

CATHEDRAL ROCK CHURCH

Grading & Erosion Control Plans

Tract A, Struthers Ranch

Filing No. 2

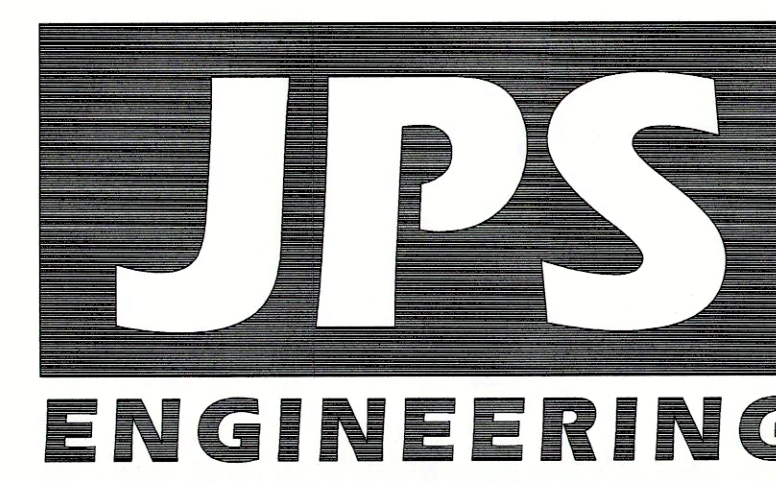
El Paso County, Colorado

PREPARED FOR:

HAMMERS CONSTRUCTION

1411 Woolsey Heights
Colorado Springs, CO 80915

PREPARED BY:



PREPARED BY:

19 East Willamette Avenue
Colorado Springs, Colorado 80903
March, 2025

AGENCIES/CONTACTS

OWNER:	CATHEDRAL ROCK CHURCH 590 HIGHWAY 105 STE 190 MONUMENT CO, 80132-9125	WATER/WASTEWATER:	DONALA WATER & SANITATION DISTRICT 15850 HOLBEIN DR. COLORADO SPRINGS, CO 80921 (719)488-3603
DEVELOPER:	HAMMERS CONSTRUCTION 1411 WOOLSEY HEIGHTS COLORADO SPRINGS, CO 80915 MR. JOE BUTLER (719) 570-1599	GAS DEPARTMENT:	BLACK HILLS ENERGY MR. SEBASTIAN SCHWENDER (719)399-3176
CIVIL ENGINEER:	JPS ENGINEERING, INC. 19 E. WILLAMETTE AVENUE COLORADO SPRINGS, CO 80903 MR. JOHN P. SCHWAB, P.E. (719)477-9429	ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC ASSOCIATION 11140 E. WOODMEN ROAD COLORADO SPRINGS, CO 80908 MR. DAVE WALDNER (719)495-2283
LOCAL ROADS & DRAINAGE:	EL PASO COUNTY PCD 2880 INTERNATIONAL CIRCLE COLORADO SPRINGS, CO 80910 (719)520-6300	TELEPHONE COMPANY:	CENTURY LINK COMMUNICATIONS (LOCATORS) (800)922-1987 A.T. & T. (LOCATORS) (719)635-3674

GEC PLAN SHEET INDEX

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C3.1	RAIN GARDEN PLAN & DETAILS
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C4.1	CIVIL & EROSION CONTROL DETAILS
C4.2	EROSION CONTROL NOTES & DETAILS

ENGINEER:

DESIGN ENGINEER'S STATEMENT:

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION 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 LIABILITY CAUSED BY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

John P. Schwab

JOHN P. SCHWAB, P.E. #29891

5/15/25

DATE

OWNER/DEVELOPER'S STATEMENT:

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

OWNER SIGNATURE

4-1-25

DATE

NAME: HAMMERS CONSTRUCTION
ADDRESS: 1411 WOOLSEY HEIGHTS
COLORADO SPRINGS, CO 80915
PHONE: (719) 570-1599
EMAIL: jbutler@hammersconstruction.com

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 MANUAL, 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, THEY WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

JOSHUA PALMER, P.E.,

COUNTY ENGINEER / ECM ADMINISTRATOR

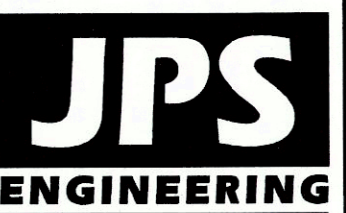
5/15/2025

DATE

PCD FILE NO. PPR2436

CATHEDRAL ROCK CHURCH
TRACT A, STRUTHERS RANCH FILING NO. 2

GEC PLAN
TITLE SHEET



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No.	REVISION	BY	DATE
1	EPC SUBMITTAL		09/23/24
2	COUNTY COMMENTS		01/11/25
3	COUNTY COMMENTS		03/31/25

HORZ. SCALE:	N/A	DRAWN:	PV
VERT. SCALE:	N/A	DESIGNED:	JPS
SURVEYED:	RIDGELINE	CHECKED:	JPS
CREATED:	05/27/20	LAST MODIFIED:	03/31/25
PROJECT NO:	082401	MODIFIED BY:	PV

SHEET:

C1.0



STORM INLET NEAR SW CORNER
OF SITE TOB EL=6757.26
(DATUM: NGVD 1929)

COUNTY GENERAL NOTES:

1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. 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:
- A. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - B. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
 - C. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
 - D. CDOT M & S STANDARDS
4. 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 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.
5. 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.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) – INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. 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.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP WITH CLASS B BEDDING UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
12. 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.
13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DPW (DEPT. OF PUBLIC WORKS) AND MUTCD CRITERIA.
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DPW, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. 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.

GENERAL DRAINAGE NOTES:

1. INDIVIDUAL BUILDERS SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND ACCOUNT FOR POTENTIAL CROSS-LOT DRAINAGE IMPACTS WITHIN EACH LOT.
2. BUILDERS AND PROPERTY OWNERS SHALL IMPLEMENT & MAINTAIN EROSION CONTROL BEST MANAGEMENT PRACTICES FOR PROTECTION OF DOWNSTREAM PROPERTIES AND FACILITIES INCLUDING PROTECTION OF EXISTING GRASS BUFFER STRIPS ALONG THE DOWNSTREAM PROPERTY BOUNDARIES.
3. GRADING AND DRAINAGE WITHIN LOTS IS THE RESPONSIBILITY OF THE INDIVIDUAL BUILDERS AND PROPERTY OWNERS.

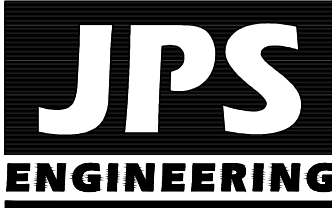
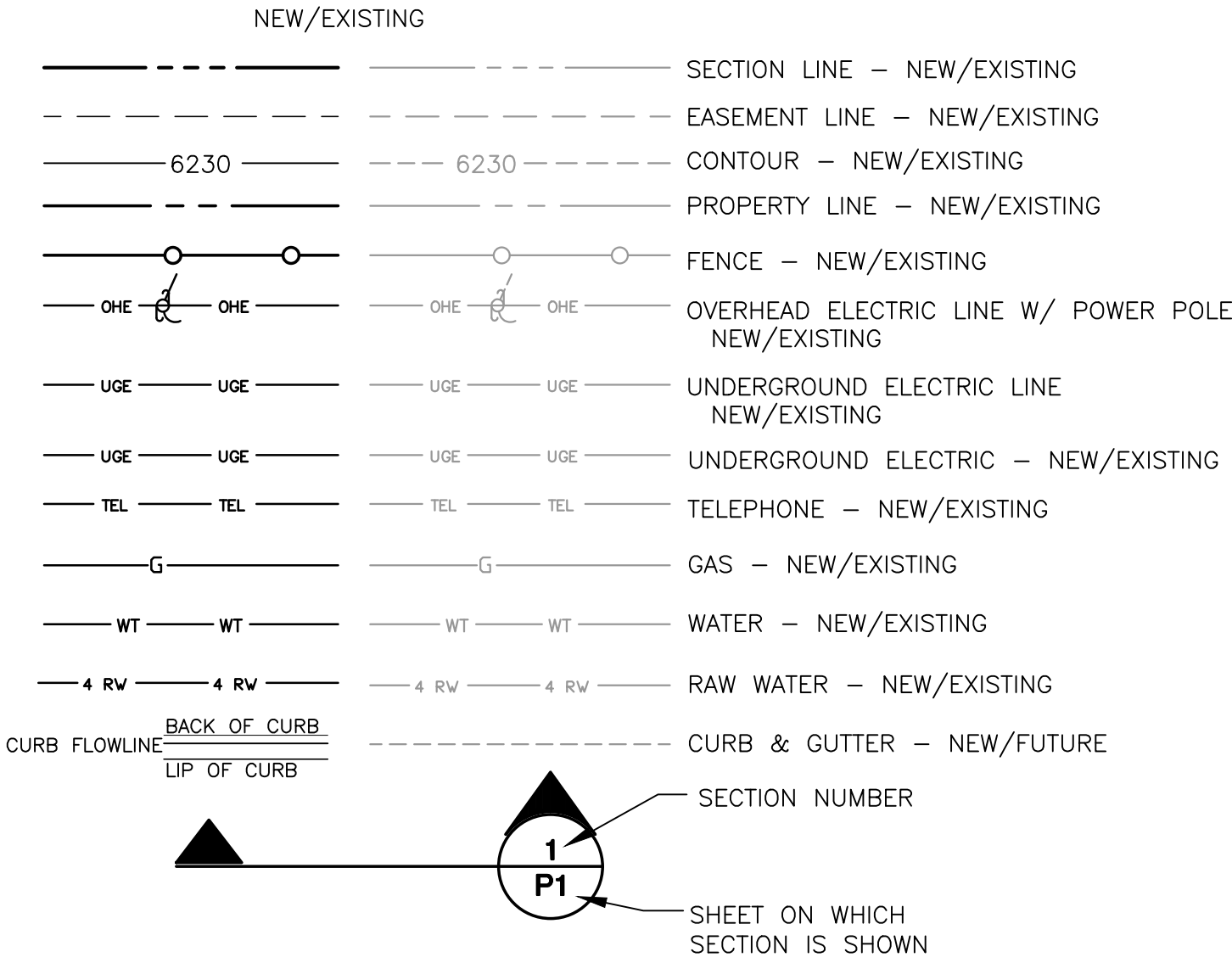
COUNTY SIGNING AND STRIPING NOTES:

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.
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 WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" 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".
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. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
12. 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.
13. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
14. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.

