Section 4 - LANDFILL RE-GRADING

4.1. GENERAL

The work covered by this section shall include but is not limited to: clearing and grubbing the entire landfill surface; excavating miscellaneous material; and placing and compacting the excavated miscellaneous material within the landfill footprint.

The Contractor shall be aware that refuse and ash, typically associated with old burn sites, will be encountered in any excavation during Landfill Re-grading work.

4.2. MATERIALS

The materials required for this section shall be the miscellaneous material generated during Landfill Re-grading operations, which may consists of refuse, burn ash, inert material, soil, or soil comingled with refuse, burn ash, and/or inert material.

4.3. EXECUTION

All Landfill re-grading work shall be performed in accordance with the requirements of Part 3, Section 300 of the Standard Specifications and all other requirements of the Contract Documents, under the ongoing observation and inspection of the County. In order to perform Landfill Re-grading work the Contractor shall excavate miscellaneous material as required and place and compact the excavated miscellaneous material within the Re-grading Limits. Based upon the design elevations shown in the Landfill Re-grading Plan, the County has *estimated* that the maximum amount of miscellaneous material that would be required to be excavated to perform the Landfill Re-grading work is approximately 5,650 cubic yards.

The landfill slopes need not be constructed to the elevations as shown on the Landfill Re-grading Plan. The landfill slopes must be constructed to a uniform grade and shall be smoothly graded, track-walked, and compacted in accordance with the Contract Documents. Slopes shall not exceed a 3:1 horizontal to vertical ratio, except where shown on the Project drawings.

The top deck area will be surveyed and analyzed when landfill re-grading has been completed. The entire top deck grading plan may be adjusted for settlement as well as actual refuse, burn ash, and soil placement volumes by the County. If such an adjustment is made, the Contractor and county shall agree upon a uniform elevation and/or area adjustment. The line and grade of the Landfill Re-grading Plan for the top deck area shall otherwise be maintained.

In no case shall the Contractor place fill material above the design elevations of the Landfill Re-grading Plan, unless directed to do so in advance in writing by the County.

Prior to the start of the project, the County will perform a topographic survey of the project site to establish base topographic surface. The County has performed a "take-off" comparing a July 2007 topographic survey with the Landfill Re-grading Plan. The resultant isopach is shown on a Project Drawing. The localized, vertical cut and fill depths, shown to the nearest one tenth of one foot, are meant to demonstrate the approximate depths and limits of the areas where cut and fill would be required to perform Landfill Re-grading work if the design elevations of the Landfill Re-grading Plan were built. The Contractor is advised that settlement may occur during the project.

To comply with South Coast Air Quality Management District (SCAQMD) requirements, the County has obtained a Rule 1150 permit for effuse excavation. All Landfill Re-grading work shall be performed in strict accordance with the requirements of the SCAQMD Rule 1150 Permit and other requirements of the Contract Documents, under the ongoing observation and inspection of the County. The Contractor shall comply with all requirements of the SCAQMD permit conditions (i.e. emissions monitoring, daily cover, transportation, dust suppression, etc.) any time refuse is encountered. The SCAQMD permit and associated conditions are included in Appendix B. The Contractor shall provide the required equipment and personnel to monitor the work, ensuring compliance with the SCAQMD permit. Under no circumstances shall excavation in conjunction with Landfill Re-grading efforts occur without the Contractor arranging for emissions monitoring activities required by the SCAQMD permit.

Landfill Re-grading work and Final Cover Engineered Fill work may be conducted concurrently; however, the Contractor may perform Final Cover Engineered Fill work only in designated area specifically approved in advance in writing by the County. If any completed and approved Landfill Re-grading work is damaged for any reason (including but not limited to rain damage), the Contractor shall rework the damaged area at the Contractor's expense to the satisfaction of the County prior to placement of Final Cover Engineered Fill.

4.4. MEASUREMENT AND PAYMENT

The final measurement of Landfill Re-grading quantities for payment purposes shall be based only upon the area (1.90 acres) of completed Landfill Re-grading. The acreage for payment shall be measured by the true ground surface area within the locations and limits specified in the Contract Documents. Payment of all required Landfill Re-grading work shall be based on area, as stated in Bid Item No. 3 – Earthwork (Landfill Re-grading). Payments shall constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to completion of this item of work. Payment shall be based on an area of 1.90 acres which will be re-graded. Measurement for progress payment purposes shall be based on topographic survey performed by the County.

END OF SECTION

Section 5 - FINAL COVER ENGINEERED FILL

5.1. GENERAL

The work covered in this section shall consist of furnishing all necessary labor, materials, equipment, tools and supervision for the construction of the Final Cover Engineered Fill. The work shall include placing and compacting Final Cover Engineered Fill material for construction of the final cover system.

5.2. MATERIALS

Contractor shall haul only clean material from a source inspected and accepted by the County. 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.

5.3. EXECUTION

Engineered Fill shall be placed on the landfill and on the slope adjacent to County Village Road as shown in the Project Drawings. Clean material stockpile areas off the landfill footprint shall be provided to the Contractor as shown on the Project Drawings to temporarily store clean material during the dirt haul.

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.

Engineered fill material shall be compacted to a minimum of 90% relative compaction per the Project Drawings, 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.

All material used for engineered fill shall have a moisture content between ±2% and OMC in accordance with ASTM D1557. Additional water may 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.

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 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.

5.3.1. HAUL

The Contractor is responsible for obtaining and complying with any required hauling permits on all City County, and State roads and Highways. The Contractor shall provide California Highway Patrol Vehicle Safety Certifications for all haul trucks prior to commencement of the haul, and shall maintain said certifications for the entire duration of the haul.

The Contractor is responsible for controlling traffic adjacent to the project site when project related construction affects the road. The Contractor shall be responsible for the installation, operation, and maintenance of traffic control devices and measures according to the Traffic Control Plan approved by the Contractor's licensed Traffic Engineer as specified in Special Provisions Section 1.4.2.

An adequate freeboard must be maintained in each hauling truck above its load in order to prevent material from falling onto streets along the haul route. The Contractor shall maintain County Village Road, adjacent to the site, in a condition clear of material dropped from hauling vehicles. The Contractor shall perform street cleaning or sweeping, at the Contractor's expense, as often as each working day, if needed or required.

The Contractor shall ensure that haul truck drivers do not exceed the posted speed limits on the haul route, and adhere to safe and courteous driving practices. Failure to do so will be cause for the driver's immediate and permanent dismissal from the project.

Trucks used for transporting material shall not exceed the maximum allowable weight for use on the haul roads. The Contractor, at its own expense, shall be responsible for repairing any damage along the haul route which, in the opinion of the County, was caused by the hauling trucks. Prior to the commencement and upon completion of the work, the County will meet with the Contractor to videotape the street surfaces adjacent to the project site along County Village Road and the paved access road from Country Village Road to the landfill in order to document any damage caused by the hauling trucks. All repair work shall be performed to the satisfaction of the County or other governing authority.

5.4. MEASUREMENT AND PAYMENT

The measurement of the final quantity for Bid Item No. 4 "Earthwork (Top Deck Final Cover)" and Bid Item No. 5 "Earthwork (Slope Final Cover)" shall be based only on the total engineered fill quantity as determined by comparing the pre-construction ground surface and the finished surface within the Final Cover fill limits, as shown on the Project Drawings. The pre-construction ground surface will be established by a topographic ground survey (conducted by the County) prior to the start of the project and the post-construction ground

surface for this work shall be established by a topographic ground survey (conducted by the County) at the completion of the Final Cover. Payment for the placement of engineered fill shall be made based on the unit price per cubic yard for engineered fill, as stated in the Contractor's Proposal, Bid Items No. 4 and No. 5. **Payment** shall constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to completion of this item of work.

END OF SECTION

Section 6 - DRAINAGE STRUCTURES

6.1. GENERAL

The work covered by this section shall consist of furnishing all necessary labor, materials, equipment, tools and supervision for the construction of Drainage Structures. The work shall include but not be limited to grading, excavation, subgrade preparation, and construction of the Drainage 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 the Drainage Structures is complete.

6.2. MATERIALS

Portland Cement Concrete material used to construct the trapezoidal and v-ditch drains shall be 650-D3250P with a 4-inch maximum slump in accordance with Section 201-1.1.2. of the Standard Specifications for Public Works Construction (Greenbook) 2012 Edition. Fiber reinforcement shall conform to Section 201-2.3 Type III of the Greenbook. Type 2 white pigmented curing compound shall conform to Section 201-4.1.1 of the Greenbook.

Concrete block masonry units (CMU) for the splash wall of the Storm Drain Structure shall be six-inch by eight-inch by eighteen-inch (6" x 8" x 18") CMU and shall conform to subsection 202-2.2 of the Greenbook. Reinforced concrete for the wall footing shall be Class 560-C-3250 in conformance with Section 201-1 of the Greenbook. Reinforcing steel (rebar for wall footing shall be grade 60 and shall conform to sub-section 201-2.2.1 of the Greenbook. Mortar, grout, and water used in construction of the CMU shall conform to sub-section 202-2.1 and Section 202-3 of the Greenbook. Mortar shall attain a minimum compressive strength of 1,800 psi and grout shall attain a minimum compressive strength of 2,000 psi in 28 days when tested in accordance with ASTM C109.

6.3. EXECUTION

Contractor shall provide written documentation certified by the shotcrete supplier and acceptable to the County that aggregates and cement conform to Section 201-1.1.2. of the Greenbook, and fiber reinforcement conforms to Section 201-2.3 Type III of the Greenbook. Contractor shall prepare subgrade for air-placed concrete that shall be neatly trimmed to line and grade and shall be free of all loose material. Where the structures are in native cut, the upper six-inches (6") 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-inches (6") and re-compacting it. For areas requiring engineered fill, the finished subgrade shall be compacted to a minimum 90% of the maximum density as determined per ASTM D1557. Clearing, grubbing, and excavation for the structures shall comply with the provisions of Section 300-7 of the Greenbook.

Contractor shall notify County site personnel at least one day prior to delivery of shotcrete materials for each day of delivery. Contractor shall supply a copy of each and every shotcrete delivery ticket to the County. Delivery tickets shall be provided by the weigh master from the concrete plant indicating the net volume in cubic yards of shotcrete material and inclusion of fiber reinforcement additive.

Placement of shotcrete shall be performed in accordance with Section 302-2 – Method B (Shotcrete) of the Greenbook. Weakened plane joints for Drainage Structures shall be installed perpendicular to the water flow direction at ten foot intervals along the water flow direction and as directed by the County. Depth of joints shall be one-half inch.

Type 2 – white-pigmented curing compound shall be applied to all shotcrete structures in accordance with the requirements of Section 201-4.1.1. and 201-4.1.2. of the Greenbook.

Contractor shall install keyways at upstream and downstream limits of shotcrete drainage structures as directed by the County.

