RIVERBEND CROSSING FILING NO. 1

STREET IMPROVEMENT, STORM SEWER, AND SIGNAGE & STRIPING CONSTRUCTION DRAWINGS

EL PASO COUNTY, COLORADO

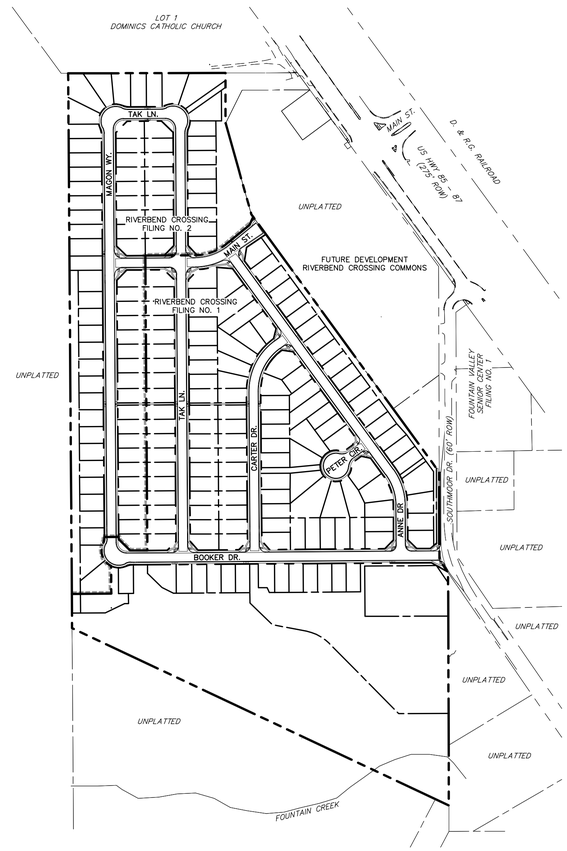
STANDARD CONSTRUCTION NOTES:

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 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
   o. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
   b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
   c. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
   d. CDOT M & S STANDARDS
4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) – INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP 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 DEPARTMENT OF PUBLIC WORKS (DPW) AND MUTCD CRITERIA.
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DPW, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

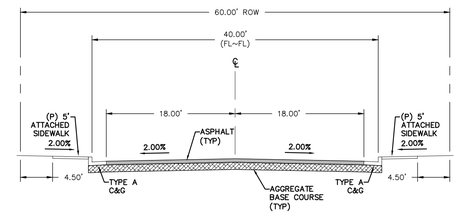
STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS:

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 FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
3. A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGED 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 PRE-CONSTRUCTION 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 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 ADMINISTRATION PRIOR TO IMPLEMENTATION.
10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER 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 SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUNOFF 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 WATER, 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, ORS), 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 RMG ENGINEERS AND DATED APRIL 2, 2018 AND SHALL BE CONSIDERED A PART OF THESE PLANS.
29. AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

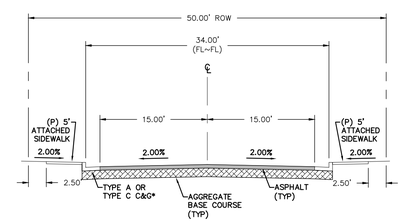
COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
WQCD - PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT



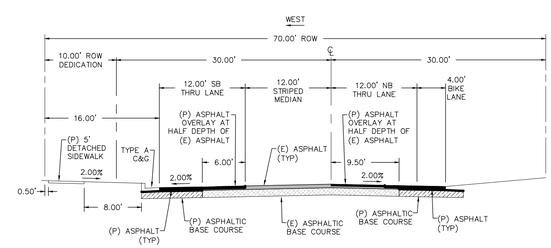
SITE MAP
SCALE: N.T.S.



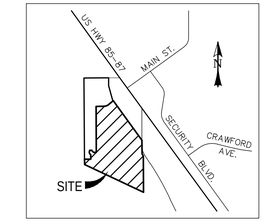
TYPICAL SECTION - URBAN RESIDENTIAL COLLECTOR - MODIFIED*
(* ATTACHED SIDEWALKS)
SCALE: N.T.S.



TYPICAL SECTION - URBAN LOCAL
(*SEE PLANS FOR LOCATIONS)
SCALE: N.T.S.



SOUTHMOOR DRIVE WIDENING DETAIL - URBAN NON-RESIDENTIAL COLLECTOR
SCALE: N.T.S.



VICINITY MAP
SCALE: N.T.S.

CONSTRUCTION PLANS AND SPECIFICATIONS ENGINEERS STATEMENT:

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 PREPARING THESE DETAILED PLANS AND SPECIFICATIONS.

DAVID L. MIJARES, COLORADO PE #40510 — 10/15/21 DATE

OWNER/DEVELOPER STATEMENT:

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN AND ALL THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

OWNER SIGNATURE — 10/15/21 DATE
AVATAR EQUITIES LLC
6800 JERICHO TURNPIKE, SUITE 120W, #204
SYOSSET, NY 11791

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 THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT."

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS. THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

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

LEGEND

EXISTING	(E)	ALGEBRAIC DIFFERENCE	AD
PROPOSED	(P)	POINT OF VERTICAL INTERSECTION	PVI
CURB & GUTTER	C&G	STATION	STA
EASEMENT	ESMT	FLOWLINE	FL
PUBLIC	PUB	INTERSECTION-INTERSECTION	INT-INT
PUBLIC IMPROVEMENT	PI	BOUNDARY	
BEGIN TRANSITION	BT	RIGHT-OF-WAY	
EDGE OF ASPHALT	EOA	LOT LINE	
GRADE BREAK	GB	EASEMENT	
END TRANSITION	ET	(E) CONTOUR, INDEX	5700
CURB RETURN	CR	(E) CONTOUR	
POINT OF CURVATURE	PC	(E) STORM SEWER	
POINT OF TANGENCY	PT	(P) CONTOUR, INDEX	5700
POINT ON CURVE	POC	(P) CONTOUR	
POINT OF COMPOUND CURVATURE	PCC	(P) STORM SEWER, INLET, MH	
POINT OF REVERSE CURVATURE	PRC	INLET DETAIL CALL-OUT	#
RADIUS POINT	RP	CURB RETURN RADIUS CALL-OUT	(12)
TYPE 'A' CURB AND GUTTER	A	GRADE CALL-OUT	X.XX%
TYPE 'C' CURB AND GUTTER, OPTIONAL	C	SPOT ELEVATION	XX.XX

SHEET INDEX:

PCD FILE #: SF1844

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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BENCHMARK:
NGS BENCHMARK U 404: LOCATED 0.35 MILES NORTH OF MAIN STREET IN FOUNTAIN, 128.0 FEET NORTHEAST OF THE CENTERLINE OF U.S. HIGHWAY 85, 44.6 FEET SOUTHWEST OF A POWER LINE CROSSING AND 20.7 FEET NORTH OF THE CENTER OF A SANITARY SEWER MANHOLE COVER.
ELEVATION = 5737.76 (NAVD88)

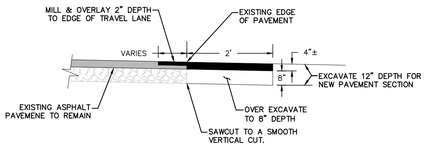
PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

BASIS OF BEARINGS:
THE WEST LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 14, TOWNSHIP 15 SOUTH, RANGE 66 WEST OF THE 6TH P.M., MONUMENTED AT THE NORTH QUARTER (N 1/4) CORNER WITH A 3 1/4" ALUMINUM CAP, STAMPED "BARRON LAND 2018 PLS 38141" AND AT THE CENTER QUARTER (C 1/4) CORNER WITH A 3 1/4" ALUMINUM CAP, STAMPED "OLIVER E. WATTS 2000 PE-LS 9853" AND BEARS S 00°24'11" E, 2640.42 FEET.

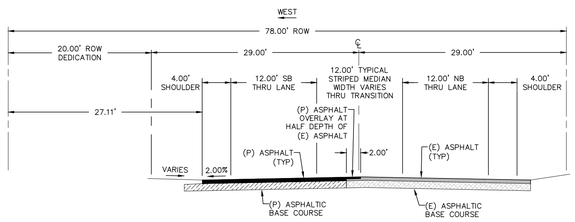
CATAMOUNT ENGINEERING
PO BOX 692 DIVIDE, CO 80814 (719)426-2124

RIVERBEND CROSSING FILING NO. 1
STREET, STORM, & STRIPING CONSTRUCTION DRAWINGS

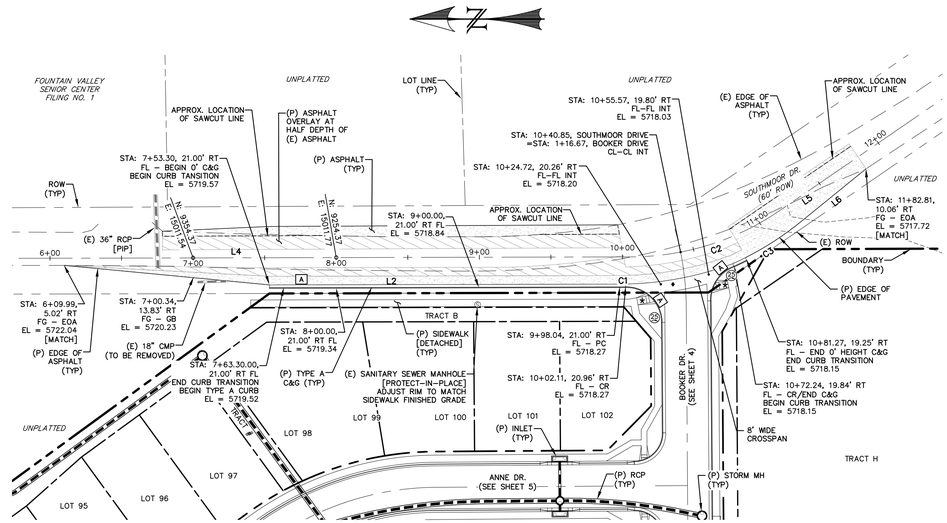
DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: N/A	DATE: 03/30/21
JOB NUMBER: 17-114	SHEET: 1 OF 27



MILL & OVERLAY W/ T-PATCH JOINT DETAIL
SCALE: N.T.S.



WIDENING DETAIL URBAN NON-RESIDENTIAL COLLECTOR
SOUTHMOOR DRIVE W/O CURB & GUTTER
STA: 10+72± TO STA: 11+82±
SCALE: N.T.S.



SOUTHMOOR DRIVE - RESIDENTIAL COLLECTOR
STA: 1+00 ~ 11+55

NOTE: SEE SHEETS 19 & 20 FOR PEDESTRIAN RAMP DETAILS

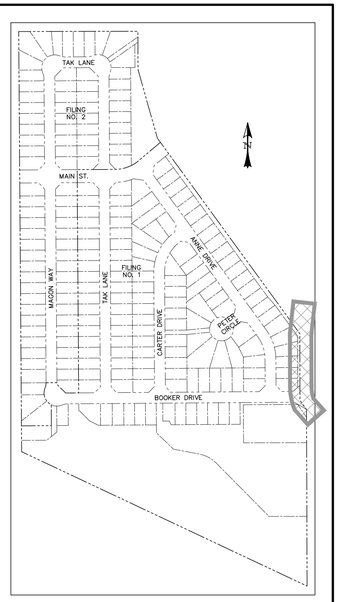
★ PED INTERSECTION RAMP (REF: SD 2-41 & SD 2-42)

♦ STANDARD CROSSPAN (REF: SD 2-26)

LINE TABLE		
LINE	BEARING	DISTANCE
L2	S0° 07' 59"E	244.74
L4	S0° 07' 59"E	396.04
L5	S34° 27' 20"E	66.49
L6	N39° 05' 39"W	58.54

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	1°00'30"	231.00	4.06
C2	34°19'20"	184.10	110.28
C3	12°16'06"	217.00	46.47

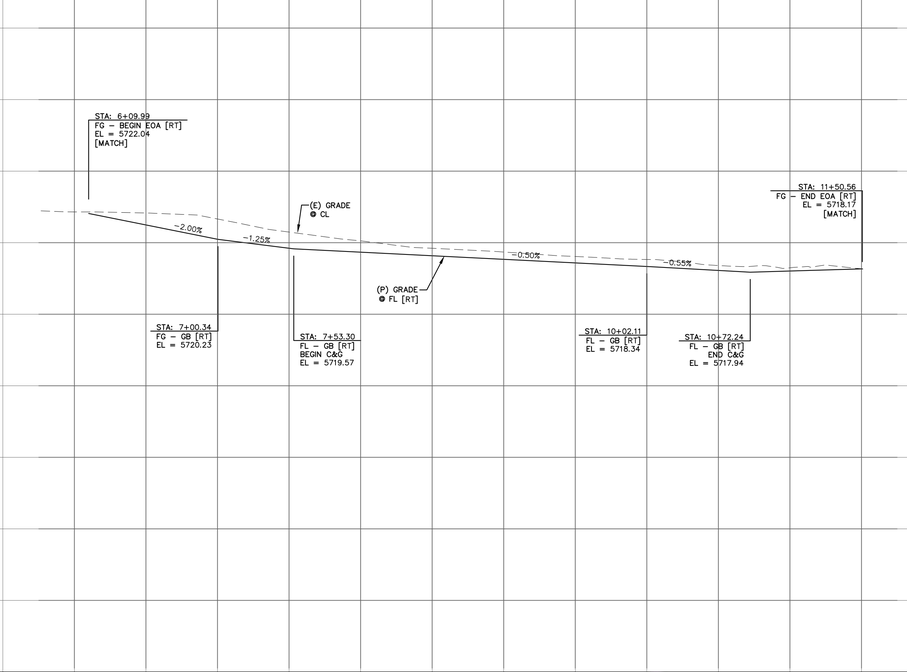
0 50 100
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



LOCATION MAP
SCALE: N.T.S.

SAWCUT & PAVEMENT NOTES:

1. EXISTING PAVEMENT MAY BE ROUGH CUT INITIALLY.
2. A SQUARE VERTICAL CUT SHALL BE MADE IN THE EXISTING A.C. PAVEMENT AFTER PLACEMENT OF BACKFILL PRIOR TO PAVEMENT REPLACEMENT.
3. THICKNESS OF NEW A.C. PAVEMENT AND BASE COURSE REPLACEMENT SHALL BE:
   4" A.C. WITH 12" BASE,
   OR
   8" A.C. FULL DEPTH,
   OR
   MATCH EXISTING,
   OR
   PER GEOTECHNICAL ENGINEERS RECOMMENDATION, WHICHEVER IS GREATER.



REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

811 Know what's below. Call 72 hours before you dig.
For more details visit: www.call811.com

STREET NAME ABREVIATIONS:

MAIN STREET	= ST1
BOOKER DRIVE	= ST2
ANNE DRIVE	= ST3
CARTER DRIVE	= ST4
PETER CIRCLE	= ST5
TAK LANE	= ST6
MAGON WAY	= ST7
CUL-DE-SAC – FL	= CDS

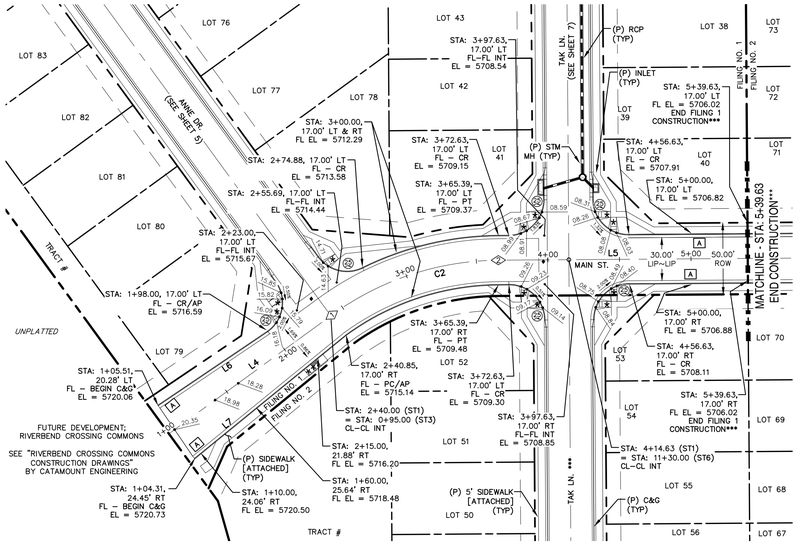
PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
DAVID L. MIJARES, COLORADO PE #40510 — 10/19/20 DATE
COLORADO LICENSED PROFESSIONAL ENGINEER DAVID L. MIJARES 40510

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING
FILING NO. 1
SOUTHMOOR DRIVE
STREET IMPROVEMENT PLAN

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 2 OF 27



MAIN STREET - LOCAL
STA: 1+00 ~ 5+40

LINE TABLE – CL		
LINE	BEARING	DISTANCE
L4	S53° 55' 10"W	140.85
L5	S89° 35' 49"W	174.24
L8	S53° 55' 25"W	138.79

CURVE TABLE – CL			
CURVE	DELTA	RADIUS	LENGTH
C2	35°40'40"	200.00	124.54

LINE TABLE – FL		
LINE	BEARING	DISTANCE
L6	S55° 57' 05"W	92.55
L7	S50° 47' 48"W	136.74

POINT TABLE - CL		
NUMBER	STATION	TYPE
1	2+40.85	PC
2	3+65.39	PT

***** FILING CONSTRUCTION NOTE:**

SEE "RIVERBEND COMMONS FILING NO. 2 STREETS, STORM SEWER, AND SIGNAGE AND STRIPING" CONSTRUCTION PLANS BY CATAMOUNT ENGINEERING.

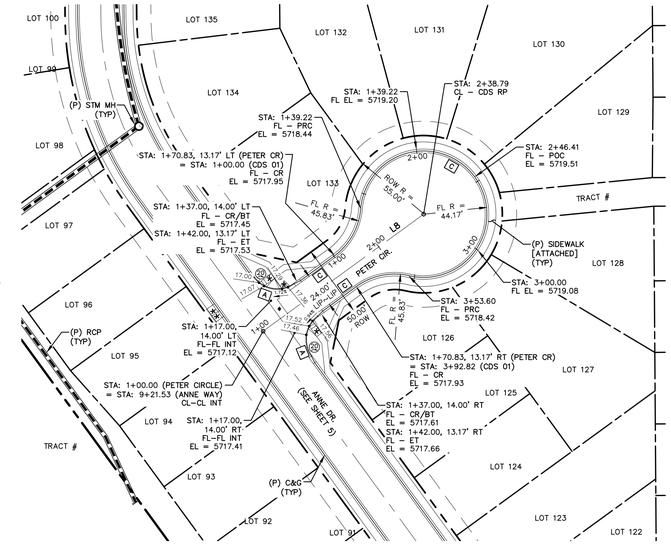
* PED INTERSECTION RAMP (REF: SD 2–41 & SD 2–42)

** PARALLEL PED RAMP (REF: SD 2–50)

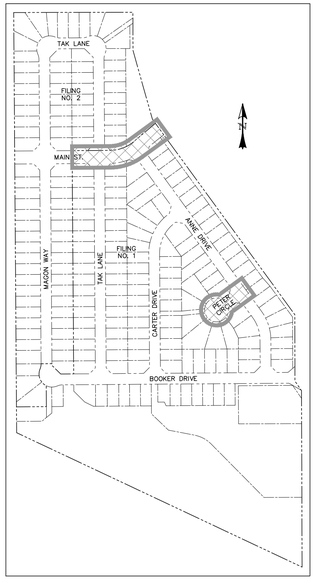
• STANDARD CROSSPAN (REF: SD 2–26)

NOTE: SEE SHEETS 20 & 21 FOR PEDESTRIAN RAMP DETAILS

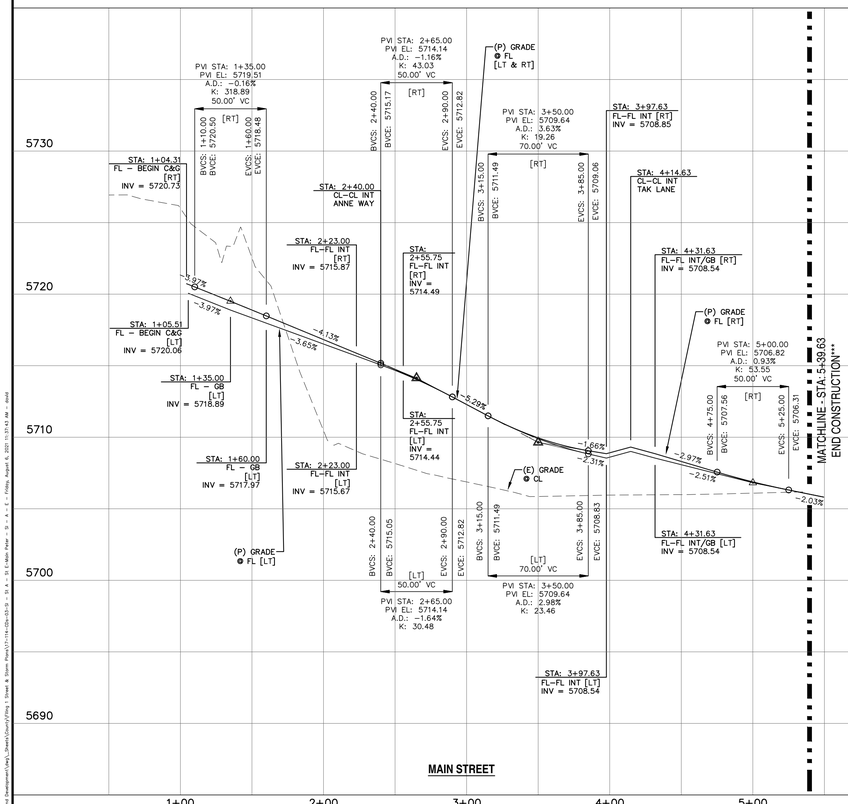
0 50 100
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



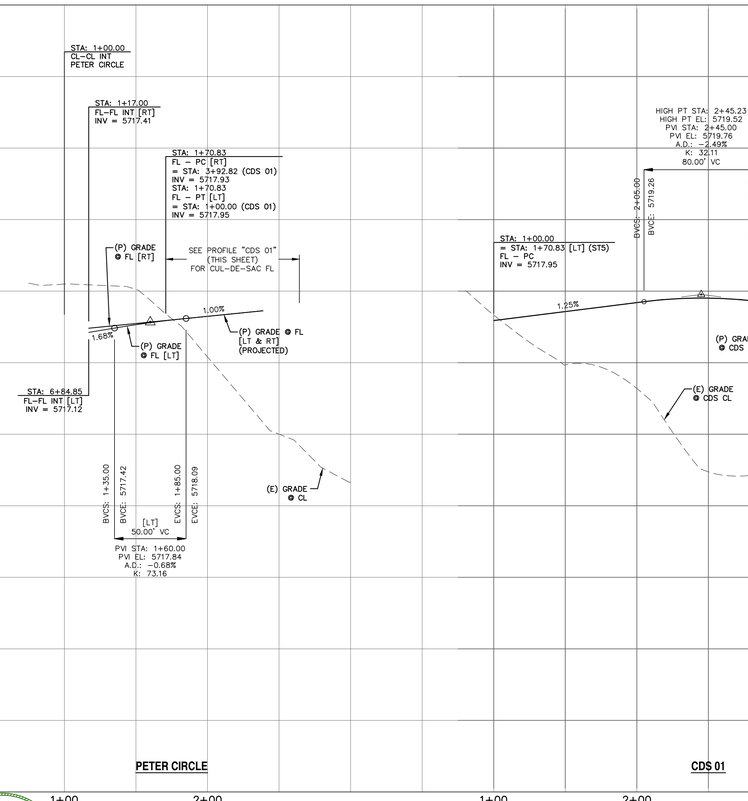
PETER CIRCLE - LOCAL
STA: 1+00 ~ 3+00



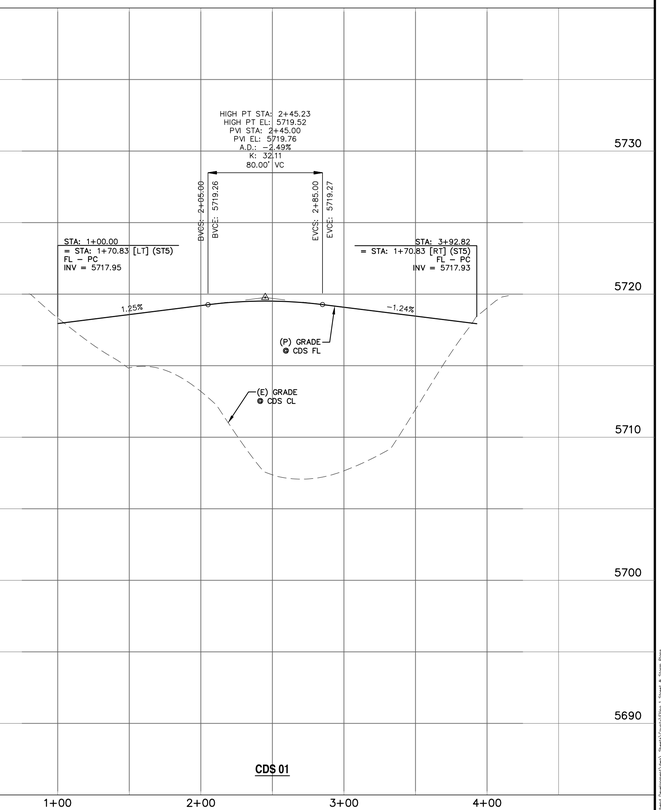
LOCATION MAP
SCALE: N.T.S.



