

washouts, shall fully comply with applicable rules and regulations of governing authorities.

- B. The Contractor shall remove and properly dispose of all refuse from the construction site. The County shall have the right to determine what is refuse, and to determine the manner and placement of on-site disposal. Any hydrocarbon-impacted soils found at each site as a result of the construction operation, such as equipment maintenance, shall be removed and properly disposed of at the Contractor's expense.
- C. The Contractor shall obtain all necessary permits, and permission to utilize public roads for mobilization, demobilization, and access to each site. Access to Badlands Landfill is available through existing public roads during the hours stated in Section 1.18 of these Special Provisions.
- D. Contractor shall notify the County at least 48 hours prior to mobilizing personnel and equipment to each site so that the County representative may discuss onsite haul routes and Do Not Enter zones, etc.

4.4 MEASUREMENT AND PAYMENT

- a. The following schedule will be used to determine **measurement** of mobilization and demobilization and disbursement of the bid price for mobilization and demobilization:

Percent of Contract Work Completed (\$ Expended/\$ total bid price)	Percent of Mobilization and Demobilization Considered to be Complete
More Than 5%	40%
26%-50%	60%
51%-75%	80%
More Than 75%	90%
Upon County's acceptance of work including complete demobilization	100%

- b. **Payment** of mobilization and demobilization shall be based upon the lump sum as stated in **Bid Item No. 3 – "Mobilization and Demobilization"**. Payments shall constitute full compensation for all labor, material, 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 and demobilization.

END OF SECTION

SECTION 5 - DEMOLITION

5.1 GENERAL

The work covered by this section shall include: salvage, remove, relocate, recycle, and stockpile material encountered during construction as described in the Contract Documents. The work in this section shall include furnishing all labor, supervision, tools, equipment, and materials necessary to complete and insure that all demolition activities conform to the requirements of the Contract Documents.

5.2 MATERIALS

- A. In-place materials/structures requiring demolition include: litter fence as necessary, approximately 275 square feet (sf) of grouted riprap located within the Canyon 6 Sedimentation Basin, removal of gabion baskets and approx. 128 CY of 4"-8" cobble rock from the Southwest and Western Stockpile Sedimentation Basins, removal of sandbags from the inlet to an existing 15" CMP, a 15" CMP overslope approximately 32 linear feet in length, removal of approximately 2,265 square feet of aggregate base material located around the existing concrete residential dumping pad, and sawcutting and removal of approximately 80 linear feet of AC dike and 520 square feet of asphalt and concrete along Ironwood avenue in the areas shown on the Project Drawings.
- B. Demolition material quantities are approximate. Contractor is responsible for calculating all material quantities for bidding purposes.

5.3 EXECUTION

The Contractor shall perform the aforementioned demolition activities as shown on the Project Drawings or as directed in the field by the County:

- A. Removal and salvage of litter fence may be required prior to the installation of greenwaste. Litter fence shall be salvaged and hauled to the County's material storage yard located on Bench M.
- B. Remove and stockpile grouted riprap. Demolished grout and riprap shall be hauled to the Site's Wet Weather Pad or an area designated by the County and stockpiled for recycling and reuse.
- C. Remove gabion baskets from the Southwest and Western Stockpile Sedimentation Basins. Rock from gabion baskets are to be stockpiled at the intersection of Bench 5 and Bench P for the County's future use. Rock Berms may be temporarily stockpiled adjacent to the basin, but may not impede ingress by County vehicles.
- D. Remove, salvage or dispose of sandbags located at the inlet to the existing 15" CMP overslope downdrain. Damaged sandbags shall be hauled to the active pad

and disposed. Sandbags in good condition shall be salvaged and hauled to the County's material storage yard located on Bench M.

- E. Remove and salvage the existing 15" CMP overslope drain and inlet. Salvaged 15" CMP and inlet shall be hauled to the County's material storage yard located on Bench M.
- F. Sawcut, remove, recycle and stockpile concrete and asphalt concrete road and dike. Demo asphalt concrete and concrete material shall be hauled to the Site's Wet Weather Pad or an area designated by the County and stockpiled for recycling and reuse.
- G. Remove approximately 2,265 square feet of aggregate base material located around the existing concrete residential dumping pad. Must be completed prior to execution of Bid Item 15 "Expand 5" Thick Concrete Pad". The base shall be reinstalled around the concrete pad extension as part of Bid Item 15 and in accordance with SECTION 13 -AGGREGATE BASE.

5.4 MEASUREMENT AND PAYMENT

- A. **Payment** for complying with this section shall be at the lump sum bid price as stated in **Bid Item No. 4** – "Demolition", and shall be prorated in each progress payment in accordance with the following schedule:

Item for Demolition	Percent Payment
Remove base material around residential concrete pad	20%
Remove, recycle, and stockpile grouted riprap	20%
Remove gabion baskets and stockpile rock	20%
Remove, recycle and store or dispose of sandbags	7%
Remove, salvage and store litter fence	6%
Remove, salvage and store 15" CMP and inlet	7%
Sawcut, remove, recycle and stockpile asphalt concrete and concrete	20%

- B. **Payment** of the lump sum contract price to demolish existing structures shall constitute full compensation for furnishing all labor, materials, tools, and equipment, and doing all the work involved to salvage, remove, recycle, and stockpile material from existing structures and shall include all costs associated with the demolition operations, compliance with all applicable SCAQMD regulations and the Site Safety Plan.

END OF SECTION

SECTION 6 - EARTHWORK

6.1 GENERAL

This work shall include furnishing all labor, supervision, tools, equipment, and materials necessary to: achieve design grades and elevations along benches requiring regrading, excavate loose soil from sedimentation basins, place additional cover along the top deck, construct earthen berms, excavate refuse, dispose and replace with 1-foot (1') of cover material. This work shall include, but is not limited to: clearing, grubbing, excavation, refuse removal, refuse disposal, placing interim cover over exposed refuse, hauling of cover material and placement, subgrade preparation, compaction of engineered fill, and construction of earthen berms to the elevations, lines and grades at the locations shown on the Project Drawings and as required by the Contract Documents or as directed by the County.

6.2 MATERIALS

6.2.1 Engineered Fill

Source material for engineered fill shall come from suitable soil excavated during bench regrading, trenching operations, excavation for subgrade prep work, or the Canyon 6 Stockpile area. Not until source material from excavation operations on this project is exhausted shall the Contractor utilize source material from the Canyon 6 Stockpile area for the placement of engineered fill. The suitability of all earthen materials shall be subject to the acceptance of the County. Fill materials shall not contain brush, roots, sod, or other deleterious or unsuitable materials. Organic material and earthen material particles greater than the specified size shall be deposited in a separate stockpile, as directed by the County. Particles greater than the specified size shall be deposited in the Canyon 6 Stockpile, used as source material for uncontrolled fill, hauled as daily cover or as otherwise directed by the County. Organic material shall be deposited at the landfill working face as directed by the County.

6.2.2 Uncontrolled Fill

Source material for uncontrolled fill shall come from loose soil unsuitable for engineered fill excavated during bench regrading, trenching operations, excavation for subgrade prep work, or the Canyon 6 Stockpile area. Not until source material from excavation operations is exhausted shall the Contractor utilize source material from the Canyon 6 Stockpile area for the placement of uncontrolled fill. The suitability of all earthen materials shall be subject to the acceptance of the County.

6.2.3 Earthen Berms

Earthen materials for the construction of the earthen diversion berms shall be obtained from suitable soil excavated during bench regrading, trenching operations, excavation for subgrade prep work, or the Canyon 6 Stockpile area. Not until source material from excavation operations on this project is exhausted shall the Contractor utilize source material from the Canyon 6 Stockpile area for the construction of Earthen Berms. Earthen materials used to construct Earthen Berm shall not contain brush, roots, sod, or other deleterious or unsuitable materials; and

particle size shall not exceed three (3) inches. Organic material and earthen material particles greater than the specified size shall be deposited in a separate stockpile, as directed by the County. Particles greater than the specified size shall be deposited in the Canyon 6 Stockpile, used for daily cover or as otherwise directed by the County. Organic material shall be deposited at the landfill working face as directed by the County.

6.2.4 Daily Cover

Source material for Daily Cover shall come from soil excavated from the existing sedimentation basins.

6.2.5 Interim Cover Soil

Source material for interim cover soil over exposed refuse shall be obtained from soil excavated during bench regrading, trenching operations, excavation for subgrade prep work, or the Canyon 6 Stockpile area. Not until source material from excavation operations on this project is exhausted shall the Contractor utilize source material from the Canyon 6 Stockpile area for interim cover soil over exposed refuse.

6.3 EXECUTION

6.3.1 General Subgrade and Finished Grade Preparation

All work areas within the Project Limits shown on the Project Drawings shall be evaluated and accepted by the County to verify satisfactory completion of clear and grub work (including removal of Demolition items as shown on the Project Drawings), penetration of the excavation into firm natural soils, and removal of all unsuitable materials.

Unless otherwise noted or required, areas where engineered fill is to be placed, or in other areas where unsuitable materials have been removed and where the surface is judged to be loose or otherwise unsuitable, the subgrade or finished grade shall be prepared as follows:

- A. The upper six (6) inches of in-situ material shall be ripped, moisture-conditioned, and re-compacted to a minimum of 90 percent relative compaction, at a moisture content range between 2% below optimum moisture content (OMC) and 2% above OMC in accordance with ASTM D1557 or as determined by the County.
- B. The compacted surface shall be scarified to provide a good bond between the foundation material and the subsequent fill material, as appropriate.
- C. Areas of hard or dense, natural soil identified by the County shall be left undisturbed.

6.3.2 Excavation

- A. This work may include ripping, breaking, and dozing of materials using standard

earthmoving equipment up to and including CAT D-9 with single ripper type equipment. Based on a previous subsurface soil investigation, the material within limits of excavation has been determined to be rippable. In the event non-rippable material is encountered, the Contractor shall immediately notify the County. Prior to the removal of non-rippable material, Contractor and County shall mutually decide upon the most acceptable method of removal for this material. This work shall be considered as extra work and therefore will be paid for in accordance with Section 2.7 of the General Provisions entitled "Extra Work". This item shall also include keeping excavation areas neat and orderly, and completing the excavation to the satisfaction of the County.

- B. Areas of excavation shall be graded to drain at all times, and necessary precautions shall be taken to control dust and erosion. The Contractor's access roads shall be maintained as necessary for Contractor and County personnel, including landfill operation, access. Unless specifically required by the Contract Documents, excavations shall not be carried below the design lines and grades shown on the plans or as otherwise accepted by the County in writing. Unauthorized over-excavation shall be immediately corrected by backfilling to grade with engineered fill in accordance with Section 6.3.3 of the Special Provisions at the Contractor's expense.
- C. Excavated material from within the Project Limits shall be used by the Contractor as a source of material for executing the following work items and miscellaneous tasks: engineered fill, supplying interim cover material over exposed refuse, supplying daily cover material for landfill operations, and any other miscellaneous tasks required by the Contract Documents or as directed by the County.
- D. Unsuitable excavated material, as identified by the County, shall be placed in the Canyon 6 Stockpile Area or an area designated by the County as uncontrolled fill, and shall not be used as engineered fill. No additional compensation will be provided by the County for the hauling of unsuitable material to the Canyon 6 Stockpile Area.
- E. Surface drainage shall be maintained at all times in the Project Limits and these completed areas shall be graded as shown on the Project Drawings and as directed by the County. Final surfaces within the Project Limits shall be finished by track walking and left in a uniformly graded condition. Surfaces of flat areas shall be finish-graded with a motor grader or approved equal. The Contractor shall construct drainage and erosion control facilities in accordance with the Project Drawings within the completed portions of the Project Limits and as required by the Contract Documents, or as directed by the County. All material required for the surface drainage and erosion control facilities shall be supplied and installed by the Contractor.
- F. The Contractor shall not be compensated for any unauthorized earthwork

activities which deviate from what is required by the Contract Documents. The Contractor shall remove or correct any unauthorized road alterations at the Contractors expense.

- G. Side slopes shall be cut to an inclination not steeper than 1.5:1 (H:V) unless otherwise shown on the Project Drawings. The Contractor shall observe temporary and permanent excavations on a regular basis for signs of instability. Should signs of instability be noted, the Contractor shall notify the County immediately, and shall undertake remedial measures as soon as practicable, subject to the direction and acceptance of the County. It shall be the Contractor's responsibility to remove all loose materials from the excavated slopes, and to maintain the slopes in a safe and stable condition at all times during the progress of the work and during any temporary closure of the work. Permanent cut slopes shall be left in a clean, safe, and stable condition upon completion of the work.
- H. Where necessary, trenches, pits, and other excavations shall be properly sheathed and braced to furnish safe and acceptable working conditions. Any damage occurring from excessive earth pressures, slides, cave-ins, or other causes due to failure to provide proper sheathing or bracing, or through other negligence or fault of the Contractor, shall be repaired by the Contractor at its expense. The manner of bracing for excavations shall be as set forth in the rules, orders, and regulations of the Division of Industrial Safety of the State of California or OSHA California Code of Regulations Subchapter 4, Article 6, Section 1540 "Excavations"; whichever is more restrictive.
- I. Contractor shall protect in place existing gas collection pipes. Contractor shall immediately notify the County if a gas collection pipe is damaged before attempting any repairs. Upon authorization from the County, a gas collection pipe damaged by the Contractor shall be immediately repaired by the Contractor and the cost associated with the repair shall be borne to the Contractor. Any ramps installed over gas collection lines shall first be proposed to and accepted by the County in writing.

6.3.3 Engineered Fill

- A. Only suitable material encountered within the excavation areas shall be utilized in the engineered fill areas, and all unsuitable material shall be removed and hauled to the Canyon 6 Stockpile area designated on the Project Drawings, or as otherwise directed by the County. When suitable material within excavation areas is exhausted, Contractor may excavate within the Canyon 6 Stockpile area for source material for engineered fill.
- B. The Contractor shall restrict earthwork movement and haul routes to the areas within the Project Limits as shown on the Project Drawings. Any earthwork operations requiring activity outside of the Project Limits shall require a written request and written acceptance to and from the County.

- C. Compacted engineered fill is required within the Project Limits, as shown on the Project Drawings or as directed by the County. On-site soil shall be placed and compacted in layers as specified herein. The Contractor shall spread soil evenly by mechanical equipment over the prepared subgrade. The Contractor shall place engineered fill material in thickness of loose lifts no greater than eight inches (8") and compacted lifts no greater than six inches (6"). Each lift shall be spread evenly and compacted to obtain a near uniform condition in each layer. In areas of lift thickness greater than specified herein, the Contractor, prior to construction of additional lifts, must complete re-grading and compacting of the surface to the maximum specified lift thickness. The top of each previously compacted layer shall be scarified so that there is no lamination between layers.
- D. Engineered fill material shall be compacted to a minimum of 90% relative compaction, based on the laboratory maximum dry density, determined by ASTM D1557. Engineered fill over cut slopes, or scarified natural steep slopes shall be properly keyed into undisturbed bedrock or firm material in accordance with the Contract Documents and as accepted by the County.
- E. All general on-site soil material used for engineered fill shall have a moisture content between 2% below and 2% above OMC in accordance with ASTM D1557 or as determined by the County. Additional water may need to be added at any time during construction. The moisture content of the engineered fill materials prior to and during compaction shall be uniform throughout each layer of the material.
- F. When the moisture content of the fill material is below optimum, water shall be added until the moisture content is within the limits required to assure an adequate bonding and compaction of all fill material. When the moisture content of the fill material is above the specified limits, the fill material shall be aerated by plowing, disking, blading, or other satisfactory methods until the moisture content is acceptable. All plowing, tamping, blending, disking, or air drying of material is considered incidental to the work and no additional compensation will be allowed. Wetting of materials by rain or artificial means to acceptable moisture content will require mixing or air drying to return this material to the required moisture content. Complying with this requirement is considered incidental to the work and no additional compensation will be allowed.
- G. Surfaces of all slopes shall be finished by track walking with Dozer-type equipment or approved equal by the County Representative in the field and left in a uniformly graded condition. Surfaces of flat areas shall be finish graded with a motor grader or approved equal.
- H. Due to settlement within the landfill limits, the County estimates an in place volume of 3775 cy of engineered fill being required to meet the lines and grades specified in the project drawings. This quantity is for bidding purposes at this

time and may not be the final quantity required to meet the lines and grades specified in the project drawings. Regardless of the final quantity (however high or low), the Contractor shall be paid only based upon the unit price stated for Bid Item No. 5; and in no event shall the Contractor be paid any different amount based upon the contract documents, standard specifications or any other source.

6.3.4 Refuse Removal & Disposal and Interim Cover

- A. Refuse or soil co-mingled with refuse may be encountered during excavation within the limits of the landfill footprint; however, it is possible that refuse may also be encountered in any excavation area within the Project Limits shown on the Project Drawings.
- B. The Contractor shall remove interim cover soil, refuse, or soil co-mingled with refuse encountered during excavation from within the Project Limits shown on the Project Drawings.
- C. Excavated interim cover soil that does not contain co-mingled refuse or has been deemed suitable by the County may be used as source material for engineered fill and other miscellaneous sources as listed in Section 6.3.2.
- D. Contractor shall haul excavated refuse and soil co-mingled with refuse to the landfill working face and cover exposed refuse with one-foot (1') of clean earthen cover material as directed by the County.
- E. If the cover material placed over refuse is to act as subgrade for engineered fill, a drainage structure, etc. Contractor shall prepare the cover soil as described in Section 6.3.1.
- F. At the end of the workday, Contractor shall cover all refuse surfaces and may not allow refuse surfaces to be exposed overnight. If refuse excavation to design grade has not been completed by the end of the workday, Contractor may cover the refuse surface with: six-inches (6") of cover soil or alternate daily cover including but not limited to: six-inches (6") of process greenwaste material, tarps or approved equal.
- G. Recognizing the primary importance of public and landfill worker safety in and adjacent to this area, Contractor shall coordinate proposed haul routes, timing, duration, and other related factors with the County prior to each planned haul sequence to the landfill working face.
- H. In the event the County or Contractor suspects any excavation material from the landfill is hazardous (as defined by CalRecycle or the Local Enforcement Agency), the Contractor shall stockpile the suspect material in a location separate from the rest of the excavated material. The Contractor shall immediately notify the County if excavation material is suspected to be hazardous. The County will

make the appropriate analyses to determine if the suspected hazardous material is hazardous by CalRecycle or LEA definition. The Contractor shall dispose of determined hazardous material in the hazardous waste disposal site designated by the County. The Contractor shall be compensated for disposal of such hazardous waste. This work shall be considered as extra work and therefore; will be paid for in accordance with Section 2.7 of the General Provisions entitled "Extra Work". (Any hazardous material generated by the Contractor, including but not limited to spills or leaks during routine equipment maintenance or any spills caused by any of the Contractor's subcontractors or suppliers, shall be properly disposed of at the Contractor's expense as stated in the Contract Documents.)

- I. The County has a South Coast Air Quality Management District (SCAQMD) Rule 1150 Permit for refuse excavation. The Contractor must place refuse within the limits of the landfill footprint as shown on the Project Drawings; and the Contractor shall also comply with all requirements of the SCAQMD permit conditions (i.e., daily cover, transportation, dust suppression, etc.) at any time refuse is encountered. Permit conditions for refuse excavation are included in Appendix D. The Contractor shall address this work in the Site Safety Plan submittal Section 1.3.2. The County will provide required personnel to monitor the activities in accordance with the SCAQMD 1150 permit.
- J. Excavation within the landfill limits of Site is expected for grading and subgrade preparation on this project and as such, the Contractor may encounter refuse during excavation activities. Due to wind erosion and settlement within the landfill limits, the exact quantity of refuse to be excavated is unknown. The quantity listed in the Contractor's Proposal is for bidding purposes at this time and may not be the final quantity required to meet the lines and grades specified in the project drawings. Regardless of the final quantity (however high or low), the Contractor shall be paid only based upon the unit price stated for Bid Item No. 19; and in no event shall the Contractor be paid any different amount based upon the contract documents, standard specifications or any other source.

6.3.5 Earthen Berms

- A. The subgrade for Earthen Berm shall be firm, stable and unyielding, and contain no loose material as determined by the County. The subgrade shall adhere to the elevations and cross sections shown on the Project Drawings or as directed by the County.
- B. The Earthen Berm shall be compacted to a minimum of 90% relative compaction.
- C. Contractor shall provide moisture conditioning to earthen materials used for berm construction, and shall maintain adequate moisture throughout berm construction as deemed acceptable to the County.

6.3.6 Landfill Bench Regrading

- A. This work shall optimize longitudinal and transverse fall with these bench areas for drainage purposes as provided in the Project Drawings and as directed by the onsite County representative.
- B. Areas only requiring regrading shall be prepared and finished as specified in Section 6.3.1.
- C. Areas requiring engineered fill shall be finished as specified in Section 6.3.3.
- D. The Contractor shall protect in place gas collection pipes that cross the benches. Contractor shall immediately notify the County if a gas collection pipe is damaged before attempting any repairs. Upon authorization from the County, gas collection pipe damaged by the Contractor shall be immediately repaired by the Contractor and the cost associated with the repair shall be borne to the Contractor.
- E. In areas of cut and subgrade preparation, the County may require the Contractor to pothole for gas collection pipes starting at the daylight location of the pipe on the toe side of the bench. If it is determined the work cannot be completed without leaving a 12" buffer for the gas collection pipe, the Contractor shall inform the County immediately and install a deeper trench across the bench at a minimum 8% slope to accommodate the gas collection pipe.

6.3.7 Excavate Loose Soil from Sedimentation Basins

- A. This work shall include the excavation of soil to the design elevations, lines and grades of the existing Southwest Sedimentation Basin and the excavation of loose silt soil down to a firm competent subgrade within the Western Stockpile Sedimentation Basin as provided in the Project Drawings and as directed by the onsite County representative.
- B. Soil excavated from the sedimentation basins shall be hauled:
 - i. to a stockpile area adjacent to the active pad for County's use as daily cover or
 - ii. to the Canyon 4 Phase 3 refuse cell or Top Deck for placement as uncontrolled fill or
 - iii. as directed by the County.
- C. Final grade shall be finished as specified in Section 6.3.1.
- D. Contractor shall protect in place existing gabion baskets, skimmer system and hardscape located within the Basins as called out on the Project Drawings. Contractor shall also protect in place the sugar bushes and irrigation system

located along the sideslopes of the Southwest Sedimentation Basin. Damage to the hardscape, skimmer system, gabion baskets, sugar bushes and irrigation system by the Contractor shall be replaced or repaired by and at the cost of the Contractor.

- E. The volume of loose silt soil required to be excavated within the Western Stockpile Sedimentation Basin is an estimate and the final quantity cannot be determined until removed. The quantity listed in the Contractor's Proposal is for bidding purposes at this time and may not be the final quantity. Regardless of the final quantity (however high or low), the Contractor shall be paid only based upon the unit price stated for Bid Item No. 14; and in no event shall the Contractor be paid any different amount based upon the contract documents, standard specifications or any other source.