PROJECT GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ACTUAL CONSTRUCTION.
2. EXISTING CONTOUR DATA PROVIDED BY OWNER CONSISTS OF SITE SURVEY FROM COMPASS LAND SURVEYING. JPS ENGINEERING TAKES NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING TOPOGRAPHIC MAPPING.
3. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THESE APPROVED PLANS AND ONE (1) COPY OF THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES:
- A. EL PASO COUNTY ENGINEERING CRITERIA MANUAL
 - B. CDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION
 - C. DONALA WATER & SANITATION DISTRICT STANDARDS & SPECIFICATIONS
4. STORM DRAIN PIPE SHALL BE RCP CLASS III WITH CLASS C BEDDING UNLESS OTHERWISE NOTED. PROVIDE WATER-TIGHT JOINTS ON STORM SEWER PIPE.
5. STATIONING IS AT CENTERLINE UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE AT FLOWLINE UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE FROM FACE OF CURB UNLESS OTHERWISE NOTED.
6. PROPOSED CONTOURS SHOWN ARE TO FINISHED GRADE.
7. LENGTHS SHOWN FOR STORM SEWER PIPES ARE TO CENTER OF MANHOLE.
8. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, DEBRIS, WASTE AND OTHER UNSUITABLE FILL MATERIAL FOUND WITHIN THE LIMITS OF EXCAVATION.
9. MATCH INTO EXISTING GRADES AT 3:1 MAX CUT AND FILL SLOPES.
10. REVEGETATION OF ALL DISTURBED AREAS SHALL BE DONE WITH SPECIFIED SEED MIX WITHIN 30 DAYS AFTER FINE GRADING IS COMPLETE.
11. EROSION CONTROL SHALL CONSIST OF SILT FENCE AND OTHER BMP'S AS SHOWN ON THE DRAWINGS, AND TOPSOIL WITH GRASS SEED, WHICH WILL BE WATERED UNTIL VEGETATION HAS BEEN REESTABLISHED.
12. THE EROSION CONTROL MEASURES OUTLINED ON THIS PLAN ARE THE RESPONSIBILITY OF THE DEVELOPER TO MONITOR AND REPLACE, REGRADE, AND REBUILD AS NECESSARY UNTIL VEGETATION IS REESTABLISHED.
13. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN A MANNER THAT WILL PROTECT ADJACENT PROPERTIES AND PUBLIC FACILITIES FROM THE ADVERSE EFFECTS OF EROSION AND SEDIMENTATION AS A RESULT OF CONSTRUCTION AND EARTHWORK ACTIVITIES WITHIN THE PROJECT SITE.
14. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS DETERMINED BY SITE CONDITIONS.
15. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR
16. PEDESTRIAN RAMPS SHALL BE INSTALLED AT ALL INTERSECTIONS AND CONFORM TO COUNTY ENGINEERING STANDARDS AND SPECIFICATIONS.
17. ALL FINISHED GRADES SHALL HAVE A MINIMUM 0.5% SLOPE TO PROVIDE POSITIVE DRAINAGE.
18. WHERE PROPOSED SLOPES CONFLICT WITH PROPOSED SPOT ELEVATIONS, SPOT ELEVATIONS SHALL GOVERN.
19. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO BEGINNING WORK.
20. ALL RESIDENTIAL STREET CURB RETURN RADII ARE 20- FEET AT FLOWLINE UNLESS OTHERWISE NOTED. ARTERIAL STREET CURB RETURN RADII ARE 35' UNLESS NOTED OTHERWISE.
21. 25-FOOT SIGHT VISIBILITY TRIANGLES SHALL BE PROVIDED AT ALL RESIDENTIAL STREET INTERSECTIONS. 50-FOOT SIGHT TRIANGLES SHALL BE PROVIDED AT ARTERIAL STREET INTERSECTIONS. NO OBSTRUCTIONS TALLER THAN 18" ARE PERMITTED WITHIN THESE TRIANGLES.
22. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY AND ALL UTILITIES INVOLVED IN PROJECT PRIOR TO MOBILIZING ON SITE.
23. TYPE C STORM INLETS SHALL HAVE CLOSE-MESH GRATES.
24. PROVIDE 10' TRANSITION FROM RAMP CURB TO VERTICAL CURB ON EACH SIDE OF STORM INLETS.
25. ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE MATERIAL SHALL BE COMPACTED PER EL PASO COUNTY AND CDOT STANDARDS AND SPECIFICATIONS AND PROJECT GEOTECHNICAL REPORT. CONTRACTOR SHALL STABILIZE ALL SUBGRADE AREAS PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

LEGEND:



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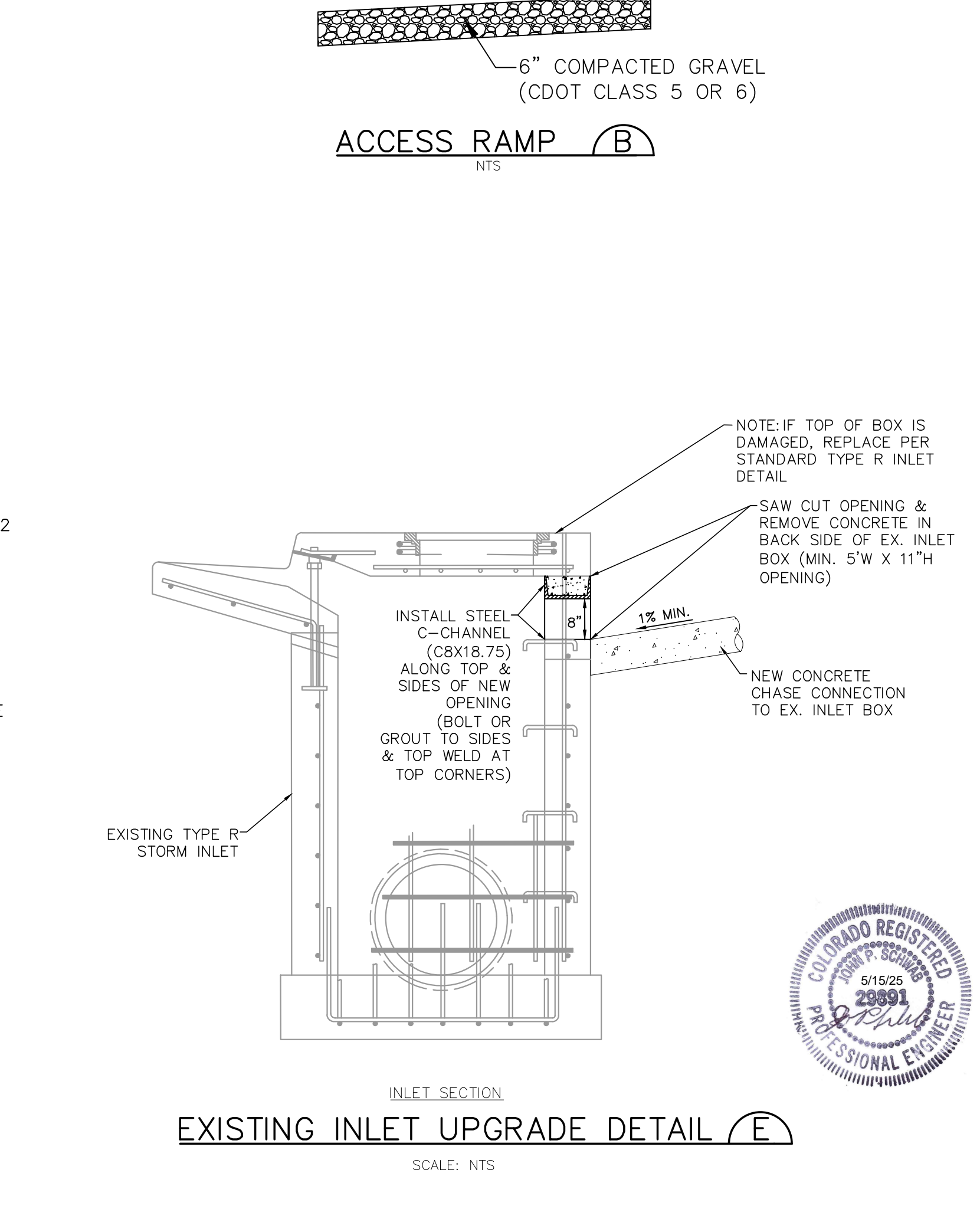
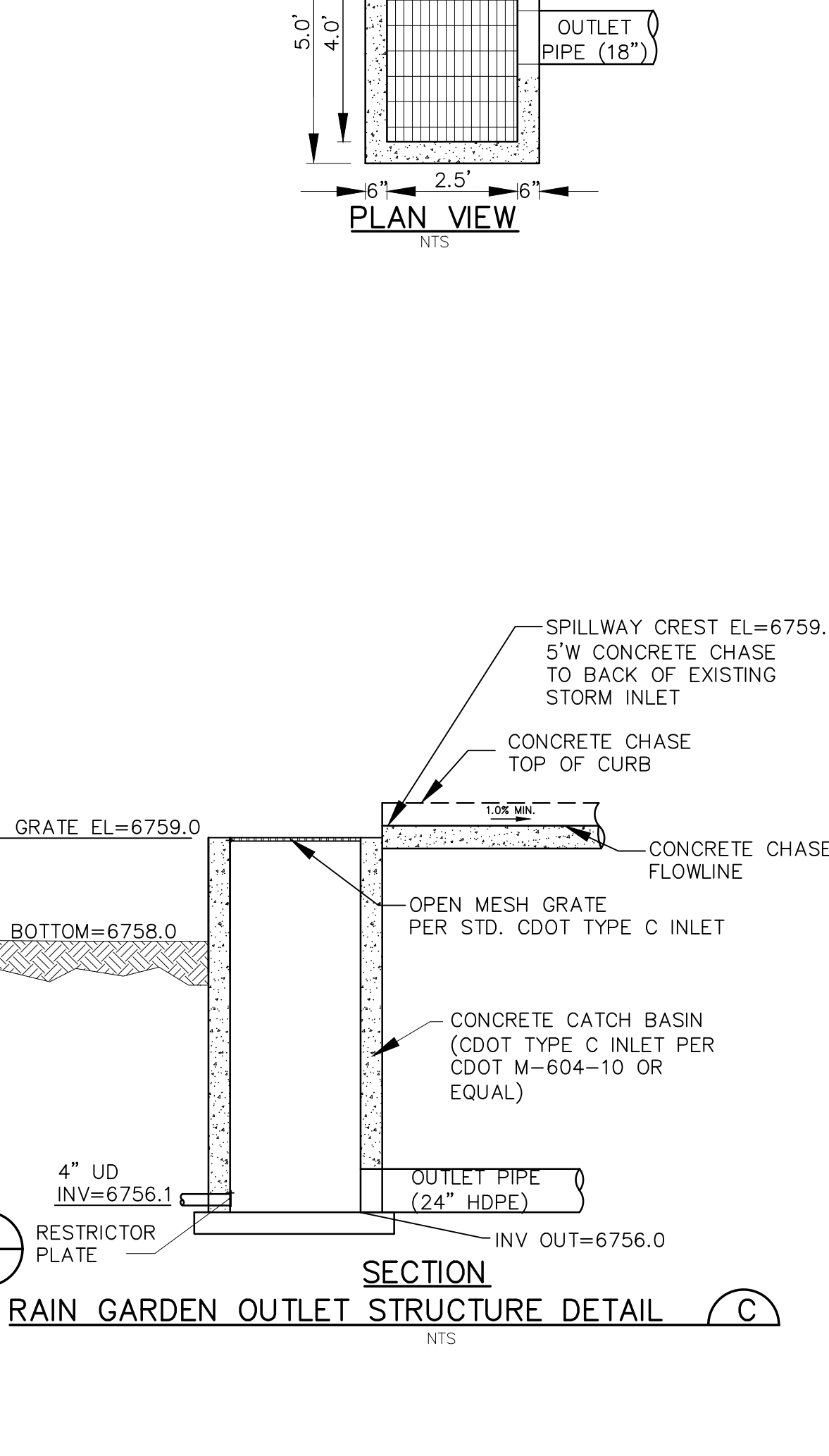
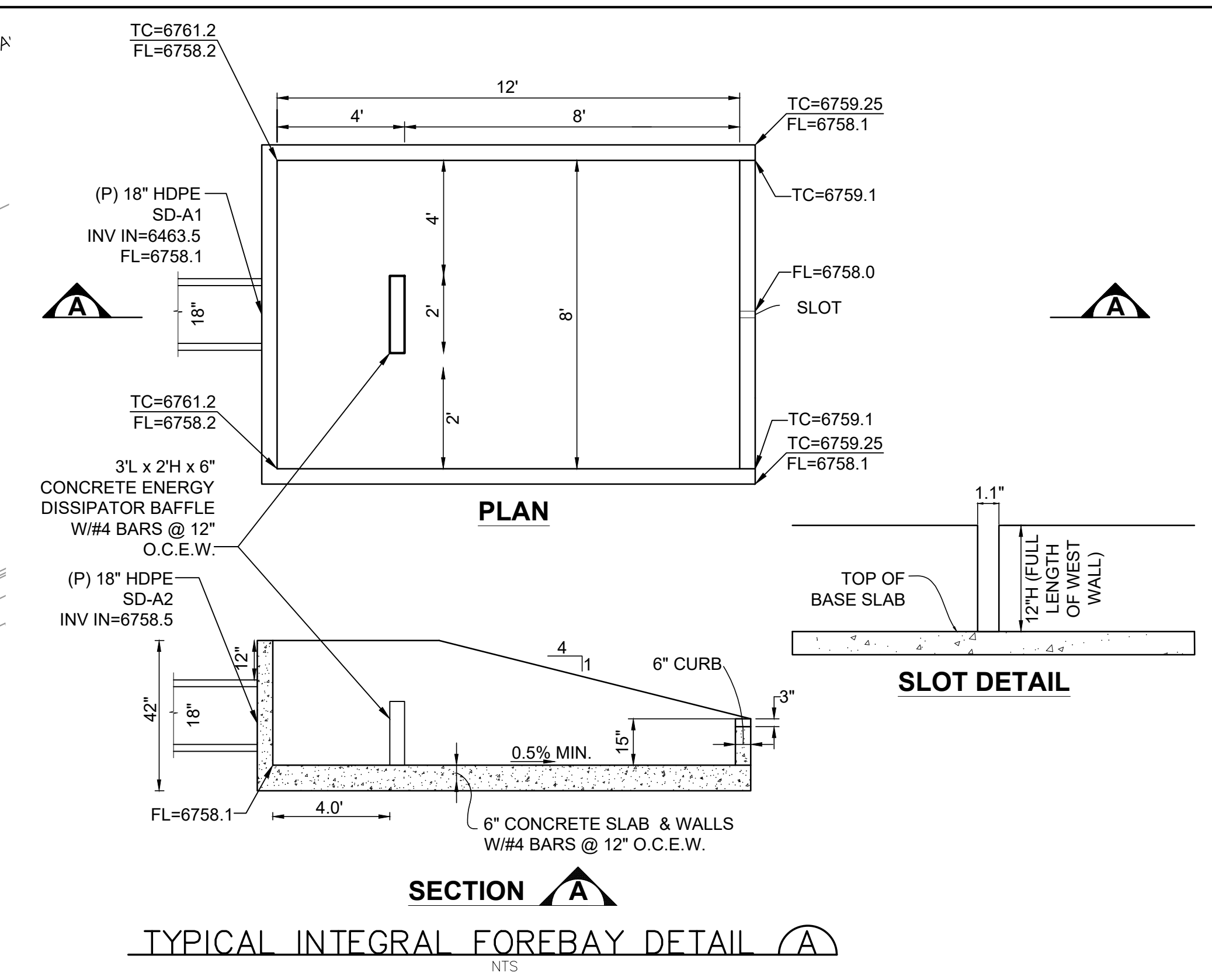
No.	REVISION		BY		DATE	

CATHEDRAL ROCK CHURCH
TRACT A, STRUTHERS RANCH FILING NO. 2

GENERAL NOTES AND LEGEND

HORZ. SCALE:	N/A	DRAWN:	PV
VERT. SCALE:	N/A	DESIGNED:	JPS
SURVEYED:	RIDGELINE	CHECKED:	JPS
CREATED:	05/27/20	LAST MODIFIED:	09/18/24
PROJECT NO:	082401	MODIFIED BY:	PV

