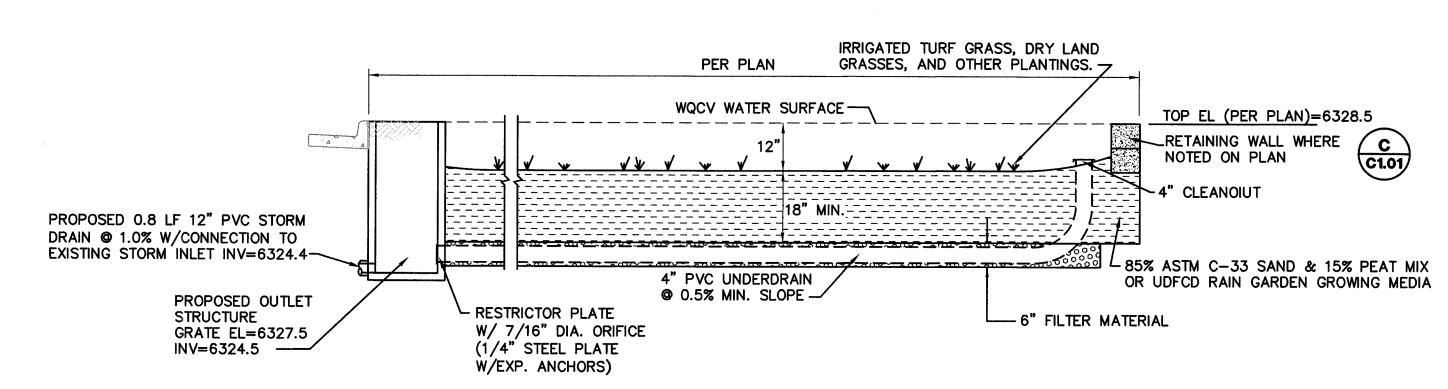
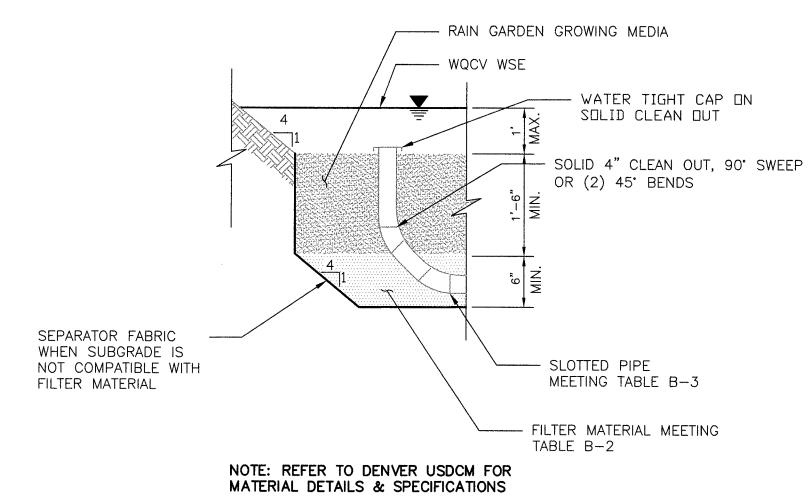


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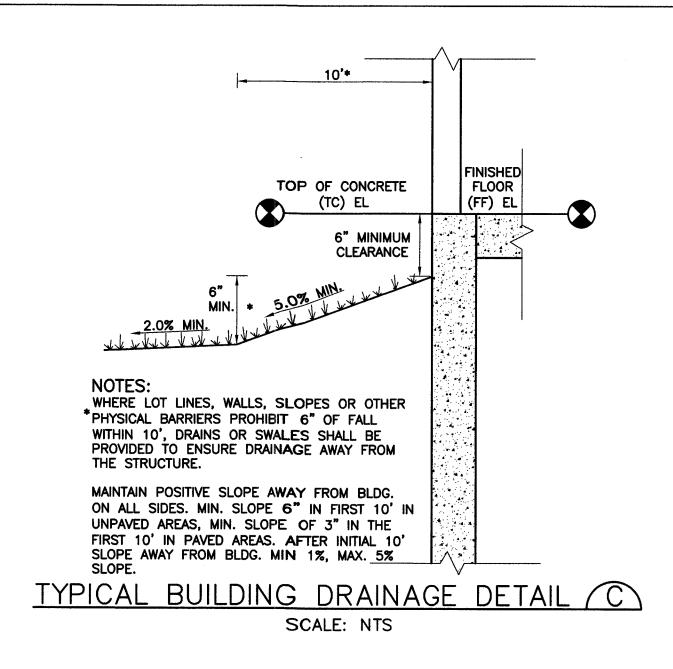
POROUS LANDSCAPE DETENTION (BIORETENTION) AREA (A)

