

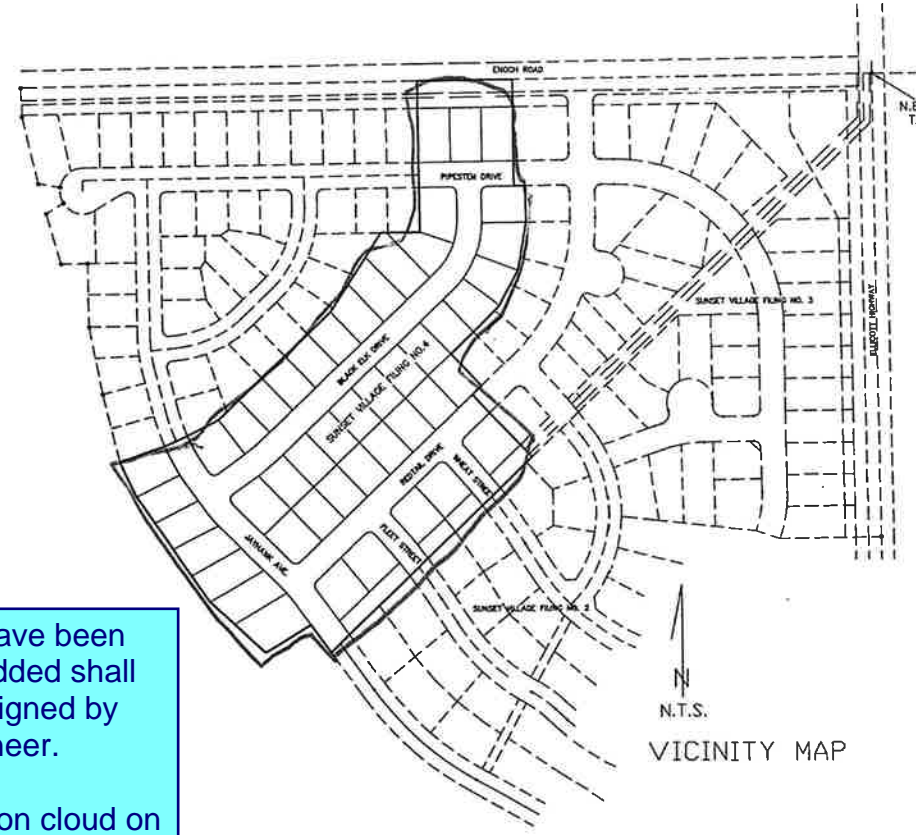
SF 01005
2645

SUNSET VILLAGE FILING NO. 4

CONSTRUCTION PLANS

EPC STORMWATER REVIEW COMMENTS
IN ORANGE BOXES WITH BLACK TEXT

Include Point of Contact List



INDEX

- 1) COVER SHEET
 - 2) GENERAL NOTES AND DETAILS
 - 3) STREET & SANITARY SEWER PLAN (PIPESTEM)
 - 4) STREET & SANITARY SEWER PLAN (REDTAIL DRIVE)
 - 5) STREET & SANITARY SEWER PLAN (BLACK ELK DRIVE)
 - 6) STREET & SANITARY SEWER PLAN (JAYHAWK AVE.)
 - 7) STREET PLAN (WHEAT DRIVE)
 - 8) STREET PLAN (FLEET STREET)
 - 9) STREET PLAN (ENOCH ROAD)
 - 10) UTILITY PLAN
 - D-1) DEVELOPED DRAINAGE AND EROSION CONTROL PLAN
 - D-2) STORM DRAIN PLAN AND PROFILE
 - D-3) DETENTION POND PLAN AND DETAILS
 - HW-1) ELLICOTT HIGHWAY IMPROVEMENT PLAN AND PROFILE
 - 15) SIGNAGE AND STRIPING PLAN
- EL PASO COUNTY DETAILS:
 - EPC DETAIL SD_2-41 PEDESTRIAN INTERSECTION RAMP
 - EPC DETAIL SD_2-26 TYPICAL CROSS PAN LAYOUT DETAIL
- OTHER INCLUDED SHEETS:
 MHFD DETAILS:
 - CONCRETE WASHOUT AREA
 - VEHICLE TRACKING CONTROL
 - ROCK SOCKS
 - INLET PROTECTION

Revise to match GEC Checklist Item "ii"

ENGINEER'S STATEMENT:
 THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILED PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED DRAINAGE PLANS AND SPECIFICATIONS, AND SAID DETAILED PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH THE MASTER PLAN OF THE DRAINAGE BASIN. SAID DETAILED PLANS AND SPECIFICATIONS MEET THE PURPOSE FOR WHICH THE PARTICULAR DRAINAGE FACILITIES ARE DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THE DETAILED DRAINAGE PLANS AND SPECIFICATIONS.



JOHN P. SCHWAB, P.E. NO. 29891

DISCLAIMER:
 COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH THE COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

DEVELOPER'S STATEMENT:
 I, RODNEY PRIESSER, THE DEVELOPER HAS READ AND WILL COMPLY WITH ALL OF THE REQUIREMENTS SPECIFIED IN THIS DRAINAGE REPORT AND PLAN.

BY: *Rodney Priesser*

TITLE: OWNER
ADDRESS: 90 S. CASCADE AVE. # 950
COLORADO SPRINGS, CO. 80903

EL PASO COUNTY:
 FILED IN ACCORDANCE WITH SECTION 511 OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, AS AMENDED.
John A. McCarty 12-19-01
 JOHN A. MCCARTY, P.E. COUNTY ENGINEER/DIRECTOR
 CONDITIONS:

Sheets that have been modified or added shall be stamped/signed by the new engineer.

Place a revision cloud on the areas being modified and add a delta 1 revision

Revise/combine to match GEC Checklist Item "jj"

On the resubmittal, submit the full size (24"x36") version of the plan set.



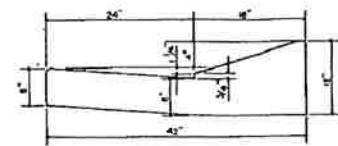
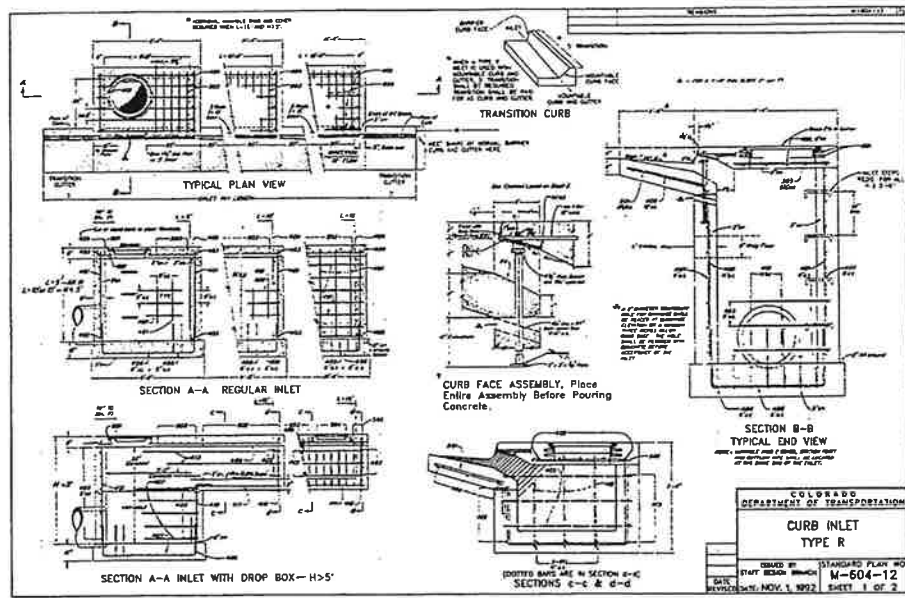
4575 GALLEY ROAD SUITE 200
COLORADO SPRINGS COLORADO
(719) 597-9900 80915

PROJECT	DATE	DRAWN
00-0908	10-08-01	J.L.K.
CDR-21-008	10-05-2021	REVISED: OCT. 2021 DRAWN: R.D.L.

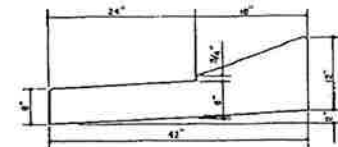
SHEET 1 OF 14

Sunset Village

This should say:
Jennifer Irvine, P.E.
County Engineer / ECM Administrator

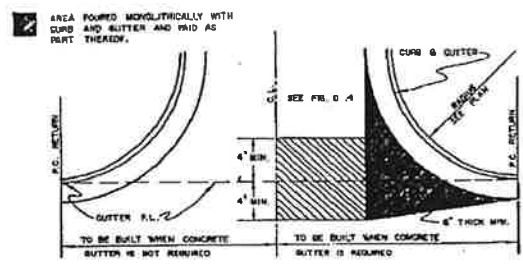


CARRY RAMP CURB

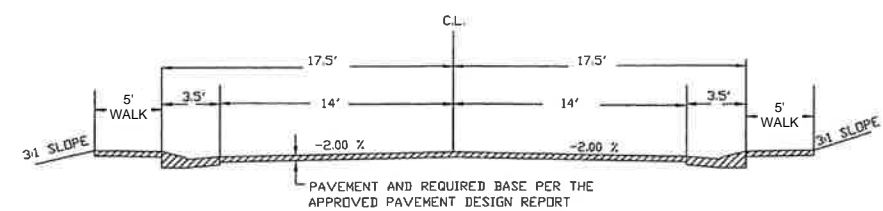


SPILL RAMP CURB

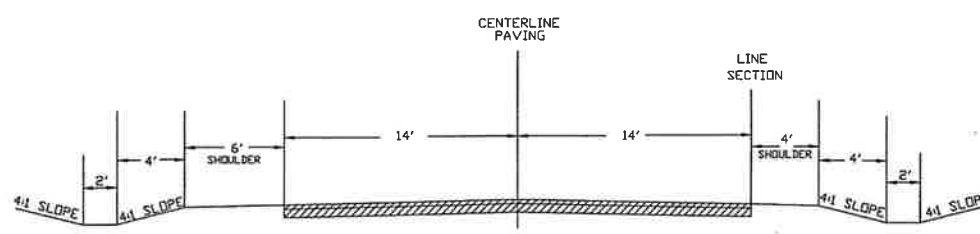
FIGURE D6.1'A



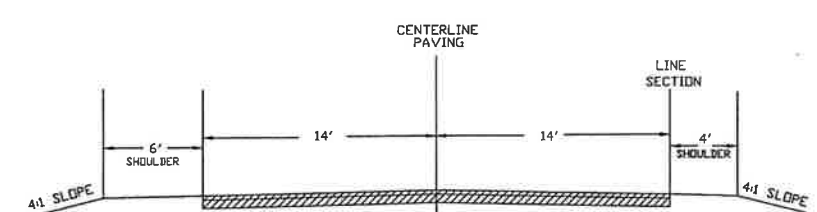
DRIVEWAY OR STREET INTERSECTIONS
FIGURE D6.2
27



STANDARD STREET SECTION (60' R.O.W.)