6.4. MEASUREMENT AND PAYMENT

The measurement of the final quantity for Bid Item No. 6 "Construct Drainage V-Ditch", Bid Item No. 7 "Construct Drainage V-Ditch along Road", and Bid Item No. 8 "Construct Drainage Trap Channel" shall be determined by the County based on field measurements of the axial length (linear feet) of the structures as shown on the Project Drawings; and shall be paid for (less retention) at the contract unit price per linear foot as stated in the Contractor's Proposal, Bid Items No. 6 – No. 8. Payment shall constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to completion of these items of work.

The Payment for Bid Item No. 9 "Construct Storm Drain Structure" shall be paid as a lump sum at the completion of the construction of the Storm Drain Structure. Payment shall constitute full compensation for all labor, material, equipment, and all other items necessary and incidental to completion of this item of work.

END OF SECTION

APPENDIX "A"

SCAQMD Form 403-N & Rule 1150 Excavation Permit Standard Conditions

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FORM 403N

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:

1. 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 _____.
2. 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: □**Construction/Demolition** □**Sand & Gravel/Mining Operations** □**Cement Manufacturing**			
Name of Responsible Person of Organization:			
Title:		**Phone Number:**	
Environmental Observer: **Date Attended Dust Class:**		**Phone Number:** **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:			

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.

SIGNATURE OF RESPONSIBLE MEMBER OF ORGANIZATION	TITLE	DATE

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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

RULE 1150 EXCAVATION OF LANDFILL SITES PERMIT APPLICATION INSTRUCTIONS

GENERAL INFORMATION:

This document contains instructions for providing information necessary for the AQMD to process permit applications for Rule 1150 Excavation Permits.

One Application for Plans (Form 400-P) is generally required for each excavation project. If the project consists of treatment or processing of the excavated materials using equipment which requires a permit to construct/operate, a separate application (Form 400-A) should be filed for each equipment. Examples of these equipment include crushers, screens, mixers, conveyers, vapor extraction systems, incinerators, internal combustion engines (>50 HP), etc.

APPLICABILITY:

Except otherwise exempt by Rule 1150(c), a Rule 1150 Excavation Permit is required for all excavation activities involving a landfill. A landfill by definition of the Rule is a place, location, tract of land, area, or premises in use, or which has been used for the disposal of waste. In addition to excavations at a typical landfill being subject to this Rule, excavations of contaminated soil at any location will be subject to this Rule if the contamination occurred from the disposal of unwanted material at the site.

APPLICABLE RULES & REGULATIONS:

Reg III

Rule 306	Plan Fees, including filing fee per Rule 306(c) and initial payment of evaluation fees per Rule 306(h)(1).

Reg. IV

Rule 402	Nuisance
Rule 403	Fugitive Dust

Reg. XI

Rule 1150	Excavation of Landfill Sites
Rule 1166	VOC Emissions from Decontamination of Soil

(Copies of Rules & Regulations of AQMD can be obtained through our Public Information Center at (909) 396-3600, or at the AQMD internet home page, www.aqmd.gov.)

EMISSIONS:

ROG and particulate emissions are expected from the excavation activities. These emissions shall be mitigated using the measures identified in Item 10 under Requirements.

REQUIREMENTS:

An Excavation Management Plan must be submitted to and approved by the AQMD. The Plan shall include the following information:

1. Identification (including company name, address, contact person and phone number) of project owner, excavation contractor, on-site safety coordinator, and the firm or individuals preparing the excavation management plan.

2. A description of the background of the project site and the purpose of the excavation.

3. A contour map showing the location of the excavation site, the proposed excavation area, and the surrounding area up to 2,500 feet away form the perimeter of the proposed excavation area. The map should identify all land uses in the area and highlight areas of high population such as schools, hospitals, residential areas, restaurants, and shopping centers.

4. A list of materials buried or suspected materials buried in the site based on all available records.

5. Results of any boring tests done to characterize the disposal site including the identification of any EPA priority pollutants.

6. Results of landfill gas analyses or soil vapor phase analyses including the concentrations of methane, sulfur compounds, and any speciated non-methane hydrocarbons such as benzene and vinyl chloride, etc.

7. The total amount of material to be excavated and the landfill to which the excavated material will be hauled.

8. Scheduled excavation starting and completion dates, and number of working days required for the excavation.

9. A detailed description of how the excavation will be conducted including:

   - excavation equipment
   - surface area of excavation workface
   - surface area of refuse or contaminated soil to be exposed to the atmosphere at any one time
   - excavated material handling method
   - vehicles hauling the excavated material
   - a site layout showing the excavation area, vehicle route, equipment/vehicle cleaning area, etc.

10. A detailed description of the mitigation measures to be implemented during excavation and transportation to minimize potential emissions. The mitigation measures in general includes, but not be limited to:

- limited excavation workface
- minimized soil disturbance/transfer
- minimized refuse/contaminated soil exposure
- limited working hours
- use of long duration foams, plastic sheeting, and/or clean dirt to cover refuse/contaminated soil during non-working hours and/or when excessive emissions are detected
- water spraying
- cleaning and covering of the trucks
- good housekeeping

11. A detailed description of monitoring to be conducted during the excavation. This includes:

- continuous monitoring for organic vapors with OVA's (FID, PID, etc.) at the work face and property line (or other downwind locations within the property line)
- ambient air sampling for particulates, heavy metals, asbestos, and/or specific organic air toxics
- monitoring for odors at and beyond the property line
- monitoring for wind speed and direction

12. A contingency plan for actions to be taken when odors or elevated concentrations (specify the concentrations) of air emissions are detected, or when complaints are received from any public member.

13. A provision that the excavation activities will cease immediately when the operator is notified by a District staff that a public nuisance has occurred as required by Rule 1150 (b)(3).

RULE 1150 STANDARD CONDITIONS:

The following is a list of standard conditions that are used for Rule 1150 Permits. Conditions for an actual Permit may be a combination of the following conditions and specific restrictions applicable to the excavation under evaluation. However, all of the following conditions may not be appropriate for every excavation. The conditions for each Permit should be tailored to fit the needs of the individual excavation under review.

1. THIS EXCAVATION SHALL BE CONDUCTED IN COMPLIANCE WITH ALL PLANS AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THE EXCAVATION SHALL BE COMPLETED BY _____ __, ____, OR WITHIN _____ CALENDAR DAYS AFTER THE EXCAVATION COMMENCES, WHICHEVER OCCURS FIRST, UNLESS AN EXTENSION IS OTHERWISE APPROVED IN WRITING BY THE SCAQMD. ANY EXTENSION REQUEST SHALL BE SUBMITTED IN WRITING TO THE SCAQMD AND SHALL INCLUDE THE REASONS THE EXTENSION IS REQUIRED, THE LENGTH OF THE EXTENSION, AND THE STATUS OF THE EXCAVATION TO DATE.

3. THE SCAQMD SHALL BE NOTIFIED IN WRITING AT LEAST TWO (2) DAYS PRIOR TO THE EXCAVATION COMMENCES AND WITHIN FIVE (5) DAYS AFTER IT IS COMPLETED.

4. THIS EXCAVATION PERMIT IS VALID ONLY FOR THE REMOVAL OF APPROXIMATELY _____ CUBIC YARDS OF (EXCAVATED MATERIAL AND REFUSE) (SOIL CONTAMINATED WITH _____).

5. EXCAVATION SHALL NOT BE CONDUCTED BETWEEN THE HOURS OF _____ AND _____ OR ON SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS.

6. EXCAVATION SHALL NOT BE CONDUCTED ON DAYS WHEN THE SCAQMD FORECASTS FIRST, SECOND OR THIRD STAGE EPISODES FOR AREA NUMBER __, OR WHEN THE SCAQMD REQUIRES COMPANIES IN AREA NUMBER __ TO IMPLEMENT THEIR FIRST, SECOND OR THIRD STAGE EPISODE PLANS. EPISODE FORECASTS FOR THE FOLLOWING DAY CAN BE OBTAINED BY CALLING (800) 445-3826 OR (800) 242-4666.

7. 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.

   or

   EXCAVATION SHALL NOT BE CONDUCTED WHEN THE WIND SPEED IS GREATER THAN __ M.P.H. (AVERAGED OVER 15 CONSECUTIVE MINUTES) AND THE WIND DIRECTION IS FROM THE ARC DEFINED BY _____ THROUGH _____ TO _____.

8. DURING EXCAVATION, ALL WORKING 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.

9. WHEN 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.

10. (for inactive landfills)

    EXCAVATED REFUSE SHALL NOT BE STOCKPILED ON-SITE. ALL EXCAVATED REFUSE SHALL BE DEPOSITED DIRECTLY INTO THE TRUCKS OR TRAILERS WHICH WILL HAUL IT. THE TRUCK BEDS OR TRAILERS SHALL BE COMPLETELY COVERED WITH AN IMPERMEABLE COVER, WITH SUCH COVERS TIED DOWN. ALL SEAMS SHALL BE SEALED TO PREVENT ANY MATERIALS FROM ESCAPING DURING TRANSPORT.

(for active landfills)

EXCAVATED REFUSE SHALL BE TRANSPORTED TO THE ACTIVE WORKING FACE OF THE LANDFILL WITHIN ONE HOUR OF GENERATION OR AS DEEMED NECESSARY BY THE SCAQMD PERSONNEL.

11. THE EXTERIOR OF TRUCKS OR CARS (INCLUDING THE TIRES) SHALL BE CLEANED OFF PRIOR TO LEAVING THE EXCAVATION SITE.

12. THE EXCAVATION WORK FACE EXPOSED TO THE ATMOSPHERE SHALL NOT EXCEED (_____ SQUARE FEET)(____FT X ____FT).

or

THE EXCAVATION WORK FACE WHICH EXPOSES REFUSE OR OTHER EMISSION GENERATING MATERIALS TO THE ATMOSPHERE SHALL NOT EXCEED _____ SQUARE FEET.

13. ALL EXCAVATED REFUSE SHALL BE COVERED WITH EITHER A MINIMUM OF 6 INCHES 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 AS A NIGHT COVER IF IT IS RAINING OR RAIN IS PREDICTED BY THE NATIONAL WEATHER SERVICE PRIOR TO THE NEXT SCHEDULED DAY OF EXCAVATION.

14. VOC CONTAMINATED SOIL (AS DEFINED BY RULE 1166) SHALL NOT BE SPREAD ONSITE OR OFFSITE IF IT RESULTS IN UNCONTROLLED EVAPORATION OF VOC TO THE ATMOSPHERE.

15. 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.

16. ALL EXCAVATED MATERIAL SHALL BE TRANSPORTED IN SUCH A MANNER AS TO PREVENT ANY EMISSIONS OF HAZARDOUS MATERIALS.

17. 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.

18. 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.

