

STORMWATER MANAGEMENT PLAN (SWMP)

for

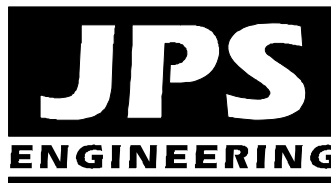
ARACO ENTERPRISES LLC - BUILDING ADDITION 7470 SOUTHMOOR DRIVE, FOUNTAIN, CO

Prepared for:

Araco Enterprises LLC
7470 Southmoor Drive
Fountain, CO 80817

October 24, 2019

Prepared by:



**19 E. Willamette Ave.
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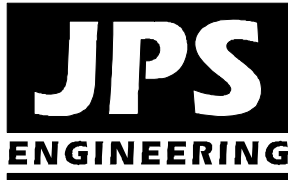
**JPS Project No. 111705
PPR-19-__**

**ARACO ENTERPRISES LLC – BUILDING ADDITION
STORMWATER MANAGEMENT PLAN (SWMP)
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**ARACO ENTERPRISES – BUILDING ADDITION
7470 SOUTHMOOR DRIVE, FOUNTAIN, CO
STORMWATER MANAGEMENT PLAN (SWMP)**

August, 2019

I. QUALIFIED STORMWATER MANAGER

A. Qualified Stormwater Manager

Contractor: Araco Concrete Contractor, LLC
7470 Southmoor Drive
Fountain, CO 80817
Attn: Arturo Acosta (719)-576-1705
arturo@aracoconcrete.com

B. Applicant / Contact Information

Owner/Developer: Araco Enterprises LLC
7470 Southmoor Drive
Fountain, CO 80817
Attn: Arturo Acosta (719)-576-1705
arturo@aracoconcrete.com

Engineer: JPS Engineering, Inc.
19 E. Willamette Avenue
Colorado Springs, CO 80903
Attn: John P. Schwab, P.E. (719)-477-9429
john@jpsengr.com

II. SPILL PREVENTION AND RESPONSE PLAN

A. Spill Prevention and Response Procedures:

- The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize their migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on site and prevent their release into receiving waters.
- Spill Response Procedures:
 - Notify site superintendent immediately when a spill, or the threat of a spill, is observed. The superintendent shall assess the situation and determine the appropriate response.
 - If spills represent an imminent threat of escaping on-site facilities and entering the receiving waters, site personnel shall respond immediately to contain the release and notify the superintendent after the situation has stabilized.
 - The site superintendent, or his designee, shall be responsible for completing a spill reporting form and for reporting the spill to the appropriate agency.
 - Spill response equipment shall be inspected and maintained as necessary to replace any materials used in spill response activities.
- Spill kits shall be on-hand at all fueling sites. Spill kit location(s) shall be reported to the SWMP Administrator.
- Absorbent materials shall be on-hand at all fueling areas for use in containing inadvertent spills. Containers shall be on-hand at all fueling sites for disposal of used absorbents.
- Recommended components of spill kits include the following:
 - Oil absorbent pads (one bale)
 - Oil absorbent booms (40 feet)
 - 55-gallon drums (2)
 - 9-mil plastic bags (10)
 - Personal protective equipment including gloves and goggles

B. Notification Procedures:

- In the event of an accident or spill, the SWMP Administrator shall be notified as a minimum.
- Depending on the nature of the spill material involved, the Colorado Department of Public Health and Environment (24-hour spill reporting line: 877-518-5608), downstream water users, or other agencies may also need to be notified.
- Any spill of oil which 1) violates water quality standards, 2) produces a "sheen" on a surface water, or 3) causes a sludge or emulsion, or any hazardous substance release, or hazardous waste release which exceeds the reportable quantity, must be reported immediately by telephone to the National Response Center Hotline at (800)-424-8802.

III. MATERIALS HANDLING

A. General Materials Handling Practices:

- Potential pollutants shall be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practical, material storage areas should not be located near storm drain inlets and should be equipped with covers, roofs, or secondary containment as required to prevent storm water from contacting stored materials. Chemicals that are not compatible shall be stored and segregated areas so that spilled materials cannot combine and react.
- Disposal of materials shall be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.
- Materials no longer required for construction shall be removed from the site as soon as possible.

B. Adequate garbage, construction waste, and sanitary waste handling and disposal facilities shall be provided as necessary to keep the site clear of obstruction and BMPs clear and functional.

C. Specific Materials Handling Practices:

- All pollutants, including waste materials and demolition debris, that occur on-site during construction shall be handled in a way that does not contaminate storm water.
- All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored on site shall be covered and contained and protected from vandalism.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, shall be conducted under cover during wet weather and on an impervious surface to prevent release of contaminants onto the ground. Materials spilled during maintenance operations shall be cleaned up immediately and properly disposed of.
- Wheel wash water shall be settled and discharged on site by infiltration. Wheel wash water shall not be discharged to the storm water system.
- Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to storm water runoff. Follow manufacturer's recommendations for application rates and procedures.
- pH-modifying sources shall be managed to prevent contamination of runoff and storm water collected on site. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.

- D. Equipment maintenance and fueling: Contractor shall implement appropriate spill prevention and response procedures
- E. Concrete Wash Water: Unless confined in a pre-defined, bermed containment area, the cleaning of concrete truck delivery chutes is prohibited at the job site. The discharge of water containing waste cement to the storm drainage system is prohibited.

IV. POTENTIAL SOURCES OF POLLUTION

Potential pollutant sources will be addressed as follows:

POTENTIAL POLLUTION SOURCES

Potential Pollution Sources	Possible Site Contributions of Pollutants to Stormwater Discharges
All disturbed and stored soils	Stockpiles of fill from site excavations, topsoil stockpiles.
Vehicle tracking of sediments	See GEC Plans for vehicle entrance and exits. Vehicle tracking control pads will be installed and maintained at all construction access points.
Management of contaminated soils	No contaminated soils are expected to be encountered.
Loading and unloading operations	Loading and unloading of construction materials
Outdoor storage activities (building material, fertilizers, chemicals, etc.)	Stockpiles and equipment storage areas (no fertilizers, petroleum or chemical products will be stored on-site).
Vehicle and equipment maintenance and fueling	Fueling will occur on-site using mobile equipment (will not be stored on-site). Equipment maintenance will occur off-site.
Significant dust or particulate-generating processes	Vehicle tracking, soil removed from excavation, stockpiles.
Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc.	All equipment maintenance will occur off-site. No fertilizers, pesticides, detergents, and/or solvents will be used or stored on-site.
On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.)	All waste will be removed from site as soon as possible, and disposed of at a permitted off-site disposal site
Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment	Properly contained concrete washout areas may be designated and maintained within the site, based on construction phasing.
Dedicated asphalt and concrete batch plants	No dedicated asphalt or concrete batch plants are planned on-site.

Non-industrial waste sources such as worker trash and portable toilets	Worker trash will be removed from the site as soon as possible. Portable toilets will be utilized and maintained as required based on construction phasing.
Other areas or procedures where potential spills can occur	Petroleum releases from equipment are possible.

V. IMPLEMENTATION OF CONTROL MEASURES

Narrative Description of Appropriate Stormwater Controls and Measures

Construction Phasing

Phase 1 – Mobilization, Clearing & Grubbing Operations

Clearing and grubbing will be completed prior to initial overlot grading activities for this site. Perimeter control measures will be installed prior to the start of construction operations. These perimeter controls will include silt fencing and a vehicle tracking control pad.

