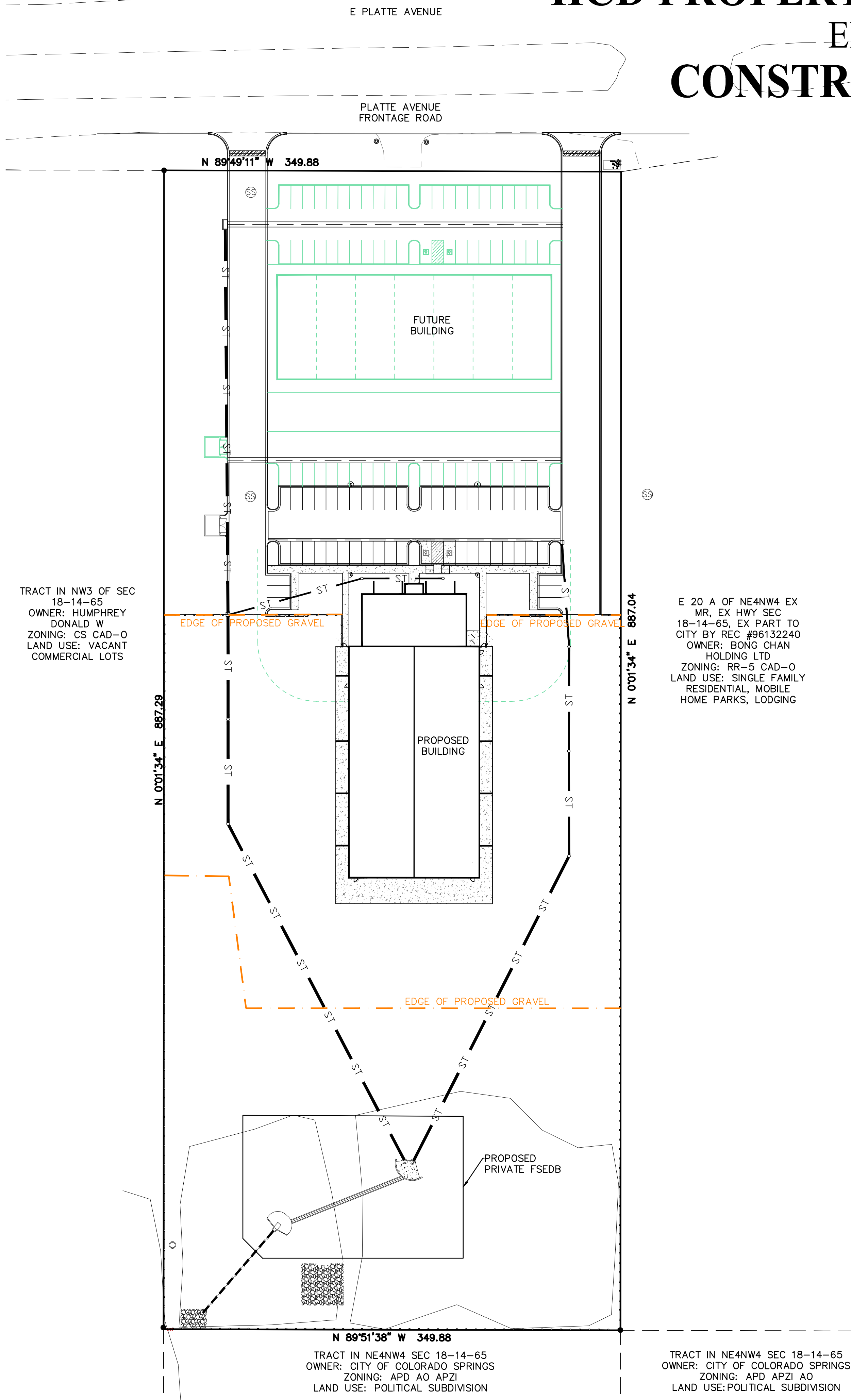


HCD PROPERTIES MINOR SUBDIVISION

EL PASO COUNTY

CONSTRUCTION DRAWINGS

JULY 2021



Add text:
PCD Filing No.:
MS-21-008

PROJECT DATA:

ADDRESS: 6201 E PLATTE AVE.
COLDRADO SPRINGS, CO 80915

TSN: 54180-00-069

SITE AREA: 7.12 ACRES

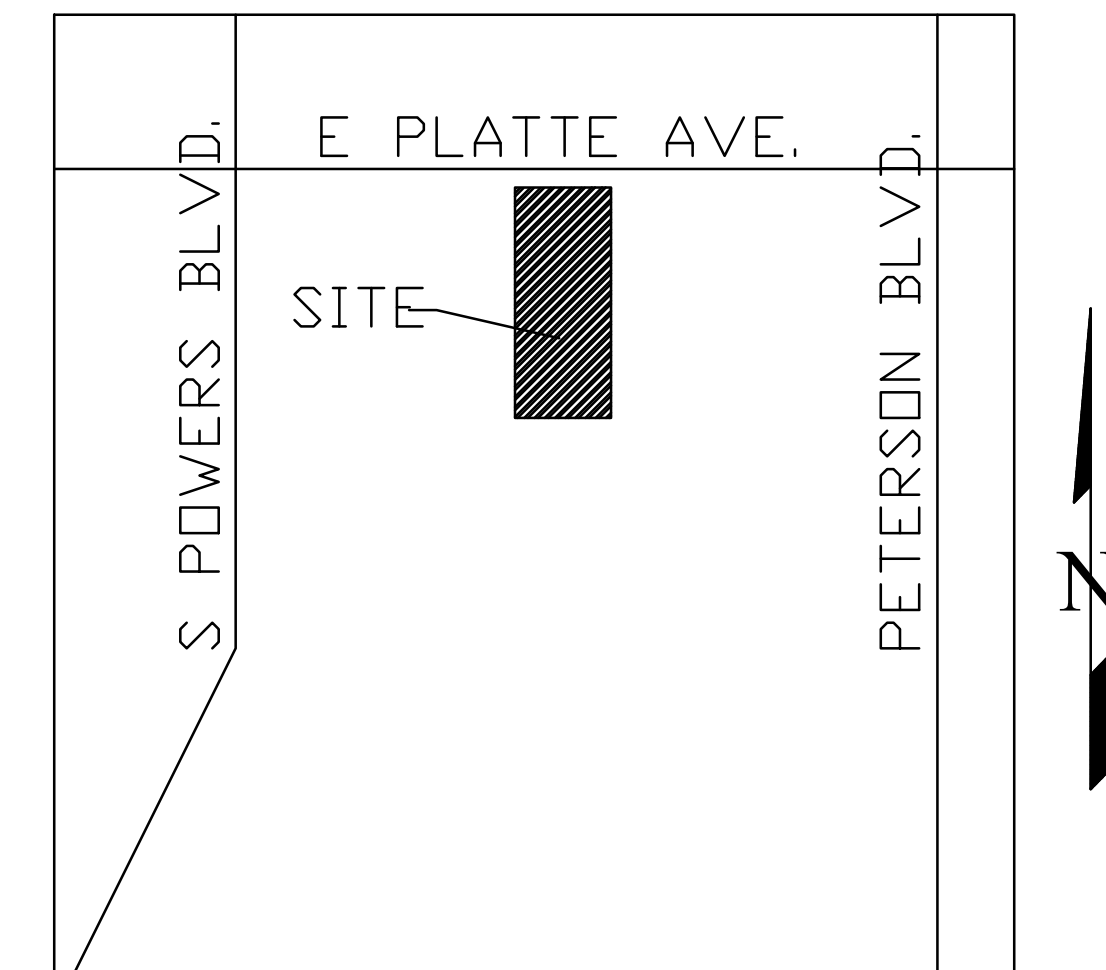
MASTER PLAN: NDT APPLICABLE

CONCEPT PLAN: NDT APPLICABLE

EXISTING ZONING: C-2 CAD-D
PROPOSED ZONING: CS CAD-D

PROPOSED USE: AUTO STORAGE AND EQUIPMENT YARD

VICINITY MAP
N.T.S.



OWNER: HCD PROPERTIES LLC
2435 MAJESTIC PLAINS CT
COLORADO SPRINGS, CO 80915

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

Include the 3 signature blocks that are shown on the GEC Checklist

MINERAL RIGHTS OWNERSHIP: NOT APPLICABLE

AS DETERMINED BY THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL # 08041C0754G, EFFECTIVE DATE DECEMBER 7, 2018. THIS SITE IS NOT WITHIN A DESIGNATED F.E.M.A. FLOODPLAIN.

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

CONTOURS FOR THIS DOCUMENT ARE 2.0' INTERVALS.

SITE IS WITHIN THE SAND CREEK DRAINAGE BASIN

LEGAL DESCRIPTION

A TRACT OF LAND LOCATED IN THE NE 1/4 OF THE NW 1/4 OF SECTION 18, TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE 6TH P.M., COUNTY OF EL PASO, STATE OF COLORADO DESCRIPTION

AS FOLLOWS: COM AT NW COR OF SD SEC 18 FROM WHICH THE NE COR OF THE NW4 OF SD SEC 18 BEARS S 89<49'15" E 2724.73 FT, TH S 85<53'45" E 1753.14 FT TO INTSEC A LN THAT IS 45.00 FT SLY AS MEAS AT R ANGS FROM & PARA WITH S R/W LN OF US HWY 24 & POB, TH S 00<01'34" W 887.29 FT, S 89<51' 38" E 349.88 FT, N 00<01'34" E 887.04 FT TO A PT ON A LN THAT IS 45.00 FT SLY AS MEAS AT R ANGS FROM & PARA WITH SLY R/W LN OF SD US HWY 24, TH N 89<48'15" W 349.88 FT TO POB

Remove from the minor subdivision application. This will be reviewed and approved with the site development plan application

Per Gilbert's comment above, my minor comments on subsequent sheets can be applied to when you upload these CD's for the site development plan. I did not complete my review, but wanted to leave these comments on here for you to make the revisions and then I don't have to make the same comments on the site development plan.

