SPECIAL PROVISIONS

AND

DETAILED SPECIFICATIONS

SPECIAL PROVISIONS

SECTION 1 - GENERAL

1.1 Drawings and Specifications - These documents are for the construction of **Meadowview Stream Restoration, Stage 60**, located in the city of Temecula, Riverside County, California and were prepared in accordance to the approved drawings for the Meadowview Community Association by the United States Department of Agriculture, Natural Resources Conservation Service. This work shall conform with the contract drawings indexed on the cover sheet of the drawings included herewith (see Appendix "C").

Referenced standard drawings are available on the District web site.

The Contractor shall copy any of the referenced District standard drawings from http://www.rcflood.org.

The Contractor shall be responsible to obtain referenced standard plans/drawings of various agencies from their respective office or web site.

References made in these Special Provisions or Detailed Specifications to the "Greenbook Specifications" refer to the "Greenbook" Standard Specifications for Public Works Construction, current edition, including supplements. Standard Specifications of the American Society for Testing and Materials shall be designated by ASTM and the appropriate number of the standard. Unless otherwise specified, wherever the words "Caltrans Specifications" are used in these Special Provisions or Detailed Specifications they shall mean the Standard Specifications of the State of California, Department of Transportation, current edition. Whenever the words "Caltrans Standards" are used they shall mean the Standard Plans of the State of California, Department of Transportation, 2010 edition.

In the event that discrepancies are encountered, the option that provides the method, item or material with the greatest strength or utility shall be chosen, as directed by the Engineer.

In case of conflict between the drawings and the specifications, the drawings shall govern; in case of conflict between the referenced specifications and these specifications, the latter shall govern.

1.2 Submittals to District - Submittals shall be sent in the form of email or postal carrier to the attention of the Engineer. The Contractor shall allow the Engineer ten (10) working days from the time of receipt of the submittal (mailing time is not included) to review and respond in writing. The Contractor shall submit and obtain approvals for all required submittals identified within these specifications prior to the pre-construction meeting.

SECTION 2 - TIME OF COMPLETION, DAMAGES AND LEGAL HOLIDAYS

2.1 General - **The Contractor shall begin work within ten (10) calendar days after the date of receipt of Notice to Proceed from the Engineer and shall diligently prosecute the same to completion before the expiration of**

FIFTY (50) WORKING DAYS

from the date of receipt of Notice to Proceed.

2.2 Damages - The Contractor and the District expressly agree that the cost to the District for inspection and superintendence of the work for this contract is $800.00 per working day.

2.3 Legal Holidays - The Contractor will not be permitted to work on Legal Holidays (Reference Sections 6.02 and 6.06 of the General Provisions), except in cases of emergency as directed by the Engineer.

SECTION 3 - FORCE ACCOUNT PAYMENT

3.1 Labor Surcharge - Attention is directed to the provisions of Section VII, Article 7.03A(1b) of the General Provisions. The labor surcharge percentage to be applied to the actual wages paid as defined in Paragraph 7.03A(1a) will be twenty-four percent (24%).

3.2 Equipment Rental - Attention is directed to the provisions of Section VII, Article 7.03A(3) of the General Provisions. The equipment rental rates to be applied will be the rates published by the California Department of Transportation and in effect at the time of the award of the contract. A copy of said Equipment Rental Rates is on file at the District Office.

SECTION 4 - PROTECTION OF EXISTING UTILITIES

4.1 General - All existing underground utility lines, power poles and overhead wiring shall be protected in place at all times, except as noted otherwise on the plans. Any damage to utilities caused by the Contractor's operation shall be repaired or replaced at the Contractor's expense.

Prior to the commencement of any construction activities, the Contractor shall contact all utility companies and local municipalities servicing the project area to review as-built utility drawings and determine appropriate means of protecting utilities.

The Contractor shall notify and coordinate with representatives of Rancho California Water District and Meadowview Community Association at least 48 hours prior to the commencement of any construction activities on the northern bank for the purpose of protecting two (2) existing waterlines in place. Rancho California Water District may be contacted at 951.296.6900. **The Contractor's attention is directed to Section 30 of the Detailed Specifications regarding the requirements for the protection of Rancho California Water District's facilities.**

At the discretion of the Engineer, the Contractor may be required to verify, by potholing, the location of potentially affected utilities.

Should any utility relocation be required and result in delays to the Contractor's work schedule, the Contractor shall be entitled only to an equivalent extension of time for the completion of the contract, and shall not be entitled to damages due to downtime and idled equipment or additional payment over and above the agreed upon contract unit prices.

SECTION 5 - PROJECT SITE MAINTENANCE

Through all phases of construction, the Contractor shall comply with the provisions of Section 7-8 of the Greenbook Specifications. Before final acceptance of the work, the Contractor shall clean the work and the site of the work of all falsework, temporary structures, other construction materials and equipment, excess materials and rubbish, and shall leave the work and the site in a neat and presentable condition. Such final cleanup work shall be performed within the time specified for completion of all of the work.

SECTION 6 - SPECIAL REQUIREMENTS

6.1 National Pollutant Discharge Elimination System (NPDES) - The Contractor shall comply with the requirements of Board Order No. R9-2015-1118 (NPDES No. CAS0109266), NPDES Municipal Separate Storm Sewer System Permit (MS4s), hereafter referred to in this Section as the "Permit", issued by the California Regional Water Quality Control Board (CRWQCB) – San Diego Region and the requirements of Section 5.2 of the District's Santa Margarita Region Jurisdictional Runoff Management Plan, referred to as "District JRMP". The Permit and District JRMP regulates both stormwater and non-stormwater discharges associated with Contractor's construction activities. The Contractor shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) in accordance with Section 29 "Stormwater and Non-Stormwater Pollution Control" of the Detailed Specifications.

The Contractor's attention is directed to: 1) Section 29.2 "General Requirements" which allows the Engineer to withhold progress payments if the Contractor fails to fully implement Section 29 "Stormwater and Non-Stormwater Pollution Control" or is deemed to be in non-compliance with the provisions of the Permit; 2) Section 29.3 "Permit Registration Documents (PRDs) Preparation and Approval" which requires that the PRDs be prepared and approved prior to the pre-construction meeting; and 3) Section 29.6 "SWPPP Implementation" which allows the Engineer to suspend construction operations if the Contractor fails to implement the approved SWPPP and any amendments thereto.

6.2 Sanitation - Sewage flows shall not be interrupted. Should the Contractor disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. If pumping is required it shall be done at the expense of the Contractor. A backup pumping system with equal capacity shall be provided at all times. Sewage shall not be permitted to flow in trenches or be covered by backfill.

6.3 Heavy Equipment Working Hours - Heavy construction equipment shall be allowed for work from 7:00 a.m. to 3:30 p.m. each normal working day, unless otherwise approved by the Engineer.

6.4 Toxic Material Disposal - Toxic materials including oil, fuel oil, gasoline, coolant, fluid filters and other contaminants shall not be discharged within the project site. All such materials shall be transported offsite and disposed of at a County approved facility.

6.5 Survey Crew - The Contractor shall notify the Engineer in writing at least 48 hours prior to new construction staking and shall provide safe and unobstructed access to the staking area within this period. Should the staking area be inadequately prepared, unsafe or obstructed when the District's Survey Crew arrives onsite to perform the new construction staking, the Contractor shall be subjected to delay charges as defined below.

Survey Crews will be available Monday through Thursday from 7:00 a.m. to 3:30 p.m., with a half-hour off for lunch. If the Contractor requires the Survey Crew to work beyond the specified time mentioned above, it shall be considered as overtime and shall be paid by the Contractor at 1.5 times the Survey Crew's hourly rates.

The Contractor shall carefully preserve benchmarks, reference points, and stakes. In case of willful or careless destruction, the Contractor shall be charged with the resulting expenses, and shall be responsible for any mistakes that may be caused by such unnecessary loss or disturbance.

If the District's Survey Crew incurs delays or survey re-staking is required as a result of the Contractor's operations, the Contractor shall be charged a rate of $250/hour, with a minimum charge of two (2) hours for each re-staking request. Payment shall be deducted from the monthly progress payment.

6.6 Survey Monuments - The Contractor shall salvage and give to the District all survey monuments and wells removed during construction. The District will reset monuments after construction.

6.7 Job Trailer Site - The Contractor is required to provide a site and install an office trailer for District personnel. This trailer shall be in good condition and located in a place acceptable to the District. The trailer shall be for the sole use of the District and shall not be used by the Contractor for any activity, including storage. The Contractor shall make provisions for the privacy and security of the office, and provide air conditioning, drinking water, electrical service, and a private portable toilet for the Inspector. The Contractor shall also provide two office chairs and a desk suitable for reviewing plans. The Contractor shall pay the monthly billings for these services. The trailer shall be fully operational and available to District personnel on the first day of work. Should the trailer or office not be available and in working condition, it is agreed by both parties at the time of entering this contract that damages in the amount of $1,000 per month shall be assessed. It is agreed that this amount may be prorated and shall be deducted from the first contract payment and any successive payments covering any period that the facilities are unavailable.

6.8 Construction Tolerances – Variation in alignment, grade and dimensions of the structures and structural components from the established alignment, grade and dimensions shown on the drawings shall be within the tolerances specified in the following:

Table A – Tolerances for Grading Unlined Channels, Levees and Access Roads		
Departure from established alignment		2 inches on tangents 4 inches on curves
Departure from established profile grade	Channel bottoms, channel sideslopes in cut and fill, levee and access road sideslopes in cut	Zero above and 3 inches below the specified grade
	Top surfaces of levees and access roads in both cut and fill, levee and access road sideslopes in fill	Zero below and 3 inches above the specified grade

Regardless of the construction tolerances specified, the excavation and grading shall be performed so that the finished surfaces are in uniform planes with no abrupt breaks in the surface.

6.9 Surplus Excavated Material - All surplus excavated material shall be stockpiled within the project site and graded as shown on the drawings and as directed by the Engineer. Any stockpiling, grading or disposal of material outside of the project area is not covered under the District's permits and is the sole responsibility of the Contractor.

6.10 Sewer Line Inspection - Prior to the commencement of construction, the Contractor is required to video record all sewer mains (8" diameter and larger) within the project limits. Additionally, the Contractor shall video record the sewer mains after the backfilling of the storm drain has been completed. Copies of the videotapes shall be provided to the Engineer. All costs associated with this requirement shall be included in the contract price bid for Clearing and Miscellaneous Work. The Contractor is required to replace and/or repair at his own expense, any sewers damaged or misaligned as a result of his construction activities.

6.11 Project Signs - Supplementing Section 8.07 of the General Provisions, the Contractor shall be required to provide two new project signs. The Contractor shall install and maintain the project signs at locations specified by the Engineer, with painting and lettering as shown in Appendix "B" of these Special Provisions. The signs shall be installed as directed by the Engineer within five (5) days after District issuance of the Notice to Proceed. Upon completion of construction, the signs shall be removed.

6.12 Liability Insurance - The Contractor's attention is directed to Section 8.02, Insurance – Indemnification/Hold Harmless/Defend, of the General Provisions. The Meadowview Community Association shall also be named as additional insureds with the liability insurance coverage required to be maintained by the Contractor.

6.13 1602 Permit Compliance – A Streambed Alteration Agreement (SAA) was issued for this project by the California Department of Fish and Wildlife (CDFW) on September 8, 2017. A copy of the SAA shall be provided to the Contractor. The Contractor shall comply with all conditions of the SAA, with special attention given to the following conditions:

1. A copy of the Agreement and CDFW documents shall be kept onsite at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
2. CDFW personnel may enter the project site at any time to verify compliance with the Agreement.
3. Take of any state and/or federally listed threatened, endangered, or fully protected species is not authorized by the Agreement.
4. Please also be advised that Sections 3503, 3503.5, and 3513 of the FGC stipulate the following:

   > Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by FGC or any regulation made pursuant thereto; Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by FGC or any regulation adopted pursuant thereto; and Section 3513 states that it is unlawful to take or possess any migratory nongame bird except as provided by the rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act (MBTA).

5. Contractor shall comply with the guidelines set forth by the Designated Biologist onsite during ground disturbance activities as necessary. The Designated Biologist will be provided.
6. Contractor shall verify with the District to ensure all required pre-construction surveys have been conducted and the results have been submitted to CDFW no less than 20 days prior to ground disturbance activities.
7. Contractor shall coordinate with the District so that a nesting bird survey may be conducted no more than three (3) days prior to ground disturbance activities.
8. Contractor shall not allow lighting in jurisdictional areas and fencing for infrastructure adjacent to jurisdictional areas shall be reviewed by the Designated Biologist to allow unhindered wildlife movement within the open space.
9. Contractor shall actively implement Best Management Practices (BMPs) to prevent erosion and discharge of sediment and pollutants into streams during project activities. BMPs shall be monitored and repaired if necessary to ensure maximum erosion, sediment, and pollution control. Contractor shall prohibit the use of erosion control materials potentially harmful to fish and wildlife species, such as mono-filament netting (erosion control matting) or similar material within and adjacent to CDFW jurisdictional areas. All fiber rolls, straw wattles, and/or hay bales utilized within and adjacent to the project site shall be free of

non-native plant materials. Fiber rolls or erosion control mesh shall be made of loose-weave mesh that is not fused at the intersections of the weaves.

10. Contractor 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 Contractor to ensure compliance.

a. Contractor 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.

b. 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.

c. 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 Contractor or any party working under contract or with the permission of Contractor, shall be removed immediately.

d. 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 150 feet of the high water mark of any lake, streambed, or flowing stream.

e. No equipment maintenance 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.

6.14 404 Permit Compliance - A Section 404 permit was issued by the U.S. Army Corps of Engineers (Corps) for this project on August 16, 2017. A copy of the 404 Permit shall be provided to the Contractor to keep on the construction site at all times. The Contractor shall comply with all conditions of the 404 Permit, with special attention given to the following conditions:

1. The District will survey the authorized work areas. The Contractor shall install silt fencing around the authorized work areas in order to ensure that mechanized equipment does not enter preserved waters of the U.S. and "No Touch Zones" as shown on the project plans (provided to the Contractor from the District as part of this Specification package). Adverse impacts to waters of the U.S. beyond the Corps-approved construction footprint are not authorized. Such impacts could

result in permit suspension and revocation, administrative, civil or criminal penalties, and/or substantial, additional, compensatory mitigation requirements.

2. Pursuant to 36 CFR Section 800.13, in the event of any discovery during construction of either human remains, archaeological deposits, cultural resources, or any other type of historic property, the Contractor shall immediately suspend all work in the discovered area(s). Contractor shall not resume construction in the area surrounding the discovery until the District authorizes the project construction.

6.15 401 Certification Compliance - A Section 401 Water Quality Certification (WQC) was issued by the San Diego Regional Water Quality Control Board (RWQCB) on July 19, 2017. A copy of the WQC will be provided to the Contractor to keep on the construction site at all times. The Section 401 WQC requires the use of Best Management Practices (BMPs) during construction to minimize discharges of sediment and other wastes to receiving waters. The Contractor shall comply with all conditions of the WQC, with special attention given to the following conditions:

1. The Contractor shall comply with all conditions and requirements of the WQC. Any WQC noncompliance constitutes a violation of the Water Code and is grounds for enforcement action or Certification termination, revocation and reissuance, or modification.
2. The Contractor shall construct, implement and comply with all water quality protection measures and BMPs described in the application and supplemental information. The conditions within this Certification shall supersede conflicting provisions within the application and supplemental information submitted as part of this Certification action.
3. The Contractor shall maintain a copy of this Certification at the project site. This Certification must be available at all times to site personnel and agencies.
4. The Contractor shall allow the San Diego Water Board, or the State Water Resources Control Board, and/or their authorized representative(s) (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents as may be required under law, to:
   a. Enter upon the project or compensatory mitigation site(s) premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Certification;
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Certification;
   c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Certification; and
   d. Sample or monitor, at reasonable times, for the purposes of assuring Certification compliance, or as otherwise authorized by the Clean Water Act or Water Code, any substances or parameters at any location.

6.16 Accidental Discovery - In the event that any hazardous materials, historical, archaeological, or paleontological resources are accidentally discovered within project limits, the Contractor shall immediately cease all construction or ground disturbance activity in the vicinity of the find and notify the Engineer. The District will provide the appropriate professional to assess the significance of the discovery and, if necessary, develop appropriate management and treatment measures. **The Contractor shall not resume construction in the affected area without Engineer's approval.**

Per State Health and Safety Code 7050.5, if human remains are encountered during construction, no further disturbance shall occur until the Riverside County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The Riverside County Coroner must be notified within 24 hours by the Engineer. If the County Coroner determines that the remains are not historic, but prehistoric, the Native American Heritage Commission (NAHC) must be contacted by the Engineer to determine the most likely descendent for this area. Once the most likely descendent is determined, treatment of the Native American human remains will proceed pursuant to Public Resources 5097.98. The NAHC may become involved with decisions concerning the disposition of the remains.

Should any of the above mentioned discoveries result in delays to the Contractor's work schedule, the Contractor shall be entitled only to an equivalent extension of time for the completion of the contract, and shall not be entitled to damages due to downtime and idle equipment or additional payments over and above the agreed upon contract prices.

6.17 Burrowing Owl Pre-Construction Survey – In compliance with CEQA and the MSHCP, the District must conduct a presence/absence survey for Burrowing Owl no more than 30 days prior to construction/disturbance. The Contractor shall not commence any work onsite, including equipment staging, clearing, grubbing, etc., until the District determines that Burrowing Owl is absent from the project site, or that an avoidance plan has been initiated should Burrowing Owl be detected onsite. If the Contractor does not commence construction within 30 days of said determination, the Contractor must notify the Engineer that another pre-construction survey is needed.

6.18 Burrowing Owl Avoidance Measures – If any Burrowing Owl is found within the project site during the nesting season (February 1st through August 31st), the Contractor shall not conduct any construction activities within 250 feet of occupied burrows or nests. Any Burrowing Owl found within the project site that cannot be avoided will be relocated by the District during the non-nesting season (September 1st through January 31st).

Should Burrowing Owl result in delays to the Contractor's work schedule, the Contractor shall be entitled only to an equivalent extension of time for the completion of the contract, and shall not be entitled to damages due to downtime and idle equipment or additional payments over and above the agreed upon contract prices.

6.19 Nesting Bird Pre-Construction Survey – A Nesting Bird Survey will be conducted prior to construction. If an active bird nest is located, the nest site shall be restricted to a distance recommended by the Designated Biologist. Typically this is a minimum of 300 feet from the

nest site in all directions (500 feet is typically recommended by CDFW for raptors) until there is no evidence of a second attempt of nesting. Construction shall not be permitted within the buffer areas while the nest continues to be active. The Designated Biologist will monitor the nest(s) during construction and document any findings. Once the Designated Biologist determines that the nest is no longer active then the buffer area would no longer be in effect. If no nesting birds are observed during the survey, site preparation, and construction activities may begin.

Should nesting birds result in delays to the Contractor's work schedule, the Contractor shall be entitled only to an equivalent extension of time for the completion of the contract, and shall not be entitled to damages due to downtime and idle equipment or additional payments over and above the agreed upon contract prices.

6.20 No Touch Zones - The District has identified No Touch Zones (NTZ) within the project limits. The Contractor shall not be permitted to access, stockpile, or otherwise disturb an NTZ unless authorized in writing by the District. The Contractor shall clearly delineate an NTZ by installing silt fencing along the perimeter of the NTZ. Silt Fencing shall be installed in accordance with Standard SE-1 per the California Stormwater BMP Construction Handbook and compensated under Section 29 – Stormwater and Non-Stormwater Pollution Control of the Detailed Specifications. The Contractor shall be solely liable for all penalties, restoration, etc., should the Contractor or the subcontractor disturb or damage an NTZ.

6.21 Mandatory Pre-Bid Site Inspection Tour - The Contractor's attention is directed to Section 8.08 of the General Provisions. To facilitate the Contractor's site examination, the District has scheduled a Mandatory Pre-Bid Site Inspection Tour on Wednesday, May 16, 2018. The tour will begin at 10:00 a.m. curbside on Bel Bay Road, between Calle Pina Colada and San Pasqual Road, at the upstream end of the project, in the city of Temecula, CA 92591. A record of attendees will be maintained by the District. It is the responsibility of the Contractor to ensure that attendance is noted by the District. Any bid submitted by any Contractor who was not in attendance at the Mandatory Pre-Bid Site Inspection Tour will be considered non-responsive and disqualified.

SECTION 7 AND SECTION 8 – NOT USED

SECTION 9 - PAYMENT

The contract prices shall include full compensation for all costs incurred under these Special Provisions and Detailed Specifications.

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DETAILED SPECIFICATIONS

SECTION 10 - MOBILIZATION

10.1 Description - The contract item Mobilization shall consist of expenditures for all preparatory work and operations, including but not limited to, those costs necessary for the movement of personnel, equipment, supplies and incidentals to the project site, for the establishment of all offices, buildings, construction yards and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site as well as the related demobilization costs anticipated at the completion of the project.

10.2 Payment - The amount credited for Mobilization on each monthly progress payment shall be equal to the total of the amounts credited for work on all the other contract items for that monthly progress payment, up to a cumulative limit of eighty percent (80%) of the lump sum price bid for Mobilization. The remaining twenty percent (20%) of the lump sum price bid for Mobilization will be paid with the final payment.

Payment of the lump sum contract price for Mobilization shall constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to completion of this item of work.

The deletion of work or the addition of extra work as provided for herein, shall not affect the price paid for Mobilization.

SECTION 11 - WATER CONTROL

11.1 Description - This section covers the contract item Water Control. Watersheds and/or urban runoff areas are tributary to the project site at various locations, but do not necessarily follow the alignment of the project under current conditions. Surface water in varying quantities can be expected at any time of the year, and substantial runoff can be expected during periods of rainfall. All bidders shall make their own determination regarding what the surface and/or groundwater conditions will be at the time of construction, and their impact on the bidder's operations and construction phasing.

11.2 Water Control - The contract item Water Control includes the control and/or diversion of surface runoff as well as groundwater within the work area as required to complete the work. All work shall be carried on in areas free of water. Care should be exercised so that runoff or diversion flows do not erode, undermine or otherwise damage either facilities which have been constructed or adjacent private properties or alter the suitability of the site for the proposed work. The responsibility for the protection of all existing and proposed improvements lies with the Contractor.

11.3 Measurement and Payment - The methods of controlling both surface and groundwater will be the responsibility of the Contractor. The contract lump sum price paid for Water Control shall include full compensation for all direct and indirect costs incurred under this section, and

for doing all the work involved in controlling surface runoff and groundwater within the construction area, as specified in these Detailed Specifications, and as directed by the Engineer.

Payment will be made on a basis of the percentage of the work completed on the entire project.

SECTION 12 - NOT USED

SECTION 13 - CLEARING AND MISCELLANEOUS WORK

13.1 Description - This section covers the contract item Clearing and Miscellaneous Work as required for construction of the work. All objectionable materials shall be removed and disposed of outside of the limits of the construction easements and permanent right of way.

13.2 Clearing and Miscellaneous Work - The contract item Clearing and Miscellaneous Work includes the removal and disposal of all vegetation, trees, roots, stumps, fences, pipes, all abandoned facilities, culverts, rocks, structures, concrete and asphalt excluding those items defined specifically as excavation in the appropriate section.

Included in this item are the following:

1. The temporary relocation of signs and mailboxes, and their reinstallation. Work involving mailboxes shall be coordinated with the Postal Service.

2. The removal, salvaging, and reinstallation of interfering concrete posts located along existing Rancho Cucamonga Water District's easements.

3. Finally, included in this item are those types of work as shown on the drawings not specified for pay under any other individual contract item.

13.3 Payment - The contract price paid for Clearing and Miscellaneous Work shall be full compensation for all costs incurred under this section.

This payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 14 - EARTHWORK

14.1 Description - This section covers the contract items Topsoil Preservation, Excavation, and Embankment.

14.2 General Excavation Requirements - Excavation shall be in conformance with Section 300-7. Unless otherwise shown on the plans, excavation and/or placement of excavated material within the streambed shall be strictly prohibited. Access to trenches shall be in conformance with Section 306-1.1.4 and the manner of bracing excavations shall be in conformance with Section 306-1.1.6 of the Greenbook Specifications.

Excavation shall be kept to the minimum widths required for efficient placing of the structures, including rock riprap revetment, rock drop structure, stream barbs, and compost soils. The maximum length of open trench shall be in conformance with Section 306-1.1.2 of the Greenbook Specifications.

In excavating for surfaces against which rock is to be placed, care shall be exercised in removing the final lift. The foundation for all structures will be inspected and tested after excavation. The subgrade shall be eighty percent (80%) relative compaction prior to the placement of rock. Surfaces against which rock is to be placed shall be free of debris, mud, or ponded water. If subgrade compaction is deficient, subgrade shall be scarified parallel to the axis of fill and loosened to a minimum depth of two (2) inches, moisture conditioned to or slightly above optimum moisture content, and the surface proof rolled to a maximum eighty percent (80%) relative compaction. Subgrade preparation will not be measured or paid separately and no additional compensation will be allowed unless overexcavation is directed by Engineer.

Any overexcavation shall be filled with select material compacted to eighty percent (80%) relative compaction and meeting the material requirements for backfill.

The Contractor shall remove slides and materials eroding into the work, and the slopes and grades refinished to original grades as specified.

The Contractor shall dispose of all surplus excavated material in the areas designated on the plans or outside of the limits of the construction easements and permanent rights of way.

The removal of rock material from within the excavation paylines which requires the use of blasting or equipment beyond that normally necessary to accomplish the excavation (as determined by the Engineer) shall be paid for in accordance with Section VII, Article 7.03 of the General Provisions. The cost of removal and disposal (including trucking) of rock away from the jobsite will be paid for under the contract item Excavation and no additional compensation will be allowed.

Blasting, when necessary, as approved by the Engineer shall be in accordance with Section 19-2.03E of the Caltrans Specifications.

The Contractor's attention is directed to the General Provisions, Section V, Article 5.09 on the use of explosives and Article 5.11 in regard to unforeseen difficulties.

14.3 Topsoil Preservation - The contract item Topsoil Preservation includes all labor, equipment, and incidentals required to excavate and preserve the top four inches (4") of soil within the paylines as shown on the drawings prior to other earthwork operations. Included in this contract item is all work required to transport, stockpile, and delineate the preserved topsoil within the "Topsoil Stockpile Site" to the lines and grades identified on the drawings, or as directed by the Engineer.

14.4 Excavation - The contract item Excavation covers all excavation, stockpiling, and grading required to achieve the finished lines and grades as shown on the drawings and as directed by the Engineer, exclusive of excavation required for Toe-out Protection, Stream Barbs, Stream Barbs (Bench), Rock Riprap Revetment, and Rock Drop Structure which shall be covered in Section 14.3 and Sections 26.5 through 26.8, respectively, in these Detailed Specifications.

14.5 General Backfill Requirements - Whenever embankment or fill is specified or required, the work shall be performed with onsite native material and as set forth in Sections 300-4.1 to 300-4.8 of the Greenbook Specifications, except Section 300-4.7 shall be modified to state "each layer of earth fill shall be compacted to a minimum relative compaction of eighty percent (80%)".

All fill material shall be free of sod, roots, brush, debris, trash, rocks over 6 inches in largest diameter, and other objectionable material. Clods or hard lumps over 6 inches in greatest dimension shall be broken up before compaction. All embankments and fills shall be constructed of approved material selected from required excavations as directed by the Engineer.

Material shall be placed in horizontal layers not more than 8 inches in thickness before compaction. If any oversized rock is encountered, it shall be removed from the embankment before compacting.

Backfill shall be mechanically compacted by means of track laying equipment, defined as a bulldozer or equivalent, unless otherwise approved by the Engineer. Compaction shall be defined as eight (8) passes of the equipment over the entire surface of each layer or a minimum 80% relative compaction, whichever is less.

All relative compaction tests will be made by the Engineer in conformance with ASTM D1557.

Approval to use specific methods and compaction equipment shall not be considered as guaranteeing or implying that the use of such methods and equipment will not result in damage to adjacent ground, existing improvements or improvements installed under the contract, nor shall it be construed as guaranteeing proper compaction. The Contractor shall make his own determination in this regard.

14.6 Testing - District personnel shall perform compaction tests as described below using either the ASTM D1556 (sand cone) or ASTM D6938 (nuclear) test method. These tests represent the minimum required. Additional tests may be taken at the Engineer's discretion.

Any failed test will result in a retest.

14.7 Embankment - The contract item Embankment consists of constructing compacted embankment for the earthen diversion, water bars, and embankment to achieve the proposed grades as shown on the drawings.

Embankment subgrade shall be moisture conditioned and the surface proof rolled as needed to achieve eighty percent (80%) relative compaction prior to embankment placement.

The embankment material shall be obtained from required excavation, as directed by the Engineer.

Material placed in the embankment shall be disked, harrowed or manipulated by other approved methods so as to obtain the best possible mixture and gradation, and shall be free from lenses, pockets, or streaks of material differing substantially in texture and gradation from the surrounding material.

Prior to and during the compaction operations, the material in each layer of the embankment shall, if necessary, be moistened and manipulated to attain moisture content within the range as determined by the Engineer. The moisture content shall be uniform throughout the layer. The moisture content of the soils at the time of compaction shall fall within the range from optimum moisture, to three percent (3%) above optimum.

Embankment material which contains excessive moisture shall not be compacted until the material is sufficiently dry to comply with the specified moisture content or as necessary to achieve the required compaction as directed by the Engineer. No separate payment will be made for any additional work involved in drying embankment material to the required moisture content.

To obtain the specified moisture content, the Contractor will be required to perform such operations as are considered necessary by the Engineer. Application of water to the material for this purpose shall be done at the site of excavation as far in advance of excavation operations as possible to ensure uniformity of moisture content. Supplementary water, as required, shall be added to each layer and to the foundation by sprinkling the soil and by disking, harrowing, or otherwise manipulating the soil during and after the time the water is added. No layer of fill shall be compacted before the specified moisture content has been obtained.

The embankment compaction shall be done with a track laying equipment or other approved compaction equipment and be compacted to a maximum of eighty percent (80%) relative compaction when measured in conformance with California Test Method 216. The method of compaction shall be subject to the approval of the Engineer.

It may be feasible to transport a portion of the materials which are excavated for other parts of the work, and which are suitable for embankment construction, directly to the embankment at the time of making the excavations, however, the Contractor shall be entitled to no additional compensation, above the unit prices named in the Contract Schedule for excavation and embankment, by reason of it being necessary or required by the Engineer that such excavation materials be deposited in temporary storage piles prior to being placed in the embankments or other mandatory fill areas.

14.8 Measurement – Topsoil Preservation, Excavation, and Embankment beyond the limits established by the drawings, unless ordered in writing by the Engineer, will not be measured for payment.

Measurement for payment for the contract item Topsoil Preservation shall be the number of cubic yards of topsoil excavated and stockpiled. The Topsoil Preservation per-quantity shall be calculated as the product of the preservation depth (defined to be 4 inches) times the preservation area, as determined from surveyed limits.

Measurement for payment for the contract item Excavation will be the number of cubic yards of material excavated, measured from the existing ground surface prior to construction to the finished grade following construction, as determined from surveyed cross sections taken by the District. Excluded from this measurement is all excavation necessary for Topsoil Preservation and to construct the Stream Barbs, Stream Barbs (Boxed), Rock Riprap Revetment, and Rock Drop Structure as defined in Section 14.3 and Sections 26.2 through 26.5, respectively, in these Detailed Specifications.

Measurement for payment for the contract item Embankment will be the number of cubic yards of material placed in final position, measured from the existing ground surface prior to construction to the finished grade following construction, as determined from surveyed cross sections taken by the District. The longitudinal limits shall terminate at vertical planes at the limits of the structure as shown on the drawings. Volumes occupied by structures, rock slope protection, and other feature for which a separate payment is made will be deducted from the gross volume.

14.9 Payment - The contract prices paid for Excavation, and Embankment shall include full compensation for all costs incurred under this section.

SECTION 15 - TRENCH SAFETY SYSTEM

15.1 Description - This section covers the contract item Trench Safety System. This item is defined as a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Trench safety systems include support systems, sloping and benching systems, shield systems and other systems that will provide necessary protection. The item includes the furnishing and implementation of the safety system as required by Section 306-1.1.6 of the Caltrans Specifications or as directed by the Engineer.

15.2 Trench Safety System - Excavation for any trench five (5) feet or more in depth shall not begin until the Contractor has provided to the Engineer, a detailed plan for worker protection from the hazards of caving ground during the excavation of the trench. The plan shall show the details of the design of shoring, bracing, sloping or other provisions to be made for worker protection including any design calculations done in the preparation of the plan. No such plan shall allow the use of shoring, sloping or a protective system less effective than that required by the Construction Safety Orders of the California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal-OSHA). The plan shall be prepared and

signed by an engineer who is registered as a Civil Engineer in the State of California, and the plan and design calculations shall be submitted for review at least two (2) weeks before the Contractor intends to begin trenching operations.

All safety plans shall reflect surcharge loadings imparted to the side of the trench by equipment and stored materials. Surcharge loads shall be monitored to verify that such loads do not exceed the design assumptions for the system.

The Contractor should not assume that only one type of trench safety system such as a shield or "trench box" will be adequate for all trenching situations encountered on a given project. The Contractor should be prepared with alternative safety system designs (such as solid sheeting) should construction circumstances dictate the use of such.

Trench safety system designs for support systems, shield systems or other protective systems whether drawn from manufacturers' data, other tabulated data or designed for this particular project must be signed by a Civil Engineer registered in the State of California prior to submittal to the District for review. A shoring plan for the specific use of a shield shall be prepared. Catalogs or engineering data for a product should be identified in the plan as supporting data. All specific items or applicable conditions must be outlined on the submittal.

The State of California Department of Transportation "Trenching and Shoring Manual" will be used as a guide for plan review and approval.

Also included in this item is the fencing and barricading of the open trench as required for the safety of pedestrians and vehicular traffic as directed by the Engineer.

15.3 Measurement and Payment - The contract price paid for the item Trench Safety System shall include full compensation for all costs incurred under this section.

This payment will be made on a basis of the percentage of the work completed on the items related to trenching operations.

SECTION 16 THROUGH SECTION 19 - NOT USED

SECTION 20 - FENCES AND GATES

20.1 Description - This section covers the contract item Temporary Fencing.

20.2 Temporary Fencing - The contract item Temporary Fencing shall include all labor, materials and equipment necessary for installing, maintaining, relocating, and removing the temporary fencing. The temporary fencing shall be a 6-foot high chain link fence. Fencing materials need not be new and fence posts need not be set in concrete.

Temporary Fencing shall be installed and maintained as directed by the Engineer to secure the active work area and restrict public access. The Contractor shall operate within 100' of the active work area at all times.

No measurement for payment will be made for this lump sum contract item.

20.3 Measurement and Payment - The contract lump sum price paid for Temporary Fencing shall include full compensation for all costs incurred under this section.

This payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 21 - MISCELLANEOUS

21.1 Description - This section covers Compost Rolls and Silt Fence.

21.2 Compost Rolls - The contract item Compost Rolls shall include all labor, materials, tools and equipment required to furnish, install, and maintain three (3) rows of 12-inch diameter Compost Rolls, inclusive of earthwork, as specified on the drawings and as recommended by the manufacturer's recommendations. All earthwork shall be in conformance with Section 19 of these Detailed Specifications. Also included in this contract item is the inspection and maintenance of the Compost Rolls in accordance with the manufacturer's recommendations and as directed by the Engineer, until the completion of the project.