Phase 2 – Earthwork, Road Grading, and Utility Installation

Major earthwork activities will include overlot grading, foundation over-excavation, backfill, and compaction, utility construction, and rough and final grading for site improvements.

Phase 3 – Building Construction and Final Grading Activities

This phase will include final grading of building sites and landscape areas. Appropriate temporary BMP's will be maintained until vegetation is re-established throughout the site.

Phase 4 – Stabilization

All disturbed areas within the project will be revegetated. The specific revegetation requirements will include the following:

- Landscape plantings – per approved landscape plans
- Native seeding – all other disturbed areas

Phase 5 – Removal of Temporary Control Measures

Temporary sediment control measures shall remain in place until vegetation has been adequately established to prevent erosion from storm runoff. Once adequate vegetation has been established, the temporary erosion control measures will be removed and disposed of off-site.

BMP's for Stormwater Pollution Prevention (See GEC Plans):

<u>Phase</u>	<u>BMP</u>
Clearing and Grubbing necessary for perimeter controls	VTC's
Initiation of perimeter controls	Silt Fence
Remaining clearing and grubbing	
Site Grading	IP
Extended detention basin (sediment basin during construction)	EDB / SB
Stabilization	SM
Removal of erosion control measures	

Proposed Sequence of Major Activities / Timing Schedule

The anticipated start and completion time period of the construction activities is from January, 2020 through September, 2020. The estimated schedule for erosion control activities is as follows:

- Install Initial BMP's: January, 2020
- Site Grading: January, 2020
- Seeding & Mulching: August, 2020
- Final Stabilization: September, 2021

Erosion and Sediment Controls:

- 1) Structural Practices / Control Measures (all structural Control Measures shall conform to ECM / DCM standards and details):
 - a. Silt fence at toe of slope along downstream limits of disturbed areas (see detail on Sh. C3)
 - b. Inlet protection (IP) at storm inlets (see detail on Sh. C3)
 - c. Sediment Basin (SB)
 - d. Extended Detention Basins (EDB); (see details on Sh. C1.1)
- 2) Non-Structural Practices:
 - Preserve existing vegetation beyond limits of work
 - Temporary seeding of areas to remain disturbed for significant periods of time
 - Permanent seeding/mulching (SM) upon completion of rough grading

Other Controls:

- Contractor shall dispose of all waste materials at a permitted off-site disposal site.
- Vehicle tracking pads will be installed at all access points to limit off-site soil tracking.
- Street Sweeping: Contractor shall perform street sweeping following storm events and as required to keep adjoining public streets clean.

VI. SITE DESCRIPTION

- A. Nature of Construction Activity
 - Araco Enterprises LLC is planning to construct a 6,000 square-foot Building Addition on the east side of their existing contractor's office building at 7470 Southmoor Drive in Fountain, Colorado. The project site (El Paso County Assessor's No. 65244-00-085) is an unplatted 4.2-acre developed parcel described as a tract in the Southeast Quarter of Section 24, Township 15 South, Range 66 West of the 6th P.M. The property is located along the southwest side of Southmoor Drive. The property is zoned M (Industrial). Site development activities will include site grading, utilities, building addition construction, internal roads, parking lots, and site landscaping.
- B. Proposed sequence of major activities:
 - Mobilization / implementation of BMP's
 - Clearing and grubbing
 - Rough grading
 - Final grading of building sites and parking areas
- C. Total site area = 4.2 acres; Projected disturbed area = 2.1 acres (approx.)
- D. Soil erosion potential and potential impacts upon discharge:
 - The majority of on-site soils are comprised of a combination of "Ellicott loamy coarse sand" and "Schamber-Razor complex," with a small area comprised of "Manzanola silty clay loam" soils along the southeast corner of the site. The majority of on-site soils are classified as Hydrologic Soils Group A (high infiltration rate; low to moderate erosion hazard).
 - Potential impacts upon discharge would include sedimentation closing and/or adversely affecting downstream waterways and habitat.
- E. Existing vegetation on site:
 - Native grasses and shrubs (approx. 70% coverage, based on site inspection)
- F. Allowable non-stormwater components of discharge: none anticipated
- G. Receiving water: Surface drainage from this site will flow southwesterly into the existing downstream drainage system which flows to Fountain Creek (ultimate receiving water). The stormwater outfall immediately downstream of the project site is an existing CDOT detention area within the Mesa Ridge Parkway right-of-way.
- H. Stream Crossings: There are no stream crossings located within the construction site boundary.

VII. SITE MAP

- SWMP Maps are provided on GEC Plans – Sheet C1
- Qualified Stormwater Manager shall update SWMP Maps as required based on field conditions throughout the project.
- Contractor shall update and annotate the SWMP Maps to show the location of the construction trailer, stabilized staging area, CWA, and other items as these locations are determined on site.

VIII. FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

- A. Permanent seeding will be provided to achieve long-term stabilization of the site.
- B. Seed Mix: "Foothills Mix" or approved equal:
- C. Seeding Application Rate: Drill seed 0.25" to 0.5" into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25" to 0.5" into the soil. Apply seed at the following rates:
 - o Dryland: 20-25 lbs/acre
 - o Irrigated: 40 lbs/acre
- D. Soil Stabilization Practices:
 - o Mulching Application: Apply 1-1/2 tons of certified weed free hay per acre mechanically crimped into the soil in combination with an organic mulch tackifier. On slopes and ditches requiring a blanket, the blanket shall be placed in lieu of mulch and mulch tackifier.
- E. Soil Conditioning and Fertilizer Requirements:
 - o Soil conditioner, organic amendment shall be applied to all seeded areas at 3 CY / 1000 SF.
 - o Fertilizer shall consist of 90% fungal biomass (mycelium) and 10% potassium-magnesia with a grade of 6-1-3 or approved equal. Fertilizer shall be applied as recommended by seed supplier.
- F. Final stabilization is reached when all soil-disturbing activities at the site have been completed, and uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.
- G. Structural Control Measures:
 - o Re-Seeding and Landscaping for site stabilization
 - o Permanent Stormwater Detention & Water Quality Basin A
- H. Non-Structural Control Measures:
 - o Proper Housekeeping Procedures
 - o Proper Spill Containment Procedures

IX. INSPECTION REPORTS

- A. Qualified Stormwater Manager: Designated Inspector shall be a Qualified Stormwater Manager per CDPHE criteria.
- B. Inspection Frequency:
 - o Contractor shall inspect BMPs bi-weekly as a minimum, and immediately (within 24 hours) after any precipitation or snowmelt event that causes surface erosion (i.e. that results in stormwater running across the ground), to ensure that BMPs are maintained in effective operating condition.

C. Inspection Procedures:

Site Inspection / Observation Items:

- Construction site perimeter and discharge points (including discharges into a storm sewer system)
- All disturbed areas
- Areas used for material / waste storage that are exposed to precipitation
- Other areas having a significant potential for stormwater pollution, such as demolition areas or concrete washout locations, or locations where vehicles enter or leave the site
- Erosion and sediment control measures identified in the SWMP
- Any other structural BMPs that may require maintenance, such as secondary containment around fuel tanks, or the condition of spill response kits.

D. Inspection Requirements:

- Determine if there is any evidence of, or potential for, pollutants entering the drainage system.
- Review BMPs to determine if they still meet design and operational criteria in the SWMP, and if they continue to adequately control pollutants at the site.
- Upgrade and/or revise any BMPs not operating in accordance with the SWMP and update the SWMP to reflect any revisions.

