

ROCKY TOP RESOURCES

OVERLOT GRADING & EROSION CONTROL PLAN

TRACT 7 VALLEY GARDEN SUBDIVISION

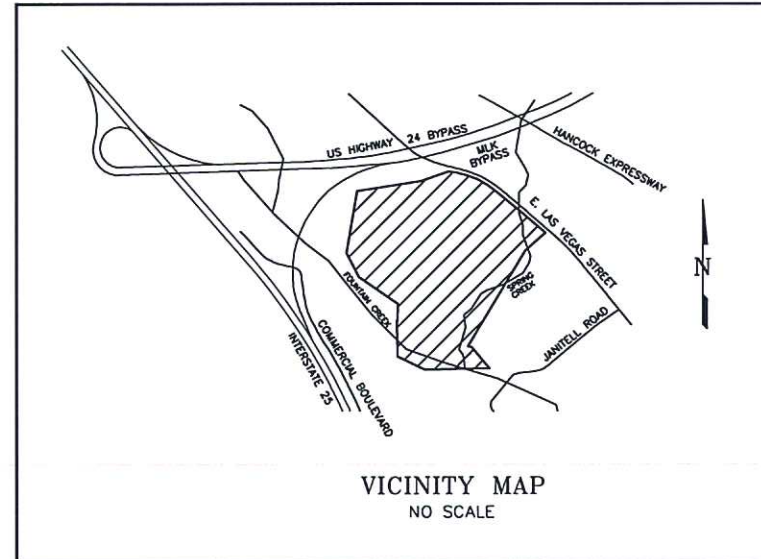
COLORADO SPRINGS, COLORADO

GENERAL NOTES

- ALL NEW CONSTRUCTION TO CONFORM TO THE SPECIFICATIONS OF THE EL PASO COUNTY DEPARTMENT OF PUBLIC SERVICES. ANY ASPHALT REMOVED IS TO BE REPLACED TO MEET THE SPECIFICATIONS OF THE EL PASO COUNTY DEPARTMENT OF PUBLIC SERVICES.
- A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH THE EL PASO COUNTY DEPARTMENT OF DEVELOPMENT SERVICES PRIOR TO ANY CONSTRUCTION.
- APPROVED PLANS, EL PASO COUNTY ENGINEERING CRITERIA MANUAL, ETC. IS REQUIRED TO BE ON-SITE AT ALL TIMES.
- ALL NECESSARY PERMITS, SUCH AS WORKING IN THE RIGHT-OF-WAY, SWMP, FUGITIVE DUST, ESQCP, ACCESS, C.O.E. 404, ETC. SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
- PROFILE DESIGN LINES AND HORIZONTAL STATIONING ARE BASED ON CENTERLINE, AS SHOWN, UNLESS OTHERWISE NOTED.
- FOR CENTERLINE DESIGN, CURB AND GUTTER, ROAD SIDE DITCH LOCATIONS AND SIDEWALK SEE INDIVIDUAL PLAN AND PROFILE SHEETS. PAVEMENT DESIGN TO BE BASED ON RESISTANCE VALUE "R" DERIVED FROM HVEEM TESTS AND ARE TO BE APPROVED BY THE EL PASO COUNTY DEPARTMENT OF DEVELOPMENT SERVICES PRIOR TO WORK ABOVE SUBGRADE.
- ALL VERTICAL DESIGN AND TOP OF CURB ARE BASED ON THE DESIGN POINT AS SHOWN IN THE TYPICAL CROSS SECTION.
- AT INTERSECTIONS, ALL RADII TO EDGE OF ASPHALT SHALL BE 20-FOOT UNLESS OTHERWISE NOTED.
- THE LOCATIONS OF THE EXISTING UTILITIES HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATION AND VERIFICATION OF EXISTING UTILITIES PRIOR TO BEGINNING WORK. IF IT APPEARS THAT THERE COULD BE A CONFLICT WITH ANY UTILITIES, WHETHER INDICATED ON THE PLANS OR NOT, THE CONTRACTOR IS TO NOTIFY THE ENGINEER AND OWNER IMMEDIATELY. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND REPAIR (IF NECESSARY) OF ALL UTILITIES.
- WHERE APPROPRIATE, NEATLY SAW CUT ALL EXISTING CONCRETE AND ASPHALT. REPAIR/REPLACE ALL DISTURBED EXISTING ITEMS WITH LIKE MATERIALS AND THICKNESSES. MINIMUM ASPHALT THICKNESS SHALL BE 4-INCHES.
- ALL DISTURBED AREAS SHALL BE REVEGETATED WITH NATIVE GRASSES WITHIN 21 DAYS OF EXCAVATION PER EROSION CONTROL PLAN.
- THE PREPARED EROSION/SEDIMENT CONTROL PLAN IS TO BE CONSIDERED A PART OF THESE PLANS AND ITS REQUIREMENTS ADHERED TO DURING THE CONSTRUCTION OF THIS PROJECT.
- ALL STORM AND SANITARY SEWER PIPE LENGTHS AND SLOPES ARE FIGURED FROM CENTER OF MANHOLE OR BEND. CULVERT PIPE LENGTHS ARE DETERMINED FROM THE END OF THE FLARED END SECTIONS. PIPE LENGTHS ARE GIVEN AS A HORIZONTAL LENGTH.
- ALL STORM SEWER BEDDING TO BE PER CDOT STANDARDS.
- ALL STORM SEWER PIPE CLASS AND TYPE IS CALLED OUT ON THE PLAN AND PROFILE SHEETS.
- CONCRETE PIPE JOINT FASTENERS ARE REQUIRED ON THE FIRST TWO PIPE JOINTS FROM THE DOWNSTREAM FLARED END SECTION OF A DRAINAGE PIPE.
- ALL WYES AND BENDS USED IN CONSTRUCTION OF STORM SEWER FACILITIES SHALL BE FACTORY FABRICATED, UNLESS APPROVED BY THE EL PASO COUNTY DEPARTMENT OF DEVELOPMENT SERVICES.
- CONSTRUCTION AND MATERIALS USED IN ALL STORM AND SANITARY SEWER MANHOLES SHALL BE PER SPECIFICATIONS. STORM SEWER RADIAL DEFLECTIONS TO BE GROUDED OR INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
- STORM SEWER MANHOLE SIZES AS FOLLOWS UNLESS OTHERWISE SHOWN:
18" THRU 36" USE 48" I.D. MANHOLE
42" THRU 48" USE 60" I.D. MANHOLE
54" THRU 60" USE 72" I.D. MANHOLE
NOTE: MANHOLE SIZES TABULATED HERE SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE INCOMING LATERALS.
- ALL EARTHWORK, MATERIALS AND INSTALLATION ASSOCIATED WITH THE EXCAVATION, EMBANKMENT AND ASPHALT PAVING TO BE CARRIED OUT IN THIS PROJECT ARE TO BE COMPLETED IN CONFORMANCE WITH THE EL PASO COUNTY ECM AND THE Pikes Peak ASPHALT PAVING SPECIFICATIONS.

BENCHMARK: FIMS Monument Z-395 is a stainless steel rod inside an aluminum flange stamped "Z 395 1983" set by the NGS 335 feet Northwest of the center of Royer Street, 50 feet Northeast of the center of E. Las Vegas Street, 27 feet Southwest of the near rail of the Denver and Rio Grande Western tracks, 3 feet Northwest of a utility pole with 1 guy wire, 1 foot Southeast of a witness post, 4 feet below the tracks; Elevation = 5914.77 (FIMS datum) plus 3.465 foot adjustment to NAVD 88 datum per VERTCON adjustment = 5918.23.

BASIS OF BEARING: THE BEARINGS & DISTANCES SHOWN ON SITE DEVELOPMENT PLAN



A SWMP must be submitted

STANDARD CONSTRUCTION NOTES

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD VERIFICATION 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 CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
 - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
 - CDOT M & S STANDARDS
- 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. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PUBLIC SERVICES DEPARTMENT - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND DSD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER OR THE AUTHORITY HAVING JURISDICTION IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY DSD.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DSD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY PUBLIC SERVICES DEPARTMENT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.

THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

Reviewed by
dsdgrimm
04/23/2019 5:56:36 PM

OWNER'S STATEMENT

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

BY: _____ DATE _____
TITLE: _____
ADDRESS: ROCKY TOP RESOURCES, INC.
1755 E. LAS VEGAS STREET
COLORADO SPRINGS, CO 80903-4323

ENGINEER'S STATEMENT

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

RICHARD N. WRAY, P.E. 19310 DATE _____
FOR AND ON BEHALF OF KIOWA ENGINEERING CORPORATION

EL PASO COUNTY

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.1.2, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

JENNIFER IRVINE, P.E. DATE _____
COUNTY ENGINEER/ECM ADMINISTRATOR

PCD PROJECT NO. CDR-1
PPR1913

17055-0VERLOT-Cov.dwg/Mar 25, 2019/10:24am

ABBREVIATIONS

ASSY = ASSEMBLY	MH = MANHOLE
BNIDY = BOUNDARY	MIN. = MINIMUM
B.O.P. = BOTTOM OF PIPE	NTS = NOT TO SCALE
CL = CENTERLINE	O.D. = OUTSIDE DIAMETER
CL = CLASS	PC = POINT OF HORIZONTAL CURVATURE
CRA = CONCRETE REVERSE ANCHOR	PCMC = POINT OF CURVATURE ON HORIZ. CURVE
CTRB = CONCRETE THRUST BLOCK	PP = PROPOSED
CR = POINT OF CURB RETURN	PT = POINT OF HORIZONTAL TANGENCY
CR = DUCTILE IRON PIPE	PTMC = POINT OF TANGENCY ON HORIZ. CURVE
EL = ELEVATION	PVC = POLY VINYL CHLORIDE PIPE
ESMT = EASEMENT	PVC = POINT OF VERTICAL CURVATURE
EX. = EXISTING	PVI = POINT OF VERTICAL INTERSECTION
FC = FACE OF CURB	PVT = POINT OF VERTICAL TANGENCY
FES = FLARED END SECTION	RCB = REINFORCED CONCRETE BOX
FLG = FLANGE	RCP = REINFORCED CONCRETE PIPE
FL = FLOWLINE	ROW = RIGHT OF WAY
GB = GRADE BREAK	RT = RIGHT
HP = HIGH POINT	SHT = SHEET
HORIZ. = HORIZONTAL	SS = SANITARY SEWER
HYD = HYDRANT	STA. = STATION
I.D. = INSIDE DIAMETER	STD. = STANDARD
LT = LEFT	T.O.P. = TOP OF PIPE
LF = LINEAR FEET	TYP. = TYPICAL
LP = LOW POINT	VC = VERTICAL CURVE
MAX. = MAXIMUM	VERT. = VERTICAL