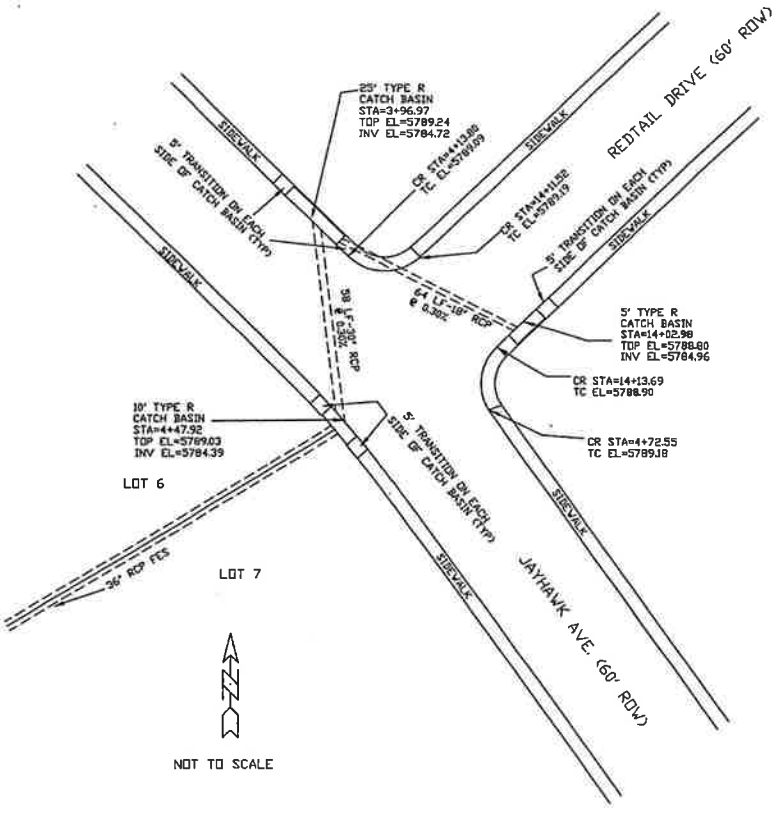


ENCH ROAD CUT SECTION
(80' R.O.W.)



ENCH ROAD FILL SECTION
(80' R.O.W.)

SCALE 1"=5'

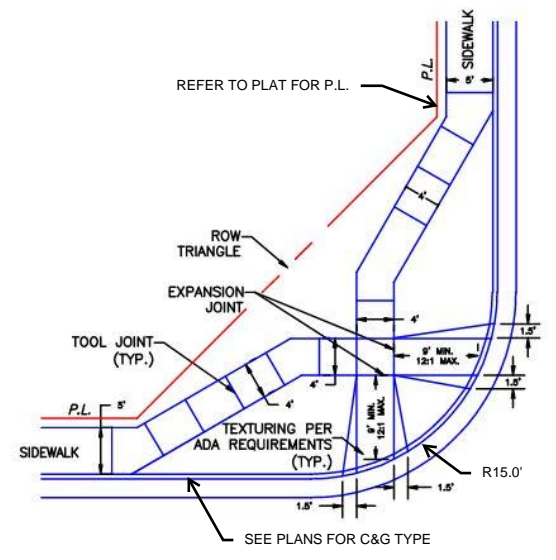


GENERAL NOTES

1. THERE SHALL BE A PRE-CONSTRUCTION MEETING WITH THE DEPARTMENT OF TRANSPORTATION PRIOR TO BEGINNING CONSTRUCTION.
2. ALL DISTURBED AREAS SHALL BE RE-VEGETATED AS SOON AS POSSIBLE TO PREVENT EROSION. SEE NOTE 8.
3. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE CRITERIA OF EL PASO COUNTY.
4. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION COLORADO DEPARTMENT OF HIGHWAYS, AND THE ASSOCIATED M&S STANDARDS LATEST EDITIONS, SHALL APPLY TO THIS PROJECT.
5. ADDITIONAL STRUCTURES MAY BE NEEDED AT THE TIME OF CONSTRUCTION.
6. ALL NECESSARY PERMITS SUCH AS A GENERAL CONSTRUCTION NPDES OR OTHERS SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION, AND ANY FEES ASSOCIATED WITH THOSE PERMITS SHALL BE PAID BY THE CONTRACTOR.
7. ALL EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE PLOTTED FROM BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATION AND VERIFICATION OF ALL UTILITIES WITHIN THE LIMITS OF THE PROJECT AREA.
8. SEEDING SHALL INCLUDE SOIL PREPARATION, FERTILIZATION AND MULCHING. THESE WORK ITEMS SHALL NOT BE MEASURED FOR PAYMENT SEPARATELY, BUT SHALL BE INCLUDED IN THE ASSOCIATED WORK. THE FOLLOWING SEED TYPES AND APPLICATION RATES SHALL BE USED:
COMMON NAME RATE(LBS/ACRE)
SMOOTH BROME 16
BLUE GRAMA 3.0
TOTAL 19.0
FERTILIZER: AVAILABLE N-40 LBS./ACRE AVAILABLE P-40 LBS/ACRE
MULCHING 2 TONS/ACRE (CRIMP)
9. THE CONTRACTOR SHALL COORDINATE WITH ALL AFFECTED UTILITIES IN REGARD TO LOCATION, ADJUSTMENT OR OTHER MEASURES DURING CONSTRUCTION TO ACCOMPLISH THE WORK IN A TIMELY FASHION WITH MINIMUM DISRUPTION IN SERVICE. SUCH WORK WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
10. PAVING WILL NOT BEGIN UNTIL A SOILS REPORT AND PAVEMENT DESIGN IS ACCEPTED BY THE EL PASO COUNTY DEPARTMENT OF TRANSPORTATION AND SUBGRADE COMPACTION TESTS ARE TAKEN AND ACCEPTED BY AN INSPECTOR FOR EL PASO COUNTY.

11. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. THE THICKNESS OF HBP AND ABC REPAIRS SHALL EQUAL OR EXCEED EXISTING; HOWEVER IT SHALL NOT BE LESS THAN 2 INCHES AND 6 INCHES, RESPECTIVELY.
12. SLOPES STEEPER THAN 3/1 (H -1) WILL BE REQUIRED TO HAVE A SOIL RETENTION BLANKET.
13. EXISTING PIPE, HBP AND EXCESS EXCAVATION, AS WELL AS UNSUITABLE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND THE CONTRACTOR'S RESPONSIBILITY TO DISPOSE OF AT NO ADDITIONAL COST TO THE PROJECT.
14. ALL EXISTING APPURTENANCES AFFECTED BY THE CONSTRUCTION SHALL BE REMOVED AND REPLACED AS NEEDED. ALL SAID APPURTENANCES SHALL BE LEFT IN AS GOOD AS OR BETTER CONDITION THAN EXISTS. SUCH WORK SHALL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK EXCEPT AS PROVIDED FOR IN THE STANDARD SPECIFICATIONS.
15. TRENCHES OVER 5 FEET IN DEPTH SHALL EITHER BE SHORED OR THE TRENCH WALLS SHALL BE SLOPED AT THE ANGLE OF REPOSE IF SLOPED, THE BOTTOM OF THE SLOPE SHALL BE A MINIMUM OF 1 FOOT ABOVE THE TOP OF PIPE. SLOPING SHALL BE LIMITED TO STAY WITHIN CONSTRUCTION EASEMENT LINES.
16. TOPSOIL SHALL BE REMOVED, AND SUITABLE TOPSOIL STOCKPILED AND REPLACED UPON COMPLETION OF ROUGH GRADING. SUCH WORK SHALL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
17. STORM DRAIN PIPE SHALL BE RCP.
18. STORM SEWER PIPING AND BOX CULVERT BEDDING SHALL BE CLASS 'C'. PIPES ASSOCIATED WITH THE WATER AND SANITARY SEWER SYSTEM SHALL HAVE PIPE BEDDING PLACED PER THE CHEROKEE METROPOLITAN DISTRICT REQUIREMENTS GOVERNING THE INSTALLATION OF WATER AND SANITARY SEWER LINES.
19. 25' BY 25' SIGHT TRIANGLES ARE REQUIRED AT ALL INTERSECTIONS.
20. STREET SIGNS WILL BE IN ACCORDANCE WITH EPC STANDARDS.
21. STREET LIGHTING IF USED, MUST BE LOCATED ON PRIVATE PROPERTY.
22. MAILBOXES SHOULD BE CLUSTERED AND LOCATED 12 FEET FROM ASPHALT.
23. ALL CONCRETE CROSS PANS SHALL BE CONSTRUCTED WITH 8" MINIMUM THICKNESS.
24. CONTRACTOR IS RESPONSIBLE TO ENSURE POSITIVE DRAINAGE (0.5% MINIMUM SLOPE) IN ALL CONCRETE GUTTERS ALONG ROADWAYS. CONTRACTOR SHALL REMOVE AND REPLACE ALL DEVIANT SECTIONS AT HIS OWN EXPENSE. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS FOUND ON THE PLANS BEFORE CONSTRUCTION.
25. USE **ADA** STANDARD ADA HANDICAP RAMP.
EL PASO COUNTY

26. THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATIONS AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY THE COUNTY DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY OTHER FEDERAL OR STATE ACCESSIBILITY LAWS OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS. SOLE RESPONSIBILITY FOR COMPLIANCE WITH FEDERAL AND STATE ACCESSIBILITY LAW LIES WITH THE PROPERTY OWNER.



CDR-21-008
REVISED: SEPT. 2021

NO.	DATE	REVISIONS	BY

SHEET TITLE GENERAL NOTES AND DETAILS FOR SUNSET VILLAGE FILING NO.4	FIELD BOOK NO. SCALE DATE 10-12-04 DRAWN J.L.K. CHECKED J.L.K. PROJECT NO. DWG. 00-0908 PROJECT FILE 00-0908
EL PASO COUNTY, COLORADO	
EL PASO COUNTY DEPARTMENT OF TRANSPORTATION 4000 GALLEY BLVD. SUITE 300 EL PASO, TEXAS 79906 (915) 947-8600	

Remove the existing ramp with no receiving ramp on Pipestem Dr and replace with Type A C&G.

