3	3.0	5.2	---	---	---	---
HA50-4	4.0	8.6	---	---	---	---
B51-3'	3.0	5.9	---	---	---	---
B51-4'	4.0	8.0	---	---	---	---
B51-5'-0'	0.0	11	---	---	---	---
B51-5'-1'	1.0	4.0	---	---	---	---
HA51-10'-0'	0.0	150	6.0	<1.0	---	6.7
HA51-10'-1'	1.0	27	---	---	---	---
HA51-15'-0'	0.0	170	4.4	<1.0	---	6.4
HA51-15'-1'	1.0	46	---	---	---	---
B52-3'	3.0	8.6	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
B52-4'	4.0	6.1	---	---	---	---
B52-5'-0'	0.0	10	---	---	---	---
B52-5'-1'	1.0	6.9	---	---	---	---
HA52-10'-0'	0.0	360	19	<1.0	0.063	6.4
HA52-10'-0.5'	0.5	73	3.0	<1.0	---	6.3
HA52-10'-1'	1.0	31	---	---	---	---
HA52-15'-0'	0.0	35	---	---	---	---
HA52-15'-1'	1.0	14	---	---	---	---
B53-3'	3.0	6.1	---	---	---	---
B53-4'	4.0	8.3	---	---	---	---
B54-3'	3.0	4.9	---	---	---	---
B54-4'	4.0	25	---	---	---	---
B54-5'-0'	0.0	15	---	---	---	---
B54-5'-1'	1.0	1.7	---	---	---	---
HA54-10'-0'	0.0	29	---	---	---	---
HA54-10'-1'	1.0	5.3	---	---	---	---
HA54-15'-0'	0.0	93	5.3	<1.0	---	5.8
HA54-15'-1'	1.0	16	---	---	---	---
B55-3'	3.0	17	---	---	---	---
B55-4'	4.0	19	---	---	---	---
B55-5'-0'	0.0	6.9	---	---	---	---
B55-5'-1'	1.0	8.7	---	---	---	---
HA55-10'-0'	0.0	110	5.5	<1.0	---	5.9
HA55-10'-0.5'	0.5	47	---	---	---	---
HA55-15'-0'	0.0	75	2.9	<1.0	---	5.9
HA55-15'-0.5'	0.5	53	1.2	<1.0	---	5.6
HA55-15'-1'	1.0	47	---	---	---	---
B56-3'	3.0	8.5	---	---	---	---
B56-4'	4.0	4.8	---	---	---	---
B56-5'-0'	0.0	37	---	---	---	---
B56-5'-1'	1.0	4.8	---	---	---	---
HA56-10'-0'	0.0	41	---	---	---	---
HA56-10'-0.5'	0.5	31	---	---	---	---
HA56-10'-1'	1.0	24	---	---	---	---
HA56-15'-0'	0.0	22	---	---	---	---
HA56-15'-0.5'	0.5	16	---	---	---	---
B57-3'	3.0	3.2	---	---	---	---
B57-4'	4.0	3.3	---	---	---	---
B57-5'-0'	0.0	8.1	---	---	---	---
B57-5'-1'	1.0	1.9	---	---	---	---
HA57-10'-0'	0.0	17	---	---	---	---
HA57-10'-1'	1.0	20	---	---	---	---
HA57-15'-0'	0.0	30	---	---	---	---
HA57-15'-0.5'	0.5	32	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
B58-3'	3.0	5.1	---	---	---	---
B58-5'-0'	0.0	57	2.4	<1.0	---	6.6
B58-5'-1'	1.0	11	---	---	---	---
HA58-10'-0'	0.0	61	1.7	<1.0	---	7.0
HA58-10'-0.5'	0.5	44	---	---	---	---
HA58-10'-1'	1.0	34	---	---	---	---
HA58-15'-0'	0.0	34	---	---	---	---
HA58-15'-0.5'	0.5	23	---	---	---	---
HA58-15'-1'	1.0	28	---	---	---	---
B59-3'	3.0	6.8	---	---	---	---
B59-4'	4.0	11	---	---	---	---
B59-5'-0'	0.0	12	---	---	---	---
B59-5'-1'	1.0	12	---	---	---	---
HA59-10'-0'	0.0	16	---	---	---	---
HA59-10'-1'	1.0	11	---	---	---	---
HA59-15'-0'	0.0	16	---	---	---	---
HA59-15'-1'	1.0	12	---	---	---	---
B60-3'	3.0	6.2	---	---	---	---
B60-4'	4.0	4.9	---	---	---	---
HA61-3'	3.0	6.3	---	---	---	---
HA61-4'	4.0	5.3	---	---	---	---
B62-3'	3.0	10	---	---	---	---
B62-4	4.0	7.3	---	---	---	---
HA62-5-0	0.0	97	3.9	<1.0	---	5.9
HA62-5-0.5	0.5	38	---	---	---	---
HA62-5-1	1.0	48	---	---	---	---
HA62-10-0	0.0	74	3.2	<1.0	---	5.5
HA62-10-1	1.0	21	---	---	---	---
HA62-15-0	0.0	52	2.3	<1.0	---	5.2
HA62-15-0.5	0.5	19	---	---	---	---
HA62-15-1	1.0	18	---	---	---	---
B63-3'	3.0	6.4	---	---	---	---
B63-5'-0'	0.0	14	---	---	---	---
B63-5'-1'	1.0	11	---	---	---	---
HA63-10'-0'	0.0	44	---	---	---	---
HA63-10'-1'	1.0	17	---	---	---	---
HA63-15'-0'	0.0	31	---	---	---	---
HA63-15'-1'	1.0	14	---	---	---	---
B64-3'	3.0	6.4	---	---	---	---
B64-5'-0'	0.0	12	---	---	---	---
B64-5'-1'	1.0	8.2	---	---	---	---
HA64-10'-0'	0.0	18	---	---	---	---
HA64-10'-0.5'	0.5	13	---	---	---	---
HA64-10'-1'	1.0	13	---	---	---	---

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
HA64-15'-0'	0.0	46	---	---	---	---
HA64-15'-0.5'	0.5	20	---	---	---	---
HA64-15'-1'	1.0	23	---	---	---	---
B65-3	3.0	6.8	---	---	---	---
B65-5'-0'	0.0	17	---	---	---	---
B65-5'-1'	1.0	7.8	---	---	---	---
HA65-10'-0'	0.0	37	---	---	---	---
HA65-10'-1'	1.0	23	---	---	---	---
HA65-15'-0'	0.0	47	---	---	---	---
HA65-15'-1'	1.0	22	---	---	---	---
B66-3'	3.0	8.1	---	---	---	---
B66-4'	4.0	7.3	---	---	---	---
B66-5'-0'	0.0	13	---	---	---	---
B66-5'-1'	1.0	9.7	---	---	---	---
HA66-10'-0'	0.0	120	5.0	<1.0	---	5.8
HA66-10'-0.5'	0.5	64	2.4	<1.0	---	5.4
HA66-10'-1'	1.0	31	---	---	---	---
HA66-15'-0'	0.0	65	4.5	<1.0	---	4.5
HA66-15'-0.5'	0.5	52	2.3	<1.0	---	4.6
HA66-15'-1'	1.0	27	---	---	---	---
B67-3	3.0	5.3	---	---	---	---
B67-4	4.0	3.6	---	---	---	---
B67-5-0	0.0	72	4.1	<1.0	---	6.1
B67-5-1	1.0	4.3	---	---	---	---
HA67-10-0	0.0	53	3.3	<1.0	---	6.4
HA67-10-0.5	0.5	44	---	---	---	---
HA67-10-1	1.0	35	---	---	---	---
HA67-15-0	0.0	61	3.9	<1.0	---	5.1
HA67-15-0.5	0.5	44	---	---	---	---
HA67-15-1	1.0	20	---	---	---	---
B68-3'	3.0	4.2	---	---	---	---
B68-5'-0'	0.0	41	---	---	---	---
B68-5'-1'	1.0	17	---	---	---	---
HA68-10'-0'	0.0	30	---	---	---	---
HA68-10'-0.5'	0.5	23	---	---	---	---
HA68-10'-1'	1.0	15	---	---	---	---
HA68-15'-0'	0.0	12	---	---	---	---
HA68-15'-0.5'	0.5	19	---	---	---	---
HA69-5-0	0.0	22	---	---	---	---
HA69-5-0.5	0.5	18	---	---	---	---
HA69-5-1	1.0	12	---	---	---	---
HA69-10-0	0.0	43	---	---	---	---
HA69-10-1	1.0	100	6.0	1.6	---	4.3
HA69-15-0'	0.0	73	6.2	<1.0	---	4.0
HA69-15-0'B	0.0	160	11	2.1	---	3.9

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
HA70-5-0	0.0	180	14	2.8	---	4.1
HA70-5-1	1.0	10	---	---	---	---
HA70-10-0	0.0	300	13	4.2	0.48	3.9
HA70-10-1	1.0	120	4.6	<1.0	---	4.1
HA70-15-0'	0.0	160	7.2	1.3	---	3.8
HA70-15-1'	1.0	150	6.2	1.4	---	3.9
HA71-15'-0'	0.0	92	3.1	<1.0	---	5.0
HA72-15'-0'	0.0	180	8.7	<1.0	---	5.0
HA73-15'-0'	0.0	190	8.6	<1.0	---	4.7
HA74-15'-0'	0.0	67	2.8	<1.0	---	4.5
HA75-15'-0'	0.0	73	3.7	<1.0	---	5.1

Notes: HA75-15'-0

- 0 — Top of sample depth interval in feet below ground surface
- 15' — Approximate distance from the edge of pavement
- HA75 — Boring identification

WET = Waste Extraction Test
DI-WET = Waste Extraction Test using deionized water
TCLP = Toxicity Characteristic Leaching Procedure
mg/kg = Milligrams per kilogram
mg/l = Milligrams per liter
< = Less than the laboratory reporting limit
--- = Not analyzed

APPENDIX A

Project No. S9805-01-50
May 18, 2015

Mr. Rajive Chadha
California Department of Transportation - District 3
Environmental Engineering Office
703 B Street
Marysville, California 95901

Subject: LIMITED ASBESTOS SURVEY REPORT
CAPE HORN UNDERCROSSING (19-0091)
PLACER COUNTY, CALIFORNIA
CONTRACT NO. 03A2132, E-FIS 03 0002 0420 (EA 03-1F4001)
TASK ORDER NO. 50, 03-PLA-80, POST MILE 36.86

Dear Mr. Chadha:

In accordance with California Department of Transportation (Caltrans) Contract No. 03A2132 and Task Order No. 50, we have performed a limited asbestos survey of the subject undercrossing (UC) in Placer County, California. Our scope of services included surveying the bridge for suspect asbestos-containing concrete and asphalt, collecting bulk samples, and submitting the samples to a laboratory for analysis.

PROJECT DESCRIPTION

The project consists of the Cape Horn UC (19-0091) at Post Mile (PM) 36.86 on Interstate 80 in Placer County, California. We performed limited survey activities at the project location. The bridge is depicted in the attached photographs.

GENERAL OBJECTIVES

Our scope of services included the determination of the presence and quantity of asbestos in the bridge deck and approaches prior to improvements. The information obtained from this investigation will be used by Caltrans for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos disturbance activities.

BACKGROUND

The Code of Federal Regulations (CFR), 40 CFR 61, Subpart M, NESHAP and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains *greater than* 1% asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- **Category I** – asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- **Category II** – all remaining types of nonfriable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM), a hazardous waste when friable, is classified as any manufactured material that contains *greater than* 1% asbestos by dry weight *and* is:

- Friable (can be crumbled, pulverized, or reduced to powder by hand pressure); or
- Category I material that has become friable; or
- Category I material that has been subjected to sanding, grinding, cutting, or abrading; or
- Category II nonfriable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard contained in Title 8, California Code of Regulations (CCR) §1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that must be addressed. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains more than 0.1% asbestos (Title 8, CCR 341.6).

SCOPE OF SERVICES

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2015), performed the limited asbestos survey at the project location on May 1, 2015.

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for friability. A total of five bulk asbestos samples representing two suspect components (concrete and asphalt) were collected.

Our procedures for inspection and sampling in accordance with TO-50 are discussed below:

- Collected bulk asbestos samples after first wetting friable materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers.
- Relinquished bulk asbestos samples to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM) under chain-of-custody protocol. EMSL Analytical, Inc. is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program

(NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a turnaround period of five days.

Materials represented by the samples collected are shown in the attached photographs.

INVESTIGATIVE RESULTS

No asbestos was detected in samples of the suspect materials collected during our survey. Sample identification numbers, material descriptions, approximate quantities, friability assessments, and a summary of the analytical laboratory test results for asbestos are summarized below. Reproductions of the laboratory report and chain-of-custody documentation are attached.

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116				
Sample No.	**Description of Material**	**Approximate Quantity**	**Friable**	**Asbestos Content**
1A through C	Concrete	NA	NA	ND
2A and B	Asphalt	NA	NA	ND

NA = Not applicable (no asbestos detected)
ND = Not detected

RECOMMENDATIONS

Since no asbestos was detected, the Cal/OSHA asbestos standard does not apply for planned activities affecting materials represented by samples collected during our survey. In addition, associated debris would not be considered a California hazardous waste based on asbestos content. Written notification to the United States EPA Region IX and the California Air Resources Board is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

REPORT LIMITATIONS

This limited asbestos survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos in structures. The survey addressed only the structure and materials identified above. Due to the nature of limited structure surveys, asbestos use, and laboratory analytical limitations, some ACM at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases may have been concealed to our investigator. Previous renovation work may have concealed or covered spaces or materials or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced ACM with indistinguishable non-ACM. Asbestos may exist in areas of the structure that were not accessible or sampled in conjunction with this TO.

During renovation or demolition operations, suspect materials may be uncovered which are different from those accessible for sampling during this assessment. Personnel in charge of renovation/demolition should be alerted to note materials uncovered during such activities that differ substantially from those included in this or previous assessment reports. If suspect ACM are found, additional sampling and analysis should be performed to determine if the materials contain asbestos.

This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

Please contact us should you have any questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS INC.

David A. Watts, CAC
Senior Project Scientist

John E. Juhrend, PE, CEG
Project Manager

(2 + 2 CD) Addressee

Attachments: Site Photographs (1 through 3)
Analytical Laboratory Report and Chain-of-custody Documentation

Photo 1 – Cape Horn UC (19-0091) at PM 36.86 on Interstate 80 in Placer County, California

Photo 2 – Bridge deck (eastbound)

Photo 3 – Bridge deck (westbound)

GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 – FAX 916.852.9132

PHOTOGRAPHS 1, 2, & 3		
Cape Horn UC Placer County, California		
S9805-01-50		May 2015

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	091506566
CustomerID:	GECN21
CustomerPO:	S9805-01-50
ProjectID:	03A2132

Attn: **Dave Watts**
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

Phone:	(925) 371-5900
Fax:	(925) 371-5915
Received:	05/05/15 9:00 AM
Analysis Date:	5/11/2015
Collected:	5/1/2015

Project: **CAPE HORN UC S9805-01-50**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1A-Concrete *091506566-0001*		Gray Non-Fibrous Homogeneous			40% 60%	Quartz Non-fibrous (other)	**None Detected**
1B-Concrete *091506566-0002*		Gray Non-Fibrous Homogeneous			40% 60%	Quartz Non-fibrous (other)	**None Detected**
1C-Concrete *091506566-0003*		Gray Non-Fibrous Homogeneous			40% 60%	Quartz Non-fibrous (other)	**None Detected**
2A-Asphalt *091506566-0004*		Black Non-Fibrous Homogeneous			40% 40% 20%	Quartz Matrix Non-fibrous (other)	**None Detected**
2B-Asphalt *091506566-0005*		Black Non-Fibrous Homogeneous			40% 40% 20%	Quartz Matrix Non-fibrous (other)	**None Detected**

Analyst(s)
Alexander Shmurakov (5)

Chris Dojlidko, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from 05/11/2015 13:56:44

THIS IS THE LAST PAGE OF THE REPORT.

OrderID: 091506566

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*:

№ 0 9 1 5 0 6 5 6 6

CALTRANS CONTRACT 03A2132

EMSL ANALYTICAL, INC.
464 MCCORMICK STREET
SAN LEANDRO, CA 94577
PHONE: (510) 895-3675
FAX: (510) 230-3537

Company: GEOCON	EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note instructions in Comments**
Street: 6671 BRISA ST	*Third Party Billing requires written authorization from third party*
City: LIVERMORE / State/Province: CA	Zip/Postal Code: 94550 / Country: USA
Report To (Name): D. WATTS	Fax #: 925-371-5915
Telephone #: 925-371-5900	Email Address: WATTS@GEOCONINC.COM
Project Name/Number: CAPE HORN UC	39805-01-50
Please Provide Results: ☐ Fax ☒ Email	Purchase Order: 03A2132 / U.S. State Samples Taken: CA

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: D. WATTS **Samplers Signature:** [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1A-C	CONCRETE	NA	5/1/15
2A/B	ASPHALT	↓	↓

Client Sample # (s): **Total # of Samples:** 5

Relinquished (Client): [signature] **Date:** 5/1/15 **Time:** 1600

Received (Lab): rcolon FEDEX **Date:** 5.5.15 5/1/15 **Time:** 9:00am 1606

Comments/Special Instructions: Tem.

APPENDIX B

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Barbara A. Lee, Director
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806

Edmund G. Brown Jr.
Governor

December 16, 2014

Ms. Katrina C. Pierce, Chief
Division of Environmental Analysis
California Department of Transportation
P.O. Box 942873, MS-27
Sacramento, CA 94273-0001

SUBJECT: SECOND EXTENSION OF STATEWIDE VARIANCE NO. V09HQSCD006 FOR CALTRANS' HANDLING OF AERIALLY DEPOSITED LEAD SOIL

Dear Ms. Pierce:

This letter is in response to the December 2, 2014, request from the California Department of Transportation (Caltrans), for an extension for Variance No. V09HQSCD006 (Variance).

The original Variance was issued on June 30, 2009, with an effective period of five years, such that it was set to expire on June 30, 2014. Caltrans requested an extension in May 2014 and received a six-month extension of the Variance to December 31, 2014. The Department of Toxic Substances Control (DTSC) will be unable to issue Caltrans a new five-year Variance before the current Variance extension expires on December 31, 2014. This letter hereby extends the effective date of Variance from December 31, 2014 to June 30, 2015. This extension enables Caltrans to proceed with already-scheduled highway improvement projects without interruption.

The Variance applies to Caltrans' management of soil contaminated by aerial deposition of lead from motor vehicle exhaust. Such soil, historically referred to as "aerially deposited lead (ADL) soil," occurs along many roadsides statewide, and must be appropriately handled by Caltrans in the course of highway improvement projects. For such soil that contains lead in concentrations exceeding state, but not federal, regulatory thresholds for hazardous waste, the

Variance waives specific hazardous waste management standards. In lieu of the standards waived, the Variance imposes alternate management standards (conditions) on Caltrans' soil handling activities, to ensure that the handling and relocation of the soil is conducted in a manner protective of human health and safety and the environment. The Variance applies to Caltrans' highway improvement projects in all Caltrans Districts.

If you have further questions regarding this Variance extension, please contact Mr. Bob Gipson, DTSC Project Manager, at (916) 327-4061.

Sincerely,

Pauline Batarseh

Pauline Batarseh, Chief
Policy Implementation and Support Branch
Policy and Program Support Division
Hazardous Waste Management Program

Cc:
Shaila Chowdhury
Chief, Office of Hazardous Waste, Air, Noise and Paleontology
Division of Environmental Analysis
California Department of Transportation
Sacramento, CA 94273-0001

Richard Bailey
Senior Engineering Geologist
Division of Environmental Analysis
California Department of Transportation
Sacramento, CA 94273-0001

Kim Christmann
Senior Engineering Geologist
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Donn Diebert, P.E.
Chief, Policy Implementation Unit
Policy Implementation and Support Branch
Policy and Program Support Division
Hazardous Waste Management Program
Department of Toxic Substances Control
1001 I Street, Sacramento, CA 95812-0806

Bob Gipson
Environmental Scientist
Policy Implementation Unit
Policy Implementation and Support Branch
Policy and Program Support Division
Hazardous Waste Management Program
Department of Toxic Substances Control
1001 I Street, Sacramento, CA 95812-0806

Matthew Rodriquez
Secretary for
Environmental Protection

Department of Toxic Substances Control

Miriam Barcellona Ingenito
Acting Director
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806

Edmund G. Brown Jr.
Governor

June 26, 2014

Ms. Katrina C. Pierce, Chief
Division of Environmental Analysis
California Department of Transportation
P.O. Box 942873, MS-27
Sacramento, California 94273-0001

EXTENSION OF STATEWIDE VARIANCE NO. V09HQSCD006 FOR CALTRANS' HANDLING OF AERIALLY DEPOSITED LEAD

Dear Ms. Pierce:

The Department of Toxic Substances Control (DTSC) received a letter dated May 30, 2014, from the California Department of Transportation (Caltrans), regarding Variance No. V09HQSCD006 (Variance), issued June 30, 2009. Caltrans is requesting DTSC to grant a six-month extension on the Variance with the new expiration date of December 31, 2014, instead of June 30, 2014. The Variance waives specified hazardous waste management requirements for purposes of Caltrans' handling of roadside soil contaminated with aerially deposited lead, and applies to Caltrans' highway improvement projects in all Caltrans Districts statewide.

Based on recent discussions between Caltrans and DTSC both agreed a six-month extension is necessary to provide adequate time for DTSC to finalize the new (renewal) variance, and for Caltrans to review and provide comments on the renewal variance. Key next steps in DTSC's review process include finalizing the ecological and health risk assessments, working on the California Environmental Quality Act documents, drafting of the renewal variance, and allowing adequate time for a public notice period for the renewal variance.

This letter hereby extends the effective date of Variance No. V09HQSCD006 to December 31, 2014. If you have any questions regarding this extension, please contact Mr. Bob Gipson of my staff at (916) 327-4061 or via email at Bob.Gipson@dtsc.ca.gov.

Sincerely,

Pauline Batarseh

Pauline Batarseh, Chief
Policy Implementation and Support Branch
Policy and Program Support Division
Hazardous Waste Management Program

cc: See next page.

California Environmental Protection Agency
Department of Toxic Substances Control

VARIANCE

Applicant Names:

State of California
Department of Transportation
(Caltrans)
1120 N Street
Sacramento, California 95814

Variance No. V09HQSCD006

Effective Date: July 1, 2009

Expiration Date: July 1, 2014

Modification History:

Pursuant to California Health and Safety Code, Section 25143, the Department of Toxic Substances Control hereby issues the attached Variance consisting of 9 pages to the Department of Transportation.

Beverly Rikala
Team Leader, Operating Facilities Team
Department of Toxic Substances Control

Date: 6/30/09

1. INTRODUCTION.

a) Pursuant to Health and Safety Code, section 25143, the California Department of Toxic Substances Control (DTSC) grants this variance to the applicant below for waste considered to be hazardous solely because of its lead concentrations and as further specified herein.

b) DTSC hereby grants this variance only from the requirements specified herein and only in accordance with all terms and conditions specified herein.

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

State of California
Department of Transportation, (Caltrans)
All Districts

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal.

4. ISSUANCE AND EXPIRATION DATES.

DATE ISSUED: July 1, 2009 EXPIRATION DATE: July 1, 2014

5. APPLICABLE STATUTES AND REGULATIONS. The hazardous waste that is the subject of this variance is fully regulated under Health and Safety Code, section 25100, et seq. and California Code of Regulations, title 22, division 4.5 except as specifically identified in Section 8 of this variance.

6. DEFINITION. For purposes of this variance, "lead-contaminated soil(s)" shall mean soil that meets the criteria for hazardous waste but contains less than 3397 mg/kg total lead and is hazardous primarily because of aerially-deposited lead contamination associated with exhaust emissions from the operation of motor vehicles.

7. FINDINGS/DETERMINATIONS. DTSC has determined that the variance applicant meets the requirements set forth in Health and Safety Code, section 25143 for a variance from specific regulatory requirements as outlined in Section 8 of this variance. The specific determinations and findings made by DTSC are as follows:

a) Caltrans intends to excavate, stockpile, transport, bury and cover large volumes of soil associated with highway construction projects. In the more urbanized highway corridors around the State this soil is contaminated with lead, primarily due to historic emissions from automobile exhausts. In situ sampling and laboratory testing has shown that some of the soil contains concentrations of lead in excess of State regulatory thresholds, and thus any generated waste from disturbance of the soil

would be regulated as hazardous waste. Such soil contains a Total Threshold Limit Concentration (TTLC) of 1000 milligrams per kilogram (mg/kg) or more lead and/or it meets or exceeds the Soluble Threshold Limit Concentration (STLC) for lead of 5 milligrams per liter (mg/l). A Human Health Risk Assessment prepared for this variance concludes that soil contaminated with elevated concentrations of lead can be managed in a way that presents no significant risk to human health.

b) The lead-contaminated soil will be placed only in Caltrans' right-of-way. Depending on concentration levels, the wastes will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt/concrete cover and will always be at least five (5) feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers, including any persons engaged in maintenance work in areas where the waste has been buried and covered.

c) DTSC finds and requires that the lead-contaminated soil excavated, stockpiled, transported, buried and covered pursuant to this variance is a non-RCRA hazardous waste, and that the waste management activity is insignificant as a potential hazard to human health and safety and the environment, when managed in accordance with the conditions, limitations and other requirements specified in this variance.

8. PROVISIONS WAIVED.

Provided Caltrans meets the terms and conditions of this variance, DTSC waives the hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations, title 22 for the lead-contaminated soil that Caltrans reuses in projects that would require Caltrans to obtain a permit for a disposal facility and any other generator requirements that concern the transportation, manifesting, storage and land disposal of hazardous waste.

9. SPECIFIC CONDITIONS, LIMITATIONS AND OTHER REQUIREMENTS.

In order for the provisions discussed in section 8 to be waived, lead-contaminated soil must not exceed the contaminant concentrations discussed below and Caltrans management practices must meet all the following conditions:

a) Caltrans implementation of this variance shall comply with all applicable state laws and regulations for water quality control, water quality control plans, waste discharge requirements (including storm water permits), and others issued by the State Water Resources Control Board (SWRCB) and/or a California Regional Water Quality Control Board (RWQCB). Caltrans shall provide written notification to the appropriate RWQCB at least 30 days prior to advertisement for bids of projects that involve invocation of this variance, or as otherwise negotiated with the SWRCB or appropriate RWQCB.

b) The waivers in this variance shall only be applied to lead-contaminated soil that is not a RCRA hazardous waste and is hazardous primarily because of aerially-

deposited lead contamination associated with exhaust emissions from the operation of motor vehicles. The variance is not applicable to any other hazardous waste.

c) Soil containing 1.5 mg/l extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 1411 mg/kg or less total lead may be used as fill provided that the lead-contaminated soil is placed a minimum of five (5) feet above the maximum historic water table elevation and covered with at least one (1) foot of nonhazardous soil that will be maintained by Caltrans to prevent future erosion.

d) Soil containing 150 mg/L extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 3397 mg/kg or less total lead may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum historic water table elevation and protected from infiltration by a pavement structure which will be maintained by Caltrans.

e) Lead-contaminated soil with a pH less than 5.5 but greater than 5.0 shall only be used as fill material under the paved portion of the roadway. Lead-contaminated soil with a pH at or less than 5.0 shall be managed as a hazardous waste.

f) For each project that has the potential to generate waste by disturbing lead-contaminated soil (as defined in 6), Caltrans shall conduct sampling and analysis to adequately characterize the soils containing aerially deposited lead in the areas of planned excavation along the project route. Such sampling and analysis shall include the Toxicity Characteristic Leaching Procedure (TCLP) as prescribed by the United States Environmental Protection Agency to determine whether concentrations of contaminants in soil exceed federal criteria for classification as a hazardous waste.

g) Lead-contaminated soil managed pursuant to this variance shall not be moved outside the designated corridor boundaries (see paragraph t) below. All lead-contaminated soil not buried and covered within the same Caltrans corridor where it originated is not eligible for management under this variance and shall be managed as a hazardous waste.

h) Lead-contaminated soil managed pursuant to this variance shall not be placed in areas where it would become in contact with groundwater or surface water (such as streams and rivers).

i) Lead-contaminated soil managed pursuant to this variance shall be buried and covered only in locations that are protected from erosion that may result from storm water run-on and run-off.

j) The lead-contaminated soil shall be buried and covered in a manner that will prevent accidental or deliberate breach of the asphalt, concrete, and/or cover soil.

k) The presence of lead-contaminated soil shall be incorporated into the projects' as-built drawings. The as-built drawings shall be annotated with the location, representative analytical data, and volume of lead-contaminated soil. The as-built drawings shall also state the depth of the cover. These as-built drawings shall be retained by Caltrans.

l) Caltrans shall ensure that no other hazardous wastes, other than the lead-contaminated hazardous waste soil, are placed in the burial areas.

m) Lead-contaminated soil shall not be buried within ten (10) feet of culverts or locations subject to frequent worker exposure.

n) Excavated lead-contaminated soil not placed into the designated area (fill area, roadbed area) by the end of the working day shall be stockpiled and covered with sheets of polyethylene or at least one foot of non-hazardous soil. The lead-contaminated soil, while stockpiled or under transport, shall be protected from contacting surface water and from being dislodged or transported by wind or storm water. The stockpile covers shall be inspected at least once a week and within 24 hours after rainstorms. If the lead-contaminated soil is stockpiled for more than 4 days from the time of excavation, Caltrans shall restrict public access to the stockpile by using barriers that meet the safety requirements of the construction zone. The lead-contaminated soil shall be stockpiled for no more than 90 days from the time the soil is first excavated. If the contaminated soil is stockpiled beyond the 90 day limit Caltrans shall:

1. notify DTSC in writing of the 90 day exceedance and expected date of removal;
2. perform weekly inspections of the stockpiled material to ensure that there is adequate protection from run-on, runoff, public access, and wind dispersion; and
3. notify DTSC on weekly basis of the stockpile status until the stockpile is removed.

The lead-contaminated soil shall be stockpiled for no more than 180 days from the time the soil is first excavated.

o) Caltrans shall ensure that all stockpiling of lead-contaminated soil remains within the project area of the specified corridor. Stockpiling of lead-contaminated soil within the specified corridor, but outside the project area, is prohibited.

p) Caltrans shall conduct confirmatory sampling of any stockpile area in areas not known or expected to contain lead-contaminated soil after removal of the lead-contaminated soil to ensure that contamination has not been left behind or has not migrated from the stockpiled material to the surrounding soils.

q) Caltrans shall stockpile lead-contaminated soil only on high ground (i.e. no sump areas or low points) so that stockpiled soil will not come in contact with surface

water run-on or run-off.

r) Caltrans shall not stockpile lead-contaminated soil in environmentally and ecologically sensitive areas.

s) Caltrans shall ensure that storm/rain run-off that has come into contact with stockpiled lead-contaminated soil will not flow to storm drains, inlets, or waters of the State.

t) Caltrans may dispose of the lead-contaminated soil only within the operating right-of-way of an existing highway, as defined in Streets and Highways Code, section 23. Caltrans may move lead-contaminated soil from one Caltrans project to another Caltrans project only if the lead-contaminated soil remains within the same designated corridor.

Caltrans shall record any movement of lead-contaminated soil by using a bill of lading. The bill of lading must contain: 1) the US DOT description including shipping name, hazard class and ID number; 2) handling codes; 3) quantity of material; 4) volume of material; 5) date of shipment; 6) origin and destination of shipment; and 7) any specific handling instructions. The bill of lading shall be referenced in and kept on file with the project's as-built drawings. The lead-contaminated soil must be kept covered during transportation.

u) For each specific corridor where this variance is to be implemented, all of the following information shall be submitted in writing to DTSC at least five (5) days before construction of any project begins:

1. plan drawing designating the boundaries of the corridor where lead-contaminated soils will be excavated, stockpiled, buried and covered;

2. a list of the Caltrans projects that the corridor encompasses;

3. a list of Caltrans contractors that will be conducting any phase of work on any project affected by this variance;

4. duration of corridor construction;

5. location where sampling and analytical data used to make lead concentration level determinations are kept (e.g. a particular Caltrans project file);

6. name and phone number (including area code) of project resident engineer and project manager;

7. location where Caltrans and contractor health and safety plan and records are kept;

8. location of project special provisions (including page or section number) for soil excavation, transportation, stockpile, burial and placement of cover material;

9. location of project drawings (including drawing page number) for soil excavation, burial and placement of cover in plan and cross section (for example, "The project plans are located at the resident engineer's office located at 5th and Main Streets, City of Fresno, See pages xxxxx of contract xxxx");

10. updated information if a Caltrans project within the corridor is added, changed or deleted; and

11. type of environmental document prepared for each project, date of adoption, document title, Clearing House number and where the document is available for review. A copy of the Caltrans Categorical Exemption, Categorical Exclusion Form, or if filed, the Notice of Exemption for any project shall be submitted to the DTSC Headquarters Project Manager.

v) Changes in location of lead-contaminated soil placement, quantities or protection measures (field changes) shall be noted in the resident engineer's project log within five (5) days of the field change.

w) Caltrans shall ensure that field changes are in compliance with the requirements of this variance.

x) Operational procedures described in the California Environmental Quality Act (CEQA) Special Initial Study shall be followed by Caltrans for activities conducted under this variance.

y) Caltrans shall implement appropriate health and safety procedures to protect its employees and the public, and to prevent or minimize exposure to potentially hazardous wastes. A project-specific health and safety plan must be prepared and implemented. The monitoring and exposure standards shall be based on construction standards for exposure to lead in California Code of Regulations, title 8, section 1532.1.

z) Caltrans shall provide a district Coordinator for this variance. This Coordinator will be the primary point of contact for information flowing to, or received from, DTSC regarding any matter or submission under this variance. Caltrans shall promptly notify DTSC of the name of Coordinator and any change in the Coordinator.

aa) Caltrans shall conduct regular inspections, consistent with Caltrans' Maintenance Division's current Pavement Inspection and Slope Inspection programs, of the locations where lead-contaminated soil has been buried and/or covered pursuant to this variance. If site inspection reveals deterioration of cover so that conditions in the variance are not met, Caltrans shall repair or replace the cover.

bb) Caltrans shall develop and implement a record keeping mechanisms to record and retain permanent records of all locations where lead-contaminated soil has been buried per this variance. The records shall be made available to DTSC.

cc) If areas subject to the terms of this variance are sold, relinquished or abandoned (including roadways), all future property owners shall be notified in writing in advance by Caltrans of the requirements of this variance, and Caltrans shall provide the owner with a copy of the variance. A copy of such a notice shall be sent to DTSC and contain the corridor location and project. Caltrans shall also disclose to DTSC and the new owner the location of areas where lead-contaminated soil has been buried. Future property owners shall be subject to the same requirements as Caltrans.

dd) For the purposes of informing the public about instances where the variance is implemented, Caltrans shall:

1. maintain current fact sheets at all Caltrans resident engineer offices and the Caltrans District office. Caltrans shall make the fact sheets available to anyone expressing an interest in variance-related work.

2. maintain a binder(s) containing copies of all reports submitted to DTSC at the District office. Caltrans shall ensure that the binders are readily accessible to the public.

3. carry out the following actions when it identifies additional projects:

(A) notify the public via a display advertisement in a newspaper of general circulation in that area.

(B) update and distribute the fact sheet to the mailing list and repository locations.

ee) Lead-contaminated soil may be buried only in areas where access is limited or where lead-contaminated soil is covered and contained by a pavement structure.

ff) Dust containing lead-contaminated soil must be controlled. Water or dust palliative may be applied to control dust. If visible dust migration occurs, all excavation, stockpiling and truck loading and burying must be stopped. The granting of this variance confers no relief on Caltrans from compliance with the laws, regulations and requirements enforced by any local air district or the California Air Resources Board.

gg) Sampling and analysis is required to show the lead-contaminated soil meets the variance criteria. All sampling and analysis must be conducted in accordance with the appropriate methods specified in U.S. EPA SW-846.

hh) DTSC retains the right to require Caltrans or any future owner to remove, and properly dispose of, lead-contaminated soil in the event DTSC determines it is necessary for protection of public health, safety or the environment.

ii) DTSC finds that some projects involving lead-contaminated soil are joint projects between Caltrans and other government entities. In these joint projects, Caltrans may not be the lead agency implementing the project although Caltrans is still involved if the project occurs on its right-of-way.

Caltrans may invoke this variance for joint projects where Caltrans and local government entity are involved provided that 1) the project is within the Caltrans Right-of-Way; 2) Caltrans reviews/ oversees all phases of the project including design, contracting, environmental assessment, construction, operation, and maintenance; and 3) Caltrans oversees the project to verify all variance conditions are complied with. Caltrans will be fully responsible for the variance notification and implementation in these joint projects.

jj) All correspondence shall be directed to the following office:

Hazardous Waste Permitting
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

a) The issuance of this variance does not relieve Caltrans of the responsibility for compliance with Health and Safety Code, chapter 6.5, or the regulations adopted thereunder, and any other laws and regulations other than those specifically identified in Section 8 of this variance. Caltrans is subject to all terms and conditions herein. The granting of this variance confers no relief from compliance with any federal, State or local requirements other than those specifically provided herein.

b) The issuance of this variance does not release Caltrans from any liability associated with the handling of hazardous waste, except as specifically provided herein and subject to all terms and conditions of this variance.

11. VARIANCE MODIFICATION OR REVOCATION. This variance is subject to review at the discretion of DTSC and may be modified or revoked by DTSC upon change of ownership and at any other time pursuant to Health and Safety Code, section 25143.

12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on June 30, 2009.

Approved:

6/30/09
Date

Beverly Rikala
Operating Facilities Team
Department of Toxic Substances Control

APPENDIX C

April 16, 2015

Rebecca Silva
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
Tel: (916) 852-9118
Fax:(916) 852-9132

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1501341
Client Reference : I-80 Truck Lane ADL, S9805-01-50

Enclosed are the results for sample(s) received on April 15, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/16/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B1-3'	1501341-01	Soil	4/13/15 8:33	4/15/15 9:45
B1-4'	1501341-02	Soil	4/13/15 8:34	4/15/15 9:45
B2-3'	1501341-03	Soil	4/13/15 9:08	4/15/15 9:45
B2-5.0'	1501341-04	Soil	4/13/15 9:10	4/15/15 9:45
B2-5-1'	1501341-05	Soil	4/13/15 9:11	4/15/15 9:45
HA2-10'-0'	1501341-07	Soil	4/13/15 9:17	4/15/15 9:45
HA2-10'-1	1501341-08	Soil	4/13/15 8:47	4/15/15 9:45
HA2-15'-0	1501341-10	Soil	4/13/15 8:57	4/15/15 9:45
B3-3'	1501341-11	Soil	4/13/15 9:16	4/15/15 9:45
B3-5'-0'	1501341-12	Soil	4/13/15 9:41	4/15/15 9:45
B3-5'-1'	1501341-13	Soil	4/13/15 9:44	4/15/15 9:45
HA3-10'-0	1501341-15	Soil	4/13/15 9:46	4/15/15 9:45
HA3-15'-0	1501341-16	Soil	4/13/15 9:30	4/15/15 9:45
HA4-3'	1501341-17	Soil	4/13/15 9:35	4/15/15 9:45
B5-3'	1501341-18	Soil	4/13/15 10:02	4/15/15 9:45
B5-4'	1501341-19	Soil	4/13/15 10:20	4/15/15 9:45
B6-5'-0'	1501341-20	Soil	4/13/15 10:41	4/15/15 9:45
B6-5'-1'	1501341-21	Soil	4/13/15 10:42	4/15/15 9:45
HA6-10'-0'	1501341-23	Soil	4/13/15 10:28	4/15/15 9:45
HA6-10'-1'	1501341-24	Soil	4/13/15 10:31	4/15/15 9:45
HA6-15'-0'	1501341-26	Soil	4/13/15 10:36	4/15/15 9:45
HA6-15'-1'	1501341-27	Soil	4/13/15 10:38	4/15/15 9:45
B8-3'	1501341-28	Soil	4/13/15 11:13	4/15/15 9:45
HA8-10'-0	1501341-29	Soil	4/13/15 11:06	4/15/15 9:45
HA8-15'-0	1501341-30	Soil	4/13/15 11:10	4/15/15 9:45
B8-5'-0	1501341-31	Soil	4/13/15 11:19	4/15/15 9:45
B9-3	1501341-32	Soil	4/13/15 11:35	4/15/15 9:45
B9-4	1501341-33	Soil	4/13/15 11:36	4/15/15 9:45
HA10-10'-0'	1501341-34	Soil	4/13/15 12:00	4/15/15 9:45
HA10-10'-0'B	1501341-35	Soil	4/13/15 12:03	4/15/15 9:45
B10-3'	1501341-37	Soil	4/13/15 12:09	4/15/15 9:45
B10-4'	1501341-38	Soil	4/13/15 12:10	4/15/15 9:45
B10-5'-0'	1501341-39	Soil	4/13/15 12:06	4/15/15 9:45
B10-5'-1'	1501341-40	Soil	4/13/15 12:07	4/15/15 9:45

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HA10-15'-0	1501341-42	Soil	4/13/15 12:19	4/15/15 9:45
HA10-15'-1'	1501341-43	Soil	4/13/15 12:21	4/15/15 9:45
B11-3'	1501341-45	Soil	4/13/15 12:32	4/15/15 9:45
B11-4'	1501341-46	Soil	4/13/15 12:33	4/15/15 9:45
B12-3'	1501341-47	Soil	4/13/15 12:50	4/15/15 9:45
HA12-10'-0'	1501341-48	Soil	4/13/15 12:41	4/15/15 9:45
HA12-10'-1'	1501341-49	Soil	4/13/15 12:43	4/15/15 9:45
HA12-15'-0'	1501341-51	Soil	4/13/15 12:47	4/15/15 9:45
HA12-15'-1'	1501341-53	Soil	4/13/15 12:49	4/15/15 9:45
B12-5'-0'	1501341-54	Soil	4/13/15 12:57	4/15/15 9:45
B12-5'-1'	1501341-55	Soil	4/13/15 12:58	4/15/15 9:45
B13-3'	1501341-57	Soil	4/13/15 13:13	4/15/15 9:45
HA14-10'-0	1501341-58	Soil	4/13/15 13:21	4/15/15 9:45
HA14-10'-1'	1501341-59	Soil	4/13/15 13:22	4/15/15 9:45
HA14-15'-0'	1501341-61	Soil	4/13/15 13:26	4/15/15 9:45
HA14-15'-1'	1501341-62	Soil	4/13/15 13:27	4/15/15 9:45
B14-5'-0'	1501341-64	Soil	4/13/15 13:35	4/15/15 9:45
B14-5'-1'	1501341-65	Soil	4/13/15 13:36	4/15/15 9:45
B15-3'	1501341-66	Soil	4/13/15 13:52	4/15/15 9:45
B15-4'	1501341-67	Soil	4/13/15 13:53	4/15/15 9:45
B16-3	1501341-68	Soil	4/13/15 14:16	4/15/15 9:45
HA16-10'-0'	1501341-69	Soil	4/13/15 14:05	4/15/15 9:45
HA16-10'-1'	1501341-70	Soil	4/13/15 14:07	4/15/15 9:45
HA16-15'-0'	1501341-72	Soil	4/13/15 14:11	4/15/15 9:45
HA16-15'-0'B	1501341-73	Soil	4/13/15 14:12	4/15/15 9:45
B16-5'-0'	1501341-75	Soil	4/13/15 14:21	4/15/15 9:45
B16-5'-1'	1501341-76	Soil	4/13/15 14:22	4/15/15 9:45
B17-3'	1501341-78	Soil	4/13/15 14:33	4/15/15 9:45
B17-4'	1501341-79	Soil	4/13/15 14:34	4/15/15 9:45
HA18-10-0'	1501341-80	Soil	4/13/15 14:40	4/15/15 9:45
HA18-10'-0.5'	1501341-81	Soil	4/13/15 14:44	4/15/15 9:45
HA18-10'-1'	1501341-82	Soil	4/13/15 14:43	4/15/15 9:45
HA18-15'-0'	1501341-83	Soil	4/13/15 14:46	4/15/15 9:45
HA18-15'-1'	1501341-84	Soil	4/13/15 14:48	4/15/15 9:45
B18-3'	1501341-86	Soil	4/13/15 14:56	4/15/15 9:45
B18-4'	1501341-87	Soil	4/13/15 14:57	4/15/15 9:45
B18-5'-0'	1501341-88	Soil	4/13/15 14:59	4/15/15 9:45
B18-5'-1'	1501341-89	Soil	4/13/15 15:00	4/15/15 9:45
B19-3'	1501341-91	Soil	4/13/15 15:13	4/15/15 9:45

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B20-3'	1501341-92	Soil	4/13/15 15:32	4/15/15 9:45
HA20-10'-0'	1501341-93	Soil	4/13/15 15:19	4/15/15 9:45
HA20-10'-1'	1501341-95	Soil	4/13/15 15:20	4/15/15 9:45
HA20-15'-0'	1501341-96	Soil	4/13/15 15:24	4/15/15 9:45
HA20-15'-0'B	1501341-97	Soil	4/13/15 15:26	4/15/15 9:45
B20-5'-0'	1501341-99	Soil	4/13/15 15:38	4/15/15 9:45
B20-5'-1'	1501341-AA	Soil	4/13/15 15:39	4/15/15 9:45
B21-3'	1501341-AC	Soil	4/13/15 15:53	4/15/15 9:45
B21-4'	1501341-AD	Soil	4/13/15 15:54	4/15/15 9:45
B22-3'	1501341-AE	Soil	4/13/15 16:21	4/15/15 9:45
B22-4'	1501341-AF	Soil	4/13/15 16:22	4/15/15 9:45
B22-5'-0'	1501341-AG	Soil	4/13/15 16:23	4/15/15 9:45
B22-5'-1'	1501341-AH	Soil	4/13/15 16:24	4/15/15 9:45
HA22-10'-0'	1501341-AJ	Soil	4/13/15 16:05	4/15/15 9:45
HA22-10'-0'B	1501341-AK	Soil	4/13/15 16:07	4/15/15 9:45
HA22-15'-0'	1501341-AM	Soil	4/13/15 16:15	4/15/15 9:45
HA22-15'-0'B	1501341-AN	Soil	4/13/15 16:16	4/15/15 9:45
B24-3'	1501341-AP	Soil	4/13/15 16:54	4/15/15 9:45
B24-4'	1501341-AQ	Soil	4/13/15 16:55	4/15/15 9:45
B25-3'	1501341-AR	Soil	4/13/15 17:14	4/15/15 9:45
HA25-10'-0'	1501341-AS	Soil	4/13/15 17:06	4/15/15 9:45
HA25-10'-0.5'	1501341-AT	Soil	4/13/15 17:08	4/15/15 9:45
HA25-15'-0'	1501341-AV	Soil	4/13/15 17:10	4/15/15 9:45
HA25-15'-0'B	1501341-AW	Soil	4/13/15 17:11	4/15/15 9:45
HA25-5'-0'	1501341-AY	Soil	4/13/15 17:19	4/15/15 9:45
HA25-5'-1'	1501341-AZ	Soil	4/13/15 17:22	4/15/15 9:45
B26-3'	1501341-BB	Soil	4/13/15 17:46	4/15/15 9:45
HA26-10'-0'	1501341-BC	Soil	4/13/15 17:32	4/15/15 9:45
HA26-10'-0.5'	1501341-BD	Soil	4/13/15 17:33	4/15/15 9:45
HA26-10'-1'	1501341-BE	Soil	4/13/15 17:35	4/15/15 9:45
HA26-15'-0'	1501341-BF	Soil	4/13/15 17:36	4/15/15 9:45
HA26-15'-0.5'	1501341-BG	Soil	4/13/15 17:38	4/15/15 9:45
HA26-15'-1'	1501341-BH	Soil	4/13/15 17:40	4/15/15 9:45
B26-5'-0'	1501341-BI	Soil	4/13/15 17:51	4/15/15 9:45
B26-5'-1'	1501341-BJ	Soil	4/13/15 17:52	4/15/15 9:45
B27-3'	1501341-BL	Soil	4/13/15 18:16	4/15/15 9:45
B27-4'	1501341-BM	Soil	4/13/15 18:17	4/15/15 9:45
B27-5'-0'	1501341-BN	Soil	4/13/15 18:19	4/15/15 9:45
B27-5'-1'	1501341-BO	Soil	4/13/15 18:20	4/15/15 9:45

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	04/16/2015

HA27-10'-0'	1501341-BQ	Soil	4/13/15 18:06	4/15/15 9:45
HA27-10'-0'B	1501341-BR	Soil	4/13/15 18:07	4/15/15 9:45
HA27-15'-0'	1501341-BT	Soil	4/13/15 18:10	4/15/15 9:45
HA27-15'-0'B	1501341-BU	Soil	4/13/15 18:11	4/15/15 9:45

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/16/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501341-01	B1-3'	**9.8**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:19	
1501341-02	B1-4'	**10**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:20	
1501341-03	B2-3'	**10**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:21	
1501341-04	B2-5.0'	**12**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:21	
1501341-05	B2-5-1'	**8.9**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:22	
1501341-07	HA2-10'-0'	**19**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:23	
1501341-08	HA2-10'-1	**11**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:24	
1501341-10	HA2-15'-0	**11**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:26	
1501341-11	B3-3'	**14**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:27	
1501341-12	B3-5'-0'	**17**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:28	
1501341-13	B3-5'-1'	**8.7**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:30	
1501341-15	HA3-10'-0	**24**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:31	
1501341-16	HA3-15'-0	**17**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:32	
1501341-17	HA4-3'	**21**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:32	
1501341-18	B5-3'	**6.8**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:33	
1501341-19	B5-4'	**4.2**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:36	
1501341-20	B6-5'-0'	**18**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:37	
1501341-21	B6-5'-1'	**5.3**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:38	
1501341-23	HA6-10'-0'	**57**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:38	
1501341-24	HA6-10'-1'	**9.0**	mg/kg	1.0	1	B5D0465	04/15/2015	04/16/15 11:39	
1501341-26	HA6-15'-0'	**77**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:46	
1501341-27	HA6-15'-1'	**20**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:47	
1501341-28	B8-3'	**9.5**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:48	
1501341-29	HA8-10'-0	**180**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:49	
1501341-30	HA8-15'-0	**16**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:49	
1501341-31	B8-5'-0	**20**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:50	
1501341-32	B9-3	**10**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:51	
1501341-33	B9-4	**7.0**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 14:00	
1501341-34	HA10-10'-0'	**27**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:52	
1501341-35	HA10-10'-0'B	**36**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:56	