PREPARED BY:

Kiowa
Engineering Corporation

1504 South 21st Street
Colorado Springs, Colorado 80904
(719) 530-7342

DEVELOPER:

ROCKY TOP RESOURCES, INC.
FREDRICK D. MARTIN
1755 E. LAS VEGAS STREET
COLORADO SPRINGS, CO 80903-4323
(719) 579-9103

INDEX OF SHEETS

- COVER SHEET
- OVERLOT GRADING & EROSION CONTROL PLAN
- EXTENDED DETENTION BASIN PLAN
- EXTENDED DETENTION BASIN OUTLET PLAN & DETAILS
- EXTENDED DETENTION BASIN DETAILS
- EROSION CONTROL DETAILS
- EROSION CONTROL DETAILS
- EROSION CONTROL DETAILS

A.G.A.I.A. STANDARD UTILITY MARKING COLOR CODE

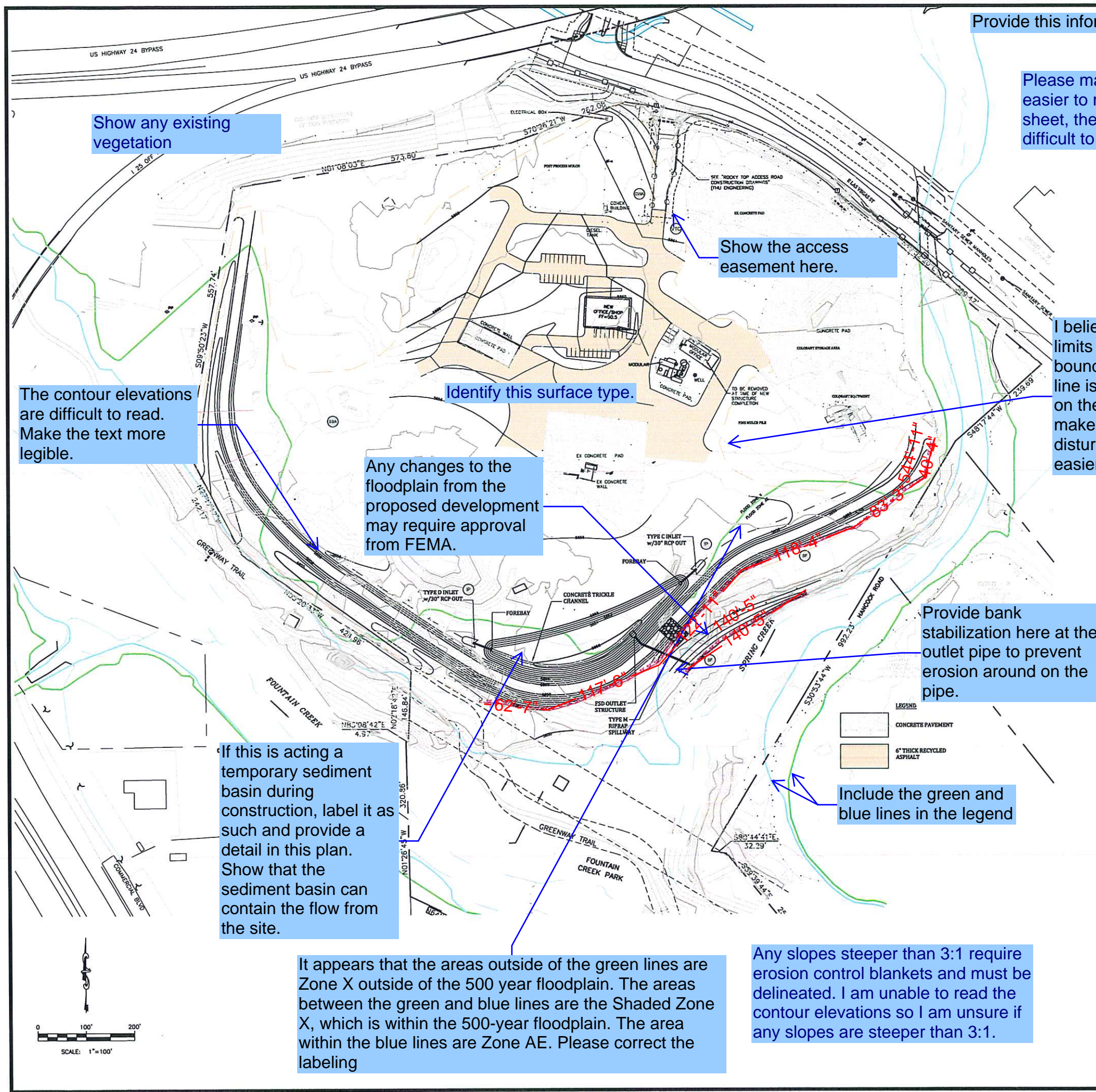
NATURAL GAS YELLOW
ELECTRIC RED
WATER BLUE
WASTEWATER GREEN

CALL
BEFORE
YOU
DIG...



48 HOURS
BEFORE YOU DIG,
CALL UTILITY
LOCATING
AND MARKING, GAS,
ELECTRIC, WATER
AND WASTEWATER

1-800-922-1987



Show any existing vegetation

The contour elevations are difficult to read. Make the text more legible.

If this is acting a temporary sediment basin during construction, label it as such and provide a detail in this plan. Show that the sediment basin can contain the flow from the site.

It appears that the areas outside of the green lines are Zone X outside of the 500 year floodplain. The areas between the green and blue lines are the Shaded Zone X, which is within the 500-year floodplain. The area within the blue lines are Zone AE. Please correct the labeling

Identify this surface type.

Any changes to the floodplain from the proposed development may require approval from FEMA.

Show the access easement here.

Include the green and blue lines in the legend

Provide bank stabilization here at the outlet pipe to prevent erosion around on the pipe.

Provide this information

Please make the text larger and easier to read. Printed on an 11x17 sheet, the text on this document is difficult to read.

Identify the existing and proposed contours

I believe that this is the limits of disturbance boundary, however the line is difficult to see on the plan. Please make the limits of disturbance boundary easier to identify.

SUMMARY OF EARTHWORK	
CUT	CY
FILL (w/20% SHRINKAGE)	CY
NET HAUL	CY

① QUANTITIES SUMMARIZED ARE PROVIDED FOR INFORMATION PURPOSES ONLY. CONTRACTOR SHALL INDEPENDENTLY VERIFY EARTHWORK QUANTITIES AS PART OF BIDDING THE GRADING WORK SHOWN ON THE DESIGN PLANS.

Show the limits of construction

EROSION CONTROL LEGEND	
	LIMITS OF DISTURBANCE
	PROPERTY LINE
	VEHICLE TRACKING CONTROL
	INLET PROTECTION
	CONCRETE WASHOUT AREA
	STABILIZED STAGING AREA
	SILT FENCE

Remove this block, it is for the City and not necessary.

Standard Grading, Erosion And Stormwater Quality Control Plan Notes

- Any land disturbance by any owner, developer, builder, contractor, or other person shall comply with the Basic Grading, Erosion and Stormwater Quality Control Requirements and General Prohibitions noted in the Drainage Criteria Manual Volume II.
- No clearing, grading, excavation, filling, or other land disturbing activities shall be permitted until sign off and acceptance of the Grading Plan and Erosion and Stormwater Quality Control Plan is received from EDRD.
- The installation of the first level of temporary erosion control facilities and BMP's shall be installed and inspected prior to any earth disturbance operations taking place. Call City Stormwater Inspections, 385-5980, 48 hours prior to construction.
- Sediment (mud and dirt) transported onto a public road, regardless of the size of the site, shall be cleaned immediately.
- Concrete wash water shall not be discharged to or allowed to runoff to State Waters, including any surface or subsurface storm drainage system or facilities.
- Soil erosion control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within twenty-one (21) calendar days after final grading or final earth disturbance has been completed. Disturbed areas and stockpiles which are not on final grade but will remain dormant for longer than thirty (30) days shall also be mulched within twenty-one (21) days after interim grading. An area that is going to remain in an interim state for more than sixty (60) days shall also be seeded. All temporary soil erosion control measures and BMP's shall be maintained until permanent soil erosion control measures are implemented.
- The grading and erosion control plan will be subject to re-review and re-acceptance by EDRD should any of the following occur: grading does not commence within twelve (12) months of the City Engineer's acceptance of the plan, a change in property ownership, proposed development changes, or proposed grading revisions.
- The Plan shall not substantially change the depth of cover, or access existing utility lines. Acceptance of this plan does not constitute approval to grade in any utility easement or right-of-way. Approvals to grade within utility easements must be obtained from the appropriate utility company. It is not permissible for any person to modify the grade of the earth on any Colorado Springs Utilities easement or utility right-of-way without the written approval. The plan shall not increase or divert water towards utility facilities. Any changes to existing utility facilities to accommodate the plan must be approved by the affected utility owner prior to implementing the plan. The cost to relocate or protect existing utilities or to provide interim access is the applicant's expense.

Engineer's Statement

This Erosion and Stormwater Quality Control/Grading Plan was prepared under my direction and supervision and is correct to the best of my knowledge and belief. If such work is performed in accordance with the grading and erosion control plan, the work will not become a hazard to life and limb, endanger property, or adversely affect the safety, use, or stability of a public way, drainage channel, or other property.

Signature: _____ Date: _____

Printed Name: _____ Seal: _____

City Manager's Statement

I hereby certify that the drainage and grading for the Rustic Hills Detention Basin shall be constructed according to the design presented in this plan. I further understand that field changes must be reviewed by the City Review Engineer to ensure conformance with the original design intent. I am employed by and perform engineering services solely for the City of Colorado Springs, and therefore am exempt from Colorado Revised Statute Title 12, Article 25, Part 1 according to § 12-25-103(1), C.R.S.