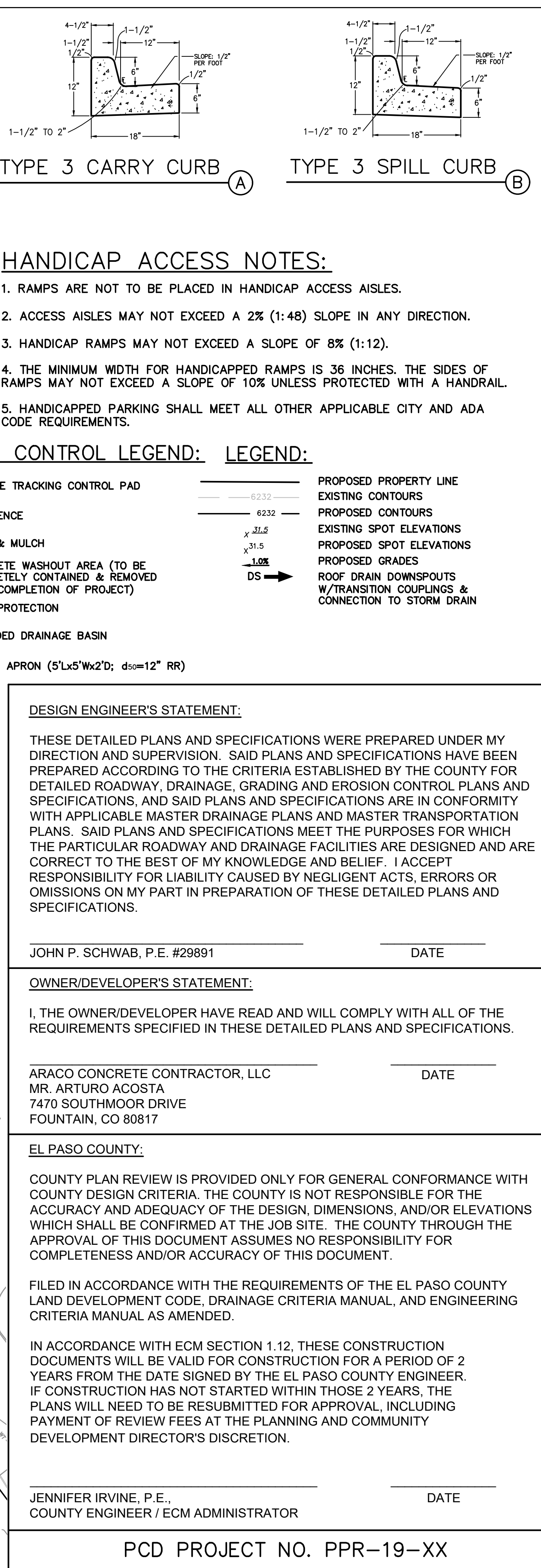
BMP Maintenance / Replacement and Failed BMPs:






- Contractor shall remove sediment that has been collected by perimeter controls, such as silt fence and inlet protection, on a regular basis to prevent failure of BMPs, and remove potential of sediment from being discharged from the site in the event of BMP failure.
- Removed sediment must be moved to an appropriate location where it will not become an additional pollutant source, and should never be placed in ditches or streams.
- Contractor shall update Erosion Control Plans / SWMP Maps and SWMP Plan as required with any new BMPs added during the construction period.
- Contractor shall address BMPs that have failed or have the potential to fail without maintenance or modifications, as soon as possible, immediately in most cases, to prevent discharge of pollutants.

E. Inspection Reports:

- Contractor shall maintain records of all inspection reports, including signed inspection logs, at the project site. SWMP records shall be located in the project trailer.
- Inspection logs shall be signed by the Qualified Stormwater Manager.
- Permittee shall document inspection results and maintain a record of the results for a period of 3 years following expiration or inactivation of permit coverage.

