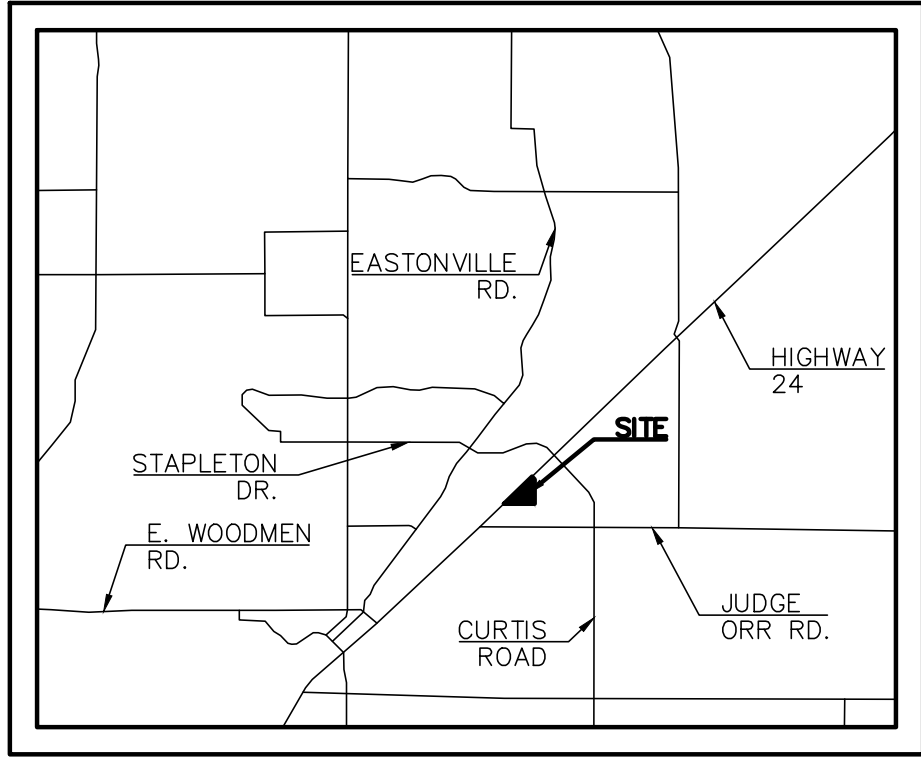


FALCON BIG R STORE EXPANSION  
EL PASO COUNTY  
GRADING & EROSION CONTROL PLAN  
DECEMBER 2021

EPC STORMWATER REVIEW COMMENTS ARE  
SHOWN IN ORANGE BOXES WITH BLACK TEXT



VICINITY MAP  
N.T.S.



EROSION CONTROL COST OPINION

1.	1 EA.—CONCRETE WASHOUT AREA	\$760.00/EA	\$	760
2.	0.40 AC—SEEDING & MULCH @ \$785.00/AC		\$	314
3.	1 EA.—FUEL SPILL KIT @ \$200.00/EA		\$	200
4.	1 EA.—VEHICLE TRACKING CONTROL @ \$1325.00/EA		\$	1,325
5.	40% MAINTENANCE AND REPLACEMENT		\$	2,599
TOTAL				\$ 5,198

SHEET INDEX

COVER SHEET	1 OF 7
GRADING NOTES	2 OF 7
DETAILED GRADING PLAN	3 OF 7
DETAILED GRADING PLAN	4 OF 7
EROSION CONTROL PLAN	5 OF 7
EROSION CONTROL DETAILS	6 OF 7
EROSION CONTROL DETAILS	7 OF 7

AREA

TOTAL AREA TO BE CLEARED, EXCAVATED, GRADED OR DISTURBED IS 0.99 ACRES.

VOLUME

EARTHWORK VOLUMES: TBD

ENGINEER'S STATEMENT

Please replace with the following:

"These detailed plans and specifications were prepared under my direction and supervision. Said plans and specifications have been prepared according to the criteria established by the County for detailed roadway, drainage, grading and erosion control plans and specifications, and said plans and specifications are in conformity with applicable master drainage plans and master transportation plans. Said plans and specifications meet the purposes for which the particular roadway and drainage facilities are designed and are correct to the best of my knowledge and belief. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparation of these detailed plans and specifications.

[Name, P.E. # \_\_\_\_\_] Date \_\_\_\_\_

OWNER'S STATEMENT

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

OWNER NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

EL PASO COUNTY APPROVAL

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 EDCM 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 DIRECTORS DISCRETION.

JENNIFER IRVINE, P.E.  
COUNTY ENGINEER / EDCM ADMINISTRATOR

DATE \_\_\_\_\_

PCD File No. PPR-21-76

COUNTY ESQCP #DOT2021-XX

OWNER: STORE MASTER FUNDING VIII LLC  
100 BIG R STREET  
PUEBLO, CO 81001

CONTRACTOR: T-BONE CONSTRUCTION  
1310 FORD STREET  
COLORADO SPRINGS, CO 80915  
(719) 570-1456

PREPARER: TERRA NOVA ENGINEERING, INC.  
721 S. 23RD ST.  
COLORADO SPRINGS, CO 80904  
(719) 635-6422 OFFICE  
(719) 499-2255 MOBILE

PROJECT DATA:

ADDRESS: 14155 E HIGHWAY 24  
COLORADO SPRINGS, CO 80831

TSN: 42330-00-021

SITE AREA: 35.33 ACRES

EXISTING & PROPOSED ZONING: CS

EXISTING & PROPOSED USE: MERCHANDISING

AS DETERMINED BY THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL #S 08041C0554G & 08041C0558G, EFFECTIVE DATE DECEMBER 7, 2018, PORTIONS OF THIS SITE ARE WITHIN A DESIGNATED F.E.M.A. FLOODPLAIN. THOSE AREAS ARE SHOWN ON THE PLANS.

THE SCHEDULE FOR CONSTRUCTION OF THE PROPOSED BUILDING WILL PROCEED IMMEDIATELY AFTER ALL GOVERNMENTAL APPROVALS ARE OBTAINED.

CONTOURS FOR THIS DOCUMENT ARE 1.0' INTERVALS.