Name of City Manager: _____

Authorized Signature: _____ Date: _____

City of Colorado Springs Grading and Erosion Control Review

This grading plan is filed in accordance with section 7.7.1503 (enacted as ord. 82-56) of the code of the City of Colorado Springs, 2001, as amended. Erosion control is reviewed in accordance with the Drainage Criteria Manual, Vol. I (May 2014) and Vol. II (May 2014); latest revisions.

For the City Engineer: _____

Notes: _____

Kiowa
Engineering Corporation

1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

ROCKY TOP RESOURCES

OVERLOT GRADING & EROSION CONTROL PLAN

TRACT 7 VALLEY GARDEN SUBDIVISION

1755 EAST LAS VEGAS STREET

COLORADO SPRINGS, COLORADO

Project No: 17066

Date: March 26, 2019

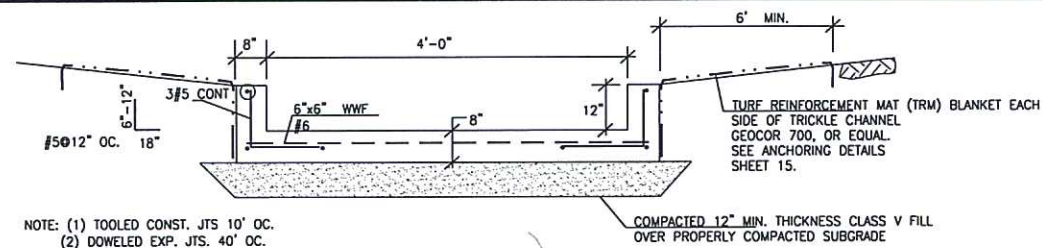
Design: RNW

Drawn: EAK

Check: RNW

Revisions:

2



CONCRETE TRICKLE CHANNEL
NTS

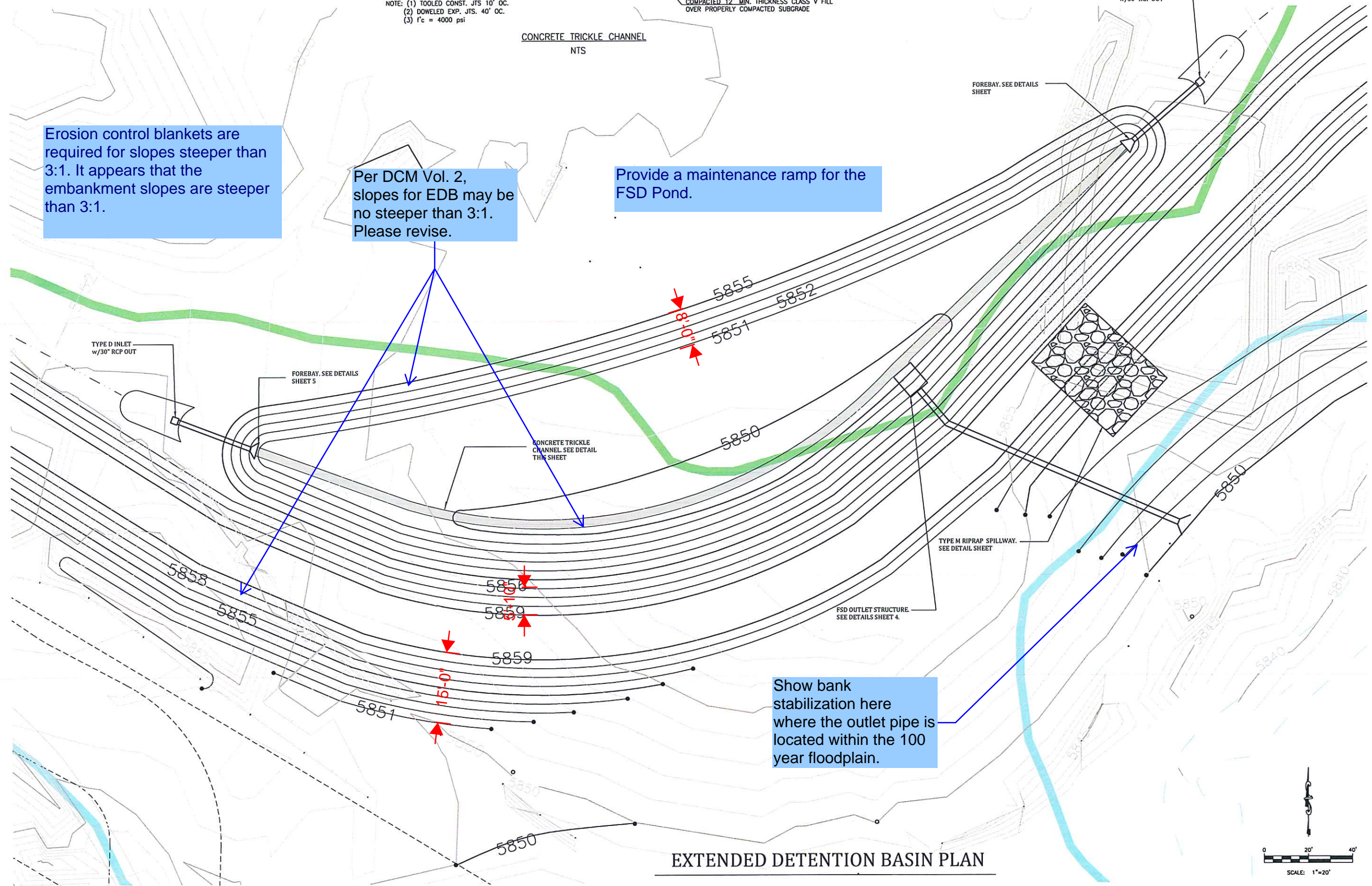
TYPE C INLET
w/30" RCP OUT

FOREBAY. SEE DETAILS
SHEET

Erosion control blankets are required for slopes steeper than 3:1. It appears that the embankment slopes are steeper than 3:1.

Per DCM Vol. 2, slopes for EDB may be no steeper than 3:1. Please revise.

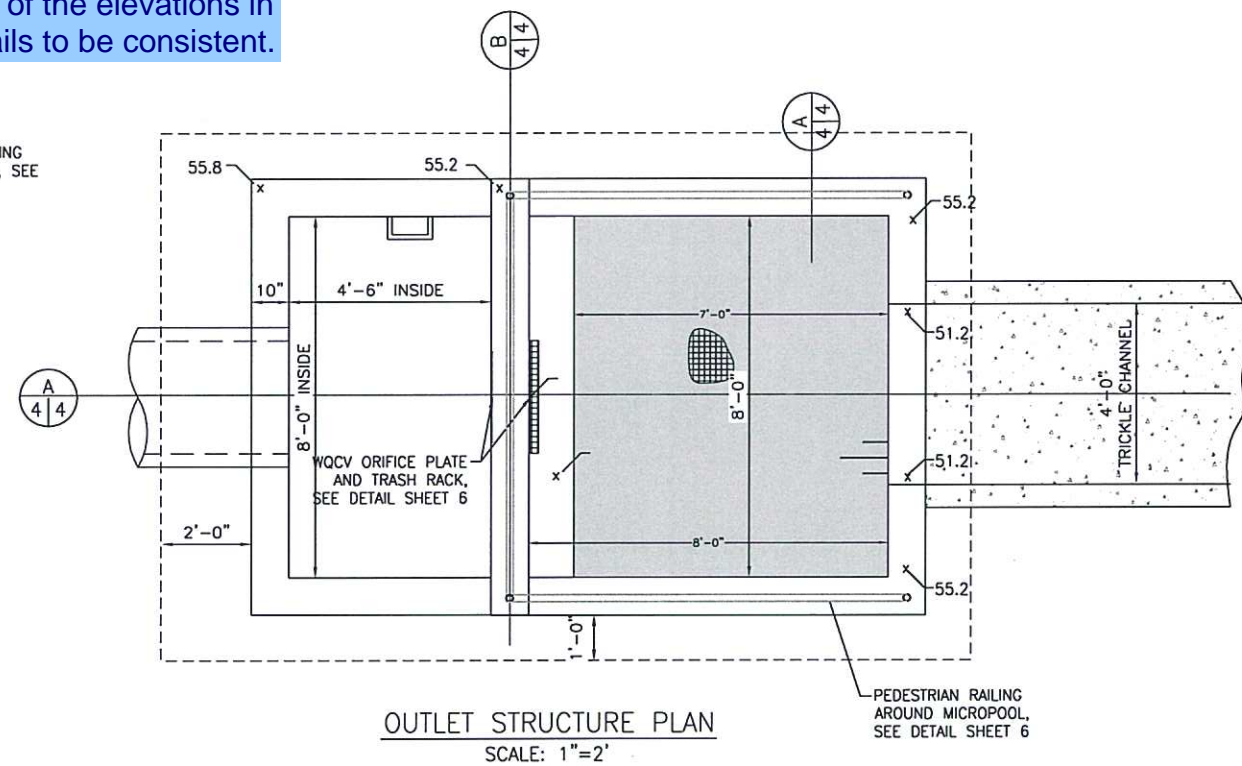
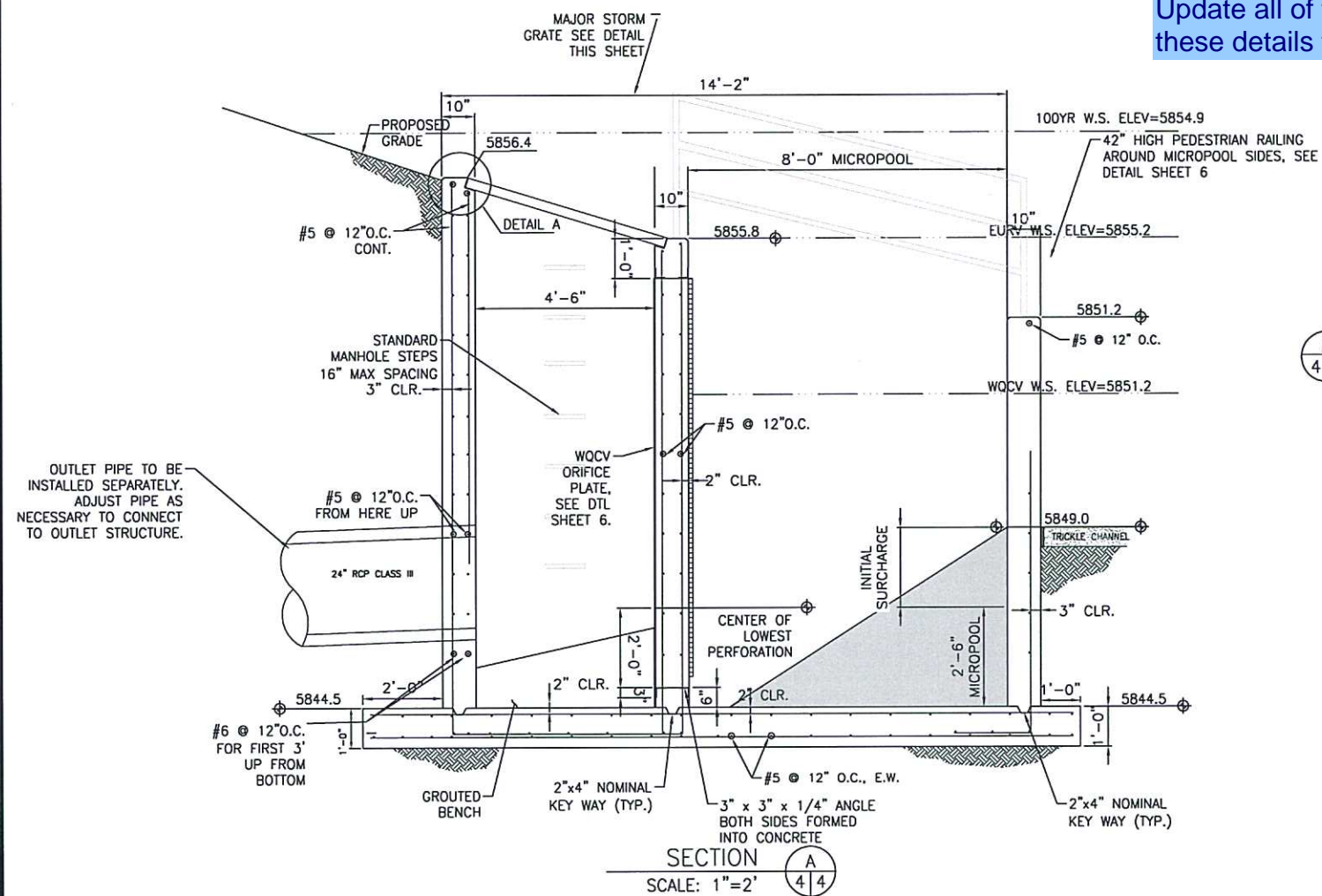
Provide a maintenance ramp for the FSD Pond.