6.3.8 Placement Of Additional Cover

- A. This work shall include the placement of an additional six-inches (6") of cover within the Landfill footprint as directed by the onsite County representative. County may limit the placement of uncontrolled fill to only areas of exposed refuse. Contractor shall tie-in daylight grading from the placement of additional cover to provide positive drainage. When tie-in daylight grading approaches existing gas collection pipes, Contractor shall place uncontrolled fill beneath the existing gas collection pipes and maintain the existing grade for the gas collection lines.
- B. Source material for the cover soil shall be as described in Section 6.2.2.
- C. The Contractor shall restrict earthwork movement and haul routes to the areas within the Project Limits as shown on the Project Drawings. Any earthwork operations requiring activity outside of the Project Limits shall require a written request and written acceptance to and from the County.
- D. Uncontrolled fill material shall be compacted to a minimum of 85% relative compaction, based on the laboratory maximum dry density, determined by ASTM D1557.
- E. Surfaces of all slopes shall be finished by track walking with Dozer-type equipment or approved equal by the County Representative in the field and left in a uniformly graded condition. Surfaces of flat areas shall be finish graded with a motor grader or approved equal.
- F. Prior to the Contractor commencing excavation in the Canyon 6 Stockpile for source material for uncontrolled fill, the County shall perform a pre-excavation survey of the area and delineate the limits for the area of excavation. Contractor shall immediately contact the County once excavation for uncontrolled fill has been completed so the County may conduct a post-excavation survey. Soil excavated outside the delineated limits designated by the County will not be paid

for and the expense due to the work shall be borne by the Contractor. Contractor shall maintain a minimum grade of two percent positive drainage to the Canyon 6 Stockpile Sedimentation Basin within the Canyon 6 borrow area.

- G. Contractor shall protect in place existing gas collection pipes. Contractor shall immediately notify the County if a gas collection pipe is damaged before attempting any repairs. Upon authorization from the County, gas collection pipe damaged by the Contractor shall be immediately repaired by the Contractor and the cost associated with the repair shall be borne to the Contractor. Any ramps installed over gas collection lines shall first be proposed to and accepted by the County in writing.
- H. The County estimates potentially 22,378 cy of uncontrolled fill being needed to provide additional cover throughout the landfill limits during this project. However, the County may utilize its own staff to haul uncontrolled fill. This quantity is for bidding purposes at this time and may not be the final quantity required. Regardless of the final quantity (however high or low), the Contractor shall be paid only based upon the unit price stated for Bid Item No. 20; and in no event shall the Contractor be paid any different amount based upon the contract documents, standard specifications or any other source.

6.4 MEASUREMENT AND PAYMENT

- A. The last available ground topography for the site was generated from a combination of an aerial flight survey completed in July 2015 and a conventional ground survey method completed in October 2016. Due to the ongoing landfill operations, this composite ground topography will not reflect the actual field conditions at the time of award of this contract. Because of this, and since the ongoing landfill activities within the project limits will continue up to the award of this contract and issuance of the Notice to Proceed, all earthwork quantities in the "Contractor's Proposal" are only estimates which have been primarily determined by using the aforementioned composite ground topography. However, in order to generate an updated ground topography contour map which will be used as the base map (or pre-construction ground) for this project, the County plans to perform an updated ground survey within any disturbed areas within the Landfill footprint immediately before Contractor commences construction activities requiring a pre-construction survey. This survey (updated ground survey and the July 2015 aerial flight) will be used to generate an updated ground topography contour map (pre-construction ground contours) that will be used to determine the final pay quantities for all applicable bid items.
- B. Unless otherwise stated, the final measurement of all earthwork quantities for the various layers shall be calculated to the nearest cubic yard or the nearest square foot based only upon comparison of pre-construction and post-construction surfaces of the project work. These surfaces shall be established by a combination of conventional ground surveying done by the County and aerial

flight surveys of the project work area. Unless otherwise stated, the surface for any layer which will be covered by subsequent layers shall be established by ground surveying. The surface for any layer which will not be covered shall be established by aerial flight survey. The Riverside County Flood Control and Water Conservation District shall conduct the aerial flight surveys at the County's request immediately following the completion of work. Final volumetric calculation of earthwork quantities for payment purposes shall then be performed by the County based upon the resulting Digital Terrain Models (DTM) using the grid volume method with a grid interval of five (5) feet by five (5) feet. It should be noted that different methods may be used by the County for determining quantities for progress payments. However, the earthwork quantities used for progress payments will be adjusted at the completion of the project based upon the final measurement method stated in this paragraph.

- C. Allowable deviation from design grades shown on the Project Drawings shall be ± 0.10 feet on all benches, access roads and sedimentation basins within the project limits at Badlands; $+0.10$ feet for additional cover along the top deck and ± 0.25 feet for all remaining areas within the project limits. Limits for measurement of the excavations and fills shall be to the lines and grades as shown on the Project Drawings or as directed by the County. No additional compensation will be given for deviations above the lines and grades shown on the Project Drawings or as directed by the County, even if within the allowable tolerance. No additional compensation will be given for removal and re-compaction of material that does not meet the specifications described in this section.
- D. The **measurement** of the final quantity for **Bid Item No. 5** "Earthwork (Placement of Engineered Fill)" shall be based on the total quantity of engineered fill placed only within the Project limits, as shown on the Project Drawings. Construction Activities qualifying for payment under **Bid Item No. 5** include, but are not limited to the regrading of benches. The total quantity of engineered fill placed to construct the finished grade surface shall be determined by comparing the pre-construction ground surface and the finished grade surface. The pre-construction ground surface shall be established by a combination of conventional ground survey and aerial flight survey, and the post-construction ground surface for this work shall be established by ground surveying at completion of the finished grade surface. **Payment** for the placement of engineered fill shall be made based on the unit price per in-place cubic yard for engineered fill, as stated in the Contractor's Proposal, **Bid Item No. 5** - "Earthwork (Placement of Engineered Fill)" and shall constitute full compensation to the Contractor for all work related to the placement of engineered fill within the Project Limits including but not limited to: clearing, grubbing, excavation of source material used for engineered fill and compaction. **Payment** shall also constitute full compensation for furnishing all labor, supervision, materials, tools, and equipment necessary to place engineered fill in accordance with the Contract Documents. No additional compensation shall be given for engineered fill placed outside the specified limits and dimensions unless otherwise ordered in writing by

the County.

- E. **Payment for Bid Item No. 6** "Construct Earthen Berm" shall be based on the final in-place linear feet of Earthen Berm constructed within the limits specified in the Project Drawings and as directed by the County. The final length of Earthen Berm shall be verified by the County based on conventional ground measurement, and shall be measured to the nearest linear foot. **Payment** shall be made, after acceptance, at the contract unit price per linear foot as stated in the Contractor's Proposal, **Bid Item No. 6**. **Payment** shall constitute full compensation to the Contractor for all work related to the furnishing and installation of Earthen Berm including but not limited to all labor, material, tools, equipment, and incidentals, and any other material or other work required by the Contract Documents. **Payment** shall also constitute full compensation for furnishing all labor, supervision, materials, tools, and equipment necessary to install Earthen Berm in accordance with the Contract Documents. No additional compensation shall be given for Earthen Berms placed outside the specified limits and dimensions unless otherwise ordered in writing by the County.
- F. The **measurement** of the final quantity for **Bid Item No. 14** "Daily Cover using source material from existing sedimentation basins" shall be based only on the total excavation quantity as determined by comparing the pre and post construction ground surfaces within the limits of the Southwest and Western Stockpile Sedimentation Basins, and other areas of excavation within the project limits as shown on the Project Drawings. The total quantity of soil excavated to design grade shall be determined by comparing the pre-construction ground surface and the finished grade surface. The pre-construction ground surface shall be established by a combination of conventional ground survey and aerial flight survey, and the post-construction ground surface for this work shall be established by ground surveying at completion of the finished grade surface. **Payment** for excavation and transport of material to a location adjacent to the active pad shall be made based on the unit price per cubic yard for excavation, as stated in the Contractor's Proposal for **Bid Item No. 14** and shall constitute full compensation to the Contractor for all work related to excavation and transportation of daily cover including but not limited to: furnishing all labor, supervision, materials, tools, and equipment; excavating, hauling, loading, and any other requirements by the Contract Documents for the transportation of daily cover from the existing sedimentation basins to an area adjacent to the landfill working face as directed by the County.
- G. The **measurement** of the final quantity for **Bid Item No. 19** "Earthwork (Refuse Excavation & Disposal)" shall be determined in the refuse excavation area by comparing the County-surveyed initial encountered refuse surface and the County-surveyed refuse excavation final surface within the approximate limits as shown on the Project Drawings. The Contractor, therefore, shall notify the County as soon as refuse is encountered during excavation and in writing a

minimum of two (2) days prior to excavation within the known landfill footprint limits as shown on the Project Drawings. Contractor shall allow two (2) working days for the County to complete necessary survey work. Establishing these surfaces and measuring the final quantity shall be performed by the County pursuant to the aforementioned method of calculation. **Payment** for refuse excavation and disposal shall be at the contract unit price per cubic yard as stated in **Bid Item No. 19** - "Earthwork (Refuse Excavation & Disposal)" and shall constitute full compensation to the Contractor for all work related to refuse excavation and disposal (within the designated areas) including but not limited to: furnishing all labor, supervision, materials, tools, and equipment; performing pioneering, clearing, grubbing; grading, re-grading, excavating, over-excavating, placing a minimum of one-foot (1') of clean interim cover over the exposed refuse surfaces, shaping, preparing, compacting, hauling, loading, Contractor surveying, compliance with all regulatory permits and conditions (including the SCAQMD Rule 1150 permit), construction of temporary haul roads for refuse excavation and disposal in accordance with the Contract Documents.

- H. The **measurement** of the final quantity for **Bid Item No. 20** - "Placement of uncontrolled fill using source material from the Canyon 6 Stockpile" shall be based only on the total excavation quantity as determined by comparing the pre and post construction ground surfaces within the borrow area of the Canyon 6 Stockpile limits. The pre-construction ground surface shall be established by a combination of conventional ground survey and aerial flight survey, and the post-construction ground surface for this work shall be established by a combination of conventional ground surveying and/or aerial flight survey. **Payment** for excavation of material, transportation of material to the top deck or Canyon 4 Phase 3 refuse cell or to an area within the landfill as directed by the County and placement as uncontrolled fill shall be made based on the unit price per cubic yard for excavation, as stated in the Contractor's Proposal, **Bid Item No. 20** and shall constitute full compensation to the Contractor for all work related to excavation, transportation and placement of uncontrolled fill including, but not limited to: furnishing all labor, supervision, materials, tools, and equipment; excavating, hauling, loading, placement of uncontrolled fill and any other requirements by the Contract Documents for the Bid Item as directed by the County.

END OF SECTION

SECTION 7 - ROCK BERMS

7.1 GENERAL

The work covered in this section shall consist of furnishing all necessary labor, materials, equipment, tools and supervision to: furnish and install rock berms within the Southwest and Western Stockpile Sedimentation Basins as shown on the Project Drawings, and as directed by the County.

7.2 SUBMITTALS

Prior to delivery of materials, the Contractor shall submit product data sheets, engineered drawings, material specifications and manufacturer's application instructions for all materials to the County for approval. Contractor shall submit certified results of sieve analysis for the proposed rock.

7.3 MATERIALS

Rock material for rock berms shall be No. 3 crushed angular rock suitable for stacking to a maximum height of approximately 14 feet and adhere to the State Standard Section 72-2.02A for Method B Placement.

7.4 EXECUTION

Rocks may be placed by dumping and may be spread in layers by bulldozers or other suitable equipment. Place Rocks so that:

- A. There are minimum of voids.
- B. Larger rocks are located at the base of the berm.

7.5 MEASUREMENT AND PAYMENT

- A. The measurement of the final quantity for **Bid Item No. 7** - "Construct Rock Berm" shall be determined by the County based upon the final in-place linear feet of Rock Berm constructed within the limits specified in the Project Drawings and as directed by the County. The final length of Rock Berm shall be verified by the County based on conventional ground measurement, and shall be measured to the nearest linear foot. **Payment** shall be made, after acceptance, at the contract unit price per linear foot as stated in the Contractor's Proposal, **Bid Item No. 7**. **Payment** shall constitute full compensation to the Contractor for all work related to the furnishing and installation of Rock Berm including but not limited to all labor, material, tools, equipment, and incidentals, and any other material or other work required by the Contract Documents. **Payment** shall also constitute full compensation for furnishing all labor, supervision, materials, tools, and equipment necessary to install Rock Berm in accordance with the Contract

Documents. No additional compensation shall be given for Rock Berms placed outside the specified limits and dimensions unless otherwise ordered in writing by the County.

END OF SECTION

SECTION 8 - ASPHALT CONCRETE STRUCTURES

8.1 GENERAL

The work covered in this section shall consist of furnishing all necessary labor, materials, equipment, tools and supervision for the construction of Asphalt Concrete (A.C.) Structures which shall include, but is not limited to: Type "D" Dike and asphalt road improvements. The work shall include subgrade preparation and installation of A.C. pavement to the specified lines and grades and at the locations shown on the Project Drawings and as required by the Contract Document and as directed by the County.

8.2 SUBMITTALS

- A. The Contractor shall submit Certificates of Compliance for bituminous materials used in asphalt concrete pavement and asphaltic emulsion mixes proposed for this project at least 48 hours prior to placement. The certificates shall be signed by the manufacturer of the materials and shall state that materials involved shall comply in all respects with the requirements of these specifications.
- B. The Contractor shall prepare and submit a mix design to the County for review and approval at least 48 hours prior to beginning placement of asphalt concrete pavement for each mix design incorporated for use in this project.

8.3 MATERIALS

- A. Asphalt concrete pavement shall consist of hot mineral aggregate uniformly mixed with hot bituminous material.
- B. Asphalt paving material for Type "D" Dike shall be D1-PG 70-10, and shall conform to Part 2, Sections 203-6 and 400-4 of the Standard Specifications.
- C. Asphalt pavement materials for the road improvements and shall be III-B3 PG 64-10 and shall conform to Part 2, Sections 203-6 and 400-4 of the Standard Specifications.
- D. Tack Coat: Tack Coat shall conform to Section 302-5.4, "Tack Coat" of the Standard Specifications and shall be PG 70-10 paving asphalt, or SS-1h emulsified asphalt applied at the rates as specified.

8.4 EXECUTION

- A. The Contractor shall arrange and conduct a pre-job paving meeting no later than 48 hours prior to the scheduled paving date. The General Contractor, the Paving Subcontractor and County personnel shall attend this meeting. Discussion topics shall include Contractor-proposed: paving machine and asphalt roller equipment

spread, methodology for paving pass sequence, paving pass widths, longitudinal joint locations, and traffic control plan implementation and maintenance specific to each paving operation.

- B. The subgrade for all asphalt structures in this project, prepared either by excavation or engineered fill, shall conform to the locations and cross sections as shown on the Project Drawings or as directed by the County. Where the structures are in native cut, the upper six (6) inches of subgrade shall be compacted to a minimum of 90 percent (or as otherwise noted on the Project Drawings) of the maximum density as determined per ASTM D1557. This shall be achieved by scarifying the exposed surface to a depth of six (6) inches and re-compacting. For areas requiring engineered fill, the finished subgrade shall be firm and suitable for placement of asphalt pavement, and shall be compacted to a minimum of 90 percent (or as otherwise noted on the Project Drawings) of the maximum density within the upper one foot, as determined by ASTM D1557.
- C. Prior to pavement application, surface preparation shall consist of cleaning the underlying course of foreign or objectionable matter with power blowers or brooms where necessary. A tack coat shall be applied to the areas receiving pavement in accordance with Section 302-5.4, "Tack Coat" of the Standard Specifications.
The Contractor shall be solely responsible for protection of completed areas against detrimental effects. Recondition, reshape, and re-compact areas damaged by rainfall, or other weather conditions.
- D. Distribution and spreading shall conform to the requirements of Section 302-5.5, "Distribution and Spreading" of the Standard Specifications. All transitions and edges shall be feathered to conform to the existing surface and provide a smooth transition. The Contractor shall install 2"x4" wooden headers using 12"-2"x4" stakes set a maximum of 6-foot on center at all locations where the vertical edges of new asphalt pavement are not in contact with an existing pavement or permanent structures. Wooden headers shall remain in place upon completion of work.
- E. Rolling shall conform to the requirements of Section 302-5.6, "Rolling" of the Standard Specifications. Hand and mechanical tampers will not be permitted for compaction of road way section.

8.5 MEASUREMENT AND PAYMENT

- A. The **measurement** of the final quantity for **Bid Item No. 8** "Construct A.C. Access Road" shall be based on the pertinent details required by the Contract Documents as verified by the County through field measurements of these structures. **Payment** for A.C. Access Road shall be at the contract unit price per square foot, as stated in the Contractor's Proposal, **Bid Item No. 8**. Each and every Asphalt Concrete load ticket shall be delivered to the County by truck drivers at the point of delivery.
- B. The measurement of the final quantity for **Bid Item No. 9** "Type D Dike" shall be

based on the pertinent details required by the Contract Documents as verified by the County through field measurements of these structures. Payment for Type "D" Dike shall be at the contract unit price per linear foot, as stated in the Contractor's Proposal, **Bid Item No. 9**. Each and every Asphalt Concrete load ticket shall be delivered to the County by truck drivers at the point of delivery.

END OF SECTION

SECTION 9 - CONCRETE STRUCTURES

9.1 GENERAL

The work covered by this section shall consist of furnishing all necessary labor, materials, equipment, tools and supervision for the construction of Portland Cement Concrete (PCC) structures which includes a drainage channel and concrete pad extension. The work shall include but not be limited to grading, excavation, subgrade preparation, and construction of the PCC structures to the elevations, lines and grades and at the locations shown on the Project Drawings or as directed by the County. This work shall also include any cut or backfill necessary to achieve finished elevations adjacent to the structures once construction of PCC structures is complete.

9.2 SUBMITTALS

9.2.1 Concrete And Shotcrete

A. Mix design and certifications:

The Contractor shall submit a mix design and certifications to the County for review and acceptance at least two (2) weeks prior to beginning placement of concrete for each mix design incorporated for use in this project.

B. Concrete delivery load tickets

Each and every concrete load ticket shall be delivered to the County by truck drivers at the point of delivery. The mix plant shall supply delivery ticket for each batch of concrete. The Contractor shall submit delivery tickets to the County. Delivery tickets shall show following:

- i. Name of ready-mix batch plant
- ii. Serial number
- iii. Date and truck number
- iv. Name of Contractor
- v. Name and location of job
- vi. Specific classes or designation of concrete in conformance with that required in job specification
- vii. Amount of concrete
- viii. Time loaded
- ix. Type, name, and amount of admixtures used
- x. Amount and type of cement
- xi. Total water content
- xii. Water added by receiver of concrete with his or her signature initials

9.2.2 Concrete Reinforcing Steel

A. Mill Certificate

The Contractor shall provide mill certificates to the County for approval prior to delivery.

of material to the job site.

9.2.3 Concrete Curing Compounds

The Contractor shall submit the manufacturer's product data and installation instructions to the County for review and acceptance at least two (2) weeks prior to application.

9.3 MATERIALS

- A. The Contractor shall adhere to Stormwater Best Management Practice (BMP) WM-8 – Concrete Waste Management as published by the California Stormwater Quality Association and implement in their project-specific SWPPP. This will include but not limited to the installation and removal of onsite temporary concrete washout facilities. Contractor shall provide application of this BMP at the direction of, and location(s) directed by, the County. Contractor shall not begin pouring concrete for the construction of any drainage structure until an onsite temporary concrete washout facility is verified by the County. Any cost associated with the canceling of a concrete order due to the lack of an onsite temporary concrete washout facility shall be at the expense of the Contractor.
- B. Portland Cement Concrete material for the drainage structures shall be Class 650-D-3250P (Shotcrete) in conformance with Section 201-1 of the Standard Specifications and shall be air-placed in conformance with sub-section 303-2.1.3 Method B (Shotcrete) of the Standard Specifications.
- C. Fiber Reinforcement for Class 650-D-3250P concrete items shall conform to sub-section 201-2.3 Type III of the Standard Specifications.
- D. Portland Cement Concrete for the pad extension shall be Class 650-CW-6000 or approved equal, shall have a minimum compression strength of 4000 psi after 7 days of curing and shall conform to Section 201-1 of the Standard Specifications.
- E. Reinforcement for the concrete pad extension shall be grade 60 #4 steel rebar.
- F. Type II white-pigmented curing compound for PCC structures shall conform to sub-section 201-4.1.1 of the Standard Specifications.

9.4 EXECUTION

- A. The subgrade for PCC structures shall be prepared either by excavating or filling and shall conform to lines, grades, and cross sections and be located as shown on the Project Drawings. Where the structures are in native cut, the upper six (6) inches of subgrade shall be compacted to a minimum of 90% of the maximum density as determined per ASTM D1557. This shall be achieved by scarifying the exposed surface to a depth of six (6) inches and re-compacting this earthen section as required by the Specifications. For areas requiring engineered fill, the

finished subgrade shall be firm and suitable for placement of PCC structures, and shall be compacted to a minimum of ninety-percent (90%) of the maximum density as determined per ASTM D1557. Clearing, grubbing and excavation for the PCC structures shall comply with the provisions of Section 300-7 of the Standard Specifications. Any excess soil material resulting from excavation shall be hauled to and stockpiled adjacent to the landfill working face as directed by the County. No additional compensation will be providing for hauling of excess soil material.

- B. Contractor shall notify County site personnel at least one day prior to delivery of PCC materials to the Badlands Landfill for each day of delivery. Delivery trucks shall access work areas by use access routes approved in advance by the County.
- C. Base is currently in place at the location of the concrete pad extension and shall be removed as part of Bid Item No. 4 "Demolition" (SECTION 5 -) prior to preparation of the subgrade. Base shall be replaced around the concrete pad extension as part of Bid Item No. 13 "Expand 5-inch Thick Concrete Pad" in accordance with specifications in 13.3.
- D. Mortar blocks with wire ties, or other means acceptable to the County shall be used to secure welded wire mesh reinforcement firmly in place.
- E. Concrete mixing shall comply with Section 201-1.4 of the Standard Specifications.
- F. Concrete for the drainage channel shall be placed in accordance with Section 303-2 for Method B (Shotcrete) of the Standard Specifications. Concrete shall be installed and finished to provide positive drainage towards downstream drainage structures.
- G. Construction of the pad extension shall adhere to Section 303-1 of the Standard Specifications.
- H. Type II white-pigmented curing compound shall be applied to all concrete structures in accordance with the requirements of sub-sections 201-4.1.2 and 303-1.10 of the Standard Specifications.
- I. Weakened plane joints for PCC structures shall be installed perpendicular to the water flow direction at ten (10) foot intervals along the water flow direction as directed by the County. Depth of joint shall be one (1) inch.
- J. Open joints shall be constructed using a suitable material that is subsequently removed. PCC corners shall not be chipped or broken when removing material. Reinforcement shall not be extended through an open joint. Joint filler shall be placed in position before PCC is placed. Joints shall be filled with mastic to

prevent the passage of concrete. PCC edges at joints shall be finished using an edger.

- K. When drainage structures and adjoining drainage structures are constructed on multiple pours, Contractor shall utilize a construction joint with adjoining steel dowel between the construction joint. Steel dowel shall adhere to Section 201-2.2.1 of the Standard Specifications.
- L. Reinforcing steel shall be placed in accordance with Section 303-1.7 of the Standard Specifications. Rebar for the concrete pad extension shall be spaced at 15" o.c. in both directions.
- M. As deemed necessary by the County, sets of three (3) test cylinders of PCC being placed will be cast and tested by the County. One (1) of the test cylinders shall be tested at 7 days for 70 percent of project-specified design strength. The remaining two cylinders shall be tested at 14 days and 28 days (for full design strength) respectively. PCC compressive strength testing shall be per ASTM C39 and ASTM C31. The cylinders shall be paid for by the County.
- N. Contractor shall collect and retain possession of each and every PCC load ticket at the time of material delivery to the project site. Contractor shall present a complete set of daily load tickets to the County on the day PCC material(s) is placed.