19. ALL MATERIALS THAT ARE LISTED AS HAZARDOUS BY A FEDERAL OR STATE AGENCY SHALL BE CONSIDERED "HAZARDOUS MATERIALS" FOR THE PURPOSE OF THIS PERMIT.

20. DURING EXCAVATION, MONITORING FOR THE FOLLOWING HAZARDOUS MATERIALS SHALL BE CONDUCTED IN A MANNER APPROVED BY THE SCAQMD. SAMPLES MUST BE ANALYZED AND RESULTS REPORTED TO THE SCAQMD WITHIN __ DAYS OF TAKING THE SAMPLE. OTHER HAZARDOUS MATERIALS MAY BE ADDED TO THIS LIST IF THEIR PRESENCE BECOMES KNOWN IN THE EXCAVATED MATERIALS:

A.	VINYL CHLORIDE	E.	HEAVY METALS-Pb,Cr,Hg
B.	HYDROGEN CYANIDE	F.	BENZENE
C.	DDT	G.	ETC.
D.	ASBESTOS		

21. DURING EXCAVATION, CONTINUOUS MONITORING AND RECORDING OF THE WIND SPEED AND DIRECTION SHALL BE CONDUCTED AT A SITE APPROVED BY THE SCAQMD.

22. DURING EXCAVATION, MONITORING FOR ORGANICS AS METHANE USING AN ORGANIC VAPOR ANALYZER (OVA) OR OTHER MONITOR APPROVED BY THE SCAQMD SHALL BE CONDUCTED CONTINUOUSLY AT THE WORKING FACE AND AT THE PROPERTY LINE (OR OTHER APPROVED LOCATIONS) DIRECTLY DOWNWIND OF THE EXCAVATION. THE MAXIMUM SUSTAINED READINGS SHALL BE RECORDED EVERY 15 MINUTES.

23. IF THE OVA OR OTHER APPROVED ORGANIC MONITOR SHOWS A SUSTAINED (GREATER THAN 15 SECONDS) READING OF 2,000 PPM OR GREATER AT THE WORKING FACE, THE EXCAVATION SHALL CEASE AND THE APPROVED MITIGATION MEASURES IMPLEMENTED IMMEDIATELY. EXCAVATION SHALL NOT RESUME UNTIL THE READINGS RETURN TO THE BACKGROUND LEVEL.

24. IF THE OVA OR OTHER APPROVED ORGANIC MONITOR SHOWS A SUSTAINED (GREATER THAN 15 SECONDS) READING OF 200 PPM OR GREATER DOWNWIND FROM THE SITE AT THE PROPERTY LINE (OR OTHER APPROVED LOCATIONS), THE EXCAVATION SHALL CEASE AND THE APPROVED MITIGATION MEASURES IMPLEMENTED IMMEDIATELY. EXCAVATION SHALL NOT RESUME UNTIL THE READINGS RETURN TO THE BACKGROUND LEVEL.

25. DURING EXCAVATION, HIGH VOLUME SAMPLING FOR SUSPENDED PARTICULATES SHALL BE CONDUCTED UPWIND AND DOWNWIND OF THE EXCAVATION SITE AT LOCATIONS APPROVED BY THE SCAQMD. SAMPLES SHALL BE TAKEN DURING THE FOLLOWING PERIODS:

A. ACTIVE WORK PERIOD - FROM START OF EXCAVATION (time) UNTIL ACTIVITY IS CEASED FOR THE DAY, BUT NOT LESS THAN 5 HOURS OF SAMPLING TIME.

B. INACTIVE WORK PERIOD - IMMEDIATELY FOLLOWING THE ACTIVE WORK PERIOD AND ENDING AT 6 A.M., AND A 24 HOUR SAMPLE FOR EACH NON-WORKING DAY.

26. ALL HIGH VOLUME SAMPLES TAKEN DURING ACTIVE WORK PERIODS SHALL BE ANALYZED FOR TOTAL SUSPENDED PARTICULATES AND (other contaminants). RESULTS OF THESE ANALYSES SHALL BE SUBMITTED TO THE SCAQMD WITHIN 5 DAYS OF SAMPLING. ADDITIONAL SAMPLING AND ANALYSES SHALL BE CONDUCTED UPON REQUEST BY THE SCAQMD.

27. IF ANY ANALYTICAL RESULTS SHOW THE UPWIND AND DOWNWIND DIFFERENTIAL CONCENTRATIONS OF CONTAMINANTS EXCEEDING THE FOLLOWING LIMITS, EXCAVATION ACTIVITIES SHALL CEASE UNTIL ADDITIONAL MITIGATION MEASURES ARE SUBMITTED TO AND APPROVED BY THE SCAQMD. THESE ADDITIONAL MITIGATION MEASURES SHALL BE IMPLEMENTED WHEN THE ACTIVITIES RESUME.

CONTAMINANT	CONDITION
PM10	50 ug/m^3
contaminants	ug/m^3

28. ALL SAMPLES TAKEN BY THE HIGH VOLUME SAMPLERS SHALL BE PROPERLY STORED FOR AT LEAST 10 DAYS AFTER THE EXCAVATION IS COMPLETED.

29.. ALL MONITORS SHALL BE CALIBRATED DAILY USING A METHOD APPROVED BY THE SCAQMD.

30. 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 IMPLEMENTED IMMEDIATELY. ODOR LEVELS WILL BE DETERMINED BY SCAQMD PERSONNEL OR ON-SITE SAFETY COORDINATOR IN THE ABSENCE OF SCAQMD PERSONNEL.

31. ALL RECORDS OF EXCAVATION WORKING HOURS, ANALYTICAL RESULTS, DAILY AMOUNTS OF MATERIALS EXCAVATED AND HAULED OFFSITE, AND OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT ON FILE FOR AT LEAST TWO YEARS AND MADE AVAILABLE TO THE SCAQMD UPON REQUEST.

32. MITIGATION MEASURES, OTHER THAN THOSE INDICATED IN THESE CONDITIONS, WHICH ARE DEEMED APPROPRIATE BY SCAQMD PERSONNEL AS NECESSARY TO PROTECT THE COMFORT, REPOSE, HEALTH OR SAFETY OF THE PUBLIC, SHALL BE IMPLEMENTED UPON REQUEST.

33. THIS PERMIT OR A COPY OF THIS PERMIT 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.

South Coast Air Quality Management District
P. O. BOX 4944
Diamond Bar, CA 91765
(909) 396- 2000

APPLICATION FOR PLANS
FORM 400 - P

Section I - Company Information

LEGAL NAME OF APPLICANT ☐ IRS OR ☐ S.S.NUMBER

PERMIT TO BE ISSUED TO (SEE INSTRUCTIONS)

BUSINESS MAILING ADDRESS

Section II - Facility Information

EQUIPMENT ADDRESS/LOCATION (ENTER VARIOUS LOCATIONS, IF APPLICABLE)

NUMBER/STREET

CITY OR COMMUNITY CA ZIP CODE

FACILITY NAME (N\A FOR VARIOUS LOCATIONS)

FACILITY ID NUMBER

NAME OF CONTACT PERSON | TITLE | CONTACT TELEPHONE NUMBER ( ) -

TYPE OF BUSINESS AT THIS FACILITY | BUSINESS TYPE CODE (SEE INSTRUCTIONS)

Section III - Equipment Information

APPLICATION HEREBY SUBMITTED FOR: Rule 1150 Excavation Plan

RULE NUMBER WHICH THIS APPLICATION APPLIES TO: Rule 1150

TYPE OF PLAN APPLICATION:
☐ Compliance Plan
☑ **Excavation Plan**
☐ Other
☐ Alternative Emission Control Plan (AECP)
☐ Extreme Performance Coating Classification

IF THIS APPLICATION IS ASSOCIATED WITH CERTAIN DISTRICT APPLICATIONS(S)/PERMIT(S), ENTER APPLICATION/PERMIT NUMBER(S):

FOR THIS PROJECT HAS A CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) DOCUMENT BEEN REQUIRED BY ANOTHER GOVERNMENTAL AGENCY?
☐ No ☐ Yes, IF YES, ENTER NAME OF AGENCY AND SUBMIT A COPY IF APPROVED.

DO YOU CLAIM CONFIDENTIALITY OF DATA? (SEE INSTRUCTIONS) ☐ Yes ☐ No

OPERATING SCHEDULE (N\A FOR VARIOUS LOCATIONS)

	HOURS/DAY	DAYS/WEEK	WEEKS/YEAR
MAXIMUM			
AVERAGE			

FOR AECP PLEASE FILL IN THE TABLE BELOW:

	LBS/YEAR	DAYS/YEAR
ACTUAL USAGE TWO YEARS AGO		
ACTUAL USAGE LAST YEAR		
PROPOSED AVERAGE USE		

Section IV - Signature

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: | RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER ( ) - | DATE SIGNED: / /

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
SIGNATURE OF PREPARER: TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: | PREPARER'S TELEPHONE NUMBER ( ) - | DATE SIGNED: / /

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: /	FEE SCHEDULE: $	VALIDATION

ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT $

FORM 400P APPLICATION INSTRUCTIONS

COMPANY INFORMATION

LEGAL NAME OF APPLICANT:
Please identify the legal entity that operates the equipment.

I.R.S. OR S.S. NO.:
This information is used for identification purposes. Please enter the Internal Revenue Service (I.R.S.) or Social Security (S.S.) number of the applicant and check the appropriate box.

PLAN TO BE ISSUED TO:
Special format is used to identify both the legal entity and the business name. Please pattern your entry after one of the following examples:

Personal Name:	John C. King
Personal Name with DBA:	ABC Store, John C. King DBA
Partnership:	John C. King, Jim Day, and Ann Smith
Partnership	ABC Store, J. King J. Day A. Smith DBA
Corporation	ABC Corporation
Corporation with Division:	ABC Corporation, Office Products Division
Corporation with DBA:	ABC Corporation, ABC Trucking Co. DBA
Governmental Agency:	Any City, Public Works Dept.
School:	John Muir High School
Colleges and Universities:	University of California, Los Angeles, Biochemistry Dept.

BUSINESS MAILING ADDRESS:
Please identify the address where all business correspondence is to be mailed.

FACILITY INFORMATION

FACILITY NAME:
For identification purposes, please enter the name of the subject facility if you have more than one facility.

FACILITY I.D. NO.:
If your facility has been issued an I.D. number by the District, please enter it in the space provided. Otherwise, leave this blank. An I.D. number will be assigned when the application is submitted.

EQUIPMENT/FACILITY LOCATION:
Please identify the address where the equipment or facility will be located. If no street address is available, please provide a location description and zip code. For equipment to be operated at *various locations*, state "various locations in SCAQMD" and the initial operating location.

TYPE OF BUSINESS:
This information is used by the District for planning and statistical purposes. Please state the type of business you conduct in this facility (e.g. refinery, paint manufacturing, dry cleaner, restaurant, etc.).