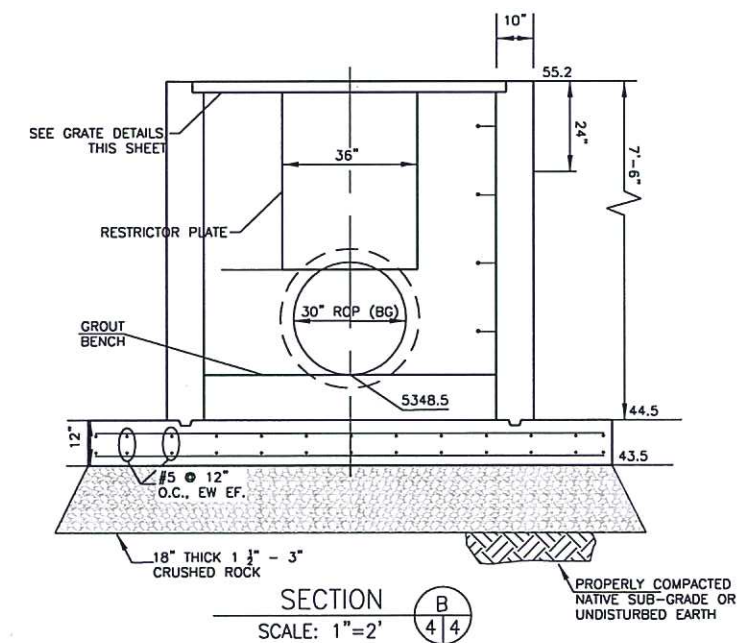
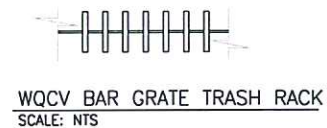
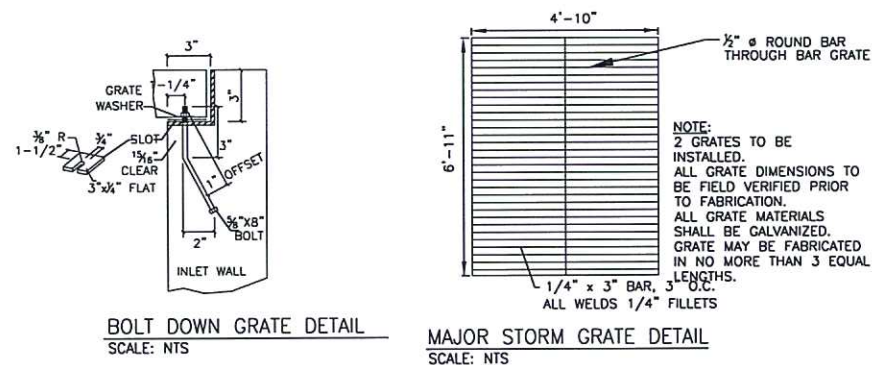
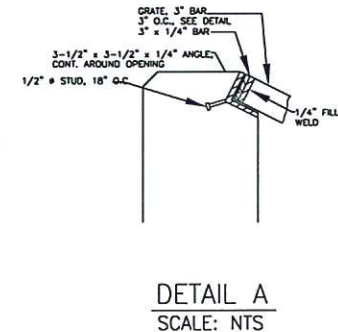
Show bank stabilization here where the outlet pipe is located within the 100 year floodplain.

EXTENDED DETENTION BASIN PLAN

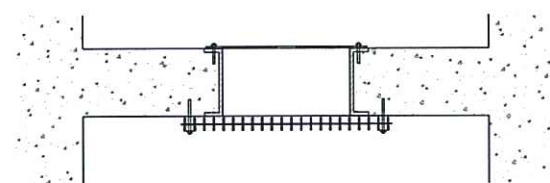
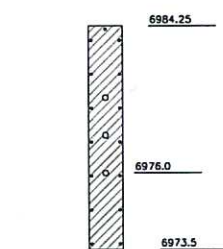
Update all of the elevations in these details to be consistent.