CERTIFICATION STATEMENTS:

CERTIFICATION OF OWNERSHIP
PROPERTY OWNER SIGNATURE _____ DATE _____

CERTIFICATION OF APPROVAL OF BOARD OF COUNTY COMMISSIONERS
BOARD OF COUNTY COMMISSIONERS SIGNATURE _____ DATE _____

CERTIFICATION OF PLANNING DIRECTOR
PLANNING DIRECTOR SIGNATURE _____ DATE _____

CERTIFICATION OF CLERK & RECORDER
CLERK & RECORDER SIGNATURE _____ DATE _____

SHEET INDEX

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EROSION CONTROL PLAN	6 OF 8
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EROSION CONTROL DETAILS	8 OF 8

REVISIONS NO.	DESCRIPTION	DATE

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, REVIEWING AGENCIES, CONTRACTORS, AND OTHERS SHALL NOT APPLY THESE DRAWINGS FOR ANY PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

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

Terra Nova Engineering, Inc.
Professional Engineer
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COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
FAK: 719-635-6426
www.tnec.com

HCD PROPERTIES MINOR SUBDIVISION
6201 E PLATTE AVE.

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.	1895.00
DATE ISSUED	7/19/21
SHEET NO.	1 OF 8

HCD PROPERTIES MINOR SUBDIVISION

EL PASO COUNTY

CONSTRUCTION DRAWINGS

JULY 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 SMWP 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 LOOSENED 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 SMWP. 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 (SMWP), 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 (SMWP), 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: TBD, END GRADING: TBD

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.

EARTHWORK VOLUMES

ESTIMATED CUT = _____ CY, ESTIMATED FILL = _____ CY, NET = _____ CY <----->

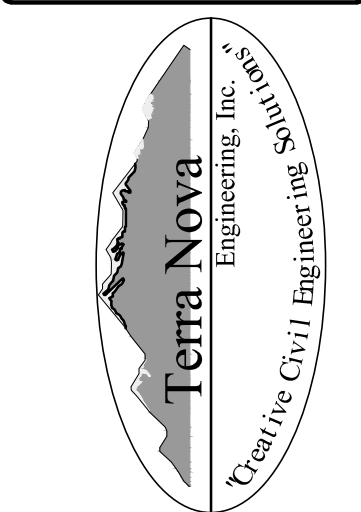
CONSTRUCTION NOTES:

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

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE ENGINEER, REVIEWING AGENCIES, PERMITS, AND/OR INSPECTIONS, THEIR USE IS NOT APPROVED. THEIR USE FOR ANY OTHER PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

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



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

HCD PROPERTIES MINOR SUBDIVISION
6201 E PLATTE AVE.
CONSTRUCTION DRAWINGS
GRADING NOTES SHEET

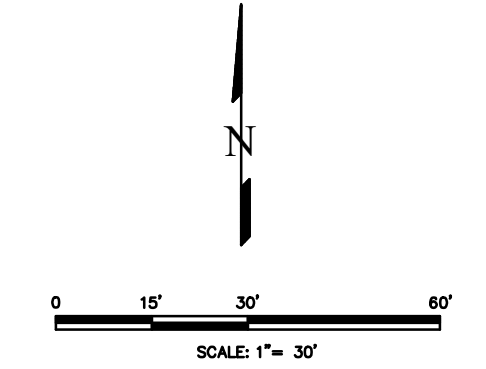
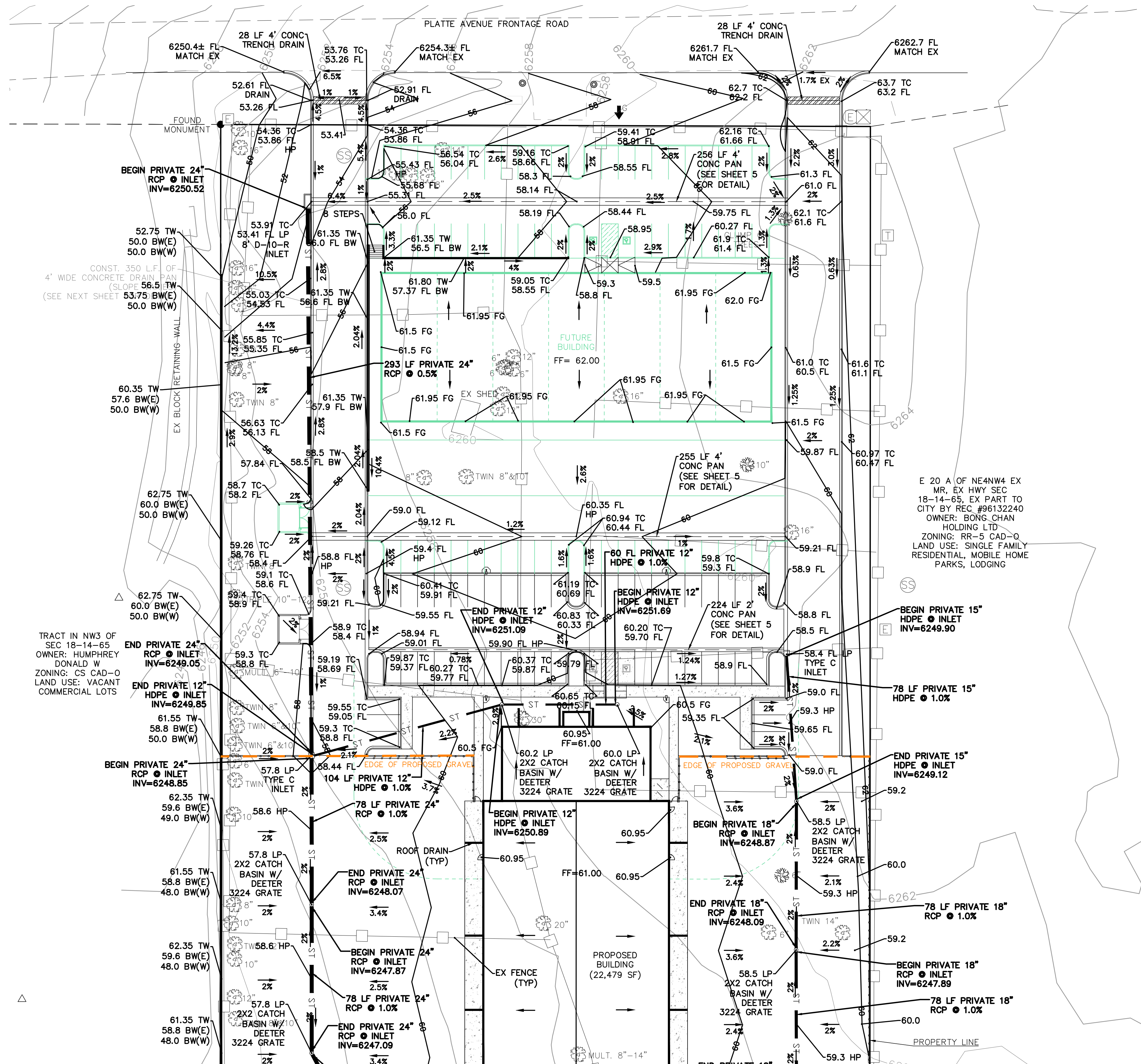
DESIGNED BY JF
DRAWN BY JF
CHECKED BY LD
H-SCALE
V-SCALE
JOB NO. 1895.00
DATE ISSUED 7/19/21
SHEET NO. 2 OF 8

HCD PROPERTIES MINOR SUBDIVISION

EL PASO COUNTY

CONSTRUCTION DRAWINGS

JULY 2021



LEGEND

- EXISTING TREE
- EXISTING X-LINK FENCE
- PROPERTY LINE
- ADJACENT BOUNDARY LINE
- PROPOSED CONCRETE
- PROPOSED STORM PIPE
- EXISTING PAVEMENT EDGE
- PROPOSED CURB & GUTTER
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED CONTOUR
- PROPOSED FLOW

E 20 A OF NE4NW4 EX MR, EX HWY SEC 18-14-65, EX PART TO CITY BY REC. #96132240
 OWNER: BONG CHAN HOLDING LTD
 ZONING: RR-5 CAD-0
 LAND USE: SINGLE FAMILY RESIDENTIAL, MOBILE HOME PARKS, LODGING

REVISONS	DESCRIPTION	DATE

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 COLORADO SPRINGS, CO 80904
 OFFICE: 719-635-6422
 FAX: 719-635-6426
 www.terra-nova.com

HCD PROPERTIES MINOR SUBDIVISION
 6201 E PLATTE AVE.