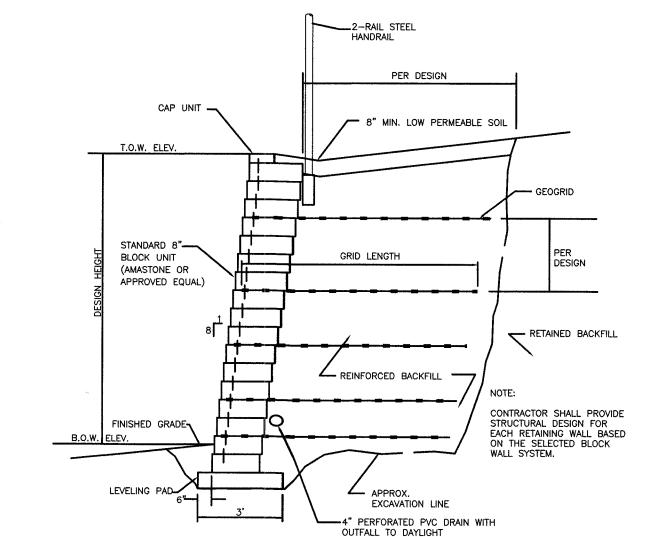


BIORETENTION-PARTIAL INFILTRATION SECTION (B)