BUSINESS TYPE CODE AT THIS FACILITY:
This information is used by the District for planning and statistical purposes. Using the provided list of business codes, please enter the code which best describes your business activity at this facility.

CONTACT PERSON, TITLE, AND PHONE NUMBER:
Please identify the person name and title whom would be contacted regarding this application; also include the contact telephone number for this person.

EQUIPMENT INFORMATION

CALIFORNIA ENVIRONMENTAL QUALITY ACT:
A California Environmental Quality Act (CEQA) document (e.g., environmental impact report, negative declaration) is required for any project which results in significant effect on the environment. If such a document has been required by another governmental agency, please enter the name of that agency. A copy of this document is also required before the application can be deemed complete. Therefore, please submit a copy of the approved document.

CONFIDENTIALITY:
District records are subject to the California Public Records Act. To claim confidentiality of information submitted with this application, check "yes." Please be sure that all submitted information which you wish to be kept confidential is clearly marked as such. Please also state the reason(s) for claiming confidentiality. Examples of acceptable reasons are trade secrets and production data. Please note that state law prevents emissions data and permit documents from being kept secret.

SUPPLEMENTAL INFORMATION
In addition to this application form, please submit supporting documents containing information required by the specific rule under which the application is filed. For Rule 1146, please complete Form 1146ALT.

BUSINESS TYPE CODES
Standard Industrial Classification (SIC) Codes

A AGRICULTURE, FORESTRY, AND FISHING
0100 AGRICULTURAL PRODUCTION-CROPS
0200 AGRICULTURAL PRODUCTION-LIVESTOCK
0700 AGRICULTURAL SERVICES
0800 FORESTRY
0900 FISHING, HUNTING, AND TRAPPING
4300 U.S. POSTAL SERVICE
9900 NONCLASSIFIABLE ESTABLISHMENTS

B MINING
1000 METAL MINING
1010 Iron Ores
1020 Copper Ores
1030 Lead and Zinc Ores
1040 Gold and Silver Ores
1060 Ferroalloy Ores, Except Vanadium
1080 Metal Mining Services
1090 Miscellaneous Metal Ores
1200 COAL MINING
1220 Bituminous Coal and Lignite Mining
1230 Anthracite Mining
1240 Coal Mining Services
1300 OIL AND GAS EXTRACTION
1310 Crude Petroleum and Natural Gas
1320 Natural Gas Liquids
1380 Oil and Gas Field Services
1400 NONMETALLIC MINERALS, EXCEPT FUELS
1410 Dimension Stone
1420 Crushed and Broken Stone
1440 Sand and Gravel
1450 Clay, Ceramic, & Refractory Minerals
1470 Chemical and Fertilizer Minerals
1474 Potash, soda, and borate minerals
1475 Phosphate rock
1479 Chemical and fertilizer mining, nec
1480 Nonmetallic Minerals Services
1490 Miscellaneous Nonmetallic Minerals

C CONSTRUCTION
1500 GENERAL BUILDING CONTRACTORS
1520 Residential Building Construction
1530 Operative Builders
1540 Nonresidential Building Construction
1600 HEAVY CONSTRUCTION, EX. BUILDING
1610 Highway and Street Construction
1620 Heavy Construction, Except Highway
1700 SPECIAL TRADE CONTRACTORS
1710 Plumbing, Heating, air-conditioning
1720 Painting and Paper Hanging
1730 Electrical Work
1740 Masonry, Stonework, and Plastering
1750 Carpentry and Floor Work
1760 Roofing, Siding, and Sheet Metal Work
1770 Concrete Work
1780 Water Well Drilling
1790 Misc. Special Trade Contractors
1793 Glass and glazing work
1794 Excavation work
1795 Wrecking and demolition work
1799 Special trade contractors, nec

D MANUFACTURING
2000 FOOD AND KINDRED PRODUCTS
2010 Meat Products
2011 Meat packing plants
2013 Sausages and other prepared meats
2015 Poultry slaughtering and processing
2020 Dairy Products
2030 Preserved Fruits and Vegetables
2040 Grain Mill Products
2041 Flour and other grain mill products
2044 Rice milling
2045 Prepared flour mixes and dough's
2046 Wet corn milling
2047 Dog and cat food
2048 Prepared feeds, nec
2050 Bakery Products
2051 Bread, cake, and related products
2052 Cookies and crackers
2060 Sugar and Confectionery Products
2070 Fats and Oils
2080 Beverages
2084 Wines, brandy, and brandy spirits
2085 Distilled and blended liquors
2086 Bottled and canned soft drinks
2087 Flavoring extracts and syrups, nec
2090 Misc. Food and Kindred Products
2100 TOBACCO PRODUCTS
2200 TEXTILE MILL PRODUCTS
2210 Broadwoven Fabric Mills, Cotton
2220 Broadwoven Fabric Mills, Manmade
2230 Broadwoven Fabric Mills, Wool
2240 Narrow Fabric Mills
2250 Knitting Mills
2260 Textile Finishing, Except Wool
2270 Carpets and Rugs
2280 Yarn and Thread Mills
2290 Miscellaneous Textile Goods
2300 APPAREL AND OTHER TEXTILE PRODUCTS
2400 LUMBER AND WOOD PRODUCTS
2420 Sawmills and Planing Mills
2430 Millwork, Plywood & Structural Members
2434 Wood kitchen cabinets
2435 Hardwood veneer and plywood
2436 Softwood veneer and plywood
2439 Structural wood members, nec
2440 Wood Containers
2450 Wood Buildings and Mobile Homes
2490 Miscellaneous Wood Products
2500 FURNITURE AND FIXTURES
2510 Household Furniture
2520 Office Furniture
2521 Wood office furniture
2522 Office furniture, except wood
2530 Public Building & Related Furniture
2540 Partitions and Fixtures
2541 Wood partitions and fixtures
2542 Partitions and fixtures, except wood
2590 Miscellaneous Furniture and Fixtures
2600 PAPER AND ALLIED PRODUCTS
2610 Pulp Mills
2620 Paper Mills
2630 Paperboard Mills
2650 Paperboard Containers and Boxes
2670 Misc. Converted Paper Products
2700 PRINTING AND PUBLISHING
2710 Newspapers
2720 Periodicals
2730 Books
2731 Book publishing
2732 Book printing
2740 Miscellaneous Publishing
2750 Commercial Printing
2752 Commercial printing, lithographic
2754 Commercial printing, gravure
2759 Commercial printing, nec
2760 Manifold Business Forms
2770 Greeting Cards
2780 Blankbooks and Bookbinding
2790 Printing Trade Services
2800 CHEMICALS AND ALLIED PRODUCTS
2810 Industrial Inorganic Chemicals
2812 Alkalies and chlorine
2813 Industrial gases
2816 Inorganic pigments
2819 Industrial inorganic chemicals, nec
2820 Plastics Materials and Synthetics
2821 Plastics materials and resins
2822 Synthetic rubber
2823 Cellulosic manmade fibers
2824 Organic fibers, noncellulosic
2830 Drugs
2833 Medicinals and botanicals
2834 Pharmaceutical preparations
2835 Diagnostic substances
2836 Biological products exc. diagnostic
2840 Soap, Cleaners, and Toilet Goods
2841 Soap and other detergents
2842 Polishes and sanitation goods
2843 Surface active agents
2844 Toilet preparations
2850 Paints and Allied Products
2860 Industrial Organic Chemicals
2861 Gum and wood chemicals
2865 Cyclic crudes and intermediates
2869 Industrial organic chemicals, nec
2870 Agricultural Chemicals
2890 Miscellaneous Chemical Products
2891 Adhesives and sealants
2892 Explosives
2893 Printing ink
2895 Carbon black
2899 Chemical preparations, nec
2900 PETROLEUM AND COAL PRODUCTS
2910 Petroleum Refining
2950 Asphalt Paving and Roofing Materials
2951 Asphalt paving mixtures and blocks
2952 Asphalt felts and coatings
2990 Misc. Petroleum and Coal Products
2992 Lubricating oils and greases
2999 Petroleum and coal products, nec
3000 RUBBER AND MISC. PLASTICS PRODUCTS
3010 Tires and Inner Tubes
3020 Rubber and Plastics Footwear
3050 Hose & Belting & Gaskets & Packing
3052 Rubber & plastics hose & belting
3053 Gaskets, packing and sealing devices
3060 Fabricated Rubber Products, NEC
3061 Mechanical rubber goods
3069 Fabricated rubber products, nec
3080 Miscellaneous Plastics Products, NEC
3081 Unsupported plastics film & sheet
3082 Unsupported plastics profile shapes
3083 Laminated plastics plate & sheet
3084 Plastics pipe
3085 Plastics bottles
3086 Plastics foam products
3087 Custom compound purchased resins
3088 Plastics plumbing fixtures
3089 Plastics products, nec
3200 STONE, CLAY, AND GLASS PRODUCTS
3210 Flat Glass
3220 Glass and Glassware, Pressed or Blown
3221 Glass containers
3229 Pressed and blown glass, nec
3230 Products of Purchased Glass
3240 Cement, Hydraulic
3250 Structural Clay Products
3251 Brick and structural clay tile
3253 Ceramic wall and floor tile
3255 Clay refractories
3259 Structural clay products, nec
3260 Pottery and Related Products
3261 Vitreous plumbing fixtures
3262 Vitreous china table & kitchenware
3263 Semivitreous table & kitchenware
3264 Porcelain electrical supplies
3269 Pottery products, nec
3270 Concrete, Gypsum, and Plaster Products
3271 Concrete block and brick
3272 Concrete products, nec
3273 Ready-mixed concrete
3274 Lime
3275 Gypsum products
3280 Cut Stone and Stone Products
3290 Misc. Nonmetallic Mineral Products
3291 Abrasive products
3292 Asbestos products
3295 Minerals, ground or treated
3296 Mineral wool
3297 Nonclay refractories
3299 Nonmetallic mineral products, nec
3300 PRIMARY METAL INDUSTRIES
3310 Blast Furnace and Basic Steel Products
3312 Blast furnaces and steel mills
3313 Electrometallurgical products
3315 Steel wire and related products
3316 Cold finishing of steel shapes
3317 Steel pipe and tubes
3320 Iron and Steel Foundries
3321 Gray and ductile iron foundries
3322 Malleable iron foundries
3324 Steel investment foundries
3325 Steel foundries, nec
3330 Primary Nonferrous Metals
3331 Primary copper
3334 Primary aluminum
3339 Primary nonferrous metals, nec
3340 Secondary Nonferrous Metals
3350 Nonferrous Rolling and Drawing
3351 Copper rolling and drawing
3353 Aluminum sheet, plate, and foil
3354 Aluminum extruded products
3355 Aluminum rolling and drawing, nec
3356 Nonferrous rolling and drawing, nec
3357 Nonferrous wiredrawing & insulating
3360 Nonferrous Foundries (Castings)
3363 Aluminum die-castings
3364 Nonferrous die-casting exc. aluminum
3365 Aluminum foundries
3366 Copper foundries
3369 Nonferrous foundries, nec
3390 Miscellaneous Primary Metal Products
3398 Metal heat treating
3399 Primary metal products, nec
3400 FABRICATED METAL PRODUCTS
3410 Metal Cans and Shipping Containers
3411 Metal cans
3412 Metal barrels, drums, and pails
3420 Cutlery, Handtools, and Hardware
3430 Plumbing and Heating, Except Electric
3440 Fabricated Structural Metal Products
3441 Fabricated structural metal
3442 Metal doors, sash, and trim
3443 Fabricated plate work (boiler shops)
3444 Sheet metalwork
3446 Architectural metal work
3448 Prefabricated metal buildings
3449 Miscellaneous metal work
3450 Screw Machine Products, Bolts, Etc.
3460 Metal Forgings and Stampings
3462 Iron and steel forgings
3463 Nonferrous forgings
3465 Automotive stampings
3466 Crowns and closures
3469 Metal stampings, nec
3470 Metal Services, NEC
3471 Plating and polishing
3479 Metal coating and allied services
3480 Ordnance and Accessories, NEC
3482 Small arms ammunition
3483 Ammunition, exc. for small arms, nec
3484 Small arms
3489 Ordnance and accessories, nec
3490 Misc. Fabricated Metal Products
3491 Industrial valves
3492 Fluid power valves & hose fittings
3493 Steel springs, except wire
3494 Valves and pipe fittings, nec
3495 Wire springs
3496 Misc. fabricated wire products
3497 Metal foil and leaf
3498 Fabricated pipe and fittings
3499 Fabricated metal products, nec
3500 INDUSTRIAL MACHINERY AND EQUIPMENT
3510 Engines and Turbines
3520 Farm and Garden Machinery