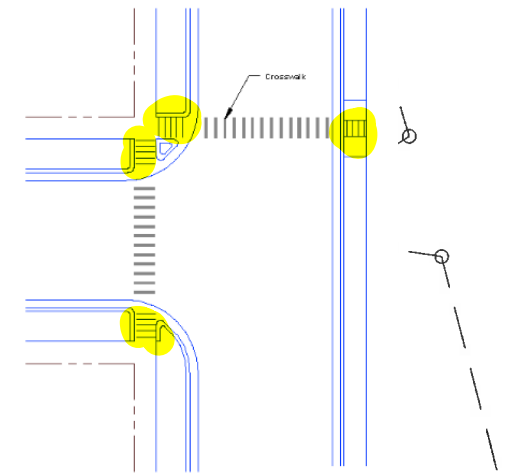
update street plans to show installation of sidewalk ramps at the opposite side of the street at all T-intersections of the subdivision per criteria

Unresolved. Per Figure 2-36 only two of the intersection legs need pedestrian crossing. Delete one of the pedestrian crossing on Pipestem Dr.

Remove the crosswalk striping

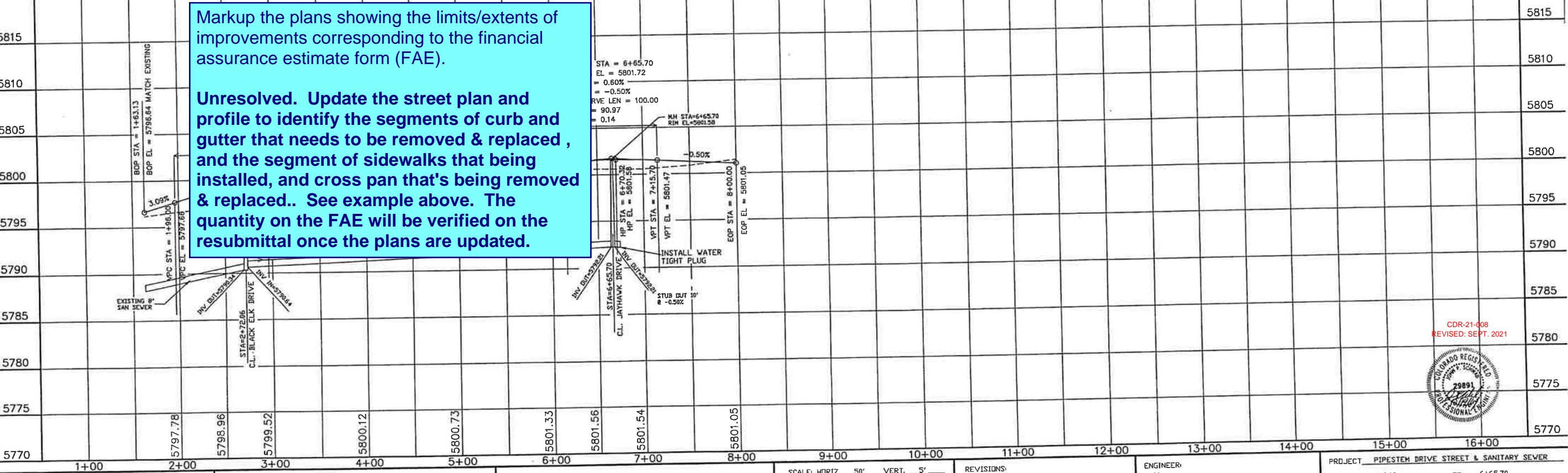
Example callout: "Remove & replace 25 LF of C&G from STA 3+75 to 4+00"

Figure 2-36. Access Ramp Locations at "T" Intersections



NOTES:

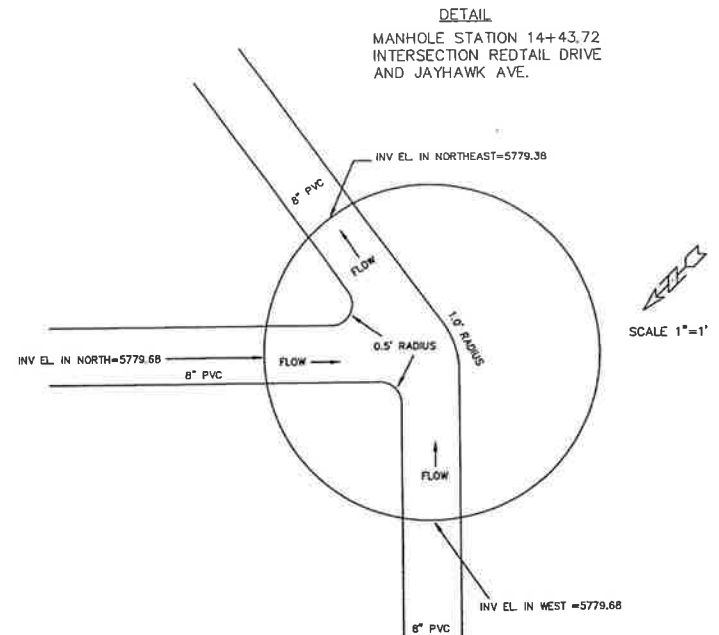
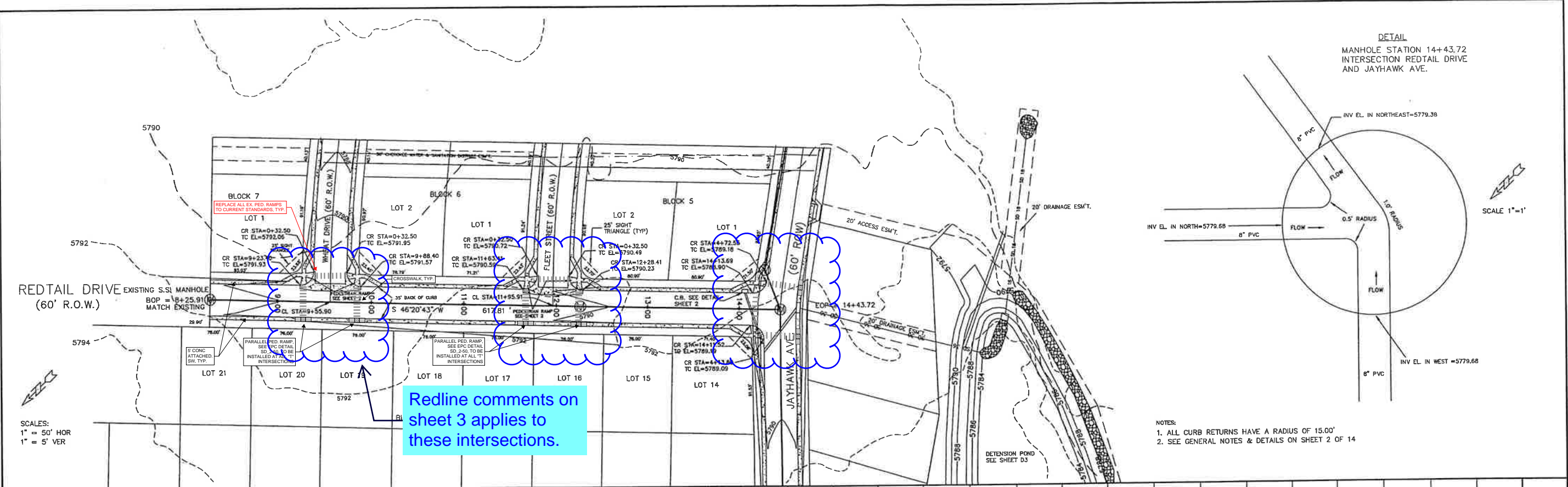
1. ROUGH CUT ROAD AND CONSTRUCT SANITARY SEWER TO STATION 6+65.70
2. ALL CURB RETURN RADII ARE 15.00'
3. SEE GENERAL NOTES & DETAILS ON SHEET 2 OF 14



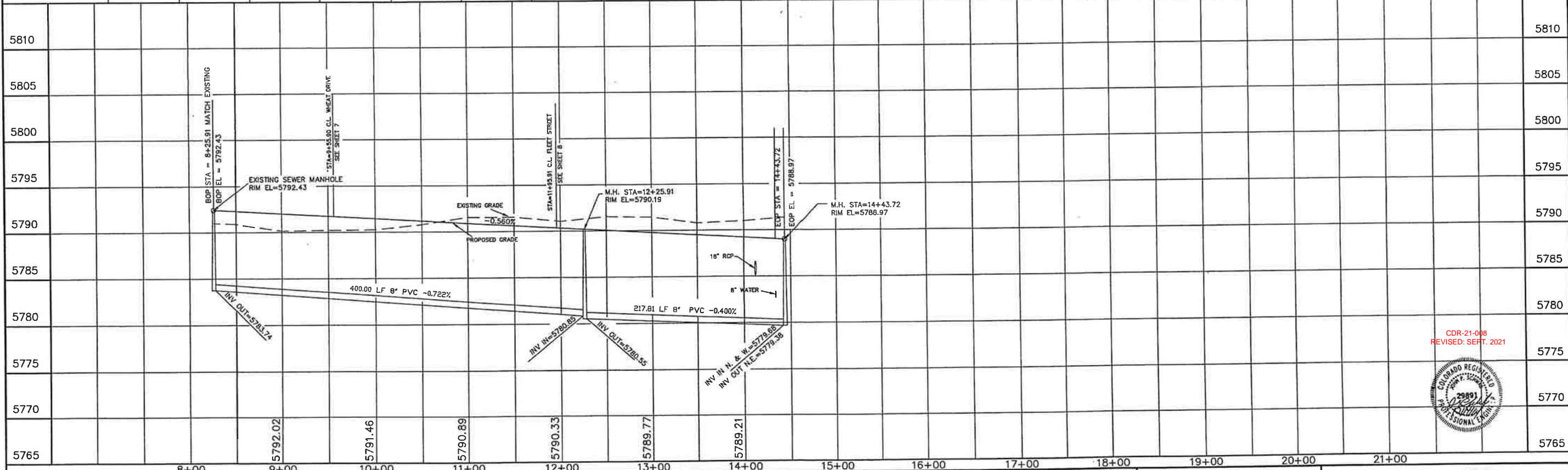
Markup the plans showing the limits/extents of improvements corresponding to the financial assurance estimate form (FAE).
Unresolved. Update the street plan and profile to identify the segments of curb and gutter that needs to be removed & replaced, and the segment of sidewalks that being installed, and cross pan that's being removed & replaced.. See example above. The quantity on the FAE will be verified on the resubmittal once the plans are updated.