SITE IS WITHIN THE HAEGLER RANCH DRAINAGE BASIN

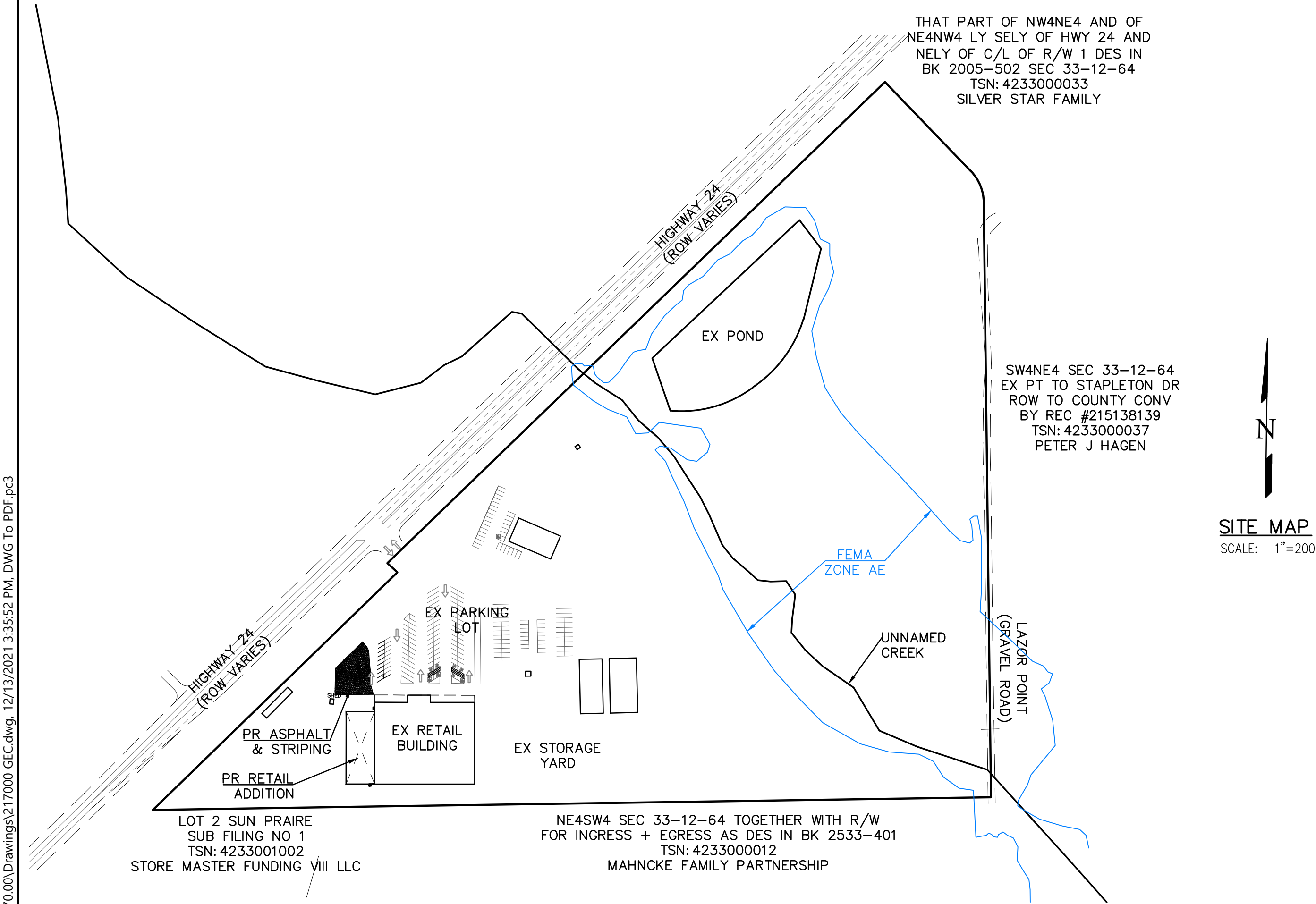
LEGAL DESCRIPTION

PART OF SE4NW4 & PART OF SW4NW4 LY SELY OF HWY 24 & PART OF NE4NW4 LY SELY OF US HWY 24 & SWLY OF C/L OF R/W NO 1 DES IN BK 2055-502, COUNTY OF EL PASO, STATE OF COLORADO DESCRIPTION

THAT PART OF NW4NE4 AND OF NE4NW4 LY SELY OF HWY 24 AND NELY OF C/L OF R/W 1 DES IN BK 2005-502 SEC 33-12-64 TSN:4233000033 SILVER STAR FAMILY

SW4NE4 SEC 33-12-64 EX PT TO STAPLETON DR ROW TO COUNTY CONV BY REC #215138139 TSN:4233000037 PETER J HAGEN

SITE MAP  
SCALE: 1"=200'



PREPARED FOR:  
T-BONE CONSTRUCTION  
ATTN: 1310 FORD STREET  
COLORADO SPRINGS, CO 80915  
(719) 570-1456

Terra Nova  
Engineering, Inc.  
721 S. 23RD ST.  
COLORADO SPRINGS, CO 80904  
OFFICE: 719-635-6422  
FAX: 719-635-6426  
www.tnec.com

FALCON BIG R STORE EXPANSION  
14155 E HIGHWAY 24

GRADING & EROSION CONTROL PLAN  
COVER SHEET

DESIGNED BY JF  
DRAWN BY JF  
CHECKED BY LD  
H-SCALE AS NOTED  
V-SCALE AS NOTED  
JOB NO. 2170.00  
DATE ISSUED 12/11/21  
SHEET NO. 1 OF 7

REVISIONS	NO.	DESCRIPTION	DATE
UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, THIS DRAWING IS NOT TO BE USED FOR ANY PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.			



# FALCON BIG R STORE EXPANSION

## EL PASO COUNTY

# GRADING & EROSION CONTROL PLAN

## DECEMBER 2021

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

1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF SITE WATERS, INCLUDING WETLANDS.

2. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.

3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER, SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.

4. ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.

5. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.

6. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.

7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.

8. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.

9. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.

10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.

11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).

12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.

13. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.

14. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.

15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.

17. WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.

18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.

19. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.

20. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.

21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.

22. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.

23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.

24. OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.), IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.

26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.

27. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.

28. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTECH ENGINEERING, INC. AND SHALL BE CONSIDERED A PART OF THESE PLANS.

29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

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

### EL PASO COUNTY STANDARD CONSTRUCTION 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 & 2 AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION 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 & 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 ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACE 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 CONTRACTORS 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 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 PUBLIC WORK DEPARTMENT AND MUTCD CRITERIA.

14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY PWD, 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.

### CONSTRUCTION SCHEDULE

BEGIN GRADING: SPRING 2022, END GRADING: FALL 2022

### TRAFFIC CONTROL NOTE

THE CONTRACTOR SHALL PROVIDE ALL TRAFFIC CONTROL DEVICES AND MONITORING NECESSARY TO SAFELY COMPLETE THE WORK SHOWN IN THESE CONSTRUCTION DOCUMENTS IN CONFORMANCE WITH M.U.T.C.D. GUIDELINES. THE CONTRACTOR SHALL COMPLETE ALL NECESSARY WORK FOR PLAN REVIEW, PERMITS AND PROCESSING. TRAFFIC CONTROL WILL NOT BE PAID SEPARATELY BUT IS INCLUDED IN THE COST OF THE PROJECT.

### UTILITY NOTES

1. UTILITY LINE LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND ARE TO BE FIELD VERIFIED.  
2. BURY DEPTH OF THE WATER MAIN ALONG ARROYA LANE TO BE CONFIRMED PRIOR TO STARTING ANY GRADING ABOVE THE WATER MAIN.

### CONSTRUCTION NOTES:

1. ALL WORK SHALL COMPLY WITH THE CODES AND POLICIES FOR EL PASO COUNTY.

2. EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THIS GRADING PLAN WAS OBTAINED FROM AERIAL CONTOURS. THE CONTRACTOR SHALL BE RESPONSIBLE TO EXAMINE THE SITE AND BE FAMILIAR WITH THE EXISTING CONDITIONS.

3. DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:  
BASE OF ALL CUTS AND FILLS — 12 INCHES, FULL DEPTH OF ALL EMBANKMENTS.

4. THE CONTRACTOR IS RESPONSIBLE FOR THE RE-ESTABLISHMENT OF ALL SURVEY MONUMENTS DISTURBED WITHIN THE PROJECT LIMITS.

5. THE CONTRACTOR SHALL PROTECT ALL WORK AREAS AND FACILITIES FROM FLOODING AT ALL TIMES. AREAS AND FACILITIES SUBJECTED TO FLOODING, REGARDLESS OF THE SOURCE OF WATER, SHALL BE PROMPTLY DEWATERED AND RESTORED.

6. PRIOR TO PAVING OPERATIONS, THE ENTIRE SUBGRADE SHALL BE PROOF-ROLLED WITH A LOADED 988 FRONT-END LOADER OR SIMILAR HEAVY RUBBER Tired VEHICLE (GVW OF 50,000 POUNDS WITH 18 KIP PER AXLE AT TIRE PRESSURES OF 90 PSI) TO DETECT ANY SOFT OR LOOSE AREAS. IN AREAS WHERE SOFT OR LOOSE SOILS, PUMPING OR EXCESSIVE MOVEMENT IS OBSERVED, THE EXPOSED MATERIALS SHALL BE OVER-EXCAVATED TO A MINIMUM DEPTH OF TWO FEET BELOW PROPOSED FINAL GRADE OR TO A DEPTH AT WHICH SOILS ARE STABLE. AFTER THIS HAS BEEN COMPLETED, THE EXPOSED MATERIALS SHALL BE SCARIFIED TO A DEPTH OF 12 INCHES AND MOISTURE CONDITIONED. THE SUBGRADE SHALL THEN BE UNIFORMLY COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D-698) AT 0 TO +4.0% OF OPTIMUM MOISTURE CONTENT FOR A-6 AND A-7-6 SOILS ENCOUNTERED. OTHER SUBGRADE TYPES SHALL BE UNIFORMLY COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR DENSITY (ASTM D-1557) AT PLUS OR MINUS 2.0% OF OPTIMUM MOISTURE CONTENT. AREAS WHERE STABLE NATURAL SOILS ARE ENCOUNTERED AT PROPOSED SUBGRADE ELEVATION SHALL ALSO BE SCARIFIED (18 INCHES FOR A-7-6 SOILS BELOW FULL-DEPTH ASPHALT CONCRETE) AND COMPACTED AS OUTLINED ABOVE PRIOR TO PAVING OPERATIONS. SUBGRADE FILL SHALL BE PLACED IN SIX-INCH LIFTS AND UNIFORMLY COMPACTED, MEETING THE REQUIREMENTS AS PREVIOUSLY DESCRIBED.