BUSINESS TYPE CODES
Standard Industrial Classification (SIC) Codes

3530 Construction and Related Machinery
3531 Construction machinery
3532 Mining machinery
3533 Oil and gas field machinery
3534 Elevators and moving stairways
3535 Conveyors and conveying equipment
3536 Hoists, cranes, and monorails
3537 Industrial trucks and tractors
3540 Metalworking Machinery
3541 Machine tools, metal cutting types
3542 Machine tools, metal forming types
3543 Industrial patterns
3544 Special dies, tools, jigs & fixtures
3545 Machine tool accessories
3546 Power-driven handtools
3547 Rolling mill machinery
3548 Welding apparatus
3549 Metalworking machinery, nec
3550 Special Industry Machinery
3560 General Industrial Machinery
3561 Pumps and pumping equipment
3562 Ball and roller bearings
3563 Air and gas compressors
3564 Blowers and fans
3565 Packaging machinery
3566 Speed changers, drives, and gears
3567 Industrial furnaces and ovens
3568 Power transmission equipment, nec
3569 General industrial machinery, nec
3570 Computer and Office Equipment
3580 Refrigeration and Service Machinery
3590 Industrial Machinery, NEC
3600 ELECTRONIC & OTHER ELECTRIC EQUIPMENT
3610 Electric Distribution Equipment
3620 Electrical Industrial Apparatus
3630 Household Appliances
3640 Electric Lighting and Wiring Equipment
3650 Household Audio and Video Equipment
3660 Communications Equipment
3661 Telephone and telegraph apparatus
3663 Radio & TV communications equipment
3669 Communications equipment, nec
3670 Electronic Components and Accessories
3690 Misc. Electrical Equipment & Supplies
3700 TRANSPORTATION EQUIPMENT
3710 Motor Vehicles and Equipment
3711 Motor vehicles and car bodies
3713 Truck and bus bodies
3714 Motor vehicle parts and accessories
3715 Truck trailers
3716 Motor homes
3720 Aircraft and Parts
3730 Ship and Boat Building and Repairing
3740 Railroad Equipment
3750 Motorcycles, Bicycles, and Parts
3760 Guided Missiles, Space Vehicles, Parts
3790 Miscellaneous Transportation Equipment
3800 INSTRUMENTS AND RELATED PRODUCTS
3810 Search and Navigation Equipment
3820 Measuring and Controlling Devices
3840 Medical Instruments and Supplies
3850 Ophthalmic Goods
3860 Photographic Equipment and Supplies
3870 Watches, Clocks, Watchcases & Parts
3900 MISCELLANEOUS MANUFACTURING INDUSTRIES
3100 LEATHER AND LEATHER PRODUCTS
3910 Jewelry, Silverware, and Plated Ware
3930 Musical Instruments
3940 Toys and Sporting Goods
3950 Pens, Pencils, Office, & Art Supplies
3960 Costume Jewelry and Notions
3990 Miscellaneous Manufactures

E TRANSPORTATION AND PUBLIC UTILITIES

4000 RAILROAD TRANSPORTATION
4010 Railroads
4100 LOCAL AND INTERURBAN PASSENGER TRANSIT
4200 TRUCKING AND WAREHOUSING
4400 WATER TRANSPORTATION
4410 Deep Sea Foreign Trans. of Freight
4420 Deep Sea Domestic Trans. of Freight
4430 Freight Trans. on the Great Lakes
4440 Water Transportation of Freight, NEC
4480 Water Transportation of Passengers
4490 Water Transportation Services
4500 TRANSPORTATION BY AIR
4510 Air Transportation, Scheduled
4520 Air Transportation, Nonscheduled
4580 Airports, Flying Fields, & Services
4600 PIPELINES, EXCEPT NATURAL GAS
4610 Pipelines, Except Natural Gas
4612 Crude petroleum pipelines
4613 Refined petroleum pipelines
4619 Pipelines, nec
4800 COMMUNICATION
4810 Telephone Communication
4820 Telegraph & Other Communications
4830 Radio and Television Broadcasting
4840 Cable and Other Pay TV Services
4890 Communication Services, NEC
4900 ELECTRIC, GAS, AND SANITARY SERVICES
4910 Electric Services
4920 Gas Production and Distribution
4922 Natural gas transmission
4923 Gas transmission and distribution
4924 Natural gas distribution
4925 Gas production and/or distribution
4930 Combination Utility Services
4931 Electric and other services combined
4932 Gas and other services combined
4939 Combination utilities, nec
4940 Water Supply
4950 Sanitary Services
4952 Sewerage systems
4953 Refuse systems
4959 Sanitary services, nec
4960 Steam and Air-Conditioning Supply
4970 Irrigation Systems

F WHOLESALE TRADE

5000 WHOLESALE TRADE-DURABLE GOODS
5010 Motor Vehicles, Parts, and Supplies
5020 Furniture and Homefurnishings
5030 Lumber and Construction Materials
5040 Professional & Commercial Equipment
5050 Metals and Minerals, Except Petroleum
5060 Electrical Goods
5070 Hardware, Plumbing & Heating Equipment
5080 Machinery, Equipment, and Supplies
5090 Miscellaneous Durable Goods
5093 Scrap and waste materials
5100 WHOLESALE TRADE-NONDURABLE GOODS
5110 Paper and Paper Products
5120 Drugs, Proprietaries, and Sundries
5130 Apparel, Piece Goods, and Notions
5140 Groceries and Related Products
5150 Farm-Product Raw Materials
5160 Chemicals and Allied Products
5170 Petroleum and Petroleum Products
5171 Petroleum bulk stations & terminals
5172 Petroleum products, nec
5180 Beer, Wine, and Distilled Beverages
5190 Misc. Nondurable Goods

G RETAIL TRADE

5200 BUILDING MATERIALS & GARDEN SUPPLIES
5300 GENERAL MERCHANDISE STORES
5400 FOOD STORES
5450 Dairy Products Stores
5460 Retail Bakeries
5490 Miscellaneous Food Stores
5500 AUTOMOTIVE DEALERS & SERVICE STATIONS
5510 New and Used Car Dealers
5520 Used Car Dealers
5530 Auto and Home Supply Stores
5540 Gasoline Service Stations
5550 Boat Dealers
5560 Recreational Vehicle Dealers
5570 Motorcycle Dealers
5590 Automotive Dealers, NEC
5600 APPAREL AND ACCESSORY STORES
5700 FURNITURE AND HOMEFURNISHINGS STORES
5800 EATING AND DRINKING PLACES
5900 MISCELLANEOUS RETAIL
5910 Drug Stores and Proprietary Stores
5920 Liquor Stores
5930 Used Merchandise Stores
5940 Miscellaneous Shopping Goods Stores
5960 Nonstore Retailers
5980 Fuel Dealers
5983 Fuel oil dealers
5984 Liquefied petroleum gas dealers
5989 Fuel dealers, nec
5990 Retail Stores, NEC
6000 DEPOSITORY INSTITUTIONS
6300 INSURANCE CARRIERS
6500 REAL ESTATE

H FINANCE, INSURANCE, AND REAL ESTATE

4700 TRANSPORTATION SERVICES
4720 Passenger Transportation Arrangement
4730 Freight Transportation Arrangement
4740 Rental of Railroad Cars
4780 Miscellaneous Transportation Services
6100 NONDEPOSITORY INSTITUTIONS
6200 SECURITY AND COMMODITY BROKERS
6400 INSURANCE AGENTS, BROKERS, & SERVICE
6700 HOLDING AND OTHER INVESTMENT OFFICES
7000 HOTELS AND OTHER LODGING PLACES
7600 MISCELLANEOUS REPAIR SERVICES
7800 MOTION PICTURES
7819 Services allied to motion pictures
7900 AMUSEMENT & RECREATION SERVICES
8100 LEGAL SERVICES
8300 SOCIAL SERVICES
8400 MUSEUMS, BOTANICAL, ZOOLOGICAL GARDENS
8600 MEMBERSHIP ORGANIZATIONS
8700 ENGINEERING & MANAGEMENT SERVICES