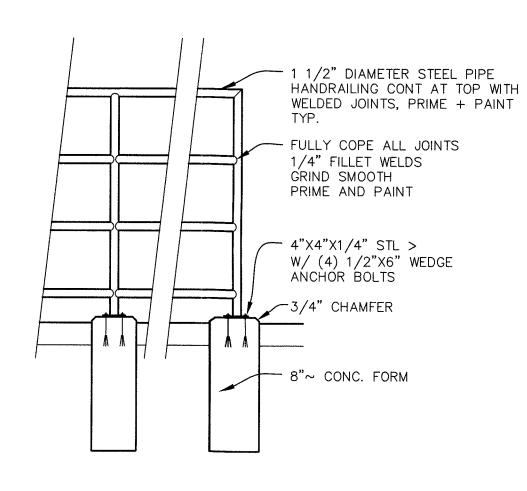
GENERAL CIVIL NOTES

- 1. All construction shall meet the following standards & specifications: * 2009 International Building Code.
- * Pikes Peak Regional Building Code, latest edition.
- * El Paso County Engineering Criteria Manual (ECM), latest edition.
 * Project Geotechnical Report.
- 2. The contractor shall be responsible for the notification and field location of all existing utilities, whether shown on the plans or not, before beginning construction. Location of existing utilities shall be verified by the contractor prior to actual construction.
- 3. The contractor shall have one (1) signed copy of these approved plans and one (1) copy of the appropriate design and construction standards and specifications at the job site at all times: a. El paso county engineering criteria manual.
- 4. Storm drain pipe shall be rcp class iii with class c bedding unless otherwise noted.
- 5. Stationing is at centerline unless otherwise noted. All elevations are at flowline unless otherwise noted. All dimensions are from face of curb unless otherwise noted. Lengths shown for storm sewer pipes are to center of manhole.
- 6. Contractor shall coordinate with gas, electric, telephone and cable t.V. Utility suppliers for installation of all utilities. Minimum cover for all dry utilities shall be 36".
- 7. Contractor shall remove and dispose of all existing structures, debris, waste and other unsuitable fill material found within the limits of
- 8. Match into existing grades at 3:1 max cut and fill slopes.
- 9. Revegetation of all disturbed areas shall be done with 4" topsoil and dry land grass seed after fine grading is complete ("foothills seed mix").
- 10. Erosion control shall consist of silt fence and hay bales as shown on the drawing, and topsoil with grass seed, which will be watered until vegetation has been re-established.
- 11. The erosion control measures outlined on this plan are the responsibility of the contractor to monitor and replace, regrade, and rebuild as necessary until vegetation is re-established.
- 12. Contractor shall implement best management practices in a manner that will protect adjacent properties and public facilities from the effects of erosion and sedimentation as a result of construction and earthwork activities within the project site.
- 13. Additional erosion control measures may be required as determined by site conditions.
- 14. The contractor will take the necessary precautions to protect existing utilities from damage due to this operation. Any damage to the utilities will be repaired at the contractor's expense, and any service disruption will be settled by the contractor.
- 15. All backfill, sub-base, and/or base course material shall be compacted per the project geotechnical report and County specifications.
- 16. Concrete used in curb and gutter, sidewalk, and crosspan construction shall meet County criteria.
- 17. All finished grades shall have a minimum 1.0% slope to provide positive drainage.
- 18. Contractor shall obtain all required permits prior to beginning work.



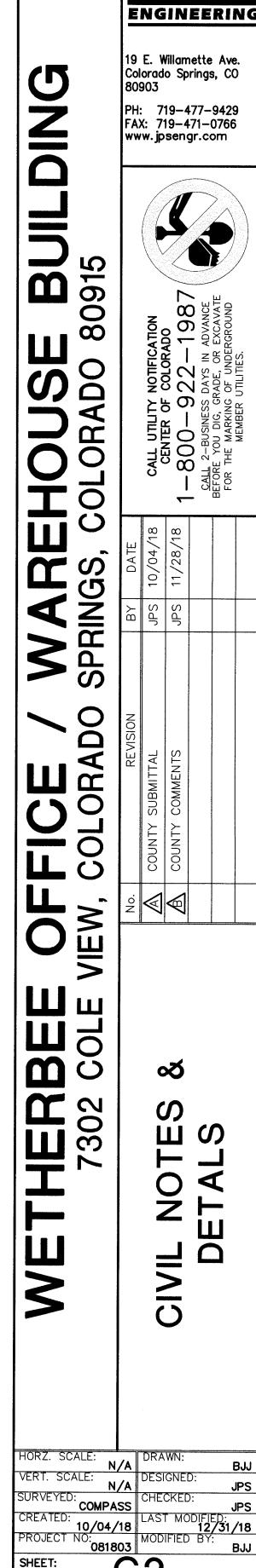


MODULAR BLOCK RETAINING WALL DETAIL SCALE: NTS



HANDRAIL DETAIL SCALE: NTS





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STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS-

1. Construction may not commence until a Construction Permit is obtained from Development Services and a Preconstruction Conference is held with Development Services Inspectors.