Compost Rolls shall be installed and secured with a pair of 3' long, wedge shaped wooden stakes, tied together, one on either side. The stakes shall be installed at 4' intervals and secured at the top of the compost roll.

Additionally, Compost Rolls shall be designed in conformance to the design requirements below:

Sock Material:

Parameter	Criteria	ASTM
Maximum Velocity	14.5 feet per second	D-6460
Maximum Hydraulic Shear Stress	12 lbs/ft²	D-6460
Functional Longevity	2 yrs - 5 yrs	-

Compost:

Compost shall be weed free and derived from a well decomposed source of organic matter. Particle size should be as follows:

Percent Passing	Sieve
100	2 inch (50 mm)
99	1 inch (25 mm)
60	½ inch (12.5 mm)

Compost shall be tested to meet the US Composting Council's Seal of Testing Assurance.

Seed Mix:

Seed Mix shall contain an approximately equal number of seeds, not equal weight, from two or more of the following: Beardless Wildrye (*Elymus triticoides*), Tufted Lovegrass (*Eragrostis pectinacea*), Mexican Sprangletop (*Leptochloa fusca* subsp. *uninervia*), True Malpais Bluegrass (*Poa secunda subsp. secunda*), and Knotroot Bristlegrass (*Setaria parviflora*). If the above species are unavailable, an equivalent seed mix containing locally native grass species adapted to wetland and/or seasonally moist conditions, as determined by a qualified biologist, shall be used. No cultivars of the above species shall be used and no mineral fertilizer shall be added.

The sock shall contain an excavated soil to compost ratio of 1:1 to 1.5:1. The compost sock shall contain 0.20 lbs seed mix/linear foot. The seeded rate is based on a seed size equivalent to fescue/rye; actual seed rate will vary depending on seed mix availability. Excavated soil used within the sock shall be taken from the top four (4) inches of the native soil, as directed by the Engineer.

21.3 Silt Fence - Standard silt fence shall be installed prior to any construction activities to maintain interior sediment control along the toe of slope. Standard silt fencing shall be installed as shown on the plans and in accordance to CASQA BMP Fact Sheet SE-1, unless otherwise approved by the Engineer.

The Contractor shall maintain, repair or replace worn or damaged portions of silt fencing, as directed by the Engineer, throughout the duration of the project. The Contractor shall completely remove and dispose of the silt fencing, and associated appurtenances, upon completion of the project.

All labor, equipment, and materials required for the installation, maintenance, removal and disposal of silt fencing and associated appurtenances shall be compensated under Section 29 - Stormwater and Non-Stormwater Pollution Control of these Detailed Specifications. No additional measurement or payment shall be made for Silt Fence.

21.4 Measurement - Measurement for the contract item Compost Rolls will be the number of lineal feet of compost roll system installed as specified and measured along the centerline of the middle compost roll parallel to the ground. A compost roll system shall be defined as three (3) stacked rows of 12-inch compost rolls, as shown in Detail 3 on Sheet 6 of the drawings.

No separate measurement shall be made for Silt Fence.

21.5 Payment - The contract price paid for Compost Rolls shall include full compensation for all direct and indirect costs to furnish and install the Compost Rolls in accordance with the construction drawings and these Detailed Specifications.

No separate payment shall be made for Silt Fence.

SECTION 22 THROUGH SECTION 25 - NOT USED

SECTION 26 - STONEWORK

26.1 Description - This section covers the contract items Stream Barbs, Stream Barbs [illegible] Rock Riprap Revetment, and Rock Drop Structure.

26.2 General - All rock materials shall meet the gradation requirements of Section 200-1.6.2 and the quality requirements of Sections 200-1.6.1 and 200-1.6.3 of the Greenbook Specifications. The Contractor shall furnish a "Certificate of Compliance" signed by the rock supplier certifying that the rock materials conform to the designated specifications.

Rock materials shall be blocky and predominantly angular in shape. Not more than 25% of the rock shall have a length more than 2.5 times the breadth or thickness. No rock shall have a length exceeding 3.0 times its breadth or thickness. All oversize rocks, as determined by the Engineer, shall be removed.

Rock materials shall be placed on a firm dry foundation in conformance with Method A of Section 72-2.03 of the Caltrans Specifications; however, additional placement effort shall be required to meet the lines and grades as shown on the drawings and to fill and chink oversize voids with selected rock to establish a stable interlock.

The Contractor is required to construct the stream barbs after the bank slopes have been completed. The stream barbs location and angle relative to the streambank shall be established and staked by the Engineer prior to construction. Stream barbs shall be keyed a minimum of eighteen feet (18') into the slope, starting from the proposed toe. Location of the stream barbs shall be field verified by the District.

Rock riprap revetment shall be keyed a minimum three feet (3') into the existing ground and a minimum of ten feet (10') perpendicularly into the slope at the upstream and downstream termination point.

26.3 Rock Slope Protection, 375 lbs Class - Rock Slope Protection, 375 lbs Class furnished for the project shall be in conformance to Greenbook Section 200-1.6 and shall be utilized in the construction of the Stream Barbs, Rock Riprap Revetment, and Rock Drop Structures as defined below.

26.4 Rock Slope Protection Fabric - Rock Slope Protection Fabric placed beneath rock shall be Mirafi 1100N or equivalent non-woven, needle punched, geotextile fabric with a minimum weight of 8 ounces per square yard and in conformance to Rock Slope Protection Fabric, Class 10 per Section 88-1.021 of the Caltrans Specifications.

Prior to placing Rock Slope Protection Fabric, the surfaces upon which the rock fabric is to be placed shall be smooth, dry, and free of loose rock and debris that may damage the fabric.

during installation. Rock Slope Protection Fabric damaged during placement shall be replaced or repaired by the Contractor, as directed by the Engineer, at the Contractor's expense.

Rock Slope Protection Fabric panels shall be placed parallel to the direction of flow with the upstream end placed under the upstream panel. Panels shall be overlapped a minimum of 18 inches for vertical laps and 24 inches for horizontal laps. Vertical laps shall be secured with pins inserted through both layers along the midpoint line of the overlap. Horizontal laps shall be secured with pins inserted through the bottom layer only. Securing pins shall be installed at a maximum spacing of 12 feet on center, with additional pins to be installed as necessary to prevent any fabric slippage, as directed by the Engineer.

The Rock Slope Protection Fabric shall be secured using steel or fiberglass securing pins formed into "U", "L", or "T" shapes or contain "ears" to prevent total penetration. Grommets or steel washers with an outside diameter of 1 1/2 inches shall be provided for all but "U" shaped securing pins.

Rock Slope Protection Fabric shall not be placed unless riprap or other material can be used to cover the fabric within the same working day.

Unused fabric stock shall be stored in accordance with manufacturer recommendations, or the Engineer may require replacement at the Contractor's cost.

26.5 Stream Barbs - The contract item Stream Barbs covers the complete construction of the Stream Barbs not located within the stream benches as shown on Sheet No. 6 of the drawings. The contract item shall include all labor, materials, tools and equipment required to construct the Stream Barbs, inclusive of all earthwork below finished grade (excavation, preparation of subgrade, backfill to finished grade, fill with native soil within rock voids); Rock Slope Protection, 375 lbs Class; and Rock Slope Protection Fabric. All earthwork shall be in conformance with Section 14 of these Detailed Specifications. Rock Slope Protection, 375 lbs Class; and Rock Slope Protection Fabric shall be in conformance with Section 26.2 through Section 26.4 of this section.

The Contractor is required to construct the Stream Barbs after the bank slopes have been completed. Stream Barbs shall be keyed a minimum of eighteen feet (18') into the slope, starting at the proposed toe. Location of the Stream Barbs shall be field verified by the District.

26.6 Stream Barbs (Bench) - The contract item Stream Barbs (Bench) covers the complete construction of the Stream Barbs located within stream benches as shown on Sheet No. 6 of the drawings. The contract item shall include all labor, materials, tools, and equipment required to construct the Stream Barbs (Bench), inclusive of all earthwork below finished grade (excavation, preparation of subgrade, backfill to finished grade, fill with native soil within rock voids); Rock Slope Protection, 375 lbs Class; and Rock Slope Protection Fabric. All earthwork shall be in conformance with Section 14 of these Detailed Specifications. Rock Slope Protection, 375 lbs Class; and Rock Slope Protection Fabric shall be in conformance with Section 26.2 through Section 26.4 of this section.

The Contractor is required to construct the Stream Barbs (Bench) after the bank slopes have been completed. Stream Barbs (Bench) shall be keyed a minimum of eighteen feet (18') into the slope, starting at the proposed toe. Location of the Stream Barbs (Bench) shall be field verified by the District.

26.7 Rock Riprap Revetment - The contract item Rock Riprap Revetment covers the complete construction of the Rock Riprap Revetment as shown on Sheet No. 7 of the drawings. Upon the completed placement of all stonework required for Rock Riprap Revetment, the Contractor shall fill in rock voids with native soil as directed by the Engineer. The contract item shall include all labor, materials, tools, and equipment required to construct the Rock Riprap Revetment, inclusive of all earthwork below finished grade (excavation, preparation of subgrade, backfill to finished grade); Rock Slope Protection, 375 lbs Class; and Rock Slope Protection Fabric. All earthwork shall be in conformance with Section 14 of these Detailed Specifications. Rock Slope Protection, 375 lbs Class and Rock Slope Protection Fabric shall be in conformance with Section 26.2 through Section 26.4 of this section.

Rock Riprap Revetment shall be keyed a minimum three feet (3') into the existing ground and a minimum of ten feet (10') perpendicularly into the slope at the upstream and downstream termination point.

26.8 Rock Drop Structure - The contract item Rock Drop Structure covers the complete construction of the Rock Drop Structure as shown on the drawings. Upon the completed placement of all stonework required for Rock Drop Structure, the Contractor shall fill in rock voids with native soil as directed by the Engineer. The contract item shall include all labor, materials, tools, and equipment required to construct the Rock Drop Structure as shown on the drawings, inclusive of all earthwork below finished grade (excavation, preparation of subgrade, backfill to finished grade, fill with native soil within rock voids); Rock Slope Protection, 375 lbs Class; and Rock Slope Protection Fabric. All earthwork shall be in conformance with Section 14 of these Detailed Specifications. Rock Slope Protection shall be in conformance with Section 26 of these Detailed Specifications.

26.9 Measurement - Measurement for payment for the contract items Stream Barbs and Stream Barbs (Bench) shall be the number of lineal feet installed as specified and measured along the centerline of the Stream Barb.

Measurement for payment for the contract item Rock Riprap Revetment shall be the number of lineal feet installed as specified and measured along the centerline of the Rock Riprap Revetment.

No measurement for payment will be made for the lump sum contract item Rock Drop Structure.

26.10 Payment - The contract prices paid for Stream Barbs, Stream Barbs (Bench), and Rock Riprap Revetment shall include full compensation for all direct and indirect costs incurred under this section.

The contract lump sum price paid for Rock Drop Structure shall include full compensation for all direct and indirect costs to construct the Rock Drop Structure in accordance with the construction drawings and these Detailed Specifications. This payment will be made on a basis of the percentage of work completed on the Rock Drop Structure.

SECTION 27 - DUST ABATEMENT

27.1 Description - This section covers the implementation of dust control measures necessary to prevent harm and nuisance from dust. Supplementing Section 8.06 of the General Provisions, the Contractor shall comply with all the provisions of the South Coast Air Quality Management District (SCAQMD) Rule 403 as described in Appendix "A".

27.2 Dust Abatement - The contract item Dust Abatement includes the action necessary to prevent, reduce or control dust within the work area as required to complete the work. The Contractor shall carry out proper and efficient measures to prevent his operations from producing dust in amounts damaging to property or causing a nuisance, or harm to persons living nearby or occupying buildings in the vicinity of the work. The methods to be used for controlling dust on the construction area and along haul roads shall be approved by the Engineer prior to starting any work included in this contract. The Rule 403 Implementation Handbook, published by the SCAQMD contains a detailed listing of reasonably available dust control measures and is available for inspection at the District office.

27.3 Payment - The contract lump sum price paid for Dust Abatement shall include full compensation for all direct and indirect costs incurred under this section.

This payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 28 - HYDROSEEDING

28.1 Description - This section covers the contract item Hydroseeding as directed by the Engineer. All disturbed/graded areas shall be scarified and hydroseeded.

28.2 Hydroseeding - This item includes the furnishing of all materials, incidentals, labor and equipment necessary to complete the work as specified herein, and as directed by the Engineer. All hydroseeding work shall be done by fully qualified and experienced personnel.

The hydroseeding materials shall not be stored onsite without prior approval of the Engineer as to location, duration and method of storage. All debris and excess materials shall be removed on a daily basis, unless otherwise authorized by the Engineer. The Contractor shall leave the work area in a clean and finished appearance upon completion of hydroseeding.

28.3 Equipment and Materials - The equipment shall be a mobile mounted unit in a fully operational and well maintained condition, meeting the requirements of Section 21-1.03E of the Caltrans Specifications. Fiber shall be produced from natural or recycled (pulp) fiber and shall meet the requirements of Section 21-1.02E of the Caltrans Specifications. Stabilizing binder

upon drying shall allow water and air penetration, shall be non-flammable, shall have an effective life of at least 1 year, and shall not be toxic to plants and animals.

All seed shall be delivered to the site tagged and labeled in accordance with the California Agricultural Code. Seed shall be of a quality which has a minimum pure live seed content (% of purity x % germination) as specified and weed seed shall not exceed 0.5% of the aggregate of pure live seed and other material.

28.4 Application - The Engineer shall review and approve completion of all construction and grading prior to any section being approved as ready for hydroseeding applications. All disturbed areas shall be scarified and hydroseeded.

The Contractor shall provide a written per load mix tabulation, related to the tank capacity of the equipment to be used on the project, for review and approval by the Engineer well in advance of anticipated start of hydroseeding.

The Contractor shall provide a sample demonstration area for application of [illegible] one load of hydroseed mix. The demonstration areas shall be [illegible] to application. The Engineer shall review and approve the sample section for consistency and workmanship. Upon approval, this area shall become the sample for all remaining work. No hydroseeding shall take place during high winds or during periods of rainfall.

Areas designated for hydroseeding shall receive an application [illegible] sweeping fan motion to provide a full and even spread throughout the coverage area.

The hydroseed mix, per acre of coverage, shall be as follows:

2,000 lbs./acre Fiber Mulch
120 lbs./acre Stabilizing binder

No commercial fertilizer shall be used.

Seed mix shall contain sterile seed wheat hybrid commercially used for erosion control in California, such as wheat x wheatgrass or a triticale hybrid. Seeding rate shall be as recommended by manufacturer as a cover crop or for over-seeding of disturbed, weedy soils.

28.5 Measurement – Measurement for the contract item Hydroseeding will be made on the basis of actual area treated to the nearest one hundredth (0.01) acre as measured by the Engineer.

28.6 Payment - The contract price paid for Hydroseeding shall include full compensation for all costs incurred under this section. No payment shall be made for the Hydroseeding required as a result of the Contractor or his subcontractor disturbing areas outside of the project limits.

SECTION 29 – STORMWATER AND NON-STORMWATER POLLUTION CONTROL

29.1 Description – This section covers the contract items Stormwater and Non-Stormwater Pollution Control; and Non-Stormwater Discharge or Dewatering. The contract item Stormwater and Non-Stormwater Pollution Control shall include preparing, obtaining approval of, amending and implementing the Permit Registration Documents (PRDs) as required by the State Water Resources Control Board (SWRCB), the California Regional Water Quality Control Board (CRWQCB) - San Diego Region and by the District's Santa Margarita Region Jurisdictional Runoff Management Plan (District JRMP). The contract item Non-Stormwater Discharge or Dewatering shall include compliance with San Diego Regional Water Quality Control Board Order No. R9-2015-0013 (General Groundwater Extraction Permit).

29.2 General Requirements – All activities performed by the Contractor for this project shall conform to the requirements of the State-wide National Pollutant Discharge Elimination System (NPDES) General Permit (Board Order No. 2009-0009-DWQ, NPDES No. CAS000002 as amended by Board Order No. 2010-0014-DWQ and Board Order No. 2012-006-DWQ) for Stormwater Discharges of Associated with Construction and Land Disturbance Activities, hereafter referred to as the "General Permit", issued by the SWRCB. This General Permit regulates both stormwater and non-stormwater discharges associated with Contractor's construction activities. This General Permit can be downloaded at http://www.swrcb.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

The PRDs mentioned above consist of:

1. Notice of Intent
2. Risk Assessment (Section VIII of General Permit)
3. Site Map
4. Stormwater Pollution Prevention Plan (SWPPP) (Section XIV of General Permit)
5. Annual Fee
6. Signed Certification Statement

Notice of Intent – The District will complete and submit the Notice of Intent.

Risk Assessment – Using the methodology in Appendix 1 of the General Permit, the District has calculated the preliminary Risk Level to be 1.

Site Map – The Contractor shall revise the District provided site map of the project area if the Contractor's Qualified SWPPP Developer (QSD) deems necessary. Site map shall conform to requirements of the General Permit Attachment B, Section J.

SWPPP – For the convenience of the Contractor and to expedite the SWPPP preparation and approval, a 90% SWPPP Template has been prepared by the District. This SWPPP Template has been tailored to the referenced project and can be downloaded from http://rcflood.org/Documents/SWPPP_Template_7000361.pdf or obtained from the District in CD form. Winning bidder will be provided two (2) hard copies and a Word document of the 90% SWPPP Template to amend. The Contractor shall review and amend this 90% SWPPP

Template based on the requirements of the General Permit and per the construction schedule and work plan proposed by the Contractor. The Contractor shall then submit a SWPPP certified by the Contractor's QSD which conforms to Section 29.3 for District review and approval.

The Contractor shall amend and finalize the complete 90% SWPPP Template referenced above. The Contractor shall, at a minimum, provide and/or prepare the following:

1. Name and contact information for the Contractor's Qualified SWPPP Practitioner (QSP) and QSD
2. Contractor name and contact information
3. Contractor site contact person and emergency contact person information
4. Verification of disturbance area due to construction
5. Construction commencement date
6. Anticipated construction completion date
7. Construction Activity Schedule/Best Management Practices (BMPs) Installation Schedule
8. Name and contact information for personnel responsible for pre-storm preparations and storm event BMP inspections – this should be the project's QSP
9. Name of the lab responsible for testing any stormwater samples for impairable pollutants
10. Verification of project risk level and permit type (Linear Underground/Overhead Project (LUP) or Traditional)
11. List of all subcontractors that will be working on the project
12. Review and finalize water pollution control drawings

The SWPPP shall be certified by the Contractor's QSD and implemented by the Contractor's QSP. The SWPPP shall be developed using the format outlined in the CASQA SWPPP Template located in the California Stormwater Quality Association (CASQA) Construction BMP Handbook Portal. The portal can be found on the CASQA Website, www.casqa.org. The SWPPP shall identify site specific BMPs to be implemented during and after construction to minimize the potential pollution of stormwater runoff and downstream receiving waters. The identified BMPs shall be practices designed to minimize or eliminate the discharge of pollutants from the construction site and Contractor's construction activities, including, but not limited to:

1. Good housekeeping practices for solid and sanitary/septic waste management, vehicle and equipment cleaning/maintenance, and material handling and storage.

2. Construction procedures such as stabilizing construction access points, scheduling/phasing to minimize areas of soil disturbance, and implementing soil stabilization and erosion/sediment control.

The SWPPP shall also stipulate an ongoing program for monitoring and maintenance of all BMPs.

The SWPPP shall be designed to address the following objectives:

1. All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity are controlled;
2. Where not otherwise required to be under a Regional Water Board permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
3. Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Conventional Technology (BAT/BCT) standard;
4. Calculations and design details as well as BMP controls for site run-on are complete and correct; and
5. Stabilization BMPs, installed to reduce or eliminate pollutants after construction, are completed.

To demonstrate compliance with requirements of the General Permit, the QSD shall include information in the SWPPP that supports the conclusions, selections, use, and maintenance of BMPs.

The Contractor shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Regional Board inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMP's and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

Annual Fee – The District will pay any necessary fees.

Signed Certification Statement – The Contractor's QSD shall submit a signed certification certifying the SWPPP is a true, accurate, and complete representation of the proposed project and mitigation measures.

In the event the District incurs any Administrative Civil Liability or Mandatory Minimum (fine) imposed by the CRWQCB – San Diego Region, as a result of Contractor's failure to fully implement the provisions of this section and permit requirements, "Stormwater and Non-Stormwater Pollution Control", the Engineer may, in the exercise of his sole judgment and discretion, withhold from payments otherwise due Contractor a sufficient amount to cover the Civil Liability. Liability for "Negligent Violations" may be in an amount up to $50,000 per day per deemed occurrence while "Knowing Violations" can result in fines as high as $250,000 and imprisonment.

Stormwater and Non-Stormwater Pollution Control work shall conform to the requirements in the latest version of the California Stormwater Quality Association (CASQA) Handbook, entitled **"California Stormwater BMP Handbook – Construction"**. Copies of the

handbook can be downloaded from the CASQA Internet site at https://www.casqa.org/resources/bmp-handbooks/construction.

The Contractor shall be responsible for all costs and for any liability imposed by law as a result of the Contractor's failure to comply with the requirements set forth in this section, "Stormwater and Non-Stormwater Pollution Control", including but not limited to, compliance with the applicable provisions of the CASQA Handbook, General Permit, General Groundwater Extraction Permit, federal, state and local regulations. For the purpose of this paragraph, costs and liabilities include, but are not limited to, fines, penalties and damages, whether assessed against the District or the Contractor, including those levied under the Federal Clean Water Act and the State Porter-Cologne Water Quality Act.

The Contractor shall become fully informed of and comply with the applicable provisions of the CASQA Handbook, General Permit, General Groundwater Extraction Permit, and federal, state and local regulations that govern the Contractor's activities and operation pertaining to both stormwater and non-stormwater discharges from both the project site, and areas of disturbance outside the project limits during construction. The Contractor shall, at all times, keep copies of the General Permit, General Groundwater Extraction Permit, approved SWPPP and all amendments at the project site. The SWPPP shall be made available upon request of a representative of the SWRCB, CRWQCB, United States Environmental Protection Agency (USEPA) or local stormwater management agency. Requests by the public shall be directed to the Engineer.

The Contractor is solely and exclusively responsible for any arrangements made between the Contractor and other property owners or entities that result in disturbance of stormwater construction activities being conducted outside limits of the designated rights of way and temporary construction easements as shown on the project drawings.

The Contractor shall, at reasonable times, allow authorized agents of the CRWQCB, SWRCB, USEPA or local stormwater management agency, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the construction site and the Contractor's facilities pertinent to the work;
2. Have access to and copy any records required to be kept as specified in the General Permit;
3. Inspect the construction site, including any offsite staging areas or material storage areas, and related soil stabilization practices and sediment control BMPs; and
4. Sample or monitor for the purpose of ensuring compliance with the General Permit.

The Contractor shall notify the Engineer immediately upon request from regulatory agencies to enter, inspect, sample, monitor or otherwise access the project site or the Contractor's records.

29.3 PRDs Preparation and Approval - The Contractor shall prepare and obtain approval of the PRDs as part of the Stormwater and Non-Stormwater Pollution Control work for this contract. The SWPPP shall include an appropriate Construction Site Monitoring Program (CSMP) as required by Section I, "Monitoring and Reporting Requirements" of Attachment C of the General Permit. A guidance document titled "Field Monitoring and Analysis Guidance" is available from the CASQA internet site in their Construction BMP Handbook Portal. The Contractor shall prepare and implement the SWPPP in accordance with the CASQA Handbook, the General Permit, and these Detailed Specifications.

In case of conflict between the CASQA Handbook and these Detailed Specifications, the Detailed Specifications shall govern; in case of conflict between these Detailed Specifications and the General Permit, the latter shall govern.

The Contractor shall have approved PRDs prior to the pre-construction meeting. The Contractor's attention is directed to Section 2.1 of the Special Provisions regarding pre-construction meeting requirements. The Contractor shall submit four (4) hardcopies of the approved SWPPP to the Engineer prior to the pre-construction meeting.

The SWPPP shall incorporate BMPs in each of the following categories:

1. Soil stabilization practices;
2. Sediment control practices;
3. Sediment tracking control practices;
4. Wind erosion control practices; and
5. Non-stormwater management, and waste management and disposal control practices.

Specific objectives and minimum requirements for each category of BMPs are described in the CASQA Handbook. The Contractor shall consider the objectives and minimum requirements presented in the CASQA Handbook for each of the above categories. Where minimum requirements are listed for any category, the Contractor shall incorporate one or more of the listed minimum BMPs required into the SWPPP and implement them on the project to meet the pollution control objectives for the category. In addition, the Contractor shall consider other BMPs presented in the CASQA Handbook to supplement the minimum BMPs required when necessary to meet the objectives of the SWPPP and maintain compliance with the General Permit. The Contractor shall document the selection process in accordance with the procedure specified in the CASQA Handbook.

In addition to the minimum sediment control requirements described in the CASQA Handbook, the Contractor's SWPPP shall incorporate standard silt fencing as interior sediment control as shown on the project drawings and as defined in Section 21.5 Silt Fence.

The Contractor should not assume that the minimum BMPs required for each category presented in the CASQA Handbook are adequate to meet the pollution control objectives. The Contractor may use other effective BMPs, as approved by the Engineer, in addition to the minimum as required in the CASQA Handbook to achieve the pollution control objectives.

The SWPPP shall include the following items as described in the CASQA Handbook, CSMP and General Permit:

Section 1 - SWPPP Requirements:

1.1 Introduction
1.2 Permit Registration Documents
1.3 SWPPP Availability and Implementation
1.4 SWPPP Amendments
1.5 Retention of Records
1.6 Required Non-Compliance Reporting
1.7 Annual Report
1.8 Changes to Permit Coverage
1.9 Notice of Termination

Section 2 - Project Information:

2.1 Project and Site Description
2.2 Stormwater Run-On From Offsite Areas
2.3 Findings of the Construction Site Sediment and Receiving Water Risk Determination
2.4 Construction Schedule
2.5 Potential Construction Site Pollutant Sources
2.6 Identification of Non-Stormwater Discharges

Section 3 - Best Management Practices:

3.1 Schedule for BMP Implementation
3.2 Erosion Control and Sediment Control
3.3 Non-Stormwater and Material Management
3.4 Post-Construction Stormwater Management Measures

Section 4 - BMP Inspection, Maintenance, and Rain Event Action Plans:

4.1 BMP Inspection and Maintenance
4.2 Rain Event Action Plans

Section 5 – Training

Section 6 - Responsible Parties and Operators:

6.1 Responsible Parties
6.2 Contractor List

Section 7 - Construction Site Monitoring Program:

7.1 Purpose
7.2 Applicability of Permit Requirements
7.3 Weather and Rain Event Tracking
7.4 Monitoring Locations
7.5 Safety and Monitoring Exemptions
7.6 Visual Monitoring (Inspections)
7.7 Water Quality Sampling and Analysis
7.8 Watershed Monitoring Option
7.9 Quality Assurance and Quality Control
7.10 Reporting Requirements and Records Retention

To ensure that the preparation, implementation, and oversight of the SWPPP is sufficient for effective pollution prevention, individuals responsible for creating, revising, overseeing, and implementing the SWPPP should participate in applicable training programs and document such training in the SWPPP. A copy of the SWPPP should be located at the construction site.

The following notes (or notes of substantially similar intent) that address pollution prevention to the Maximum Extent Practicable during the construction phase of a project on a year-round basis need to be placed on the Stormwater and Non-Stormwater Pollution Control Drawings:

- Erosion control BMPs shall be implemented and maintained to minimize and/or prevent the entrainment of soil in runoff from disturbed soil areas on construction sites.
- Sediment control BMPs shall be implemented and maintained to prevent and/or minimize the transport of soil from the construction site.
- Stockpiles of soil shall be properly contained to eliminate or reduce sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking or wind.
- Appropriate BMPs for construction-related materials, wastes, spills or residues shall be implemented to eliminate or reduce transport from the site to streets, drainage facilities or adjoining properties by wind or runoff.
- Runoff from equipment and vehicle washing shall be contained at construction sites and must not be discharged to receiving waters or the local storm drain system. Washwaters or rinsate from ready mix, concrete, or cement vehicles must be handled appropriately and may not be discharged to receiving waters or any storm drain system.
- All construction contractor and subcontractor personnel are to be made aware of the required best management practices and good housekeeping measures for the project site and any associated construction staging areas.

- At the end of each day of construction activity all construction debris and waste materials shall be collected and properly disposed in trash or waste bins.
- Construction sites shall be maintained in such a condition that a storm does not carry wastes or pollutants off the site. Discharges other than stormwater (non-stormwater discharges) are prohibited, except as authorized by an individual NPDES permit or the State-wide General Permit for Storm Water Discharges Associated with Construction Activity. Potential pollutants include but are not limited to: solid or liquid chemical spills; wastes from paints, stains, sealants, solvents, detergents, glues, lime, pesticides, herbicides, fertilizers, wood preservatives and asbestos fibers, paint flakes or stucco fragments; fuels, oils, lubricants and hydraulic, radiator or battery fluids; concrete and related cleaning or curing residues; floatable wastes; wastes from engine or equipment steam cleaning or chemical degreasing; wastes from street cleaning and saw-cutting; and dewatering potable water from line flushing and testing. Dewatering construction materials of such materials should occur in a specified and controlled temporary area that is physically separated from potential stormwater runoff, with ultimate disposal in accordance with local, State and Federal requirements.
- Discharging contaminated groundwater produced by dewatering groundwater which has infiltrated into the construction site is prohibited. Discharging of contaminated soils via surface erosion is also prohibited.
- The Contractor is required to notify and obtain approval from the Engineer ten (10) days prior to any non-stormwater discharge or dewatering associated with the Contractor's construction activities.
- Construction sites shall be managed to minimize the exposure time of disturbed soil areas through phasing and scheduling of grading to the extent feasible and the use of temporary and permanent soil stabilization.
- BMPs shall be maintained at all times. In addition, BMPs shall be implemented prior to predicted storm events and following storm events.

29.4 PRD and Rain Event Action Plan (REAP) Amendments. Before proposing substitutions or project changes, the Contractor shall immediately notify the Engineer. The Engineer will determine if the Contractor will be required to recalculate the Risk Assessment. If it is determined by the Engineer that a new Risk Assessment is required, the Engineer will notify the Contractor to resubmit amended PRDs and in the case that the risk level increases, the Contractor shall comply with additional applicable requirements of the General Permit, including preparation and implementation of REAP's, CSMP, Numeric Action Level (NAL) Exceedance Reports, and annual reporting requirements. The Contractor shall also prepare amendments to the PRDs, both graphically and in narrative form, whenever there is a change in Contractor's construction activities or operations which may result in the discharge of pollutants to surface waters, groundwaters, municipal storm drain systems, or as deemed necessary by the Engineer. The Contractor shall also amend the PRDs if they are in violation of any condition of the General Permit, or has not effectively achieved the objective of reducing pollutants in stormwater discharges. Amendments shall show additional BMPs, revised Contractor's construction activities or operations, including those in areas not shown in the originally approved SWPPP, which are required on the project to effectively control water pollution.

Amendments to the PRDs shall be submitted for review and approval by the Engineer in the same manner specified for the initial approval of the PRDs. The Contractor shall date and attach all approved amendments to any of the PRDs. Upon approval of the amendment, the Contractor shall implement the approved changes, revised construction activities or operations.

29.5 Non-Compliance Reporting - If the project is in non-compliance at any time, the Contractor shall make a written report to the Engineer within two (2) calendar days of identification of non-compliance activities.

29.6 SWPPP Implementation - Upon approval of the SWPPP, the Contractor shall be responsible throughout the duration of the project for placing, installing, constructing, inspecting and maintaining the BMPs as well as conducting the Construction Site Monitoring Program as included in the SWPPP and any amendments thereto, and for removing and disposing of temporary BMPs. Unless otherwise directed by the Engineer or specified in these Detailed Specifications, the Contractor's responsibility for SWPPP implementation shall continue throughout any temporary suspension of work ordered in accordance with Section 6-05, "TEMPORARY SUSPENSION OF THE WORK", of the General Provisions. Requirements for installation, construction, inspection, maintenance, removal and disposal of BMPs are specified in the Caltrans Handbooks and these Detailed Specifications.

The Engineer may order the suspension of construction operations if the Contractor fails to comply with the requirements of this section, "Stormwater and Non-Stormwater Pollution Control", as determined by the Engineer.

The Contractor will not be compensated for sampling and analysis work because of the Contractor's failure to properly implement, inspect, maintain and repair BMPs in the approved SWPPP and any amendments thereto, or for failing to store construction materials or wastes in watertight containers.

(a) Stormwater Pollution Control - **The Contractor shall implement soil stabilization practices and sediment control BMPs, including minimum requirements as presented in the Caltrans Handbooks, on all disturbed areas of the project site during the rainy season, defined as between October 1st and April 30th.**

Implementation of soil stabilization practices and sediment control BMPs for soil-disturbed areas, including but not limited to, rough graded access roads, slopes, channel inverts, operational inlets and outlets of the project shall be completed prior to soil disturbance. The General Permit requires BMPs to be deployed throughout the duration of the project.

The Engineer may require the Contractor, on a case-by-case basis, to reduce the active, soil-disturbed area limit of the project. The Contractor shall demonstrate the ability and preparedness to fully deploy soil stabilization practices and sediment control BMPs to protect soil-disturbed areas of the project site by maintaining an adequate quantity of soil stabilization and sediment control

materials onsite to protect exposed, soil-disturbed areas and a deadline for the mobilization of sufficient labor and equipment to fully deploy the required BMPs prior to the onset of precipitation and for the duration of the project.

Throughout the rainy season, soil-disturbed areas of the project site shall be considered to be nonactive whenever soil disturbing activities are reported to be discontinued for a period of fifteen (15) calendar days or more. Areas that will become nonactive either during the rainy season or within ten (10) calendar days thereof shall be fully protected with soil stabilization practices such as covering with mulch, temporary seeding, fiber rolls, blankets, etc., within ten (10) calendar days of the discontinuance of soil disturbing activities or, prior to the onset of precipitation, whichever is first to occur. Areas that will become nonactive either during the rainy season or within ten (10) calendar days thereof shall be fully protected with sediment control BMPs within ten (10) calendar days of the discontinuance of soil disturbing activities or prior to the onset of precipitation, whichever is first to occur.

Throughout the rainy season, active soil-disturbed areas of the project site shall be fully protected at the end of each day with soil stabilization practices and sediment control BMPs. The Contractor shall monitor the weather forecasts on a daily basis. The National Weather Service forecast shall be used as the primary weather forecast proposed by the Contractor may be used if approved by the Engineer. If precipitation is predicted prior to the end of the following workday, construction scheduling shall be modified, as required, and the Contractor shall deploy functioning BMPs prior to the onset of the precipitation.

(b) Non-Stormwater Pollution Control - The Contractor shall implement, year-round and throughout the duration of the project, BMPs included in the SWPPP for sediment tracking, wind erosion, non-stormwater management, and waste management and disposal.