9.5 MEASUREMENT AND PAYMENT

- A. **Payment for Bid Item No. 10** "Construct Concrete Drainage Structures" shall be based on the final in-place square footage of ground covered with Concrete Drainage Structures within the limits specified in the Project Drawings and as directed by the County. The area of the final surface shall be verified by the County based on conventional ground surveying. Quantity shall be calculated based on the "true" area and to the nearest square foot utilizing digital terrain modeling method. Payment shall be made, after acceptance, at the contract unit price per square foot as stated in the Contractor's Proposal, **Bid Item No. 10**. Payment shall constitute full compensation for furnishing all labor, supervision, materials, tools, and equipment necessary to install concrete drainage channels in accordance with the Contract Documents. No additional compensation shall be given for concrete drainage structures placed outside the specified limits and dimensions unless otherwise ordered in writing by the County. No additional compensation will be given for hauling of excess soil material leftover during subgrade preparation.
- B. **Payment for Bid Item No. 13** "Expand 5" Thick Concrete Pad" shall be based on the final in-place square footage of ground covered with Concrete Pad Extension within the limits specified in the Project Drawings and as directed by the County.

The area of the final surface shall be verified by the County based on conventional ground surveying. Quantity shall be calculated based on the "true" area and to the nearest square foot utilizing digital terrain modeling method. Payment shall be made, after acceptance, at the contract unit price per square foot as stated in the Contractor's Proposal, **Bid Item No. 13**. Payment shall constitute full compensation for furnishing all labor, supervision, materials, tools, and equipment necessary to expand 5" thick concrete pad, including replacement of aggregate base around its perimeter, in accordance with the Contract Documents. No additional compensation shall be given for concrete pad extension placed outside the specified limits and dimensions unless otherwise ordered in writing by the County. No additional compensation will be given for hauling of excess soil material leftover during subgrade preparation.

- C. There shall be no additional payment to the Contractor for the installation of keyways adjacent to existing PCC structures. Compensation for the installation of keyways for Concrete Drainage Structures shall be considered as included in the various other contract bid items of work.

END OF SECTION

SECTION 10 - GROUTED RIPRAP

10.1 GENERAL

The work covered by this section shall consist of furnishing all necessary labor, materials, equipment, tools and supervision for the construction of grouted riprap lining for energy dissipating drainage aprons. The work shall include but not be limited to grading, excavation, subgrade preparation, and construction of grouted riprap to the line, grade, elevations, and location shown on the Project Drawings or as directed by the County. This work shall also include any cut or backfill necessary to achieve finished elevations adjacent to the structures.

10.2 SUBMITTALS

A. Mix design and certifications:

The Contractor shall submit a mix design and certifications for concrete to the County for review and acceptance at least two (2) weeks prior to beginning placement. Contractor shall provide written documentation certified by the rock material supplier and acceptable to the County that Light Class Rock conforms to the grading of concreted-rock slope protection, as well as apparent specific gravity, absorption, durability index and percentage wear requirements described in sub-section 200-1.6.3 of the Standard Specifications.

B. Concrete delivery load tickets

Each and every concrete load ticket shall be delivered to the County by truck drivers at the point of delivery. The mix plant shall supply delivery ticket for each batch of concrete. The Contractor shall submit delivery tickets to the County. Delivery tickets shall show following:

- xiii. Name of ready-mix batch plant
- xiv. Serial number
- xv. Date and truck number
- xvi. Name of Contractor
- xvii. Name and location of job
- xviii. Specific classes or designation of concrete in conformance with that required in job specification
- xix. Amount of concrete
- xx. Time loaded
- xxi. Type, name, and amount of admixtures used
- xxii. Amount and type of cement
- xxiii. Total water content
- xxiv. Water added by receiver of concrete with his or her signature initials

C. Stone delivery

Contractor shall notify County site personnel at least one day prior to delivery of grouted riprap materials to the Badlands Landfill for each day of delivery. Delivery trucks shall access work area by use of the designated access route shown on the Project Drawings

unless otherwise directed in writing by the County. Contractor shall deliver each and every material load ticket to the County.

D. Concrete Curing Compounds

The Contractor shall submit the manufacturer's product data and installation instructions to the County for review and acceptance at least two (2) weeks prior to application.

10.3 MATERIALS

- A. Stone shall be quarystone or cobblestone. Quarystone shall be angular and cobblestone shall be rounded. Flat or elongated shapes will not be accepted unless the thickness of the individual pieces is at least 1/3 of the length. Stone shall be sound, durable, hard, resistant to abrasion and free from laminations, weak cleavage planes, and the undesirable effects of weathering. Stone shall be of such character that it will not disintegrate from the action of air, water, or the conditions to be met in handling and placing. Stone shall be clean and free from deleterious impurities, including alkali, earth, clay, refuse, and adherent coatings. Stone Quality shall also adhere to Section 200-1.6.3 and Table 200-1.6.3 of the Standard Specifications.
- B. Stone for rip-rap shall be Light Class and conform to the gradation listed in Table 200-1.6.2 (A) of the Standard Specifications.
- C. Concrete for rip-rap shall be Class 520-C-2500P or 650-D-3250P in conformance with Section 201-1 of the Standard Specifications except that the slump of the concrete shall be adjusted to provide the penetration of ten inches (10") as shown in Table 300-11.3.1, and shall be air-placed in conformance with sub-section 303-2.1.3, Method B (Shotcrete), of the Standard Specifications.
- D. Fiber Reinforcement for concrete rip-rap shall conform to sub-section 201-2.3 Type III of the Standard Specifications.
- E. Type 2 curing compound shall conform to sub-section 201-4.1.1 of the Standard Specifications.

10.4 EXECUTION

- A. The subgrade for the grouted riprap shall be prepared by either cutting or filling to the lines, grades and cross sections shown on the Project Drawings or as directed by the County. The subgrade shall be prepared to the specified grades, compacted to 90% relative compaction, contain no loose material, and be subject to the acceptance of the County.
- B. In placing the riprap stones, the Contractor shall take adequate precautions to avoid displacement of underlying bedding material. Stones may be placed by dumping and may be spread in layers by dozers or other suitable equipment. The Contractor may move and place individual stones as necessary to obtain a

reasonably well-graded distribution with a minimum of voids. The surface of the stones to be concreted must be cleaned of adhering soil and then moistened. The finish rip-rap lining shall be free of pockets of small stones or clusters of larger rocks and shall be accepted by the County.

- C. Concrete mixing shall comply with Section 201-1.4 of the Standard Specifications.
- D. The grouted rip-rap shall be placed to the full thickness of three feet (3') and consist of a minimum penetration depth of ten inches (10") for the Light Class Rock as listed in Table 300-11.3.1 of the Standard Specifications. Concrete for grouted rip-rap shall be air-placed concrete in accordance with sub-sections 303-2.1.3 Method B ("Shotcrete"), part 2 of 303-2.2, 303-2.4, 303-2.6, 303-2.7, 303-2.8, 303-2.9, 303-1.10 and 300-11.3.2 of the Standard Specifications.
- E. Type 2 – white-pigmented curing compound shall be applied to the shotcrete grout in accordance with the requirements of sub-section 201-4.1.2 and 303-1.10.

10.5 MEASUREMENT AND PAYMENT

The measurement of the final quantity for **Bid Item No. 11** 'Furnish and install Grouted Riprap' shall be determined by the County by measuring the surface area within the limits specified in the Contract Documents. Measurement shall be determined after the Grouted Riprap structures have been installed and verified to the satisfaction of the County. The area of the final surface shall be verified by the County based on conventional ground surveying method. Quantity shall be calculated based on "true" area of the riprap surface area and to the nearest square foot utilizing digital terrain modeling method. Payment for all Grouted Riprap structures shall be at the contract unit price per square feet as stated in the Contractor's Proposal, **Bid Items No. 11** and shall constitute full compensation to the Contractor for all work related to the construction of Grouted Riprap structures in the project including but not limited to: furnishing all labor, materials, tools, equipment, subgrade preparation, and incidentals, and for doing all the work involved in constructing Grouted Riprap structures, complete in place, as shown on the Project Drawings or as directed by the County. Payment for all Grouted Riprap structures shall include subgrade preparation as specified in the Contract Documents and indicated in the Project Drawings.

END OF SECTION

SECTION 11 - NON-GROUTED RIPRAP

11.1 GENERAL

The work covered by this section shall consist of furnishing all necessary labor, materials, equipment, tools and supervision for the construction of non-grouted riprap lining for energy dissipating drainage aprons. The work shall include but not be limited to grading, excavation, subgrade preparation, and construction of non-grouted riprap to the line, grade, elevations, and location shown on the Project Drawings or as directed by the County. This work shall also include any cut or backfill necessary to achieve finished elevations adjacent to the structures.

11.2 SUBMITTALS

Contractor shall notify County site personnel at least one day prior to delivery of non-grouted riprap materials to the Badlands Landfill for each day of delivery. Delivery trucks shall access work area by use of the designated access route shown on the Project Drawings unless otherwise directed in writing by the County. Contractor shall deliver each and every material load ticket to the County.

11.3 MATERIALS

- A. Stone shall be quarystone or cobblestone. Quarystone shall be angular and cobblestone shall be rounded. Flat or elongated shapes will not be accepted unless the thickness of the individual pieces is at least 1/3 of the length. Stone shall be sound, durable, hard, resistant to abrasion and free from laminations, weak cleavage planes, and the undesirable effects of weathering. Stone shall be of such character that it will not disintegrate from the action of air, water, or the conditions to be met in handling and placing. Stone shall be clean and free from deleterious impurities, including alkali, earth, clay, refuse, and adherent coatings. Stone Quality shall also adhere to Section 200-1.6.3 and Table 200-1.6.3 of the Standard Specifications.
- B. Stone for rip-rap shall be Light Class and conform to the gradation listed in Table 200-1.6.2 (A) of the Standard Specifications.

11.4 EXECUTION

- A. The subgrade for the non-grouted riprap shall be prepared by either cutting or filling to the lines, grades and cross sections shown on the Project Drawings or as directed by the County. The subgrade shall be prepared to the specified grades, compacted to 90% relative compaction, contain no loose material, and be subject to the acceptance of the County.
- B. In placing the riprap stones, the Contractor shall take adequate precautions to avoid displacement of underlying bedding material. Stones may be placed by dumping and may be spread in layers by dozers or other suitable equipment. The

Contractor may move and place individual stones as necessary to obtain a reasonably well-graded distribution with a minimum of voids. The surface of the top layer of stones must be cleaned of adhering soil and then moistened. The finish rip-rap shall be free of pockets of small stones or clusters of larger rocks and shall be accepted by the County.

- C. The non-grouted rip-rap shall be placed to the full thickness of 2.6' and consist of Light Class Rock as listed in Table 300-11.3.1 of the Standard Specifications.

11.5 MEASUREMENT AND PAYMENT

The measurement of the final quantity for **Bid Item No. 12** 'Furnish and install non-Grouted Riprap' shall be determined by the County by measuring the surface area within the limits specified in the Contract Documents. Measurement shall be determined after the non-Grouted Riprap structures have been installed and verified to the satisfaction of the County. The area of the final surface shall be verified by the County based on conventional ground surveying method. Quantity shall be calculated based on "true" area of the riprap surface area and to the nearest square foot utilizing digital terrain modeling method. Payment for all non-Grouted Riprap structures shall be at the contract unit price per square feet as stated in the Contractor's Proposal, **Bid Items No. 12** and shall constitute full compensation to the Contractor for all work related to the construction of non-Grouted Riprap structures in the project including but not limited to: furnishing all labor, materials, tools, equipment, subgrade preparation, and incidentals, and for doing all the work involved in constructing non-Grouted Riprap structures, complete in place, as shown on the Project Drawings or as directed by the County. Payment for all non-Grouted Riprap structures shall include subgrade preparation as specified in the Contract Documents and indicated in the Project Drawings.

END OF SECTION

SECTION 12 - SKIMMER BULKHEAD COUPLING

12.1 GENERAL

The work covered in this section shall consist of furnishing all necessary labor, materials, equipment, tools and supervision to reconstruct the bulkhead of the existing skimmer system in the Southwest Sedimentation Basin as defined below, shown on the Project Drawings, and as directed by the County.

12.2 MATERIALS

- A. Existing skimmer system shall be protected in place. Any component of the system which is damaged shall be immediately replaced by equivalent approved by the County.

12.3 EXECUTION

- A. Contractor shall protect in place, or remove and reinstall as needed all appurtenances currently installed as part of the Southwest Sedimentation Basin skimmer system including but not limited to skimmer, couplings, bulkhead, CMP, flex hose, RCP, and valves.
- B. Contractor shall reconstruct the skimmer bulkhead to CMP connection as shown on the Project Drawings.
- C. Existing bulkhead shall be cut from the CMP at the welded seal. Approximately 1' of the CMP culvert pipe shall be cut and removed or as directed by County in the field.
- D. Existing bulkhead shall be welded to the top of the shortened CMP culvert pipe around entire perimeter so as to create a water-tight seal. Welding shall conform to Section 304-1.9 of the Standard Specifications.

12.4 MEASUREMENT AND PAYMENT

- A. **Measurement and Payment** to reconstruct the skimmer bulkhead coupling for the Southwest Sedimentation Basin skimmer including cutting, removing, and welding the bulkhead and CMP connection shall be made after County acceptance, included in the Lump Sum price stated in the Contractor's proposal **Bid Item No. 17** - "Reconstruct Southwest Sedimentation Basin Skimmer Bulkhead Coupling". **Payment** shall constitute full compensation for furnishing all labor, supervision, materials, tools, and equipment necessary to reconstruct skimmer bulkhead coupling system in accordance with the Contract Documents.

SECTION 13 - AGGREGATE BASE

13.1 GENERAL

The work covered by this section shall consist of furnishing all necessary labor, materials, equipment, tools, and supervision for furnishing and construction and installation of 12-inch thick Class II or Class III aggregate base. The work shall include, but is not limited to aggregate base, road subgrade preparation and construction and installation of aggregate base at the locations shown on the Project Drawings or as directed by the County.

13.1.1 SUBMITTALS

- A. The Contractor shall submit Certificates of Compliance for aggregate base materials used in this project. The certificates shall be signed by the manufacturer of the materials and shall state that materials involved shall comply in all respects with the requirements of these specifications.
- B. The Contractor shall submit to the County gradation test reports before delivery of aggregate base materials to the project site. The Contractor shall obtain the County's approval of the aggregate base material and material source in advance of the use of such materials in the work.

13.2 MATERIALS

- A. Aggregate for Class II or Class III aggregate base must be clean and consist of any combination of the following:
 - a. Broken stone
 - b. Crushed gravel
 - c. Natural rough surfaced gravel
 - d. Sand
 - e. Processed reclaimed asphalt concrete or Portland Cement Concrete
- B. Class II aggregate base shall comply with Section 26-1.02B of the State Standard Specifications for 1- 1/2" maximum particle size.
- C. Class III aggregate base shall comply with Section 26-1.02C of the State Standard Specifications for 1-1/2" maximum particle size.

13.3 EXECUTION

- A. Subgrade preparation and aggregate base placement operations (adding water, spreading and compacting) shall be performed in accordance to Section 26 of the State Standard Specifications.
- B. Subgrade for the aggregate base road shall be compacted to a minimum of 90 percent relative compaction (or as otherwise noted on the Project Drawings) as determined by ASTM D1557.
- C. Subgrade and finished road surface within the grading limits shall be graded to ensure positive drainage towards drainage structures as shown on the Project Drawings.
- D. The Contractor shall construct the 12-inch thick Aggregate Base on a prepared and approved subgrade, as required by the Contract Documents. The Contractor shall provide construction stakes to control line and grade. Placement of grade stakes shall be parallel to the construction aggregated base placement lifts and spaced for string lining or other control methods. The base material shall consist of aggregate processed, deposited, spread, and compacted on a prepared and accepted surface. The Contractor shall be solely responsible for protection of completed areas against detrimental effects. Reconditioning, reshaping, and re-compacting of areas damaged by rainfall, or other weather conditions shall be the Contractor's responsibility.
- E. Place earth or other accepted materials along the edges of the aggregate base material in such a quantity that it will compact to the thickness of the course being constructed. When the aggregate base is being constructed in two or more layers, place material to the width of the shoulder to be rolled and compacted simultaneously with the rolling and compacting of each base layer.
- F. After placement is completed, the Contractor shall maintain the aggregate base course throughout, except where portion of the succeeding course is under construction thereon. Maintenance includes drainage, rolling, shaping, and watering, as necessary, to maintain the course in proper condition. Correct deficiencies in thickness, composition, construction, smoothness, and density, which develop during the maintenance, to conform to the requirements specified herein. Maintain sufficient moisture by light sprinkling with water at the surface to prevent a dusty condition.
- G. The County estimates an in place square footage of approximately 35,610 sf of aggregate base being required to meet the lines and grades specified in the project drawings. The County will either be selecting Optional Alternative Bid Item No. 22 or 23 for the aggregate base to be installed and not both.
- H. The low bid will be awarded by the County based upon the prices bid for both Bid Items No. 22 and 23.

13.4 MEASUREMENT AND PAYMENT

- A. The measurement of the final quantity for **Optional Alternative Bid Item No. 22** "Construct 12" Thick Class II Base" shall be at the contract unit price per square foot as stated in **Optional Alternative Bid Item No. 22** "Construct 12-Inch Thick Class II Base" and shall constitute full compensation to the Contractor for all work related to the construction of 12" thick Class II Base, including but not limited to: subgrade preparation, compaction, and furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in placing the aggregate base, complete in place, as shown on the Project Drawings or as directed by the County.

- B. The measurement of the final quantity for **Optional Alternative Bid Item No. 23** "Construct 12" Thick Class III Base" shall be at the contract unit price per square foot as stated in **Optional Alternative Bid Item No. 23** "Construct 12-Inch Thick Class III Base" and shall constitute full compensation to the Contractor for all work related to the construction of 12" thick Class III Base, including but not limited to: subgrade preparation, compaction, and furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in placing the aggregate base, complete in place, as shown on the Project Drawings or as directed by the County.

END OF SECTION

SECTION 14 - GREENWASTE APPLICATION OVER SLOPES

14.1 GENERAL

The work covered in this section shall consist of furnishing all necessary labor, materials, equipment, tools and supervision for the spreading of Processed Green Waste materials within designated areas at the Badlands landfill as shown on the Project Drawings or as directed by the County.

14.2 MATERIALS

- A. Processed Green Waste is defined as green waste material which has been ground so that the maximum dimension in any direction is six (6) inches or less. Processed Green Waste shall be composed of green waste material only, free of refuse, and contaminants as solely determined by the Department. Processed Green Waste shall be procured only from in-County sources.

14.3 EXECUTION

- A. The County shall have clean Processed Green Waste materials delivered to the site, up to 500' from the slopes in which Contractor spreading work shall occur. Due to the dynamic nature of landfill operations, Contractor may be required to place Processed Green Waste at any location within the landfill footprint. The Contractor shall provide the equipment and manpower to evenly spread Processed Green Waste materials in a safe and efficient manner as determined by the County.
- B. The County shall have Processed Green Waste delivered to areas adjacent to, but up to 500' from access benches, decks and to bottoms of slope in quantity, location and frequency agreed upon by County and Contractor. Contractor shall be responsible for pushing or transporting Processed Green Waste from the delivered location to the hinge and toes of slopes to received application.
- C. Processed Green Waste material shall not be placed or spread over gravel roads or benches, or on hardscape (concrete or asphalt) structures. Any material placed within these areas shall be removed by the Contractor.
- D. Contractor shall ensure that three (3) to six (6) inches of Green Waste material covers designated areas shown on the Project Drawings.
- E. Green Waste material shall be spread by use of a manure spreader or similar type of equipment as approved in advance by the County. In no case shall the depth of spread Green Waste material be less than three (3) inches or greater than six (6) inches in final placed form.

- F. Contractor shall track walk finished earthen slopes prior to commencing placement of green waste product.
- G. Contractor shall apply adequate compaction to the spread green waste product as determined by the County, and track walk finished green waste slope after completing placement with a D6 Dozer or similar type of equipment as approved in advanced by the County.
- H. Contractor shall apply adequate water for dust control purposes.
- I. Contractor heavy equipment and vehicles shall travel no closer than ten (10) feet to any environmental structure. Green Waste material shall be hand-placed within ten (10) feet of environmental structures including but not limited to, above-ground pipe system, wells, bollards, etc. Any material placed on these structures shall be removed by the Contractor. Green Waste material shall be placed no closer than five (5) feet from vault boxes.
- J. The Department may halt and suspend the work of the Provider at any time without notice in order to complete Department business, such as performing landfill operations, site maintenance, or groundwater/gas monitoring work.
- K. The County estimates an in place area of 217,003 sf of greenwaste being required for erosion control on this project. However, this quantity is dependent on refuse lift sequencing. This quantity is for bidding purposes at this time and may not be the final quantity required. Regardless of the final quantity (however high or low), the Contractor shall be paid only based upon the unit price stated for Bid Item No. 15; and in no event shall the Contractor be paid any different amount based upon the contract documents, standard specifications or any other source.

14.4 MEASUREMENT AND PAYMENT

- A. County topographical mapping for each designated area that may receive Processed Green Waste shown in the Project Drawings shall be used for determining payment area (in square feet) once Processed Green Waste for each site has been installed to the satisfaction of the County.
- B. **Payment** for Processed Green Waste shall be at the contract unit price per square foot as stated in **Bid Item No. 15** and shall constitute full compensation to the Contractor for all work related to the spreading of Processed Green Waste on slopes including but not limited to: furnishing all labor, supervision, materials, tools, and equipment; providing dust control, pushing or hauling processed green waste up to 500' from stockpile to toe and hinges of slopes receiving application, spreading, shaping, compacting and track walking. All other work required by the Contract Documents to complete the spreading Processed Green Waste material shall be considered incidental to the work and will not be paid for separately.

SECTION 15 - SILT FENCE

15.1 GENERAL

The work covered by this section shall consist of furnishing all necessary labor, materials, equipment, tools, and supervision for the installation of High-Density Polyethylene (HDPE) silt fence including sandbag checkdams at the locations indicated on the Project Drawings or as directed by the County.

15.2 SUBMITTALS

The Contractor shall submit product data sheet, and manufacturer's application instructions for all materials to the County for approval.

15.3 MATERIALS

- A. The HDPE silt fence shall consist of an HDPE outer jacket with an integrated particle filter. HDPE silt fence shall be a minimum of 20" in height and come in sections of 7-foot in length. The HDPE silt fence shall be S-Fence, SF20, as manufactured by ERTEC Environmental Systems or approved equal.
- B. Steel stakes shall be a minimum of 1.5" (width) x 24" (height) x 3/8" (thick) in size or approved equal.
- C. Sandbags shall be Duraskrim 8BBR ultra violet resistance or approved equal. Sandbags shall be filled with clean soil and shall not contain brush, roots, sod, or other deleterious or unsuitable materials.