STATEMENT: THE COUNTY OF EL PASO, RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN, THE COUNTY HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.	REVIEW: STREET DESIGN: _____ DATE _____ ROUGH CUT REVIEW _____ DATE _____ FINAL REVIEW _____ DATE _____ DRAINAGE BASIN: _____	DESIGN DATA: SIDEWALKS: WIDTH 5' LOCATION: Attached <input checked="" type="checkbox"/> Detached, 6' from P/L/D CURB TYPE 102030 R/W WIDTH 60' B/C-B/C 35' STREET TYPE _____ HVECH _____	ASPHALT THICKNESS: AC Surface TRB AC Base _____ AGG. BASE THICKNESS: Class 6 _____ Class 5 _____ Class 2 _____	SCALE: HORIZ. 50' VERT. 5' BENCHMARK: U.S.G.S. BRASS CAP 114.8 (1953) ELEV=5752.00 LOCATED AT THE SOUTHEAST CORNER OF SECTION 12, T.15S., R.63W.	REVISIONS: NO. DESCRIPTION DATE	ENGINEER: UNITED PLANNING ENGINEERING (719) 597-9908 4575 GALLEY ROAD SUITE 200 COLORADO SPRINGS, COLORADO 80915 DESIGNED BY: J.L.K. DATE: 10-09-01 DRAWN BY: J.L.K. DATE: 10-09-01 CHECKED BY: T.L.K. DATE: 10-09-01	PROJECT: PIPESTEM DRIVE STREET & SANITARY SEWER FROM: 1+63.13 TO: 6+65.70 SUBDIVISION: SUNSET VILLAGE FILING NO. 4 DRAINAGE BASIN: TELEPHONE EXCHANGE JOB NO. D:\PROJ\00-0908\RCR01001.DWG SHEET 3 OF 15
	<p>5815</p> <p>5810</p> <p>5805</p> <p>5800</p> <p>5795</p> <p>5790</p> <p>5785</p> <p>5780</p> <p>5775</p> <p>5770</p> <p>1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00</p>						



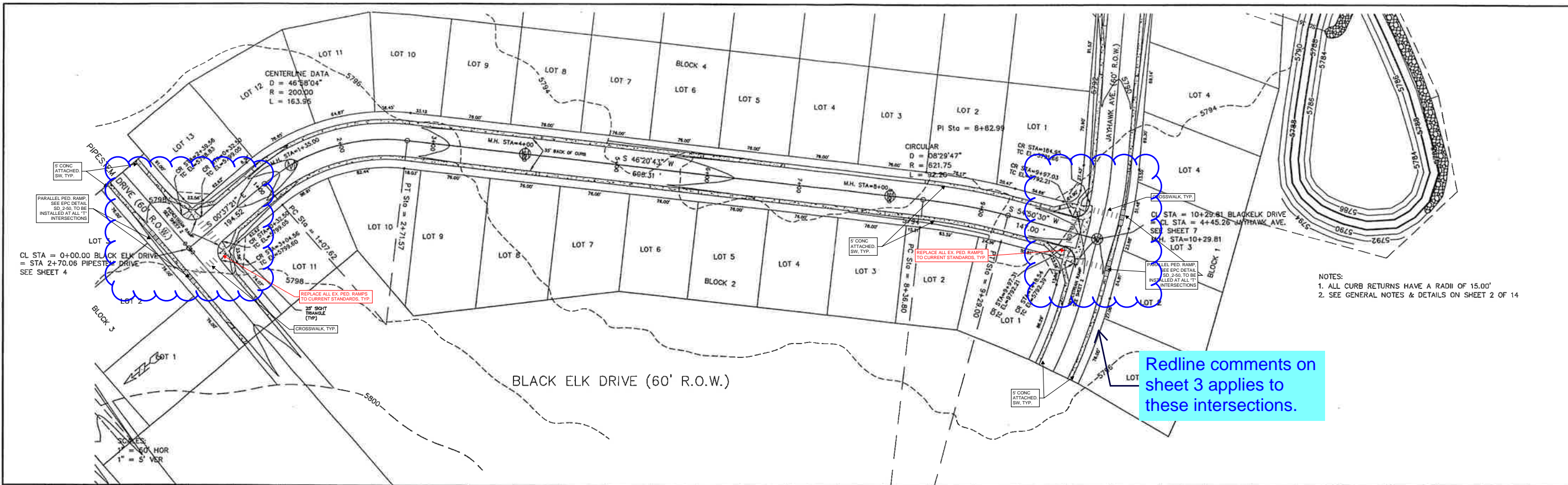
- NOTES:
 1. ALL CURB RETURNS HAVE A RADIUS OF 15.00'
 2. SEE GENERAL NOTES & DETAILS ON SHEET 2 OF 14



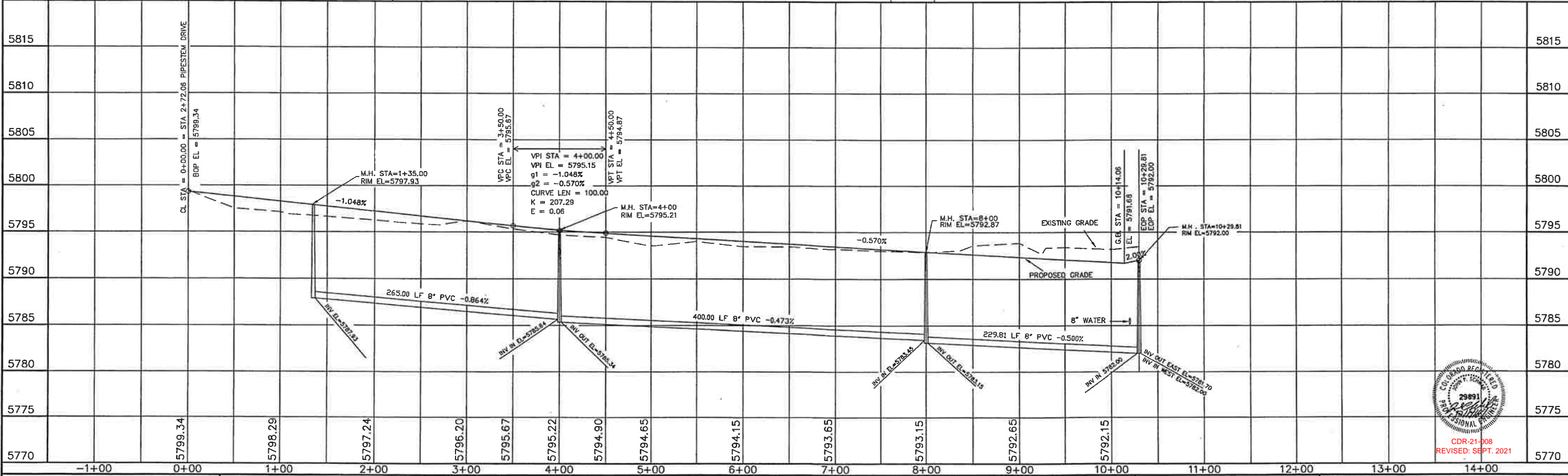
CDR-21-008
REVISED: SEPT. 2021



STATEMENT: THE COUNTY OF EL PASO, RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN. THE COUNTY HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.	REVIEW: STREET DESIGN _____ DATE _____ ROUGH CUT REVIEW _____ DATE _____ FINAL REVIEW _____ DATE _____ DRAINAGE BASIN _____	DESIGN DATA: SIDEWALK WIDTH 5' LOCATION: Attached Detached, 6' from P/L O CURB TYPE 1 0 2 0 3 0 R/W WIDTH 60' B/C-B/C 35' STREET TYPE HVEEM _____	ASPHALT THICKNESS: AC Surface 1.5" AC Base _____ AGG. BASE THICKNESS: Class 6 _____ Class 5 _____ Class 2 _____	SCALE: HORIZ. 50' VERT. 5' BENCHMARK: U.S.G.S. BRASS CAP 114 JK (1953) ELEV = 5792.00 LOCATED AT THE SOUTHEAST CORNER OF SECTION 12, T.15S, R.63W.	REVISIONS: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DESCRIPTION	DATE										ENGINEER: UNITED PLANNING ENGINEERING (719) 597-9900 4575 GALLEY ROAD SUITE 200 COLORADO SPRINGS, COLORADO 80915 DESIGNED BY: J.K. DATE: 10-09-01 DRAWN BY: J.K. DATE: 10-09-01 CHECKED BY: J.K. DATE: 10-09-01	PROJECT: REDTAIL DRIVE STREET SANITARY SEWER FROM: 8+25.91 TO: 14+43.72 SUBDIVISION: SUNSET VILLAGE FILING NO. 4 DRAINAGE BASIN: TELEPHONE EXCHANGE JOB NO. D:\PROJ\00-0900\RCP01002.DWG SHEET 4 OF 15
NO.	DESCRIPTION	DATE																	



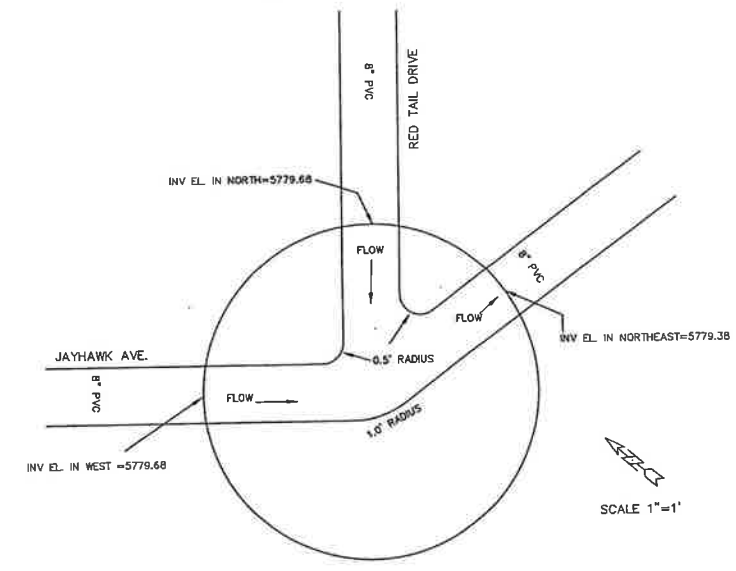
Redline comments on sheet 3 applies to these intersections.