CONSTRUCTION DRAWINGS
 GRADING & STORM PLAN

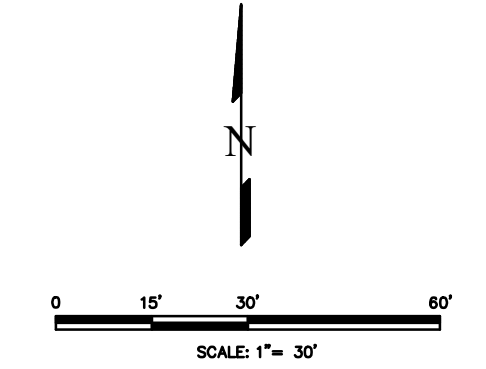
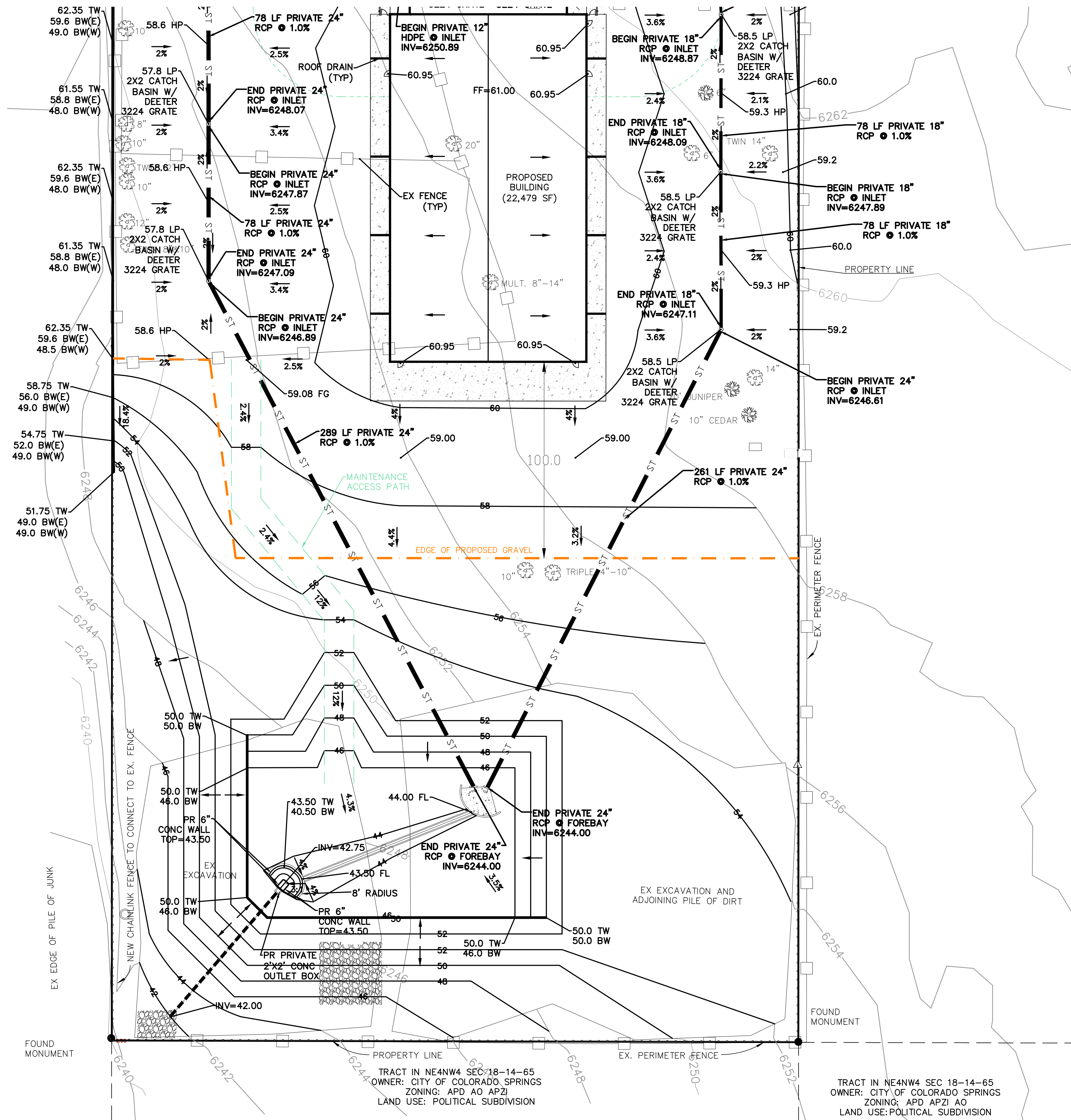
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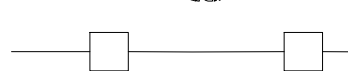




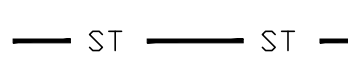
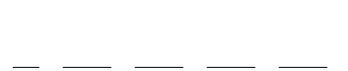



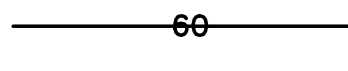

EL PASO COUNTY

CONSTRUCTION DRAWINGS

JULY 2021



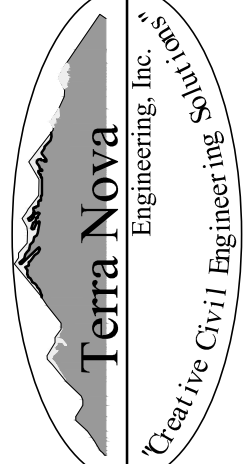
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-  PROPERTY LINE
-  ADJACENT BOUNDARY LINE
-  PROPOSED CONCRETE
-  PROPOSED STORM PIPE
-  EXISTING PAVEMENT EDGE
-  PROPOSED CURB & GUTTER
-  EXISTING MINOR CONTOUR
-  EXISTING MAJOR CONTOUR
-  PROPOSED CONTOUR
-  PROPOSED GRAVEL EDGE
-  PROPOSED FLOW

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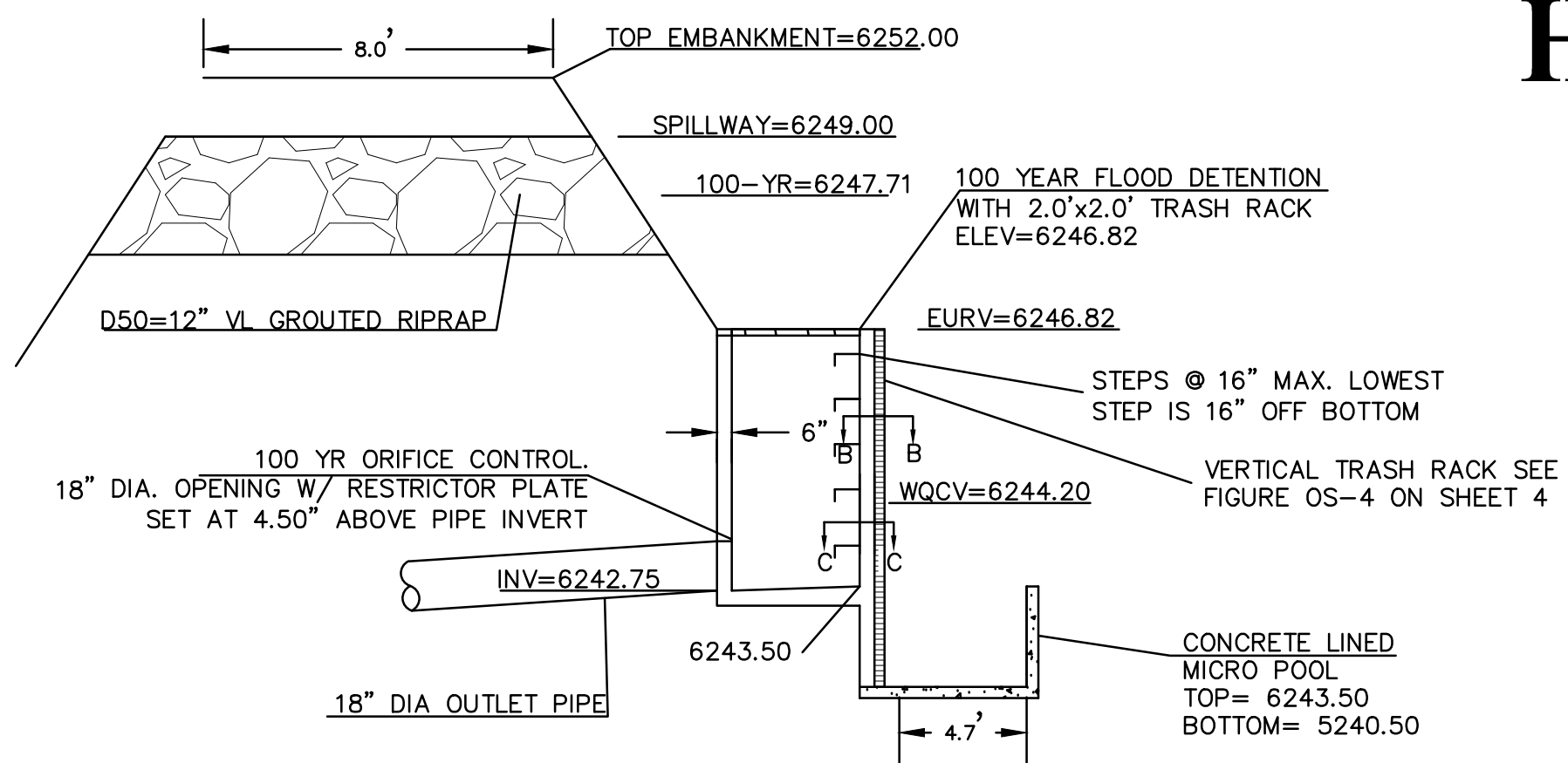
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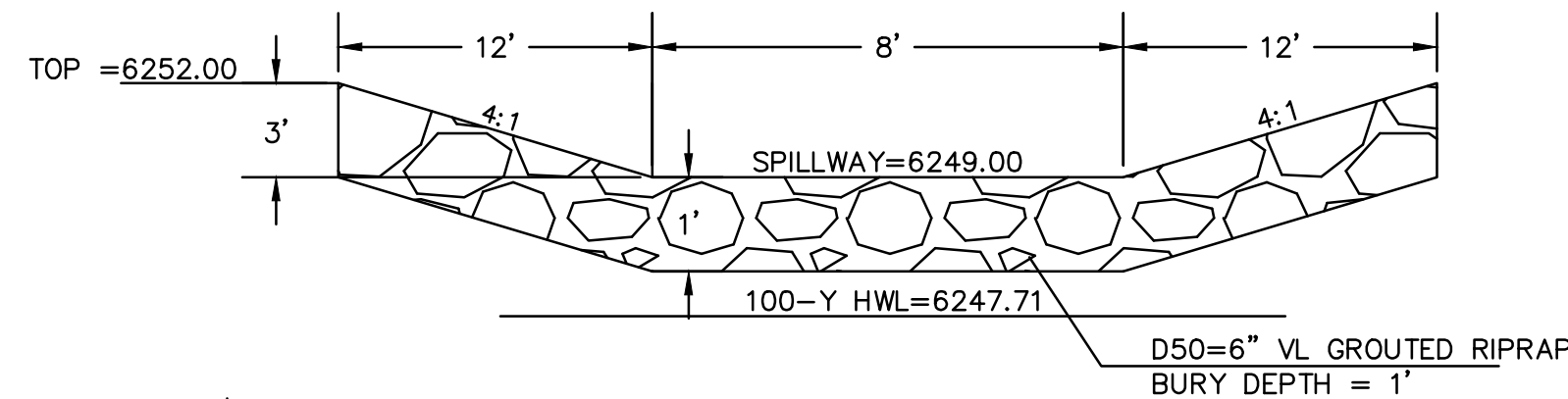
EL PASO COUNTY