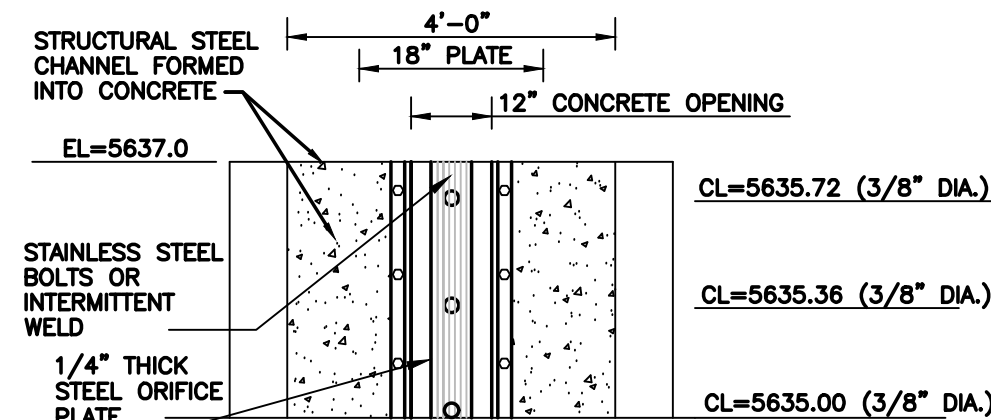
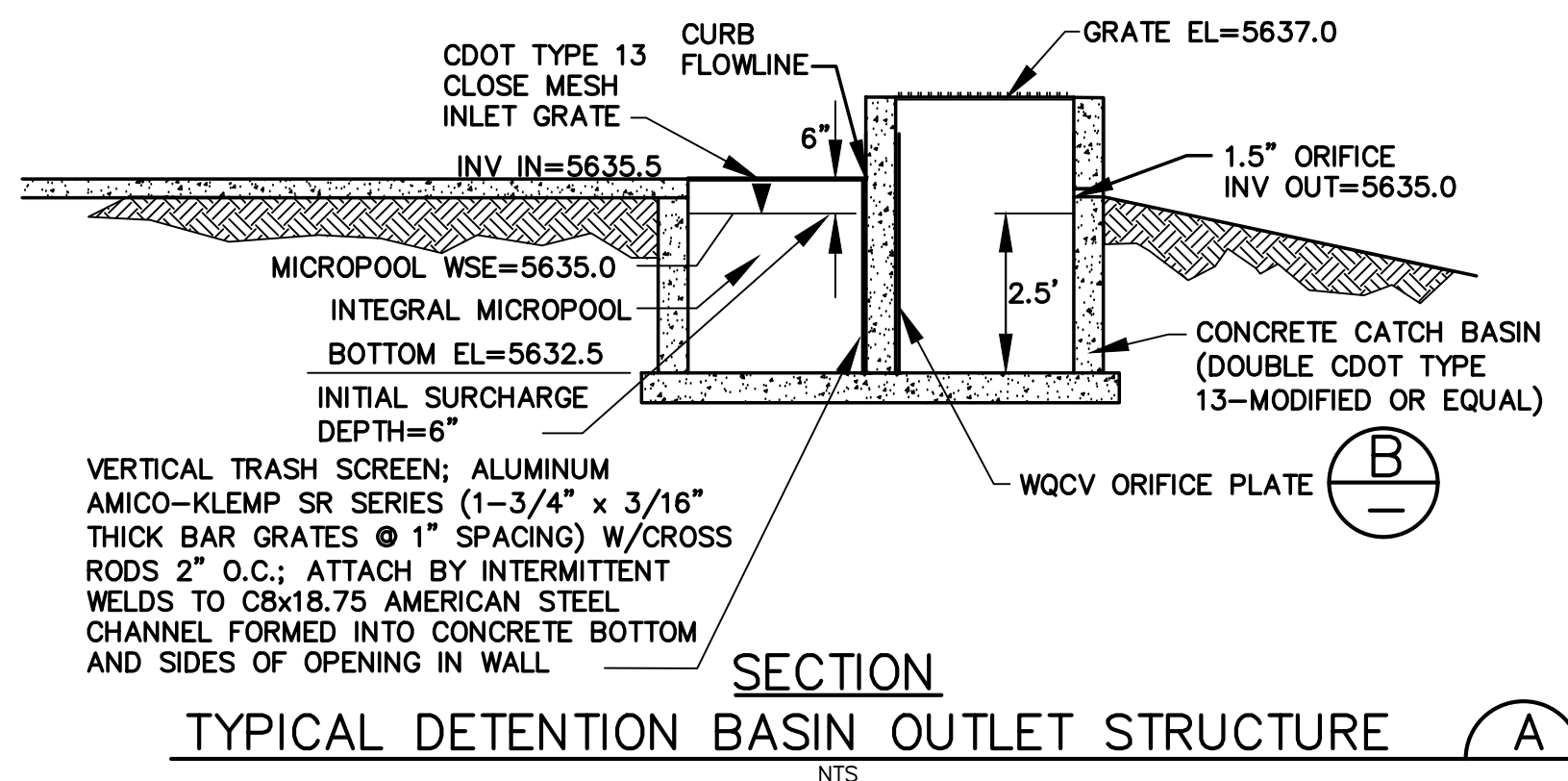
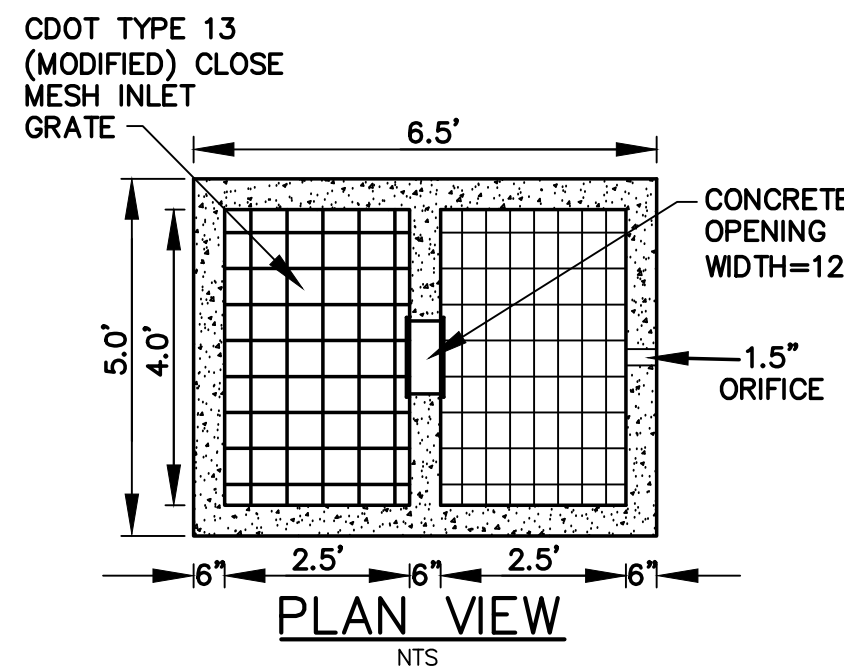
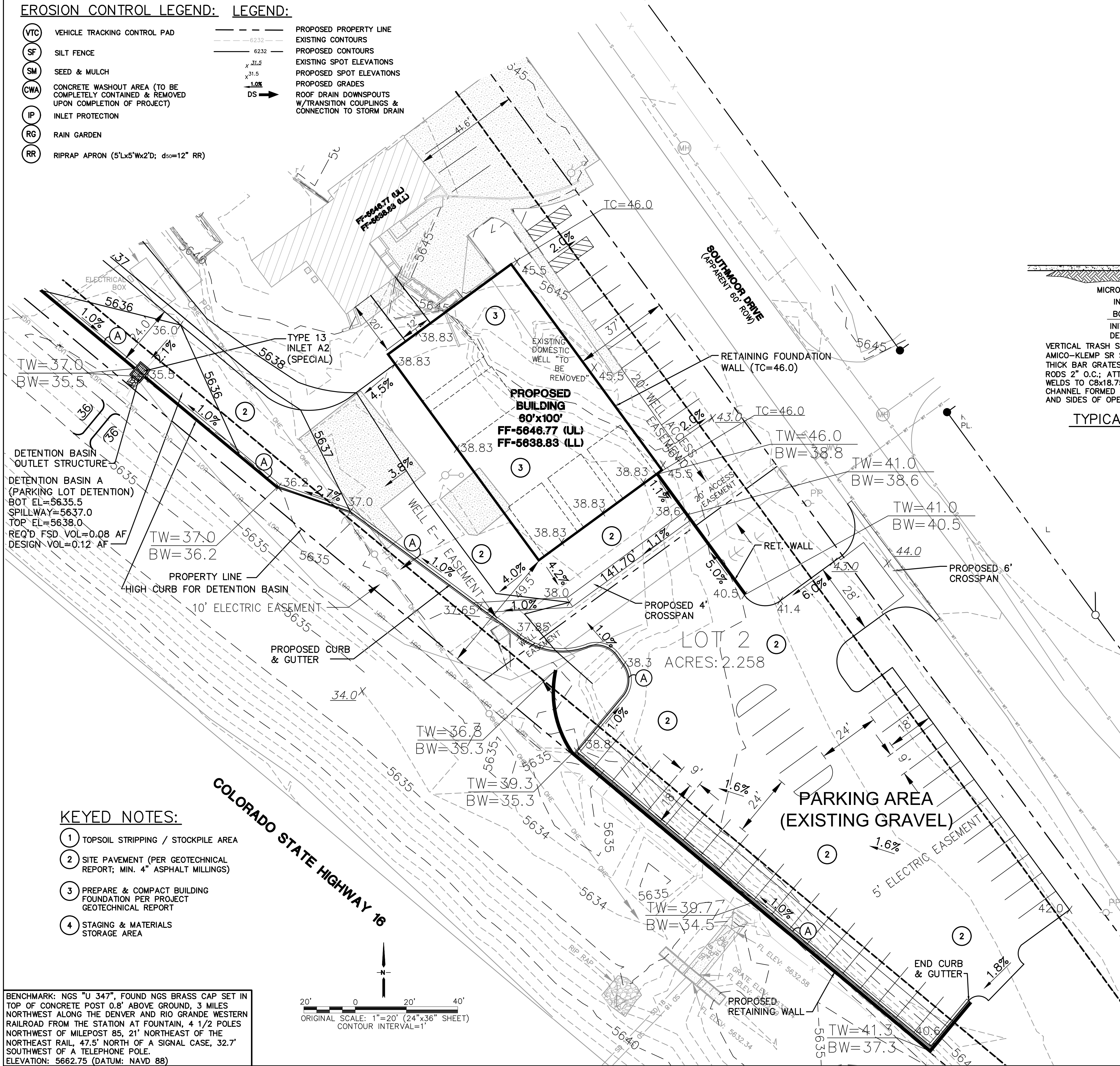
- Site inspection records shall include the following:
 - Inspection date
 - Name and title of personnel making the inspection, along with Inspector's signature
 - Location of discharges of sediment or other pollutants from the site
 - Location(s) of BMPs that need to be maintained
 - Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location
 - Location(s) where additional BMPs are needed that were not in place at the time of inspection
 - Deviations from the minimum inspection schedule
 - Notations regarding updates and revisions to SWMP Maps based on field conditions