MAIN STREET



PETER CIRCLE



CDS 01

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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PETER CIRCLE	= ST5
TAK LANE	= ST6
MAGON WAY	= ST7
CUL–DE–SAC – FL	= CDS

PREPARED FOR:
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6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

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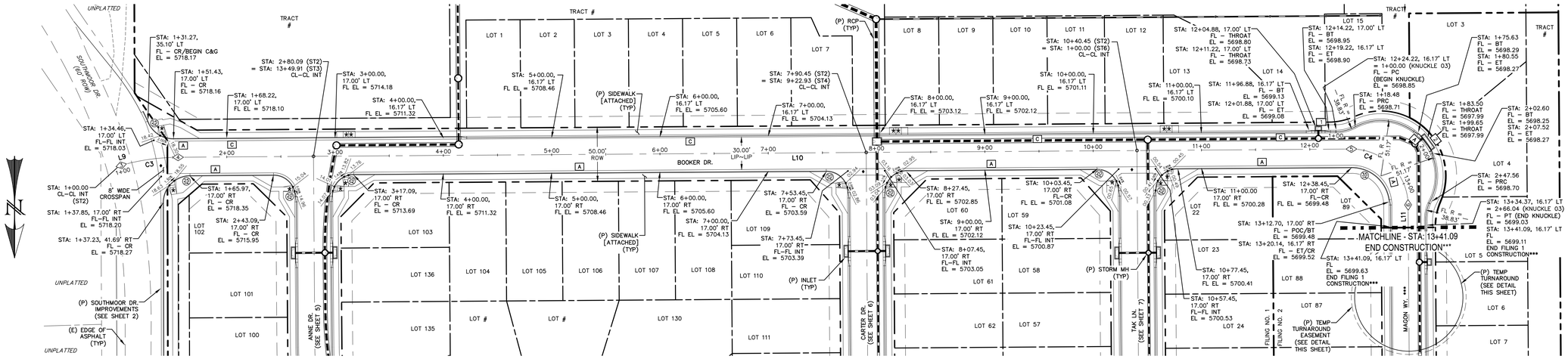
COLORADO LICENSED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MIJARES, COLORADO PE #40510 — 10/19/20 DATE

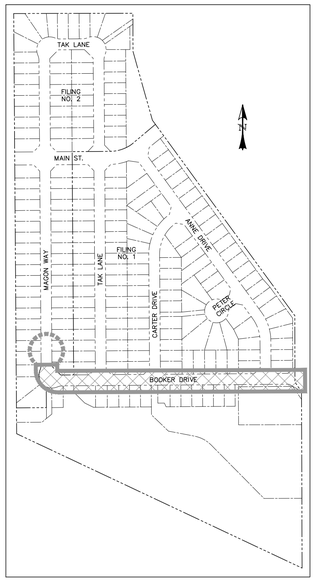
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING FILING NO. 1
MAIN STREET & PETER CIRCLE STREET IMPROVEMENT PLAN

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER 17–114	SHEET 3 OF 27



BOOKER DRIVE - LOCAL
STA: 1+00 ~ 13+45



LOCATION MAP
SCALE: N.T.S.

★ PED INTERSECTION RAMP
(REF: SD 2-41 & SD 2-42)

★★ PARALLEL PED RAMP
(REF: SD 2-50)

◆ STANDARD CROSSPAN
(REF: SD 2-26)

LINE TABLE		
LINE	BEARING	DISTANCE
L9	S74° 21' 33"W	1.90
L10	S89° 35' 49"W	1083.37
L11	N0° 24' 11"W	20.96

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C3	15°14'16"	200.00	53.19
C4	90°00'00"	52.00	81.68

POINT TABLE - CL

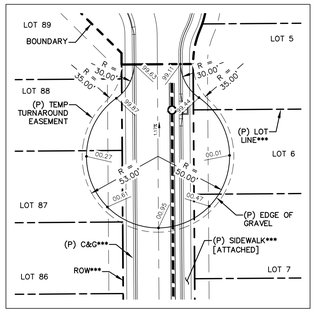
NUMBER	STATION	TYPE
3	1+01.90	PC
4	1+55.09	PT
5	12+38.45	PC
6	13+20.14	PT

***** FILING CONSTRUCTION NOTE:**

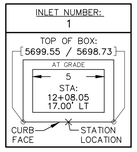
SEE "RIVERBEND COMMONS FILING NO. 2 STREETS, STORM SEWER, AND SIGNAGE AND STRIPING" CONSTRUCTION PLANS BY CATAMOUNT ENGINEERING.

NOTE: SEE SHEETS 20 & 21 FOR PEDESTRIAN RAMP DETAILS

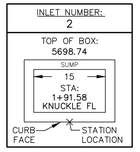
0 50 100
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



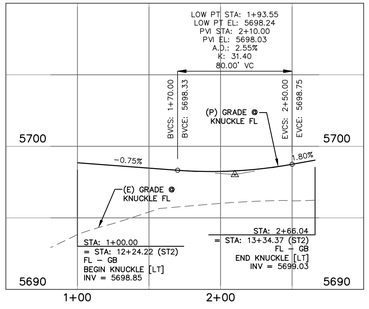
TEMP. TURNAROUND
SCALE: 1" = 50'



INLET DATA
SCALE: N.T.S.



INLET DATA
SCALE: N.T.S.



KNUCKLE 03

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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CARTER DRIVE	= ST4
PETER CIRCLE	= ST5
TAK LANE	= ST6
MAGON WAY	= ST7
CUL-DE-SAC - FL	= CDS

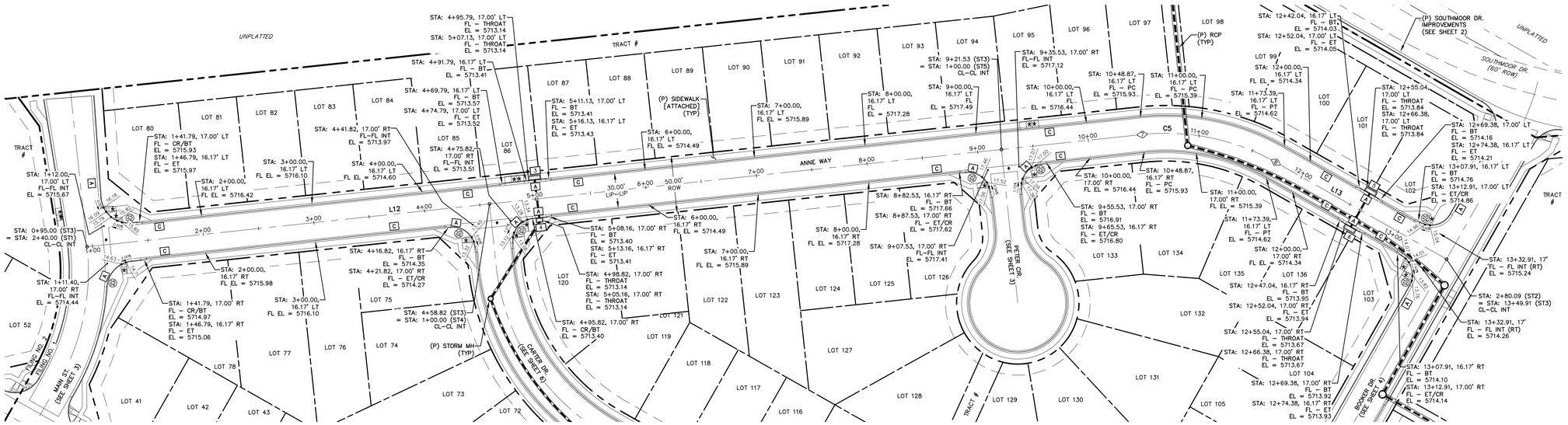
PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
COLORADO REGISTERED PROFESSIONAL ENGINEER DAVID L. MIJARES 40510
DAVID L. MIJARES, COLORADO PE #40510 — 10/19/20 DATE

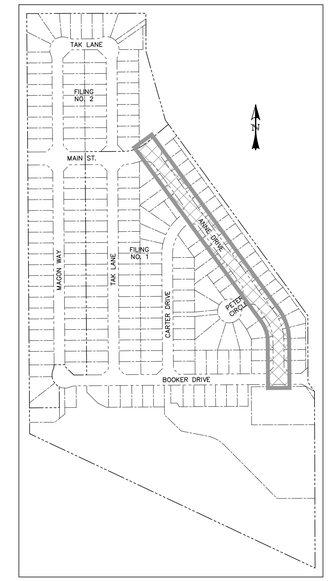
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING FILING NO. 1
BOOKER DRIVE STREET IMPROVEMENT PLAN

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER: 17-114	SHEET: 4 OF 27



ANNE DRIVE - LOCAL
STA: 1+00 ~ 13+40



LOCATION MAP
SCALE: N.T.S.

* PED INTERSECTION RAMP (REF: SD 2–41 & SD 2–42)

** PARALLEL PED RAMP (REF: SD 2–50)

◆ STANDARD CROSSPAN (REF: SD 2–26)

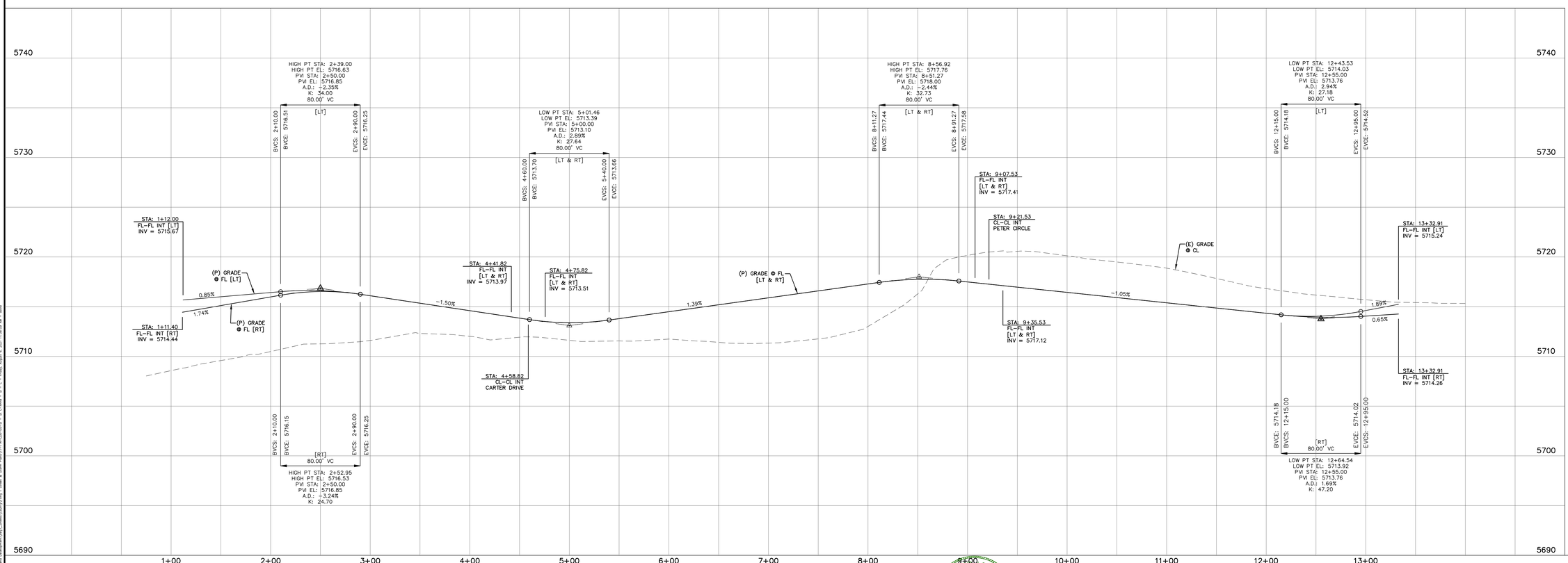
LINE TABLE		
LINE	BEARING	DISTANCE
L12	S36° 04' 35"E	953.87
L13	S0° 24' 11"E	176.52

NOTE: SEE SHEETS 20 & 21 FOR PEDESTRIAN RAMP DETAILS

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C5	35°40'24"	200.00	124.52

0 50 100
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

POINT TABLE - CL		
NUMBER	STATION	TYPE
7	10+48.87	PC
8	11+73.39	PT



INLET NUMBER: 3
TOP OF BOX: 5713.89
SUMP: 10
STA: 5+01.46
17.00' LT
CURB FACE — STATION LOCATION

INLET DATA
SCALE: N.T.S.

INLET NUMBER: 4
TOP OF BOX: 5713.89
SUMP: 5
STA: 5+01.99
17.00' RT
CURB FACE — STATION LOCATION

INLET DATA
SCALE: N.T.S.

INLET NUMBER: 5
TOP OF BOX: 5714.59
SUMP: 10
STA: 12+60.71
17.00' LT
CURB FACE — STATION LOCATION

INLET DATA
SCALE: N.T.S.

INLET NUMBER: 6
TOP OF BOX: 5714.42
SUMP: 10
STA: 12+60.71
17.00' RT
CURB FACE — STATION LOCATION

INLET DATA
SCALE: N.T.S.

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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TAK LANE	= ST6
MAGON WAY	= ST7
CUL-DE-SAC – FL	= CDS

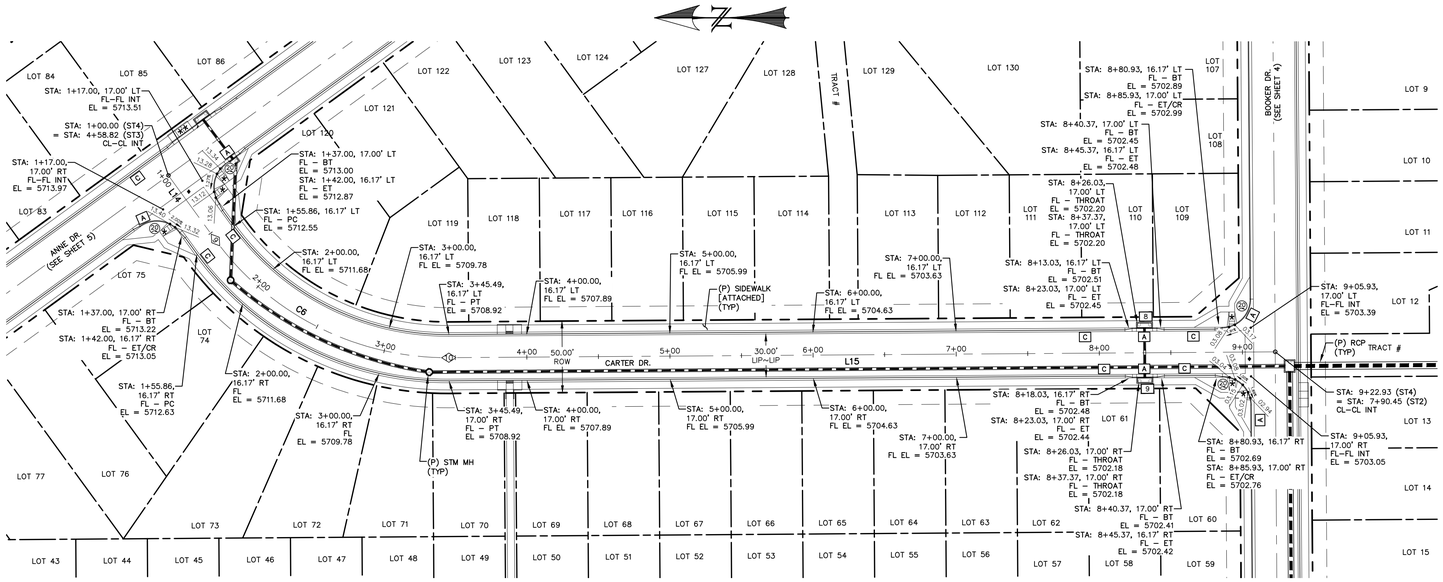
PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
DAVID L. MIJARES, COLORADO PE #40510 — DATE: 10/19/20

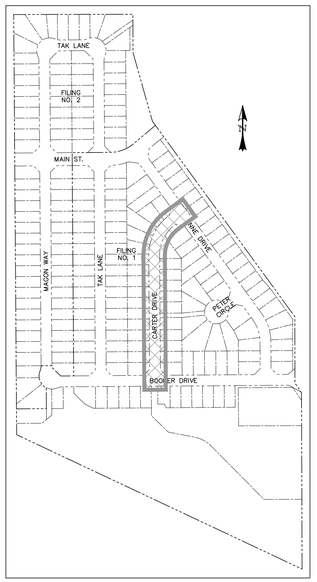
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING FILING NO. 1
ANNE DRIVE STREET IMPROVEMENT PLAN

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER: 17–114	SHEET: 5 OF 27



CARTER DRIVE - LOCAL
STA: 1+00 ~ 9+25



LOCATION MAP
SCALE: N.T.S.

★ PED INTERSECTION RAMP (REF: SD 2-41 & SD 2-42)

★★ PARALLEL PED RAMP (REF: SD 2-50)

◆ STANDARD CROSSPAN (REF: SD 2-26)

LINE TABLE		
LINE	BEARING	DISTANCE
L14	S53° 55' 25.22"W	55.86
L15	S0° 24' 10.53"E	577.43

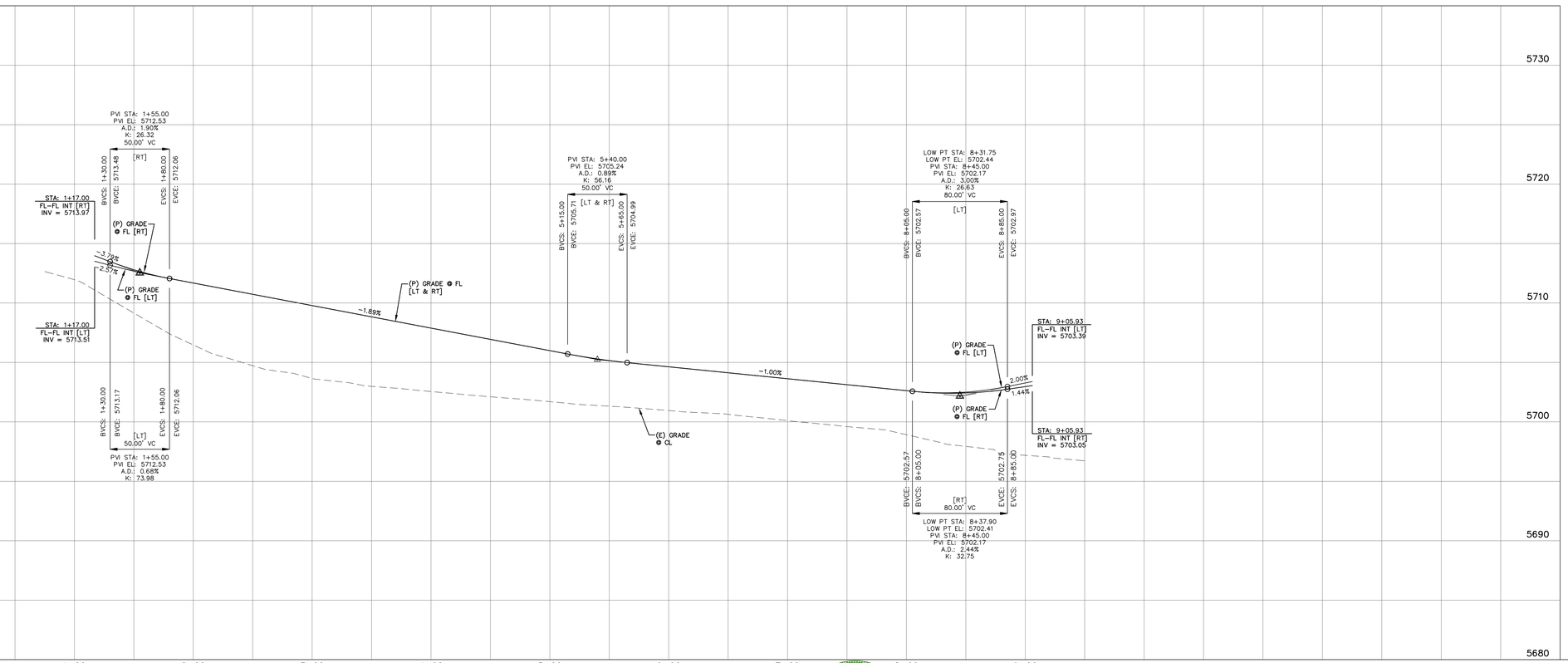
NOTE: SEE SHEETS 20 & 21 FOR PEDESTRIAN RAMP DETAILS

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C6	54°19'36"	200.00	189.64

0 50 100
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

POINT TABLE - CL

NUMBER	STATION	TYPE
9	1+55.86	PC
10	3+45.49	PT



INLET DATA
SCALE: N.T.S.

INLET NUMBER: 8
TOP OF BOX: 5702.95
SUMP 10
STA: 8+31.70
17.00' LT
CURB FACE — STATION LOCATION

INLET DATA
SCALE: N.T.S.

INLET NUMBER: 9
TOP OF BOX: 5702.93
SUMP 10
STA: 8+31.70
17.00' RT
CURB FACE — STATION LOCATION

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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PETER CIRCLE	= ST5
TAK LANE	= ST6
MAGON WAY	= ST7
CUL-DE-SAC - FL	= CDS

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6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

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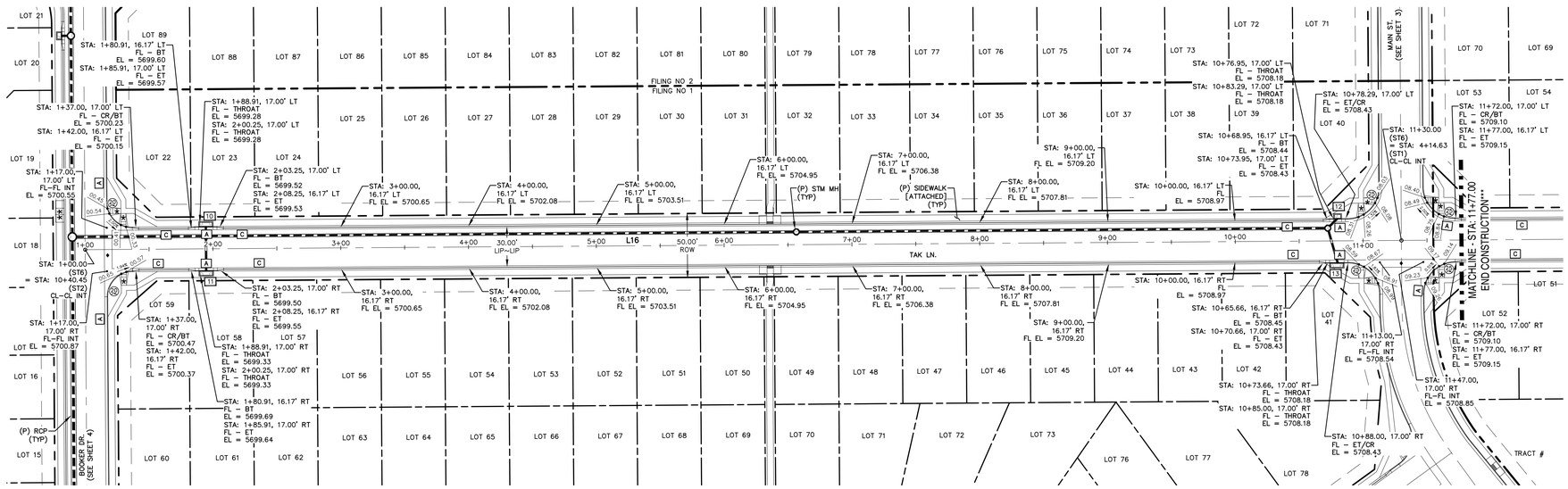
COLORADO LICENSED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MIJARES, COLORADO PE #40510
10/19/20
DATE

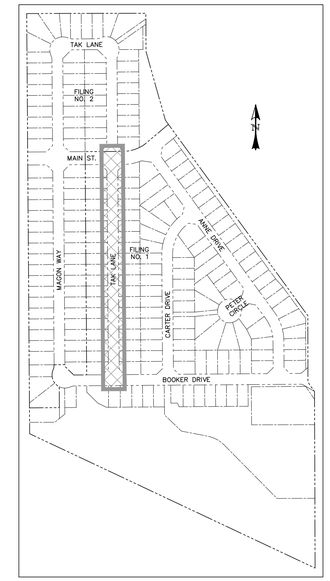
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING
FILING NO. 1
CARTER DRIVE
STREET IMPROVEMENT PLAN

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 6 OF 27



TAK LANE - LOCAL
STA: 1+00 ~ 11+77



LOCATION MAP
SCALE: N.T.S.

★ PED INTERSECTION RAMP
(REF: SD 2-41 & SD 2-42)

★★ PARALLEL PED RAMP
(REF: SD 2-50)

♦ STANDARD CROSSPAN
(REF: SD 2-26)

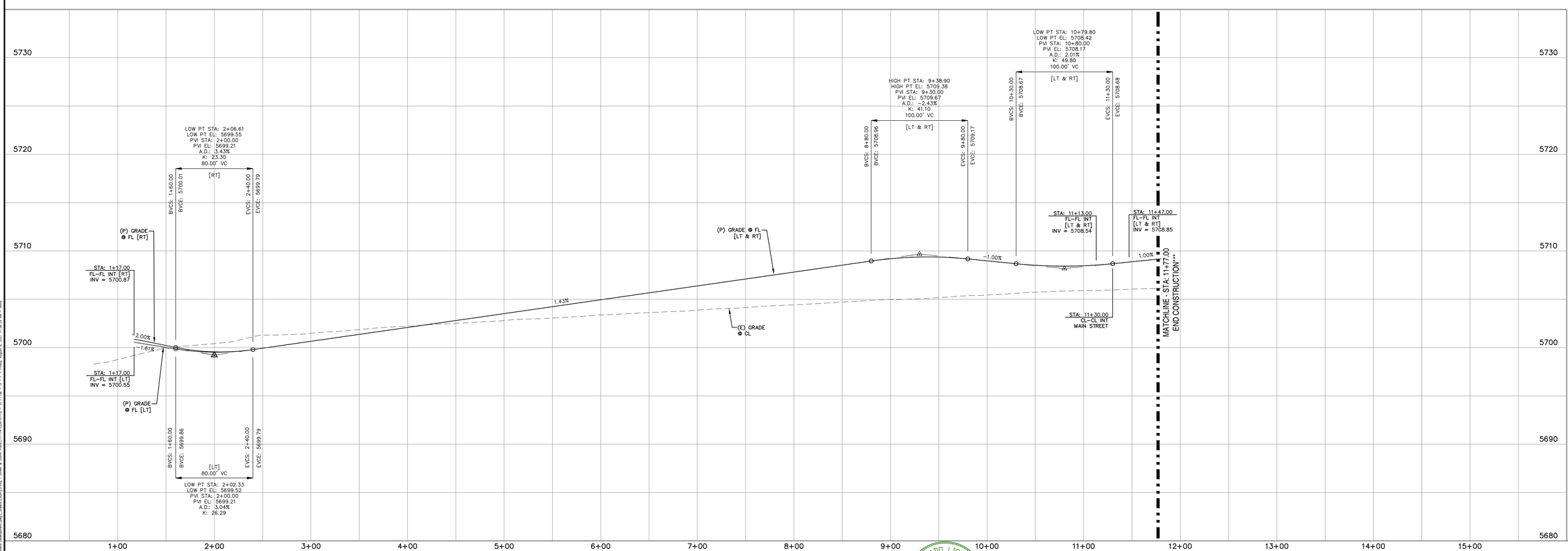
LINE TABLE		
LINE	BEARING	DISTANCE
L16	N0° 24' 10"W	1076.50

NOTE: SEE SHEETS 20 & 21 FOR PEDESTRIAN RAMP DETAILS

***** FILING CONSTRUCTION NOTE:**

SEE "RIVERBEND COMMONS FILING NO. 2 STREETS, STORM SEWER, AND SIGNAGE & STRIPING" CONSTRUCTION PLANS BY CATAMOUNT ENGINEERING.