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Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501341-37	B10-3'	**12**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:59	
1501341-38	B10-4'	**8.8**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 11:59	
1501341-39	B10-5'-0'	**19**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 12:00	
1501341-40	B10-5'-1'	**12**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 12:01	
1501341-42	HA10-15'-0	**47**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 12:02	
1501341-43	HA10-15'-1'	**17**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 12:02	
1501341-45	B11-3'	**120**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 12:03	
1501341-46	B11-4'	**4.6**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 12:06	
1501341-47	B12-3'	**7.5**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 12:07	
1501341-48	HA12-10'-0'	**34**	mg/kg	1.0	1	B5D0466	04/15/2015	04/16/15 12:08	
1501341-49	HA12-10'-1'	**33**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:15	
1501341-51	HA12-15'-0'	**29**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:16	
1501341-53	HA12-15'-1'	**11**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:16	
1501341-54	B12-5'-0'	**43**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:17	
1501341-55	B12-5'-1'	**32**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:18	
1501341-57	B13-3'	**14**	mg/kg	0.99	1	B5D0467	04/15/2015	04/16/15 12:19	
1501341-58	HA14-10'-0	**110**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:19	
1501341-59	HA14-10'-1'	**37**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:24	
1501341-61	HA14-15'-0'	**46**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:24	
1501341-62	HA14-15'-1'	**43**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:25	
1501341-64	B14-5'-0'	**15**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:27	
1501341-65	B14-5'-1'	**4.0**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:28	
1501341-66	B15-3'	**7.2**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:29	
1501341-67	B15-4'	**11**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:30	
1501341-68	B16-3	**4.9**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:30	
1501341-69	HA16-10'-0'	**84**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:33	
1501341-70	HA16-10'-1'	**23**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:34	
1501341-72	HA16-15'-0'	**16**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:35	
1501341-73	HA16-15'-0'B	**14**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:35	
1501341-75	B16-5'-0'	**7.3**	mg/kg	1.0	1	B5D0467	04/15/2015	04/16/15 12:36	

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Rancho Cordova , CA 95742	Reported : 04/16/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501341-76	B16-5'-1'	**5.4**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:44	
1501341-78	B17-3'	**9.9**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:44	
1501341-79	B17-4'	**18**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:45	
1501341-80	HA18-10-0'	**150**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:46	
1501341-81	HA18-10'-0.5'	**130**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:47	
1501341-82	HA18-10'-1'	**24**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:47	
1501341-83	HA18-15'-0'	**190**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:48	
1501341-84	HA18-15'-1'	**64**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:51	
1501341-86	B18-3'	**5.8**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:52	
1501341-87	B18-4'	**5.9**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:52	
1501341-88	B18-5'-0'	**93**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:55	
1501341-89	B18-5'-1'	**10**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:55	
1501341-91	B19-3'	**7.4**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:56	
1501341-92	B20-3'	**3.0**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 13:59	
1501341-93	HA20-10'-0'	**34**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 12:58	
1501341-95	HA20-10'-1'	**43**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 13:00	
1501341-96	HA20-15'-0'	**32**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 13:01	
1501341-97	HA20-15'-0'B	**27**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 13:02	
1501341-99	B20-5'-0'	**5.5**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 13:03	
1501341-AA	B20-5'-1'	**4.2**	mg/kg	1.0	1	B5D0468	04/15/2015	04/16/15 13:03	
1501341-AC	B21-3'	**5.5**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:11	
1501341-AD	B21-4'	**10**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:12	
1501341-AE	B22-3'	**3.7**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:13	
1501341-AF	B22-4'	**3.6**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:13	
1501341-AG	B22-5'-0'	**14**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:14	
1501341-AH	B22-5'-1'	**130**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:15	
1501341-AJ	HA22-10'-0'	**7.1**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:16	
1501341-AK	HA22-10'-0'B	**140**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:19	
1501341-AM	HA22-15'-0'	**200**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:19	
1501341-AN	HA22-15'-0'B	**170**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:20	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/16/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501341-AP	B24-3'	**9.4**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:22	
1501341-AQ	B24-4'	**3.9**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:23	
1501341-AR	B25-3'	**12**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:24	
1501341-AS	HA25-10'-0'	**220**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:25	
1501341-AT	HA25-10'-0.5'	**73**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:25	
1501341-AV	HA25-15'-0'	**74**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:28	
1501341-AW	HA25-15'-0'B	**41**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:29	
1501341-AY	HA25-5'-0'	**150**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:30	
1501341-AZ	HA25-5'-1'	**58**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:30	
1501341-BB	B26-3'	**5.4**	mg/kg	1.0	1	B5D0469	04/15/2015	04/16/15 13:31	
1501341-BC	HA26-10'-0'	**27**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:39	
1501341-BD	HA26-10'-0.5'	**18**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:40	
1501341-BE	HA26-10'-1'	**12**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:40	
1501341-BF	HA26-15'-0'	**60**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:41	
1501341-BG	HA26-15'-0.5'	**15**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:42	
1501341-BH	HA26-15'-1'	**16**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:43	
1501341-BI	B26-5'-0'	**130**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:43	
1501341-BJ	B26-5'-1'	**7.2**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:46	
1501341-BL	B27-3'	**12**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:47	
1501341-BM	B27-4'	**23**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:48	
1501341-BN	B27-5'-0'	**8.8**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:50	
1501341-BO	B27-5'-1'	**14**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:51	
1501341-BQ	HA27-10'-0'	**23**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:51	
1501341-BR	HA27-10'-0'B	**18**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:52	
1501341-BT	HA27-15'-0'	**40**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:53	
1501341-BU	HA27-15'-0'B	**23**	mg/kg	1.0	1	B5D0471	04/15/2015	04/16/15 13:56	

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QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0465 - EPA 3050 Modified_S									
Blank (B5D0465-BLK1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
Blank (B5D0465-BLK2)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
LCS (B5D0465-BS1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	50.1856	1.0	50.0000		100	80 - 120			
Duplicate (B5D0465-DUP1)		**Source: 1501341-24**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	11.0316	1.0		8.97719	NR		20.5	20	R
Duplicate (B5D0465-DUP2)		**Source: 1501341-12**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	14.8945	1.0		17.2458	NR		14.6	20	
Matrix Spike (B5D0465-MS1)		**Source: 1501341-24**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	225.297	1.0	250.000	8.97719	86.5	35 - 129			
Matrix Spike (B5D0465-MS2)		**Source: 1501341-12**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	234.892	1.0	250.000	17.2458	87.1	35 - 129			
Matrix Spike Dup (B5D0465-MSD1)		**Source: 1501341-24**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	235.107	1.0	250.000	8.97719	90.5	35 - 129	4.26	20	
Batch B5D0466 - EPA 3050 Modified_S									
Blank (B5D0466-BLK1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
Blank (B5D0466-BLK2)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
LCS (B5D0466-BS1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	48.5488	1.0	50.0000		97.1	80 - 120			
Duplicate (B5D0466-DUP1)		**Source: 1501341-48**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	34.3955	1.0		34.4513	NR		0.162	20	
Duplicate (B5D0466-DUP2)		**Source: 1501341-35**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	48.0588	0.99		36.2167	NR		28.1	20	R
Matrix Spike (B5D0466-MS1)		**Source: 1501341-48**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	248.862	1.0	250.000	34.4513	85.8	35 - 129			
Matrix Spike (B5D0466-MS2)		**Source: 1501341-35**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	243.051	1.0	250.000	36.2167	82.7	35 - 129			

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Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0466 - EPA 3050 Modified_S (continued)									
Matrix Spike Dup (B5D0466-MSD1)		**Source: 1501341-48**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	249.620	1.0	250.000	34.4513	86.1	35 - 129	0.305	20	
Batch B5D0467 - EPA 3050 Modified_S									
Blank (B5D0467-BLK1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
Blank (B5D0467-BLK2)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
LCS (B5D0467-BS1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	50.0834	1.0	50.0000		100	80 - 120			
Duplicate (B5D0467-DUP1)		**Source: 1501341-75**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	9.53142	1.0		7.32566	NR		26.2	20	R
Duplicate (B5D0467-DUP2)		**Source: 1501341-62**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	46.9141	1.0		42.8585	NR		9.04	20	
Matrix Spike (B5D0467-MS1)		**Source: 1501341-75**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	238.611	1.0	250.000	7.32566	92.5	35 - 129			
Matrix Spike (B5D0467-MS2)		**Source: 1501341-62**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	265.233	1.0	250.000	42.8585	88.9	35 - 129			
Matrix Spike Dup (B5D0467-MSD1)		**Source: 1501341-75**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	238.245	1.0	250.000	7.32566	92.4	35 - 129	0.153	20	
Batch B5D0468 - EPA 3050 Modified_S									
Blank (B5D0468-BLK1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
Blank (B5D0468-BLK2)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
LCS (B5D0468-BS1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	49.2509	1.0	50.0000		98.5	80 - 120			
Duplicate (B5D0468-DUP1)		**Source: 1501341-AA**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	3.90262	1.0		4.19069	NR		7.12	20	
Duplicate (B5D0468-DUP2)		**Source: 1501341-87**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	6.01213	1.0		5.89490	NR		1.97	20	
Matrix Spike (B5D0468-MS1)		**Source: 1501341-AA**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	234.282	1.0	250.000	4.19069	92.0	35 - 129			
Matrix Spike (B5D0468-MS2)		**Source: 1501341-87**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	212.694	1.0	250.000	5.89490	82.7	35 - 129			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800	Report To : Rebecca Silva
Rancho Cordova , CA 95742	Reported : 04/16/2015

Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0468 - EPA 3050 Modified_S (continued)									
Matrix Spike Dup (B5D0468-MSD1)		**Source: 1501341-AA**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	234.924	1.0	250.000	4.19069	92.3	35 - 129	0.274	20	
Batch B5D0469 - EPA 3050 Modified_S									
Blank (B5D0469-BLK1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
Blank (B5D0469-BLK2)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
LCS (B5D0469-BS1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	49.9560	1.0	50.0000		99.9	80 - 120			
Duplicate (B5D0469-DUP1)		**Source: 1501341-BB**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	7.44517	1.0		5.44308	NR		31.1	20	R
Duplicate (B5D0469-DUP2)		**Source: 1501341-AN**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	178.351	1.0		166.400	NR		6.93	20	
Matrix Spike (B5D0469-MS1)		**Source: 1501341-BB**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	241.626	1.0	250.000	5.44308	94.5	35 - 129			
Matrix Spike (B5D0469-MS2)		**Source: 1501341-AN**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	358.215	1.0	250.000	166.400	76.7	35 - 129			
Matrix Spike Dup (B5D0469-MSD1)		**Source: 1501341-BB**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	239.004	1.0	250.000	5.44308	93.4	35 - 129	1.09	20	
Batch B5D0471 - EPA 3050 Modified_S									
Blank (B5D0471-BLK1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
Blank (B5D0471-BLK2)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	ND	1.0			NR				
LCS (B5D0471-BS1)					Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	51.2724	1.0	50.0000		103	80 - 120			
Duplicate (B5D0471-DUP1)		**Source: 1501341-BU**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	30.0557	1.0		23.4490	NR		24.7	20	R
Duplicate (B5D0471-DUP2)		**Source: 1501341-BM**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	17.2827	1.0		22.5513	NR		26.5	20	R
Matrix Spike (B5D0471-MS1)		**Source: 1501341-BU**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	247.332	1.0	250.000	23.4490	89.6	35 - 129			
Matrix Spike (B5D0471-MS2)		**Source: 1501341-BM**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	260.459	1.0	252.525	22.5513	94.2	35 - 129			

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/16/2015

Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0471 - EPA 3050 Modified_S (continued)									
Matrix Spike Dup (B5D0471-MSD1)		**Source: 1501341-BU**			Prepared: 4/15/2015 Analyzed: 4/16/2015				
Lead	240.017	1.0	250.000	23.4490	86.6	35 - 129	3.00	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/16/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt: 1. CHILLED Y ☐ N ☐ 2. HEADSPACE (VOA) Y ☐ N ☐ 3. CONTAINER INTACT Y ☐ N ☐ 4. SEALED Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL Project #: S9805-01-50 Sampler: J. Esquivel (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
CORD DENNIE	4/14/15	1000	Ontrac	4/14/15	1000
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date: 4/15/15	Time: 900
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/14/15
Print Name Date
Signature

Send Report To: Attn: Co: Addr: City: State: Zip:

Bill To: Attn: Co: Addr: City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
~~Caltrans Contract~~ 03A2132
48-hr TAT
~~Please copy~~ Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested: Total lead (6010B)

SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1 90 1341-1	B1-3'	4/13/15	0833	X	X				C	1	baggie		
	2	B1-4'		0834										
	3	B2-3'		908										
	4	~~B2-1'~~ B2-5-0'		910										
	5	B2-5-1'		911										
	6	B2-5'-2.5'		912										HOLD
	7	HA2-10'-0'		847										
	8	HA2-10'-1'		853										
	9	HA2-10'-2'		857										HOLD
	10	HA2-15'-0'		916										
	11	B3-3'		941										
	12	B3-5'-0'		944										
	13	B3-5'-1'		945										
	14	B3-5'-1.5'		946										HOLD
	15	HA3-10'-0'		930										
	16	HA3-15'-0'		935										
	17	HA4-3'		1002										
	18	B5-3'		1020										
	19	B5-4'		1021										
	20	B6-5'-0'		1041										

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt: 1. CHILLED Y ☐ N ☐ 2. HEADSPACE (VOA) Y ☐ N ☐ 3. CONTAINER INTACT Y ☐ N ☐ 4. SEALED Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc — Address: 3160 Gold Valley Drive, Suite 800 — Tel: 916-852-9118
Attention: Rebecca Silva — City: Rancho Cordova — State: CA — Zip Code: 95742 — Fax: 916-852-9132
Project Name: I-80 Truck Lane ADL — Project #: S9805-01-50 — Sampler: J. Espinel (Signature)

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
CORD DENNIG	4/14/15	1000	[illegible]	4/14/15	1000
				4/15/15	910

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva (Print Name) — 4/14/15 (Date) — (Signature)

Send Report To: Attn: ____ Co: ____ Addr: ____ City: ____ State: ____ Zip: ____

Bill To: Attn: ____ Co: ____ Addr: ____ City: ____ State: ____ Zip: ____

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested: Total lead (6010B)

SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1501341-21	B6-5'-1'	4/13	1042	X	X	C	1	baggie		
	22	B6-5'-1.5'		1043							HOLD
	23	HA6-10'-0'		1028							
	24	HA6-10'-1'		1031							
	25	HA6-10'-3'		1034							HOLD
	26	HA6-15'-0'		1036							
	27	HA6-15'-1'		1038							
	28	B8-3'		1113							
	29	HA8-10'-0'		1106							
	30	~~HA8-10'~~ HA8-15'-0'		1110							
	31	B8-5'-0'		1119							
	32	B9-3		1135							
	33	B9-4		1136							
	34	HA10-10'-0'		1200							
	35	HA10-10'-0'B		1203							
	36	HA10-10'-0'C		1204							HOLD
	37	B10-3'		1209							
	38	B10-4'		1210							
	39	B10-5'-0'		1206							
	40	B10-5'-1'		1207							

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt: 1. CHILLED Y ☐ N ☐ 2. HEADSPACE (VOA) Y ☐ N ☐ 3. CONTAINER INTACT Y ☐ N ☐ 4. SEALED Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: S. Espinoza (Signature)

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
CORD DENNIG	4/14/15	1000	Ontrae	4/14/15	1000
				4/15/15	900

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/14/15
Print Name Date
Signature

Send Report To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Bill To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB Logcode_____ OTHER_____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	150341-41	B10-5'-2.5'	4/13	1208	X	X				C	1	baggie		HOLD
	42	HA10-15'-0'		1219										
	43	HA10-15'-1'		1221										
	44	HA10-15'-1.5'		1223										HOLD
	45	B11-3'		1232										
	46	B11-4'		1233										
	47	B12-3'		1290										
	48	HA12-10'-0'		1241										
	49	HA12-10'-1'		1243										
	50	HA12-10'-1.5'		1245										HOLD
	51	HA12-15'-0'		1247										
	52	HA12-15'-0'B		1251										HOLD
	53	HA12-15'-1'		1249										
	54	B12-5'-0'		1297										
	55	B12-5'-1'		1298										
	56	B12-5'-2'		1299										HOLD
	57	B13-3'		1313										
	58	HA14-10'-0'		1321										
	59	HA14-10'-1'		1322										
	60	HA14-10'-1'B		1324										HOLD

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐
4. SEALED Y ☐ N ☐
5. # OF SPLS MATCH COC Y ☐ N ☐
6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: J. Esquivel (Signature)

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
CORD DENNIG	4/14/15	1000	Ontrac	4/14/15	1000
				4/15/15	9:00

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/14/15
Print Name Date
Signature

Send Report To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Bill To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
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Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested: Total lead (6010B)

SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER_____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	0034-61	HA14-15'-0'	4/13	1326	X	X				C	1	baggie		
	62	HA14-15'-1'		1327										
	63	HA14-15'-1'B		1329										HOLD
	64	B14-5'-0'		1335										
	65	B14-5'-1'		1336										
	66	B15-3'		1352										
	67	B15-4'		1353										
	68	B16-3		1416										
	69	HA16-10'-0'		1405										
	70	HA16-10'-1'		1407										
	71	HA16-10'-1.5'		1408										HOLD
	72	HA16-15'-0'		1411										
	73	HA16-15'-0'B		1412										
	74	HA16-15'-0'C		1414										HOLD
	75	B16-5'-0'		1421										
	76	B16-5'-1'		1422										
	77	B16-5'-2'		1423										HOLD
	78	B17-3'		1433										
	79	B17-4'		1434										
	80	HA18-10'-0'		1440										

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: J. Esquivel (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
CORD DENNIG	4/14/15	1000	Ontrac	4/14/15	1000
				4/15/15	9:00

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/14/15
Printed Name Date
Signature

Send Report To:
Attn:
Co:
Addr:
City: State: Zip:

Bill To:
Attn:
Co:
Addr:
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER_____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	150341-42	HA18-10'-0.5'	4/13	1444	X	X				C	1	baggie		
	43	HA18-10'-1'		1443										
	44	HA18-15'-0'		1446										
	45	HA18-15'-1'		1448										
	46	HA18-15'-1.5'		1450										HOLD
	47	B18-3'		1456										
	48	B18-4'		1457										
	49	B18-5'-0'		1459										
	50	B18-5'-1'		1500										
	51	B18-5'-2.5'		1501										HOLD
	52	B19-3'		1513										
	53	B20-3'		1532										
	54	HA20-10'-0'		1519										
	55	HA20-10'-0'B		1522										HOLD
	56	HA20-10'-1'		1520										
	57	HA20-15'-0'		1524										
	58	HA20-15'-0'B		1526										
	59	HA20-15'-0'C		1528										HOLD
	60	B20-5'-0'		1538										
	61	B20-5'-1'		1539										

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐
4. SEALED Y ☐ N ☐
5. # OF SPLS MATCH COC Y ☐ N ☐
6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: J. Esquivel (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
CORD DENNIG	4/14/15	1000	ONTRAC	4/14/15	1000
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/14/15
Print Name Date
Signature

Send Report To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Circle or Add Analysis(es) Requested: Total lead (6010B)	SPECIFY APPROPRIATE MATRIX: SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Type	PRESERVATION	REMARKS
1	501341 - AB	B20-3-1.5'	4/13	1540	X	X				C	1	baggie		HOLD
	AC	B21-3'		1553										
	AD	B21-4'		1554										
	AE	B22-3'		1621										
	AF	B22-4'		1622										
	AG	B22-5'-0'		1623										
	AH	B22-5'-1'		1624										
	AI	B22-5'-2.5'		1625										HOLD
	AJ	HA22-10'-0'		1605										
	AK	HA22-10'-0'B		1607										
	AL	HA22-10'-0'C		1609										HOLD
	AM	HA22-15'-0'		1615										
	AN	HA22-15'-0'B		1616										
	AO	HA22-15'-0'C		1617										HOLD
	AP	B24-3'		1654										
	AQ	B24-4'		1655										
	AR	B25-3'		1704										
	AS	HA25-10'-0'		1706										
	AT	HA25-10'-0'B		1708										
	AU	HA25-10'-0'C		1709										HOLD

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt: 1. CHILLED Y ☐ N ☐ 2. HEADSPACE (VOA) Y ☐ N ☐ 3. CONTAINER INTACT Y ☐ N ☐ 4. SEALED Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL Project #: S9805-01-50 Sampler: J. Esquivel (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
CORD DENNIG	4/14/15	1000	[illegible]	4/14/15	1000
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
			C. [illegible]	4/15/15	900
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Rebecca Silva 4/14/15
Print Name Date
Signature

Send Report To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1501341-AV	HA28-15'-0'	4/13	1710	X	X				C	1	baggie		
	AW	HA28-15'-0'B		1711										
	AX	HA28-15'-0'C		1712										HOLD
	AY	HA28-5'-0'		1719										
	AZ	HA28-5'-1'		1722										
	BA	HA28-5'-2.5'		1724										HOLD
	BB	B26-3		1746										
	BC	HA26-10'-0'		1732										
	BD	HA26-10'-0.5'		1733										
	BE	HA26-10'-1'		1735										
	BF	HA26-15'-0'		1736										
	BG	HA26-15'-0.5'		1738										
	BH	HA26-15'-1'		1740										
	BI	B26-5'-0'		1751										
	BJ	B26-5'-1'		1752										
	BK	B26-5'-2'		1753										HOLD
	BL	B27-3'		1816										
	BM	B27-4'		1817										
	BN	B27-5'-0'		1819										
	BO	B27-5'-1'		1820										

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Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐
4. SEALED Y ☐ N ☐
5. # OF SPLS MATCH COC Y ☐ N ☐
6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: J. Esquivel (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
CORD DENNIG	4/14/15	1000	[illegible]	4/14/15	1000
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Rebecca Silva 4/14/15
Print Name Date
Signature

Send Report To:
Attn: _____
Co: _____
Addr: _____
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Bill To:
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Special Instructions/Comments:
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- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested: Total lead (6010B)

SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1504141-BP	B27-5'-1.5'	4/13	1824	X	X	C	1	baggie		HOLD
	BQ	HA27-10'-0'		1806							
	BR	HA27-10'-0'B		1807							
	BS	HA27-10'-0'C		1809							HOLD
	BT	HA27-15'-0'		1810							
	BU	HA27-15'-0'B		1811							
	BV	HA27-15'-0'C		1813							HOLD

[illegible] 4/14/15

- TAT starts 8AM the following day if samples received after 3 PM

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Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

April 24, 2015

Rebecca Silva
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
Tel: (916) 852-9118
Fax:(916) 852-9132

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1501341
Client Reference : I-80 Truck Lane ADL, S9805-01-50

Enclosed are the results for sample(s) received on April 15, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/24/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA6-10'-0'	1501341-23	Soil	4/13/15 10:28	4/15/15 9:45
HA6-15'-0'	1501341-26	Soil	4/13/15 10:36	4/15/15 9:45
HA8-10'-0	1501341-29	Soil	4/13/15 11:06	4/15/15 9:45
B11-3'	1501341-45	Soil	4/13/15 12:32	4/15/15 9:45
HA14-10'-0	1501341-58	Soil	4/13/15 13:21	4/15/15 9:45
HA16-10'-0'	1501341-69	Soil	4/13/15 14:05	4/15/15 9:45
HA18-10-0'	1501341-80	Soil	4/13/15 14:40	4/15/15 9:45
HA18-10'-0.5'	1501341-81	Soil	4/13/15 14:44	4/15/15 9:45
HA18-15'-0'	1501341-83	Soil	4/13/15 14:46	4/15/15 9:45
HA18-15'-1'	1501341-84	Soil	4/13/15 14:48	4/15/15 9:45
B18-5'-0'	1501341-88	Soil	4/13/15 14:59	4/15/15 9:45
B22-5'-1'	1501341-AH	Soil	4/13/15 16:24	4/15/15 9:45
HA22-10'-0'B	1501341-AK	Soil	4/13/15 16:07	4/15/15 9:45
HA22-15'-0'	1501341-AM	Soil	4/13/15 16:15	4/15/15 9:45
HA22-15'-0'B	1501341-AN	Soil	4/13/15 16:16	4/15/15 9:45
HA25-10'-0'	1501341-AS	Soil	4/13/15 17:06	4/15/15 9:45
HA25-10'-0.5'	1501341-AT	Soil	4/13/15 17:08	4/15/15 9:45
HA25-15'-0'	1501341-AV	Soil	4/13/15 17:10	4/15/15 9:45
HA25-5'-0'	1501341-AY	Soil	4/13/15 17:19	4/15/15 9:45
HA25-5'-1'	1501341-AZ	Soil	4/13/15 17:22	4/15/15 9:45
HA26-15'-0'	1501341-BF	Soil	4/13/15 17:36	4/15/15 9:45
B26-5'-0'	1501341-BI	Soil	4/13/15 17:51	4/15/15 9:45

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/24/2015

TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501341-AM	HA22-15'-0'	**ND**	mg/L	0.050	1	B5D0686	04/23/2015	04/23/15 13:11	
1501341-AS	HA25-10'-0'	**0.067**	mg/L	0.050	1	B5D0686	04/23/2015	04/23/15 13:12	

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501341-23	HA6-10'-0'	**2.0**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 13:40	
1501341-26	HA6-15'-0'	**3.1**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 13:42	
1501341-29	HA8-10'-0	**6.2**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 13:46	
1501341-45	B11-3'	**4.4**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 13:47	
1501341-58	HA14-10'-0	**5.3**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 13:48	
1501341-69	HA16-10'-0'	**3.7**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 13:53	
1501341-80	HA18-10-0'	**6.6**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 13:54	
1501341-81	HA18-10'-0.5'	**2.9**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 13:56	
1501341-83	HA18-15'-0'	**4.4**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 13:57	
1501341-84	HA18-15'-1'	**1.6**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 14:01	
1501341-88	B18-5'-0'	**8.3**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 14:02	
1501341-AH	B22-5'-1'	**ND**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 14:03	
1501341-AK	HA22-10'-0'B	**5.8**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 14:04	
1501341-AM	HA22-15'-0'	**8.8**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 14:06	
1501341-AN	HA22-15'-0'B	**7.4**	mg/L	1.0	20	B5D0690	04/23/2015	04/23/15 14:07	
1501341-AS	HA25-10'-0'	**8.1**	mg/L	1.0	20	B5D0691	04/23/2015	04/23/15 14:15	
1501341-AT	HA25-10'-0.5'	**3.2**	mg/L	1.0	20	B5D0691	04/23/2015	04/23/15 14:16	
1501341-AV	HA25-15'-0'	**2.1**	mg/L	1.0	20	B5D0691	04/23/2015	04/23/15 14:17	
1501341-AY	HA25-5'-0'	**4.7**	mg/L	1.0	20	B5D0691	04/23/2015	04/23/15 14:18	
1501341-AZ	HA25-5'-1'	**1.7**	mg/L	1.0	20	B5D0691	04/23/2015	04/23/15 14:20	
1501341-BF	HA26-15'-0'	**3.7**	mg/L	1.0	20	B5D0691	04/23/2015	04/23/15 14:21	
1501341-BI	B26-5'-0'	**5.4**	mg/L	1.0	20	B5D0691	04/23/2015	04/23/15 14:22	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/24/2015

QUALITY CONTROL SECTION

TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0686 - EPA 3010A_S									
Blank (B5D0686-BLK1)					Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	ND	0.050			NR				
LCS (B5D0686-BS1)					Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	0.964837	0.050	1.00000		96.5	80 - 120			
Duplicate (B5D0686-DUP1)		**Source: 1501140-09**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	0.038398	0.050		0.042487	NR		10.1	20	
Duplicate (B5D0686-DUP2)		**Source: 1501389-AT**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	0.208811	0.050		0.195816	NR		6.42	20	
Matrix Spike (B5D0686-MS1)		**Source: 1501389-AT**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	2.39937	0.050	2.50000	0.195816	88.1	77 - 121			
Matrix Spike Dup (B5D0686-MSD1)		**Source: 1501389-AT**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	2.51110	0.050	2.50000	0.195816	92.6	77 - 121	4.55	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/24/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0690 - STLC_S Extraction									
Blank (B5D0690-BLK1)					Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	ND	1.0			NR				
Blank (B5D0690-BLK2)					Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	ND	1.0			NR				
LCS (B5D0690-BS1)					Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	1.88866		2.00000		94.4	80 - 120			
Duplicate (B5D0690-DUP1)		**Source: 1501341-58**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	4.52831	1.0		5.29385	NR		15.6	20	
Duplicate (B5D0690-DUP2)		**Source: 1501341-AN**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	5.93316	1.0		7.37379	NR		21.7	20	R
Matrix Spike (B5D0690-MS1)		**Source: 1501341-58**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	7.16490		2.50000	5.29385	74.8	44 - 130			
Matrix Spike (B5D0690-MS2)		**Source: 1501341-AN**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	9.39153		2.50000	7.37379	80.7	44 - 130			
Matrix Spike Dup (B5D0690-MSD1)		**Source: 1501341-58**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	7.37616		2.50000	5.29385	83.3	44 - 130	2.91	20	
Batch B5D0691 - STLC_S Extraction									
Blank (B5D0691-BLK1)					Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	ND	1.0			NR				
LCS (B5D0691-BS1)					Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	1.85854		2.00000		92.9	80 - 120			
Duplicate (B5D0691-DUP1)		**Source: 1501341-BI**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	2.23059	1.0		5.36950	NR		82.6	20	R
Matrix Spike (B5D0691-MS1)		**Source: 1501341-BI**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	7.42835		2.50000	5.36950	82.4	44 - 130			
Matrix Spike Dup (B5D0691-MSD1)		**Source: 1501341-BI**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	8.02461		2.50000	5.36950	106	44 - 130	7.72	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/24/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

Diane Galvan

From: Rebecca Silva [silva@geoconinc.com]
Sent: Friday, April 17, 2015 8:37 AM
To: Diane Galvan
Cc: Gemma Reblando
Subject: RE: Results/EDD/Invoice - I-80 Truck Lane ADL (1501341)

Hi Diane – Please analyze the 22 samples with total lead >50 mg/kg for WET lead on 5-day TAT, and the two samples with total lead > or = 200 mg/kg for TCLP lead on 5-day TAT.

Thanks,
Rebecca

May 01, 2015

Rebecca Silva
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
Tel: (916) 852-9118
Fax:(916) 852-9132

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1501341

Client Reference : I-80 Truck Lane ADL, S9805-01-50

Enclosed are the results for sample(s) received on April 15, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA8-10'-0	1501341-29	Soil	4/13/15 11:06	4/15/15 9:45
HA14-10'-0	1501341-58	Soil	4/13/15 13:21	4/15/15 9:45
HA18-10-0'	1501341-80	Soil	4/13/15 14:40	4/15/15 9:45
B18-5'-0'	1501341-88	Soil	4/13/15 14:59	4/15/15 9:45
HA22-10'-0'B	1501341-AK	Soil	4/13/15 16:07	4/15/15 9:45
HA22-15'-0'	1501341-AM	Soil	4/13/15 16:15	4/15/15 9:45
HA22-15'-0'B	1501341-AN	Soil	4/13/15 16:16	4/15/15 9:45
HA25-10'-0'	1501341-AS	Soil	4/13/15 17:06	4/15/15 9:45
B26-5'-0'	1501341-BI	Soil	4/13/15 17:51	4/15/15 9:45

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501341-29	HA8-10'-0	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 12:32	
1501341-58	HA14-10'-0	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 12:36	
1501341-80	HA18-10-0'	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 12:40	
1501341-88	B18-5'-0'	**1.3**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 12:43	
1501341-AK	HA22-10'-0'B	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 12:47	
1501341-AM	HA22-15'-0'	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 12:51	
1501341-AN	HA22-15'-0'B	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 12:55	
1501341-AS	HA25-10'-0'	**ND**	mg/L	1.0	20	B5D0880	04/30/2015	04/30/15 16:01	
1501341-BI	B26-5'-0'	**ND**	mg/L	1.0	20	B5D0880	04/30/2015	04/30/15 16:05	

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501341-29	HA8-10'-0	**7.6**	pH Units	0.10	1	B5D0861	04/29/2015	04/29/15 14:13	
1501341-58	HA14-10'-0	**4.3**	pH Units	0.10	1	B5D0861	04/29/2015	04/29/15 14:13	
1501341-80	HA18-10-0'	**6.1**	pH Units	0.10	1	B5D0861	04/29/2015	04/29/15 14:13	
1501341-88	B18-5'-0'	**5.9**	pH Units	0.10	1	B5D0861	04/29/2015	04/29/15 14:13	
1501341-AK	HA22-10'-0'B	**5.2**	pH Units	0.10	1	B5D0861	04/29/2015	04/29/15 14:13	
1501341-AM	HA22-15'-0'	**5.9**	pH Units	0.10	1	B5D0862	04/29/2015	04/29/15 14:14	
1501341-AN	HA22-15'-0'B	**5.8**	pH Units	0.10	1	B5D0862	04/29/2015	04/29/15 14:14	
1501341-AS	HA25-10'-0'	**5.5**	pH Units	0.10	1	B5D0862	04/29/2015	04/29/15 14:14	
1501341-BI	B26-5'-0'	**5.6**	pH Units	0.10	1	B5D0862	04/29/2015	04/29/15 14:14	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

QUALITY CONTROL SECTION

STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0879 - STLC DI_S Extraction									
Blank (B5D0879-BLK1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
Blank (B5D0879-BLK2)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
LCS (B5D0879-BS1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.02317		2.00000		101	80 - 120			
Duplicate (B5D0879-DUP1)		**Source: 1501454-EE**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	1.83227	1.0		0.118170	NR		176	20	R
Matrix Spike (B5D0879-MS1)		**Source: 1501454-EE**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.49758		2.50000	0.118170	95.2	70 - 130			
Matrix Spike (B5D0879-MS2)		**Source: 1501454-DF**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	4.29657		2.50000	2.13020	86.7	70 - 130			
Matrix Spike Dup (B5D0879-MSD1)		**Source: 1501454-EE**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.54100		2.50000	0.118170	96.9	70 - 130	1.72	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0880 - STLC DI_S Extraction									
Blank (B5D0880-BLK1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
LCS (B5D0880-BS1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	1.94810		2.00000		97.4	80 - 120			
Duplicate (B5D0880-DUP1)		**Source: 1501341-BI**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	0.156170	1.0		0.308877	NR		65.7	20	R
Matrix Spike (B5D0880-MS1)		**Source: 1501341-BI**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.77586		2.50000	0.308877	98.7	70 - 130			
Matrix Spike Dup (B5D0880-MSD1)		**Source: 1501341-BI**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.66947		2.50000	0.308877	94.4	70 - 130	3.91	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0861 - Prep_WC1_S									
Duplicate (B5D0861-DUP1)		**Source: 1501454-DS**			Prepared: 4/29/2015 Analyzed: 4/29/2015				
pH	5.13000	0.10		4.95000	NR		3.57	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0862 - Prep_WC1_S									
Duplicate (B5D0862-DUP1)		**Source: 1501341-AM**			Prepared: 4/29/2015 Analyzed: 4/29/2015				
pH	6.01000	0.10		5.89000	NR		2.02	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
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RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

Diane Galvan

From: Rebecca Silva [silva@geoconinc.com]
Sent: Friday, April 24, 2015 3:33 PM
To: Diane Galvan
Cc: Gemma Reblando
Subject: RE: Additional Results/EDD/Invoice - I-80 Truck Lane ADL (1501341)

Diane – Please assign the nine samples with WET lead >5 mg/l for DI-WET lead and pH on 5-day TAT. Thanks!

April 21, 2015

Rebecca Silva
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
Tel: (916) 852-9118
Fax:(916) 852-9132

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1501389
Client Reference : I-80 Truck Lane ADL, S9805-01-50

Enclosed are the results for sample(s) received on April 17, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/21/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B28-3	1501389-01	Soil	4/15/15 8:02	4/17/15 8:50
B29-3	1501389-02	Soil	4/15/15 8:17	4/17/15 8:50
B29-4	1501389-03	Soil	4/15/15 8:18	4/17/15 8:50
B29-5.0'	1501389-04	Soil	4/15/15 8:23	4/17/15 8:50
B29-5-1'	1501389-05	Soil	4/15/15 8:24	4/17/15 8:50
HA29-10-0	1501389-07	Soil	4/15/15 8:35	4/17/15 8:50
HA29-10-0B	1501389-08	Soil	4/15/15 8:37	4/17/15 8:50
HA29-15-0	1501389-10	Soil	4/15/15 8:41	4/17/15 8:50
HA29-15-0B	1501389-11	Soil	4/15/15 8:44	4/17/15 8:50
B30-3'	1501389-13	Soil	4/15/15 9:22	4/17/15 8:50
B31-3'	1501389-14	Soil	4/15/15 9:25	4/17/15 8:50
B31-4'	1501389-15	Soil	4/15/15 9:26	4/17/15 8:50
B31-5-0	1501389-16	Soil	4/15/15 9:53	4/17/15 8:50
B31-5-1	1501389-17	Soil	4/15/15 9:54	4/17/15 8:50
HA31-10-0	1501389-19	Soil	4/15/15 9:32	4/17/15 8:50
HA31-10-0.5	1501389-20	Soil	4/15/15 9:34	4/17/15 8:50
HA31-10-1	1501389-21	Soil	4/15/15 9:39	4/17/15 8:50
HA31-15-0	1501389-22	Soil	4/15/15 9:46	4/17/15 8:50
HA31-15-0B	1501389-23	Soil	4/15/15 9:48	4/17/15 8:50
B32-3	1501389-25	Soil	4/15/15 10:12	4/17/15 8:50
B32-4	1501389-26	Soil	4/15/15 10:13	4/17/15 8:50
B33-3	1501389-27	Soil	4/15/15 10:28	4/17/15 8:50
B33-4	1501389-28	Soil	4/15/15 10:29	4/17/15 8:50
B34-3	1501389-29	Soil	4/15/15 10:55	4/17/15 8:50
B34-4	1501389-30	Soil	4/15/15 10:57	4/17/15 8:50
B34-5-0	1501389-31	Soil	4/15/15 10:59	4/17/15 8:50
B34-5-1	1501389-32	Soil	4/15/15 11:01	4/17/15 8:50
HA34-10-0	1501389-34	Soil	4/15/15 10:39	4/17/15 8:50
HA34-10-0B	1501389-35	Soil	4/15/15 10:40	4/17/15 8:50
HA34-15-0	1501389-37	Soil	4/15/15 10:46	4/17/15 8:50
HA34-15-0B	1501389-38	Soil	4/15/15 10:48	4/17/15 8:50
B35-5-0	1501389-40	Soil	4/15/15 11:25	4/17/15 8:50
B35-5-0.5	1501389-41	Soil	4/15/15 11:26	4/17/15 8:50
B35-5-1	1501389-42	Soil	4/15/15 11:27	4/17/15 8:50

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	I-80 Truck Lane ADL, S9805-01-50	
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva	
Rancho Cordova , CA 95742	Reported :	04/21/2015	

HA35-10-0	1501389-43	Soil	4/15/15 11:13	4/17/15 8:50
HA35-10-0.5	1501389-44	Soil	4/15/15 11:16	4/17/15 8:50
HA35-10-1	1501389-45	Soil	4/15/15 11:17	4/17/15 8:50
HA35-15-0	1501389-46	Soil	4/15/15 11:20	4/17/15 8:50
HA35-15-0.5	1501389-47	Soil	4/15/15 11:22	4/17/15 8:50
HA35-15-1	1501389-48	Soil	4/15/15 11:24	4/17/15 8:50
B36-3	1501389-49	Soil	4/15/15 11:52	4/17/15 8:50
B37-3	1501389-50	Soil	4/15/15 12:20	4/17/15 8:50
B37-4	1501389-51	Soil	4/15/15 12:21	4/17/15 8:50
B37-5-0	1501389-52	Soil	4/15/15 12:24	4/17/15 8:50
B37-5-1	1501389-53	Soil	4/15/15 12:25	4/17/15 8:50
HA37-10-0	1501389-55	Soil	4/15/15 12:03	4/17/15 8:50
HA37-10-1	1501389-56	Soil	4/15/15 12:07	4/17/15 8:50
HA37-15-0	1501389-58	Soil	4/15/15 12:11	4/17/15 8:50
HA37-15-0.5	1501389-59	Soil	4/15/15 12:13	4/17/15 8:50
HA37-15-1	1501389-60	Soil	4/15/15 12:15	4/17/15 8:50
B38-3	1501389-61	Soil	4/15/15 12:38	4/17/15 8:50
B38-4	1501389-62	Soil	4/15/15 12:40	4/17/15 8:50
HA39-3	1501389-63	Soil	4/15/15 13:23	4/17/15 8:50
HA39-4	1501389-64	Soil	4/15/15 13:30	4/17/15 8:50
HA40-3	1501389-65	Soil	4/15/15 13:36	4/17/15 8:50
HA40-4'	1501389-66	Soil	4/15/15 13:39	4/17/15 8:50
B41-3	1501389-67	Soil	4/15/15 14:05	4/17/15 8:50
B41-4	1501389-68	Soil	4/15/15 14:06	4/17/15 8:50
B41-5-0	1501389-69	Soil	4/15/15 14:09	4/17/15 8:50
B41-5-1	1501389-70	Soil	4/15/15 14:11	4/17/15 8:50
HA41-10-0	1501389-72	Soil	4/15/15 13:50	4/17/15 8:50
HA41-10-0.5	1501389-73	Soil	4/15/15 13:52	4/17/15 8:50
HA41-10-1	1501389-74	Soil	4/15/15 13:54	4/17/15 8:50
HA41-15-0	1501389-75	Soil	4/15/15 13:57	4/17/15 8:50
HA41-15-0.5	1501389-76	Soil	4/15/15 13:58	4/17/15 8:50
HA41-15-1	1501389-77	Soil	4/15/15 14:00	4/17/15 8:50
B42-3	1501389-78	Soil	4/15/15 14:41	4/17/15 8:50
B42-5-0	1501389-79	Soil	4/15/15 14:44	4/17/15 8:50
B42-5-1	1501389-80	Soil	4/15/15 14:45	4/17/15 8:50
HA42-10-0	1501389-82	Soil	4/15/15 14:24	4/17/15 8:50
HA42-10-0.5	1501389-83	Soil	4/15/15 14:26	4/17/15 8:50
HA42-10-1	1501389-84	Soil	4/15/15 14:29	4/17/15 8:50
HA42-15-0	1501389-85	Soil	4/15/15 14:33	4/17/15 8:50

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	04/21/2015

HA42-15-1	1501389-86	Soil	4/15/15 14:36	4/17/15 8:50
B43-3	1501389-88	Soil	4/15/15 14:59	4/17/15 8:50
B44-3	1501389-89	Soil	4/15/15 15:28	4/17/15 8:50
B44-5-0	1501389-90	Soil	4/15/15 15:29	4/17/15 8:50
B44-5-0.5	1501389-91	Soil	4/15/15 15:30	4/17/15 8:50
B44-5-1	1501389-92	Soil	4/15/15 15:31	4/17/15 8:50
HA44-10-0	1501389-93	Soil	4/15/15 15:10	4/17/15 8:50
HA44-10-0.5	1501389-94	Soil	4/15/15 15:15	4/17/15 8:50
HA44-10-1	1501389-95	Soil	4/15/15 15:18	4/17/15 8:50
HA44-15-0	1501389-96	Soil	4/15/15 15:23	4/17/15 8:50
HA44-15-0.5	1501389-97	Soil	4/15/15 15:25	4/17/15 8:50
HA44-15-1	1501389-98	Soil	4/15/15 15:27	4/17/15 8:50
B45-3'	1501389-99	Soil	4/15/15 16:00	4/17/15 8:50
B45-4'	1501389-AA	Soil	4/15/15 16:01	4/17/15 8:50
B45-5-0	1501389-AB	Soil	4/15/15 16:03	4/17/15 8:50
B45-5-1	1501389-AC	Soil	4/15/15 16:04	4/17/15 8:50
HA45-10-0	1501389-AE	Soil	4/15/15 15:44	4/17/15 8:50
HA45-10-1	1501389-AF	Soil	4/15/15 15:46	4/17/15 8:50
HA45-15-0	1501389-AH	Soil	4/15/15 15:53	4/17/15 8:50
HA45-15-1	1501389-AI	Soil	4/15/15 15:55	4/17/15 8:50
HA46-3	1501389-AL	Soil	4/15/15 16:27	4/17/15 8:50
HA46-4	1501389-AM	Soil	4/15/15 16:30	4/17/15 8:50
HA47-3	1501389-AN	Soil	4/15/15 16:48	4/17/15 8:50
HA47-4	1501389-AO	Soil	4/15/15 16:50	4/17/15 8:50
HA48-3	1501389-AP	Soil	4/15/15 17:05	4/17/15 8:50
HA49-5-0	1501389-AQ	Soil	4/15/15 17:31	4/17/15 8:50
HA49-5-1	1501389-AR	Soil	4/15/15 17:35	4/17/15 8:50
HA49-10-0	1501389-AT	Soil	4/15/15 17:34	4/17/15 8:50
HA49-10-1	1501389-AU	Soil	4/15/15 17:38	4/17/15 8:50
HA49-15-0	1501389-AW	Soil	4/15/15 17:44	4/17/15 8:50
HA49-15-1	1501389-AX	Soil	4/15/15 17:46	4/17/15 8:50
HA50-3	1501389-AZ	Soil	4/15/15 18:06	4/17/15 8:50
HA50-4	1501389-BA	Soil	4/15/15 18:09	4/17/15 8:50

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/21/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501389-01	B28-3	**2.1**	mg/kg	1.0	1	B5D0580	04/20/2015	04/21/15 10:08	
1501389-02	B29-3	**11**	mg/kg	1.0	1	B5D0580	04/20/2015	04/21/15 10:09	
1501389-03	B29-4	**5.9**	mg/kg	1.0	1	B5D0580	04/20/2015	04/21/15 10:09	
1501389-04	B29-5.0'	**23**	mg/kg	0.99	1	B5D0580	04/20/2015	04/21/15 10:10	
1501389-05	B29-5-1'	**9.6**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 16:59	
1501389-07	HA29-10-0	**48**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:00	
1501389-08	HA29-10-0B	**62**	mg/kg	0.99	1	B5D0581	04/20/2015	04/20/15 17:00	
1501389-10	HA29-15-0	**19**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:01	
1501389-11	HA29-15-0B	**32**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:02	
1501389-13	B30-3'	**2.5**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:03	
1501389-14	B31-3'	**14**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:04	
1501389-15	B31-4'	**23**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:07	
1501389-16	B31-5-0	**220**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:07	
1501389-17	B31-5-1	**15**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:08	
1501389-19	HA31-10-0	**170**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:10	
1501389-20	HA31-10-0.5	**54**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:11	
1501389-21	HA31-10-1	**44**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:12	
1501389-22	HA31-15-0	**88**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:13	
1501389-23	HA31-15-0B	**42**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:13	
1501389-25	B32-3	**6.5**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:16	
1501389-26	B32-4	**5.1**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:17	
1501389-27	B33-3	**4.6**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:18	
1501389-28	B33-4	**3.3**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:51	
1501389-29	B34-3	**4.8**	mg/kg	1.0	1	B5D0581	04/20/2015	04/20/15 17:19	
1501389-30	B34-4	**7.8**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:29	
1501389-31	B34-5-0	**4.6**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:29	
1501389-32	B34-5-1	**2.7**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:30	
1501389-34	HA34-10-0	**65**	mg/kg	0.99	1	B5D0582	04/20/2015	04/20/15 17:31	
1501389-35	HA34-10-0B	**15**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:32	
1501389-37	HA34-15-0	**140**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:32	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/21/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501389-38	HA34-15-0B	**33**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:33	
1501389-40	B35-5-0	**60**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:34	
1501389-41	B35-5-0.5	**15**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:35	
1501389-42	B35-5-1	**9.7**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:37	
1501389-43	HA35-10-0	**340**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:40	
1501389-44	HA35-10-0.5	**30**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:40	
1501389-45	HA35-10-1	**16**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:41	
1501389-46	HA35-15-0	**200**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:42	
1501389-47	HA35-15-0.5	**130**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:43	
1501389-48	HA35-15-1	**27**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:43	
1501389-49	B36-3	**8.8**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:44	
1501389-50	B37-3	**3.5**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:47	
1501389-51	B37-4	**2.9**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:52	
1501389-52	B37-5-0	**26**	mg/kg	1.0	1	B5D0582	04/20/2015	04/20/15 17:48	
1501389-53	B37-5-1	**4.6**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 17:59	
1501389-55	HA37-10-0	**35**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 17:59	
1501389-56	HA37-10-1	**9.2**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:00	
1501389-58	HA37-15-0	**83**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:01	
1501389-59	HA37-15-0.5	**69**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:02	
1501389-60	HA37-15-1	**14**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:02	
1501389-61	B38-3	**7.3**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:03	
1501389-62	B38-4	**6.8**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:04	
1501389-63	HA39-3	**5.4**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:05	
1501389-64	HA39-4	**9.0**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:08	
1501389-65	HA40-3	**24**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:10	
1501389-66	HA40-4'	**84**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:11	
1501389-67	B41-3	**12**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:12	
1501389-68	B41-4	**30**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:13	
1501389-69	B41-5-0	**29**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:13	
1501389-70	B41-5-1	**3.9**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:15	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/21/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501389-72	HA41-10-0	**49**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:15	
1501389-73	HA41-10-0.5	**150**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:18	
1501389-74	HA41-10-1	**10**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:19	
1501389-75	HA41-15-0	**18**	mg/kg	1.0	1	B5D0583	04/20/2015	04/20/15 18:20	
1501389-76	HA41-15-0.5	**9.9**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:26	
1501389-77	HA41-15-1	**15**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:29	
1501389-78	B42-3	**3.3**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:29	
1501389-79	B42-5-0	**12**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:30	
1501389-80	B42-5-1	**3.0**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:54	
1501389-82	HA42-10-0	**11**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:32	
1501389-83	HA42-10-0.5	**5.6**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:32	
1501389-84	HA42-10-1	**3.7**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:33	
1501389-85	HA42-15-0	**4.0**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:34	
1501389-86	HA42-15-1	**3.1**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:35	
1501389-88	B43-3	**8.5**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:40	
1501389-89	B44-3	**14**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:40	
1501389-90	B44-5-0	**17**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:41	
1501389-91	B44-5-0.5	**6.1**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:42	
1501389-92	B44-5-1	**4.7**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:43	
1501389-93	HA44-10-0	**15**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:43	
1501389-94	HA44-10-0.5	**12**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:44	
1501389-95	HA44-10-1	**5.2**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:45	
1501389-96	HA44-15-0	**7.2**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:47	
1501389-97	HA44-15-0.5	**9.7**	mg/kg	1.0	1	B5D0584	04/20/2015	04/20/15 18:50	
1501389-98	HA44-15-1	**11**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:02	
1501389-99	B45-3'	**2.4**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:03	
1501389-AA	B45-4'	**1.7**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:03	
1501389-AB	B45-5-0	**6.8**	mg/kg	0.99	1	B5D0585	04/20/2015	04/21/15 08:04	
1501389-AC	B45-5-1	**1.9**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:05	
1501389-AE	HA45-10-0	**3.1**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:25	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
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Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501389-AF	HA45-10-1	**2.5**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:06	
1501389-AH	HA45-15-0	**22**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:10	
1501389-AI	HA45-15-1	**14**	mg/kg	0.99	1	B5D0585	04/20/2015	04/21/15 08:11	
1501389-AL	HA46-3	**7.8**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:11	
1501389-AM	HA46-4	**5.1**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:26	
1501389-AN	HA47-3	**5.6**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:14	
1501389-AO	HA47-4	**5.6**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:15	
1501389-AP	HA48-3	**2.7**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:16	
1501389-AQ	HA49-5-0	**730**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:17	
1501389-AR	HA49-5-1	**45**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:19	
1501389-AT	HA49-10-0	**410**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:20	
1501389-AU	HA49-10-1	**5.2**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:21	
1501389-AW	HA49-15-0	**110**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:22	
1501389-AX	HA49-15-1	**4.9**	mg/kg	1.0	1	B5D0585	04/20/2015	04/21/15 08:22	
1501389-AZ	HA50-3	**5.2**	mg/kg	1.0	1	B5D0586	04/20/2015	04/21/15 09:56	
1501389-BA	HA50-4	**8.6**	mg/kg	1.0	1	B5D0586	04/20/2015	04/21/15 09:57	