<h1 style="text-align: center;">ARACO CONCRETE</h1> <h2 style="text-align: center;">7470 SOUTHMOOR DR., COLORADO SPRINGS, COLORADO 80817</h2>		 <p>19 E. Willamette Ave. Colorado Springs, CO 80903</p> <p>PH: 719-477-9429 FAX: 719-471-0766 www.jsengr.com</p>																																													
<h2 style="text-align: center;">SITE GRADING & EROSION CONTROL PLAN</h2>		 <p>CALL UTILITY NOTIFICATION CENTER OF COLORADO 1-800-922-1987 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE ANY EXCAVATION FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.</p>																																													
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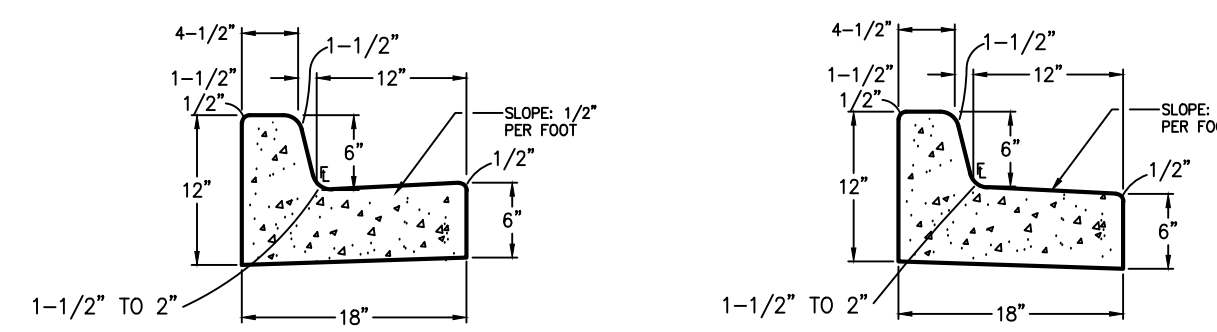
EROSION CONTROL LEGEND: LEGEND:

- (VTC) VEHICLE TRACKING CONTROL PAD
(SF) SILT FENCE
(SM) SEED & MULCH
(CWA) CONCRETE WASHOUT AREA (TO BE COMPLETELY CONTAINED & REMOVED UPON COMPLETION OF PROJECT)
(IP) INLET PROTECTION
(RG) RAIN GARDEN
(RR) RIPRAP APRON (5'Lx5'Wx2'D; d₅₀=12" RR)
- PROPOSED PROPERTY LINE
--- EXISTING CONTOURS
--- PROPOSED CONTOURS
x 31.5 EXISTING SPOT ELEVATIONS
x 31.5 PROPOSED SPOT ELEVATIONS
x 1.0% PROPOSED GRADES
DS ROOF DRAIN DOWNSPOUTS W/TRANSITION COUPLINGS & CONNECTION TO STORM DRAIN



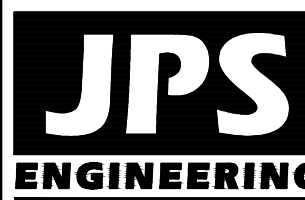
- ORIFICE PLATE NOTES:
1. MINIMIZE THE NUMBER OF COLUMNS.
 2. PROVIDE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
 3. BOLT PLATE TO CONCRETE 12\"/>
- EURV AND WQCV TRASH RACKS:
1. WELL-SCREEN TRASH RACKS (FOR CIRCULAR ORIFICES) SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
 2. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.
- OVERFLOW TRASH RACKS:
1. ALL TRASH RACKS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
 2. TRASH RACKS SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
 3. TRASH RACKS SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
 4. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

ORIFICE PLATE AND TRASH RACK DETAILS AND NOTES (B)



TYPE 3 CARRY CURB (A) TYPE 3 SPILL CURB (B)

PCD PROJECT NO. PPR-19-XX



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CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MEMBER UTILITIES.