0 50 100
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



INLET NUMBER: 10
TOP OF BOX: 5700.03
SUMP: 10 — STA: 1+94.58, 17.00' RT
CURB FACE — STATION LOCATION

INLET DATA
SCALE: N.T.S.

INLET NUMBER: 11
TOP OF BOX: 5700.08
SUMP: 10 — STA: 1+94.58, 17.00' LT
CURB FACE — STATION LOCATION

INLET DATA
SCALE: N.T.S.

INLET NUMBER: 12
TOP OF BOX: 5708.93
SUMP: 5 — STA: 10+80.12, 17.00' RT
CURB FACE — STATION LOCATION

INLET DATA
SCALE: N.T.S.

INLET NUMBER: 13
TOP OF BOX: 5708.93
SUMP: 10 — STA: 10+79.33, 17.00' LT
CURB FACE — STATION LOCATION

INLET DATA
SCALE: N.T.S.

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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CARTER DRIVE	= ST4
PETER CIRCLE	= ST5
TAK LANE	= ST6
MAGON WAY	= ST7
CUL-DE-SAC - FL	= CDS

PREPARED FOR:

AVATAR EQUITIES, LLC

6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.

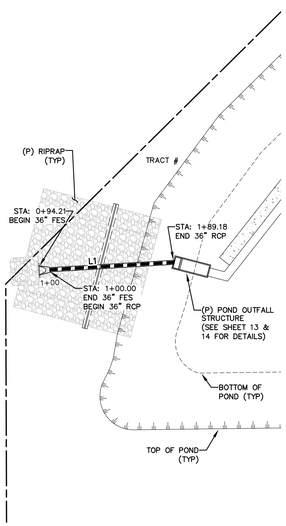
COLORADO LICENSED PROFESSIONAL ENGINEER DAVID L. MIJARES 40510

DAVID L. MIJARES, COLORADO PE #40510 — DATE: 10/19/20

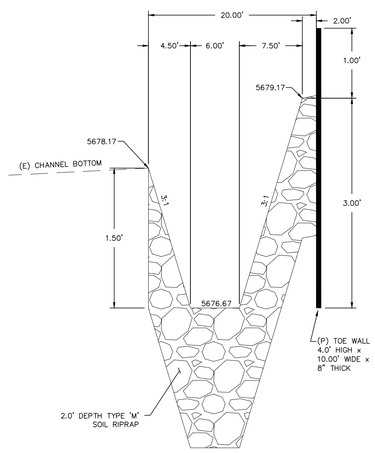
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE — WOODLAND PARK, CO 80866
PO BOX 221 — (719)426-2124

RIVERBEND CROSSING FILING NO. 1
TAK LANE STREET IMPROVEMENT PLAN

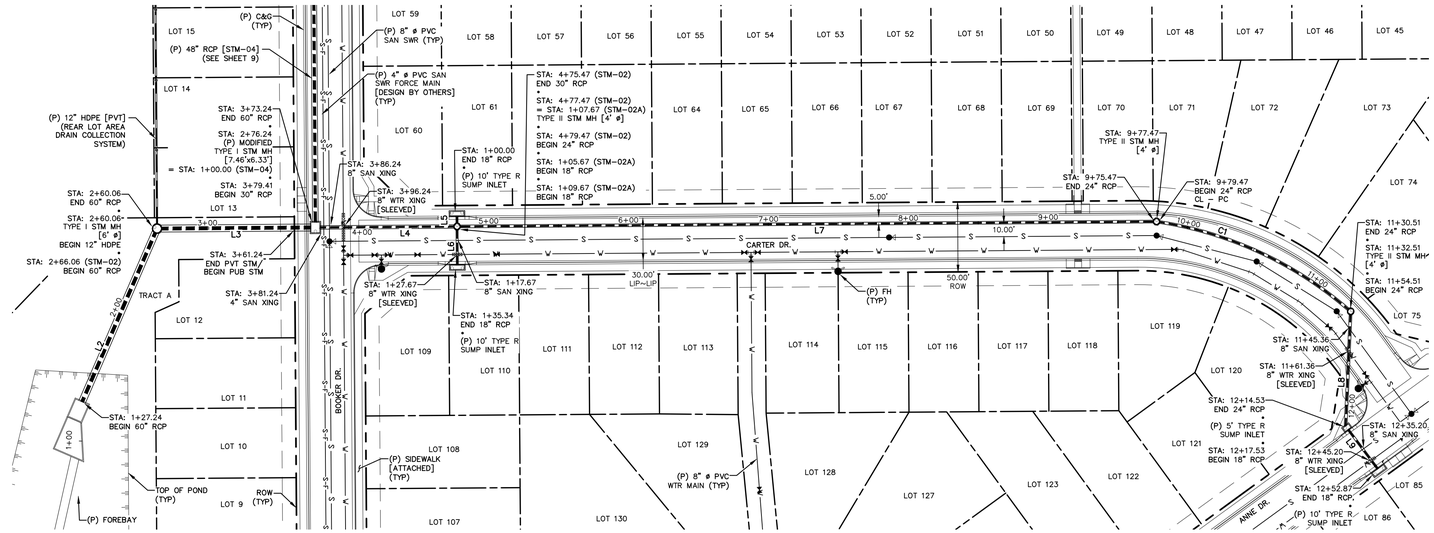
DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER: 17-114	SHEET: 7 OF 27



STM-01 [PVT]
STA: 1+00 ~ 1+75

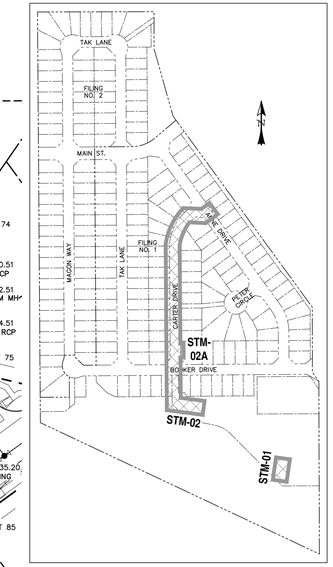


LOW TAIL WATER BASIN
N.T.S.
(REF: DCM VOL 2, FIGURE 9-37; SEE SHEET 19 FOR DETAIL)



STM-02 [PVT & PUB]
STA: 1+00 ~ 12+60

STM-02A [PVT]
STA: 1+00 ~ 1+50



LOCATION MAP
SCALE: N.T.S.

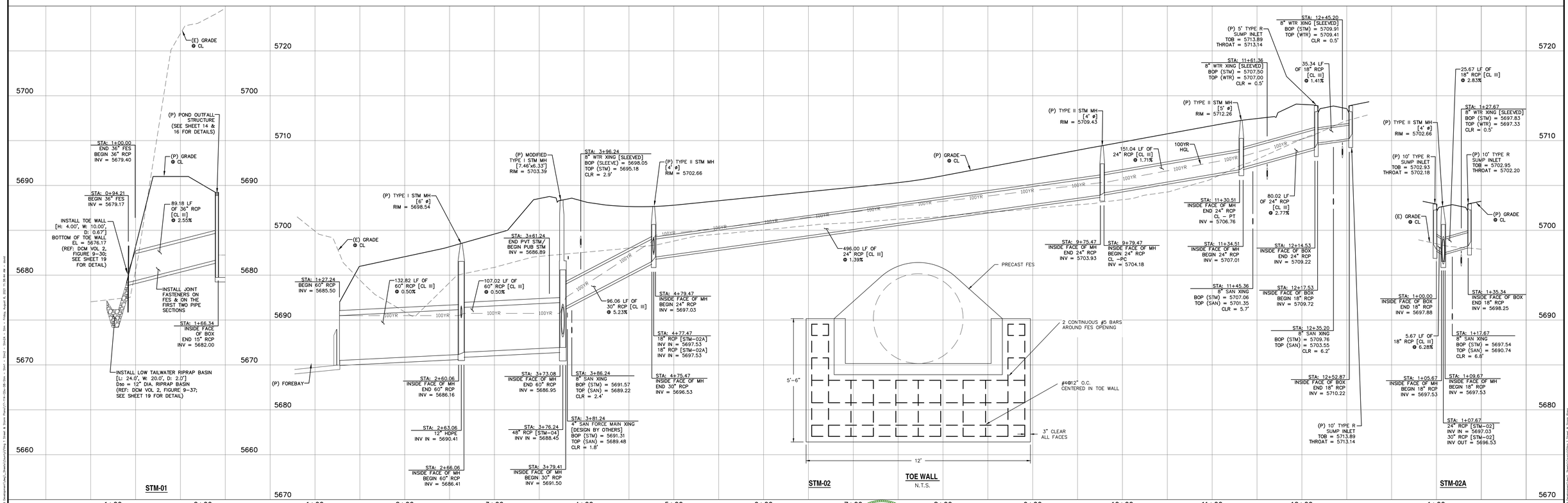
0 50 100
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N3° 25' 38"W	89.18
L2	N66° 36' 18"W	132.82
L3	N0° 24' 11"W	107.02

LINE TABLE		
LINE	BEARING	DISTANCE
L4	N0° 24' 11"W	96.06
L5	S89° 35' 49"W	5.67
L6	S89° 35' 49"W	25.67

LINE TABLE		
LINE	BEARING	DISTANCE
L7	N0° 24' 11"W	496.00
L8	S87° 28' 35"E	80.02
L9	N53° 03' 31"E	35.34

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	32°03'06"	270.00	151.04



REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

811 Know what's below. Call 72 hours before you dig.
For more details visit: www.call811.com

PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

PREPARED UNDER DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
COLORADO LICENSED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MIJARES, PE COLORADO REG #40510
10/19/20
DATE

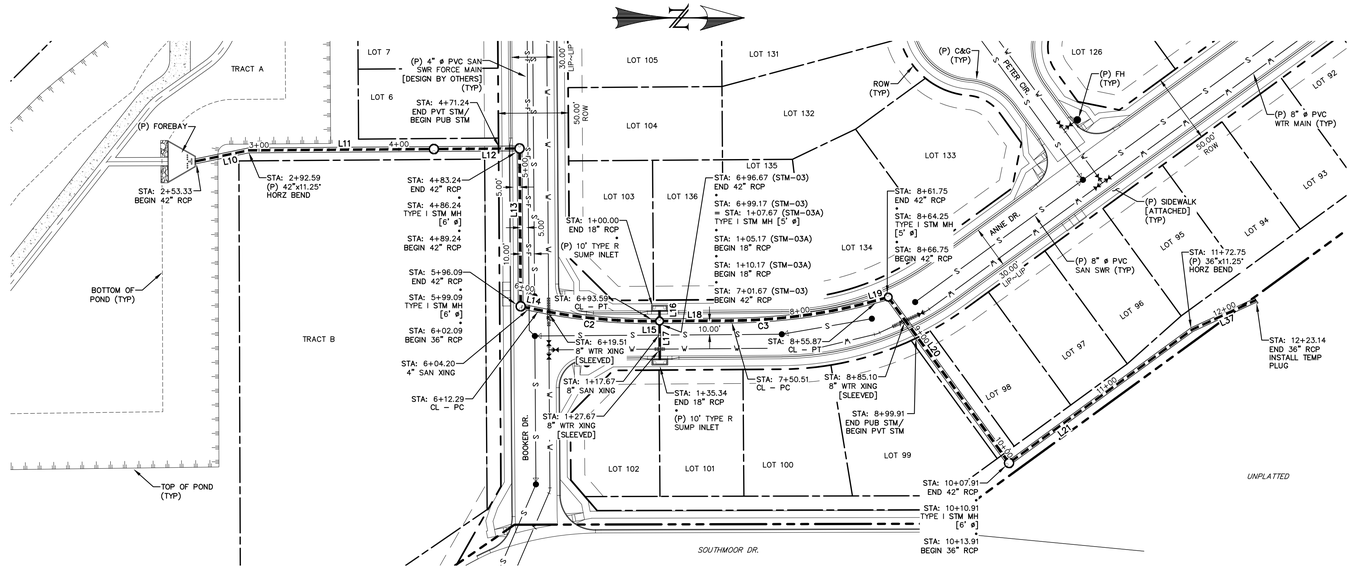
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

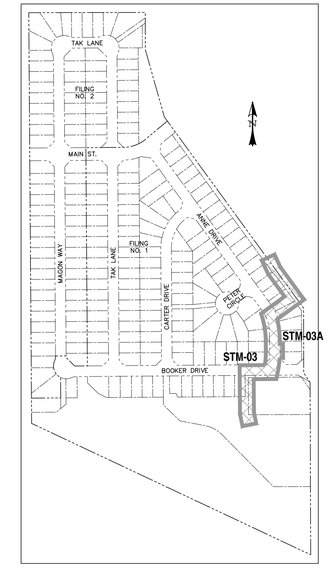
RIVERBEND CROSSING FILING NO. 1
STORM SEWER PLAN & PROFILE

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 8 OF 27

LINE TABLE		
LINE	BEARING	DISTANCE
L10	N11° 39' 11"W	39.27
L11	N0° 24' 11"W	129.41
L12	N0° 24' 11"W	55.24
L13	N89° 35' 49"E	106.85
L14	S11° 29' 15"W	10.20
L15	N0° 09' 27"W	3.08
L16	S89° 35' 49"W	5.17
L17	N89° 35' 49"E	25.17
L18	N0° 24' 11"W	48.85
L19	N15° 29' 41"W	5.88
L20	N53° 55' 25"E	141.16
L21	N36° 04' 35"W	158.84
L37	N24° 49' 35"W	50.39

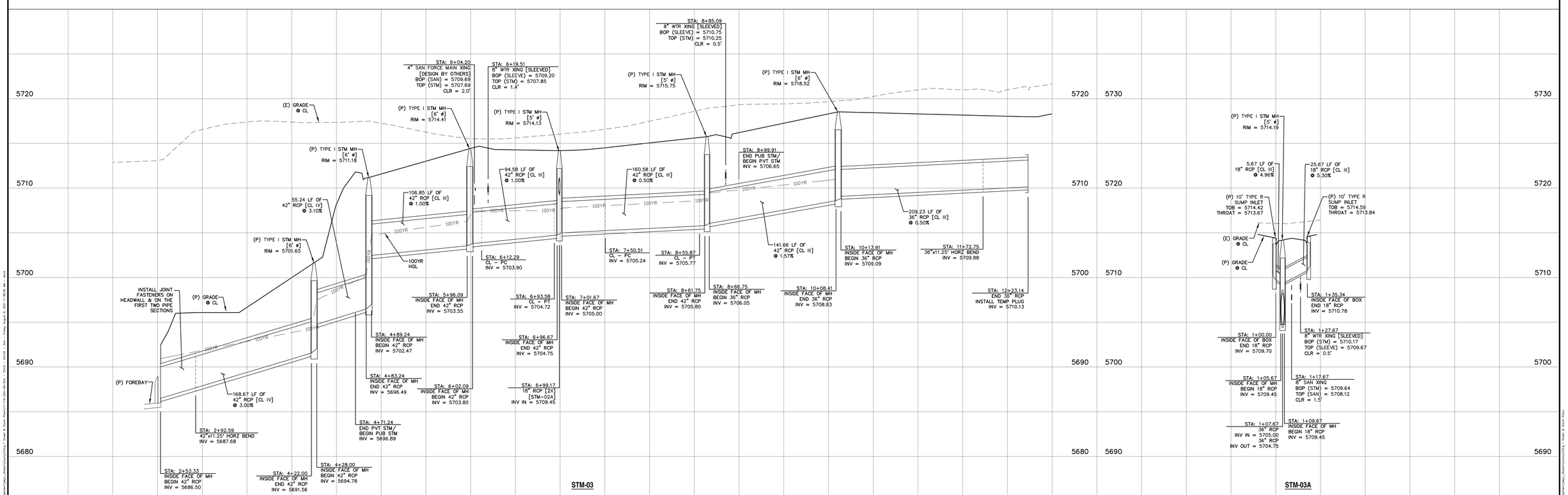
CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C2	11°38'42"	400.00	81.30
C3	15°05'30"	400.00	105.36





LOCATION MAP
SCALE: N.T.S.

0 50 100
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

811 Know what's below. Call 72 hours before you dig.
For more details visit: www.call811.com

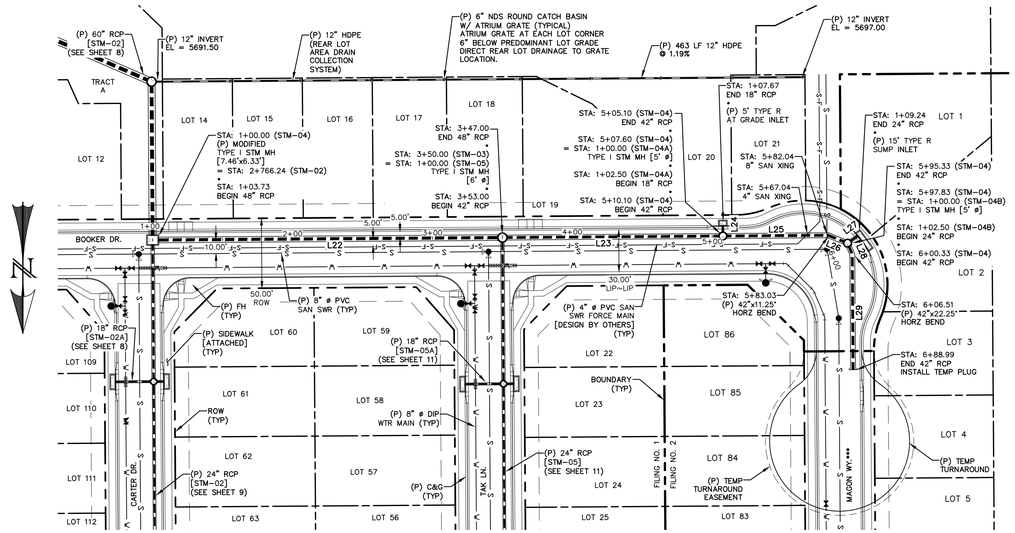
PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

PREPARED UNDER DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
COLORADO LICENSED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MIJARES, COLORADO PE #40510 — 10/19/20 DATE

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING
FILING NO. 1
STORM SEWER 03 & 03A
PLAN & PROFILE

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER 17–114	SHEET 9 OF 27

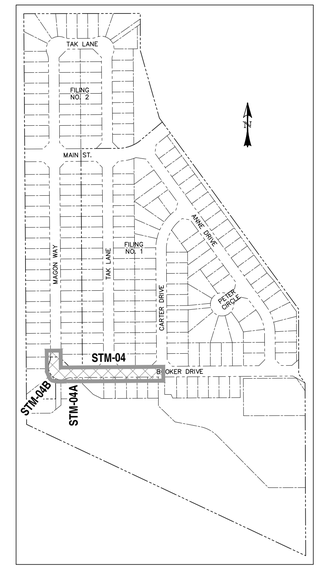


STM-04 [PUB]
STA: 1+00 ~ 7+00

STM-04A [PUB]
STA: 1+00 ~ 1+25

STM-04B [PUB]
STA: 1+00 ~ 1+25

LINE TABLE		
LINE	BEARING	DISTANCE
L22	S89° 35' 49"W	243.27
L23	S89° 35' 49"W	152.10
L24	S0° 24' 11"E	5.17
L25	S89° 35' 49"W	72.93
L26	N67° 35' 45"W	12.30
L27	S54° 10' 47"W	6.74
L28	N22° 54' 11"W	6.18
L29	N0° 24' 11"W	82.47

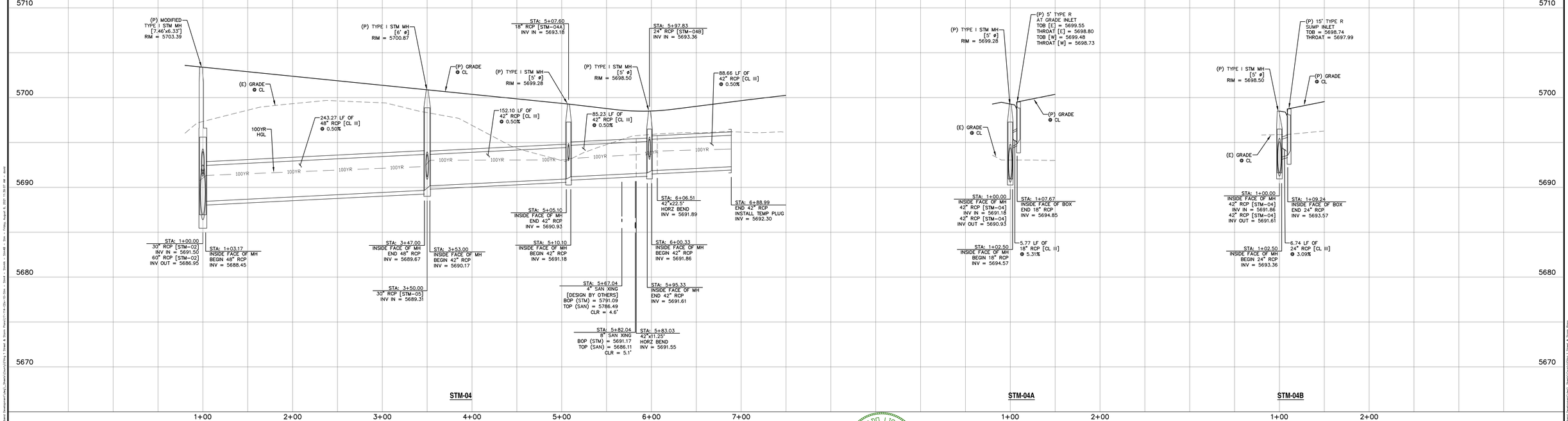


LOCATION MAP
SCALE: N.T.S.

0 50 100
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

***** FILING CONSTRUCTION NOTE:**

SEE "RIVERBEND COMMONS FILING NO. 2 STREETS, STORM SEWER, AND SIGNAGE AND STRIPING" CONSTRUCTION PLANS BY CATAMOUNT ENGINEERING.



REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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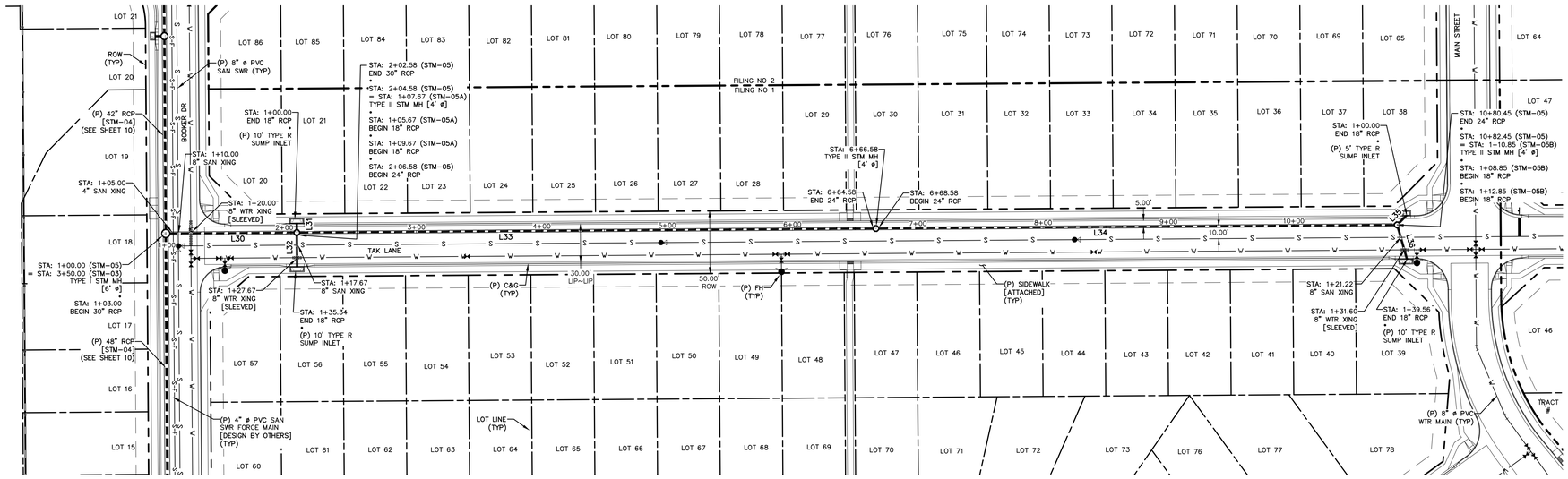
PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

PREPARED UNDER DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
COLORADO LICENSED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MIJARES, COLORADO PE #40510
10/19/20
DATE

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING
FILING NO. 1
STORM SEWER
PLAN & PROFILE

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 10 OF 27

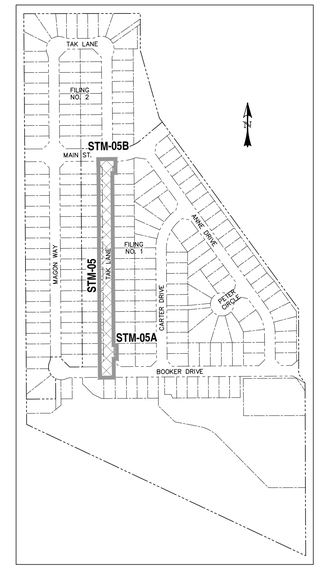


STM-05 [PUB]
STA: 1+00 ~ 10+75

STM-05A [PUB]
STA: 1+00 ~ 1+50

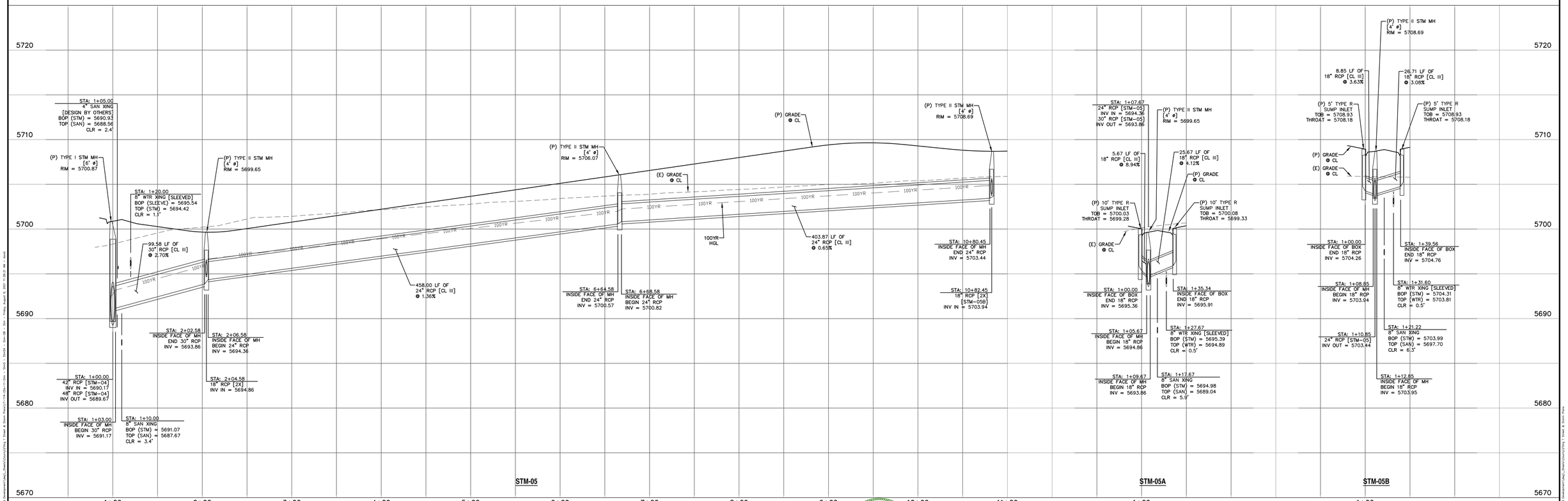
STM-05B [PUB]
STA: 1+00 ~ 1+50

LINE TABLE		
LINE	BEARING	DISTANCE
L30	N0° 24' 11"W	99.58
L31	S89° 35' 49"W	5.67
L32	N89° 35' 49"E	25.67
L33	N0° 24' 11"W	458.00
L34	N0° 24' 11"W	411.87
L35	N45° 24' 11"W	8.85
L36	N74° 06' 14"E	26.71



LOCATION MAP
SCALE: N.T.S.