(c) Inspections and Reporting - The Contractor shall regularly inspect the construction site for BMPs identified in the SWPPP to ensure the proper implementation and functioning of BMPs. The Contractor shall identify corrective actions and time frames to address any damaged BMPs or non-functioning BMPs that have been discontinued.

At a minimum, the Contractor shall inspect the construction site as follows:

1. Prior to a forecast storm;
2. After any precipitation which causes runoff capable of carrying sediment from the construction site;
3. At 24 hour intervals during extended precipitation events; and
4. At a regular interval of once every 2 weeks.

The construction site inspection checklist provided in the Caltrans Handbooks shall be used to ensure that the necessary BMP's are being properly implemented and are functioning adequately. The Contractor shall submit one copy of each site inspection record to the Engineer.

(d) Maintenance - The Contractor shall maintain construction site BMP's identified in the SWPPP to ensure the proper implementation and functioning of BMPs. If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of an identified BMP, the deficiency shall be corrected by the Contractor immediately, or by a later date and time if requested by the Contractor and approved by the Engineer in writing, but not later than the onset of subsequent precipitation events. The correction of deficiencies shall be at no additional cost to the District.

(e) Training – The Contractor shall ensure that all persons responsible for implementing requirements of the General Permit shall be appropriately trained in accordance with Section VII "Training Qualifications and Certification Requirements" of the General Permit. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations.

The Contractor shall ensure that SWPPP's are written, amended and certified by a Qualified SWPPP Developer (QSD). The Contractor shall also ensure that all inspection, maintenance, repair and sampling activities shall be performed or supervised by a Qualified SWPPP Practitioner (QSP). A QSP is a person responsible for non-stormwater and stormwater visual observations, sampling and analysis.

29-7 Rain Event Action Plan (REAP) – **The REAP is applicable to Risk Level 2 construction sites only.** The Contractor shall ensure a QSP develop a REAP and submit a copy to the Engineer for review 48 hours prior to any likely precipitation event. The Contractor shall amend and implement the REAP as directed by the Engineer. If no comments are received prior to the precipitation event, the REAP shall be implemented as proposed. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The discharger shall ensure a QSP obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., enter the zip code of the project's location at http://www.srh.noaa.gov/forecast).

The Contractor shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:

a. Site Address

b. Calculated Risk Level

c. Site Storm Water Manager information including the name, company and 24-hour emergency telephone number

d. Erosion and Sediment Control Provider information including the name, company and 24-hour emergency telephone number

e. Storm Water Sampling Agent information including the name, company and 24-hour emergency telephone number

29.8 Water Quality Monitoring, Sampling and Analysis – **The Water Quality Monitoring, Sampling and Analysis is applicable to Risk Level 2 construction sites only.** The Contractor shall be responsible for preparing a Construction Site Monitoring Program (CSMP) and implementing the monitoring, sampling and analysis requirements as described in Attachment D of the General Permit. Records of all visual observations and sampling results required by the General Permit shall be kept using forms contained in Attachment E of the General Permit, respectively. Copies of the forms shall be maintained in the SWPPP and submitted to the Engineer within 24 hours of the second observation or sampling event.

29.9 NAL Exceedance Report – **The NAL Exceedance Report is applicable to Risk Level 2 construction sites only.** The Contractor shall be responsible for submitting a NAL Exceedance Report to the Engineer in the event that any effluent sample exceeds an applicable NAL.

a. The Contractor shall submit all storm event sampling results for each discharge point to the Engineer no later than 24 hours after the completion of the storm event.

b. The Contractor shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity.

c. The Contractor shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the annual report is filed.

d. The Contractor shall include in the NAL Exceedance Report:

i. The analytical method(s), method reporting unit(s) and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit").

ii. The date, place, time of sampling, visual observations (inspections) and/or measurements, including precipitation.

iii. A description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

29.10 Reports –

(a) Annual Report - The Contractor shall be responsible for preparing an Annual Report to meet the requirements of Section XVI of the General Permit covering the preceding period of construction from July 1st to June 30th. The Contractor shall submit two (2) copies of the annual report to the Engineer by July 15th of each year for review and approval. The Contractor shall allow ten (10) working days for the Engineer to review the Annual Report. If revisions are required as determined by the Engineer, the Contractor shall revise and resubmit the annual report within three (3) working days of receipt of the Engineer's comments. The Contractor shall submit four (4) copies of the approved Annual Report to the Engineer prior to August 15th of each year. **The Contractor shall be responsible for providing an Annual Report to the Engineer for any construction occurring for part of the year after July 1st prior to receiving final payment on the project.**

(b) Monthly Report – The Contractor shall prepare and submit to the Engineer a Monthly Report within five (5) working days of the end of the month including:

1. All visual observation reports;
2. All sampling and analysis reports;
3. All NAL Exceedance Reports;
4. Summary of changes to the SWPPP and or REAP based on inspection results for the preceding month.

29.11 Non-Stormwater Discharge or Dewatering – The Contractor shall implement non-stormwater BMPs described in Sections 29.2, 29.3, and 29.6 to prevent or eliminate all non-stormwater discharges to surface waters from the construction site. If groundwater will be encountered during the project activities, the groundwater dewatering activity must be covered by the General Waste Discharge Requirements for Groundwater Extraction Discharges to Surface Waters within the San Diego Region (General Groundwater Extraction Permit), San Diego Regional Water Quality Control Board Order No. R9-2015-0013. The Contractor shall comply with this Order and notify and obtain approval from the Engineer sixty (60) days prior to any non-stormwater groundwater dewatering discharge. If an emergency or unforeseen dewatering activity will result in a discharge to Waters of the United States occurs, the Contractor shall contact the Engineer immediately.

Failure of the Contractor to fully comply with this requirement may result in the suspension of construction operations and liability for any associated monitoring, fines, penalties, and remediation activities related to the discharge.

29.12 Payment - The contract lump sum price paid for Stormwater and Non-Stormwater Pollution Control work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in developing, preparing, obtaining approval of, revising and amending the PRDs, and installing, constructing, maintaining, removing and disposing of BMPs as shown in the SWPPP, as specified in the CASQA

Handbooks and Sample Contractor's Water Quality CSMP, General Permit and these Detailed Specifications, and as directed by the Engineer.

The contract lump sum price paid for Non-Stormwater Discharge or Dewatering shall include full compensation for compliance of Section 29.11 Non-Stormwater Discharge or Dewatering. **Contractor shall not be paid any portion of the contract lump sum if coverage under the General Groundwater Extraction Permit is not required.**

Monthly payment will be made on a basis of the percentage of work completed on the entire project and subject to the submittal of a complete Monthly Report as specified in Section 29.10(b). Failure to complete or report required visual inspections, monitoring, sampling and analysis requirements, NAL Exceedance Reports, and/or other necessary follow-up actions to ensure that the project stays in compliance with the General Permit can be the basis for reducing monthly progress payments for the project. Monthly progress payments will be reduced by the amount of direct costs, overhead costs and engineering costs incurred by the Engineer to address compliance deficiencies, including costs to conduct inspections, monitoring, reporting and supplemental BMP implementation necessary to comply with the General Permit and costs incurred by the Engineer to address complaints, additional State inspections, and violations and/or fines issued by the State or US EPA associated with failure to properly comply with the General Permit. Progress Payment reductions can exceed the monthly percentage or total contract lump sum price for Stormwater and Non-Stormwater Pollution Control work.

Payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 30 - UTILITIES

30.1 Description - This section covers the contract item Rancho California Water District Waterline Protection Plan.

30.2 Rancho California Water District Waterline Protection Plan – The contract item Rancho California Water District Waterline Protection Plan covers all labor, equipment and plans which the Contractor shall prepare and implement to protect the existing waterlines on the northern streambank, inclusive of raising existing water valves to finished grade and all potholing required to determine the depth of cover to the existing waterlines.

Within five (5) days of project award, the Contractor shall submit a Rancho California Water District Waterline Protection Plan prepared, stamped, and signed by a California Registered Civil Engineer containing the following information:

1. A list of proposed construction equipment (type, make, and model) to be used on the northern streambank.

2. Pipe loading and deflection calculations for each proposed construction equipment on the existing:

- 20" Reclaimed Pipeline (AWWA C905 PVC DR18)
- 24" Potable Water Pipeline (CML&C, 10 Ga)

3. Certification that operation of proposed construction equipment above the waterlines will not exceed the design strength of the existing waterlines.

No construction shall be allowed on the northern streambank until the Rancho California Water District Waterline Protection Plan has been reviewed and approved by the District. The Contractor shall contact Rancho California Water District at 951.296.6900 at least 48 hours prior to mobilizing construction equipment on the northern streambank.

30.3 Measurement and Payment – No measurement for payment will be made for this lump sum contract item. Payment for the lump sum item Rancho California Water District Waterline Protection Plan will be made upon District and Rancho California Water District approval of the Rancho California Water District Waterline Protection Plan. The contract lump sum price paid for Rancho California Water District Waterline Protection Plan shall include full compensation for all costs incurred to produce and secure Rancho California Water District approval of the Rancho California Water District Waterline Protection Plan and its implementation during construction.

SECTION 31 - NOT USED

SECTION 32 – CONTRACTOR QUALIFICATIONS

32.1 Description – This project is being constructed within an existing sensitive natural stream environment. Work on this project must be performed with care for the existing natural environment and in a manner suitable for an environmental restoration. The District is requiring bidding Contractors to meet the requirements described in this section, and to submit an Experience Statement (Page XI). This section covers the Contractor Qualifications and the contents of the Experience Statement submittal that shall accompany the Contractor's bid. Inadequate proof of the qualifications, as judged by the Engineer, shall be cause for rejection of the bid for withholding contract award.

32.2 Restoration Project Experience Requirements – The project is located in the city of Temecula and under the jurisdiction of the California Regional Water Quality Control Board – San Diego Region, United States Army Corps of Engineers, and the California Department of Fish and Wildlife.

The Contractor shall have a minimum of five (5) years' experience performing restoration projects of similar scope in a similar climate. Restoration projects are defined as, but not limited to, the grading required for the purpose of natural stream bank and gully stabilization. Field Superintendent and Foreman shall have experience on a minimum two (2) restoration projects and five (5) years' experience in restoration projects.

Additionally, the Contractor or subcontractor performing the installation of large diameter compost rolls as described in Section 21.2 shall have a minimum experience of three

(3) years with the preparation and installation of compost rolls by hand or by use of a pneumatic blower truck.

32.3 Submittals - The Contractor shall submit a list containing at least three (3) restoration projects of similar scope and type completed within the last ten (10) years in Southern California. For each project, the Contractor shall include with this submittal, at a minimum:

1. Name of client contact, address, and telephone number;
2. Location of project;
3. Contract value; and
4. Completion date of the project.

APPENDIX "A"

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

RULE 403

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

(D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;

(E) identify a dust control supervisor that:

(i) is employed by or contracted with the property owner or developer;

(ii) is on the site or available on-site within 30 minutes during working hours;

(iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

(iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

(A) Dairy farms.

(B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.

(C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.

(D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

(G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.

(H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.

(I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.

(J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:

(i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and

(ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.

(K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;

(ii) records are maintained in accordance with subparagraph (e)(1)(C).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) are service roads that meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

(c) have a traffic volume less than 20 vehicle-trips per day.

(C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.

(3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.

(4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:

(A) Blasting operations which have been permitted by the California Division of Industrial Safety; and

(B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

(5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

(A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

(B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

(C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure		Guidance
Unpaved roads/parking lots	19-1	Stabilize soils to meet the applicable performance standards; and	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
	19-2	Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	
Vacant land	20-1	In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Earth-moving: Construction cut areas and mining operations:	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c)	Apply chemical stabilizers within five working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

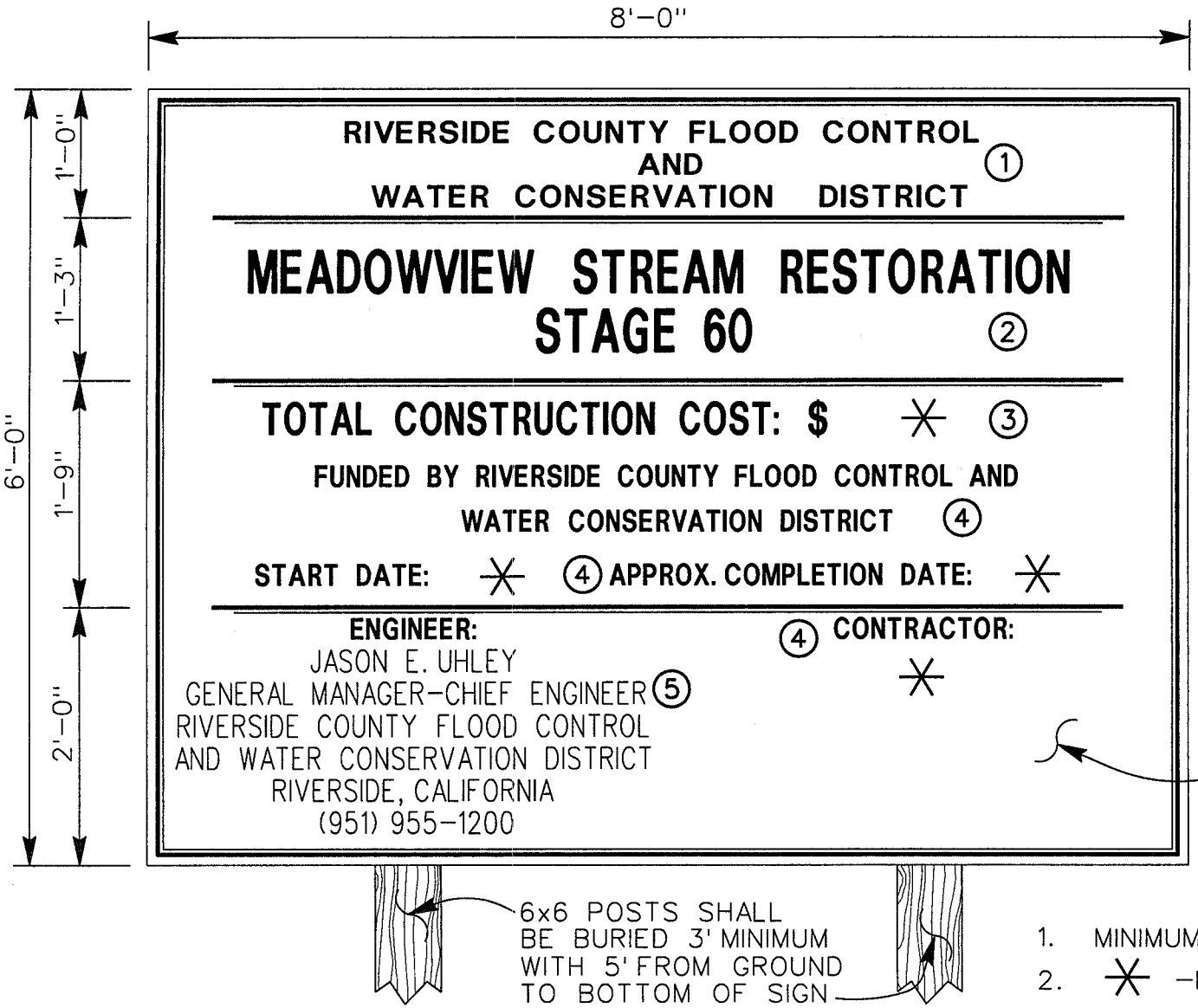
FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES	
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a)	Cover manure prior to removing material off-site; AND
	(1b)	Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND
	(1c)	Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d).
	(1d)	Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a)	Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a)	Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR
	(3b)	Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR
	(3c)	Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a)	Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR
	(4b)	Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR
	(4c)	Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(5b)	Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

APPENDIX "B"

PROJECT SIGNS



LETTER SCHEDULE

	SIZE	COLOR
1	2"	BLACK
2	4"	ROYAL
3	3"	ROYAL
4	2"	ROYAL
5	2"	BLACK

APPENDIX "B" PROJECT SIGN

NOTES:

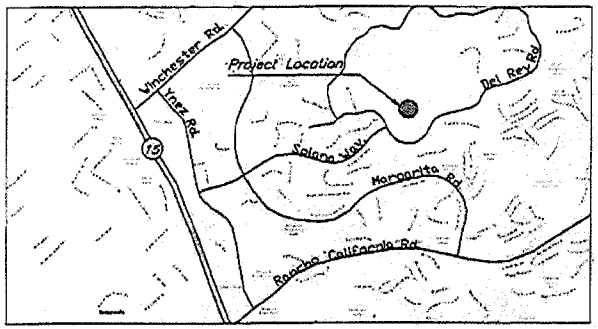
1. MINIMUM SPACING BETWEEN LINES 1".
2. ✳ -INFO. FURNISHED BY ENGINEER
3. ALL LETTERS FILLED AND CENTERED
4. THE STRIPES ARE GOLD AND BLACK ON WHITE BACKGROUND.

APPENDIX "C"

APPROVED DRAWINGS FOR THE
MEADOWVIEW COMMUNITY ASSOCIATION
BY THE
UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

FOR REFERENCE ONLY

Vicinity Map (Not To Scale)



Project Location Map (Not To Scale)

BENCH MARK		
NO.	ELEV.	DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER
GREGORY R. NORRIS
C58812
Exp. 6/30/19
CIVIL
STATE OF CALIFORNIA

INDEX OF DRAWINGS	
SHEET NO.	TITLE
1	Cover
2	Plan View
3	Plan View (Sta. 0+00 to 5+00)
4	Plan View (Sta. 5+00 to 10+00)
5	Plan View (Sta. 10+00 to 14+65)
6	Top View_Streambank
7	Cross Section View_Streambank W/O Bench
8	Cross Section View_Streambank With Bench
9	Streambank Barb Detail
10	Water Bar_12" high Detail
11	Water Bar_18" high Detail
12	Earthen Diversion_12" high Detail
13	Shallow Depression Detail
14	Water Bar on Slope Detail
15	Rock Riprap Revetment
16	Erosion Control Blanket Installation Detail
17	Earthen Diversion_24" high Detail
18	Plan View_Rock Drop
19	Rock Drop Detail

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
PREPARED FOR:
Meadowview Community Association

ACKNOWLEDGMENT (WHEN DELIVERING THIS DOCUMENT)
(Client/Agent)
I HAVE REVIEWED THE PLANS AND SPECIFICATIONS AND UNDERSTAND MY OPERATION AND MAINTENANCE RESPONSIBILITIES. I ACCEPT AND APPROVE THEM FOR THE CONSTRUCTION OF THIS PROJECT.
SIGNATURE _____ DATE _____
TITLE _____

CERTIFICATION AFTER CONSTRUCTION
(Client/Contractor)
THIS PRACTICE(S) MEETS APPLICABLE NRCS STANDARDS, SPECIFICATIONS, AND REPRESENTS AS-BUILT CONDITIONS.
SIGNATURE _____ DATE _____
TITLE _____

ACCEPTANCE AFTER COMPLETION
(Government Representative)
NRCS ACCEPTS THIS PRACTICE(S) FOR CERTIFICATION
SIGNATURE _____ DATE _____
TITLE _____

GENERAL NOTES

IT SHALL BE THE RESPONSIBILITY OF THE CLIENT/COOPERATOR TO OBTAIN ALL NECESSARY CLEARANCES, PERMITS, RIGHTS OF WAY, EASEMENTS, AND TO COMPLY WITH ALL ORDINANCES AND LOCAL, STATE, AND FEDERAL LAWS PERTAINING TO THE CONSTRUCTION OF THIS PROJECT.

THE CLIENT/COOPERATOR ASSURES THE NRCS THAT THE PROGRAM OR ACTIVITIES PROVIDED UNDER THIS AGREEMENT WILL BE CONDUCTED IN COMPLIANCE WITH ALL FEDERAL STATE, LOCAL, AND TRIBAL LAWS, REGULATIONS, AND POLICIES.

IT SHALL BE THE RESPONSIBILITY OF THE CLIENT/COOPERATOR TO ENSURE THAT THE PROJECT IS CONSTRUCTED ACCORDING TO THE ATTACHED DRAWINGS, SPECIFICATIONS AND SPECIAL REQUIREMENTS. ANY SIGNIFICANT CHANGES THAT AFFECT THE SCOPE OR COMPLEXITY OF THE PROJECT SHALL BE SUBMITTED, IN WRITING, TO THE NRCS THREE (3) WORKING DAYS PRIOR TO IMPLEMENTATION FOR APPROVAL.

ALL EXISTING CONDITIONS ARE TO BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY ADJUSTMENTS FROM THE DRAWINGS ARE TO BE MADE AS DIRECTED BY THE AGENCY APPROVING OFFICIAL.

NRCS WILL BE NOTIFIED THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION.

MAINTENANCE OF THE INSTALLED WORK IS NECESSARY FOR PROPER PERFORMANCE DURING THE PROJECT LIFE.

ALL STATIONING REFERS TO BASELINE OF CONSTRUCTION AND IS MEASURED HORIZONTAL DISTANCE. SURVEY POINTS ARE ONLY TIED TO LOCAL BENCHMARKS AND ARE NOT RELATED TO ANY KNOWN ESTABLISHED BENCHMARKS OR SURVEYED GRID SYSTEM.

LOCATION OF UTILITIES

NRCS MAKES NO REPRESENTATION AS TO THE EXISTENCE OR NONEXISTENCE OF ANY UTILITIES, PUBLIC OR PRIVATE. CLIENT/COOPERATOR/CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND COORDINATING THE WORK WITH ALL UTILITY COMPANIES.

EXCAVATION SAFETY
ALL EXCAVATION MUST FOLLOW OSHA, CALIFORNIA, AND LOCAL REGULATIONS FOR SAFETY.

ALL TRENCH EXCAVATION EXCEEDING 3 FEET OF DEPTH WILL REQUIRE A TRENCH PERMIT FROM THE LOCAL TOWN OR CITY PRIOR TO EXCAVATION.

THE CLIENT/COOPERATOR/CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF UTILITIES AND IS LIABLE FOR ANY DAMAGE BY CONSTRUCTION ACTIVITIES. UTILITY LOCATIONS, IF SHOWN ON THE DRAWINGS, ARE ONLY APPROXIMATE. ADDITIONAL UTILITIES MAY EXIST EVEN THOUGH NOT SHOWN ON THE DRAWINGS.

CALL: 811

REFER TO WWW.DIGALERT.ORG FOR MORE INFORMATION.

IT IS THE RESPONSIBILITY OF LANDOWNERS, OPERATORS AND CONTRACTORS TO COMPLY WITH THE PROVISIONS OF CALIFORNIA STATE LAW. LANDOWNERS, OPERATORS AND CONTRACTORS WILL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM DISRUPTION OF SERVICE CAUSED BY CONSTRUCTION ACTIVITIES.

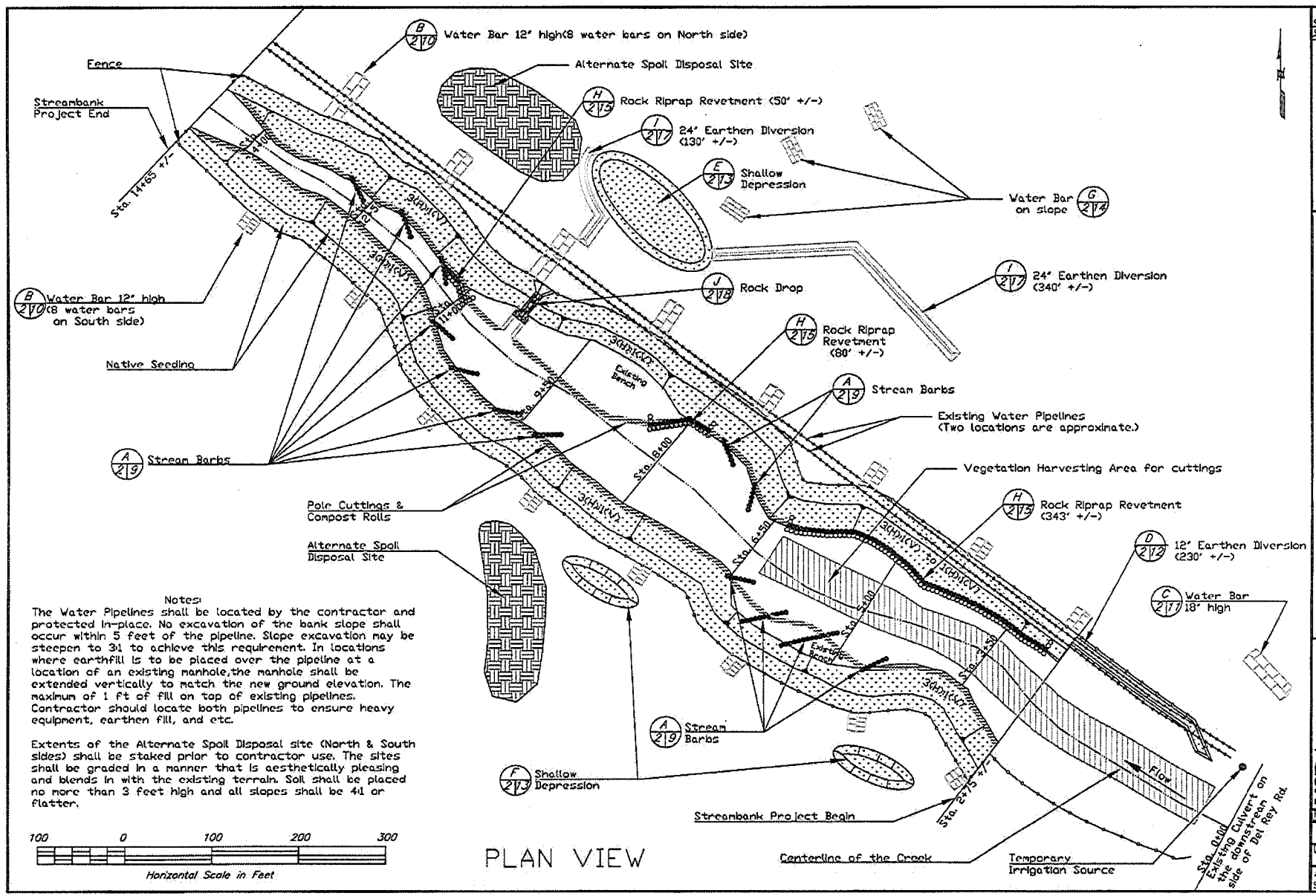
AS BUILT	
Constructed By:	
Date Completed:	
Prepared By:	
Checked By:	
The installed practice(s) meet the applicable NRCS practice standards.	
Approved By:	
Date:	

Designed Haejin Lee 7.7.2017
Drawn EXM 7.10.2017
Checked
Approved

Meadowview HOA
Cover
Page 1 of 19
Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.
Drawing No. RC17-1
7/18/17 1:26 PM
Sheet 1 of 19



Notes:
The Water Pipelines shall be located by the contractor and protected in-place. No excavation of the bank slope shall occur within 5 feet of the pipeline. Slope excavation may be steepen to 3:1 to achieve this requirement. In locations where earthfill is to be placed over the pipeline at a location of an existing manhole,the manhole shall be extended vertically to match the new ground elevation. The maximum of 1 ft of fill on top of existing pipelines. Contractor should locate both pipelines to ensure heavy equipment, earthen fill, and etc.

Extents of the Alternate Spoil Disposal site (North & South sides) shall be staked prior to contractor use. The sites shall be graded in a manner that is aesthetically pleasing and blends in with the existing terrain. Soil shall be placed no more than 3 feet high and all slopes shall be 4:1 or flatter.

100 0 100 200 300

Horizontal Scale in Feet

PLAN VIEW

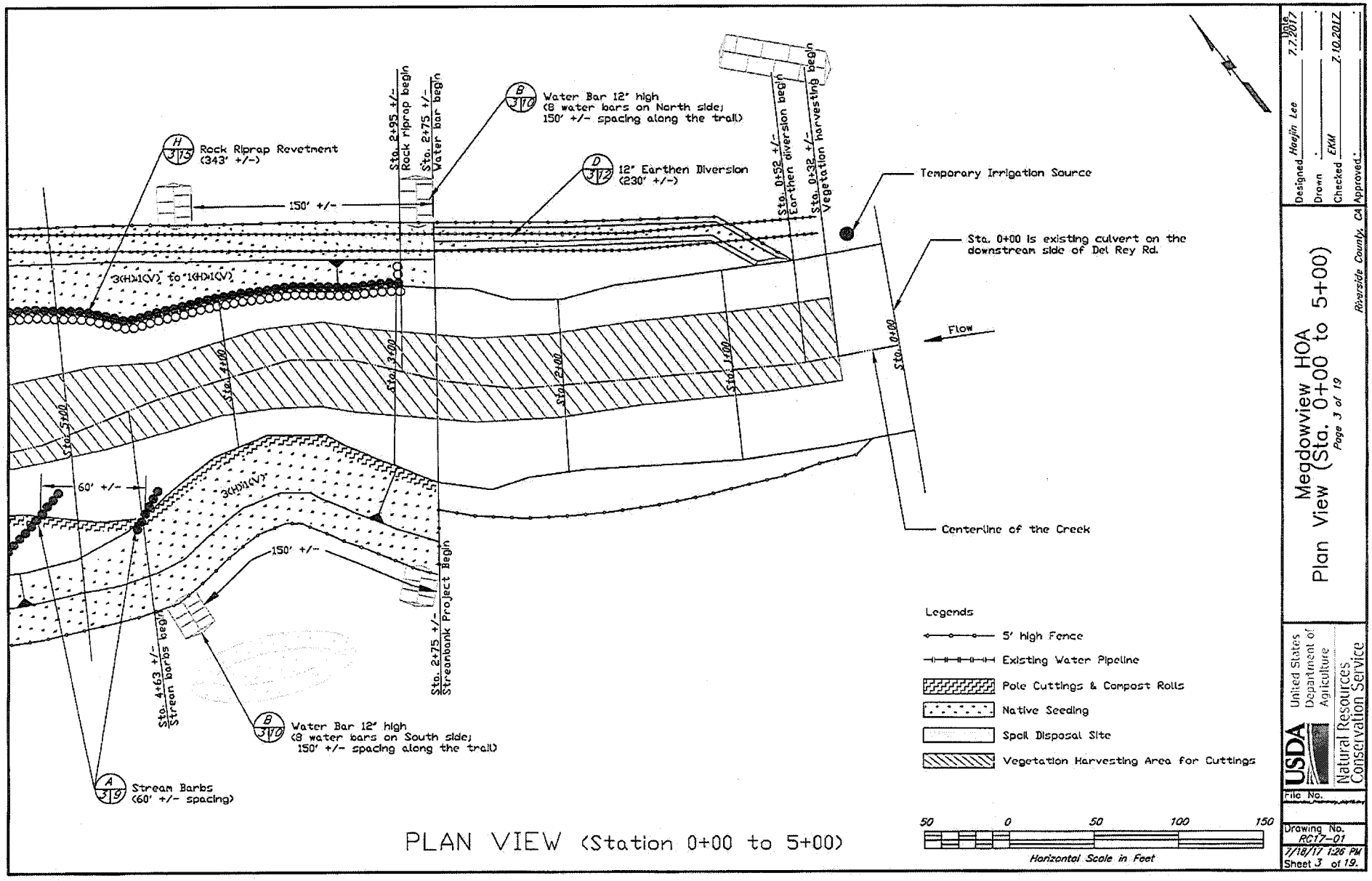
Designed Haejin Lee 7.7.2017
Drawn .
Checked EKM 7.10.2017
Approved .

Meadowview HOA
Plan View
Page 2 of 19
Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

Drawing No. RC17-01
1/18/17 1:26 PM
Sheet 2 of 19.