NO.	BY	DATE	REVISION
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SOUTH SITE GRADING
PLAN & DETAILS

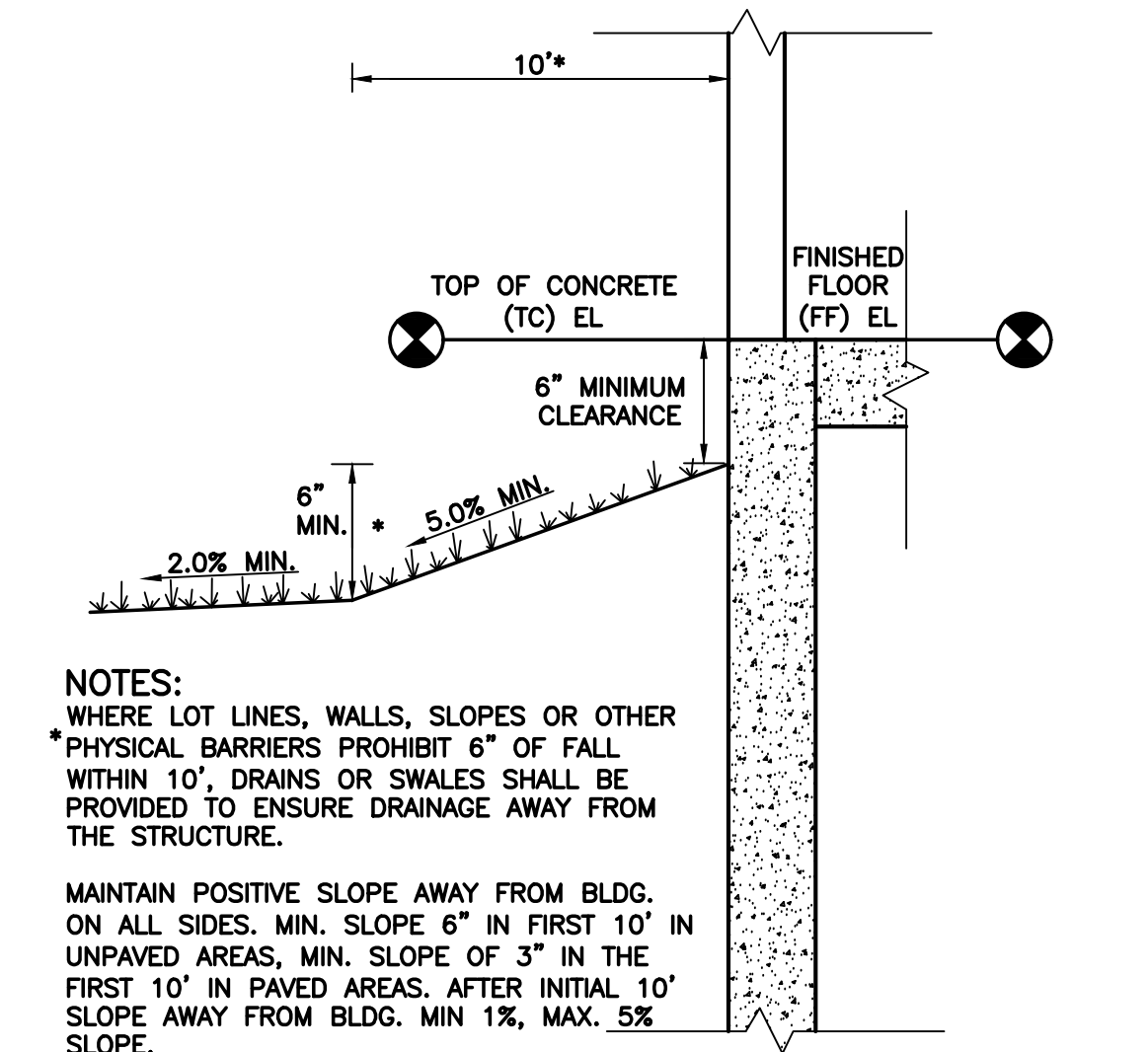
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VERT. SCALE: N/A	DESIGNED: JPS
SURVEYED: LDC	CHECKED: JPS
CREATED: 6/21/19	LAST MODIFIED: 10/23/19
PROJECT NO: 111705	MODIFIED BY: BJJ
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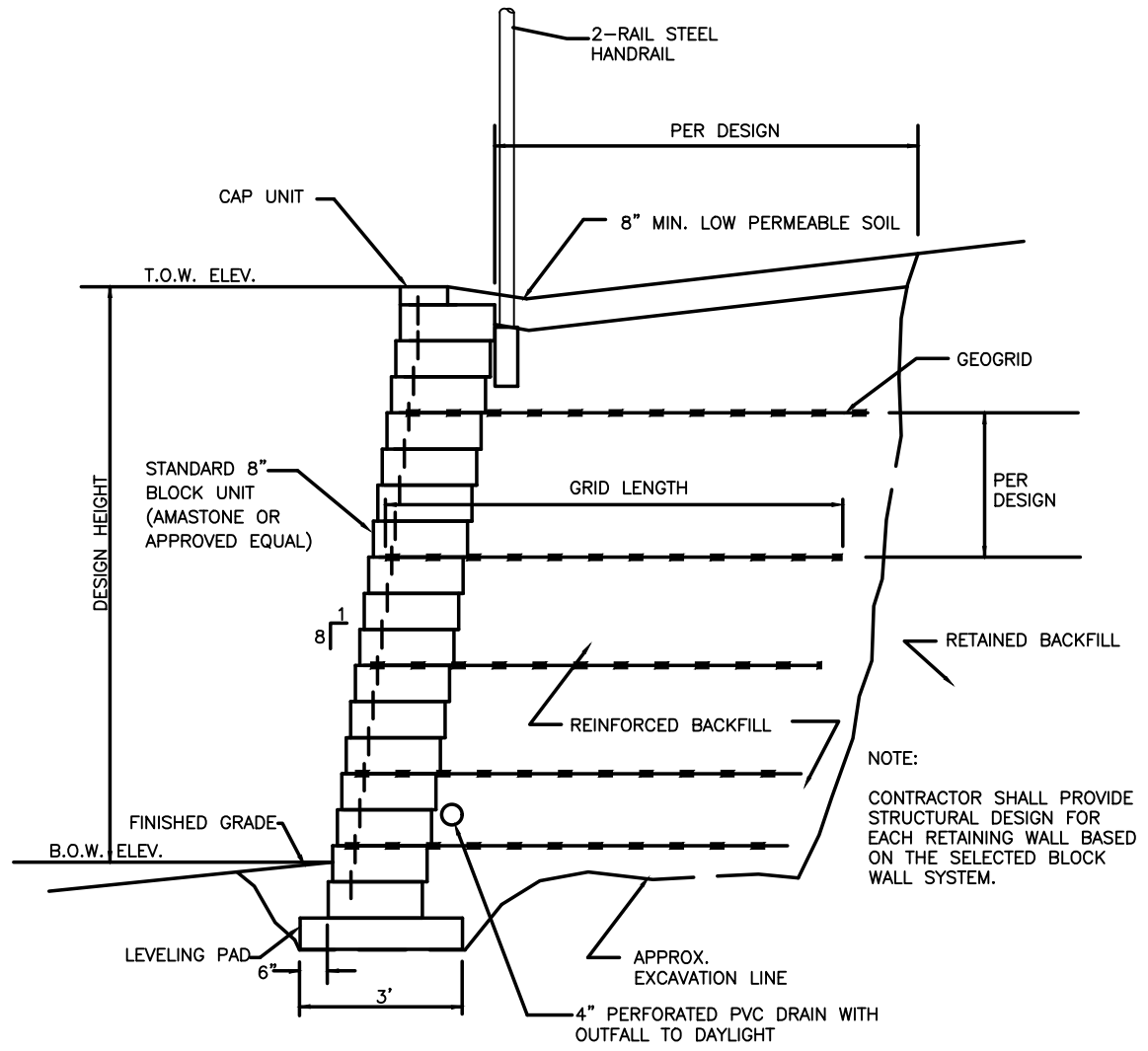
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GENERAL CIVIL NOTES:

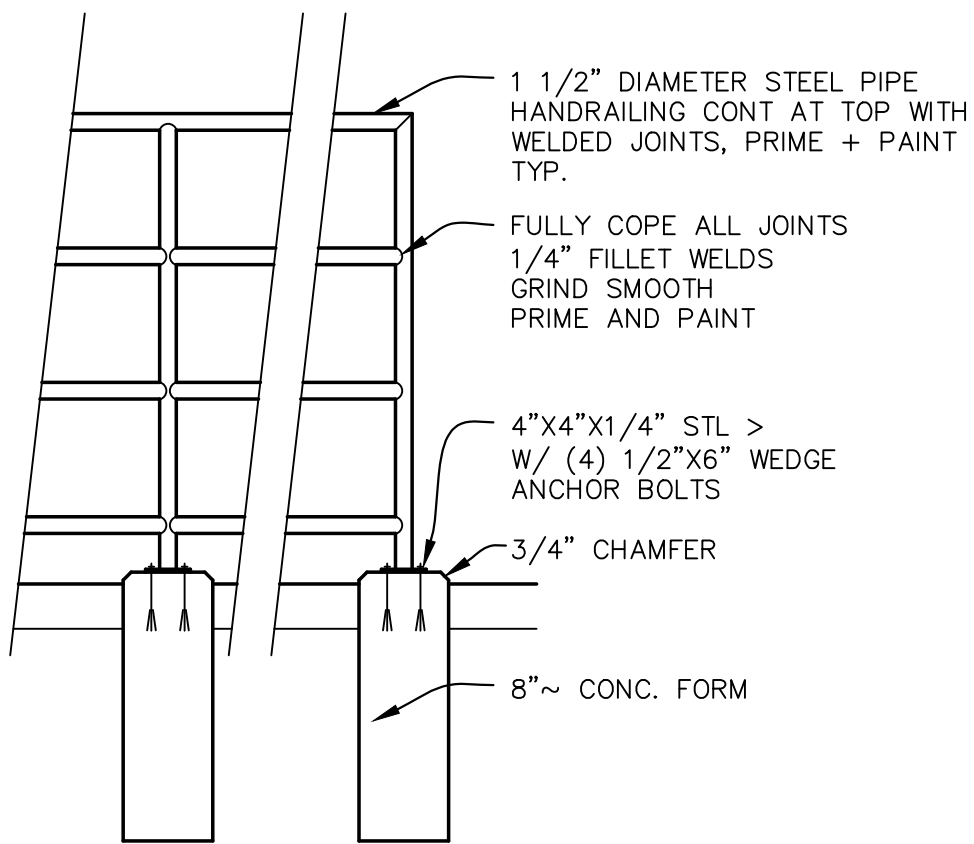
- All construction shall meet the following standards & specifications:
 - 2009 International Building Code.
 - Pikes Peak Regional Building Code, latest edition.
 - El Paso County Engineering Criteria Manual (ECM), latest edition.
 - Project Geotechnical Report.
- The contractor shall be responsible 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.
- 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:
 - El Paso County Engineering Criteria Manual.
- Storm drain pipe shall be rcp class iii with class c bedding unless otherwise noted.
- 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.
- 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".
- Contractor shall remove and dispose of all existing structures, debris, waste and other unsuitable fill material found within the limits of excavation.
- Match into existing grades at 3:1 max cut and fill slopes.
- Revegetation of all disturbed areas shall be done with 4" topsoil and dry land grass seed after fine grading is complete ("foothills seed mix").
- 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.
- 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.
- Contractor shall implement best management practices in a manner that will protect adjacent properties and public facilities from the adverse effects of erosion and sedimentation as a result of construction and earthwork activities within the project site.
- Additional erosion control measures may be required as determined by site conditions.
- 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.
- All backfill, sub-base, and/or base course material shall be compacted per the project geotechnical report and County specifications.
- Concrete used in curb and gutter, sidewalk, and crossspan construction shall meet County criteria.
- All finished grades shall have a minimum 1.0% slope to provide positive drainage.
- Contractor shall obtain all required permits prior to beginning work.