Certificate of Analysis

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Rancho Cordova , CA 95742		Reported :	04/21/2015

QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0580 - EPA 3050 Modified_S									
Blank (B5D0580-BLK1)					Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	ND	1.0			NR				
Blank (B5D0580-BLK2)					Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	ND	1.0			NR				
LCS (B5D0580-BS1)					Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	47.6805	1.0	50.0000		95.4	80 - 120			
Duplicate (B5D0580-DUP1)		**Source: 1501389-04**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	19.6261	1.0		23.1739	NR		16.6	20	
Duplicate (B5D0580-DUP2)		**Source: 1501319-30**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	11.2418	1.0		10.2284	NR		9.44	20	
Matrix Spike (B5D0580-MS1)		**Source: 1501389-04**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	252.724	1.0	250.000	23.1739	91.8	35 - 129			
Matrix Spike (B5D0580-MS2)		**Source: 1501319-30**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	222.222	1.0	250.000	10.2284	84.8	35 - 129			
Matrix Spike Dup (B5D0580-MSD1)		**Source: 1501389-04**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	233.516	1.0	250.000	23.1739	84.1	35 - 129	7.90	20	
Batch B5D0581 - EPA 3050 Modified_S									
Blank (B5D0581-BLK1)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	ND	1.0			NR				
Blank (B5D0581-BLK2)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	ND	1.0			NR				
LCS (B5D0581-BS1)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	48.1348	1.0	50.0000		96.3	80 - 120			
Duplicate (B5D0581-DUP1)		**Source: 1501389-29**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	3.60489	1.0		4.76207	NR		27.7	20	R
Duplicate (B5D0581-DUP2)		**Source: 1501389-17**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	11.9134	1.0		14.8130	NR		21.7	20	R
Matrix Spike (B5D0581-MS1)		**Source: 1501389-29**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	209.361	1.0	250.000	4.76207	81.8	35 - 129			
Matrix Spike (B5D0581-MS2)		**Source: 1501389-17**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	229.491	1.0	250.000	14.8130	85.9	35 - 129			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800	Report To : Rebecca Silva
Rancho Cordova , CA 95742	Reported : 04/21/2015

Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0581 - EPA 3050 Modified_S (continued)									
Matrix Spike Dup (B5D0581-MSD1)		**Source: 1501389-29**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	219.003	1.0	250.000	4.76207	85.7	35 - 129	4.50	20	
Batch B5D0582 - EPA 3050 Modified_S									
Blank (B5D0582-BLK1)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	ND	1.0			NR				
Blank (B5D0582-BLK2)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	ND	1.0			NR				
LCS (B5D0582-BS1)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	47.4244	1.0	50.0000		94.8	80 - 120			
Duplicate (B5D0582-DUP1)		**Source: 1501389-52**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	21.4422	1.0		26.1917	NR		19.9	20	
Duplicate (B5D0582-DUP2)		**Source: 1501389-42**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	9.76097	1.0		9.70128	NR		0.613	20	
Matrix Spike (B5D0582-MS1)		**Source: 1501389-52**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	218.161	1.0	250.000	26.1917	76.8	35 - 129			
Matrix Spike (B5D0582-MS2)		**Source: 1501389-42**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	228.052	1.0	250.000	9.70128	87.3	35 - 129			
Matrix Spike Dup (B5D0582-MSD1)		**Source: 1501389-52**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	248.897	1.0	250.000	26.1917	89.1	35 - 129	13.2	20	
Batch B5D0583 - EPA 3050 Modified_S									
Blank (B5D0583-BLK1)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	ND	1.0			NR				
Blank (B5D0583-BLK2)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	ND	1.0			NR				
LCS (B5D0583-BS1)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	47.8985	1.0	50.0000		95.8	80 - 120			
Duplicate (B5D0583-DUP1)		**Source: 1501389-75**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	18.7684	1.0		17.6775	NR		5.99	20	
Duplicate (B5D0583-DUP2)		**Source: 1501389-64**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	14.3550	1.0		8.95302	NR		46.4	20	R
Matrix Spike (B5D0583-MS1)		**Source: 1501389-75**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	230.700	1.0	250.000	17.6775	85.2	35 - 129			
Matrix Spike (B5D0583-MS2)		**Source: 1501389-64**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	189.005	1.0	250.000	8.95302	72.0	35 - 129			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800	Report To : Rebecca Silva
Rancho Cordova , CA 95742	Reported : 04/21/2015

Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0583 - EPA 3050 Modified_S (continued)									
Matrix Spike Dup (B5D0583-MSD1)		**Source: 1501389-75**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	231.196	1.0	250.000	17.6775	85.4	35 - 129	0.215	20	
Batch B5D0584 - EPA 3050 Modified_S									
Blank (B5D0584-BLK1)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	ND	1.0			NR				
Blank (B5D0584-BLK2)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	ND	1.0			NR				
LCS (B5D0584-BS1)					Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	48.5477	1.0	50.0000		97.1	80 - 120			
Duplicate (B5D0584-DUP1)		**Source: 1501389-97**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	8.80969	0.99		9.66376	NR		9.25	20	
Duplicate (B5D0584-DUP2)		**Source: 1501389-86**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	3.08052	1.0		3.10464	NR		0.780	20	
Matrix Spike (B5D0584-MS1)		**Source: 1501389-97**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	204.688	1.0	250.000	9.66376	78.0	35 - 129			
Matrix Spike (B5D0584-MS2)		**Source: 1501389-86**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	201.023	0.99	247.525	3.10464	80.0	35 - 129			
Matrix Spike Dup (B5D0584-MSD1)		**Source: 1501389-97**			Prepared: 4/20/2015 Analyzed: 4/20/2015				
Lead	209.613	1.0	252.525	9.66376	79.2	35 - 129	2.38	20	
Batch B5D0585 - EPA 3050 Modified_S									
Blank (B5D0585-BLK1)					Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	ND	1.0			NR				
Blank (B5D0585-BLK2)					Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	ND	1.0			NR				
LCS (B5D0585-BS1)					Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	50.1489	1.0	50.0000		100	80 - 120			
Duplicate (B5D0585-DUP1)		**Source: 1501389-AX**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	3.82283	1.0		4.92500	NR		25.2	20	R
Duplicate (B5D0585-DUP2)		**Source: 1501389-AL**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	6.50248	1.0		7.77904	NR		17.9	20	
Matrix Spike (B5D0585-MS1)		**Source: 1501389-AX**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	213.372	1.0	250.000	4.92500	83.4	35 - 129			
Matrix Spike (B5D0585-MS2)		**Source: 1501389-AL**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	204.287	1.0	250.000	7.77904	78.6	35 - 129			

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/21/2015

Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0585 - EPA 3050 Modified_S (continued)									
Matrix Spike Dup (B5D0585-MSD1)		**Source: 1501389-AX**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	224.738	1.0	250.000	4.92500	87.9	35 - 129	5.19	20	
Batch B5D0586 - EPA 3050 Modified_S									
Blank (B5D0586-BLK1)					Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	ND	1.0			NR				
LCS (B5D0586-BS1)					Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	47.4658	1.0	50.0000		94.9	80 - 120			
Duplicate (B5D0586-DUP1)		**Source: 1501389-BA**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	6.76572	1.0		8.57236	NR		23.6	20	R
Matrix Spike (B5D0586-MS1)		**Source: 1501389-BA**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	215.398	1.0	252.525	8.57236	81.9	35 - 129			
Matrix Spike Dup (B5D0586-MSD1)		**Source: 1501389-BA**			Prepared: 4/20/2015 Analyzed: 4/21/2015				
Lead	221.893	1.0	250.000	8.57236	85.3	35 - 129	2.97	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/21/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____

Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Address: 3160 Gold Valley Drive, Suite 800
Tel: 916-852-9118
Attention: Rebecca Silva
City: Rancho Cordova State: CA Zip Code: 95742
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: Matthew Tidwell (Signature) Matthew Tidwell

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Matthew Tidwell / Matthew Tidwell	4/16/15	1600	ONTAC	4/16/15	1600
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
			[illegible]	4/17/15	830
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/16/15
Print Name Date
Signature

Send Report To:
Attn:
Co:
Addr:
City: State: Zip:

Bill To:
Attn:
Co:
Addr:
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX: SOIL / WATER / GROUND WATER / WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1501389-1	B28-3	4/15/15	802	X	X	C	1	baggie		
	2	B29-3		817							
	3	B29-4		818							
	4	B29-5-0'		823							
	5	B29-5-1'		824							
	6	B29-5-1.5'		825							Hold
	7	HA29-10-0		835							
	8	HB29-10-0 B		837							
	9	HA29-10-0 C		839							Hold
	10	HA29-15-0		841							
	11	HB29-15-0 B		844							
	12	HB29-15-0 C		846							Hold
	13	B30-3'		922							
	14	B31-3'		925							
	15	B31-4'		926							
	16	B31-5-0		953							
	17	B31-5-1		954							
	18	B31-5-1.5		955							Hold
	19	HA31-10-0		932							
	20	HB31-10-0.5		934							

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐
4. SEALED Y ☐ N ☐
5. # OF SPLS MATCH COC Y ☐ N ☐
6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: Matthew Tidwell (Signature) Matthew Tidwell

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Matthew Tidwell Matthew Tidwell	4/16/15	1600	ONTRAC	4/16/15	1600
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva (Print Name) 4/16/15 (Date)
Signature

Send Report To: Attn: Co: Addr: City: State: Zip:

Bill To: Attn: Co: Addr: City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	150138-31	HA31-10-1	4/15/15	939	X	X				C	1	baggie		
	32	HA31-15-0		946										
	33	HA31-15-0B		948										
	34	HA31-15-0C		951										Hold.
	35	B32-3		1012										
	36	B32-4		1013										
	37	B33-3		1028										
	38	B33-4		1029										
	39	B34-3		1055										
	40	B34-4		1057										
	41	B34-5-0		1059										
	42	B34-5-1		1101										
	43	B34-5-1.5		1103										Hold
	44	HA34-10-0		1039										
	45	HA34-10-0B		1040										
	46	HA34-10-0C		1042										Hold
	47	HA34-15-0		1046										
	48	HA34-15-0B		1048										
	49	HA34-15-0C		1050										Hold
	50	B35-5-0		1125										

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

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Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐
4. SEALED Y ☐ N ☐
5. # OF SPLS MATCH COC Y ☐ N ☐
6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
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Sampler: Matthew Tidwell (Signature) Matthew Tidwell

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Matthew Tidwell / Matthew Tidwell	4/16/15	1600	ONTRAC	4/16/15	1600
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva (Print Name) 4/16/15 (Date) (Signature)

Send Report To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested: Total lead (6010B)

SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1501359-41	B35-5-0.5	4/15/15	1126	X	X				C	1	baggie		
	42	B35-5-1		1127										
	43	HA35-10-0		1113										
	44	HA35-10-0.5		1116										
	45	HA35-10-1		1117										
	46	HA35-15-0		1120										
	47	HA35-15-0.5		1122										
	48	HA35-15-1		1124										
	49	B36-3		1152										
	50	B37-3		1220										
	51	B37-4		1221										
	52	B37-5-0		1224										
	53	B37-5-1		1225										
	54	B37-5-1.5		1226										Hold.
	55	HA37-10-0		1203										
	56	HA37-10-1		1207										
	57	HA37-10-1.5		1209										Hold.
	58	HA37-15-0		1211										
	59	HA37-15-1		1213										
	60	HA37-15-1.5		1215										Hold

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Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

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3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc — Address: 3160 Gold Valley Drive, Suite 800 — Tel: 916-852-9118
Attention: Rebecca Silva — City: Rancho Cordova State: CA Zip Code: 95742 — Fax: 916-852-9132
Project Name: I-80 Truck Lane ADL — Project #: S9805-01-50 — Sampler: Matthew Tidwell (Signature) Matthew Tidwell

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Matthew Tidwell Matthew Tidwell	4/16/15	1600	ONTRAC	4/16/15	1600
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva (Print Name) 4/16/15 (Date)
(Signature)

Send Report To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Bill To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.
Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested — SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	150 1389 - 61	B38-3	4/15/15	1238	X	X				C	1	baggie		
	62	B38-4		1240										
	63	HA39-3		1323										
	64	HA39-4		1330										
	65	HA40-3		1336										
	66	HA40-4		1339										
	67	B41-3		1405										
	68	B41-4		1406										
	69	B41-5-0		1409										
	70	B41-5-1		1411										
	71	B41-5-2		1413										Hold
	72	HA41-10-0		1350										
	73	HA41-10-0.5		1352										
	74	HA41-10-1		1354										
	75	HA41-15-0		1357										
	76	HA41-15-0.5		1358										
	77	HA41-15-1		1400										
	78	B42-3		1441										
	79	B42-5-0		1444										
	80	B42-5-1		1445										

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt: 1. CHILLED Y ☐ N ☐ 2. HEADSPACE (VOA) Y ☐ N ☐ 3. CONTAINER INTACT Y ☐ N ☐ 4. SEALED Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Address: 3160 Gold Valley Drive, Suite 800
Tel: 916-852-9118
Attention: Rebecca Silva
City: Rancho Cordova State: CA Zip Code: 95742
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: Matthew Tidwell (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Matthew Tidwell	4/16/15	1600	ONTRAC	4/16/15	1600

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva (Print Name) 4/16/15 (Date) (Signature)

Send Report To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Bill To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
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- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested: Total lead (6010B)

SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1501369-AB	B45-5-0-	4/15/15	1603	X	X	C	1	baggie		
	AC	B45-5-1		1604							
	AD	B45-5-1.5		1605							Hold.
	AE	HA45-10-0		1549							
	AF	HA45-10-1		1546							
	AG	HA45-10-1.5		1548							Hold
	AH	HA45-15-0		1553							
	AI	HA45-15-1		1555							
	AJ	HA45-15-3.5		1602							Hold
	AK	HA45-15-4.5		1607							Hold
	AL	HA46-3		1627							
	AM	HA46-4		1630							
	AN	HA47-3		1648							
	AO	HA47-4		1650							
	AP	HA47-3		1705							
	AQ	HA49-5-0		1731							
	AR	HA49-5-1		1735							
	AS	HA49-5-2.5		1739							Hold
	AT	HA49-10-0		1734							
	AU	HA49-10-1		1738							

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Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

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CHAIN OF CUSTODY RECORD

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Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
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3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Address: 3160 Gold Valley Drive, Suite 800
Tel: 916-852-9118
Attention: Rebecca Silva
City: Rancho Cordova State: CA Zip Code: 95742
Fax: 916-852-9132
Project Name: I-80 Truck Lane ADL Project #: S9805-01-50 Sampler: Matthew Tidwell (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Matthew Tidwell / Matthew Tidwell	4/16/15	11:00	ONTRAC	4/16/15	1600
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/16/15
Print Name Date
Signature

Send Report To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Bill To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records Archival & Disposal
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Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1501384-81	B42-5-1.5	4/15/15	1446	X	X				C	1	baggie		Hold
	82	HA42-10-0		1424										
	83	HA42-10-0.5		1426										
	84	HA42-10-1		1429										
	85	HA42-15-0		1433										
	86	HA42-15-1		1436										
	87	HA42-15-1.5		1438										Hold
	88	B43-3		1459										
	89	B44-3		1528										
	90	B44-5-0		1529										
	91	B44-5-0.5		1530										
	92	B44-5-1		1531										
	93	HA-44-10-0		1510										
	94	HA-44-10-0.5		1515										
	95	HA-44-10-1		1518										
	96	HA-44-10-0		1523										
	97	HA-44-10-0.5		1525										
	98	HA-44-10-1		1527										
	99	B45-3'		1600										
	100	B45-4'		1601										

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FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon Consultants, Inc
Address: 3160 Gold Valley Drive, Suite 800
Tel: 916-852-9118
Attention: Rebecca Silva
City: Rancho Cordova State: CA Zip Code: 95742
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: Matthew Tidwell (Signature) Matthew Tidwell

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
Matthew Tidwell Matthew Tidwell	4/16/15	1100	ONTRAC	4/16/15	1100
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/16/15
(Print Name) Date
Signature

Send Report To:
Attn:
Co:
Addr:
City: State: Zip:

Bill To:
Attn:
Co:
Addr:
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
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SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1901349-AV	HA49-10-2.5	4/15/15	1740	X	X				C	1	baggie		Hold
	AW	HA49-15-0		1744										
	AX	HA49-15-1		1746										
	AY	HA49-15-2.5		1748										Hold
	AZ	HA50-3		1806										
	BA	HA50-4		1809										

KS 4/16/15

- TAT starts 8AM the following day if samples received after 3 PM

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Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

Carmen Aguila

From: Rebecca Silva [silva@geoconinc.com]
Sent: Friday, April 17, 2015 3:05 PM
To: Carmen Aguila
Cc: Julio Esquivel; Matthew Tidwell
Subject: RE: I-80 Truck Lane ADL, S9805-01-50
Attachments: 20150417151010126.pdf

Hi Carmen – Our revised COC is appended.

For the sample collected at 4/15/15 @ 1515, COC indicates HA44-10-0.5, sample is labeled HA44-15-0.5. For this one the COC is correct. Please change the name on the sample baggie to HA44-10-0.5.

Let me know if you need anything else.

Thanks,
Rebecca

From: Carmen Aguila [mailto:Carmen@atlglobal.com]
Sent: Friday, April 17, 2015 2:46 PM
To: Rebecca Silva
Cc: Diane Galvan; customer.relations@atlglobal.com
Subject: I-80 Truck Lane ADL, S9805-01-50

Hi Rebecca,

The following sample ID discrepancies were noted for the samples received today:

- Sample collected at 4/15/15 @ 1213, CoC indicates HA37-15-1, sample is labeled HA37-15-0.5
- Sample collected at 4/15/15 @ 1215, CoC indicates HA37-15-1.5, sample is labeled HA37-15-1
- Sample collected at 4/15/15 @ 1515, CoC indicates HA44-10-0.5, sample is labeled HA44-15-0.5
- Sample collected at 4/15/15 @ 1523, CoC indicates HA44-10-0, sample is labeled HA44-15-0
- Sample collected at 4/15/15 @ 1525, CoC indicates HA44-10-0.5, sample is labeled HA44-15-0.5
- Sample collected at 4/15/15 @ 1527, CoC indicates HA44-10-1, sample is labeled HA44-15-1

Please advise. Attached is the CoC received.

Thank you,

Carmen Aguila
Sample Control

Advanced Technology Laboratories
www.atlglobal.com
Tel: (562) 989-4045 ext. 245
Fax: (562) 989-4040

Advanced Technology Laboratories is a full-service environmental lab providing organic and inorganic analyses of soil, water, wastewater, storm water and hazardous waste samples. ATL is accredited by the State of California, NELAP and State of Oregon (Air) and holds various SBE, DBE and MBE certificates and a USDA soil permit. ATL takes pride in providing our customers with quick turnaround time, excellent customer service and defensible data while offering very competitive rates. *Advanced Technology Labs - Your Partner for Quality Environmental Testing*

This message is intended for the use of the individual or entity to which it is addressed. This may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message

to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and delete the original message. Thank you.

CHAIN OF CUSTODY RECORD

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Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y☐ N☐ 4. SEALED Y☐ N☐
2. HEADSPACE (VOA) Y☐ N☐ 5. # OF SPLS MATCH COC Y☐ N☐
3. CONTAINER INTACT Y☐ N☐ 6. PRESERVED Y☐ N☐

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Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL Project #: S9805-01-50 Sampler: Matthew Tidwell (Signature) Matthew Tidwell

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Matthew Tidwell Matthew Tidwell	4/16/15	1600	Ontrac	4/16/15	1600
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/16/15
Print Name Date
Signature

Send Report To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Special Instructions/Comments:
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Caltrans Contract 03A2132
48-hr TAT
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Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE CT ☐ ☑ SWRCB Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
		B35-5-0.5	4/15/15	1126	X	X				C	1	baggie		
		B35-5-1		1127										
		HA35-10-0		1113										
		HA35-10-0.5		1116										
		HA35-10-1		1117										
		HA35-15-0		1120										
		HA35-15-0.5		1122										
		HA35-15-1		1124										
		B36-3		1152										
		B37-3		1220										
		B37-4		1221										
		B37-5-0		1224										
		B37-5-1		1225										
		B37-5-1.5		~~1226~~										Hold.
		HA37-10-0		1203										
		HA37-10-1		1207										
		HA37-10-1.5		1209										Hold.
		HA37-15-0		1211										
		HA37-15-~~X~~ 0.5		1213										
		HA37-15-~~X~~ 1		1215										Hold

cancel the rest analyze this sample

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Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

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Sample Condition Upon Receipt:
1. CHILLED Y☐ N☐ 4. SEALED Y☐ N☐
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Client: Geocon Consultants, Inc — Address: 3160 Gold Valley Drive, Suite 800 — Tel: 916-852-9118
Attention: Rebecca Silva — City: Rancho Cordova — State: CA — Zip Code: 95742 — Fax: 916-852-9132
Project Name: I-80 Truck Lane ADL — Project #: S9805-01-50 — Sampler: Matthew Tedwell (Signature) Matthew Tedwell

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Matthew Tedwell / Matthew Tedwell	4/16/15	1100	Ontrac	4/16/15	1600

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva (Print Name) 4/16/15 (Date) (Signature)

Send Report To: Attn: ____ Co: ____ Addr: ____ City: ____ State: ____ Zip: ____

Bill To: Attn: ____ Co: ____ Addr: ____ City: ____ State: ____ Zip: ____

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Circle or Add Analysis(es) Requested: Total lead (6010B)

SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
		B42-5-1.5	4/15/15	1446	X	X	C	1	baggie		Hold
		HA42-10-0		1424							
		HA42-10-0.5		1426							
		HA42-10-1		1429							
		HA42-15-0		1433							
		HA42-15-1		1436							
		HA42-15-1.5		1438							Hold
		B43-3		1459							
		B44-3		1528							
		B44-5-0		1529							
		B44-5-0.5		1530							
		B44-5-1		1531							
		HA-44-10-0		1510							
	COC correct	HA-44-10-0.5		1515							
		HA-44-10-1		1518							
		HA-44-~~10-0~~ 15-0		1523							
		HA-44-~~10-0.5~~ 15-0.5		1525							
		HA-44-~~10-1~~ 15-1		1527							
		B45-3'		1600							
		B45-4'		1601							

☐ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

April 28, 2015

Rebecca Silva
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
Tel: (916) 852-9118
Fax:(916) 852-9132

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1501389
Client Reference : I-80 Truck Lane ADL, S9805-01-50

Enclosed are the results for sample(s) received on April 17, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/28/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA29-10-0B	1501389-08	Soil	4/15/15 8:37	4/17/15 8:50
B31-5-0	1501389-16	Soil	4/15/15 9:53	4/17/15 8:50
HA31-10-0	1501389-19	Soil	4/15/15 9:32	4/17/15 8:50
HA31-10-0.5	1501389-20	Soil	4/15/15 9:34	4/17/15 8:50
HA31-15-0	1501389-22	Soil	4/15/15 9:46	4/17/15 8:50
HA34-10-0	1501389-34	Soil	4/15/15 10:39	4/17/15 8:50
HA34-15-0	1501389-37	Soil	4/15/15 10:46	4/17/15 8:50
B35-5-0	1501389-40	Soil	4/15/15 11:25	4/17/15 8:50
HA35-10-0	1501389-43	Soil	4/15/15 11:13	4/17/15 8:50
HA35-15-0	1501389-46	Soil	4/15/15 11:20	4/17/15 8:50
HA35-15-0.5	1501389-47	Soil	4/15/15 11:22	4/17/15 8:50
HA37-15-0	1501389-58	Soil	4/15/15 12:11	4/17/15 8:50
HA37-15-0.5	1501389-59	Soil	4/15/15 12:13	4/17/15 8:50
HA40-4'	1501389-66	Soil	4/15/15 13:39	4/17/15 8:50
HA41-10-0.5	1501389-73	Soil	4/15/15 13:52	4/17/15 8:50
HA49-5-0	1501389-AQ	Soil	4/15/15 17:31	4/17/15 8:50
HA49-10-0	1501389-AT	Soil	4/15/15 17:34	4/17/15 8:50
HA49-15-0	1501389-AW	Soil	4/15/15 17:44	4/17/15 8:50

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/28/2015

TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501389-43	HA35-10-0	**0.55**	mg/L	0.050	1	B5D0686	04/23/2015	04/23/15 13:13	
1501389-AQ	HA49-5-0	**0.55**	mg/L	0.050	1	B5D0686	04/23/2015	04/23/15 13:14	
1501389-AT	HA49-10-0	**0.20**	mg/L	0.050	1	B5D0686	04/23/2015	04/23/15 12:49	

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501389-08	HA29-10-0B	**2.4**	mg/L	1.0	20	B5D0736	04/24/2015	04/24/15 18:12	
1501389-16	B31-5-0	**14**	mg/L	1.0	20	B5D0736	04/24/2015	04/24/15 18:16	
1501389-19	HA31-10-0	**4.5**	mg/L	1.0	20	B5D0736	04/24/2015	04/24/15 18:20	
1501389-20	HA31-10-0.5	**2.0**	mg/L	1.0	20	B5D0736	04/24/2015	04/24/15 18:32	
1501389-22	HA31-15-0	**5.2**	mg/L	1.0	20	B5D0736	04/24/2015	04/24/15 18:36	
1501389-34	HA34-10-0	**3.2**	mg/L	1.0	20	B5D0736	04/24/2015	04/24/15 18:40	
1501389-37	HA34-15-0	**7.1**	mg/L	1.0	20	B5D0736	04/24/2015	04/24/15 18:44	
1501389-40	B35-5-0	**1.9**	mg/L	1.0	20	B5D0736	04/24/2015	04/24/15 18:48	
1501389-43	HA35-10-0	**17**	mg/L	1.0	20	B5D0737	04/24/2015	04/24/15 19:19	
1501389-46	HA35-15-0	**11**	mg/L	1.0	20	B5D0737	04/24/2015	04/24/15 19:23	
1501389-47	HA35-15-0.5	**7.7**	mg/L	1.0	20	B5D0737	04/24/2015	04/24/15 19:28	
1501389-58	HA37-15-0	**4.2**	mg/L	1.0	20	B5D0737	04/24/2015	04/24/15 19:32	
1501389-59	HA37-15-0.5	**2.6**	mg/L	1.0	20	B5D0737	04/24/2015	04/27/15 09:29	
1501389-66	HA40-4'	**3.9**	mg/L	1.0	20	B5D0737	04/24/2015	04/27/15 09:34	
1501389-73	HA41-10-0.5	**7.7**	mg/L	1.0	20	B5D0737	04/24/2015	04/24/15 19:44	
1501389-AQ	HA49-5-0	**28**	mg/L	1.0	20	B5D0737	04/24/2015	04/24/15 19:48	
1501389-AT	HA49-10-0	**15**	mg/L	1.0	20	B5D0737	04/24/2015	04/24/15 19:59	
1501389-AW	HA49-15-0	**3.8**	mg/L	1.0	20	B5D0737	04/24/2015	04/24/15 20:03	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/28/2015

QUALITY CONTROL SECTION

TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0686 - EPA 3010A_S									
Blank (B5D0686-BLK1)					Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	ND	0.050			NR				
LCS (B5D0686-BS1)					Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	0.964837	0.050	1.00000		96.5	80 - 120			
Duplicate (B5D0686-DUP1)		**Source: 1501140-09**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	0.038398	0.050		0.042487	NR		10.1	20	
Duplicate (B5D0686-DUP2)		**Source: 1501389-AT**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	0.208811	0.050		0.195816	NR		6.42	20	
Matrix Spike (B5D0686-MS1)		**Source: 1501389-AT**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	2.39937	0.050	2.50000	0.195816	88.1	77 - 121			
Matrix Spike Dup (B5D0686-MSD1)		**Source: 1501389-AT**			Prepared: 4/23/2015 Analyzed: 4/23/2015				
Lead	2.51110	0.050	2.50000	0.195816	92.6	77 - 121	4.55	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/28/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0736 - STLC_S Extraction									
Blank (B5D0736-BLK1)					Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
Blank (B5D0736-BLK2)					Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
LCS (B5D0736-BS1)					Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	1.97866		2.00000		98.9	80 - 120			
Duplicate (B5D0736-DUP1)		**Source: 1501389-40**			Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	1.29693	1.0		1.94929	NR		40.2	20	R
Duplicate (B5D0736-DUP2)		**Source: 1501319-08**			Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	7.96538	1.0		5.22831	NR		41.5	20	R
Matrix Spike (B5D0736-MS1)		**Source: 1501389-40**			Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	4.04400		2.50000	1.94929	83.8	44 - 130			
Matrix Spike (B5D0736-MS2)		**Source: 1501319-08**			Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	7.40335		2.50000	5.22831	87.0	44 - 130			
Matrix Spike Dup (B5D0736-MSD1)		**Source: 1501389-40**			Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	4.09760		2.50000	1.94929	85.9	44 - 130	1.32	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/28/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0737 - STLC_S Extraction									
Blank (B5D0737-BLK1)					Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
LCS (B5D0737-BS1)					Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	1.96319		2.00000		98.2	80 - 120			
Duplicate (B5D0737-DUP1)		**Source: 1501389-AW**			Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	4.19546	1.0		3.76154	NR		10.9	20	
Matrix Spike (B5D0737-MS1)		**Source: 1501389-AW**			Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	6.16509		2.50000	3.76154	96.1	44 - 130			
Matrix Spike Dup (B5D0737-MSD1)		**Source: 1501389-AW**			Prepared: 4/24/2015 Analyzed: 4/24/2015				
Lead	6.56521		2.50000	3.76154	112	44 - 130	6.29	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/28/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

Diane Galvan

From: Rebecca Silva [silva@geoconinc.com]
Sent: Tuesday, April 21, 2015 12:59 PM
To: Diane Galvan
Cc: Gemma Reblando
Subject: RE: Results/EDD/Invoice - I-80 Truck Lane ADL (1501389)

Hi Diane – Please analyze the 18 samples with total lead >50 mg/kg for WET lead and the three samples with total lead >300 mg/kg for TCLP lead on 5-day TAT.

Thanks,
Rebecca

May 01, 2015

Rebecca Silva
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
Tel: (916) 852-9118
Fax:(916) 852-9132

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1501389

Client Reference : I-80 Truck Lane ADL, S9805-01-50

Enclosed are the results for sample(s) received on April 17, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

for

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B31-5-0	1501389-16	Soil	4/15/15 9:53	4/17/15 8:50
HA31-15-0	1501389-22	Soil	4/15/15 9:46	4/17/15 8:50
HA34-15-0	1501389-37	Soil	4/15/15 10:46	4/17/15 8:50
HA35-10-0	1501389-43	Soil	4/15/15 11:13	4/17/15 8:50
HA35-15-0	1501389-46	Soil	4/15/15 11:20	4/17/15 8:50
HA35-15-0.5	1501389-47	Soil	4/15/15 11:22	4/17/15 8:50
HA41-10-0.5	1501389-73	Soil	4/15/15 13:52	4/17/15 8:50
HA49-5-0	1501389-AQ	Soil	4/15/15 17:31	4/17/15 8:50
HA49-10-0	1501389-AT	Soil	4/15/15 17:34	4/17/15 8:50

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501389-16	B31-5-0	**2.1**	mg/L	1.0	20	B5E0004	05/01/2015	05/01/15 11:51	
1501389-22	HA31-15-0	**ND**	mg/L	1.0	20	B5E0004	05/01/2015	05/01/15 11:55	
1501389-37	HA34-15-0	**1.1**	mg/L	1.0	20	B5E0004	05/01/2015	05/01/15 11:59	
1501389-43	HA35-10-0	**5.8**	mg/L	1.0	20	B5E0004	05/01/2015	05/01/15 12:10	
1501389-46	HA35-15-0	**2.9**	mg/L	1.0	20	B5E0004	05/01/2015	05/01/15 12:14	
1501389-47	HA35-15-0.5	**2.1**	mg/L	1.0	20	B5E0004	05/01/2015	05/01/15 12:18	
1501389-73	HA41-10-0.5	**ND**	mg/L	1.0	20	B5E0004	05/01/2015	05/01/15 12:33	
1501389-AQ	HA49-5-0	**4.9**	mg/L	1.0	20	B5E0004	05/01/2015	05/01/15 12:36	
1501389-AT	HA49-10-0	**1.4**	mg/L	1.0	20	B5E0004	05/01/2015	05/01/15 12:40	

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501389-16	B31-5-0	**4.7**	pH Units	0.10	1	B5E0026	05/01/2015	05/01/15 11:55	
1501389-22	HA31-15-0	**4.8**	pH Units	0.10	1	B5E0026	05/01/2015	05/01/15 11:55	
1501389-37	HA34-15-0	**5.0**	pH Units	0.10	1	B5E0026	05/01/2015	05/01/15 11:55	
1501389-43	HA35-10-0	**5.6**	pH Units	0.10	1	B5E0026	05/01/2015	05/01/15 11:55	
1501389-46	HA35-15-0	**5.1**	pH Units	0.10	1	B5E0026	05/01/2015	05/01/15 11:55	
1501389-47	HA35-15-0.5	**4.9**	pH Units	0.10	1	B5E0026	05/01/2015	05/01/15 11:55	
1501389-73	HA41-10-0.5	**5.9**	pH Units	0.10	1	B5E0026	05/01/2015	05/01/15 11:55	
1501389-AQ	HA49-5-0	**5.9**	pH Units	0.10	1	B5E0026	05/01/2015	05/01/15 11:55	
1501389-AT	HA49-10-0	**5.5**	pH Units	0.10	1	B5E0026	05/01/2015	05/01/15 11:55	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

QUALITY CONTROL SECTION

STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5E0004 - STLC DI_S Extraction									
Blank (B5E0004-BLK1)					Prepared: 5/1/2015 Analyzed: 5/1/2015				
Lead	ND	1.0			NR				
Blank (B5E0004-BLK2)					Prepared: 5/1/2015 Analyzed: 5/1/2015				
Lead	ND	1.0			NR				
LCS (B5E0004-BS1)					Prepared: 5/1/2015 Analyzed: 5/1/2015				
Lead	2.00709		2.00000		100	80 - 120			
Duplicate (B5E0004-DUP1)		**Source: 1501389-47**			Prepared: 5/1/2015 Analyzed: 5/1/2015				
Lead	2.46724	1.0		2.07413	NR		17.3	20	
Duplicate (B5E0004-DUP2)		**Source: 1501389-AT**			Prepared: 5/1/2015 Analyzed: 5/1/2015				
Lead	1.60929	1.0		1.43106	NR		11.7	20	
Matrix Spike (B5E0004-MS1)		**Source: 1501389-47**			Prepared: 5/1/2015 Analyzed: 5/1/2015				
Lead	4.48356		2.50000	2.07413	96.4	70 - 130			
Matrix Spike (B5E0004-MS2)		**Source: 1501389-AT**			Prepared: 5/1/2015 Analyzed: 5/1/2015				
Lead	3.93323		2.50000	1.43106	100	70 - 130			
Matrix Spike Dup (B5E0004-MSD1)		**Source: 1501389-47**			Prepared: 5/1/2015 Analyzed: 5/1/2015				
Lead	4.54767		2.50000	2.07413	98.9	70 - 130	1.42	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5E0026 - Prep_WC1_S									
Duplicate (B5E0026-DUP1)		**Source: 1501389-16**			Prepared: 5/1/2015 Analyzed: 5/1/2015				
pH	4.81000	0.10		4.67000	NR		2.95	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	05/01/2015

Notes and Definitions

ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

Diane Galvan

From: Rebecca Silva [silva@geoconinc.com]
Sent: Tuesday, April 28, 2015 2:51 PM
To: Diane Galvan
Cc: Gemma Reblando
Subject: RE: Additional Results/EDD/Invoice - I-80 Truck Lane ADL (1501389)

Hi Diane – Please assign **DI-WET lead and pH** on **72-hr TAT** for the 9 samples with WET lead concentrations greater than 5 mg/l.

Thanks,
Rebecca

ADVANCED TECHNOLOGY LABORATORIES

27 April 2015

Rebecca Silva
Geocon Consultants, Inc. - Rancho Cordova
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
Tel: (916) 852-9118
Fax:(916) 852-9132

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

RE: ATL Work Order Number : 1501454
Client Reference : I-80 Truck Lane ADL, S9805-01-50

Enclosed are the results for sample(s) received on April, 23 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/27/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B51-3'	1501454-01	Soil	4/21/15 8:07	4/23/15 8:37
B51-4'	1501454-02	Soil	4/21/15 8:08	4/23/15 8:37
HA51-15'-0'	1501454-03	Soil	4/21/15 7:56	4/23/15 8:37
HA51-15'-1'	1501454-04	Soil	4/21/15 8:00	4/23/15 8:37
HA51-10'-0'	1501454-06	Soil	4/21/15 7:51	4/23/15 8:37
HA51-10'-1'	1501454-07	Soil	4/21/15 7:53	4/23/15 8:37
B51-5'-0'	1501454-09	Soil	4/21/15 8:10	4/23/15 8:37
B51-5'-1'	1501454-10	Soil	4/21/15 8:11	4/23/15 8:37
B52-3'	1501454-12	Soil	4/21/15 8:29	4/23/15 8:37
B52-4'	1501454-13	Soil	4/21/15 8:30	4/23/15 8:37
B52-5'-0'	1501454-14	Soil	4/21/15 8:31	4/23/15 8:37
B52-5'-1'	1501454-15	Soil	4/21/15 8:32	4/23/15 8:37
HA52-10'-0'	1501454-17	Soil	4/21/15 8:19	4/23/15 8:37
HA52-10'-0.5'	1501454-18	Soil	4/21/15 8:22	4/23/15 8:37
HA52-10'-1'	1501454-19	Soil	4/21/15 8:23	4/23/15 8:37
HA52-15'-0'	1501454-20	Soil	4/21/15 8:25	4/23/15 8:37
HA52-15'-1'	1501454-21	Soil	4/21/15 8:26	4/23/15 8:37
B53-3'	1501454-23	Soil	4/21/15 8:45	4/23/15 8:37
B53-4'	1501454-24	Soil	4/21/15 8:46	4/23/15 8:37
B54-3'-	1501454-25	Soil	4/21/15 9:03	4/23/15 8:37
B54-4'-	1501454-26	Soil	4/21/15 9:04	4/23/15 8:37
B54-5'-0'	1501454-27	Soil	4/21/15 9:05	4/23/15 8:37
B54-5'-1'	1501454-28	Soil	4/21/15 9:06	4/23/15 8:37
HA54-10'-0'	1501454-30	Soil	4/21/15 8:52	4/23/15 8:37
HA54-10'-1'	1501454-31	Soil	4/21/15 8:53	4/23/15 8:37
HA54-15'-0'	1501454-33	Soil	4/21/15 8:58	4/23/15 8:37
HA54-15'-1'	1501454-34	Soil	4/21/15 8:59	4/23/15 8:37
B55-3'	1501454-36	Soil	4/21/15 9:28	4/23/15 8:37
B55-4'	1501454-37	Soil	4/21/15 9:29	4/23/15 8:37
HA55-15'-0'	1501454-38	Soil	4/21/15 9:24	4/23/15 8:37
HA55-15'-0.5'	1501454-39	Soil	4/21/15 9:25	4/23/15 8:37
HA55-15'-1'	1501454-40	Soil	4/21/15 9:27	4/23/15 8:37
HA55-10'-0'	1501454-41	Soil	4/21/15 9:16	4/23/15 8:37
HA55-10'-0.5'	1501454-42	Soil	4/21/15 9:18	4/23/15 8:37

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B55-5'-0'	1501454-44	Soil	4/21/15 9:34	4/23/15 8:37
B55-5'-1'	1501454-45	Soil	4/21/15 9:35	4/23/15 8:37
B56-3'	1501454-47	Soil	4/21/15 9:46	4/23/15 8:37
B56-4'	1501454-48	Soil	4/21/15 9:47	4/23/15 8:37
B57-3'	1501454-49	Soil	4/21/15 10:04	4/23/15 8:37
B57-4'	1501454-50	Soil	4/21/15 10:05	4/23/15 8:37
B57-5'-0'	1501454-51	Soil	4/21/15 10:06	4/23/15 8:37
B57-5'-1'	1501454-52	Soil	4/21/15 10:07	4/23/15 8:37
HA57-10'-0'	1501454-54	Soil	4/21/15 9:53	4/23/15 8:37
HA57-10'-1'	1501454-55	Soil	4/21/15 9:55	4/23/15 8:37
HA57-15'-0'	1501454-57	Soil	4/21/15 9:59	4/23/15 8:37
HA57-15'-0.5'	1501454-58	Soil	4/21/15 10:00	4/23/15 8:37
B58-3'	1501454-60	Soil	4/21/15 10:28	4/23/15 8:37
HA58-10'-0'	1501454-61	Soil	4/21/15 10:18	4/23/15 8:37
HA58-10'-0.5'	1501454-62	Soil	4/21/15 10:20	4/23/15 8:37
HA58-10'-1'	1501454-63	Soil	4/21/15 10:21	4/23/15 8:37
HA58-15'-0'	1501454-64	Soil	4/21/15 10:23	4/23/15 8:37
HA58-15'-0.5'	1501454-65	Soil	4/21/15 10:25	4/23/15 8:37
HA58-15'-1'	1501454-66	Soil	4/21/15 10:26	4/23/15 8:37
B58-5'-0'	1501454-67	Soil	4/21/15 10:33	4/23/15 8:37
B58-5'-1'	1501454-68	Soil	4/21/15 10:34	4/23/15 8:37
B56-5'-0'	1501454-70	Soil	4/21/15 10:53	4/23/15 8:37
B56-5'-1'	1501454-71	Soil	4/21/15 10:54	4/23/15 8:37
HA56-10'-0'	1501454-73	Soil	4/21/15 10:45	4/23/15 8:37
HA56-10'-0.5'	1501454-74	Soil	4/21/15 10:46	4/23/15 8:37
HA56-10'-1'	1501454-75	Soil	4/21/15 10:47	4/23/15 8:37
HA56-15'-0'	1501454-76	Soil	4/21/15 10:49	4/23/15 8:37
HA56-15'-0.5'	1501454-77	Soil	4/21/15 10:50	4/23/15 8:37
B59-3'	1501454-79	Soil	4/21/15 11:15	4/23/15 8:37
B59-4'	1501454-80	Soil	4/21/15 11:16	4/23/15 8:37
B59-5'-0'	1501454-81	Soil	4/21/15 11:17	4/23/15 8:37
B59-5'-1'	1501454-82	Soil	4/21/15 11:18	4/23/15 8:37
HA59-10'-0'	1501454-84	Soil	4/21/15 11:03	4/23/15 8:37
HA59-10'-1'	1501454-85	Soil	4/21/15 11:05	4/23/15 8:37
HA59-15'-0'	1501454-87	Soil	4/21/15 11:09	4/23/15 8:37
HA59-15'-1'	1501454-88	Soil	4/21/15 11:11	4/23/15 8:37
B60-3'	1501454-90	Soil	4/21/15 11:35	4/23/15 8:37
B60-4'	1501454-91	Soil	4/21/15 11:36	4/23/15 8:37
HA61-3'	1501454-92	Soil	4/21/15 11:52	4/23/15 8:37

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HA61-4'	1501454-93	Soil	4/21/15 11:58	4/23/15 8:37
B62-3'	1501454-94	Soil	4/21/15 12:01	4/23/15 8:37
B62-4	1501454-95	Soil	4/21/15 12:02	4/23/15 8:37
HA62-5-0	1501454-96	Soil	4/21/15 12:07	4/23/15 8:37
HA62-5-0.5	1501454-97	Soil	4/21/15 12:11	4/23/15 8:37
HA62-5-1	1501454-98	Soil	4/21/15 12:12	4/23/15 8:37
HA62-10-0	1501454-99	Soil	4/21/15 12:14	4/23/15 8:37
HA62-10-1	1501454-AA	Soil	4/21/15 12:16	4/23/15 8:37
HA62-15-0	1501454-AC	Soil	4/21/15 12:24	4/23/15 8:37
HA62-15-0.5	1501454-AD	Soil	4/21/15 12:26	4/23/15 8:37
HA62-15-1	1501454-AE	Soil	4/21/15 12:27	4/23/15 8:37
B63-3'	1501454-AF	Soil	4/21/15 12:30	4/23/15 8:37
HA63-10'-0'	1501454-AG	Soil	4/21/15 12:38	4/23/15 8:37
HA63-10'-1'	1501454-AH	Soil	4/21/15 12:40	4/23/15 8:37
HA63-15'-0'	1501454-AJ	Soil	4/21/15 12:44	4/23/15 8:37
HA63-15'-1'	1501454-AK	Soil	4/21/15 12:46	4/23/15 8:37
B63-5'-0'	1501454-AM	Soil	4/21/15 13:01	4/23/15 8:37
B63-5'-1'	1501454-AN	Soil	4/21/15 13:02	4/23/15 8:37
B64-3'	1501454-AP	Soil	4/21/15 13:23	4/23/15 8:37
B64-5'-0'	1501454-AQ	Soil	4/21/15 13:24	4/23/15 8:37
B64-5'-1'	1501454-AR	Soil	4/21/15 13:25	4/23/15 8:37
HA64-10'-0'	1501454-AT	Soil	4/21/15 13:11	4/23/15 8:37
HA64-10'-0.5'	1501454-AU	Soil	4/21/15 13:14	4/23/15 8:37
HA64-10'-1'	1501454-AV	Soil	4/21/15 13:16	4/23/15 8:37
HA64-15'-0'	1501454-AW	Soil	4/21/15 13:18	4/23/15 8:37
HA64-15'-0.5'	1501454-AX	Soil	4/21/15 13:19	4/23/15 8:37
HA64-15'-1'	1501454-AY	Soil	4/21/15 13:21	4/23/15 8:37
B65-3	1501454-AZ	Soil	4/21/15 13:24	4/23/15 8:37
HA65-10'-0'	1501454-BA	Soil	4/21/15 13:34	4/23/15 8:37
HA65-10'-1'	1501454-BB	Soil	4/21/15 13:35	4/23/15 8:37
HA65-15'-0'	1501454-BD	Soil	4/21/15 13:39	4/23/15 8:37
HA65-15'-1'	1501454-BE	Soil	4/21/15 13:41	4/23/15 8:37
B65-5'-0'	1501454-BG	Soil	4/21/15 13:47	4/23/15 8:37
B65-5'-1'	1501454-BH	Soil	4/21/15 13:48	4/23/15 8:37
B66-3'	1501454-BJ	Soil	4/21/15 14:06	4/23/15 8:37
B66-4'	1501454-BK	Soil	4/21/15 14:07	4/23/15 8:37
B66-5'-0'	1501454-BL	Soil	4/21/15 14:17	4/23/15 8:37
B66-5'-1'	1501454-BM	Soil	4/21/15 14:18	4/23/15 8:37
HA66-10'-0'	1501454-BO	Soil	4/21/15 13:57	4/23/15 8:37