PLAN VIEW (Station 0+00 to 5+00)

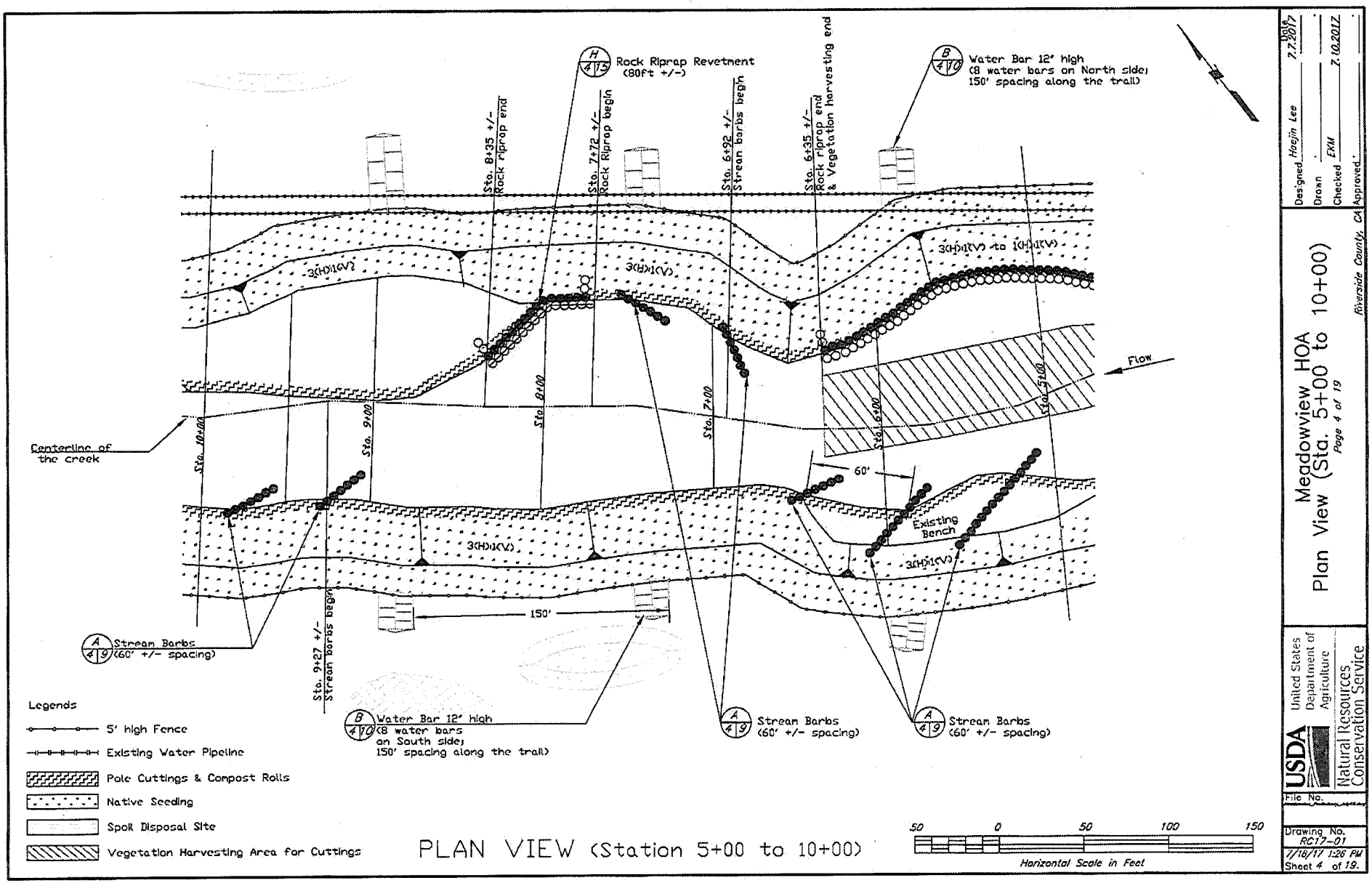
Designed Haejin Lee 7.2.2017
Drawn
Checked EKM 7.10.2012
Approved

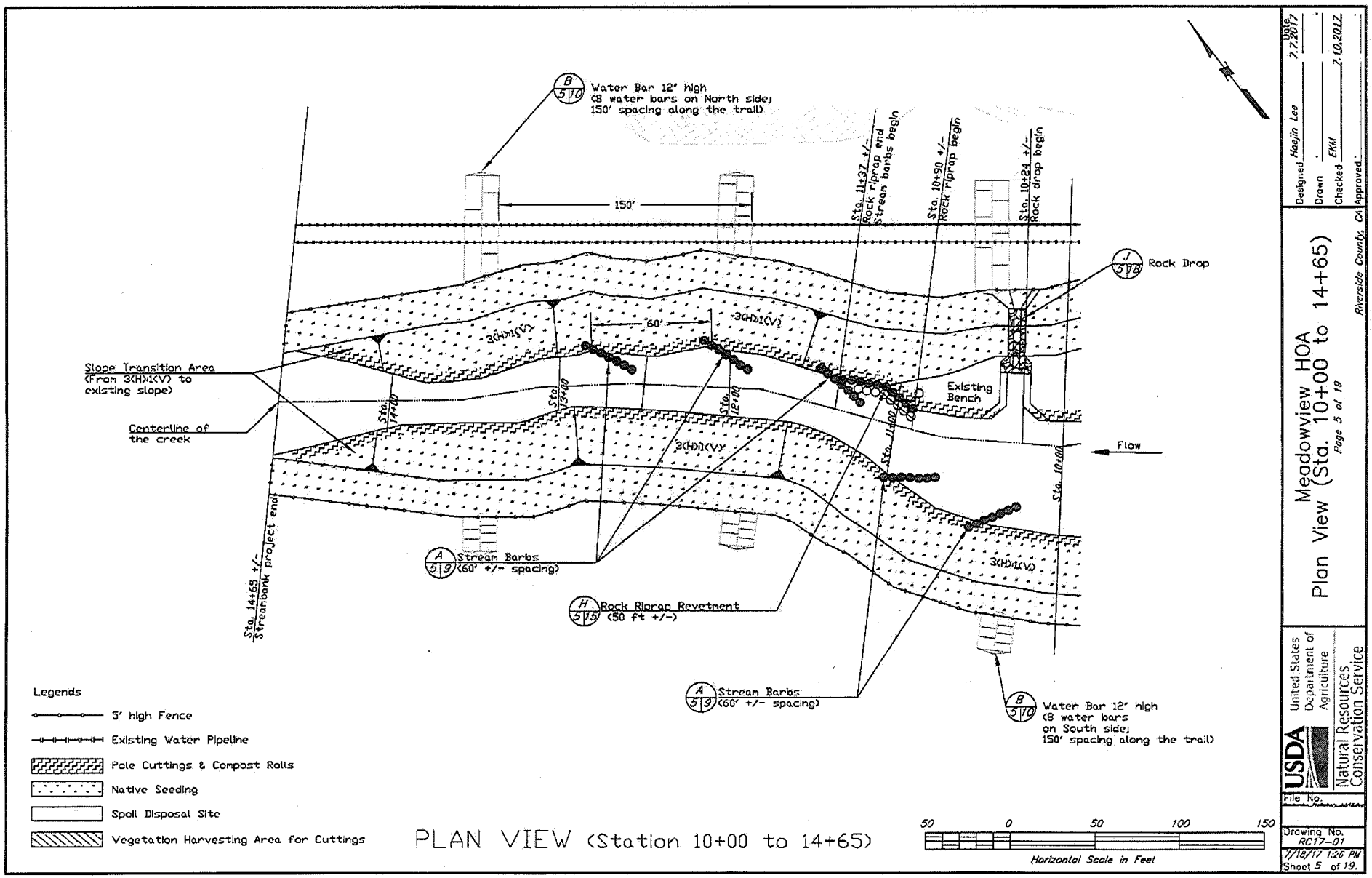
Megdowview HOA
Plan View (Sta. 0+00 to 5+00)
Page 3 of 19
Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

Drawing No. RC17-01
7/18/17 1:26 PM
Sheet 3 of 19.


H 4 7 Rock Riprap Revetment (80ft +/-)
B 4 10 Water Bar 12' high (8 water bars on North side) 150' spacing along the trail)
Sta. 8+35 +/- Rock riprap end
Sta. 7+72 +/- Rock Riprap begin
Sta. 6+92 +/- Stream barbs begin
Sta. 6+35 +/- Rock riprap end & Vegetation harvesting end
3(H):1(V)
3(H):1(V) to 1(H):1(V)
Flow
Centerline of the creek
Sta. 10+00
Sta. 9+00
Sta. 8+00
Sta. 7+00
Sta. 6+00
Sta. 5+00
60'
Existing Bench
150'
A 4 9 Stream Barbs (60' +/- spacing)
Sta. 9+27 +/- Stream barbs begin
B 4 10 Water Bar 12' high (8 water bars on South side) 150' spacing along the trail)
A 4 9 Stream Barbs (60' +/- spacing)
A 4 9 Stream Barbs (60' +/- spacing)
Legends
5' high Fence
Existing Water Pipeline
Pole Cuttings & Compost Rolls
Native Seeding
Spoil Disposal Site
Vegetation Harvesting Area for Cuttings
PLAN VIEW (Station 5+00 to 10+00)
50 0 50 100 150
Horizontal Scale in Feet
Designed Haejin Lee 7.7.2017
Drawn
Checked EKM 7.10.2017
Approved
Meadowview HOA
Plan View (Sta. 5+00 to 10+00)
Page 4 of 19
Riverside County, CA
USDA United States Department of Agriculture
Natural Resources Conservation Service
File No.
Drawing No. RC17-01
7/18/17 1:26 PM
Sheet 4 of 19.


B 5/10 Water Bar 12' high (8 water bars on North side; 150' spacing along the trail)
150'
Sta. 11+37 +/- Rock riprap end Stream barbs begin
Sta. 10+90 +/- Rock riprap begin
Sta. 10+24 +/- Rock drop begin
J 5/12 Rock Drop
3(H):1(V)
60'
Slope Transition Area (From 3(H):1(V) to existing slope)
Centerline of the creek
Sta. 14+20
Sta. 13+40
Sta. 12+60
Sta. 11+80
Sta. 11+00
Sta. 10+00
Existing Bench
Flow
Sta. 14+65 +/- Streambank project end
A 5/9 Stream Barbs (60' +/- spacing)
H 5/15 Rock Riprap Revetment (50 ft +/-)
A 5/9 Stream Barbs (60' +/- spacing)
B 5/10 Water Bar 12' high (8 water bars on South side; 150' spacing along the trail)
Legends
5' high Fence
Existing Water Pipeline
Pole Cuttings & Compost Rolls
Native Seeding
Spoil Disposal Site
Vegetation Harvesting Area for Cuttings
PLAN VIEW (Station 10+00 to 14+65)
50 0 50 100 150
Horizontal Scale in Feet
Designed Haijin Lee 7.7.2017
Drawn
Checked EKH 7.10.2017
Approved
Meadowview HOA
Plan View (Sta. 10+00 to 14+65)
Page 5 of 19
Riverside County, CA
United States Department of Agriculture
Natural Resources Conservation Service
File No.
Drawing No. RC17-01
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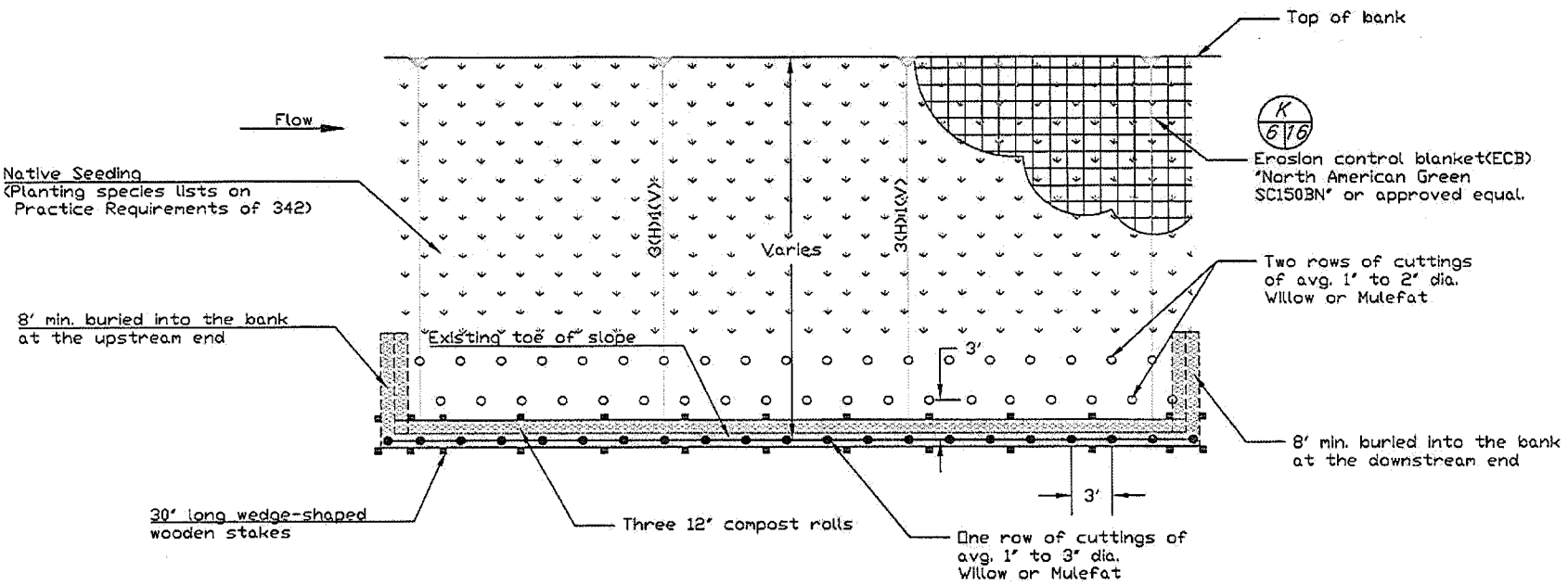


TYPICAL TOP VIEW _ STREAMBANK (NTS)

Construction Notes

1. Work zone to be closed and properly posted/secured to keep human pedestrians and animals away during construction.
2. All areas disturbed by the contractor to be scarified(except for trails) and seeded in accordance with NRCS specification: Critical Area Planting(342).

Pole Cuttings Installation

1. Plant one row of cutting of mulefat(Baccharis salicifolia) or narrow-leaf willow(Salix exgua) every 3 ft along pre-existing toe or as established by NRCS field staking. The species can be randomly selected for each planting site- no pattern is needed. Cuttings should be at least 4ft long and avg. 1 inch to 3 inch thick. Cuttings should be soaked for at least 48 hours before planting.

2. Plant two rows of cuttings of mulefat or willow every 3 ft staggerd into the regraded banks. Cuttings should be at least 3ft long and avg. 1 inch to 2 inch thick. Cuttings should be soaked for at least 48 hours before planting.

Irrigation

With proper placement, sprinkler irrigation could be used to water all of these plants. Irrigation should be three times per week for the first year and one time per week for the second year. After this irrigation can be further reduced or removed at the discretion of the landowner.

Compost Roll Installation

1. Place the compost roll along pre-existing toe or as established by NRCS field staking. Submerge the middle compost roll so that approximately 1/2 the roll is below the water line. Tie the ends of adjacent compost roll together with strong twine.
2. Secure the compost roll with 3ft long wedge-sharpend wooden stakes on both sides of the compost roll at 6 foot intervals. Tie twine or wire around each pair of stakes at the notches. Drive stakes in so that the twine is secured against the top of the compost roll.
3. It is critical to key both ends of the compost roll into the bank at least 8 ft long.
4. Plant Mulefat or willow into the compost roll.

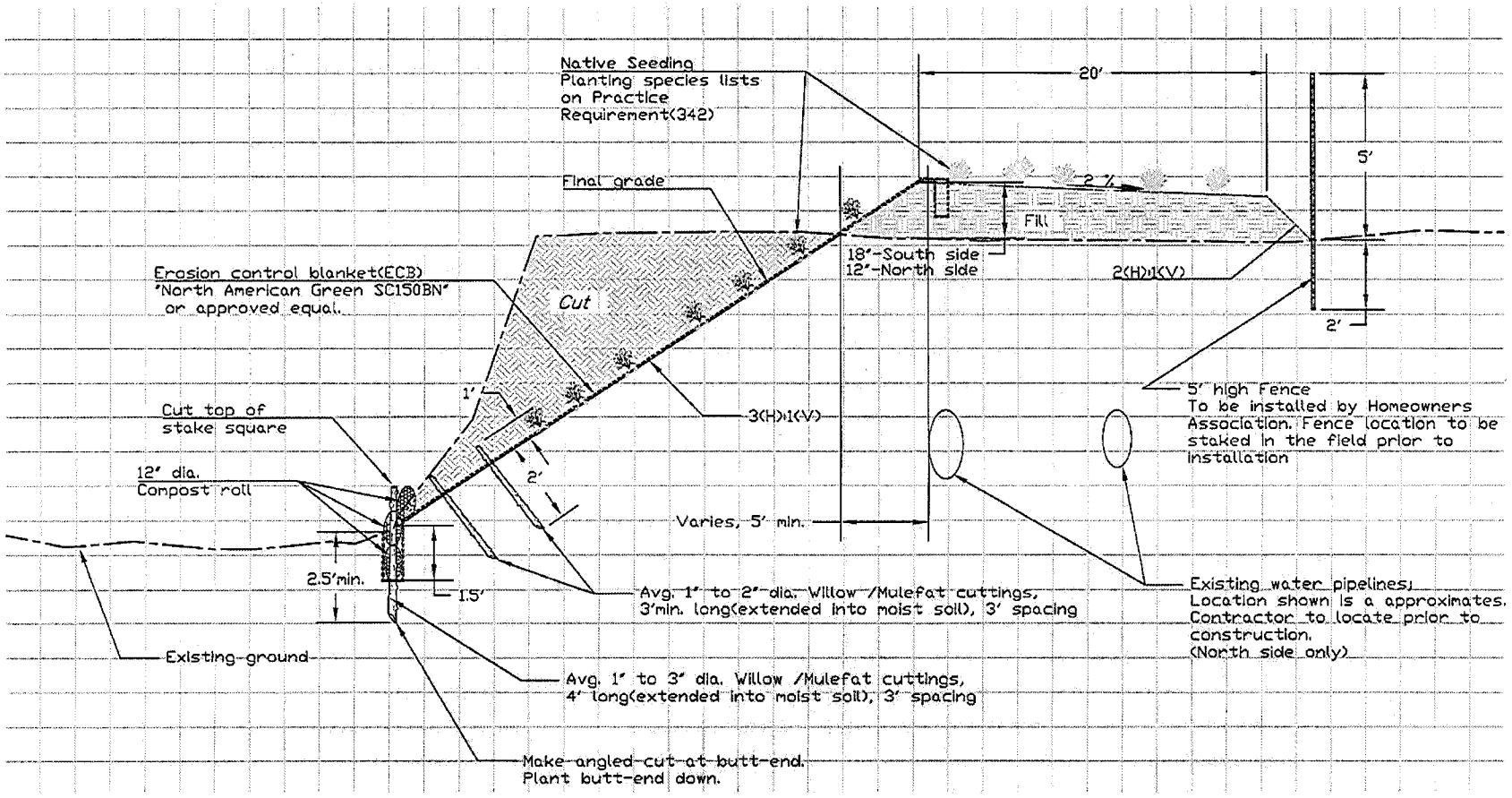
Date
Designed Haejin Lee 7.7.2017
Drawn -
Checked EKM 7.10.2017
Approved -

Meadowview HOA
Top View_Streambank
Page 6 of 19
Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

Drawing No. RC17-01
1/18/17 1:26 PM
Sheet 6 of 19.



TYPICAL CROSS SECTION VIEW _ STREAMBANK W/O BENCH

6 0 6 12 18
Horizontal Scale in Feet

3 0 3 6 9
Vertical Scale in Feet

Designed Haejin Lee 7.7.2017
Drawn - 7.19.2017
Checked EKM
Approved -

Meadowview HOA
Cross Section_Streambank w/o Bench
Page 7 of 19
Riverside County, CA

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Natural Resources Conservation Service

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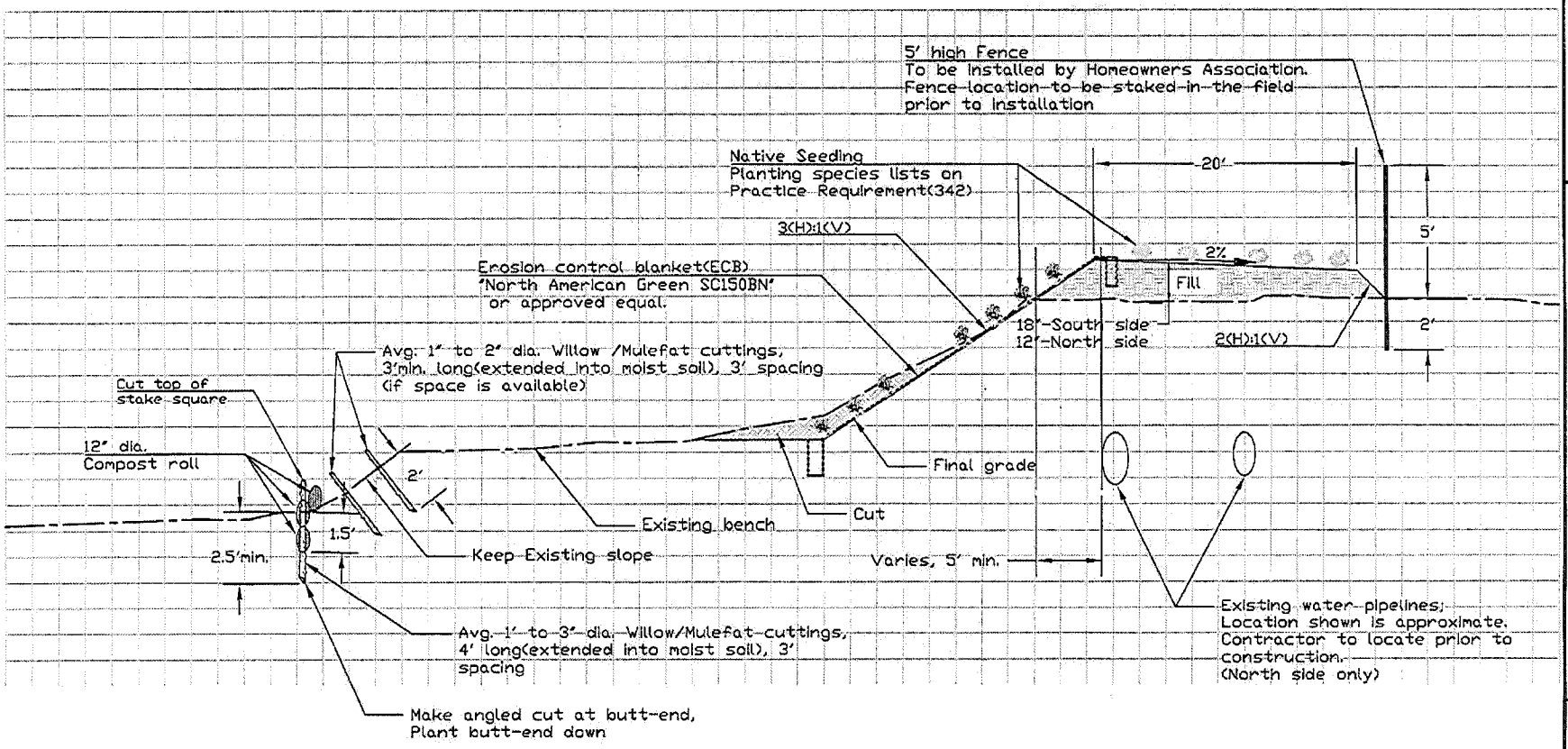
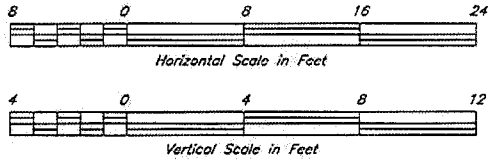


TYPICAL CROSS SECTION VIEW _ STREAMBANK WITH BENCH



Designed Haejin Lee	7.7.2017	Date
Drawn -		
Checked EKM	7.10.2017	
Approved -		

Meadowview HOA
Cross Section_Streambank with Bench
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Riverside County, CA

United States Department of Agriculture
Natural Resources Conservation Service

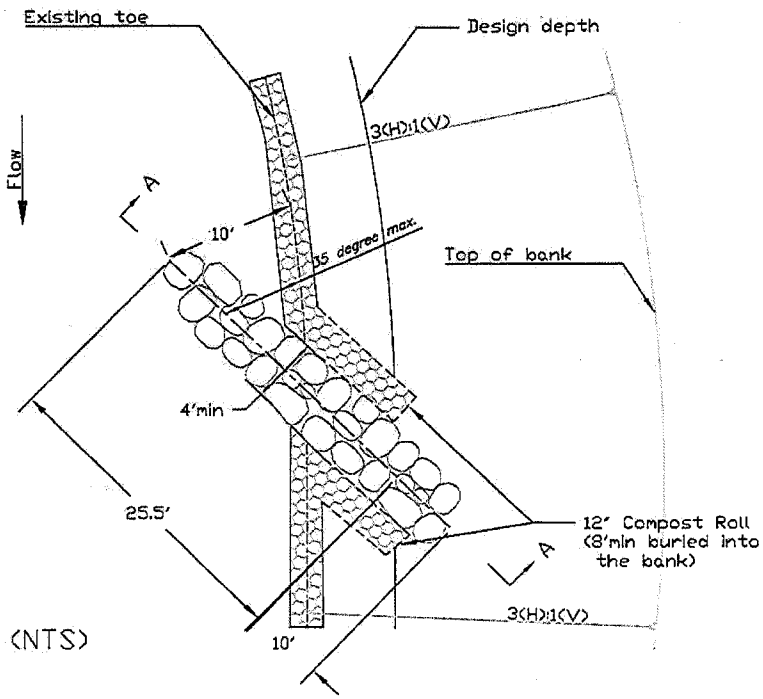
File No.

Drawing No. RC17-01

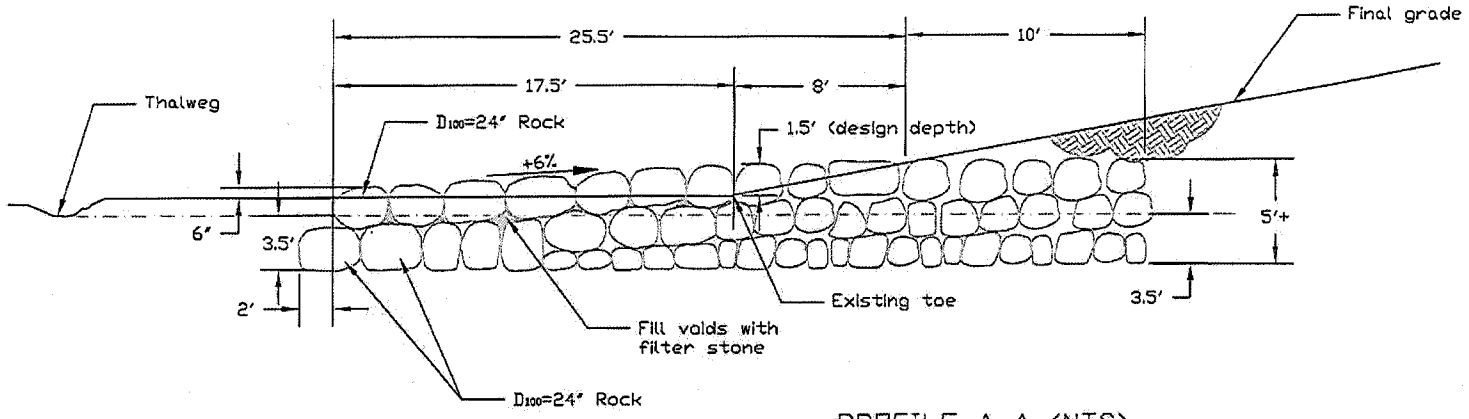
1/18/17 1:26 PM
Sheet 8 of 19.

NOTES:

1) Each Stream barb to be located and staked in the field by the NRCS technical representative after slopes have been completed.
2) All Stream barbs shall be angled at 25 degrees in an upstream direction from a line drawn perpendicular to the top of bank.
3) Rock shall be sound, dense, and durable with a bulk specific gravity of not less than 2.5. Rock shall be angular to sub-angular. See NRCS construction specification 907. Rock Riprap. Riprap shall be placed, not dropped in a uniform gradation throughout.



2,3,4,5 A/9 PLAN VIEW_STREAM BARB (NTS)



PROFILE A-A (NTS)

Designed Haejin Lee Date 7.7.2017
Drawn . Date .
Checked EKM Date 7.10.2017
Approved . Date .

Meadowview HOA
Stream Barbs Detail
Page 9 of 19
Riverside County, CA

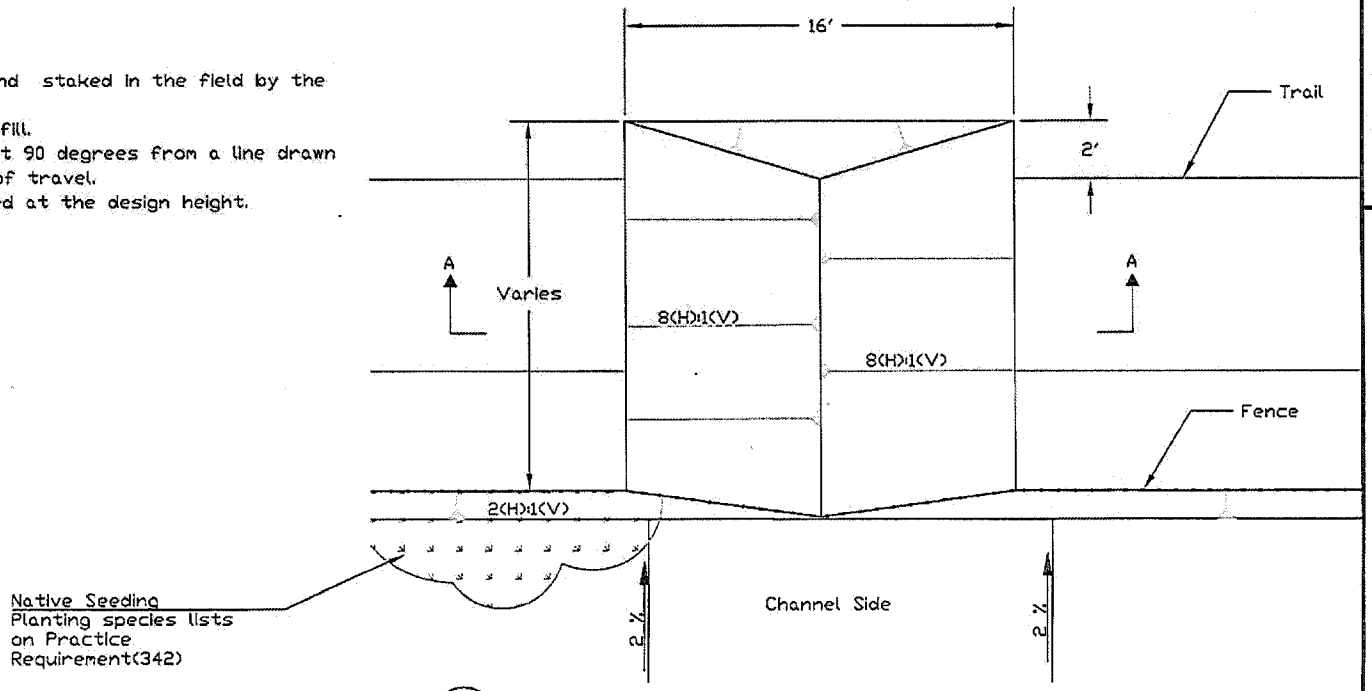
USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

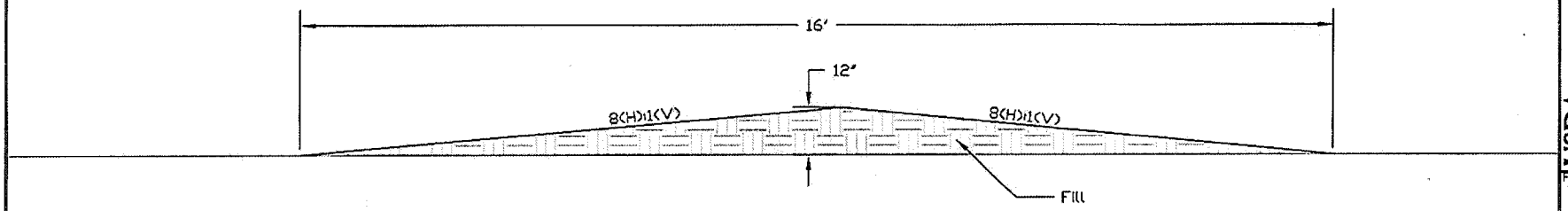
Drawing No. RC17-01
7/18/17 1:26 PM
Sheet 9 of 19.

NOTES:

1) Each water bar to be located and staked in the field by the NRCS technical representative.
   See NRCS Specification 903. Earthfill.
2) All water bars shall be angled at 90 degrees from a line drawn perpendicular to the direction of travel.
3) All water bars shall be maintained at the design height.



2,3,4,5 — B/10 PLAN VIEW_ WATER BAR 12" high (NTS)



SECTION A-A (NTS)

Designed Haejin Lee Date 7.7.2017
Drawn
Checked EKH 7.10.2017
Approved

Meadowview HOA
Water Bar 12" high Detail
Page 10 of 19
Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

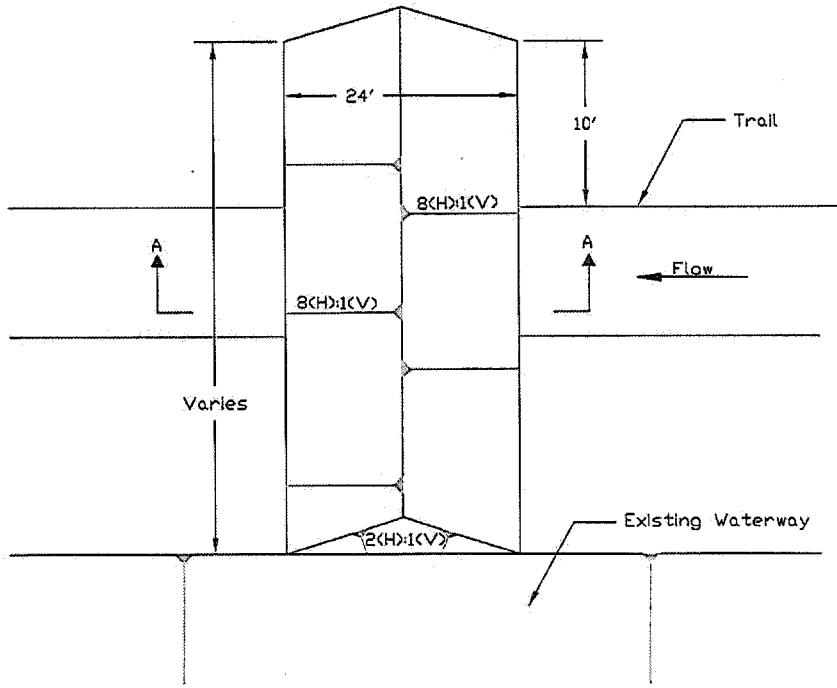
File No.

Drawing No. RC17-01

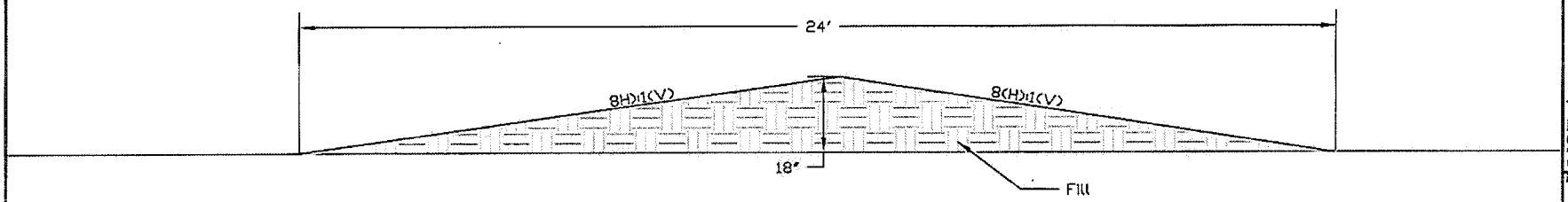
1/18/17 1:26 PM
Sheet 10 of 19.

NOTES:

1) Each water bar to be located and staked in the field by the NRCS technical representative. See NRCS Specification 903. Earthfill.
2) All water bars shall be angled at 90 degrees from a line drawn perpendicular to the direction of travel.
3) All water bars shall be maintained at the design height.



C 2/11 PLAN VIEW_ WATER BAR 18" high (NTS)



SECTION A-A (NTS)

Date 7.7.2017
Designed Haejin Lee 7.7.2017
Drawn 7.10.2017
Checked EKM
Approved

Meadowview HOA
Water Bar 18" high Detail
Page 11 of 19

Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

Drawing No. RC17-01

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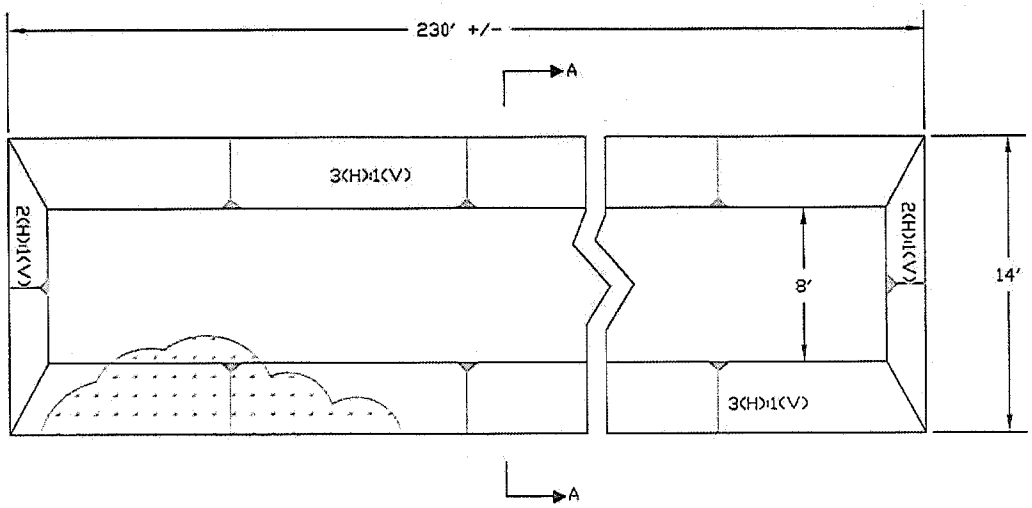
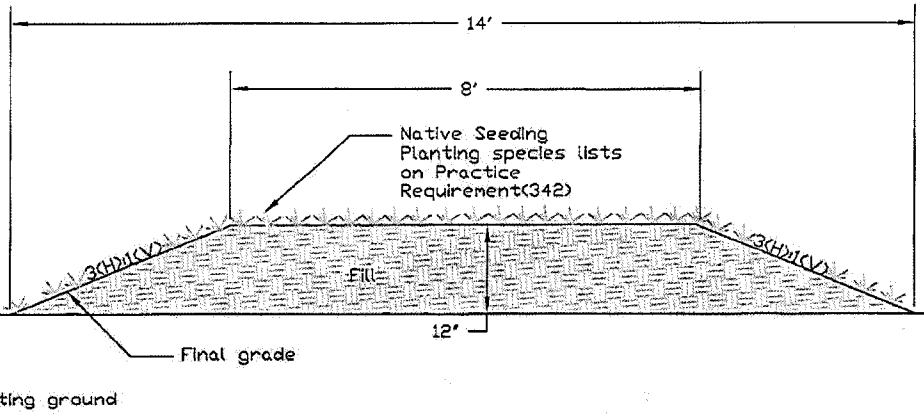
Sheet 11 of 19.