15.4 EXECUTION

HDPE Silt fence shall be installed as follows:

- A. Contractor shall furnish and install the HDPE Silt fence in strict conformance with the manufacturer's instructions, Contract Documents, or as directed by the County.
- B. Contractor shall excavate anchor trenches in accordance with the Project Drawings and as specified in the manufacturer's instructions.
- C. Contractor shall install the HDPE silt fence in slot against the downstream side of the trench wall and backfilled to grade level.
- D. Contractor shall provide a minimum of 4-inch overlap between adjacent HDPE silt fence sections. Steel stakes shall be installed on the downstream side of each overlap. Additional stakes shall be installed at the middle of each section. Contractor shall use zip-ties, bailing wires or approved equal to attach the silt fence to the steel stakes.
- E. HDPE silt fence shall be placed along the edges of drainage structures as shown on the Project Drawings.
- F. Sandbag checkdams shall consist of a total of four (4) sandbags stacked two high as shown in the Project Drawings or as directed by the County. Sandbags checkdams shall be placed behind all installed S-fences and spaced every 25' or as directed by the County.

- G. The County estimates an in place length of 1,745 lf of silt fence being required for erosion control on this project. However, this quantity is dependent on refuse lift sequencing. This quantity is for bidding purposes at this time and may not be the final quantity required. Regardless of the final quantity (however high or low), the Contractor shall be paid only based upon the unit price stated for Bid Item No. 16; and in no event shall the Contractor be paid any different amount based upon the contract documents, standard specifications or any other source.

15.5 MEASUREMENT AND PAYMENT

The **measurement** of the final quantity for **Bid Item No. 16** "Furnish & Install Silt Fence" shall be determined by the County based on field measurements of the axial length (linear feet) of silt fence installed at the locations and to the dimensions shown on the Project Drawings. Joining and overlapping of HDPE silt fence sections will not be measured. **Payment** for the HDPE silt fence shall be at the contract unit price per linear foot as stated in the Contractor's Proposal, **Bid Item No. 16** and shall constitute full compensation to the Contractor for all work related to the supply and installation of HDPE silt fence in the project including but not limited to: furnishing all labor, supervision, materials, tools, equipment, excavating and backfilling trenches, hauling excavated material, steel stake anchors, installing silt fences, and any other requirements by the Contract Documents for the supply and installation of HDPE silt fence.

END OF SECTION

SECTION 16 - INFILTRATION TRENCHES

16.1 GENERAL

The work covered by this Section shall consist of furnishing all necessary labor, materials, equipment, tools, and supervision for the construction of the Infiltration Trenches. The work shall include subgrade preparation and construction of the Percolation Trenches at the locations shown on the Project Drawings or as directed by the County.

16.2 SUBMITTALS

Prior to delivery of materials, the Contractor shall submit product data sheet, engineered drawings, material specifications and manufacturer's application instructions for all materials to the County for approval. Contractor shall also submit certified boring logs for the drilling of the infiltration trenches.

16.3 MATERIALS

A. Rock

Rock material to be used within the percolation trenches and within the percolation shafts shall consist of washed Crushed Aggregate Base consisting entirely of crushed rock greater than 3 inches in size but smaller than 6 inches.

B. 16 oz. Geotextile

The geotextile material shall be a new, high quality product designed and manufactured specifically for the purposes of this project. Its suitability and durability for this type of work shall have been adequately demonstrated by prior applications. The geotextile shall be 100 percent polyester or polypropylene, needle-punched, and non-woven. Geotextile rolls shall be shipped and stored in opaque and watertight wrappings. The geotextile fabric installation shall be performed under the ongoing observation of the County and according to the Contract Documents. The manufacturer's certification shall demonstrate that the geotextile meets or exceeds the following Minimum Average Roll Values MARV (in the weakest principal Direction):

Property	Unit	Test Method	Value 16 oz.
Mass per unit Area	oz./sy	ASTM D5261	16
Apparent Opening Size	US Std. Sieve	ASTM D4751	70-140
Permittivity	sec ⁻¹	ASTM D4491	0.7
Puncture Resistance	lbs	ASTM D4833	170
Static Puncture Strength	lbs.	ASTM D6241	900

Trapezoidal Tear Strength	lbs	ASTM D4533	145
Grab Tensile/Elongation	lbs/%	ASTM D4632	320/50
UV Resistance – 70% Strength Retained	hrs.	ASTM D4355	500

16.4 EXECUTION

- A. The Contractor shall prepare the subgrade for the infiltration trenches by excavation to the grades indicated on the Project Drawings. This work may include ripping, breaking, and dozing of materials using standard earthmoving equipment up to and including CAT D-9 with single ripper type equipment. This item shall also include keeping excavation areas neat and orderly, and completing the excavation to the satisfaction of the County.
- B. Excavated material shall be transported and placed by the Contractor in the designated stockpile for excess material as shown on the Project Drawings or as directed by the County. Surface drainage shall be maintained at all times in the excavation and stockpile areas. Surfaces of flat areas shall be graded to ensure positive drainage in accordance with the Project Drawings and finish-graded with a motor grader or approved equal. Final surface areas shall be finished by track walking and left in a uniformly graded condition to prevent or minimize erosion.
- C. The Contractor shall excavate the infiltration trenches and shafts to the dimension stated in the Project Drawings and shall be immediately backfilled with rock material as specified in the Project Drawings. No personnel shall be allowed to enter the trenches at any time. Infiltration trenches shall be excavated in such a manner as to ensure that trench sidewalls will be stable under all working conditions. The infiltration trenches shall be constructed in conformance with CAL-OSHA standards. All excavations shall be barricaded in conformance with Cal/OSHA standards. Prior to excavation, Contractor shall acquire and submit an exemption letter or trenching permit from CAL-OSHA and comply with Labor Code Section 6705, Excavation Plans for Worker Protection. If shoring/bracing is proposed, the Contractor's design and installation of shoring/bracing shall be in compliance with CAL-OSHA standards.
- D. The Contractor shall furnish and install the rock in the trenches and shafts in accordance with the Contract Documents and at the location specified in the Project Drawings or as directed by the County.
- E. The Contractor shall furnish and install the 16 oz. geotextile layer material at the specific locations shown on the Project drawings. The geotextile shall be laid smooth without wrinkles or folds on the prepared subgrade in the direction of the construction traffic. Tension should be applied to the geogrid until at least 70 percent of the geogrid area is covering the infiltration trench. Adjacent geotextile rolls shall have a minimum 12-inch overlap. Geotextile shall be anchor trenched in the direction in which the geotextile is laid out, to aid in tensioning. Equipment should not be allowed onto uncovered geotextile material. To avoid damaging the geotextile, a minimum of six (6) inches of backfill shall be placed on top of the geotextile anchor trench.

16.5 MEASUREMENT AND PAYMENT

- A. The Schedule of Values will establish unit prices for individual items of work and will be the basis for payment of contract work and will also be used to establish payment for any extra quantities. The acceptable form for the Schedule of Values, which represents the minimum level of detail required to quantify the scope of work is located in Exhibit A of the Contract Documents. The Contractor's submitted Schedule of Values **MUST** include unit prices for Items No.1 through No. 4. The total cost for the items specified on the contractor's submitted Schedule of Values must match the lump sum bid price in the Contractor's proposal for **Bid Item No. 18** "Construct Infiltration Trenches.
- B. As stated above, the quantities for the schedule of value work items for **Bid Item No. 18** are only estimates and are subject to change and may be individually increased, decreased, or deleted at the County discretion. The unit prices stated in the Contractor's Proposal for each item of work will be the basis for payment of the actual work performed by the Contractor and will also be used to establish payment for any extra work.
- C. The **Measurement** of the excavation and final grading for the infiltration trenches **Bid Item No. 18-1** "Excavation and Final Grading" shall be based only on the certified boring logs provided by the drilling subcontractor. **Payment** for the earthwork within the infiltration trenches shall be at the contract unit price per cubic yard as stated in the Contractor's Proposal, **Bid Item No. 18-1** and shall constitute full compensation to the Contractor for all work related to the excavation and final grading for the infiltration trenches in the project including but not limited to: furnishing all labor, supervision, materials, tools, equipment, removal of material, hauling material to designated stockpile, establishing finish grade in accordance with the Project Drawings, and any other requirements by the Contract Documents for the exaction of the infiltration trenches.
- D. The **Measurement** of the final quantity for **Bid Item No. 18-2** "Furnish & Install Rock Layer (3" – 6" Max Particle Size)" shall be determined by the certified boring logs provided by the drilling subcontractor. **Payment** for furnishing and installing this rock layer shall be made based on the unit price per cubic yard for the 3" to 6" max particle size rock, as stated in the Contractor's Proposal, **Bid Item No. 18-2** and shall constitute full compensation to the Contractor for all work related to furnishing and installing the 3" to 6" max particle size rock layer.
- E. The **Measurement** of the final quantity for **Bid Item No. 18-3** "Furnish & Install 16 oz./sy Geotextile Layer" shall be based on the final in-place square footage of ground covered with material placed within the limits specified in the project and after it has been installed and verified by the County. The area of the final surface shall be verified by the County based on conventional ground surveying. Quantity shall be calculated to the nearest square foot utilizing digital terrain modeling methods. **Payment** shall be made, after acceptance, at the unit price per square foot, as stated in

the Contractor's Proposal, **Bid Item No. 18-3**. Payment shall constitute full compensation to the Contractor for all work related to the furnishing and installation of geotextiles as required by the Contract Documents. No additional compensation shall be given for any geotextile waste materials (trimming of rolls, seam overlaps, patches, or related items).

- F. The **Measurement** of the final quantity for **Bid Item No. 18-4** "Construct 2' Diameter Gravel Shafts" shall be determined by the certified boring logs provided by the drilling subcontractor. Measurement shall be of the total length of gravel shafts furnished and installed by the Contractor. **Payment** for installing the gravel shafts shall be made based on the unit price per linear foot for the 2' diameter gravel shafts, as stated in the Contractor's Proposal, **Bid Item No. 18-4** and shall constitute full compensation to the Contractor for all work related to furnishing and installing the 2' diameter gravel shafts.

SECTION 17 - AUTHORIZED TIME & MATERIALS WORK

GENERAL

The County shall have the right to add work of a different character or function, and have the Contractor perform such added work when such work is considered by the County to be appurtenant to the satisfactory completion of the project. "Authorized Time and Materials" shall be made when prior authorization and approval has been provided to the Contractor by the County for work of a different character or function and for which no basis for payment is prescribed in the Contract Documents.

The Contractor shall provide a rate schedule for all labor and equipment that may reasonably be anticipated for use during the project. Labor rates shall be consistent with those required by the prevailing wage rate requirements of the Contract and shall reflect all benefits and employer costs. Once the labor and equipment rates have been approved by the Project Manager, they will become the basis for compensation for any Time and Material work requested by the County. The Contractor is advised, however, that there will be no compensation from the Time and Material Allocation unless the work has been authorized in writing by the Landfill Principal Engineer.

Additionally, use of the Time and Material Allocation will be at the sole discretion of the County. All or any portion of the allocation amount may be deleted from the Contract.

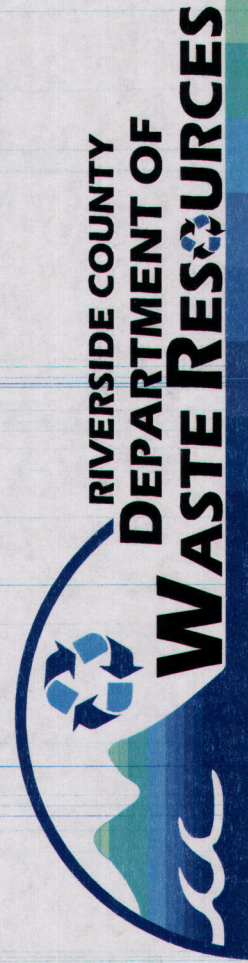
The signing of the contract by the Contractor will be deemed to be an agreement on his part to perform the added work, as and when ordered by the County. If the required added work results in delay to the project, the Contractor will be given an appropriate extension of time.

The cost of all work performed by the Contractor on an "Authorized Time and Material" basis will be computed in the manner described in Section 7.3. of the General Provisions in the Contract Documents, and the compensation thus provided shall be full payment to the Contractor related to the authorized time and material work.

END OF SECTION

BADLANDS SANITARY LANDFILL CONSTRUCTION PLANS FOR SITE MAINTENANCE AND IMPROVEMENTS DECEMBER 2016

PREPARED BY
DEPARTMENT OF WASTE RESOURCES
HANS KERNKAMP, GENERAL MANAGER/CHIEF ENGINEER
14310 FREDERICK STREET
MORENO VALLEY, CALIFORNIA 92553
TEL. (951) 486-3200 FAX (951) 486-3205



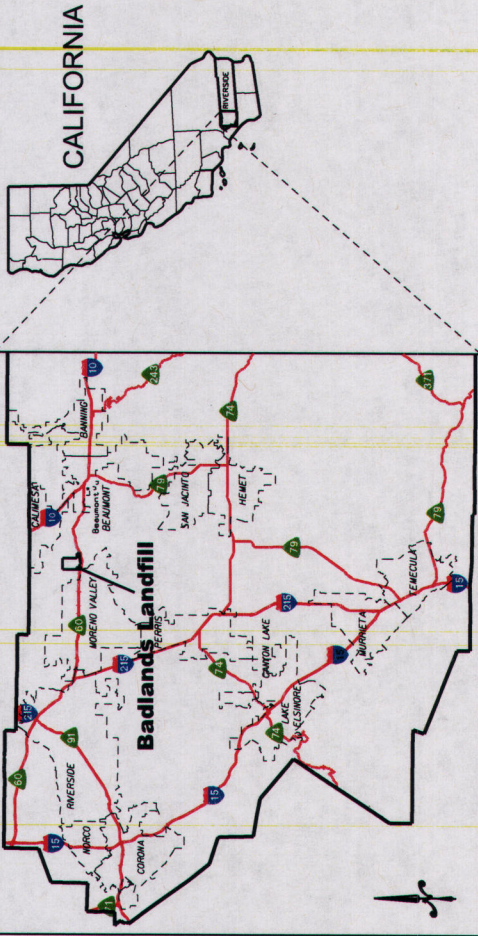
DEPARTMENT OF WASTE RESOURCES

APPROVED: _____
Hans Kernkamp, General Manager - Chief Engineer, R.C.E. 45888 Exp. 12/31/2016

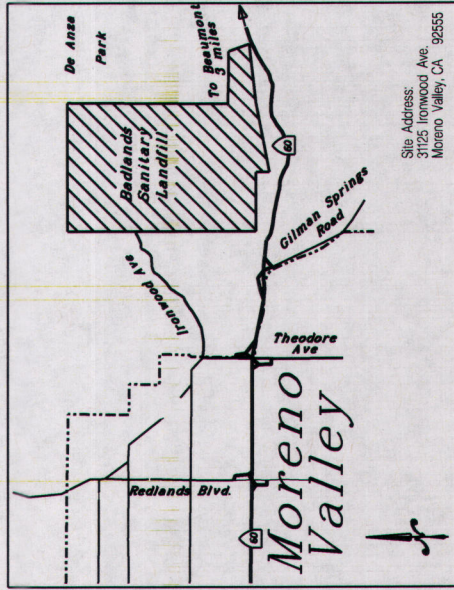
RECOMMENDED: _____
Joseph R. McClain, Assistant Chief Engineer, R.C.E. 51884 Exp. 8/30/2016

RECOMMENDED: _____
Andrew Cortez, Principal Engineer, R.C.E. 66528 Exp. 12/31/2017

SUBMITTED: _____
Manuel Ruiz, Associate Civil Engineer, R.C.E. 17725 Exp. 9/30/2016

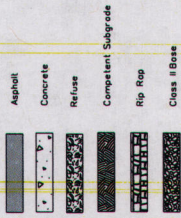


LOCATION MAP
N.T.S.

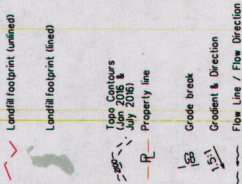


VICINITY MAP
N.T.S.

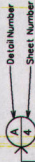
FILL PATTERNS



LEGEND



DETAIL CALLOUTS



CONSTRUCTION NOTE CALLOUTS



ABBREVIATIONS

AB	Aggregate Base
AC	Asphalt Concrete
APPROX	Approximate
BC	Begin Curve
C	Cut
C or CL	Center Line
CCP	Compacted Metal Pipe
CO	Clear cut
DA	Diameter
E	Existing
EC	End Curve
EL	Elevation
EOP	Edge of Pavement
Exist.	Existing
F	Flow
E or FL	Flow Line
GB	Grade Break
Hor.	Horizontal
HP	High Point
I	Inside Diameter
INVT	Invert
LF	Linear Feet
L	Length
N	North
NAD	North American Datum
NTS	Not To Scale
PI	Point of Intersection
POC	Point on Curve
R or PL	Property Line
PIV	Point of Vertical Intersection
R	Radius
RC	Reinforced Concrete
RCE	Registered Civil Engineer
RCFC	Riverside County Flood Control
STA	Station
TCE	Top of Slope
TS	Top of Slope
Typ	Typical
Vert.	Vertical

INDEX OF DRAWINGS

SHEET	FILE NAME	TITLE	SCALE (11" X 17")
1	Maintenance Improvement Details.dgn	This Sheet	NTS
2	Maintenance Improvement Details.dgn	Index, Legend, & Vicinity Map	1"=40'
3	Maintenance Improvement Map.dgn	Site Plan	1"=20'
4	Maintenance Improvement Details.dgn	SVI Basin Grading Plan and Details	1"=20'
5	Maintenance Improvement Map.dgn	Wastewater Basin Grading Plan	1"=20'
6	Maintenance Improvement Map.dgn	Basin 15 Grading Plan	1"=20'
7	Maintenance Improvement Details.dgn	Concrete Pad Details	NTS
8	Maintenance Improvement Details.dgn	Construction Details	NTS
9	Maintenance Improvement Details.dgn	AC Improvements on Inwood	NTS
10	Maintenance Improvement Details.dgn	CE Basin Details	1:10'
11	Maintenance Improvement Details.dgn	WSP Basin Watering	1:10'
12	Maintenance Improvement Details.dgn	Western Basin Details	1"=40'

NO.	REVISIONS	BY	APPROVED	DATE

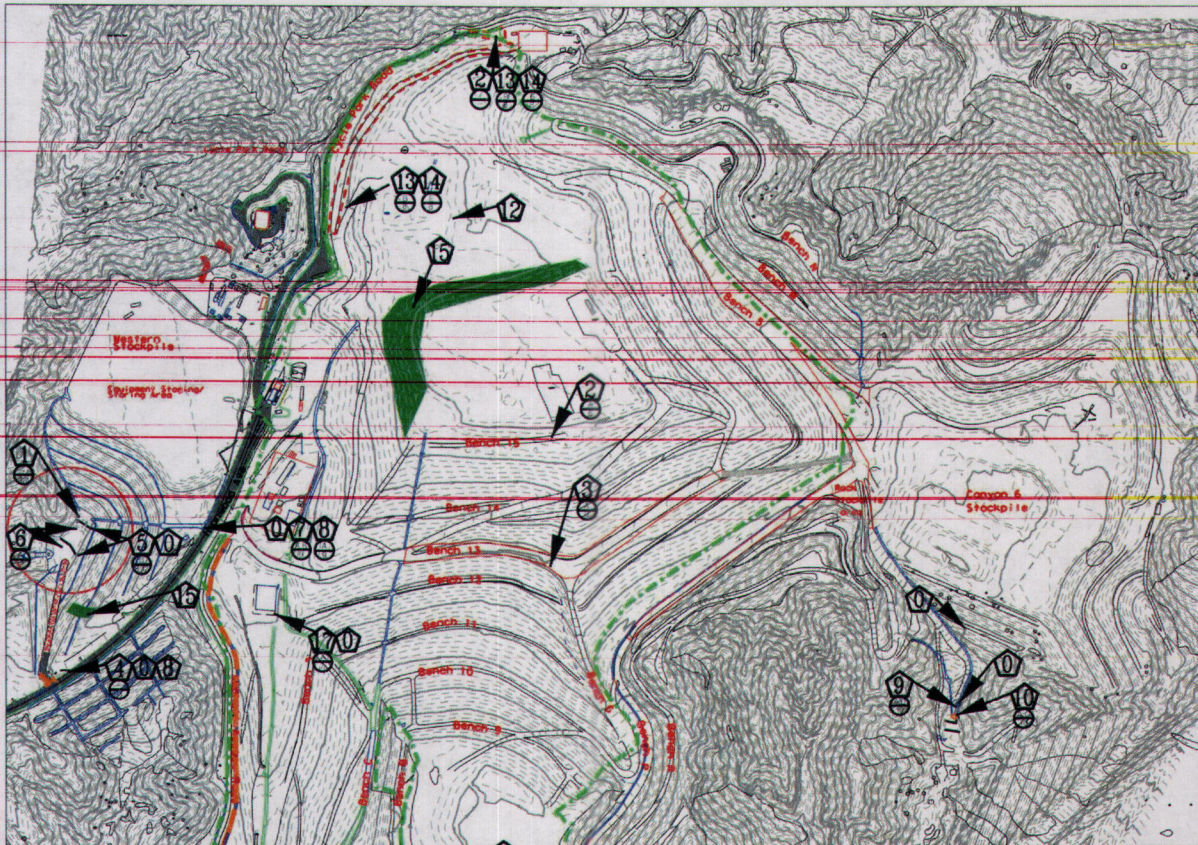
DESIGNED BY: []
 DRAWN BY: []
 CHECKED BY: []
 DRAWING DATE: []
 DATE DSC: []
 DATE: []
 SCALE: []
 PATH: []
 PLOT FILE: []

WASTE RESOURCES
 HERRING & ASSOCIATES - General Engineers/Soil Engineer
 #2

Badlands Sanitary Landfill
 Site Maintenance and Improvements
 December 2016
**Index, Legend and
 Vicinity Map**

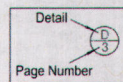
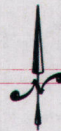
CONSTRUCTION NOTES

- 0 DEMOLISH OR SALVAGE, AND HAUL EXISTING HARDSCAPE, BASE, PIPE, ROCK, OR GABION BASKETS IN ACCORDANCE WITH PROJECT SPECIFICATIONS
- 1 EXCAVATE LOOSE SOIL IN SEDIMENTATION BASINS ACCORDANCE WITH PROJECT SPECIFICATIONS AND SHEETS 4 and 5.
- 2 REGRADE BENCHES FOR POSITIVE DRAINAGE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND SHEET 6.
- 3 INSTALL EARTHEN BERM ALONG IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAIL 'A' ON SHEET 8.
- 4 WIDEN AC ACCESS ROAD INTO WESTERN BASIN IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND SHEET 11
- 5 CONSTRUCT ROCK BERMS IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND SHEETS 4, 9 (DETAIL 'D'), AND 12.
- 6 CONSTRUCT INFILTRATION TRENCHES IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAIL 'A' ON SHEET 12
- 7 REPLACE WITH ASPHALT CONCRETE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAIL 'A' AND 'B' ON SHEET 9
- 8 INSTALL TYPE D A.C. DIKE IN ACCORDANCE WITH PROJECT SPECIFICATIONS, DETAIL 'A' ON SHEET 9 AND CALTRANS STANDARD PLAN A87B.
- 9 EXTEND CONCRETE CHANNEL IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAIL 'A' AND 'B' ON SHEET 10
- 10 FURNISH AND INSTALL GROUTED RIPRAP IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAIL 'A' AND 'C' ON SHEET 10
- 11 FURNISH AND INSTALL UN-GROUTED RIPRAP IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAIL 'A' ON SHEET 9, AND SHEET 4
- 12 ADD ADDITIONAL COVER TO TOP DECK AND SOUTH C4P3 IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND AS DIRECTED BY COUNTY
- 13 INSTALL 12" THICK CLASS II BASE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAIL 'B' ON SHEET 8
- 14 INSTALL 12" THICK CLASS III BASE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAIL 'E' ON SHEET 8
- 15 APPLY GREENWASTE TO FINISHED SLOPES IN ACCORDANCE WITH PROJECT SPECIFICATIONS
- 16 INSTALL SILT FENCE AT THE TOE OF SLOPES IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAIL 'C' ON SHEET 8
- 17 INSTALL CONCRETE PAD EXTENSION IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND SHEET 7
- 18 SHORTEN SKIMMER BULKHEAD CMP CONNECTION IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND DETAIL 'F' ON SHEET 8



LEGEND

- Existing Ground
- Property Limits
- Edge of Trash Fill (11/10/14)
- Disturbance Limits
- Asphalt Concrete Hardscape
- Concrete Hardscape
- Overhead Coverage Structure
- Gas Header Pipe
- Soil Cement Road
- Greenwaste
- AC Dike
- Silt Fence
- Gabion Baskets
- Riprap Apron
- Class II or III Base
- Infiltration Trench



Note: Ground Contours based on survey performed April 2016

REVISIONS	BY	APPRVD	DATE

HORA KERNANIS, General Manager / Civil Engineer

 Scale: 1"=225' (full), 1"=450' (11"x17")

 Datum is mean sea level. Contours are 10 feet.