0 50 100
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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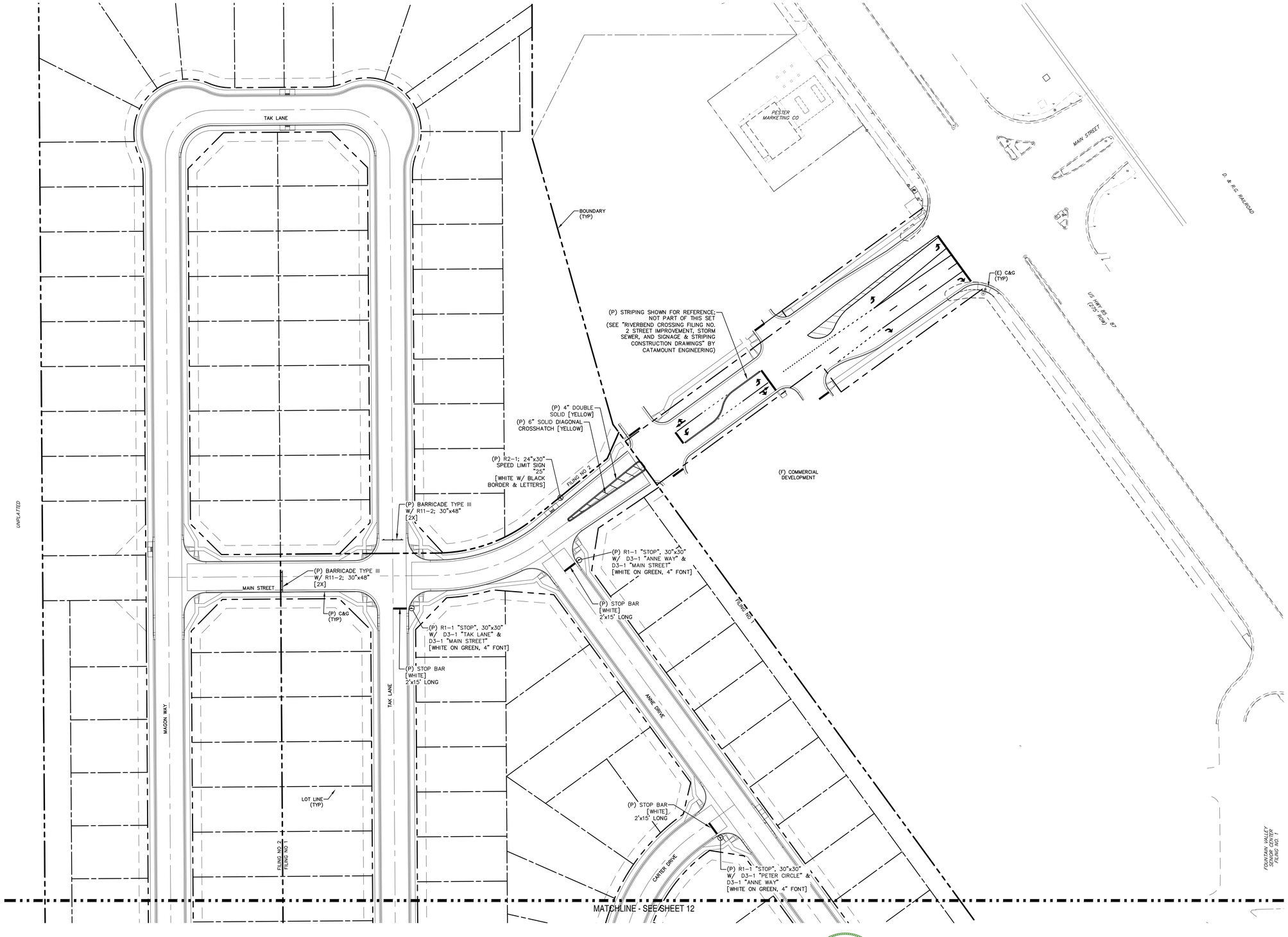
PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

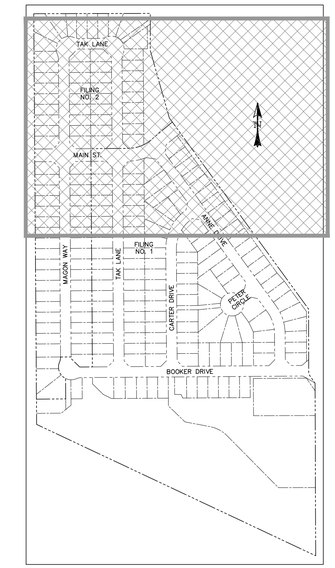
PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
DAVID L. MUJARES, REGISTERED PROFESSIONAL ENGINEER #40510
10/19/20
DATE

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING FILING NO. 1
STORM SEWER PLAN & PROFILE

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 11 OF 27





LOCATION MAP
SCALE: N.T.S.

N

0 50 100
SCALE: 1" = 50'

SIGNAGE & STRIPING NOTES:

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
3. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES.
4. ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.
5. STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
6. ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
7. ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS."
8. ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
9. ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
10. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
11. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
12. ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
13. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY DEVELOPMENT SERVICES (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
14. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.

LEGEND

EXISTING	(E)
PROPOSED	(P)
FUTURE	(F)
CURB AND GUTTER	C&G

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

811 Know what's below. Call 72 hours before you dig.
For more details visit: www.call811.com

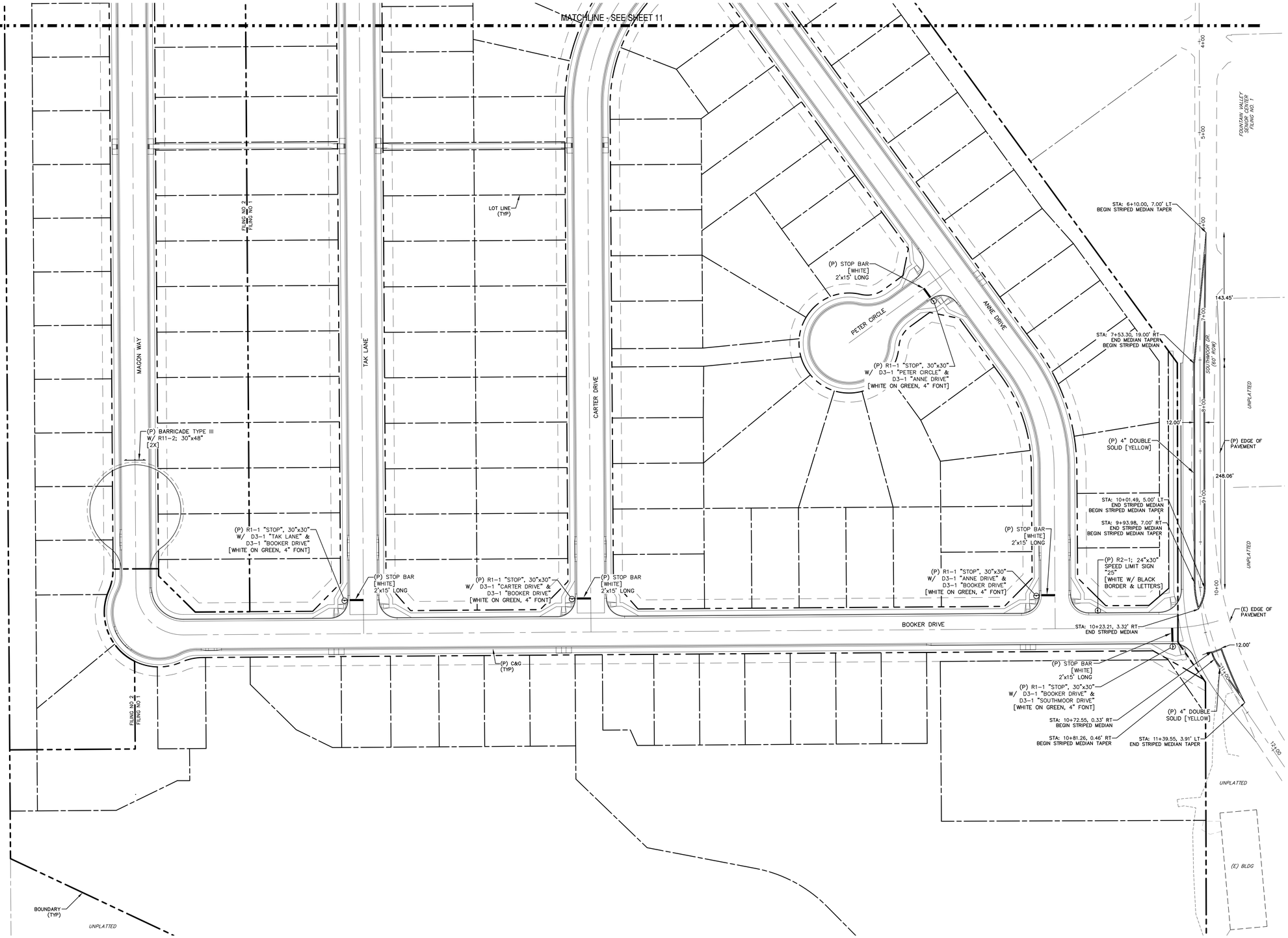
PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

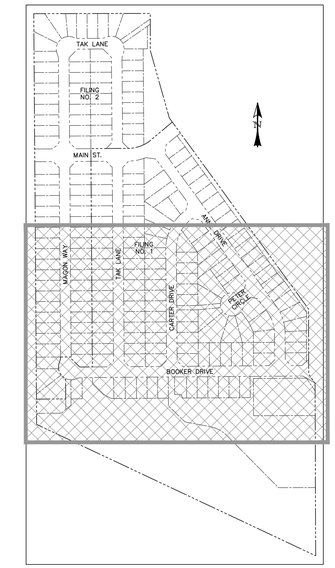
PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
COLORADO LICENSED PROFESSIONAL ENGINEER DAVID L. MIJARES 40510
DAVID L. MIJARES, COLORADO PE #40510 — 10/19/20 DATE

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING FILING NO. 1
SIGNAGE & STRIPING PLAN

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 12 OF 27





LOCATION MAP
SCALE: N.T.S.

N

0 50 100
SCALE: 1" = 50'

SIGNAGE & STRIPING NOTES:

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LEGEND

EXISTING	(E)
PROPOSED	(P)
FUTURE	(F)
CURB AND GUTTER	C&G

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

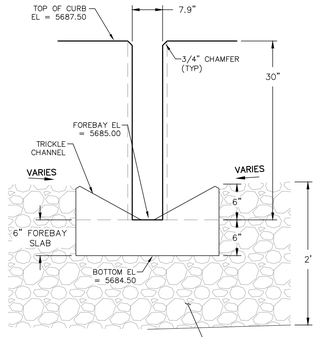
PREPARED UNDER DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
CERTIFIED LICENSED PROFESSIONAL ENGINEER DAVID L. MIJARES 40510
DAVID L. MIJARES, COLORADO PE #40510 — 10/19/20 DATE

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

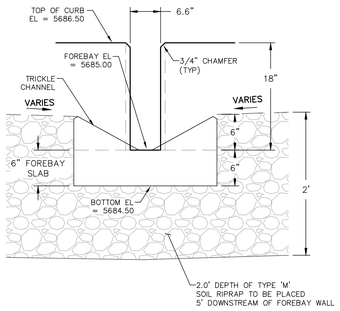
RIVERBEND CROSSING FILING NO. 1

SIGNAGE & STRIPING PLAN

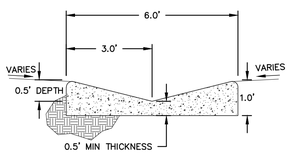
DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 13 OF 27



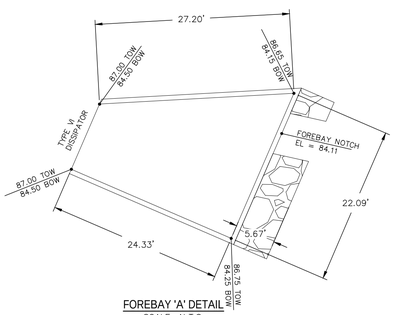
FOREBAY 'A' NOTCH
SCALE: N.T.S.



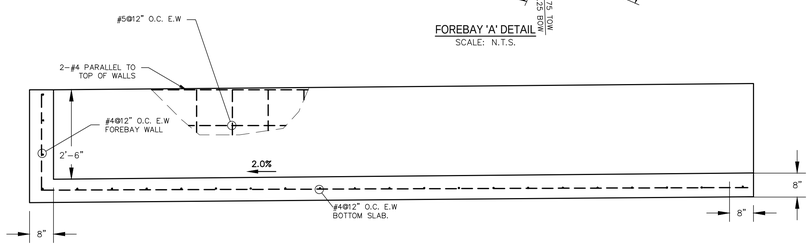
FOREBAY 'B' NOTCH
SCALE: N.T.S.



LOW FLOW CHANNEL
SCALE: N.T.S.

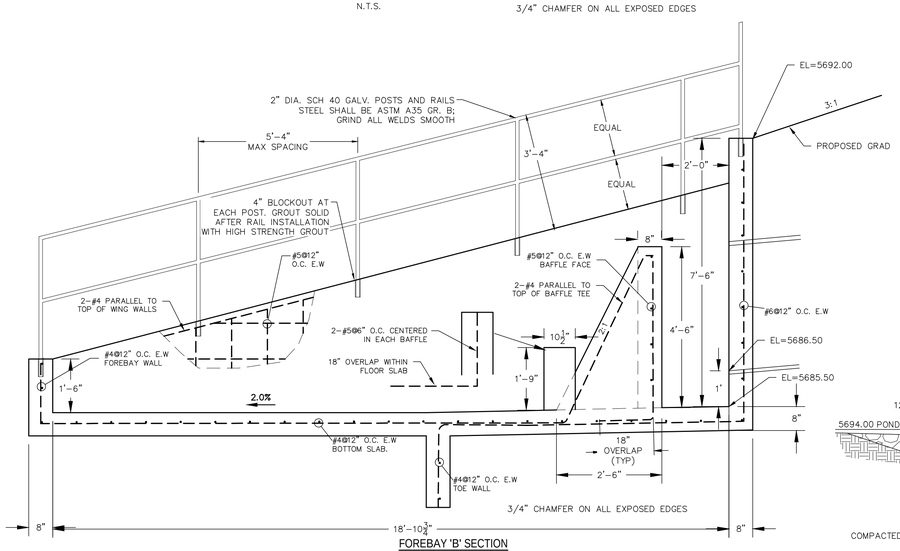


FOREBAY 'A' DETAIL
SCALE: N.T.S.

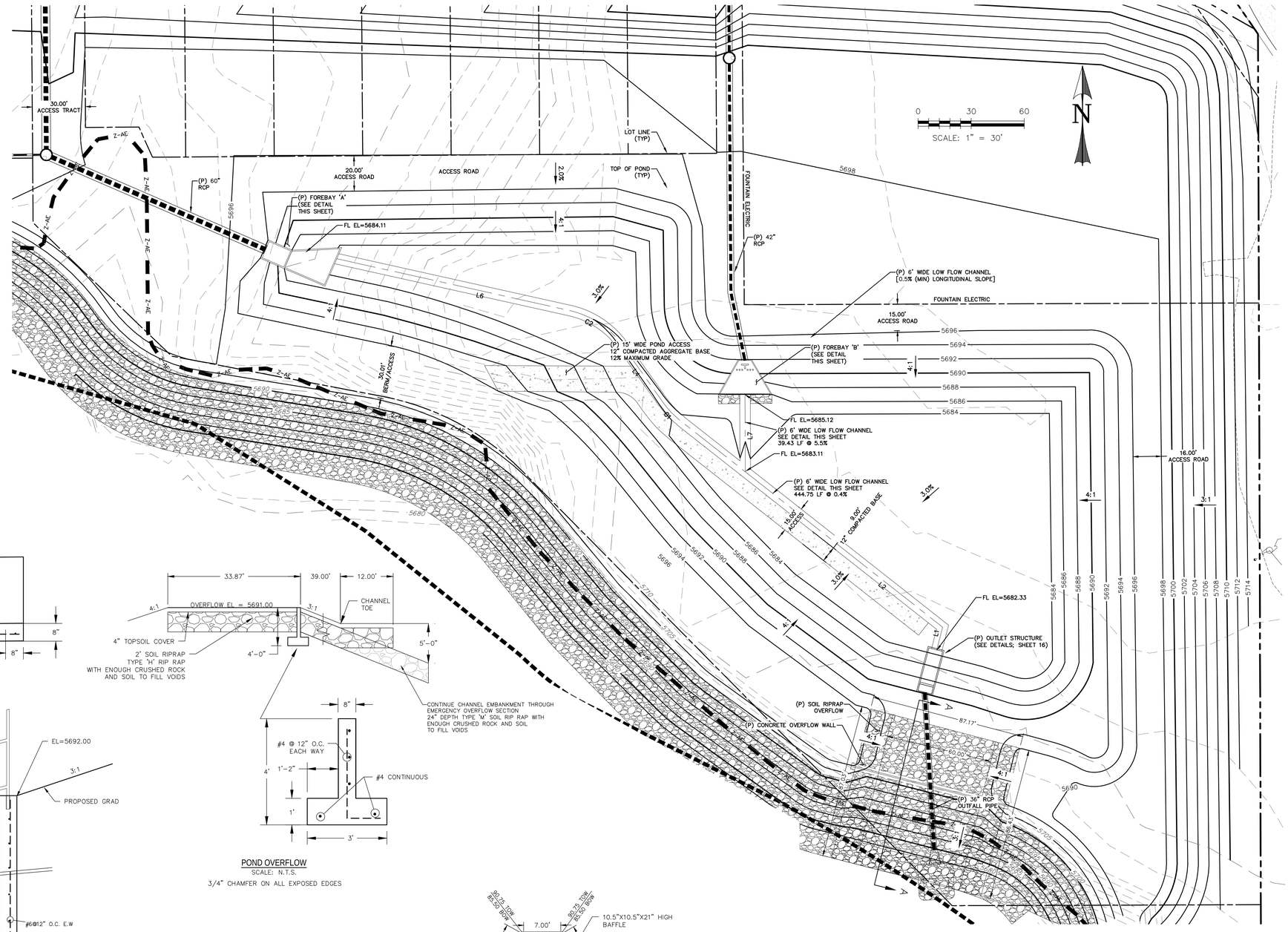


FOREBAY 'A' SECTION
N.T.S.

3/4" CHAMFER ON ALL EXPOSED EDGES

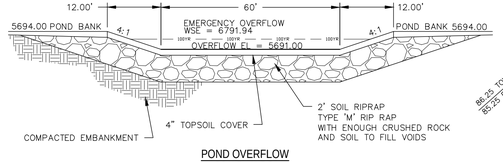


FOREBAY 'B' SECTION
N.T.S.

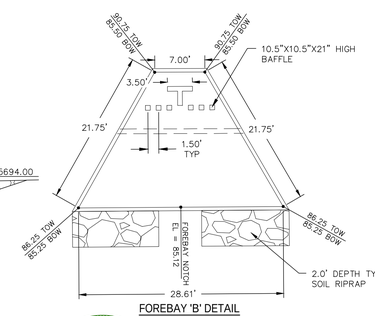


EXTENDED DETENTION BASIN
SCALE: 1" = 30'

POND OVERFLOW
SCALE: N.T.S.
3/4" CHAMFER ON ALL EXPOSED EDGES



POND OVERFLOW
SCALE: N.T.S.



FOREBAY 'B' DETAIL
SCALE: N.T.S.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N14° 30' 05.17"E	13.21
L2	N51° 46' 58.47"W	188.49
L4	N35° 20' 23.20"W	39.21
L6	N77° 26' 49.20"W	152.73
L7	S0° 11' 17.58"E	39.43

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	16°26'35"	50.00	14.35
C2	42°06'26"	50.00	36.75

WARNING

THIS AREA IS A STORMWATER FACILITY AND IS SUBJECT TO PERIODIC FLOODING

NOTES:

- SIGN SHALL BE A MINIMUM OF 3 SF.
- SIGN SHALL BE FABRICATED OF DURABLE MATERIALS SUCH AS METAL OR PLASTIC.
- SIGN SHALL HAVE RED LETTERING ON A WHITE BACKGROUND.

WARNING SIGN DETAIL
SCALE: N.T.S.

LEGEND

EXISTING	(E)
PROPOSED	(P)
CURB AND GUTTER	C&G
BOUNDARY	
RIGHT-OF-WAY	
LOT LINE	
(E) CONTOUR, INDEX	5700
(E) CONTOUR	
(P) CONTOUR, INDEX	5700
(P) CONTOUR	
(E) STORM SEWER	
(P) STORM SEWER	

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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For more details visit: www.call811.com

PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
COLORADO LICENSED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MIJARES, COLORADO PE #40510 — 10/19/20 DATE

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING FILING NO. 1

EXTENDED DETENTION BASIN

DESIGNED BY: DLM	DRAWN BY: MGP
SCALE: 1" = 30'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 14 OF 27

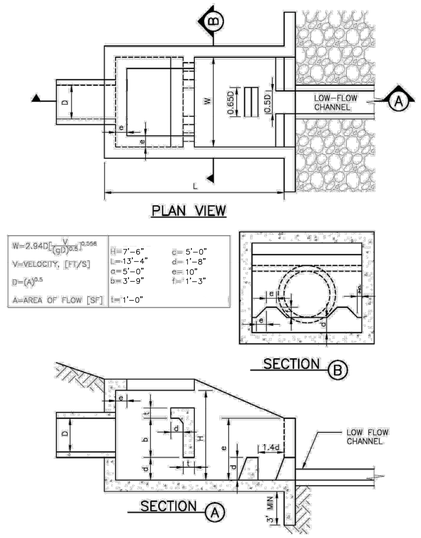
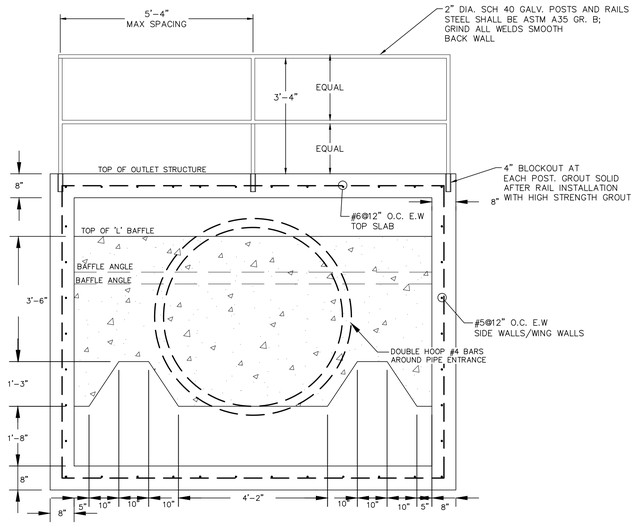
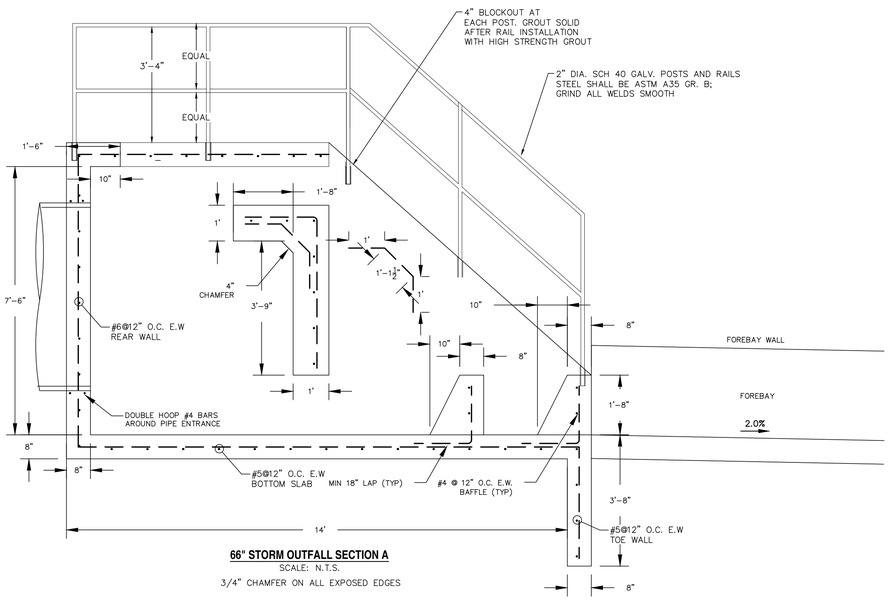


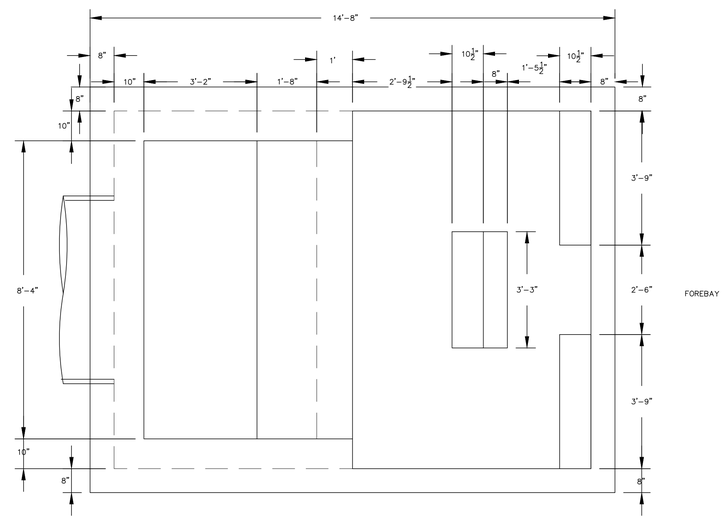
Figure 9-45. UDFCD modified USBR type VI impacts stilling basin (general design dimensions)