CONSTRUCTION DRAWINGS

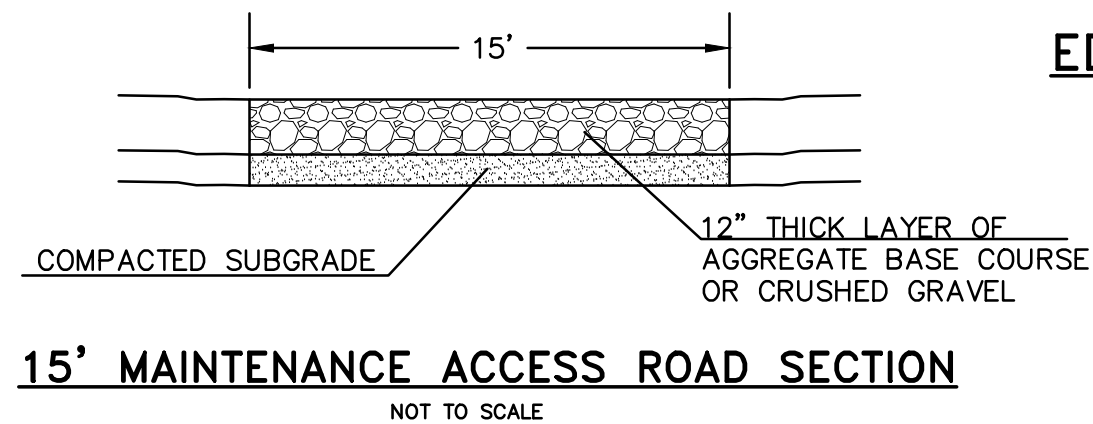
JULY 2021



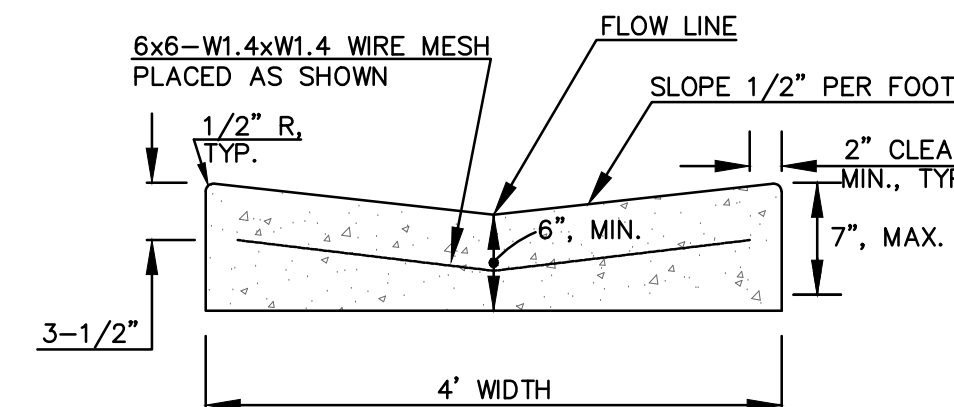
OUTLET STRUCTURE & MICROPOOL SIDE VIEW
NOT TO SCALE



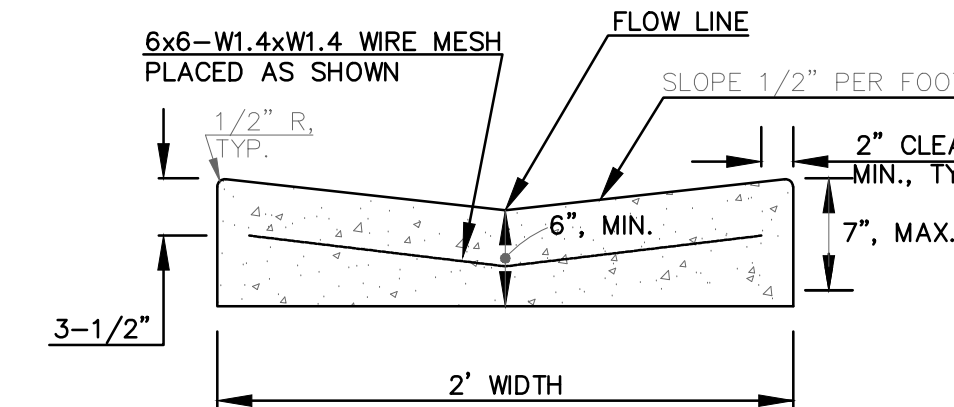
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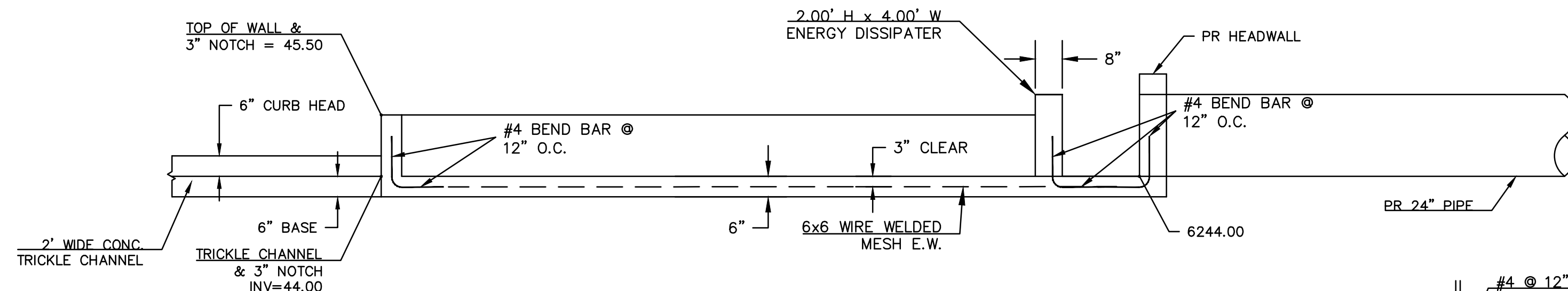
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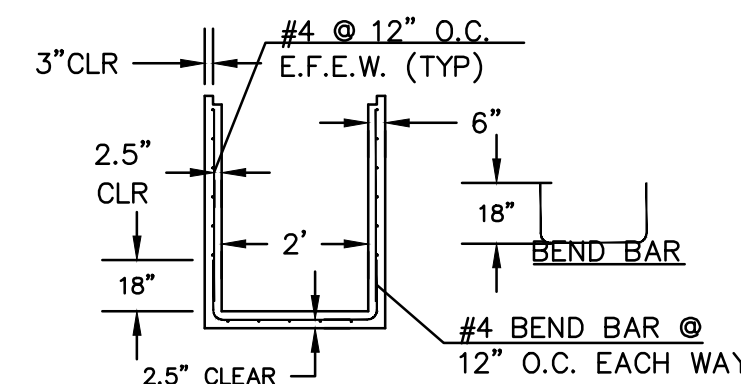
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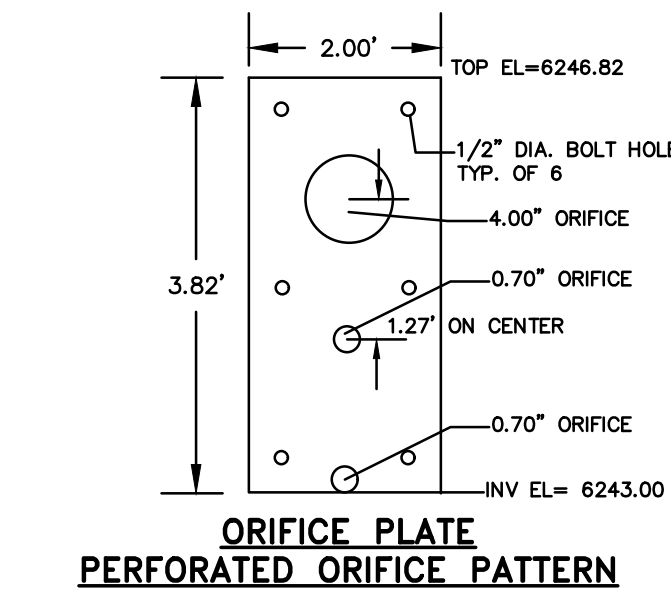
2' CONCRETE PAN
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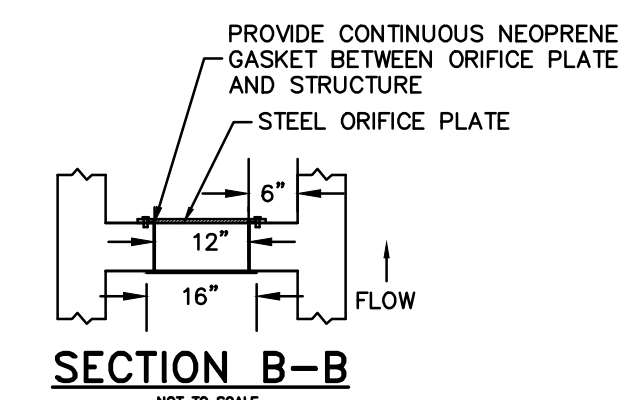
PROFILE VIEW