7. SUBGRADE MATERIALS DEEMED UNSUITABLE BY THE ENGINEER SHALL BE EXCAVATED, DISPOSED OF AND REPLACED WITH APPROVED MATERIALS.

8. FILL SHALL BE PLACED IN 8-INCH MAXIMUM LOOSE LIFTS AND SHALL BE COMPACTED PRIOR TO SUCCESSIVE LIFTS.

9. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING AND CONTROLLING EROSION DURING CONSTRUCTION ACTIVITIES AT ALL TIMES DURING GRADING AND CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING EROSION AND SEDIMENT CONTROL MEASURES:  
—SEDIMENT CONTROL LOGS WHERE NEEDED AND/OR AS DIRECTED BY THE ENGINEER.  
—SILT FENCE WHERE NEEDED AND/OR AS DIRECTED BY THE ENGINEER.  
—PERMANENT SEEDING AND MULCHING WHERE NEEDED AND/OR AS DIRECTED BY THE ENGINEER.  
—CONCRETE WASH AREAS.  
—VEHICLE TRACKING CONTROL.  
—SOIL STOCKPILING AREA.  
—MATERIALS STAGING AREA.

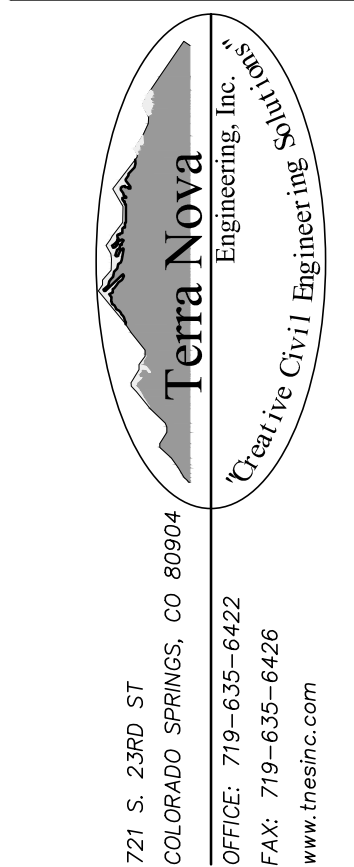
THESE AND ALL EROSION CONTROL BEST MANAGEMENT PRACTICES AS SHOWN IN THE GRADING AND EROSION CONTROL PLANS SHALL BE STRICTLY ADHERED TO.

10. FINISHED CONTOURS/ SPOT ELEVATIONS SHOWN HEREON REPRESENT FINISHED GRADES.

REVISIONS	NO.	DESCRIPTION	DATE

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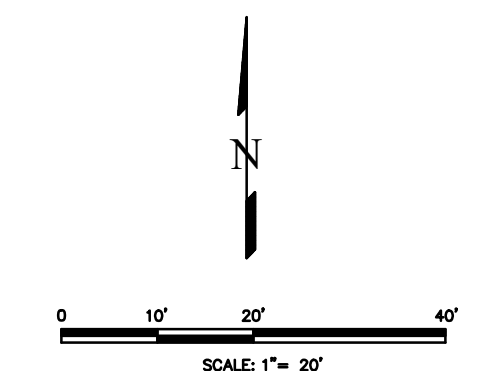
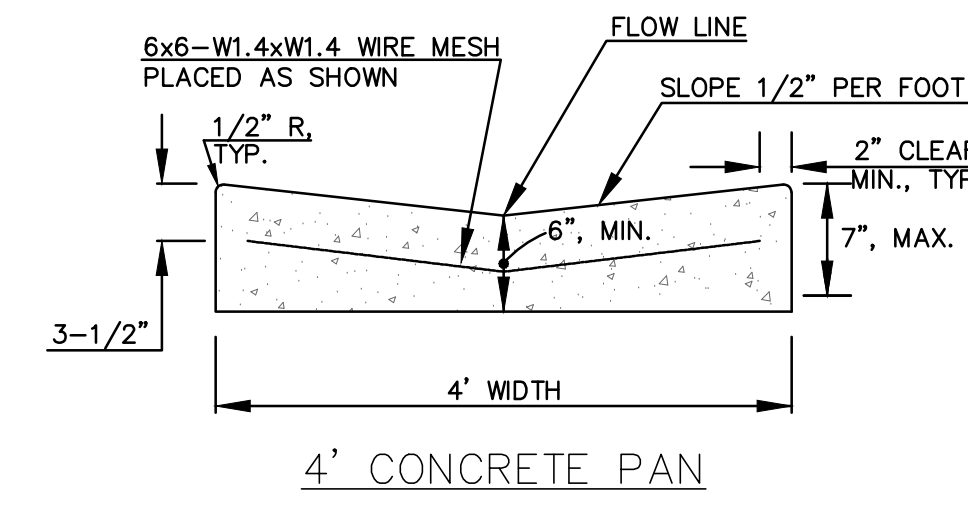
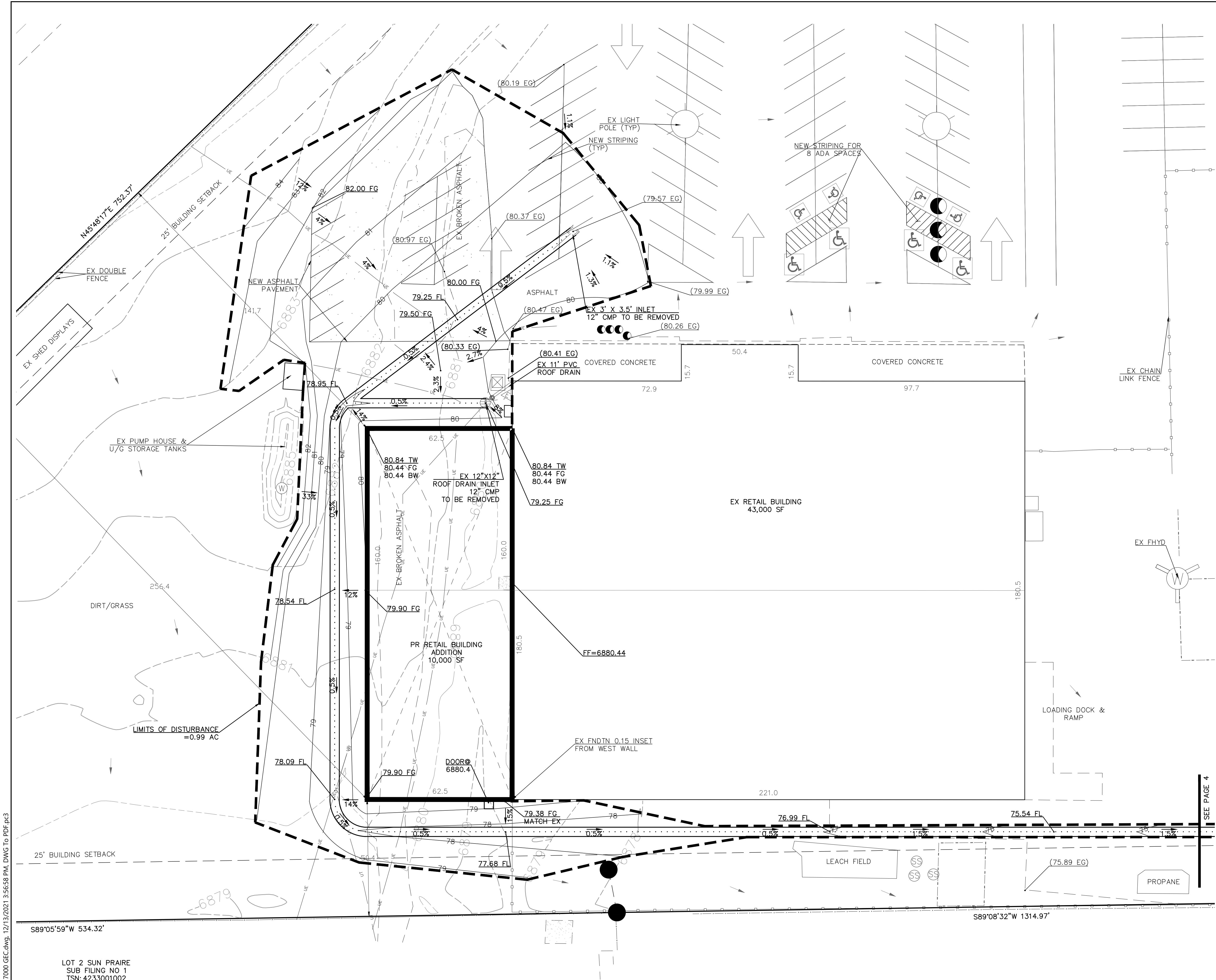