DESIGNED BY	EDAMMA
DRAWN BY	E2301
CHECKED BY	MRAC
DRAWING DATE	December 2016
PHOTO DATE	June 2016
FILE NO.	16-01-001-001-001-001
PROJECT	Project 2016 Maintenance and Improvements
APP'D.	Maintenance Improvement Step 3
MARK	Site Maintenance and Improvement Map

Badlands Sanitary Landfill
 Site Maintenance and Improvements
 December 2016
Site Plan

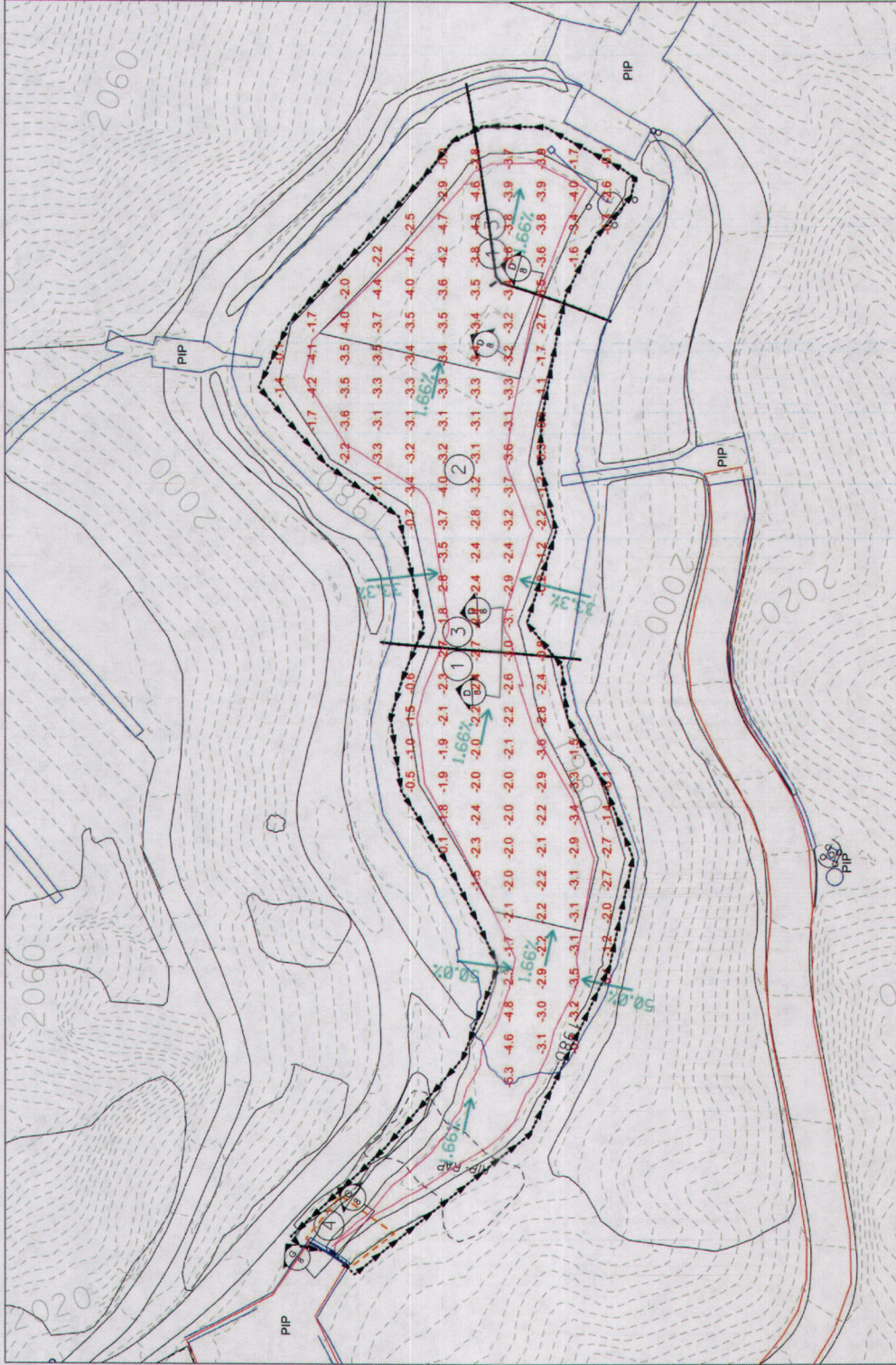
Construction Notes

- 1 Remove and demolish gabion baskets; stockpile 4"-8" gabion rock according to project specifications
- 2 Excavate basin floor to grades as indicated with southern side slopes at 3:1 and northern side slopes at 2:1
- 3 Install rock berms in place of gabion baskets to a minimum elevation of Z = 1983.8' according to detail D on sheet 6 using berm rock
- 4 Install riprap apron in accordance to the project specifications and detail G on sheet 6

Cut Volume: 3,476 CY
 4"-8" In Place Gabion Rock:
 101 CY
 No. 3 Berm Rock:
 1240 CY
 Light Class Riprap Rock:
 65 CY

Legend

- Basin Floor
- Riprap Apron
- Grading Limits
- Ground Contours
- Design Contours
- Concrete Drainage Structure
- Access Roads
- PIP
- Protect In Place
- Gabions



NO.	REVISIONS	BY	APPROVED	DATE

WASTELANDS COUNTY
WASTE RESOURCES
 ENGINEERING & ARCHITECTURE
 1800 S. 10th Street, Suite 100
 Phoenix, AZ 85042
 Phone: 602.254.2200
 Fax: 602.254.2201
 Website: www.wastelandsresources.com

Scale: 1" = 50'
 Datum is mean sea level. Contour interval is 4 feet.

DESIGNED BY	DATE
AM	12/20/16
CHECKED BY	DATE
DK	12/20/16
DRAWING DATE	12/20/16
PROJECT	SW Basin Grading Plan
DATE	12/20/16
SCALE	As Shown
PATH	Site Maintenance and Improvement Project
PROJECT FILE	16000000000000000000

Badlands Sanitary Landfill
 Site Maintenance and Improvements
 December 2016
**SW Basin Grading Plan
 and Details**

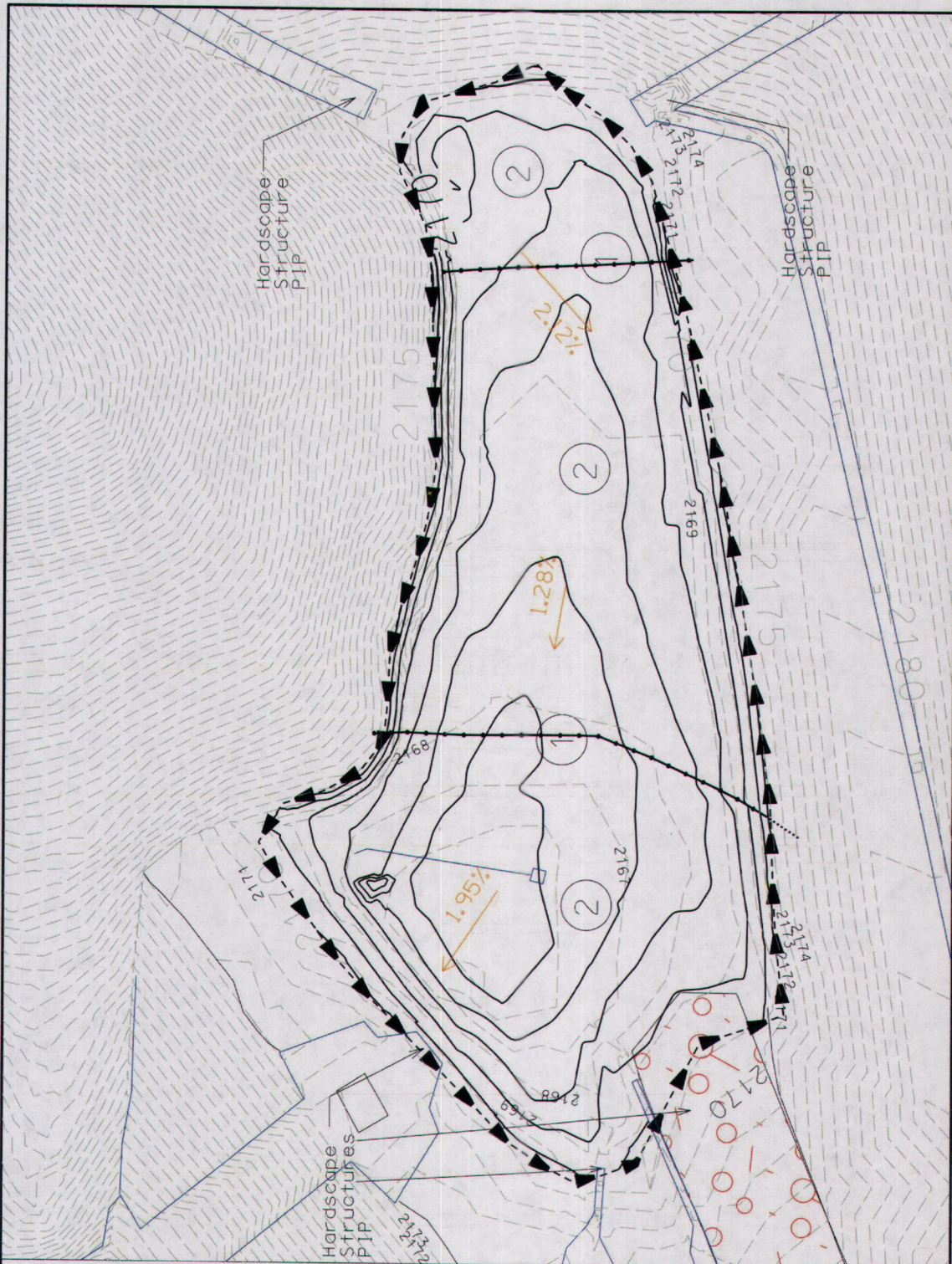
Construction Notes

- ① Remove and demolish gabion baskets and stockpile 4'-8" rock according to project specifications.
- ② Remove loose sediment down to competent subgrade.

4"-8" In Place Gabion Rock: 26 CY
Cut Volume: 1020 CY

Legend

- ◆ Grading Limits
- Ground Contours
- Design Contours
- Concrete Drainage Structure
- Access Roads
- PIP
- Gabbions

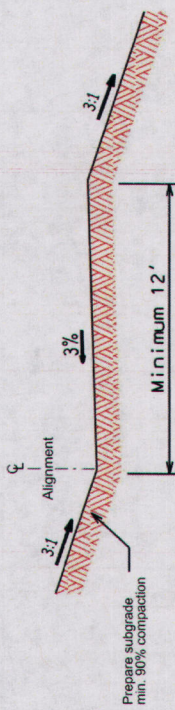


NO.	REVISIONS	BY	APPROVED	DATE

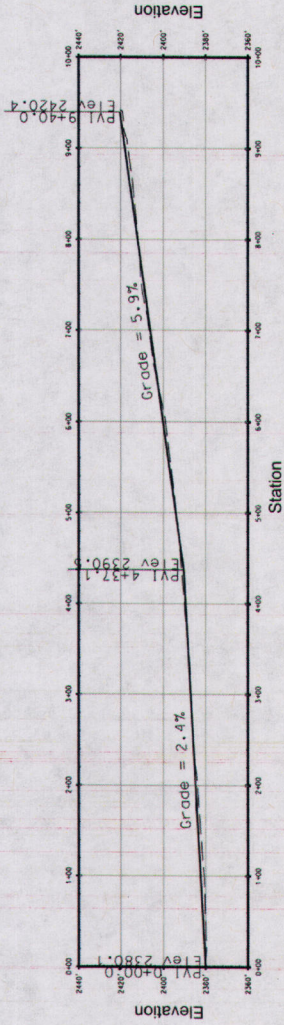
	RECORDED BY: _____ DRAWN BY: _____ CHECKED BY: _____ GRADING DATE: _____ DRAWING DATE: _____ SCALE: _____ PATH: _____ PART: _____ PART/FULL: _____	NO. _____ LT _____ DATE _____ DRAWN BY _____ CHECKED BY _____ SCALE _____ PATH _____ PART _____ PART/FULL _____
--	--	---

Badlands Sanitary Landfill
 Site Maintenance and Improvements
 December 2016
**Western Basin
 Grading Plan**

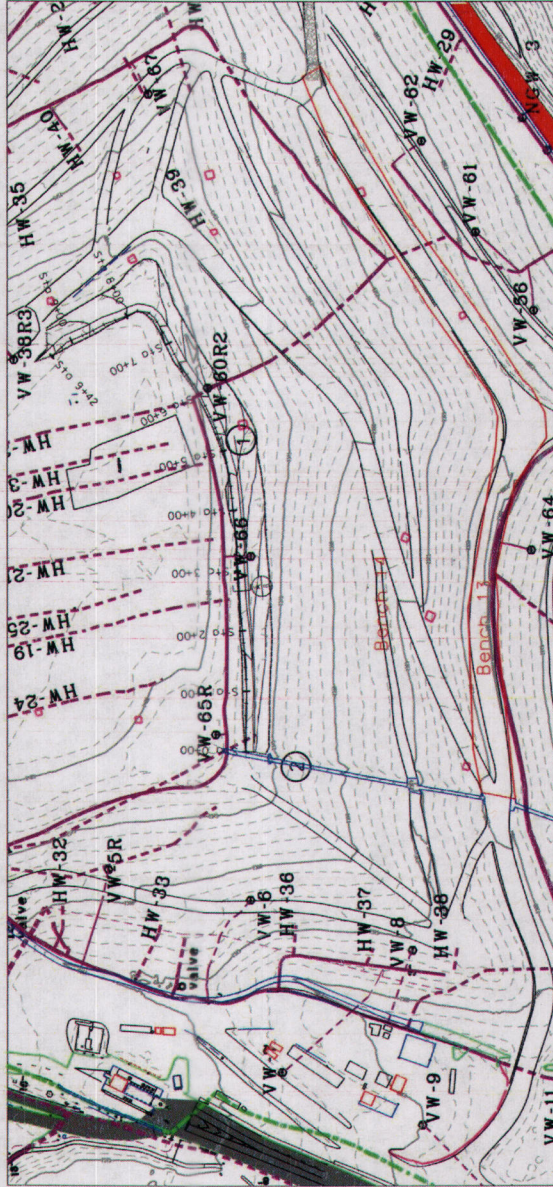
SHEET 5 OF 12



A Typical Cross-Section of Bench 15



B Profile along Alignment of Bench 15



Construction Notes

- Place engineered fill on Bench 15 to grades as indicated, backfilling and compacting erosion cuts on the immediate bench slopes
- Protect drainage structures in place

Bench 15:
3775 CY (Net Fill)

Legend

- Grading Limits
- Ground Contours
- Design Contours
- Concrete Drainage Structure (PIP)
- Asphalt Drainage Structure (PIP)
- Surface and Buried Gas Lines (PIP)
- Approximate Refuse Limits

NO.	REVISIONS	BY	APPROVED DATE

DESIGNED BY:	EA/WR
DRAWN BY:	AK/EA/WR
CHECKED BY:	DK/WR
DRAWING DATE:	05/24/2016
TITLE DATE:	05/24/2016
DATE:	05/24/2016
PATH:	Site Maintenance and Improvements
PROJECT:	Bedlands Sanitary Landfill

Bedlands Sanitary Landfill
 Site Maintenance and Improvements
 December 2016
Bench 15
Grading Plan

Construction Notes

- ① Existing base within the concrete pad extension limits shall be removed prior to subgrade preparation and reinstalled around the pad extension according to project specifications.
- ② The upper six (6) inches of the subgrade shall be compacted to a minimum of 90% of the maximum density by scarifying the exposed surface to a depth of six (6) inches and re-compacted. Finished subgrade shall be firm and suitable for placement of Concrete Pad.
- ③ Install 5"-thick reinforced concrete pad extension using 650-CW-6000 class concrete reinforced with grade 60 #4 rebar spaced at 15" o.c. in both directions.

- ④ Weakened plain joints shall be installed at ten (10) foot intervals in both directions to a depth of one (1) inch.
- ⑤ Concrete Pad Extension shall be finished with a chamfered edge and heavy broom finish to match existing concrete pad.
- ⑥ Construction of Concrete Pad extension shall adhere to Section 303-1 of the 2015 Standard Specifications for Public Works Construction, The "Greenbook".

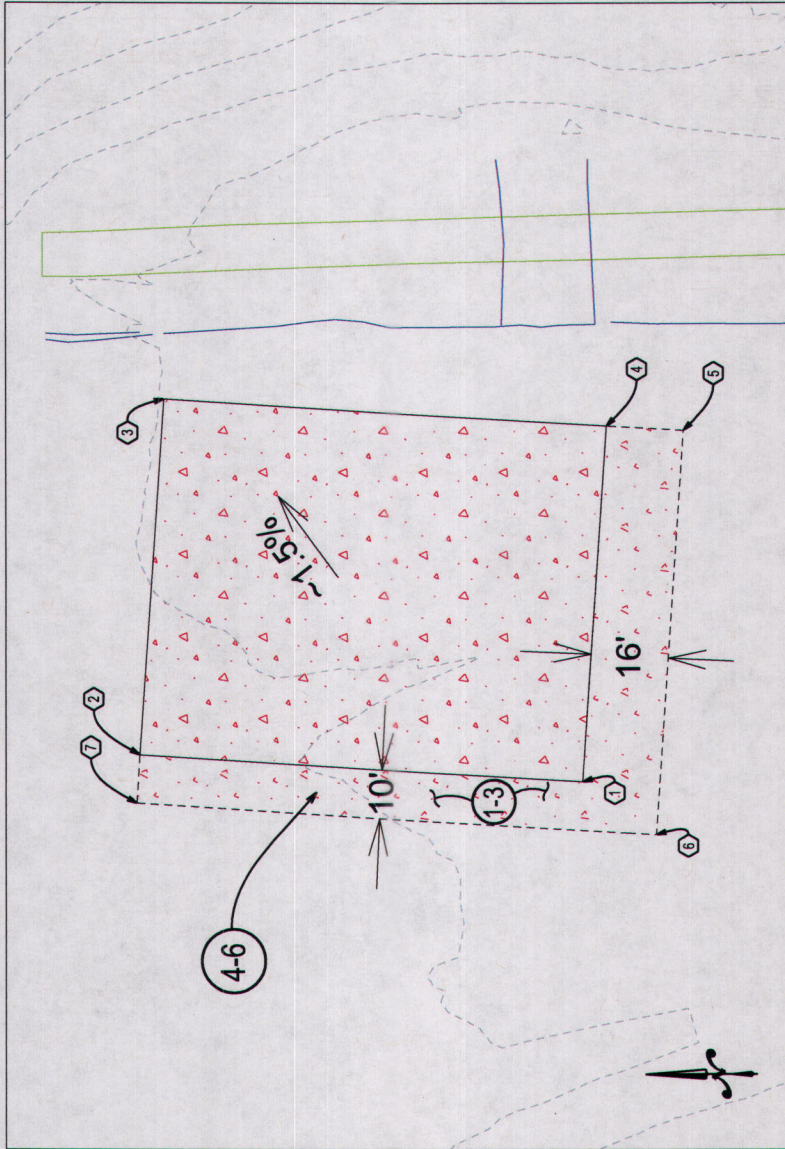


Table of Points

PT	Northing	Easting	Elevation	Description
1	2,291,094.126	6,297,515.459	2,278.866	Corner of Concrete Pad
2	2,291,185.845	6,297,520.913	2,278.203	Corner of Concrete Pad
3	2,291,180.763	6,297,594.482	2,277.002	Corner of Concrete Pad
4	2,291,089.154	6,297,588.989	2,277.800	Corner of Concrete Pad
5	2,291,073.182	6,297,586.035	2,277.939	Corner of Pad Extension
6	2,291,078.829	6,297,504.529	2,278.922	Corner of Pad Extension
7	2,291,186.439	6,297,510.928	2,278.365	Corner of Pad Extension

Legend

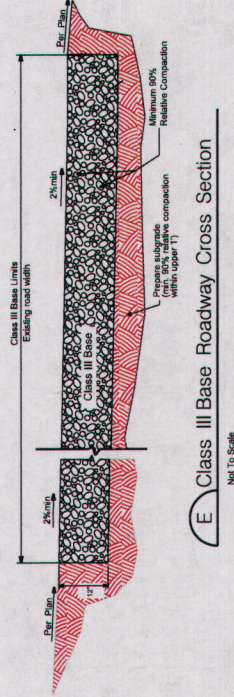
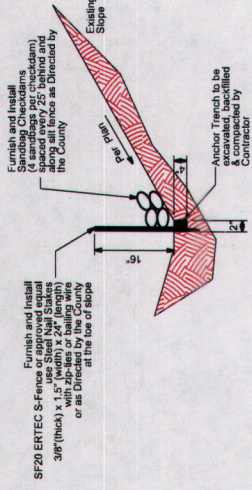
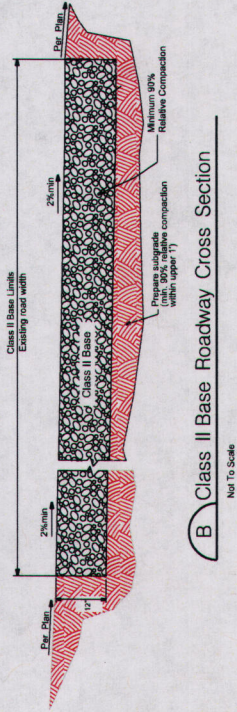
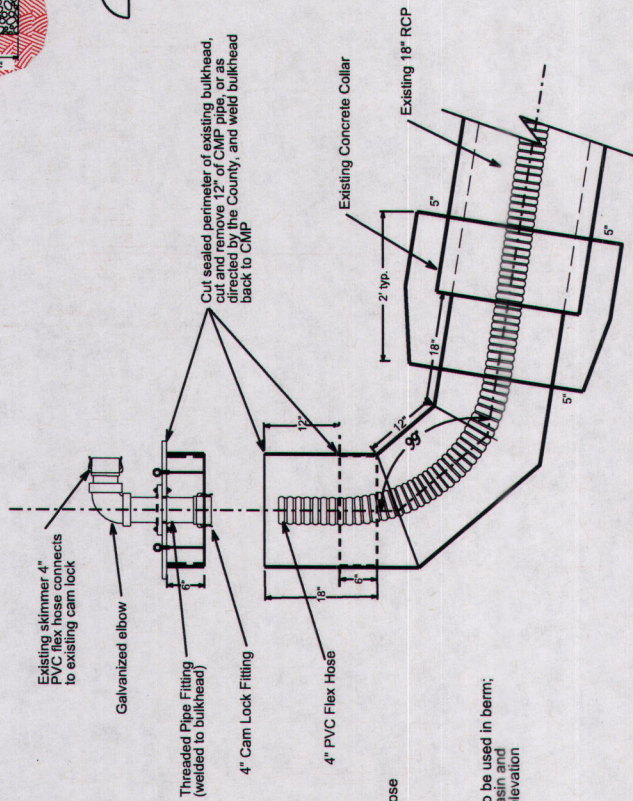
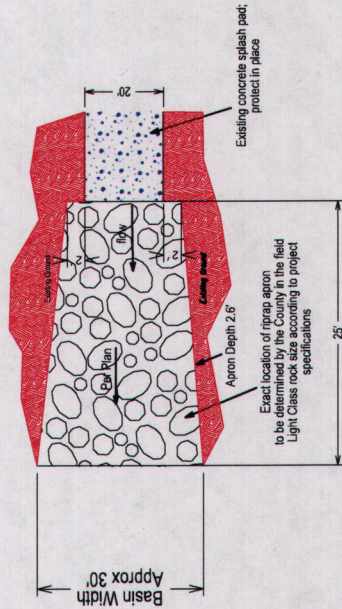
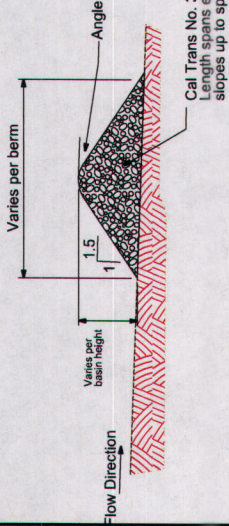
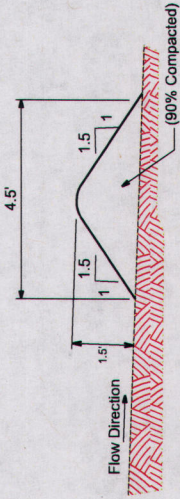
- Concrete Pad Extension
- Existing Concrete
- Existing Grade Contours
- Existing A.C. Road (protect in place)
- Gas Header Line (protect in place)

A Concrete Pad Extension in Residential Off-loading Area
Not To Scale


NO.	REVISIONS	BY	APPROVED	DATE

DEPARTMENT OF WASTE RESOURCES
 State of California
 General Manager / Chief Engineer
 Scale: 1" = 25'
 Datum is mean sea level. Contour interval is 2 feet.