SHEET: G2.0



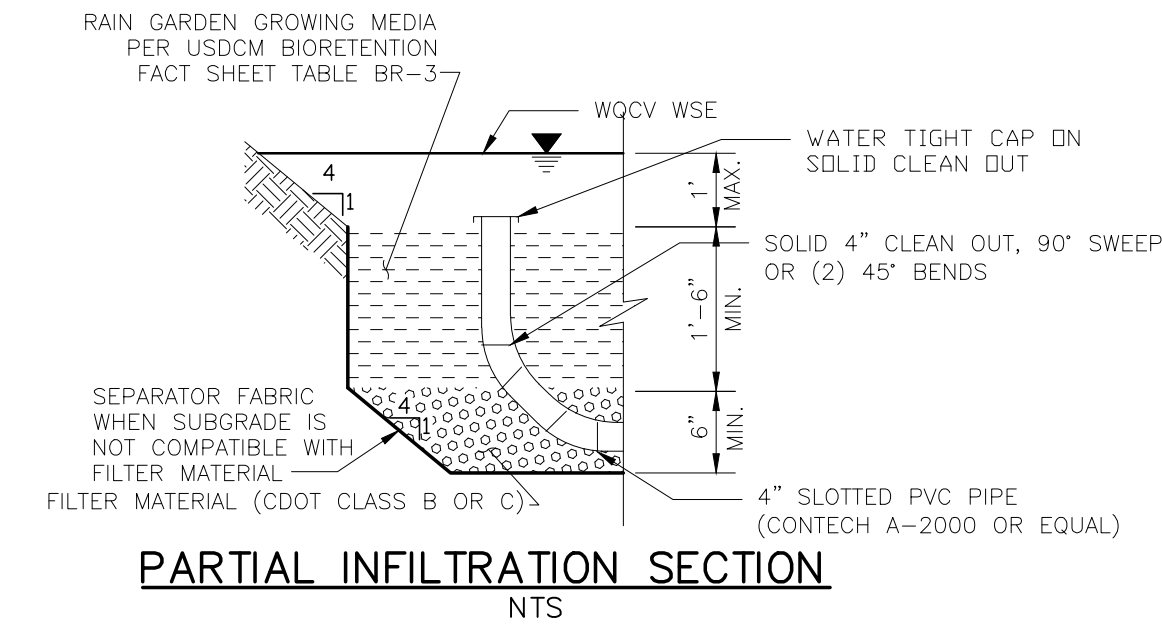


TABLE BR-4. NATIVE SEED MIX FOR BIORETENTION

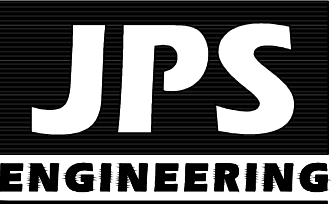
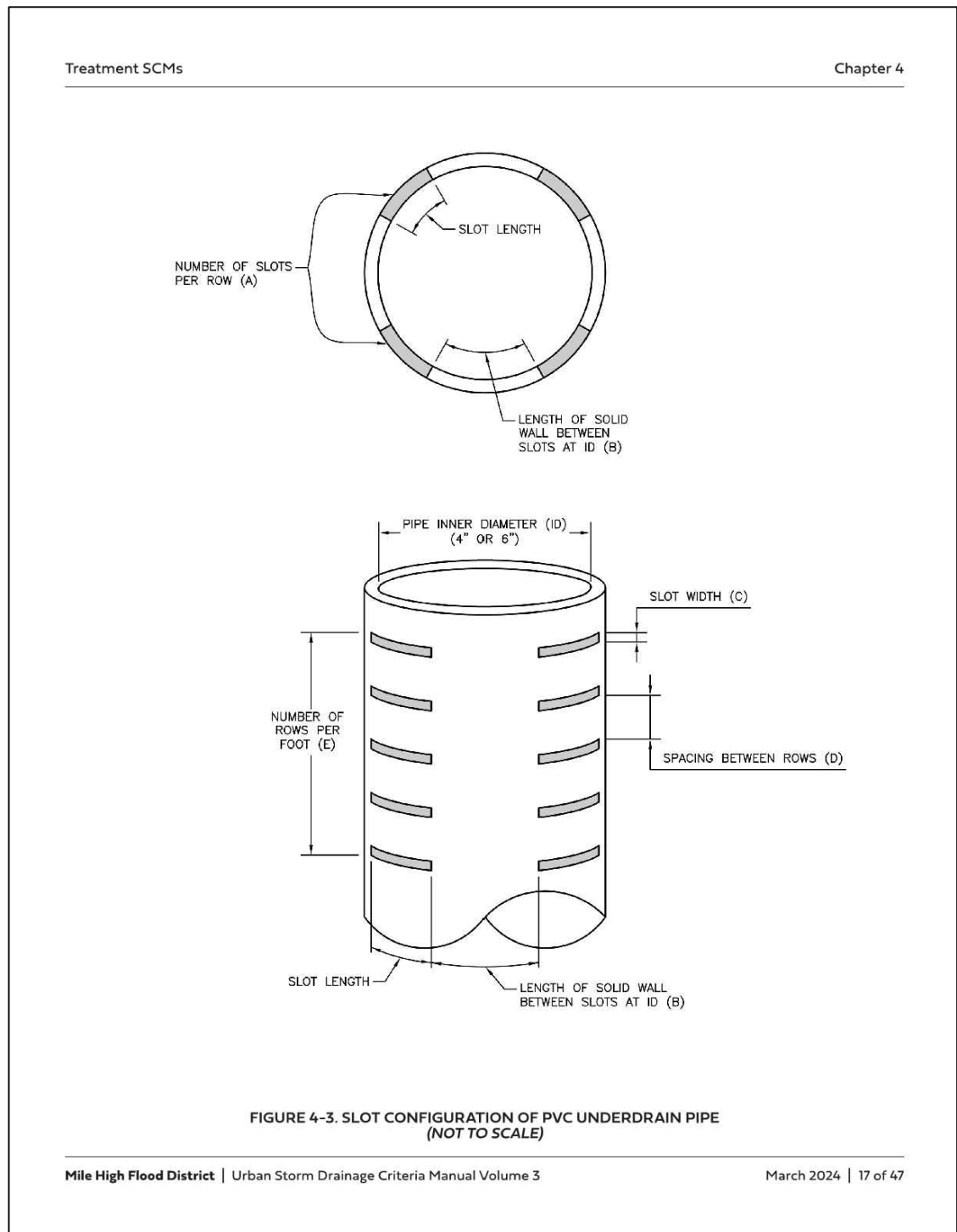
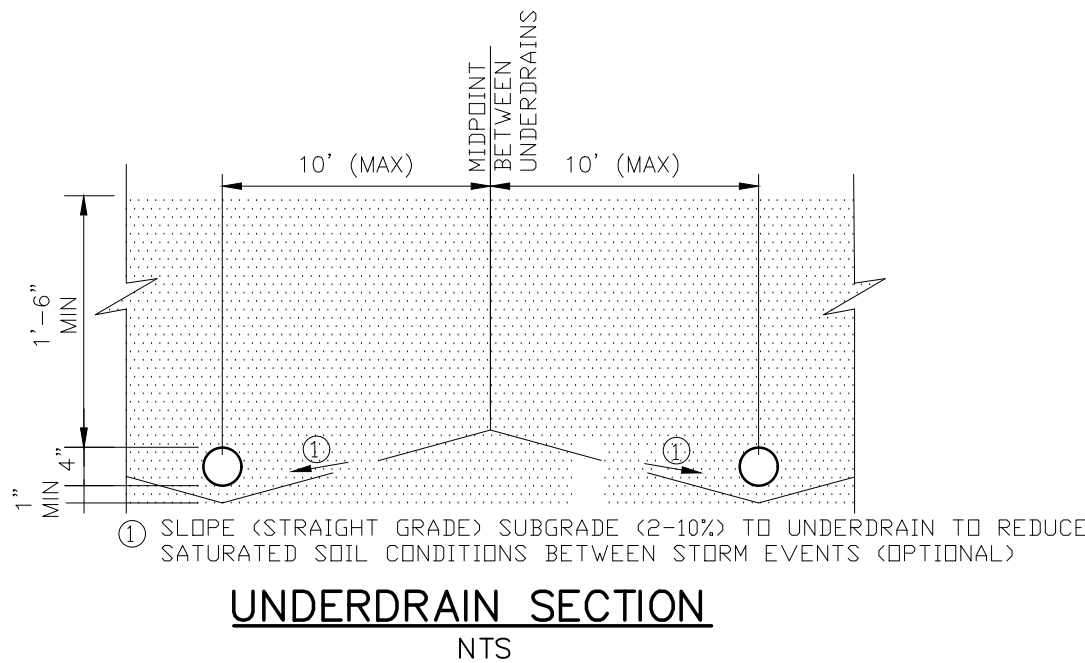
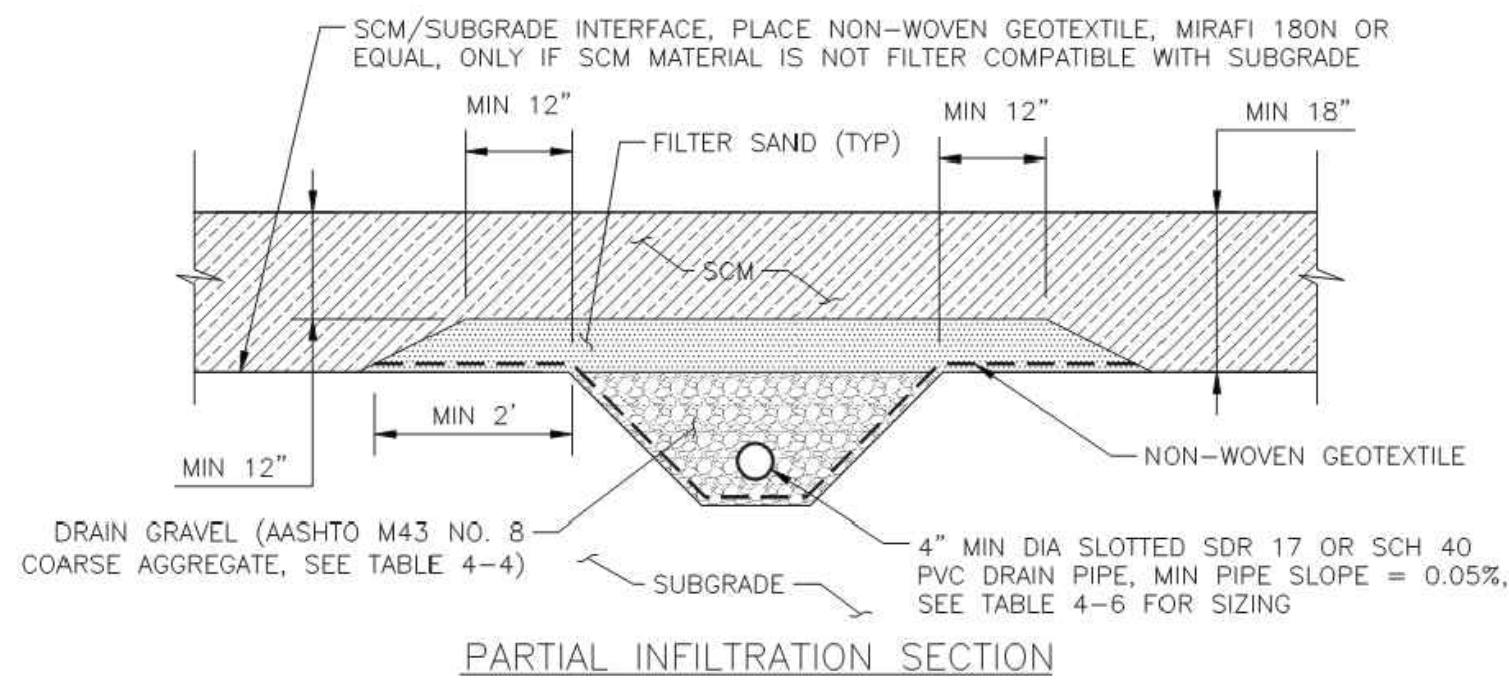
COMMON NAME	SCIENTIFIC NAME	VARIETY	PURE LIVE SEED (PLS)	
			POUNDS/ACRE	OUNCES/ACRE
Sand bluestem	<i>Andropogon hallii</i>	Garden	3.5	
Sideoats grama	<i>Bouteloua curtipendula</i>	Butte	3	
Prairie sandreed	<i>Calamovilfa longifolia</i>	Goshen	3	
Indian ricegrass	<i>Oryzopsis hymenoides</i>	Paloma	3	
Switchgrass	<i>Panicum virgatum</i>	Blackwell	4	
Western wheatgrass	<i>Pascopyrum smithii</i>	Ariba	3	
Little bluestem	<i>Schizachyrium scoparium</i>	Patura	3	
Alkali sacaton	<i>Sporobolus airoides</i>		3	
Sand dropseed	<i>Sporobolus cryptandrus</i>		3	
Pasture sage ¹	<i>Artemisia frigida</i>			2
Blue aster ¹	<i>Aster laevis</i>			4
Blanket flower ¹	<i>Gaillardia aristata</i>			8
Prairie coneflower ¹	<i>Ratibida columnifera</i>			4
Purple Prairie Clover ¹	<i>Dalea (Petalostemum) purpurea</i>			4
Sub-Totals:			27.5	22
Total pounds/acre			28.9	