I SERVICES

7200 PERSONAL SERVICES
7210 Laundry, Cleaning, & Garment Services
7211 Power laundries, family & commercial
7212 Garment pressing & cleaners' agents
7213 Linen supply
7215 Coin-operated laundries and cleaning
7216 Drycleaning plants, except rug
7217 Carpet and upholstery cleaning
7218 Industrial launderers
7219 Laundry and garment services, nec
7230 Beauty Shops
7240 Barber Shops
7250 Shoe Repair and Shoeshine Parlors
7260 Funeral Service and Crematories
7290 Miscellaneous Personal Services
7299 Miscellaneous personal services, nec
7300 BUSINESS SERVICES
7310 Advertising
7320 Credit Reporting and Collection
7330 Mailing, Reproduction, Stenographic
7334 Photocopying & duplicating services
7336 Commercial art and graphic design
7340 Services to Buildings
7342 Disinfecting & pest control services
7349 Building maintenance services, nec
7350 Misc. Equipment Rental & Leasing
7352 Medical equipment rental
7353 Heavy construction equipment rental
7359 Equipment rental & leasing, nec
7360 Personnel Supply Services
7380 Miscellaneous Business Services
7384 Photofinishing laboratories
7500 AUTO REPAIR, SERVICES, AND PARKING
7510 Automotive Rentals, No Drivers
7513 Truck rental and leasing, no drivers
7514 Passenger car rental
7515 Passenger car leasing
7519 Utility trailer rental
7520 Automobile Parking
7530 Automotive Repair Shops
7532 Top & body repair & paint shops
7533 Auto exhaust system repair shops
7534 Tire retreading and repair shops
7536 Automotive glass replacement shops
7537 Automotive transmission repair shops
7538 General automotive repair shops
7539 Automotive repair shops, nec
7540 Automotive Services, Except Repair
7542 Carwashes
7549 Automotive services, nec
8000 HEALTH SERVICES
8060 Hospitals
8070 Medical and Dental Laboratories
8080 Home Health Care Services
8090 Health and Allied Services, NEC
8200 EDUCATIONAL SERVICES
8210 Elementary and Secondary Schools
8220 Colleges and Universities
8230 Libraries
8240 Vocational Schools
8290 Schools & Educational Services, NEC

J PUBLIC ADMINISTRATION

9100 EXECUTIVE, LEGISLATIVE, AND GENERAL
9200 JUSTICE, PUBLIC ORDER, AND SAFETY
9220 Public Order and Safety
9221 Police protection
9223 Correctional institutions
9224 Fire protection
9300 FINANCE, TAXATION, & MONETARY POLICY
9400 ADMINISTRATION OF HUMAN RESOURCES
9500 ENVIRONMENTAL QUALITY AND HOUSING
9510 Environmental Quality
9530 Housing and Urban Development
9600 ADMINISTRATION OF ECONOMIC PROGRAMS
9621 Administration of Transportation
9660 Space Research and Technology
9700 NATIONAL SECURITY AND INTL. AFFAIRS

K NONCLASSIFIABLE ESTABLISHMENTS

Ref.: Standard Industrial Classification Manual Executive Office of the President, Office of Management and Budget, 1987, p. 423443.

Note: NEC - Not Elsewhere Classified MISC - Miscellaneous

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APPENDIX "B"

BMP Installation Details from the CASQA Stormwater BMP Handbook

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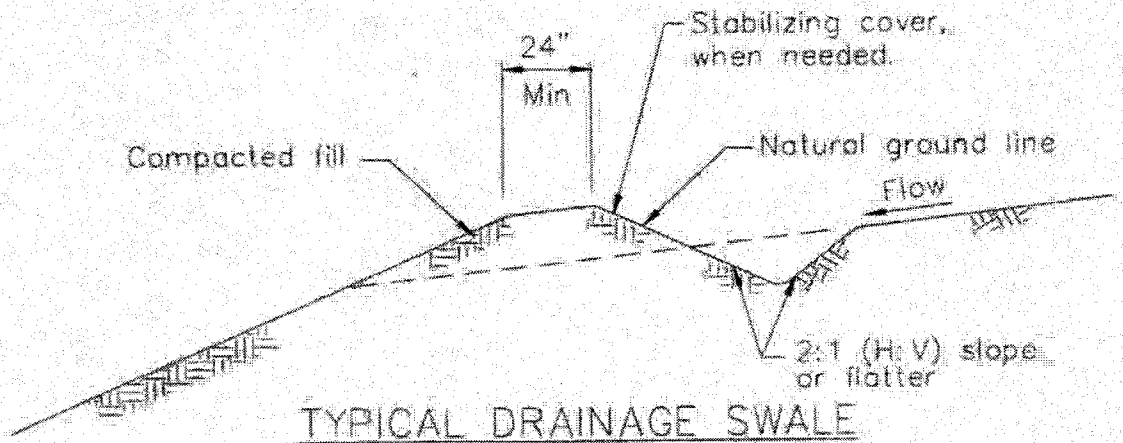
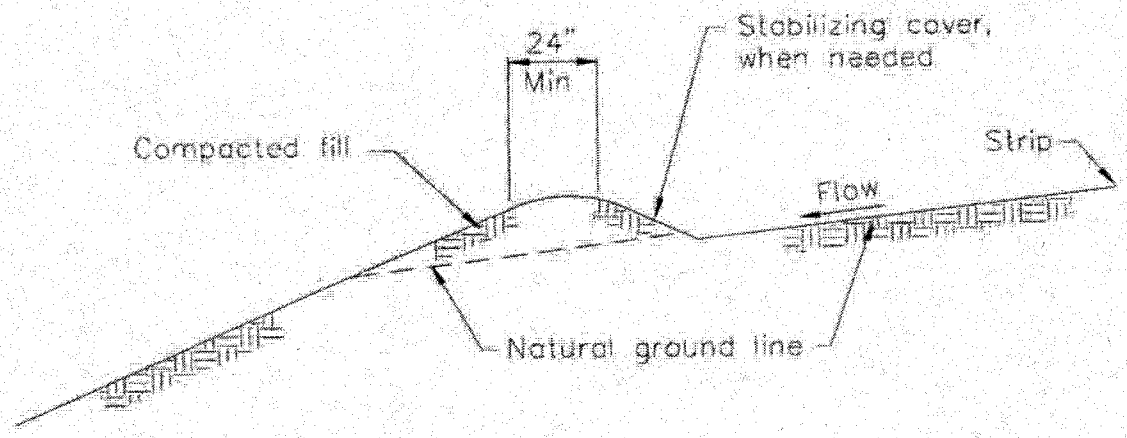


TYPICAL DRAINAGE SWALE
NOT TO SCALE

NOTES:

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



TYPICAL EARTH DIKE
NOT TO SCALE

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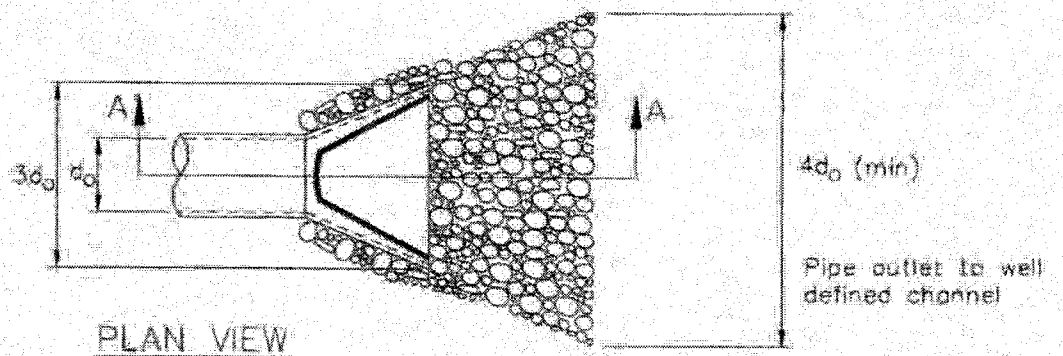
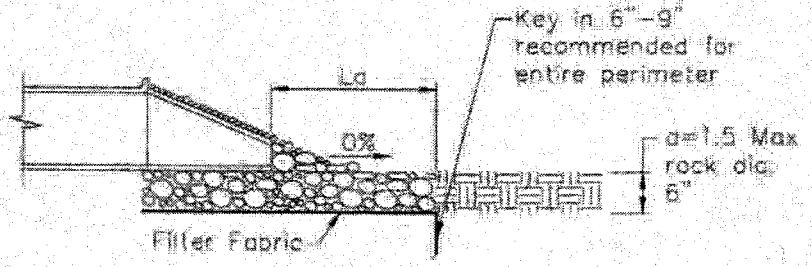


PLAN VIEW



SECTION A–A

Pipe Diameter inches	Discharge ft^3/s	Apron Length, La 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

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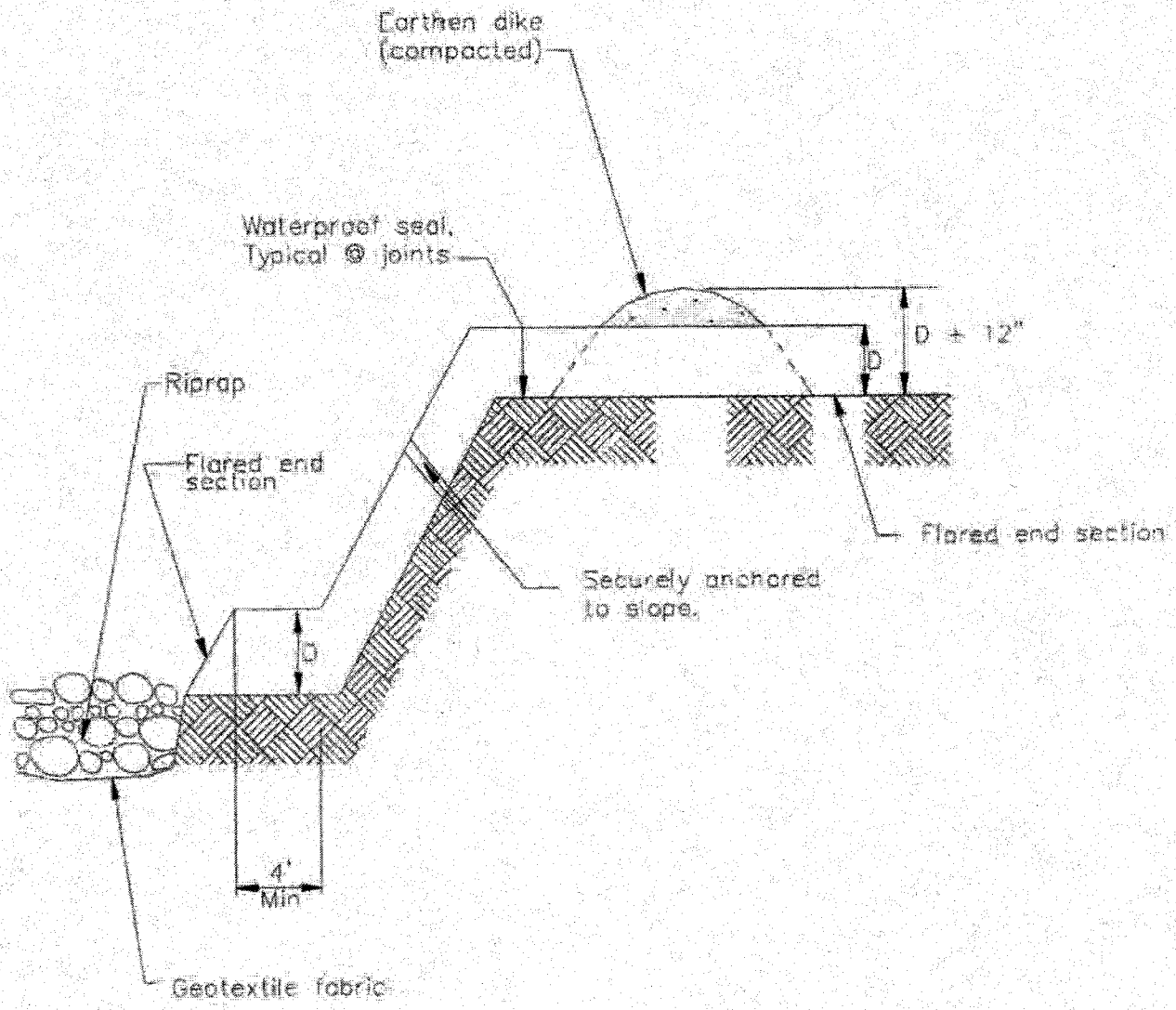

TYPICAL SLOPE DRAIN
NOT TO SCALE

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Drain Inserts MP-52

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 any 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.