DESIGNED BY:	DATE:
DRAWN BY:	REVISED:
CHECKED BY:	DATE:
DRAWING DATE:	DATE:
SCALE:	DATE:
PAPER:	DATE:
PROJECT:	DATE:



NO.	REVISIONS	BY	APPROVED	DATE

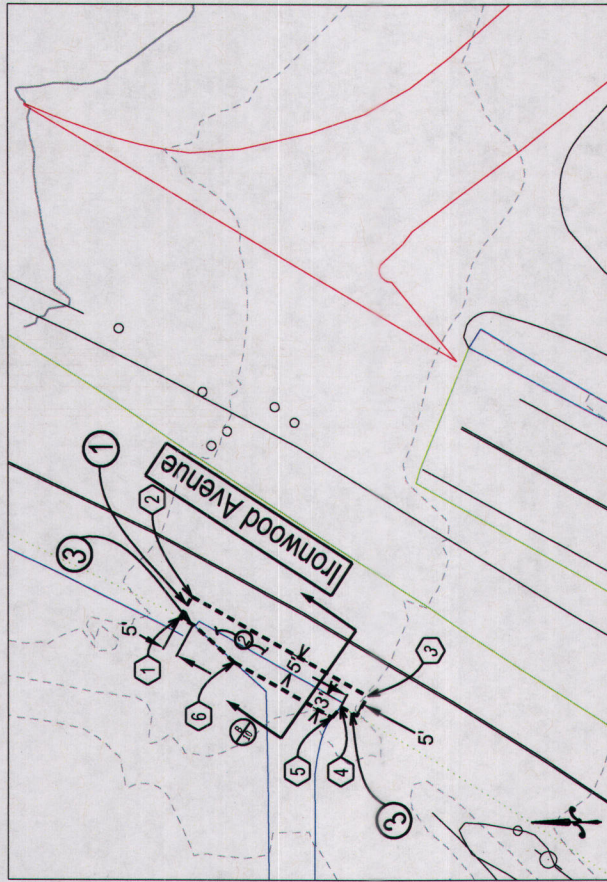

WASTE RESOURCES, INC.
 HOOK & KETCHUM, Structural Engineers/Architects
 #15

DESIGNED BY:	MP/ZZ/AM
DRAWN BY:	MP/ZZ/AM
CHECKED BY:	MP/K
DRAWING DATE:	Dec 2016
SCALE:	AS SHOWN
PATH:	applying/submit/submit & approvals
DATE:	12/20/16
PROJECT:	Badlands Sanitary Landfill
DESCRIPTION:	Site Maintenance and Improvements
DATE:	December 2016

Construction Details
 Badlands Sanitary Landfill
 Site Maintenance and Improvements
 December 2016

Construction Notes

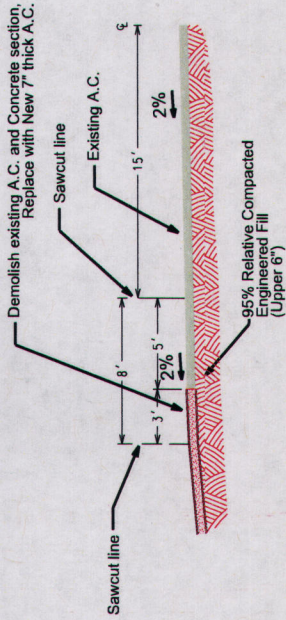
- ① Sawcut and demolish existing asphalt concrete and concrete as delineated on the Project Drawings and/or as directed by County.
- ② Install 7" thick Asphalt Concrete in accordance with Project Specifications.
- ③ Install Type "D" A.C. Dike in accordance with Caltrans Standard Plan A87B and Specifications.



Asphalt Drainage Improvements along Ironwood Avenue

A

Not To Scale



B Ironwood Avenue Asphalt Drainage Improvement X-Section

Not to scale

Table of Points

PT	Easting	Northing	Elevation	Description
1	6,297,342.65	2,291,432.80	2294.01	Sawcut ES
2	6,297,348.14	2,291,428.95	2293.70	Sawcut ES
3	6,297,320.69	2,291,380.50	2289.93	Sawcut ES
4	6,297,318.01	2,291,388.41	2290.29	Sawcut ES
5	6,297,316.59	2,291,389.48	2290.24	Sawcut ES
6	6,297,336.28	2,291,424.23	2293.04	Sawcut ES

NO.	REVISIONS	BY	APPROVED	DATE

DEPARTMENT OF WASTE RESOURCES

 STATE OF CALIFORNIA - OFFICE OF MANAGEMENT & ENTERPRISE

 PROJECT: SAN MATEO AND IMPROVEMENT PROJECT

 DRAWN BY: []

 CHECKED BY: []

 DATE: []

 SCALE: []

 SHEET: 9 OF 12



Badlands Sanitary Landfill

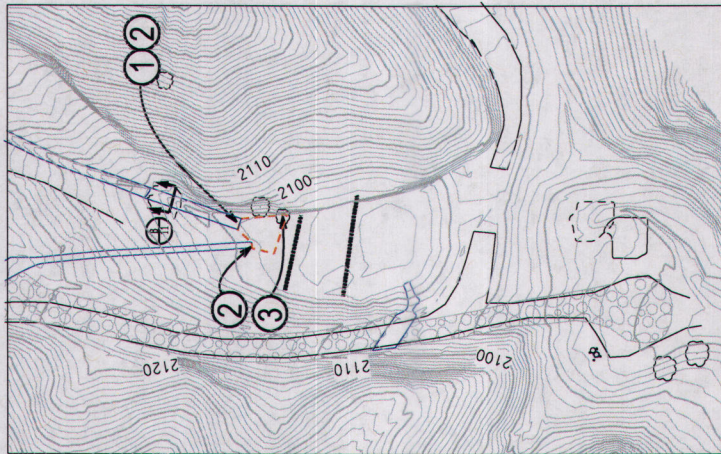
 Site Maintenance and Improvements

 December 2016

AC Improvements on Ironwood

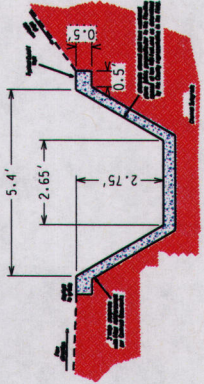
Construction Notes

- ① Construct shotcrete drainage channel in accordance with Project Specifications and Detail: 
- ② Construct grouted riprap pad in accordance with Project Specifications and Detail: 
- ③ Approximate riprap rock volume = 95 CY
- ④ Protect in place existing trees



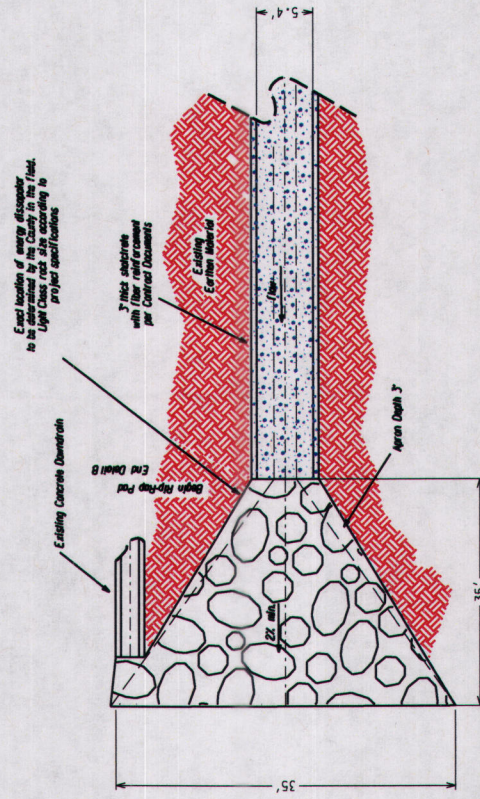
A Canyon 6 Drainage Improvements

Not To Scale



B Shotcrete Drainage Channel X-Section


Not To Scale



C Canyon 6 Grouted Riprap Outlet Detail

Not To Scale

NO.	REVISIONS	BY	APPROVED	DATE


WASTE RESOURCES
 1000 S. 10th Street, General Manager / Civil Engineer
 #12

DESIGNED BY:	EZ/AM
DRAWN BY:	EZ/AM
CHECKED BY:	W/A/C
DRAWING DATE:	Dec 2016
ISSUED DATE:	
DATE:	
SCALE:	
PROJECT:	Sanitation/Collection & Infiltration
DATE:	Site Maintenance and Improvement Project
PROJECT:	Maintenance Improvement Drainage

Construction Notes

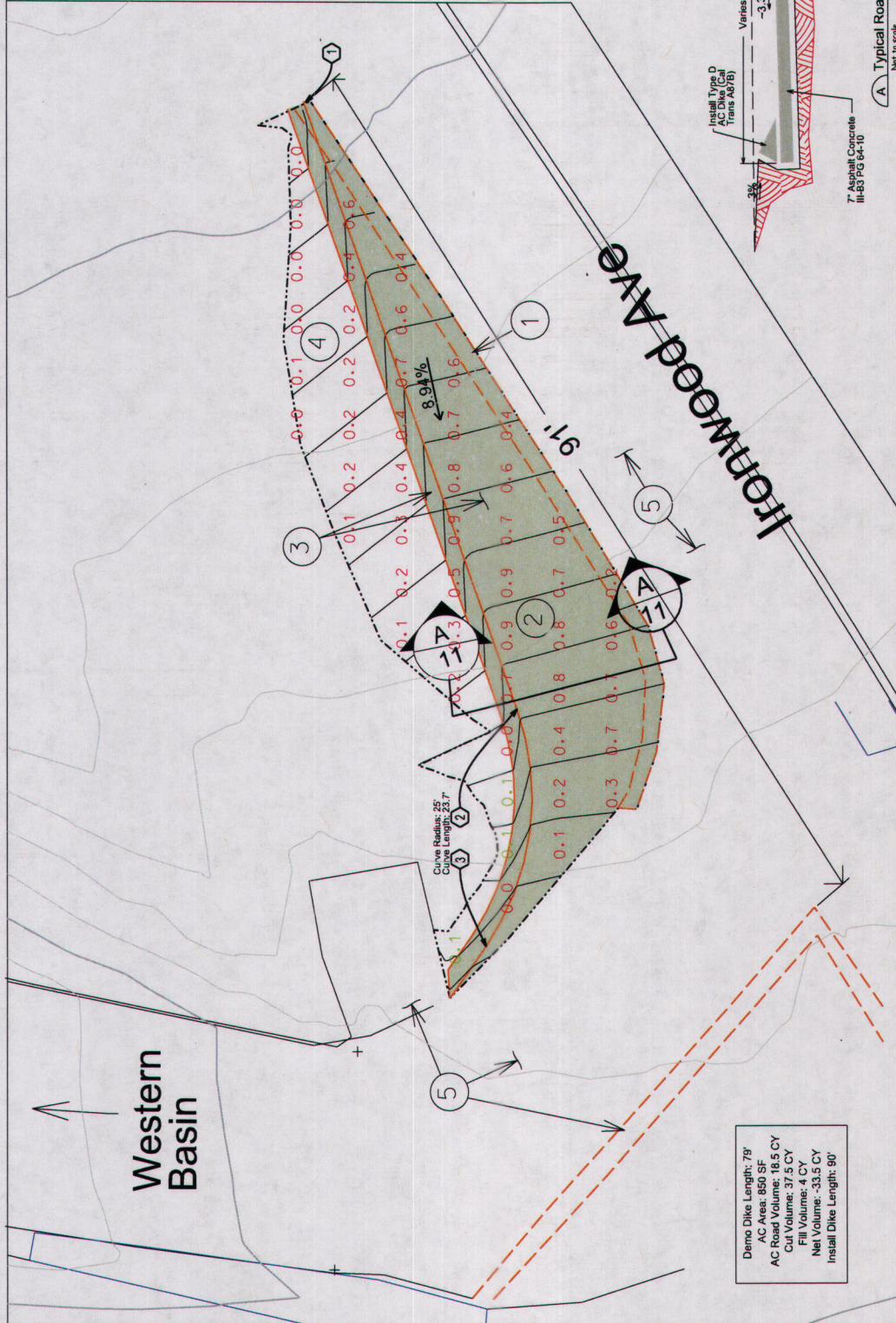
- ① Remove and demolish existing AC Dike; stockpile demo material according to project specifications
- ② Prepare subgrade for installation of AC entrance road widening to grades as indicated and in accordance with project specifications
- ③ Install AC road section and AC Dike (Type D) in accordance with project specifications and Cal Trans detail A87B
- ④ Backfill and compact up to the AC Dike with a tie in slope of 3% and in accordance with project specifications
- ⑤ Protect existing AC roadways and dikes in place

Table of Points

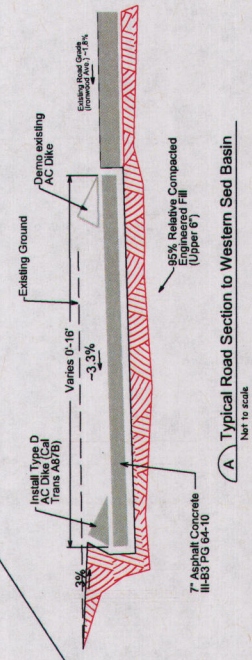
PT	Nothing	Easting	Elevation	Description
1	2,291,862.867	6,296,822.464	2,229,869	Toe of Dike - North Limit
2	2,291,841.999	6,296,765.455	2,224,999	Toe of Dike - Beginning Curve
3	2,291,845.002	6,296,742.618	2,222,610	Toe of Dike - End Curve

Legend

- Proposed AC Dike
- Existing AC Dike
- Grading Limits
- Ground Contours
- Design Contours
- Concrete Drainage Structure
- AC Access Rd
- Proposed AC Installation



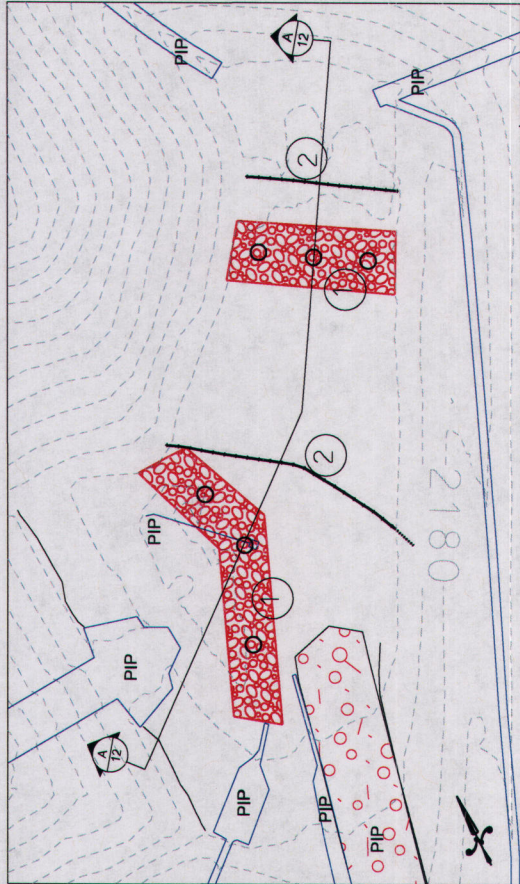
Demo Dike Length: 79'
 AC Area: 859 SF
 AC Road Volume: 16.5 CY
 Cut Volume: 37.5 CY
 Fill Volume: 4 CY
 Net Volume: -33.5 CY
 Install Dike Length: 90'



A Typical Road Section to Western Sed Basin
 Not to scale

		ISSUED BY: [] DRAWN BY: [] CHECKED BY: [] DURING DATE: [] TYPED DATE: [] DATE: [] PATH: [] FILE/MODEL: []
REVISIONS NO. [] BY [] APPROVED DATE []		PROJECT: [] SHEET: 11 OF 12

Badlands Sanitary Landfill
 Site Maintenance and Improvements
 December 2016
WSP Road Widening



Construction Notes

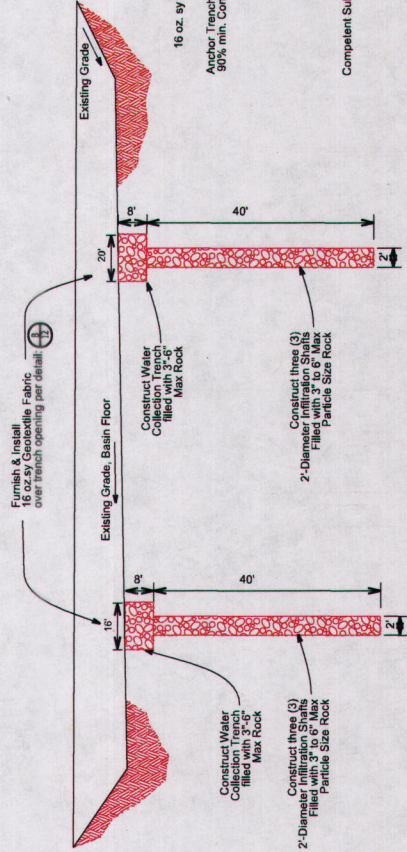
- 1 Install infiltration trenches and shafts in accordance with Detail A on Sheet 12
- 2 Install rock berms in place of gabion baskets up to a minimum elevation of Z = 2171' according to detail 'D' on sheet 8 using berm rock

Legend

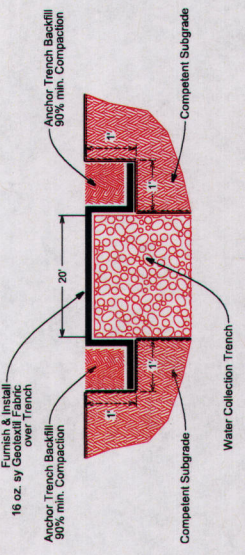
- Ground Contours
- 3'-6" Gravel Infiltration Trench
- Percolation Shaft
- Concrete Drainage Structure
- Soil Cement Access Road
- PIP
- Protect in Place
- Rock Berm

3'-6" Infiltration Rock:
830 CY
No. 3 Rock Berm :
180 CY

A Infiltration Trench Cross Section
Not To Scale



B 16 oz. sy Geotextile Fabric Detail
Not To Scale



NO.	REVISIONS	BY	APPROVED DATE

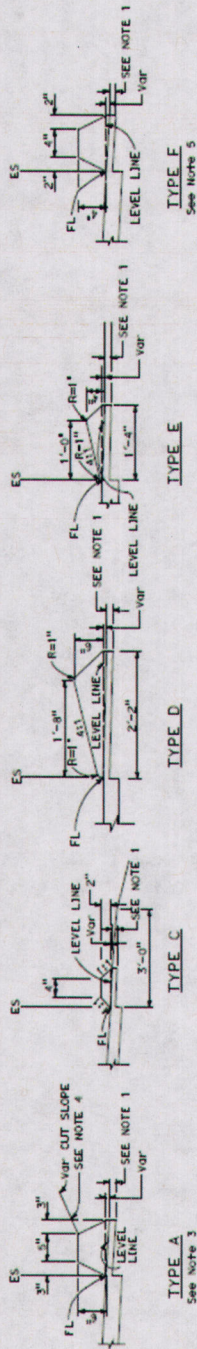
DESIGNED BY: *[Signature]*
 DRAWN BY: *[Signature]*
 CHECKED BY: *[Signature]*
 DRAINING DATE: *[Signature]*
 DATE: 08/22/16
 PROJECT: 16 oz. sy Geotextile Fabric Detail
 PATH: SH Maintenance and Improvement Project
 PART/FILE: Maintenance Improvement Detail/SH

NO.	REVISIONS	BY	APPROVED DATE

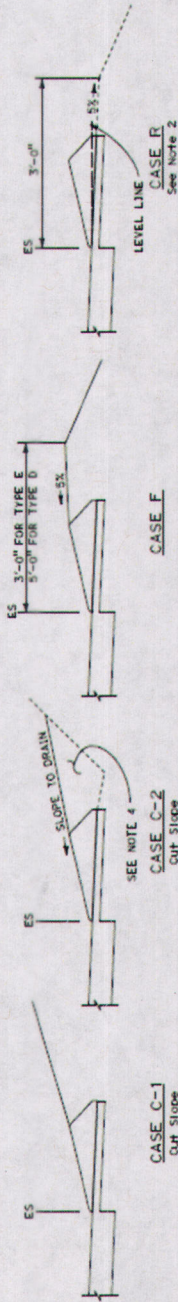
DESIGNED BY: *[Signature]*
 DRAWN BY: *[Signature]*
 CHECKED BY: *[Signature]*
 DRAINING DATE: *[Signature]*
 DATE: 08/22/16
 PROJECT: 16 oz. sy Geotextile Fabric Detail
 PATH: SH Maintenance and Improvement Project
 PART/FILE: Maintenance Improvement Detail/SH

DIST.	COUNTY	ROUTE	POST MILES	PROJECT TOTAL MILES

REGISTERED PROFESSIONAL ENGINEER
 M. J. [Name]
 MAY 20, 2011
 PLANS APPROVAL DATE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 PROJECT NO. [Number]
 SHEET NO. [Number] OF [Number]



DIKES



TYPE D AND E BACKFILL DETAILS

DIKE QUANTITIES	
TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
B	0.0038
C	0.0293
D	0.0130
E	0.0086
F	0.0086

Quantities based on 5% cross slope.