66" STORM OUTFALL SECTION B
SCALE: N.T.S.
3/4" CHAMFER ON ALL EXPOSED EDGES



66" STORM OUTFALL SECTION A
SCALE: N.T.S.
3/4" CHAMFER ON ALL EXPOSED EDGES



66" STORM OUTFALL PLAN VIEW
SCALE: N.T.S.
3/4" CHAMFER ON ALL EXPOSED EDGES

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

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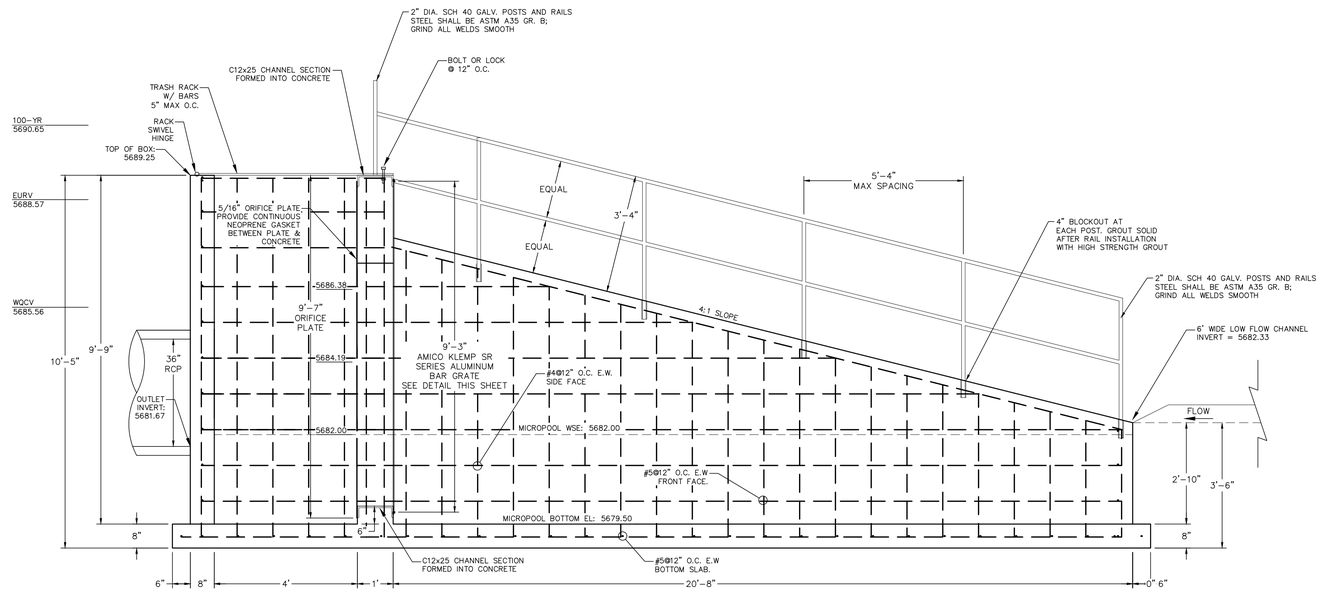
DAVID L. MIJARES, COLORADO REG. #40510 — 10/19/20 DATE

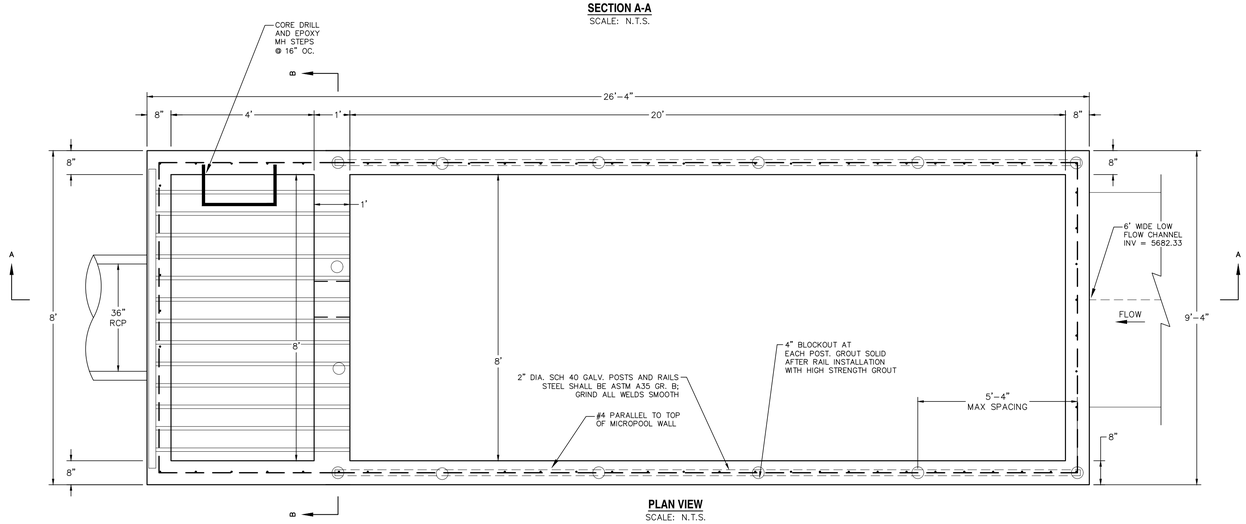
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE PO BOX 221 WOODLAND PARK, CO 80866 (719)426-2124

RIVERBEND CROSSING FILING NO. 1
STORMWATER QUALITY FACILITY DETAILS

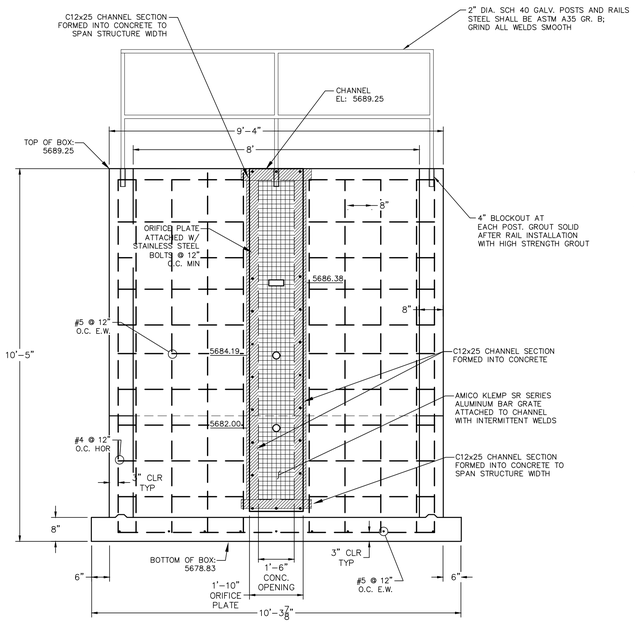
DESIGNED BY: DLM	DRAWN BY: DLM
SCALE: VARIES	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 15 OF 27



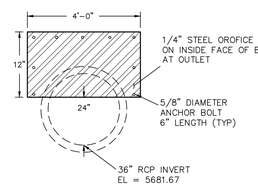
SECTION A-A
SCALE: N.T.S.



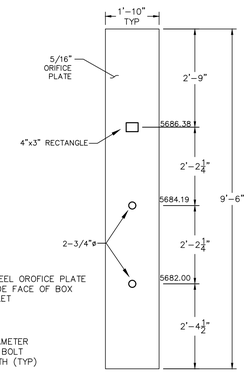
PLAN VIEW
SCALE: N.T.S.



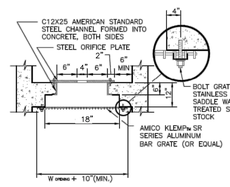
SECTION B-B
SCALE: N.T.S.



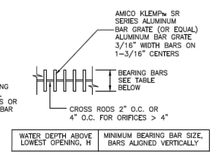
RESTRICTOR PLATE
SCALE: N.T.S.



ORIFICE PLATE
SCALE: N.T.S.



CONCRETE OPENING DETAIL
SCALE: N.T.S.



WATER DEPTH ABOVE LOWEST OPENING, H	MINIMUM BEARING BAR SIZE, BARS ALIGNED VERTICALLY
6.0 FT.	2-1/4" x 3/16"

R VALUE=(NET OPEN AREA)/(GROSS RACK AREA)
=0.71 FOR CROSS RODS ON 2" CENTERS
=0.77 FOR CROSS RODS ON 4" CENTERS

TRASH RACK DETAIL
SCALE: N.T.S.

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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SUITE 120W #204
SYOSSET, NY 11791

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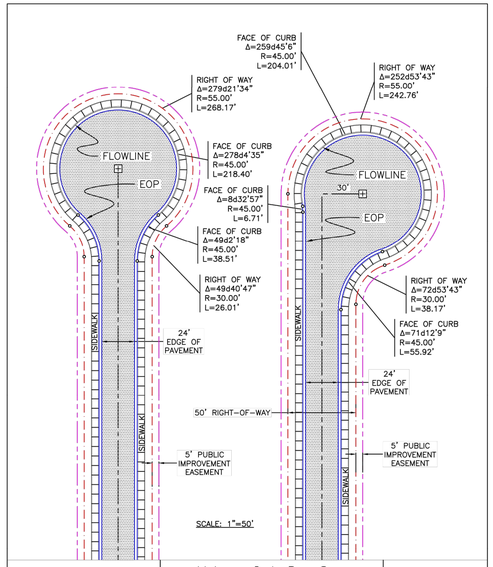
COLORADO LICENSED PROFESSIONAL ENGINEER DAVID L. MIJARES 40510
DAVID L. MIJARES, COLORADO PE #40510
10/19/20
DATE

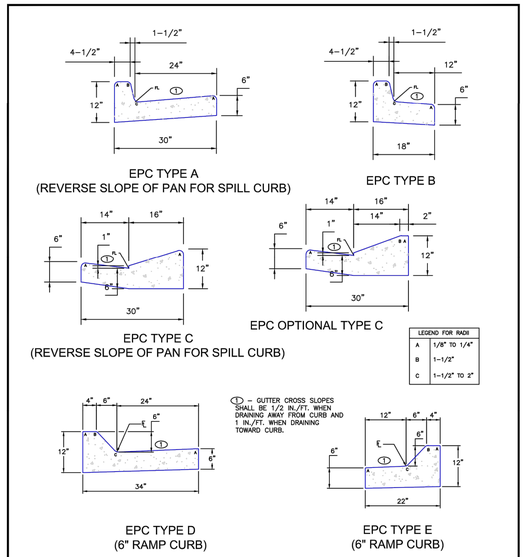
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING
FILING NO. 1
STORMWATER QUALITY
FACILITY DETAILS

DESIGNED BY: DLM	DRAWN BY: DLM
SCALE: VARIES	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 16 OF 27

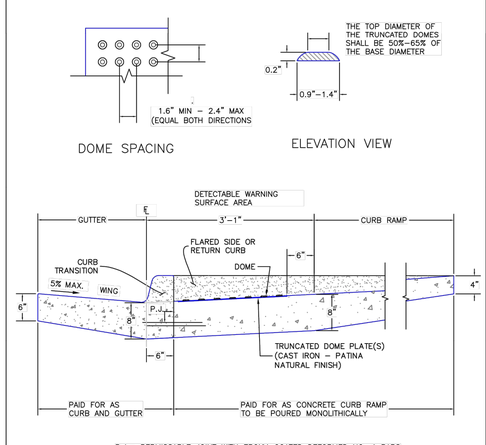


1/1/08	Urban Cul-De-Sac Details	
DATE APPROVED:	Standard Drawing	
John A. McCarty	REVISION DATE: 12/8/15	FILE NAME: SD_2-75
DEPARTMENT OF TRANSPORTATION		

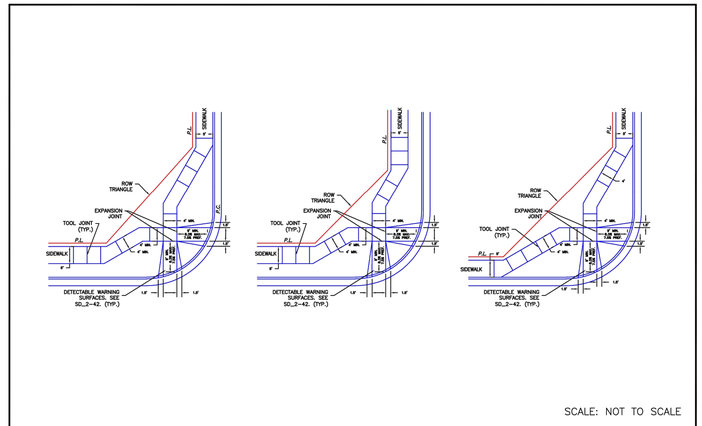


8/11/11	Typical Curb and Gutter Details	
DATE APPROVED:	Standard Drawing	
André P. Brackin	REVISION DATE: 12/8/15	FILE NAME: SD_2-20
DEPARTMENT OF TRANSPORTATION		

TRUNCATED DOME DETAILS

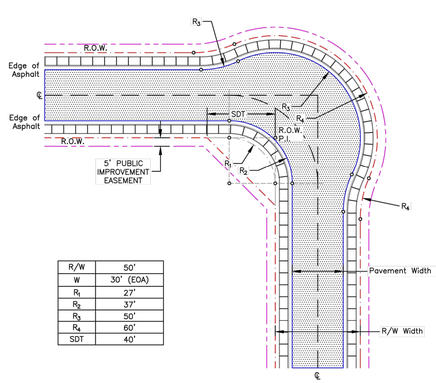


6/23/20	Detectable Warning Surface Details	
DATE APPROVED:	Standard Drawing	
Jennifer E. Irvine	REVISION DATE: 6/23/20	FILE NAME: SD_2-42
DEPARTMENT OF PUBLIC WORKS		



6/23/20	Pedestrian Curb Ramp Detail	
DATE APPROVED:	Standard Drawing	
Jennifer E. Irvine	REVISION DATE: 6/23/20	FILE NAME: SD_2-40
DEPARTMENT OF PUBLIC WORKS		

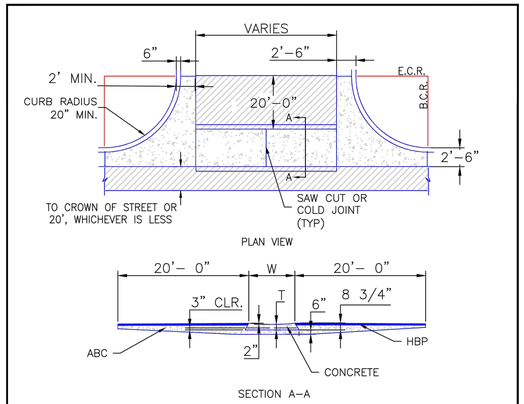
URBAN LOCAL KNUCKLE DETAILS



R/W	50'
W	30' (EOA)
R_1	27'
R_2	37'
R_3	50'
R_4	60'
SDT	40'

SDT = SIGHT DISTANCE TRIANGLE
DESIGN SPEED = 25 MPH

7/9/09	Urban Local Knuckle	
DATE APPROVED:	Standard Drawing	
André Brackin	REVISION DATE: 12/8/15	FILE NAME: SD_2-77
DEPARTMENT OF TRANSPORTATION		



NOTES

1. W – WIDTH SHALL BE 6' FOR LOCAL, 8' FOR COLLECTORS, AND 10' FOR ARTERIAL ROADS.

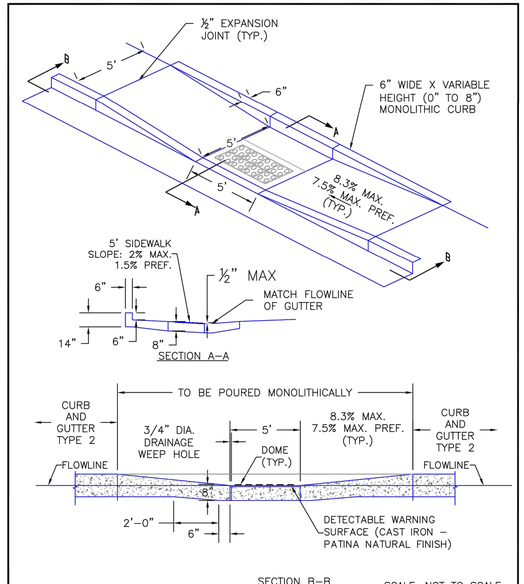
2. T – SQUARED-OFF RETURN TO BE POURED MONOLITHICALLY, 8" PCC FOR LOCAL ROADS, 9" FOR COLLECTORS WITH 6x6 – 4.4 W.W.F. OR #4 REINFORCING BAR @ 18" EACH WAY.

3. ▨ = 3" MINIMUM ASPHALT DEPTH (2 LIFTS).

4. DESIGN TO SPECIFY ELEVATIONS AT PI AND PCR.

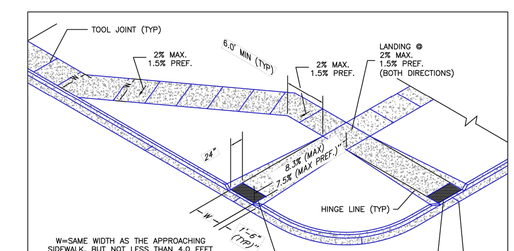
SCALE: NOT TO SCALE

8/11/11	Typical Cross Pan Layout Detail	
DATE APPROVED:	Standard Drawing	
André P. Brackin	REVISION DATE: 12/8/15	FILE NAME: SD_2-26
DEPARTMENT OF TRANSPORTATION		



SCALE: NOT TO SCALE

6/23/20	Parallel Pedestrian Curb Ramp Detail	
DATE APPROVED:	Standard Drawing	
Jennifer E. Irvine	REVISION DATE: 6/23/20	FILE NAME: SD_2-50
DEPARTMENT OF PUBLIC WORKS		



W=SAME WIDTH AS THE APPROACHING SIDEWALK. BUT NOT LESS THAN 4.0 FEET

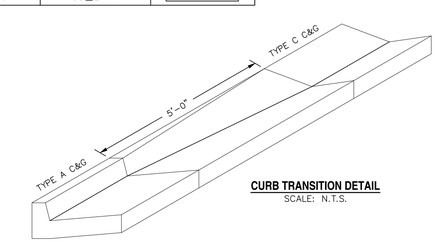
PEDESTRIAN RAMP NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT ENGINEERING CRITERIA MANUAL AND ADA REQUIREMENTS.
2. CONTRACTOR TO NOTIFY ENGINEERING DIVISION INSPECTION STAFF 48 HOURS PRIOR TO CONCRETE PLACEMENT.
3. PEDESTRIAN CURB RAMP CONSTRUCTION SHALL BE A MINIMUM 4,500 PSI CONCRETE, MINIMUM 4" THICK, NON-COLORED, NON-SCORED, COARSE BROOM FINISH.
4. PEDESTRIAN CURB RAMP LOCATION AND LENGTH MAY REQUIRE MODIFICATION TO MAINTAIN THE 8.3% MAXIMUM RUNNING RAMP SLOPE DUE TO STREET INTERSECTION GRADES AND/OR ALIGNMENTS. SEE ECM SECTION 6.3.6 FOR PEDESTRIAN PUSHBUTTON LOCATION REQUIREMENTS.
5. DETECTABLE WARNING SURFACE SHALL START A MINIMUM OF 6" BUT NOT MORE THAN 8" FROM THE FLOWLINE OF THE CURB AT ANY POINT.
6. DETECTABLE WARNING SURFACE SHALL BE PREFABRICATED, CAST IRON (PATINA NATURAL FINISH) AND IN ACCORDANCE WITH ECM CHAPTER 6 AND SD_2-42. THERMOPLASTIC TRUNCATED DOMES AND PAVERS WILL NOT BE ACCEPTED.
7. THE DETECTABLE WARNING SURFACE SHALL BE 24" IN LENGTH AND THE FULL WIDTH OF THE RAMP.
8. PEDESTRIAN CURB RAMP WIDTH REQUIRED IS SAME AS APPROACHING SIDEWALK; 4' MINIMUM.
9. ALL PEDESTRIAN CURB RAMPS WILL BE PERPENDICULAR TO TRAFFIC WITH THE EXCEPTION OF MID-BLOCK OR TERMINAL RAMPS WHICH MAY BE PARALLEL. SUBJECT TO APPROVAL.
10. DRAINAGE STRUCTURES, TRAFFIC SIGNAL/SIGNAGE, UTILITIES/JUNCTION BOXES, OR OTHER OBSTRUCTIONS WITHIN PROPOSED PEDESTRIAN CURB RAMP AREAS AND LANDINGS ARE PROHIBITED.
11. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A RAMP SHALL NOT EXCEED 5%.

GENERAL NOTES

1. WHERE THE 1'-6" FLARED SIDE(S) OF A PERPENDICULAR CURB RAMP IS (ARE) CONTIGUOUS WITH A PEDESTRIAN OR HARD SURFACE AREA (PEDESTRIAN CIRCULATION PATH), THE MAXIMUM FLARE SLOPE SHALL NOT EXCEED 10:1.
2. PEDESTRIAN WALKWAY (PEDESTRIAN ACCESS ROUTE) AND/OR LOCATION OF EXISTING OR FUTURE PEDESTRIAN RAMPS ON OPPOSITE CORNERS SHALL BE REVIEWED BEFORE CONSTRUCTING NEW RAMPS.
3. AT MARKED PEDESTRIAN CROSSINGS, THE BOTTOM OF THE RAMPS, EXCLUSIVE OF THE FLARE SIDES, SHALL BE TOTALLY CONTAINED WITHIN THE MARKINGS.

6/23/20	Pedestrian Curb Ramp Detail	
DATE APPROVED:	Standard Drawing	
Jennifer E. Irvine	REVISION DATE: 6/23/20	FILE NAME: SD_2-41
DEPARTMENT OF PUBLIC WORKS		



CURB TRANSITION DETAIL
SCALE: N.T.S.

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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SYOSSET, NY 11791

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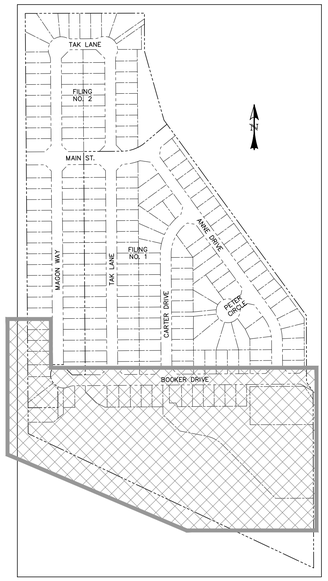
COLORADO LICENSED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MIJARES, COLORADO PE #40510 — DATE 10/19/20

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING FILING NO. 1
DETAIL SHEET

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: VARIES	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 17 OF 27



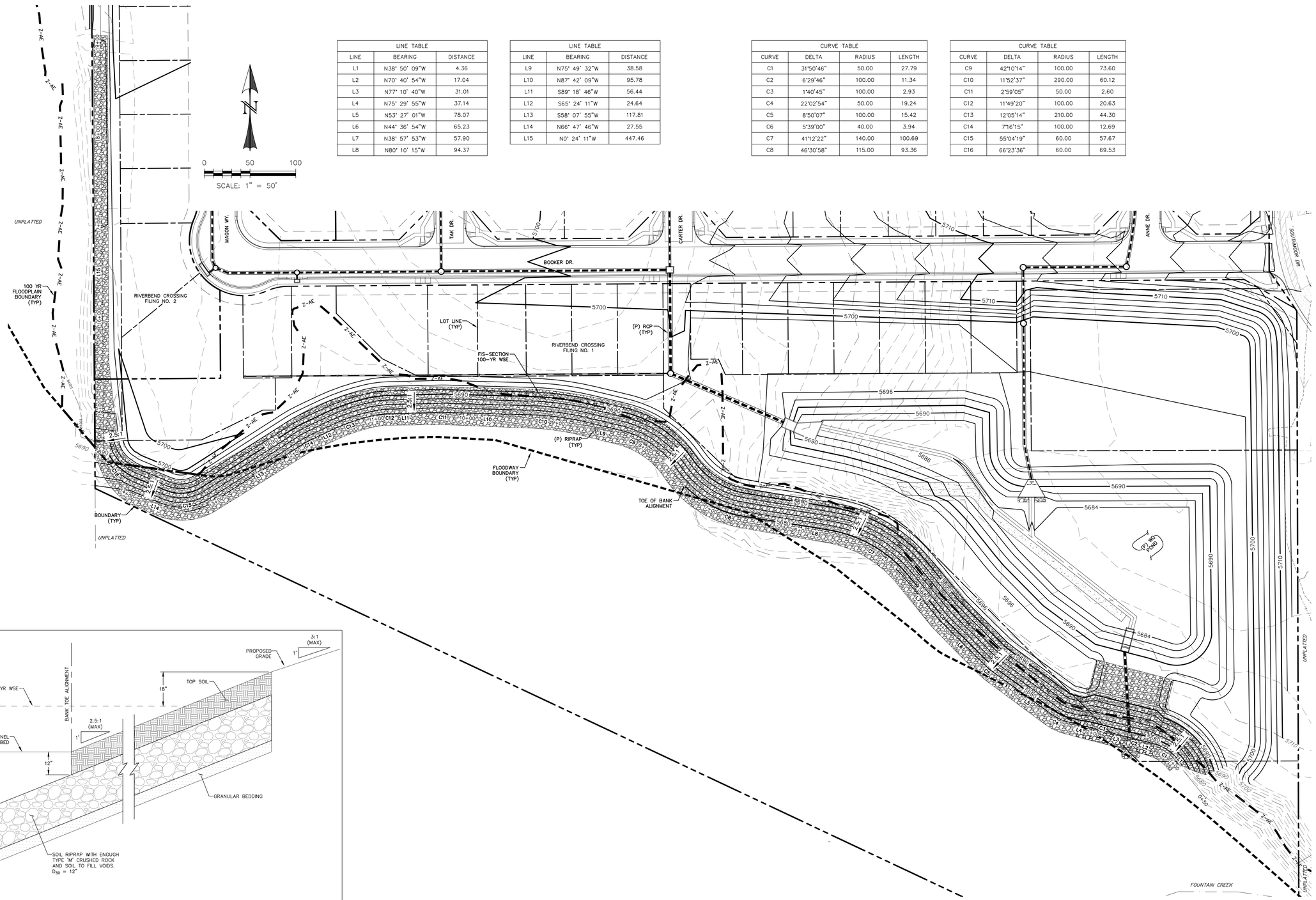
LOCATION MAP
SCALE: N.T.S.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N38° 50' 09"W	4.36
L2	N70° 40' 54"W	17.04
L3	N77° 10' 40"W	31.01
L4	N75° 29' 55"W	37.14
L5	N53° 27' 01"W	78.07
L6	N44° 36' 54"W	65.23
L7	N38° 57' 53"W	57.90
L8	N80° 10' 15"W	94.37

LINE TABLE		
LINE	BEARING	DISTANCE
L9	N75° 49' 32"W	38.58
L10	N87° 42' 09"W	95.78
L11	S89° 18' 46"W	56.44
L12	S65° 24' 11"W	24.64
L13	S58° 07' 55"W	117.81
L14	N66° 47' 46"W	27.55
L15	N0° 24' 11"W	447.46

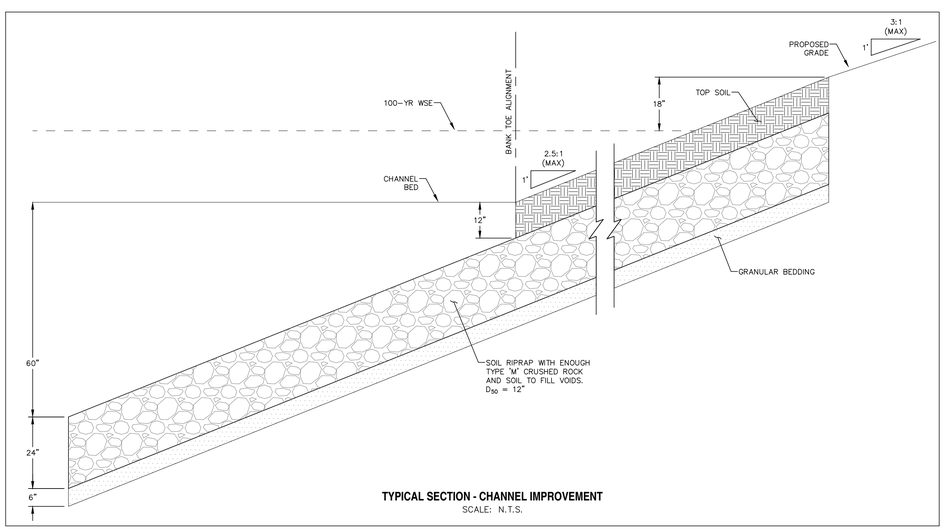
CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	31°50'46"	50.00	27.79
C2	6°29'46"	100.00	11.34
C3	1°40'45"	100.00	2.93
C4	22°02'54"	50.00	19.24
C5	8°50'07"	100.00	15.42
C6	5°39'00"	40.00	3.94
C7	41°12'22"	140.00	100.69
C8	46°30'58"	115.00	93.36

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C9	42°10'14"	100.00	73.60
C10	11°52'37"	290.00	60.12
C11	2°59'05"	50.00	2.60
C12	11°49'20"	100.00	20.63
C13	12°05'14"	210.00	44.30
C14	7°16'15"	100.00	12.69
C15	55°04'19"	60.00	57.67
C16	66°23'36"	60.00	69.53



LEGEND

EXISTING	(E)
PROPOSED	(P)
CURB & GUTTER	C&G
EASEMENT	ESMT
BOUNDARY	
RIGHT-OF-WAY	
LOT LINE	
EASEMENT	
(E) CONTOUR, INDEX	5700
(E) CONTOUR	
(E) STORM SEWER	
(P) CONTOUR, INDEX	5700
(P) CONTOUR	
(P) STORM SEWER, INLET, MH	
GRADE CALL-OUT	X.XX%



TYPICAL SECTION - CHANNEL IMPROVEMENT
SCALE: N.T.S.