FALCON BIG R STORE EXPANSION  
14155 E HIGHWAY 24  
GRADING & EROSION CONTROL PLAN  
GRADING NOTES SHEET

DESIGNED BY JF
DRAWN BY JF
CHECKED BY LD
H-SCALE
V-SCALE
JOB NO. 2170.00
DATE ISSUED 12/11/21
SHEET NO. 2 OF 7



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LEGEND

- PROPOSED ASPHALT
- EXISTING CONCRETE
- EXISTING PROPERTY LINE
- EXISTING PAVEMENT EDGE
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED CONTOUR
- PROPOSED FLOW
- EXISTING SETBACK
- EXISTING IRON FENCE
- EXISTING BARB WIRE FENCE
- EXISTING CHAIN LINK FENCE
- EXISTING ELECTRIC UTILITY
- PROPOSED CONCRETE PAN

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION  
FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

L. DUCETT, P.E.  
COLORADO P.E. NO. 32339

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Engineering, Inc.  
Professional Engineer  
721 S. 23RD ST.  
COLORADO SPRINGS, CO 80904  
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FAX: 719-635-6426  
www.tneng.com

**FALCON BIG R STORE EXPANSION**  
14155 E HIGHWAY 24

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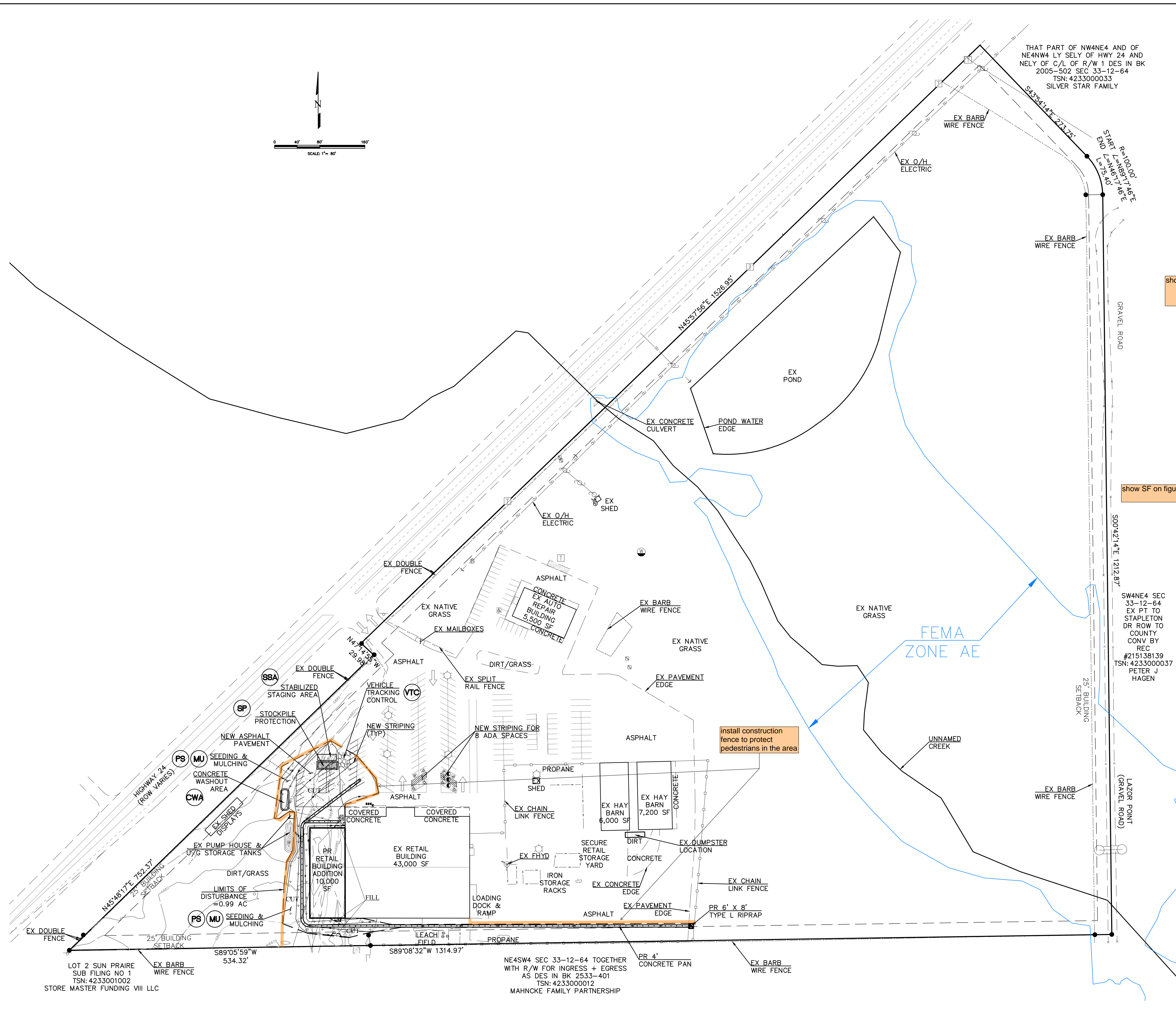
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SHEET NO. 3 OF 7

GRADING & EROSION CONTROL PLAN  
DETAILED GRADING PLAN







**LEGEND**




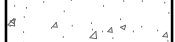





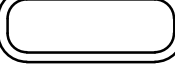



- PROPOSED ASPHALT
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- PROPOSED CONTOUR
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- EXISTING BARB WIRE FENCE
- EXISTING CHAIN LINK FENCE
- EXISTING ELECTRIC UTILITY
- PROPOSED CONCRETE PAN

show construction site boundaries

EROSION CONTROL NOTES

- EROSION CONTROL NOTES**
1. SEDIMENT CONTROL LOGS MAY BE SUBSTITUTED FOR SILT FENCE AND VICE VERSA.
  2. DRILL SEEDING AND MECHANICALLY CRIMPING MULCH ARE THE PREFERRED INSTALLATION METHODS. USE OTHER METHODS CALLED OUT AS NEEDED ON STEEPER SLOPES AND LIMITED ACCESS AREAS.
  3. SEED AND MULCH ALL DISTURBED AREAS NOT BEING PAVED OR BUILT UPON.

EROSION CONTROL LEGEND

	KEY	TITLE	SYMBOL
Initial & Interim		SILT FENCE	
Interim		STABILIZED STAGING AREA	
Initial/Interim		VEHICLE TRACKING CONTROL	
Interim		STOCKPILE PROTECTION	
Interim		CONCRETE WASHOUT AREA	
Final	 	PERMANENT SEEDING AND MULCHING PS – DRILL SEED, HAND SEED, OR HYDROSEED; SEED MIX PER COLORADO SPRINGS DRAINAGE CRITERIA MANUAL (MAY 2014) VOL 1, TABLE 14-12 MU – MECHANICALLY CRIMP MULCH OR HYDROMULCH	

include a temporary sediment basin to treat stormwater before it leaves the site.