- NOTES:
- For RW shoulders only, extend top layer of RW placed on the shoulder under dike with no joint at the ES. For projects with O&C shoulders, do not extend O&C under dike. See project plans for modified dike detail.
 - Case B applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
 - Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type B or Type E dike.
 - Fill and compact with excavated material to top of dike.
 - Use Type F dikes where dike is required with guard railing installations. See Standard Plan 477C for dike positioning details.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
HOT MIX ASPHALT DIKES
 NO SCALE

A67B

APPENDICES

Appendix "A"

**SCAQMD Form 403-N & Rule 403 Dust Control
Requirement Tables 2 and 3**

RULE 403 - LARGE OPERATION NOTIFICATION
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

21865 Copley Drive, Diamond Bar, CA 91765

Is this plan being submitted to comply with the requirements of a Notice to Comply or Notice of Violation? YES/NO
 Notice Number _____ Please attach copy

Qualifying Criteria:

- Does this operation contain more than 50 acres of disturbed surface area as of the date of submittal? YES/NO
 Please indicate the size of the project _____.
- Will the earth moving operation exceed a daily earth moving or throughput volume of 5,000 cubic yards three times during the most recent 365-day period from the date grading begins? YES/NO

Please Print or Type

Contractor/ Consultant/ Owner: (Circle one of the above)		Phone Number:	
Address:	City:	State:	Zip:
Project Name:			
Nature of Business: <input type="checkbox"/> Construction/Demolition <input type="checkbox"/> Sand & Gravel/Mining Operations <input type="checkbox"/> Cement Manufacturing			
Name of Responsible Person of Organization:			
Title:		Phone Number:	
Environmental Observer:		Phone Number:	
Date Attended Dust Class:		ID Number:	
Project Address: (Attach location map)	City:	State:	Zip:
Name of Property Owner: (If different than above)			
Anticipated Start Date:		Anticipated Completion Date:	
Telephone Number:			
Emergency Phone Number:			
<p>In accordance with paragraph (e)(1) of Rule 403, I will ensure that the actions specified in Tables 2 and 3 will be implemented on-site for each applicable fugitive dust source type within the property lines and that records are maintained in accordance with Rule 403, subparagraph (e)(1)(c) . Further, I hereby certify that all information contained herein is true and correct.</p>			
SIGNATURE OF RESPONSIBLE MEMBER OF ORGANIZATION	TITLE	DATE	

TABLE 2
DUST CONTROL ACTIONS FOR EXEMPTION FROM PARAGRAPH (d)(3)*

<u>FUGITIVE DUST SOURCE CATEGORY</u>	<u>CONTROL ACTIONS</u>
Earth-moving (except construction cutting and filling areas, and mining operations)	<p>(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</p> <p>(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.</p>
Earth-moving: Construction fill areas:	<p>(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.</p>

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 2 (Continued) *

<u>FUGITIVE DUST SOURCE CATEGORY</u>	<u>CONTROL ACTIONS</u>
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 [70] 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 [70] 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 [30] 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.

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 2 (Continued)*

<u>FUGITIVE DUST SOURCE CATEGORY</u>	<u>CONTROL ACTIONS</u>
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 [70] 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.
<u>All Categories</u>	(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.

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

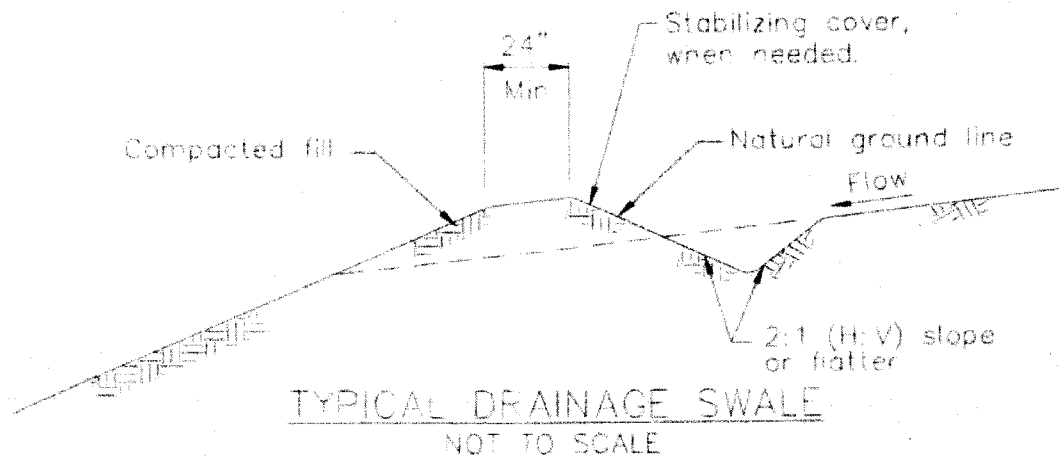
TABLE 3
TRACK-OUT CONTROL OPTIONS
PARAGRAPH (d)(5)(B)

CONTROL OPTIONS

(1)	Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.
(2)	Pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device.
(3)	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.

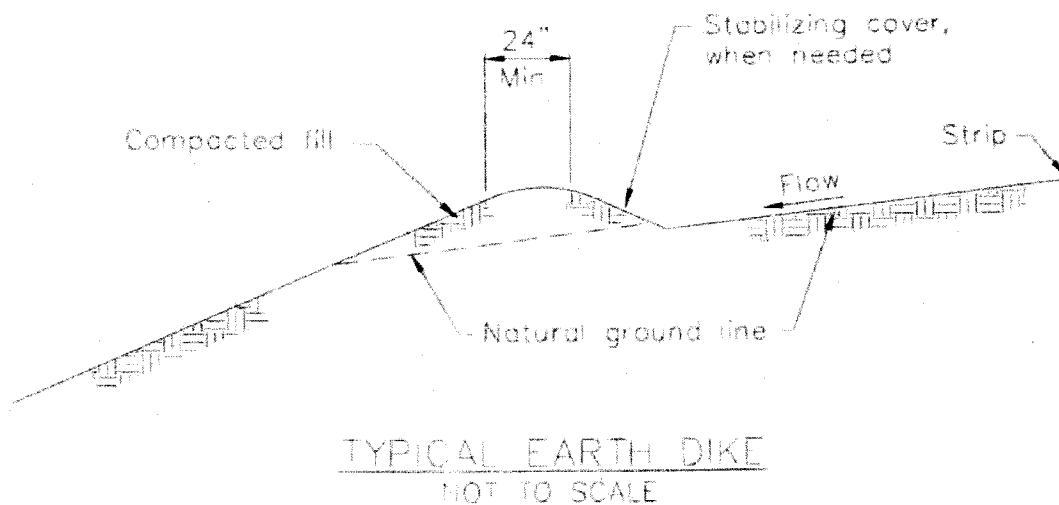
Appendix "B"

Typical BMP Fact Sheets for Storm Water Pollution Prevention Plans



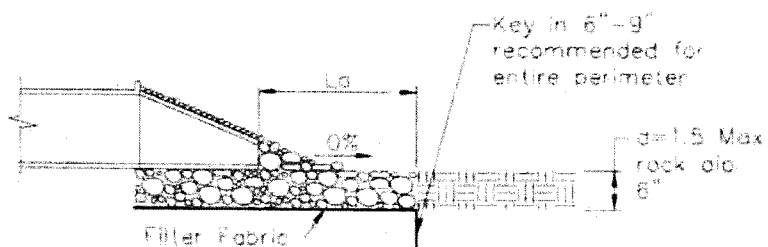
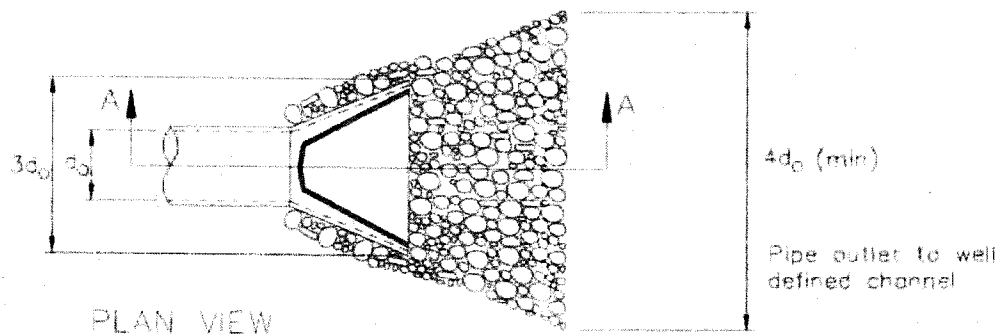
NOTES:

1. Stabilize inlet, outlets and slopes.
2. Properly compact the subgrade.



EC-10

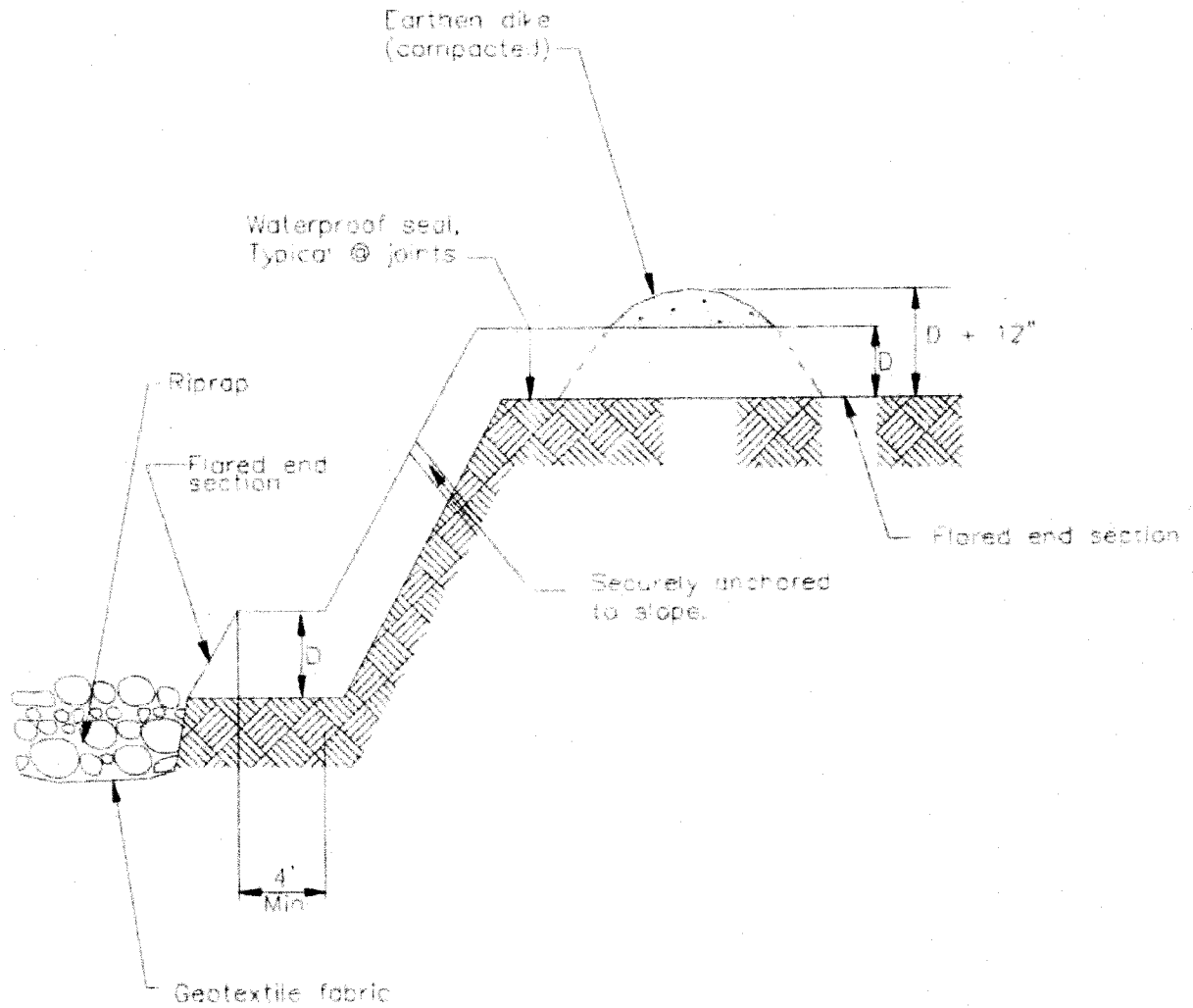
Velocity Dissipation Devices



SECTION A-A

Pipe Diameter inches	Discharge ft^3/s	Apron Length, L_a ft	Rip Rap D_{50} Diameter Min inches
12	5	10	4
	10	13	6
18	10	10	6
	20	16	8
	30	23	12
	40	26	16
24	30	16	8
	40	26	8
	50	26	12
	60	30	16

For larger or higher flows consult a Registered Civil Engineer
Source: USDA - SCS



TYPICAL SLOPE DRAIN
NOT TO SCALE

Description

Drain inserts are manufactured filters or fabric placed in a drop inlet to remove sediment and debris. There are a multitude of inserts of various shapes and configurations, typically falling into one of three different groups: socks, boxes, and trays. The sock consists of a fabric, usually constructed of polypropylene. The fabric may be attached to a frame or the grate of the inlet holds the sock. Socks are meant for vertical (drop) inlets. Boxes are constructed of plastic or wire mesh. Typically a polypropylene "bag" is placed in the wire mesh box. The bag takes the form of the box. Most box products are one box; that is, the setting area and filtration through media occur in the same box. Some products consist of one or more trays or mesh grates. The trays may hold different types of media. Filtration media vary by manufacturer. Types include polypropylene, porous polymer, treated cellulose, and activated carbon.

California Experience

The number of installations is unknown but likely exceeds a thousand. Some users have reported that these systems require considerable maintenance to prevent plugging and bypass.

Advantages

- Does not require additional space as inserts as the drain inlets are already a component of the standard drainage systems.
- Easy access for inspection and maintenance.
- As there is no standing water, there is little concern for mosquito breeding.
- A relatively inexpensive retrofit option.

Limitations

Performance is likely significantly less than treatment systems that are located at the end of the drainage system such as ponds and vaults. Usually not suitable for large areas or areas with trash or leaves than can plug the insert.

Design and Sizing Guidelines

Refer to manufacturer's guidelines. Drain inserts come in many configurations but can be placed into three general groups: socks, boxes, and trays. The sock consists of a fabric, usually constructed of polypropylene. The fabric may be attached to a frame or the grate of the inlet holds the sock. Socks are meant for vertical (drop) inlets. Boxes are constructed of plastic or wire mesh. Typically a polypropylene "bag" is placed in the wire mesh box. The bag takes the form of the box. Most box products are

Design Considerations

- Use with other BMPs
- Fit and Seal Capacity within Inlet

Targeted Constituents

- ✓ Sediment
- ✓ Nutrients
- ✓ Trash
- ✓ Metals
- ✓ Bacteria
- ✓ Oil and Grease
- ✓ Organics

Removal Effectiveness

See New Development and Redevelopment Handbook-Section 5.



one box; that is, the setting area and filtration through media occurs in the same box. One manufacturer has a double-box. Stormwater enters the first box where setting occurs. The stormwater flows into the second box where the filter media is located. Some products consist of one or more trays or mesh grates. The trays can hold different types of media. Filtration media vary with the manufacturer: types include polypropylene, porous polymer, treated cellulose, and activated carbon.

Construction/Inspection Considerations

Be certain that installation is done in a manner that makes certain that the stormwater enters the unit and does not leak around the perimeter. Leakage between the frame of the insert and the frame of the drain inlet can easily occur with vertical (drop) inlets.

Performance

Few products have performance data collected under field conditions.

Siting Criteria

It is recommended that inserts be used only for retrofit situations or as pretreatment where other treatment BMPs presented in this section area used.

Additional Design Guidelines

Follow guidelines provided by individual manufacturers.

Maintenance

Likely require frequent maintenance, on the order of several times per year.

Cost

- The initial cost of individual inserts ranges from less than \$100 to about \$2,000. The cost of using multiple units in curb inlet drains varies with the size of the inlet.
- The low cost of inserts may tend to favor the use of these systems over other, more effective treatment BMPs. However, the low cost of each unit may be offset by the number of units that are required, more frequent maintenance, and the shorter structural life (and therefore replacement).

References and Sources of Additional Information

Hrachovec, R., and G. Minton, 2001, Field testing of a sock-type catch basin insert, Planet CPR, Seattle, Washington

Interagency Catch Basin Insert Committee, Evaluation of Commercially-Available Catch Basin Inserts for the Treatment of Stormwater Runoff from Developed Sites, 1995

Larry Walker Associates, June 1998, NDMP Inlet/In-Line Control Measure Study Report

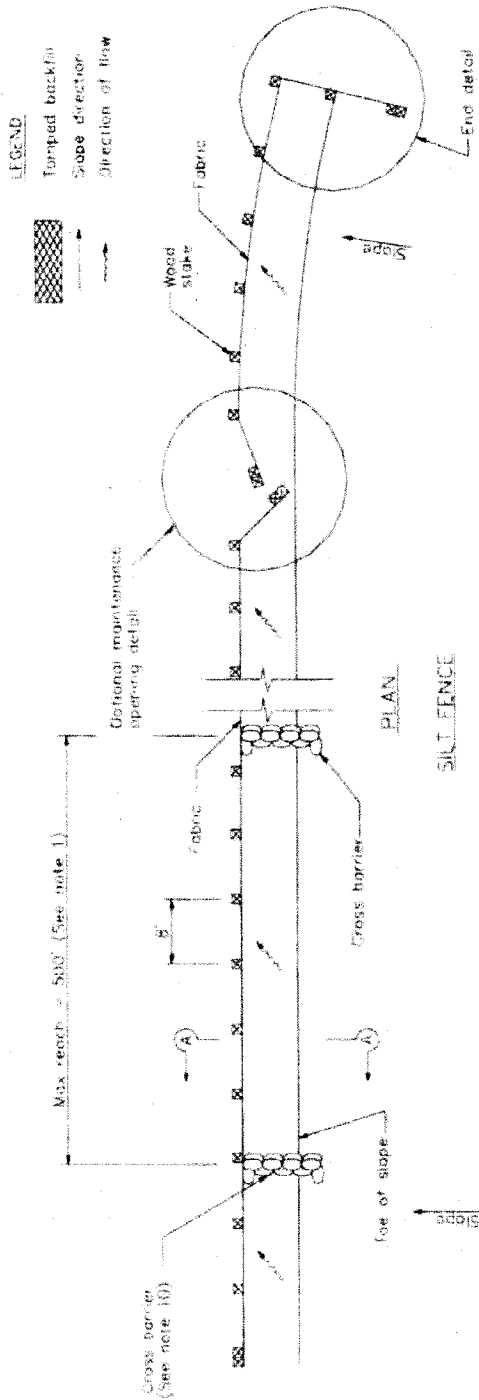
Manufacturers literature

Santa Monica (City), Santa Monica Bay Municipal Stormwater/Urban Runoff Project - Evaluation of Potential Catch basin Retrofits, Woodward Clyde, September 24, 1998

Woodward Clyde, June 11, 1996, Parking Lot Monitoring Report, Santa Clara Valley Nonpoint Source Pollution Control Program.

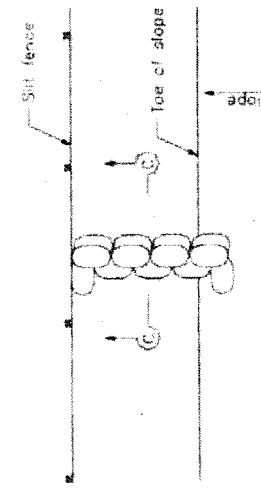
Silt Fence

SE-1

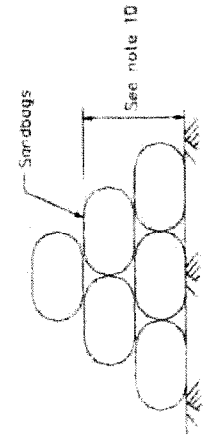


NOTES

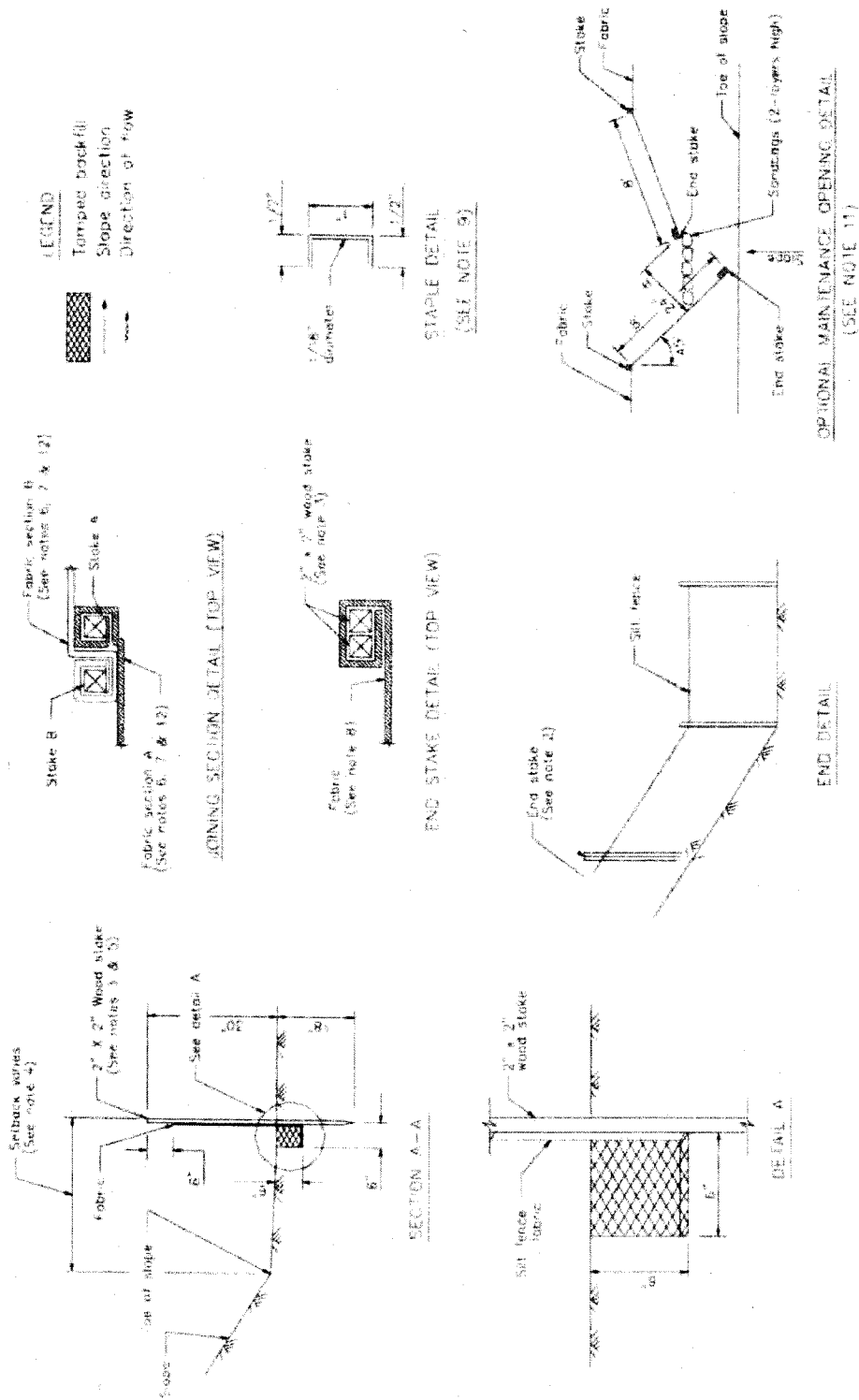
1. Construct the length of each reach so that the change in base elevation along the reach does not exceed 1/3 the height of the linear barrier, in no case shall the reach length exceed 500.
2. The last 8'-0" of fence shall be turned up slope.
3. Stake dimensions are nominal.
4. Dimension may vary to fit field condition.
5. Stakes shall be spaced at 8'-0" maximum and shall be positioned on downstream side of fence.
6. Stakes to overlap and fence fabric to fold around each stake one full turn. Secure fabric to stake with 4 staples.
7. Stakes shall be driven tightly together to prevent potential flow-through of sediment at joint. The tops of the stakes shall be secured with wire.
8. For end stake, fence fabric shall be folded around two stakes one full turn and secured with 4 staples.
9. Minimum 4 staples per stake. Dimensions shown are typical.
10. Cross barriers shall be a minimum of 1/3 and a maximum of 1/2 the height of the linear barrier.
11. Maintenance openings shall be constructed in a manner to ensure sediment remains behind silt fence.
12. Joining sections shall not be placed at sump locations.
13. Sandbag rows and layers shall be offset to eliminate gaps.