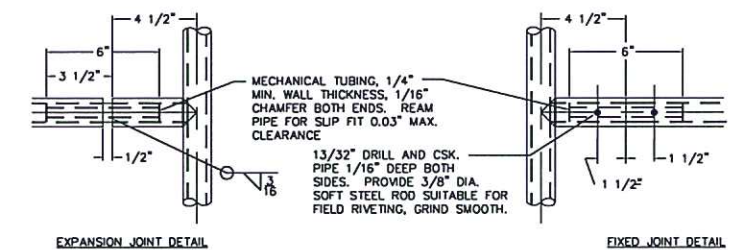
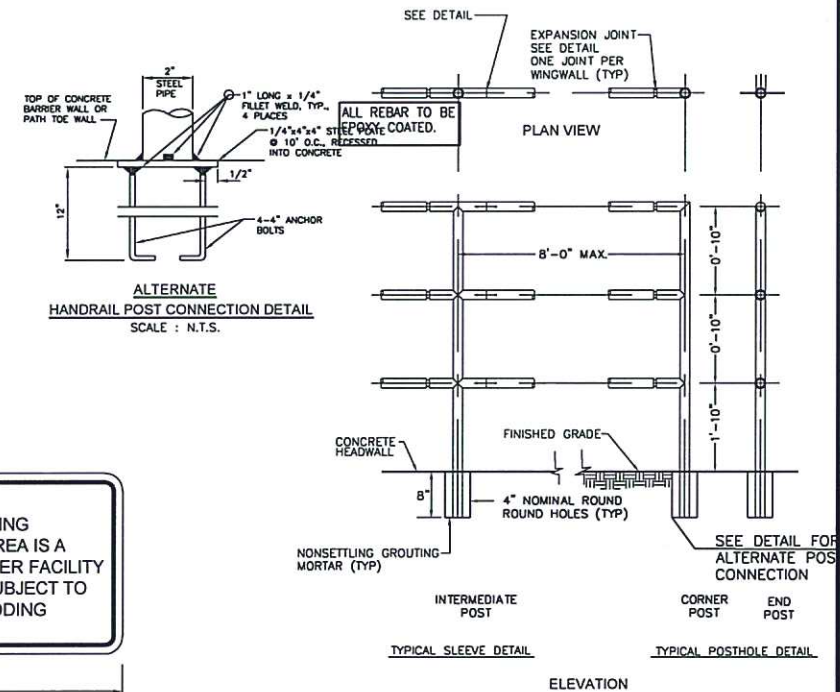
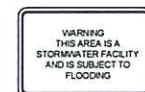
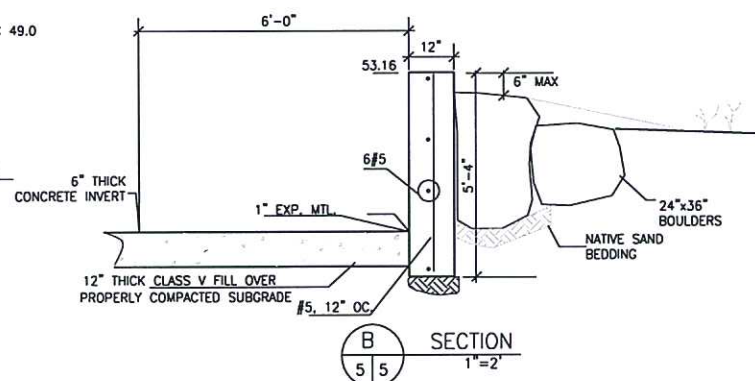
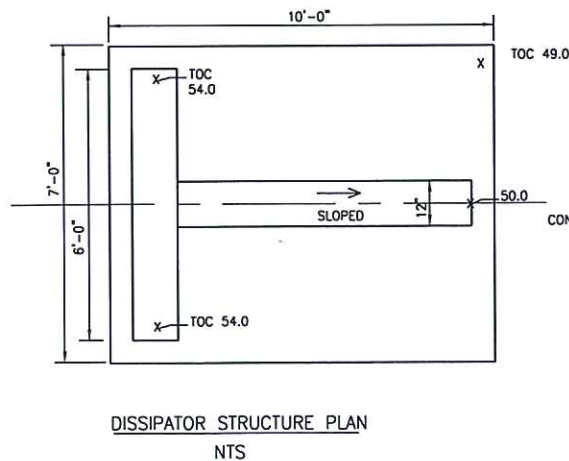
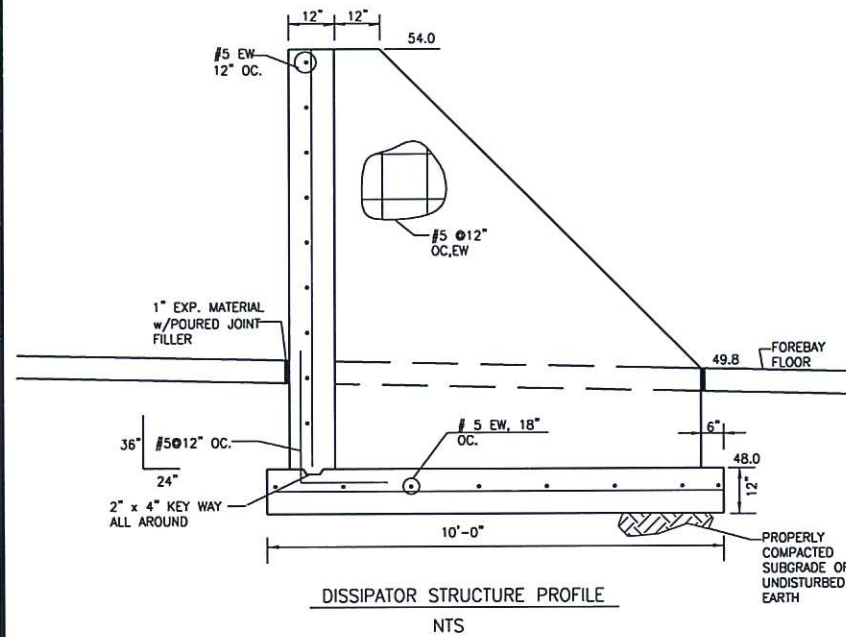
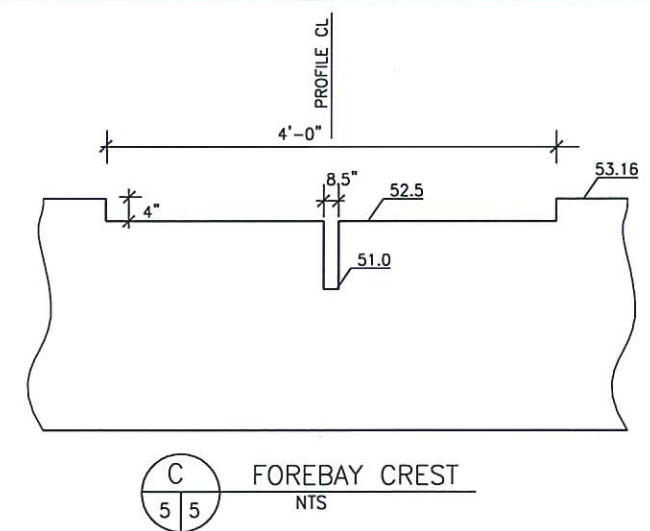
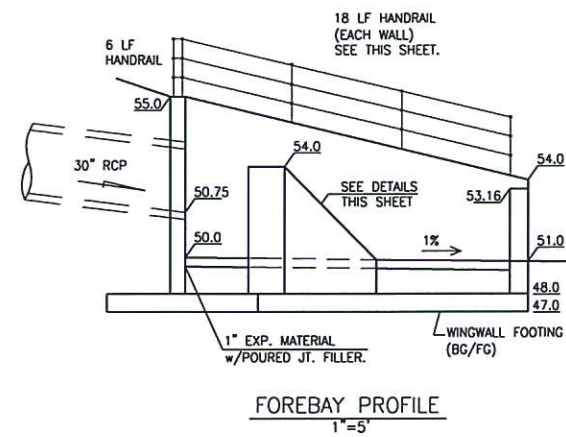
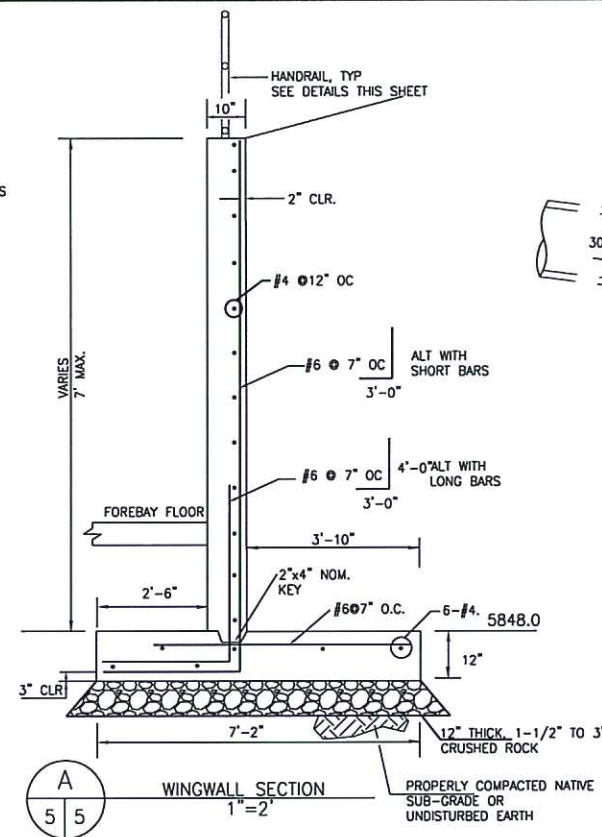
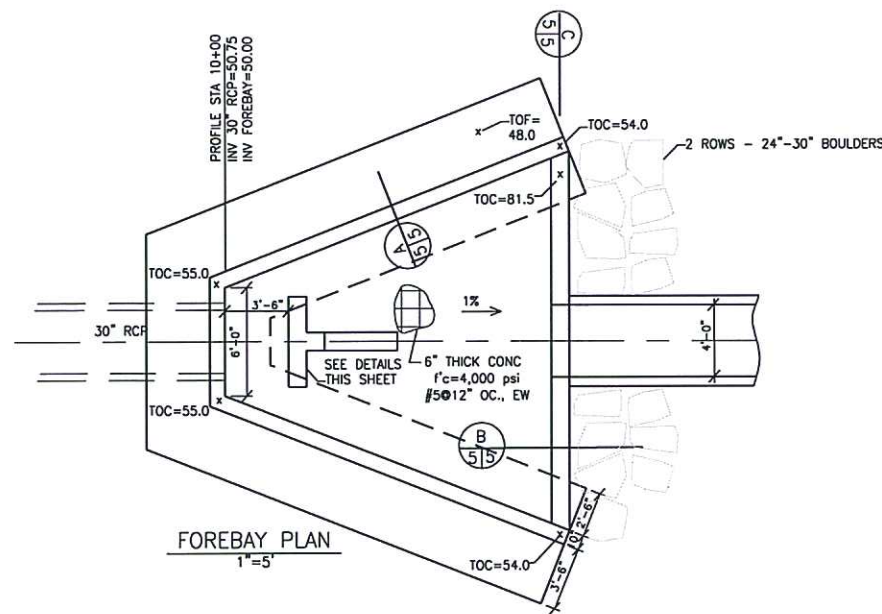
Provide the UD spreadsheet outlet structure design in the drainage report. These details will be reviewed further once the design spreadsheet is submitted is included with the drainage report.



Provide a detail of the Type D inlets.



IN PROGRESS



HANDRAIL NOTES

ALL HANDRAIL SHALL BE FABRICATED WITH NEW 2" DIAMETER STANDARD WEIGHT TUBING.

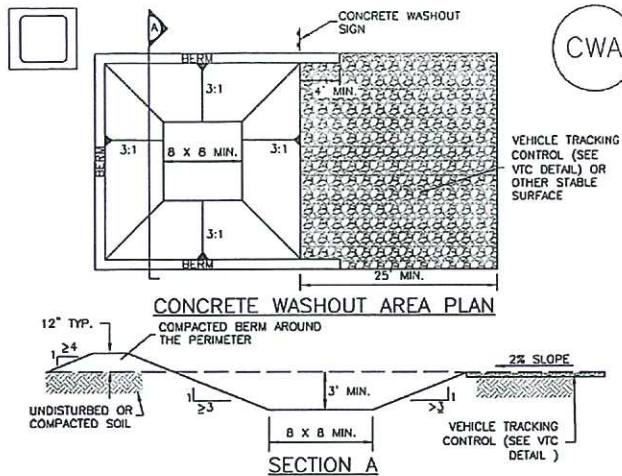
WELD ALL PIPE JOINTS WITH 1/8" REINFORCED WELDS AND DRESS CORNERS AND EDGES OF ALL BARS, PLATES AND PIPE ENDS.

SHALL BE SANDED SMOOTH AND FREE OF BURRS.

ALL HANDRAIL MATERIAL REQUIRED FOR COMPLETE INSTALLATION SHALL BE PROVIDED.

HANDRAIL FINISH SHALL BE ONE COAT RED METAL PRIMER AND TWO COATS ENAMEL (DURISTOLEUM OR EQUIVALENT). COLOR SHALL BE APPROVED BY ENGINEER PRIOR TO APPLICATION.

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 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.
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. 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.