- 2. Stormwater discharges from construction sites shall not cause or threaten to cause pollution, contamination, or degradation of State Waters. All work and earth disturbance shall be done in a manner that minimizes pollution of any on-site or off site waters, including wetlands.
- 3. Notwithstanding anything depicted in these plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the relevant adopted El Paso County standards, including the Land Development Code, the Engineering Criteria Manual, the Drainage Criteria Manual, and the Drainage Criteria Manual Volume 2. Any deviations to regulations and standards must be requested, and approved, in writing.
- 4. A separate Stormwater Management Plan (SMWP) for this project shall be completed and an Erosion and Stormwater Quality Control Permit (ESQCP) issued prior to commencing construction. During construction the SWMP is the responsibility of the designated Stormwater Manager, shall be located on site at all times and shall be kept up to date with work progress and changes in the field.
- 5. Once the ESQCP has been issued, the contractor may install the initial stage erosion and sediment control BMPs as indicated on the GEC. A preconstruction meeting between the contractor, engineer, and El Paso County will be held prior to any construction. It is the responsibility of the applicant to coordinate the meeting time and place with County DSD inspections staff.
- 6. Soil erosion control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within 21 calendar days after final grading, or final earth disturbance, has been completed. Disturbed areas and stockpiles which are not at final grade but will remain dormant for longer than 30 days shall also be mulched within 21 days after interim grading. An area that is going to remain in an interim state for more than 60 days shall also be seeded. All temporary soil erosion control measures and BMPs shall be maintained until permanent soil erosion control measures are implemented and established.
- 7. Temporary soil erosion control facilities shall be removed and earth disturbance areas graded and stabilized with permanent soil erosion control measures pursuant to standards and specification prescribed in the DCM Volume II and the Engineering Criteria Manual (ECM)
- 8. All persons engaged in earth disturbance shall implement and maintain acceptable soil erosion and sediment control measures including BMPs in conformance with the erosion control technical standards of the Drainage Criteria Manual (DCM) Volume II and in accordance with the Stormwater Management Plan (SWMP).
- 9. All temporary erosion control facilities including BMPs and all permanent facilities intended to control erosion of any earth disturbance operations, shall be installed as defined in the approved plans, the SWMP and the DCM Volume II and maintained throughout the duration of the earth disturbance operation.
- 10. Any earth disturbance shall be conducted in such a manner so as to effectively reduce accelerated soil erosion and resulting sedimentation. All disturbances shall be designed, constructed, and completed so that the exposed area of any disturbed land shall be limited to the shortest practical period of time.
- 11. Any temporary or permanent facility designed and constructed for the conveyance of stormwater around, through, or from the earth disturbance area shall be designed to limit the discharge to a non-erosive velocity.
- 12. Concrete wash water shall be contained and disposed of in accordance with the SWMP. No wash water shall be discharged to or allowed to runoff to State Waters, including any surface or subsurface storm drainage system or facilities.
- 13. Erosion control blanketing is to be used on slopes steeper than 3:1.
- 14. Building, construction, excavation, or other waste materials shall not be temporarily placed or stored in the street, alley, or other public way, unless in accordance with an approved Traffic Control Plan. BMP's may be required by El Paso County Engineering if deemed necessary, based on specific conditions and circumstances.
- 15. Vehicle tracking of soils and construction debris off-site shall be minimized. Materials tracked offsite shall be cleaned up and properly disposed of immediately.
- 16. Contractor shall be responsible for the removal of all wastes from the construction site for disposal in accordance with local and State regulatory requirements. No construction debris, tree slash, building material wastes or unused building materials shall be buried, dumped, or discharged at the site.
- 17. The owner, site developer, contractor, and/or their authorized agents shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, and sand that may accumulate in the storm sewer or other drainage conveyance system and stormwater appurtenances as a result of site development.
- 18. The quantity of materials stored on the project site shall be limited, as much as practical, to that quantity required to perform the work in an orderly sequence. All materials stored on-site shall be stored in a neat, orderly manner, in their original containers, with original
- manufacturer's labels. 19. No chemicals are to be used by the contractor, which have the potential to be released in stormwater unless permission for the use of a specific chemical is granted in writing by the ECM Administrator. In granting the use of such chemicals, special conditions and
- monitoring may be required.
- 20. Bulk storage structures for petroleum products and other chemicals shall have adequate protection so as to contain all spills and prevent any spilled material from entering State Waters, including any surface or subsurface storm drainage system or facilities.
- 22. Individuals shall comply with the "Colorado Water Quality Control Act" (Title 25, Article 8, CRS), and the "Clean Water Act" (33 USC 1344), in addition to the requirements included in the DCM Volume II and the ECM Appendix I. All appropriate permits must be obtained by the contractor prior to construction (NPDES, Floodplain, 404, fugitive dust, etc.). In the event of conflicts between these requirements and laws, rules, or regulations of other Federal, State, or County agencies, the more restrictive laws, rules, or regulations shall apply.
- 23. All construction traffic must enter/exit the site at approved construction access points.
- 24. Prior to actual construction the permitee shall verify the location of existing utilities.
- 25. A water source shall be available on site during earthwork operations and utilized as required to minimize dust from earthwork equipment and wind.
- 26. The preliminary soils report for this site prepared by Entech Engineering, dated 2/18/13 shall be considered a part of these plans.