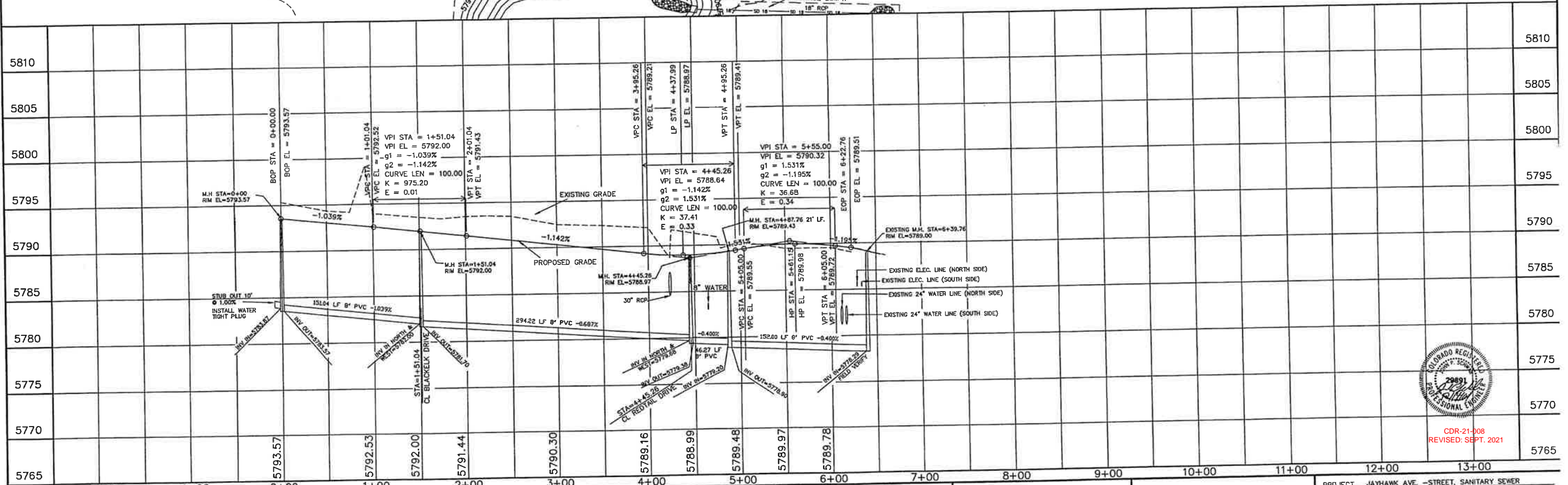
STATEMENT: THE COUNTY OF EL PASO, COLORADO, RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN, THE COUNTY HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.	REVIEW: STREET DESIGN _____ DATE _____ ROUGH CUT REVIEW _____ DATE _____ FINAL REVIEW _____ DATE _____ DRAINAGE BASIN _____	DESIGN DATA: SIDEWALKS: WIDTH 5' LOCATION: Attached <input type="checkbox"/> Detached, 6' from P/L <input type="checkbox"/> CURB TYPE 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> R/W WIDTH 60' B/C-B/C 35' STREET TYPE _____ HVEEM _____ ASPHALT THICKNESS: AC Surface 1.5" AC Base _____ AGG. BASE THICKNESS: Class 6 _____ Class 5 _____ Class 2 _____	SCALE: HORIZ. 50' VERT. 5' BENCHMARK: U.S.G.S. BRASS CAP 114 JK (1953) ELEV=5752.00 LOCATED AT THE SOUTHEAST CORNER OF SECTION 12, T.15S., R.63W.	REVISIONS: NO. DESCRIPTION DATE	ENGINEER: UNITED PLANNING ENGINEERING (719) 597-9900 4575 GALLEY ROAD SUITE 200 COLORADO SPRINGS, COLORADO 80915 DESIGNED BY: JLK DATE: 10-09-01 DRAWN BY: JLK DATE: 10-09-01 CHECKED BY: TLK DATE: 10-09-01	PROJECT: BLACK ELK DRIVE STREET, SANITARY SEWER FROM: 0+00 TO: 10+29.81 SUBDIVISION: SUNSET VILLAGE FILING NO. 4 DRAINAGE BASIN: TELEPHONE EXCHANGE JOB NO. D:\PROJ\00-0908\RCP01003.DWG SHEET 5 OF 15
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Redline comments on sheet 3 applies to these intersections.

DETAIL
MANHOLE STATION 14+45.26
INTERSECTION JAYHAWK AVE.
AND RED TAIL DRIVE



- NOTES:
1. ALL CURB RETURNS HAVE A RADIUS OF 15.00'
2. SEE GENERAL NOTES & DETAILS ON SHEET 2 OF 14



CDR-21-008
REVISED: SEPT. 2021

STATEMENT:
THE COUNTY OF EL PASO, RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN, THE COUNTY HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

REVIEW:
STREET DESIGN _____ DATE _____
ROUGH CUT REVIEW _____ DATE _____
FINAL REVIEW _____ DATE _____

DESIGN DATA:
SIDEWALKS WIDTH 5'
LOCATION Attached
Detached, 6' from P/LD
CURB TYPE 102003D
R/W WIDTH 60' B/C-B/C 35'
STREET TYPE HVEEM

ASPHALT THICKNESS:
AC Surface 1.8D
AC Base _____
AGG. BASE THICKNESS:
Class 6 _____
Class 5 _____
Class 2 _____

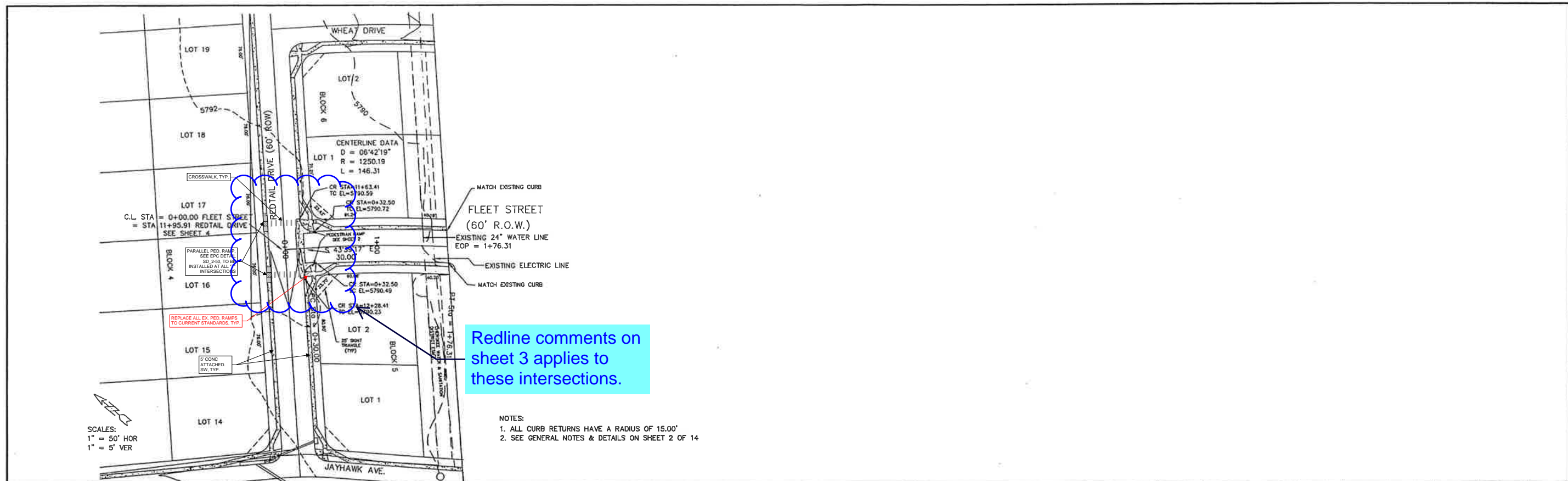
SCALE: HORIZ. 50' VERT. 5'
BENCHMARK: U.S.G.S. BRASS CAP
114JK (1953) ELEV=5758.00
LOCATED AT THE SOUTHEAST CORNER
OF SECTION 18, T15S, R63W.

REVISIONS:
NO. DESCRIPTION DATE

ENGINEER:
UNITED PLANNING ENGINEERING (719) 597-9900
4575 GALLEY ROAD SUITE 200
COLORADO SPRINGS, COLORADO 80915
DESIGNED BY: TLK DATE: 10-09-01
DRAWN BY: TLK DATE: 10-09-01
CHECKED BY: TLK DATE: 10-09-01

PROJECT: JAYHAWK AVE. - STREET, SANITARY SEWER
FROM: 0+00 TO: 6+22.76

SUBDIVISION: SUNSET VILLAGE FILING NO. 4
DRAINAGE BASIN: TELEPHONE EXCHANGE
JOB NO. D:\PROJ\00-0908\RCP\01004.DWG SHEET 6 OF 15

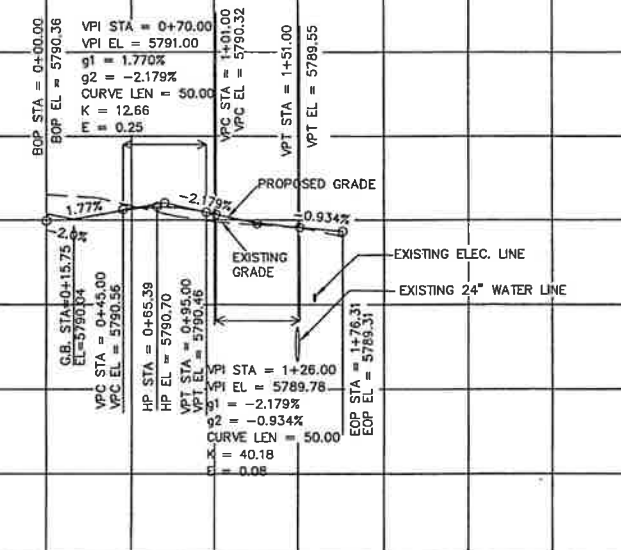


Redline comments on sheet 3 applies to these intersections.

- NOTES:
 1. ALL CURB RETURNS HAVE A RADIUS OF 15.00'
 2. SEE GENERAL NOTES & DETAILS ON SHEET 2 OF 14

SCALES:
 1" = 50' HOR
 1" = 5' VER

5810		5810
5805		5805
5800		5800
5795		5795
5790		5790
5785		5785
5780		5780
5775		5775
5770		5770
5765		5765



CDR-21 008
 REVISED: SEPT. 2021

STATEMENT:
 THE COUNTY OF EL PASO, RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN, THE COUNTY HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

REVIEW:
 STREET DESIGN _____ DATE _____
 ROUGH CUT REVIEW _____ DATE _____
 FINAL REVIEW _____ DATE _____
 DRAINAGE BASIN _____

DESIGN DATA:
 SIDEWALKS: WIDTH 5'
 LOCATION: Attached
 Detached, 6' from P/L
 CURB TYPE 10 20 30
 R/W WIDTH 60' B/C-B/C 35'
 STREET TYPE _____ HVEEM _____

ASPHALT THICKNESS:
 AC Surface 1 1/2"
 AC Base _____
 AGG. BASE THICKNESS:
 Class 6 _____
 Class 5 _____
 Class 2 _____