November 2010 Urban Drainage and Flood Control District CWA-3
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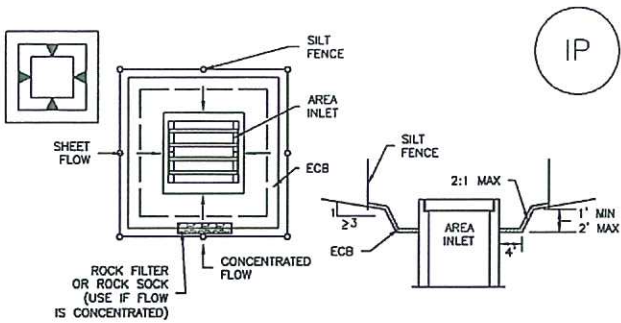
MM-1 Concrete Washout Area (CWA)

CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

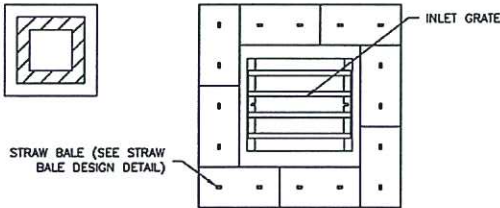
SC-6 Inlet Protection (IP)



IP-5. OVEREXCAVATION INLET PROTECTION

OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES

1. THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY SMALL CONTRIBUTING DRAINAGE AREA.
2. WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.
3. SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.



IP-6. STRAW BALE FOR SUMP INLET PROTECTION

STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES

1. SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALES TIGHTLY ABUTTING ONE ANOTHER.

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These plans cannot be approved until the Soils report is submitted.

PROJECT SPECIFIC GRADING AND EROSION CONTROL NOTES

1. All earthwork required of this construction shall be completed in accordance with all applicable sections of the Project Specifications and Soil Investigation Report (Geotechnical Report).
2. Rubbish including timber, concrete rubble, trees, brush, and asphalt shall not be backfilled adjacent to any of the structures or be in the placement of any unclassified fill. The Contractor shall be responsible for the removal and hauling of such materials to a suitable spoil area. Costs associated with the removal of such materials shall be paid for as documented in the Project Specifications.
3. Excess excavation shall become the property of the Contractor and shall be disposed of at the Contractor's expense. The cost of haulage and spoiling of excess excavated materials shall be paid for as documented in the Project Specifications.
4. Water shall be used as a dust palliative as required and shall be included in the cost for earthwork item(s). No separate payment will be made for dust control associated with the site construction.
5. The road grades shall be cleared of vegetation and the topsoil stockpiled for later use.
6. All grading shall be in conformance with the Geotechnical Report for the area.
7. Placement of fill for roadway embankments shall be completed in conformance with the Geotechnical Report.
8. Grading contours shown on this plan are to final grade.
9. Compaction under filled areas, including roadway and detention basin embankments, shall be 95 percent of the maximum Standard Proctor Density (ASTM D698) at two (2) percent of optimum moisture content.
10. No rubble or debris shall be placed in the backfill under any of the proposed buildings, streets, curb & gutter, sidewalk and drainage structures or within five (5) feet of a building footprint. Properly graded rubble may be used in some locations as specified and verified by the Geotechnical Engineer.
11. Contractor is responsible for reviewing the site prior to bidding to verify site conditions.
12. Contractor is responsible for providing erosion control measures as approved by the El Paso County PCD Engineering Division and as may be required by the El Paso County Inspector.
13. All slopes equal to or greater than 3:1 shall require anchored soil retention blanket (SRB), Geocor 700 or equal.
14. The Developer is responsible for maintaining erosion control measures until a mature stage of vegetation is established.
15. All soils used for fill must be approved by a representative of the Geotechnical Engineer.
16. All natural ground to receive fill must be properly scarified, watered and compacted prior to placing fill.
17. The Contractor is solely responsible for the design, maintenance and operation of any required dewatering system. The Contractor shall perform such independent investigation as he deems necessary to satisfy himself as to the subsurface groundwater conditions and unstable soil conditions to be encountered throughout the construction. Contractor shall coordinate the dewatering system with El Paso County when associated with public facilities.
18. No fill shall be placed, spread or rolled while it is frozen, thawing or during unfavorable weather conditions. When the work is interrupted by heavy rain, fill operations shall not be resumed until a representative of the Geotechnical Engineer indicates that the moisture content and density of the previously placed fill are as specified. Fill surfaces may be scarified and recompacted after rainfall if necessary, to obtain proper moisture density relation.
19. Additional erosion control structures and/or grading may be required at the time of construction.
20. Sediment removal for erosion control facilities shall be performed continuously for proper function.
21. Base mapping was provided by 4M Group Inc. The date of the last survey update was May, 2014.
22. Proposed Construction Schedule:
Begin Construction: pending
End Construction: pending
Total Site Area = 44.8 Acres
Area to be disturbed = 21.0 Acres (est.).
Existing 100-year runoff coefficient = 0.65
Proposed 100-year runoff coefficient = 0.65
Existing Hydrologic Soil Groups: A/B
(B Ustic Torrifluvents)
24. Site is currently developed and covered with native grasses on moderate to steep slopes (3%-6%).
25. Site is located in the Fountain Creek Drainage Basin.

SC-6 Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
-LOCATION OF INLET PROTECTION.
-TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)
2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.
3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/4 OF THE HEIGHT FOR STRAW BALES.
5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

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Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

ROCKY TOP RESOURCES
GRADING & EROSION CONTROL DETAILS
TRACT 7 VALLEY GARDEN SUBDIVISION
1755 EAST LAS VEGAS STREET
COLORADO SPRINGS, COLORADO

Project No.: 17066
Date: MARCH 2019
Design: RNW
Drawn: EAK
Check: RNW
Revisions:

SEEDING AND MULCHING INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - AREA OF SEEDING AND MULCHING
 - TYPE OF SEED MIX
- ALL BRANDS FURNISHED SHALL BE FREE FROM SUCH NOXIOUS SEEDS AS RUSSIAN OR CANADIAN THISTLE, COARSE FESCUE, EUROPEAN BINDWEED, JOHNSON GRASS, KNAF WEED AND LEAFY SPURGE.
- THE SEEDER SHALL FURNISH TO THE CONTRACTOR A SIGNED STATEMENT CERTIFYING THAT THE SEED FURNISHED IS FROM A LOT THAT HAS BEEN TESTED BY A RECOGNIZED LABORATORY. SEED WHICH HAS BECOME WET, MOLDY OR OTHERWISE DAMAGED IN TRANSIT OR IN STORAGE WILL NOT BE ACCEPTABLE. SEED TICKETS SHALL BE PROVIDED TO REGULATING AGENCY UPON REQUEST.
- DRILL SEEDING MIX SHALL CONFORM TO THE TABLE ON THE RIGHT.
- IF THE SEED AVAILABLE ON THE MARKET DOES NOT MEET THE MINIMUM PURITY AND GERMINATION PERCENTAGES SPECIFIED, THE SUBCONTRACTOR MUST COMPENSATE FOR A LESSER PERCENTAGE OF PURITY OR GERMINATION BY FURNISHING SUFFICIENT ADDITIONAL SEED TO EQUAL THE SPECIFIED PRODUCT. THE TAGS FROM THE SEED MIXES MUST BE SUPPLIED TO CONTRACTOR AND FORWARDED TO THE REGULATING AGENCY'S GESC INSPECTOR.
- THE FORMULA USED FOR DETERMINING THE QUANTITY OF PURE LIVE SEED (PLS) SHALL BE (POUNDS OF SEED) X (PURITY) X (GERMINATION) = POUNDS OF PURE LIVE SEED (PLS).
- PERMANENT SEED MIX SHALL BE USED UNLESS OTHERWISE APPROVED BY THE REGULATING AGENCY.
- ALL AREAS TO BE SEED AND MULCHED SHALL HAVE NATIVE TOPSOIL OR APPROVED SOIL AMENDMENTS SPREAD TO A DEPTH OF AT LEAST 6 INCHES (LOOSE DEPTH). HAIL ROADS AND OTHER COMPACTED AREAS SHALL BE LOOSENE TO A DEPTH OF 6 INCHES PRIOR TO SPREADING TOPSOIL.
- SOIL IS TO BE THOROUGHLY LOOSENE (TILLED) TO A DEPTH OF AT LEAST 6 INCHES PRIOR TO SEEDING. THE TOP 6 INCHES OF THE SEED BED SHALL BE FREE OF ROCKS GREATER THAN 4 INCHES AND SOIL CLODS GREATER THAN 2 INCHES. SEEDING OVER ANY COMPACTED AREAS THAT HAVEN'T BEEN THOROUGHLY LOOSENE SHALL BE REJECTED.
- SEED IS TO BE APPLIED USING A MECHANICAL DRILL TO A DEPTH OF 1/4 INCH. ROW SPACING SHALL BE NO MORE THAN 6 INCHES. MATERIAL USED FOR MULCH SHALL CONSIST OF LONG-STEMMED STRAW. AT LEAST 50 PERCENT OF THE MULCH, BY WEIGHT, SHALL BE 10 INCHES OR MORE IN LENGTH. MULCH SHALL BE APPLIED AND MECHANICALLY ANCHORED TO A DEPTH OF AT LEAST 2 INCHES. MULCH SHALL BE APPLIED AT A RATE OF 4000 LB. OF STRAW PER ACRE.
- IF THE PERMITTEE DEMONSTRATES TO THE REGULATING AGENCY THAT IT IS NOT POSSIBLE TO DRILL SEED, SEED IS TO BE UNIFORMLY BROADCAST AT TWO TIMES THE DRILLED RATE, THEN LIGHTLY HARROWED TO PROVIDE A SEED DEPTH OF APPROXIMATELY 1/4 INCH, THEN ROLLED TO COMPACT, THEN MULCHED AS SPECIFIED ABOVE.
- SEEDING AND MULCHING SHALL BE COMPLETED WITHIN 30 DAYS OF INITIAL EXPOSURE OR 7 DAYS AFTER GRADING IS SUBSTANTIALLY COMPLETE IN A GIVEN AREA (AS DEFINED BY THE REGULATING AGENCY). THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.
- MULCH SHALL BE APPLIED WITHIN 24 HOURS OF SEEDING.
- TACKIFIER SHOULD BE UTILIZED TO HELP WITH STRAW DISPLACEMENT.