21. No person shall cause the impediment of stormwater flow in the flow line of the curb and gutter or in the ditchline.

27. At least ten days prior to the anticipated start of construction, for projects that will disturb 1 acre or more, the owner or operator of construction activity shall submit a permit application for stormwater discharge to the Colorado Department of Public Health and Environment, Water Quality Division. The application contains certification of completion of a stormwater management plan (SWMP), of which this grading and erosion control plan may be a part. For information or application materials contact:

Colorado Department of Public Health and Environment Water Quality Control Division WQCD - Permits 4300 Cherry Creek Drive South Denver, CO 80246-1530 Attn: Permits Unit

ESTIMATED TIME SCHEDULE:

INSTALL BMP'S SITE GRADING SEEDING & MULCHING STABILIZATION

JANUARY, 2019 JANUARY, 2019 AUGUST, 2019 AUGUST, 2020

TOTAL DISTURBED AREA: 0.5 ACRES RECEIVING WATERS: SAND CREEK

EXISTING VEGETATION: NATIVE GRASSES (APPROXIMATELY 70 PERCENT COVERAGE) SEEDING MIX:

<u>GRASS</u> **VARIETY**

LBS. PER ACRE CRESTED WHEAT GRASS EPHRAIM OR HYCREST 4.0 LBS. PERENIAL RYE 2.0 LBS. WESTERN WHEATGRASS SARTON 3.0 LBS. SMOOTH BROME GRASS LINCOLN OR MANCHAR 5.0 LBS. SIDEOATS GRAMA EPHRAIM 2.5 LBS.

TOTAL: SEEDING & FERTILIZER APPLICATION:

DRILL SEED OR HYDRO-SEED PER CDOT SPEC. SECTION 212.

MULCHING APPLICATION:

CONFORM TO CDOT SPEC-SECTION 213.

AMOUNT IN PLS

16.5 LBS.

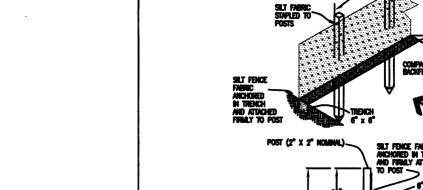
SEDIMENT CONTROL MAINTENANCE PROGRAM:

PERIODIC SITE INSPECTIONS RE-VEGETATION OF EXPOSED SOILS SEDIMENT REMOVAL FROM BMP'S REMOVAL OF BMP'S

FREQUENCY BI-WEEKLY WITHIN 21 DAYS OF GRADING MONTHLY AFTER STABILIZATION ACHIEVED

¹ AND AFTER ANY PRECIPITATION OR SNOW MELT EVENT THAT CAUSES SURFACE EROSION.

²ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED WHEN THE SEDIMENT LEVEL REACHES ONE HALF THE HEIGHT OF THE BMP OR AT ANY TIME THAT SEDIMENT OR DEBRIS ADVERSELY IMPACTS THE FUNCTION OF THE BMP.



SILT FENCE

SILT FENCE NOTES INSTALLATION REQUIREMENTS

1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND 2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE 3. METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT, WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.

4. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/4" LONG #9 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED O SUPPORT THE GEOTEXTILE, WIRE FENCE SHALL BE ASTENED SECURELY TO THE UPSLOPE SIDE OF THE OSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" DNG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND TO THE TRENCH A MINIMUM OF 6" AND SHALL NOT EXTEND ORE THAN 3' ABOVE THE ORIGINAL GROUND SURFACE.

