

# FOUNDATION LUTHERAN CHURCH

9960 TOWNERS AVE  
FALCON, COLORADO

## GRADING AND EROSION CONTROL CONSTRUCTION DOCUMENTS

### EL PASO COUNTY STANDARD NOTES:

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCES SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
- 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 DEVIATION FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) 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.
- ONCE THE ESQCP IS APPROVED AND A NOTICE TO PROCEED HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL 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.
- CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPED, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- ALL TEMPORARY SEDIMENT 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.
- 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.
- 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 ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- 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 THE WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- 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 FOR INFILTRATION AND VEGETATIVE CONTROL MEASURES MUST BE LOOSENED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
- 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.
- 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.
- DURING DEWATERING OPERATIONS, UNCONTAMINATED GROUNDWATER 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.
- EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- 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.
- 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.
- TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, ROCK, TRASH, 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.
- 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.
- NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE 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.
- 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 ON-SITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- 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.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION POINTS.
- PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON-SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM THE EARTHWORK EQUIPMENT AND WIND.
- A SOILS REPORT WAS COMPLETED BY RMG ENGINEERS & ARCHITECTS DATED 9/26/23. 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 OF APPLICATION MATERIALS CONTACT: COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT WATER QUALITY CONTROL DIVISION WOOD-PERMITS 4300 CHERRY CREEK DRIVE SOUTH DENVER, CO 80246-1530 ATTN: PERMITS UNIT

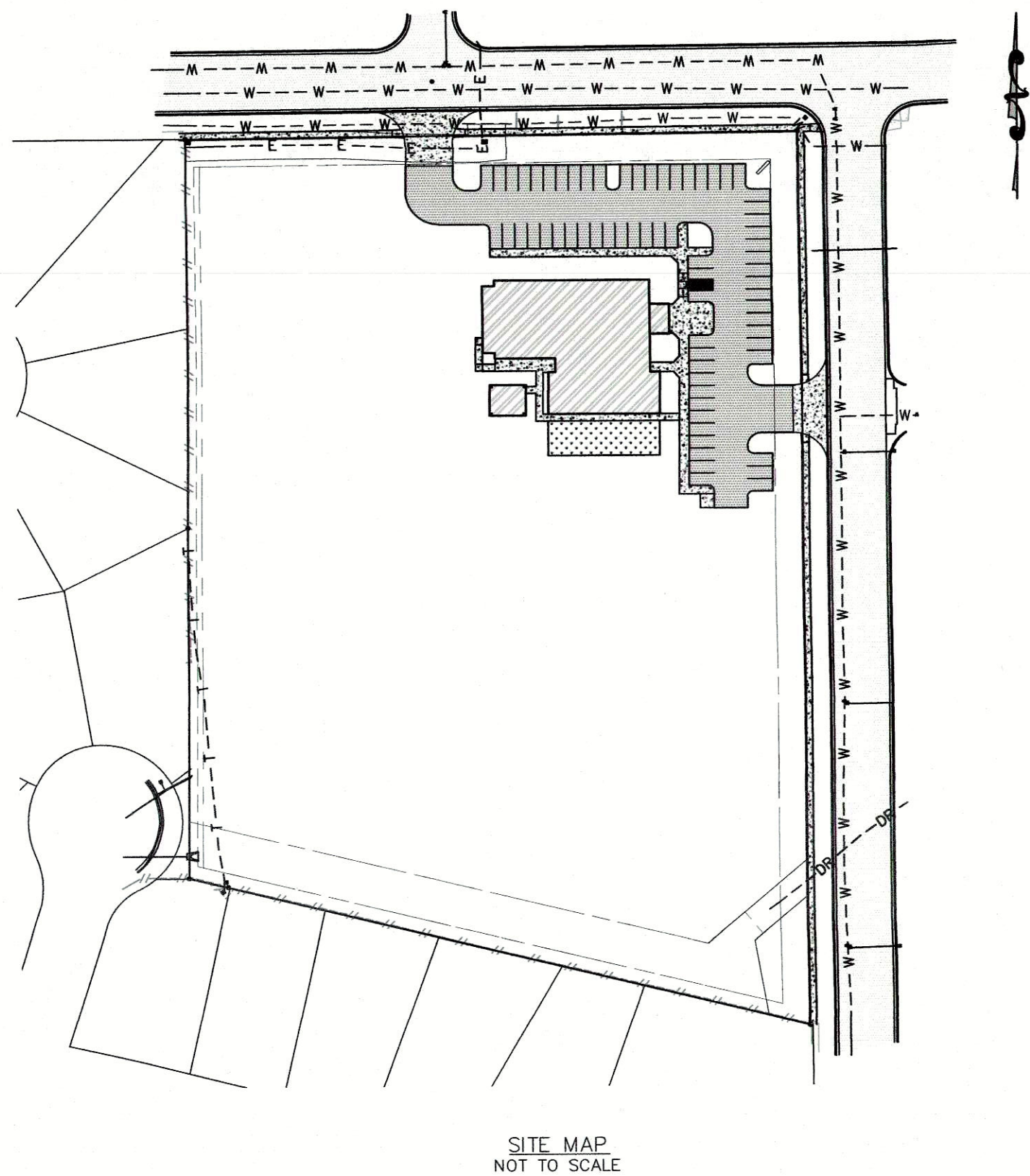
### SURVEY NOTES:

- THE PROPERTY WAS SURVEYED ON THE GROUND DECEMBER 14-16, 2020, AND WAS FOUND TO BE MONUMENTED AS SHOWN HEREON. THE LINEAL UNITS USED IN THIS SURVEY IS THE U.S. SURVEY FOOT. THE TOPOGRAPHIC SURVEY DATA SHOWN IS THE RESULT OF AN ON THE GROUND SURVEY OF THE TOPOGRAPHIC FEATURES OF THE SUBJECT PROPERTY. THE CONTOUR INTERVAL IS ONE FOOT. THE BENCHMARK IS THE SOUTHWEST CORNER OF SECTION 25, A 3 1/4" ALUMINUM CAP, ELEVATION - 7136.34, NGVD 1929.
- THE BASIS OF BEARINGS IS THE WEST LINE OF TRACT C AS SHOWN ON THE PLAT OF "PAINT BRUSH HILLS FILING NO. 13A" UNDER RECEPTION NO. 213713413 OF THE RECORDS OF EL PASO COUNTY, COLORADO. SAID LINE IS ASSUME TO BEAR N00°00'00"E A DISTANCE OF 531.92 FEET.

### PROPERTY DESCRIPTION:

TRACT C AS SHOWN ON THE PLAT OF "PAINT BRUSH HILLS FILING NO. 13A" UNDER RECEPTION NO. 213713413 IN THE RECORDS OF EL PASO COUNTY, COLORADO.

SAID PARCEL CONTAINS A CALCULATED AREA OF 259,865 SQUARE FEET (5.966 ACRES, MORE OR LESS).



SITE MAP  
NOT TO SCALE



VICINITY MAP  
NOT TO SCALE

### PROJECT CONTACTS:

#### CLIENT:

FOUNDATION LUTHERAN CHURCH  
PASTOR STEVEN PRAHL  
10387 MOUNT EVANS DR  
PEYTON, CO 80931  
PASTOR@FOUNDATIONLUTHERAN.COM  
719-396-1058

#### GENERAL CONTRACTOR:

COLORADO COMMERCIAL CONSTRUCTION, INC  
DALE BEGGS  
5410 POWERS CENTER PT, STE 210  
COLORADO SPRINGS, CO  
DBEGGS@COCOMMERCIAL.NET  
719-264-6955

#### CIVIL ENGINEER:

RMG - ROCKY MOUNTAIN GROUP  
DAVID WALKER, P.E.  
DWALKER@RMG-ENGINEERS.COM  
2910 AUSTIN BLUFFS PKWY, STE 100  
COLORADO SPRINGS, CO 80918  
719-548-0600

#### ARCHITECT:

RMG - ROCKY MOUNTAIN GROUP  
KEITH MOORE  
19375 BEACON LITE RD.  
MONUMENT, CO 80907  
719-548-0600

#### M/E/P ENGINEER:

MCSHEA CONSULTING, LLC  
MICHAEL MCSHEA  
MIKE@MCSHEACONSULTING.COM  
719-358-8208

### RESTORATION NOTES:

- FURTHER DETAIL AND NOTES PROVIDED IN THE DRAINAGE CRITERIA MANUAL VOLUME III, CHAPTER 14.
- SEE SEED MIX TABLES 14-9 THROUGH 14-14 FOR GIVEN GEOGRAPHIC AND GEOLOGIC CONDITIONS IN THE DRAINAGE CRITERIA MANUAL VOLUME III, CHAPTER 14.
- UNLINED DRAINAGE FACILITIES AND AREAS DISTURBED DURING CONSTRUCTION SHOULD BE ACTIVELY REVEGETATED. SEED MIXES SHOULD BE SELECTED TO MATCH THE CONDITIONS WHERE THEY WILL BE USED. RECOMMENDED SEED MIXES FOR THE BOTTOM (WET SOILS) AND SIDE SLOPES OF DRAINAGE FACILITIES ARE INCLUDED IN TABLES 14-9 AND 14-10, RESPECTIVELY. SEED MIXES FOR ALKALI SOILS AND ALL OTHER SOIL CONDITIONS IN UPLAND AREAS ARE PROVIDED IN TABLES 14-11 AND 14-12, RESPECTIVELY. WILDFLOWER MIXES ARE PROVIDED IN TABLE 14-13. THE SEEDING RATES IN THESE MIXES ARE RECOMMENDED MINIMUM RATES FOR DRILL SEEDING. THESE RATES SHOULD BE DOUBLED FOR BROADCAST SEEDING AND HYPO-SEEDING IN SMALL AREAS OR STEEP CONDITIONS WITH SLOPES GREATER THAN 3H:1V.

THE RECOMMENDED SEED MIXES ARE SUITABLE FOR THE COLORADO FRONT RANGE FOR SITES FROM 4,500 TO 7,000 FT IN ELEVATION. APPLICATIONS OUTSIDE THESE RANGES SHOULD BE MADE AFTER CONSULTATION WITH A QUALIFIED REVEGETATION SPECIALIST. FALL IS THE PREFERRED TIME FOR NON-IRRIGATED SEEDING. LATE SUMMER SEEDBED PREPARATION FOLLOWED BY INSTALLATION OF THE SEED IN THE FALL (OCTOBER) ALLOWS WINTER MONTHS FOR ADDITIONAL FIRING OF THE SEEDBED BEFORE SPRING AND GERMINATION. FALL SEEDING BENEFITS FROM WINTER, SPRING MOISTURE, AND USUALLY ASSURES MAXIMUM SOIL MOISTURE AVAILABILITY FOR ESTABLISHMENT.

LATE WINTER TO EARLY SPRING (FEBRUARY TO EARLY APRIL) IS TYPICALLY THE NEXT MOST FAVORABLE TIME PERIOD FOR SEEDING. WINTER AND EARLY SPRING SEEDING SHOULD NOT BE CONDUCTED IF THE SOIL IS FROZEN, SNOW COVERED, OR WET (MUDDY). WHILE OF GREATER RISK, SPRING SEEDING (MID-APRIL INTO EARLY JUNE) CAN BE SUCCESSFUL, ESPECIALLY DURING MOIST YEARS. MID- TO LATE SUMMER SEEDING CAN BE SUCCESSFUL WITH ADEQUATE PRECIPITATION CHAPTER 14 REVEGETATION MAY 2014 CITY OF COLORADO SPRINGS 14-21 DRAINAGE CRITERIA MANUAL, VOLUME 1 OR IRRIGATION TO WET AND SETTLE THE SEED BED. FIRING OF THE SEEDBED FOLLOWING SEEDING WILL IMPROVE RESULTS DURING DRY OR WARM SEEDING TIMES.

- CONTRACTOR SHALL BE FAMILIAR WITH THE CUT/FILL OF THE PROPOSED CONDITIONS IN ORDER TO MINIMIZE STOCKPILING OF EXCAVATED DIRT.

### BATCH PLANT STATEMENT:

NO BATCH PLANTS ARE TO BE USED ON SITE

### FEMA FLOODPLAIN STATEMENT:

THE FLOOD INSURANCE RATE MAP (FIRM) PANEL NO. 08041C0551G DATED DECEMBER 7, 2018, HAS BEEN EXAMINED AS IT RELATES TO THE PROPERTY BEING PLATTED. THE PROPERTY LIES WITHIN ZONE X, AREA OF MINIMAL FLOOD HAZARD

### 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 VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, 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.

JOSHUA PALMER, PE COUNTY ENGINEER/ECM ADMINISTRATOR DATE

### OWNER'S STATEMENT:

I, THE OWNER/DEVELOPER, HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

JOHN WOHLRABE, PRESIDENT  
FOUNDATION LUTHERAN CHURCH  
9960 TOWNERS AVE  
FALCON, COLORADO

### ENGINEER'S STATEMENT:

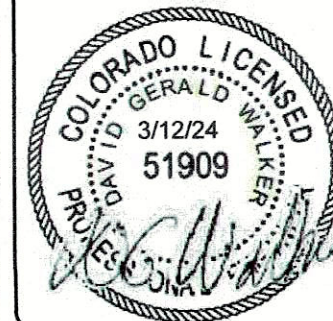
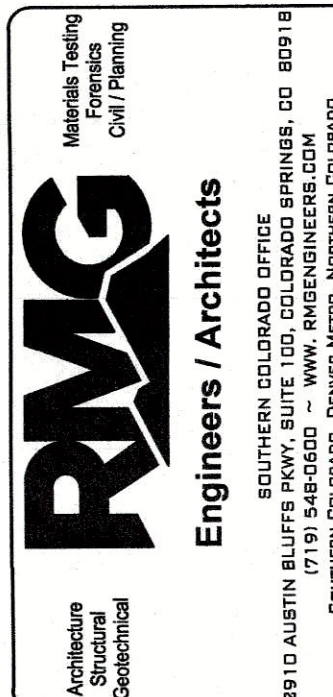
THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY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

DAVID WALKER, P.E. #51909 DATE 2/7/2024

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
01	GEC COVER
02	INITIAL EROSION CONTROL PLAN
03	INTERIM EROSION CONTROL PLAN
04	FINAL EROSION CONTROL PLAN
05	CUT AND FILL PLAN
06	GRADING PLAN NORTH
07	GRADING PLAN SOUTH
08	PROPOSED RESTRIPING PLAN
09	GEC DETAILS & SB ENLARGED PLAN
10	GEC DETAILS
11	GEC DETAILS
12	GEC DETAILS

### CAUTION - NOTICE TO CONTRACTORS:

- ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND ARE TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
- WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POT-HOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL OBTAIN THE LATEST CAD FILE OF THE SITE IMPROVEMENTS FROM THE ENGINEER OF RECORD FOR HORIZONTAL AND VERTICAL SURVEY CONTROL PRIOR TO CONSTRUCTION. CONTRACTOR TO VERIFY WITH ENGINEER OF RECORD ANY DISCREPANCIES BETWEEN CAD FILES AND CONSTRUCTION PLANS PRIOR TO INSTALLATION OF PLAN IMPROVEMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT DRAWINGS AS REQUIRED FOR ACCEPTANCE OF WORK FROM ANY GOVERNING AGENCY.