TYPICAL BUILDING DRAINAGE DETAIL C
SCALE: NTS

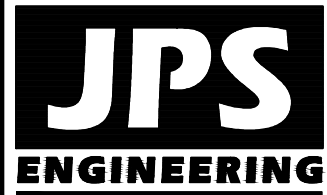


MODULAR BLOCK RETAINING WALL DETAIL D
SCALE: NTS



HANDRAIL DETAIL E
SCALE: NTS

ARACO CONCRETE
7470 SOUTHMOOR DR., COLORADO SPRINGS, COLORADO 80817



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BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
MEMBER UTILITIES.

No.	REVISION	BY	DATE
1	EPC SUBMITTAL	JPS	10/22/19

CIVIL NOTES &
DETAILS

HORZ. SCALE:	N/A	DRAWN:	BJJ
VERT. SCALE:	N/A	DESIGNED:	JPS
SURVEYED:	LDC	CHECKED:	JPS
CREATED:	6/21/19	LAST MODIFIED:	10/22/19
PROJECT NO:	111705	MODIFIED BY:	BJJ

SHEET:
C2

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

REVISED 7/02/19

1. 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.
2. 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 FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
3. 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. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
4. ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED 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 STAFF.
5. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
6. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
8. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
9. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT AFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE 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. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
13. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
14. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
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. 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. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
19. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
20. 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.
21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
22. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
24. OWNER/DEVELOPER AND THEIR AGENTS 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 OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
27. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
28. THE SOILS REPORT FOR THIS SITE SHALL BE CONSIDERED A PART OF THESE PLANS.
29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (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 JANUARY, 2020
SITE GRADING JANUARY, 2020
SEEDING & MULCHING AUGUST, 2020
STABILIZATION AUGUST, 2021
TOTAL DISTURBED AREA: 2.1 ACRES
RECEIVING WATERS: FOUNTAIN CREEK

EXISTING VEGETATION:

NATIVE GRASSES (APPROXIMATELY 70 PERCENT COVERAGE)

SEEDING MIX:

GRASS	VARIETY	AMOUNT IN PLS LBS. PER ACRE
CRESTED WHEAT GRASS	EPHRAIM OR HYCREST	4.0 LBS.
PERENIAL RYE	LINN	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:		16.5 LBS.

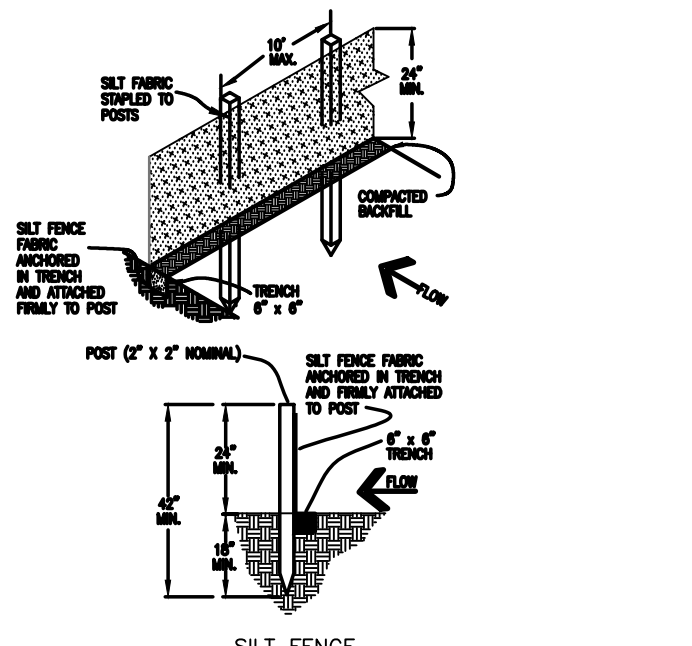
SEEDING & FERTILIZER APPLICATION: DRILL SEED OR HYDRO-SEED PER CDOT SPEC. SECTION 212.

MULCHING APPLICATION: CONFORM TO CDOT SPEC-SECTION 213.

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.
- 2 ACCUMULATED 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

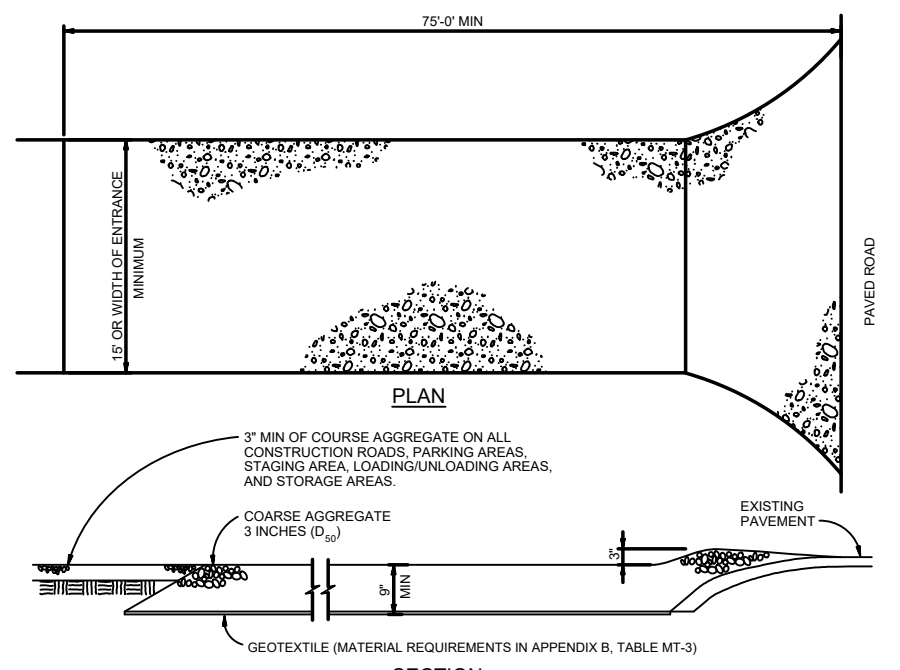
1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
3. METAL POSTS SHALL BE "STUDDED" TEE" OR "I" TYPE WITH MINIMUM HEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD 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 WY LONG 18" HEAVY DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.
5. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE FENCE SHALL BE FASTENED SECURELY TO THE UNDERSIDE OF THE SILT FENCE. HEAVY DUTY WIRE STAPLES AT LEAST 18" LONG, 16 GA. WIRE OR EQUIVALENT. THE WIRE SHALL EXTEND WITHIN THE FENCE A MINIMUM OF 6" AND SHALL NOT EXTEND MORE THAN 2" ABOVE THE ORIGINAL GROUND SURFACE.
6. ALONG THE TOE OF FILLS, INSTALL THE SILT FENCE ALONG A LEVEL CONTOUR AND PROVIDE AN AREA BEHIND THE FENCE FOR RUNOFF TO POND AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF THE FILL IS RECOMMENDED.
7. THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 36 INCHES AND SHALL NOT EXCEED 36 INCHES. HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
8. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH WY LONG 18" HEAVY DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.
9. DAMAGED, CYLL APES, UNINTENTIONED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.
10. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE AREAS IF ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
11. DAMAGED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SILT FENCES DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PERIODS OF NO RAINFALL.
2. DAMAGED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.
3. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE AREAS IF ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
4. DAMAGED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.