2,3 D/12 PLAN VIEW _ EARTHEN DIVERSION 12" HIGH (NTS)



SECTION A-A (NTS)

Designed Haejin Lee 7.7.2017
Drawn
Checked EKM 7.10.2017
Approved

Meadowview HOA
Earthen Diversion 12" high Detail
Page 12 of 19
Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

Drawing No. RC17-01
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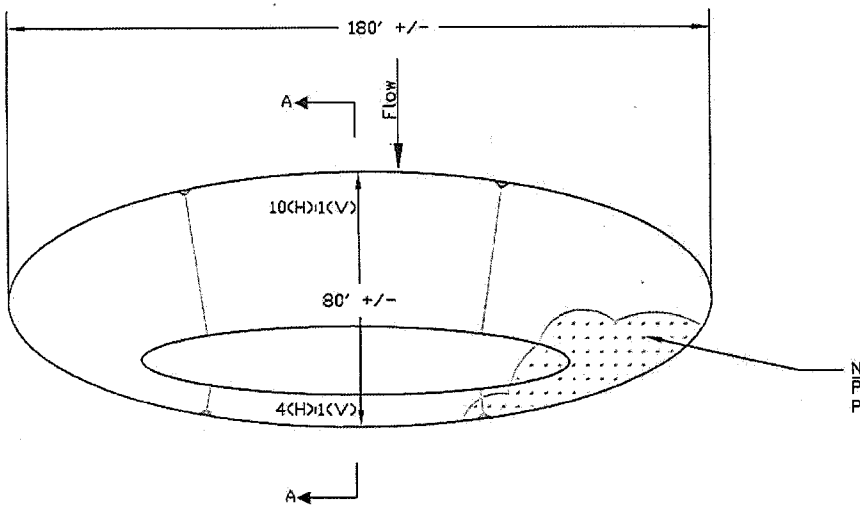
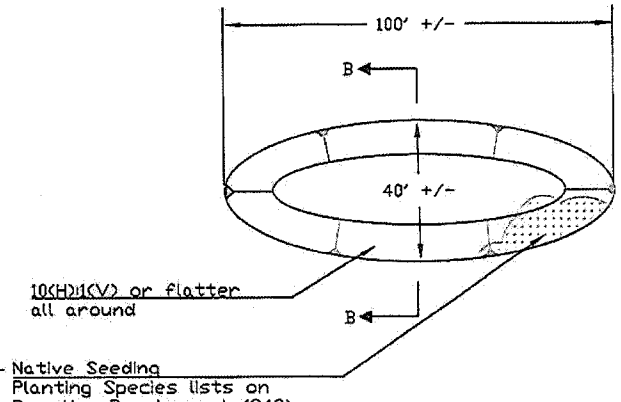
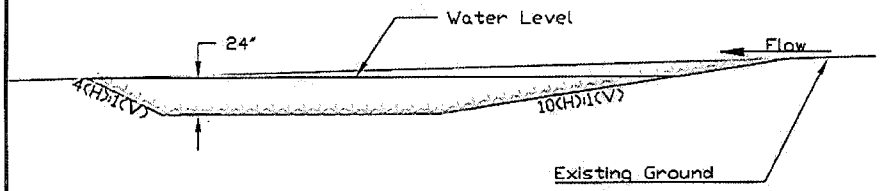


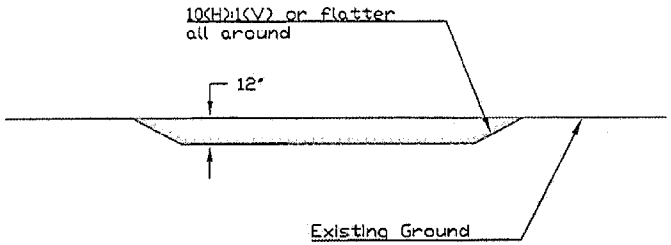
E 2 13 PLAN VIEW_SHALLOW DEPRESSION (NTS)



F 2 13 TOP VIEW_SHALLOW DEPRESSION (NTS)



SECTION A-A (NTS)



SECTION B-B (NTS)

NOTES:
1) Shape and size of the shallow Depressions are approximate.
2) The shallow Depression to be located and staked in the field by the NRCS technical representative prior to construction.

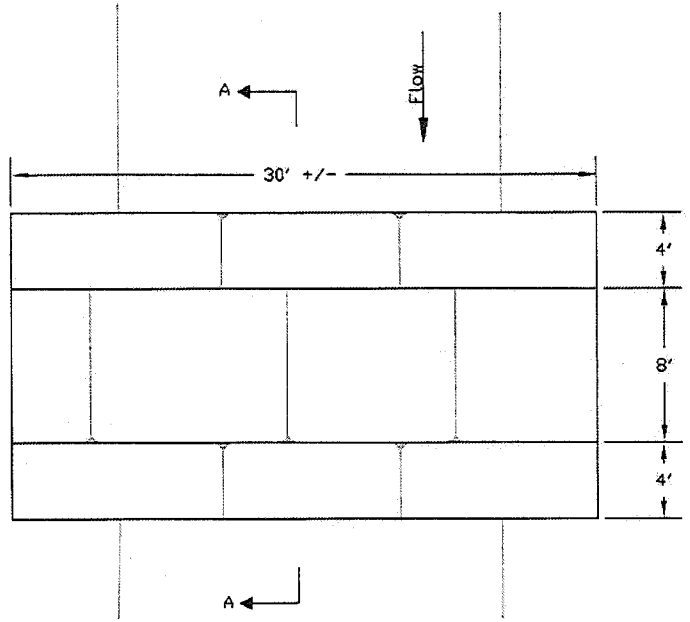
Date 7.7.2017
Designed Haejin Lee
Drawn
Checked EKM 7.10.2017
Approved

Meadowview HOA
Shallow Depression Detail
Page 13 of 19
Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

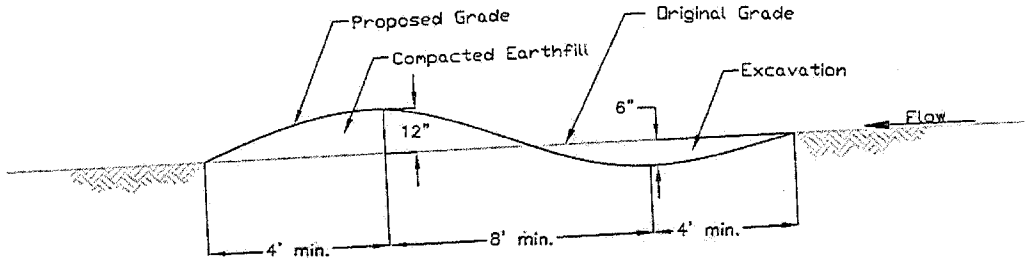
Drawing No. RC17-01
7/18/17 1:26 PM
Sheet 13 of 19.



NOTES:

1) Each water bar to be located and staked in the field by the NRCS technical representative. See NRCS Specification 903. Earthfill.
2) All water bars shall be angled at 90 degrees from a line drawn perpendicular to the direction of travel.
3) All water bars shall be maintained at the design height.

G 2 of 4 PLAN VIEW_WATER BAR on SLOPE (NTS)



SECTION A-A (NTS)

Designed Haejin Lee Date 7.7.2017
Drawn
Checked EKM 7.10.2017
Approved

Meadowview HOA
Water Bar on Slope Detail
Page 14 of 19

Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

Drawing No. RC17-01
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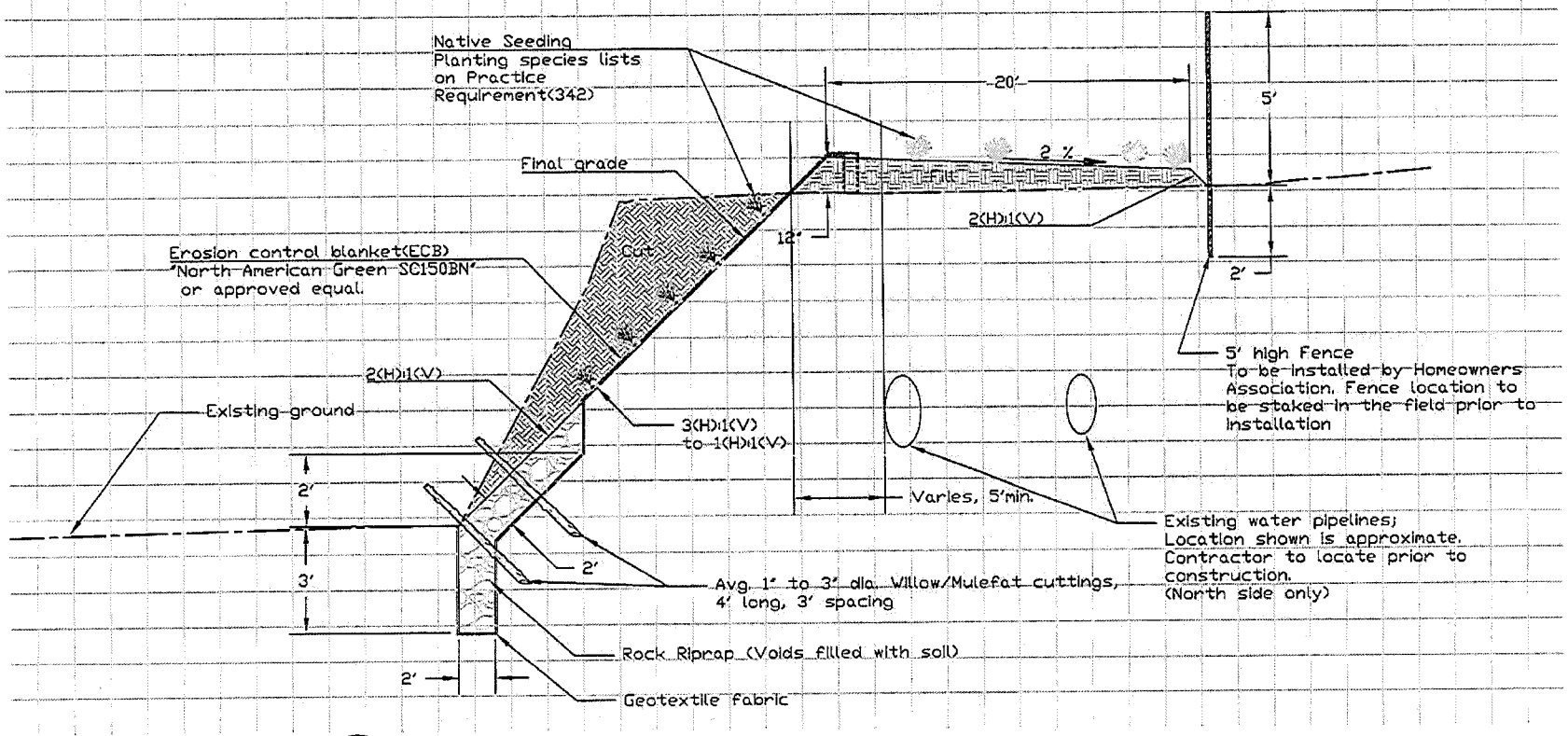
Sheet 14 of 19



2,3,4,5 (H/15) TYPICAL CROSS SECTION VIEW _ ROCK RIPRAP REVETMENT

NOTES:

Rock shall be sound, dense, and durable with a bulk specific gravity of not less than 2.5. Rock shall be angular to subangular. See NRCS construction specification 907. Rock Riprap. Riprap shall be placed, not dropped in a uniform gradation throughout.

Geotextile Fabric is to be type 2a, non-woven needle punched 8 oz/sy. See NRCS construction specification 905. Geotextile Fabric.

NOTES:

Rock riprap shall be keyed into the back at least 10 ft at the upstream end and downstream end.

6 0 6 12 18
Horizontal Scale in Feet

3 0 3 6 9
Vertical Scale in Feet

Date
Designed Haejin Lee 7.7.2017
Drawn - 7.10.2017.
Checked EKM
Approved -

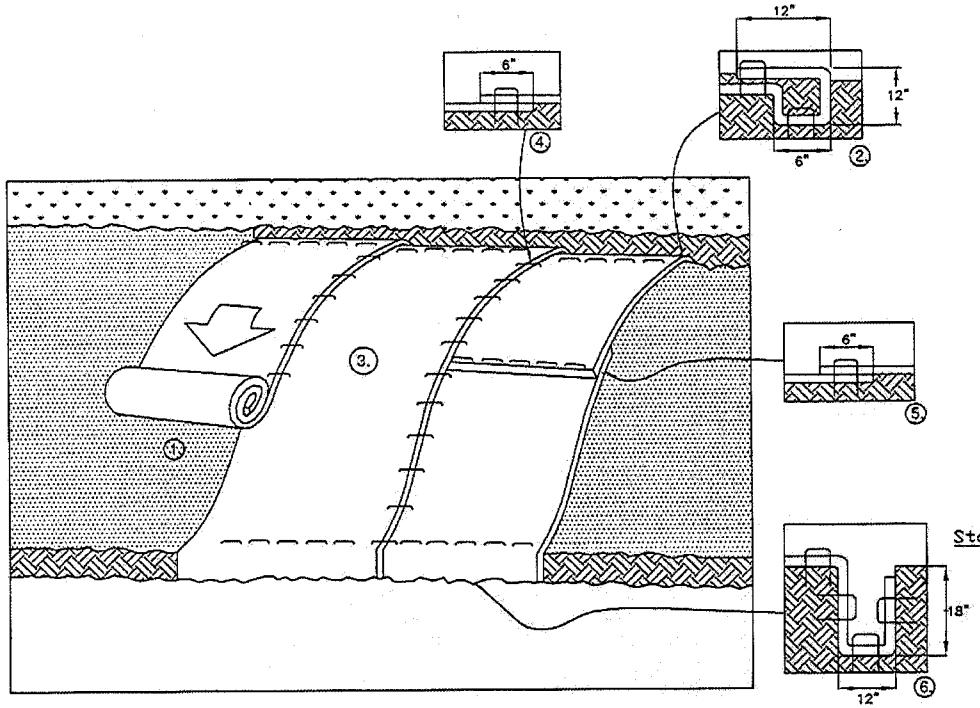
Meadowview HOA
Cross Section_Rock Riprap Revetment
Page 15 of 19
Riverside County, CA

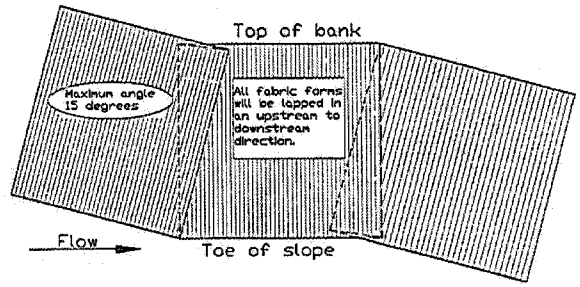
USDA United States Department of Agriculture
Natural Resources Conservation Service

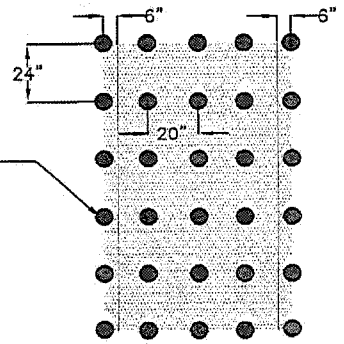
File No.

Drawing No. RC17-01

7/18/17 1:26 PM
Sheet 15 of 19.







K 6/16 EROSION CONTROL BLANKET INSTALLATION DETAIL (NTS)

PLAN VIEW
STAKE PATTERN (NTS)

Erosion Control Blanket(ECB) Installation

1. Prepare soil before installing ECB, including any necessary application of fertilizer, and seed.

2. Begin at the top of the slope by anchoring the ECB in a 12" deep x 6" wide trench with approximately 12" of ECB extended beyond the up-slope portion of the trench. Anchor the ECB with a row of staples approximately 12" apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12" portion of ECB back over seed and compacted soil. Secure ECB over compacted soil with a row of staples spaced approximately 12" apart across the width of the ECB.

3. Roll the ECB down across the slope. ECB will unroll with appropriate side against the soil surface. All ECB must be securely fastened to soil surface by placing staples in appropriate location as shown in the staple pattern guide. Staples should be placed through each of the colored dots corresponding to the appropriate staple pattern.

4. The edges of parallel ECB must be stapled with approximately 6" overlap.

5. Consecutive ECB spliced down the slope must be placed end over end with an approximate 6" overlap. Staple through overlapped area, approximately 12" apart across entire ECB width.

6. End at the toe of the slope by anchoring the ECB in a 18" deep x 12" wide trench. Anchor the ECB with three rows of staples approxmately 12" apart in the bottom and on the both sides of the trench, Backfill and compact the trench after stapling.

Designed Haejin Lee 7.7.2017
Drawn - 7.10.2017
Checked EKM Approved -

Meadowview HOA
Erosion Control Blanket Detail
Page 16 of 19
Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

Drawing No. RC17-01
1/18/17 1:26 PM
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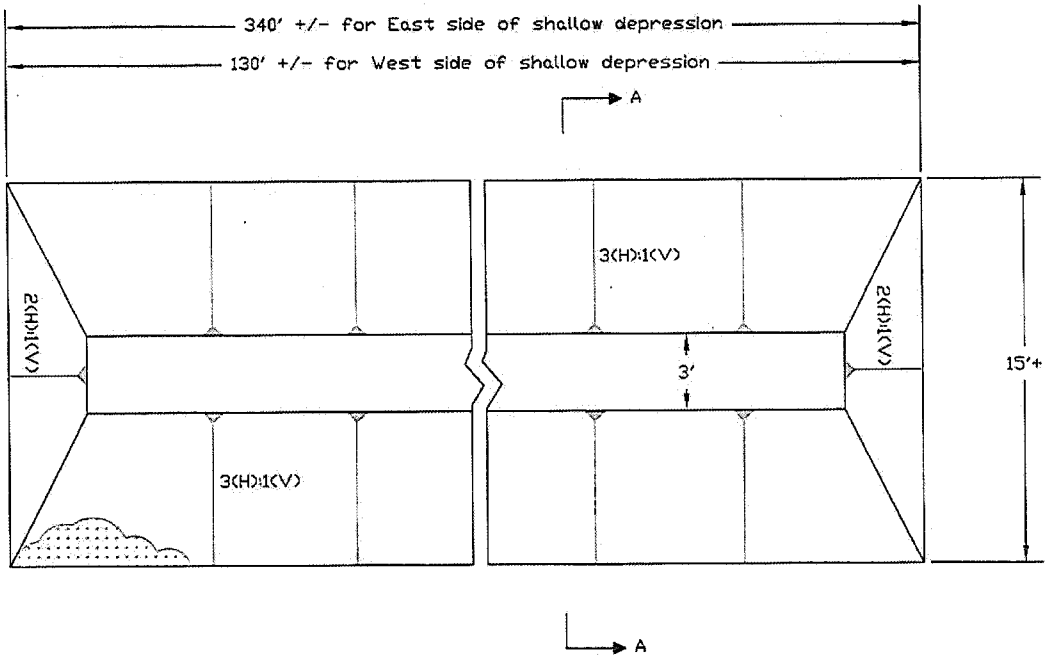
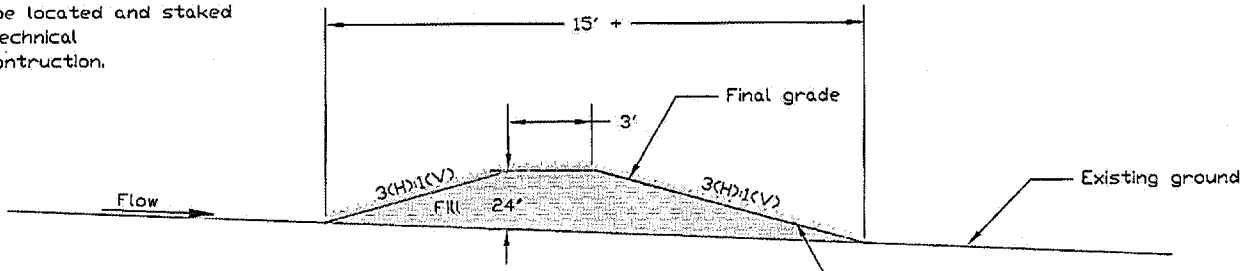


1/2/17 PLAN VIEW _ EARTHEN DIVERSION 24" HIGH (NTS)

NOTES:
The earthen diversion to be located and staked in the field by the NRCS technical representative prior to contruction.



SECTION A-A (NTS)

Date 7.7.2017
Designed Haejin Lee
Drawn
Checked EKW 7.10.2017
Approved

Meadowview HOA
Earthen Diversion 24" High Detail
Page 17 of 19
Riverside County, CA

United States Department of Agriculture
USDA Natural Resources Conservation Service
File No.
Drawing No. RC17-01
7/18/17 1:26 PM
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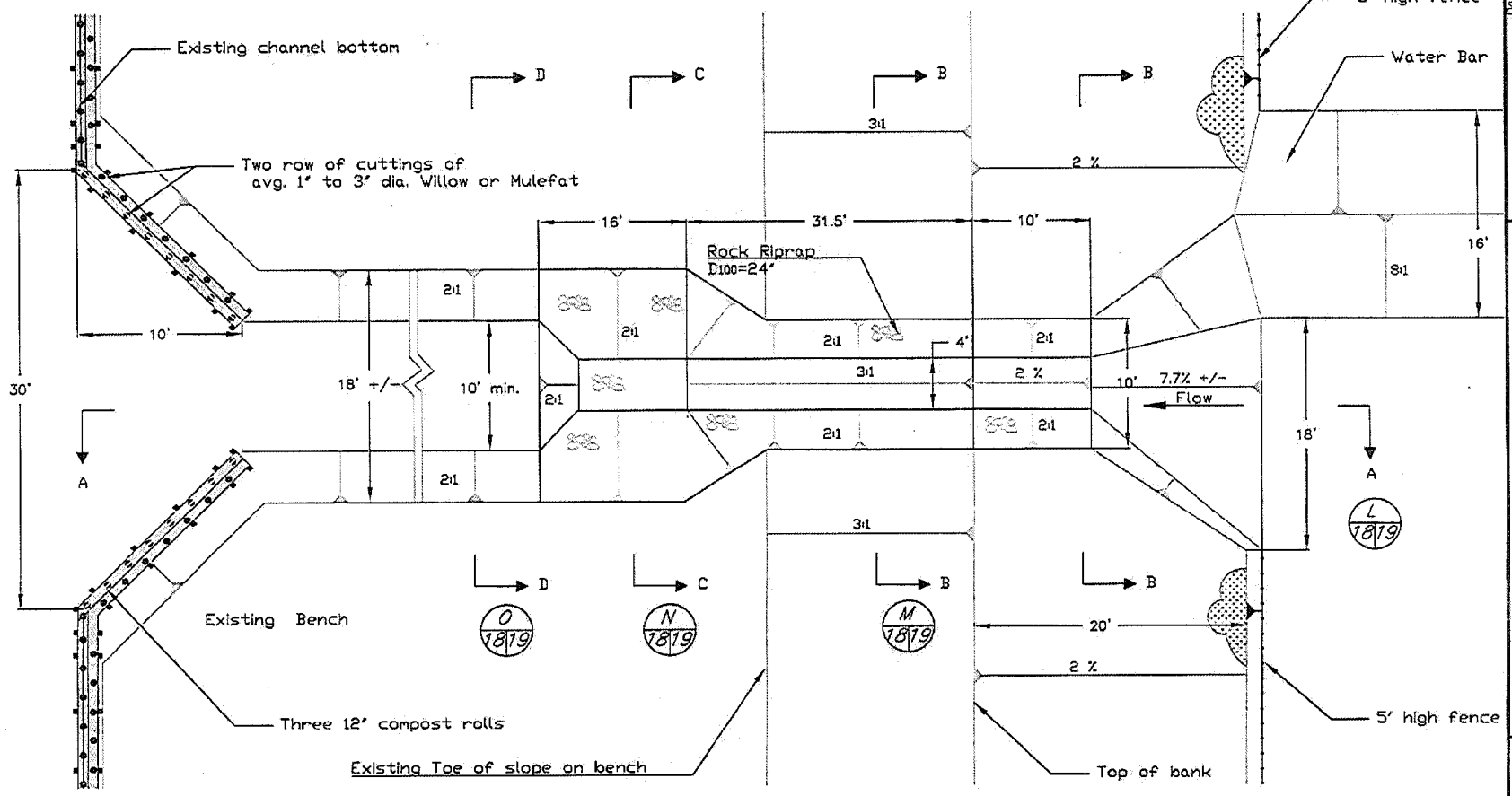


2.5 J|18 PLAN VIEW _ ROCK DROP (NTS)

NOTES:

1. Rock shall be sound, dense, and durable with a bulk specific gravity of not less than 2.5. Rock shall be angular to subangular. See NRCS construction specification 907. Rock Riprap. Riprap shall be placed, not dropped in a uniform gradation throughout.
2. Geotextile Fabric is to be type 2a, non-woven needle punched 8 oz/sy. See NRCS construction specification 905. Geotextile Fabric.
3. Rock drop to be located and staked in the field by the NRCS technical representative prior to construction.

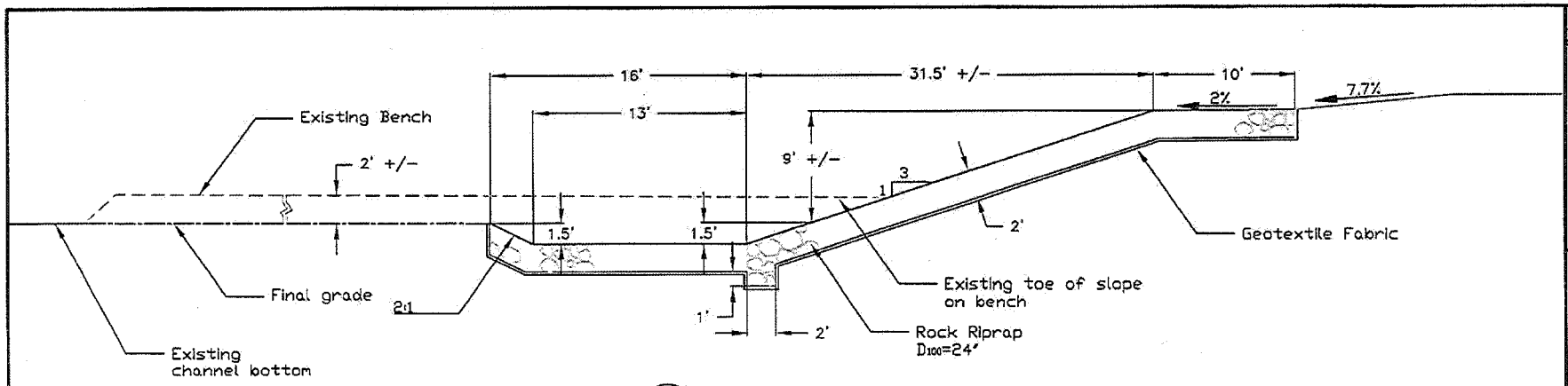
Designed Haejin Lee Date 7.7.2017
Drawn . Date .
Checked EXH Date 7.10.2017
Approved . Date .

Meadowview HOA
Top View_Rock Drop
Page 18 of 19
Riverside County, CA

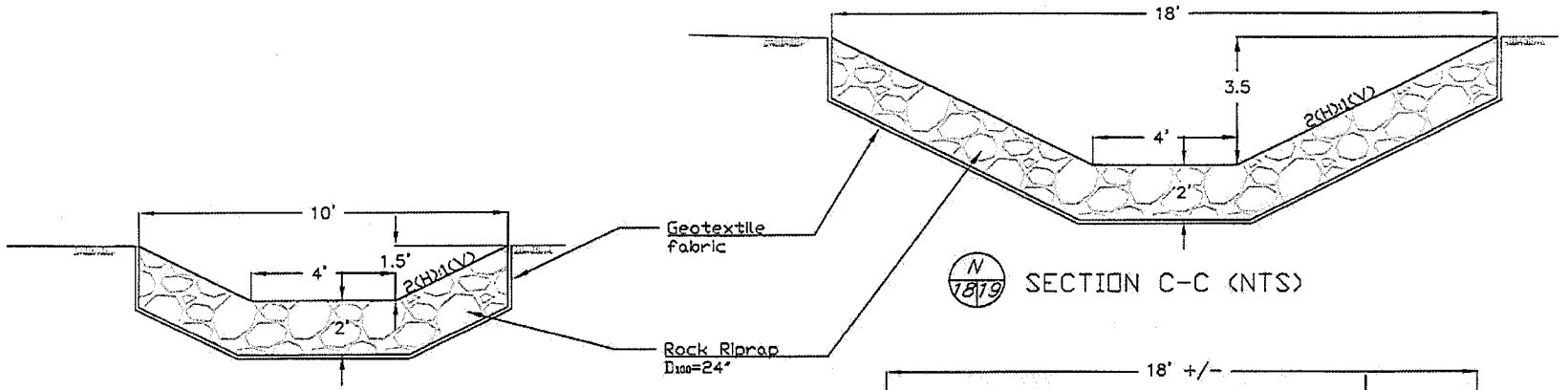
USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

Drawing No. RC17-01
7/18/17 1:26 PM
Sheet 18 of 19



L 18/19 SECTION A-A (NTS)



M 18/19 SECTION B-B (NTS)

N 18/19 SECTION C-C (NTS)

O 18/19 SECTION D-D (NTS)

Designed Haejin Lee 7.7.2017
Drawn
Checked EKM 7.10.2017
Approved

Meadowview HOA
Rock Drop Detail
Page 19 of 19

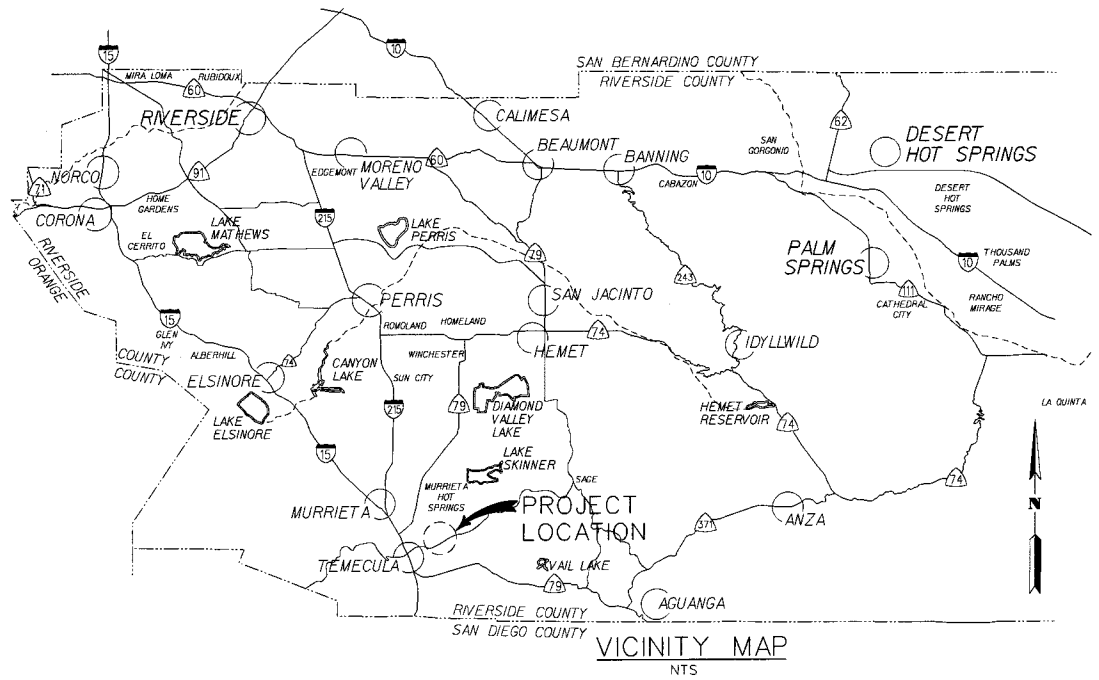
Riverside County, CA

USDA United States Department of Agriculture
Natural Resources Conservation Service

File No.