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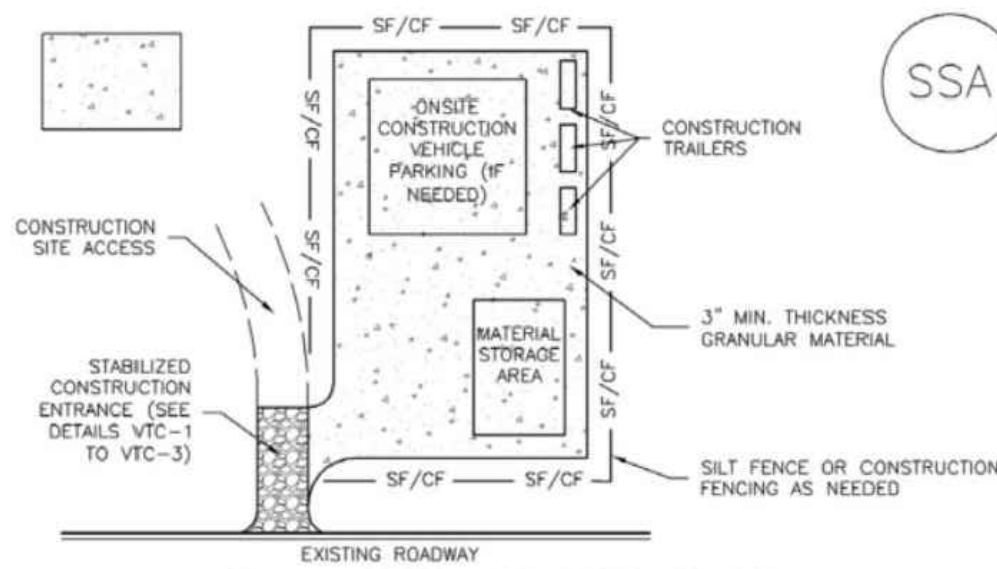
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### Stabilized Staging Area (SSA)

SM-6



SSA-1. STABILIZED STAGING AREA

#### STABILIZED STAGING AREA INSTALLATION NOTES

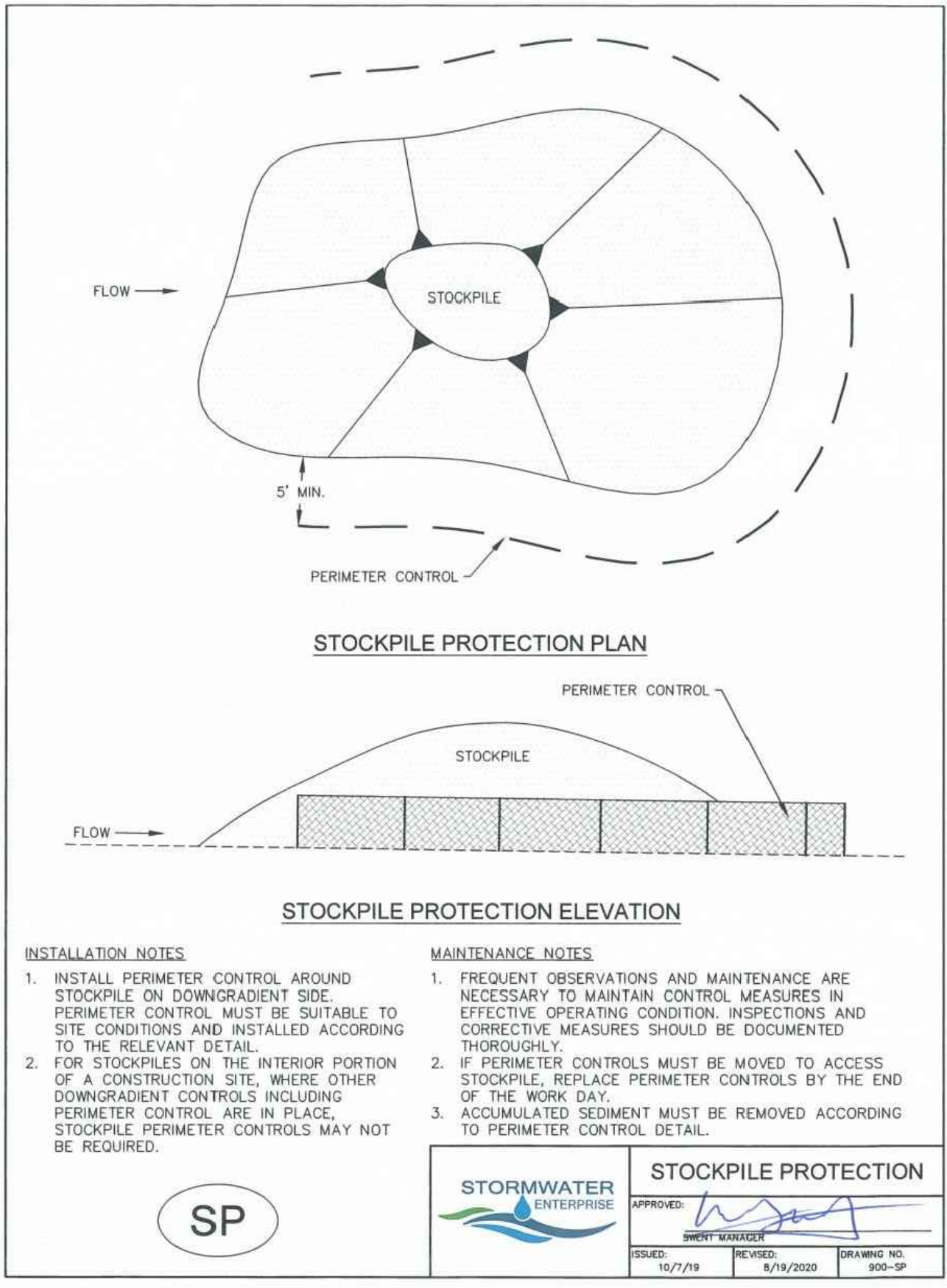