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HA66-10'-0.5'	1501454-BP	Soil	4/21/15 13:58	4/23/15 8:37
HA66-10'-1'	1501454-BQ	Soil	4/21/15 13:59	4/23/15 8:37
HA66-15'-0'	1501454-BR	Soil	4/21/15 14:01	4/23/15 8:37
HA66-15'-0.5'	1501454-BS	Soil	4/21/15 14:02	4/23/15 8:37
HA66-15'-1'	1501454-BT	Soil	4/21/15 14:03	4/23/15 8:37
B67-3	1501454-BU	Soil	4/21/15 14:39	4/23/15 8:37
B67-4	1501454-BV	Soil	4/21/15 14:40	4/23/15 8:37
B67-5-0	1501454-BW	Soil	4/21/15 14:41	4/23/15 8:37
B67-5-1	1501454-BX	Soil	4/21/15 14:42	4/23/15 8:37
HA67-10-0	1501454-BZ	Soil	4/21/15 14:25	4/23/15 8:37
HA67-10-0.5	1501454-CA	Soil	4/21/15 14:27	4/23/15 8:37
HA67-10-1	1501454-CB	Soil	4/21/15 14:28	4/23/15 8:37
HA67-15-0	1501454-CC	Soil	4/21/15 14:31	4/23/15 8:37
HA67-15-0.5	1501454-CD	Soil	4/21/15 14:32	4/23/15 8:37
HA67-15-1	1501454-CE	Soil	4/21/15 14:33	4/23/15 8:37
B68-3'	1501454-CF	Soil	4/21/15 15:11	4/23/15 8:37
B68-5'-0'	1501454-CG	Soil	4/21/15 15:12	4/23/15 8:37
B68-5'-1'	1501454-CH	Soil	4/21/15 15:13	4/23/15 8:37
HA68-10'-0'	1501454-CJ	Soil	4/21/15 14:58	4/23/15 8:37
HA68-10'-0.5'	1501454-CK	Soil	4/21/15 14:59	4/23/15 8:37
HA68-10'-1'	1501454-CL	Soil	4/21/15 15:01	4/23/15 8:37
HA68-15'-0'	1501454-CM	Soil	4/21/15 15:05	4/23/15 8:37
HA68-15'-0.5'	1501454-CN	Soil	4/21/15 15:07	4/23/15 8:37
HA38-5-0	1501454-CP	Soil	4/21/15 16:30	4/23/15 8:37
HA38-5-1	1501454-CQ	Soil	4/21/15 16:34	4/23/15 8:37
HA38-10-0	1501454-CS	Soil	4/21/15 16:28	4/23/15 8:37
HA38-10-1	1501454-CT	Soil	4/21/15 16:31	4/23/15 8:37
HA38-15-0	1501454-CV	Soil	4/21/15 16:35	4/23/15 8:37
HA38-15-0.5	1501454-CW	Soil	4/21/15 16:37	4/23/15 8:37
HA69-5-0	1501454-CY	Soil	4/21/15 17:24	4/23/15 8:37
HA69-5-0.5	1501454-CZ	Soil	4/21/15 17:28	4/23/15 8:37
HA69-5-1	1501454-DA	Soil	4/21/15 17:30	4/23/15 8:37
HA69-10-0	1501454-DB	Soil	4/21/15 17:21	4/23/15 8:37
HA69-10-1	1501454-DC	Soil	4/21/15 17:23	4/23/15 8:37
HA69-15-0'	1501454-DE	Soil	4/21/15 17:29	4/23/15 8:37
HA69-15-0'B	1501454-DF	Soil	4/21/15 17:31	4/23/15 8:37
HA70-5-0	1501454-DH	Soil	4/21/15 17:46	4/23/15 8:37
HA70-5-1	1501454-DI	Soil	4/21/15 17:48	4/23/15 8:37
HA70-10-0	1501454-DK	Soil	4/21/15 17:43	4/23/15 8:37

Certificate of Analysis

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HA70-10-1	1501454-DL	Soil	4/21/15 17:45	4/23/15 8:37
HA70-15-0'	1501454-DN	Soil	4/21/15 17:51	4/23/15 8:37
HA70-15-1'	1501454-DO	Soil	4/21/15 17:53	4/23/15 8:37
HA71-15'-0'	1501454-DS	Soil	4/21/15 18:40	4/23/15 8:37
HA72-15'-0'	1501454-DV	Soil	4/21/15 18:39	4/23/15 8:37
HA73-15'-0'	1501454-DY	Soil	4/21/15 18:45	4/23/15 8:37
HA74-15'-0'	1501454-EB	Soil	4/21/15 18:52	4/23/15 8:37
HA75-15'-0'	1501454-EE	Soil	4/21/15 18:24	4/23/15 8:37

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Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-01	B51-3'	**5.9**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 11:56	
1501454-02	B51-4'	**8.0**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 11:57	
1501454-03	HA51-15'-0'	**170**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 11:58	
1501454-04	HA51-15'-1'	**46**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 11:59	
1501454-06	HA51-10'-0'	**150**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:00	
1501454-07	HA51-10'-1'	**27**	mg/kg	0.99	1	B5D0701	04/23/2015	04/24/15 12:00	
1501454-09	B51-5'-0'	**11**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:01	
1501454-10	B51-5'-1'	**4.0**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:14	
1501454-12	B52-3'	**8.6**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:14	
1501454-13	B52-4'	**6.1**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:15	
1501454-14	B52-5'-0'	**10**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:17	
1501454-15	B52-5'-1'	**6.9**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:18	
1501454-17	HA52-10'-0'	**360**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:19	
1501454-18	HA52-10'-0.5'	**73**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:20	
1501454-19	HA52-10'-1'	**31**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:20	
1501454-20	HA52-15'-0'	**35**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:24	
1501454-21	HA52-15'-1'	**14**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:24	
1501454-23	B53-3'	**6.1**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:25	
1501454-24	B53-4'	**8.3**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:26	
1501454-25	B54-3'-	**4.9**	mg/kg	1.0	1	B5D0701	04/23/2015	04/24/15 12:27	
1501454-26	B54-4'-	**25**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:35	
1501454-27	B54-5'-0'	**15**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:36	
1501454-28	B54-5'-1'	**1.7**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 13:06	
1501454-30	HA54-10'-0'	**29**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:38	
1501454-31	HA54-10'-1'	**5.3**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:38	
1501454-33	HA54-15'-0'	**93**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:39	
1501454-34	HA54-15'-1'	**16**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:40	
1501454-36	B55-3'	**17**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:41	
1501454-37	B55-4'	**19**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:41	
1501454-38	HA55-15'-0'	**75**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:44	

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Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-39	HA55-15'-0.5'	**53**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:46	
1501454-40	HA55-15'-1'	**47**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:47	
1501454-41	HA55-10'-0'	**110**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:48	
1501454-42	HA55-10'-0.5'	**47**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:49	
1501454-44	B55-5'-0'	**6.9**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:49	
1501454-45	B55-5'-1'	**8.7**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:50	
1501454-47	B56-3'	**8.5**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 12:51	
1501454-48	B56-4'	**4.8**	mg/kg	0.99	1	B5D0702	04/23/2015	04/24/15 13:01	
1501454-49	B57-3'	**3.2**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 13:02	
1501454-50	B57-4'	**3.3**	mg/kg	1.0	1	B5D0702	04/23/2015	04/24/15 13:03	
1501454-51	B57-5'-0'	**8.1**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:21	
1501454-52	B57-5'-1'	**1.9**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:47	
1501454-54	HA57-10'-0'	**17**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:22	
1501454-55	HA57-10'-1'	**20**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:23	
1501454-57	HA57-15'-0'	**30**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:24	
1501454-58	HA57-15'-0.5'	**32**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:24	
1501454-60	B58-3'	**5.1**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:25	
1501454-61	HA58-10'-0'	**61**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:26	
1501454-62	HA58-10'-0.5'	**44**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:27	
1501454-63	HA58-10'-1'	**34**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:27	
1501454-64	HA58-15'-0'	**34**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:34	
1501454-65	HA58-15'-0.5'	**23**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:34	
1501454-66	HA58-15'-1'	**28**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:35	
1501454-67	B58-5'-0'	**57**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:36	
1501454-68	B58-5'-1'	**11**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:37	
1501454-70	B56-5'-0'	**37**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:37	
1501454-71	B56-5'-1'	**4.8**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:39	
1501454-73	HA56-10'-0'	**41**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:39	
1501454-74	HA56-10'-0.5'	**31**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:43	
1501454-75	HA56-10'-1'	**24**	mg/kg	1.0	1	B5D0703	04/23/2015	04/24/15 13:44	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/27/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-76	HA56-15'-0'	**22**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 13:51	
1501454-77	HA56-15'-0.5'	**16**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 13:54	
1501454-79	B59-3'	**6.8**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 13:55	
1501454-80	B59-4'	**11**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 13:55	
1501454-81	B59-5'-0'	**12**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 13:56	
1501454-82	B59-5'-1'	**12**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 13:57	
1501454-84	HA59-10'-0'	**16**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 13:58	
1501454-85	HA59-10'-1'	**11**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 13:58	
1501454-87	HA59-15'-0'	**16**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 13:59	
1501454-88	HA59-15'-1'	**12**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 14:00	
1501454-90	B60-3'	**6.2**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 14:05	
1501454-91	B60-4'	**4.9**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 14:05	
1501454-92	HA61-3'	**6.3**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 14:06	
1501454-93	HA61-4'	**5.3**	mg/kg	0.99	1	B5D0704	04/23/2015	04/24/15 14:07	
1501454-94	B62-3'	**10**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 14:08	
1501454-95	B62-4	**7.3**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 14:08	
1501454-96	HA62-5-0	**97**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 14:09	
1501454-97	HA62-5-0.5	**38**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 14:10	
1501454-98	HA62-5-1	**48**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 14:11	
1501454-99	HA62-10-0	**74**	mg/kg	1.0	1	B5D0704	04/23/2015	04/24/15 14:14	
1501454-AA	HA62-10-1	**21**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:20	
1501454-AC	HA62-15-0	**52**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:21	
1501454-AD	HA62-15-0.5	**19**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:22	
1501454-AE	HA62-15-1	**18**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:36	
1501454-AF	B63-3'	**6.4**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:37	
1501454-AG	HA63-10'-0'	**44**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:37	
1501454-AH	HA63-10'-1'	**17**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:38	
1501454-AJ	HA63-15'-0'	**31**	mg/kg	0.99	1	B5D0705	04/23/2015	04/24/15 14:39	
1501454-AK	HA63-15'-1'	**14**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:40	
1501454-AM	B63-5'-0'	**14**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:40	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/27/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-AN	B63-5'-1'	**11**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:43	
1501454-AP	B64-3'	**6.4**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:45	
1501454-AQ	B64-5'-0'	**12**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:46	
1501454-AR	B64-5'-1'	**8.2**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:47	
1501454-AT	HA64-10'-0'	**18**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:48	
1501454-AU	HA64-10'-0.5'	**13**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:48	
1501454-AV	HA64-10'-1'	**13**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:49	
1501454-AW	HA64-15'-0'	**46**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:50	
1501454-AX	HA64-15'-0.5'	**20**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:51	
1501454-AY	HA64-15'-1'	**23**	mg/kg	1.0	1	B5D0705	04/23/2015	04/24/15 14:51	
1501454-AZ	B65-3	**6.8**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:00	
1501454-BA	HA65-10'-0'	**37**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:01	
1501454-BB	HA65-10'-1'	**23**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:02	
1501454-BD	HA65-15'-0'	**47**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:02	
1501454-BE	HA65-15'-1'	**22**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:03	
1501454-BG	B65-5'-0'	**17**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:06	
1501454-BH	B65-5'-1'	**7.8**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:07	
1501454-BJ	B66-3'	**8.1**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:08	
1501454-BK	B66-4'	**7.3**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:09	
1501454-BL	B66-5'-0'	**13**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:09	
1501454-BM	B66-5'-1'	**9.7**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:12	
1501454-BO	HA66-10'-0'	**120**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:12	
1501454-BP	HA66-10'-0.5'	**64**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:13	
1501454-BQ	HA66-10'-1'	**31**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:17	
1501454-BR	HA66-15'-0'	**65**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:17	
1501454-BS	HA66-15'-0.5'	**52**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:18	
1501454-BT	HA66-15'-1'	**27**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:19	
1501454-BU	B67-3	**5.3**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:20	
1501454-BV	B67-4	**3.6**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:20	
1501454-BW	B67-5-0	**72**	mg/kg	1.0	1	B5D0706	04/23/2015	04/24/15 15:21	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/27/2015

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-BX	B67-5-1	**4.3**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:30	
1501454-BZ	HA67-10-0	**53**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:31	
1501454-CA	HA67-10-0.5	**44**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:32	
1501454-CB	HA67-10-1	**35**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:33	
1501454-CC	HA67-15-0	**61**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:33	
1501454-CD	HA67-15-0.5	**44**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:34	
1501454-CE	HA67-15-1	**20**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:35	
1501454-CF	B68-3'	**4.2**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:39	
1501454-CG	B68-5'-0'	**41**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:39	
1501454-CH	B68-5'-1'	**17**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:40	
1501454-CJ	HA68-10'-0'	**30**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:42	
1501454-CK	HA68-10'-0.5'	**23**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:43	
1501454-CL	HA68-10'-1'	**15**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:44	
1501454-CM	HA68-15'-0'	**12**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:45	
1501454-CN	HA68-15'-0.5'	**19**	mg/kg	0.99	1	B5D0707	04/23/2015	04/24/15 15:46	
1501454-CP	HA38-5-0	**25**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:49	
1501454-CQ	HA38-5-1	**4.9**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:50	
1501454-CS	HA38-10-0	**15**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:51	
1501454-CT	HA38-10-1	**4.0**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 16:24	
1501454-CV	HA38-15-0	**4.0**	mg/kg	1.0	1	B5D0707	04/23/2015	04/24/15 15:52	
1501454-CW	HA38-15-0.5	**3.1**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:01	
1501454-CY	HA69-5-0	**22**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:02	
1501454-CZ	HA69-5-0.5	**18**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:03	
1501454-DA	HA69-5-1	**12**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:03	
1501454-DB	HA69-10-0	**43**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:04	
1501454-DC	HA69-10-1	**100**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:05	
1501454-DE	HA69-15-0'	**73**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:06	
1501454-DF	HA69-15-0'B	**160**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:06	
1501454-DH	HA70-5-0	**180**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:07	
1501454-DI	HA70-5-1	**10**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:10	

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
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Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-DK	HA70-10-0	**300**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:13	
1501454-DL	HA70-10-1	**120**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:13	
1501454-DN	HA70-15-0'	**160**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:14	
1501454-DO	HA70-15-1'	**150**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:15	
1501454-DS	HA71-15'-0'	**92**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:16	
1501454-DV	HA72-15'-0'	**180**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:16	
1501454-DY	HA73-15'-0'	**190**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:17	
1501454-EB	HA74-15'-0'	**67**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:21	
1501454-EE	HA75-15'-0'	**73**	mg/kg	1.0	1	B5D0708	04/23/2015	04/24/15 16:21	

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QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0701 - EPA 3050 Modified_S									
Blank (B5D0701-BLK1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
Blank (B5D0701-BLK2)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
LCS (B5D0701-BS1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	49.5502	1.0	50.0000		99.1	80 - 120			
Duplicate (B5D0701-DUP1)		**Source: 1501454-25**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	31.0453	1.0		4.94821	NR		145	20	R
Duplicate (B5D0701-DUP2)		**Source: 1501454-13**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	6.29244	1.0		6.10369	NR		3.05	20	
Matrix Spike (B5D0701-MS1)		**Source: 1501454-25**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	224.962	1.0	250.000	4.94821	88.0	35 - 129			
Matrix Spike (B5D0701-MS2)		**Source: 1501454-13**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	216.036	0.99	247.525	6.10369	84.8	35 - 129			
Matrix Spike Dup (B5D0701-MSD1)		**Source: 1501454-25**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	223.979	1.0	250.000	4.94821	87.6	35 - 129	0.438	20	
Batch B5D0702 - EPA 3050 Modified_S									
Blank (B5D0702-BLK1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
Blank (B5D0702-BLK2)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
LCS (B5D0702-BS1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	50.6444	1.0	50.0000		101	80 - 120			
Duplicate (B5D0702-DUP1)		**Source: 1501454-50**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	3.55111	1.0		3.31516	NR		6.87	20	
Duplicate (B5D0702-DUP2)		**Source: 1501454-38**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	61.1539	1.0		75.2118	NR		20.6	20	R
Matrix Spike (B5D0702-MS1)		**Source: 1501454-50**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	209.535	1.0	250.000	3.31516	82.5	35 - 129			
Matrix Spike (B5D0702-MS2)		**Source: 1501454-38**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	254.602	1.0	250.000	75.2118	71.8	35 - 129			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800	Report To : Rebecca Silva
Rancho Cordova , CA 95742	Reported : 04/27/2015

Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0702 - EPA 3050 Modified_S (continued)									
Matrix Spike Dup (B5D0702-MSD1)		**Source: 1501454-50**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	191.565	1.0	250.000	3.31516	75.3	35 - 129	8.96	20	
Batch B5D0703 - EPA 3050 Modified_S									
Blank (B5D0703-BLK1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
Blank (B5D0703-BLK2)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
LCS (B5D0703-BS1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	50.3385	1.0	50.0000		101	80 - 120			
Duplicate (B5D0703-DUP1)		**Source: 1501454-75**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	31.7293	1.0		24.1518	NR		27.1	20	R
Duplicate (B5D0703-DUP2)		**Source: 1501454-63**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	26.5228	1.0		33.5197	NR		23.3	20	R
Matrix Spike (B5D0703-MS1)		**Source: 1501454-75**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	229.410	1.0	250.000	24.1518	82.1	35 - 129			
Matrix Spike (B5D0703-MS2)		**Source: 1501454-63**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	245.877	1.0	250.000	33.5197	84.9	35 - 129			
Matrix Spike Dup (B5D0703-MSD1)		**Source: 1501454-75**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	233.894	1.0	250.000	24.1518	83.9	35 - 129	1.94	20	
Batch B5D0704 - EPA 3050 Modified_S									
Blank (B5D0704-BLK1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
Blank (B5D0704-BLK2)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
LCS (B5D0704-BS1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	49.6146	1.0	50.0000		99.2	80 - 120			
Duplicate (B5D0704-DUP1)		**Source: 1501454-99**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	64.3457	1.0		73.7350	NR		13.6	20	
Duplicate (B5D0704-DUP2)		**Source: 1501454-88**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	12.9539	1.0		12.3154	NR		5.05	20	
Matrix Spike (B5D0704-MS1)		**Source: 1501454-99**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	295.986	1.0	250.000	73.7350	88.9	35 - 129			
Matrix Spike (B5D0704-MS2)		**Source: 1501454-88**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	216.276	1.0	250.000	12.3154	81.6	35 - 129			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800	Report To : Rebecca Silva
Rancho Cordova , CA 95742	Reported : 04/27/2015

Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0704 - EPA 3050 Modified_S (continued)									
Matrix Spike Dup (B5D0704-MSD1)		**Source: 1501454-99**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	289.909	1.0	250.000	73.7350	86.5	35 - 129	2.07	20	
Batch B5D0705 - EPA 3050 Modified_S									
Blank (B5D0705-BLK1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
Blank (B5D0705-BLK2)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
LCS (B5D0705-BS1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	49.9856	1.0	50.0000		100	80 - 120			
Duplicate (B5D0705-DUP1)		**Source: 1501454-AY**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	16.7983	1.0		22.5353	NR		29.2	20	R
Duplicate (B5D0705-DUP2)		**Source: 1501454-AM**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	12.7027	1.0		13.6492	NR		7.18	20	
Matrix Spike (B5D0705-MS1)		**Source: 1501454-AY**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	236.300	1.0	250.000	22.5353	85.5	35 - 129			
Matrix Spike (B5D0705-MS2)		**Source: 1501454-AM**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	238.110	1.0	250.000	13.6492	89.8	35 - 129			
Matrix Spike Dup (B5D0705-MSD1)		**Source: 1501454-AY**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	240.519	1.0	250.000	22.5353	87.2	35 - 129	1.77	20	
Batch B5D0706 - EPA 3050 Modified_S									
Blank (B5D0706-BLK1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
Blank (B5D0706-BLK2)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
LCS (B5D0706-BS1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	49.4031	1.0	50.0000		98.8	80 - 120			
Duplicate (B5D0706-DUP1)		**Source: 1501454-BW**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	96.7345	1.0		71.6383	NR		29.8	20	R
Duplicate (B5D0706-DUP2)		**Source: 1501454-BL**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	12.8223	1.0		13.1386	NR		2.44	20	
Matrix Spike (B5D0706-MS1)		**Source: 1501454-BW**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	278.887	1.0	250.000	71.6383	82.9	35 - 129			
Matrix Spike (B5D0706-MS2)		**Source: 1501454-BL**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	226.928	1.0	250.000	13.1386	85.5	35 - 129			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800	Report To : Rebecca Silva
Rancho Cordova , CA 95742	Reported : 04/27/2015

Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0706 - EPA 3050 Modified_S (continued)									
Matrix Spike Dup (B5D0706-MSD1)		**Source: 1501454-BW**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	277.363	1.0	250.000	71.6383	82.3	35 - 129	0.548	20	
Batch B5D0707 - EPA 3050 Modified_S									
Blank (B5D0707-BLK1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
Blank (B5D0707-BLK2)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
LCS (B5D0707-BS1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	47.9826	1.0	50.0000		96.0	80 - 120			
Duplicate (B5D0707-DUP1)		**Source: 1501454-CV**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	5.67268	1.0		3.98877	NR		34.9	20	R
Duplicate (B5D0707-DUP2)		**Source: 1501454-CH**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	15.9956	1.0		16.8631	NR		5.28	20	
Matrix Spike (B5D0707-MS1)		**Source: 1501454-CV**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	213.885	1.0	250.000	3.98877	84.0	35 - 129			
Matrix Spike (B5D0707-MS2)		**Source: 1501454-CH**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	215.509	0.99	247.525	16.8631	80.3	35 - 129			
Matrix Spike Dup (B5D0707-MSD1)		**Source: 1501454-CV**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	195.068	1.0	252.525	3.98877	75.7	35 - 129	9.20	20	
Batch B5D0708 - EPA 3050 Modified_S									
Blank (B5D0708-BLK1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
Blank (B5D0708-BLK2)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	ND	1.0			NR				
LCS (B5D0708-BS1)					Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	49.3195	1.0	50.0000		98.6	80 - 120			
Duplicate (B5D0708-DUP1)		**Source: 1501454-EE**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	103.989	1.0		73.0162	NR		35.0	20	R
Duplicate (B5D0708-DUP2)		**Source: 1501454-DI**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	14.5281	1.0		10.2342	NR		34.7	20	R
Matrix Spike (B5D0708-MS1)		**Source: 1501454-EE**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	316.994	0.99	247.525	73.0162	98.6	35 - 129			
Matrix Spike (B5D0708-MS2)		**Source: 1501454-DI**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	237.251	1.0	250.000	10.2342	90.8	35 - 129			

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/27/2015

Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0708 - EPA 3050 Modified_S (continued)									
Matrix Spike Dup (B5D0708-MSD1)		**Source: 1501454-EE**			Prepared: 4/23/2015 Analyzed: 4/24/2015				
Lead	339.216	1.0	250.000	73.0162	106	35 - 129	6.77	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/27/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: ontrac

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C. Deming (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C. Deming	4/22/15	1000	Ontrac	4/22/15	1000
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date: 4/23/15	Time: 8:37
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Rebecca Silva 4/22/15
Print Name Date
Signature

Send Report To:
Attn:
Co:
Addr:
City: State: Zip:

Bill To:
Attn:
Co:
Addr:
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode____ OTHER____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1501454-1	BS1-3'	4/21	807	X	X				C	1	baggie		
	-2	BS1-4'		808										
	-3	HAS1-15'-0'		756										
	-4	HAS1-15'-1'		800										
	-5	HAS1-15'-1.5'		801										HOLD
	-6	HAS1-10'-0'		751										
	-7	HAS1-10'-1'		753										
	-8	HAS1-10'-2'		755										HOLD
	-9	BS1-5'-0'		810										
	-10	BS1-5'-1'		811										
	-11	BS1-5'-2.5'		812										HOLD
	-12	BS2-3'		829										
	-13	BS2-4'		830										
	-14	BS2-5'-0'		831										
	-15	BS2-5'-1'		832										
	-16	BS2-5'-2.5'		833										HOLD
	-17	HAS2-10'-0'		819										
	-18	HAS2-10'-0.5'		822										
	-19	HAS2-10'-1'		823										
	-20	HAS2-15'-0'		825										

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: on time

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C. Dennis (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C. Dennis	4/22/15	1000	Ontrae	4/22/15	1000
				4/23/15	8:37

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/22/15
Print Name Date
Signature

Send Report To:
Attn:
Co:
Addr:
City: State: Zip:

Bill To:
Attn:
Co:
Addr:
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	150145~~4~~	~~HA52-15'-0'~~	~~4/21~~	~~825~~	X	X				C	1	baggie		
	-21	HA52-15'-1'	4/21	826										
	-22	HA52-15'-2'		828										HOLD
	-23	B53-3'		845										
	-24	B53-4'		846										
	-25	B54-3'		903										
	-26	B54-4'		904										
	-27	B54-5'-0'		905										
	-28	B54-5'-1'		906										
	-29	B54-5'-2'		907										HOLD
	-30	HA54-10'-0'		852										
	-31	HA54-10'-1'		853										
	-32	HA54-10'-2.5'		856										HOLD
	-33	HA54-15'-0'		858										
	-34	HA54-15'-1'		859										
	-35	HA54-15'-2'		901										HOLD
	-36	B55-3'		922										
	-37	B55-4'		923										
	-38	HA55-15'-0'		924										
	-39	HA55-15'-0.5'		925										

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C. Deming (Signature)

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
C. Deming	4/22/15	1000	Ontrae	4/22/15	1000
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Rebecca Silva 4/22/15
Print Name Date
Signature

Send Report To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
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Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1501454-40	HA55-15'-1'	4/21	927	X				X	C	1	baggie		
	-41	HA55-10'-0'		916										
	-42	HA55-10'-0.5'		918										
	-43	HA55-10'-0'B		920										HOLD
	-44	BS5-5'-0'		934										
	-45	BS5-5'-1'		935										
	-46	BS5-5'-2'		936										HOLD
	-47	BS6-3'		946										
	-48	BS6-4'		947										
	-49	BS7-3'		1004										
	-50	BS7-4'		1005										
	-51	BS7-5'-0'		1006										
	-52	BS7-5'-1'		1007										
	-53	BS7-5'-2.5'		1008										HOLD
	-54	HA57-10'-0'		953										
	-55	HA57-10'-1'		955										
	-56	HA57-10'-2'		956										HOLD
	-57	HA57-15'-0'		959										
	-58	HA57-15'-0.5'		1000										
	-59	HA57-15'-0'B		1002										HOLD

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C Dennis (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C Dennis	4/22/15	1000	Ontrac	4/22/15	1000
C Dennis				4/23/15	0837

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Rebecca Silva 4/22/15
Print Name Date
Signature

Send Report To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1601454-60	B58-3'	4/21	1028	X			X		C	1	baggie		
	-61	HA58-10'-0'		1018										
	-62	HA58-10'-0.5'		1020										
	-63	HA58-10'-1'		1021										
	-64	HA58-15'-0'		1023										
	-65	HA58-15'-0.5'		1025										
	-66	HA58-15'-1'		1026										
		~~B58-3'~~		~~1028~~										
	-67	B58-5'-0'		1033										
	-68	B58-5'-1'		1034										
	-69	B58-5'-2'		1035										HOLD
		~~HA58-10'-~~												
		~~HA58-10'-~~												
		~~HA58-10'-~~												
		~~HA58-15'-~~												
		~~HA58-15'-~~												
		~~HA58-15'-~~												
	-70	B56-5'-0'	4/21	1053	X			X		C	1	baggie		
	-71	B56-5'-1'		1054										
	-72	B56-5'-2'		1055										HOLD

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C. Dennis (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C. Dennis	4/22/15	1000	OnTrac	4/22/15	1000
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date: 4/22/15	Time: 0832
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Rebecca Silva 4/22/15
Print Name Date
Signature

Send Report To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB Logcode_____ OTHER_____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1507454-73	HA56-10'-0'	4/21	1045	X	C	1	baggie		
	-74	HA56-10'-0.5'		1046						
	-75	HA56-10'-1'		1047						
	-76	HA56-15'-0'		1049						
	-77	HA56-15'-0.5'		1050						
	-78	HA56-15'-0'B		1052						HOLD
	-79	B59-3'		1115						
	-80	B59-4'		1116						
	-81	B59-5'-0'		1117						
	-82	B59-5'-1'		1118						
	-83	B59-5'-2.5'		1119						HOLD
	-84	HA59-10'-0'		1103						
	-85	HA59-10'-1'		1105						
	-86	HA59-10'-2'		1106						HOLD
	-87	HA59-15'-0'		1109						
	-88	HA59-15'-1'		1111						
	-89	HA59-15'-2'		1113						HOLD
	-90	B60-3'		1135						
	-91	B60-4'		1136						
	-92	HA61-3'		1132						

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C Dennis (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C Dennis	4/22/15	1000	Ontrae	4/22/15	1000
				4/23/15	0837

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/22/15
Print Name Date
Signature

Send Report To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	Container(s) TAT	#	Type	PRESERVATION	REMARKS
	1501454-93	HA61-4'	4/21	1158	X	X	C	1	baggie		
	-94	B62-3'		1201							
	-95	B62-4		1202							
	-96	HA62-5-0		1207							
	-97	HA62-5-0.5		1211							
	-98	HA62-5-1		1212							
	-99	HA62-10-0		1214							
	-AA	HA62-10-1		1216							
	-AB	HA62-10-1.5		1218							Hold
	-AC	HA62-15-0		1224							
	-AD	HA62-15-0.5		1226							
	-AE	HA62-15-1		1227							
	-AF	B63-[illegible]3'		1230							
	-AG	HA63-10'-0'		1238							
	-AH	HA63-10'-1'		1240							
	-AI	HA63-10'-1.5'		1242							Hold
	-AJ	HA63-15'-0'		1244							
	-AK	HA63-15'-1'		1246							
	-AL	HA63-15'-2'		1248							Hold
	-AM	B63-5'-0'		1301							

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C. Deming (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C. Deming	4/22/15	1000	Onfrac	4/22/15	1000
C. Deming			ATL	4/23/15	0837

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva 4/22/15
Print Name Date
Signature

Send Report To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Bill To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested: Total lead (6010B)

SPECIFY APPROPRIATE MATRIX: SOIL / WATER / GROUND WATER / WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	TAT	Container(s) #	Type	PRESERVATION	REMARKS
	150145Y-AN	B63-5'-1'	4/21	1302	X	X	C	1	baggie		
	-AO	B63-5'-2.5'		1303							HOLD
	-AP	B64-3'		1323							
	-AQ	B64-5'-0'		1324							
	-AR	B64-5'-1'		1325							
	-AS	B64-5'-2.5'		1326							HOLD
	-AT	HA64-10'-0'		1311							
	-AU	HA64-10'-0.5'		1314							
	-AV	HA64-10'-1'		1316							
	-AW	HA64-15'-0'		1318							
	-AX	HA64-15'-0.5'		1319							
	-AY	HA64-15'-1'		1321							
	-AZ	B65-3'		1324							
	-BA	HA65-10'-0'		1334							
	-BB	HA65-10'-1'		1335							
	-BC	HA65-10'-2'		1337							HOLD
	-BD	HA65-15'-0'		1339							
	-BE	HA65-15'-1'		1341							
	-BF	HA65-15'-2'	1343	1343							HOLD
	-BG	B65-5'-0'		1347							

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C. Denning (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C. Denning	4/22/15	1000	Contrac	4/22/15	1000
				4/23/15	8:37

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Rebecca Silva 4/22/15
Print Name Date
Signature

Send Report To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
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Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1509457-BH	B65-5'-1'	4/21	1348	X	X				C	1	baggie		
	-BF	B65-5'-2'		1349										HOLD
	-BJ	B66-3'		1406										
	-BK	B66-4'		1407										
	-BL	B66-5'-0'		1417										
	-BM	B66-5'-1'		1418										
	-BN	B66-5'-2'		1419										HOLD
	-BO	HA66-10'-0'		1357										
	-BP	HA66-10'-0.5'		1358										
	-BQ	HA66-10'-1'		1359										
	-BR	HA66-15'-0'		1400										
	-BS	HA66-15'-0.5'		1402										
	-BT	HA66-15'-1'		1403										
	-BU	B67-3		1439										
	-BV	B67-4		1440										
	-BW	B67-5-0		1441										
	-BX	B67-5-1		1442										
	-BY	B67-5-2.5		1443										Hold
	-BZ	HB67-10-0		1425										
	-CA	HB67-10-0.5		1427										

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

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CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C. Deming (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C. Deming	4/22/15	1000	Ontrae	4/22/15	1000
C. Deming			[illegible]	4/22/15	1832

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Rebecca Silva 4/22/15
Print Name Date
Signature

Send Report To:
Attn:
Co:
Addr:
City: State: Zip:

Bill To:
Attn:
Co:
Addr:
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

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Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX: SOIL / WATER / GROUND WATER / WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER_____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	Container(s) TAT	#	Type	PRESERVATION	REMARKS
	1501454-CB	HA67-10-1	4/21/15	1428	X	X	C	1	baggie		
	-CC	HA67-15-0		1431							
	-CD	HA67-15-0.5		1432							
	-CE	HA67-15-1		1433							
	-CF	B68-3'		1511							
	-CG	B68-5'-0'		1512							
	-CH	B68-5'-1'		1513							
	-CI	B68-5'-2'		1514							Hold
	-CJ	HA69-10'-0'		1458							
	-CK	HA69-10'-0.5'		1459							
	-CL	HA69-10'-1'		1501							
	-CM	HA69-15'-0'		1505							
	-CN	HA69-15'-0.5'		1507							
	-CO	HA69-15'-0'B		1508							Hold
	-CP	HA38.5-0		1630							
	-CQ	HA38.5-1		1634							
	-CR	HA38.5-2		1636							Hold
	-CS	HA38-10-0		1628							
	-CT	HA38-10-1		1631							
	-CU	HA38-10-1.5		1633							Hold

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C. Denning (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C. Denning	4/22/15	1000	Entrac	4/22/15	1000
				4/23/15	0837

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva (Print Name) 4/22/15 (Date) (Signature)

Send Report To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Bill To: Attn: _____ Co: _____ Addr: _____ City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested: Total lead (6010B)

SPECIFY APPROPRIATE MATRIX: SOIL, WATER, GROUND WATER, WASTEWATER

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	Container(s) TAT	#	Type	PRESERVATION	REMARKS
	1504[illegible]-CV	HA38-15-0	4/21/15	1635	X	X	C	1	baggie		
	-CW	HA38-15-0.5		1637							
	-CX	HA38-15-0'B		1639							Hold
	-CY	HA69-5-0		1724							
	-CZ	HA69-5-0.5		1728							
	-DA	HA69-5-1		1730							
	-DB	HA69-10 0		1721							
	-DC	HA69-10 1		1723							
	-DD	HA69-10 1.5		1725							Hold
	-DE	HA69-15-0'		1729							
	-DF	HA69-15-0'B		1731							
	-DG	HA69-15-0'C		1733							Hold
	-DH	HA70-5-0		1746							
	-DI	HA70-5-1		1748							
	-DJ	HA70-5-0'B		1750							Hold
	-DK	HA70-10-0		1743							
	-DL	HA70-10-1		1745							
	-DM	HA70-10-1.5		1749							Hold
	-DN	HA70-15-0'		1751							
	-DO	HA70-15-1'		1753							

■ TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

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CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: Geocon Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive, Suite 800
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916-852-9118
Fax: 916-852-9132

Project Name: I-80 Truck Lane ADL
Project #: S9805-01-50
Sampler: C. Dennis (Signature)

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
C. Dennis	4/22/15	1000	Ontrac	4/22/15	1000
				4/23/15	0837

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Rebecca Silva 4/22/15
Print Name Date
Signature

Send Report To:
Attn:
Co:
Addr:
City: State: Zip:

Bill To:
Attn:
Co:
Addr:
City: State: Zip:

Special Instructions/Comments:
Homogenize samples for lead analysis
Caltrans Contract 03A2132
48-hr TAT
Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Sample/Records - Archival & Disposal
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Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER_____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1501454-DP	HA70-15'-0'B	4/21	1755	X	X				C	1	baggie		Hold
	-DQ	HA71-5'-0'		1836										Hold
	-DR	HA71-10'-0'		1838										Hold
	-DS	HA71-15'-0'		1840										
	-DT	HA72-5'-0'		1835										Hold
	-DU	HA72-10'-0'		1837										Hold
	-DV	HA72-15'-0'		1839										
	-DW	HA73-5'-0'		1841										Hold
	-DX	HA73-10'-0'		1843										Hold
	-DY	HA73-15'-0'		1845										
	-DZ	HA74-5'-0'		1846										Hold
	-EA	HA74-10'-0'		1848										Hold
	-EB	HA74-15'-0'		1852										
	-EC	HA75-5'-0'		1822										Hold
	-ED	HA75-10'-0'		1823										Hold
	-EE	HA75-15'-0'		1824										

TS 4/22/15

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☑ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☐ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

30 April 2015

Rebecca Silva
Geocon Consultants, Inc. - Rancho Cordova
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
Tel: (916) 852-9118
Fax:(916) 852-9132

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

RE: ATL Work Order Number : 1501454
Client Reference : I-80 Truck Lane ADL, S9805-01-50

Enclosed are the results for sample(s) received on April, 23 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/30/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA51-15'-0'	1501454-03	Soil	4/21/15 7:56	4/23/15 8:37
HA51-10'-0'	1501454-06	Soil	4/21/15 7:51	4/23/15 8:37
HA52-10'-0'	1501454-17	Soil	4/21/15 8:19	4/23/15 8:37
HA52-10'-0.5'	1501454-18	Soil	4/21/15 8:22	4/23/15 8:37
HA54-15'-0'	1501454-33	Soil	4/21/15 8:58	4/23/15 8:37
HA55-15'-0'	1501454-38	Soil	4/21/15 9:24	4/23/15 8:37
HA55-15'-0.5'	1501454-39	Soil	4/21/15 9:25	4/23/15 8:37
HA55-10'-0'	1501454-41	Soil	4/21/15 9:16	4/23/15 8:37
HA58-10'-0'	1501454-61	Soil	4/21/15 10:18	4/23/15 8:37
B58-5'-0'	1501454-67	Soil	4/21/15 10:33	4/23/15 8:37
HA62-5-0	1501454-96	Soil	4/21/15 12:07	4/23/15 8:37
HA62-10-0	1501454-99	Soil	4/21/15 12:14	4/23/15 8:37
HA62-15-0	1501454-AC	Soil	4/21/15 12:24	4/23/15 8:37
HA66-10'-0'	1501454-BO	Soil	4/21/15 13:57	4/23/15 8:37
HA66-10'-0.5'	1501454-BP	Soil	4/21/15 13:58	4/23/15 8:37
HA66-15'-0'	1501454-BR	Soil	4/21/15 14:01	4/23/15 8:37
HA66-15'-0.5'	1501454-BS	Soil	4/21/15 14:02	4/23/15 8:37
B67-5-0	1501454-BW	Soil	4/21/15 14:41	4/23/15 8:37
HA67-10-0	1501454-BZ	Soil	4/21/15 14:25	4/23/15 8:37
HA67-15-0	1501454-CC	Soil	4/21/15 14:31	4/23/15 8:37
HA69-10-1	1501454-DC	Soil	4/21/15 17:23	4/23/15 8:37
HA69-15-0'	1501454-DE	Soil	4/21/15 17:29	4/23/15 8:37
HA69-15-0'B	1501454-DF	Soil	4/21/15 17:31	4/23/15 8:37
HA70-5-0	1501454-DH	Soil	4/21/15 17:46	4/23/15 8:37
HA70-10-0	1501454-DK	Soil	4/21/15 17:43	4/23/15 8:37
HA70-10-1	1501454-DL	Soil	4/21/15 17:45	4/23/15 8:37
HA70-15-0'	1501454-DN	Soil	4/21/15 17:51	4/23/15 8:37
HA70-15-1'	1501454-DO	Soil	4/21/15 17:53	4/23/15 8:37
HA71-15'-0'	1501454-DS	Soil	4/21/15 18:40	4/23/15 8:37
HA72-15'-0'	1501454-DV	Soil	4/21/15 18:39	4/23/15 8:37
HA73-15'-0'	1501454-DY	Soil	4/21/15 18:45	4/23/15 8:37
HA74-15'-0'	1501454-EB	Soil	4/21/15 18:52	4/23/15 8:37
HA75-15'-0'	1501454-EE	Soil	4/21/15 18:24	4/23/15 8:37

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/30/2015

TCLP Metals by ICP-AES EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-17	HA52-10'-0'	**0.063**	mg/L	0.050	1	B5D0873	04/30/2015	04/30/15 15:59	
1501454-DK	HA70-10-0	**0.48**	mg/L	0.050	1	B5D0873	04/30/2015	04/30/15 16:08	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800	Report To : Rebecca Silva
Rancho Cordova , CA 95742	Reported : 04/30/2015

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-03	HA51-15'-0'	**4.4**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 13:29	
1501454-06	HA51-10'-0'	**6.0**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 13:32	
1501454-17	HA52-10'-0'	**19**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 13:34	
1501454-18	HA52-10'-0.5'	**3.0**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 13:36	
1501454-33	HA54-15'-0'	**5.3**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 13:39	
1501454-38	HA55-15'-0'	**2.9**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 13:41	
1501454-39	HA55-15'-0.5'	**1.2**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 13:44	
1501454-41	HA55-10'-0'	**5.5**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 13:46	
1501454-61	HA58-10'-0'	**1.7**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 13:52	
1501454-67	B58-5'-0'	**2.4**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 13:59	
1501454-96	HA62-5-0	**3.9**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 14:02	
1501454-99	HA62-10-0	**3.2**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 14:04	
1501454-AC	HA62-15-0	**2.3**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 14:06	
1501454-BO	HA66-10'-0'	**5.0**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 14:08	
1501454-BP	HA66-10'-0.5'	**2.4**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 14:11	
1501454-BR	HA66-15'-0'	**4.5**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 14:13	
1501454-BS	HA66-15'-0.5'	**2.3**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 14:19	
1501454-BW	B67-5-0	**4.1**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 14:22	
1501454-BZ	HA67-10-0	**3.3**	mg/L	1.0	20	B5D0874	04/30/2015	04/30/15 14:24	
1501454-CC	HA67-15-0	**3.9**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 14:58	
1501454-DC	HA69-10-1	**6.0**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:01	
1501454-DE	HA69-15-0'	**6.2**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:03	
1501454-DF	HA69-15-0'B	**11**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:05	
1501454-DH	HA70-5-0	**14**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:16	
1501454-DK	HA70-10-0	**13**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:18	
1501454-DL	HA70-10-1	**4.6**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:21	
1501454-DN	HA70-15-0'	**7.2**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:23	
1501454-DO	HA70-15-1'	**6.2**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:25	
1501454-DS	HA71-15'-0'	**3.1**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:28	
1501454-DV	HA72-15'-0'	**8.7**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:30	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/30/2015

STLC Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-DY	HA73-15'-0'	**8.6**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:32	
1501454-EB	HA74-15'-0'	**2.8**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:35	
1501454-EE	HA75-15'-0'	**3.7**	mg/L	1.0	20	B5D0875	04/30/2015	04/30/15 15:41	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800	Report To : Rebecca Silva
Rancho Cordova , CA 95742	Reported : 04/30/2015

STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-03	HA51-15'-0'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:12	
1501454-06	HA51-10'-0'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:15	
1501454-17	HA52-10'-0'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:17	
1501454-18	HA52-10'-0.5'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:19	
1501454-33	HA54-15'-0'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:21	
1501454-38	HA55-15'-0'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:24	
1501454-39	HA55-15'-0.5'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:26	
1501454-41	HA55-10'-0'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:32	
1501454-61	HA58-10'-0'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:34	
1501454-67	B58-5'-0'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:36	
1501454-96	HA62-5-0	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:43	
1501454-99	HA62-10-0	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:45	
1501454-AC	HA62-15-0	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:48	
1501454-BO	HA66-10'-0'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:50	
1501454-BP	HA66-10'-0.5'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:52	
1501454-BR	HA66-15'-0'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 12:58	
1501454-BS	HA66-15'-0.5'	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 13:01	
1501454-BW	B67-5-0	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 13:03	
1501454-BZ	HA67-10-0	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 13:05	
1501454-CC	HA67-15-0	**ND**	mg/L	1.0	20	B5D0878	04/30/2015	04/30/15 13:07	
1501454-DC	HA69-10-1	**1.6**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:06	
1501454-DE	HA69-15-0'	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:10	
1501454-DF	HA69-15-0'B	**2.1**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:14	
1501454-DH	HA70-5-0	**2.8**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:25	
1501454-DK	HA70-10-0	**4.2**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:29	
1501454-DL	HA70-10-1	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:33	
1501454-DN	HA70-15-0'	**1.3**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:37	
1501454-DO	HA70-15-1'	**1.4**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:40	
1501454-DS	HA71-15'-0'	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:51	
1501454-DV	HA72-15'-0'	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:55	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	I-80 Truck Lane ADL, S9805-01-50
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/30/2015

STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead **Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-DY	HA73-15'-0'	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 13:59	
1501454-EB	HA74-15'-0'	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 14:03	
1501454-EE	HA75-15'-0'	**ND**	mg/L	1.0	20	B5D0879	04/30/2015	04/30/15 14:07	

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/30/2015

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-03	HA51-15'-0'	**6.4**	pH Units	0.10	1	B5D0857	04/29/2015	04/29/15 14:03	
1501454-06	HA51-10'-0'	**6.7**	pH Units	0.10	1	B5D0857	04/29/2015	04/29/15 14:03	
1501454-17	HA52-10'-0'	**6.4**	pH Units	0.10	1	B5D0857	04/29/2015	04/29/15 14:03	
1501454-18	HA52-10'-0.5'	**6.3**	pH Units	0.10	1	B5D0857	04/29/2015	04/29/15 14:03	
1501454-33	HA54-15'-0'	**5.8**	pH Units	0.10	1	B5D0857	04/29/2015	04/29/15 14:03	
1501454-38	HA55-15'-0'	**5.9**	pH Units	0.10	1	B5D0857	04/29/2015	04/29/15 14:03	
1501454-39	HA55-15'-0.5'	**5.6**	pH Units	0.10	1	B5D0857	04/29/2015	04/29/15 14:03	
1501454-41	HA55-10'-0'	**5.9**	pH Units	0.10	1	B5D0857	04/29/2015	04/29/15 14:03	
1501454-61	HA58-10'-0'	**7.0**	pH Units	0.10	1	B5D0858	04/29/2015	04/29/15 14:04	
1501454-67	B58-5'-0'	**6.6**	pH Units	0.10	1	B5D0858	04/29/2015	04/29/15 14:04	
1501454-96	HA62-5-0	**5.9**	pH Units	0.10	1	B5D0858	04/29/2015	04/29/15 14:04	
1501454-99	HA62-10-0	**5.5**	pH Units	0.10	1	B5D0858	04/29/2015	04/29/15 14:04	
1501454-AC	HA62-15-0	**5.2**	pH Units	0.10	1	B5D0858	04/29/2015	04/29/15 14:04	
1501454-BO	HA66-10'-0'	**5.8**	pH Units	0.10	1	B5D0858	04/29/2015	04/29/15 14:04	
1501454-BP	HA66-10'-0.5'	**5.4**	pH Units	0.10	1	B5D0858	04/29/2015	04/29/15 14:04	
1501454-BR	HA66-15'-0'	**4.5**	pH Units	0.10	1	B5D0858	04/29/2015	04/29/15 14:04	
1501454-BS	HA66-15'-0.5'	**4.6**	pH Units	0.10	1	B5D0858	04/29/2015	04/29/15 14:04	
1501454-BW	B67-5-0	**6.1**	pH Units	0.10	1	B5D0858	04/29/2015	04/29/15 14:04	
1501454-BZ	HA67-10-0	**6.4**	pH Units	0.10	1	B5D0859	04/29/2015	04/29/15 14:05	
1501454-CC	HA67-15-0	**5.1**	pH Units	0.10	1	B5D0859	04/29/2015	04/29/15 14:05	
1501454-DC	HA69-10-1	**4.3**	pH Units	0.10	1	B5D0859	04/29/2015	04/29/15 14:05	
1501454-DE	HA69-15-0'	**4.0**	pH Units	0.10	1	B5D0859	04/29/2015	04/29/15 14:05	
1501454-DF	HA69-15-0'B	**3.9**	pH Units	0.10	1	B5D0859	04/29/2015	04/29/15 14:05	
1501454-DH	HA70-5-0	**4.1**	pH Units	0.10	1	B5D0859	04/29/2015	04/29/15 14:05	
1501454-DK	HA70-10-0	**3.9**	pH Units	0.10	1	B5D0859	04/29/2015	04/29/15 14:05	
1501454-DL	HA70-10-1	**4.1**	pH Units	0.10	1	B5D0859	04/29/2015	04/29/15 14:05	
1501454-DN	HA70-15-0'	**3.8**	pH Units	0.10	1	B5D0859	04/29/2015	04/29/15 14:05	
1501454-DO	HA70-15-1'	**3.9**	pH Units	0.10	1	B5D0859	04/29/2015	04/29/15 14:05	
1501454-DS	HA71-15'-0'	**5.0**	pH Units	0.10	1	B5D0861	04/29/2015	04/29/15 14:13	
1501454-DV	HA72-15'-0'	**5.0**	pH Units	0.10	1	B5D0861	04/29/2015	04/29/15 14:13	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/30/2015

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501454-DY	HA73-15'-0'	**4.7**	pH Units	0.10	1	B5D0861	04/29/2015	04/29/15 14:13	
1501454-EB	HA74-15'-0'	**4.5**	pH Units	0.10	1	B5D0861	04/29/2015	04/29/15 14:13	
1501454-EE	HA75-15'-0'	**5.1**	pH Units	0.10	1	B5D0861	04/29/2015	04/29/15 14:13	

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Rancho Cordova , CA 95742		Reported :	04/30/2015

QUALITY CONTROL SECTION

TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0873 - EPA 3010A_S									
Blank (B5D0873-BLK1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	0.050			NR				
LCS (B5D0873-BS1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	0.917269	0.050	1.00000		91.7	80 - 120			
Duplicate (B5D0873-DUP1)		**Source: 1501454-17**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	0.060135	0.050		0.062543	NR		3.93	20	
Matrix Spike (B5D0873-MS1)		**Source: 1501454-17**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.30403	0.050	2.50000	0.062543	89.7	77 - 121			
Matrix Spike Dup (B5D0873-MSD1)		**Source: 1501454-17**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.34858	0.050	2.50000	0.062543	91.4	77 - 121	1.91	20	

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Rancho Cordova , CA 95742		Reported :	04/30/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0874 - STLC_S Extraction									
Blank (B5D0874-BLK1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
Blank (B5D0874-BLK2)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
LCS (B5D0874-BS1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	1.92478		2.00000		96.2	80 - 120			
Duplicate (B5D0874-DUP1)		**Source: 1501454-BZ**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.03383	1.0		3.28580	NR		47.1	20	R
Duplicate (B5D0874-DUP2)		**Source: 1501454-61**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	1.93713	1.0		1.70652	NR		12.7	20	
Matrix Spike (B5D0874-MS1)		**Source: 1501454-BZ**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	5.68124		2.50000	3.28580	95.8	44 - 130			
Matrix Spike (B5D0874-MS2)		**Source: 1501454-61**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	3.87962		2.50000	1.70652	86.9	44 - 130			
Matrix Spike Dup (B5D0874-MSD1)		**Source: 1501454-BZ**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	5.54653		2.50000	3.28580	90.4	44 - 130	2.40	20	

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Rancho Cordova , CA 95742		Reported :	04/30/2015

STLC Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0875 - STLC_S Extraction									
Blank (B5D0875-BLK1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
Blank (B5D0875-BLK2)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
LCS (B5D0875-BS1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	1.96639		2.00000		98.3	80 - 120			
Duplicate (B5D0875-DUP1)		**Source: 1501454-EE**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	3.44038	1.0		3.72088	NR		7.83	20	
Duplicate (B5D0875-DUP2)		**Source: 1501454-DF**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	10.9262	1.0		11.2218	NR		2.67	20	
Matrix Spike (B5D0875-MS1)		**Source: 1501454-EE**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	5.99330		2.50000	3.72088	90.9	44 - 130			
Matrix Spike (B5D0875-MS2)		**Source: 1501454-DF**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	12.9588		2.50000	11.2218	69.5	44 - 130			
Matrix Spike Dup (B5D0875-MSD1)		**Source: 1501454-EE**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	6.15258		2.50000	3.72088	97.3	44 - 130	2.62	20	

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/30/2015

STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0878 - STLC DI_S Extraction									
Blank (B5D0878-BLK1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
Blank (B5D0878-BLK2)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
LCS (B5D0878-BS1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.06091		2.00000		103	80 - 120			
Duplicate (B5D0878-DUP1)		**Source: 1501454-CC**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	0.198334	1.0		0.231661	NR		15.5	20	
Duplicate (B5D0878-DUP2)		**Source: 1501454-67**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	0.106569	1.0		0.103715	NR		2.71	20	
Matrix Spike (B5D0878-MS1)		**Source: 1501454-CC**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.64598		2.50000	0.231661	96.6	70 - 130			
Matrix Spike (B5D0878-MS2)		**Source: 1501454-67**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.33321		2.50000	0.103715	89.2	70 - 130			
Matrix Spike Dup (B5D0878-MSD1)		**Source: 1501454-CC**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.72027		2.50000	0.231661	99.5	70 - 130	2.77	20	

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Rancho Cordova , CA 95742		Reported :	04/30/2015

STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0879 - STLC DI_S Extraction									
Blank (B5D0879-BLK1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
Blank (B5D0879-BLK2)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	ND	1.0			NR				
LCS (B5D0879-BS1)					Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.02317		2.00000		101	80 - 120			
Duplicate (B5D0879-DUP1)		**Source: 1501454-EE**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	1.83227	1.0		0.118170	NR		176	20	R
Matrix Spike (B5D0879-MS1)		**Source: 1501454-EE**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.49758		2.50000	0.118170	95.2	70 - 130			
Matrix Spike (B5D0879-MS2)		**Source: 1501454-DF**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	4.29657		2.50000	2.13020	86.7	70 - 130			
Matrix Spike Dup (B5D0879-MSD1)		**Source: 1501454-EE**			Prepared: 4/30/2015 Analyzed: 4/30/2015				
Lead	2.54100		2.50000	0.118170	96.9	70 - 130	1.72	20	

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Rancho Cordova , CA 95742		Reported :	04/30/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0857 - Prep_WC1_S									
Duplicate (B5D0857-DUP1)		**Source: 1501454-03**			Prepared: 4/29/2015 Analyzed: 4/29/2015				
pH	6.74000	0.10		6.39000	NR		5.33	20	

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Rancho Cordova , CA 95742		Reported :	04/30/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0858 - Prep_WC1_S									
Duplicate (B5D0858-DUP1)		**Source: 1501454-61**			Prepared: 4/29/2015 Analyzed: 4/29/2015				
pH	7.14000	0.10		7.00000	NR		1.98	20	

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Rancho Cordova , CA 95742		Reported :	04/30/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0859 - Prep_WC1_S									
Duplicate (B5D0859-DUP1)		**Source: 1501454-BZ**			Prepared: 4/29/2015 Analyzed: 4/29/2015				
pH	6.71000	0.10		6.41000	NR		4.57	20	

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/30/2015

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5D0861 - Prep_WC1_S									
Duplicate (B5D0861-DUP1)		**Source: 1501454-DS**			Prepared: 4/29/2015 Analyzed: 4/29/2015				
pH	5.13000	0.10		4.95000	NR		3.57	20	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	04/30/2015

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

Diane Galvan

From: Rebecca Silva [silva@geoconinc.com]
Sent: Monday, April 27, 2015 10:01 AM
To: Diane Galvan
Cc: Gemma Reblando
Subject: RE: Results/EDD/Invoice - I-80 Truck Lane ADL (1501454)

Hi Diane – Please analyze the 33 samples with total lead > 50 mg/kg for **WET lead, DI-WET lead and pH** on 72-hr TAT. Also, run the two sample with total lead = or > 300 mg/kg for **TCLP lead** on 72-hr TAT.