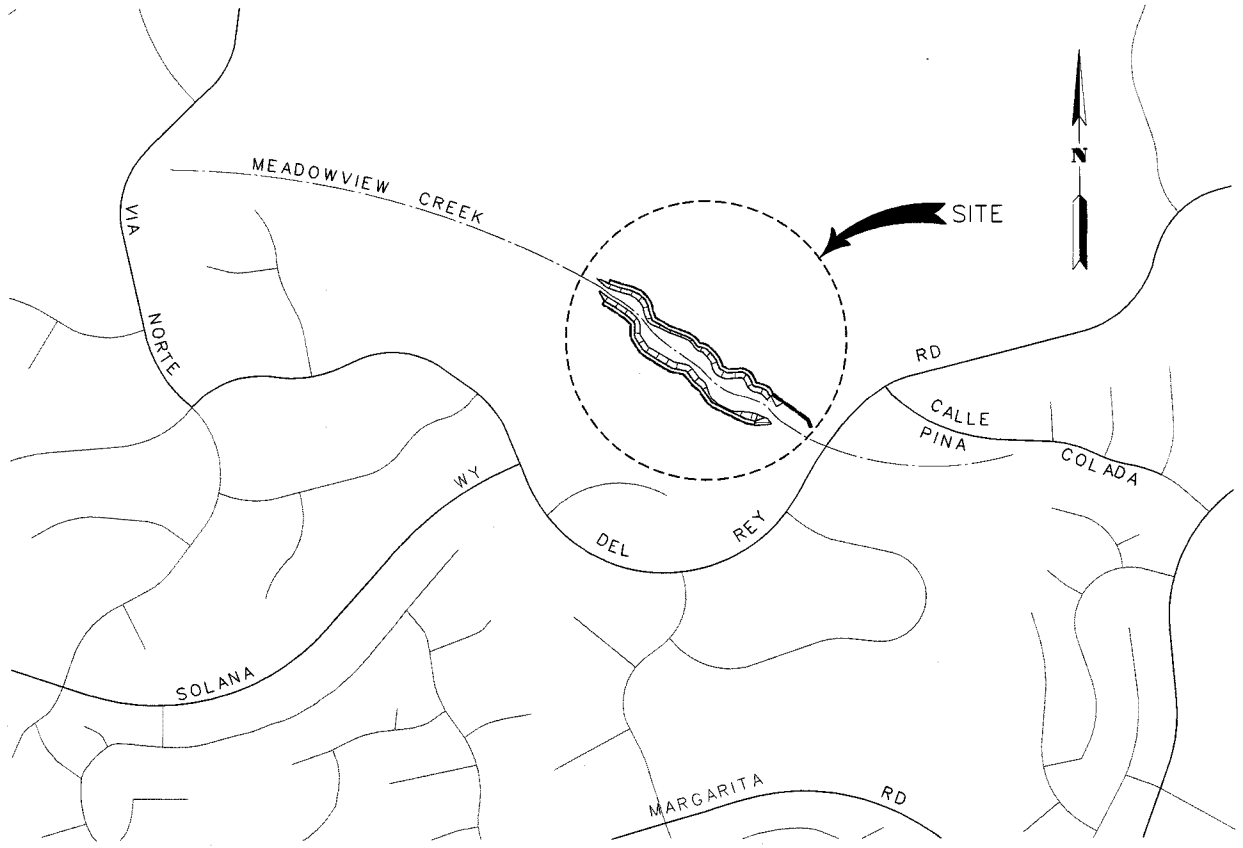
Drawing No. RC17-01
7/18/17 1:26 PM
Sheet 19 of 19

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT



VICINITY MAP
NTS

INDEX



LOCATION MAP
NTS

GENERAL NOTES

1. THESE PLANS ARE PREPARED IN ACCORDANCE TO THE APPROVED DRAWINGS FOR MEADOWVIEW COMMUNITY ASSOCIATION BY THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE.
2. THE CONTRACTOR SHALL SCARIFY AND HYDROSEED ALL DISTURBED AREAS.
3. ALL STORM DRAIN REFERENCES AND CROSS SECTIONS ARE TAKEN LOOKING UPSTREAM.
4. THE VERTICAL DATUM IS DERIVED FROM NAVD 88.
5. THE HORIZONTAL DATUM IS DERIVED FROM NAD 83.
6. THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH REPRESENTATIVES FROM RANCHO CALIFORNIA WATER DISTRICT (RCWD) REGARDING THE PROTECTION OF THE EXISTING WATERLINES PRIOR TO CONSTRUCTION ACTIVITIES ON THE NORTH BANK. RCWD CAN BE REACHED AT 951–296–6900.
7. ELEVATIONS AND LOCATIONS OF UTILITIES WERE OBTAINED FROM AVAILABLE INFORMATION AND ARE SHOWN APPROXIMATELY ON THESE PLANS. 48 HOURS BEFORE EXCAVATION CALL UNDERGROUND SERVICE ALERT AT 1–800–227–2600. ALL UTILITIES SHALL BE PROTECTED IN PLACE EXCEPT AS NOTED ON PLANS AND SPECIFICATIONS.
8. THE CONTRACTOR IS REQUIRED TO CONTACT ALL UTILITY AGENCIES REGARDING TEMPORARY SUPPORT AND SHORING REQUIREMENTS FOR THE VARIOUS UTILITY LINES SHOWN ON THESE PLANS.
9. ALL OPENINGS RESULTING FROM CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES, OR SIMILAR STRUCTURES TO BE ABANDONED, SHALL BE SEALED AT BOTH ENDS WITH 6" MIN CLASS "B" CONCRETE.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND PROPER SETTING OF ALL EXISTING MONUMENTS AND OTHER SURVEY MARKERS. ANY SURVEY MONUMENTS DESTROYED BY THE CONTRACTOR SHALL BE REPLACED IN ACCORDANCE WITH STATE LAND SURVEYOR'S ACT AT THE CONTRACTOR'S EXPENSE.
11. PRIOR TO EXCAVATION OF THE STREAM BANKS, TOPSOIL SHALL BE HARVESTED AS SHOWN ON SHEET 12.
12. ALL EARTHWORK SPOILS NOT USED FOR EMBANKMENT FILL SHALL EITHER BE DEPOSITED IN THE DESIGNATED 'OPTIONAL SPOILS DISPOSAL SITE', OR REMOVED OFFSITE. NO FILL IS AUTHORIZED ON ANY OTHER PORTION OF THE PROJECT SITE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE ENGINEER.
13. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL WORK IS DONE WITHIN THE LIMITS SPECIFIED IN THESE DRAWINGS. UNAUTHORIZED WORK OUTSIDE THESE LIMITS OR WITHIN AN ESA MAY RESULT IN FINES, MITIGATION, OR BOTH. SUCH COSTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — JASON E. UHLEY — No. 59795 — CIVIL — STATE OF CALIFORNIA

MEADOWVIEW COMMUNITY ASSOCIATION
APPROVED BY: Sarah Russell
HOA REPRESENTATIVE
DATE: APR. 5, 2018

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
Z-13795
NAD 83 2007.00 NAVD 88 Static Diff 1-1/2" IP W/ MAG NAIL & 2" WASHER STMPD "MWD 463000" UP 0.05'
EL. 1258.98

REF.	REVISIONS	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
PB NUMBER: 219790

RECOMMENDED FOR APPROVAL: CHIEF, DESIGN & CONSTRUCTION DATE: APR. 4, 2018

APPROVED BY: GENERAL MANAGER-CHIEF ENGINEER DATE: APR. 4, 2018

MEADOWVIEW STREAM RESTORATION STAGE 60

TITLE SHEET

PROJECT NO. 7-0-00361
DRAWING NO. 7-0456
SHEET NO. 1 OF 12

NO TOUCH ZONE (NTZ)

NOT TOUCH ZONE TO BE PROTECTED IN PLACE. ANY ACCESS TO OR DISTURBANCE WITHIN THE STREAM BED IS STRICTLY PROHIBITED, UNLESS OTHERWISE APPROVED BY THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT.

LIMITS OF GRADING

VEGETATION HARVESTING AREA (TO BE PERFORMED BY OTHERS)

SILT FENCE

COMPOST ROLL (3 ROWS-12" DIAMETER)

STREAM BARB

ROCK RIPRAP REVETMENT

13/-9- EARTHEN DIVERSION H=24", L=130'±

SHALLOW DEPRESSION # 1 14/-10-

EXISTING TRAIL

TCE

25'±

APPROXIMATE LIMITS OF STOCKPILE SITE

WATER BAR (3) ON SLOPE 11/-9-

EARTHEN DIVERSION H=24", L=340'± 13/-9-

SHEET 5

W20

W24

EX. RCWD POST

EXISTING TOE

END PROJECT STA 14+44

EXIST. TRAIL

TOPSOIL STOCKPILE SITE

10' MIN.

PROTECT HORSE CORRAL

NRCS CENTERLINE (FOR REFERENCE)

FLOW

SHEET 4

150+/- (TYP)

EXISTING BENCH

EXISTING TOP OF SLOPE

9/-9- WATER BAR H=18"

SHEET 3

EXISTING TOE

VARIES

R/W

℄ CALLE PINA COLLADA

℄ DEL REY RD

BEGIN PROJECT STA 2+50

REGISTERED PROFESSIONAL ENGINEER SIMON TSE No. 83232 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER CLAUDIO MANUEL PADRES No. 70355 CIVIL STATE OF CALIFORNIA

PLAN

50' 0 50'

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK

Z-13795

NAD 83 2007.00 NAVD 88 Static Diff 1-1/2" IP W/ MAG NAIL & 2" WASHER STMPD "MWD 463000" UP 0.05'

EL. 1258.98

REVISIONS			
1	ADDED TOPSOIL STOCKPILE SITE AND REVISED STOCKPINE LIMITS	ST	05/30/18
2	REVISED IMPACT LIMITS	ST	05/30/18
REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER

DRAWN BY: M. ARMENTA

DATE DRAWN: APR 4, 2018

P8 NUMBER: 219790

RECOMMENDED FOR APPROVAL BY:

DATE: MAR. 28, 2018

APPROVED BY:

DATE: APR. 4, 2018

MEADOWVIEW STREAM RESTORATION STAGE 60

SITE PLAN

PROJECT NO.

DRAWING NO. 7-0456

SHEET NO. 2 OF 12

NO TOUCH ZONES (NTZ)

⚠ NO TOUCH ZONE TO BE PROTECTED IN PLACE. ANY ACCESS TO OR DISTURBANCE WITHIN THE STREAM BED IS STRICTLY PROHIBITED, UNLESS OTHERWISE APPROVED BY THE RIVERSIDE COUNTY FLOOD CONTROL DISTRICT.

LIMITS OF GRADING

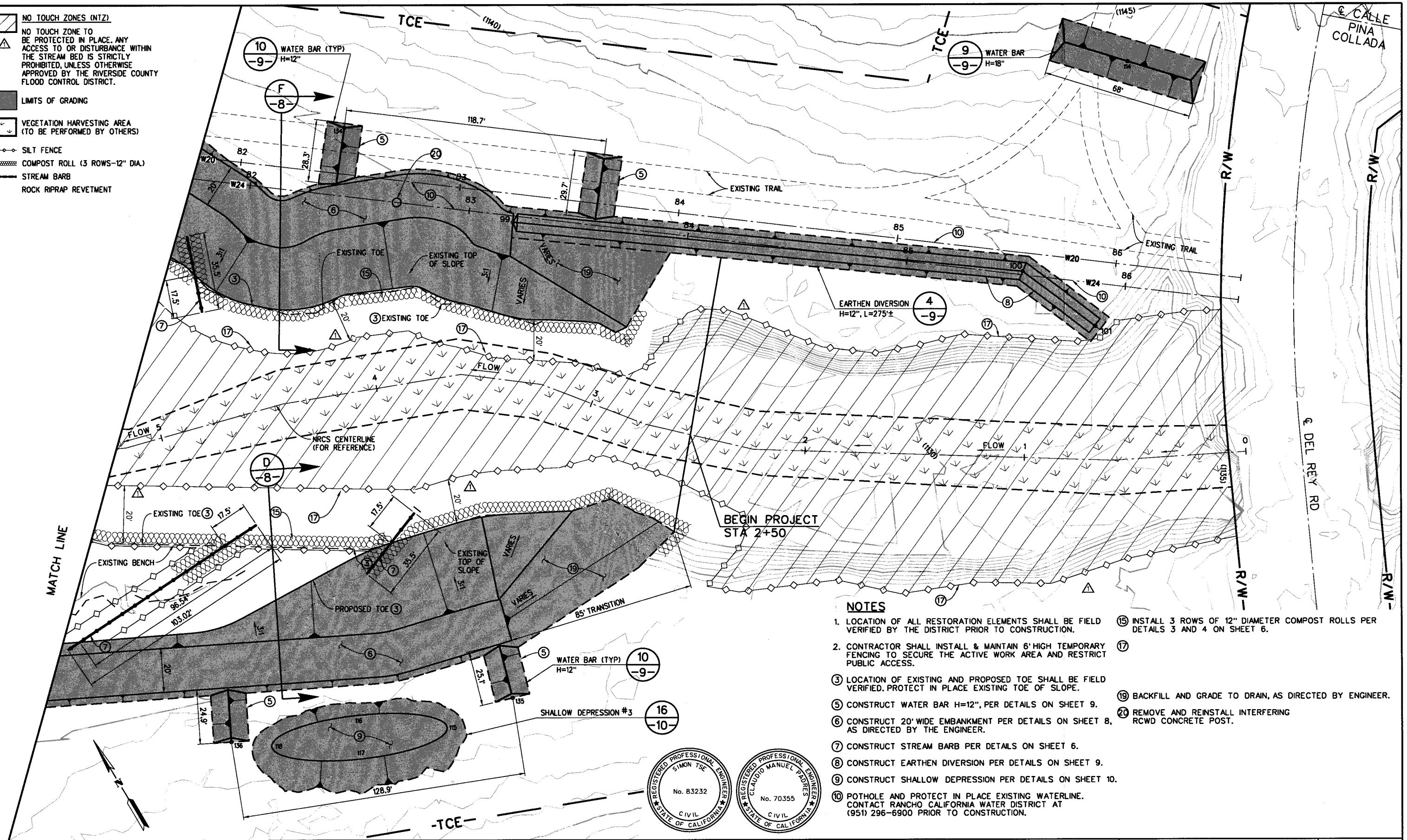
VEGETATION HARVESTING AREA (TO BE PERFORMED BY OTHERS)

SILT FENCE

COMPOST ROLL (3 ROWS-12" DIA.)

STREAM BARB

ROCK RIPRAP REVETMENT



PLAN

20' 0 20'

NOTES

1. LOCATION OF ALL RESTORATION ELEMENTS SHALL BE FIELD VERIFIED BY THE DISTRICT PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL & MAINTAIN 6' HIGH TEMPORARY FENCING TO SECURE THE ACTIVE WORK AREA AND RESTRICT PUBLIC ACCESS.
3. LOCATION OF EXISTING AND PROPOSED TOE SHALL BE FIELD VERIFIED. PROTECT IN PLACE EXISTING TOE OF SLOPE.
5. CONSTRUCT WATER BAR H=12", PER DETAILS ON SHEET 9.
6. CONSTRUCT 20' WIDE EMBANKMENT PER DETAILS ON SHEET 8, AS DIRECTED BY THE ENGINEER.
7. CONSTRUCT STREAM BARB PER DETAILS ON SHEET 6.
8. CONSTRUCT EARTHEN DIVERSION PER DETAILS ON SHEET 9.
9. CONSTRUCT SHALLOW DEPRESSION PER DETAILS ON SHEET 10.
10. POTHOLE AND PROTECT IN PLACE EXISTING WATERLINE. CONTACT RANCHO CALIFORNIA WATER DISTRICT AT (951) 296-6900 PRIOR TO CONSTRUCTION.
15. INSTALL 3 ROWS OF 12" DIAMETER COMPOST ROLLS PER DETAILS 3 AND 4 ON SHEET 6.
17.
19. BACKFILL AND GRADE TO DRAIN, AS DIRECTED BY ENGINEER.
20. REMOVE AND REINSTALL INTERFERING RCWD CONCRETE POST.

REGISTERED PROFESSIONAL ENGINEER SIMON TSE No. 83232 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER CLAUDIO MANUEL PADRES No. 70355 CIVIL STATE OF CALIFORNIA

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
Z-13795
NAD 83 2007.00 NAVD 88 Static Diff 1-1/2" IP W/ MAG NAIL & 2" WASHER STMPD "MWD 463000" UP 0.05'
EL. 1258.98

	REVISIONS		
⚠	REVISED IMPACT LIMITS	ST	05/30/18
REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
PB NUMBER: 219790

RECOMMENDED FOR APPROVAL BY: DATE: MAR. 28, 2018

APPROVED BY: DATE: APR. 4, 2018

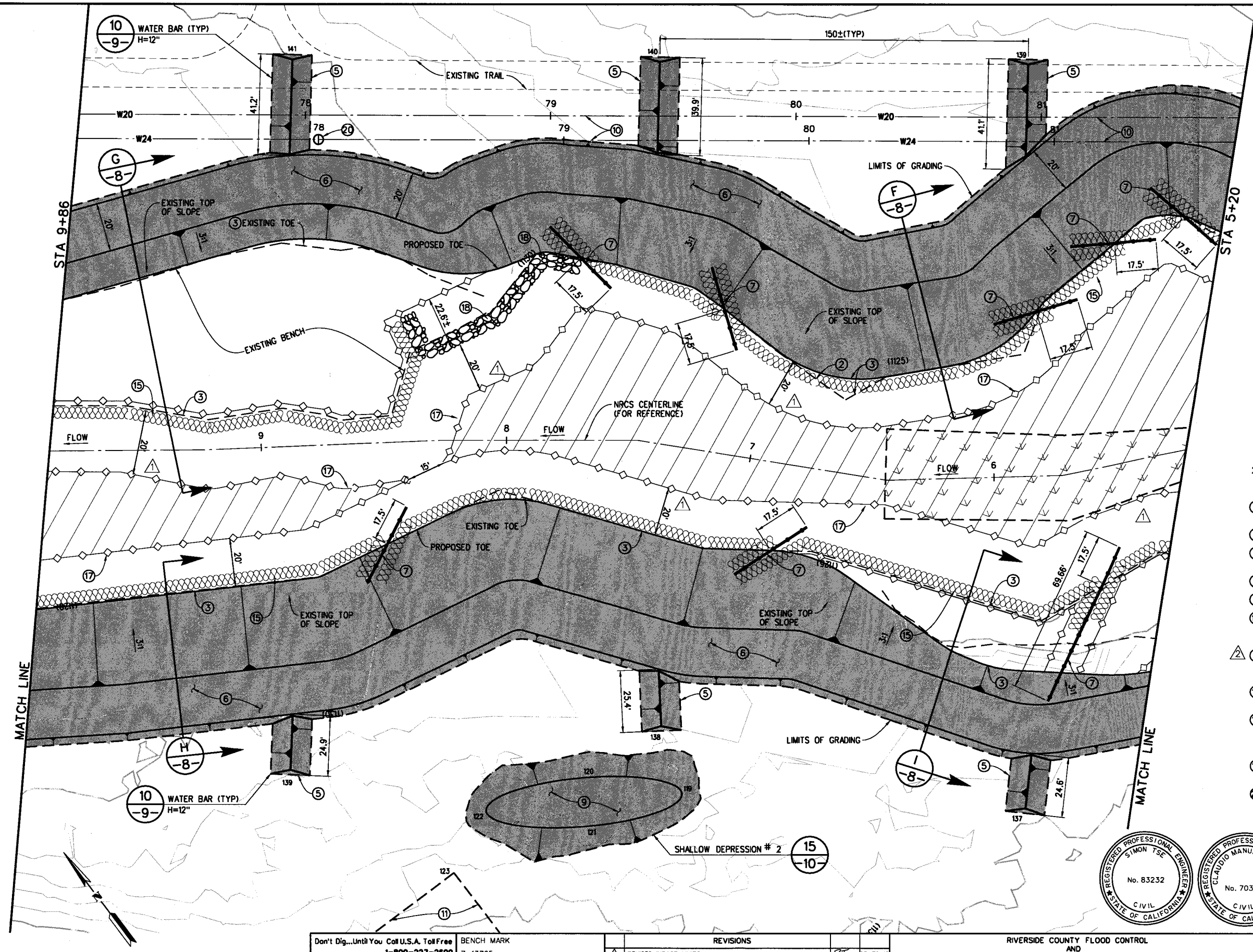
MEADOWVIEW STREAM RESTORATION STAGE 60

STA 2+88 TO STA 5+35

PROJECT NO.

DRAWING NO. 7-0456

SHEET NO. 3 OF 12



NO TOUCH ZOVE (NTZ)

NOT TOUCH ZONE TO BE PROTECTED IN PLACE. ANY ACCESS TO OR DISTURBANCE WITHIN THE STREAM BED IS STRICTLY PROHIBITED, UNLESS OTHERWISE APPROVED BY THE RIVERSIDE COUNTY FLOOD CONTROL DISTRICT.

LIMITS OF GRADING

VEGETATION HARVESTING AREA (TO BE PERFORMED BY OTHERS)

SILT FENCE

COMPOST ROLL (3 ROWS-12" DIA.)

STREAM BARB

ROCK RIPRAP REVETMENT

NOTES

1. LOCATION OF ALL RESTORATION ELEMENTS SHAL BE FIELD VERIFIED BY THE DISTRICT PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL 6' HIGH TEMPORARY FENCING TO SECURE THE ACTIVE WORK AREA AND RESTRICT PUBLIC ACCESS.

(3) LOCATION OF EXISTING AND PROPOSED TOE SHALL BE FIELD VERIFIED. PROTECT IN PLACE EXISTING TOE OF SLOPE.

(5) CONSTRUCT WATER BAR H=12", PER DETAILS ON SHEET 9.

(6) CONSTRUCT 20' WIDE EMBANKMENT PER DETAILS ON SHEET 8, AS DIRECTED BY THE ENGINEER.

(7) CONSTRUCT STREAM BARBS PER DETAILS ON SHEET 6.

(9) CONSTRUCT SHALLOW DEPRESSION PER DETAILS ON SHEET 10.

(10) POTHOLE AND PROTECT IN PLACE EXISTING WATERLINE. CONTACT RANCHO CALIFORNIA WATER DISTRICT AT (951) 296-6900 PRIOR TO CONSTRUCTION.

2 (11) STOCKPILE SURPLUS EXCAVATED MATERIAL AND GRADE TO BLEND WITH NATURAL CONTOURS AS DIRECTED BY ENGINEER. LIMITS TO BE ADJUSTED BY ENGINEER AS NEEDED.

(15) INSTALL 3 ROWS OF 12" DIAMETER COMPOST ROLLS PER DETAILS 3 AND 4 ON SHEET 6.

(17) INSTALL STANDARD SILT FENCE PER CASQA BMP HANDBOOK STANDARD SE-1 PRIOR TO CONSTRUCTION. MAINTAIN AND REPLACE SILT FENCE AS NECESSARY THROUGHOUT CONSTRUCTION. REMOVE AND DISPOSE UPON COMPLETION.

(18) CONSTRUCT ROCK RIPRAP REVETMENT PER DETAILS ON SHEET 8.

(20) REMOVE, SALVAGE AND REINSTALL INTERFERING RCWD CONCRETE POST.

REGISTERED PROFESSIONAL ENGINEER SIMON TSE No. 83232 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER CLAUDIO MANUEL PADRES No. 70355 CIVIL STATE OF CALIFORNIA

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
Z-13795
NAD 83 2007.00 NAVD 88 Static Diff
1-1/2" IP
W/ MAG NAIL &
2" WASHER STMPD "MWD
463000" UP 0.05'
EL. 1258.98

REF.	REVISIONS	APPR.	DATE
1	REVISED IMPACT LIMITS	ST	05/30/18
2	REVISED CONSTRUCTION NOTE 11.	ST	05/30/18

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
PB NUMBER: 219790

RECOMMENDED FOR APPROVAL BY:
DATE: MAR. 28, 2018

APPROVED BY:
DATE: APR. 4, 2018

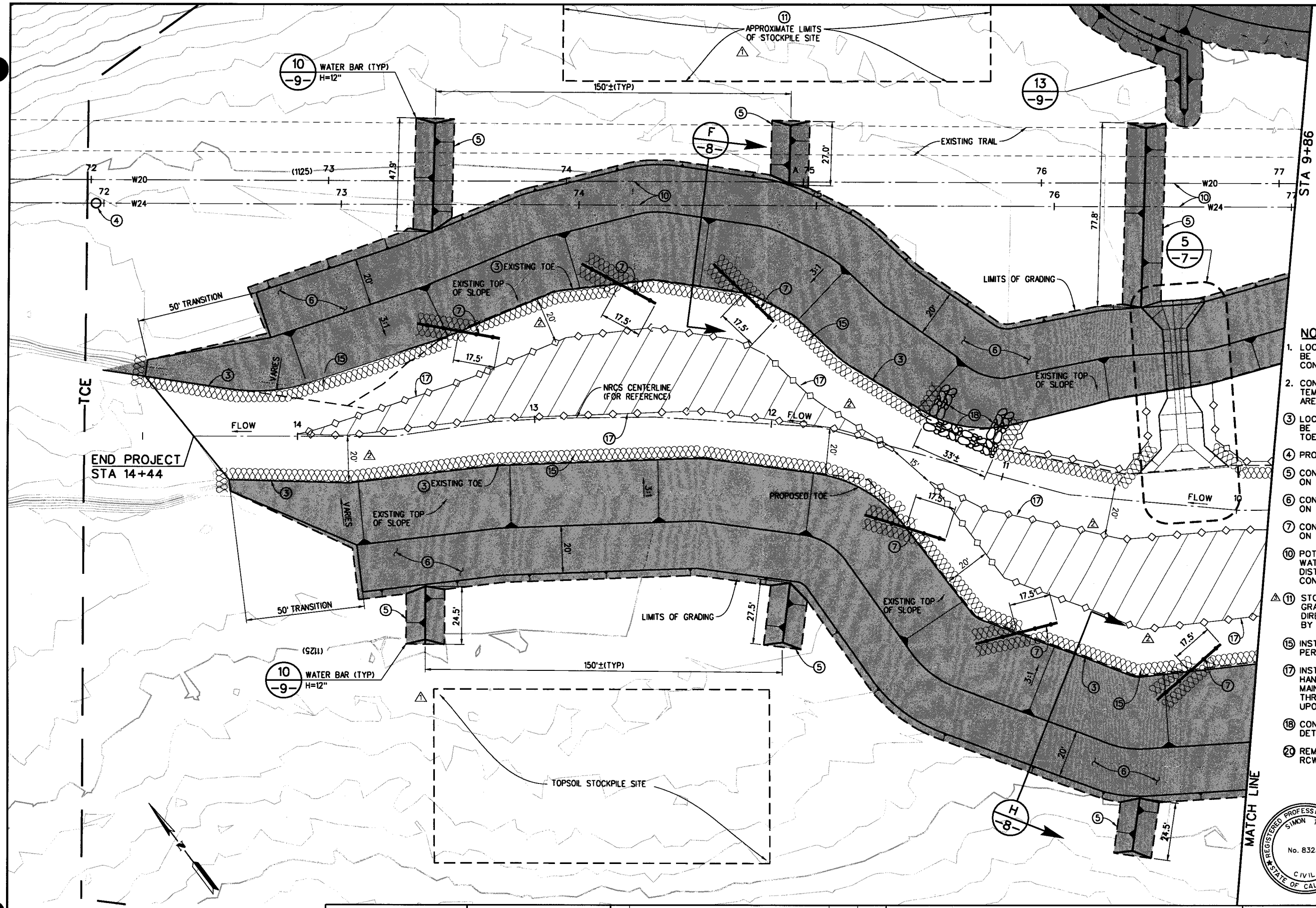
MEADOWVIEW STREAM RESTORATION STAGE 60

STA 5+35 TO STA 9+86

PROJECT NO.

DRAWING NO. 7-0456

SHEET NO. 4 OF 12



NOTES

1. LOCATION OF ALL RESTORATION ELEMENTS SHALL BE FIELD VERIFIED BY THE DISTRICT PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL & MAINTAIN 6' HIGH TEMPORARY FENCING TO SECURE THE ACTIVE WORK AREA AND RESTRICT PUBLIC ACCESS.

(3) LOCATION OF EXISTING AND PROPOSED TOE SHALL BE FIELD VERIFIED. PROTECT IN PLACE EXISTING TOE OF SLOPE.

(4) PROTECT IN PLACE.

(5) CONSTRUCT WATER BAR H=12",PER DETAILS ON SHEET 9.

(6) CONSTRUCT 20' WIDE EMBANKMENT PER DETAILS ON SHEET 8, AS DIRECTED BY THE ENGINEER.

(7) CONSTRUCT STREAM BARBS PER DETAILS ON SHEET 6.

(10) POTHOLE AND PROTECT IN PLACE EXISTING WATERLINE. CONTACT RANCHO CALIFORNIA WATER DISTRICT AT (951) 296-6900 PRIOR TO CONSTRUCTION.

⚠2 (11) STOCKPILE SURPLUS EXCAVATED MATERIAL AND GRADE TO BLEND WITH NATURAL CONTOURS AS DIRECTED BY ENGINEER. LIMITS TO BE ADJUSTED BY ENGINEER AS NEEDED.

(15) INSTALL 3 ROWS OF 12" DIAMETER COMPOST ROLLS PER DETAILS 3 AND 4 ON SHEET 6.

(17) INSTALL STANDARD SILT FENCE PER CASQA BMP HANDBOOK STANDARD SE-1 PRIOR TO CONSTRUCTION. MAINTAIN AND REPLACE SILT FENCE AS NECESSARY THROUGHOUT CONSTRUCTION. REMOVE AND DISPOSE UPON COMPLETION.

(18) CONSTRUCT ROCK RIPRAP REVETMENT PER DETAILS ON SHEET 8.

(20) REMOVE, SALVAGE AND REINSTALL INTERFERING RCWD CONCRETE POST.

REGISTERED PROFESSIONAL ENGINEER — SIMON TSE — No. 83232 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
Z-13795
NAD 83 2007.00 NAVD 88 Static Diff
1-1/2" IP
W/ MAG NAIL &
2" WASHER STMPD "MWD
463000" UP 0.05'
EL. 1258.98

REF.	DESCRIPTION	APPR.	DATE
⚠1	ADDED TOPSOIL STOCKPILE SITE AND REVISED STOCKPILE LIMITS	ST	05/30/18
⚠2	REVISED IMPACT LIMITS	ST	05/30/18
⚠3	REVISED CONSTRUCTION NOTE 11	ST	05/30/18

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
PB NUMBER: 219790

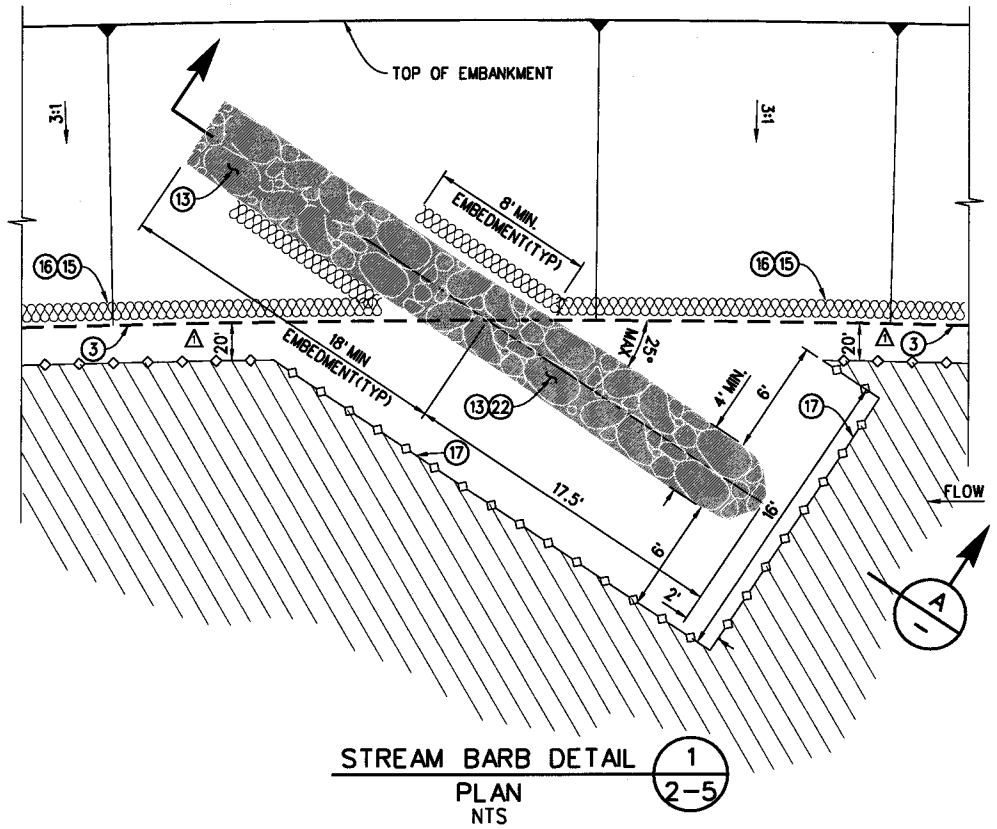
RECOMMENDED FOR APPROVAL BY: DATE: MAR. 28, 2018

APPROVED BY: DATE: APR. 4, 2018

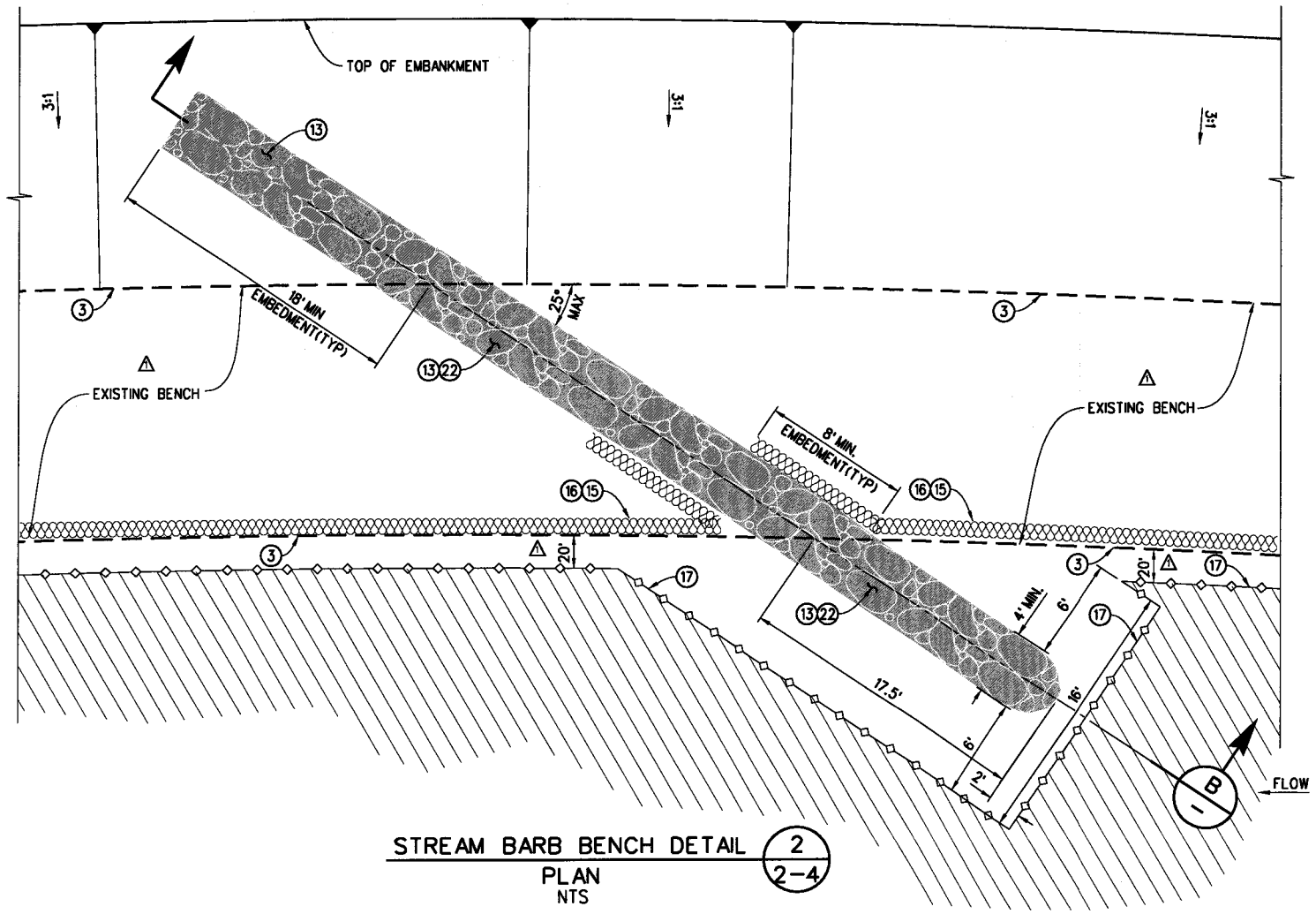
MEADOWVIEW STREAM RESTORATION STAGE 60

STA 9+86 TO STA 14+44

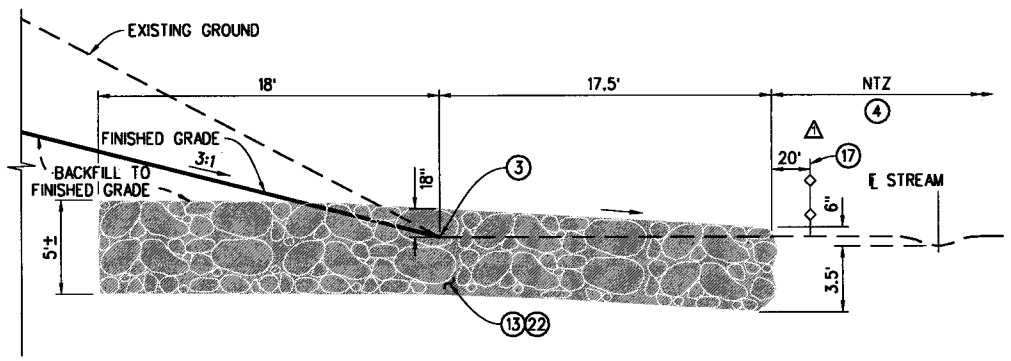
PROJECT NO.
DRAWING NO. 7-0456
SHEET NO. 5 OF 12



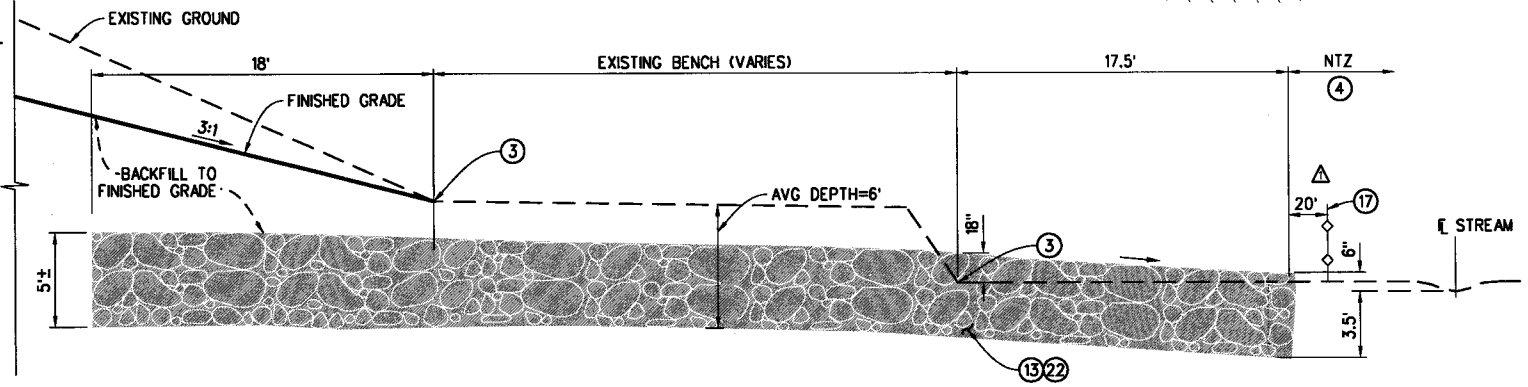
STREAM BARB DETAIL 1
PLAN
NTS 2-5



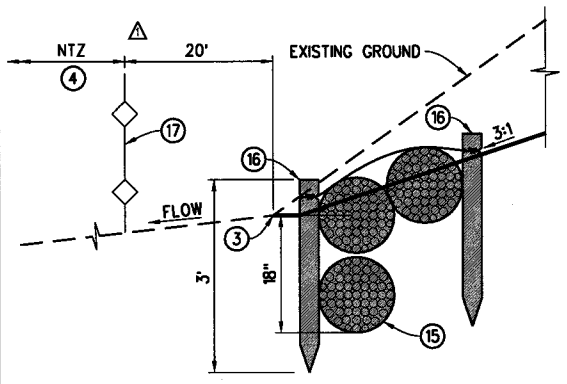
STREAM BARB BENCH DETAIL 2
PLAN
NTS 2-4



STREAM BARB TYPICAL SECTION A
NTS —

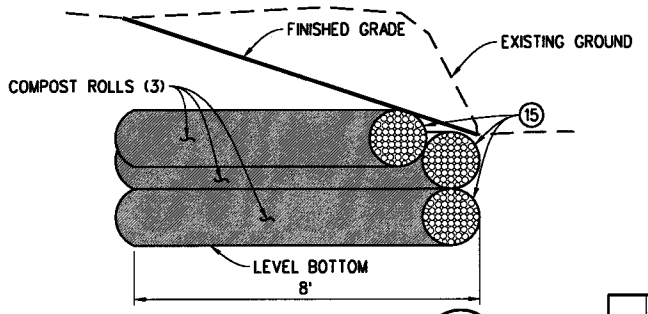


STREAM BARB BENCH TYPICAL SECTION B
NTS —



x COMPOST ROLLS SHALL BE TERMINATED BY EMBEDDING A MINIMUM OF 8' INTO THE SLOPE PER DETAIL # ON SHEET 8.