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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SYOSSET, NY 11791

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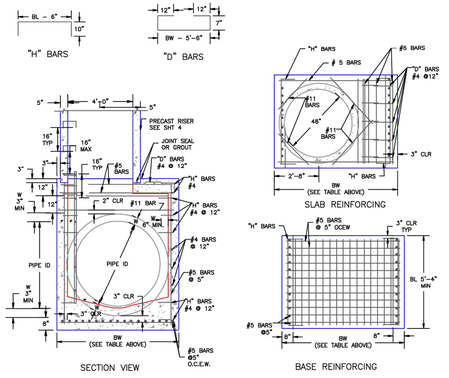
DAVID L. MIJARES, COLORADO REG. #40510 — DATE 10/19/20
COLORADO LICENSED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING FILING NO. 1
FOUNTAIN CREEK CHANNEL IMPROVEMENTS

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: 1" = 50'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 18 OF 27



PIPE ID	BW
48" AND SMALLER	6'-4"
54"	6'-10"
60" AND LARGER	OD + 16"

NOTES

1. TYPE I MANHOLE SHALL BE USED WHEN APPROPRIATE AND TYPICALLY FOR PIPE SIZES LARGER THAN 30 INCHES I.D..

2. VIEW AND DETAILS SHOWN ARE TYPICAL FOR STRAIGHT THROUGH DESIGN ONLY. DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.

3. EITHER LADDER OR STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". LOWEST STEP SHALL BE BE A MAXIMUM OF 16" ABOVE THE FLOOR.

4. FLOOR OF THE MANHOLE SHALL BE TROWELLED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1 MAX., ½" PER FT. MIN). FLOOR SHALL BE SHAPED AND CHANNELED; SEE SD_3-2 FOR TYPICAL CHANNEL DETAILS.

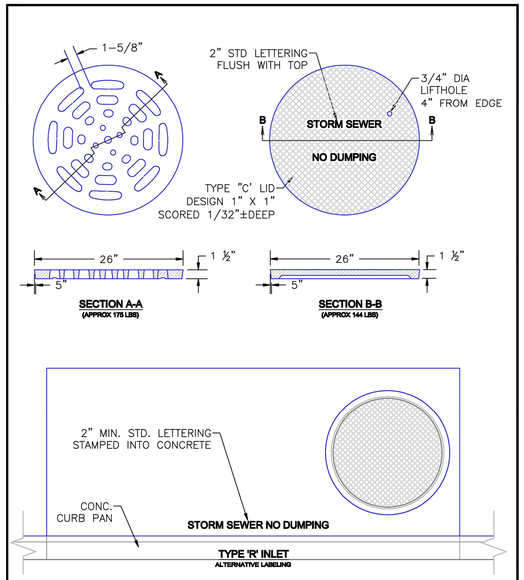
SCALE: NOT TO SCALE

7/9/09
DATE APPROVED:
André Brackin
DEPARTMENT OF TRANSPORTATION

Storm Sewer Manhole Detail
Type I
Standard Drawing

REVISION DATE: 7/9/09
FILE NAME: SD_3-1

EL PASO COUNTY DEPARTMENT OF TRANSPORTATION



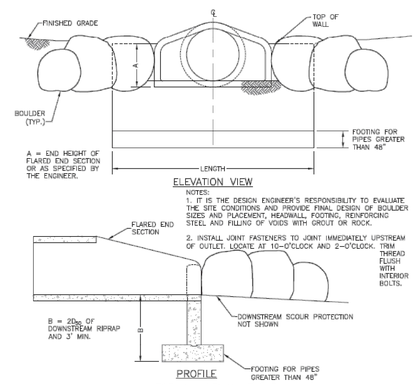
SCALE: NOT TO SCALE

9/16/10
DATE APPROVED:
André P. Brackin
DEPARTMENT OF TRANSPORTATION

Storm Sewer Manhole Details
Standard Drawing

REVISION DATE: 9/16/10
FILE NAME: SD_3-5

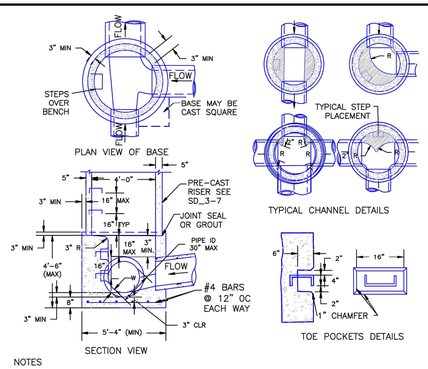
EL PASO COUNTY DEPARTMENT OF TRANSPORTATION



TOEWALL DESIGN TABLE

PIPE SIZE	LENGTH, MIN.
18"	7'-0"
24"	8'-0"
30"	10'-0"
36"	12'-0"
42"	12'-6"
48"	13'-0"
54"	13'-6"
60"	14'-0"
66"	14'-6"
72"	15'-0"

Figure 9-30. Flared end section (FES) headwall concept



NOTES

1. TYPE II MANHOLES SHALL BE USED WHEN APPROPRIATE AND TYPICALLY WHEN THE PIPE SIZES ARE 30" OR LESS INSIDE DIAMETER.

2. VIEW AND DETAILS ARE TYPICAL. DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.

3. EITHER LADDER OF STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". STEPS IN BASE SHALL BE INSTALLED IN "TOE POCKETS" (SEE DETAIL THIS SHEET). LOWEST STEP SHALL BE A MAXIMUM OF 16" ABOVE THE FLOOR.

4. PIPES SHALL BE TRIMMED TO FINAL SHAPE AND SET BEFORE MANHOLE IS POURED.

5. BENCH SHALL BE SLOPED TOWARD CENTER OF MANHOLE BASE (4:1 MAX., ½" PER FOOT. MIN.).

6. FLOOR OF MANHOLE SHALL BE TROWELLED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1., ½" PER FT. MIN.) . FLOOR SHALL BE SHAPED AND CHANNELED; SEE DETAILS THIS SHEET.

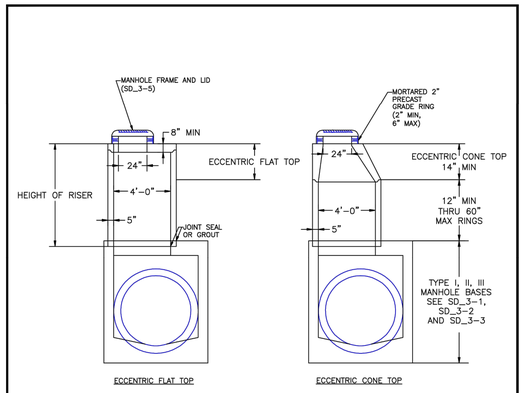
SCALE: NOT TO SCALE

DATE APPROVED:
André P. Brackin
DEPARTMENT OF TRANSPORTATION

Storm Sewer Manhole Detail
Type II
Standard Drawing

REVISION DATE: 11/10/04
FILE NAME: SD_3-2

EL PASO COUNTY DEPARTMENT OF TRANSPORTATION



NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SUPPLEMENTAL SPECIFICATIONS APPLICABLE TO THE PROJECT.
2. PRECAST RISERS SHALL CONFORM TO ASTM C478.
3 STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". STEPS SHALL BE CAST IRON OR EXTRUDED ALUMINUM, 1000 LB CAPACITY, 12" WIDE WITH NON-SKID GROOVES AND DROP FRONT ON SAFETY NOSES, IN ACCORDANCE WITH APPROVED OSHA REQUIREMENTS.

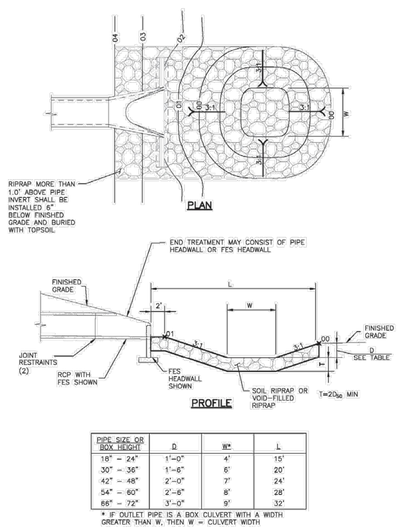
SCALE: NOT TO SCALE

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

Storm Sewer Manhole Riser and Cover Detail
Standard Drawing

REVISION DATE: 11/23/04
FILE NAME: SD_3-7

EL PASO COUNTY DEPARTMENT OF TRANSPORTATION



PIPE SIZE OR BOX HEIGHT	D	W*	L
18" - 24"	1'-0"	4'	15'
30" - 36"	1'-6"	6'	20'
42" - 48"	2'-0"	7'	24'
54" - 60"	2'-6"	8'	28'
66" - 72"	3'-0"	9'	32'

* IF OUTLET PIPE IS A BOX CULVERT WITH A WIDTH GREATER THAN W, THEN W = CULVERT WIDTH

Figure 9-37. Low tailwater riprap basin

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

811 Know what's below. Call 72 hours before you dig. For more details visit: www.call811.com

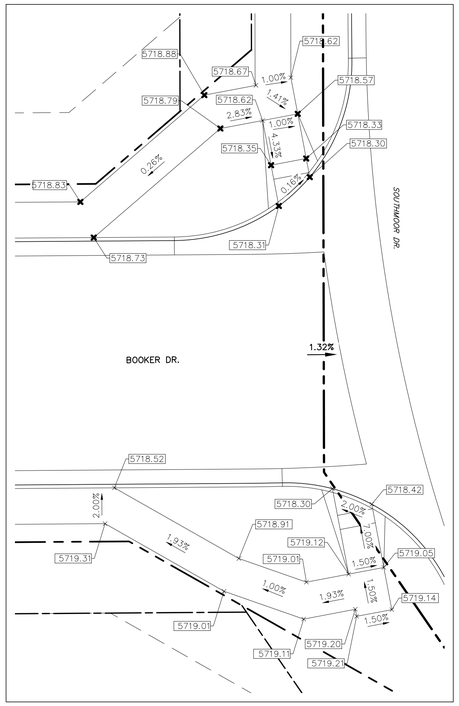
PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

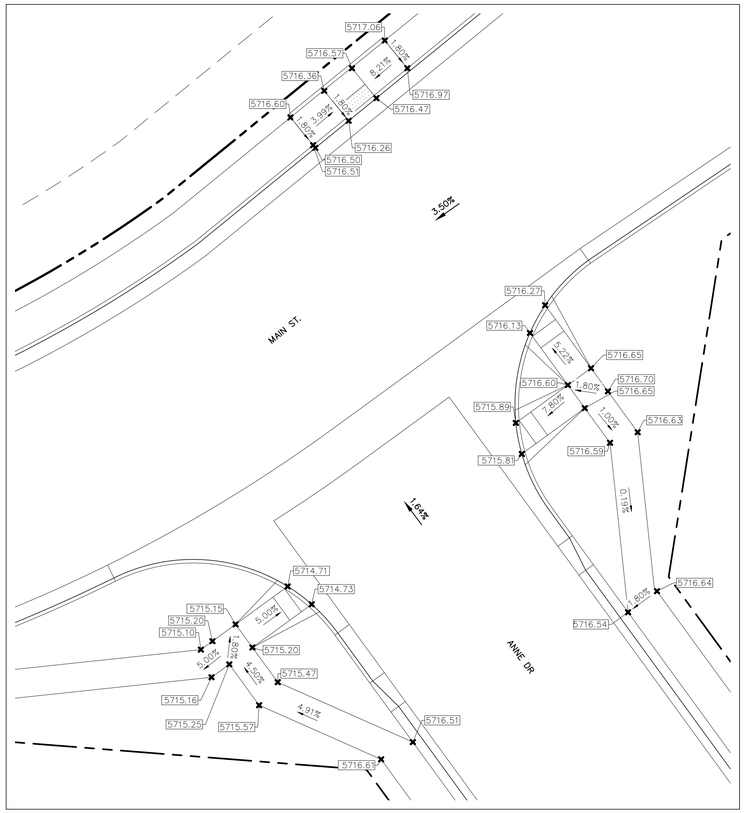
PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
DAVID L. MIJARES, COLORADO PE #40510 — 10/19/20 DATE

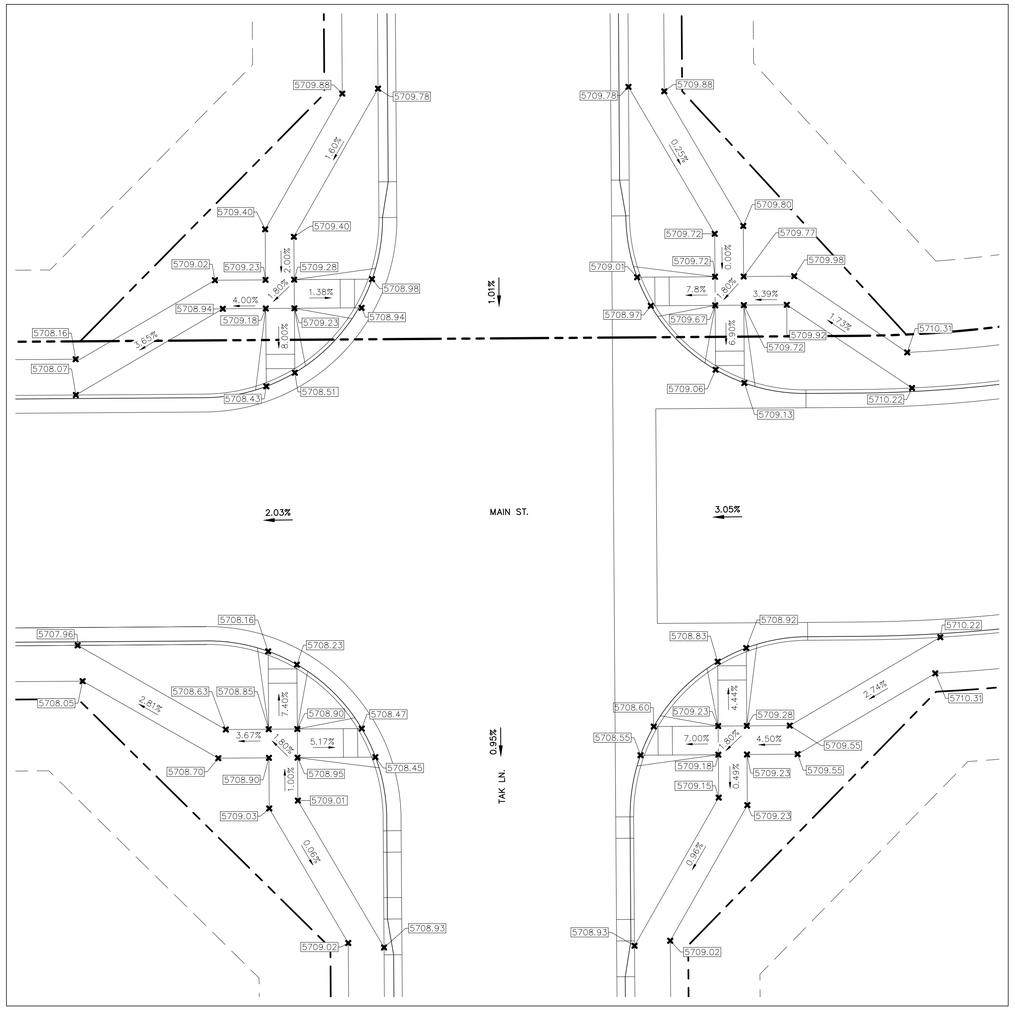
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

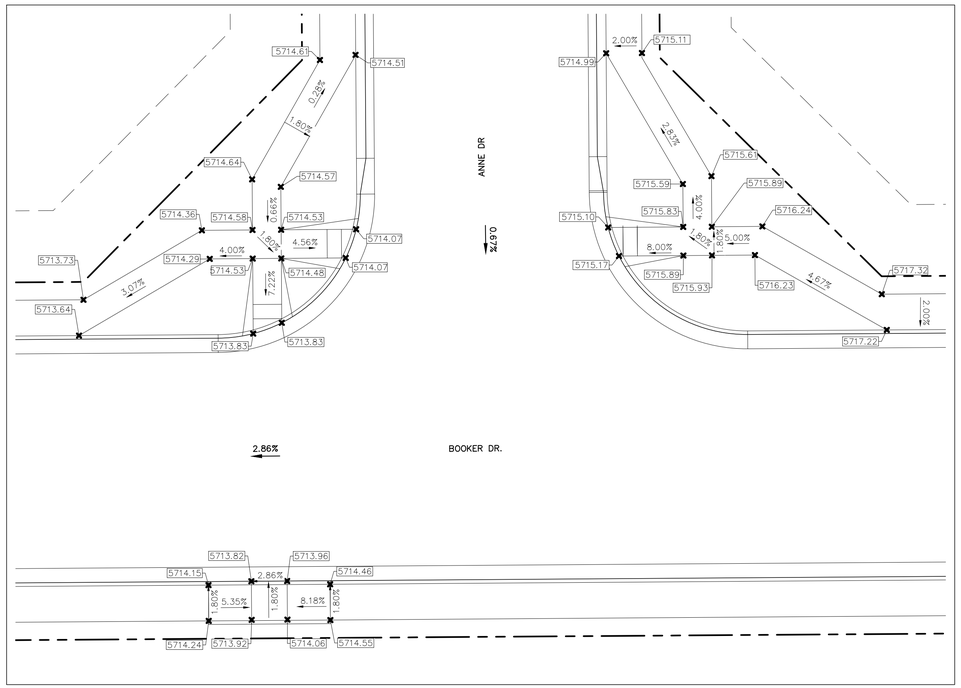
RIVERBEND CROSSING
FILING NO. 1
DETAIL SHEET

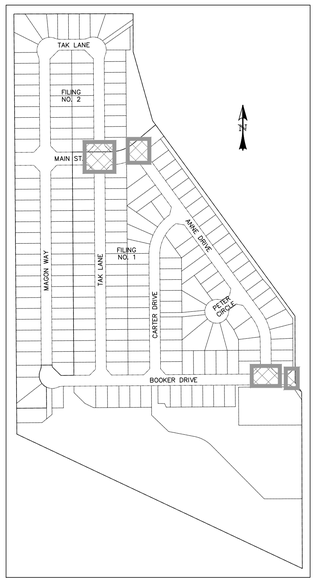
DESIGNED BY: MGP | DRAWN BY: MGP
SCALE: VARIES | DATE: 03/30/21
JOB NUMBER: 17-114 | SHEET: 19 OF 27



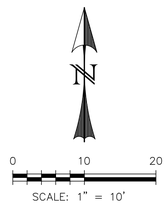








LOCATION MAP
SCALE: N.T.S.



REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

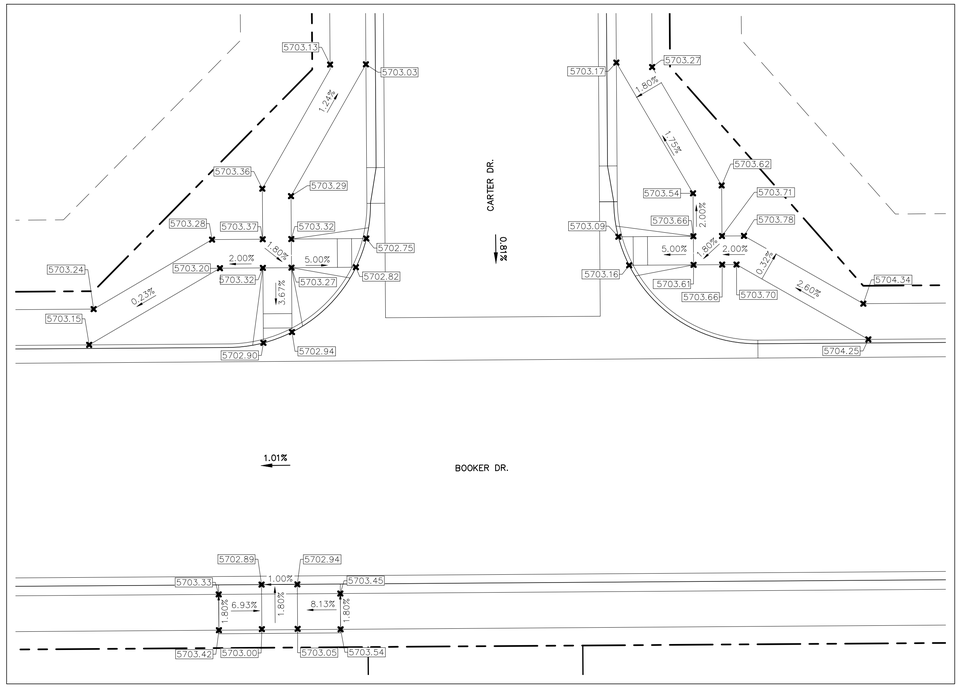
PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
DAVID L. MIJARES, COLORADO PE #40510 — DATE: 10/19/20
COLORADO LICENSED PROFESSIONAL ENGINEER DAVID L. MIJARES 40510

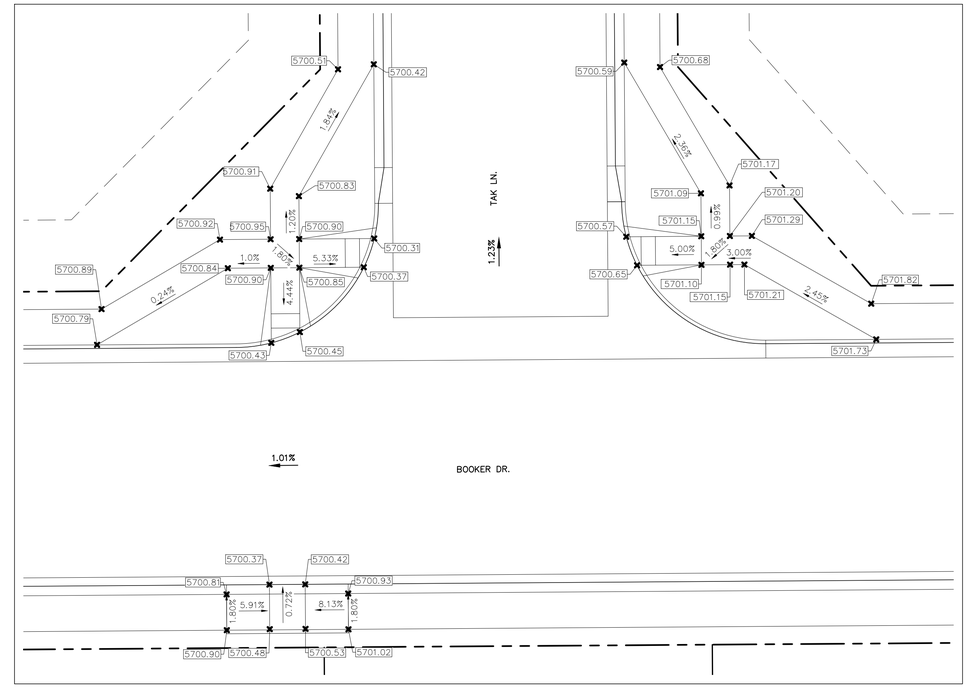
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