City of Colorado Springs
Stormwater Quality

Figure SF-2
Silt Fence
Construction Detail and Maintenance Requirements



VEHICLE TRACKING

VEHICLE TRACKING NOTES

INSTALLATION REQUIREMENTS

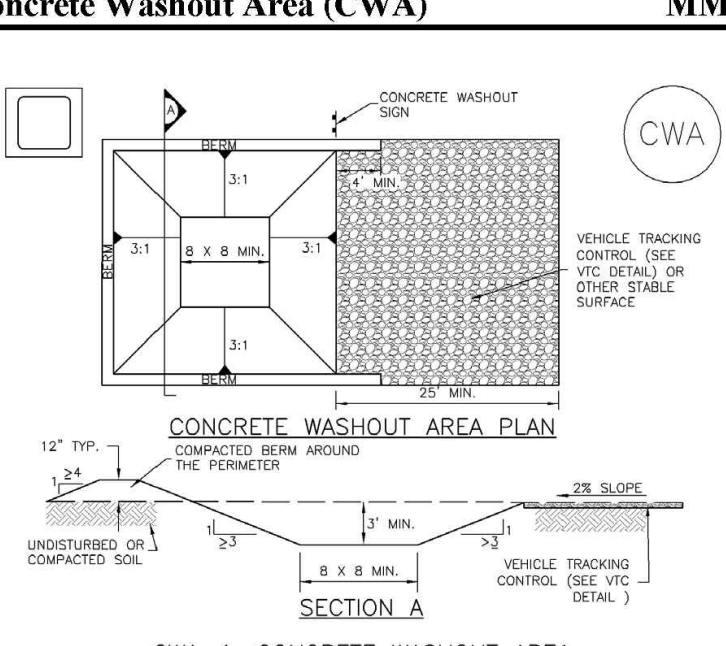
1. ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.
2. CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APPROX 12" CURB OR OTHER TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A RIGHT OVERLAP.
3. AREAS TO BE STABILIZED ARE TO BE PROPERLY GRASSED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.
4. CONSTRUCTION ROAD, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.
5. CONSTRUCTION ROADS ARE TO BE BUILT TO COMPARE WITH 18% GRADES, BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.
6. ROADWAY IMPROVEMENTS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
7. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIRS ARE NECESSARY.
8. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.
9. STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.
10. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs
Stormwater Quality

Figure VT-2
Vehicle Tracking
Application Examples

Concrete Washout Area (CWA)

MM-1



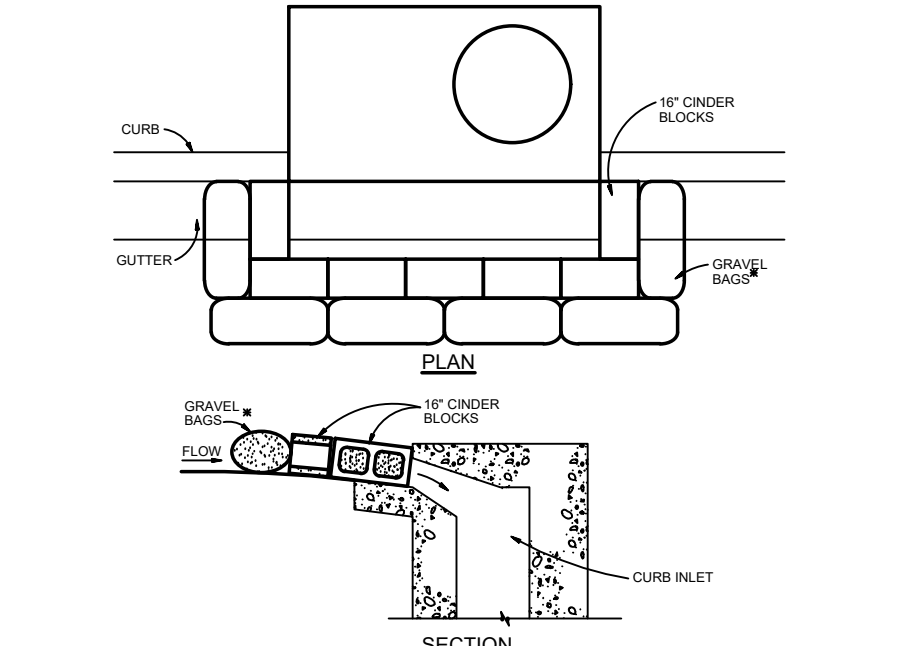
CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
- CWA INSTALLATION LOCATION
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 IMPOSSIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE AS SHOWN. USING IMPERMEABLE CONCRETE WASHOUT SERVICES OR A LINER ABOVE SHALL BE USED.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8" BY 8" SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
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.
7. BARS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE AT THE CWA, AND EQUIVALENT AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP TRUCKS.
8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

November 2010 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3

CWA-3



BLOCK AND GRAVEL BAG CURB INLET PROTECTION

BLOCK AND GRAVEL BAG CURB INLET PROTECTION NOTES

INSTALLATION REQUIREMENTS

1. 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 COVER A MINIMUM WASHED SAND OR GRAVEL APPROXIMATELY 3/4 INCH IN DIAMETER.
5. BAGS ARE TO BE MADE OF 14" RICH WIRE MESH (USED WITH GRAVEL ONLY) OR GEOTEXTILE.
6. 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 SCREEN TO THE TOP OF THE CONCRETE BLOCKS.
7. INLET PROTECTION SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO APPROXIMATELY 1/2 THE DESIGN DEPTH OF THE TRAP.
8. SEDIMENT SHALL BE REMOVED WHEN SEDIMENT HAS ACCUMULATED TO APPROXIMATELY 1/2 THE DESIGN DEPTH OF THE TRAP.
9. DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL PROMPTLY BE REPAIRED OR REPLACED.
10. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs
Stormwater Quality

Figure IP-3
Block & Gravel Bag Curb Inlet Protection
Construction Detail and Maintenance Requirements

ARACO CONCRETE

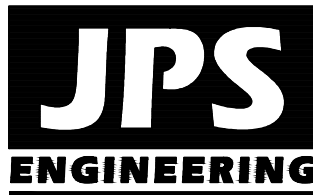
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GRADING & EROSION CONTROL NOTES & DETAILS

HORZ. SCALE: N/A
VERT. SCALE: N/A
SURVEYED: LDC
CREATED: 6/21/19
PROJECT NO: 111705

DRAWN: BJJ
DESIGNED: JPS
CHECKED: JPS
LAST MODIFIED: 7/22/19
MODIFIED BY: BJJ

SHEET: C3



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