Thanks!
Rebecca

APPENDIX D

SUMMARY OF STATISTICAL ANALYSIS
EA 03-1F4001
INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

Roadway Shoulders

Total Lead UCLs (mg/kg)

Sample Interval (feet)	90% UCL	95% UCL
0.0 to 0.5	135.7	141.6
0.5 to 1.0	130.3	138.7
1.0 to 1.5	68.7	74.6
1.5 to 2.0	44.6	49.6
2.0 to 3.0	24.5	26.0
3.0 to 4.0	12.2	12.8
4.0 to 5.0	13.6	14.4

Excavation Scenarios

	90% UCL		95% UCL	
Excavation Depth	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 0.5	135.7	8.0	141.6	8.3
Underlying Soil (0.5 to 5.0 feet)	38.2	2.3	41.0	2.4
0.0 to 1.0 foot	133.0	7.8	140.2	8.3
Underlying Soil (1.0 to 5.0 feet)	26.7	1.6	28.8	1.7
0.0 to 1.5 feet	111.6	6.6	118.3	7.0
Underlying Soil (1.5 to 5.0 feet)	20.7	1.2	22.3	1.3
0.0 to 2.0 feet	94.8	5.6	101.1	6.0
Underlying Soil (2.0 to 5.0 feet)	16.8	1.0	17.7	1.0
0.0 to 3.0 feet	71.4	4.2	76.1	4.5
Underlying Soil (3.0 to 5.0 feet)	12.9	0.8	13.6	0.8
0.0 to 4.0 feet	56.6	3.3	60.3	3.5
Underlying Soil (4.0 to 5.0 feet)	13.6	0.8	14.4	0.8
0.0 to 5.0 feet	48.0	2.8	51.1	3.0

Notes:
UCL = Upper Confidence Limit
90% UCL applicable for waste classification and onsite reuse
95% UCL applicable for risk assessment and offsite disposal
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
* = Soluble (WET) lead concentrations were predicted using slope of the regression line,
where y = predicted soluble (WET) lead and x = total lead

Regression Line Slope:

$$y = 0.0589 \quad x$$

Project Name:	Interstate 80 Post Mile 35.0 to 38.3
Geocon Project No.:	S9805-01-50
Sample Population:	Borings EB10 through EB92, EB109 through EB182, EHA1 through EHA20, B1 through B3, HA4, B5, B8 through B13, B15 through B22, B24 through B34, B36 through B38, HA39, HA40, B41 through B45, HA46 through HA48, HA50, B51 through B60, HA61, and B62 through B68
Sample Population:	Roadway Shoulders

Lead - 0.0 to 0.5 ft

Total Number of Observations	177	Number of Distinct Observations	97
		Number of Missing Observations	0
Minimum	5	Mean	116.8
Maximum	1400	Median	46
SD	198.1	Std. Error of Mean	14.89
Coefficient of Variation	1.696	Skewness	3.85
Mean of logged data	3.867	SD of logged data	1.331
		90% Standard Bootstrap UCL	**135.7**
		95% Standard Bootstrap UCL	**141.6**

Lead - 0.5 to 1.0 ft

Total Number of Observations	166	Number of Distinct Observations	106
		Number of Missing Observations	0
Minimum	0.5	Mean	104.1
Maximum	2100	Median	19
SD	271.2	Std. Error of Mean	21.05
Coefficient of Variation	2.606	Skewness	4.898
Mean of logged data	3.254	SD of logged data	1.523
		90% Standard Bootstrap UCL	**130.3**
		95% Standard Bootstrap UCL	**138.7**

Lead - 1.0 to 1.5 ft

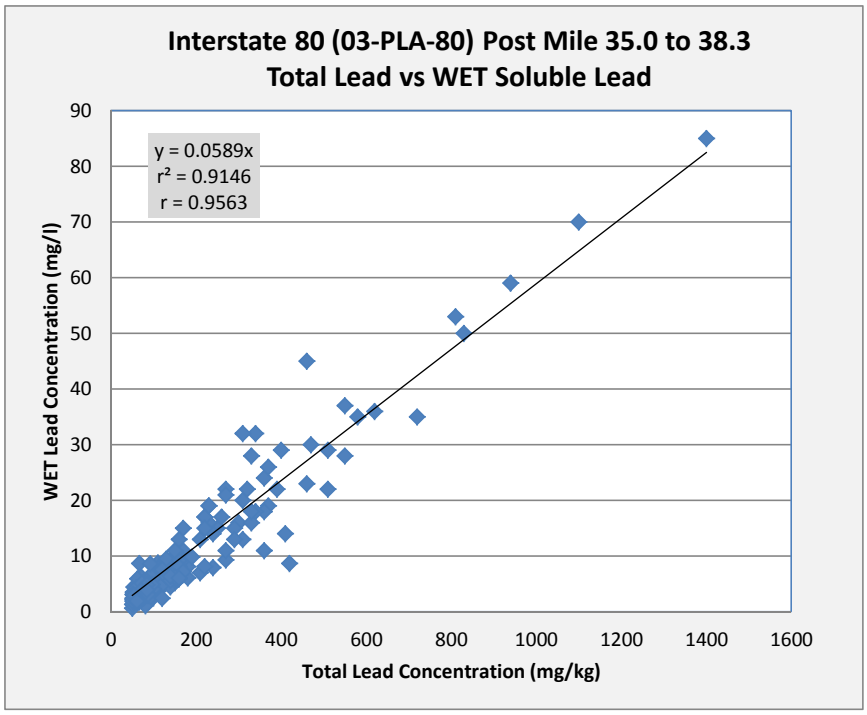
Total Number of Observations	163	Number of Distinct Observations	99
		Number of Missing Observations	0
Minimum	1.1	Mean	48.0
Maximum	2500	Median	9.1
SD	205.7	Std. Error of Mean	16.11
Coefficient of Variation	4.289	Skewness	10.74
Mean of logged data	2.558	SD of logged data	1.287
		90% Standard Bootstrap UCL	**68.7**
		95% Standard Bootstrap UCL	**74.6**

Lead - 1.5 to 2.0 ft

Total Number of Observations	153	Number of Distinct Observations	95
		Number of Missing Observations	0
Minimum	0.5	Mean	29.7
Maximum	1800	Median	7.9
SD	148.5	Std. Error of Mean	12.01
Coefficient of Variation	4.997	Skewness	11.33
Mean of logged data	2.189	SD of logged data	1.126

Project Name: Interstate 80 (03-PLA-80) Post Mile 35.0 to 38.3
Geocon Project No: S9805-01-50
Sample Location: Roadway Shoulders

Sample ID	Total Lead	WET Lead
B11-3	120	4.4
EB109-0.0	53	3.1
EB11-0.0	130	5.3
EB110-0.5	89	3.3
EB111-0.0	270	22
EB111-0.5	67	2.6
EB112-0.5	180	6.1
EB113-0.0	110	8.8
EB114-0.0	170	8.8
EB115-0.0	250	15
EB117-0.5	67	3.8
EB117-1.0	110	4.9
EB119-0.0	89	1.9
EB12-0.0	81	3.8
EB122-0.0	140	5.6
EB122-1.0	110	7.0
EB123-0.0	100	5.3
EB123-0.5	150	5.2
EB124-0.5	110	4.7
EB124-1.0	61	2.2
EB125-0.0	76	2.2
EB126-0.0	61	3.4
EB126-0.5	510	29
EB127-0.0	240	14
EB127-0.5	320	22
EB128-0.5	220	17
EB128-1.0	470	30
EB128-2.0	70	6.4
EB129-0.0	110	7.1
EB129-0.5	110	3.8
EB130-0.0	230	19
EB130-0.5	170	9.2
EB131-0.0	300	16
EB131-0.5	57	2.0
EB131-1.0	110	4.5
EB132-0.0	62	2.0
EB132-0.5	150	10
EB133-0.0	370	19
EB134-1.0	390	22
EB134-1.5	260	17
EB134-2.0	120	8.0
EB136-0.0	140	8.0
EB137-0.0	130	9.5
EB137-0.5	70	4.5
EB139-0.0	230	16
EB140-2.0	580	35
EB140-2.5	400	29
EB141-0.0	65	3.4
EB142-1.5	110	7.2
EB142-2.0	110	7.8
EB143-0.0	170	11
EB143-0.5	62	2.5
EB144-0.0	79	4.8
EB145-0.0	170	15



Project Name: Interstate 80 (03-PLA-80) Post Mile 35.0 to 38.3
Geocon Project No: S9805-01-50
Sample Location: Roadway Shoulders

Sample ID	Total Lead	WET Lead
EB15-0.0	59	2.8
EB150-0.5	53	4.4
EB150-1.0	160	5.9
EB151-0.0	100	4.6
EB154-0.0	210	13
EB154-0.5	310	20
EB154-1.0	51	2.4
EB155-0.0	220	17
EB156-0.5	360	24
EB156-1.0	160	13
EB156-1.5	82	5.6
EB158-1.0	66	3.9
EB16-0.0	140	5.5
EB161-0.5	53	1.8
EB162-1.0	94	5.8
EB163-1.0	99	6.8
EB165-1.5	56	2.6
EB168-0.0	81	1.1
EB169-0.0	180	8.1
EB169-0.5	270	9.3
EB170-0.0	60	4.8
EB170-0.5	80	4.5
EB172-0.0	170	9.3
EB174-0.0	61	3.5
EB176-0.0	92	6.5
EB178-0.0	360	11
EB178-0.5	58	1.5
EB180-0.5	460	45
EB180-1.0	370	26
EB180-1.5	160	9.2
EB182-0.5	940	59
EB182-1.0	71	4.8
EB182-1.5	150	11
EB182-2.0	62	5.9
EB19-0.0	50	0.64
EB23-0.0	80	4.0
EB23-0.5	360	18
EB24-0.0	56	3.0
EB25-0.0	110	5.4
EB25-0.5	140	4.5
EB26-0.0	190	9.8
EB27-0.0	340	32
EB27-0.5	150	5.6
EB28-0.0	310	32
EB29-0.0	91	4.2
EB29-0.5	97	3.9
EB30-0.0	330	28
EB31-0.0	120	4.8
EB31-0.5	620	36
EB31-1.0	52	3.5
EB31-1.5	140	6.2
EB32-0.0	1,400	85
EB34-0.0	340	18
EB37-0.5	78	2.6

Project Name: Interstate 80 (03-PLA-80) Post Mile 35.0 to 38.3
Geocon Project No: S9805-01-50
Sample Location: Roadway Shoulders

Sample ID	Total Lead	WET Lead
EB38-0.0	67	2.7
EB39-0.5	100	2.6
EB39-1.0	160	8.1
EB40-0.0	85	5.5
EB41-0.5	270	21
EB42-0.0	1,100	70
EB42-0.5	88	2.9
EB43-0.5	230	19
EB45-0.0	87	5.1
EB48-0.0	62	2.5
EB50-0.0	88	4.7
EB50-0.5	330	16
EB50-1.0	84	4.1
EB52-0.0	220	15
EB52-0.5	420	8.7
EB57-0.0	94	3.1
EB57-0.5	100	3.4
EB58-0.0	720	35
EB59-0.0	240	7.9
EB60-0.0	120	7.3
EB61-1.0	410	14
EB61-1.5	210	7.0
EB65-1.0	59	4.3
EB66-0.0	73	5.1
EB66-0.5	120	7.6
EB66-1.0	270	11
EB66-1.5	130	6.3
EB71-0.0	51	2.2
EB71-0.5	810	53
EB71-1.0	88	3.2
EB71-1.5	67	1.8
EB75-1.0	60	2.6
EB76-0.0	330	18
EB77-0.5	62	2.1
EB79-0.5	67	8.7
EB80-0.0	100	4.1
EB84-0.0	140	5.6
EB84-0.5	50	1.3
EB85-0.0	92	8.6
EB86-0.0	550	28
EB87-0.5	67	3.2
EB87-1.0	97	4.9
EB88-0.0	170	7.2
EB92-0.0	80	2.8
EB92-1.0	94	2.7
EB92-1.5	65	1.8
EB92-2.0	74	3.9
EHA1-0.0	150	6.2
EHA10-0.0	310	13
EHA10-0.5	51	1.9
EHA10-1.0	70	3.1
EHA11-0.0	120	2.4
EHA13-0.0	84	4.8
EHA14-0.0	550	37

Project Name: **Interstate 80 (03-PLA-80) Post Mile 35.0 to 38.3**
Geocon Project No: **S9805-01-50**
Sample Location: **Roadway Shoulders**

Sample ID	Total Lead	WET Lead
EHA15-0.0	290	15
EHA16-0.0	51	3.1
EHA17-0.0	510	22
EHA18-0.0	140	6.4
EHA19-0.0	460	23
EHA20-0.0	220	8.1
EHA3-0.0	60	1.9
EHA4-0.0	60	2.2
EHA5-0.0	830	50
EHA6-0.0	71	3.8
EHA6-0.5	87	3.1
EHA7-0.0	160	6.0
EHA7-0.5	54	2.9
EHA8-0.0	61	1.9
EHA9-0.0	290	13
HA40-4'	84	3.9

Project Name:	Interstate 80 Post Mile 35.0 to 38.3
Geocon Project No.:	S9805-01-50
Sample Population:	Borings EB10 through EB92, EB109 through EB182, EHA1 through EHA20, B1 through B3, HA4, B5, B8 through B13, B15 through B22, B24 through B34, B36 through B38, HA39, HA40, B41 through B45, HA46 through HA48, HA50, B51 through B60, HA61, and B62 through B68
Sample Population:	Roadway Shoulders

		90% Standard Bootstrap UCL	**44.6**
		95% Standard Bootstrap UCL	**49.6**

Lead - 2.0 to 3.0 ft

Total Number of Observations	146	Number of Distinct Observations	84
		Number of Missing Observations	0
Minimum	1.2	Mean	18.1
Maximum	580	Median	7.8
SD	59.07	Std. Error of Mean	4.888
Coefficient of Variation	3.258	Skewness	7.978
Mean of logged data	2.104	SD of logged data	0.933
		90% Standard Bootstrap UCL	**24.5**
		95% Standard Bootstrap UCL	**26.0**

Lead - 3.0 to 4.0 ft

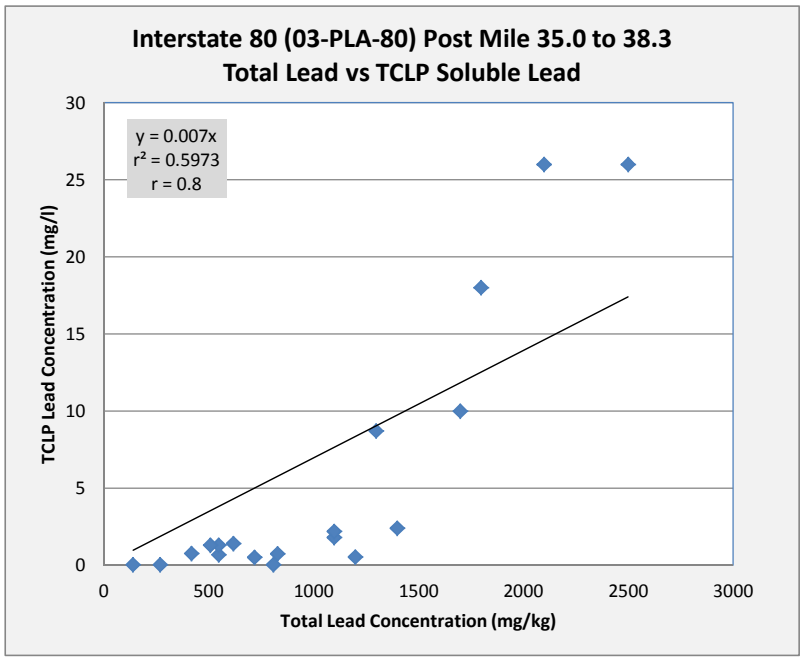
Total Number of Observations	62	Number of Distinct Observations	48
		Number of Missing Observations	0
Minimum	2.1	Mean	9.7
Maximum	120	Median	6.8
SD	14.86	Std. Error of Mean	1.888
Coefficient of Variation	1.529	Skewness	6.92
Mean of logged data	1.98	SD of logged data	0.635
		90% Standard Bootstrap UCL	**12.2**
		95% Standard Bootstrap UCL	**12.8**

Lead - 4.0 to 5.0 ft

Total Number of Observations	39	Number of Distinct Observations	31
		Number of Missing Observations	0
Minimum	1.7	Mean	10.8
Maximum	84	Median	7
SD	13.76	Std. Error of Mean	2.203
Coefficient of Variation	1.269	Skewness	4.267
Mean of logged data	2.031	SD of logged data	0.752
		90% Standard Bootstrap UCL	**13.6**
		95% Standard Bootstrap UCL	**14.4**

INTERSTATE 80 (03-PLA-80) POST MILE 35.0 TO 38.3
Geocon Project No. S9300-06-189A
Sample Location: Roadway Shoulders

Sample ID	Total Lead	TCLP Lead
EB58-0.0	720	0.52
EB181-0.0	1,200	0.54
EB86-0.0	550	0.67
EHA5-0.0	830	0.74
EB52-0.5	420	0.76
EHA14-0.0	550	1.3
EHA17-0.0	510	1.3
EB31-0.5	620	1.4
EB122-0.5	1,100	1.8
EB42-0.0	1,100	2.2
EB32-0.0	1,400	2.4
EB142-0.5	1,300	8.7
EB134-0.5	1,700	10
EB140-1.5	1,800	18
EB140-0.5	2,100	26
EB140-1.0	2,500	26
EB31-1.5	140	0.025
EB66-1.0	270	0.025
EB71-0.5	810	0.025



Geocon Project No. S9805-01-50
May 19, 2015

SUMMARY OF STATISTICAL ANALYSIS
EA 03-1F4001
INTERSTATE 80 POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

Five-foot Laterals

Total Lead UCLs (mg/kg)

Sample Interval (feet)	90% UCL	95% UCL
0.0 to 0.5	78.3	84.5
0.5 to 1.0*	38.0	38.0
1.0 to 1.5	18.6	19.8

* Highest lead concentration is used for this interval due to insufficient amount of data collected from this interval.

Excavation Scenarios

	90% UCL		95% UCL	
Excavation Depth	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 0.5 foot	78.3	3.3	84.5	3.5
Underlying Soil (0.5 to 1.5 feet)	28.3	1.2	28.9	1.2
0.0 to 1.0 foot	58.2	2.4	61.3	2.6
Underlying Soil (1.0 to 1.5 feet)	18.6	0.8	19.8	0.8
0.0 to 1.5 feet	45.0	1.9	47.4	2.0

Notes:
UCL = Upper Confidence Limit
90% UCL applicable for waste classification and onsite reuse
95% UCL applicable for risk assessment and offsite disposal
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
* = Soluble (WET) lead concentrations were predicted using slope of the regression line,
where y = predicted soluble (WET) lead and x = total lead

Regression Line Slope:

$$y = 0.0417 \quad x$$

Project Name:	Interstate 80 Post Mile 35.0 to 38.3
Geocon Project No.:	S9805-01-50
Sample Population:	Borings B2, B3, B6, B8, B10, B12, B14, B16, B18, B20, B22, HA25, B26, B27, B29, B31, B34, B35, B37, HA38, B41, B42, B44, B45, HA49, B51, B52, B54 through B59, HA62, B63 through B68, HA69, and HA70
Sample Population:	Five-foot Laterals

Lead - 0.0 to 0.5 ft

Total Number of Observations	42	Number of Distinct Observations	35
		Number of Missing Observations	0
Minimum	4.6	Mean	55.5
Maximum	730	Median	17.5
SD	117.5	Std. Error of Mean	18.13
Coefficient of Variation	2.117	Skewness	4.934
Mean of logged data	3.198	SD of logged data	1.117
		90% Standard Bootstrap UCL	**78.3**
		95% Standard Bootstrap UCL	**84.5**

Lead - 0.5 to 1.0 ft

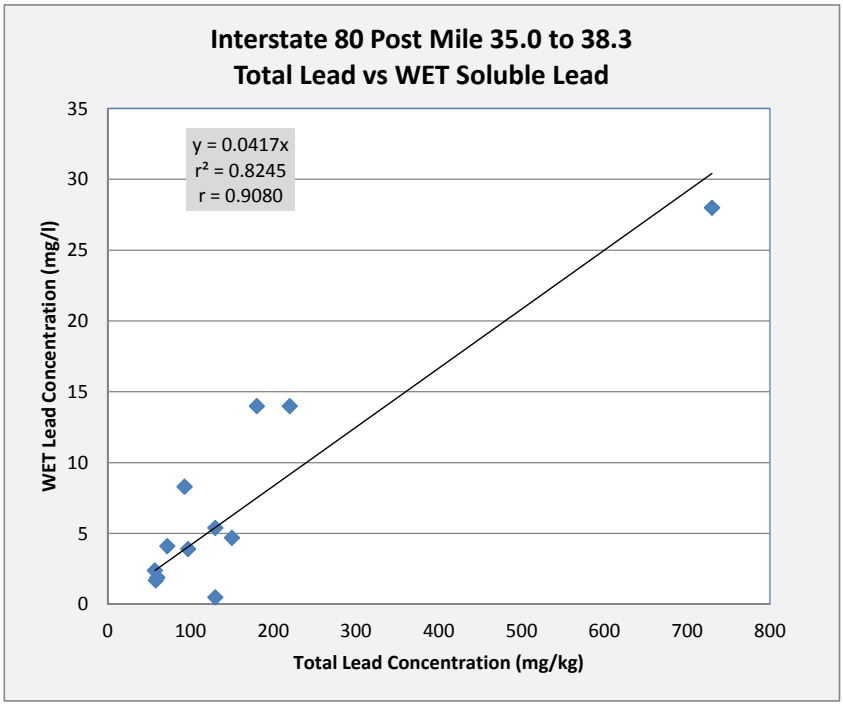
Total Number of Observations	4	Number of Distinct Observations	4
		Number of Missing Observations	0
Minimum	6.1	Mean	19.3
Maximum	38	Median	16.5
SD	13.47	Std. Error of Mean	6.734
Coefficient of Variation	0.699	Skewness	1.146
Mean of logged data	2.761	SD of logged data	0.752
		90% Standard Bootstrap UCL	**N/A**
		95% Standard Bootstrap UCL	**N/A**
		Insufficient amount of samples to calculated the UCLs	

Lead - 1.0 to 1.5 ft

Total Number of Observations	41	Number of Distinct Observations	33
		Number of Missing Observations	0
Minimum	1.7	Mean	14.2
Maximum	130	Median	8.7
SD	22.3	Std. Error of Mean	3.482
Coefficient of Variation	1.566	Skewness	4.001
Mean of logged data	2.122	SD of logged data	0.927
		90% Standard Bootstrap UCL	**18.6**
		95% Standard Bootstrap UCL	**19.8**

Project Name: Interstate 80 Post Mile 35.0 to 38.3
Geocon Project No: S9805-01-50
Sample Location: Five-foot Laterals

Sample ID	Total Lead	WET Lead
B18-5'-0'	93	8.3
B22-5'-1'	130	0.5
HA25-5'-0'	150	4.7
HA25-5'-1'	58	1.7
B26-5'-0'	130	5.4
B31-5-0	220	14
B35-5-0	60	1.9
HA49-5-0	730	28
B58-5'-0'	57	2.4
HA62-5-0	97	3.9
B67-5-0	72	4.1
HA70-5-0	180	14



SUMMARY OF STATISTICAL ANALYSIS
EA 03-1F4001
INTERSTATE 80 POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

Ten-foot Laterals

Total Lead UCLs (mg/kg)

Sample Interval (feet)	90% UCL	95% UCL
0.0 to 0.5	100.9	106.9
0.5 to 1.0	63.5	67.6
1.0 to 1.5	30.3	31.8

Excavation Scenarios

	90% UCL		95% UCL	
Excavation Depth	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 0.5 foot	100.9	4.3	106.9	4.6
Underlying Soil (0.5 to 1.5 feet)	46.9	2.0	49.7	2.1
0.0 to 1.0 foot	82.2	3.5	87.3	3.7
Underlying Soil (1.0 to 1.5 feet)	30.3	1.3	31.8	1.4
0.0 to 1.5 feet	64.9	2.8	68.8	3.0

Notes:
UCL = Upper Confidence Limit
90% UCL applicable for waste classification and onsite reuse
95% UCL applicable for risk assessment and offsite disposal
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
* = Soluble (WET) lead concentrations were predicted using slope of the regression line,
where y = predicted soluble (WET) lead and x = total lead

Regression Line Slope:

$$y = 0.0429 \quad x$$

Project Name:	Interstate 80 Post Mile 35.0 to 38.3
Geocon Project No.:	S9805-01-50
Sample Population:	Borings HA2, HA3, HA6, HA8, HA10, HA12, HA14, HA16, HA18, HA20, HA22, HA25 through HA27, HA29, HA31, HA34, HA35, HA37, HA38, HA41, HA42, HA44, HA45, HA49, HA51, HA52, HA54 through HA59, and HA62 through HA70
Sample Population:	Ten-foot Laterals

Lead - 0.0 to 0.5 ft

Total Number of Observations	47	Number of Distinct Observations	40
		Number of Missing Observations	0
Minimum	3.1	Mean	83.6
Maximum	410	Median	43
SD	97.9	Std. Error of Mean	14.28
Coefficient of Variation	1.17	Skewness	1.983
Mean of logged data	3.87	SD of logged data	1.077
		90% Standard Bootstrap UCL	**100.9**
		95% Standard Bootstrap UCL	**106.9**

Lead - 0.5 to 1.0 ft

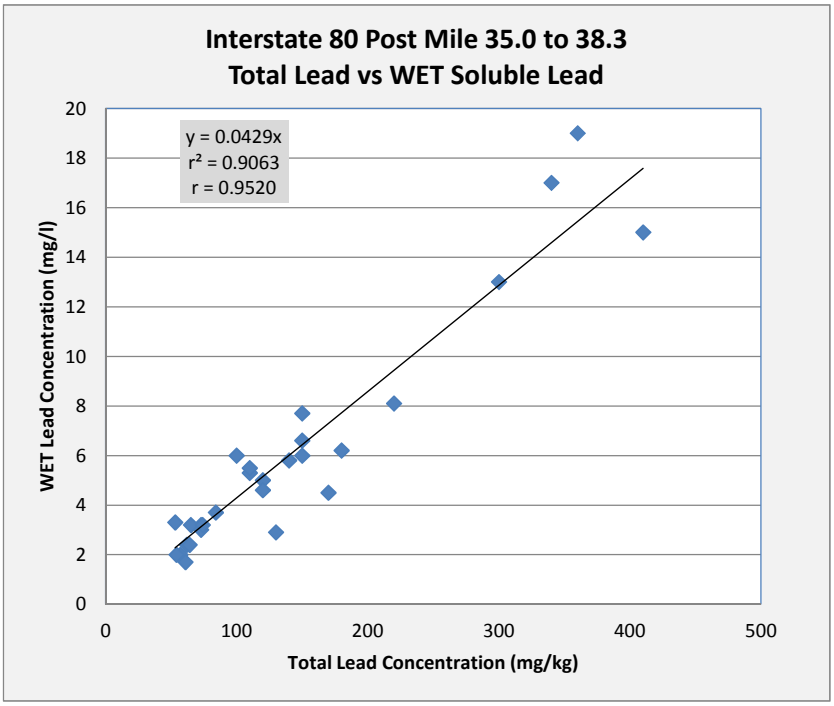
Total Number of Observations	16	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	5.6	Mean	50.7
Maximum	150	Median	44
SD	40.86	Std. Error of Mean	10.21
Coefficient of Variation	0.805	Skewness	1.367
Mean of logged data	3.604	SD of logged data	0.886
		90% Standard Bootstrap UCL	**63.5**
		95% Standard Bootstrap UCL	**67.6**

Lead - 1.0 to 1.5 ft

Total Number of Observations	33	Number of Distinct Observations	28
		Number of Missing Observations	0
Minimum	2.5	Mean	24.8
Maximum	120	Median	20
SD	25.06	Std. Error of Mean	4.363
Coefficient of Variation	1.01	Skewness	2.599
Mean of logged data	2.831	SD of logged data	0.903
		90% Standard Bootstrap UCL	**30.3**
		95% Standard Bootstrap UCL	**31.8**

Project Name: Interstate 80 Post Mile 35.0 to 38.3
Geocon Project No: S9805-01-50
Sample Location: Ten-foot Laterals

Sample ID	Total Lead	WET Lead
HA6-10'-0'	57	2.0
HA8-10'-0	180	6.2
HA14-10'-0	110	5.3
HA16-10'-0'	84	3.7
HA18-10-0'	150	6.6
HA18-10'-0.5'	130	2.9
HA22-10'-0'B	140	5.8
HA25-10'-0'	220	8.1
HA25-10'-0.5'	73	3.2
HA29-10-0B	62	2.4
HA31-10-0	170	4.5
HA31-10-0.5	54	2.0
HA34-10-0	65	3.2
HA35-10-0	340	17
HA41-10-0.5	150	7.7
HA49-10-0	410	15
HA51-10'-0'	150	6.0
HA52-10'-0'	360	19
HA52-10'-0.5'	73	3.0
HA55-10'-0'	110	5.5
HA58-10'-0'	61	1.7
HA62-10-0	74	3.2
HA66-10'-0'	120	5.0
HA66-10'-0.5'	64	2.4
HA67-10-0	53	3.3
HA69-10-1	100	6.0
HA70-10-0	300	13
HA70-10-1	120	4.6



SUMMARY OF STATISTICAL ANALYSIS
EA 03-1F4001
INTERSTATE 80 POST MILE 35.0 TO 38.3
PLACER COUNTY, CALIFORNIA

Fifteen-foot Laterals

Total Lead UCLs (mg/kg)

Sample Interval (feet)	90% UCL	95% UCL
0.0 to 0.5	76.0	78.8
0.5 to 1.0	44.7	47.6
1.0 to 1.5	33.8	35.8

Excavation Scenarios

	90% UCL		95% UCL	
Excavation Depth	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 0.5 foot	76.0	3.4	78.8	3.6
Underlying Soil (0.5 to 1.5 feet)	39.3	1.8	41.7	1.9
0.0 to 1.0 foot	60.4	2.7	63.2	2.9
Underlying Soil (1.0 to 1.5 feet)	33.8	1.5	35.8	1.6
0.0 to 1.5 feet	51.5	2.3	54.1	2.4

Notes:
UCL = Upper Confidence Limit
90% UCL applicable for waste classification and onsite reuse
95% UCL applicable for risk assessment and offsite disposal
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
* = Soluble (WET) lead concentrations were predicted using slope of the regression line,
where y = predicted soluble (WET) lead and x = total lead

Regression Line Slope:

$$y = 0.0453 \quad x$$

Project Name:	Interstate 80 Post Mile 35.0 to 38.3
Geocon Project No.:	S9805-01-50
Sample Population:	Borings HA2, HA3, HA6, HA8, HA10, HA12, HA14, HA16, HA18, HA20, HA22, HA25 through HA27, HA29, HA31, HA34, HA35, HA37, HA38, HA41, HA42, HA44, HA45, HA49, HA51, HA52, HA54 through HA59, and HA62 through HA75
Sample Population:	Fifteen-foot Laterals

Lead - 0.0 to 0.5 ft

Total Number of Observations	56	Number of Distinct Observations	44
		Number of Missing Observations	0
Minimum	4	Mean	66.4
Maximum	200	Median	46
SD	57.73	Std. Error of Mean	7.714
Coefficient of Variation	0.87	Skewness	1.157
Mean of logged data	3.794	SD of logged data	0.969
		90% Standard Bootstrap UCL	**76.0**
		95% Standard Bootstrap UCL	**78.8**

Lead - 0.5 to 1.0 ft

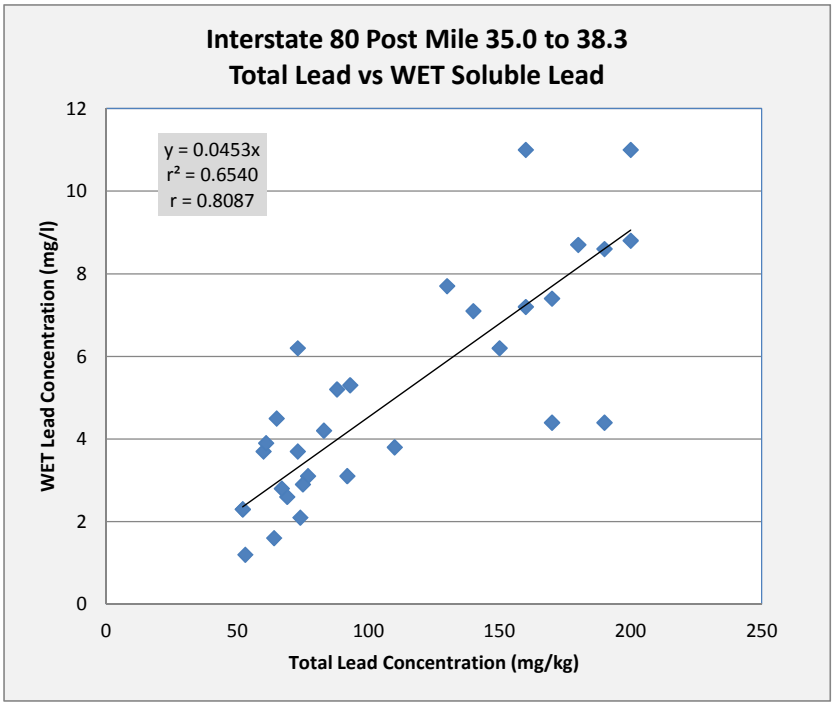
Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	3.1	Mean	34.3
Maximum	130	Median	20
SD	32.52	Std. Error of Mean	8.397
Coefficient of Variation	0.948	Skewness	2.027
Mean of logged data	3.165	SD of logged data	0.924
		90% Standard Bootstrap UCL	**44.7**
		95% Standard Bootstrap UCL	**47.6**

Lead - 1.0 to 1.5 ft

Total Number of Observations	26	Number of Distinct Observations	19
		Number of Missing Observations	0
Minimum	3.1	Mean	26.8
Maximum	150	Median	17.5
SD	28.77	Std. Error of Mean	5.642
Coefficient of Variation	1.073	Skewness	3.44
Mean of logged data	2.973	SD of logged data	0.772
		90% Standard Bootstrap UCL	**33.8**
		95% Standard Bootstrap UCL	**35.8**

Project Name: Interstate 80 Post Mile 35.0 to 38.3
Geocon Project No: S9805-01-50
Sample Location: Fifteen-foot Laterals

Sample ID	Total Lead	WET Lead
HA6-15'-0'	77	3.1
HA18-15'-0'	190	4.4
HA18-15'-1'	64	1.6
HA22-15'-0'	200	8.8
HA22-15'-0'B	170	7.4
HA25-15'-0'	74	2.1
HA26-15'-0'	60	3.7
HA31-15-0	88	5.2
HA34-15-0	140	7.1
HA35-15-0	200	11
HA35-15-0.5	130	7.7
HA37-15-0	83	4.2
HA37-15-0.5	69	2.6
HA49-15-0	110	3.8
HA51-15'-0'	170	4.4
HA54-15'-0'	93	5.3
HA55-15'-0'	75	2.9
HA55-15'-0.5'	53	1.2
HA62-15-0	52	2.3
HA66-15'-0'	65	4.5
HA66-15'-0.5'	52	2.3
HA67-15-0	61	3.9
HA69-15-0'	73	6.2
HA69-15-0'B	160	11
HA70-15-0'	160	7.2
HA70-15-1'	150	6.2
HA71-15'-0'	92	3.1
HA72-15'-0'	180	8.7
HA73-15'-0'	190	8.6
HA74-15'-0'	67	2.8
HA75-15'-0'	73	3.7



PCWA
water • energy • stewardship

PLACER COUNTY WATER AGENCY
SINCE 1957
BUSINESS CENTER
144 Ferguson Road
MAIL
P.O. Box 6570
Auburn, CA 95604
PHONE
530.823.4850
800.464.0030
WWW.PCWA.NET

May 22, 2015

Department of Transportation
District 3
703 B Street
Marysville, CA 95901
Attn: Luz Manuel Villanueva

Re: Request for Non-potable (untreated) Water for Project 03-1f400, Truck Climbing Lane

Greetings Luz Manuel,

Thank you for your inquiry. Your request for temporary, but long term non-potable (untreated) water for the Caltrans Project 03-1f400, Truck Climbing Lane along I-80 has been approved with the following conditions;

- Due to continued extreme drought conditions every effort shall be made to eliminate runoff of unused construction water from the site.

- No potable (treated) water shall be made available

Field management identified two locations your contractor may draw from off the Agency's Boardman Canal. The first location is near Alpine way and Ben Taylor Road and a second location near the Secret Town Road exit. I've attached two maps indicating the two approved locations for your reference. You and your contractor will need to meet with a PCWA canal operator prior to starting construction and drawing water to make arrangements.

The Agency has annual outages that begin mid-October and are on-going for about 4-6 weeks. During this outage period you may be limited to water availability.

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.

PCWA
water • energy • stewardship

PLACER COUNTY WATER AGENCY
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144 Ferguson Road
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Auburn, CA 95604
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530.823.4850
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WWW.PCWA.NET

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 and request to speak with Ann Reed, Heidi Novaes or Peggy Spurrier who will be your contacts for the duration of your project.

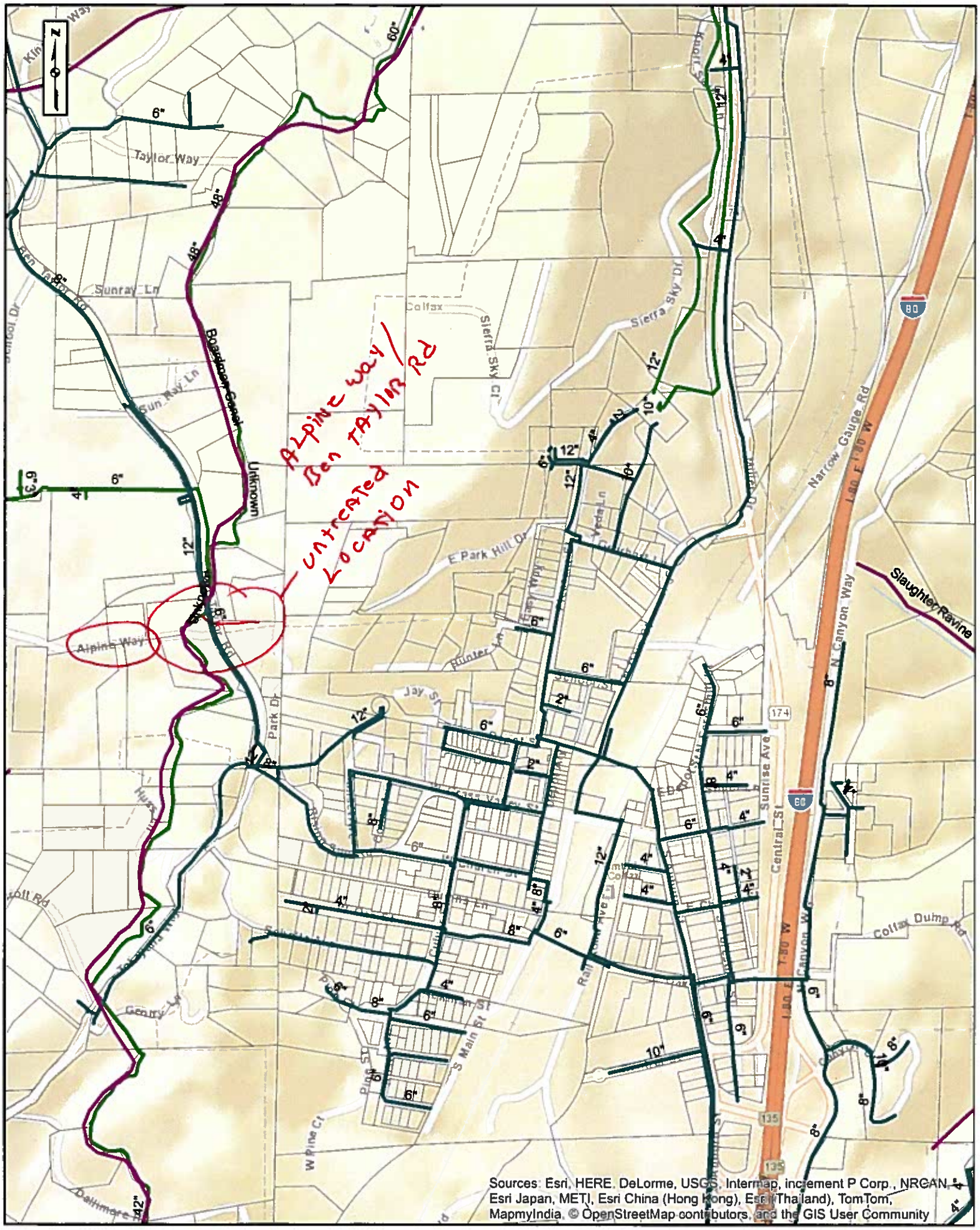
The Applicant hereby acknowledges that all water supplied hereunder is untreated water from open ditches, canals, ponds and conduits and is not intended nor offered for domestic use and that PCWA does not represent nor guarantee that any water delivered hereunder is potable or of a quality suitable for 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 530.823.4870 if you have any questions or if I can be of further help.

Sincerely,

Richard Cutlip, Deputy Director of Customer Services



ALPINE WAY / BEN TAYLOR RD

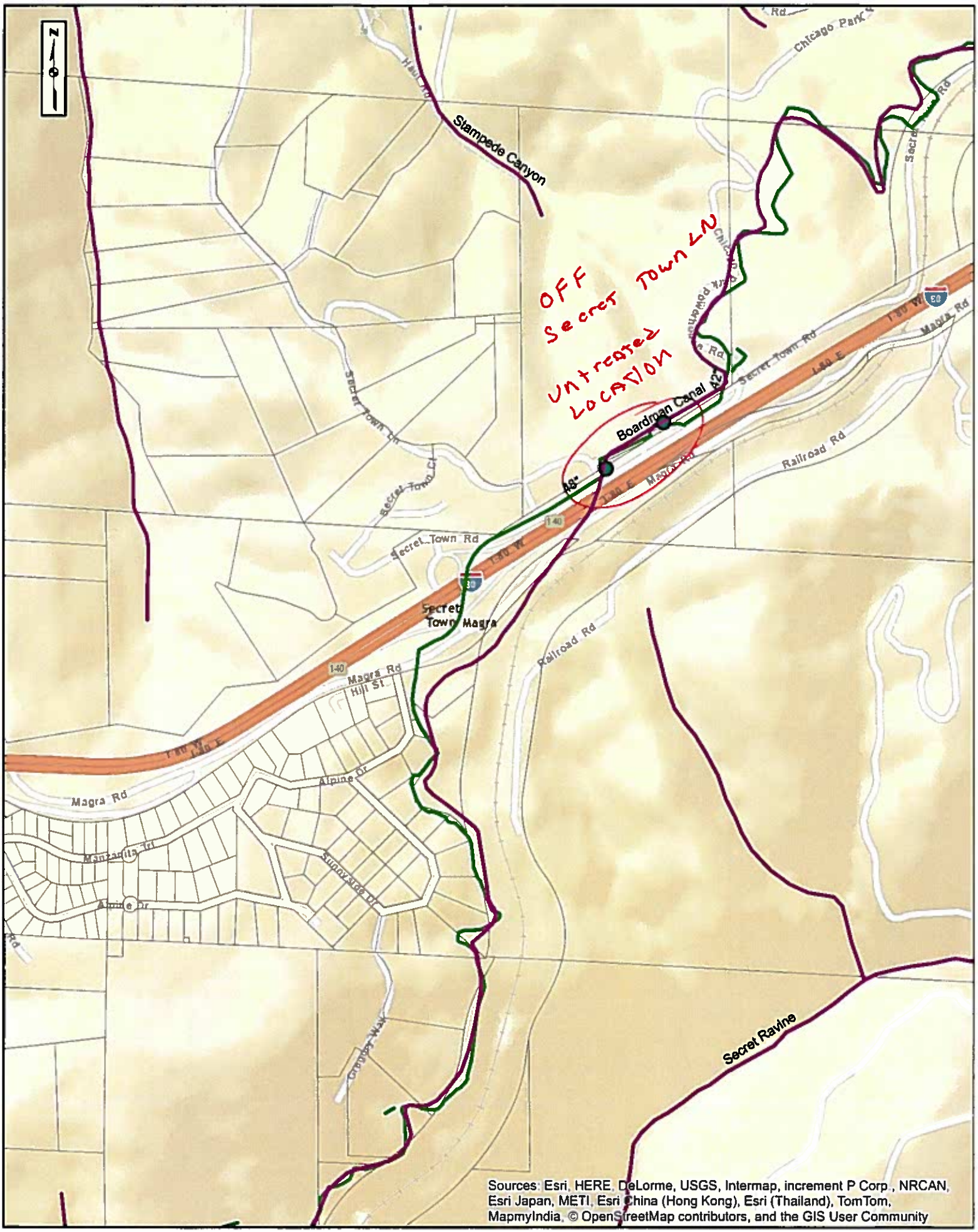
UNTREATED LOCATION

500 250 0 500 Feet

Ben Taylor - Alpine Truck Climbing Lane

ALPINE WAY / TAYLOR ROAD

Date: 4/27/15



500 250 0 500 Feet

Secret Town Truck Climbing Lane

Date: 4/27/15

PCWA Application for Untreated Water Load Count Permit

DRAFT

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.