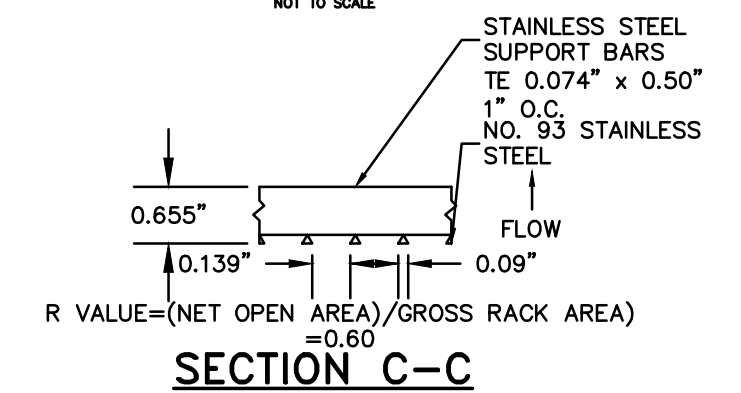
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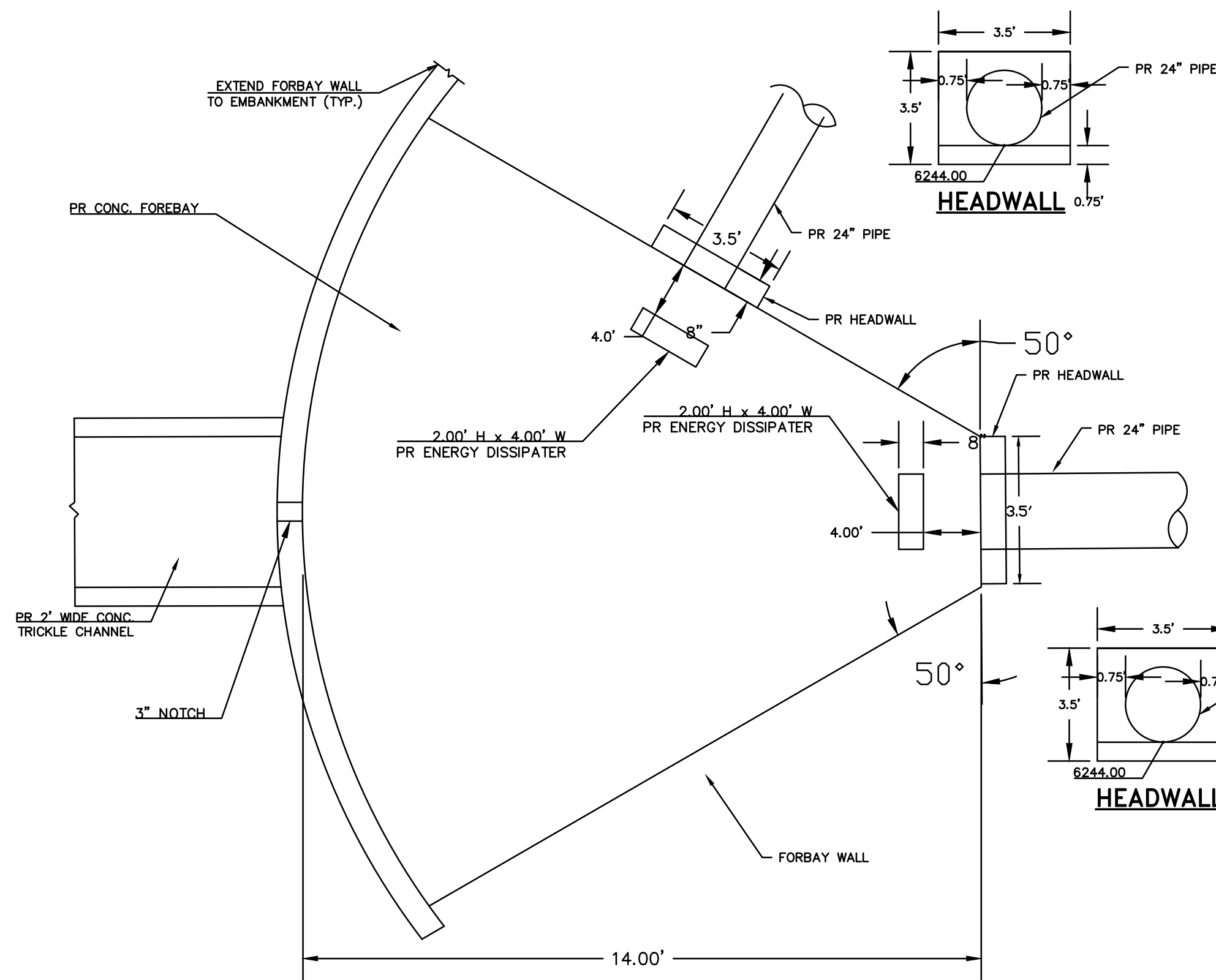
ORIFICE PLATE PERFORATED ORIFICE PATTERN
NOT TO SCALE