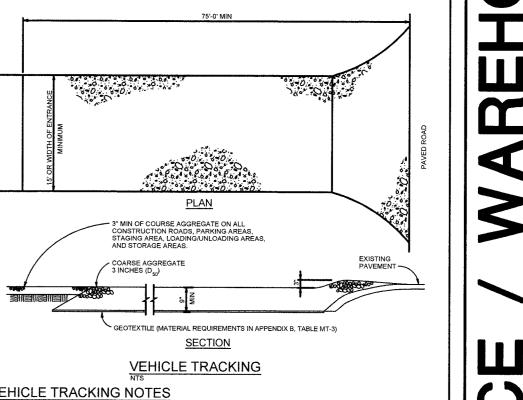
MAINTENANCE REQUIREMENTS

6. ALONG THE TOP OF FILLS, INSTALL THE SILT

7. THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL NOT EXCEED 36 INCHES; HIGHER FENCES MAY INPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.

Figure SF-2 Silt Fence

City of Colorado Springs Stormwater Quality onstruction Detail and Maintenance Requirements



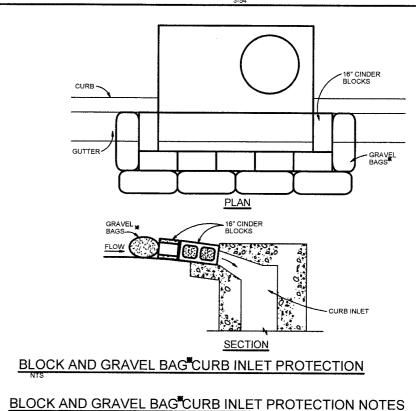
VEHICLE TRACKING NOTES INSTALLATION REQUIREMENTS

 ALL ENTRANCES TO THE CONSTRUCTION SITE ARE
TO BE STABILIZED PRIOR TO CONSTRUCTION 2. CONSTRUCTION ENTRANCES ARE TO BE BUILT WIT AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP. 3. AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE. 4. CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED. 5. CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES, BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.

2. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY. 3 SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DIRACKED ONTO PAVED ROADS IS TO REMOVED THE PROPERTY OF THE REMOVED THE PROPERTY OF T 4. STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY 5. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES
ARE TO BE INSPECTED TO ENSURE GOOD WORKING
CONDITION

MAINTENANCE REQUIREMENTS

City of Colorado Springs Vehicle Tracking Stormwater Quality



INSTALLATION REQUIREMENTS INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY
 AFTER CONSTRUCTION OF INLET. 2. CONCRETE BLOCKS ARE TO BE LAID AROUND THE INLET IN A SINGLE ROW ON THEIR SIDES, ABUTTING ONE ANOTHER WITH THE OPEN ENDS OF THE BLOCK FACING OUTWARD.

3. GRAVEL BAGS ARE TO BE PLACED AROUND THE CONCRETE BLOCKS CLOSELY ABUTTING ONE ANOTHER SO THERE ARE NO GAPS. 4. GRAVEL BAGS ARE TO CONTAIN WASHED SAND OR GRAVEL APPROXIMATELY 3/4 INCH IN DIAMETER. 5. BAGS ARE TO BE MADE OF 1/4" INCH WIRE MESH (USED WITH GRAVEL ONLY) OR GEOTEXTILE.

#AN ALTERNATE 3/4" TO 1" GRAVEL FILTER OVER A WIRE SCREEN MAY BE USED IN PLACE OF GRAVEL BAGS. THE WIRE MESH SHALL EXTEND ABOVE THE TOP OF THE CONCRETE BLOCKS AND THE GRAVEL PLACED OVER THE WIRE SCREE TO THE TOP OF THE CONCRETE BLOCKS.

19 E. Willamette Ave. Colorado Springs, CO PH: 719-477-9429 FAX: 719-471-0766 www.jpsengr.com

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CO 05 OF 12

Concrete Washout Area (CWA) MM-1 CWA) HICLE TRACKING 8 X 8 MIN. SECTION A CWA-1. CONCRETE WASHOUT AREA CWA INSTALLATION NOTES 2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS. OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED. 3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE. 5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION,

ovember 2010 Urban Drainage and Flood Control Distric Urban Storm Drainage Criteria Manual Volume 3

City of Colorado Springs Stormwater Quality

Block & Gravel Bag Curb Inlet Protection Construction Detail and Maintenance Requirements

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.

3. SEDIMENT SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO APPROXIMATELY 1/2 THE DESIGN DEPTH OF THE TRAP.

4. INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.