COMPOST ROLL DETAIL 3
NTS —



COMPOST ROLL TERMINATION DETAIL 4
NTS —

COMPOST ROLL

ROCK SLOPE PROTECTION 375 lb. CLASS

NO TOUCH ZONE (NTZ)

△ NO TOUCH ZONE TO BE PROTECTED IN PLACE. ANY ACCESS TO OR DISTURBANCE WITHIN THE STREAM BED IS STRICTLY PROHIBITED, UNLESS OTHERWISE APPROVED BY THE RIVERSIDE COUNTY FLOOD CONTROL DISTRICT.

NOTES

1. LOCATION OF ALL RESTORATION ELEMENTS SHALL BE FIELD VERIFIED BY THE DISTRICT PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL 6' HIGH TEMPORARY FENCING TO SECURE THE ACTIVE WORK AREA AND RESTRICT PUBLIC ACCESS.

(3) LOCATION OF EXISTING AND PROPOSED TOE SHALL BE FIELD VERIFIED. PROTECT IN PLACE EXISTING TOE OF SLOPE.

(4) PROTECT IN PLACE

(13) PLACE ROCK SLOPE PROTECTION, 375-LB CLASS.

(15) INSTALL 3 ROWS OF 12" DIAMETER COMPOST ROLLS PER DETAILS 3 AND 4 HEREON.

(16) INSTALL PAIRS OF 3' LONG WIRE-TIED, WEDGE-SHARPENED WOODEN STAKES AT 6' O.C. TO FIRMLY SECURE COMPOST ROLLS.

(17)

(22) FILL WITH NATIVE SOIL WITHIN ROCK VOIDS UPON COMPLETED CONSTRUCTION OF STREAM BARBS.

REGISTERED PROFESSIONAL ENGINEER — SIMON TSE — No. 83232 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

REVISIONS			
△	REVISED IMPACT LIMITS	ST	05/30/18
REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
PB NUMBER: 219790

RECOMMENDED FOR APPROVAL BY:
DATE: MAR. 28, 2018

APPROVED BY:
DATE: APR. 4, 2018

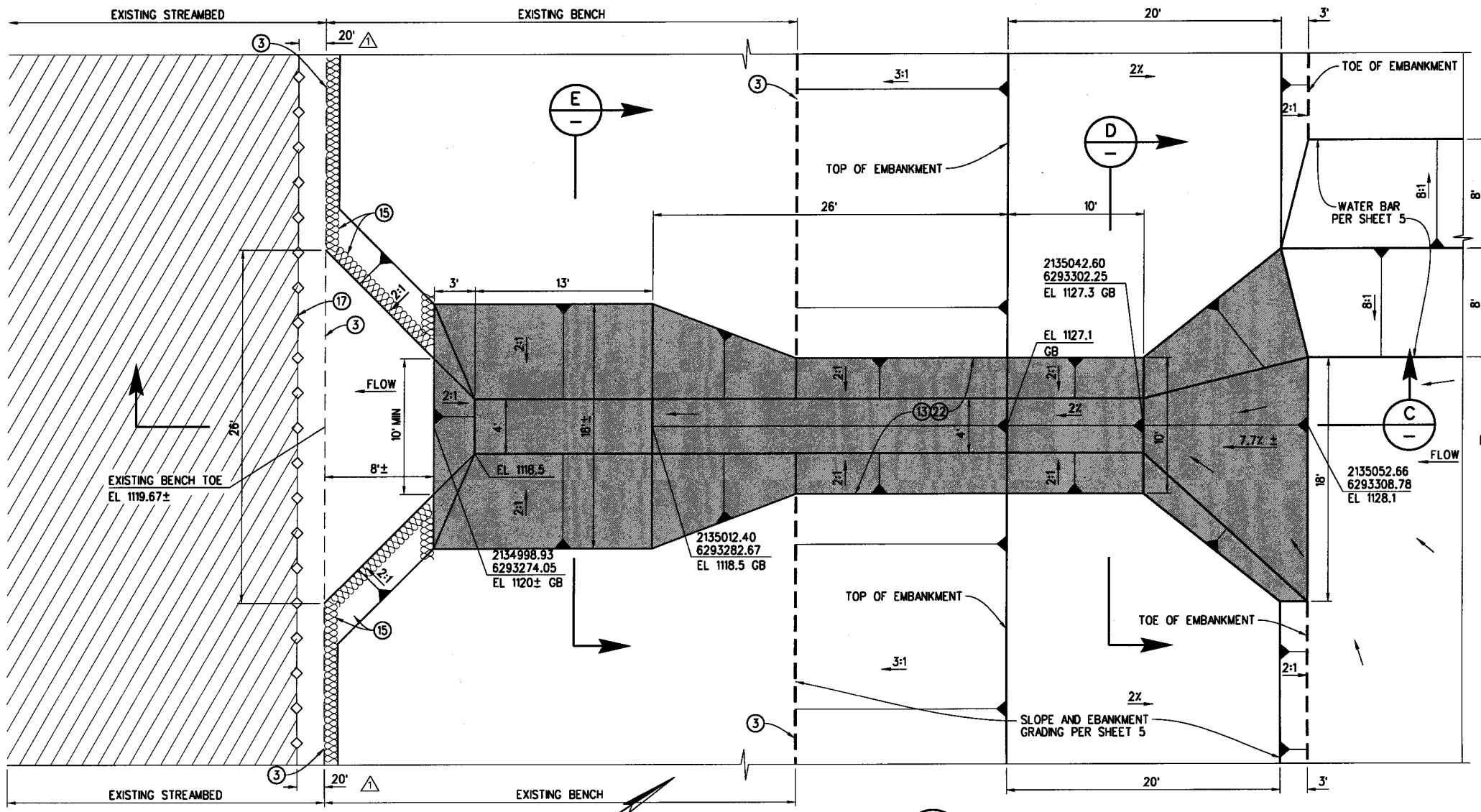
MEADOWVIEW STREAM RESTORATION STAGE 60

STREAM BARB SECTIONS AND DETAILS

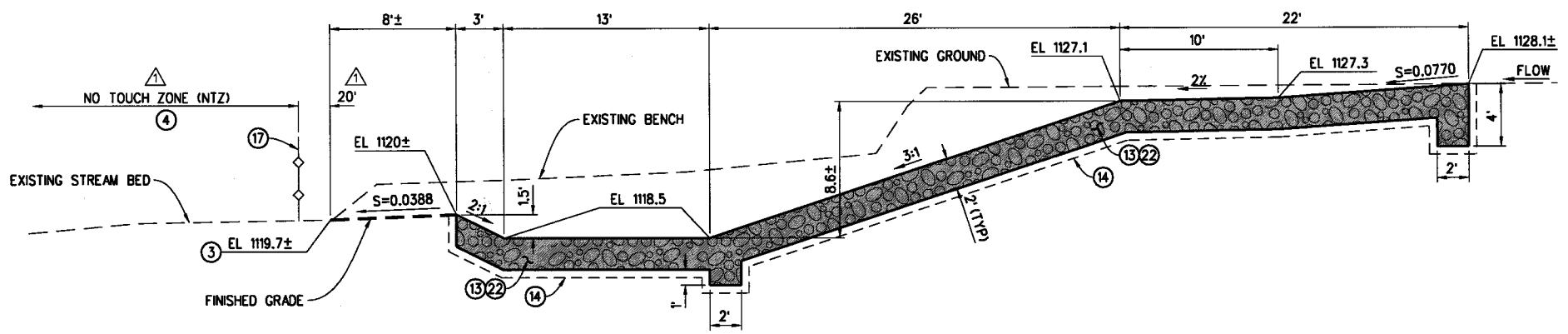
PROJECT NO.

DRAWING NO. 7-0456

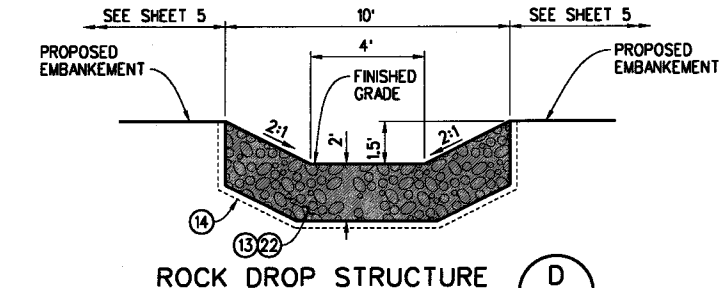
SHEET NO. 6 OF 12



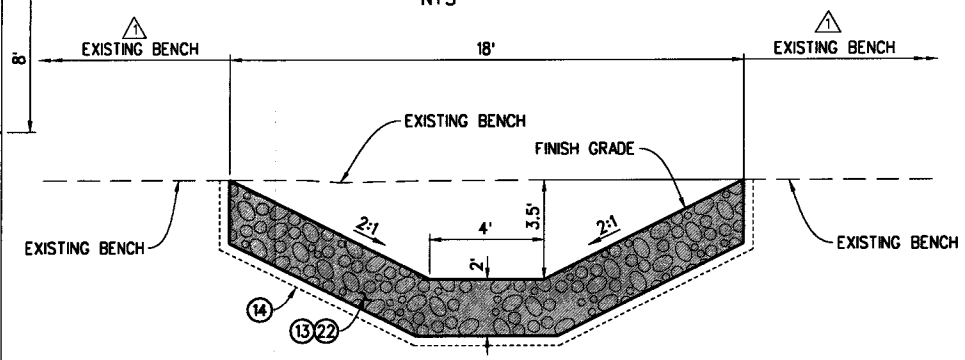
ROCK DROP STRUCTURE (5 / -5-)
PLAN
NTS



ROCK DROP PROFILE (C / -)
TYPICAL SECTION
NTS



ROCK DROP STRUCTURE (D / -)
TYPICAL SECTION
NTS



ROCK DROP STRUCTURE (WITH BENCH) (E / -)
TYPICAL SECTION
NTS

⚠ NO TOUCH ZONE (NTZ)
NO TOUCH ZONE TO BE PROTECTED IN PLACE. ANY ACCESS TO OR DISTURBANCE WITHIN THE STREAM BED SHALL BE STRICTLY PROHIBITED,, UNLESS OTHERWISE APPROVED BY THE RIVERSIDE COUNTY FLOOD CONTROL DISTRICT.

(13)(22) ROCK DROP STRUCTURE

NOTES:

1. LOCATION OF ALL RESTORATION ELEMENTS SHALL BE FIELD VERIFIED BY THE DISTRICT PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL 6' HIGH TEMPORARY FENCING TO SECURE THE ACTIVE WORK AREA AND RESTRICT PUBLIC ACCESS.

(3) LOCATION OF EXISTING AND PROPOSED TOE SHALL BE FIELD VERIFIED. PROTECT IN PLACE EXISTING TOE OF SLOPE.

(4) PROTECT IN PLACE.

(13) PLACE ROCK SLOPE PROTECTION, 375-LB CLASS.

(14) INSTALL ROCK SLOPE PROTECTION FABRIC, MIRAFI 1100N OR EQUIVALENT.

(15) INSTALL 3 ROWS OF 12" DIAMETER COMPOST ROLLS PER DETAILS 3 AND 4 ON SHEET 6.

(17) INSTALL STANDARD SILT FENCE PER CASQA BMP HANDBOOK STANDARD SE-1 PRIOR TO CONSTRUCTION. MAINTAIN AND REPLACE SILT FENCE AS NECESSARY THROUGHOUT CONSTRUCTION. REMOVE AND DISPOSE UPON COMPLETION.

(22) FILL WITH NATIVE SOIL WITHIN ROCK VOIDS UPON COMPLETED CONSTRUCTION OF STREAM BARBS.

REGISTERED PROFESSIONAL ENGINEER — SIMON TSE — No. 83232 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
Z-13795
NAD 83 2007.00 NAVD 88 Static Diff
1-1/2" IP
W/ MAG NAIL &
2" WASHER STMPD "MWD
463000" UP 0.05'
EL. 1258.98

REF.	REVISIONS	APPR.	DATE
⚠	REVISED IMPACT LIMITS	ST	05/30/18

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
PB NUMBER: 219790

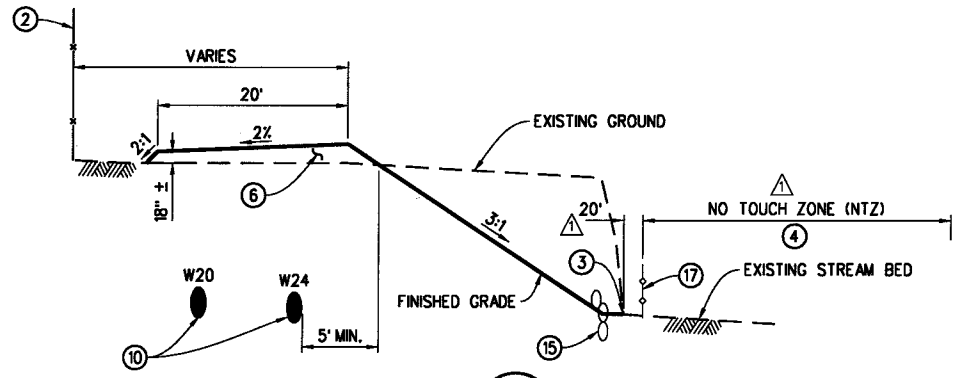
RECOMMENDED FOR APPROVAL BY: DATE: MAR. 28, 2018

APPROVED BY: DATE: APR. 4, 2018

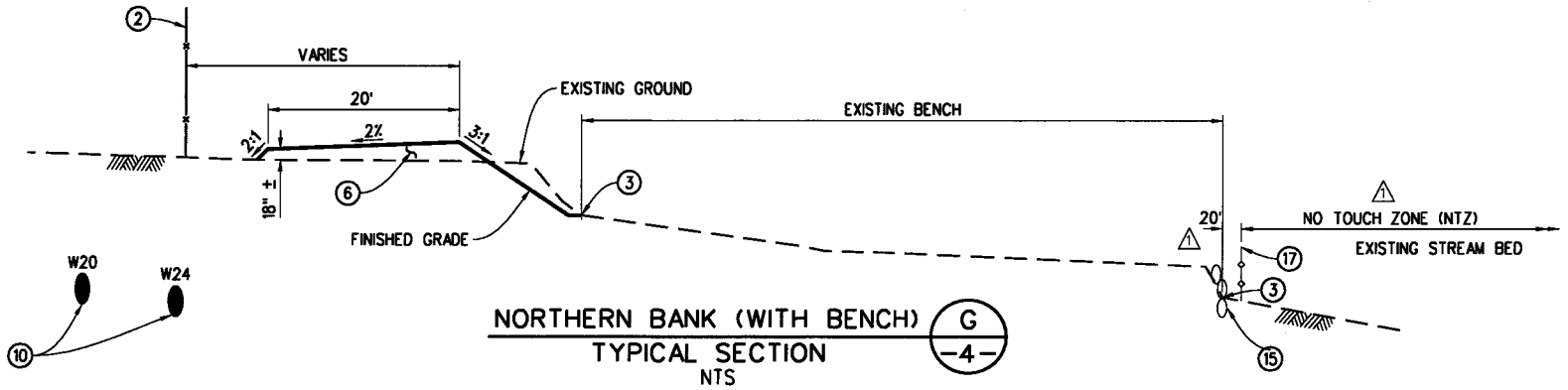
MEADOWVIEW STREAM RESTORATION STAGE 60

ROCK DROP STRUCTURE DETAILS

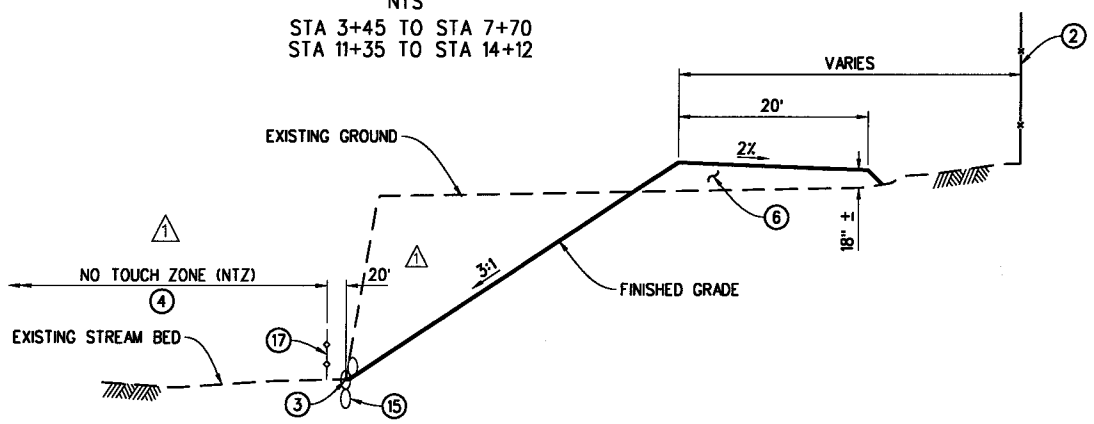
PROJECT NO.
DRAWING NO. 7-0456
SHEET NO. 7 OF 12



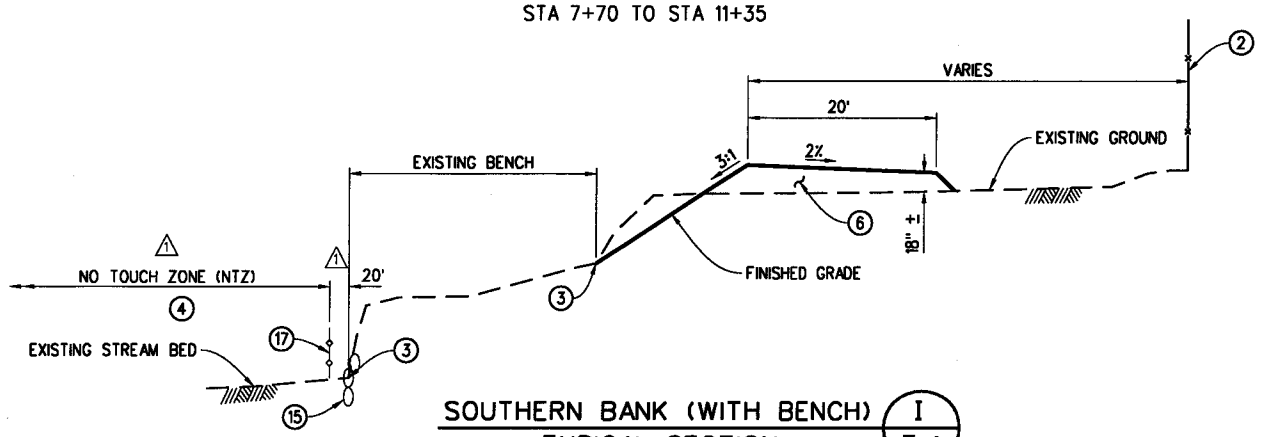
NORTHERN BANK (F) / 3-5
TYPICAL SECTION
NTS
STA 3+45 TO STA 7+70
STA 11+35 TO STA 14+12



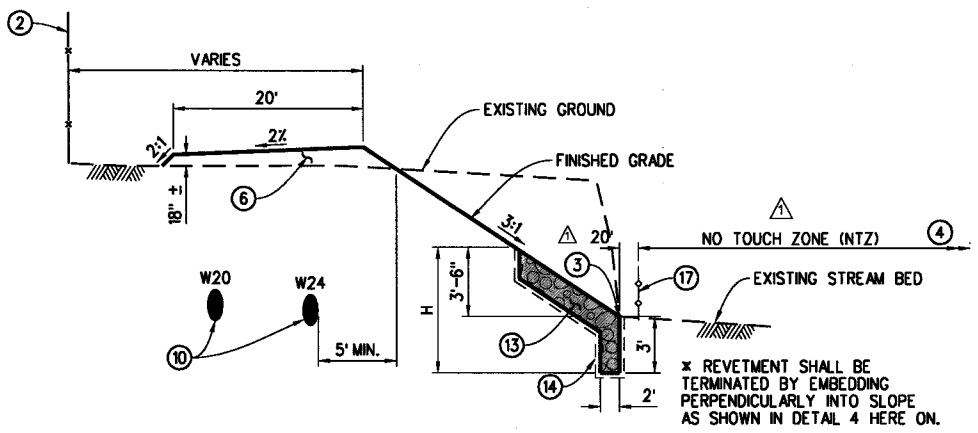
NORTHERN BANK (WITH BENCH) (G) / -4-
TYPICAL SECTION
NTS
STA 7+70 TO STA 11+35



SOUTHERN BANK (H) / 4,5
TYPICAL SECTION
NTS
STA 3+32 TO STA 4+15
STA 6+70 TO STA 13+75

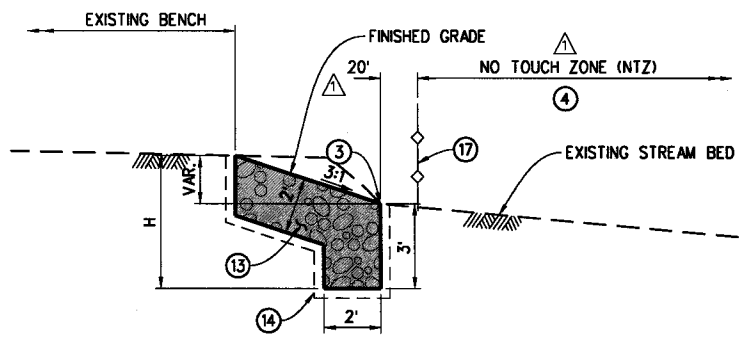


SOUTHERN BANK (WITH BENCH) (I) / 3,4
TYPICAL SECTION
NTS
STA 4+15 TO STA 6+70

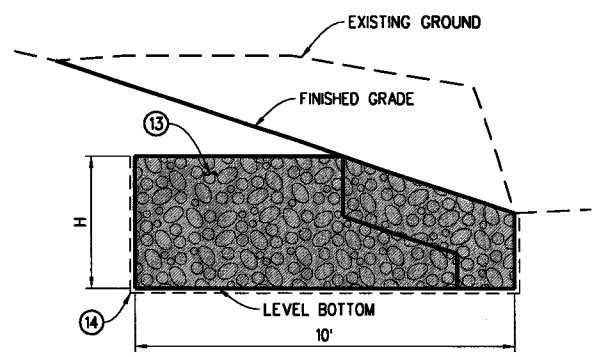


* REVETMENT SHALL BE TERMINATED BY EMBEDDING PERPENDICULARLY INTO SLOPE AS SHOWN IN DETAIL 4 HERE ON.

ROCK RIPRAP REVETMENT (6) / -
TYPICAL SECTION
NTS



ROCK RIPRAP REVETMENT (BENCH) (7) / -
TYPICAL SECTION
NTS



RIP-RAP REVETMENT (8) / -
TERMINATION DETAIL
NTS

NOTES:

1. LOCATION OF ALL RESTORATION ELEMENTS SHAL BE FIELD VERIFIED BY THE DISTRICT PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL 6' HIGH TEMPORARY FENCING TO SECURE THE ACTIVE WORK AREA AND RESTRICT PUBLIC ACCESS.
3. LOCATION OF EXISTING AND PROPOSED TOE SHALL BE FIELD VERIFIED. PROTECT IN PLACE EXISTING TOE OF SLOPE.
4. PROTECT IN PLACE.
6. CONSTRUCT 20' WIDE EMBANKMENT PER DETAILS ON SHEET 8, AS DIRECTED BY THE ENGINEER.
10. POTHOLE AND PROTECT IN PLACE EXISTING WATERLINE. CONTACT RANCHO CALIFORNIA WATER DISTRICT AT (951) 296-6900 PRIOR TO CONSTRUCTION.
13. PLACE ROCK SLOPE PROTECTION, 375-LB CLASS.
14. INSTALL ROCK SLOPE PROTECTION FABRIC, MIRAFI1100N OR EQUIVALENT.
15. INSTALL 3 ROWS OF 12" DIAMETER COMPOST ROLLS PER DETAILS 3 AND 4 ON SHEET 6.
17. INSTALL STANDARD SILT FENCE PER CASQA BMP HANDBOOK STANDARD SE-1 PRIOR TO CONSTRUCTION. MAINTAIN AND REPLACE SILT FENCE AS NECESSARY THROUGHOUT CONSTRUCTION. REMOVE AND DISPOSE UPON COMPLETION.

REGISTERED PROFESSIONAL ENGINEER — SIMON TSE — No. 83232 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

REVISIONS			
⚠	REVISED IMPACT LIMITS	ST	05/30/18
REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
PB NUMBER: 219790

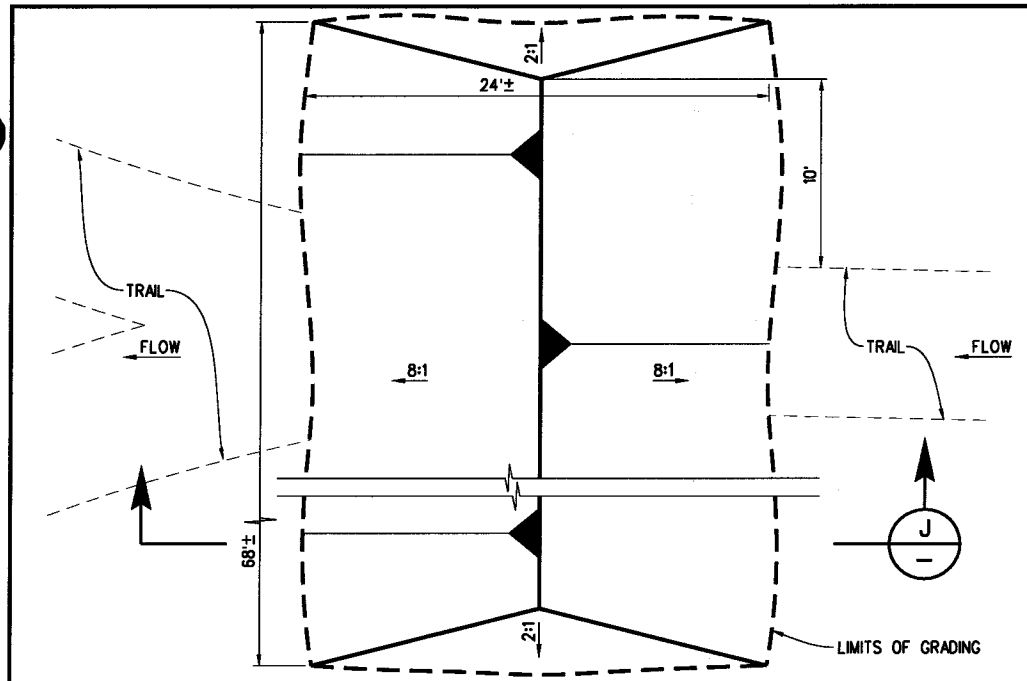
RECOMMENDED FOR APPROVAL BY:
DATE: MAR. 28, 2018

APPROVED BY:
DATE: APR. 4, 2018

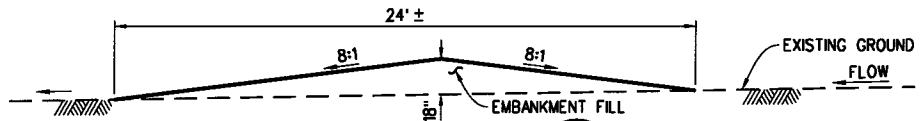
MEADOWVIEW STREAM RESTORATION STAGE 60

GRADING SECTIONS

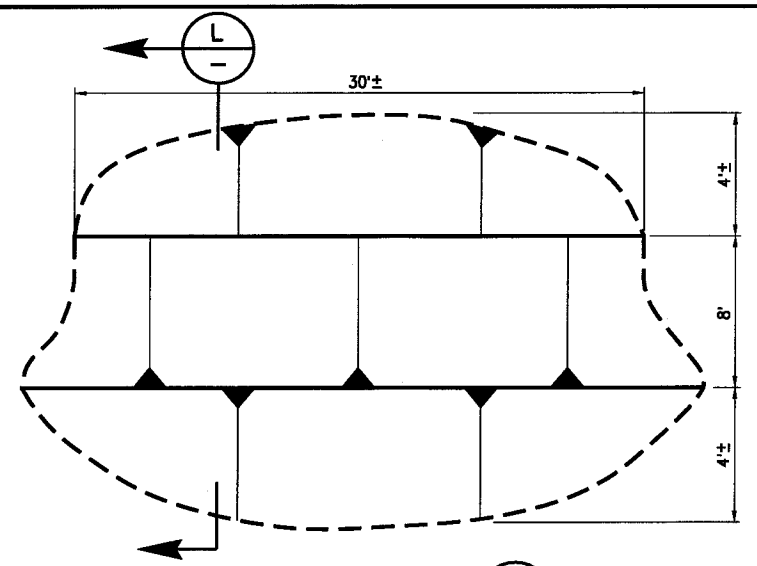
PROJECT NO.
DRAWING NO. 7-0456
SHEET NO. 8 OF 12



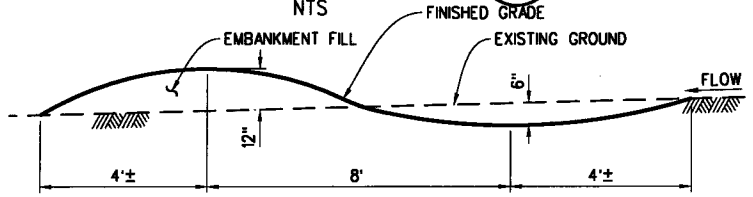
WATER BAR H=18" (9/-3-)
PLAN
NTS



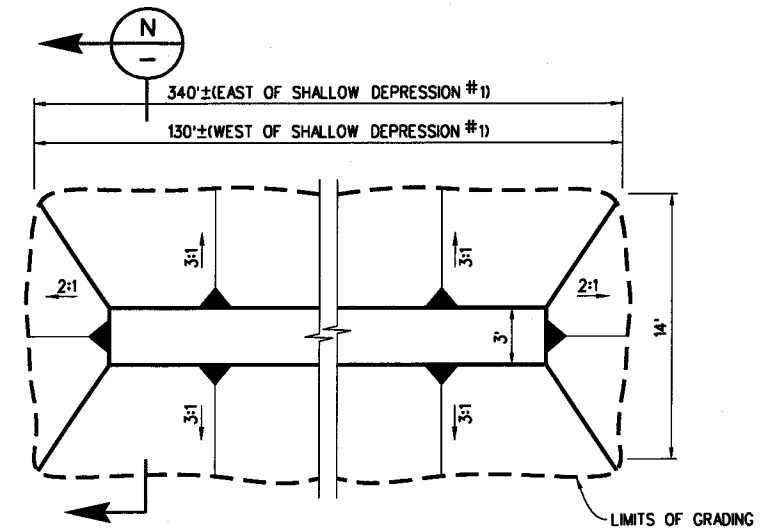
WATER BAR H=18" (J/-)
TYPICAL SECTION
NTS