FOUNDATION LUTHERAN CHURCH  
9960 TOWNERS AVE  
FALCON, COLORADO

COLORADO COMMERCIAL CONSTRUCTION, INC.  
1100 S. WILSON ST., SUITE 100, DENVER, CO 80202

SHEET NAME  
GEC COVER

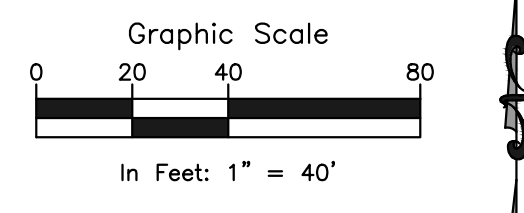
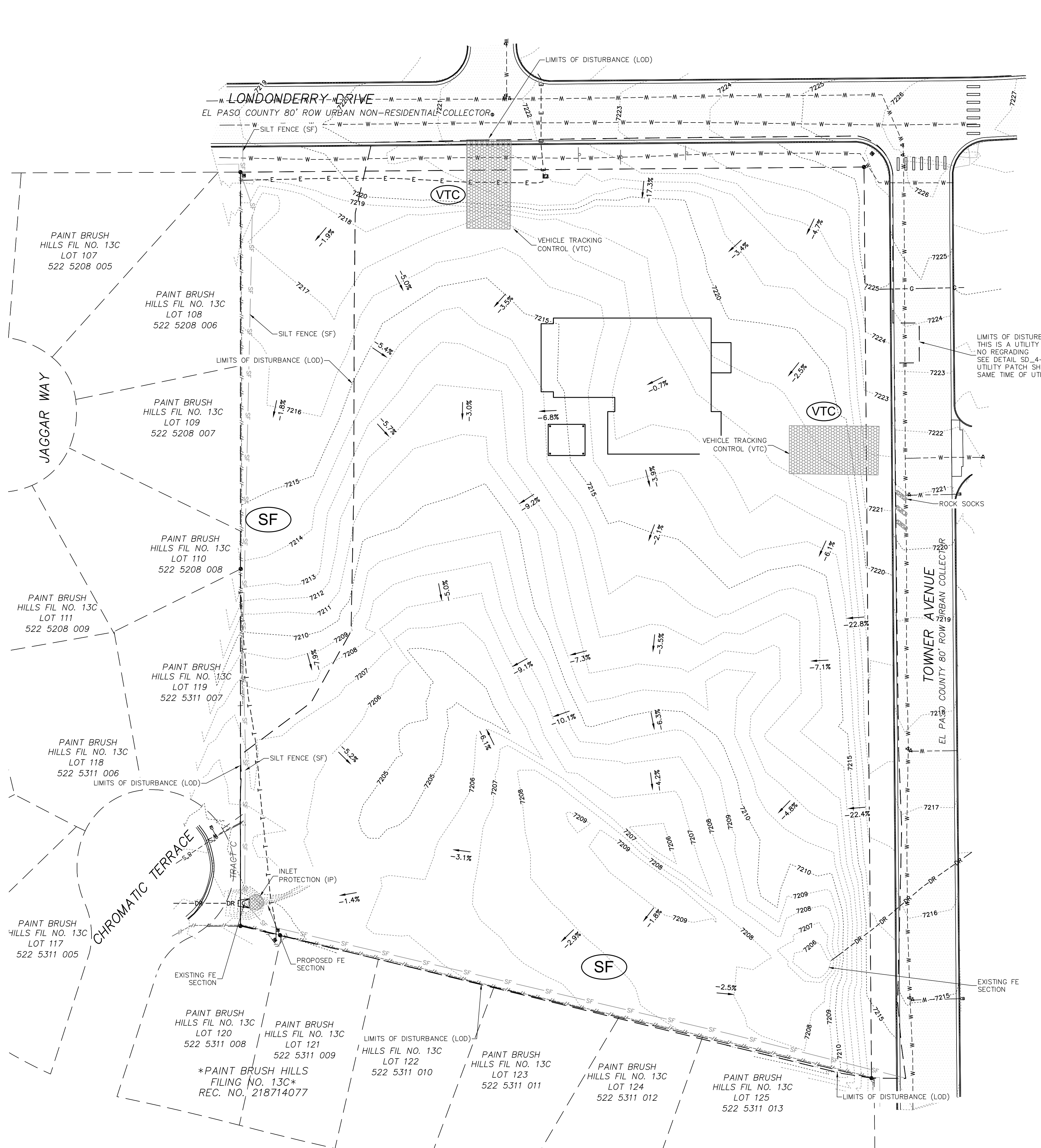
PROJECT STATUS  
CONSTRUCTION DOCUMENTS

ENG:	DSW	
DRAWN:	AMH	
CHECKED:	TPT	
DATE:	3/12/24	
#	REVISION	DATE
JOB NO.:	191726	
SHEET NO.:	01	of 12

PCD FILE NO. PPR2321



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### LEGEND

	PROPERTY LINE
	EASEMENT LINE
	SETBACK LINE
	LIMITS OF DISTURBANCE / CONSTRUCTION
	PROPERTY CORNER/MONUMENT, BENCHMARK OR TEMPORARY BENCHMARK
	SHEET FLOW/DRAINAGE DIRECTION
	PROPOSED MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	SPOT ELEVATION
	LIMITS OF DISTURBANCE LINE
	EXISTING UNDERGROUND ELECTRIC
	EXISTING WATER MAIN
	EXISTING STORM DRAIN
	EXISTING FENCE

### SITE HATCHING

	PROP. ASPHALT PAVEMENT		PROP. RETAINING WALL
	PROP. CONCRETE PAVEMENT		EX. CONCRETE PAVEMENT
	PROP. STRUCTURE/BUILDING		EX. STRUCTURE/BUILDING

### EROSION CONTROL LEGEND

	VTC	VEHICLE TRACKING CONTROL
	SSA	STABILIZED STAGING AREA (INITIAL)
	CWA	CONCRETE WASHOUT AREA
	SF	SILT FENCE
	PS	PERMANENT SEEDING & MULCHING
	ECB	EROSION CONTROL BLANKET
	RS	ROCK SOCKS
	SP	STOCKPILE AREA PROTECTION (INTERNAL)

**GENERAL NOTES:**

- ANTICIPATED START: BEGINNING OF AUGUST 2023; COMPLETION TIME PERIOD OF SITE GRADING: 3-4 WEEKS.
- EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED: MARCH 2024.
- TOTAL AREA TO BE CLEARED, EXCAVATED, OR GRADED: 225,205 SF (5.17 AC. MAX.)
- RECEIVING WATERS: FALCON DRAINAGE BASIN
- SOILS INFORMATION: USDA CLASSIFIED AS PRING COARSE SANDY LOAMS, HYDROLOGIC SOIL GROUP B.
- FULL SPECTRUM DETENTION IS PROVIDED OFF-SITE AT DETENTION FACILITY #1 WHICH IS OWNED AND MAINTAINED BY PAINT BRUSH HILLS METRO DISTRICT.
- EXISTING VEGETATION IS AN OPEN FIELD W/ GRASSES

**SURVEY NOTES:**

- THE PROPERTY WAS SURVEYED ON THE GROUND DECEMBER 14-16, 2020, AND WAS FOUND TO BE MONUMENTED AS SHOWN HEREON. THE LINEAL UNITS USED IN THIS SURVEY IS THE U.S. SURVEY FOOT. THE TOPOGRAPHIC SURVEY DATA SHOWN IS THE RESULT OF AN ON THE GROUND SURVEY OF THE TOPOGRAPHIC FEATURES OF THE SUBJECT PROPERTY. THE CONTOUR INTERVAL IS ONE FOOT. THE BENCHMARK IS THE SOUTHWEST CORNER OF SECTION 25, A 3 1/4" ALUMINUM CAP. ELEVATION = 7136.34, NGVD 1929.
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**RMG**  
 Architects  
 Structural  
 Geotechnical  
 Engineers / Architects  
 SOUTHERN COLORADO OFFICE  
 2910 AUSTIN BLUFFS PKWY., SUITE 100, COLORADO SPRINGS, CO 80918  
 SOUTHERN COLORADO, DENVER, KANSAS, NORTHERN COLORADO

COLORADO LICENSED PROFESSIONAL ENGINEER  
 3/01/24  
 51909

**FOUNDATION LUTHERAN CHURCH**  
 9960 TOWNERS AVE  
 FALCON, COLORADO

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SHEET NAME		INITIAL EROSION CONTROL PLAN	
PROJECT STATUS		CONSTRUCTION DOCUMENTS	
ENG:	DOG	DATE	3/1/24
DRAWN:	AMB		
CHECKED:	TPT		
#	REVISION	DATE	
JOB NO.	191726		
SHEET NO.	02 of 12		







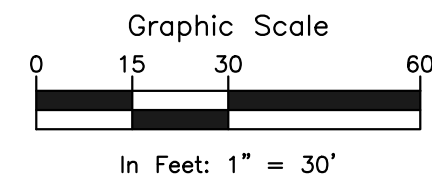
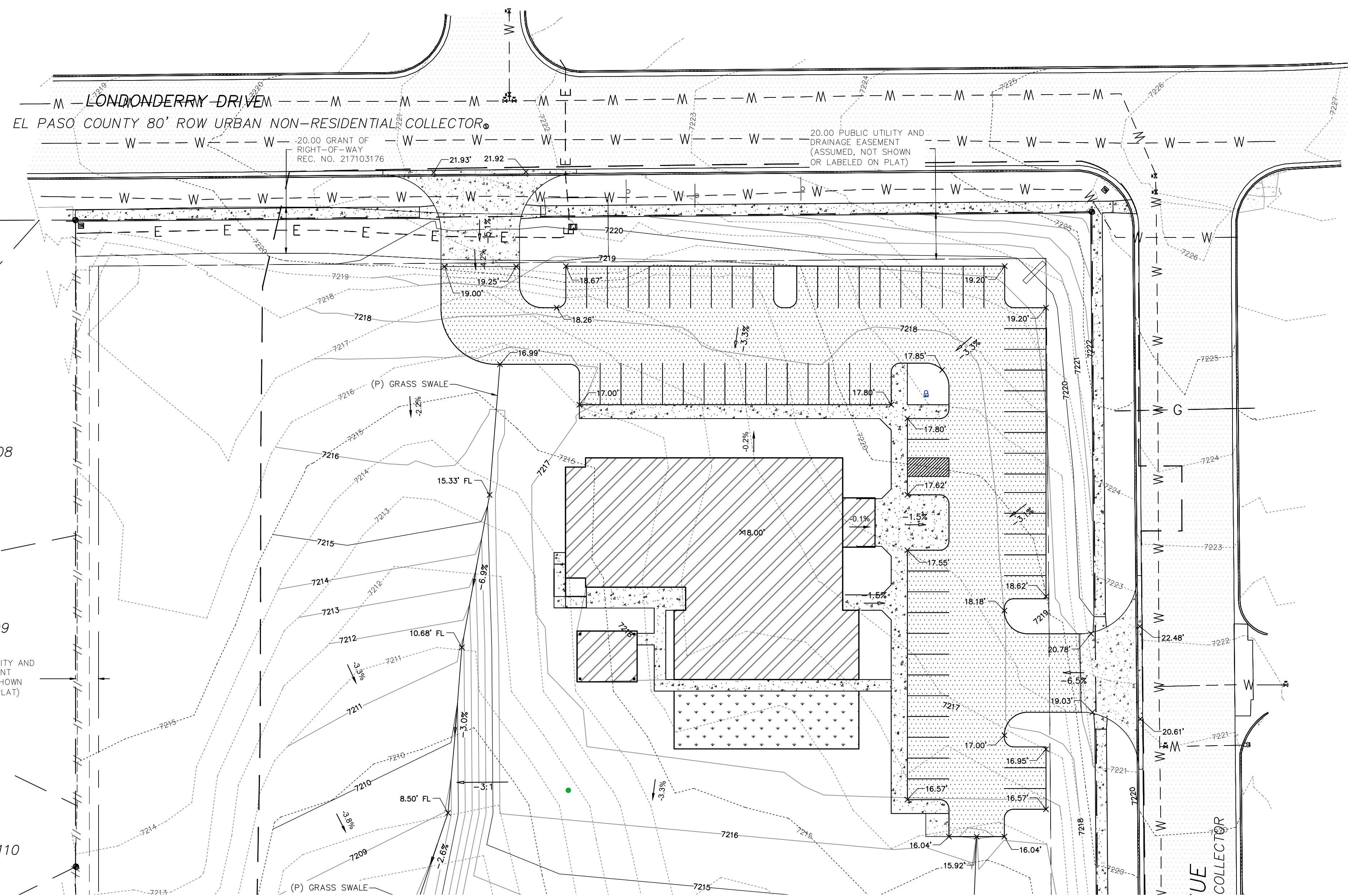