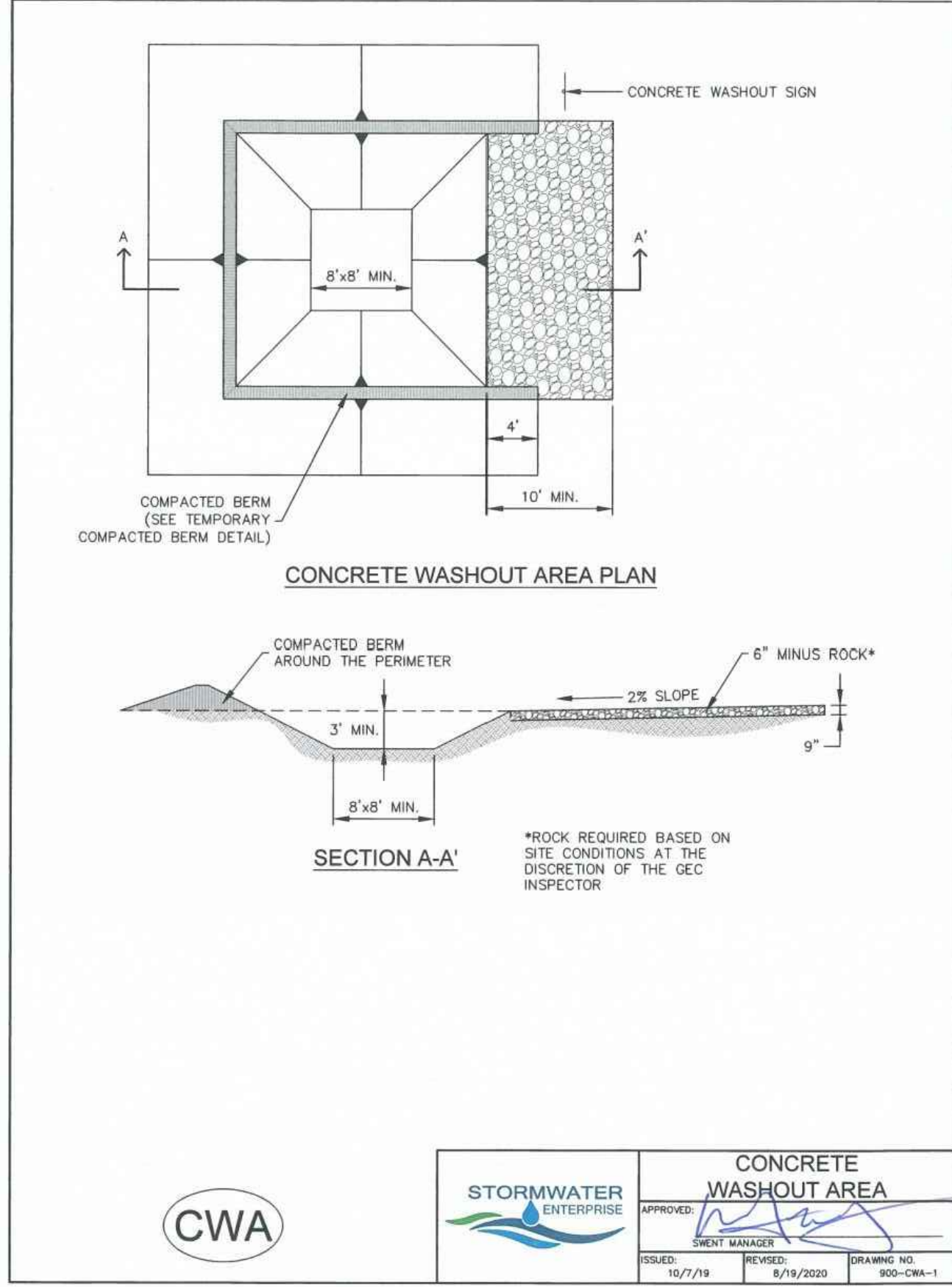
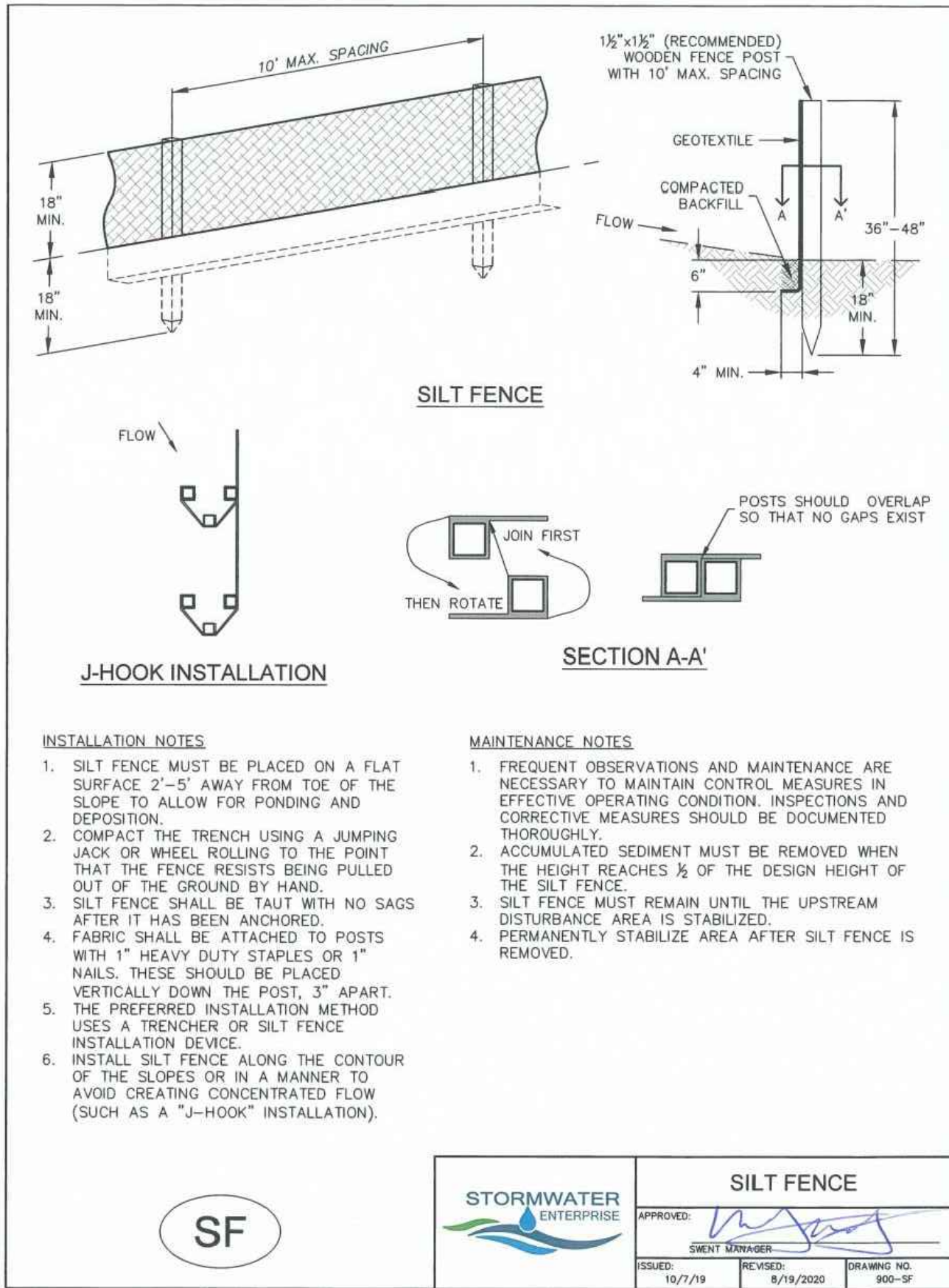
1. SEE PLAN VIEW FOR:  
-LOCATION OF STAGING AREA(S).  
-CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.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