SEEDING AND MULCHING MAINTENANCE NOTES

- SEED AND MULCHED AREAS SHALL BE INSPECTED FOR REQUIRED COVERAGE MONTHLY FOR A PERIOD OF TWO YEARS FOLLOWING INITIAL SEEDING. REPAIRS AND RE-SEEDING AND MULCHING SHALL BE UNDERTAKEN AFTER THE FIRST GROWING SEASON FOR ANY AREAS FAILING TO MEET THE REQUIRED COVERAGE.
- REQUIRED COVERAGE FOR STANDARD, OPEN SPACE AND LOW GROWTH SEED MIXES SHALL BE DEFINED AS FOLLOWS:
 - THREE (3) PLANTS PER SQUARE FOOT WITH A MINIMUM HEIGHT OF 3 INCHES. THE 3 PLANTS PER SQUARE FOOT SHALL BE OF THE VARIETY AND SPECIES FOUND IN THE DOUGLAS COUNTY-APPROVED MIX.
 - NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO-FOOT BY TWO-FOOT OR EQUIVALENT).
 - FREE OF ERODED AREAS.
 - FREE FROM INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4 OF THE GESC CRITERIA MANUAL.
- REQUIRED COVERAGE FOR TURF GRASS AREAS SHALL BE DEFINED AS FOLLOWS:
 - AT LEAST 80% VEGETATIVE COVER OF GRASS SPECIES PLANTED.
 - NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO-FOOT BY TWO-FOOT OR EQUIVALENT).
 - FREE OF ERODED AREAS.
 - FREE FROM INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4 OF THE GESC CRITERIA MANUAL.
- RILL AND GULLY EROSION SHALL BE FILLED WITH TOPSOIL PRIOR TO RESEEDING. THE RESEEDING METHOD SHALL BE APPROVED BY THE COUNTY.

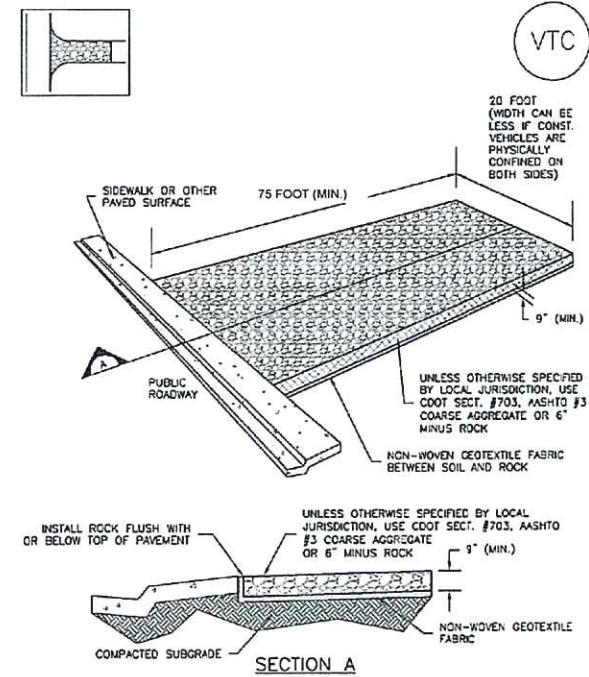
SEED MIX		
AREAS DISTURBED BY THE EARTHWORK SHALL BE PERMANENTLY REVEGETATED WITH NATIVE GRASSES. NATIVE SEED MIX FOR THIS PROJECT SHALL BE AS FOLLOWS:		
SPECIES		pls/acre
WESTERN WHEAT GRASS	<i>Paspopyrum smithii</i>	3.0
SIDE-OATS GRAMA	<i>Bouteloua curtipendula</i>	2.0
SLENDER WHEAT GRASS	<i>Elymus trachycaulus</i>	2.0
LITTLE BLUESTEM	<i>Schizachyrium scoparium</i>	2.0
BLUE GRAMA	<i>Bouteloua gracilis</i>	0.5
SWITCH GRASS	<i>Panicum virgatum</i>	2.0
JUNE GRASS	<i>Koeleria cristata</i>	0.5
SAND DROPSEED	<i>Sporobolus cryptandrus</i>	0.5
		12.5 lbs
SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL. IN AREAS INACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RAKE 1/4" TO 1/2" INTO THE TOPSOIL.		
MULCHING APPLICATION: 1-1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL OR HYDROMULCH.		

SEEDING AND MULCH NTS



Vehicle Tracking Control (VTC)

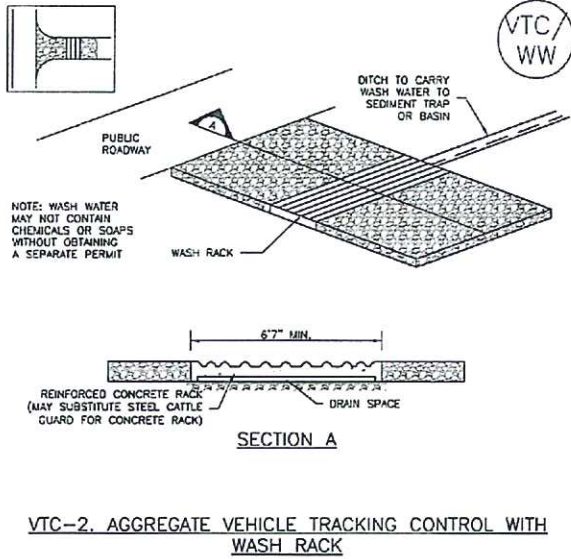
SM-4



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

SM-4

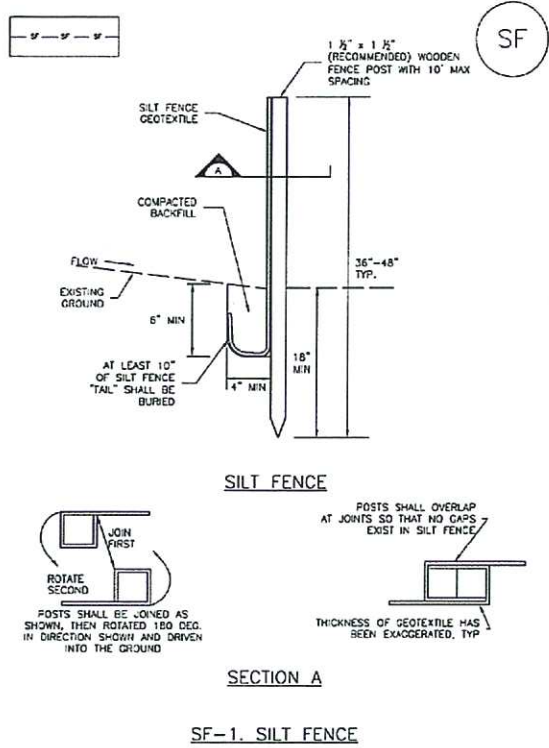
Vehicle Tracking Control (VTC)



VTC-2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK

Silt Fence (SF)

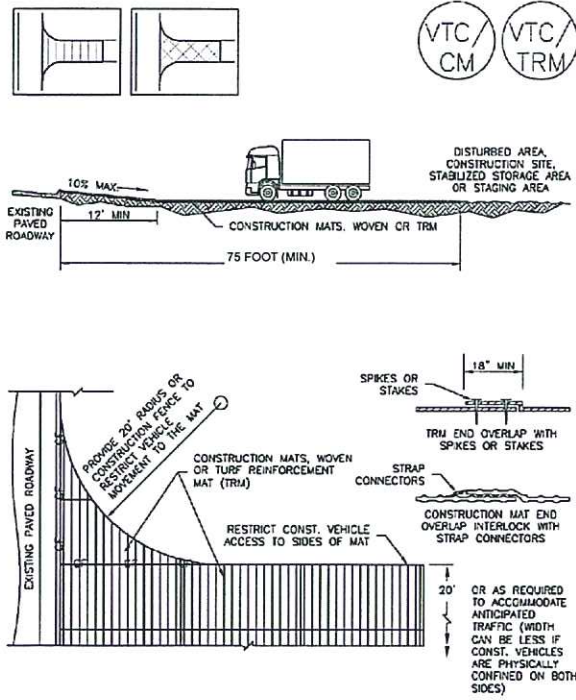
SC-1



SF-1. SILT FENCE

Vehicle Tracking Control (VTC)

SM-4



VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

Silt Fence (SF)

Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
- A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE, NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
- COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
 - REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
 - SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERMEABLE SEDIMENT CONTROL BMP.
 - WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- (DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AUSTIN, NOT AVAILABLE IN AUTOCAD)
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SM-4

Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S)
 - TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM)
- CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

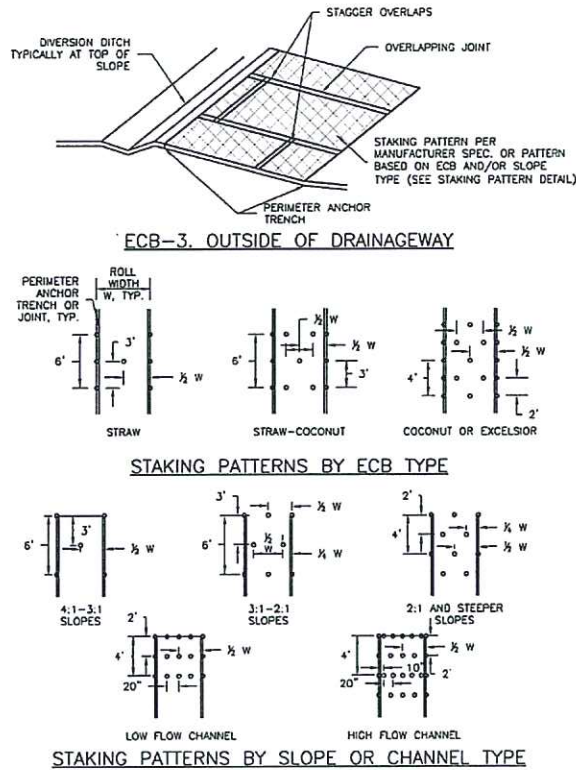
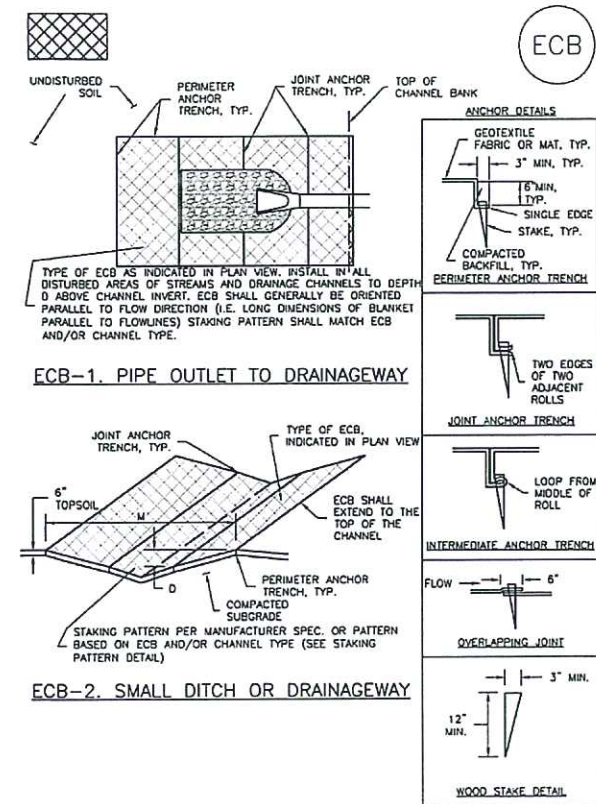
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
- SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