SECTION B-B
NOT TO SCALE

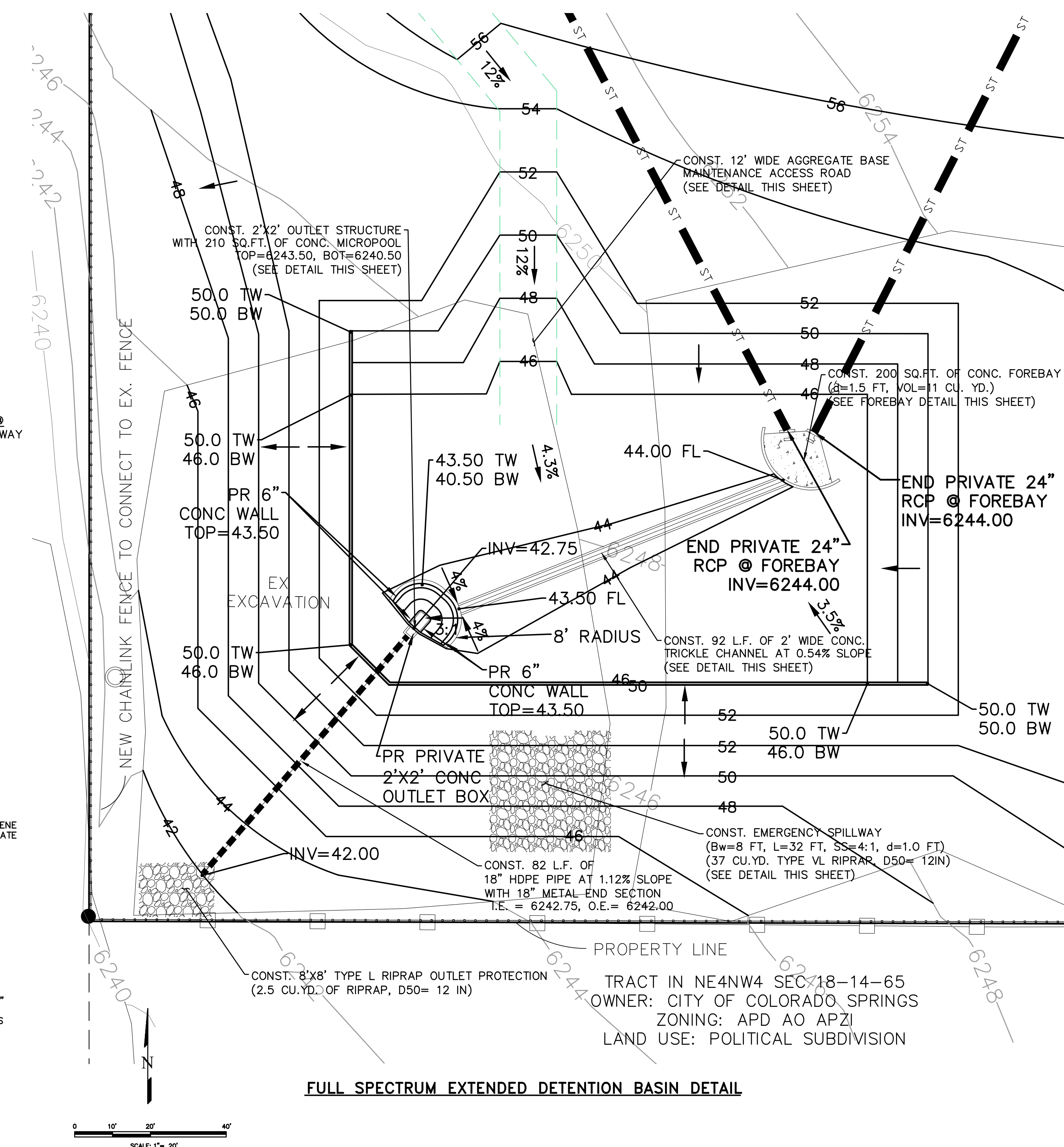


SECTION C-C
NOT TO SCALE



PLAN VIEW

CONCRETE FOREBAY DETAIL



FULL SPECTRUM EXTENDED DETENTION BASIN DETAIL

NO.	DESCRIPTION	DATE

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DETAIL SHEET

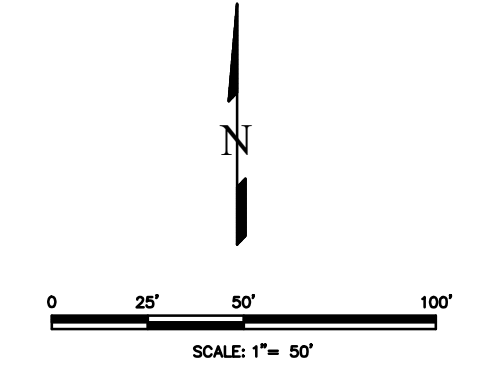
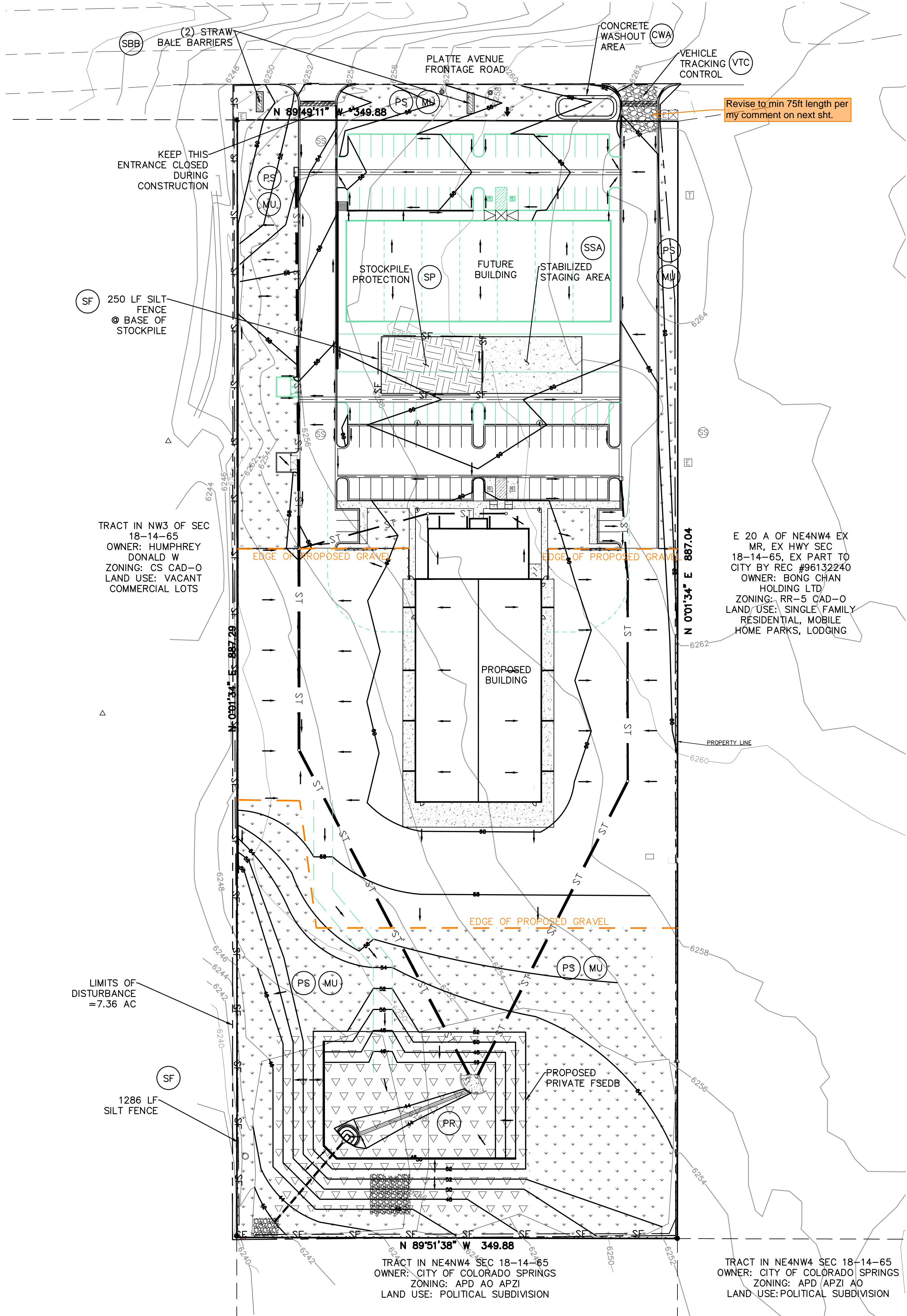
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HCD PROPERTIES MINOR SUBDIVISION CONSTRUCTION DRAWINGS

EROSION CONTROL COST OPINION:

1. 1536 LF-SILT FENCE @ \$2.50/LF	\$	1,275
2. 1 EA-VEHICLE TRACKING CONTROL @ \$1325.00/EA	\$	1,325
3. 1 EA.-MISCELLANEOUS SPILL KIT @ \$200.00/EA.	\$	200
4. 2.60 AC.-SEED DRILLING & STRAW CRIMP @ \$785.00/AC.	\$	2,043
5. 1 EA.-CONCRETE WASHOUT @ \$760.00/EA.	\$	760
6. 2 EA.-STRAW BALE BARRIER @ \$110.00/EA.	\$	220
7. 40% MAINTENANCE AND REPLACEMENT	\$	2,329
TOTAL	\$	8,152



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

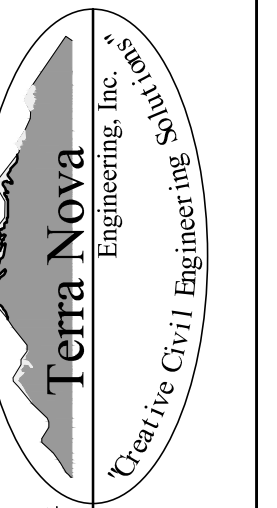
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(SF)	SILT FENCE	—SF—
(SSA)	STABILIZED STAGING AREA	[Pattern]
(VTC)	VEHICLE TRACKING CONTROL	[Pattern]
(SP)	STOCKPILE MANAGEMENT WITH PROTECTION	[Pattern]
(CWA)	CONCRETE WASHOUT AREA	[Pattern]
(SCL)	SEDIMENT CONTROL LOG	—SCL—
(PS) (MU)	PERMANENT SEEDING 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	[Symbol]
(SBB)	STRAW BALE BARRIER	[Pattern]
(PR)	POND REVEGETATION	[Symbol]

LEGEND

[Symbol]	EXISTING TREE
[Symbol]	EXISTING X-LINK FENCE
[Symbol]	PROPERTY LINE
[Symbol]	ADJACENT BOUNDARY LINE
[Symbol]	PROPOSED CONCRETE
[Symbol]	PROPOSED STORM PIPE
[Symbol]	EXISTING PAVEMENT EDGE
[Symbol]	PROPOSED CURB & GUTTER
[Symbol]	EXISTING MINOR CONTOUR
[Symbol]	EXISTING MAJOR CONTOUR
[Symbol]	PROPOSED CONTOUR
[Symbol]	PROPOSED FLOW
[Symbol]	LIMITS OF DISTURBANCE
[Symbol]	CUT/FILL BOUNDARY
[Symbol]	PROPOSED GRAVEL EDGE

If "limits of disturbance" and "construction boundary" are the same, change to "limits of construction/disturbance" or otherwise show as separate linetypes for each on the legend and figure.

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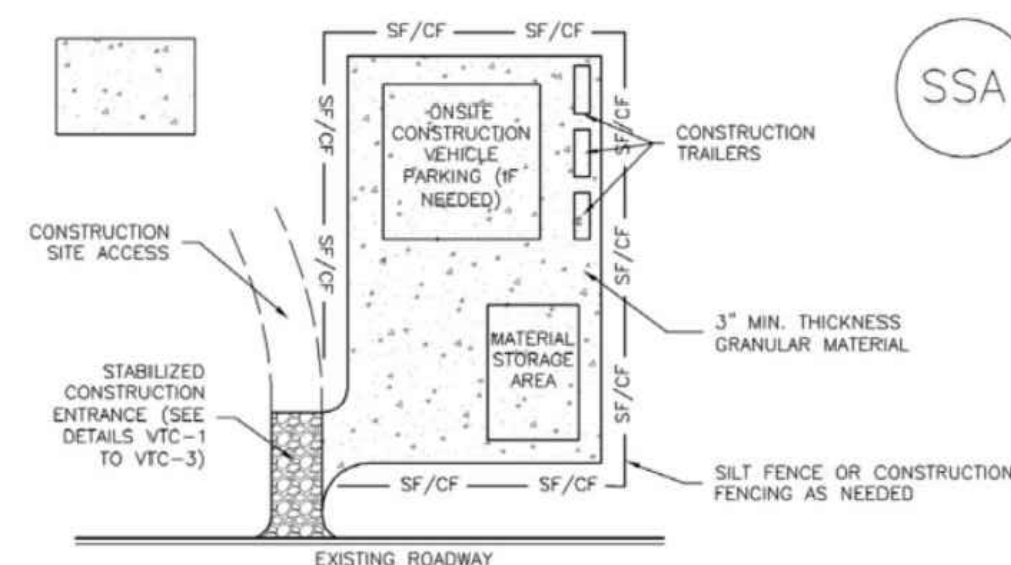
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6201 E PLATTE AVE.
CONSTRUCTION DRAWINGS
EROSION CONTROL PLAN

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V-SCALE N/A
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HCD PROPERTIES MINOR SUBDIVISION CONSTRUCTION DRAWINGS

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 AS NEEDED.

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.

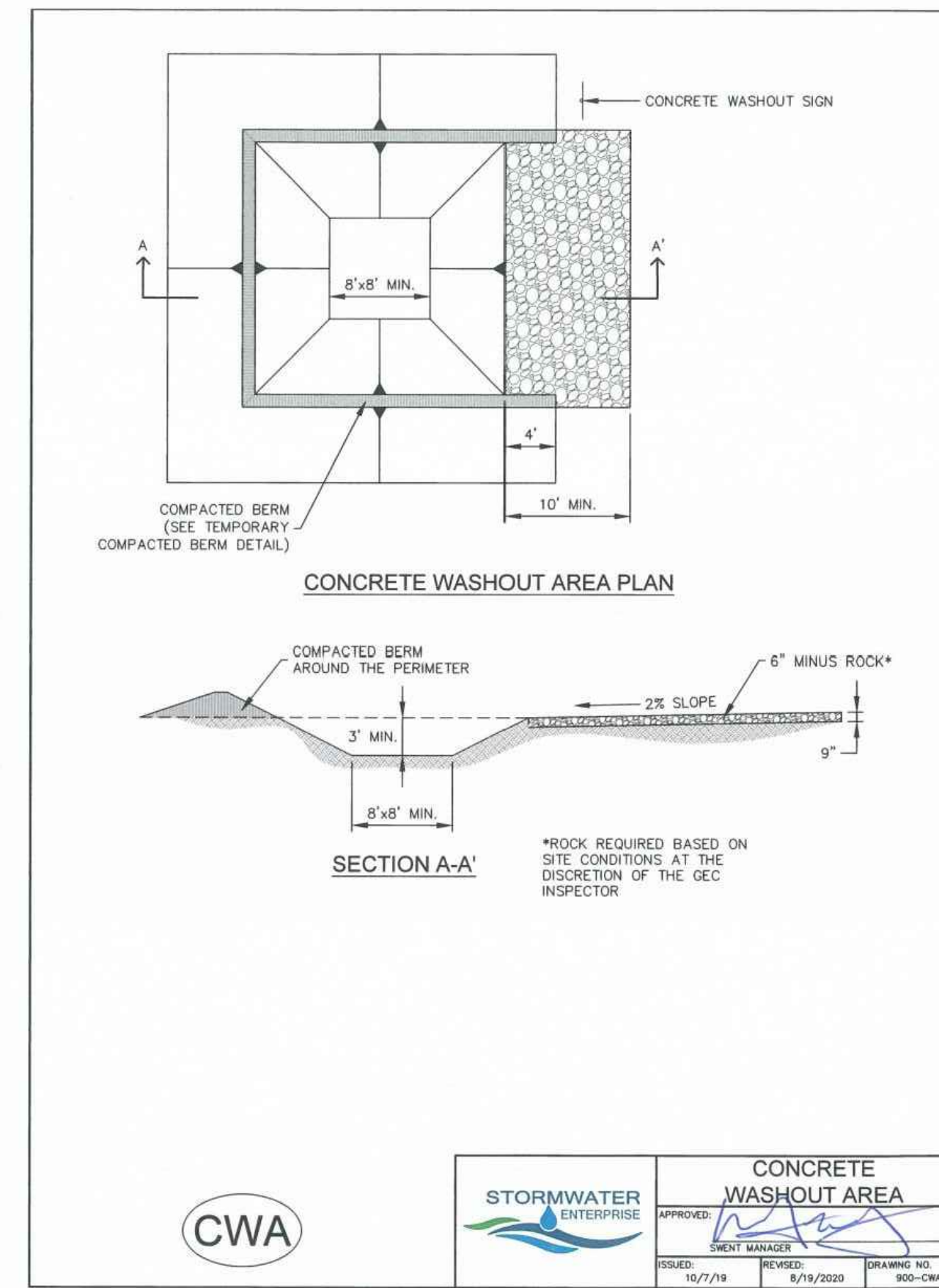
November 2010 Urban Drainage and Flood Control District SSA-3
Urban Storm Drainage Criteria Manual Volume 3