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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.

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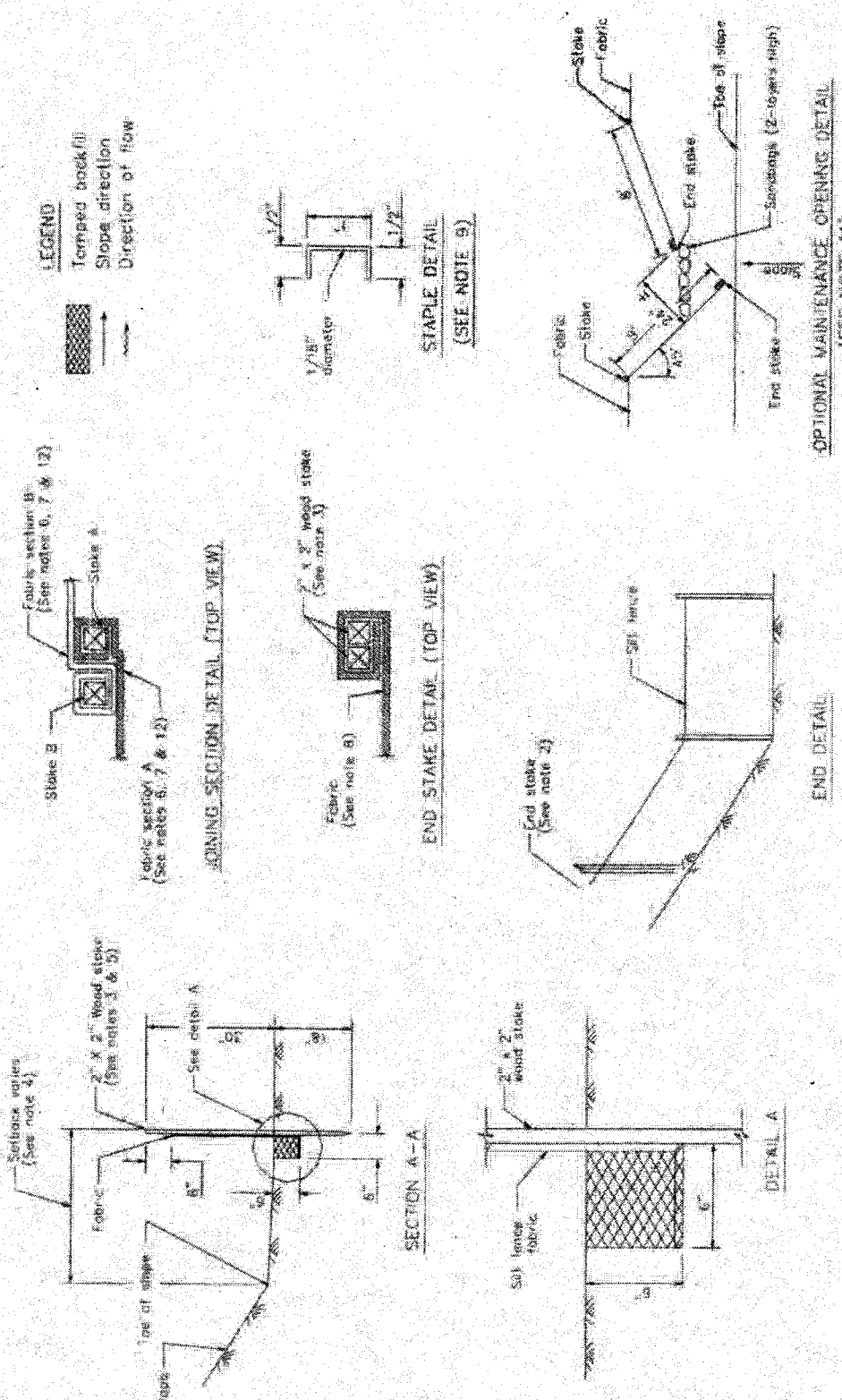
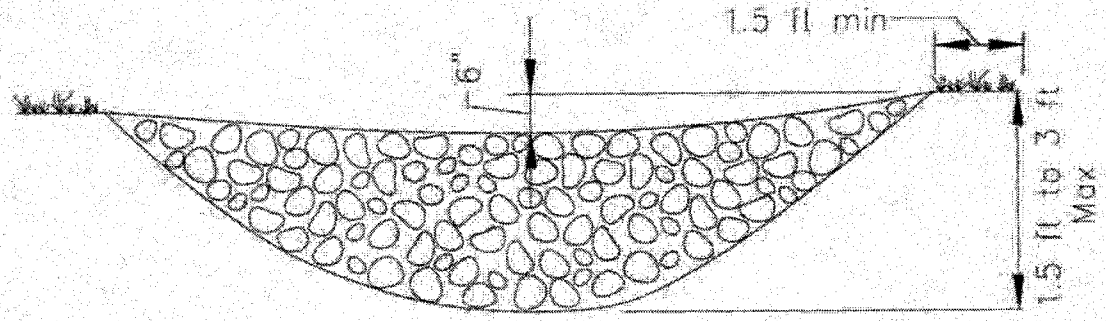
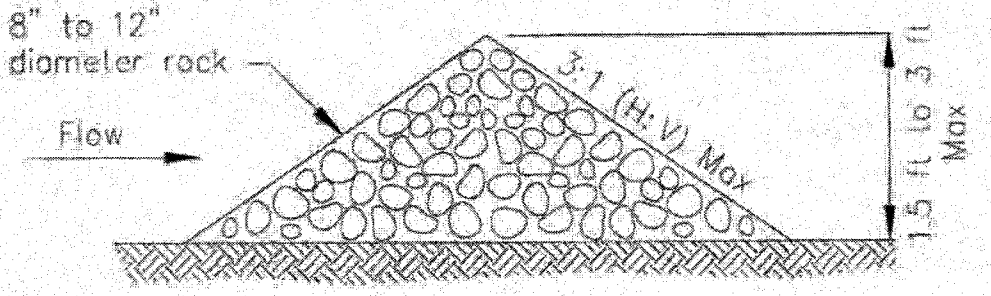
NOTES

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 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. During washouts shall not be placed at sump locations.
13. Sandbag rows and layers shall be offset to eliminate gaps.


LEGEND
Tamped backfill
Slope direction
Direction of flow
1/2"
1/2"
1/16" diameter
STAPLE DETAIL
(SEE NOTE 9)
Stake fabric
Toe of slope
End stake
Sandbags (2-bags high)
Fabric
Stake
End stake
OPTIONAL MAINTENANCE OPENING DETAIL
(SEE NOTE 11)
Fabric section B
(See notes 6, 7 & 12)
Stake A
Stake B
Fabric section A
(See notes 6, 7 & 12)
JOINING SECTION DETAIL (TOP VIEW)
2" x 2" wood stake
(See note 4)
Fabric
(See note 6)
END STAKE DETAIL (TOP VIEW)
Silt fence
End stake
(See note 4)
END DETAIL
Silt fence
(See note 4)
2" X 2" Wood stake
(See notes 3 & 5)
See detail A
Fabric
Toe of slope
Slope
SECTION A-A
2" x 2"
wood stake
Silt fence
fabric
DETAIL A