LAST SAVED: 3/1/2024 3:51:10 PM. PATH: \\local.rmg-engineers.com\B\Site\Projects\Site\_Special\2024\Colorado Commercial Construction, Inc.-122826907\Tower Ave 151726\Civil\Drawings\Final\RMG\SEC1\1726\_Urban Church-Grading-Plan.dwg



NOTES:

- NO CLEARING, GRADING, EXCAVATION, OR OTHER LAND DISTURBING ACTIVITIES SHALL BE ALLOWED (EXCEPT FOR WORK DIRECTLY RELATED TO THE INSTALLATION OF INITIAL CONTROL MEASURES) UNTIL A CITY GEC PERMIT HAS BEEN ISSUED.
- ALL LAND DISTURBING ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH AND THE APPROVED GEC PLAN AND CSWMP.
- INITIAL CONTROL MEASURES SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY LAND DISTURBANCE ACTIVITIES TAKING PLACE. AN INITIAL SITE INSPECTION WILL NOT BE SCHEDULED UNTIL A CITY GEC PERMIT HAS BEEN "CONDITIONALLY APPROVED". CALL CITY STORMWATER INSPECTIONS, 385-5980, AT LEAST 48 HOURS PRIOR TO CONSTRUCTION TO SCHEDULE AN INITIAL INSPECTION AND OBTAIN FULL PERMIT APPROVAL.
- INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS) AND THE "CLEAN WATER ACT" (33 USC 1344), INCLUDING REGULATIONS PROMULGATED AND CERTIFICATIONS OR PERMITS ISSUED, IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE CITY'S MS4 PERMIT, STORMWATER CONSTRUCTION MANUAL, IN THE EVENT OF CONFLICTS BETWEEN THESE, REQUIREMENTS AND WATER QUALITY CONTROL LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL OR STATE AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS.
- ALL CONSTRUCTION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION MEASURES ARE IMPLEMENTED. TEMPORARY CONSTRUCTION CONTROL MEASURES MUST BE REMOVED PRIOR TO PERMIT CLOSEOUT.
- CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS OR ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
- BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONSTRUCTION CONTROL MEASURES MAY BE REQUIRED BY THE GEC INSPECTOR IF DEEMED NECESSARY BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES (E.G., ESTIMATED TIME OF EXPOSURE, SEASON OF THE YEAR, ETC.).
- ALL WASTES COMPOSED OF BUILDING MATERIALS MUST BE REMOVED FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- THE PERMITEE SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AS A RESULT OF CONSTRUCTION ACTIVITIES.
- 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. MATERIALS SHALL NOT BE STORED IN A LOCATION WHERE THEY MAY BE CARRIED BY STORMWATER RUNOFF INTO THE STORM SEWER SYSTEM AT ANY TIME.
- SPILL PREVENTION AND CONTAINMENT MEASURES SHALL BE USED AT ALL STORAGE, EQUIPMENT FUELING, AND EQUIPMENT SERVICING AREAS SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITY. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS CONTAINMENT OR EQUIVALENT ADEQUATE PROTECTION. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.
- SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF SIZE OF THE SITE, SHALL BE CLEANED AS SOON AS POSSIBLE AFTER DISCOVERY.
- NO CHEMICALS ARE TO BE ADDED TO THE DISCHARGE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED AREA SHALL BE COMPLETED WITHIN FOURTEEN (14) CALENDAR DAYS AFTER FINAL GRADING OR FINAL LAND DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN FOURTEEN (14) DAYS SHALL BE ROUGHENED, MULCHED, TACKIFIED, OR STABILIZED WITH TARPS WITHIN FOURTEEN (14) DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN SIXTY (60) DAYS SHALL ALSO BE SEEDING, UNLESS AN ALTERNATIVE STABILIZATION MEASURE IS ACCEPTED AT THE INSPECTOR'S DISCRETION. ALL TEMPORARY CONSTRUCTION CONTROL MEASURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION IS ACHIEVED.
- THE GEC PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE STORMWATER ENTERPRISE SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN TWELVE (12) MONTHS OF THE CITY'S ACCEPTANCE OF THE PLAN, THE CONSTRUCTION SITE IS IDLE FOR TWELVE (12) CONSECUTIVE MONTHS, A CHANGE IN PROPERTY OWNERSHIP OCCURS, THE PLANNED DEVELOPMENT CHANGES, OR ANY OTHER MAJOR MODIFICATIONS ARE PROPOSED AS DEFINED IN THE STORMWATER CONSTRUCTION MANUAL.
- IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH OF THE EARTH ON ANY UTILITY EASEMENT OR UTILITY RIGHT-OF-WAY WITHOUT WRITTEN APPROVAL FROM THE UTILITY OWNER. CITY ACCEPTANCE OF THE GEC PLAN AND CSWMP DOES NOT SATISFY THIS REQUIREMENT. 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 TO PROTECT EXISTING UTILITIES OR TO PROVIDE INTERIM ACCESS SHALL BE AT THE APPLICANT'S EXPENSE.
- APPLICANT REPRESENTS AND WARRANTS THAT THEY HAVE THE LEGAL AUTHORITY TO GRADE AND/OR CONSTRUCT IMPROVEMENTS ON ADJACENT PROPERTY. THE CITY HAS NOT REVIEWED THE DEVELOPER'S AUTHORITY TO MODIFY ADJACENT PROPERTY. AN APPROVED GEC PERMIT DOES NOT PROVIDE APPROVAL FOR THE APPLICANT TO PERFORM WORK ON ADJACENT PROPERTY.
- ALL UTILITY INSTALLATIONS WITHIN THE LIMITS OF DISTURBANCE SHOWN ON THIS PLAN ARE COVERED UNDER THIS PLAN. LOCATIONS OF UTILITIES WITHIN THE LIMITS OF DISTURBANCE MAY BE MODIFIED AFTER PLAN APPROVAL AS A FIELD CHANGE. UTILITY INSTALLATIONS RELATED TO THE PRIVATE DEVELOPMENT THAT EXTEND BEYOND THE LIMITS OF DISTURBANCE SHOWN ON THIS PLAN ARE CONSIDERED TO BE PART OF THE LARGER DEVELOPMENT, AND THEREFORE REQUIRE A PLAN MODIFICATION OR SEPARATE PLAN FOR THE ADDITIONAL DISTURBANCE AREA.
- ALL STORM DRAIN PIPE WILL BE PRIVATE ON THE PROPERTY AND PUBLIC IN THE RIGHT OF WAY.

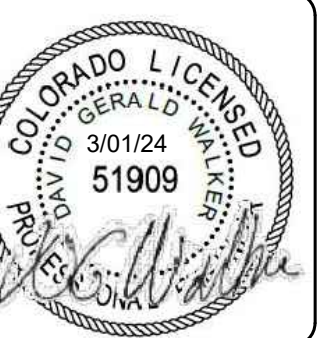
GENERAL NOTES:

- ANTICIPATED START: BEGINNING OF AUGUST 2023; COMPLETION TIME PERIOD OF SITE GRADING: 3-4 WEEKS.
- EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED: MARCH 2024.
- TOTAL AREA TO BE CLEARED, EXCAVATED, OR GRADED: 284,661 SF (6.53 AC.)
- RECEIVING WATERS: FALCON DRAINAGE BASIN
- SOILS INFORMATION: USDA CLASSIFIED AS PRING COARSE SANDY LOAMS, HYDROLOGIC SOIL GROUP B.
- FULL SPECTRUM DETENTION IS PROVIDED OFF-SITE AT DETENTION FACILITY B1 WHICH IS OWNED AND MAINTAINED BY PAINT BRUSH HILLS METRO DISTRICT.

SURVEY NOTES:

- THE PROPERTY WAS SURVEYED ON THE GROUND DECEMBER 14-16, 2020, AND WAS FOUND TO BE MONUMENTED AS SHOWN HEREON. THE LINEAL UNITS USED IN THIS SURVEY IS THE U.S. SURVEY FOOT. THE TOPOGRAPHIC SURVEY DATA SHOWN IS THE RESULT OF AN ON THE GROUND SURVEY OF THE TOPOGRAPHIC FEATURES OF THE SUBJECT PROPERTY. THE CONTOUR INTERVAL IS ONE FOOT. THE BENCHMARK IS THE SOUTHWEST CORNER OF SECTION 25, A 3 1/4" ALUMINUM CAP, ELEVATION - 7136.34, NGVD 1929.
- THE BASIS OF BEARINGS IS THE WEST LINE OF TRACT C AS SHOWN ON THE PLAT OF "PAINT BRUSH HILLS FILING NO. 134" UNDER RECEPTION NO. 213713413 OF THE RECORDS OF EL PASO COUNTY, COLORADO. SAID LINE IS ASSUME TO BEAR N00°00'00"E A DISTANCE OF 531.92 FEET.


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 301/24 51909

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**COLORADO COMMERCIAL CONSTRUCTION, INC.**  
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SHEET NAME: **GRADING PLAN NORTH**  
 PROJECT STATUS: **CONSTRUCTION DOCUMENTS**  
 ENG: DGW  
 DRAWN: AMH  
 CHECKED: TPT  
 DATE: 3/1/24  
 # REVISION DATE  
 JOB NO.: 191726  
 SHEET NO.: 06 of 12

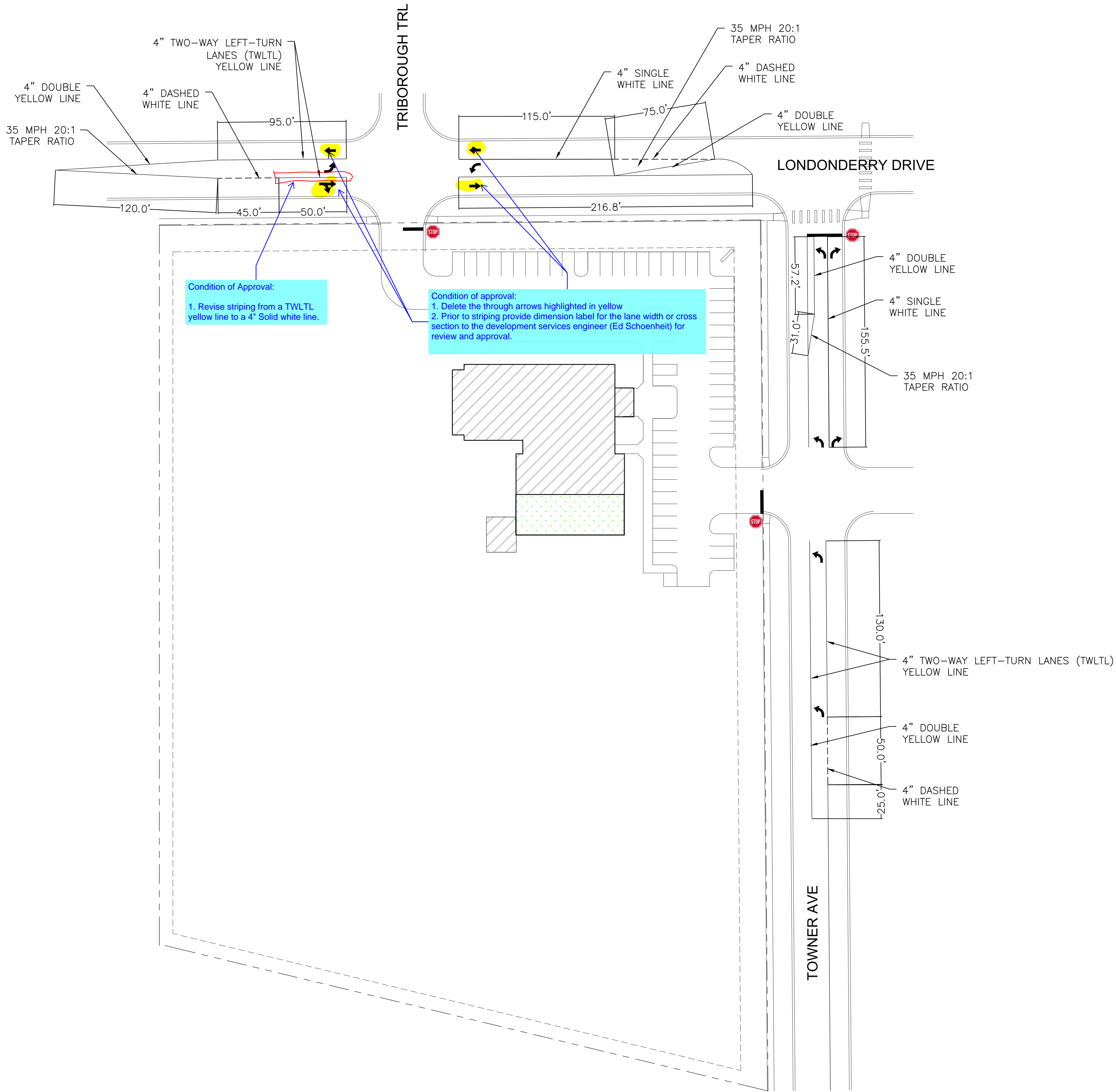




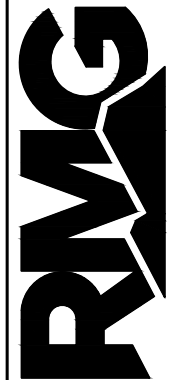


**SIGNING AND STRIPING NOTES:**

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
3. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT.
4. ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.
5. STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
6. ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
7. ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 35 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 12" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS". SIGNAL POLE MOUNTED AND OVERHEAD STREET NAME SIGNS SHALL BE PER MUTCD SIZE STANDARDS.
8. ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
9. ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
10. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
11. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 24" WIDE AND A MINIMUM OF 9' LONG.
12. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE.
13. ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
14. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
15. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.



LAST SAVED: 3/1/2024 12:58:21 PM, PATH: \\sawling-engineers.com\FS1\Tech\Projects\Site Specific\2024a-CO\Colorado Commercial Construction, Inc.-112289965-Towner Ave-191726.dwg, Drawing From: RMS\Shawling Engineers\191726 - Lubman Church-Proposed Restriping Plan.dwg


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**FOUNDATION LUTHERAN CHURCH**  
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SHEET NAME		PROPOSED RESTIPING PLAN	
PROJECT STATUS		SITE DEVELOPMENT PLAN	
ENG:	DGW	DRAWN:	TRM
CHECKED:	DGW	DATE	3/1/24
#	REVISION	DATE	
JOB NO.	191726		
SHEET NO.	08 of 12		



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**EROSION LOG DETAIL DITCH INSTALLATION**

NOTE: EROSION LOGS SHALL BE TIGHTLY ABUTTED WITH NO GAPS.