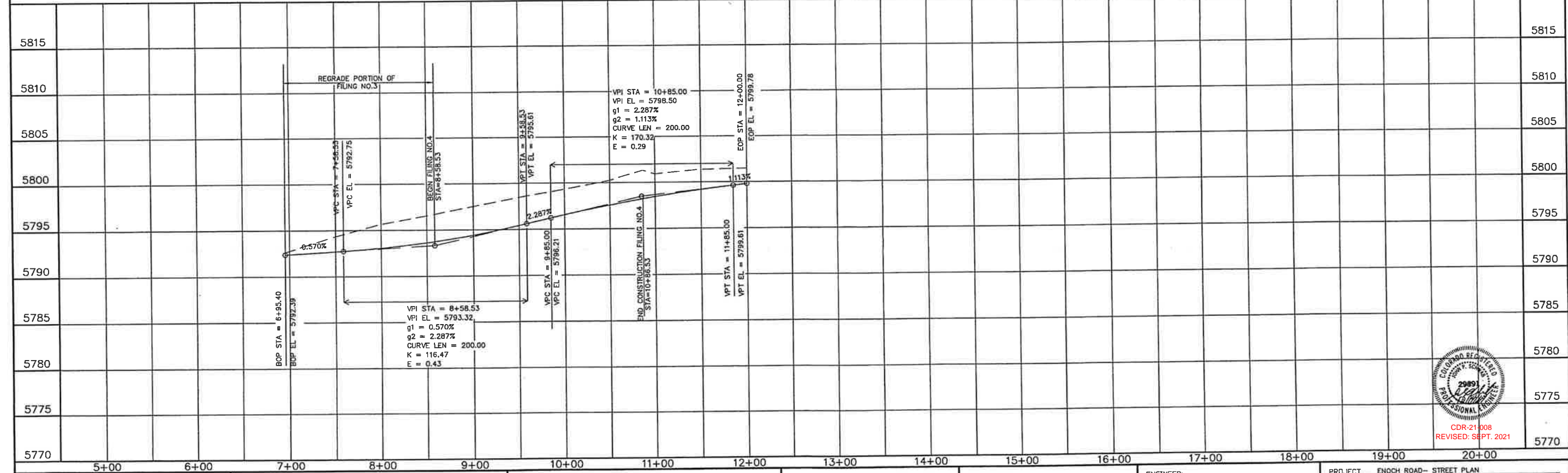
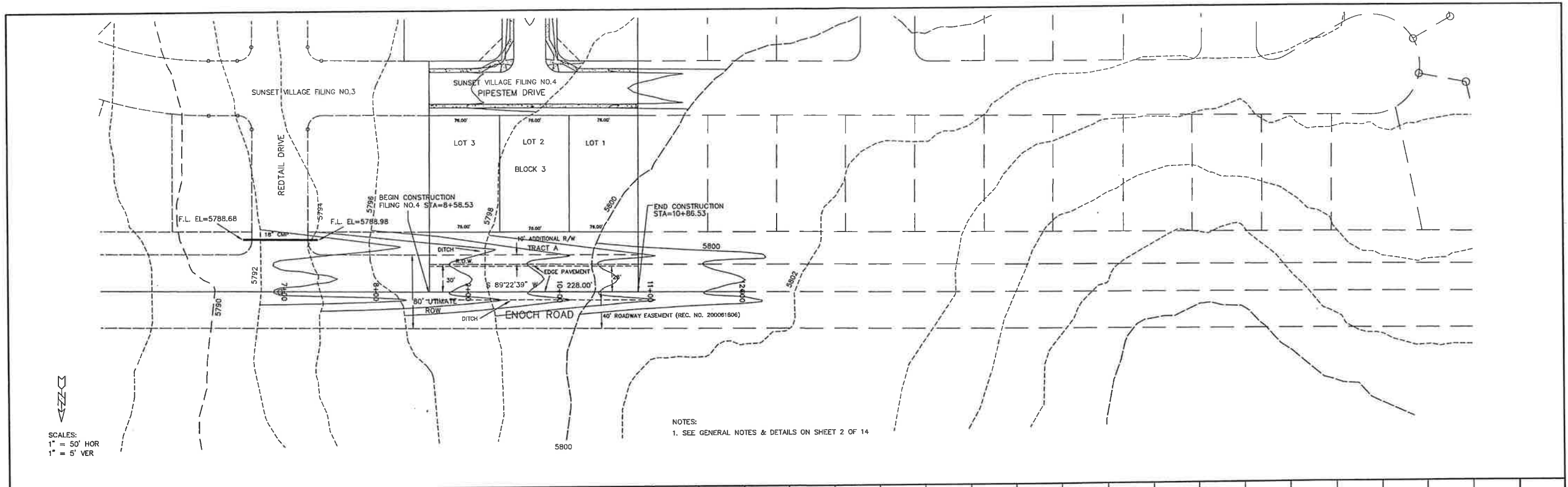
SCALE: HORIZ. 50' VERT. 5'
 BENCHMARK: U.S.G.S. BRASS CAP
 114 JK (1953) ELEV=5752.00
 LOCATED AT THE SOUTHEAST CORNER
 OF SECTION 12, T.15S, R.63W.

REVISIONS:

NO.	DESCRIPTION	DATE

ENGINEER:
 UNITED PLANNING ENGINEERING (719) 597-9900
 4575 GALLEY ROAD SUITE 200
 COLORADO SPRINGS, COLORADO 80915
 DESIGNED BY: J.L.K. DATE: 10-09-01
 DRAWN BY: J.L.K. DATE: 10-09-01
 CHECKED BY: T.L.K. DATE: 10-09-01

PROJECT: FLEET STREET-STREET, SANITARY SEWER
 FROM: 0+00 TO: 1+76.31
 SUBDIVISION: SUNSET VILLAGE FILING NO. 4
 DRAINAGE BASIN: TELEPHONE EXCHANGE
 JOB NO. D:\PROJ\100-0908\RCP\1006.DWG SHEET 8 OF 15



STATEMENT:
 THE COUNTY OF EL PASO, RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN. THE COUNTY HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

REVIEW:
 STREET DESIGN _____ DATE _____
 ROUGH CUT REVIEW _____ DATE _____
 FINAL REVIEW _____ DATE _____

DESIGN DATA:
 SIDEWALKS: WIDTH _____
 LOCATION: Attached Detached, 6' from P/L/O
 ASPHALT THICKNESS:
 AC Surface: NA
 AC Base: NA
 AGG. BASE THICKNESS:
 Class 6 _____
 Class 5 _____
 Class 2 _____
 CURB TYPE: 10 20 30
 R/W WIDTH: 80' PROP. F/C-F/C: NA
 STREET TYPE: HVECH

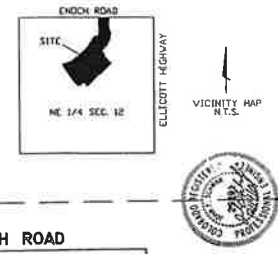
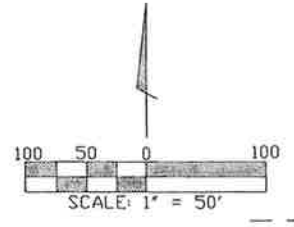
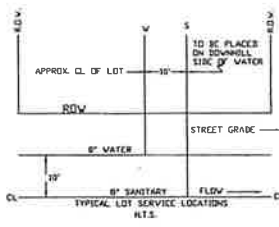
SCALE: HORIZ. 1" = 50' VERT. 1" = 5'
 BENCHMARK: U.S.G.S. BRASS CAP
 114JK (1953) ELEV=5752.00
 LOCATED AT THE SOUTHEAST CORNER OF SECTION 12, T.15S., R.63W.

REVISIONS:

NO.	DESCRIPTION	DATE

ENGINEER:
 UNITED PLANNING ENGINEERING
 4575 GALLEY ROAD SUITE 200
 COLORADO SPRINGS, COLORADO 80915
 DESIGNED BY: JLK DATE: 10-09-01
 DRAWN BY: JLK DATE: 10-09-01
 CHECKED BY: TLK DATE: 10-09-01

PROJECT: ENOCH ROAD - STREET PLAN
 FROM: 6+95.40 TO: 12+00
 SUBDIVISION: SUNSET VILLAGE FILING NO. 4
 DRAINAGE BASIN: TELEPHONE EXCHANGE
 JOB NO.: \PROJ\00-0908\RCP01007.DWG SHEET 9 OF 15



PUBLIC MAIN EXTENSIONS

WATER STATEMENT
 THE UNDERSIGNED OWNER/DEVELOPER AGREES THAT THE INSTALLATION OF THESE PROPOSED WATER FACILITIES WILL BE MADE IN ACCORDANCE WITH CHEROKEE METROPOLITAN DISTRICT SPECIFICATIONS AND SHALL PROVIDE A MINIMUM OF FIVE (5) FEET AND A MAXIMUM OF SIX (6) FEET OF COVER OVER THE WATER MAINS. ANY CHANGES REQUIRED TO MEET THE ABOVE STIPULATION SHALL BE AT THE EXPENSE OF THE OWNER/DEVELOPER. COVER IN EXCESS OF SIX (6) FEET SHALL BE SUPPORTED BY PLAN AND PROFILE DRAWINGS APPROVED BY THE CHEROKEE METROPOLITAN DISTRICT.

SIGNED: *[Signature]* DATE: 12-14-01
 OWNER/DEVELOPER: RODNEY PRESSER PIKES PEAK WATER COMPANY

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO THE CHEROKEE METROPOLITAN DISTRICT WATER SPECIFICATIONS. THE NUMBER OF HYDRANTS AND HYDRANT LOCATIONS AS SHOWN ON THIS WATER INSTALLATION PLAN ARE CORRECT AND ADEQUATE TO SATISFY THE FIRE PROTECTION REQUIREMENTS AS SPECIFIED BY THE ELICOTT FIRE PROTECTION DISTRICT.

SIGNED: _____ DATE: _____
 ELICOTT FIRE PROTECTION DISTRICT

WATER INSTALLATION CORROSION CONTROL REQUIREMENTS
 NONE REQUIRED

ALL FIRE HYDRANTS AND FUTURE SERVICE STUBS HAVE BEEN LOCATED BY THE DEVELOPER OR HIS ENGINEER. ANY REQUIRED REALIGNMENT, EITHER HORIZONTAL OR VERTICAL, SHALL BE AT THE EXPENSE OF THE DEVELOPER. ALSO, ANY STUBS AND APPURTENANCES NOT USED AS PROVIDED SHALL BE REMOVED AND REPLACED WITH AN ACCEPTABLE SECTION OF PIPE AT THE EXPENSE OF THE DEVELOPER. THE CONTRACTOR IS REQUIRED TO NOTIFY CHEROKEE METROPOLITAN DISTRICT (719-597-5888) TWO (2) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION. IF THIS PROJECT INVOLVES A TAP, DO NOT CALL TO SCHEDULE THE TAP UNTIL THE ENGINEERING INSPECTION NOTIFICATION HAS BEEN MADE.