For office Use Only

DRAFT

PCWA Load Count Permit

Company:_____

WF#_____ LID:_____

Approved by (Field):_____

Date Paid:_____Amount: $_____ Receipt: #_____

Permit picked up by:_____Copy of driver's license attached:_____

Permit Issued by CSR:_____

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

M e m o r a n d u m

Serious Drought!
Help Save Water!

To: JOE DOWNING
CHIEF
Bridge Design Branch 3
Office of Structure Design West
Division of Engineering Services

Date: May 14, 2015

File: 03-PLA-80- PM 36.86
Cape Horn Undercrossing
Replacement
Br. No. 19-0206
EA 03-1F4001
EFIS: 0300020420

Attn: Lewis Shen

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Geotechnical Services – MS 5
Office of Geotechnical Design – North

Subject: **REVISED FOUNDATION REPORT (FR) FOR CAPE HORN UNDERCROSSING**

INTRODUCTION

Per the request from the Office of Structure Design West (OSDW), the Office of Geotechnical Design North (OGDN) has prepared this Foundation Report (FR) for the replacement of the Cape Horn Undercrossing (UC) (Br. No. 19-0091) located at PM 36.86 on Interstate 80 (I-80), in Placer County, California, (see Vicinity Map, Plate No. 1). The new Cape Horn Undercrossing (Replace) has been assigned the new Bridge Number 19-0206. This report supersedes the Preliminary Foundation Report (PFR) for Cape Horn UC dated May 5, 2014 and the Preliminary Geologic Recommendations and Resource Estimate for Advance Planning Study for Cape Horn UC dated February 2, 2000.

PROJECT DESCRIPTION/SCOPE OF WORK

The Cape Horn Undercrossing replacement is part of the I-80 truck climbing lane project on eastbound I-80 between Long Ravine Underpass (PM 35.1) and Alpine Overcrossing-Secret Town Road (PM 38.3). This project proposes to widen the shoulders of I-80, construct a truck climbing lane, construct a retaining wall (approximately 1200 feet long) separating Magra Road from I-80 between Magra and Alpine Overcrossing, and widen and replace the Cape Horn Undercrossing. This FR addresses the replacement of Cape Horn Undercrossing. A 2010 Revised Standard Plan (RSP) Type 1 Retaining Wall is proposed as a left (northerly) wingwall to the easterly abutment, Abutment 2. Table No. 1 below summarizes the proposed retaining wall location.

Table No. 1 – Location of Abutment 2 Left side Wingwall for the proposed Cape Horn Undercrossing replacement (Br. No. 19-0206). Retaining Wall Type 1 (Case 1); RSP B3-1A.

Station "C1" Line	296+02.3 to 296+10.3	296+10.3 to 296+18.3	296+18.3 to 296+26.3	296+26.3 to 296+34.3
Design Height (feet)	24.0	22.0	18.0	14.0
Length (feet)	8.0	8.0	8.0	8.0
Bottom of Footing Elevation (feet)*	2757.3	2761.7	2765.7	2769.8

*Note: Based on Foundation Plan, Cape Horn UC (Replace), revision date 3-2-15.

The scope of our work included performing a literature and historical review in an effort to obtain geotechnical and geological data pertaining to the subject site that could provide insight into the design and construction of the proposed bridge replacement. The historical review included searching Caltrans intranet As Built records from the Bridge Inspection Records Information System (BIRIS), the Document Retrieval System (DRS) and the Digital Archive of Geotechnical Data (GeoDOG) databases; it should be noted that the As Built plans utilized for this report were absent of a vertical datum in reference to specified elevations. Our Office has evaluated the site conditions and geology based on a review of the obtained As Built Plans, geologic literature and mapping, aerial photographs, site visits and a subsurface investigation performed during October 2014. The foundation elevations provided in this report are based on the NAVD 88 (vertical datum) and the horizontal coordinates are based on the NAD83 (horizontal datum).

EXISTING SITE CONDITIONS AND BACKGROUND

The existing bridge was built as a three span structure in 1958. According to the Bridge Inspection Report, the structure was built as a "continuous RC slab with RC (2x2) column bents on spread footings. Abutment 1 is on spread footings and Abutment 4 is on concrete piles." According to the 1956 As Built "General Plan", the Abutment 1 foundation is founded within native materials, and the Abutment 4 piles extend through roughly 25 feet of fill materials placed as part of the I-80 construction. The As Built profile grade also indicates that the Cape Horn East roadway crossing under the bridge was constructed partially as cut, and partially with shallow fill materials. The bridge extends approximately 90 feet in length and has an approximate width of 65 feet.

Based on the General Plan, the replacement bridge will be constructed as a precast/prestressed I girder, single span supported with seat abutments. The bridge will extend 66 feet in length and will have an approximate width of 100 feet and will be constructed in three stages.

FIELD INVESTIGATION AND TESTING PROGRAM

The Office of Geotechnical Design conducted a subsurface investigation in October 2014. The subsurface investigation program consisted of placing a total of four mud rotary borings reaching a maximum depth of 90 feet (approx. elevation 2668). The mud rotary borings were advanced using a self-casing wireline coring method. Sampling recovery of the subsurface materials was achieved by utilizing the Standard Penetration Test (SPT) sampler in soil or soil like materials and diamond coring. A summary of the information regarding the borings drilled during the subsurface investigation program is included in Table No. 2. The provided hammer efficiencies were obtained from the August 2014 "Standard Penetration Test (SPT) Hammer Efficiencies for Caltrans Drill Rigs" provided by the Caltrans Foundation Testing Branch; the hammer efficiencies are reported to be determined in general conformance with ASTM D4633 "Standard Test Method for Energy Measurement for Dynamic Penetrometers."

Table No. 2 – Summary of the 2014 Subsurface Investigation for the proposed replacement Cape Horn Undercrossing (Br. No. 19-0206).

Boring No.	Completion Date	Drill Rig Type	Hammer Type	Hammer Efficiency (%)	Approx. Ground Surface Elevation (ft)	Boring Depth (ft)
RC-14-001	10/14/14	CS 2000	Auto	92	2790.9	80
RC-14-002	10/14/14	CS 2000	Auto	92	2783.4	51.5
RC-14-003	10/16/14	CS 2000	Auto	92	2770.2	73.0
RC-14-004	10/16/14	CS 2000	Auto	92	2758.5	90

LABORATORY TESTING PROGRAM

Laboratory testing was performed on selected samples of the subsurface materials obtained from the 2014 subsurface investigation. Tests were performed to determine the corrosion and engineering properties of the subsurface materials. The laboratory testing included moisture (ASTM D 2216), unit weight (ASTM D 4767), particle-size analysis (ASTM 422), Atterberg Limits (AASHTO T 89 and T 90), Triaxial Compression Tests (ASTM D 2850) and corrosion (CTM 417, 422, 532 and 643). Strength testing of a rock samples included Point Load (ASTM D5731) tests. The results of laboratory testing are presented in Appendix A, attached. The corrosion test results for the soil samples are summarized in the "Corrosion Evaluation" section of this report. The locations of samples which were laboratory tested can also be found on the Log of Test Borings (LOTBs).

The Point Load strength index was converted to Uniaxial Compressive Strengths (UCS) utilizing correlations offered in ASTM D5731-08. The point load tests were noted to have been performed parallel to a "plane of weakness"; thus, with the rock specimens exhibiting anisotropic strength, the actual intact rock UCS should be considered significantly greater in value.

SITE GEOLOGY AND SUBSURFACE CONDITIONS

Geologic Setting

The project site lies within the Central Metamorphic Terrane (CMT), a geologic terrane on the north-westerly portion of the Sierra Nevada Geomorphic Province. The CMT is located within a northerly trending belt (sometimes reffered to the as Foothills Metamorphic Belt) composed of a wide variety of metamorphic and igneous rocks. These rocks were emplaced on the western edge of North America through convergent plate-tectonism (colliding of earth's crustal plates) that occurred from about 100 million to more than 300 million years ago (Paleozoic and Mesozoic Eras). During the Cenozoic Era, from about 66 million years ago to the present, volcanic and sedimentary rocks were deposited on top of this basement of older rocks. Within the CMT, most of the Cenozoic rocks have been removed by erosion. The older basement rocks have been variously deformed by several episodes of folding and faulting. The overlying Cenozoic deposits show little or no deformation.

Site Geology

Based on the review of published geologic mapping of the region (see Plate No. 2), the Cape Horn UC site is underlain by materials of the Paleozoic age Calaveras Complex (Pzcc). Within the project site, the Calaveras Complex materials are noted to be composed of moderately metamorphosed chert, argillite and slate.

Subsurface Conditions

During the 2014 subsurface investigation, four borings (RC-14-001 through RC-14-004) were drilled in eastbound I-80 and below the existing bridge. Borings RC-14-001 and RC-14-002 were drilled west and east of the existing bridge in the eastbound lane of I-80, respectively and Borings RC-14-003 and RC-14-004 were drilled below the existing bridge in the Cape Horn East Road. A generalized summary describing the materials that were encountered at each boring location is presented below.

Boring RC-14-001 encountered approximately 1 foot of asphalt concrete and 1 foot aggregate base overlying approximately 35 feet of fill material consisting of medium dense clayey sand with gravel, poorly graded sand with silt and gravel, and stiff fat and lean clay with sand. Underlying the fill material is metamorphic rock. Boring RC-14-002 encountered approximately 1 foot of asphalt concrete and 6 inches of aggregate base overlying metamorphic rock. Boring RC-14-003 encountered approximately 6 inches of asphalt concrete and 4 inches of aggregate base overlying metamorphic rock. Boring RC-14-004 encountered approximately 1 foot of asphalt concrete and 1 foot of aggregate base overlying approximately 4 feet of fill material consisting of stiff fat clay with gravel and lean clay. Underlying the fill material is metamorphic rock.

The metamorphic rock encountered in all the borings consisted of slate. The metamorphic rock appears to be steeply sloping and ranges from intensely weathered and decomposed (soil like) to slightly weathered; hard, moderately hard and moderately soft with some soft and very soft zones; and intensely fractured with some very intensely fractured zones. The metamorphic rock was encountered to the maximum depth explored, 90 feet (approx. elevation 2668 feet).

A more detailed description of the subsurface conditions encountered are presented on the Log of Test Borings (LOTBs) provided in the project plans.

Naturally Occurring Asbestos (NOA)

Within the region geologically mapped on Plate No. 2, CGS Special Report 190 (Reference No,. 10), considers units of ultramafic rocks and serpentinite ("um") as areas "most likely" to contain naturally occurring asbestos (NOA). In addition, SR 190 considers units of metamorphosed mafic volcanic rocks ("mv" and "Pzcv"), gabbro rocks (gb) and diabase (db) as areas "moderately likely" to contain NOA. None of the above-mentioned units are noted to be present within the proposed Cape Horn UC (Replace) project area based on available published geologic mapping, on surface conditions observed during site visits, and on materials encountered by OGDN during the 2014 subsurface exploration. Mapping presented in SR 190 (see Plate No. 4) indicates the proposed project construction area to be considered "least likely" to contain NOA.

Groundwater

During the 2014 subsurface investigation, water was measured in the open borehole of Boring RC-14-004 (after a short waiting period) at an approximate depth of 20 feet, an elevation of 2738.5 feet. Water level measurements were not taken in Borings RC-14-001, RC-14-002 and RC-14-003 due to limited time associated with the lane closure. A mud rotary drilling method was used; therefore, the drill mud may have influenced the measurement.

Groundwater levels may occur at higher or lower elevations depending on the conditions at the time of construction.

CORROSION EVALUATION

Composite soil samples were collected from Borings RC-14-002 and RC-14-003 drilled during the 2014 subsurface investigation. The Caltrans Materials Engineering and Testing Services, Corrosion and Structure Concrete Field Investigation Branch (C&SC-FIB) tested the composite samples for corrosive potential. The according to the Caltrans 2012 Corrosion Guidelines, C&SC-FIB considers a site to be corrosive if one or more of the following conditions exist for the representative soil samples: chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater, or the pH is 5.5 or less. The minimum resistivity serves as an indicator for the possible presence of soluble salts and is not used to define a site as being corrosive. The 2012 Corrosion Guidelines state that soils samples having a minimum resistivity of less than 1000 ohm-cm are tested for sulfates and chlorides.

The results of the laboratory tests (see Appendix A) determined that the composite samples were considered to be "corrosive to foundation elements". Table No. 3 provides a summary of the test results. OGDN recommends referring to Memos to Designer (MTD) 3-1 (June 2014), MTD 10-3 (June 2010) and Table 5.12.3-1 of the November 2011 California Amendments (to the AASHTO LRFD Bridge Design Specifications – Fourth Edition) for guidance on corrosion protection measures for concrete and steel.

Table No. 3 - Corrosion Test Summary of the Composite Samples for the Cape Horn Undercrossing (Br. No. 19-0206)

Corrosion Lab Number	TL101 Number	Boring Number	Sample Depth (ft)	pH	Minimum Resistivity (ohm-cm)	Chloride Content (ppm)	Sulfate Content (ppm)
CR20140395	C701632	RC-14-002	4.0 – 6.0	5.12	12953	47	5.4
CR20140396	C701633	RC-14-003	6.5 – 9.5	5.31	23600	15	5.6
CR20140397	C701634	RC-14-003	48 - 50	6.61	8334	Not performed	Not performed

FAULTING/GEOLOGIC HAZARDS

According to Memo To Designers 20-10, fault rupture analyses will be performed for structures where any portion of the structure falls within an Alquist-Priolo Earthquake Fault Zone (EFZ) or where any portion of a structure falls within 1,000 ft of an "unzoned" fault (not in an EFZ) that is Holocene or younger in age (ruptured in last 11,700 years). A review of the available EFZ maps (Reference No. 15), indicates that the proposed structure location is not in an EFZ. However, the site is located within the Foothills Fault System.

Fault data provide on the "2010 Fault Activity Map of California" (Reference No. 13), and the USGS Google Earth KML files/Fault Database indicates the closest "active" (late-Quaternary in age/movement in the past 700,000 years) fault is the Giant Gap Fault of the Melones Fault System of Clark; this fault is located approximately 9.0 miles northeasterly of the project site (see Plate No. 3). A second active fault is located 9.3 miles southwesterly of the project site and is identified on the Fault Map of Plate No. 3 as the "Wolf Creek Fault Zone". The USGS KML files and the Caltrans ARS Online identify this fault as the "Highway 49 fault". The closest fault to the site is the northerly-trending Gillis Hill Fault, which extends across the highway around approximately PM 35.5; the CGS Geologic Data Map No. 6 indicates the Gillis Hill Fault to be Pre-Quaternary, lacking recognizable activity in the last 1.6 million years.

Based on the conditions encountered in the site subsurface exploration, the potential for soil liquefaction does not exist for the subsurface materials anticipated to support the proposed replacement bridge.

SEISMICITY

The Caltrans ARS Online web-based tool (v2.3.06) indicates that the closets "active" fault to the site is the North Central Reach Section (Highway 49 section) of the Foothills Fault System (Caltrans Fault ID 424). This web-based tool indicates the closest distance from the bridge site to the fault rupture plane is estimated to be 9.3 miles, and that this fault is a "normal" fault type capable of generating a Maximum Movement Magnitude (Mmax) of 6.2. This fault is located southwesterly of the project site and is identified on the "Fault Map" (Plate No. 3) as the "Wolf Creek Fault Zone". The Giant Gap Fault discussed above is not recognized by the current Caltrans ARS Online web-based tool as being active.

Based on the 2014 subsurface investigation, a V_{S30} (weighted average shear wave velocity for the top 100 feet of subsurface materials) of about 2300 feet per second is considered to be applicable to the foundation materials for the bridge site.

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 Cape Horn Undercrossing.

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

Based on the V_{S30}, the design Acceleration Response Spectrum (ARS) for the subject bridge is based on combining methods 1 and 3 above. The peak ground acceleration (PGA) is estimated to be 0.2g as shown on the ARS curve (see attached Plate No. 5).

AS-BUILT FOUNDATION DATA

As-Built General Plan, Foundation Plan and Log of Test Boring sheets for Cape Horn Undercrossing (Br. No. 19-0091) approved October 1, 1956 indicate that the bridge foundations consist of a combination of spread footings, cast-in-drilled-hole (CIDH) piles, Alternative V, and driven concrete piles. The design load of piling for this structure is 45 tons as shown on the As-Built Slab Details sheet approved October 1, 1956. A summary of the existing foundation data is presented below in Tables Nos. 4 and 5.

Table No. 4 - As-Built Spread Footing Data for Cape Horn Undercrossing (Br. No. 19-0091)

Support Location	Design Footing Pressure[2] (tsf)	Bottom of Footing Elevation [1] (ft)
Abutment 1 left	2.5	2771.0
Abutment 1 right	2.5	2773.0
Bent 2	2.5	2755.0
Bent 3	2.5	2750.0

Notes:

1. *Bottom of Footing Elevations were obtained from the "As-Built" Cape Horn Undercrossing Foundation Plan approved October 1, 1956.*
2. *Design Footing Pressure was obtained from the "As-Built" Cape Horn Undercrossing Slab Details sheet approved October 1, 1956.*

Table No. 5 - As-Built Pile Data for the Cape Horn Undercrossing (Br. No. 19-0091)

Support Location	Pile Type [1]	Design Load (Tons)	Bottom of Footing Elevation [1] (ft)	Pile Tip Elevation [2] (ft)
Abut 4 left	CIDH, Alt. V	45	2769.5	2734.8
	Driven Concrete			2740.0
Abut 4 left center	CIDH, Alt. V	45	2772.0	2734.8
	Driven Concrete			2740.0
Abut 4 right center	CIDH, Alt. V	45	2774.5	2734.8
	Driven Concrete			2740.0
Abut 4 right	CIDH, Alt. V	45	2777.0	2734.8
	Driven Concrete			2740.0

Notes:

1. *Bottom of Footing Elevations and Pile Type were obtained from the Foundation Plan, General Plan and Log of Test Boring sheet for the Cape Horn Undercrossing approved October 1, 1956. The pile diameter for CIDH piles was not indicated on the As-Built plans.*
2. *The Average CIDH Pile Tip Elevations and the Estimated Driven Concrete Pile Tip Elevations was obtained from the As-Built Log of Test Boring sheet for the Cape Horn Undercrossing approved October 1, 1956.*

FOUNDATION RECOMMENDATIONS

The proposed Cape Horn Undercrossing (Replacement) will be replaced using the same alignment as proposed by the OSDW. The foundation recommendations for Abutments 1 and 2 are provided for 24-inch Cast-In-Drilled-Hole (CIDH) piles. The recommended pile tip elevations for the abutments are based on the general foundation design data provided by the OSDW per Memo To Designers 3-1 (June 2014). The calculated geotechnical resistance of all CIDH piles is based only on side resistance with the exclusion of one pile diameter at the top and bottom of the pile.

Tables Nos. 6 and 7 are the summary of the loads provided by Structure Design. Table No. 8 provides the foundation design recommendations and Table No. 9 provides the Data Table for the CIDH piles.

Table No. 6–Foundation Design Data provided by Structure Design

Support Location		Pile Type	Finished Grade Elevation (ft)*	Cut-Off Elevation (ft)	Pile Cap Size (ft)		Permissible Settlement Under Service Load (in)	Number of Piles per Support
					B	L		
Abut 1	Stage 1	24" CIDH	2776.5	2760.75	16	32	2	15
	Stage 2	24" CIDH	2772.8	2757.25	16	27	2	13
	Stage 3	24" CIDH	2769.1	2752.75	16	46.8	2	24
Abut 2	Stage 1	24" CIDH	2779.2	2760.75	16	32	2	15
	Stage 2	24" CIDH	2774.7	2757.25	16	27	2	15
	Stage 3	24" CIDH	2770.3	2752.75	16	46.8	2	25

*Finished grade elevation taken as average at the face of the abutment stem

Table No. 7 – Foundation Factored Design Loads provided by Structure Design

Support Location		Service-I Limit State (kips)		Strength Limit State (Controlling Group, kips)				Extreme Event Limit State			
		Total Load Per Support	Permanent Loads Per Support	Compression		Tension		Compression		Tension	
				Per Support	Max. Per Pile	Per Support	Max. Per Pile	Per Support	Max. Per Pile	Per Support	Max. Per Pile
Abut 1	Stage 1	1910	1705	2610	245	N/A	N/A	-	-	-	-
	Stage 2	1780	1580	2430	265	N/A	N/A	-	-	-	-
	Stage 3	2975	2705	4025	265	N/A	N/A	-	-	-	-
Abut 2	Stage 1	2065	1865	2810	280	N/A	N/A	-	-	-	-
	Stage 2	1895	1700	2585	275	N/A	N/A	-	-	-	-
	Stage 3	3555	3280	4790	275	N/A	N/A	-	-	-	-

Table No. 8 - Pile Foundation Recommendations

Support Location		Pile Type	Cut-off Elevation (ft)	Service-1 Limit State Load (kips) per Support		Total Permissible Support Settlement (inches)	Required Factored Nominal Resistance per Pile (kips)				Design Tip Elevations (ft)	Specified Tip Elevation (ft)
							Strength		Extreme Event			
				Total	Permanent		Comp. (φ = 0.7)	Tension (φ = 0.7)	Comp. (φ = 1.0)	Tension (φ = 1.0)		
Abut 1	Stage 1	24-inch CIDH	2760.75	1910	1705	2	245	0	N/A	N/A	2705.5 (a-I),(d)	2705.5
	Stage 2		2757.25	1780	1580		265	0			2702.0 (a-I),(d)	2702.0
	Stage 3		2752.75	2975	2705		265	0			2697.5 (a-I),(d)	2697.5
Abut 2	Stage 1	24-inch CIDH	2760.75	2065	1865	2	280	0	N/A	N/A	2705.5 (a-I),(d)	2705.5
	Stage 2		2757.25	1895	1700		275	0			2702.0 (a-I),(d)	2702.0
	Stage 3		2752.75	3555	3280		275	0			2697.5 (a-I),(d)	2697.5

Notes:

1. Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (b-I) Tension (Strength Limit), (a-II) Compression (Extreme Event), and (b-II) Tension (Extreme Event), (c) Settlement, and (d) Lateral Load.
2. The specified tip elevation shall not be raised above the design tip elevations.
3. Design tip elevation for Lateral Load is provided by SD.
4. There is no Design Tip Elevation for settlement.

Table No. 9 - Pile Data Table

Location		Pile Type	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)
			Compression	Tension		
Abut 1	Stage 1	24-inch CIDH	350	0	2705.5 (a),(d)	2705.5
	Stage 2		380	0	2702.0 (a),(d)	2702.0
	Stage 3		380	0	2697.5 (a),(d)	2697.5
Abut 2	Stage 1	24-inch CIDH	400	0	2705.5 (a),(d)	2705.5
	Stage 2		400	0	2702.0 (a),(d)	2702.0
	Stage 3		400	0	2697.5 (a),(d)	2697.5

Notes:

1. Design tip elevations for Abutments 1 and 2 locations are controlled by: (a) Compression, (b) Tension, (c) Settlement, (d) Lateral Load.
2. The Specified Tip Elevation shall not be raised above the design tip elevations.
3. There is no Design Tip Elevation for settlement.
4. Design Tip Elevation for Lateral Load is provided by SD.

ABUTMENT 2 LEFT SIDE WINGWALL

The wingwall proposed at Abutment 2 is to consist of a Retaining Wall Type 1 in accordance with the 2010 Revised Standard Plan (RSP) B3-1A. This Type 1 wall is designed based on a loading of "Case 1". Based on ground surface topography and footing elevations presented on the "Foundation Plan", the ground surface is sloping at the proposed wall location, but the wall footing is proposed to be embedded into the existing ground such that the effective distance of level ground at the toe. Based on the site conditions encountered and the design data presented on RSP B3-1A, it is concluded that proposed wingwall will meet those presented on the standard plan, and therefore are considered to be acceptable. In accordance with the June 2013 Caltrans Memo regarding "Seismic Design and Selection of Standard Retaining Walls" (Reference No. 16), the proposed wingwall is "applicable" for seismic design criteria as the subject site has a PGA less than 0.6g.

CONSTRUCTION CONSIDERATIONS

1. As indicated in the "Groundwater" section of this FR, groundwater was measured during the 2014 subsurface investigation and was likely influenced by the mud rotary drill method. Groundwater will be encountered during construction perched atop rock materials, or flowing through rock fractures. CIDH piles with inspection pipes ("wet method" pile installation per Caltrans BCM 130-7.0) will be necessary for the construction of the CIDH piles.

2. Within the subsurface materials underlying the site, significant variation in the weathering, fracturing and hardness of the rock was encountered, even within relatively short distances (see LOTB sheets). The metamorphic rock ranges from intensely weathered and decomposed (soil like) to slightly weathered; hard, moderately hard and moderately soft with some soft and very soft zones; and intensely fractured with some very intensely fractured zones. The Contractor should anticipate significantly varying rock conditions both laterally (between adjacent pile locations) and vertically (within each pile excavation). The Contractor should anticipate similarly varying rock conditions for the proposed abutment excavations.

3. The self-casing wire-line drill system drilling techniques utilized during the subsurface investigations make it difficult to directly assess borehole stability and the potential for sidewall collapse. The encountered subsurface conditions shown on the LOTBs, and the surface exposures observed in field investigations, suggest that significant drill-hole sidewall collapse and materials caving should be anticipated when constructing CIDH piles. If temporary casing is used during installation of CIDH piles, it shall be removed before or during concrete placement in a manner that permits development of the required side resistance.

4. At the Abutment 2 location, the Contractor needs to be prepared to remove, breakdown or core through existing (As Built) vertical and/or battered concrete piles.

5. The Office of Geotechnical Design North should be invited to a pre-construction meeting.

SUPPLEMENTAL PROJECT INFORMATION

Section 2-1.06B "Supplemental Project Information" of the 2010 Standard Specifications addresses supplemental information ("as specified in the special provisions") made available to Bidders by Caltrans. The following items are being provided for insertion into the table in Section 2-1.06B of the project special provisions.

Included in the Information Handout:

- Revised Foundation Report for Cape Horn UC dated May 14, 2015.

Included with the Project Plans:

- Log of Test Borings for Cape Horn UC.

Available for inspection at the Department of Transportation:

- Core Samples

CLOSURE

The recommendations included in this Foundation Report are based on project information that has been provided by the Office of Structure Design West, Design Branch 3. Any questions regarding the above recommendations should be directed to the attention of Jacqueline A Martin (916) 227-1051 or Mark Hagy (916) 227-1077, Geotechnical Services, Office of Geotechnical Design-North.

PROFESSIONAL GEOLOGIST JACQUELINE A. MARTIN No. 8705 STATE OF CALIFORNIA

JACQUELINE A MARTIN, P.G.
Engineering Geologist
Office of Geotechnical Design-North

REGISTERED PROFESSIONAL ENGINEER MARK C. HAGY No. GE 2838 GEOTECHNICAL STATE OF CALIFORNIA

MARK HAGY, P.E., G.E.
Transportation Engineer-Civil
Office of Geotechnical Design-North

Attachments:

REFERENCES

PLATES

Plate No. 1	Vicinity Map
Plate No. 2	Geologic Map
Plate No. 3	CGS NOA Map
Plate No. 4	Fault Map
Plate No. 5	Design Acceleration Response Spectrum (ARS)

APPENDIX A Laboratory Test Results

cc: Reid Buell (E-Copy)
Reza Mahallati (E-Copy)
OGDN File

REFERENCES

1. Dept of Public Works (1956) "Plan and Profile of State Highway, In Placer County, between Colfax and Magra Overhead", III-PLA-37-B,C (New PLA 80 PM 33.1/38.8), State of Calif. Dept. of Public Works, Division of Highways As Built Plans approved on October 1, 1956, Document NO. 30000691, Contract No. 57-3TC22-F, Federal Project No. I-103(II), Sheets 1 through 95, As Builts dated December 17 and 18, 1957, January 17, 1958, April 8, 1958.

2. Dept of Public Works (1961) "Subsidence of Embankments", III-PLA-37-C, Colfax to Magra OH, Intra-Division Correspondence from F. N. Hveem, Materials and Research Department, dated December 8, 1961.

3. Dept of Public Works (1963) "Report of Subsidence of Embankments on Road III-Pla-37-C (New III-Pla-80) between Colfax and Magra Road, Vicinity of Station 128 and Vicinity of Station 134", by John L. Beaton, Materials and Research Department, W.O. 3T10H818-R, dated December 26, 1963.

4. USGS (1977) "Colfax 7.5 minute Quadrangle", Placer County, California, United States Geologic Survey (USGS), dated 1977, Scale 1:24,000.

5. Loyd, R. & Clinkenbeard, J. (1990) "Mineral Land Classification of Nevada County, California"; California Dept. of Conservation, Division of Mines and Geology Special Report 164.

6. DMG (1992) "Geologic Map of the Chico Quadrangle", California Department of Conservation, Division of Mines and Geology, Regional Map Series Map N. 7A, compiled by G. J. Suacedo and D. L. Wagner, Scale 1: 250,000, 1992.

7. Loyd, R. (1995) "Mineral Land Classification of Placer County, California"; California Dept. of Conservation, Division of Mines and Geology Open File Report 95-10.

8. Caltrans (2004) "Bridge Design Specifications, Section 5 –Retaining Walls", dated August 2004.

9. Higgens, C.T. and Clinkenbeard, J.P. (2006) "Relative Likelihood for the Presence of naturally Occurring Asbestos in Placer County, California", California Geologic Survey Special Report 190.

10. Caltrans (2008) "Memos to Designers 1-35, Foundation Recommendation and Reports, dated June 2008.

11. Caltrans (2009) "Geotechnical Services Design Manual", Version 1.0, Division of Engineering Services, Geotechnical Services, Caltrans, August 2009.

12. Caltrans (2010) "Soil and Rock, Logging, Classification, and Presentation Manual, 2010 Edition", State of California, Department of Transportation, Division of Engineering Services, Geotechnical Services.

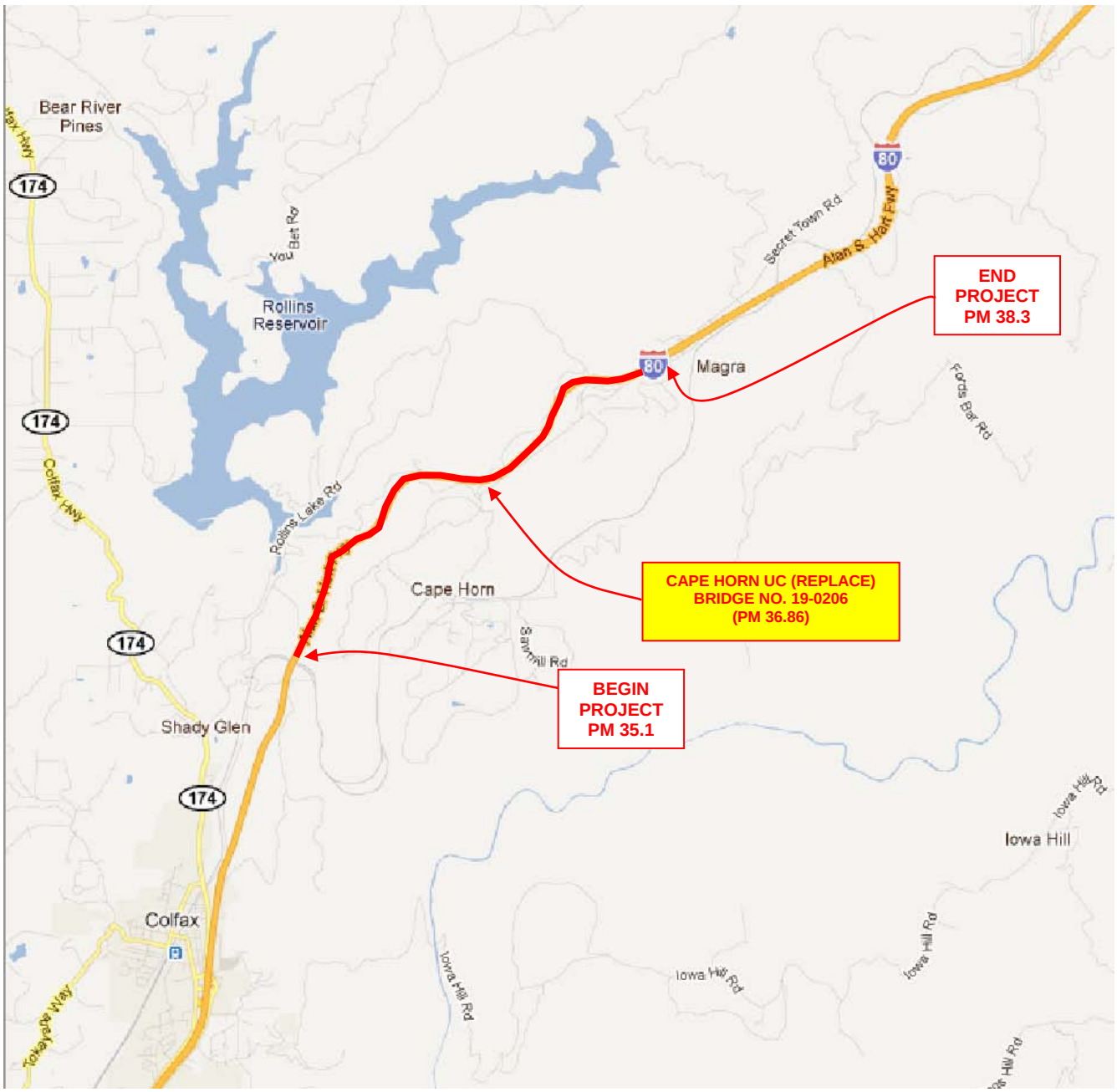
13. CGS (2010) "2010 Fault Activity Map of California", California Geologic Survey Geologic Data Map No. 6, dated 2010, obtained at http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html.

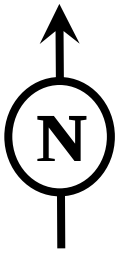
14. CGS (2011) " Alquist-Priolo Earthquake Fault Zone Maps", obtained from California Geologic Survey at http://www.quake.ca.gov/gmaps/ap/ap_maps.htm.

15. Caltrans (2012) "Corrosion Guidelines", Corrosion and Structure Concrete Field Investigation Branch, Materials Engineering and Testing Services, Caltrans, Version 2.0, November 2012.

16. Caltrans (2013) "Seismic Design and Selection of Standard Retaining Walls", Caltrans Division of Engineering Services, Caltrans Memo dated June 13, 2013.

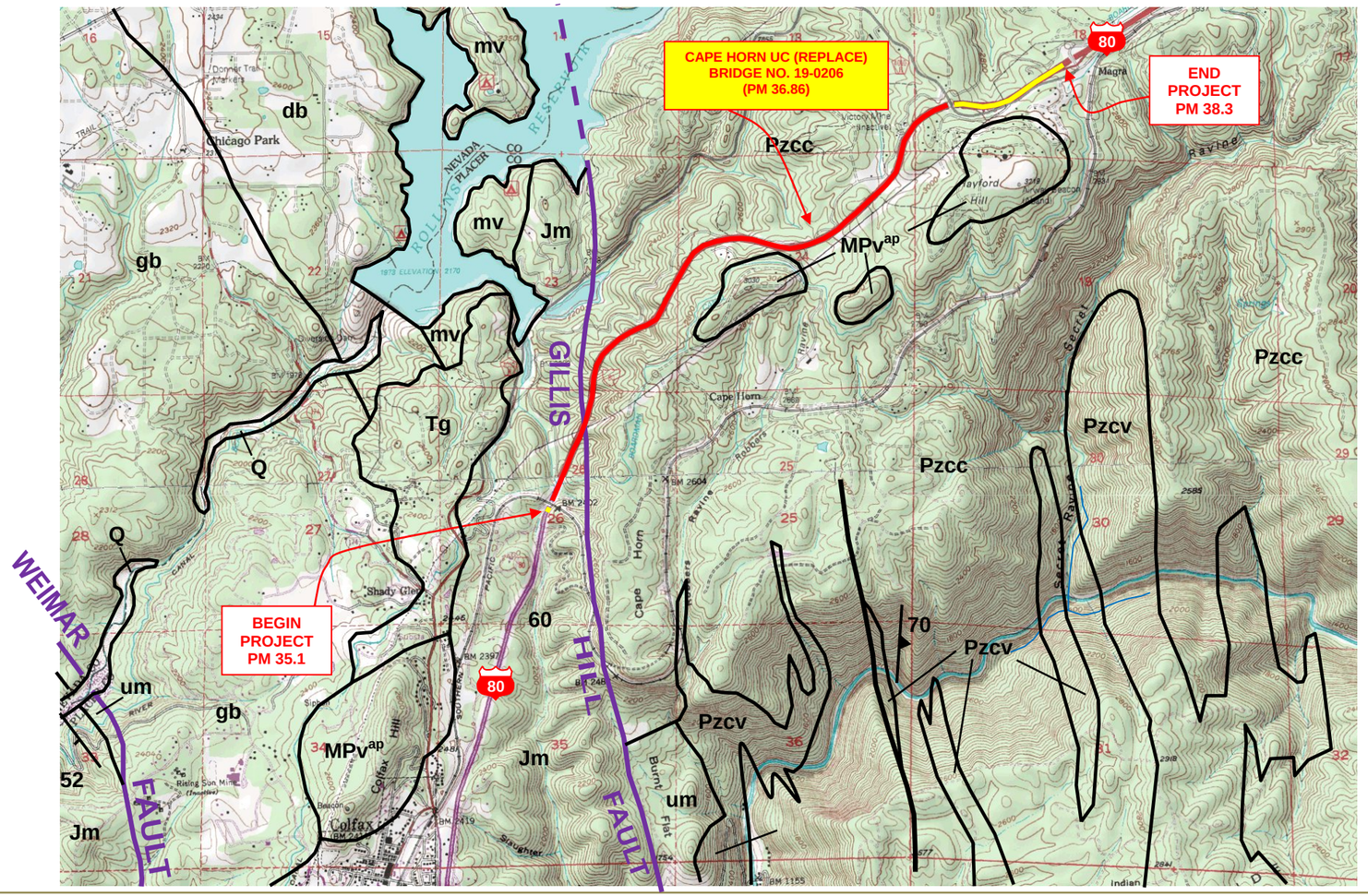
17. Caltrans (2014) "Memos to Designers 3-1, Attachment 1 – Deep Foundations & Design and Examples, dated June 2014.





NO SCALE

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: May 2015	**VICINITY MAP**
	03-PLA-80 PM 36.86 CAPE HORN UC (BR. NO. 19-0206) FOUNDATION REPORT	Plate No. 1



Map based on interpretation of data compiled by the following references:

1. Base Map: Portion of the Colfax 7.5 minute Quadrangle, Placer County, California, United States Geologic Survey (USGS), dated 1977, Scale 1:24,000.
2. G.J. Saucedo & Wagner, D.L. (1992) "Geologic Map of the Chico Quadrangle", scale 1:250,000, California Department of Conservation - Division of Mines and Geology, RGM 7A.
3. Loyd, R. & Clinkenbeard, J. (1990) "Mineral Land Classification of Nevada County, California"; California Dept. of Conservation, Division of Mines and Geology Special Report 164.
4. Loyd, R. (1995) "Mineral Land Classification of Placer County, California"; California Dept. of Conservation, Division of Mines and Geology Open File Report 95-10.
5. Higgens, C.T. and Clinkenbeard, J.P. (2006) "Relative Likelihood for the Presence of naturally Occurring Asbestos in Placer County, California", California Geologic Survey Special Report 190.

APPROXIMATE SCALE:

0 2000 4000 6000 8000 10,000 feet

0 1 2 miles

EXPLANATION:

Symbol	Unit	Description
Pzcv	Calaveras Complex	Metavolcanic and related hypabyssal rocks.
Pzcc	Calaveras Complex	Chert, argillite, slate.
um	Ultramafic Rocks	Peridotite, serpentinite and metaserpentinite.
mv	Metavolcanic Rocks	Mafic to felsic flows, tuffs, breccias, and volcaniclastic rocks.
gb	Gabbro	Locally includes diorite and related rocks.
db	Massive Diabase, Some Dikes	Locally includes diorite and gabbro.
Jm	Mariposa Formation	Slate, sandstone, conglomerate, and sedimentary breccias. Marine
Tg	Auriferous Gravel	River channel depoits; pebbles, cobbles, and boulders of pre-Tertiary basement rock types, in places predominately quartzose gravels and sands.
MPv^ap	Miocene-Pliocene Volcanic Rocks	Andesite mudflow breccias; tuffs, volcanic sediments and conglomerate. Locally includes flows traditionally mapped as Mehrten formation.
Q	Alluvium	Undivided alluvial deposits of unconsoilidated gravel, sand and silt.

Era:	Paleozoic	Mesozoic			Cenozoic					
Period:	....	Triassic	Jurassic	Cretaceous	Tertiary				Quaternary	
Epoch:					Eocene	Oligocene	Miocene	Pliocene	Pliestocene	Holocene

SYMBOLS:

- geologic contact
- fault
- Thrust fault, barbs on upper plate
- 70 strike & dip of bed
- 70 strike & dip of foliation
- 70 vertical strike & dip of foliation

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

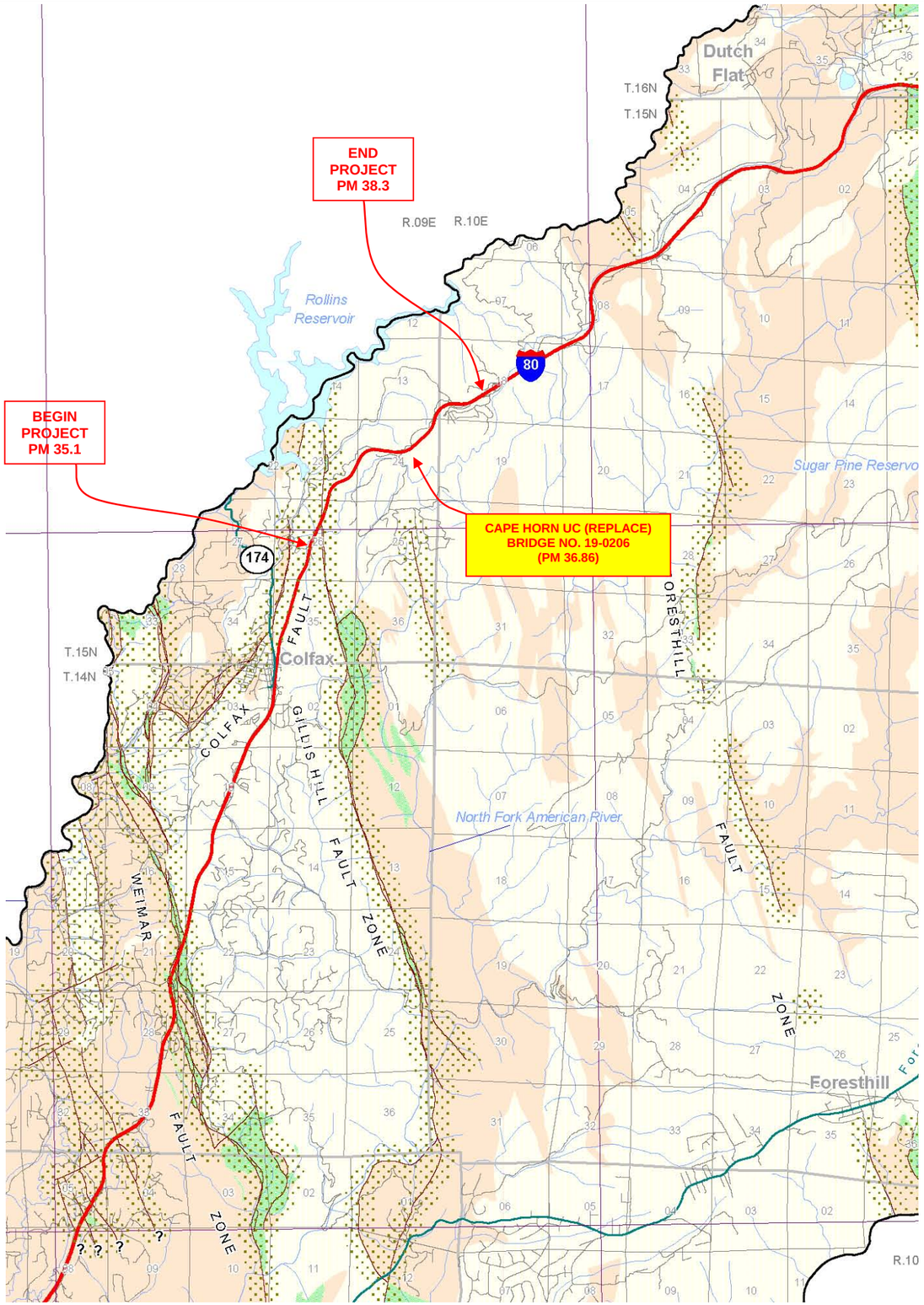
EA: 03-1F4001

Date: May 2015

GEOLOGY MAP

03-PLA-80 PM 36.86
CAPE HORN UC (BR. NO. 19-0206)
FOUNDATION REPORT

Plate No. 2



Areas of Relative Likelihood for the Presence of NOA

Areas Most Likely to Contain NOA: These areas include ultramafic rock and serpentinite (serpentine rock), and associated soils, which are most likely to contain NOA.

Areas Moderately Likely to Contain NOA: These areas include those metamorphic and igneous rocks that are moderately likely to contain NOA.

Areas Least Likely to Contain NOA: These areas include those metamorphic, igneous, and sedimentary rocks that are least likely to contain NOA.

Areas of Faulting or Shearing: These areas are zones of faulted or sheared rock that may locally increase the relative likelihood for the presence of NOA within or adjacent to areas moderately or most likely to contain NOA. The solid lines represent mapped traces of fault and shear zones; question marks indicate uncertainty regarding the continued extent of the traces.

Mapped trace of fault or shear zone. These features may locally increase the likelihood for the presence of NOA within areas least likely to contain NOA. The presence of NOA along these features is more likely within areas mapped as most likely or moderately likely to contain NOA as described above.

N

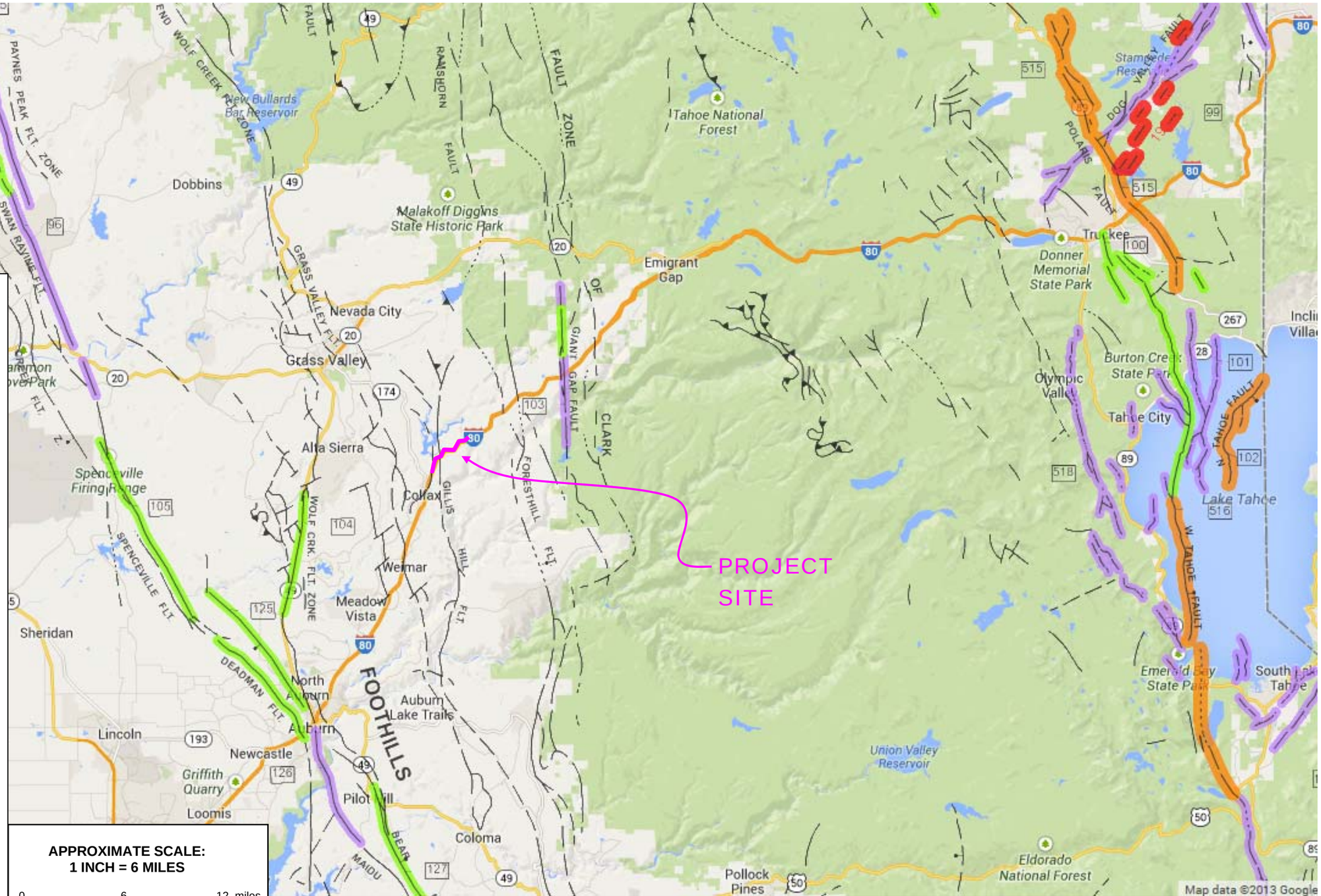
1 0 1 2 3 4
Miles

2 0 2 4
Kilometers

Scale: 1:100,000

Reference: **Higgens, C.T. and Clinkenbeard, J.P. (2006) "Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California", California Geologic Survey Special Report 190.**

Caltrans	CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: May 2015	**NATURALLY OCCURRING ASBESTOS (NOA) MAP**
		03-PLA-80 PM 36.86 CAPE HORN UC (BR. NO. 19-0206) FOUNDATION REPORT	Plate No. 3



EXPLANATION:

Fault traces on land are indicated by solid lines where well located, by dashed lines where approximately located or inferred, and by dotted lines where concealed by younger rocks or by lakes or bays. Fault traces are queried where continuation or existence is uncertain.