ROCKY TOP RESOURCES
GRADING & EROSION CONTROL DETAILS
TRACT 7 VALLEY GARDEN SUBDIVISION
1755 EAST LAS VEGAS STREET
COLORADO SPRINGS, COLORADO

Project No.:	17066
Date:	MARCH 2019
Design:	RNW
Drawn:	EAK
Check:	RNW
Revisions:	



EROSION CONTROL BLANKET INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF ECB.
 - TYPE OF ECB (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
 - AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.
- 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.
- IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
- PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
- JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.
- INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.
- OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.
- MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.
- ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBs SHALL BE RESEEDED AND MULCHED.
- DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING**
STRAW*	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN	70% MAX	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

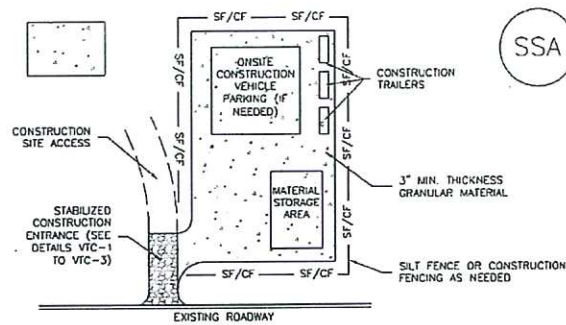
*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNELS.
**ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS.

EROSION CONTROL BLANKET MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.
- ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDCFD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO AND TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

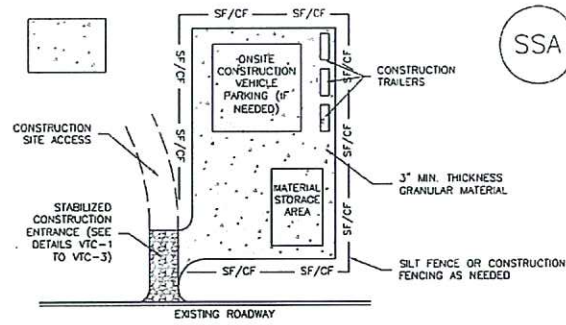


STABILIZED STAGING AREA INSTALLATION NOTES

- SEE PLAN VIEW FOR:
 - LOCATION OF STAGING AREA(S).
 - CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
- ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
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- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.



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Markup Summary

dsdgrimm (35)

10/19/18 P.E.
ENGINEER/ARCH ADMINISTRATOR
DATE
PCD PROJECT NO. CDR-1
PPR1913

Subject: Engineer
Page Label: 1
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Author: dsdgrimm
Date: 4/24/2019 1:40:26 PM
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PPR1913

DATE
10. CDR-1

Subject: Line
Page Label: 1
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Author: dsdgrimm
Date: 4/24/2019 1:40:27 PM
Color: ■

A SWMP must be submitted

Subject: Engineer
Page Label: 1
Lock: Locked
Author: dsdgrimm
Date: 4/24/2019 1:40:27 PM
Color: ■

A SWMP must be submitted

Reviewed by
dsdgrimm
04/23/2019 05:06 PM

Subject: Reviewed By
Page Label: 1
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Author: dsdgrimm
Date: 4/24/2019 1:40:28 PM
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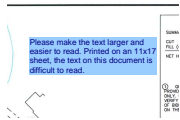


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Author: dsdgrimm
Date: 4/24/2019 1:40:30 PM
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REMOVE THIS BLOCK WHEN
PROPOSED CHANGES ARE
APPROVED
Remove this block, it is for the City
and not necessary.

Subject: Engineer
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Author: dsdgrimm
Date: 4/24/2019 1:40:31 PM
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Remove this block, it is for the City and not necessary.



Subject: Engineer
Page Label: 2
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Author: dsdgrimm
Date: 4/24/2019 1:40:32 PM
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Please make the text larger and easier to read. Printed on an 11x17 sheet, the text on this document is difficult to read.



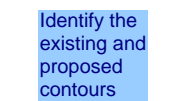
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Include the green and blue lines in the legend



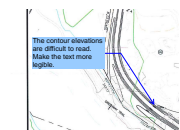
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I believe that this is the limits of disturbance boundary, however the line is difficult to see on the plan. Please make the limits of disturbance boundary easier to identify.



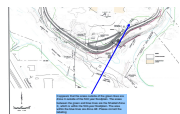
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Identify the existing and proposed contours



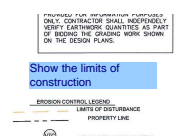
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Page Label: 2
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Author: dsdgrimm
Date: 4/24/2019 1:40:44 PM
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The contour elevations are difficult to read. Make the text more legible.



Subject: Engineer
Page Label: 2
Lock: Locked
Author: dsdgrimm
Date: 4/24/2019 1:40:45 PM
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It appears that the areas outside of the green lines are Zone X outside of the 500 year floodplain. The areas between the green and blue lines are the Shaded Zone X, which is within the 500-year floodplain. The area within the blue lines are Zone AE. Please correct the labeling



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Show the limits of construction



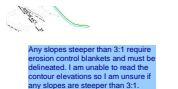
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Author: dsdgrimm
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Show any existing vegetation



Subject: Engineer
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Date: 4/24/2019 1:40:49 PM
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Show the access easement here.



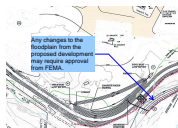
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Any slopes steeper than 3:1 require erosion control blankets and must be delineated. I am unable to read the contour elevations so I am unsure if any slopes are steeper than 3:1.



Subject: Engineer
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Author: dsdgrimm
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Provide bank stabilization here at the outlet pipe to prevent erosion around on the pipe.



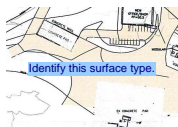
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Author: dsdgrimm
Date: 4/24/2019 1:40:52 PM
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Any changes to the floodplain from the proposed development may require approval from FEMA.



Subject: Engineer
Page Label: 2
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Author: dsdgrimm
Date: 4/24/2019 1:40:53 PM
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Provide this information



Subject: Engineer
Page Label: 2
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Author: dsdgrimm
Date: 4/24/2019 1:40:57 PM
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Identify this surface type.



Subject: Polylength Measurement
Page Label: 2
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Date: 4/24/2019 1:40:58 PM
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544'-11"



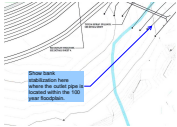
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Author: dsdgrimm
Date: 4/24/2019 1:40:59 PM
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140'-5"



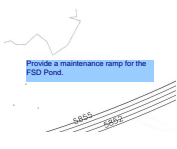
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Page Label: 2
Lock: Locked
Author: dsdgrimm
Date: 4/24/2019 1:40:59 PM
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If this is acting as a temporary sediment basin during construction, label it as such and provide a detail in this plan. Show that the sediment basin can contain the flow from the site.



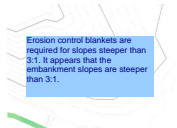
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Author: dsdgrimm
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Show bank stabilization here where the outlet pipe is located within the 100 year floodplain.



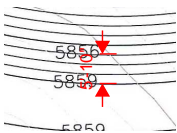
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Author: dsdgrimm
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Provide a maintenance ramp for the FSD Pond.



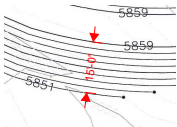
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Date: 4/24/2019 1:41:04 PM
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Erosion control blankets are required for slopes steeper than 3:1. It appears that the embankment slopes are steeper than 3:1.



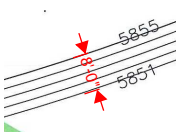
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Author: dsdgrimm
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5'-10"



Subject: Length Measurement
Page Label: 3
Lock: Locked
Author: dsdgrimm
Date: 4/24/2019 1:41:05 PM
Color: ■

15'-0"



Subject: Length Measurement
Page Label: 3
Lock: Locked
Author: dsdgrimm
Date: 4/24/2019 1:41:06 PM
Color: ■

8'-0"



Subject: Engineer
Page Label: 3
Lock: Locked
Author: dsdgrimm
Date: 4/24/2019 1:41:08 PM
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Per DCM Vol. 2, slopes for EDB may be no steeper than 3:1. Please revise.

Provide the UD spreadsheet outlet structure design in the drainage report. These details will be reviewed further once the design spreadsheet is submitted is included with the drainage report.

Subject: Engineer
Page Label: 4
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Author: dsdgrimm
Date: 4/24/2019 1:41:08 PM
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Provide the UD spreadsheet outlet structure design in the drainage report. These details will be reviewed further once the design spreadsheet is submitted is included with the drainage report.

Update all of the elevations in these details to be consistent.

13. 6/24/2019
12" x 48" TYPICALS ARE NOT
SHOWN ANYWHERE. SEE SEE
SHEET 4



Subject: Engineer
Page Label: 4
Lock: Locked
Author: dsdgrimm
Date: 4/24/2019 1:41:10 PM
Color: ■

Update all of the elevations in these details to be consistent.

Provide a detail of the Type D inlets.

Subject: Engineer
Page Label: 4
Lock: Locked
Author: dsdgrimm
Date: 4/24/2019 1:41:12 PM
Color: ■

Provide a detail of the Type D inlets.

13. 6/24/2019
12" x 48" TYPICALS ARE NOT
SHOWN ANYWHERE. SEE SEE
SHEET 4

These plans cannot be approved until the Soils report is submitted.

Subject: Engineer
Page Label: 6
Lock: Locked
Author: dsdgrimm
Date: 4/24/2019 1:41:13 PM
Color: ■

These plans cannot be approved until the Soils report is submitted.