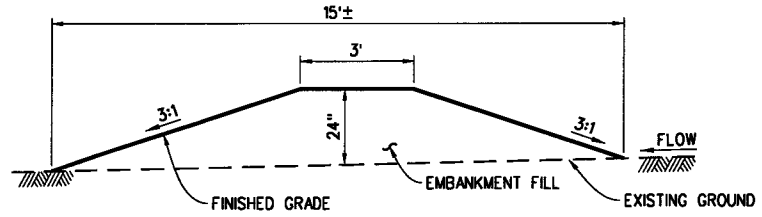
WATER BAR (ON SLOPE) (11/-2-)
PLAN
NTS



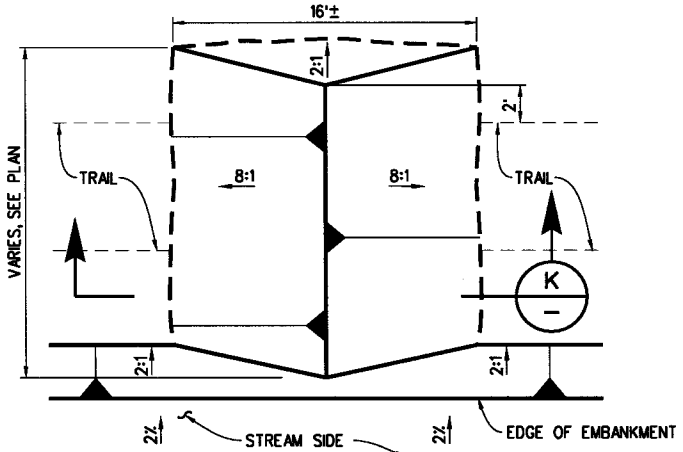
WATER BAR (ON SLOPE) (L/-)
TYPICAL SECTION
NTS



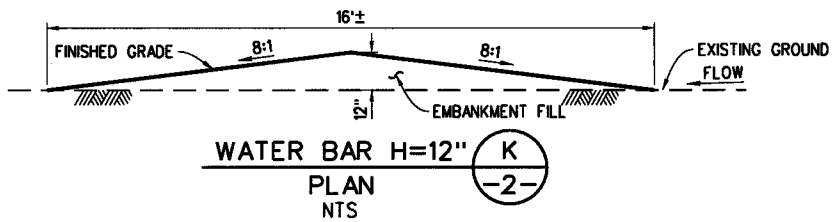
EARTHEN DIVERSION H=24" (13/-5-)
PLAN
NTS



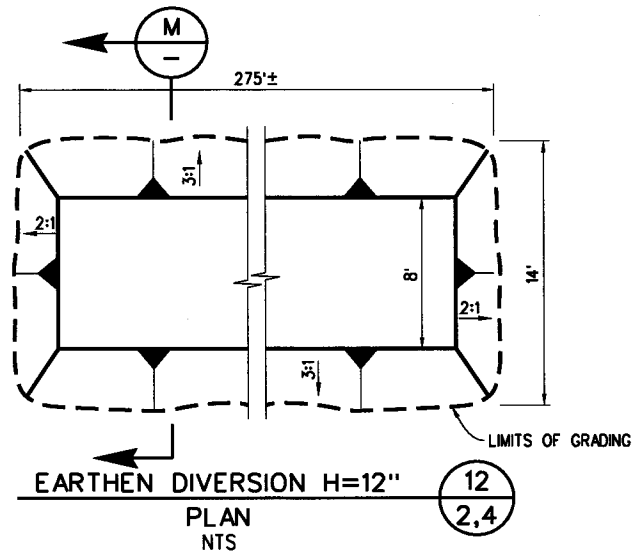
EARTHEN DIVERSION H=24" (N/-)
SECTION
NTS



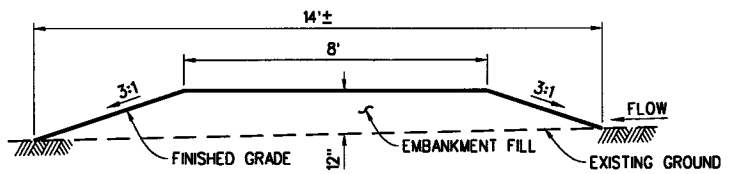
WATER BAR H=12" (10/2-5)
PLAN
NTS



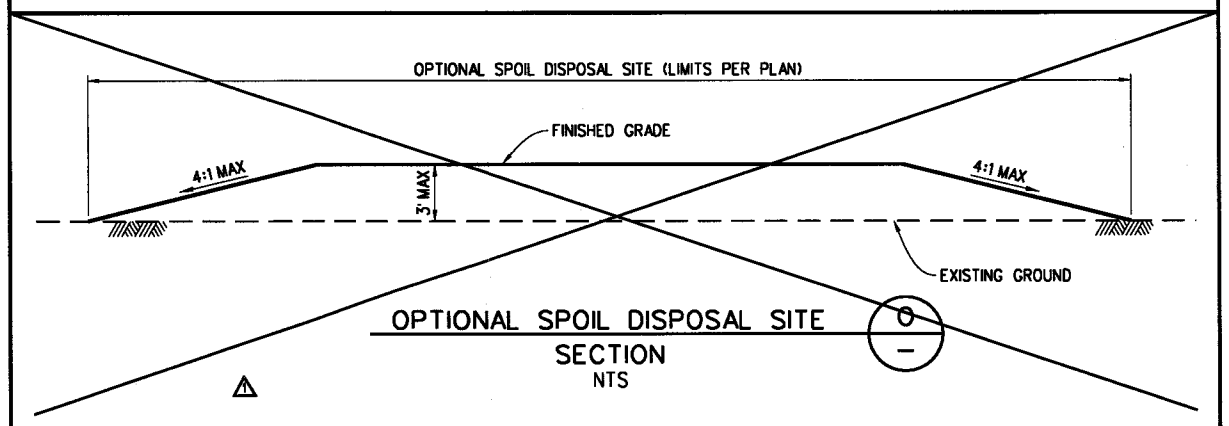
WATER BAR H=12" (K/-2-)
PLAN
NTS



EARTHEN DIVERSION H=12" (12/2,4)
PLAN
NTS



EARTHEN DIVERSION H=12" (M/-)
TYPICAL SECTION
NTS



OPTIONAL SPOIL DISPOSAL SITE (O/-)
SECTION
NTS

⚠

NOTES

1. LOCATION OF ALL RESTORATION ELEMENTS SHALL BE FIELD VERIFIED BY THE DISTRICT PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL 6' HIGH TEMPORARY FENCING TO SECURE THE ACTIVE WORK AREA AND RESTRICT PUBLIC ACCESS.

REGISTERED PROFESSIONAL ENGINEER — SIMON TSE — No. 83232 — CIVIL — STATE OF CALIFORNIA

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BENCH MARK
Z-13795
NAD 83 2007.00 NAVD 88 Static Diff 1-1/2" IP W/ MAG NAIL & 2" WASHER STMPD "MWD 463000" UP 0.05'
EL. 1258.98

REVISIONS			
⚠ DELETED SECTION "O"		ST	05/30/18
REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
PB NUMBER: 219790

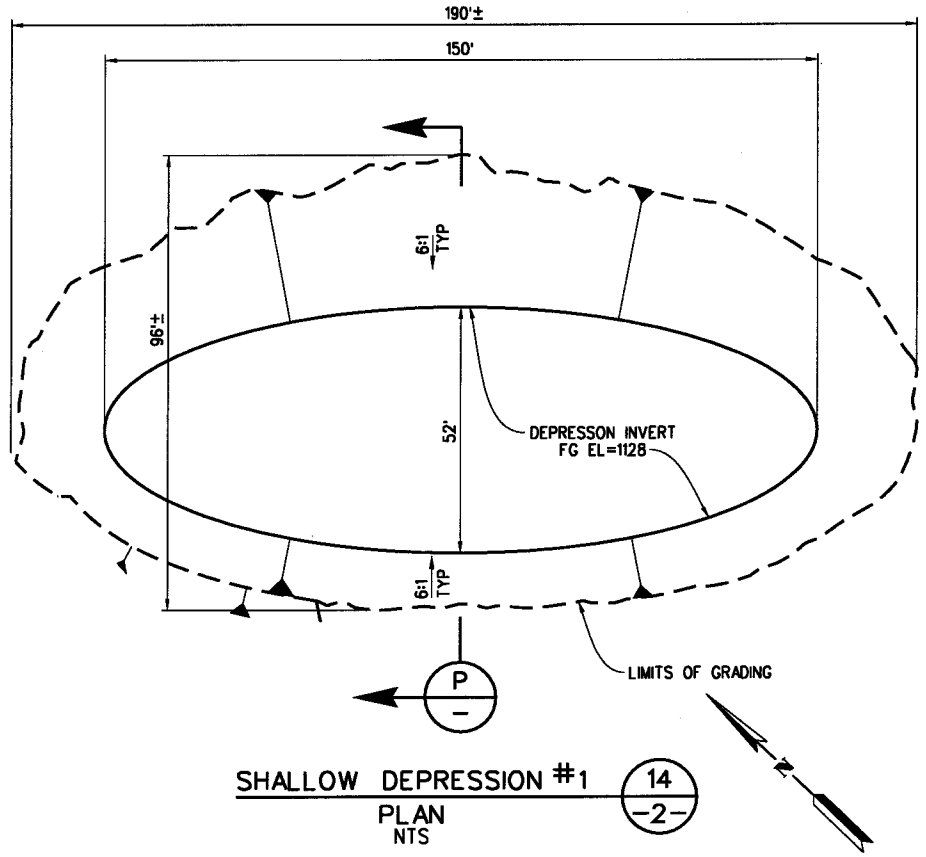
RECOMMENDED FOR APPROVAL BY:
DATE: MAR. 28, 2018

APPROVED BY:
DATE: APR. 4, 2018

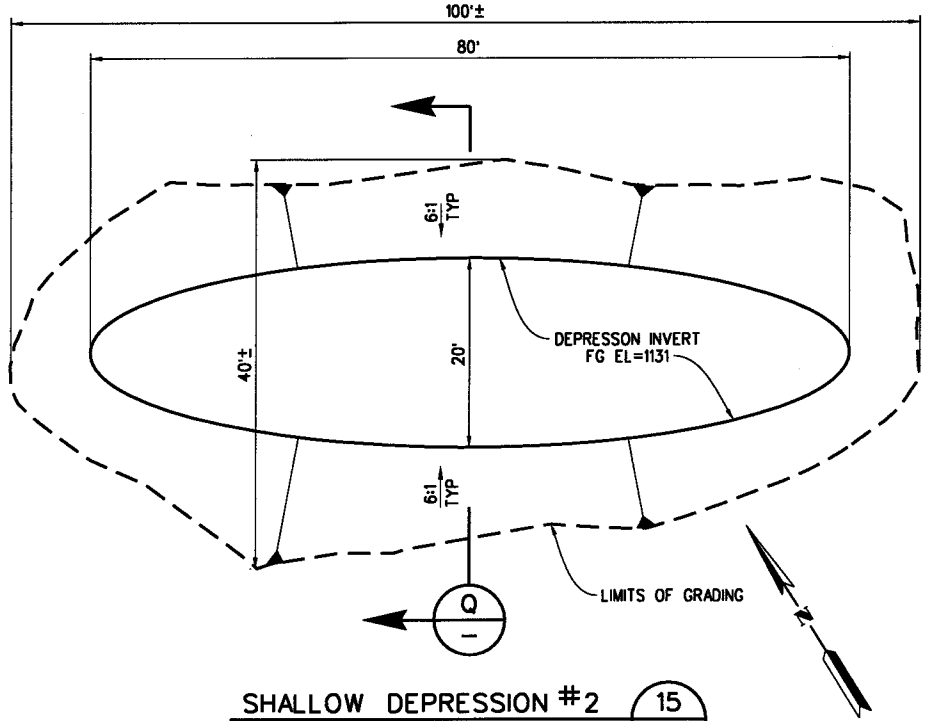
MEADOWVIEW STREAM RESTORATION STAGE 60

EMBANKMENT SECTIONS AND DETAILS

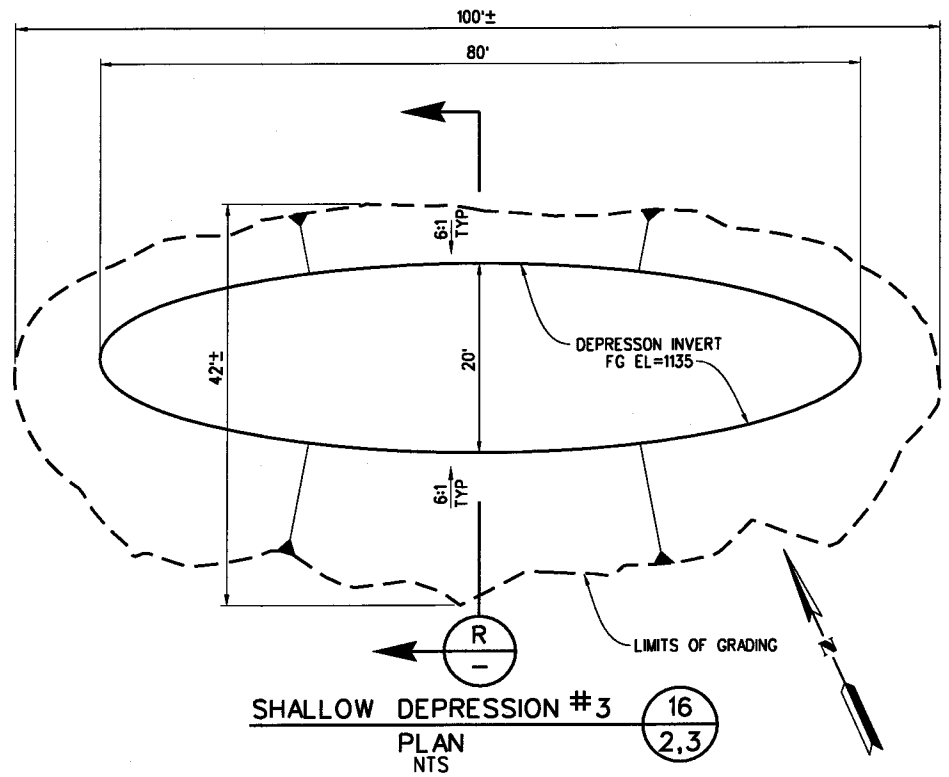
PROJECT NO.
DRAWING NO. 7-0456
SHEET NO. 9 OF 12



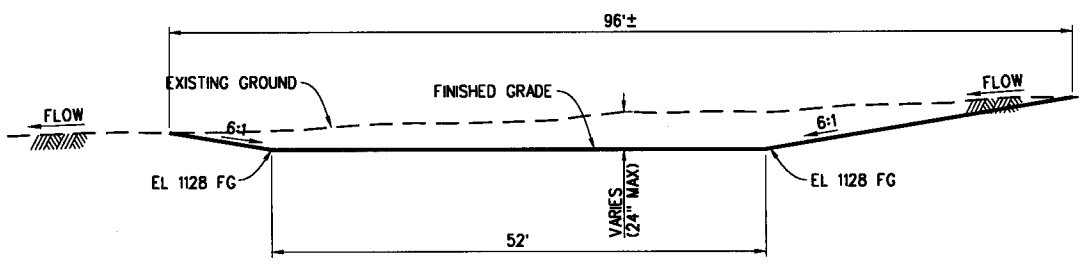
SHALLOW DEPRESSION #1 — 14 / -2-
PLAN
NTS



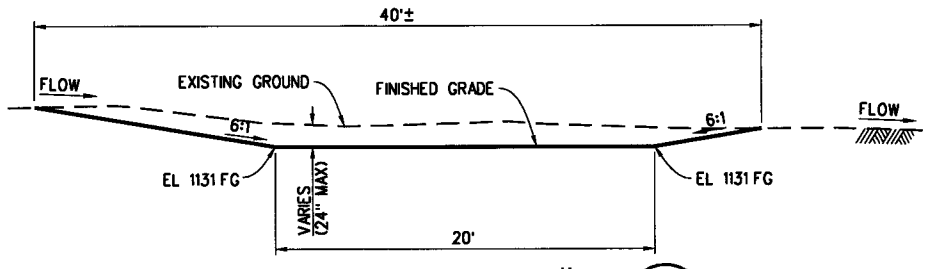
SHALLOW DEPRESSION #2 — 15 / 2,4
PLAN
NTS



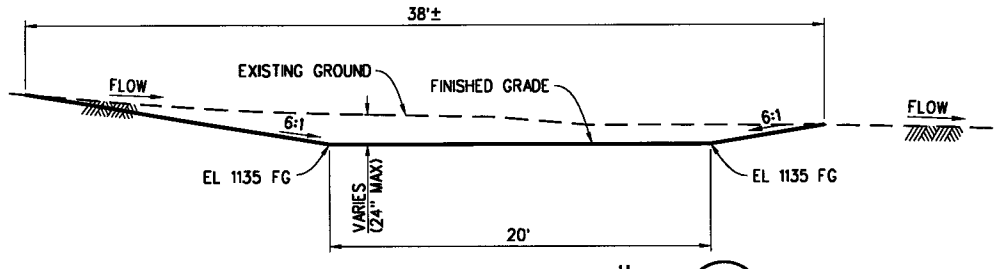
SHALLOW DEPRESSION #3 — 16 / 2,3
PLAN
NTS



SHALLOW DEPRESSION #1 — P / -
TYPICAL SECTION
NTS



SHALLOW DEPRESSION #2 — Q / -
TYPICAL SECTION
NTS



SHALLOW DEPRESSION #3 — R / -
TYPICAL SECTION
NTS

NOTES

1. LOCATION OF ALL RESTORATION ELEMENTS SHALL BE FIELD VERIFIED BY THE DISTRICT PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL 6' HIGH TEMPORARY FENCING TO SECURE THE ACTIVE WORK AREA AND RESTRICT PUBLIC ACCESS.

REGISTERED PROFESSIONAL ENGINEER — SIMON TSE — No. 83232 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
Z-13795
NAD 83 2007.00 NAVD 88 Static Diff
1-1/2" IP
W/ MAG NAIL &
2" WASHER STMPD "MWD
463000" UP 0.05'
EL. 1258.98

REF.	REVISIONS	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
PB NUMBER: 219790

RECOMMENDED FOR APPROVAL BY:
DATE: MAR. 28, 2018

APPROVED BY:
DATE: APR. 4, 2018

MEADOWVIEW STREAM RESTORATION STAGE 60

DEPRESSION SECTIONS AND DETAILS

PROJECT NO.
DRAWING NO. 7-0456
SHEET NO. 10 OF 12

PT.#	NORTHING	EASTING
1	2135200.42	6292986.28
2	2135171.52	6293035.65
3	2135167.05	6293042.61
4	2135122.04	6293106.71
5	2135116.04	6293113.88
6	2135085.04	6293145.07
7	2135046.29	6293161.29
8	2134998.88	6293161.52
9	2134993.56	6293163.08
10	2134936.45	6293199.38
11	2134933.20	6293202.74
12	2134850.62	6293342.71
13	2134849.42	6293345.87
14	2134838.17	6293403.18
15	2134817.10	6293436.65
16	2134765.77	6293474.98
17	2134763.97	6293476.72
18	2134747.27	6293497.47

PT.#	NORTHING	EASTING
38	2135213.45	6293102.25
39	2135212.39	6293104.79
40	2135192.51	6293138.59
41	2135190.89	6293140.66
42	2135163.45	6293167.54
43	2135160.89	6293169.35
44	2135145.00	6293177.24
45	2135142.20	6293178.14
46	2135120.97	6293181.67
47	2135111.16	6293184.35
48	2135079.44	6293196.59
49	2135051.43	6293223.70
50	2135034.84	6293262.79
51	2135034.45	6293263.59
52	2135018.35	6293293.77
53	2135013.36	6293304.64

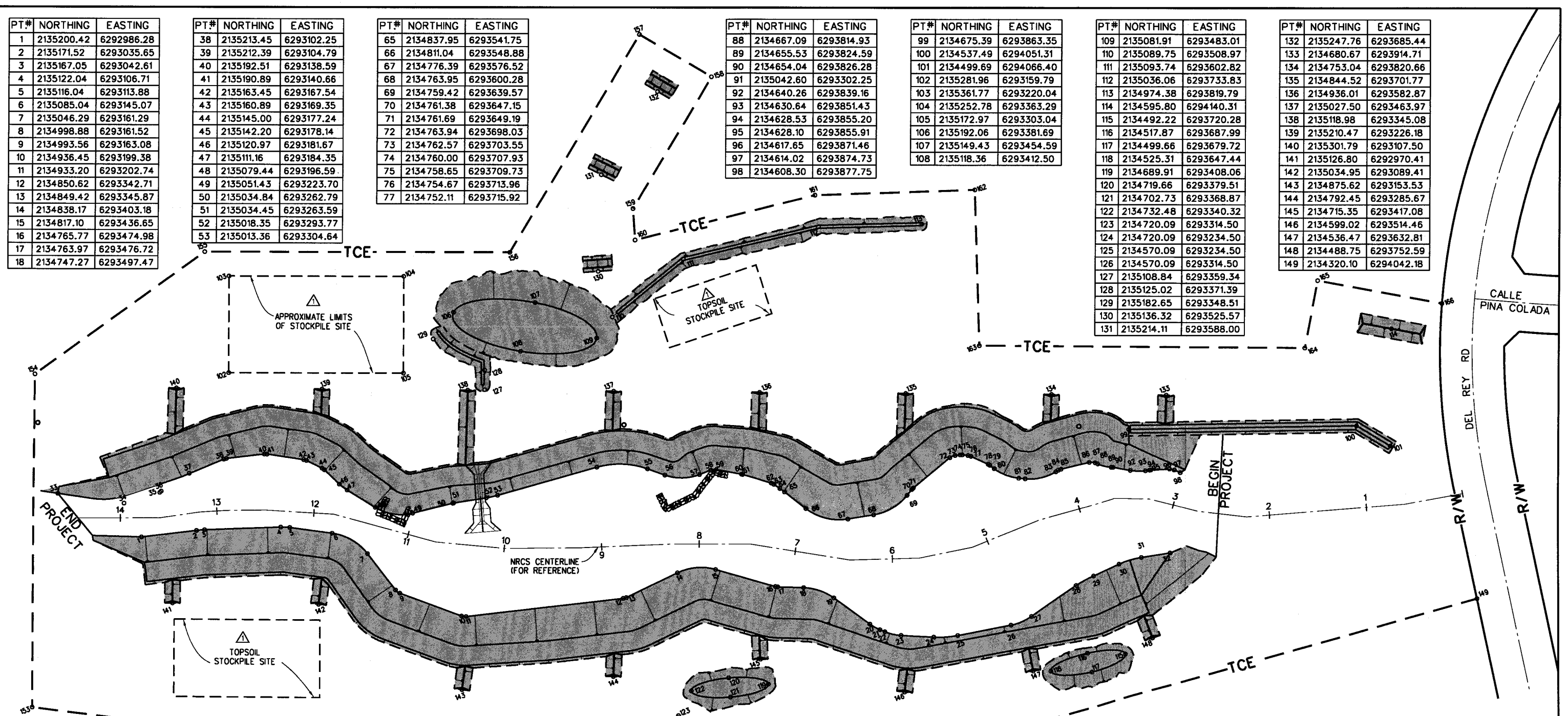
PT.#	NORTHING	EASTING
65	2134837.95	6293541.75
66	2134811.04	6293548.88
67	2134776.39	6293576.52
68	2134763.95	6293600.28
69	2134759.42	6293639.57
70	2134761.38	6293647.15
71	2134761.69	6293649.19
72	2134763.94	6293698.03
73	2134762.57	6293703.55
74	2134760.00	6293707.93
75	2134758.65	6293709.73
76	2134754.67	6293713.96
77	2134752.11	6293715.92

PT.#	NORTHING	EASTING
88	2134667.09	6293814.93
89	2134655.53	6293824.59
90	2134654.04	6293826.28
91	2135042.60	6293302.25
92	2134640.26	6293839.16
93	2134630.64	6293851.43
94	2134628.53	6293855.20
95	2134628.10	6293855.91
96	2134617.65	6293871.46
97	2134614.02	6293874.73
98	2134608.30	6293877.75

PT.#	NORTHING	EASTING
99	2134675.39	6293863.35
100	2134537.49	6294051.31
101	2134499.69	6294066.40
102	2135281.96	6293159.79
103	2135361.77	6293220.04
104	2135252.78	6293363.29
105	2135172.97	6293303.04
106	2135192.06	6293381.69
107	2135149.43	6293454.59
108	2135118.36	6293412.50

PT.#	NORTHING	EASTING
109	2135081.91	6293483.01
110	2135089.75	6293508.97
111	2135093.74	6293602.82
112	2135036.06	6293733.83
113	2134974.38	6293819.79
114	2134595.80	6294140.31
115	2134492.22	6293720.28
116	2134517.87	6293687.99
117	2134499.66	6293679.72
118	2134525.31	6293647.44
119	2134689.91	6293408.06
120	2134719.66	6293379.51
121	2134702.73	6293368.87
122	2134732.48	6293340.32
123	2134720.09	6293314.50
124	2134720.09	6293234.50
125	2134570.09	6293234.50
126	2134570.09	6293314.50
127	2135108.84	6293359.34
128	2135125.02	6293371.39
129	2135182.65	6293348.51
130	2135136.32	6293525.57
131	2135214.11	6293588.00

PT.#	NORTHING	EASTING
132	2135247.76	6293685.44
133	2134680.67	6293914.71
134	2134753.04	6293820.66
135	2134844.52	6293701.77
136	2134936.01	6293582.87
137	2135027.50	6293463.97
138	2135118.98	6293345.08
139	2135210.47	6293226.18
140	2135301.79	6293107.50
141	2135126.80	6292970.41
142	2135034.95	6293089.41
143	2134875.62	6293153.53
144	2134792.45	6293285.67
145	2134715.35	6293417.08
146	2134599.02	6293514.46
147	2134536.47	6293632.81
148	2134488.75	6293752.59
149	2134320.10	6294042.18



PT.#	NORTHING	EASTING
19	2134720.15	6293515.69
20	2134676.36	6293528.76
21	2134665.57	6293533.42
22	2134660.83	6293536.17
23	2134647.76	6293547.11
24	2134626.13	6293572.65
25	2134612.67	6293593.22
26	2134588.04	6293643.42
27	2134582.45	6293665.63
28	2134580.41	6293721.37
29	2134577.62	6293741.39
30	2134570.37	6293771.14
31	2134561.65	6293794.12
32	2134548.14	6293819.72
33	2135288.42	6292944.74
34	2135239.14	6292993.12
35	2135225.84	6293029.19
36	2135226.01	6293031.08
37	2135223.14	6293065.18

PT.#	NORTHING	EASTING
54	2134975.11	6293403.09
55	2134942.31	6293443.50
56	2134926.36	6293453.91
57	2134905.52	6293482.33
58	2134902.10	6293494.57
59	2134899.21	6293499.26
60	2134879.36	6293517.39
61	2134878.52	6293518.08
62	2134853.72	6293536.23
63	2134850.95	6293537.65
64	2134843.75	6293540.03

PT.#	NORTHING	EASTING
78	2134734.75	6293725.19
79	2134732.75	6293726.00
80	2134727.25	6293727.55
81	2134704.25	6293741.58
82	2134699.71	6293746.46
83	2134686.48	6293776.13
84	2134686.23	6293778.96
85	2134685.44	6293782.07
86	2134673.87	6293808.67
87	2134669.88	6293813.24

PT.#	NORTHING	EASTING
150	2134503.17	6293573.14
151	2134546.90	6293209.50
152	2134717.82	6293209.50
153	2135128.45	6292789.76
154	2135401.46	6292999.82
155	2135396.86	6293215.21
156	2135206.71	6293465.13
157	2135305.76	6293705.91
158	2135226.36	6293738.57

NOTES

1. LOCATION OF ALL RESTORATION ELEMENTS SHALL BE FIELD VERIFIED BY THE DISTRICT PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL 6' HIGH TEMPORARY FENCING TO SECURE THE ACTIVE WORK AREA AND RESTRICT PUBLIC ACCESS.

PT.#	NORTHING	EASTING
159	2135166.43	6293592.88
160	2135139.16	6293575.14
161	2135064.36	6293750.56
162	2134969.83	6293884.38
163	2134838.39	6293791.52
164	2134633.82	6294057.37
165	2134681.44	6294109.54
166	2134585.29	6294197.29

REGISTERED PROFESSIONAL ENGINEER — SIMON TSE — No. 83232 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services.

TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
Z-13795
NAD 83 2007.00 NAVD 88 Static Diff
1-1/2" IP
W/ MAG NAIL &
2" WASHER STMPD "MWD
463000" UP 0.05'
EL. 1258.98

REF.	REVISIONS	APPR.	DATE
1	ADDED TOPSOIL STOCKPILE SITE AND REVISED STOCKPILE LIMITS	ST	05/30/18

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
P8 NUMBER: 219790

RECOMMENDED FOR APPROVAL BY:
DATE: MAR. 28, 2018

APPROVED BY:
DATE: APR. 4, 2018

MEADOWVIEW STREAM RESTORATION STAGE 60

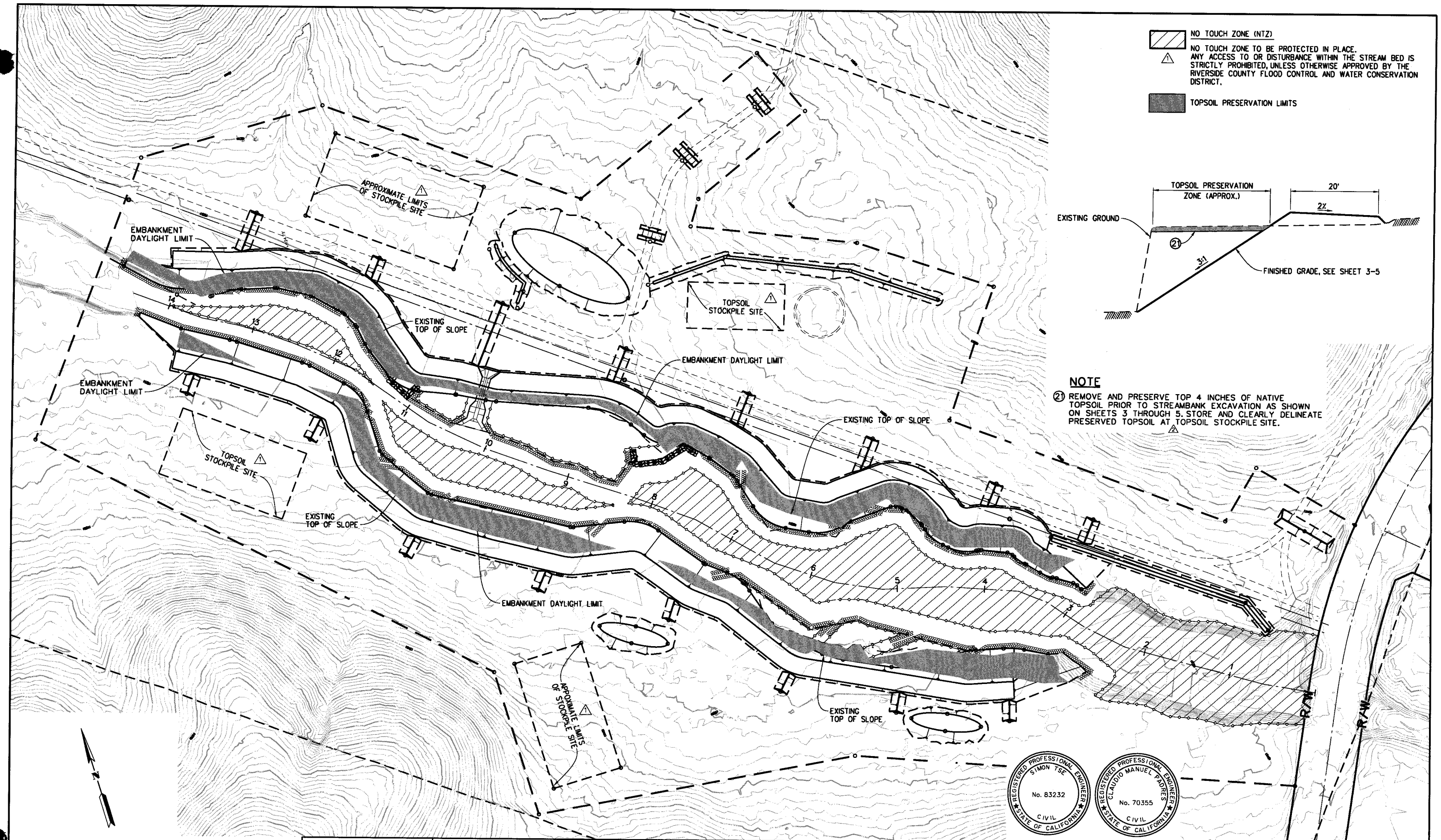
SURVEY CONTROL SHEET

PROJECT NO.
DRAWING NO. 7-0456
SHEET NO. 11 OF 12

NO TOUCH ZONE (NTZ)

NO TOUCH ZONE TO BE PROTECTED IN PLACE. ANY ACCESS TO OR DISTURBANCE WITHIN THE STREAM BED IS STRICTLY PROHIBITED, UNLESS OTHERWISE APPROVED BY THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT.

TOPSOIL PRESERVATION LIMITS



NOTE

21 REMOVE AND PRESERVE TOP 4 INCHES OF NATIVE TOPSOIL PRIOR TO STREAMBANK EXCAVATION AS SHOWN ON SHEETS 3 THROUGH 5. STORE AND CLEARLY DELINEATE PRESERVED TOPSOIL AT TOPSOIL STOCKPILE SITE.

PLAN

50' 0 50'

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NAD 83 2007.00 NAVD 88 Static Diff 1-1/2" IP W/ MAG NAIL & 2" WASHER STMPD "MWD 463000" UP 0.05'
EL. 1258.98

REF.	REVISIONS	APPR.	DATE
1	ADDED TOPSOIL STOCKPILE SITE AND REVISED STOCKPINE LIMITS.	ST	05/30/18
2	REVISED NOTE 21	ST	05/30/18

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: H. MILLER
DRAWN BY: M. ARMENTA
DATE DRAWN: APR 4, 2018
PS NUMBER: 219790

RECOMMENDED FOR APPROVAL BY: CHIEF, DESIGN & CONSTRUCTION DATE: APR. 4, 2018

APPROVED BY: GENERAL MANAGER-CHIEF ENGINEER DATE: APR. 4, 2018

REGISTERED PROFESSIONAL ENGINEER SIMON TSE No. 83232 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER CLAUDIO MANUEL PADRES No. 70355 CIVIL STATE OF CALIFORNIA

MEADOWVIEW STREAM RESTORATION STAGE 60

TOPSOIL PRESERVATION PLAN

PROJECT NO.
DRAWING NO. 7-0456
SHEET NO. 12 OF 12