FAULT CLASSIFICATION COLOR CODE
(Indicating Recency of Movement)

Fault along which historic (last 200 years) displacement has occurred.

Holocene fault displacement (during past 11,700 years) without historic record.

Late Quaternary fault displacement (during past 700,000 years).

Quaternary fault (age undifferentiated).

Pre-Quaternary fault (older that 1.6 million years) or fault without recognized Quaternary displacement.

ADDITIONAL FAULT SYMBOLS

Bar and ball on downthrown side (relative or apparent).

Arrows along fault indicate relative or apparent direction of lateral movement.

Arrow on fault indicates direction of dip.

Low angle fault (barbs on upper plate).

APPROXIMATE SCALE:
1 INCH = 6 MILES

0 6 12 miles

Reference: Portion of the "2010 Fault Activity Map of California"; California Geological Survey, Geologic Data Map No. 6; Compilation and Interpretation by: Charles W. Jennings and William A. Bryant; Graphics by: Milind Patel, Ellen Sander, Jim Thompson, Barbara Wanish and Milton Fonseca; Obtained at http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html

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EA: 03-1F4001

Date: May 2015

FAULT MAP

03-PLA-80 PM 36.86
CAPE HORN UC (BR. NO. 19-0206)
FOUNDATION REPORT

Plate No. 4

Cape Horn UC

Bridge No. **19-0206**

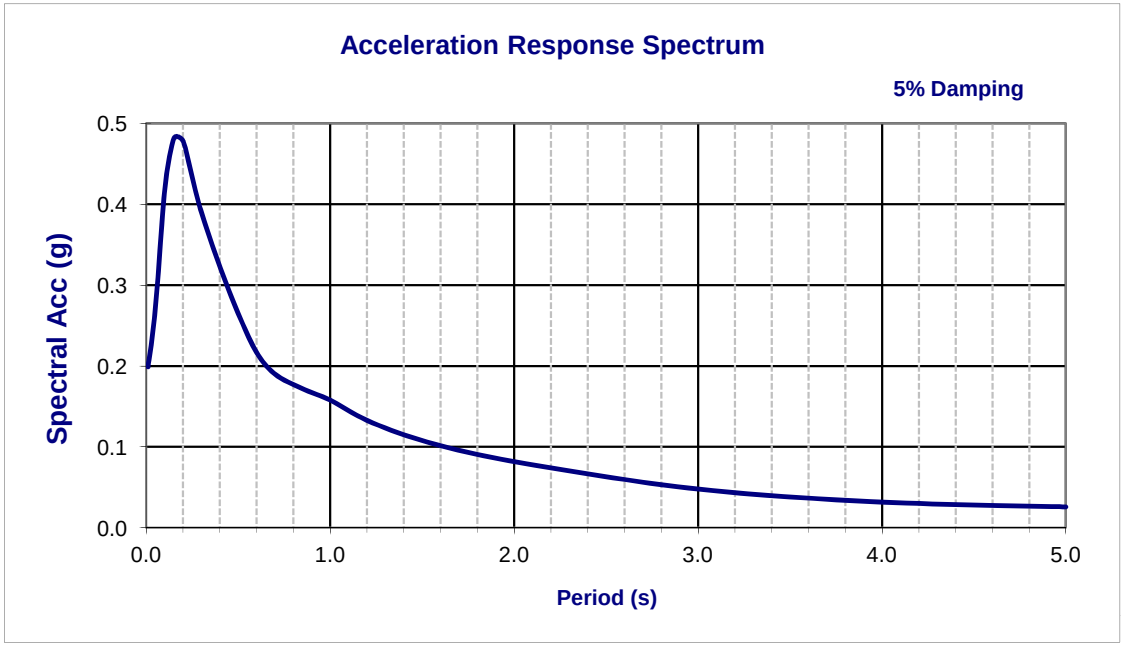
EFIS **0300020420**

Latitude 39.1386

Longitude -120.9196

Control **Envelope**

Period (s)	Sa(g)
0.010	0.199
0.050	0.271
0.100	0.416
0.150	0.481
0.200	0.478
0.250	0.433
0.300	0.390
0.400	0.323
0.500	0.265
0.600	0.217
0.700	0.190
0.850	0.172
1.000	0.158
1.200	0.133
1.500	0.108
2.000	0.082
3.000	0.048
4.000	0.032
5.000	0.026



Deterministic Procedure Data

Fault Foothills Fault System-north central reach section (Hwy 49)

Fault ID	424		R_{rup}	9.3	miles
Style	N		R_{jb}	9.3	miles
Mmax	6.2		R_x	8.8	miles
Dip	50	deg	V_{S30}	2300	ft/s
Z_{TOR}	0	miles	$Z_{1.0}$	N/A	ft
Z_{BOT}	6.2	miles	$Z_{2.5}$	N/A	miles

Note:

The Design ARS Curve is based on an envelope of the Minimum Deterministic Spectrum and the USGS 5% Probability of Exceedance in 50 years (975 years return period).

PLATE NO. 5.

Final Design Response Spectrum

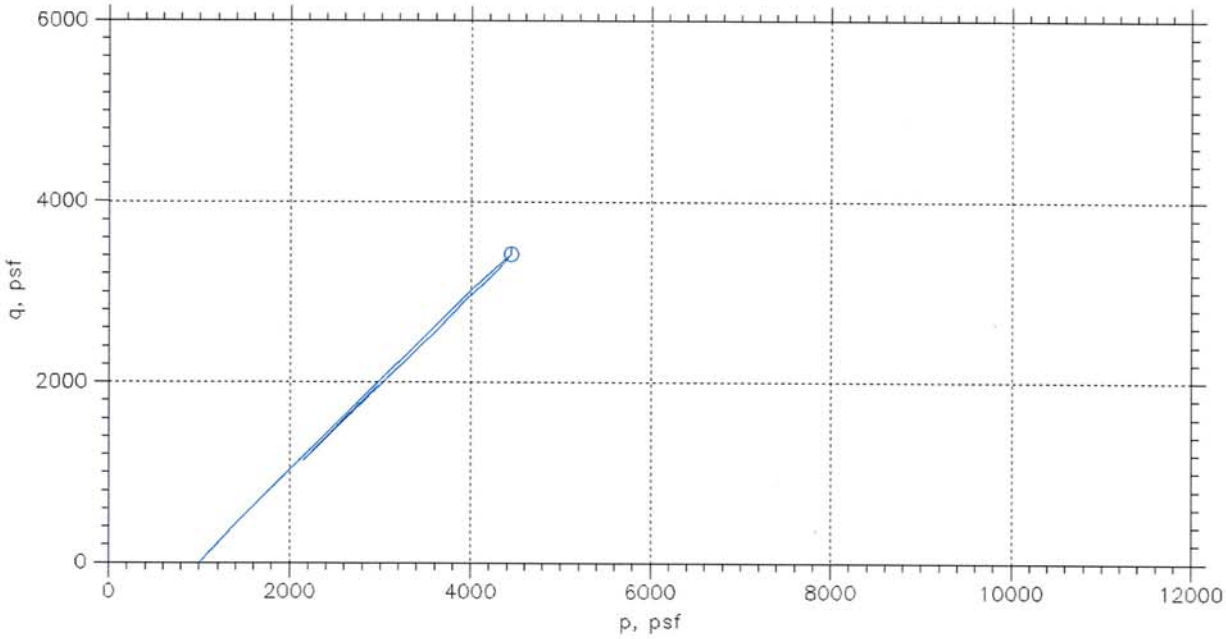
Appendix A

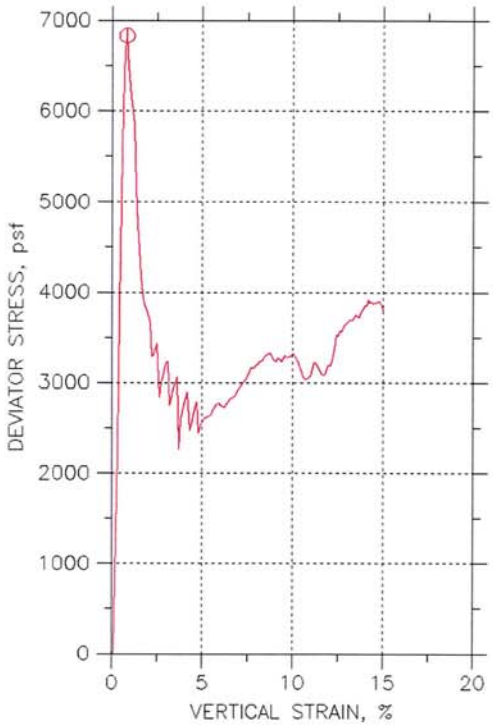
Laboratory Test Results

TABLE NO. A-1. SUMMARY OF LABORATORY TEST RESULTS

Sample Location				Percentage Passing Through Sieve No. or Particle Size Finer Than															Triaxial		Atterb. Limits		In-Situ		Point Load	CORROSION	
Boring No.	I.D. No.	Start Depth (ft)	End Depth (ft)	2"	1 ½"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	5μ	1μ	σ_3 (psf)	CUE, UU, UCC Cohesion Intercept (psf); ϕ	LL	PI	Dry Density γ_d (pcf)	Moisture (%)	Sc (psi)	CTM 417, 422, 532, and 643	
RC-14-001	3a	17.0	18.0	100	76	76	76	71	68	52	48	43	40	36	33	30	14	5			38	3		17.6			
RC-14-001	6	30.0	31.5		100	96	93	88	83	62	56	50	46	40	36	32	17	6						19.8			
RC-14-001	9	45.0	46.5			100	96	93	88	74	62	49	42	38	34	31	16	5						18.3			
RC-14-002	4-6	4.0	6.0																							pH	5.12
																										Resistivity (Ohm-cm)	12953
																										Chlorides (ppm)	47
																										Sulfates (ppm)	5.4
RC-14-002	11	26.0	27.5						100	93	87	78	69	53	50	48	22	8				NP		47.4			
RC-14-002	17	43.5	44.5		100	88	88	88	88	66	61	53	47	40	34	30	15	5				NP		44.9			
RC-14-003	2	6.5	9.5																							pH	5.31
																										Resistivity (Ohm-cm)	23600
																										Chlorides (ppm)	15
																										Sulfates (ppm)	5.6
RC-14-003	C08-2	22.0	22.5																2000	626; 0° (UU)			72.0	43.5			
RC-14-003	C08-1	22.5	23.0																1000	3,415; 0° (UU)			97.3	16.9			
RC-14-003	12	34.0	35.0					100	94	68	63	58	54	49	44	44	16	4				NP		21.0			
RC-14-003	18	48.0	50.0																							pH	6.61
																										Resistivity (Ohm-cm)	8334
																										Chlorides (ppm)	NA
																										Sulfates (ppm)	NA
RC-14-003	20	55.5	56.0																						4002		
RC-14-003	22	65.0	66.0						100	86	82	78	74	70	65	58	21	5				NP		34.1			
RC-14-004	12	57.0	57.6																						1770		
RC-14-004	13A	61.0	61.8																						4322		
RC-14-004	13B	64.2	64.9																						4526		

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST





Symbol		⦶
Sample No.		C08-1
Test No.		U15-001
Depth		22.5-23
Initial	Diameter, in	2.388
	Height, in	5.75
	Water Content, %	16.9
	Dry Density, pcf	97.29
	Saturation, %	60.6
	Void Ratio	0.765
Before Shear	Water Content, %	---
	Dry Density, pcf	---
	Saturation*, %	---
	Void Ratio	---
	Back Press., psf	---
Ver. Eff. Cons. Stress, psf		999.3
Shear Strength, psf		3415
Strain at Failure, %		0.801
Strain Rate, %/min		1
B-Value		---
Implied Specific Gravity		2.75
Liquid Limit		---
Plastic Limit		---

Caltrans

Project: Cape Horn UC

Location: 03-PLA-80-36.86-

Project No.: 03-1F4001

Boring No.: RC-14-003

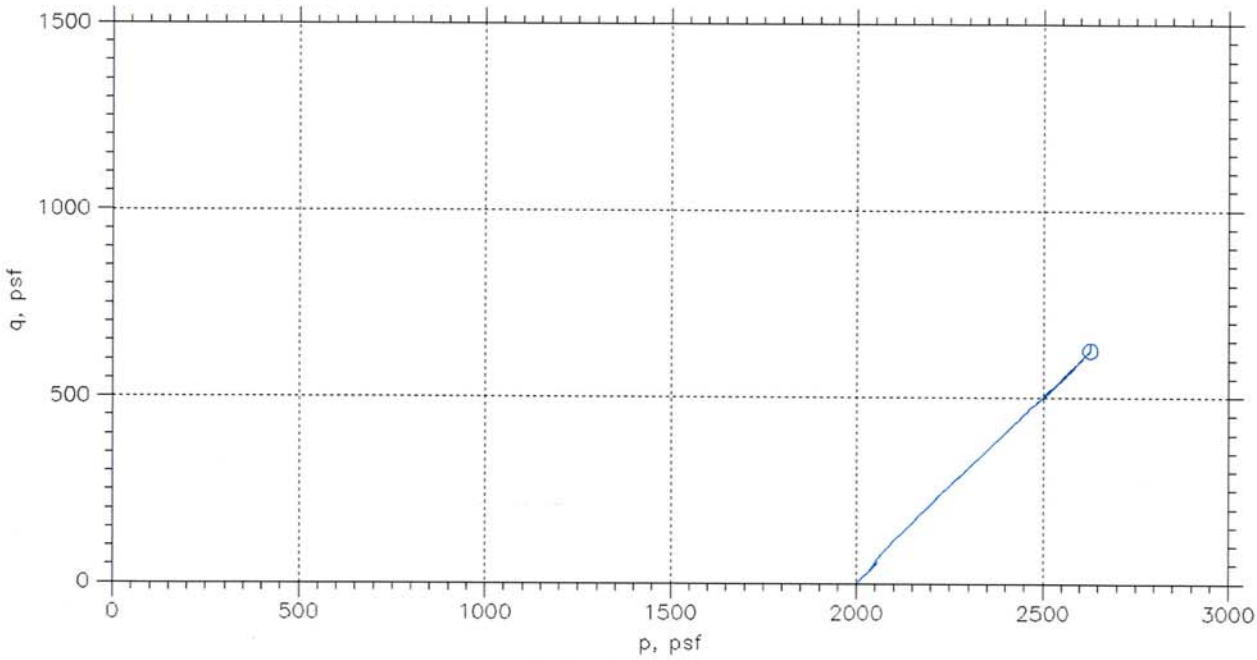
Sample Type: Brass

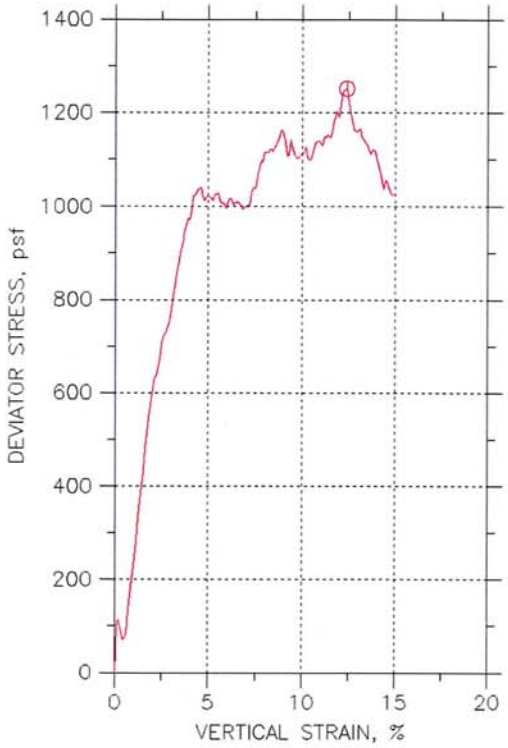
Description: Damp, Very Stiff, Light Tan with Brown/Beige/Red, Silty Clay and a Few specks of Asphalt

Remarks: GL NO. 14-066. Sample description is not a soil classification. 1/15/15

TRIAXIAL TESTING RESULTS **Plate No. A-1**

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST





Symbol		⏀
Sample No.		C08-2
Test No.		U15-002
Depth		22-22.5
Initial	Diameter, in	2.38
	Height, in	5.55
	Water Content, %	43.5
	Dry Density, pcf	72.01
	Saturation, %	86.5
	Void Ratio	1.38
Before Shear	Water Content, %	---
	Dry Density, pcf	---
	Saturation*, %	---
	Void Ratio	---
	Back Press., psf	---
Ver. Eff. Cons. Stress, psf		1999
Shear Strength, psf		625.8
Strain at Failure, %		12.4
Strain Rate, %/min		1
B-Value		---
Implied Specific Gravity		2.75
Liquid Limit		---
Plastic Limit		---

Caltrans

Project: Cape Horn UC

Location: 03-PLA-80-36.86-

Project No.: 03-1F4001

Boring No.: RC-14-003

Sample Type: BRASS

Description: Moist, Firm, Reddish/Orange Tan, Silty Clay w/Voids & Some Asphalt. Reshaped at Top.

Remarks: GL NO. 14-066. Sample description is not a soil classification. WP 1/15/15

TRIAXIAL TESTING RESULTS **Plate No. A-2**

Results sent to: MARK HAGY

Division of Engineering Services
Materials Engineering and Testing Services
Corrosion and Structural Concrete Field Investigation Branch

Report Date: 12/22/2014
Reported by Michael Mifkovic

CORROSION TEST SUMMARY REPORT - SOIL

EFIS: **0300020420** Bridge # **19-0091**

Dist/Co/Rte/PM **03 / PLA /080/ / 36.86 PM** Bridge Name **CAPE HORN UC**

CORROSION LAB #	TL101 #	BORE #	DEPTH (FT) START	DEPTH (FT) END	MINIMUM RESISTIVITY[1] (ohm-cm)	pH[1]	CHLORIDE CONTENT[2] (ppm)	SULFATE CONTENT[3] (ppm)	IS SAMPLE CORROSIVE?
SOIL SAMPLE FROM:									
CR20140395	**C701632**	RC-14-002	9.5	16	12953	5.12	47	5.4	**YES**
CR20140396	**C701633**	RC-14-003	6.5	9.5	23600	5.31	15	5.6	**YES**
CR20140397	**C701634**	RC-14-003	48	50	8334	6.61			NO

This site is corrosive to foundation elements (see note below).

Controlling corrosion parameters are as follows:

- pH is 5.5 or less

Note: For Structural Elements, the Department considers a site corrosive if one or more of the following conditions exist: pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater. Resistivity is not considered for Structural Elements. MSE backfill shall conform to the requirements of section 47-2.02C Structure Backfill in the 2010 Standard Specifications.

[1]CT 643, [2]CT 422, [3]CT 417

CR20140395 - CR20140397

12/22/2014

Point Load Strength Index of Rock; ASTM D 5731 - 08

Dist-EA: 03-1F4001 **Dist-Co-Rte-PM: PLA-80 PM 36.86** **GL Tracking Nos.: 14-066**

Report Date: January 14, 2015

Boring I.D.	Depth (feet)		Test Type	Initial Distance Between Contact Points, D (mm)	Final Distance Between Contact Points, D' (mm)	Equivalent Diameter, D_e (mm) per Section 10.1 of ASTM D 5731-08	Width, W (mm)	Length, L (mm)	Failure Load (lbs)	Uncorrected Point Load Strength Index, I_s; per EQ. #1 of ASTM D 5731-08		Size Correction Factor, F; per EQ. #4 of ASTM D 5731-08	Size Corrected Point Load Strength Index, $I_{s(50)}$; per EQ. #3 of ASTM D 5731-08		Generalized Index to Strength Conversion Factor, K_t per Table 1 of ASTM D 5731-08 (approximated where appropriate)	Estimated Uniaxial Comp. Strength, s_c per EQ. #6 of ASTM D 5731-08		Remarks
	top	bottom								(MPa)	(PSI)		(MPa)	(PSI)		(MPa)	(PSI)	
RC-14-003_20	55.5	56	D-L	58.0	54.0	55.96		60.40	809.6	1.15	166.77	1.05	1.21	175	24	28	4,002	
RC-14-004_12	57	57.6	D-L	61.0	53.0	56.86		49.60	369.6	0.51	73.76	1.06	0.54	78	24	12	1,770	
RC-14-004_13A	61	61.8	I-L	36	26	44.57	60.0	63.0	633.6	1.42	205.80	0.95	1.35	195	21	30	4,322	
RC-14-004_13B	64.2	64.9	I-L	36	27	45.79	61.0	50.0	700.48	1.49	215.51	0.96	1.43	207	21	31	4,526	

NOTES:

Test Type Abbreviations: D - Diametral, A -Axial, B - Block, I - Irregular Lump.

Orientation of Load (if anisotropic): P - Perpendicular to plane of weakness, L - Parallel to plane of weakness

RC-14-003_20

RC-14-004_12

RC-14-004_13A

RC-14-004_13B

Caltrans	CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: May 2015	POINT LOAD STRENGTH INDEX OF ROCK TEST RESULTS
		03-PLA-80; PM 36.86; CAPE HORN UC REPLACEMENT **FOUNDATION REPORT**	Plate No. A-4

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

M e m o r a n d u m

Serious Drought!
Help Save Water!

To: JOE DOWNING
CHIEF
Bridge Design Branch 3
Office of Structure Design West
Division of Engineering Services

Date: May 21, 2015

File: 03-PLA-80-PM 38.01/38.23
Magra Wall
Structure No. 19E0010
EA# 03-1F4001
EFIS 0300020420

Attn: Lewis Shen

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Geotechnical Services – MS 5
Office of Geotechnical Design – North

Subject: Revised Foundation Report for Magra Wall

INTRODUCTION

Per the request of the Office of Structure Design West (OSDW), the Office of Geotechnical Design-North (OGDN) has prepared this Foundation Report (FR) for an Earth Retaining System (ERS) proposed to be constructed between approximately PM 38.01 and 38.23 on the southerly side of Interstate 80 (I-80), in Placer County, California (see vicinity map, Plate No. 1). The ERS is being proposed to facilitate the addition of a truck climbing lane on eastbound I-80 between PM 35.1 and 38.3, in Placer County.

PROJECT DESCRIPTION/SCOPE OF WORK

According to the "General Plan" sheet provided by OSDW (date plotted of January 8, 2015), the proposed ERS will extend approximately 1,216 feet in length along a wall layout line (RWLOL) located 58.2 feet right (southerly) from the I-80 centerline (see "C1" Line, Plate No. 5). The ERS is proposed to be composed of steel (I-beam) soldier piles placed in 36 inch diameter holes (filled with concrete) spaced at roughly 8.0 feet centers. The ERS facing will consist of timber lagging overlain with a concrete facing. A single row of ground anchors is proposed at a vertical distance of approximately 6 feet below the top of the wall and the anchors will be sloped downwards at 15 degrees from the horizontal. Based on roadway design data provided by the North Region Division of Engineering, Office of Design South, Design Branch S-4, the ERS retained height (height of lagging) is expected to be as high as approximately 16 feet, with 80 percent of the wall proposed as 10 feet or higher. The Design Branch S-4 data indicates the ERS will be retaining earth materials that slope upwards to Magra Road behind the wall (see Existing Conditions", below).

The scope of our work included performing a literature and historical review in an effort to obtain geotechnical and geological data pertaining to the subject site that could provide insight into the design and construction of the proposed retaining wall. The historical review included searching the Caltrans intranet As Built records from the Document Retrieval System (DRS); it should be noted that the As Built plans utilized to complete this report were absent of a vertical datum in reference to specified elevations. Historical geotechnical data was obtained from the Digital Archive of Geotechnical Data (GeoDOG) database. OGDN has evaluated the site conditions and geology based on a review of the obtained As-Built Plans, geologic literature and mapping, aerial photographs, multiple site visits and a subsurface investigation program performed during October of 2014. The foundation recommendations elevations provided in this report are based on the NAVD88 (vertical datum) and the horizontal coordinates are based on the NAD83 (horizontal datum).

EXISTING SITE CONDITIONS AND BACKGROUND

According to As Built plans the project section of I-80 was constructed between 1956 and 1958 as a four-lane highway with 4 foot shoulders. Review of As Built profiles revealed that the section of highway at the proposed wall location can generally be characterized as being constructed with three conditions identified from west to east: a cut/fill section, a through-fill section, and a through-cut section. These three sections are apparent by noting the 1956 As Built "C4 Base Line Ground Line" as depicted on the Magra Wall profile of Plate No. 7). Cut and fill slopes are called-out on the "Site Plan" (Plate No. 5) as identified in the field and in conjunction with As Built plan information. As noted, a drainage culvert stretches beneath the proposed wall location at the through-fill section. Cut slopes above Magra Road are sloped at roughly 0.5H:1V to 1:H:1V and extend as high as 25 feet. Formational rock is exposed on the slopes, which appeared to be relative stable (see photographs, Appendix A). Fill slopes in the wall area are generally sloped at 1.5H:1V. Within the proposed wall location the slope is vegetated with numerous native pine trees, and the slope ground surface covered with pine needles and duff. Overhead power lines cross the westerly end of the proposed wall location around Station "C1" Line 355+05. Residential property and structures encompass the proposed wall location (see "Site Plan").

FIELD INVESTIGATION AND TESTING PROGRAM

OGDN conducted a subsurface investigation in October 2014. The subsurface investigation program consisted of placing a total of five mud rotary borings reaching a maximum depth of approximately 61.5 feet. The mud rotary borings were advanced using a self-casing wireline coring method. Sampling recovery of the subsurface materials was achieved by utilizing the Standard Penetration Test (SPT) sampler and diamond coring. A summary of information regarding the borings drilled during the subsurface investigation program is included in Table No. 1. The provided hammer efficiencies were obtained from the August 2014 "Standard Penetration Test (SPT) Hammer Efficiencies for Caltrans Drill Rigs" provided by the Caltrans Foundation Testing Branch (Reference No. 22); the hammer efficiencies are reported to be determined in general conformance with ASTM D4633 "Standard Test Method for Energy Measurement for Dynamic Penetrometers".

Table No. 1- Summary of the 2014 Subsurface Investigations for the proposed Magra Wall

Boring No.	Completion Date	Drill Rig Type	Hammer Type	Hammer Efficiency (%)	Ground Surface Elevation (ft)	Boring Depth (ft)
RC-14-001	10/7/14	CS2000	Auto	92	2,947.2	61.5
RC-14-002	10/7/14	CS2000	Auto	92	2,940.3	41.5
RC-14-003	10/9/14	CS2000	Auto	92	2,954.4	51.5
RC-14-004	10/13/14	CS2000	Auto	92	2,945.7	31.5
RC-14-005	10/13/14	CS2000	Auto	92	2,921.1	29.5

LABORATORY TESTING PROGRAM

Laboratory testing was performed on selected samples of the subsurface materials obtained from the 2014 subsurface investigation. Tests were performed to determine the corrosion and engineering properties of the subsurface materials. The laboratory testing included moisture (ASTM D 2216), unit weight (ASTM D 4767), particle-size analysis (ASTM 422), Atterberg Limits (AASHTO T 89 and T 90), and corrosion (CTM 417, 422, 532 and 643). Strength testing of a rock sample included a Point Load (ASTM D5731) test. The results of laboratory testing are presented in Appendix B, attached. The corrosion test results for the soil samples are summarized in the "Corrosion Evaluation" section of this report. The locations of samples which were laboratory tested can also be found on the Log of Test Borings (LOTBs).

The Point Load strength index was converted to Uniaxial Compressive Strengths (UCS) utilizing correlations offered in ASTM D5731-08. The point load test was noted to have been performed parallel to a "plane of weakness"; thus, with the rock specimens exhibiting anisotropic strength, the actual intact rock UCS should be considered significantly greater in value.

SITE GEOLOGY AND SUBSURFACE CONDITIONS

Geologic Setting

The project site lies within the Central Metamorphic Terrane (CMT), a geologic terrane on the north-westerly portion of the Sierra Nevada Geomorphic Province. The CMT is located within a northerly trending belt (sometimes referred to the as Foothills Metamorphic Belt) composed of a wide variety of metamorphic and igneous rocks. These rocks were emplaced on the western edge of North America through convergent plate-tectonism (colliding of earth's crustal plates) that occurred from about 100 million to more than 300 million years ago (Paleozoic and Mesozoic Eras). During the Cenozoic Era, from about 66 million years ago to the present, volcanic and sedimentary rocks were deposited on top of this basement of older rocks. Within the CMT, most of the Cenozoic rocks have been removed by erosion promoted by Cenozoic uplift, which continues in the current-day Sierra Nevada geologic environment. The older basement rocks have been variously deformed by several episodes of folding and faulting. The overlying Cenozoic deposits show little or no deformation.

Site Geology

Based on the review of published geologic mapping of the region (see Plate No. 2), the proposed wall location is underlain by materials of the Paleozoic age Calaveras Complex (Pzcc), which are noted to be composed of moderately metamorphosed chert, argillite and slate. DMG OFR 95-10 describes the Calaveras Complex materials with more detail as follows:

Calaveras Complex - metasedimentary unit (Pzcc): Dark gray, highly fissile, pyritic slate containing lenticular masses of greenstone, limestone, chert and greywacke. These rocks are pervasively foliated with original textures and structures are rarely preserved.

Naturally Occurring Asbestos (NOA)

Within the region geologically mapped on Plate No. 2, CGS Special Report 190 (Reference No,. 7), considers units of ultramafic rocks and serpentinite ("um") as areas "most likely" to contain naturally occurring asbestos (NOA). In addition, SR 190 considers units of metamorphosed mafic volcanic rocks ("mv" and "Pzcv"), gabbro rocks (gb) and diabase (db) as areas "moderately likely" to contain NOA. None of the above-mentioned units are noted to be present within the proposed Magra Wall project area based on available published geologic mapping, on surface conditions observed during site visits, and on materials encountered by OGDN during the 2014 subsurface exploration. Mapping presented in SR 190 (see Plate No. 4) indicates the proposed project construction area to be considered "least likely" to contain NOA.

Subsurface Conditions

During the 2014 subsurface investigation, five borings (RC-14-001 through RC-14-005) were drilled on the shoulder of eastbound I-80 and on Magra Road (city frontage road). Borings RC-14-004 and RC-14-005 were drilled on the eastbound outer lane and shoulder of I-80 and Borings RC-14-001 through RC-14-003 were drilled in the southbound lane of Magra Road. A generalized summary describing the materials that were encountered at each boring location is presented below.

Boring RC-14-002, RC-14-004 and RC-14-005 were drilled in cut sections of the roadway which consisted of asphalt concrete and aggregate base overlying metamorphic rock. Boring RC-14-001 and RC-14-003 were drilled in fill sections which consisted of asphalt concrete and aggregate base overlying approximately 10 to 30 feet of fill material. The fill material consisted of medium stiff to very stiff gravelly fat clay and lean clay, medium dense and very dense gravelly silt, sandy silt, poorly graded sand with trace hard cobbles. Underlying the fill material is metamorphic rock.

The metamorphic rock encountered in all the borings consisted of slate. The formational rock is generally intensely weathered and decomposed (soil like), moderately hard and moderately soft with some soft and very soft zones, and intensely fractured with some very intensely fractured zones. The metamorphic rock was encountered to the maximum depth explored, 61.5 feet (approx. elevation 2885.7 feet). Exposures of hard rock were noted on the existing cut slope surfaces (see Photo No. 4, Appendix A) during the field investigation.

More detailed descriptions of the subsurface conditions encountered are presented on the Log of Test Borings (LOTBs) provided on the project plans. Boring data is also provided relative to the proposed wall profile on the diagram presented on Plate No. 7 (attached).

Groundwater

During the 2014 subsurface investigation, drill mud was utilized during drilling of the borings at the site; therefore, groundwater measurements in the borehole would be influenced by the presence of the drill fluids. In an effort to effectively assess groundwater conditions, borehole RC-14-001 was left open for a period of 3 days prior to measuring water. Groundwater was measured in the open hole of boring RC-14-001 at a depth of 40 feet (approximate elevation of 2,907 feet).

Groundwater surface elevations are subject to seasonal fluctuations and may occur at higher or lower elevations depending on rainfall patterns.

CORROSION EVALUATION

Composite soil samples were collected from Borings RC-14-001 and RC-14-002 drilled during the 2014 subsurface investigations. The Caltrans Materials Engineering and Testing Services, Corrosion and Structure Concrete Field Investigation Branch (C&SC-FIB) tested the composite samples for corrosive potential. According to the Caltrans 2012 Corrosion Guidelines, C&SC-FIB considers a site to be corrosive if one or more of the following conditions exist for the representative soil samples: chloride concentration is 550 ppm or greater, sulfate concentration is 2000 ppm or greater, or the pH is 5.5 or less. The minimum resistivity serves as an indicator for the possible presence of soluble salts and is not used to define a site as being corrosive. The 2012 Corrosion Guidelines state that soils samples having a minimum resistivity of less than 1000 ohm-cm are tested for sulfates and chlorides.

The results of the laboratory tests determined that the composite samples of boring RC-14-002 are considered to be "corrosive to foundation elements". Table No. 2, below, provides a summary of the corrosion test results (CTB lab results are included in Appendix B). OGDN recommends referring to MTD 3-1 (June 2014), MTD 10-5 (June 2010), and Table 5.12.3-1 of the November 2011 California Amendments (to the AASHTO LRFD Bridge Design Specifications - Fourth Edition) for guidance on corrosion protection measures for concrete and steel.

Table No. 2 - Corrosion Test Summary of the Composite Samples for the Magra Wall

SIC Corrosion Number	Boring Number	Sample Depth (ft)	pH	Minimum Resistivity (ohm-cm)	Chloride Content (ppm)	Sulfate Content (ppm)
CR20140399	RC-14-001	0.0-5.0	5.72	8262	N/A	N/A
CR20140398	RC-14-002	5.0-16.5	5.11	30160	15	0

FAULTING/GEOLOGIC HAZARDS

According to Memo To Designers 20-10, fault rupture analyses will be performed for structures where any portion of the structure falls within an Alquist-Priolo Earthquake Fault Zone (EFZ) or where any portion of a structure falls within 1,000 ft of an "unzoned" fault (not in an EFZ) that is Holocene or younger in age (ruptured in last 11,700 years). A review of the available EFZ maps (Reference No. 14), indicates that the proposed structure location is not in an EFZ. However, the site is located within the Foothills Fault System.

Fault data provide on the "2010 Fault Activity Map of California" (Reference No. 11), and the USGS Google Earth KML files/Fault Database indicates the closest "active" (late-Quaternary in age/movement in the past 700,000 years) fault is the Giant Gap Fault of the Melones Fault System of Clark; this fault is located approximately 7.8 miles northeasterly of the project site (see Plate No. 3). A second active fault is located 10.5 miles southwesterly of the project site and is identified on the Fault Map of Plate No. 3 as the "Wolf Creek Fault Zone". The USGS KML files and the Caltrans ARS Online identify this fault as the "Highway 49 fault". The closest fault to the site is the northerly-trending Gillis Hill Fault, which extends across the highway around approximately PM 35.5; the CGS Geologic Data Map No. 6 indicates the Gillis Hill Fault to be Pre-Quaternary, lacking recognizable activity in the last 1.6 million years.

Based on the conditions encountered in the site subsurface exploration, the potential for soil liquefaction does not exist for the subsurface materials anticipated to support the proposed ERS.

SEISMICITY

The Caltrans ARS Online web-based tool (v2.3.06) indicates that the closets "active" fault to the site is the North Central Reach Section (Highway 49 section) of the Foothills Fault System (Caltrans Fault ID 424). The web tool indicates the closest surface trace of this fault to be a distance of approximately Rx = 9.7 miles, and that this fault is a "normal" fault type capable of generating a Maximum Moment Magnitude (Mmax) of 6.2. This fault is located southwesterly of the project site and is identified on the "Fault Map" (Plate No. 3) as the "Wolf Creek Fault Zone". The Giant Gap Fault discussed above is not recognized by the current Caltrans ARS Online web-based tool as being active.

Based on the 2014 subsurface investigation, a V_{S30} (the weighted average shear wave velocity for the top 100 feet of foundation materials) of 980 feet per second is considered to be applicable for the site seismic evaluation. In addition, this ARS Online document states that the design ground motion is the highest spectral acceleration as obtained by any or a combination of the following three methods.

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 2.0.4).
3) The USGS 5% Probability of Exceedance in 50 years.

Based on the assigned Vs_{30}, the governing ARS for the Magra Wall project was determined to be based on method "3" above. Accordingly, the USGS 2008 Interactive Deaggregation Tool generated a peak horizontal ground acceleration (PHGA) of 0.22g, and a spectral acceleration at a structural period of 1.0 second (S_1) of 0.24g. S_1 should be increased to 0.28g for a near fault factor of 1.163.

Utilizing the methods presented in Appendix A11 of the 2012 AASHTO LRFD BDS (Reference No. 17) for seismic only, a k_h of 0.22 is appropriate for deriving seismic lateral earth pressures. With no active faults within 6 miles of the site, relatively high vertical accelerations are not likely to be acting concurrently with the horizontal acceleration; therefore, the seismic vertical acceleration coefficient (k_v) can be assumed to be zero. Per AASHTO LRFD BDS 11.6.5.2.2, if the wall is capable of displacements of 1.0 to 2.0 inches or more, k_h may be reduced to 0.11. The parameters provided in Plate No. 7 (attached) may be utilized to derive seismic active and passive earth pressures in accordance with Appendix A11 of the 2012 AASHTO LRFD BDS.

FOUNDATION RECOMMENDATIONS

Recommendations are being provided for the ground anchor ERS with soldier pile as described in the "Project Description/Scope of Work" section of this FR. Accordingly, geotechnical engineering parameters are being provided for active lateral earth pressure application in accordance with Memo To Designers (MTD) 5-12 "Earth Retaining Structures Using Ground Anchors" (Reference No. 21). Engineering parameters for derivation of the design passive lateral earth pressure resistance are provided based on the procedures presented in the 2007 AASHTO LRFD Bridge Design Specifications (BDS) and the Caltrans BDS Section 5 "Retaining Walls (Reference Nos. 8 and 5, respectively).

Lateral Earth Pressures

Plate No. 6 (attached) presents a diagram of earth pressure loading recommended for design of the proposed soldier pile/anchor wall. Plate No. 7 presents geotechnical parameters to be utilized for respective zones of the wall profile and should be utilized in conjunction with Plate No. 6. Due to the "broken-back" slope conditions present behind the proposed wall, ideally, active earth pressure loading above the wall "design grade" would be most appropriately modeled utilizing the "trial-wedge" method. In an effort to provide a simplistic alternative, OGDN is offering the "equivalent surcharge" method for deriving active earth pressure loading for broken-back slope conditions (as shown on Plate No. 6).

Seismic loading may be applied in accordance with AASHTO LRFD BDS (2007). Seismic acceleration coefficients (k_h and k_v) are provided in the "Seismicity" section of this FR.

Ground Anchors Un-bonded Length

A single row of ground anchors are proposed to be installed approximately 6 feet below the top of the wall, at an angle of 15 degrees from the horizontal. Based on this inclination, an un-bonded length of at least 20 feet is recommended.

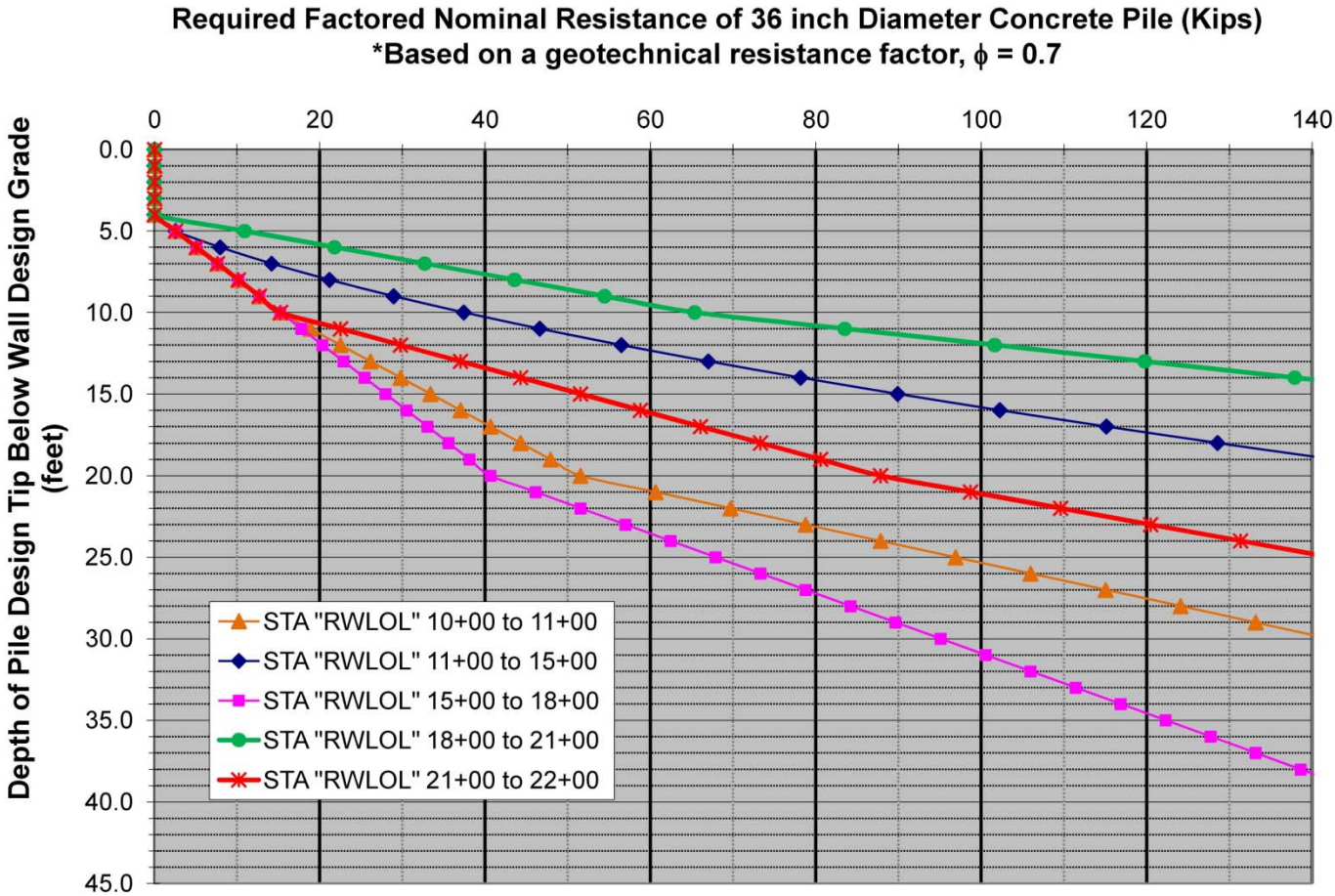
ERS Backfill/Drainage

The parameters provided above are based on the assumption that an adequate drainage system will be provided to prevent the development of hydrostatic pressure behind the proposed wall. Collected water should be directed to drain properly through and around the proposed wall.

Minimum Soldier Pile Embedment

Soldier piles for the proposed retaining wall are anticipated to consist of steel beams founded in 36 inch diameter drilled holes backfilled with concrete. Chart No. 1 below should be utilized to determine minimum pile embedment (below the Design Grade at the base of the wall face) for the anticipated axial loading. Due to the anticipated presence of groundwater, the provided nominal resistances do not include contribution by pile end bearing.

Chart No. 1. Nominal Resistance verses Depth of Soldier Piles Cast in Drilled Holes Backfilled with Concrete.



CONSTRUCTION CONSIDERATIONS

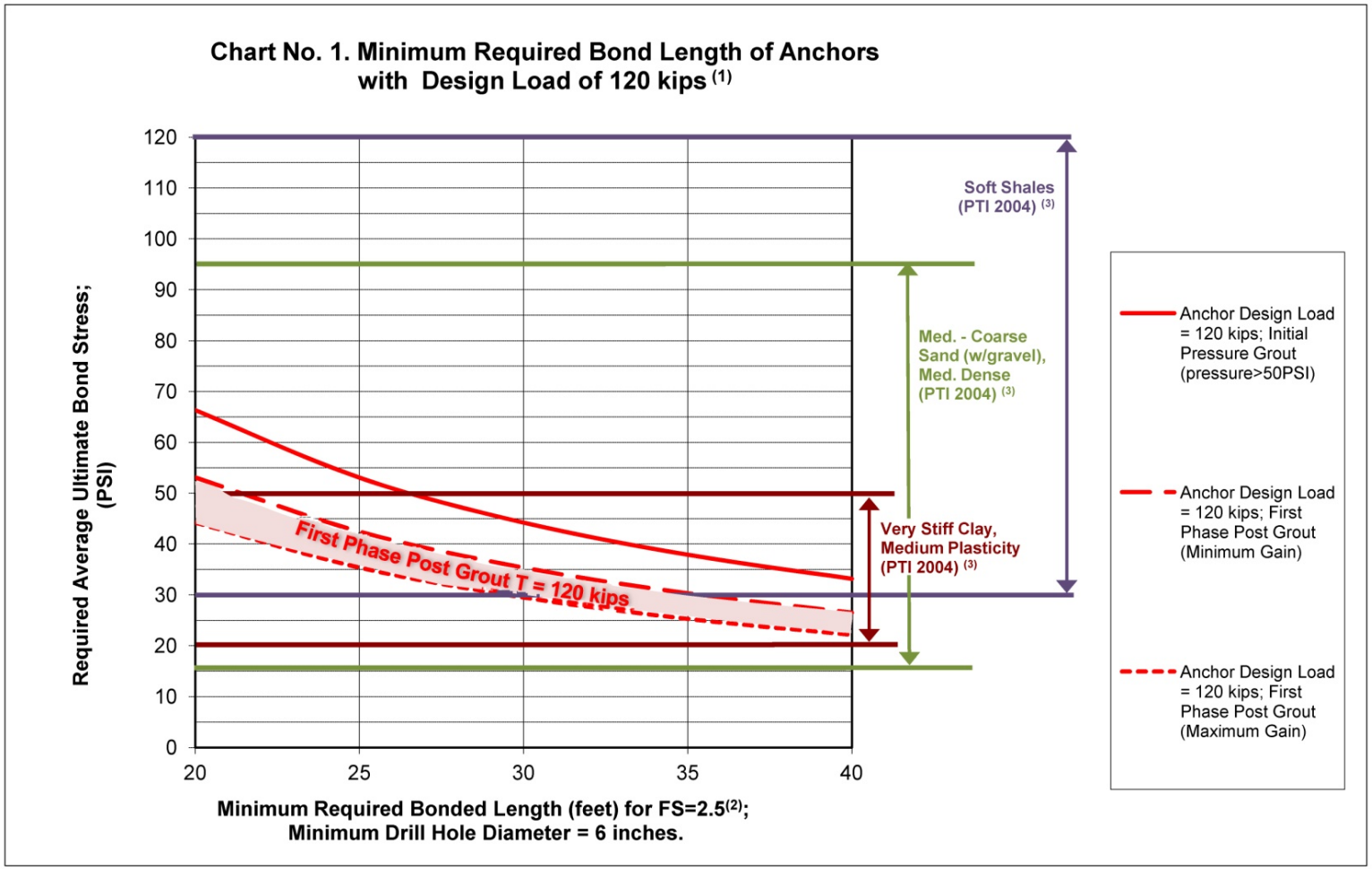
1. The contractor may encounter difficulties during drilling for anchors and piles due to the presence of zones of moderately hard to hard rock encountered in subsurface exploration and on existing slopes (see Photo No. 4, Appendix A). The zones of moderately hard to hard rock could necessitate the use of specialty equipment (down-hole hammers, core barrels, etc.) to drill to the required pile depths and anchor lengths.

2. The self-casing wire-line drill system drilling techniques utilized during the subsurface investigations make it difficult to directly assess borehole stability and the potential for sidewall collapse. Caving conditions are likely to occur in the native and fill soil materials overlying formational rock at the site (some of which contain gravel and cobbles). In addition, caving conditions could also be expected in the intensely weathered and decomposed (soil like) rock and the fractured formational rock, which is conducive to sloughing and rock wedge failures into holes excavated for anchor and pile installations.

3. During construction, it can be expected that groundwater at the site could be encountered perched atop rock materials, or flowing through rock fractures. Hence, the pile and anchor installations may require dewatering or the placement of concrete and grout in wet conditions. If the contractor opts to place the concrete and grout in wet conditions, the specifications should require the displacement of water via a closed system using a concrete pump or a tremie tube to place concrete and grout at the bottom of the hole.