TABLE BR-3. BIORETENTION MEDIA PROPERTIES

SOIL PARAMETERS	TEST NAME	BIORETENTION MEDIA PROPERTIES
Texture/Gradation	ASTM D7928 Sedimentation (Hydrometer) Method	Particle Size Distribution: 70-80% Sand (0.05-2.0 mm diameter) 5-25% Silt (0.002-0.05 mm diameter) 5-15% Clay (<0.002 mm diameter) Notes: Sand, silt and clay percentages are by dry weight. Particle sizes are based on the USDA soil classification system. Distribution is measured after gravel > 2 mm is removed from sample. Media should have no more than 25% material > 2 mm. Equivalent sieve sizes for the upper and lower limit of sand are #10 and #240, respectively.
Organic Matter	ASTM D2974	1-5% by dry weight
pH	ASA/AASHTO	6.0 - 8.5
Salinity/Salts (EC) dS/m or mmhos/cm	Saturated Paste	<3
Nitrate Nitrogen (ppm)	ASA2 33-3	<30
Phosphorus (ppm)	Use Olsen when pH>6.2, otherwise use Mehlich-3	Olsen: <20 or Mehlich-3: <30

TABLE 4-6. SLOT CONFIGURATION FOR PVC UNDERDRAIN PIPE

GEOMETRY	MINIMUM	MAXIMUM
Number of slots per row (A)	4	6
Length of solid wall between slots at ID (B), inches	1.0	2.0
Slot width (C), inches	0.060	0.100
Spacing between rows (D), inches	0.25	1.0
Rows per lineal foot (E) ¹	11	36
Open area per lineal foot ² (square inches)	6.0	20.0



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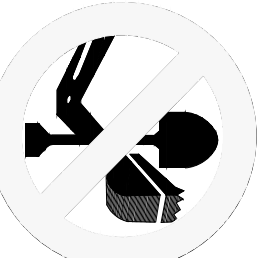
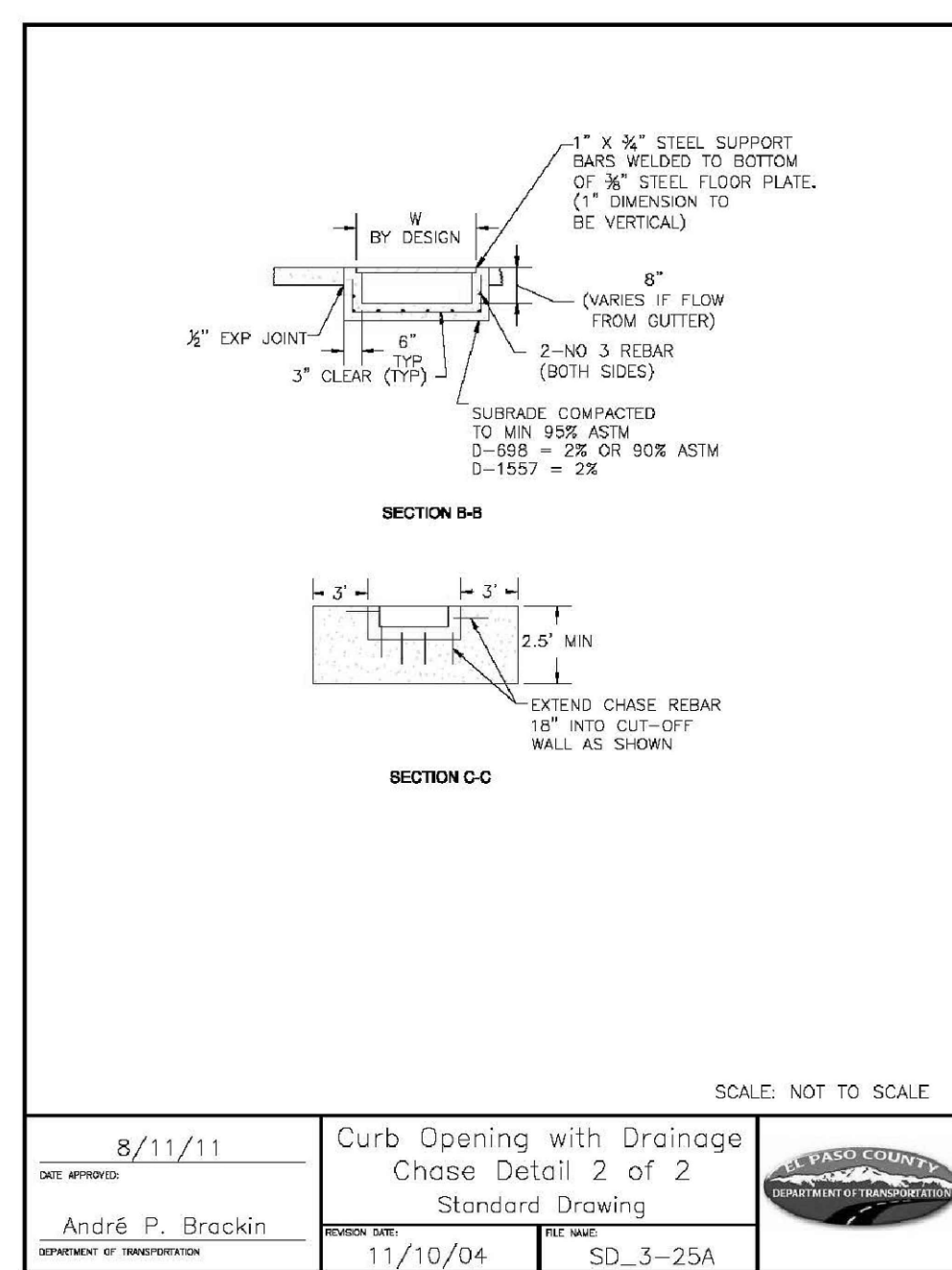
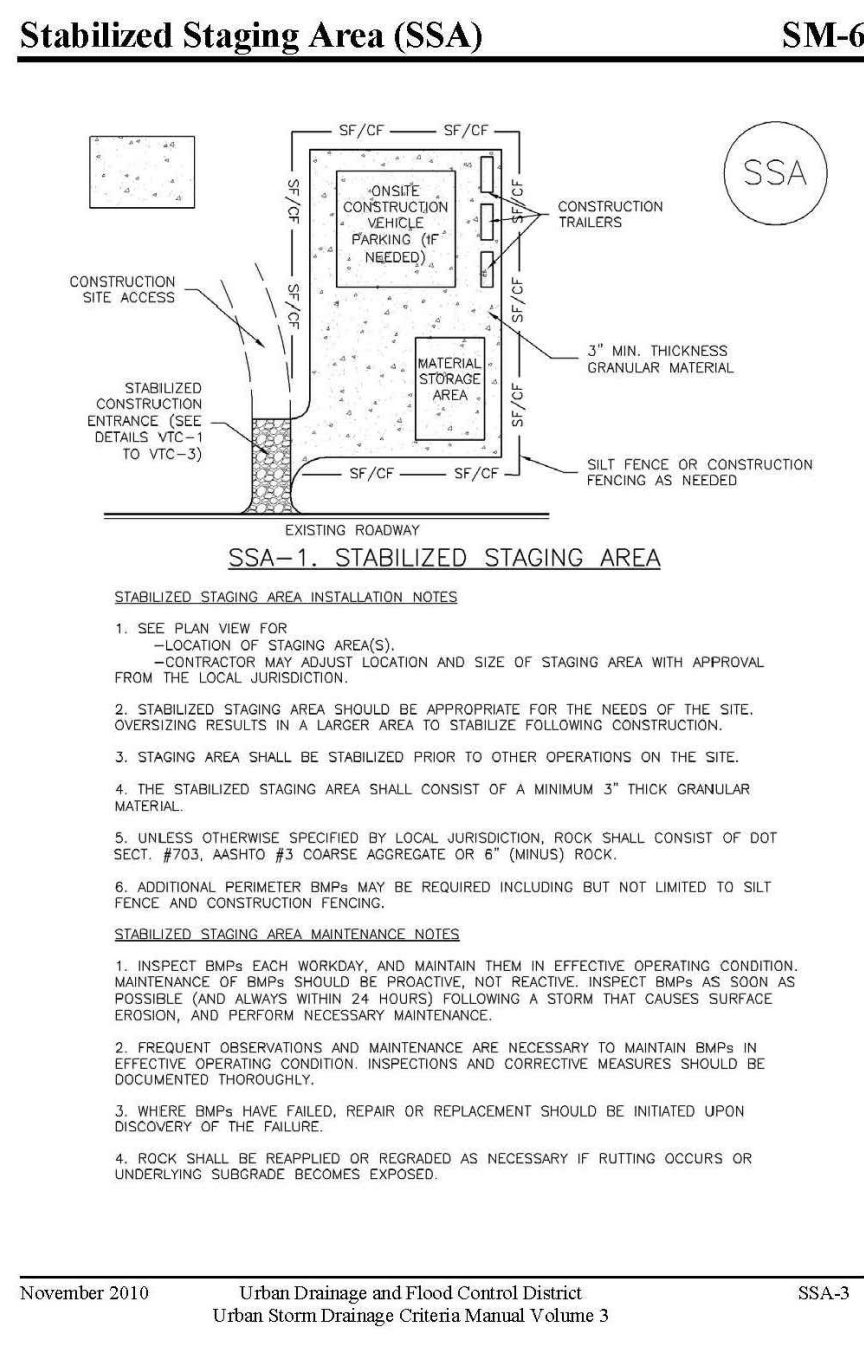
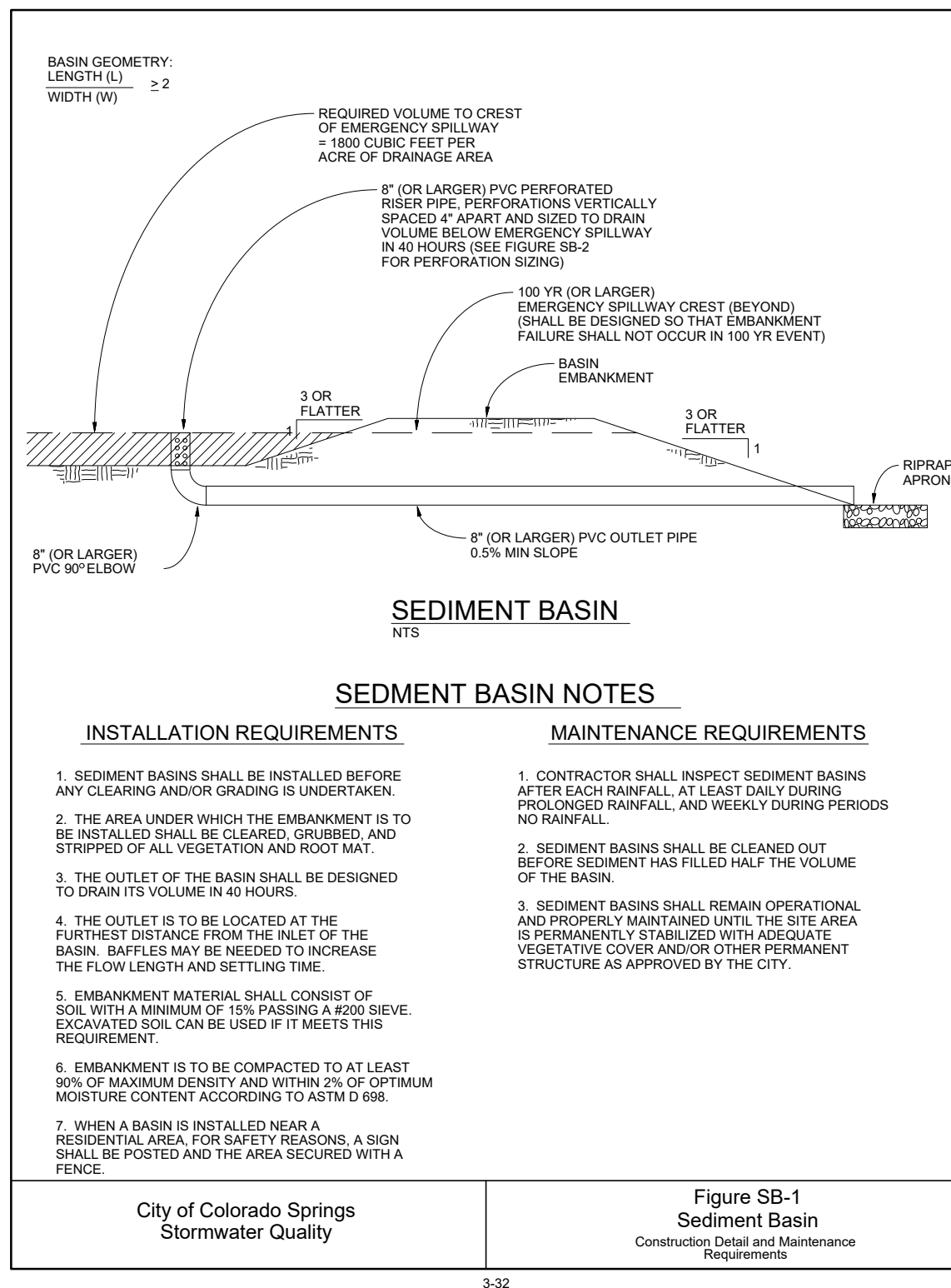
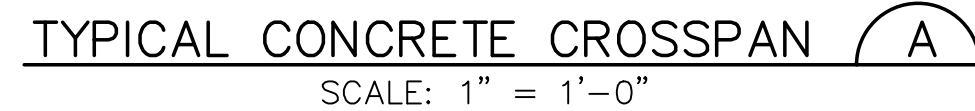
CATHEDRAL ROCK CHURCH TRACT A, STRUTHERS RANCH FILING NO. 2