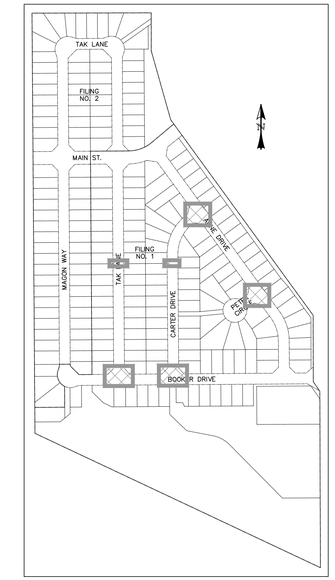
RIVERBEND CROSSING FILING NO. 1

PEDESTRIAN RAMP DETAILS

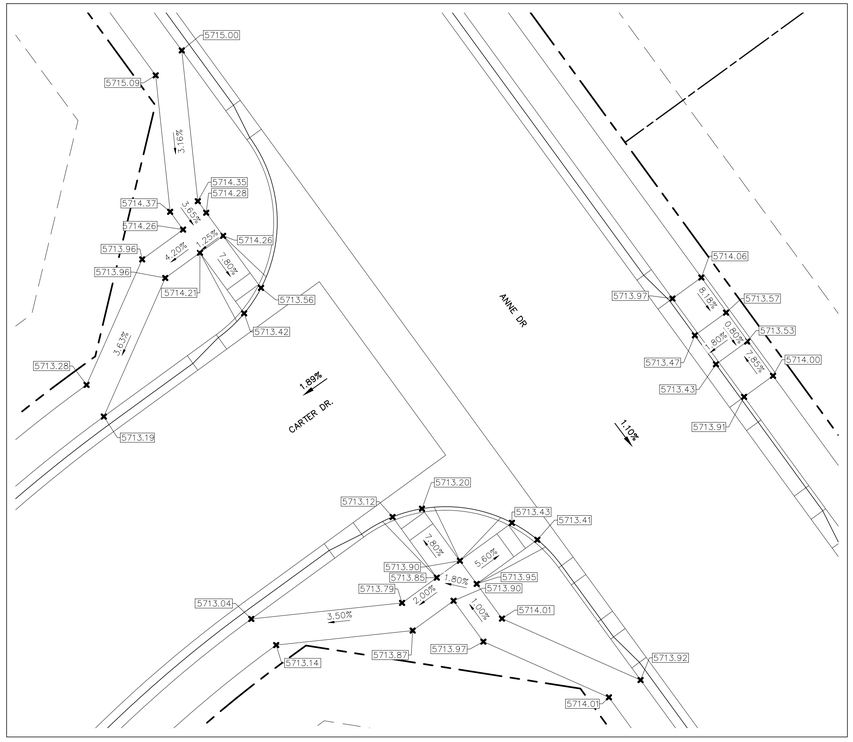
DESIGNED BY: XXX	DRAWN BY: MGP
SCALE: 1" = 10'	DATE: 03/30/21
JOB NUMBER 17–114	SHEET 20 OF 27

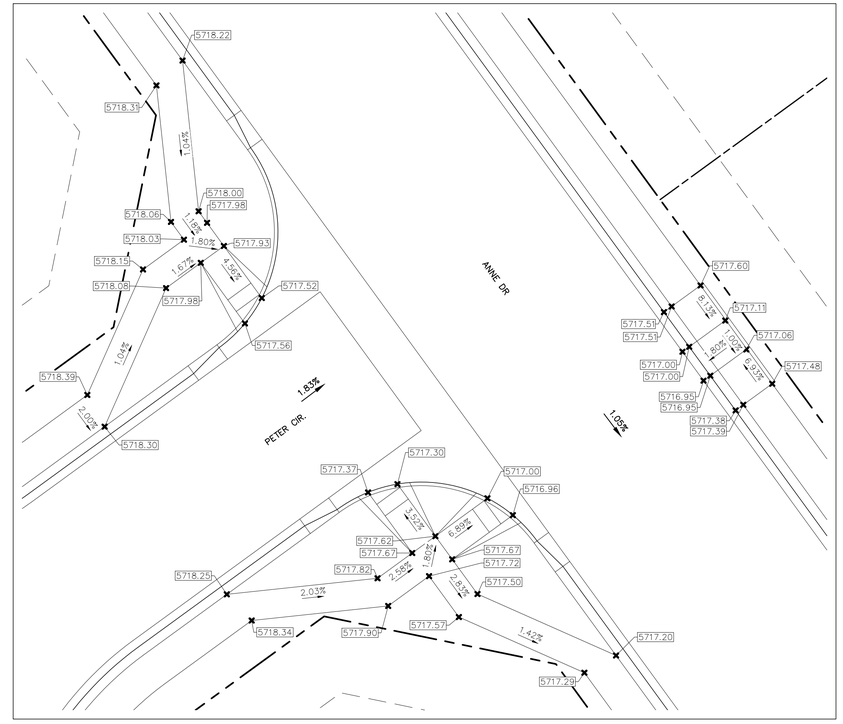


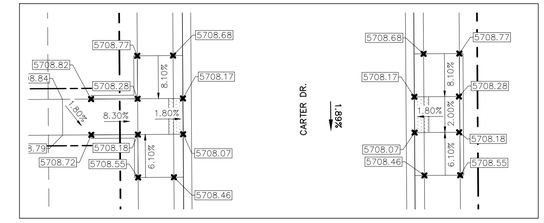


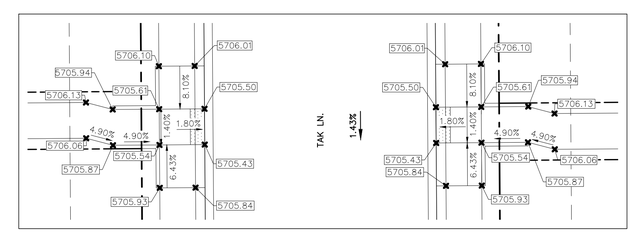


LOCATION MAP
SCALE: N.T.S.









N

0 10 20
SCALE: 1" = 10'

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

811 Know what's below. Call 72 hours before you dig.
For more details visit: www.call811.com

PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

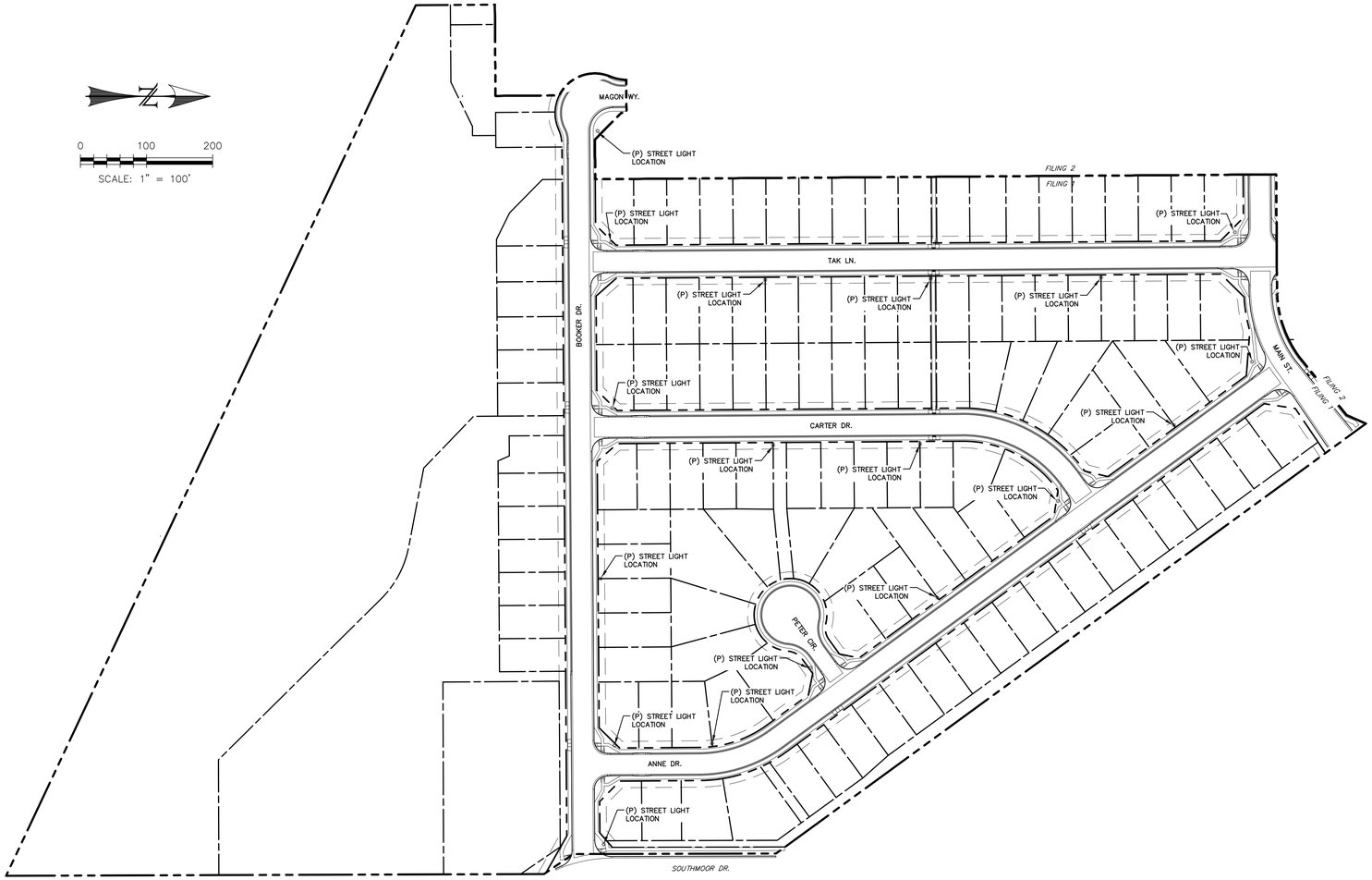
PREPARED UNDER MY DIRECTION AND REVIEWED FOR AND BEHALF OF CATAMOUNT ENGINEERING.
COLORADO REGISTERED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MIJARES, COLORADO REG. #40510 — DATE 10/19/20

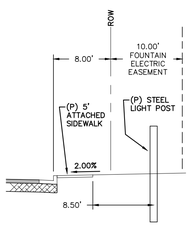
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)420-2124

RIVERBEND CROSSING FILING NO. 1

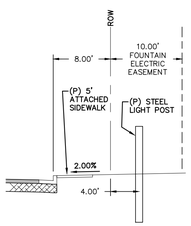
PEDESTRIAN RAMP DETAILS

DESIGNED BY: XXX	DRAWN BY: MGP
SCALE: 1" = 10'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 21 OF 27

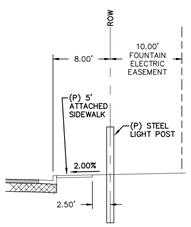




TYPICAL LIGHT POST LOCATION - COLLECTOR
(14.00' MIN; SEE PLANS FOR LOCATIONS)
SCALE: N.T.S.



TYPICAL LIGHT POST LOCATION - LOCAL
(12.00' MIN; SEE PLANS FOR LOCATIONS)
SCALE: N.T.S.



TYPICAL LIGHT POST LOCATION - LOCAL - LOW VOLUME
(7.00' MIN; SEE PLANS FOR LOCATIONS)
SCALE: N.T.S.

Fountain Electric Construction Standards and Specifications
2017 Edition

Street Lights

Overview
The intent of this policy is to specify street lighting standards to be uniformly implemented throughout the certified service territory of the Electric Department. This policy has been designed to promote vehicle and pedestrian safety that is fair and affordable to the residents of the territory.

The purpose of the Standard

For the installation of all street lighting fixtures (luminaires) to be in conformance with this Standard as well as the provisions of the International Dark-Sky Association where feasible.

Contract Lights

The City will install private property contract lighting. (See City of Fountain tariff for pricing.)

New Subdivisions

The developer shall pay the full capital costs of every light to be installed by the Electric Department. This includes, but is not limited to, poles, fixtures, underground wiring, and any equipment necessary to construct an operational lighting system.

Residential Streets - Minimum Standards

Street lights shall be located at all intersections and 250' or every four lots between the intersections.
Street light standards shall be as follows:
Standard Street Light Type: 22' direct-buried fiberglass pole. 100W high pressure sodium or LED equivalent, full cutoff post top style fixture.

Collector Streets in Residential Areas - Minimum Standards

Street lights shall be located at all intersections and 250' spacing between the intersections.
Street light standards shall be as follows:
Standard Street Light Type: 25' steel pole, 8' mast arm, 100W high pressure sodium or LED equivalent, and full cutoff Cobra head style fixture.

- Alternatives to the standards listed above may be proposed for consideration by Electric Department.

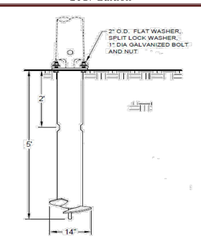
Arterial Streets - Minimum Standards

Street lighting shall be located at all intersections and 185' spacing between the intersections.
Street light standards shall be as follows:
Standard Street Light Type: 32' AL. pole, 8' mast arm, 400W high pressure sodium or LED equivalent, and full cutoff Cobra head style fixture.

- Alternatives to the standards listed above may be proposed for consideration by the Electric Department.**Operation and Maintenance**

2/10/17 Page 83

Fountain Electric Construction Standards and Specifications
2017 Edition



This foundation is acceptable for use with all anchor-base poles

SCREW-IN BASE (FOUNDATION)
1. Install foundation just above grade.
2. Avoid use in areas with existing underground utilities if location is within 18" from the edge of the helix. If potholing is required, backfill around the screw-in base with flowable fill to achieve proper compaction.
3. Neutral conductor shall be bonded to the pole at the pole grounding lug.
4. This foundation is designed to be used with a maximum 40' steel pole with a 12' mast arm and a 75 lb. luminaire, under the condition of 100 m.p.h. winds.

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Fountain Electric Construction Standards and Specifications
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The replacement of lamps, fixtures, and poles are maintained by the Electric Department.

Residents are requested to contact the Electric Department for street lights that are not operating, stay on continuously, or are turning on and off repeatedly.

Maintenance costs, which include power, equipment failures and equipment replacement, are covered through the operating costs of the street lights and shall be a cost to the City of Fountain.

2/10/17 Page 84

REV.	DESCRIPTION	DATE

Know what's below. Call 72 hours before you dig.
For more details visit: www.call811.com

PREPARED FOR:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
DAVID L. MIJARES, COLORADO PE #40510 — 03/26/21 DATE

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

LIGHTING PLAN

DESIGNED BY: DLM	DRAWN BY: DBM
SCALE: 1" = 100'	DATE: 03/30/21
JOB NUMBER 17–114	SHEET 22 OF 27

BASIC GRADING, EROSION AND STORMWATER QUALITY REQUIREMENTS AND GENERAL PROHIBITIONS:

*INFORMATION TAKEN FROM THE EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUME 2, HEREIN REFERRED TO AS THE "MANUAL."

1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS.
2. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM FACILITIES.
3. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMP'S MAY BE REQUIRED BY COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES (E.G., ESTIMATED TIME OF EXPOSURE, SEASON OF THE YEAR, ETC.).
4. VEHICLE TRACKING OF SOILS OFF-SITE SHALL BE MINIMIZED.
5. ALL WASTES COMPOSED OF BUILDING MATERIALS MUST BE REMOVED FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
6. NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE COUNTY ENGINEER. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
7. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDED ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
8. ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMP'S IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE MANUAL AND IN ACCORDANCE WITH THE EROSION AND STORMWATER QUALITY CONTROL PLAN APPROVED THE COUNTY OF EL PASO, IF REQUIRED.
9. ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMP'S AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS AND THE MANUAL AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMP'S SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE.
10. ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION.
11. ALL EARTH DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED IN SUCH A MANNER SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME.
12. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
13. SUSPENDED SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE MINIMIZED IN RUNOFF WATER BEFORE IT LEAVES THE SITE OF THE EARTH DISTURBANCE.
14. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY.
15. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO THE STANDARDS AND SPECIFICATIONS PRESCRIBED IN THE MANUAL, AND IN ACCORDANCE WITH THE PERMANENT EROSION CONTROL FEATURES SHOWN ON THE EROSION AND STORMWATER QUALITY CONTROL PLANS APPROVED BY THE COUNTY OF EL PASO, IF REQUIRED.
16. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
17. NO PERSON SHALL CAUSE, PERMIT, OR CONTRIBUTE TO THE DISCHARGE INTO THE MUNICIPAL SEPARATE STORM SEWER POLLUTANTS THAT COULD CAUSE THE COUNTY OF EL PASO TO BE IN VIOLATION OF ITS COLORADO DISCHARGE PERMIT SYSTEM MUNICIPAL STORMWATER DISCHARGE PERMIT.
18. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
19. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER, INCLUDING THE TEMPORARY OR PERMANENT RAMPING WITH MATERIALS FOR VEHICLE ACCESS.
20. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), REGULATIONS PROMULGATED, CERTIFICATIONS OR PERMITS ISSUED, IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE MANUAL. IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND WATER QUALITY CONTROL LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL OR STATE AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
21. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS. MATERIALS SHALL NOT BE STORED IN A LOCATION WHERE THEY MAY BE CARRIED BY STORMWATER RUNOFF INTO A STATE WATER AT ANY TIME.
22. SPILL PREVENTION AND CONTAINMENT MEASURES SHALL BE USED AT STORAGE, AND EQUIPMENT FUELING AND SERVICING AREAS TO PREVENT THE POLLUTION OF ANY STATE WATERS, INCLUDING WETLANDS. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.

EROSION PROTECTION & REVEGETATION REQUIREMENTS
PER U.S.D.A. SOIL CONSERVATION SERVICE GUIDELINES

1 PRACTICE NO. & NAME 342 - CRITICAL AREA TREATMENT
RANGE SITE SANDY FOOTHILLS

2 PLANNED
SEEDED PREP:
A METHOD
B DATES OCT. 15-MAY 31
C CLEAN TILLED XX
FIRM SEEDBED XX
STUBBLE COVER
INTERSEED
OTHER

SEEDING OPERATION:
A METHOD
DRILL XX
INTERSEED
BROADCAST
B DRILL SPACING 6-12"
TYPE GRASS W/AGITATOR
C DATE OCT. 15 - MAY 31
D PLANTING DEPTH 1/4-1/2"

FERTILIZER:
POUNDS ACTUAL PER
ACRE N 40
(AVAILABLE) P205 40
K N/A

WEED CONTROL: N/A

MOWING:
CHEMICAL: XX
DATES:
SEE S.C.S FOR SPECIFIC RECOMMENDATIONS AT HERBICIDE APPLICATION TIME

MULCH:
KIND: LONG - STEM NATIVE HAY
AMOUNT: 4,000 POUNDS/ACRE
HOW-APPLIED N/A
HOW-ANCHORED CRIMPED
ANCHORAGE DEPTH 4"

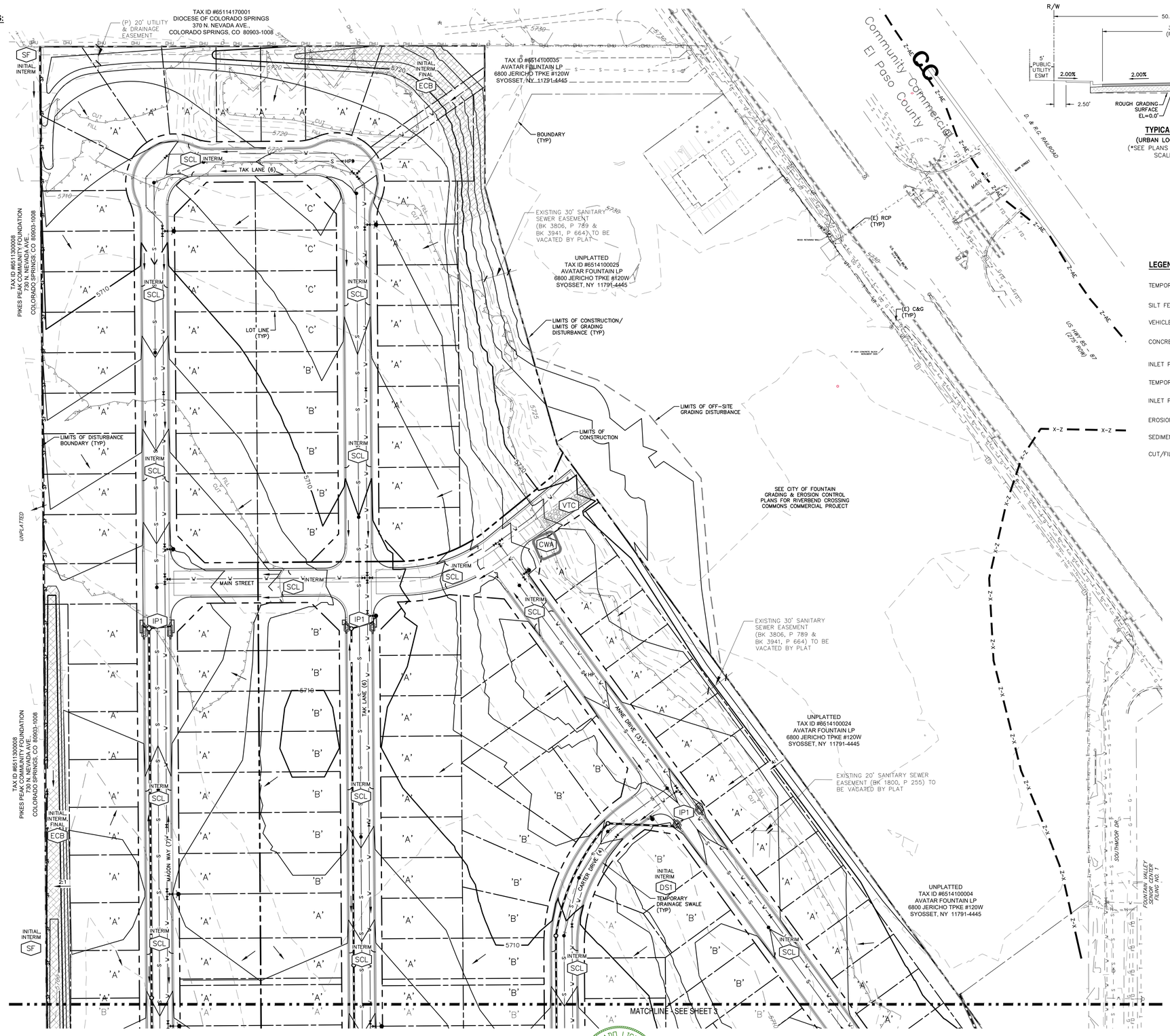
SEED

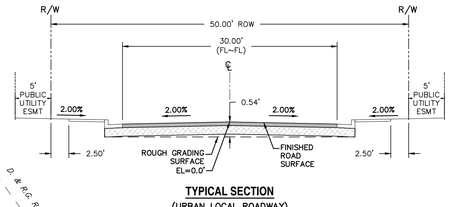
VARIETY	SPECIES	REQUIRED PLS RATES PER ACRES (100%)
GOSHEN	PRAIRIE SANDREED	6.5
VAUGHN	SIDEOATS GRAMMA	9.0
LOVINGTON	BLUE GRAMMA	3.0
BLACKWELL	SWITCH GRASS	4.5
PASTURA	LITTLE BLUESTEM	7.0

(2) % OF SPECIES IN MIXTURE	PLS SEEDING RATE PER SPECIES/ACRE (3) x (2)	(4) PLANNED ACRE	(5) TOTAL PLS LBS/ SPECIES PLANNED (3) x (4)
15	0.98	43.6	42.7
25	2.25	43.6	98.1
15	0.45	43.6	19.6
20	0.90	43.6	39.2
25	1.75	43.6	76.3

SEEDING GUIDELINES

1. SEEDBED PREPARATION
THE SEEDBED SHOULD BE WELL-SETTLED AND FIRM, BUT FRIABLE ENOUGH THAT THE SEED CAN BE PLACED AT THE SPECIFIED DEPTHS. COMPETITIVE STANDS OF WEEDS THAT ARE PRESENT BEFORE SEEDING MUST BE CONTROLLED BY SHALLOW TILLAGE OR BY APPLICATION OF HERBICIDES. SOILS THAT HAVE BEEN OVER-COMPACTED BY TRAFFIC OR EQUIPMENT, ESPECIALLY WHEN WET, SHOULD BE TILLED TO BREAK UP ROOTING-RESTRICTIVE LAYERS, THEN HARROWED, ROLLED, OR PACKED TO PREPARE THE REQUIRED FIRM SEEDBED.
2. FERTILIZER
FERTILIZER SHOULD BE APPLIED AT A RATE OF 50 POUNDS OF AVAILABLE NITROGEN PER ACRE AND 40 POUNDS OF AVAILABLE PHOSPHATE PER ACRE. THE TIME OF APPLICATION SHOULD BE IMMEDIATELY PRIOR TO SEEDING, AT THE TIME OF SEEDING, OR IMMEDIATELY FOLLOWING SEEDING, DEPENDING ON THE KIND OF FERTILIZER AND TYPE OF EQUIPMENT USED.
3. SEEDING
SEED SHOULD BE PLANTED WITH A GRASS DRILL ON ALL SLOPES OF 3:1 OR FLATTER. SEED MAY BE BROADCAST BY HAND, BY MECHANICAL SPREADER, OR BY HYDRAULIC EQUIPMENT ON AREAS THAT ARE SMALL, TOO STEEP, OR NOT ACCESSIBLE FOR SEED DRILL OPERATIONS. SEED PLANTED WITH A DRILL SHOULD BE COVERED WITH SOIL TO A DEPTH OF 1/4 TO 3/4 INCH. SEED PLANTED BY THE BROADCAST METHOD SHALL BE INCORPORATED INTO THE SOIL SURFACE, NOT TO EXCEED A DEPTH OF 3/4 INCH, BY RAKING, HARROWING, OR OTHER PROVEN METHOD. THE TIME OF SEEDING IS FROM OCTOBER 15th - MAY 31ST. SEED PLANTED IN THE LATE FALL WILL REMAIN DORMANT UNTIL SPRING, WHEN IT WILL GERMINATE.
4. MULCHING
SEEDED AREAS SHOULD BE MULCHED TO CONSERVE MOISTURE; PREVENT SURFACE COMPACTION OR CRUSTING; REDUCE RUNOFF AND EROSION; CONTROL INSECTS, AND HELP ESTABLISH PLANT COVER. NATIVE HAY OR STRAW SHOULD BE APPLIED AT A RATE OF 4,000 POUNDS PER ACRE AND CRIMPED INTO THE GROUND. ON SLOPES GREATER THAN 3:1, AN AGRONOMY BLANKET SHOULD BE USED.
5. SUPPLEMENTAL WATER
IN LOW RAINFALL AREAS, WHERE WATER IS AVAILABLE AND WHERE RAPID ESTABLISHMENT IS NEEDED, IRRIGATION OF NEW SEEDING SHOULD BE PERFORMED DURING THE FIRST GROWING SEASON. WATER SHOULD BE APPLIED AT APPROXIMATELY ONE WEEK INTERVALS, AT A RATE OF 3/4 TO 1 INCH PER APPLICATION, WHEN RAINFALL IS DEFICIENT FOR PLANT DEVELOPMENT.





TYPICAL SECTION
(URBAN LOCAL ROADWAY)
(*SEE PLANS FOR LOCATIONS)
SCALE: N.T.S.