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB
2. ALL SPOT ELEVATIONS ARE FACE OF CURB AT FLOWLINE
3. ALL BENDS SHALL BE FIELD STANDED PRIOR TO CONSTRUCTION
4. FIRE HYDRANT ASSEMBLY SHALL INCLUDE LATERAL PIPING, GATE VALVE, CONCRETE THRUST REACTION BLOCK AND ANY REQUIRED FITTINGS
5. MAINTAIN TEN (10) FOOT MINIMUM HORIZONTAL DISTANCE BETWEEN WATER MAIN AND SANITARY SEWER MAIN

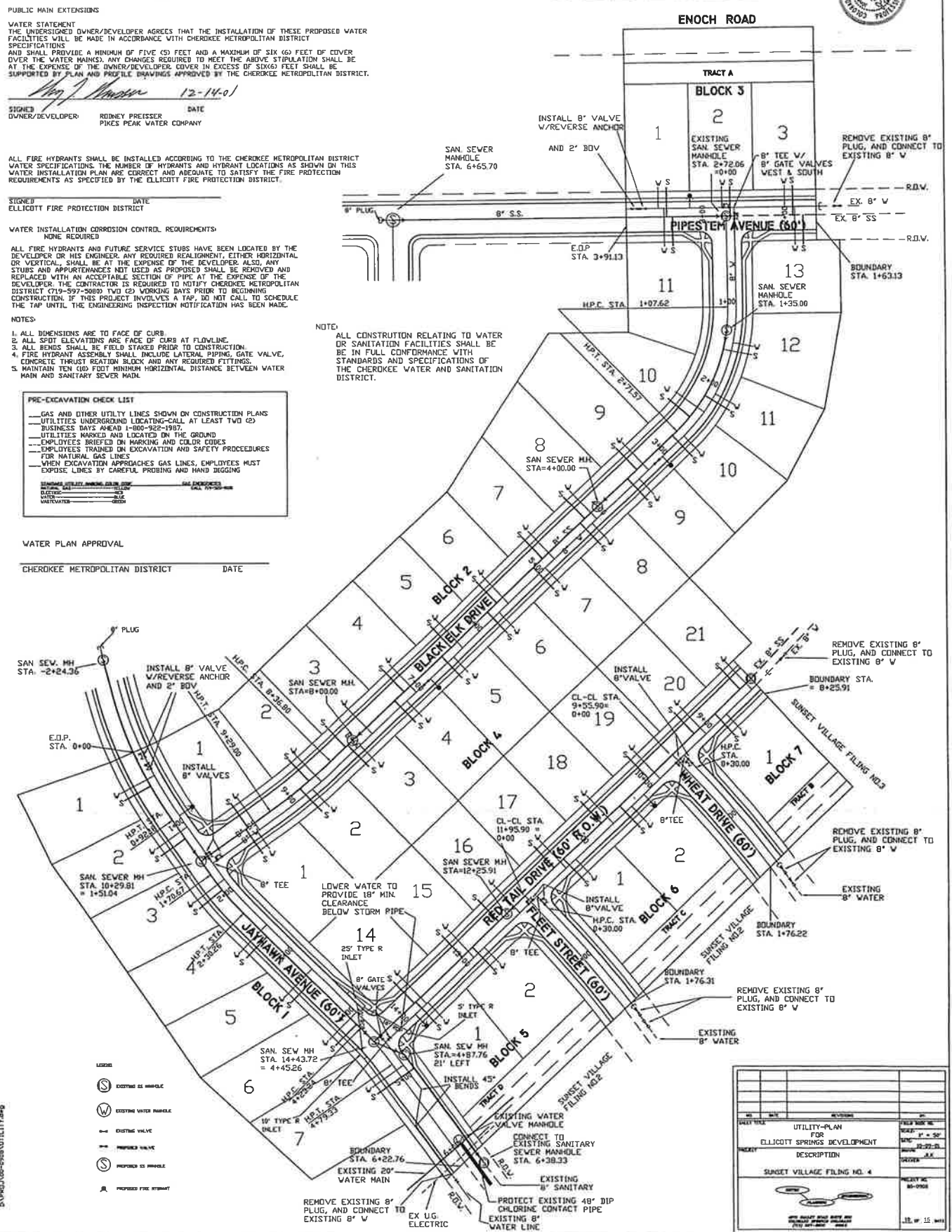
PRE-EXCAVATION CHECK LIST

- GAS AND OTHER UTILITY LINES SHOWN ON CONSTRUCTION PLANS
- UTILITIES UNDERGROUND LOCATING-CALL AT LEAST TWO (2) BUSINESS DAYS AHEAD 1-800-922-1987
- UTILITIES MARKED AND LOCATED ON THE GROUND
- EMPLOYEES BRIEFED ON MARKING AND COLOR CODES
- EMPLOYEES TRAINED ON EXCAVATION AND SAFETY PROCEDURES FOR NATURAL GAS LINES
- WHEN EXCAVATION APPROACHES GAS LINES, EMPLOYEES MUST EXPOSE LINES BY CAREFUL PROBING AND HAND DIGGING

UTILITY	MARKING	DEPTH	DATE	BY
WATER	—	—	—	—
GAS	—	—	—	—
TELEPHONE	—	—	—	—
OTHER	—	—	—	—

WATER PLAN APPROVAL

CHEROKEE METROPOLITAN DISTRICT DATE: _____



LEGEND

- (S) EXISTING SE MANHOLE
- (W) EXISTING WATER MANHOLE
- (V) EXISTING VALVE
- (- - -) PROPOSED VALVE
- (S) PROPOSED SE MANHOLE
- (V) PROPOSED FIRE HYDRANT

NO.	DATE	REVISION	BY
1		UTILITY PLAN FOR ELICOTT SPRINGS DEVELOPMENT	
2		DESCRIPTION	
3		SUNSET VILLAGE FILING NO. 4	

DATE PLOTTED: 12-15-01

EROSION CONTROL NOTES:

1. DISTURBED AREAS, NOT LANDSCAPED WITH APPROVED GROUND COVER, SHALL BE SEEDED WITH NATIVE GRASSES. SEE NOTE ON SHEET 2 FOR SEEDING/FERTILIZER SPECIFICATIONS. THE TOTAL SEEDING COMBINATION SHALL BE CERTIFIED FREE FROM NOXIOUS WEEDS.

2. EROSION CONTROL MEASURES SHALL BE INSPECTED PERIODICALLY AND REPAIRED TO MAINTAIN CONTROL.

3. AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 5 ACRES OR MORE (ONE ACRE OR MORE AFTER JULY 1, 2002), THE OWNER OR OPERATOR OF THE CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY CONTROL 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 & ENVIRONMENT
 WATER QUALITY CONTROL DIVISION
 WQCD-PERMITS
 4300 CHERY CREEK DRIVE SOUTH
 DENVER, COLORADO 80246-1530
 ATTN: PERMITS UNIT

ENGINEER'S STATEMENT

IF SUCH WORK IS PERFORMED IN ACCORDANCE WITH THE DRAINAGE AND EROSION CONTROL PLAN, THE WORK WILL NOT BECOME A HAZARD TO LIFE OR LIMB, ENDANGER PROPERTY OR ADVERSELY AFFECT THE SAFETY, USE OR STABILITY OF A PUBLIC WAY, DRAINAGE CHANNEL OR OTHER PROPERTY.

PREPARED UNDER THE DIRECTION OF:

JOHN P. SCHWAB P.E. NO. 29891

OWNER'S STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE EROSION CONTROL PLAN.

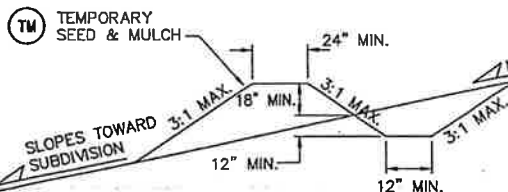
RODNEY PREISSER
 OWNER

DISCLAIMER:

COUNTY PLAN REVIEW 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.

ANTICIPATED PROJECT SCHEDULE:

START DATE: NOVEMBER 2001
 COMPLETION DATE: MARCH 2002
 DATE OF FINAL STABILIZATION: MARCH 2003



STORMWATER DIVERSION DITCH/BERM DETAIL
 NTS



J:\PROJECTS\090006\SUNSET\DWG\DWG.DWG

Remove VTC if not required with the remaining work for Filing 4 and update the financial assurance estimate

Place VTC(s) as needed closer to the entrance to function for all construction vehicles exiting the site.

Checklist items H and M - show both on plans and legend. If "limits of disturbance" and "construction boundary" are the same, can make one linetype for "limits of construction/disturbance" or otherwise show as separate linetypes for each on the legend and figure.

Label all proposed temporary construction BMP's by phase of implementation (initial, interim, final) - via labels in parenthesis next to each BMP in the legend and/or via a table on the plans outline which BMP's are installed at which stage.

CLEAN OUT ALL TRASH AND DEBRIS FROM POND

CONCRETE WASHOUT AREA (CWA)

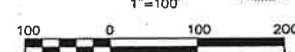
ROCK SOCKS (RS)

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

LEGEND:

- FILING LIMITS
- DRAINAGE BASIN BOUNDARY
- SUB-BASIN BOUNDARY
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED FLOW DIRECTION ARROW
- SILT FENCE
- STRAW BALES
- RIPRAP
- △ DESIGN POINT
- Q₁₀₀ (cfs)
- Q₅ (cfs)
- △ DEVELOPED BASIN DESIGNATION
- △ BASIN AREA (ACRES)
- IP INLET PROTECTION
- SF SILT FENCE
- VTC VEHICLE TRACKING CONTROL
- STB STRAW BALE BARRIER

CDR-21-008
 REVISED: SEPT. 2021



HORIZ. SCALE: 1"=100'	DRAWN: M.P.
VERT. SCALE: N/A	DESIGNED: JPS
SURVEYED: UP&E	CHECKED: JPS
CREATED: 11/16/00	LAST MODIFIED: 10/11/01
PROJECT NO: 090006	MODIFIED BY: JPS
SHEET:	

D1

Detail # and Source

BMP	ECM (Appendix E)	DCM (Vol 2: Chap 3.3)	MHFD (USDCM Vol 3: Chap 2)	COS - Stormwater Construction Manual (App E)	CDOT Standard Plans on M-208
Check Dam	SD_3-62 (sand bags)	CD-1 (rock/straw)	EC-12 (rock only)	X	X (rock only)
Mulching		MU-1	EC-4	X	
Seeding		TS-1	EC-2	X	
Silt Fence		SF-2, SF-3	SC-1	X	X

Not advisable to place this at near the low point of the site within the flow path of runoff --- if the adjacent inlet clogs and overflows, the CWA will be washed out. See MHFD detail MM-1 for recommended placement.