POINTS A SHALL BE HIGHER THAN POINT B

**PLAN VIEW**

**ELEVATION**

DATE APPROVED: 1/1/08  
 John A. McCarty  
 DEPARTMENT OF TRANSPORTATION

Standard Drawing  
 REVISION DATE: 7/17/07  
 FILE NAME: SD\_3-85  
 EL PASO COUNTY DEPARTMENT OF TRANSPORTATION

**SECTION A-A EROSION LOG APPLICATION**

EROSION LOGS SHOULD BE KEYS IN TO PREVENT UNDER-CUTTING

WHEN MORE THAN ONE EROSION LOG IS NEEDED, ENDS MUST BE TIGHTLY ABUTTED.

**TYPICAL STAKE INSTALLATION**

EROSION LOGS CAN ALSO BE USED ACROSS LONG SLOPES TO REDUCE EROSION AND SEDIMENT MOVEMENT

DATE APPROVED: 1/1/08  
 John A. McCarty  
 DEPARTMENT OF TRANSPORTATION

Standard Drawing  
 REVISION DATE: 7/17/07  
 FILE NAME: SD\_3-87  
 EL PASO COUNTY DEPARTMENT OF TRANSPORTATION

**EROSION PROTECTION ABOVE CULVERT OUTLETS IS SIMILAR**

**SECTION A-A**

EROSION LOGS SHOULD BE KEYS IN TO PREVENT UNDER-CUTTING

NOTE: REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE HALF OF EXPOSED LOG HEIGHT. INSPECTIONS SHALL BE PERFORMED FREQUENTLY FOR PROPER FUNCTION.

DATE APPROVED: 1/1/08  
 John A. McCarty  
 DEPARTMENT OF TRANSPORTATION

Culvert Inlet and Outlet Protection  
 Erosion Logs Above Inlets and Outlets  
 For Slopes 3:1 or Steeper  
 Standard Drawing  
 REVISION DATE: 7/17/07  
 FILE NAME: SD\_3-86  
 EL PASO COUNTY DEPARTMENT OF TRANSPORTATION

**UTILITY TRENCH REPAIR DETAIL**

SCALE: NOT TO SCALE

DATE APPROVED: 8/11/11  
 André P. Brackin  
 DEPARTMENT OF TRANSPORTATION

Standard Drawing  
 REVISION DATE: 11/10/04  
 FILE NAME: SD\_4-20  
 EL PASO COUNTY DEPARTMENT OF TRANSPORTATION

**Trapezoidal Riprap-Lined Waterway Design.xls**

Landowner: Found. Luth. Church  
 County: El Paso  
 V1.02  
 Computed By: DGW  
 Date: 2/29/2024  
 2/11/2013  
 Checked by: \_\_\_\_\_

Design flow, Q = 41 cfs  
 Slope, S = 0.05 ft/ft = 20.00 : 1  
 Bottom Width, W = 10 ft  
 Side slope, Z = 3 : 1  
 Safety factor = 1.2  
 Rock shape = Angular  
 Min. req'd D50 = 3.99 in  
 D50 used = 8.30 in  
 n = 0.041  
 Freeboard = 0.33 ft

WW horiz. Length = 10.0 ft  
 U/S WW F.L. elev = 3.0 ft  
 D/S WW F.L. elev = 2.5 ft  
 Waterway drop = 0.5 ft  
 WW length along slope = 10.0 ft

Flow depth, d = 0.64 ft  
 Critical depth, d<sub>c</sub> = 0.74 ft  
 Critical slope, S<sub>c</sub> = 0.030 ft/ft

Design slope, S = 0.0500 ft/ft  
 Velocity = 5.37 fps

Riprap thickness:  
 Minimum = 1.38 ft  
 Provided = 1.50 ft

Sideslope height:  
 Minimum = 0.97 ft  
 Provided = 1.00 ft

Quantities:  
 Riprap volume = 11.9 CY  
 Approx. weight = 16.6 Tons  
 Geotextile area = 51.7 SY\*

Spreadsheet formatting key:  
 XXX = input cells  
 X.XX = Output from "Solve" button  
 X.XX = Other computed output  
 Red text = Instructions, warnings, info

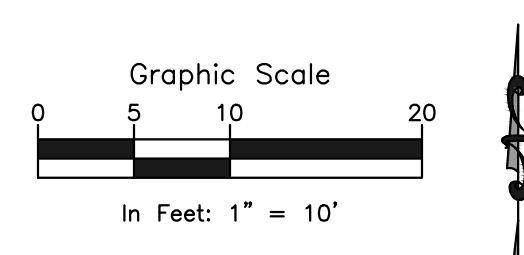
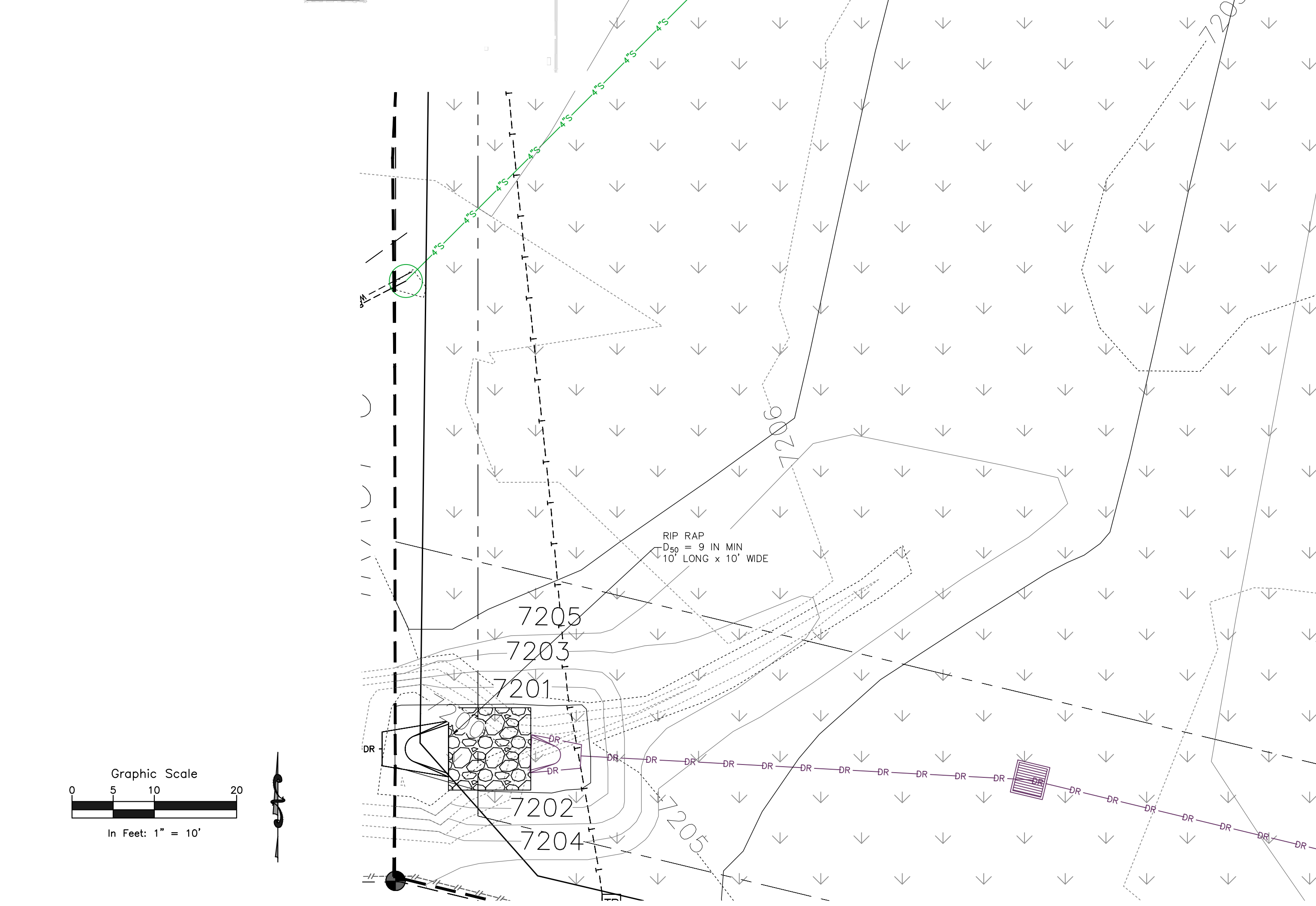
Calculated:  
 0.7S<sub>c</sub> = 0.0207 ft/ft  
 1.3S<sub>c</sub> = 0.0384 ft/ft  
 Design slope OK, Flow is Supercritical.

Rock shape = Angular  
 Est. riprap unit wt = 1.4 Tons/CY  
 Rock Gs = 2.65

%	Required riprap gradation for D50 selected		Rock weight, lb	
	min.	max.	min.	max.
100	12.5	16.6	141	333
85	10.8	14.9	92	243
50	8.3	12.5	42	141
10	6.6	10.8	21	92

Quantities:  
 Riprap volume = 11.9 CY  
 Approx. weight = 16.6 Tons  
 Geotextile area = 51.7 SY\*

\*Geotextile area includes actual covered surfaces only (no extra for laps or anchorages)



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 3/01/24  
 51909

**CONSTRUCTION DOCUMENTS**

SHEET NAME: GEC DETAILS & ENLARGED SEDIMENTATION BASIN PLAN  
 PROJECT STATUS: CONSTRUCTION DOCUMENTS

ENG: DGW  
 DRAWN: AMH  
 CHECKED: TPT  
 DATE: 3/1/24

#	REVISION	DATE

JOB NO: 191726  
 SHEET NO: 9 of 12

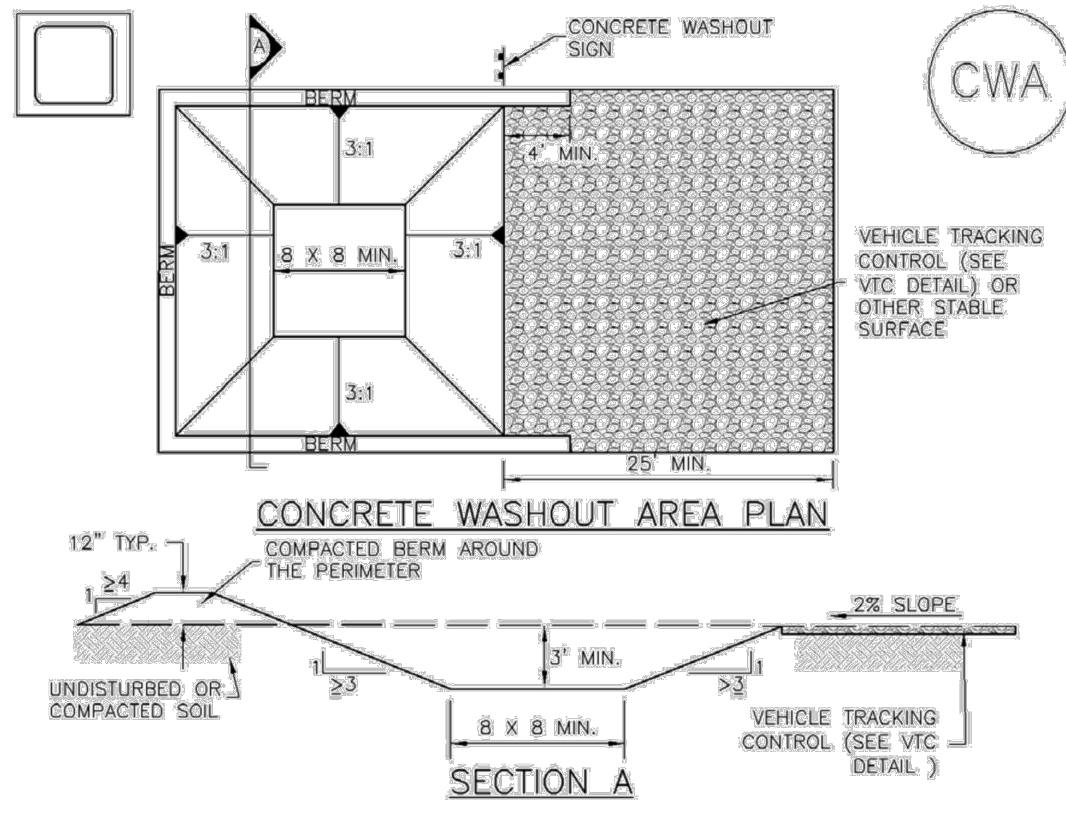
PCD FILE NO. PPR2321

**RMG Engineers / Architects**  
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 SOUTHERN COLORADO DIVISION, 1000 N. WASHINGTON, DENVER, CO 80202



**Concrete Washout Area (CWA) MM-1**



**CWA-1. CONCRETE WASHOUT AREA**

- CWA INSTALLATION NOTES**
- SEE PLAN VIEW FOR CWA INSTALLATION LOCATION.
  - 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 (1/8\"/>

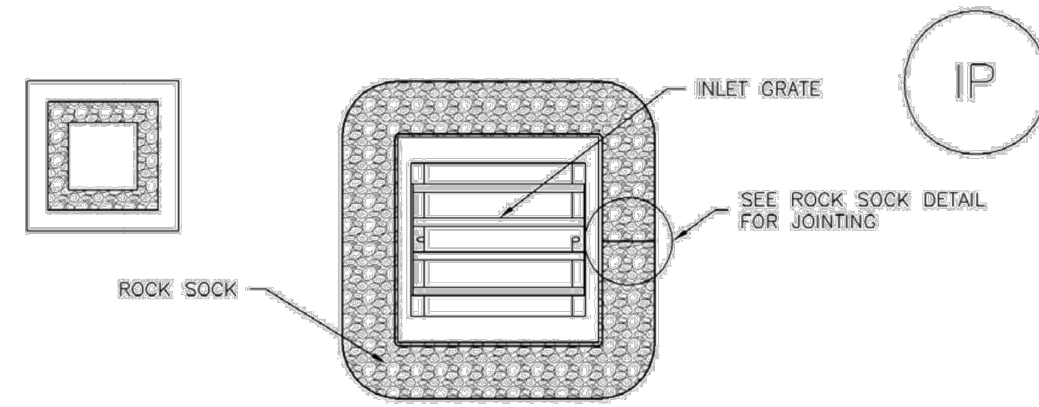
November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 CWA-3