#### STABILIZED STAGING AREA MAINTENANCE NOTES

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

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

SSA-3



SM-6

### Stabilized Staging Area (SSA)

#### STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
6. 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, SEEDS AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

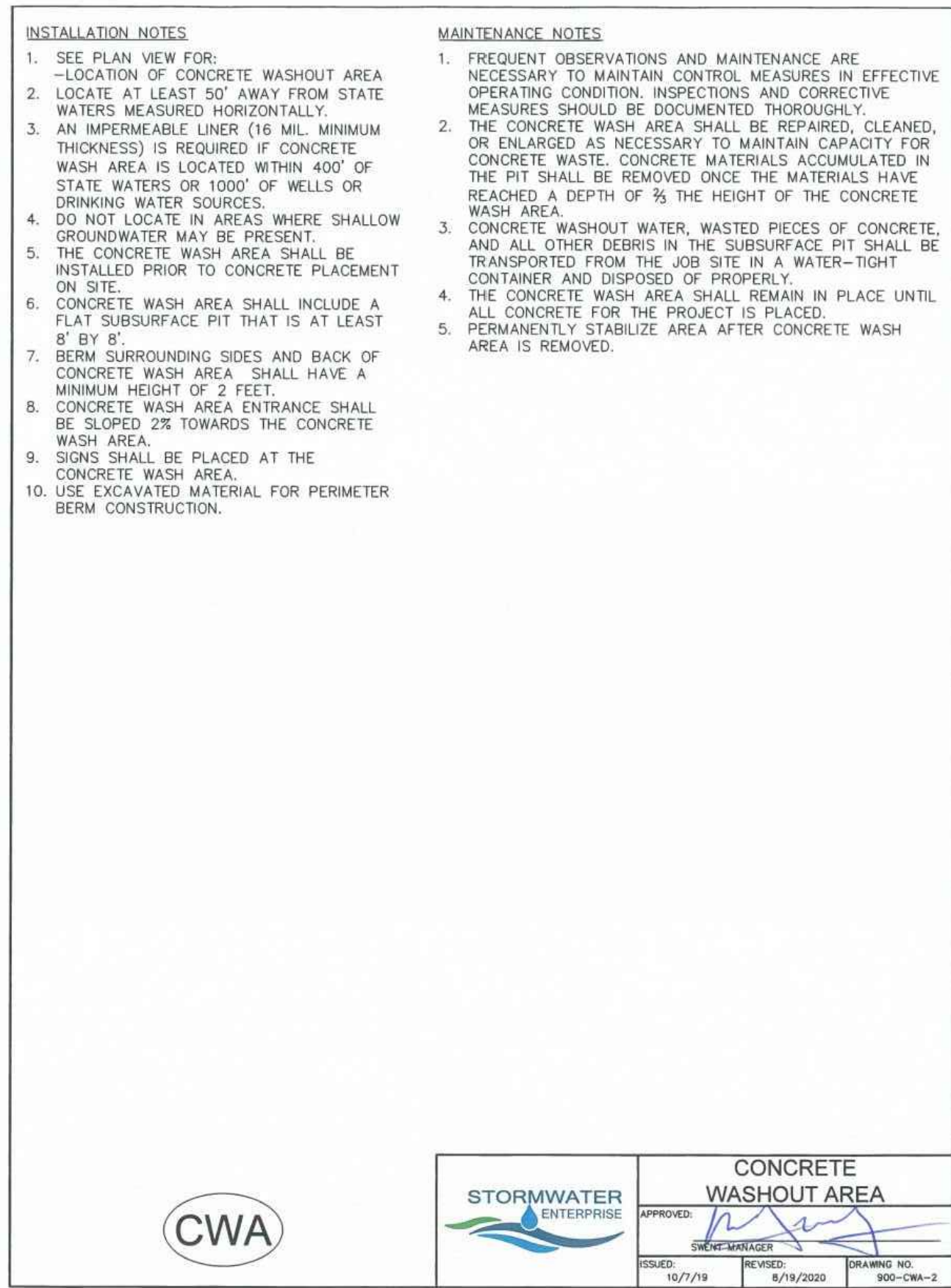
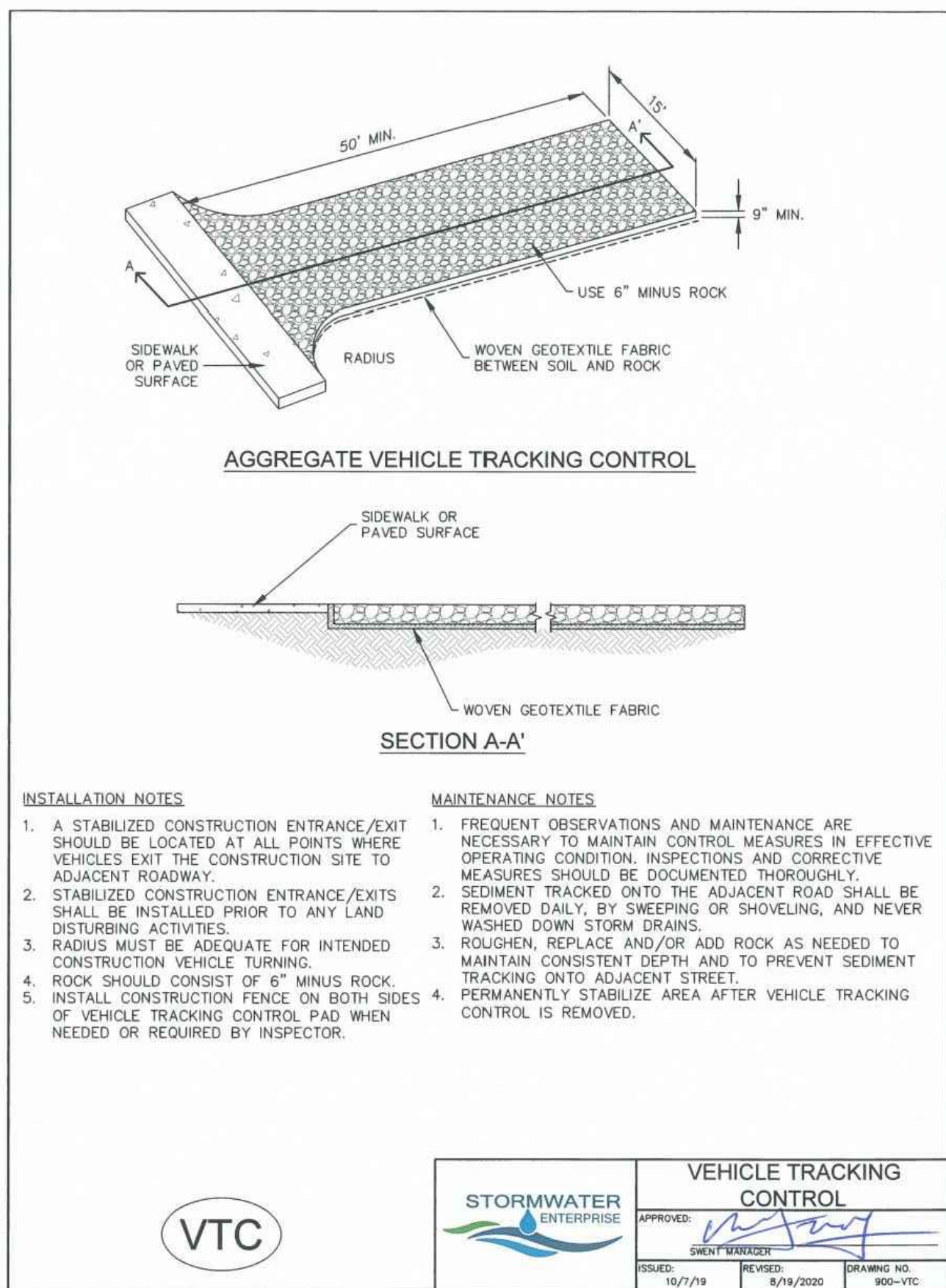
NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

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)

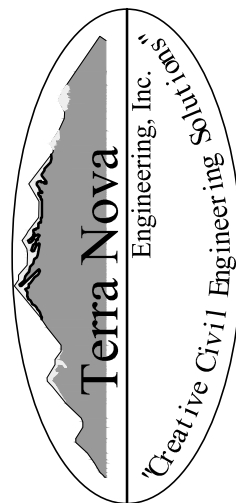
SSA-4 Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

November 2010



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**FALCON BIG R STORE EXPANSION**  
14155 E HIGHWAY 24

GRADING & EROSION CONTROL PLAN  
EROSION CONTROL DETAILS

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Chapter 5  
Native Vegetation Requirements and Guidelines


Table 5-1. El Paso County Conservation District All-Purpose Mix for Upland, Transition and Permanent Control Measure Areas

Common Name	Scientific Name	Growth Season / Form	% of Mix	Pounds PLS		
				• Irrigated broadcast • Irrigated hydroseeded	• Non-irrigated broadcast • Non-irrigated hydroseeded • Irrigated drilled	• Non-irrigated drilled
				80 seeds/sq ft	40 seeds/sq ft	20 seeds/sq ft
Bluestem, big	<i>Andropogon gerardii</i>	Warm, sod	20	4.4	2.2	1.1
Gramma, blue	<i>Bouteloua gracilis</i>	Warm, bunch	10	0.5	0.25	0.13
Green needlegrass <sup>2</sup>	<i>Nassella viridula</i>	Cool, bunch	10	2	1	0.5
Wheatgrass, western <sup>2</sup>	<i>Pascopyrum smithii</i>	Cool, sod	20	6.4	3.2	1.6
Gramma, sideoats	<i>Bouteloua curtipendula</i>	Warm, bunch	10	2	1	0.5
Switchgrass <sup>2</sup>	<i>Panicum virgatum</i>	Warm, bunch/sod	10	0.8	0.4	0.2
Prairie sandreed	<i>Calamovilfa longifolia</i>	Warm, sod	10	1.2	0.6	0.3
Yellow indiangrass <sup>2</sup>	<i>Sorghastrum nutans</i>	Warm, sod	10	2	1	0.5
Seed rate (lbs PLS/acre)				19.3	9.7	4.8

<sup>1</sup>For portions of facilities located near or on the bottom or where wet soil conditions occur. Planting of potted nursery stock wetland plants 2-foot on-center is recommended for sites with wetland hydrology.

<sup>2</sup>Species that will do well in the bottom of pond areas.

City of Colorado Springs  
Stormwater Enterprise

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Chapter 5  
Native Vegetation Requirements and Guidelines

1.0 APPLICABILITY

When areas disturbed by construction activities require temporary or permanent revegetation that is not included in a Landscaping Plan, the requirements below must be followed by the Permittee.

2.0 STABILIZATION REQUIREMENTS AND GUIDELINES

2.1 Site Preparation

The following requirements apply to site preparation for revegetation:

- In areas to be seeded, the upper 6 inches of the topsoil must be in a friable condition and not heavily compacted.
- Areas to be planted shall have at least 4 inches of topsoil suitable to support plant growth. Native topsoil, when applicable, must be stripped and saved for this purpose.

If, after one year following seed application, revegetation has not established in accordance with the performance standards included in this manual, the following will be required:


- Soil testing must be performed prior to subsequent seeding efforts. Soil testing is not required on every lot for Associate GEC Permits.
- Soil amendments or fertilizer must be added to correct topsoil deficiencies (e.g., nutrients, pH, organic matter, salinity) based on the soil testing results.
  - If fertilizer is used, slow-release type fertilizers must be used to encourage target vegetation and protect water quality.
  - Soil amendments and/or fertilizer must be worked into soil during seedbed preparation if necessary.

All soil testing, soil amendment and fertilizer documentation, and seed load and bag tickets must be added to the CSWMP.

The following guideline also applies to site preparation for revegetation:

- The City recommends that existing and/or imported topsoil be tested to identify soil deficiencies and any soil amendments necessary to address these deficiencies. Soil amendments and/or fertilizers should be added to correct topsoil deficiencies based on the soil testing results.

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Chapter 5  
Native Vegetation Requirements and Guidelines

As with any construction activity, appropriate equipment must be used to achieve the desired result. The only appropriate method of incorporating large quantities of organic matter thoroughly is by rototilling with heavy equipment that is capable of a 6- to 8-inch cultivating and mixing depth. Discing and harrowing have been found to be inadequate and should not be used.