4. Due to the fractured nature of the underlying rock materials, the potential for excess loss of concrete and grout in voids and fractures should be expected. Controlling measures, such as the use of a “grout sock”, could potentially reduce grout loss.

5. OSDW has indicated that the Factored Design Load (FDL) on ground anchors will be around 120 kips. As can be interpreted in Chart No. 1 (below), it should be expected by the contractor that at least one phase of bond zone post-grouting could be required for some anchors during installation to achieve the allowable pull-out resistance of anchors. The cohesive soil embankment materials (see “Subsurface Soil and Rock Conditions” section) should be considered when deriving the anchor pullout resistance for material at the site. The information of Chart No. 1 is preliminary in nature, and, as per MTD 5-12, “The design of the anchor type and any anchor length beyond the specified length of the un-bonded zone is the responsibility of the contractor.” OGDN recommends that the contractor present calculations (as part of the anchor shop drawing submittal per 2010 Standard Specifications Section 46-1.01C(2)) showing the derivation of the bonded length for anchors and the corresponding assumed average ultimate bond stress utilized.



Notes:

(1) Figure provided for general feasibility conderations only; not ment for bond length design.

(2) BDS 5.8.6.3 (page 5-75): *"Typical values for the factor of safety, FS, applied to ultimate anchor bond stress values are 2.0 to 2.5 for soil and 2.5 to 3.0 for rock. Final design of the bonded length is generally the responsibility of the contractor and is verified by load testing each ground anchor."*

(3) Brackets based on "Average Ultimate Bond Stress-Soil/Grout & -Rock/Grout" values provided in PTI (2004); Values based on straight shaft bond zone grouted under a pressure higher than 50 PSI through a casing or hollow stemmed auger during withdrawal. In soil, actual values of pressure grouted anchors depend on the ability to develop pressures in each soil and rock type.

(4) Minimum and maximum gains per phase of post-grouting based on 25% and 50%, respectively, per PTI (2004).

(5) PTI (2004): "Recommendations for Prestressed Rock and Soil Anchors", Post-Tensioning Institute, fourth edition, 2004.

SUPPLEMENTAL PROJECT INFORMATION

Section 2-1.06B "Supplemental Project Information" of the 2010 Standard Specifications addresses supplemental information ("as specified in the special provisions") made available to Bidders by Caltrans. The following items are being provided for insertion into the table in Section 2-1.06B of the project special provisions.

Included in the Information Handout:

- Revised Foundation Report for Magra Wall dated May 21, 2015.

Included with the project plans:

- Log of Test Borings (Magra Wall).

Available for inspection at the Transportation Laboratory:

- Core Samples.

CLOSURE

The recommendations included in this Foundation Report are based on project information that has been provided by the Office of Structure Design West, Design Branch 3. Any questions regarding the above recommendations should be directed to the attention of Jacqueline A Martin (916) 227-1051 or Mark Hagy (916) 227-1077, Geotechnical Services, Office of Geotechnical Design-North.

Jacqueline A. Martin

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PROFESSIONAL GEOLOGIST
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REGISTERED PROFESSIONAL ENGINEER
MARK C. HAGY
No. GE 2838
GEOTECHNICAL
STATE OF CALIFORNIA

cc: OGDN
DPM – Sutha Suthahar
Reza Mahallati

Attachments:

REFERENCES

PLATES

Plate No. 1	Vicinity Map
Plate No. 2	Geology Map
Plate No. 3	Fault Map
Plate No. 4	CGS NOA Map
Plate No. 5	Site Plan
Plate No. 6	Lateral Earth Pressure Diagram
Plate No. 7	Geotechnical Design Parameters

APPENDICES

Appendix A	Photographs
Appendix B	Laboratory Test Results

REFERENCES

1. Dept of Public Works (1956) "Plan and Profile of State Highway, In Placer County, between Colfax and Magra Overhead", III-PLA-37-B,C (New PLA 80 PM 33.1/38.8), State of Calif. Dept. of Public Works, Division of Highways As Built Plans approved on October 1, 1956, Document NO. 30000691, Contract No. 57-3TC22-F, Federal Project No. I-103(II), Sheets 1 through 95, as-builts dated December 17 and 18, 1957, January 17, 1958, April 8, 1958.

2. Loyd, R. & Clinkenbeard, J. (1990) "Mineral Land Classification of Nevada County, California"; California Dept. of Conservation, Division of Mines and Geology Special Report 164.

3. DMG (1992) "Geologic Map of the Chico Quadrangle", California Department of Conservation, Division of Mines and Geology, Regional Map Series Map N. 7A, compiled by G. J. Suacedo and D. L. Wagner, Scale 1: 250,000, 1992.

4. Loyd, R. (1995) "Mineral Land Classification of Placer County, California"; California Dept. of Conservation, Division of Mines and Geology Open File Report 95-10.

5. Caltrans (2004) "Section 5 – Retaining Walls", Bridge Design Specifications, dated August 2004.

6. Caltrans, (2005), "Areas Likely to contain Naturally Occurring Asbestos – Caltrans District 1", mapping prepared by the Division of Maintenance GIS in coordination with the Division of Environmental Analysis, 2005.

7. Higgens, C.T. and Clinkenbeard, J.P. (2006) "Relative Likelihood for the Presence of naturally Occurring Asbestos in Placer County, California", California Geologic Survey Special Report 190.

8. AASHTO (2007) "AASHTO LRFD Bridge Design Specifications", 4th Edition.

9. County of Placer (2008) "Colfax and Vicinity – NOA Hazard Map", from the Placer County Air Pollution Control District website at: http://www.placer.ca.gov/departments/air/noa/noamapsandresources; Updated January 18, 2013.

10. TRB (2008) "Seismic Analysis and Design of Retaining Walls, Buried Structures, Slopes, and Embankments, NCHRP Report 611, Transportation Research Board, dated 2008.

11. Caltrans (2009) "Development of the Caltrans Deterministic PGA Map and Caltrans ARS Online", M. Merriam, Geotechnical Services, and T. Shantz, Division of Research & Innovation, Caltrans.

12. CGS (2010) "Fault Activity Map of California, 2010"; Scale: 1:750,000, California Department of Conservation, California Geological Survey Geologic Data Map No. 6; Compilation and Interpretation by: Charles W. Jennings and William A. Bryant.

13. CGS (2010) "An Explanatory Text to Accompany the Fault Activity Map of California"; Scale: 1:750,000, California Geological Survey, California Department of Conservation; Compilation and Interpretation by: Charles W. Jennings and William A. Bryant.

14. FHWA (2010) "Drilled Shafts: Construction Procedures and LRFD Design Methods", Volumes I and II, Federal Highway Administration, Pub. No. FHWA NHI-10-016, FHWA GEC 010, May 2010.

15. CGS (2011) " Alquist-Priolo Earthquake Fault Zone Maps", obtained from California Geologic Survey at http://www.quake.ca.gov/gmaps/ap/ap_maps.htm.

16. Caltrans (2011) "Design of Earth Retaining Systems", Memorandum prepared by Caltrans Structure Policy and Innovation, dated July 22, 2011 (and Attachment).

17. Caltrans (2011) "Layout", Sheets L-1 through L-14, 03-PLA-80 PM 35.1/38.0, Project Number 03000204204, from W. Keith Mack, District 3 North Region Division of Engineering, Office of Design South, Design Branch S-4, plotted at 16:19 on August 23, 2011.

18. CGS (2011) "Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California", California Geological Survey Map Sheet 59, U.S. Geologic Survey Open-File Report 2011-1188, by J.P Clinkenbeard (CGS) and B.S. Van Gosen (USGS), dated 2011.

19. AASHTO (2012) "AASHTO LRFD Bridge Design Specifications", 6th Edition.

20. Caltrans (2012) "Methodology for Developing Design Response Spectrum for Use in Seismic Design Recommendations", Caltrans Geotechnical Services, dated November 2012.

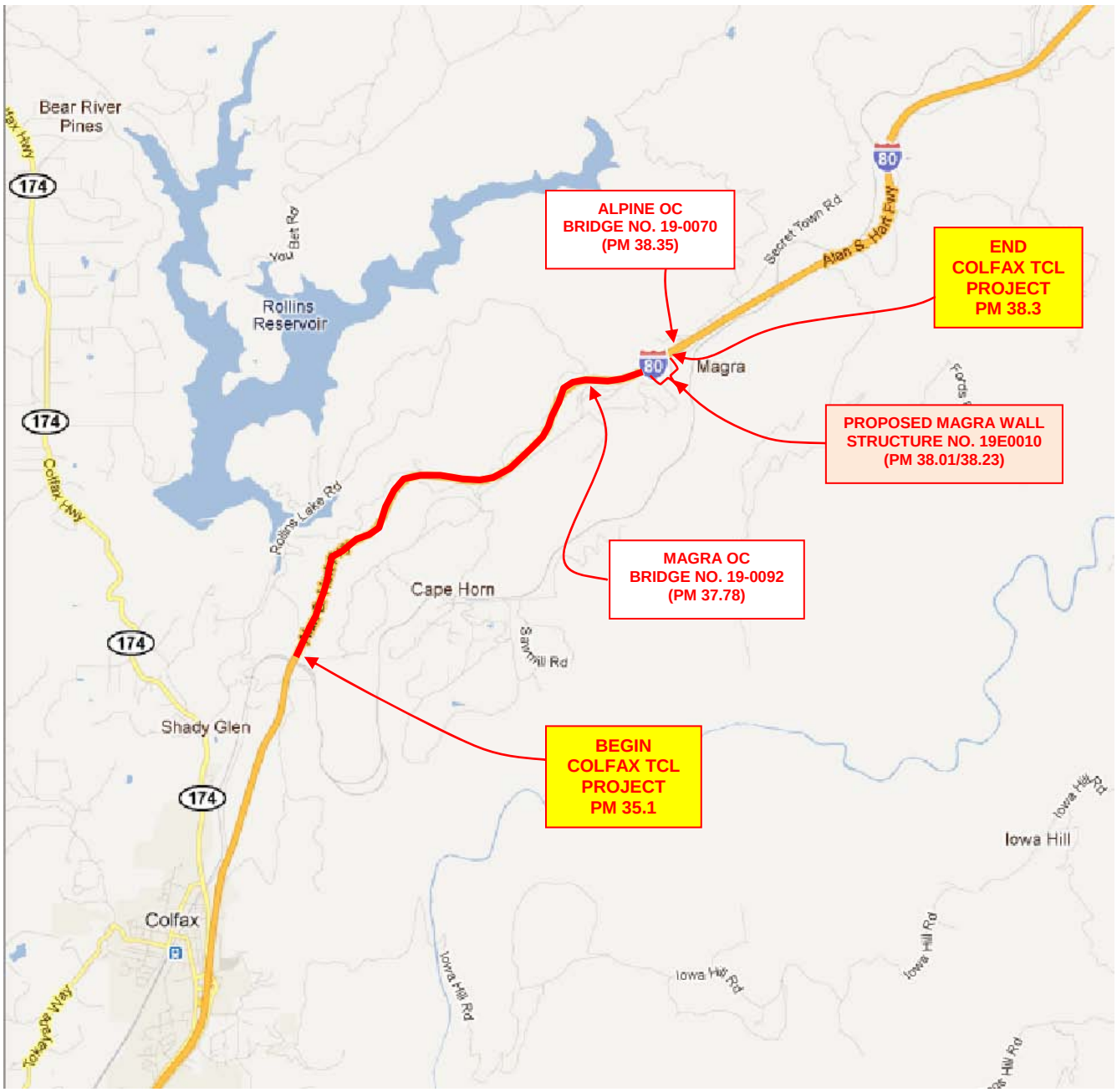
21. Caltrans (2012) "Corrosion Guidelines", Corrosion and Structure Concrete Field Investigation Branch, Materials Engineering and Testing Services, Caltrans, Version 2.0, November 2012.

22. Caltrans (2012) "Review of Shop Drawings for Ground Anchors", Caltrans Memo To Designers 5-14, dated June 2012.

23. Caltrans (2012) "Earth Retaining Systems Using Ground Anchors", Caltrans Memo To Designers 5-12, dated July 2012.

24. Caltrans (2014) “Standard Penetration Test (SPT) Hammer Efficiencies For Caltrans Drill Rigs”, Foundation Testing Branch, Caltrans Geotechnical Services, dated August 2014.

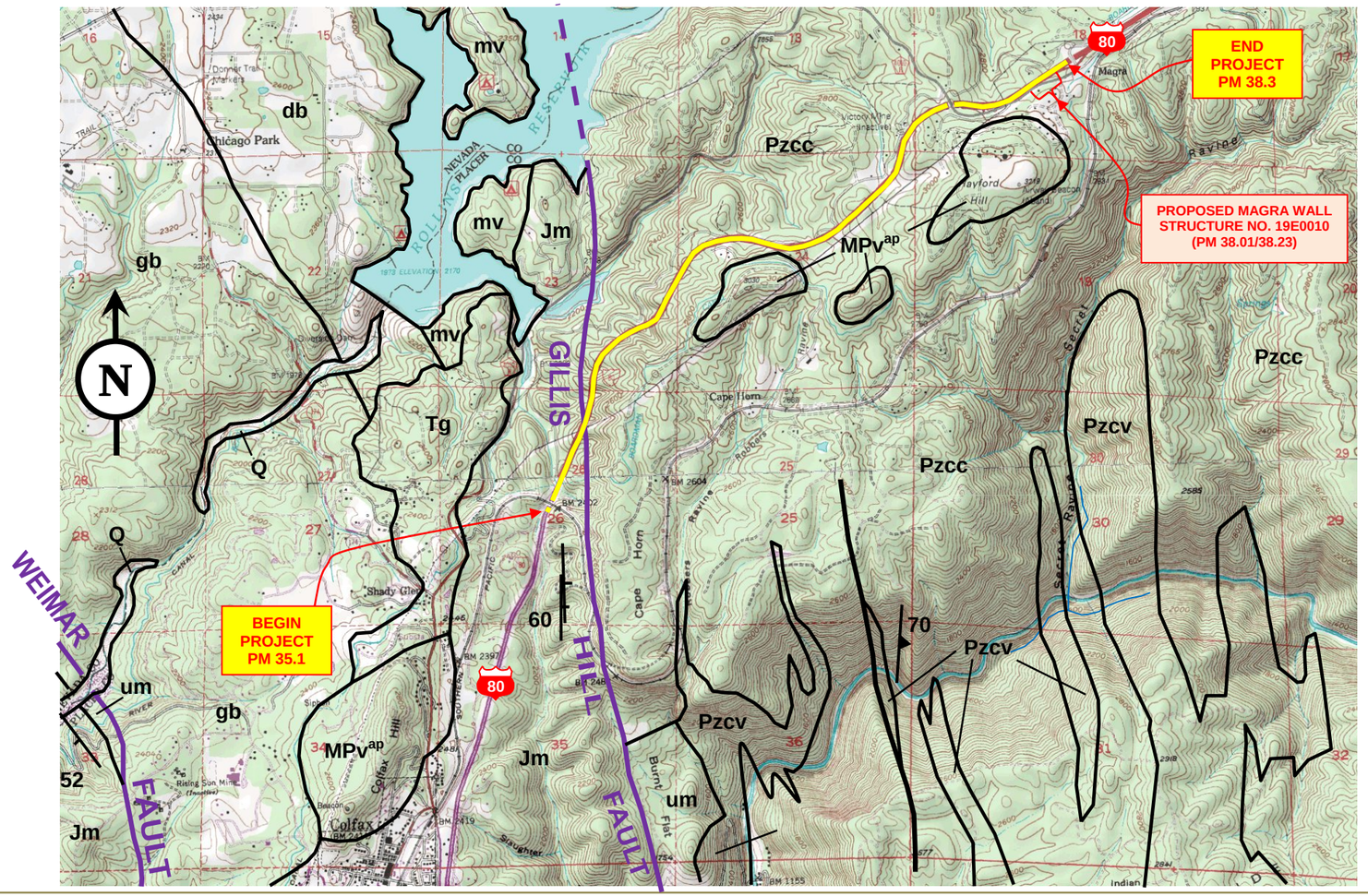
25. Caltrans (2011) “Typical Cross Sections”, Sheets X-1 through X-5, 03-PLA-80 PM 35.1/38.0, Project Number 03000204200, from W. Keith Mack, District 3 North Region Division of Engineering, Office of Design South, Design Branch S-4, plotted at 12:36 on August 9, 2011.



N

NO SCALE

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: May 2015	**VICINITY MAP**
	03-PLA-80 PM 38.01-38.23 MAGRA WALL FOUNDATION REPORT	Plate No. 1



Map based on interpretation of data compiled by the following references:

1. Base Map: Portion of the Colfax 7.5 minute Quadrangle, Placer County, California, United States Geologic Survey (USGS), dated 1977, Scale 1:24,000.
2. G.J. Saucedo & Wagner, D.L. (1992) "Geologic Map of the Chico Quadrangle", scale 1:250,000, California Department of Conservation - Division of Mines and Geology, RGM 7A.
3. Loyd, R. & Clinkenbeard, J. (1990) "Mineral Land Classification of Nevada County, California"; California Dept. of Conservation, Division of Mines and Geology Special Report 164.
4. Loyd, R. (1995) "Mineral Land Classification of Placer County, California"; California Dept. of Conservation, Division of Mines and Geology Open File Report 95-10.
5. Higgens, C.T. and Clinkenbeard, J.P. (2006) "Relative Likelihood for the Presence of naturally Occurring Asbestos in Placer County, California", California Geologic Survey Special Report 190.

APPROXIMATE SCALE:

0 2000 4000 6000 8000 10,000 feet

0 1 2 miles

EXPLANATION:

Symbol	Unit	Description	Epoch	Period	Era
Pzcv	Calaveras Complex: Metavolcanic and related hypabyssal rocks.			....	Paleozoic
Pzcc	Calaveras Complex: Chert, argillite, slate.			....	Paleozoic
um	Ultramafic Rocks: Peridotite, serpentinite and metaserpentinite.			Triassic	Mesozoic
mv	Metavolcanic Rocks: Mafic to felsic flows, tuffs, breccias, and volcaniclastic rocks.			Triassic	Mesozoic
gb	Gabbro: Locally includes diorite and related rocks.			Jurassic	Mesozoic
db	Massive Diabase, Some Dikes: Locally includes diorite and gabbro.			Jurassic	Mesozoic
Jm	Mariposa Formation: Slate, sandstone, conglomerate, and sedimentary breccias. Marine			Jurassic	Mesozoic
Tg	Auriferous Gravel: River channel depoits; pebbles, cobbles, and boulders of pre-Tertiary basement rock types, in places predominately quartzose gravels and sands.	Eocene		Cretaceous	Mesozoic
		Oligocene		Tertiary	Cenozoic
MPv^ap	Miocene-Pliocene Volcanic Rocks: Andesite mudflow breccias; tuffs, volcanic sediments and conglomerate. Locally includes flows traditionally mapped as Mehrten formation.	Miocene		Tertiary	Cenozoic
		Pliocene		Tertiary	Cenozoic
Q	Alluvium: Undivided alluvial deposits of unconsolidated gravel, sand and silt.	Pliestocene		Quaternary	Cenozoic
		Holocene		Quaternary	Cenozoic

SYMBOLS:

- geologic contact
- fault
- Thrust fault, barbs on upper plate
- 70 strike & dip of bed
- 70 strike & dip of foliation
- 70 vertical strike & dip of foliation

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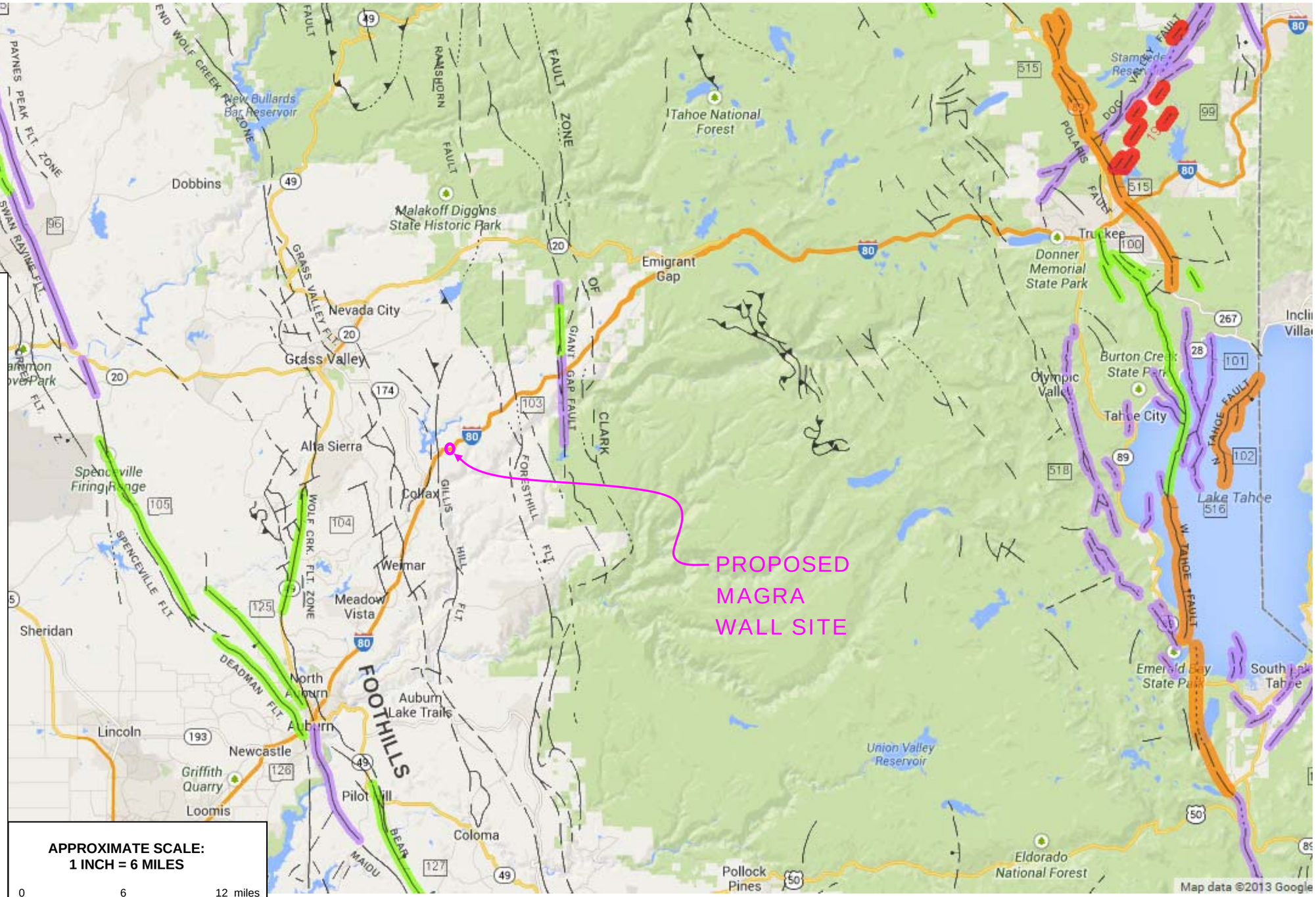
EA: 03-1F4001

Date: May 2015

GEOLOGY MAP
MAGRA WALL

03-PLA-80 PM 38.01-38.23
FOUNDATION REPORT

Plate No. 2



EXPLANATION:

Fault traces on land are indicated by solid lines where well located, by dashed lines where approximately located or inferred, and by dotted lines where concealed by younger rocks or by lakes or bays. Fault traces are queried where continuation or existence is uncertain.

FAULT CLASSIFICATION COLOR CODE
(Indicating Recency of Movement)

Fault along which historic (last 200 years) displacement has occurred.

Holocene fault displacement (during past 11,700 years) without historic record.

Late Quaternary fault displacement (during past 700,000 years).

Quaternary fault (age undifferentiated).

Pre-Quaternary fault (older that 1.6 million years) or fault without recognized Quaternary displacement.

ADDITIONAL FAULT SYMBOLS

Bar and ball on downthrown side (relative or apparent).

Arrows along fault indicate relative or apparent direction of lateral movement.

Arrow on fault indicates direction of dip.

Low angle fault (barbs on upper plate).

APPROXIMATE SCALE:
1 INCH = 6 MILES

0 6 12 miles

Reference: Portion of the "2010 Fault Activity Map of California"; California Geological Survey, Geologic Data Map No. 6; Compilation and Interpretation by: Charles W. Jennings and William A. Bryant; Graphics by: Milind Patel, Ellen Sander, Jim Thompson, Barbara Wanish and Milton Fonseca; Obtained at http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html

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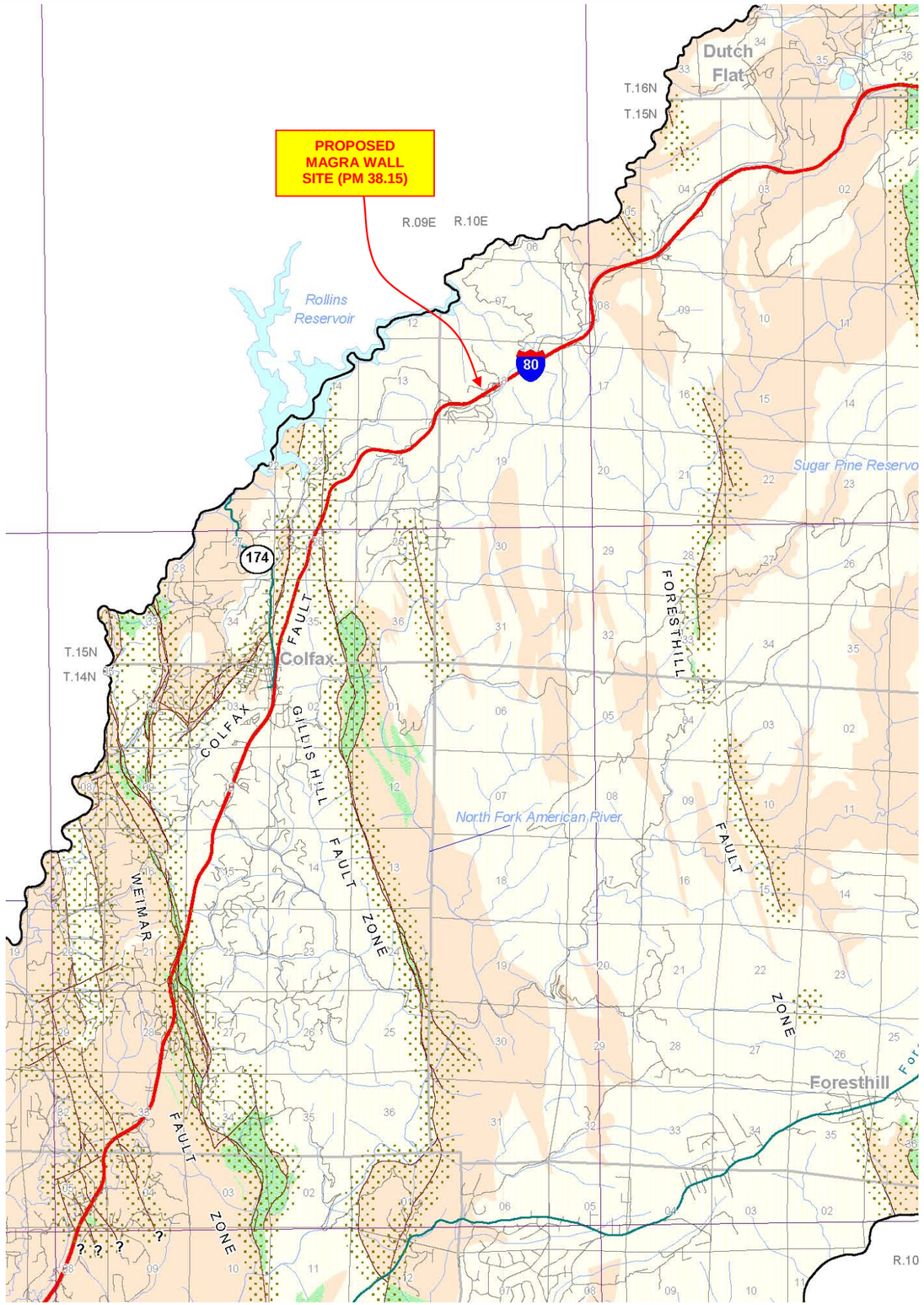
EA: 03-1F4001

Date: May 2015

FAULT MAP
MAGRA WALL

03-PLA-80 PM 38.01-38.23
FOUNDATION REPORT

Plate No. 3



Areas of Relative Likelihood for the Presence of NOA

Areas Most Likely to Contain NOA: These areas include ultramafic rock and serpentinite (serpentine rock), and associated soils, which are most likely to contain NOA.

Areas Moderately Likely to Contain NOA: These areas include those metamorphic and igneous rocks that are moderately likely to contain NOA.

Areas Least Likely to Contain NOA: These areas include those metamorphic, igneous, and sedimentary rocks that are least likely to contain NOA.

Areas of Faulting or Shearing: These areas are zones of faulted or sheared rock that may locally increase the relative likelihood for the presence of NOA within or adjacent to areas moderately or most likely to contain NOA. The solid lines represent mapped traces of fault and shear zones; question marks indicate uncertainty regarding the continued extent of the traces.

Mapped trace of fault or shear zone. These features may locally increase the likelihood for the presence of NOA within areas least likely to contain NOA. The presence of NOA along these features is more likely within areas mapped as most likely or moderately likely to contain NOA as described above.

N

1 0 1 2 3 4
Miles

2 0 2 4
Kilometers

Scale: 1:100,000

Reference: **Higgens, C.T. and Clinkenbeard, J.P. (2006) "Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California", California Geologic Survey Special Report 190.**

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001	CGS NATURALLY OCCURRING ASBESTOS (NOA) MAP MAGRA WALL	
	Date: May 2015		
	03-PLA-80 PM 38.01-38.23 FOUNDATION REPORT		Plate No. 4

LEGEND

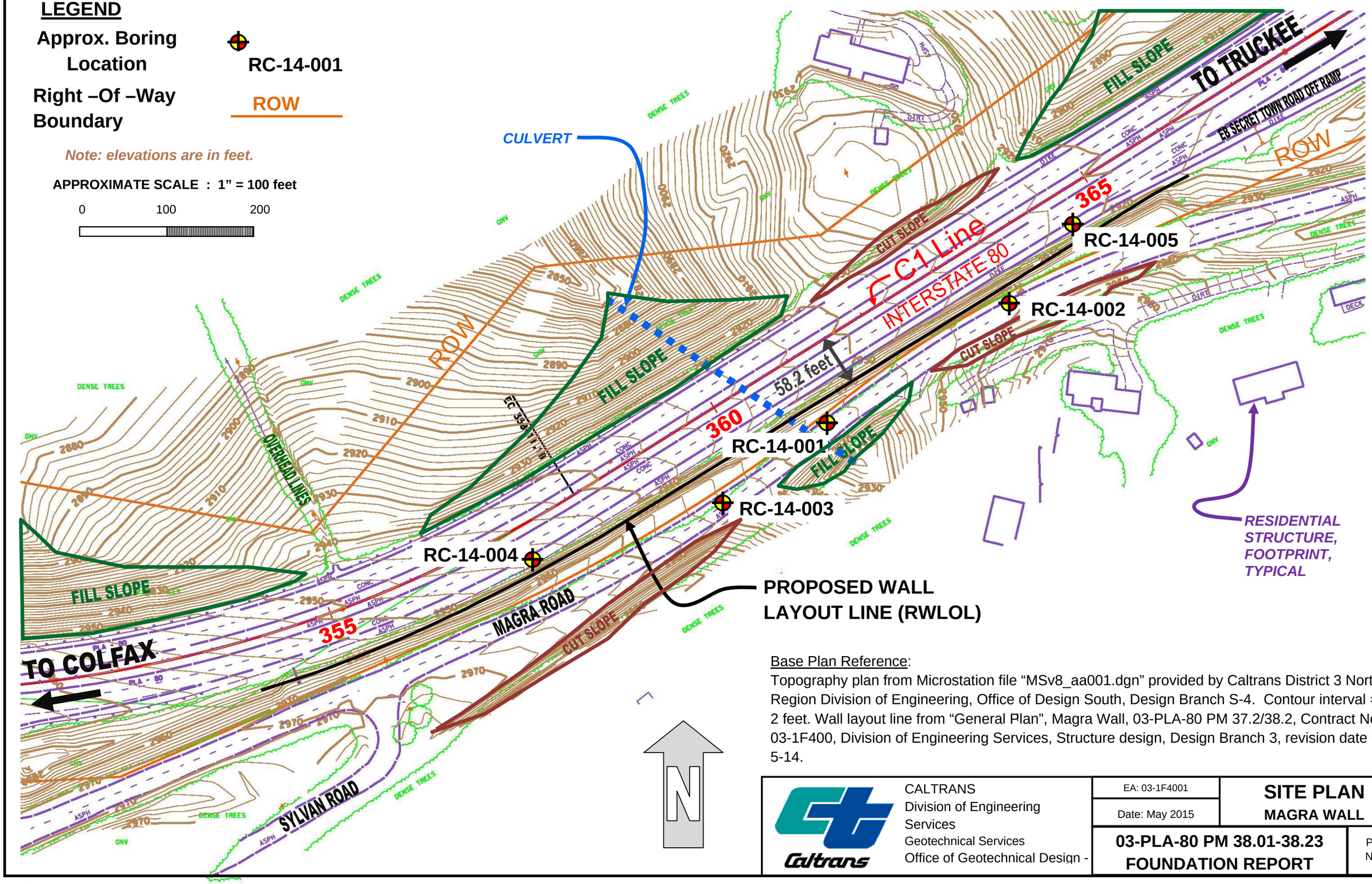
Approx. Boring Location — RC-14-001

Right –Of –Way Boundary — ROW

Note: elevations are in feet.

APPROXIMATE SCALE : 1" = 100 feet

0 100 200



Base Plan Reference:
Topography plan from Microstation file "MSv8_aa001.dgn" provided by Caltrans District 3 North Region Division of Engineering, Office of Design South, Design Branch S-4. Contour interval = 2 feet. Wall layout line from "General Plan", Magra Wall, 03-PLA-80 PM 37.2/38.2, Contract No. 03-1F400, Division of Engineering Services, Structure design, Design Branch 3, revision date 6-5-14.

Caltrans	CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design -	EA: 03-1F4001 Date: May 2015	**SITE PLAN** **MAGRA WALL**
		03-PLA-80 PM 38.01-38.23 **FOUNDATION REPORT**	Plate No. 5

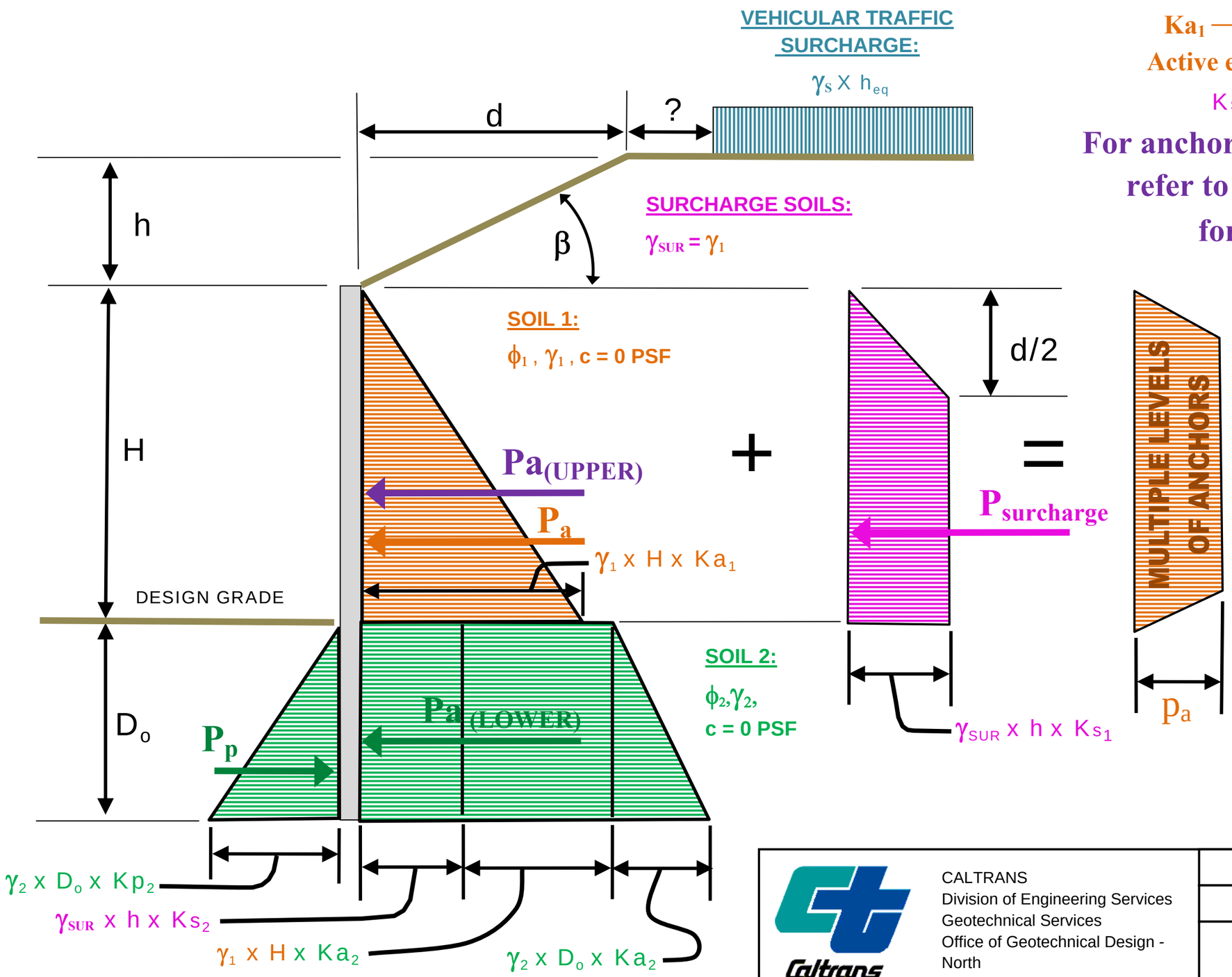
$$Pa_{(UPPER)} = Pa + P_{surcharge} + H\Delta_p^{**}$$

$Ka_1 \rightarrow \beta = 0$; Coulomb's ($\delta$=0)

Active earth pressure conditions:

$Ks_1 = Ka_1$; $Ks_2 = Ka_2$

For anchored walls, Designer should refer to MTD 5-12 (July 2012) for derivation of p_a.



**Δ_p= the constant horizontal earth pressure due to live load surcharge

Article 3.11.6.4 – Live Load Surcharge (LS) in the AASHTO LRFD Design Specifications (2007) states: "A live load surcharge shall be applied where vehicular load is expected to act on the surface of the backfill within a distance equal to one-half the wall height behind the back face of the wall. Table 3.11.6.4-2 lists equivalent soil heights for vehicular loading on ERS.

Caltrans	CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: May 2015	LATERAL EARTH PRESSURE DIAGRAM MAGRA WALL
		03-PLA-80 PM 38.01/38.23 FOUNDATION REPORT	Plate No. 6

Appendix A

Photographs

Photo No. 1. Slope southerly of I-80 around beginning point of wall; viewing northeasterly from right of approx. STA “C1” 354+30 (photo date 11-1-13).

Photo No. 2. Slope southerly of I-80; viewing southwesterly from right of approx. STA “C1” 362+00 (photo date 11-1-13).

Photo No. 3. Slope southerly of I-80 around ending point of wall; viewing southwesterly from right of approx. STA “C1” 366+00 (photo date 11-1-13).

Photo No. 4. Formational Rock exposure on slope south of I-80 around STA “C1” 364+00 (photo date 11-1-13).

Photo No. 5. Cut slope southerly of Magra Road; viewing southwesterly from right of approx. STA "C1" 364+50 (stitched photo date 11-1-13).

Photo No. 6. Cut slope southerly of Magra Road; viewing south from right of approx. STA "C1" 363+50 (photo date 11-1-13).

Photo No. 7. Cut slope southerly of Magra Road; viewing northeasterly from right of approx. STA "C1" 357+00 (stitched photo date 11-1-13).

Photo No. 8. Cut slope southerly of Magra Road; viewing easterly from right of approx. STA "C1" 358+00 (photo date 11-1-13).

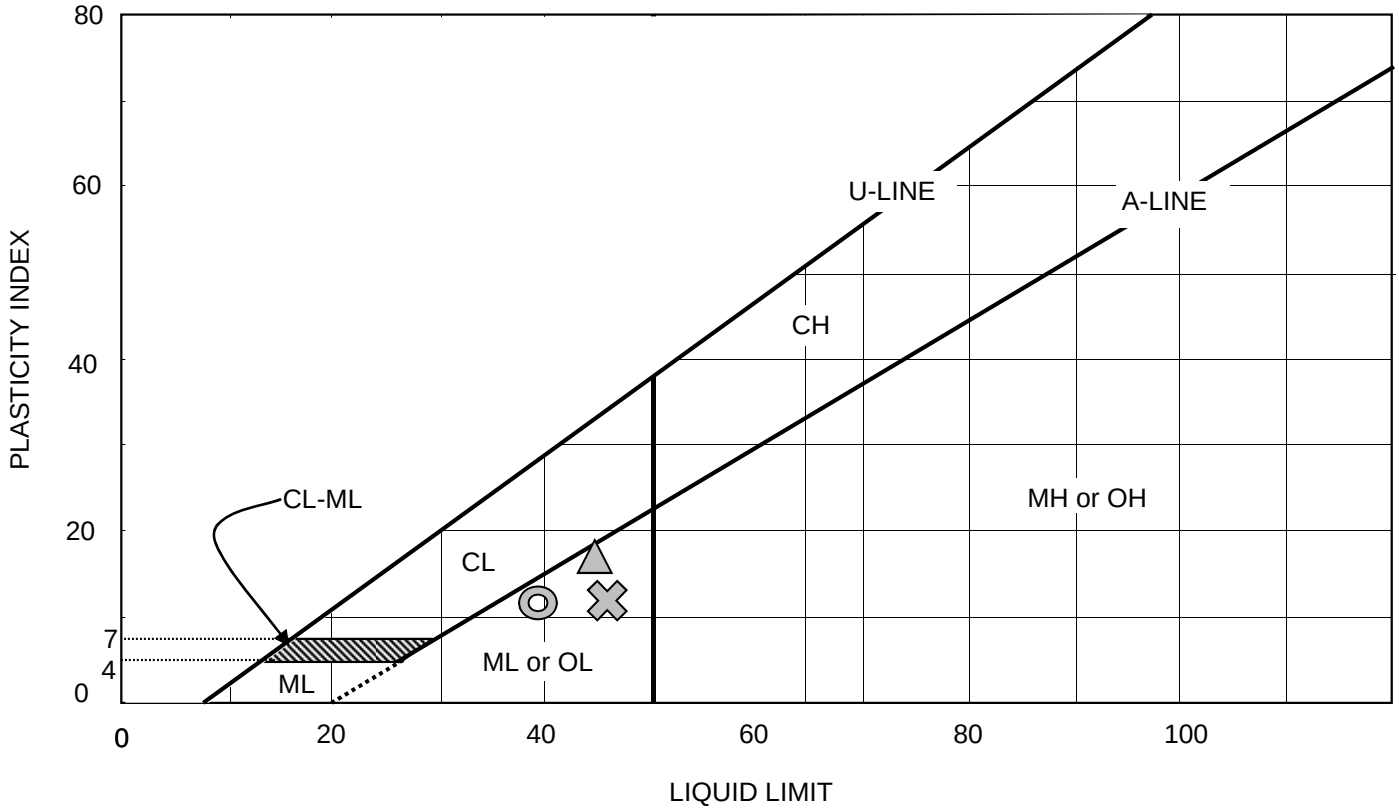
Appendix B

Laboratory Test Results

TABLE NO. B-1. SUMMARY OF LABORATORY TEST RESULTS

Sample Location				Percentage Passing Through Sieve No. or Particle Size Finer Than															Triaxial		Atterb. Limits		In-Situ		Point Load	CORROSION	
Boring No.	I.D. No.	Start Depth (ft)	End Depth (ft)	2"	1 ½"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	5μ	1μ	σ_3 (psf)	CUE, UU, UCC Cohesion Intercept (psf); ϕ	LL	PI	Dry Density γ_d (pcf)	Moisture (%)	Sc (psi)	CTM 417, 422, 532, and 643	
RC-14-001	1A	1.0	5.0																							pH	5.72
																										Resistivity (Ohm-cm)	8262
																										Chlorides (ppm)	NA
																										Sulfates (ppm)	NA
RC-14-001	4A	21.5	22.5		100	90	87	86	82	69	62	55	49	43	39	36	20	9			47	12		41.3			
RC-14-001	5 & 6	25.0	31.5						100	88	84	79	76	73	70	68	45	26			46	17		27.0			
RC-14-001	8	40.0	41.5						100	95	84	76	71	66	62	59	36	16			39	11		23.3			
RC-14-002	1, 2 & 3	5.0	16.5																							pH	5.11
																										Resistivity (Ohm-cm)	30160
																										Chlorides (ppm)	15
																										Sulfates (ppm)	0
RC-14-002	4A	25.0	26.5				100	97	96	87	82	73	64	57	50	45	23	6				NP		23.6			
RC-14-003	4A	24.0	25.0						100	94	87	82	77	70	62	52	22	7						30.5			
RC-14-003	8	40.0	41.5			100	97	95	93	73	69	64	59	54	48	43	23	7				NP		26.8			
RC-14-004	4	10.0	11.5				100	98	96	71	69	64	59	54	48	43	23	7				NP		21.7			
RC-14-004	8	20.0	21.5							100	98	94	90	85	79	71	27	7				NP		38.3			
RC-14-005	2 & 3	4.5	6.5				100	99	99	98	98	95	92	88	85	82	37	7				NP		18.9			
RC-14-005	8	22.5	23.5																						1243		

ATTERBERG LIMITS TEST (AASHTO D T 89 and T 90)



SYMBOL	SAMPLE ID	SAMPLE LOCATION	LIQUID LIMIT (%)	PLASTICITY INDEX	CLASSIFICATION
✖	4A	Boring No. RC-14-001: 21.5'-22.5'	47	12	ML
▲	5 & 6	Boring No. RC-14-001: 25'-31.5'	46	17	ML
◎	8	Boring No. RC-14-001: 40'-41.5'	39	11	ML

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

Project Name:	Magra Wall
EA:	03-1F4001
D-Co-Rt-PM:	03-PLA-80-PM 38.01/38.23
Test Date:	May-2015

Plate No. B-1

Results sent to: MARK HAGY

Division of Engineering Services
Materials Engineering and Testing Services
Corrosion and Structural Concrete Field Investigation Branch

Report Date: 12/22/2014
Reported by Michael Mifkovic

CORROSION TEST SUMMARY REPORT - SOIL

EFIS: **0300020420**

Dist/Co/Rte/PM **03 / PLA /080/ / 38.85 PM**

CORROSION LAB #	TL101 #	BORE #	DEPTH (FT) START	DEPTH (FT) END	MINIMUM RESISTIVITY[1] (ohm-cm)	pH[1]	CHLORIDE CONTENT[2] (ppm)	SULFATE CONTENT[3] (ppm)	IS SAMPLE CORROSIVE?
SOIL SAMPLE FROM: MAGRA RETAINING WALL									
CR20140398	**C835555**	RC-14-002	5	16.5	30160	5.11	15	0	**YES**
CR20140399	**C835554**	RC-14-001	1	5	8262	5.72			NO

This site is corrosive to foundation elements (see note below).

Controlling corrosion parameters are as follows:

- pH is 5.5 or less

Note: For Structural Elements, the Department considers a site corrosive if one or more of the following conditions exist: pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater. Resistivity is not considered for Structural Elements. MSE backfill shall conform to the requirements of section 47-2.02C Structure Backfill in the 2010 Standard Specifications.

[1]CT 643, [2]CT 422, [3]CT 417

CR20140398 - CR20140399

CALTRANS Division of Engineering Services Geotechnical Services Office of Geotechnical Design - North	EA: 03-1F4001 Date: May 2015	**CORROSION TESTS RESULTS**
	03-PLA-80 PM 38.01-38.23 FOUNDATION REPORT	Plate No. B-2

Point Load Strength Index of Rock; ASTM D 5731 - 08

Dist-EA: 03-1F4001 **Dist-Co-Rte-PM: PLA-80 PM 38.15** **GL Tracking Nos.: 14-067**

Report Date: January 14, 2015

Boring I.D.	Depth (feet)		Test Type	Initial Distance Between Contact Points, D (mm)	Final Distance Between Contact Points, D' (mm)	Equivalent Diameter, D_e (mm) per Section 10.1 of ASTM D 5731-08	Width, W (mm)	Length, L (mm)	Failure Load (lbs)	Uncorrected Point Load Strength Index, I_s; per EQ. #1 of ASTM D 5731-08		Size Correction Factor, F; per EQ. #4 of ASTM D 5731-08	Size Corrected Point Load Strength Index, $I_{s(50)}$; per EQ. #3 of ASTM D 5731-08		Generalized Index to Strength Conversion Factor, K, per Table 1 of ASTM D 5731-08 (approximated where appropriate)	Estimated Uniaxial Comp. Strength, s_c per EQ. #6 of ASTM D 5731-08		Remarks
	top	bottom								(MPa)	(PSI)		(MPa)	(PSI)		(MPa)	(PSI)	
RC-14-005_8	22.5	23.5	D-L	58.0	45.0	51.09		44.61	209.4	0.36	51.77	1.01	0.36	52	24	9	1,243	

NOTES:

Test Type Abbreviations: D - Diametral, A -Axial, B - Block, I - Irregular Lump.

Orientation of Load (if anisotropic): P - Perpendicular to plane of weakness, L - Parallel to plane of weakness

RC-14-005_8

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

EA: 03-1F4001
Date: May 2015

POINT LOAD STRENGTH INDEX OF ROCK TEST RESULTS

03-PLA-80; PM 38.15; MAGRA WAL
FOUNDATION REPORT

Plate No. B-3