**MM-1 Concrete Washout Area (CWA)**

- CWA 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.
  - 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\"/>

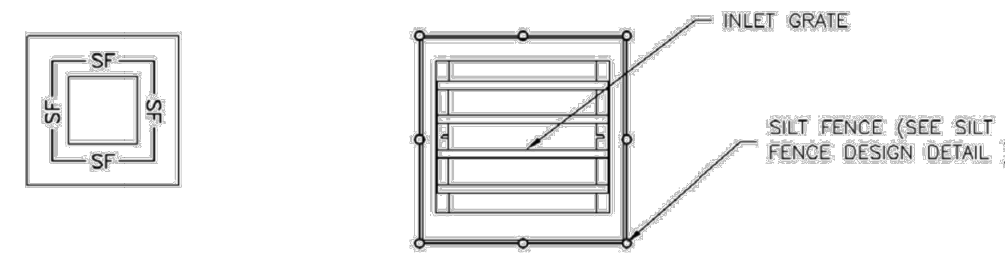
CWA-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

**Inlet Protection (IP) SC-6**



**IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION**

- ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES**
- SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
  - STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PEROUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



**IP-4. SILT FENCE FOR SUMP INLET PROTECTION**

- SILT FENCE INLET PROTECTION INSTALLATION NOTES**
- SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
  - POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
  - STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PEROUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

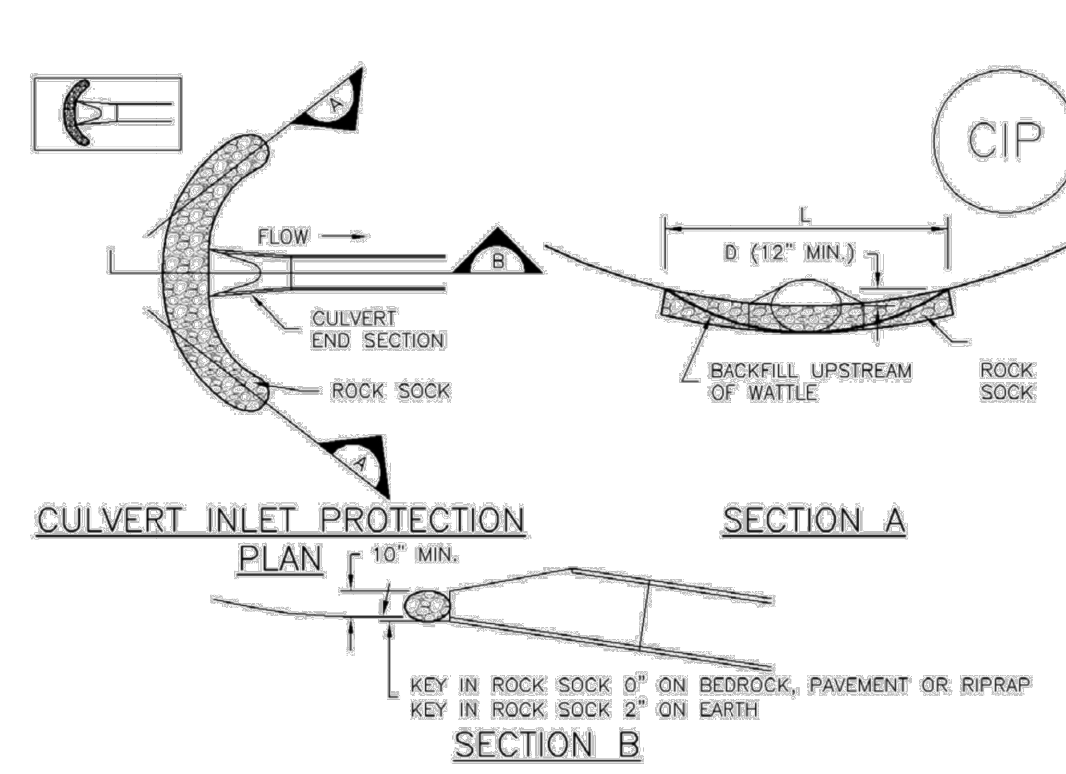
August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 IP-5

**SC-6 Inlet Protection (IP)**

- GENERAL INLET PROTECTION INSTALLATION NOTES**
- SEE PLAN VIEW FOR LOCATION OF INLET PROTECTION. TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)
  - 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.
  - 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**
- 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 INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS. TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6\"/>

IP-8 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

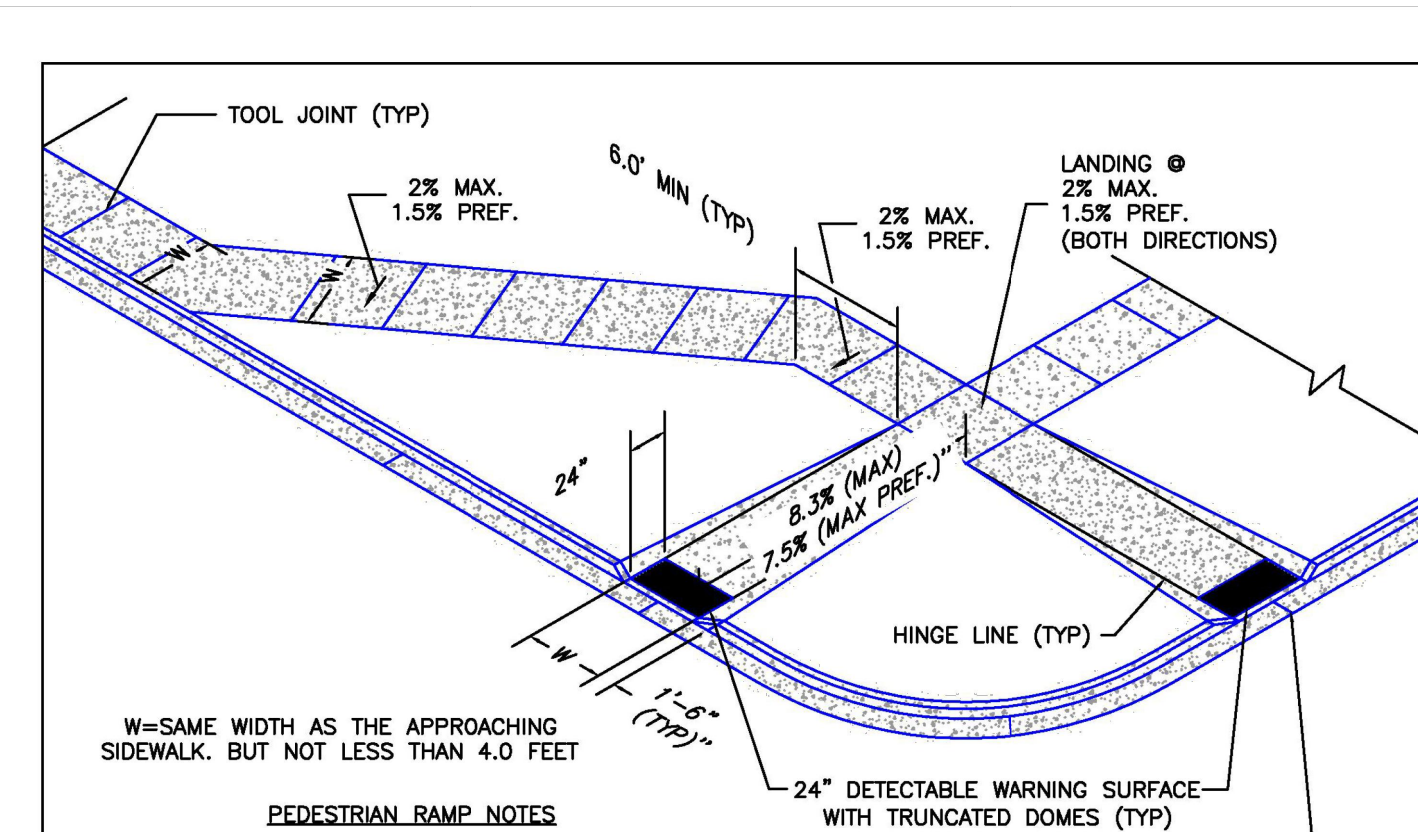
**Inlet Protection (IP) SC-6**



**CIP-1. CULVERT INLET PROTECTION**

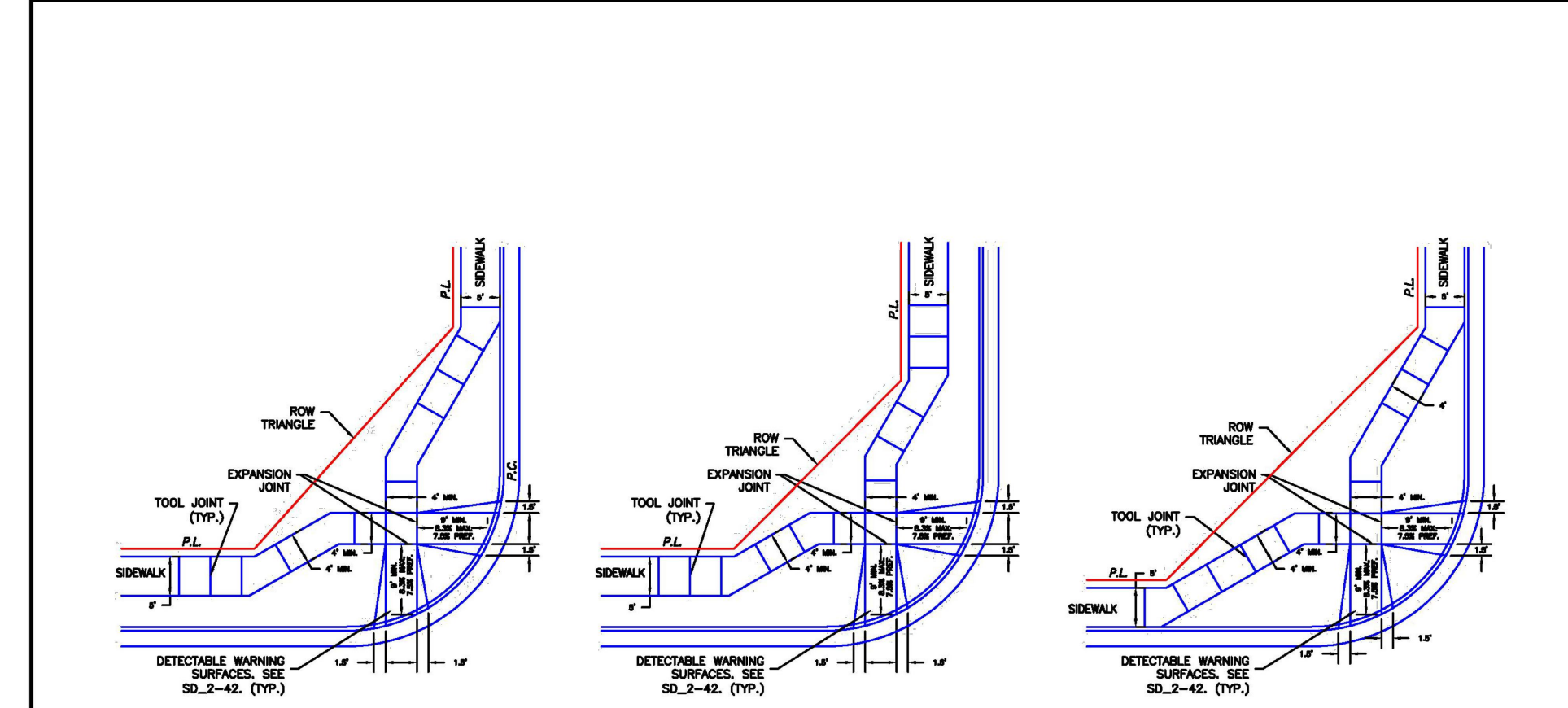
- CULVERT INLET PROTECTION INSTALLATION NOTES**
- SEE PLAN VIEW FOR LOCATION OF CULVERT INLET PROTECTION.
  - SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.
- CULVERT INLET PROTECTION MAINTENANCE NOTES**
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING 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 CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.
  - CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