RAIN GARDEN DETAILS

HORZ. SCALE:	N/A	DRAWN:	PV
VERT. SCALE:	N/A	DESIGNED:	JPS
SURVEYED:	RIDGELINE	CHECKED:	JPS
CREATED:	05/27/20	LAST MODIFIED:	03/24/25
PROJECT NO:	082401	MODIFIED BY:	PV

SHEET:

C3.2

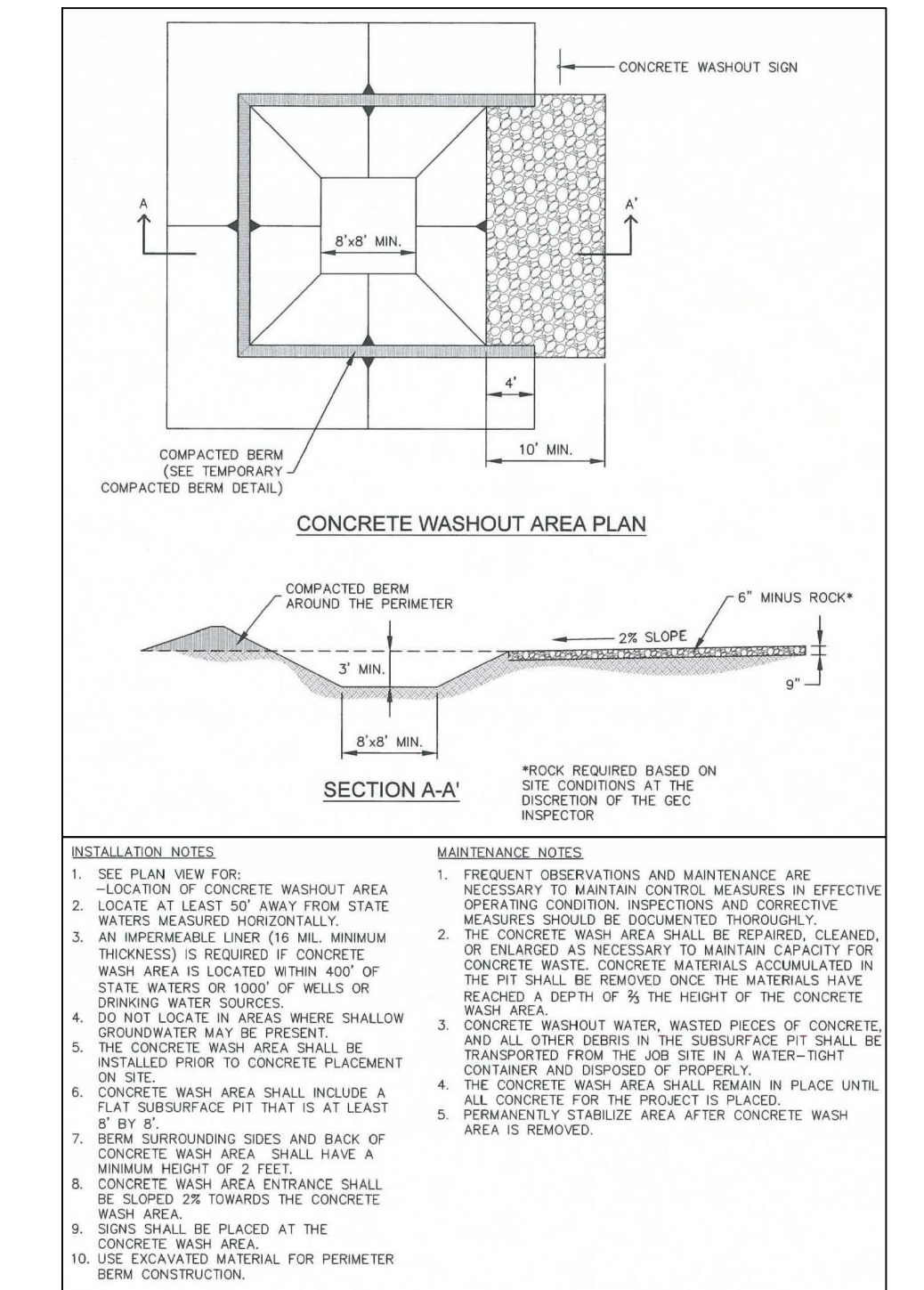
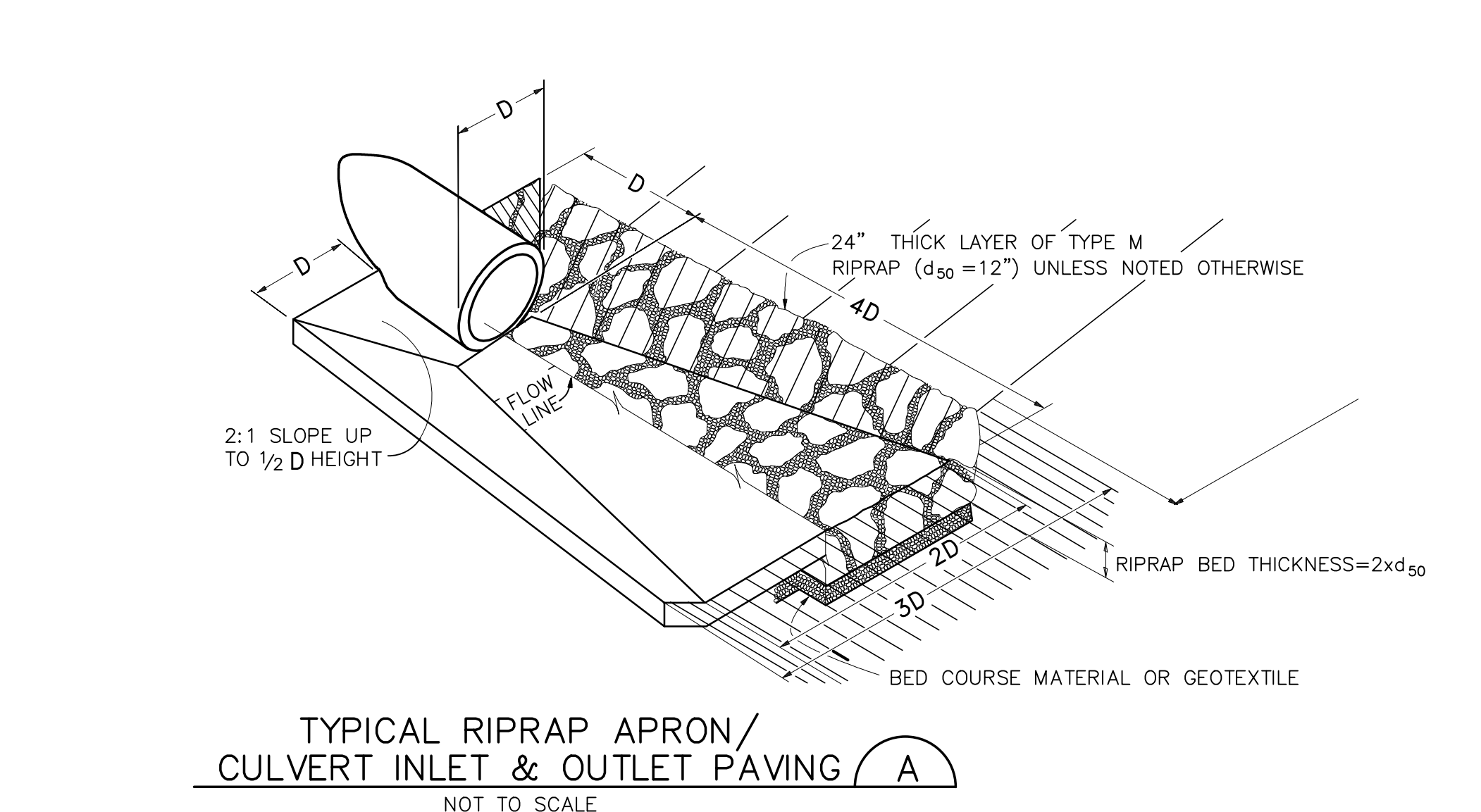
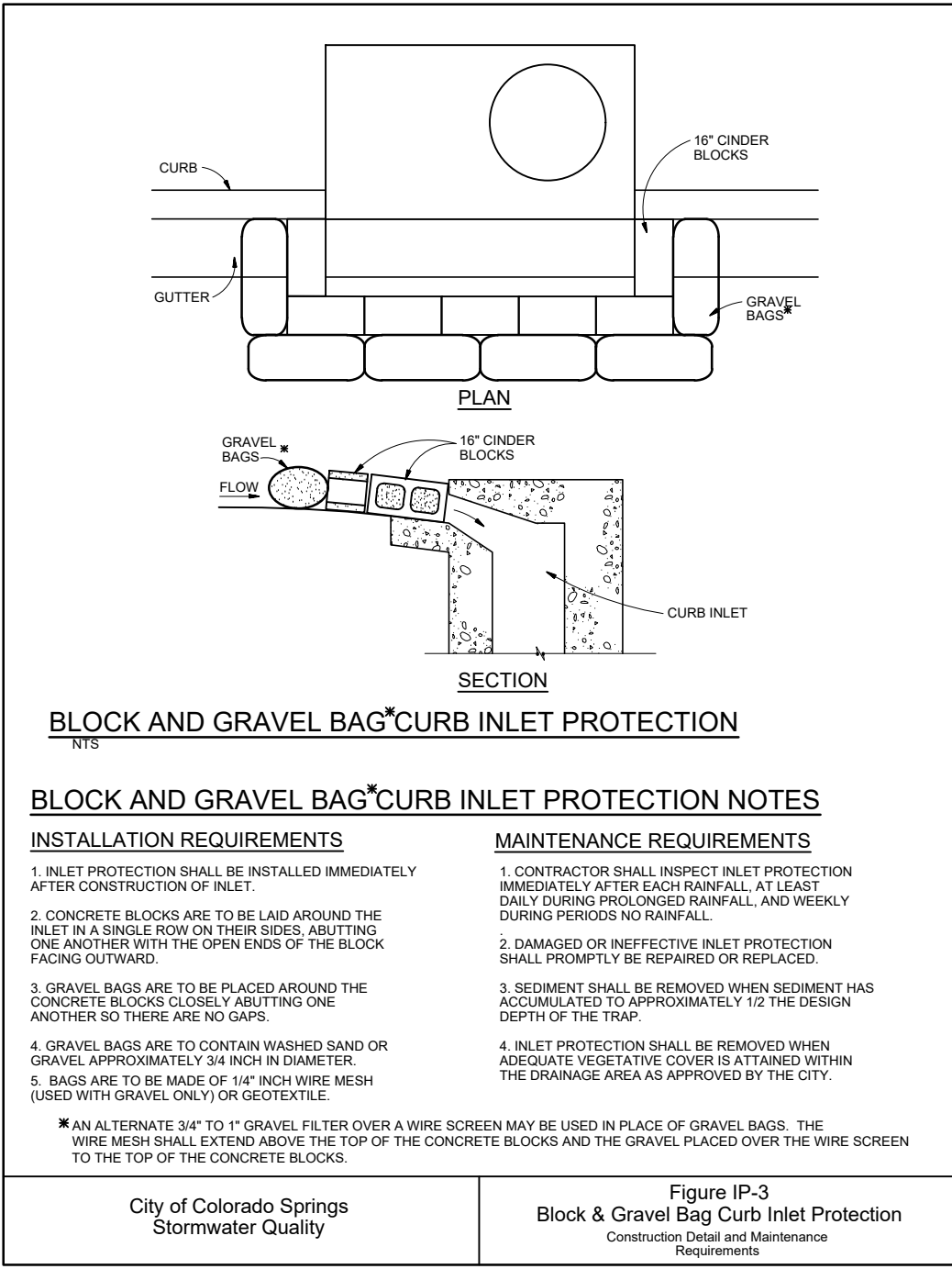