SM-6 Stabilized Staging Area (SSA)

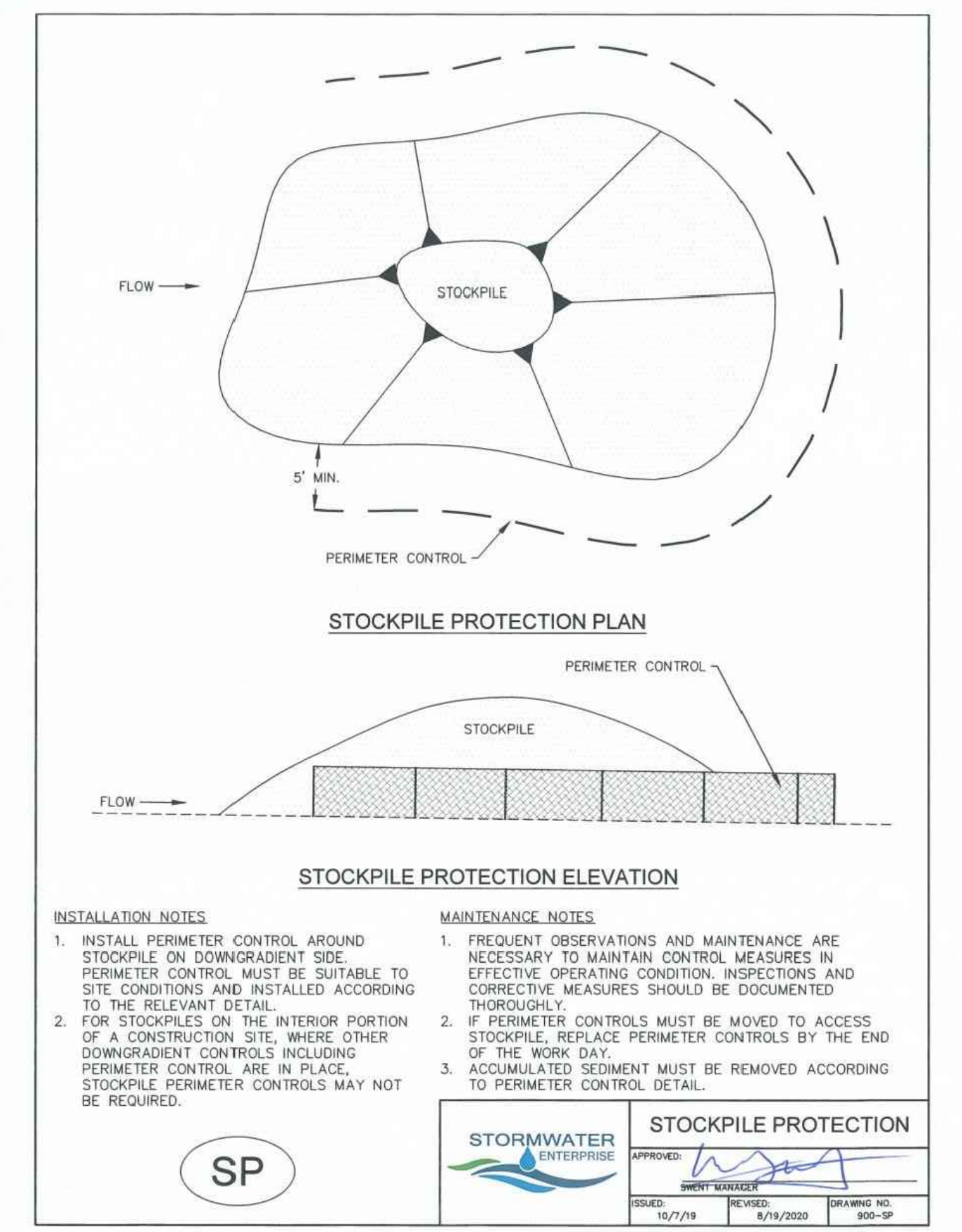
STABILIZED STAGING AREA MAINTENANCE NOTES

- 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 LISTED 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)

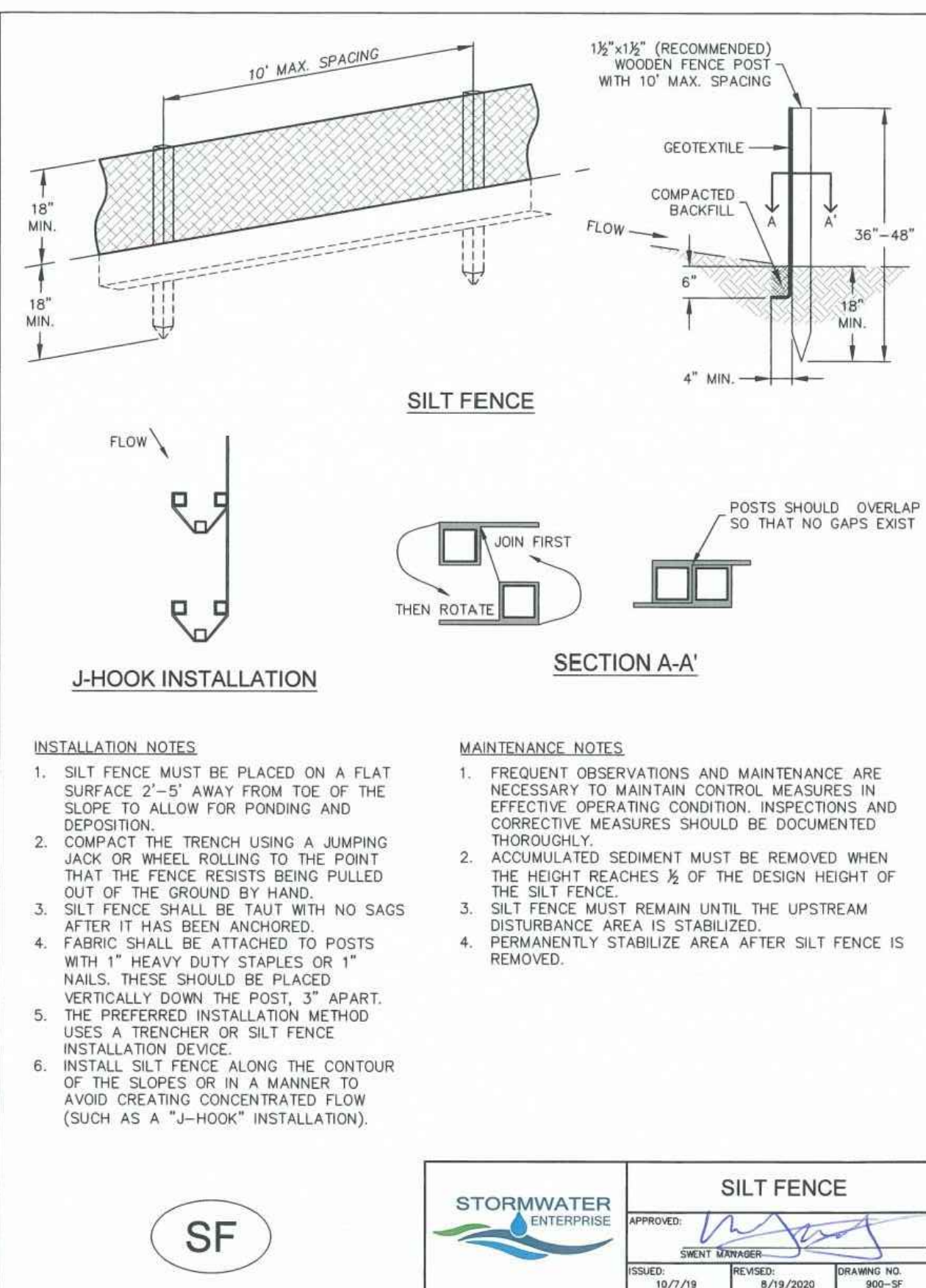
SSA-4 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3