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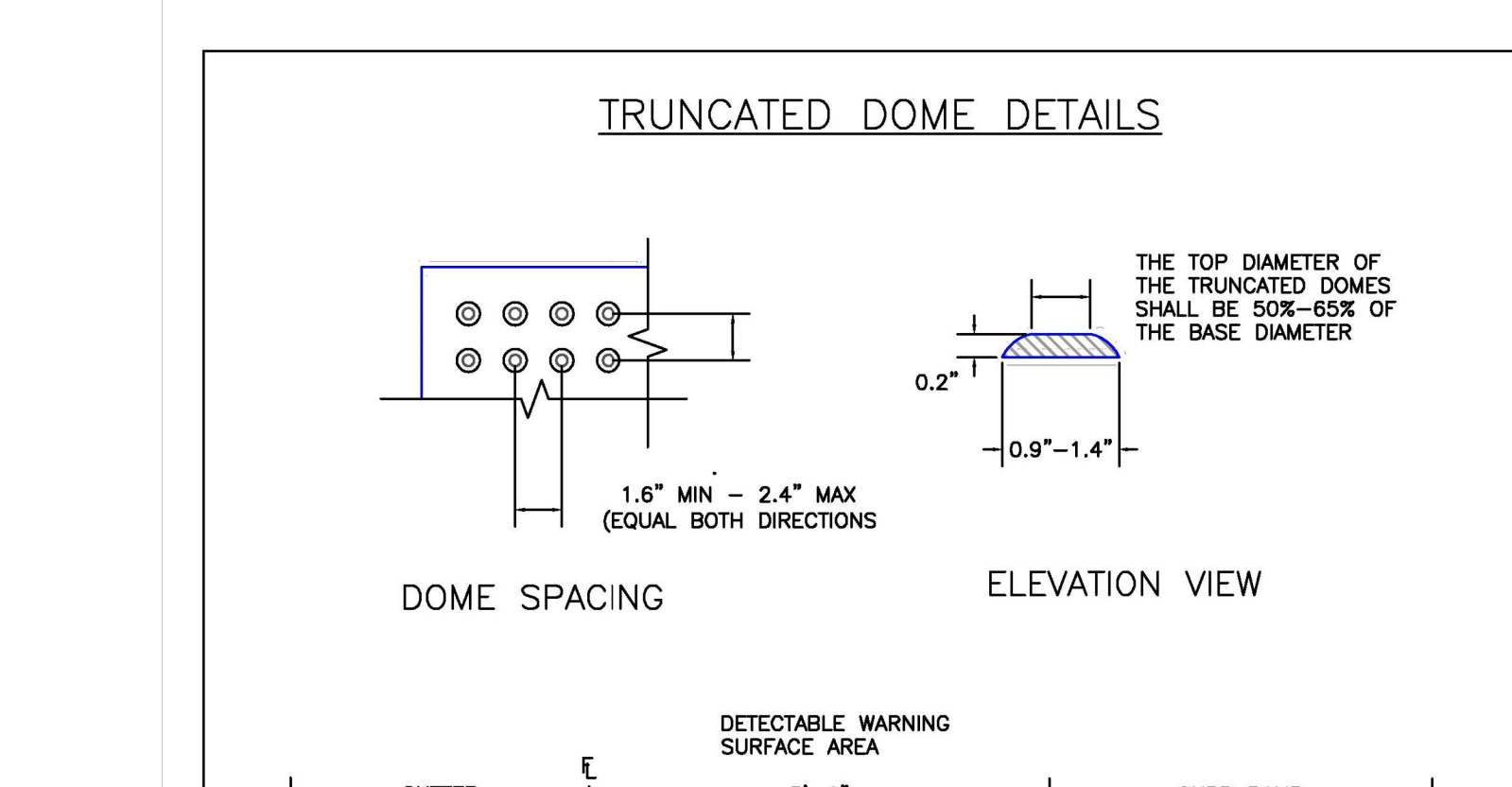
- PEDESTRIAN RAMP NOTES**
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT ENGINEERING CRITERIA MANUAL AND ADA REQUIREMENTS.
  - CONTRACTOR TO NOTIFY ENGINEERING DIVISION INSPECTION STAFF 48 HOURS PRIOR TO CONCRETE PLACEMENT.
  - PEDESTRIAN CURB RAMP CONSTRUCTION SHALL BE A MINIMUM 4,500 PSI CONCRETE, MINIMUM 4\"/>
- GENERAL NOTES**
- WHERE THE 1'-6\"/>

6/23/20 Pedestrian Curb Ramp Detail Standard Drawing DEPARTMENT OF PUBLIC WORKS Jennifer E. Irvine 6/23/20 SD\_2-41



6/23/20 Pedestrian Curb Ramp Detail Standard Drawing DEPARTMENT OF PUBLIC WORKS Jennifer E. Irvine 6/23/20 SD\_2-40

August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 IP-7



- GENERAL NOTES**
- WHERE THE 1'-6\"/>

6/23/20 Detectable Warning Surface Details Standard Drawing DEPARTMENT OF PUBLIC WORKS Jennifer E. Irvine 6/23/20 SD\_2-42

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 3/01/24 51909

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**CONSTRUCTION DOCUMENTS**

SHEET NAME: GEC DETAILS  
 PROJECT STATUS: CONSTRUCTION DOCUMENTS

ENG: DOW  
 DRAWN: AMH  
 CHECKED: TPT

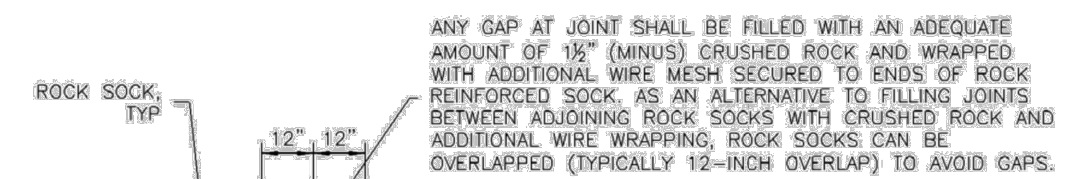
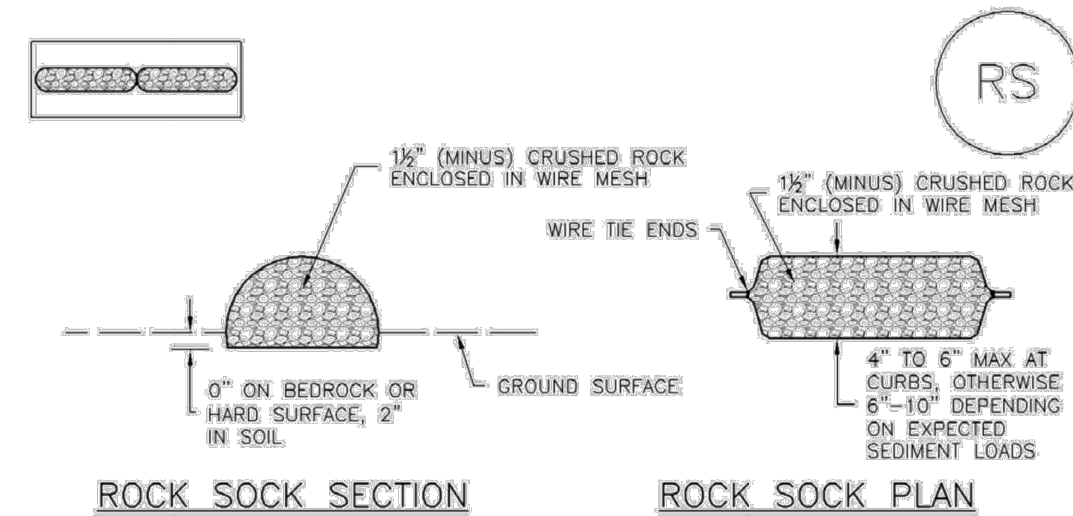
DATE: 3/1/24

# REVISION DATE

JOB NO: 191726  
 SHEET NO: 10 of 12



SC-5 Rock Sock (RS)



GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
NO. 4	
2"	100
1 1/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

- ROCK SOCK INSTALLATION NOTES**
- SEE PLAN VIEW FOR LOCATION(S) OF ROCK SOCKS.
  - CRUSHED ROCK SHALL BE 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1/2" MINUS).
  - WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48".
  - WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.
  - SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.
- RS-1. ROCK SOCK PERIMETER CONTROL**

RS-2 Urban Drainage and Flood Control District November 2010  
Urban Storm Drainage Criteria Manual Volume 3

Rock Sock (RS) SC-5

**ROCK SOCK 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 SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.
- SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE ROCK SOCK.
- ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
- WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

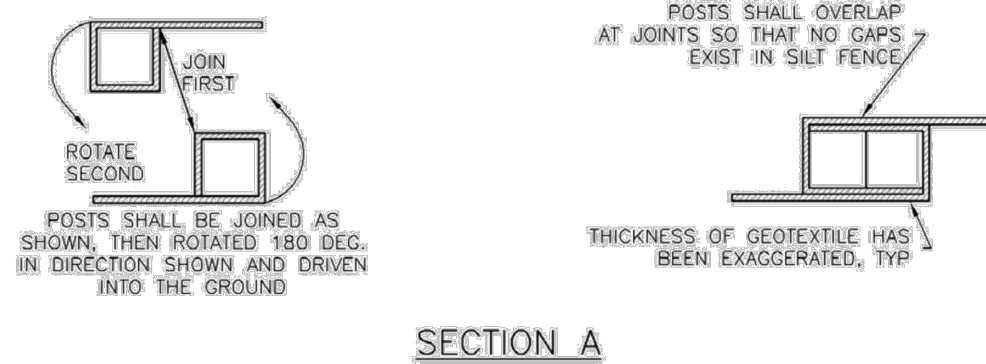
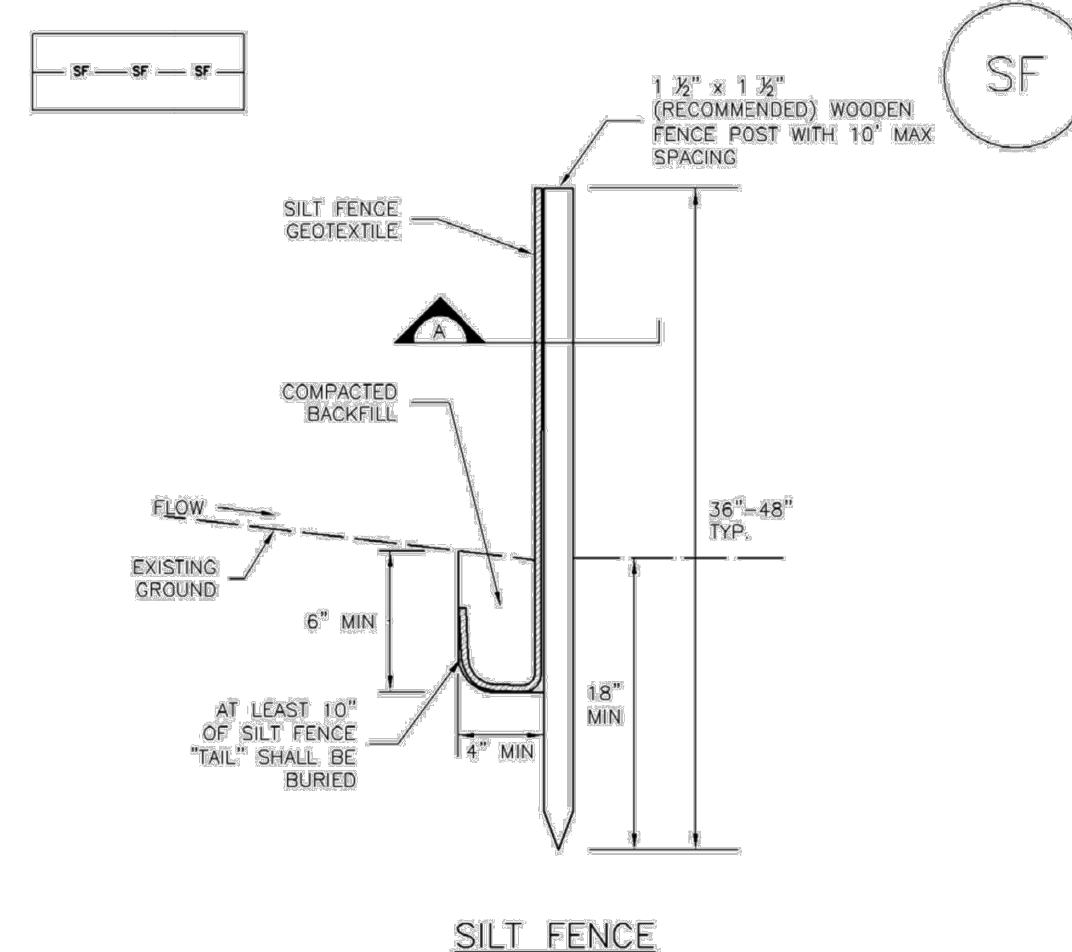
(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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 ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; 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.

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Silt Fence (SF) SC-1



SF-1. SILT FENCE

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

SM-6 Stabilized Staging Area (SSA)

**STABILIZED STAGING AREA MAINTENANCE NOTES**

- STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
  - THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.
- NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.
- 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 DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

SSA-4 Urban Drainage and Flood Control District November 2010  
Urban Storm Drainage Criteria Manual Volume 3

SC-1 Silt Fence (SF)

**SILT FENCE INSTALLATION NOTES**

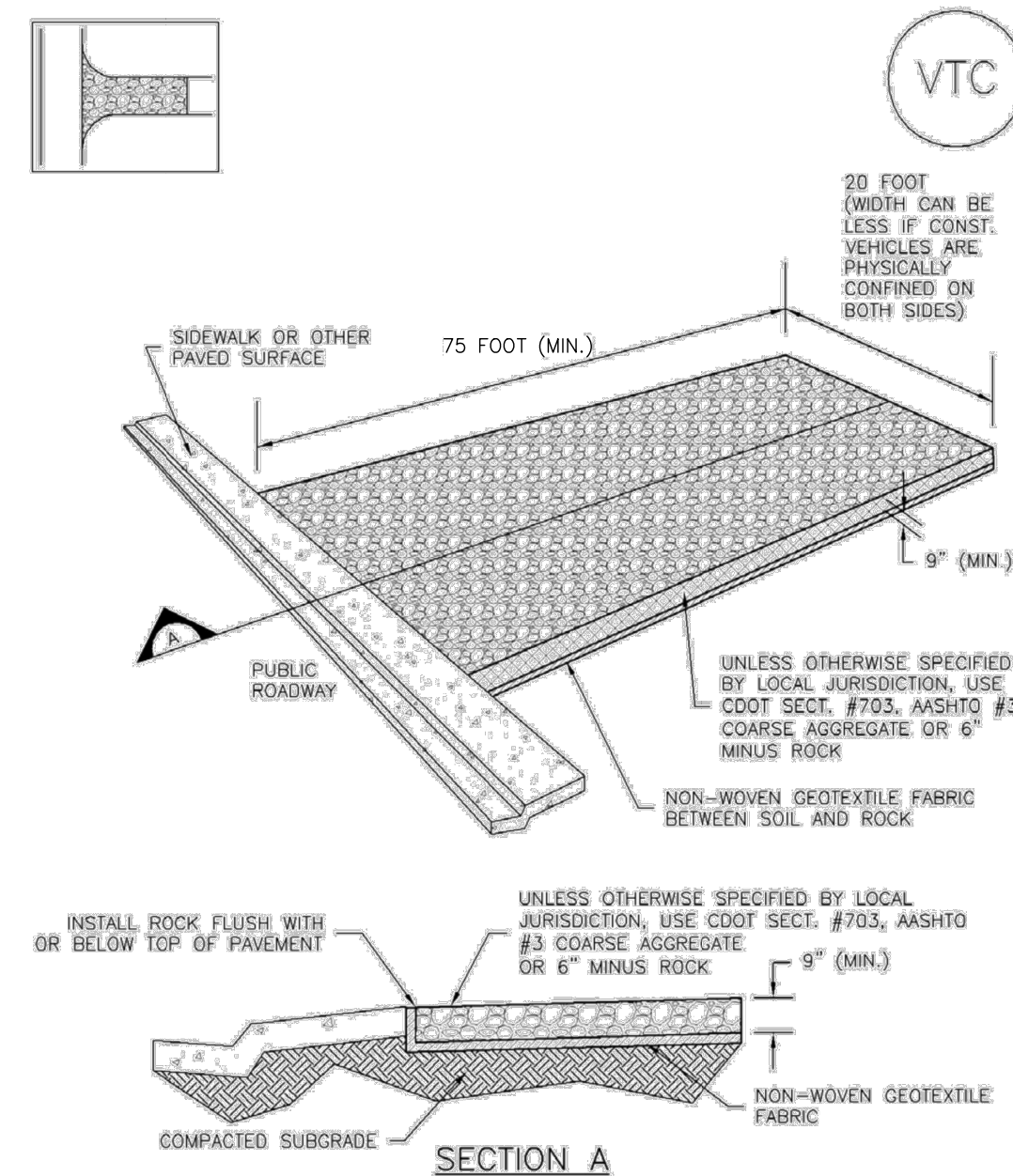
- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
- A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE 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 "U-HOOK." THE "U-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 1/2 OF THE HEIGHT OF THE ROCK SOCK.
  - 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 PERIMETER SEDIMENT CONTROL BMP.
  - WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, 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-1 Urban Drainage and Flood Control District November 2010  
Urban Storm Drainage Criteria Manual Volume 3