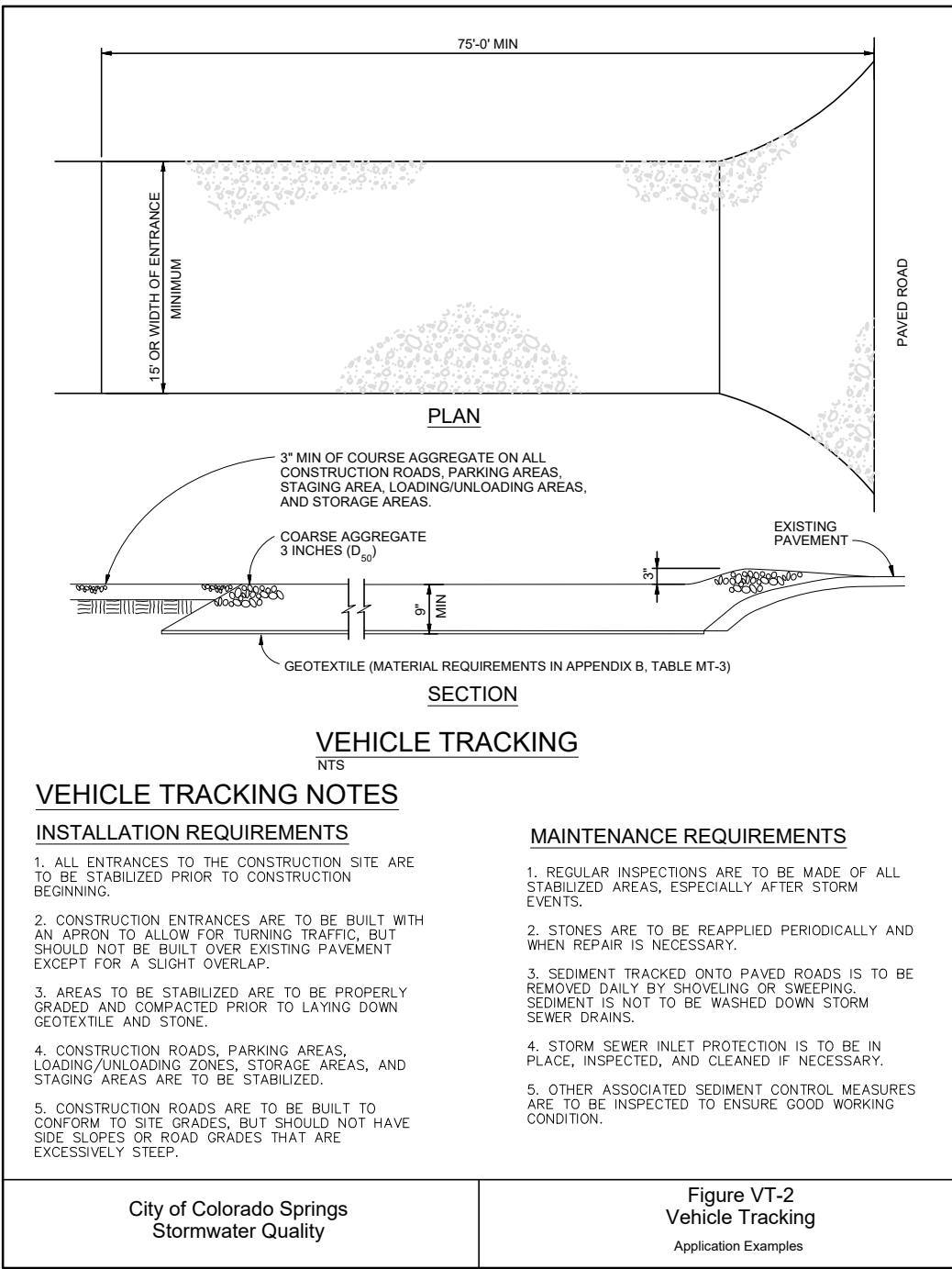
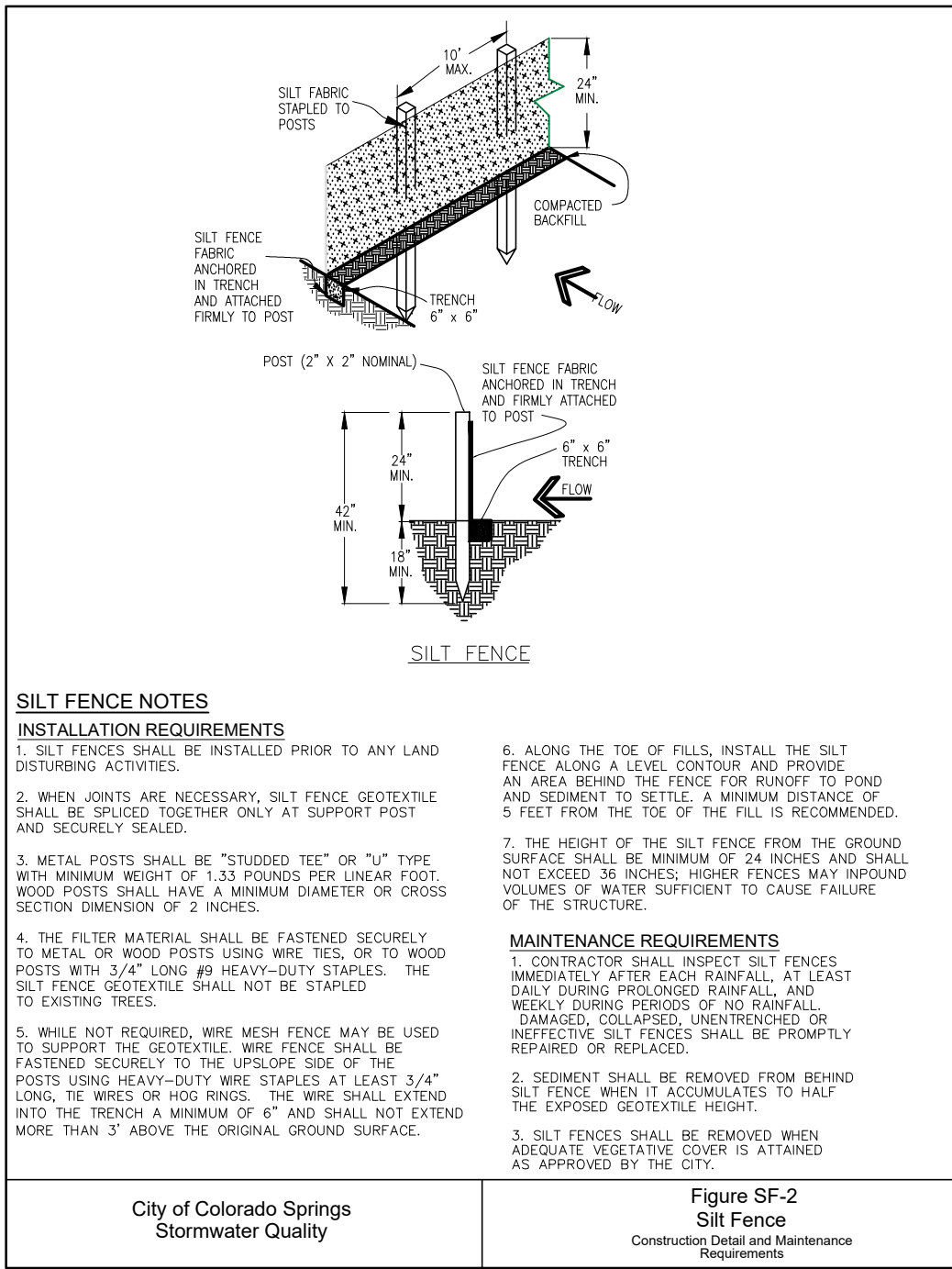
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HORIZ. SCALE:	N/A	DRAWN:	PV
VERT. SCALE:	N/A	DESIGNED:	JPS
SURVEYED:		CHECKED:	JPS
CREATED:	05/27/20	LAST MODIFIED:	05/13/25
PROJECT NO:	082401	MODIFIED BY:	PV
SHEET:			