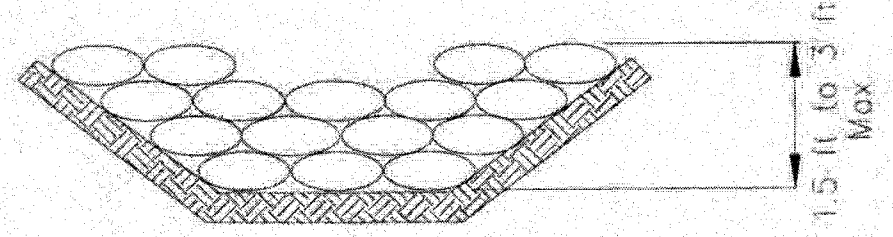


ELEVATION



TYPICAL ROCK CHECK DAM SECTION

ROCK CHECK DAM
NOT TO SCALE



GRAVEL BAG CHECK DAM ELEVATION
NOT TO SCALE

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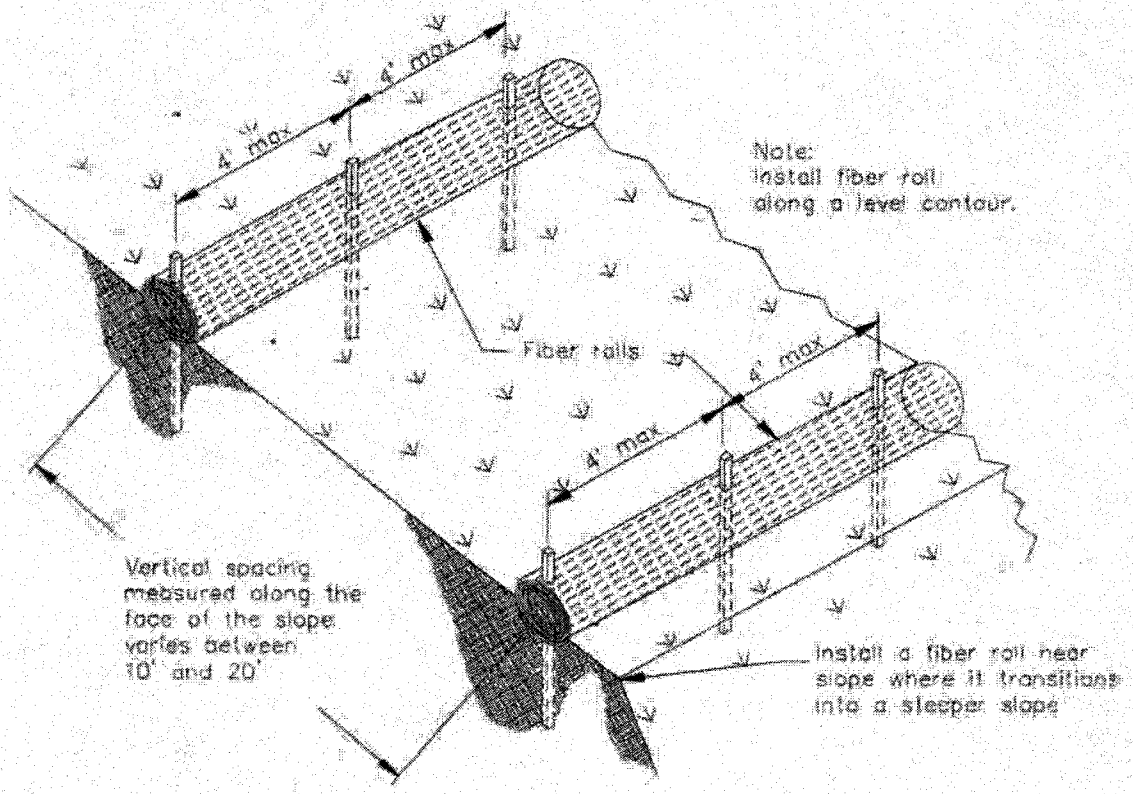
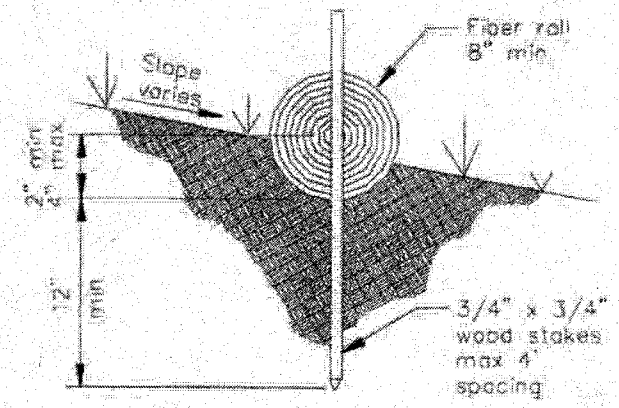


TYPICAL FIBER ROLL INSTALLATION
N.T.S.



ENTRENCHMENT DETAIL
N.T.S.

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Street Sweeping and Vacuuming SE-7

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

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.

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- 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 yd^3 hopper) to $88/hour (9 yd^3 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

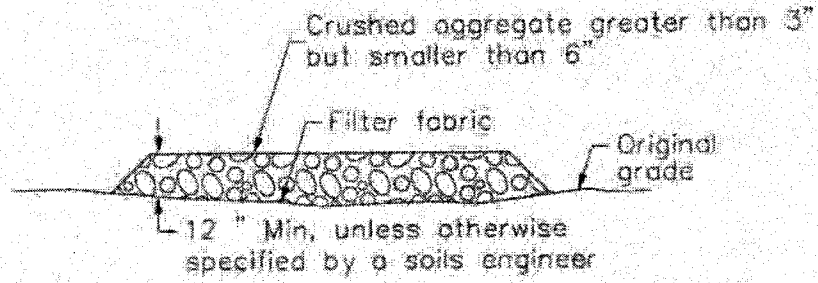
- Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.
- When actively in use, points of ingress and egress must be inspected daily.
- When tracked or spilled sediment is observed 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

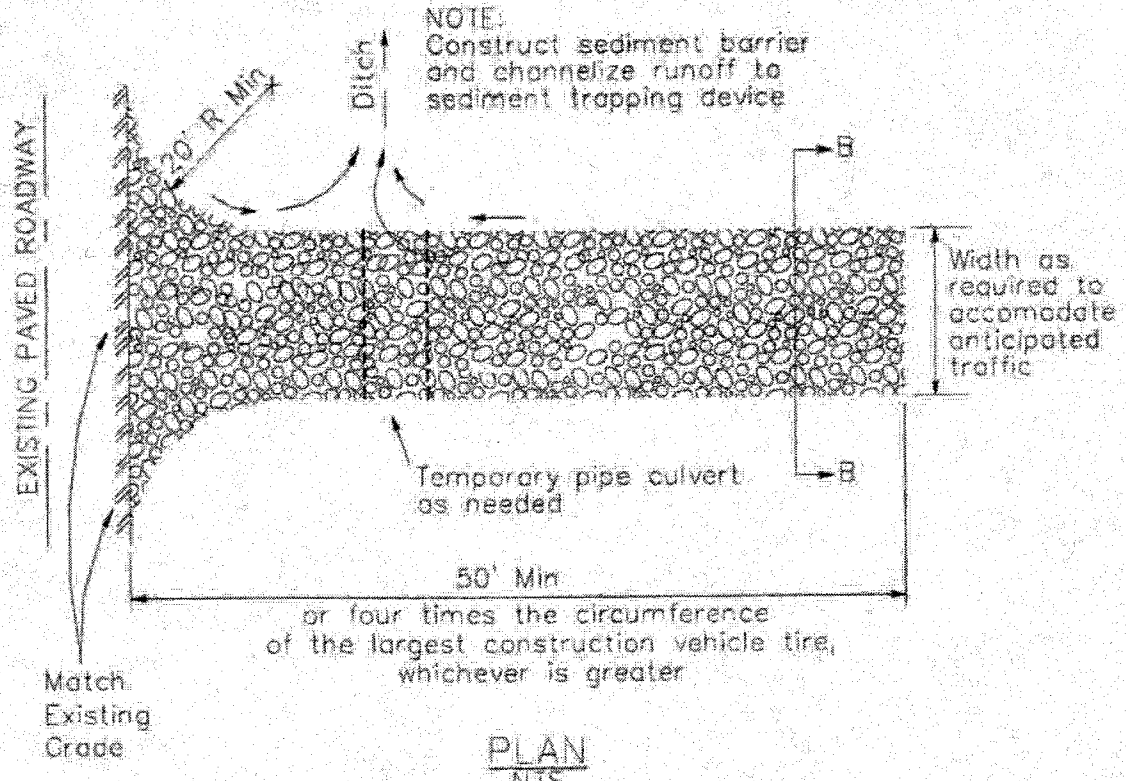
Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

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

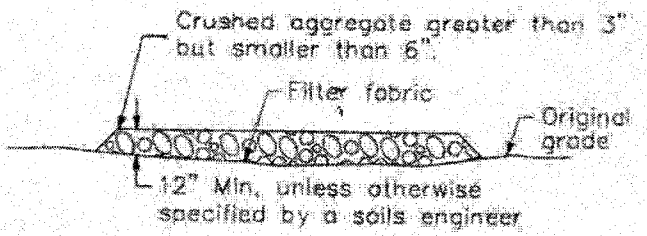


SECTION B–B
NTS

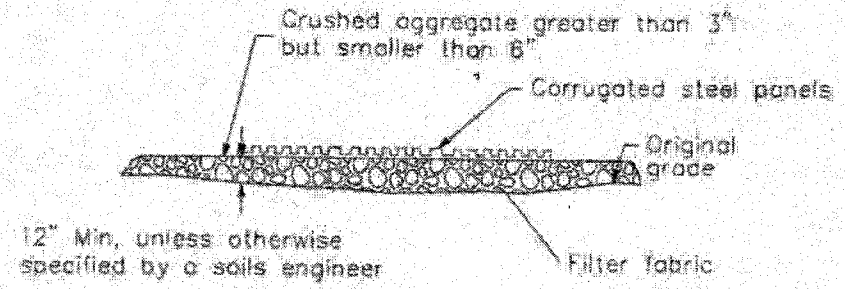


PLAN
NTS

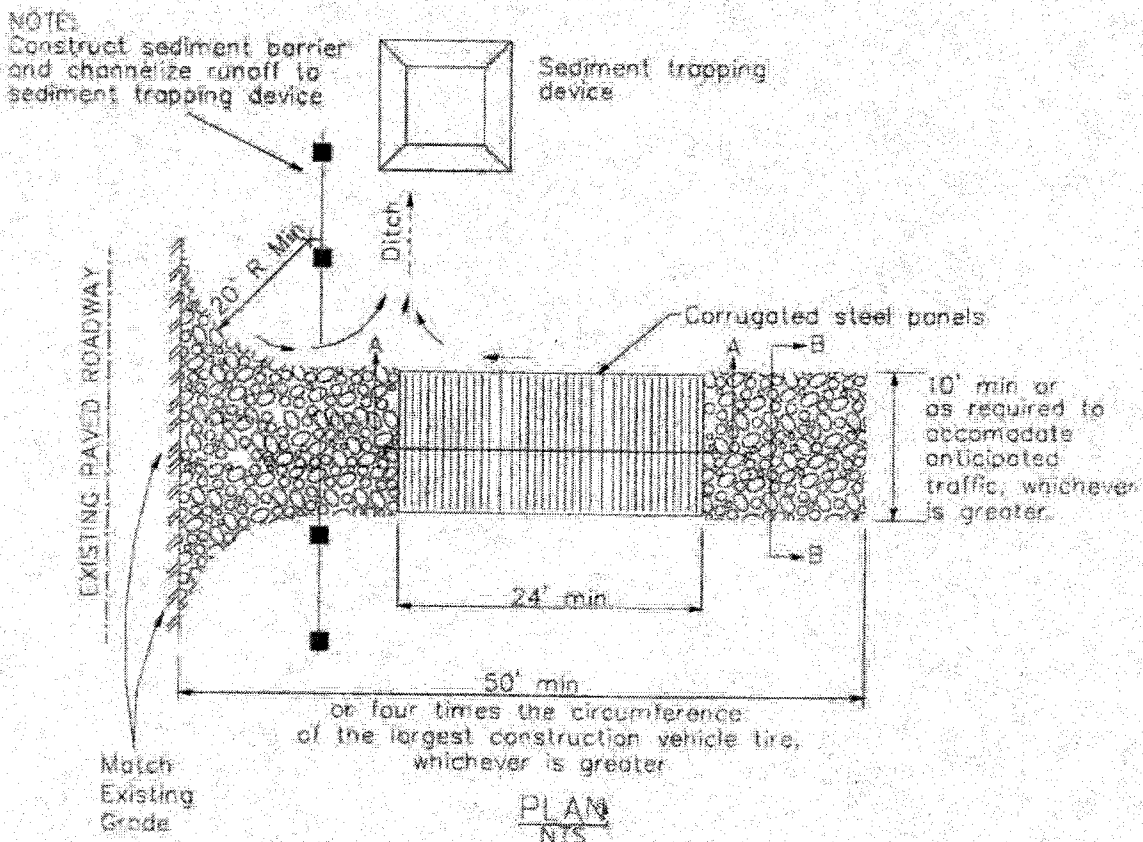
Stabilized Construction Entrance/Exit TC-1



SECTION B–B
NTS



SECTION A–A
NOT TO SCALE



PLAN
NTS