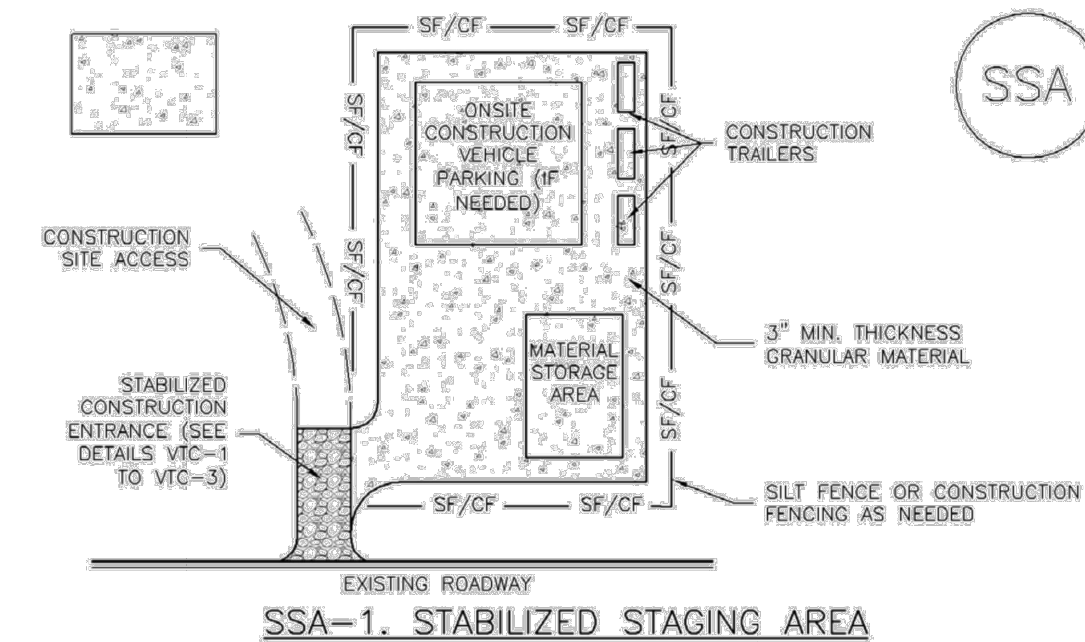
SM-4 Vehicle Tracking Control (VTC)



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

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

Stabilized Staging Area (SSA) SM-6



SSA-1. STABILIZED STAGING AREA

**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.
- 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 IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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

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)

VTC-6 Urban Drainage and Flood Control District November 2010  
Urban Storm Drainage Criteria Manual Volume 3

**Engineers / Architects**
  
 ARCHITECTURAL
   
 CIVIL / PLANNING
   
 STRUCTURAL
   
 ENVIRONMENTAL

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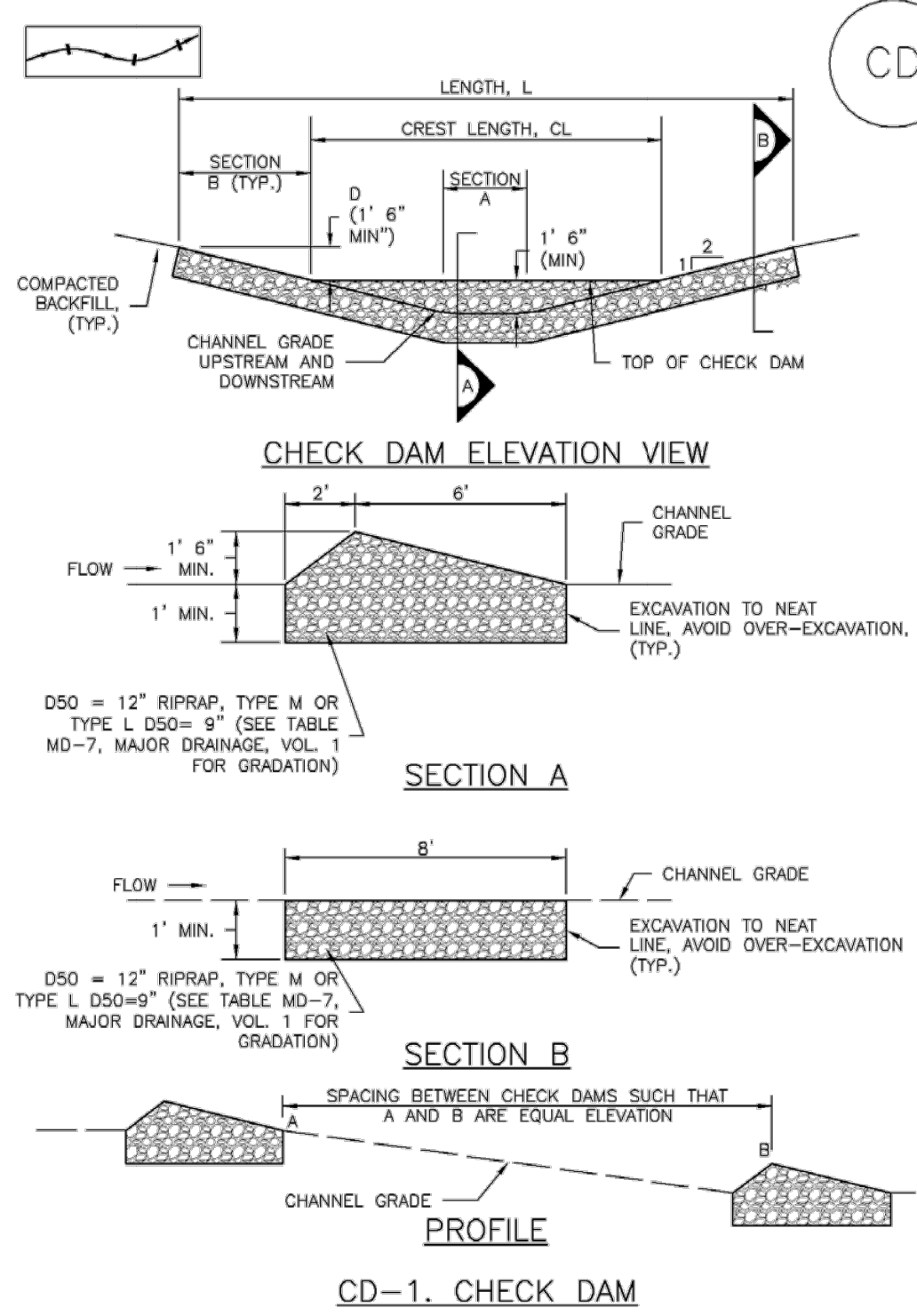
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 ENG: DOW
   
 DRAWN: AMH
   
 CHECKED: TPT
   
 DATE: 3/1/24
   
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 JOB NO: 191726
   
 SHEET NO: 11 of 12

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Check Dams (CD)

EC-12



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

Check Dams (CD)

EC-12

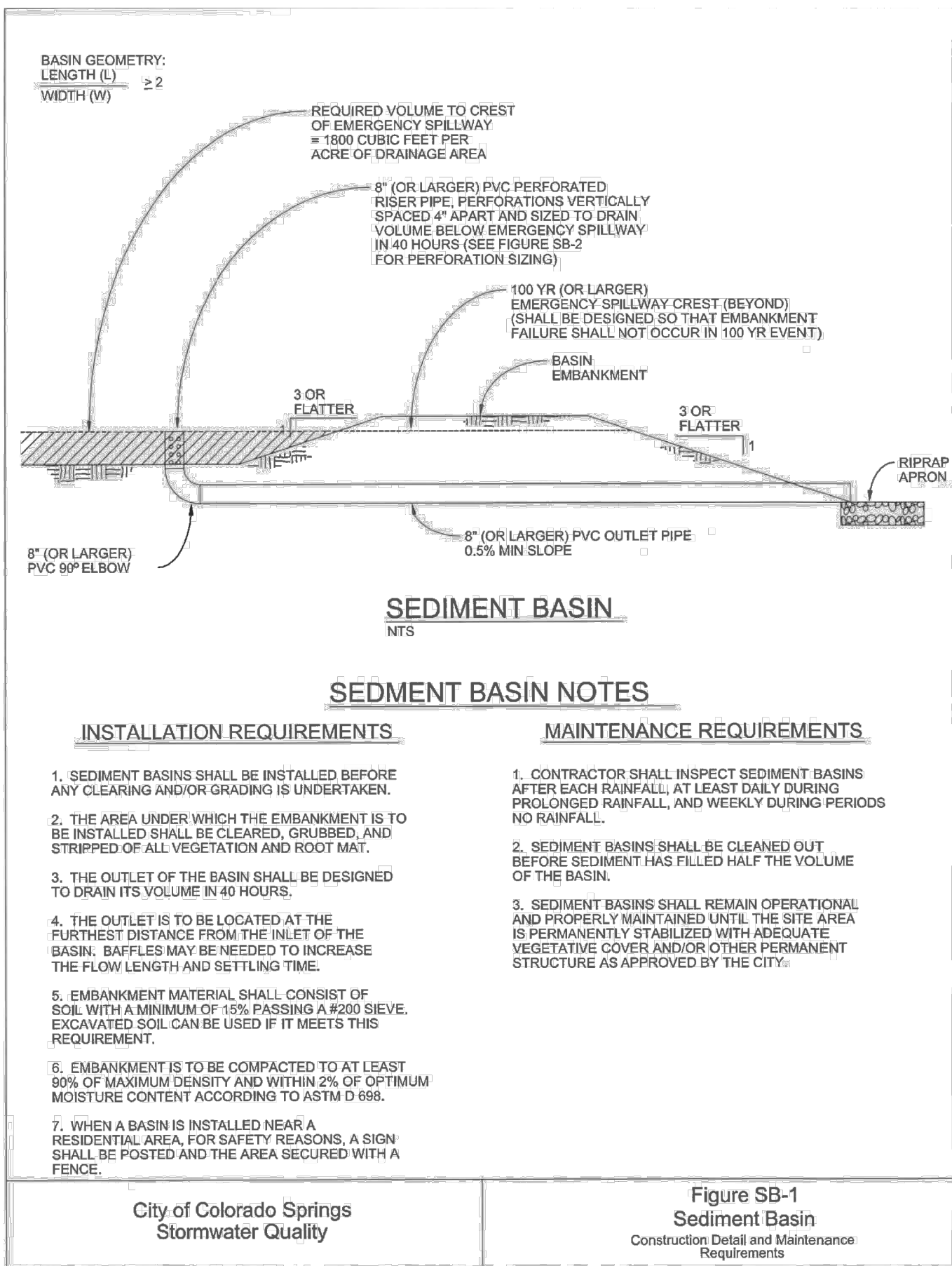
CHECK DAM INSTALLATION NOTES

- SEE PLAN VIEW FOR:
  - LOCATION OF CHECK DAMS.
  - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
  - LENGTH (L), CREST LENGTH (CL), AND DEPTH (D).
- CHECK DAMS INDICATED ON INITIAL SWMP SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.
- RIPRAP UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE APPLICATION. TYPICAL TYPES OF RIPRAP USED FOR CHECK DAMS ARE TYPE M (D50 12") OR TYPE L (D50 9").
- RIPRAP PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'.
- THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 6" HIGHER THAN THE CENTER OF THE CHECK DAM.

CHECK DAM 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 CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS WITHIN 1/2 OF THE HEIGHT OF THE CREST.
  - CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
  - WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACKFILL. DISTURBED AREA SHALL BE SEEDED AND MULCHED AND COVERED WITH GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- (DETAILS ADAPTED FROM BOULDER COUNTY, 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.