REVISÉD 7/02/19

3. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS, ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
4. 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 STANDARD SPECIFICATIONS 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.
5. 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.
6. ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
7. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
8. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
9. 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.
10. 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.
11. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT AFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE EGM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
12. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATER OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
13. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
14. 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.
15. 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.
16. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
17. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
18. 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.
19. 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.
20. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
21. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
22. 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.
23. 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 EGM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
24. 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.
25. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
26. 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 I AND THE EGM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (0401, 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.
27. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
28. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
29. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
30. THE SOILS REPORT FOR THIS SITE SHALL BE CONSIDERED A PART OF THESE PLANS.
31. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
WQCD - PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT



<u>GRASS</u>		<u>VARIETY</u>	<u>AMOUNT IN PLS</u> <u>LBS. PER ACRE</u>
CRESTED WHEAT GRASS	EPHRAIM	OR HYCREST	4.0 LBS.
PERENIAL RYE	LINN		2.0 LBS.
WESTERN WHEATGRASS	SARTON		3.0 LBS.
SMOOTH BROME GRASS	LINCOLN	OR MANCHAR	5.0 LBS.
SIDEATS GRAMA	EPHRAIM		2.5 LBS.
TOTAL:			16.5 LBS.

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

MULCHING APPLICATION: CONFORM TO CDOT
SPEC-SECTION 213




INSTALL BMP'S	MAY, 2025
GRADING START	MAY, 2025
GRADING COMPLETION	DECEMBER, 2025
SEEDING & MULCHING	MAY, 2026
STABILIZATION	SEPTEMBER, 2027

FREQUENCY	
PERIODIC SITE INSPECTIONS	BI-WEEKLY
RE-VEGETATION OF EXPOSED SOILS	WITHIN 21 DAYS OF GRADING
SEDIMENT REMOVAL FROM BMP'S	MONTHLY
REMOVAL OF BMP'S	AFTER STABILIZATION ACHIEVED

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

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

<h1 style="margin: 0;">CATHEDRAL ROCK CHURCH</h1> <h2 style="margin: 0;">TRACT A, STRUTHERS RANCH FILING NO. 2</h2>		<h1 style="margin: 0;">EROSION CONTROL</h1> <h2 style="margin: 0;">NOTES AND DETAILS</h2>	
<p>CALL UTILITY NOTIFICATION CENTER OF COLORADO 1-800-922-1987 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE ANY EXCAVATION FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.</p>			
<p>JPS ENGINEERING</p>		<p>19 E. Willamette Ave. Colorado Springs, CO 80903</p> <p>PH: 719-477-9429 FAX: 719-471-0766 www.jpsengr.com</p>	
<p>HORIZ. SCALE: NTS</p> <p>VERT. SCALE: N/A</p> <p>SURVEYED: RIDELINE</p> <p>CREATED: 05/27/20</p> <p>PROJECT NO: 082401</p>		<p>DRAWN: PV</p> <p>DESIGNED: JPS</p> <p>CHECKED: JPS</p> <p>LAST MODIFIED: 03/25/25</p> <p>MODIFIED BY: PV</p>	
<p>SHEET:</p>		<p>C4.2</p>	