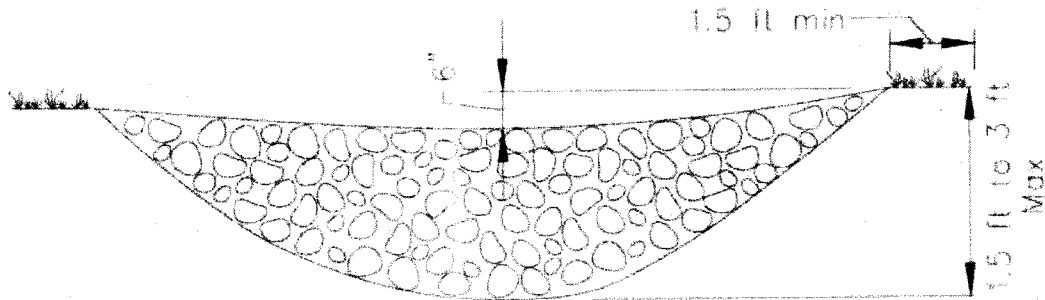


CROSS BARRIER DETAIL

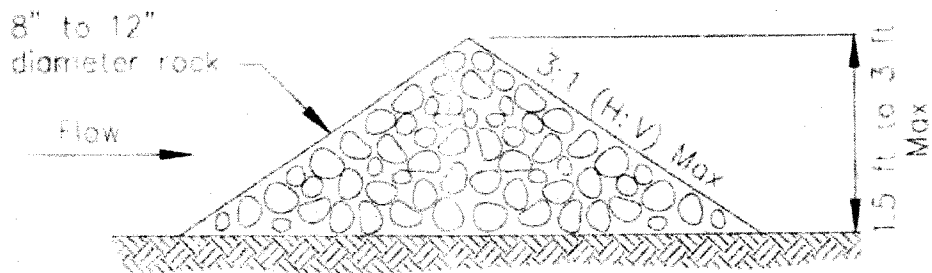


SECTION C-C



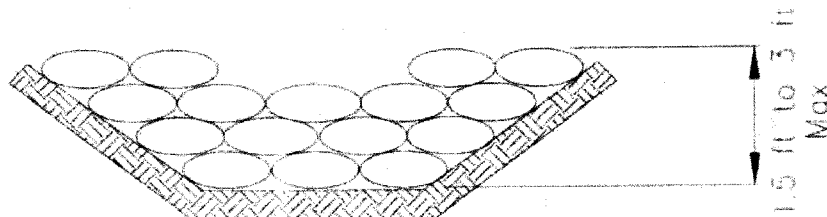


ELEVATION

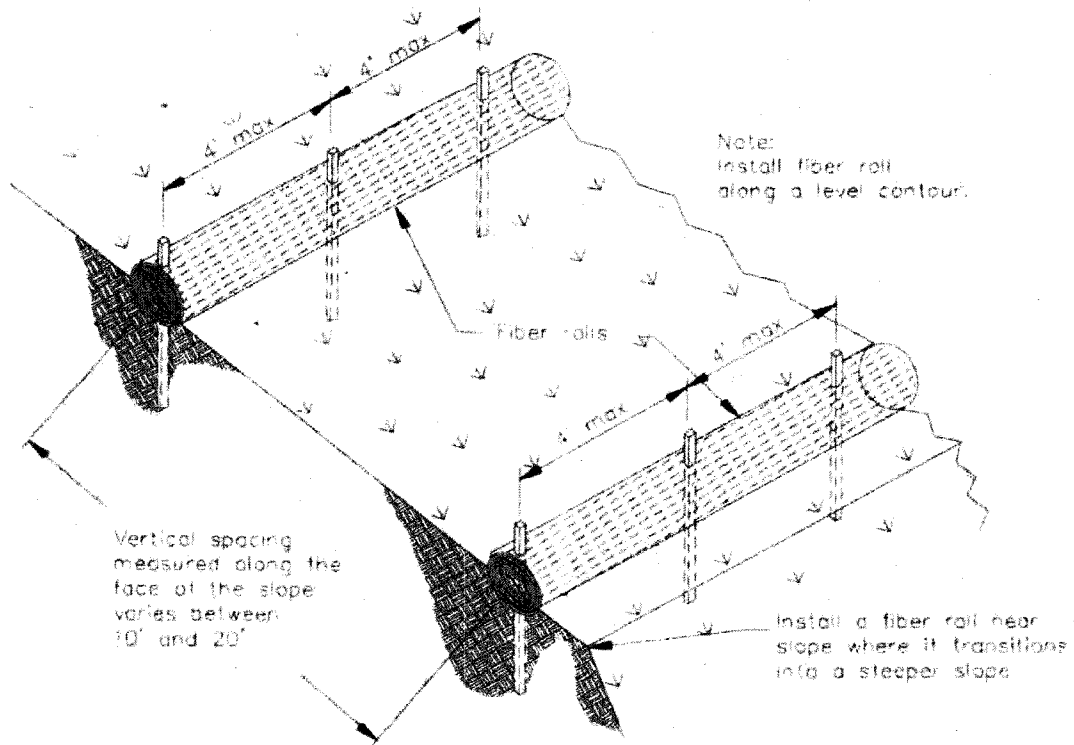


TYPICAL ROCK CHECK DAM SECTION

ROCK CHECK DAM
NOT TO SCALE

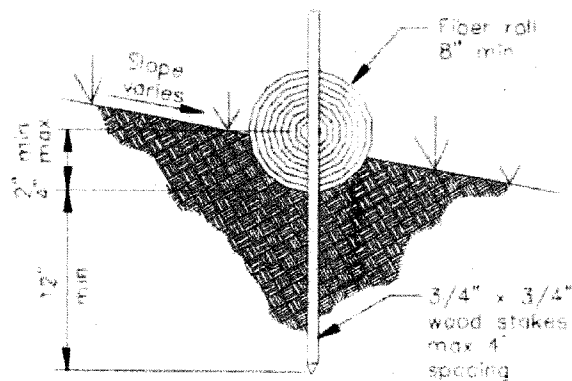


GRAVEL BAG CHECK DAM ELEVATION
NOT TO SCALE



TYPICAL FIBER ROLL INSTALLATION

N.T.S.



ENTRENCHMENT DETAIL

N.T.S.



Description and Purpose

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways, and to clean paved surfaces in preparation for final paving. Sweeping and vacuuming prevents sediment from the project site from entering storm drains or receiving waters.

Suitable Applications

Sweeping and vacuuming are suitable anywhere sediment is tracked from the project site onto public or private paved streets and roads, typically at points of egress. Sweeping and vacuuming are also applicable during preparation of paved surfaces for final paving.

Limitations

Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose).

Implementation

- Controlling the number of points where vehicles can leave the site will allow sweeping and vacuuming efforts to be focused, and perhaps save money.
- Inspect potential sediment tracking locations daily.
- Visible sediment tracking should be swept or vacuumed on a daily basis.

Objectives

EC	Erosion Control	
SE	Sediment Control	✓
TC	Tracking Control	✓
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

- ✓ Primary Objective
- ✓ Secondary Objective

Targeted Constituents

Sediment	✓
Nutrients	
Trash	✓
Metals	
Bacteria	
Oil and Grease	✓
Organics	

Potential Alternatives

None



SE-7 Street Sweeping and Vacuuming

- Do not use kick brooms or sweeper attachments. These tend to spread the dirt rather than remove it.
- If not mixed with debris or trash, consider incorporating the removed sediment back into the project

Costs

Rental rates for self-propelled sweepers vary depending on hopper size and duration of rental. Expect rental rates from \$58/hour (3 yd³ hopper) to \$88/hour (9 yd³ hopper), plus operator costs. Hourly production rates vary with the amount of area to be swept and amount of sediment. Match the hopper size to the area and expect sediment load to minimize time spent dumping.

Inspection and Maintenance

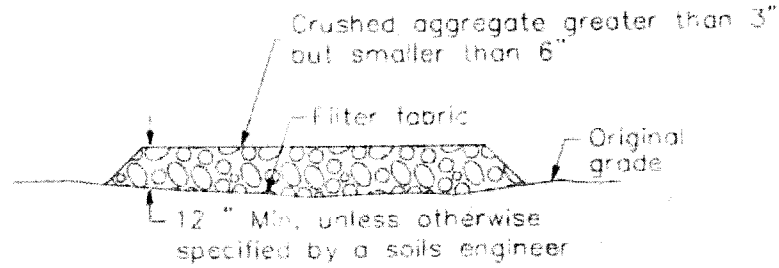
- Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.
- When actively in use, points of ingress and egress must be inspected daily.
- When tracked or spilled sediment is observed outside the construction limits, it must be removed at least daily. More frequent removal, even continuous removal, may be required in some jurisdictions.
- Be careful not to sweep up any unknown substance or any object that may be potentially hazardous.
- Adjust brooms frequently; maximize efficiency of sweeping operations.
- After sweeping is finished, properly dispose of sweeper wastes at an approved dumpsite.

References

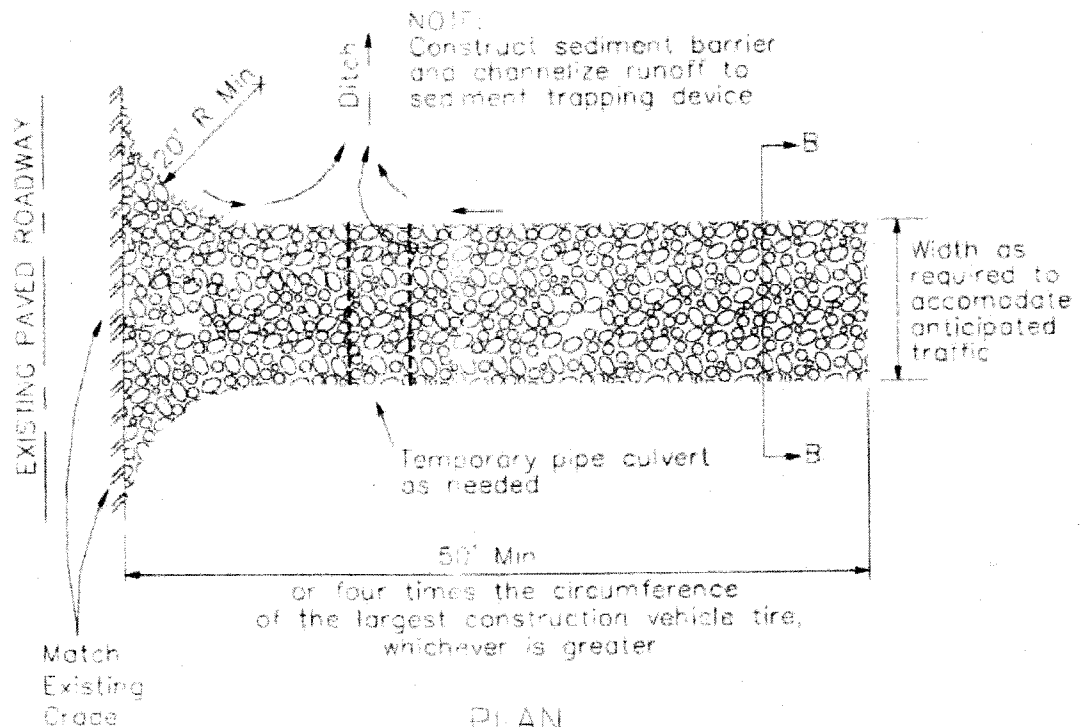
Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Labor Surcharge and Equipment Rental Rates, State of California Department of Transportation (Caltrans), April 1, 2002 – March 31, 2003.

Stabilized Construction Entrance/Exit TC-1

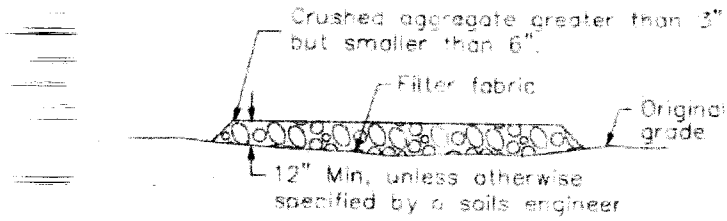


SECTION B-B
NTS

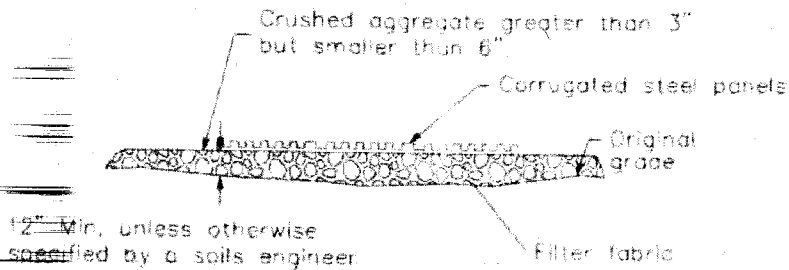


PLAN
NTS

Stabilized Construction Entrance/Exit TC-1

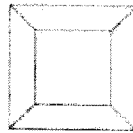


SECTION B-B
NTS

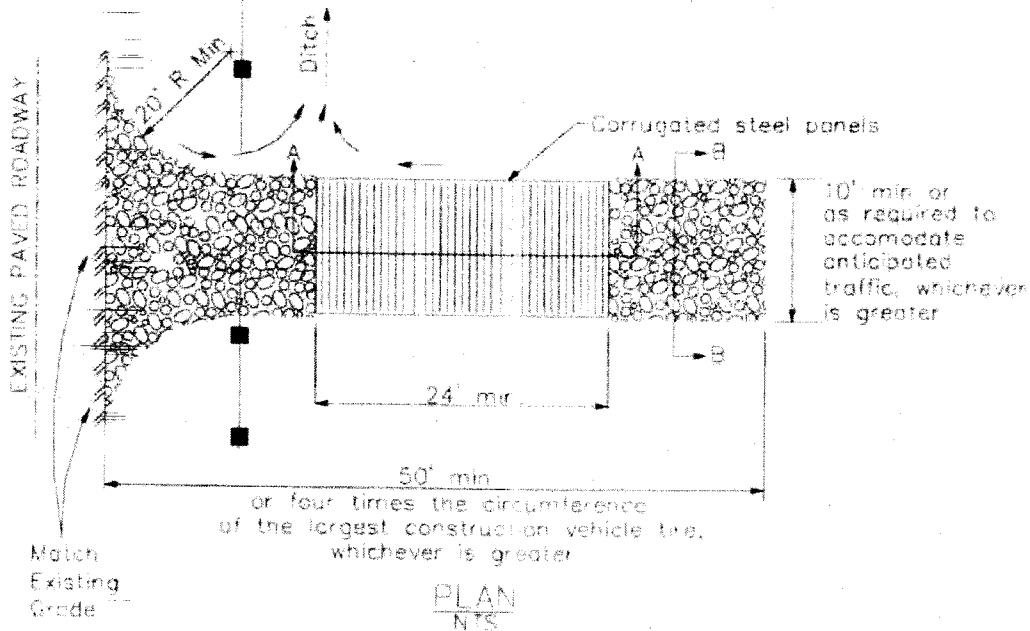


SECTION A-A
NOT TO SCALE

NOTE:
Construct sediment barrier and channelize runoff to sediment trapping device



Sediment trapping device



Appendix "C"
Landfill Site Rules

BADLANDS AND LAMB CANYON LANDFILL FACILITIES

OPEN: 6:00 am to 4:30 pm Monday through Saturday

NEXT HOLIDAY CLOSURE: _____

For services/complaints contact the Riverside County Waste Management Department at (951) 486-3200 or via website www.rivcowm.org

LANDFILL RULES

- Obey County personnel and signs. It is for your safety.
- Anyone under 16 years of age and pets must remain in vehicle.
- High visibility safety vest must be worn at all times.
- Stay within 5 feet of your vehicle while unloading and 15 feet away from heavy equipment.
- No alcohol, drugs, weapons, smoking, salvaging, or loitering.
- Commercial refuse vehicles must have an operational back-up alarm.

STAY ALERT – STAY ALIVE

County is not responsible for damage to customer's vehicle and/or equipment due to customer's negligence or failure to follow site rules and reserves the right to deny access to anyone violating said rules or creating a safety hazard. Landfills are dangerous construction zones. Disposal is at customer's own risk.

ALL LOADS SUBJECT TO INSPECTION

Disposal of hazardous, toxic, flammable, corrosive, explosive and radioactive waste/materials may be prosecuted under Health and Safety Code 25189.5 and Penal Code 374.8

Appendix “D”

SCAQMD Rule 1150 Excavation Permit Conditions

Rule 1150 Excavation Permit

Conditions:

1. This excavation shall be conducted in accordance with all data and specifications submitted with the application under which this plan is issued unless otherwise noted below.
2. This excavation plan is valid until March 27, 2019. An extension may be granted upon written request. Such a request will include the reasons the extension is required, the length of extension, and the status of the excavation to date, including days of operation and total cubic yards of excavated material.
3. SCAQMD shall be notified in writing at least two days prior to commencing the excavation and within five days after completion.
4. This excavation plan is valid for the removal and re-disposal of approximately 55,000 cubic yards of refuse and contaminated material.
5. Excavation shall not be conducted between the hours of 5 P.M. and 7 A.M. or on Saturdays, Sundays, and legal holidays unless otherwise approved in writing by SCAQMD.
6. Excavation shall not be conducted on days when SCAQMD forecasts first, second, or third stage episodes for Area Number 28. Episode forecasts for the following day can be obtained by calling (800) 288-7664.
7. During excavation, all working excavation areas, excavated material and unpaved roadways shall be watered down until the surface is moist and then maintained in a moist condition to minimize dust and emissions.
8. When refuse loading is completed and during transport, no material shall extend above the sides or rear of the truck or trailer which will haul the excavated material. All trucks hauling excavated material shall be covered.
9. The exterior of haul trucks or trailers shall be cleaned off prior to leaving the excavation site.
10. Excavated refuse shall be transported to the active working face of the landfill within one hour of generation or as deemed necessary by SCAQMD personnel.
11. The excavation workface, which exposes refuse or other emission generating material to the atmosphere, shall not exceed 25,000 square feet.
12. All excavated refuse shall be covered with either a minimum of 6" of clean soil, approved foam or heavy duty plastic sheeting whenever the excavation is not actively in progress, and at the end of each working day. Foam by itself shall not be used for night cover if it is raining or rain is predicted by the National Weather Service prior to the next scheduled day of excavation.
13. During excavation, if a considerable number of complaints are received, all work shall cease and the approved mitigation measures shall be implemented immediately. Other mitigation measures which are deemed appropriate by SCAQMD personnel to abate a nuisance condition shall be implemented upon request.
14. Excavation shall not be conducted when the wind speed is greater than 15 M.P.H. (averaged over 15 minutes) or the wind speed instantaneously exceeds 25 M.P.H.

15. During excavation, continuous monitoring and recording of the wind speed and direction shall be conducted at a site approved by the by SCAQMD.
16. All materials that are listed as hazardous by a federal or state agency shall be considered "hazardous materials" for the purpose of this plan.
17. All excavated material shall be transported in such a manner as to prevent any emissions of hazardous materials.
18. All hazardous materials shall be transported in containers clearly marked as to the types of material contained and what procedures should be followed in case of accidental spills.
19. Excavated liquid hazardous materials with the potential to cause air emissions shall be encapsulated or enclosed in containers with sealed lids before loading into the transport vehicles.
20. During excavation, monitoring for Total Organic Compounds (TOC) as methane using an organic vapor analyzer (OVA) or other instrument approved by SCAQMD shall be conducted continuously, directly downwind from the working face and at the property line. The maximum sustained readings (greater than 15 seconds) shall be recorded every 15 minutes. All monitors shall be calibrated daily using a method approved by SCAQMD.
21. If the OVA or other approved organic monitor shows a sustained reading (greater than 15 seconds) of 2,000 ppmv or greater at the working face, the excavation shall cease and the approved mitigation measures shall be implemented immediately. Excavation shall not resume until the readings return to the background level.
22. If the OVA or other approved organic monitor shows a sustained reading (greater than 15 seconds) of 200 ppmv or greater downwind from the site at the property line (or other approved locations), the excavation shall cease and the approved mitigation measures shall be implemented immediately. Excavation shall not resume until the readings return to the background level.
23. If a distinct odor (Level III or greater) resulting from the excavation is detected at or beyond the property line, the excavation shall cease and the approved mitigation measures shall be implemented immediately. Odor levels will be determined by SCAQMD personnel or on-site safety coordinator in the absence of SCAQMD personnel.
24. All records of excavation working hours, analytical results, daily amounts of material excavated and hauled offsite, treated, or landfilled, and other records required by this plan shall be kept on file for at least two years and made available to SCAQMD personnel upon request.
25. Mitigation measures, other than those indicated in these conditions, which are deemed appropriate by SCAQMD personnel as necessary to protect the comfort, repose, health, and safety of the public, shall be implemented upon request.
26. Approved mitigation measures: the area generating the emissions shall immediately be completely covered with a minimum of 6 inches of clean dirt, plastic sheeting, foam, or an approved cover.
27. This excavation management plan or a copy of this plan shall be present at the excavation site.

Other governmental agencies may require approval before any excavation begins. It shall be the responsibility of the applicant to obtain that approval. The South Coast Air Quality Management District shall not be responsible or

liable for any losses because of measures required or taken pursuant to the requirements of this approved Excavation Management Plan.