2.1.11 Grading and Compaction


In areas to be seeded, the upper 6 inches of the soil must not be heavily compacted and should be in a friable condition. Less than an 85% standard proctor density is acceptable. Areas of compaction or general construction activity must be scarified to a depth of 6 to 12 inches prior to spreading topsoil to break up compacted layers and provide a blending zone between different soil layers.

2.2 Seeding

Seed mixtures should be sown at the proper time of year for the mixture. The following requirements and recommendations apply:

- For irrigated native seed projects, seeding should occur between May 1 and August 1. Seeding after August 1 may not allow warm season grasses to grow large enough to survive the winter and may result in poor coverage.
- For non-irrigated projects, seeding should occur between November 15 and April 15.
- Seed should be drill-seeded whenever possible.
  - Seed depth must be 1/3 to 1/2 inches when drill-seeding is used.
  - Cross drilling (double drilling) should be used whenever possible. The seed should be divided between the two operations, drilling the second seed application perpendicular to the first.
  - Drill seeding must be completed with a drill seeding machine equipped with seed boxes designed to plant warm and cool season native grass seed.
- Broadcast seeding or hydro-seeding with tackifier may be substituted on slopes steeper than 3:1 or on other areas not practical to drill seed at the discretion of the GEC Inspector.
  - Seeding rates must match the amounts as shown in Section 4.0 for broadcast seeding or hydro-seeding.
  - Broadcast seed must be lightly hand-raked into the soil.
- Seeded areas shall be mulched, and the mulch must be adequately secured.

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Native Vegetation Requirements and Guidelines

2.3 Mulching

Mulching should be completed as soon as practicable after seeding, however planted areas must be mulched no later than 14 days after planting. Mulching requirements include:

- Hay or straw mulch
  - Only certified weed-free and certified seed-free mulch may be used. Mulch must be applied at 2 tons/acre and adequately secured by crimping and/or tackifier.
  - Crimping must not be used on slopes greater than 3:1 and mulch fibers must be tucked into the soil to a depth of 3 to 4 inches.
  - Tackifier must be used in place of crimping on slopes steeper than 3:1.
- Hydraulic mulching
  - Hydraulic mulching is an option on steep slopes or where access is limited.
  - If hydro-seeding is used, mulching must be applied as a separate, second operation.
  - Wood cellulose fibers mixed with water must be applied at a rate of 2,000 to 2,500 pounds/acre, and tackifier must be applied at a rate of 100 pounds/acre.
- Erosion control blanket
  - Erosion control blanket may be used in place of traditional mulching methods.

2.4 Temporary Irrigation

Due to the semi-arid climate and drying winds in Colorado Springs, evapotranspiration exceeds natural precipitation. Temporary irrigation is highly recommended for quickly establishing vegetative cover. Temporary irrigation is required on sites where revegetation efforts have failed (70% of the pre-disturbance vegetative density was not achieved) 12 months after initial seeding.


2.4.1 Site Evaluation

The evaluation and use of irrigation must be coordinated with City Planning if a Landscaping Plan is required.

2.4.2 Method of Irrigation

When needed, temporary irrigation is typically delivered by temporary surface pipes or in-ground pipes.

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Chapter 5  
Native Vegetation Requirements and Guidelines

Table 5-2. El Paso County All-Purpose Low Grow Mix for Upland and Transition Areas

Common Name	Scientific Name	Growth Season / Form	% of Mix	Pounds PLS		
				• Irrigated broadcast • Irrigated hydroseeded	• Non-irrigated broadcast • Non-irrigated hydroseeded • Irrigated drilled	• Non-irrigated drilled
				80 seeds/sq ft	40 seeds/sq ft	20 seeds/sq ft
Buffalograss	<i>Buchloe dactyloides</i>	Warm, sod	25	9.6	4.8	2.4
Gramma, blue	<i>Bouteloua gracilis</i>	Warm, bunch	20	10.8	5.4	2.7
Gramma, sideoats	<i>Bouteloua curtipendula</i>	Warm, bunch	29	5.6	2.8	1.4
Green needlegrass	<i>Nassella viridula</i>	Cool, bunch	5	3.2	1.6	0.8
Wheatgrass, western	<i>Pascopyrum smithii</i>	Cool, sod	20	12	6	3
Dropseed, sand	<i>Sporobolus cryptandrus</i>	Warm, bunch	1	0.8	0.4	0.2
Seed rate (lbs PLS/acre)				42	21	10.3

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Chapter 5  
Native Vegetation Requirements and Guidelines

- Temporary Surface Pipes (above grade): Surface pipes can provide an adequate water supply if properly designed and operated. However, they are susceptible to damage due to vehicle traffic, wildlife, vandalism and exposure to the sun. All visible temporary irrigation components must be removed within 1 year after the system is no longer in use.
- In-Ground Pipes: In-ground pipes can provide the most reliable method of delivering an adequate water supply if properly designed and operated and is the recommend type of irrigation. These systems are less susceptible to damage and may be abandoned in place with less impact to the site.

2.4.3 Water Sources

There are multiple options for irrigation water sources. They include city domestic (potable) water and nonpotable water (groundwater, raw surface water and reclaimed (tertiary-treated) water). The use of any nonpotable water requires approval through Colorado Springs Utilities. This approval includes verification of the applicable water right(s) and user compliance with applicable Colorado Springs Utilities Standards. The use of gray water (wastewater from sources other than toilets, urinals, kitchen sinks, non-laundry utility sinks and dishwashers) may also be an option, but would require coordination and approval through several entities including Colorado Springs Utilities, the El Paso County Department of Health, and the Pikes Peak Building Department.

2.4.4 Preparing an Irrigation Plan


When required, an Irrigation Plan must be prepared in conformance with the City of Colorado Springs Landscape Code and Policy Manual.

2.5 Performance Standard for Vegetation Establishment

Required vegetation coverage for final stabilization is defined as follows:

- Uniform vegetative cover must be established with an individual plant density of at least 70% of the pre-disturbance vegetative density as determined from pre-disturbance photographs, or equivalent permanent, physical erosion reduction methods must be employed.
- The vegetation shall be uniform and of the variety and species found in the City approved mixes or in the approved GEC Plan. Noxious weeds may not be counted in the vegetative density. The City will use pre-disturbance photographs to determine the required coverage area.
- The number and size of non-vegetated areas within the area of land disturbance shall be reviewed and evaluated by the GEC Inspector during the Final Inspection. This evaluation shall take into account the following at a minimum:

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Native Vegetation Requirements and Guidelines

- Even coverage across area of land disturbance (no large visible bare spots),
- Location of non-vegetated areas (i.e. next to an inlet would be an area of concern),
- Type of vegetation established (weeds vs. target species), and
- Lack of visible erosion within the site.

- If a nurse crop has been utilized on this site, at least half of the 70% of the counted vegetation must be of the targeted species.

Additional and post-construction revegetation and stabilization requirements are specified in the Landscape Code and Policy Manual.

2.6 Managing Noxious Weeds

Managing noxious weeds is a key component of successful revegetation and habitat restoration. Early detection and rapid response is the preferred method of eradication. For more information involving mitigation measures, refer to the El Paso County [Noxious Weeds Website](#).


3.0 FINAL STABILIZATION PROCEDURE

Before scheduling a Final Inspection, while waiting for vegetation to establish, Permittee(s) shall complete the following inspections and maintenance operations:

- Fill any eroded rills and gullies with topsoil prior to any reseeding.
- Ensure all disturbed areas are seeded and mulched according to the City Stormwater Construction Manual.
- Inspect seeded and mulched areas, as well as the stormwater management system, at least once every month. If repairs are needed, reseed and re-mulch/blanket the site as needed or as recommended by the GEC Inspector for areas failing to meet the required coverage.
- Control noxious weeds in a manner acceptable to the GEC Inspector.

In addition, GEC Inspectors will make periodic inspections of the revegetation area and stormwater management system. The frequency may be evaluated and adjusted by the Stormwater Enterprise.

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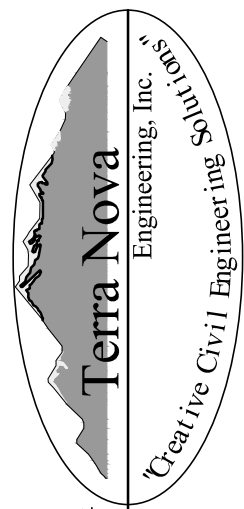
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