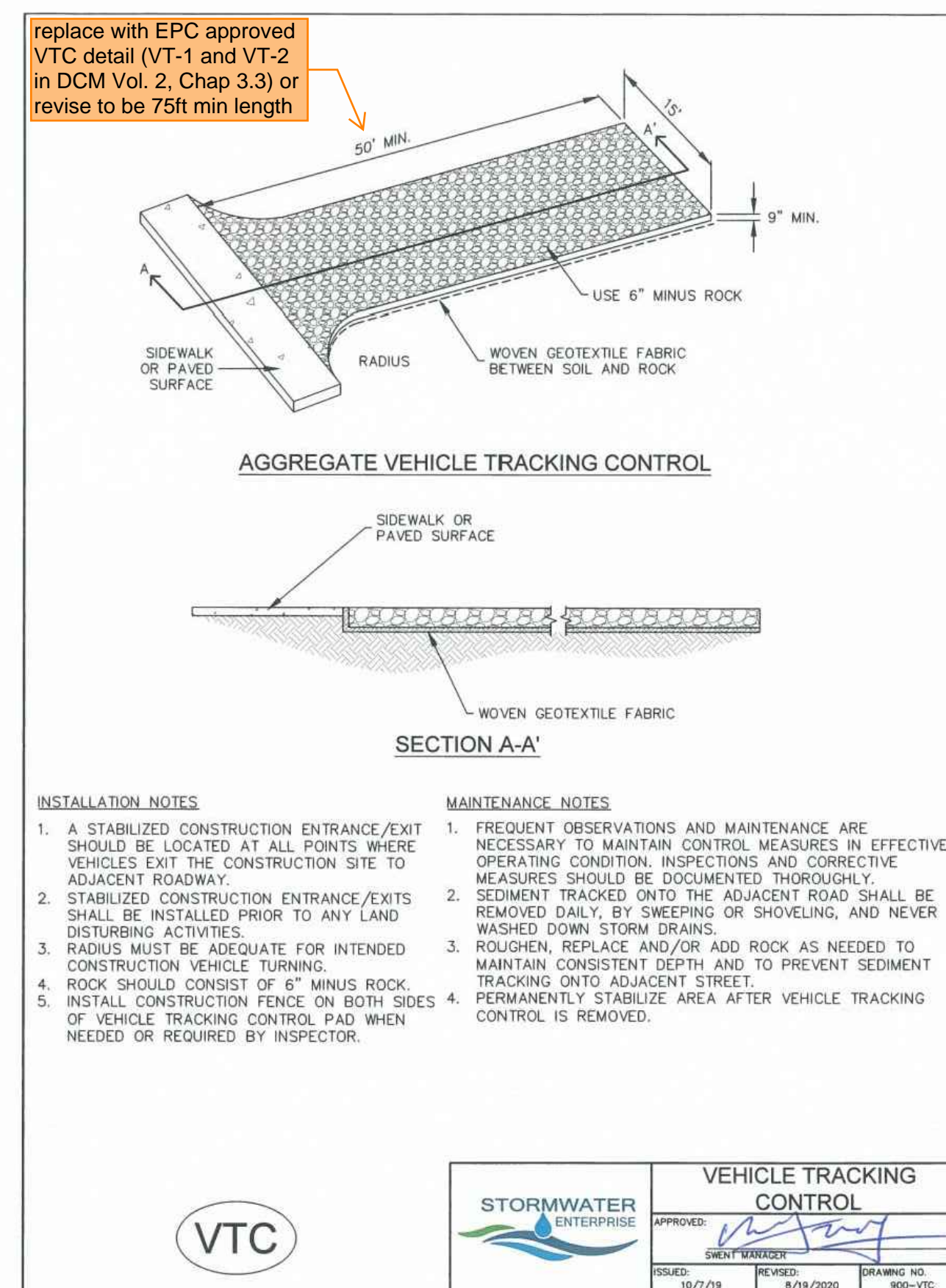
STORMWATER ENTERPRISE		CONCRETE WASHOUT AREA	
ISSUED:	10/7/19	REVISION:	6/19/2020
DRAWING NO.	900-CWA-1	DESIGNED BY:	[Signature]
APPROVED:		[Signature]	



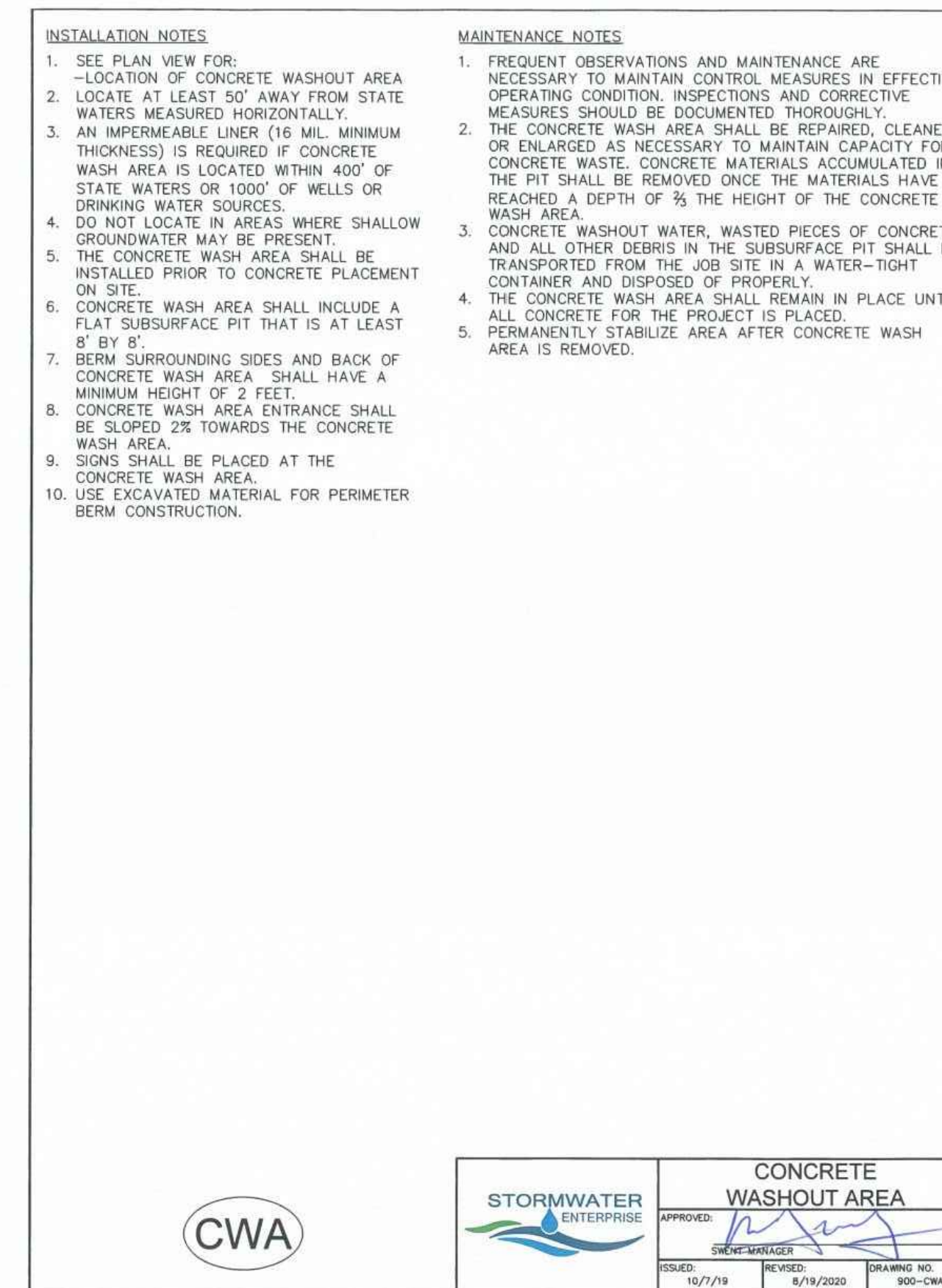
STORMWATER ENTERPRISE		STOCKPILE PROTECTION	
ISSUED:	10/7/19	REVISION:	6/19/2020
DRAWING NO.	900-SP	DESIGNED BY:	[Signature]
APPROVED:		[Signature]	



STORMWATER ENTERPRISE		SILT FENCE	
ISSUED:	10/7/19	REVISION:	6/19/2020
DRAWING NO.	900-SF	DESIGNED BY:	[Signature]
APPROVED:		[Signature]	



STORMWATER ENTERPRISE		VEHICLE TRACKING CONTROL	
ISSUED:	10/7/19	REVISION:	6/19/2020
DRAWING NO.	900-VTC	DESIGNED BY:	[Signature]
APPROVED:		[Signature]	



STORMWATER ENTERPRISE		CONCRETE WASHOUT AREA	
ISSUED:	10/7/19	REVISION:	6/19/2020
DRAWING NO.	900-CWA-2	DESIGNED BY:	[Signature]
APPROVED:		[Signature]	

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6201 E PLATTE AVE.
CONSTRUCTION DRAWINGS
EROSION CONTROL DETAILS

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HCD PROPERTIES MINOR SUBDIVISION CONSTRUCTION DRAWINGS

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
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 ²	<i>Nassella viridula</i>	Cool, bunch	10	2	1	0.5
Wheatgrass, western ²	<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 ²	<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 ²	<i>Sorghastrum nutans</i>	Warm, sod	10	2	1	0.5
Seed rate (lbs PLS/acre)			19.3	9.7	4.8	

¹For 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.
²Species that will do well in the bottom of pond areas.

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.

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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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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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
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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- 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 recommended 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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- 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.

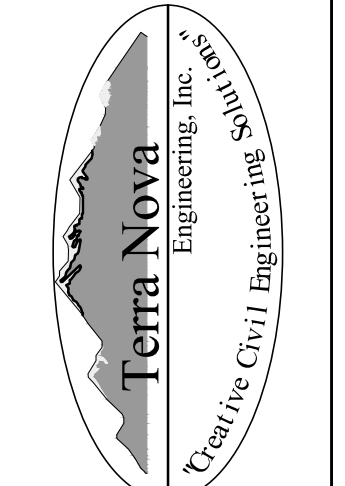
Include details for the following BMP's. Examples of acceptable details for each are provided:

BMP	Detail # and Source		
	DCM (Vol 2: Chap 3.3)	MHFD (USDCM Vol 3: Chap 7)	CDOT Standard Plans on M-208
Straw Bale Barrier	SBB-2	SC-3	X

NO.	DESCRIPTION	DATE

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPLICABLE REVIEWING AGENCIES, REVIEWING AGENCIES, ENGINEERS, ARCHITECTS, AND OTHER PROFESSIONALS ARE NOT TO BE USED FOR ANY PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

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H-SCALE AS NOTED
V-SCALE N/A
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DATE ISSUED 7/21/21
SHEET NO. 8 OF 8