LEGEND - EROSION CONTROL MEASURES

- TEMPORARY SEDIMENT BASIN — SB
- SILT FENCE — SF
- VEHICLE TRACKING CONTROL — VTC
- CONCRETE WASHOUT — CW
- INLET PROTECTION – CURB INLET — IP1
- TEMPORARY DRAINAGE SWALE — DS1
- INLET PROTECTION – GRATE INLET — IP3
- EROSION CONTROL BLANKET — ECB
- SEDIMENT CONTROL LOG — SCL
- CUT/FILL LINE — CUT / FILL

N

0 60 120
SCALE: 1" = 60'

NOTES:

1. EXISTING VEGETATION ON THIS SITE PRIMARILY CONSIST OF GRASSES AND WEEDS.

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
COLORADO LICENSED DAVID L. MUJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MUJARES, COLORADO LICENSED PROFESSIONAL ENGINEER — 10/19/20 DATE

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING
FILING NO. 1
GRADING & EROSION CONTROL PLAN

DESIGNED BY: DLM	DRAWN BY: DBM
SCALE: 1" = 60'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 23 OF 27

BASIC GRADING, EROSION AND STORMWATER QUALITY REQUIREMENTS AND GENERAL PROHIBITIONS:

*INFORMATION TAKEN FROM THE EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUME 2, HEREIN REFERRED TO AS THE "MANUAL."

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. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM FACILITIES.
3. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMP'S MAY BE REQUIRED BY COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES (E.G., ESTIMATED TIME OF EXPOSURE, SEASON OF THE YEAR, ETC.).
4. VEHICLE TRACKING OF SOILS OFF-SITE SHALL BE MINIMIZED.
5. ALL WASTES COMPOSED OF BUILDING MATERIALS MUST BE REMOVED FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
6. NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE COUNTY ENGINEER. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
7. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDED ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
8. ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMP'S IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE MANUAL AND IN ACCORDANCE WITH THE EROSION AND STORMWATER QUALITY CONTROL PLAN APPROVED THE COUNTY OF EL PASO, IF REQUIRED.
9. ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMP'S AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS AND THE MANUAL AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMP'S SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE.
10. ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION.
11. ALL EARTH DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED IN SUCH A MANNER SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME.
12. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
13. SUSPENDED SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE MINIMIZED IN RUNOFF WATER BEFORE IT LEAVES THE SITE OF THE EARTH DISTURBANCE.
14. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY.
15. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO THE STANDARDS AND SPECIFICATIONS PRESCRIBED IN THE MANUAL, AND IN ACCORDANCE WITH THE PERMANENT EROSION CONTROL FEATURES SHOWN ON THE EROSION AND STORMWATER QUALITY CONTROL PLANS APPROVED BY THE COUNTY OF EL PASO, IF REQUIRED.
16. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
17. NO PERSON SHALL CAUSE, PERMIT, OR CONTRIBUTE TO THE DISCHARGE INTO THE MUNICIPAL SEPARATE STORM SEWER POLLUTANTS THAT COULD CAUSE THE COUNTY OF EL PASO TO BE IN VIOLATION OF ITS COLORADO DISCHARGE PERMIT SYSTEM MUNICIPAL STORMWATER DISCHARGE PERMIT.
18. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
19. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER, INCLUDING THE TEMPORARY OR PERMANENT RAMPING WITH MATERIALS FOR VEHICLE ACCESS.
20. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), REGULATIONS PROMULGATED, CERTIFICATIONS OR PERMITS ISSUED, IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE MANUAL. IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND WATER QUALITY CONTROL LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL OR STATE AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
21. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS. MATERIALS SHALL NOT BE STORED IN A LOCATION WHERE THEY MAY BE CARRIED BY STORMWATER RUNOFF INTO A STATE WATER AT ANY TIME.
22. SPILL PREVENTION AND CONTAINMENT MEASURES SHALL BE USED AT STORAGE, AND EQUIPMENT FUELING AND SERVICING AREAS TO PREVENT THE POLLUTION OF ANY STATE WATERS, INCLUDING WETLANDS. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.

EROSION PROTECTION & REVEGETATION REQUIREMENTS
"PER U.S.D.A. SOIL CONSERVATION SERVICE GUIDELINES"

1 PRACTICE NO. & NAME 342 - CRITICAL AREA TREATMENT
RANGE SITE SANDY FOOTHILLS

2 PLANNED
SEEDED PREP:
A METHOD
B DATES OCT 15-MAY 31
C CLEAN TILLED XX
FIRM SEEDBED XX
STUBBLE COVER
INTERSEED
OTHER

SEEDING OPERATION
A METHOD:
DRILL XX
INTERSEED
BROADCAST
B DRILL SPACING 6-12"
TYPE GRASS W/AGITATOR
C DATE OCT. 15 - MAY 31
D PLANTING DEPTH 1/4-1/2"

FERTILIZER:
POUNDS ACTUAL PER
ACRE N 40
(AVAILABLE)
P2O5 40
K N/A

WEED CONTROL: N/A
MOWING:
CHEMICAL: XX
DATES:
SEE S.C.S. FOR SPECIFIC RECOMMENDATIONS AT HERBICIDE APPLICATION TIME

MULCH:
KIND: LONG - STEM NATIVE HAY
AMOUNT: 4,000 POUNDS/ACRE
HOW-APPLIED: N/A
HOW-ANCHORED: CRIMPED
ANCHORAGE DEPTH: 4"

SEED:

VARIETY	SPECIES	REQUIRED PLS RATES PER ACRES (100%)
GOSHEN	PRAIRIE SANDREED	6.5
VAUGHN	SIDEOATS GRAMMA	9.0
LOVINGTON	BLUE GRAMMA	3.0
BLACKWELL	SWITCH GRASS	4.5
PASTURA	LITTLE BLUESTEM	7.0

(2) % OF SPECIES IN MIXTURE	PLS SEEDING RATE PER SPECIES/ACRE (1) x (2)	(4) PLANNED ACRE	(5) TOTAL PLS LBS/ SPECIES PLANNED (3) x (4)
15	0.98	43.6	42.7
25	2.25	43.6	98.1
15	0.45	43.6	19.6
20	0.90	43.6	39.2
25	1.75	43.6	76.3

SEEDING GUIDELINES

1. SEEDBED PREPARATION
THE SEEDBED SHOULD BE WELL-SETTLED AND FIRM, BUT FRIABLE ENOUGH THAT THE SEED CAN BE PLACED AT THE SPECIFIED DEPTHS. COMPETITIVE STANDS OF WEEDS THAT ARE TALL ENOUGH TO INTERFERE WITH SEED PLACEMENT BY SHALLOW TILLAGE OR BY APPLICATION OF HERBICIDES. SOILS THAT HAVE BEEN OVER-COMPACTED BY TRAFFIC OR EQUIPMENT, ESPECIALLY WHEN WET, SHOULD BE TILLED TO BREAK UP ROOTING-RESTRICTIVE LAYERS, THEN HARROWED, ROLLED, OR PACKED TO PREPARE THE REQUIRED FIRM SEEDBED.

2. FERTILIZER
FERTILIZER SHOULD BE APPLIED AT A RATE OF 50 POUNDS OF AVAILABLE NITROGEN PER ACRE AND 40 POUNDS OF AVAILABLE PHOSPHATE PER ACRE. THE TIME OF APPLICATION SHOULD BE IMMEDIATELY PRIOR TO SEEDING, AT THE TIME OF SEEDING, OR IMMEDIATELY FOLLOWING SEEDING, DEPENDING ON THE KIND OF FERTILIZER AND TYPE OF EQUIPMENT USED.

3. SEEDING
SEED SHOULD BE PLANTED WITH A GRASS DRILL ON ALL SLOPES OF 33% (3:1) OR FLATTER. SEED MAY BE BROADCAST BY HAND, BY MECHANICAL SPREADER, OR BY HYDRAULIC EQUIPMENT ON AREAS THAT ARE SMALL, TOO STEEP, OR NOT ACCESSIBLE FOR SEED DRILL OPERATIONS. SEED PLANTED WITH A DRILL SHOULD BE COVERED WITH SOIL TO A DEPTH OF 1/4 TO 3/4 INCH. SEED PLANTED BY THE BROADCAST METHOD SHALL BE INCORPORATED INTO THE SOIL SURFACE, NOT TO EXCEED A DEPTH OF 3/4 INCH, BY RAKING, HARROWING, OR OTHER PROVEN METHOD. THE TIME OF SEEDING IS FROM OCTOBER 15th – MAY 31ST. SEED PLANTED IN THE LATE FALL WILL REMAIN DORMANT UNTIL SPRING, WHEN IT WILL GERMINATE.

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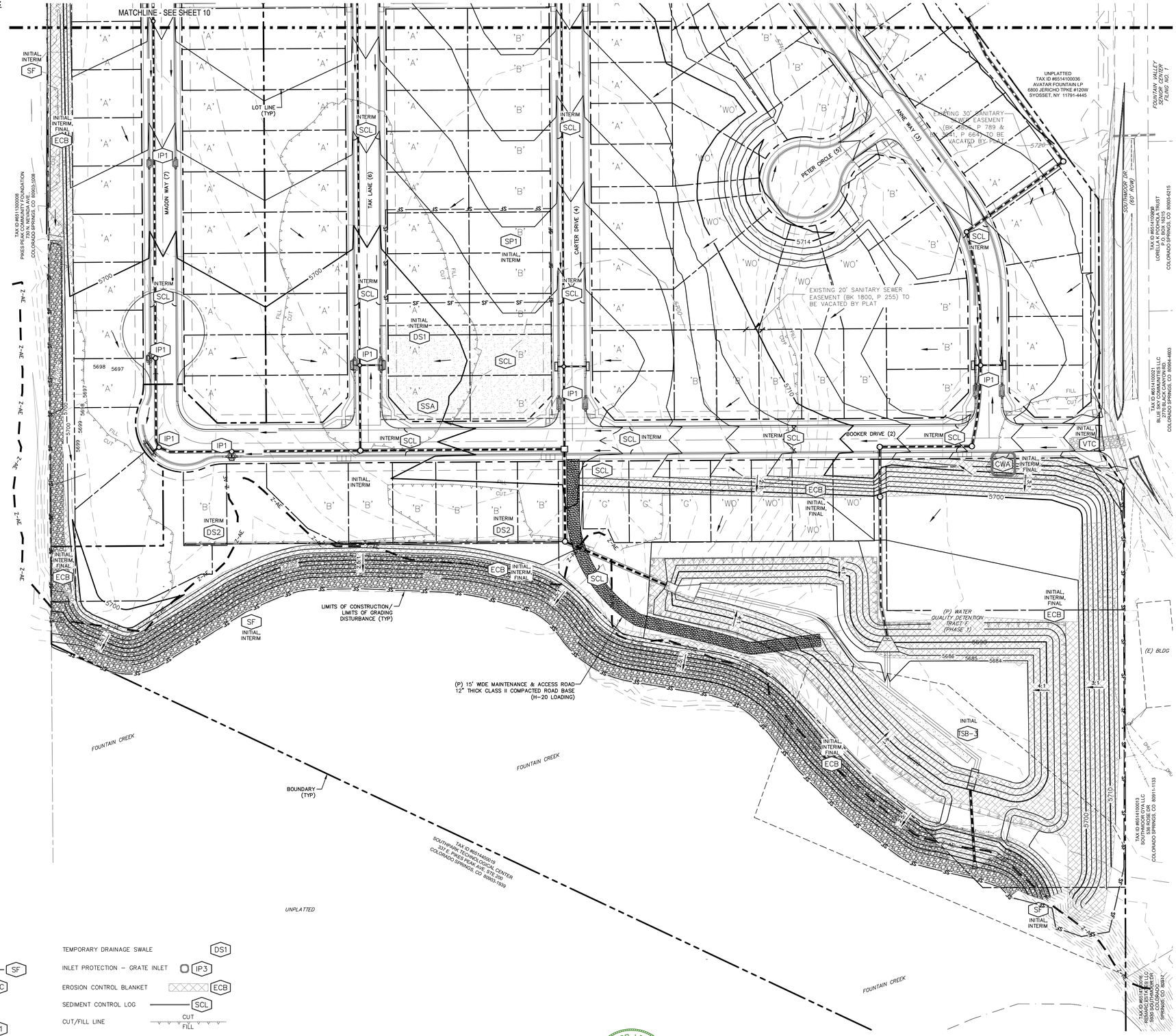
IN LOW RAINFALL AREAS, WHERE WATER IS AVAILABLE AND WHERE RAPID ESTABLISHMENT IS NEEDED, IRRIGATION OF NEW SEEDING SHOULD BE PERFORMED DURING THE FIRST GROWING SEASON. WATER SHOULD BE APPLIED AT APPROXIMATELY ONE WEEK INTERVALS, AT A RATE OF 3/4 TO 1 INCH PER APPLICATION, WHEN RAINFALL IS DEFICIENT FOR PLANT DEVELOPMENT.

LEGEND - EROSION CONTROL MEASURES

- TEMPORARY SEDIMENT BASIN — SB
- SILT FENCE — SF
- VEHICLE TRACKING CONTROL — VTC
- CONCRETE WASHOUT — CW
- INLET PROTECTION – CURB INLET — IP1
- TEMPORARY DRAINAGE SWALE — DS1
- INLET PROTECTION – GRATE INLET — IP3
- EROSION CONTROL BLANKET — ECB
- SEDIMENT CONTROL LOG — SCL
- CUT/FILL LINE — CUT / FILL



NOTES:

1. EXISTING VEGETATION ON THIS SITE PRIMARILY CONSIST OF GRASSES AND WEEDS.

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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PREPARED FOR:
AVATAR EQUITIES, LLC
6800 JERICHO TURNPIKE
SUITE 120W #204
SYOSSET, NY 11791

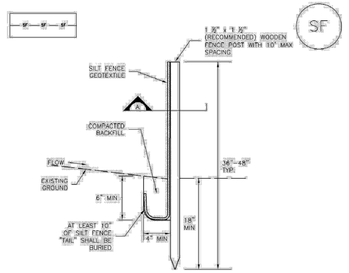
PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF CATAMOUNT ENGINEERING.
COLORADO REGISTERED PROFESSIONAL ENGINEER DAVID L. MIJARES 40510
DAVID L. MIJARES, COLORADO REG. NO. 40510 — 10/19/20 DATE

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)687-0104

RIVERBEND CROSSING FILING NO. 1
GRADING & EROSION CONTROL PLAN

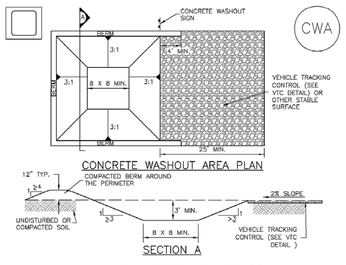
DESIGNED BY: DLM	DRAWN BY: DBM
SCALE: 1" = 60'	DATE: 03/30/21
JOB NUMBER 17-114	SHEET 24 OF 27

Silt Fence (SF) — SC-1



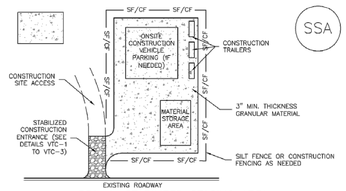
SF-1. SILT FENCE

Concrete Washout Area (CWA) — MM-1



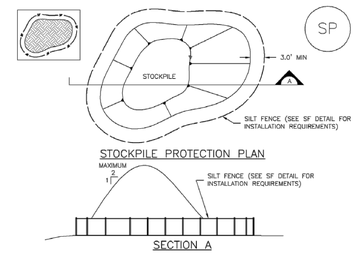
CWA-1. CONCRETE WASHOUT AREA

Stabilized Staging Area (SSA) — SM-6



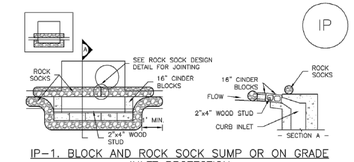
SSA-1. STABILIZED STAGING AREA

Stockpile Management (SP) — MM-2

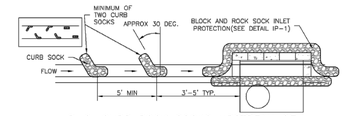


SP-1. STOCKPILE PROTECTION

SC-6 — Inlet Protection (IP)



IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

SC-1 — Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.

2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.

3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.

5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.

6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').

7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".

5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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

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

MM-1 — Concrete Washout Area (CWA)

CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

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

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, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

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

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

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

MM-2 — Stockpile Management (SM)

STOCKPILE PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

STOCKPILE PROTECTION MAINTENANCE NOTES

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

(DETAILS ADAPTED FROM PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

SC-6 — Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF INLET PROTECTION.
   –TYPE OF INLET PROTECTION (P.1, P.2, P.3, P.4, P.5, P.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

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

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ¼ OF THE HEIGHT FOR STRAW BALES.

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.

6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

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

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

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

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

REV.	DESCRIPTION	DATE
1	ADDRESS AGENCY COMMENTS	08/17/20

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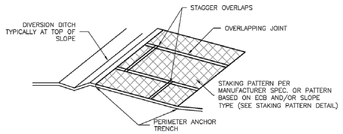
SUITE 120W #204
SYOSSET, NY 11791

PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
COLORADO LICENSED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MIJARES, COLORADO REG. NO. 40510 — 10/19/20 DATE

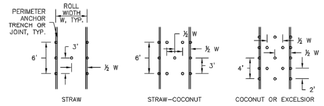
CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING FILING NO. 1
GRADING & EROSION CONTROL DETAILS

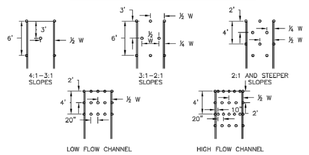
DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: NTS	DATE: 03/30/21
JOB NUMBER 17–114	SHEET 25 OF 27



ECB–3. OUTSIDE OF DRAINAGEWAY



STAKING PATTERNS BY ECB TYPE



STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

ECB

EROSION CONTROL BLANKET 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.

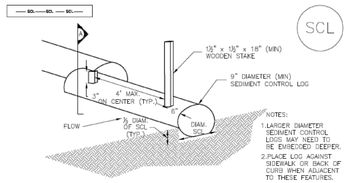
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.

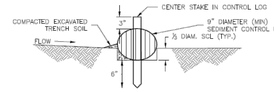
5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.

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

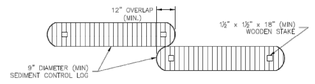
(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO AND TOWN OF PARKER COLORADO, NOT AVAILABLE IN AUTOCAD)



TRENCHED SEDIMENT CONTROL LOG



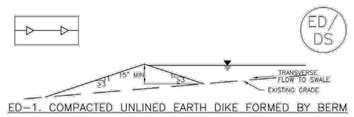
SECTION Ⓐ
TRENCHED SEDIMENT CONTROL LOG



LOG JOINTS

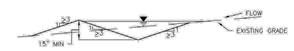
SCL–1. TRENCHED SEDIMENT CONTROL LOG

SCL

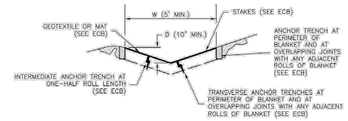


ED–1. COMPACTED UNLINED EARTH DIKE FORMED BY BERM

DS–1. COMPACTED UNLINED EXCAVATED SWALE



DS–2. COMPACTED UNLINED SWALE FORMED BY CUT AND FILL



DS–3. ECB LINED SWALE (CUT AND FILL OR BERM)

EARTH DIKE AND DRAINAGE SWALE 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. SWALES SHALL REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION; IF APPROVED BY LOCAL JURISDICTION, SWALES MAY BE LEFT IN PLACE.

5. WHEN A SWALE IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF COLORADO SPRINGS, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

EC-6 Rolled Erosion Control Products (RECP)

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF ECB.
   - TYPE OF ECB (STRAW, STRAW–COCONUT, COCONUT, OR EXCELSIOR).
   - AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.

2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.

3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.

4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.

5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.

6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE–HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.

7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.

8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB–1.

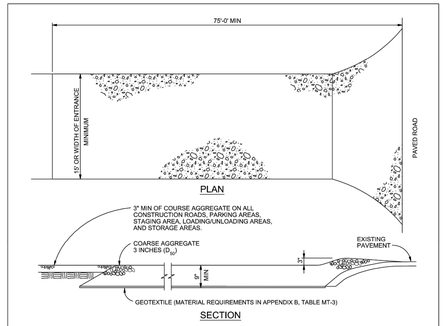
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBS SHALL BE RESEEDED AND MULCHED.

10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TABLE ECB–1. ECB MATERIAL SPECIFICATIONS

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

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



VEHICLE TRACKING
NTS

VEHICLE TRACKING NOTES

INSTALLATION REQUIREMENTS

1. ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.

2. CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.

3. AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.

4. CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.

5. CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES, BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.

2. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.

3. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.

4. STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.

5. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs
Stormwater Quality

Figure VT-2
Vehicle Tracking
Application Examples

VTC

SC-2 Sediment Control Log (SCL)

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND–DISTURBING ACTIVITIES.

3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY ⅓ OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.

6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

SEDIMENT CONTROL LOG MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

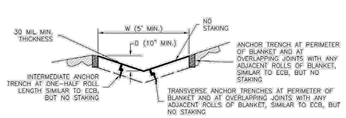
4. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.

5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION.COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

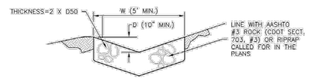
(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

EC-10 Earth Dikes and Drainage Swales (ED/DS)



DS–4. SYNTHETIC LINED SWALE



DS–5. RIPRAP LINED SWALE

EARTH DIKE AND DRAINAGE SWALE INSTALLATION NOTES

1. SEE SITE PLAN FOR:
   - LOCATION OF DIVERSION SWALE.
   - TYPE OF SWALE (UNLINED, COMPACTED AND/OR LINED).
   - LENGTH OF EACH SWALE.
   - DEPTH, D, AND WIDTH, W DIMENSIONS.
   - FOR ECB/TRM LINED DITCH, SEE ECB DETAIL.
   - FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, D50.

2. SEE DRAINAGE PLANS FOR DETAILS OF PERMANENT CONVEYANCE FACILITIES AND/OR DIVERSION SWALES EXCEEDING 2–YEAR FLOW RATE OR 10 CFS.

3. EARTH DIKES AND SWALES INDICATED ON SWMP PLAN SHALL BE INSTALLED PRIOR TO LAND–DISTURBING ACTIVITIES IN PROXIMITY.

4. EMBANKMENT IS TO BE COMPACTED TO 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D698..

5. SWALES ARE TO DRAIN TO A SEDIMENT CONTROL BMP.

6. FOR LINED DITCHES, INSTALLATION OF ECB/TRM SHALL CONFORM TO THE REQUIREMENTS OF THE ECB DETAIL.

7. WHEN CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION SWALE, INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12 INCHES.

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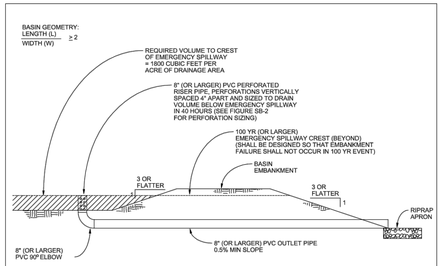
SYOSSET, NY 11791

PREPARED UNDER MY DIRECT SUPERVISION FOR AND BEHALF OF CATAMOUNT ENGINEERING.
COLORADO LICENSED DAVID L. MIJARES 40510 PROFESSIONAL ENGINEER
DAVID L. MIJARES, COLORADO REG. NO. 40510 — 10/19/20 DATE

CATAMOUNT ENGINEERING
321 W. HENRIETTA AVE WOODLAND PARK, CO 80866
PO BOX 221 (719)426-2124

RIVERBEND CROSSING
FILING NO. 1
GRADING & EROSION
CONTROL DETAILS

DESIGNED BY: MGP	DRAWN BY: MGP
SCALE: NTS	DATE: 03/30/21
JOB NUMBER 17–114	SHEET 26 OF 27



SEDIMENT BASIN

NTS

SEDMENT BASIN NOTES

INSTALLATION REQUIREMENTS

1. SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.

2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.

3. THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.

4. THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. BAFFLES MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.

5. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.

6. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.

7. WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS

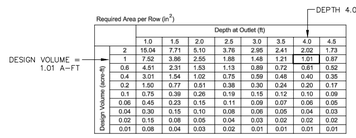
1. CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.

2. SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.

3. SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality	Figure SB-1 Sediment Basin Construction Detail and Maintenance Requirements

SB



Required Area per Row (in^2)

Design Volume (acre-ft)	Depth at Outlet (ft) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
2	15.04	7.71	5.10	3.76	2.95	2.41	2.02	1.73
1	7.52	3.86	2.55	1.88	1.48	1.21	1.01	0.87
0.6	4.51	2.31	1.53	1.13	0.89	0.72	0.61	0.52
0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35
0.2	1.50	0.77	0.51	0.38	0.30	0.24	0.20	0.17
0.1	0.75	0.39	0.26	0.19	0.15	0.12	0.10	0.09
0.06	0.45	0.23	0.15	0.11	0.09	0.07	0.06	0.05
0.04	0.30	0.15	0.10	0.08	0.06	0.05	0.04	0.03
0.02	0.15	0.08	0.05	0.04	0.03	0.02	0.02	0.02
0.01	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01

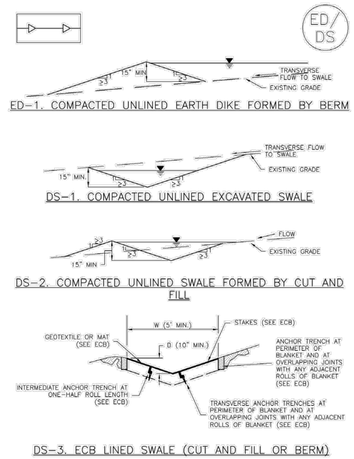
TABLE SB-1

Circular Perforation Sizing

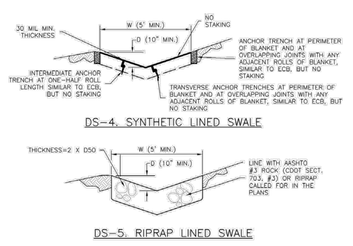
Hole Diameter (in)	Hole Diameter (in)	Area per Row (in^2) n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88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

TABLE SB-2

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



DS



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EARTH DIKE AND DRAINAGE SWALE 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. SWALES SHALL REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION; IF APPROVED BY LOCAL JURISDICTION, SWALES MAY BE LEFT IN PLACE.

5. WHEN A SWALE IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF COLORADO SPRINGS, COLORADO, NOT AVAILABLE IN AUTOCAD)

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COLORADO REGISTERED PROFESSIONAL ENGINEER DAVID L. MIJARES 40510

DAVID L. MIJARES, COLORADO REG. NO. 40510 — 10/19/20 DATE

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RIVERBEND CROSSING FILING NO. 1

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