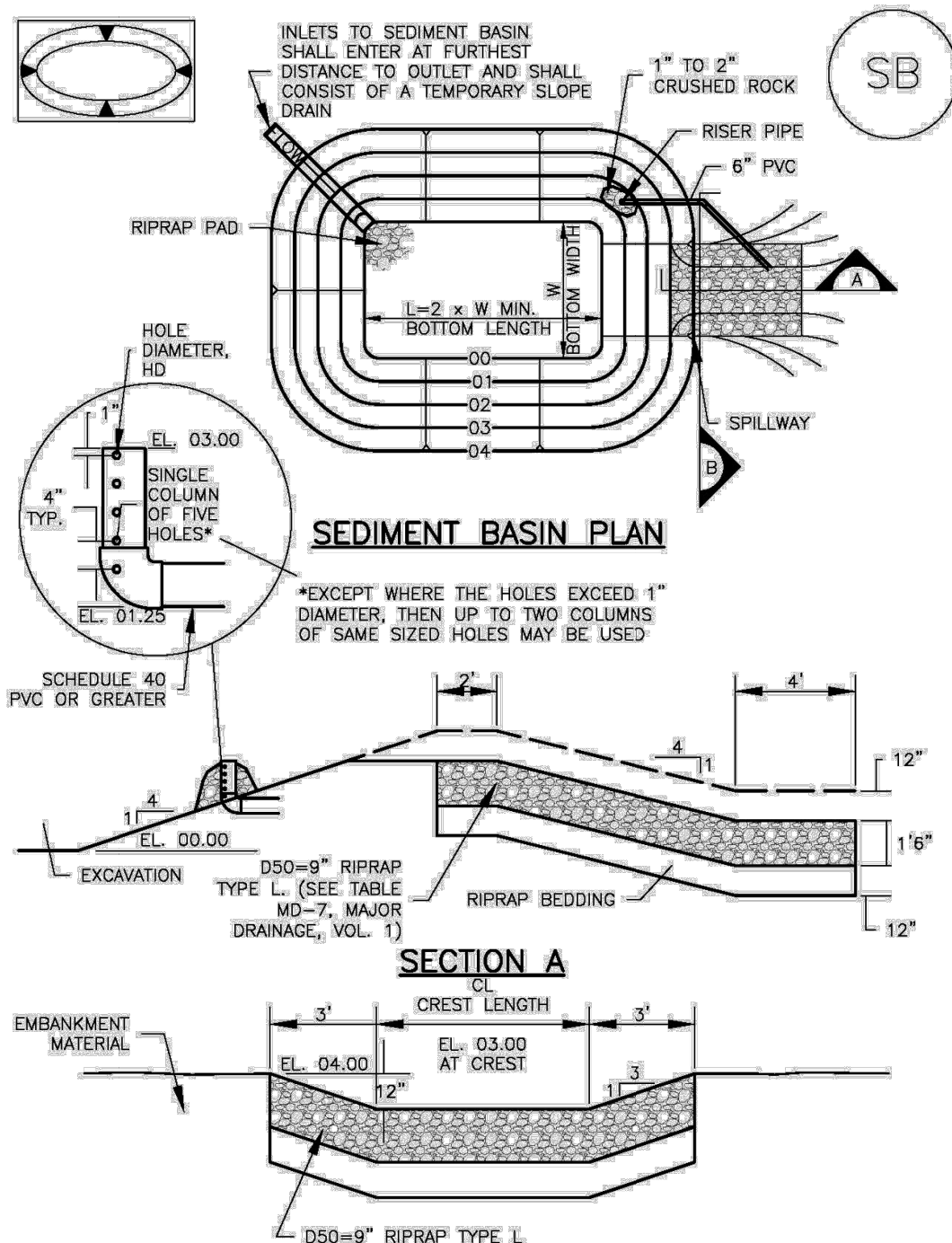
CD-4 Urban Drainage and Flood Control District November 2010 Urban Storm Drainage Criteria Manual Volume 3



City of Colorado Springs Stormwater Quality August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SB-5

Sediment Basin (SB)

SC-7



August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SB-5

SC-7

Sediment Basin (SB)

TABLE SB-1. SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

Upstream Drainage Area (rounded to nearest acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 1/2	2	5/8
2	21	3	5/8
3	28	5	5/8
4	33 1/2	6	5/8
5	38 1/2	8	5/8
6	43	9	5/8
7	47 1/2	11	5/8
8	51	12	5/8
9	55 1/2	13	5/8
10	58 1/2	15	5/8
11	61	16	5/8
12	64	18	5/8
13	67 1/2	19	5/8
14	70 1/2	21	5/8
15	73 1/2	22	5/8

SEDIMENT BASIN INSTALLATION NOTES

- SEE PLAN VIEW FOR:
  - LOCATION OF SEDIMENT BASIN.
  - TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
  - FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
  - FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER PIPE HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.
- FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
- SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON BASINS AS A STORMWATER CONTROL.
- EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
- EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
- PIPE SCH 40 OR GREATER SHALL BE USED.
- THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

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Sediment Basin (SB)

SC-7

SEDIMENT BASIN 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 IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST).
  - SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.
  - WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- (DETAILS ADAPTED FROM BOULDER COUNTY, COLORADO)
- 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.

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Required Area per Row (n<sup>2</sup>)

Design Volume (acre-ft)	Depth at Outlet (ft)							
	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
0.2	15.04	7.71	5.10	3.76	2.95	2.41	2.02	1.73
0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35
0.6	4.51	2.31	1.53	1.13	0.89	0.72	0.61	0.52
0.8	5.50	2.77	1.81	1.33	1.04	0.86	0.73	0.63
1.0	6.25	3.23	2.15	1.51	1.19	0.97	0.82	0.71
1.2	6.94	3.60	2.41	1.67	1.30	1.07	0.91	0.79
1.4	7.58	3.93	2.66	1.81	1.41	1.15	0.98	0.85
1.6	8.18	4.23	2.89	1.93	1.50	1.22	1.03	0.89
1.8	8.74	4.50	3.10	2.04	1.58	1.28	1.08	0.94
2.0	9.27	4.75	3.29	2.14	1.65	1.33	1.12	0.97
2.2	9.77	5.00	3.46	2.23	1.71	1.37	1.15	1.00
2.4	10.25	5.23	3.61	2.31	1.77	1.40	1.17	1.02
2.6	10.71	5.44	3.74	2.38	1.82	1.43	1.19	1.04
2.8	11.15	5.63	3.86	2.44	1.86	1.45	1.20	1.05
3.0	11.58	5.80	3.97	2.50	1.89	1.47	1.21	1.06
3.2	12.00	5.96	4.07	2.55	1.92	1.48	1.22	1.07
3.4	12.41	6.11	4.16	2.60	1.94	1.49	1.23	1.08
3.6	12.81	6.25	4.24	2.64	1.96	1.50	1.24	1.09
3.8	13.20	6.38	4.31	2.68	1.97	1.51	1.24	1.09
4.0	13.58	6.50	4.38	2.71	1.98	1.51	1.25	1.10
4.2	13.95	6.61	4.44	2.74	1.99	1.52	1.25	1.10
4.4	14.31	6.71	4.50	2.76	2.00	1.52	1.25	1.10
4.6	14.66	6.80	4.55	2.78	2.00	1.52	1.25	1.10
4.8	15.00	6.88	4.60	2.80	2.00	1.52	1.25	1.10
5.0	15.33	6.96	4.64	2.81	2.00	1.52	1.25	1.10
5.2	15.65	7.03	4.68	2.82	2.00	1.52	1.25	1.10
5.4	15.96	7.10	4.71	2.83	2.00	1.52	1.25	1.10
5.6	16.26	7.16	4.74	2.84	2.00	1.52	1.25	1.10
5.8	16.55	7.22	4.76	2.84	2.00	1.52	1.25	1.10
6.0	16.83	7.27	4.78	2.85	2.00	1.52	1.25	1.10
6.2	17.10	7.32	4.80	2.85	2.00	1.52	1.25	1.10
6.4	17.36	7.37	4.81	2.85	2.00	1.52	1.25	1.10
6.6	17.61	7.41	4.82	2.85	2.00	1.52	1.25	1.10
6.8	17.86	7.45	4.83	2.85	2.00	1.52	1.25	1.10
7.0	18.10	7.49	4.83	2.85	2.00	1.52	1.25	1.10
7.2	18.33	7.52	4.84	2.85	2.00	1.52	1.25	1.10
7.4	18.56	7.55	4.84	2.85	2.00	1.52	1.25	1.10
7.6	18.78	7.58	4.84	2.85	2.00	1.52	1.25	1.10
7.8	19.00	7.61	4.84	2.85	2.00	1.52	1.25	1.10
8.0	19.21	7.64	4.84	2.85	2.00	1.52	1.25	1.10
8.2	19.41	7.66	4.84	2.85	2.00	1.52	1.25	1.10
8.4	19.61	7.68	4.84	2.85	2.00	1.52	1.25	1.10
8.6	19.80	7.70	4.84	2.85	2.00	1.52	1.25	1.10
8.8	19.99	7.72	4.84	2.85	2.00	1.52	1.25	1.10
9.0	20.17	7.74	4.84	2.85	2.00	1.52	1.25	1.10
9.2	20.35	7.75	4.84	2.85	2.00	1.52	1.25	1.10
9.4	20.52	7.76	4.84	2.85	2.00	1.52	1.25	1.10
9.6	20.69	7.77	4.84	2.85	2.00	1.52	1.25	1.10
9.8	20.85	7.78	4.84	2.85	2.00	1.52	1.25	1.10
10.0	21.00	7.79	4.84	2.85	2.00	1.52	1.25	1.10

TABLE SB-1

Circular Perforation Sizing

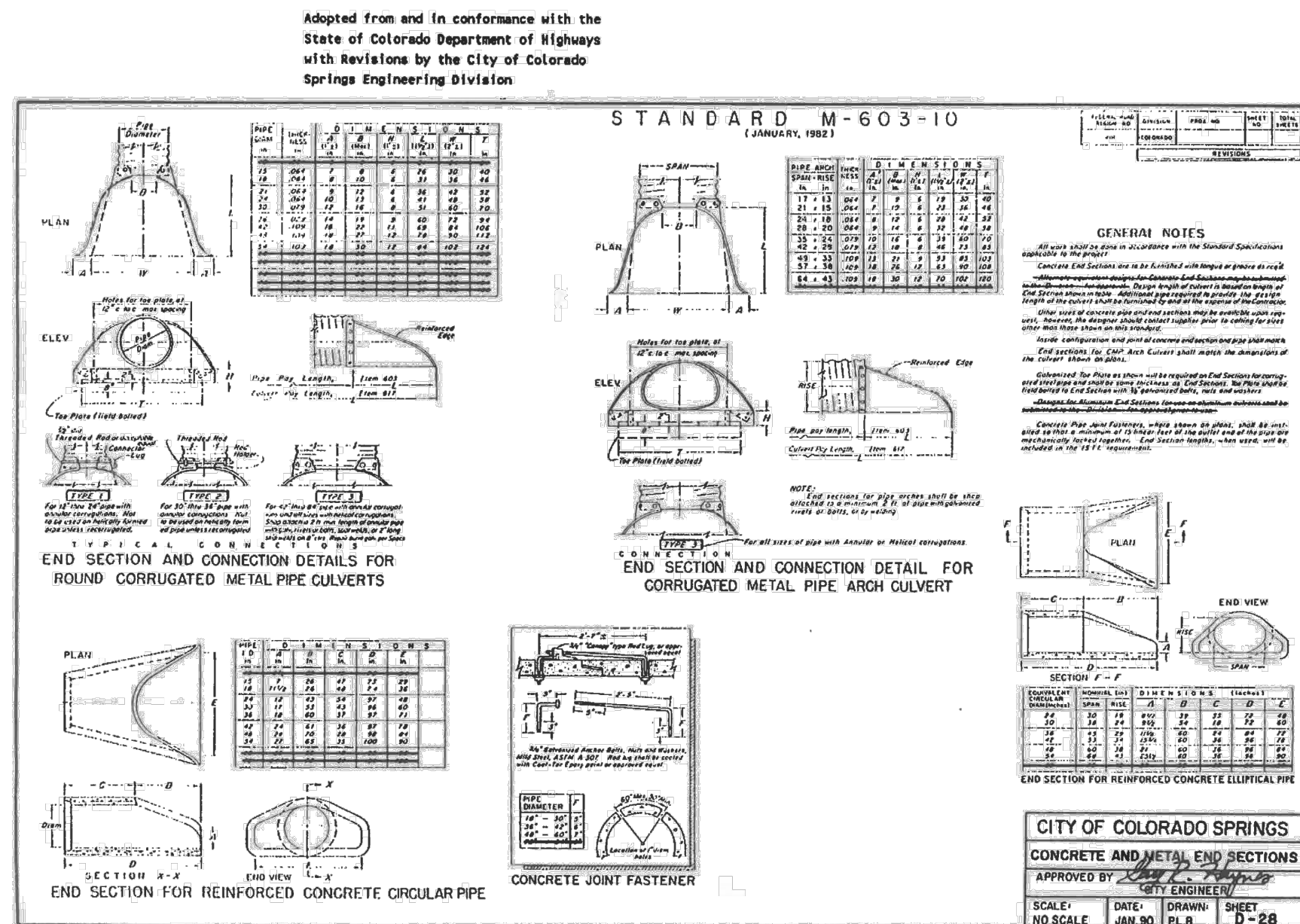
Hole Diameter (in)	Hole Diameter (mm)	Area per Row (in <sup>2</sup> )		
		n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	1.33
7/8	0.875	0.60	1.20	1.80
1	1.000	0.79	1.57	2.36
1 1/8	1.125	0.99	1.99	2.98
1 1/4	1.250	1.23	2.45	3.68
1 3/8	1.375	1.48	2.97	4.45
1 1/2	1.500	1.77	3.53	5.30
1 5/8	1.625	2.07	4.15	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.76	5.52	8.28
2	2.000	3.14	6.28	9.42

n = Number of columns of perforations

Minimum steel plate thickness 1/4" 5/16" 3/8"

TABLE SB-2

City of Colorado Springs Stormwater Quality Figure SB-2 Outlet Sizing Application Techniques and Maintenance Requirements



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CD-4 Urban Drainage and Flood Control District November 2010 Urban Storm Drainage Criteria Manual Volume 3

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**RMG Engineers / Architects**

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**COLORADO COMMERCIAL CONSTRUCTION, INC.**

Colorado Licensed Professional Engineer

**CONSTRUCTION DOCUMENTS**

SHEET NAME: GEC DETAILS

PROJECT STATUS: 3/1/24

ENG: DOW  
DRAWN: AMH  
CHECKED: TPT

DATE: 3/1/24

# REVISION DATE

JOB NO: 191726

SHEET NO: 12 of 12