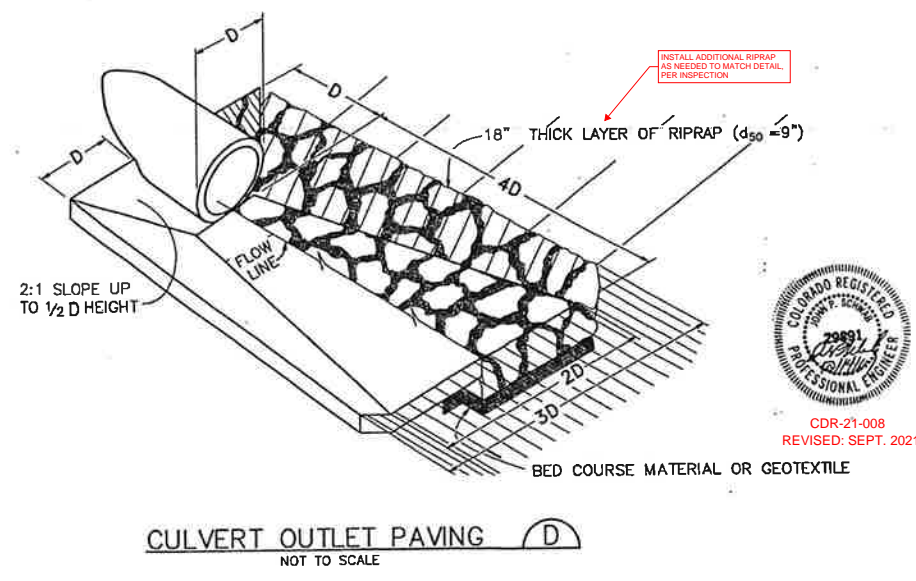
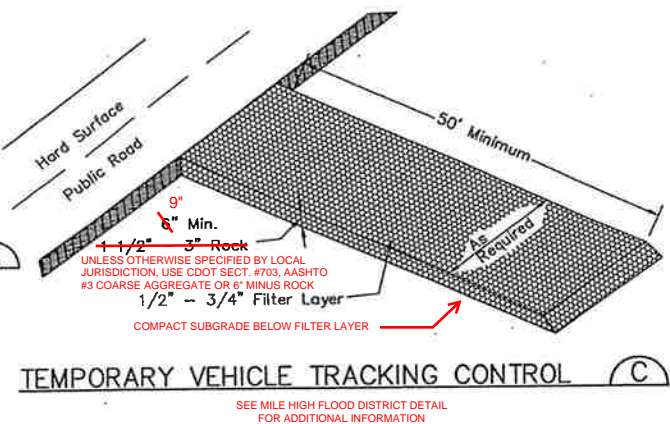
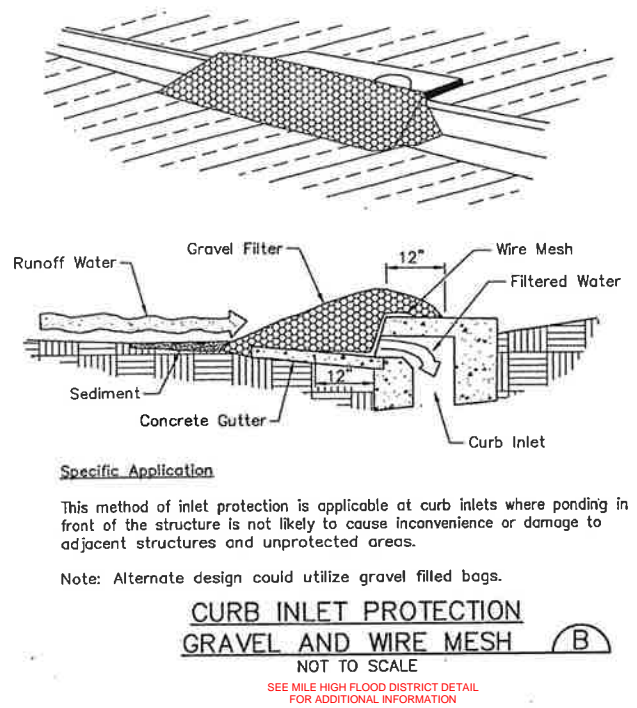
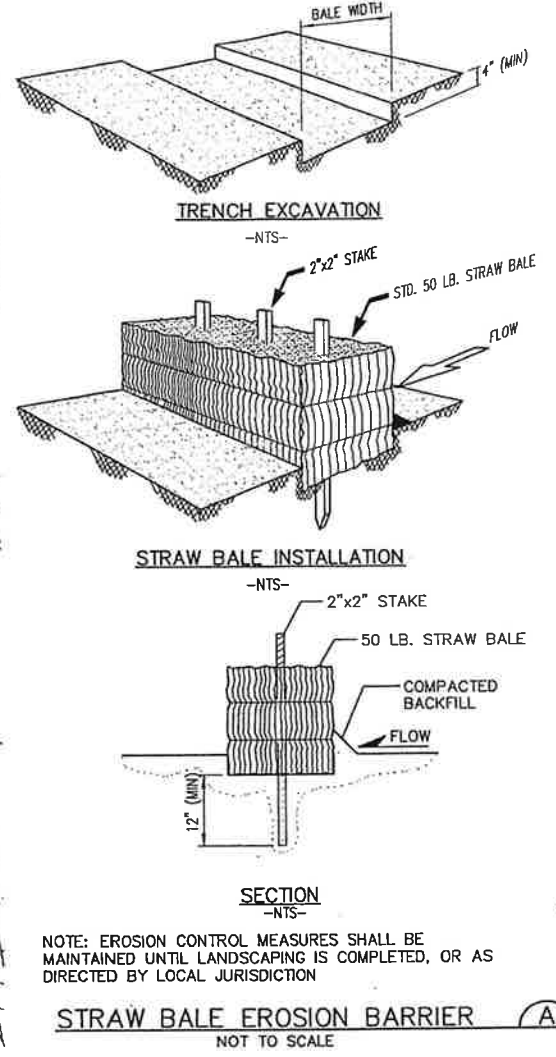
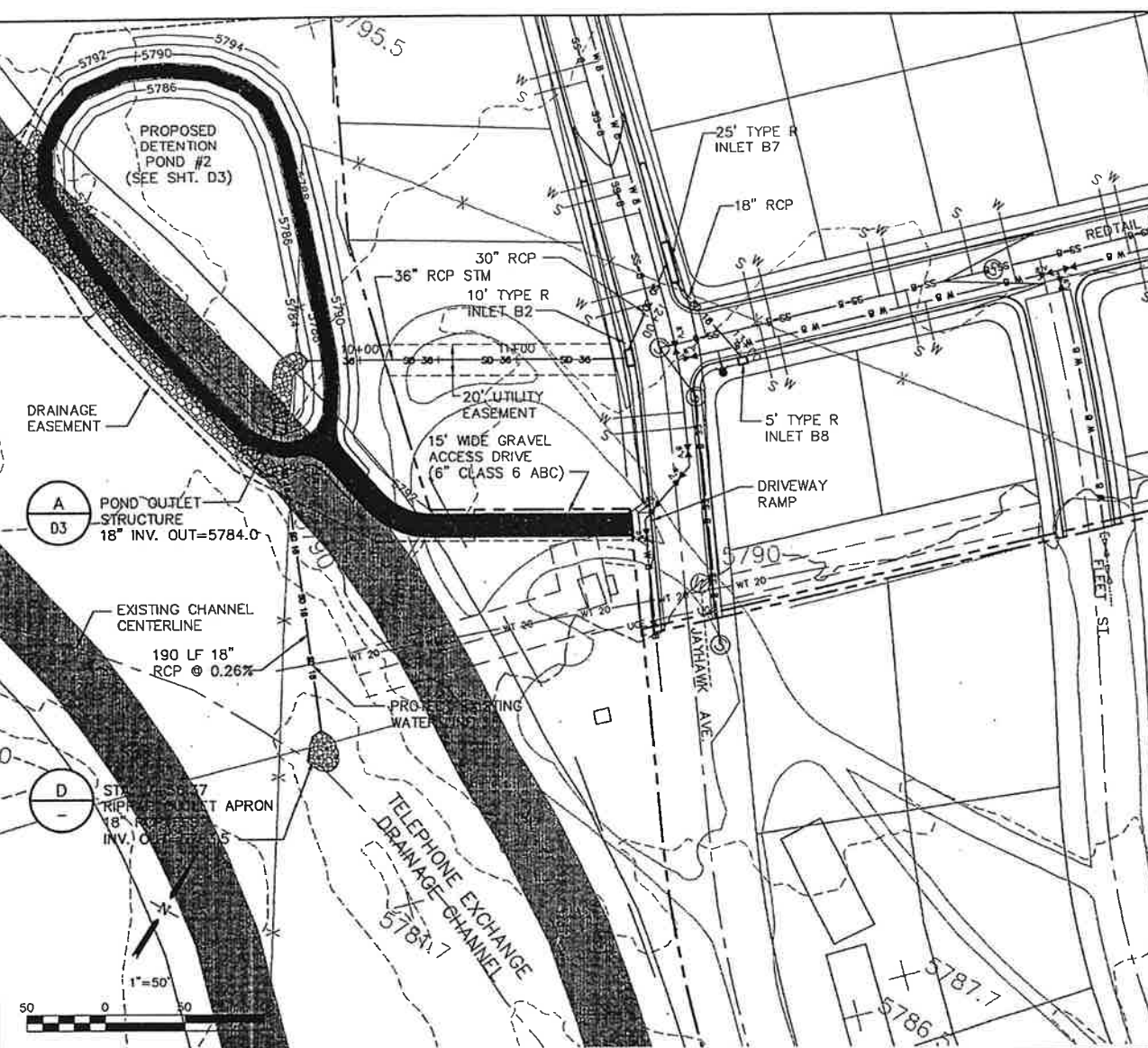
SUNSET VILLAGE - FILING NO. 4

DEVELOPED DRAINAGE & EROSION CONTROL PLAN



518 N. Nevada Ave.
 Suite 303
 Colorado Springs, CO 80903
 PH: 719-477-9429
 FAX: 719-471-0766

DATE	REVISION	BY	DATE	NO.	DESCRIPTION



5800							
5795							
5790							
5785							
5780							
5775							
	7+00	8+00	9+00	10+00	11+00	12+00	13+00

STA. 9+67.00

STORM OUTFALL 24" RCP FES INV. OUT=5784.00

EXIST. GRADE @ PIPE C

10' TYPE R INLET B2 FL=5788.53 INV. IN=5784.49 INV. OUT=5784.59

60 LF 30" RCP @ 0.28%

202 LF 36" RCP @ 0.19%

HGL

DETENTION POND

25' TYPE R INLET B7 FL=5788.50 INV. IN=5784.76 INV. OUT=5784.66

54 LF 18" RCP @ 0.31%

18" MIN. CLEAR

18" MIN. CLEAR

PROP. GRADE @ PIPE C

3" WT CROSSING

3" WT CROSSING

3" WT CROSSING

NOTE: WATER LINES SHALL BE LOWERED AS REQUIRED TO PROVIDE MINIMUM 18" CLEARANCE BELOW STORM SEWER



516 N. Nevada Ave.
Suite 303
Colorado Springs, CO
80903
PH: 719-477-9429
FAX: 719-471-0766

DATE	
SURVEY INFO	
BY DATE No.	
REVISION	
No.	

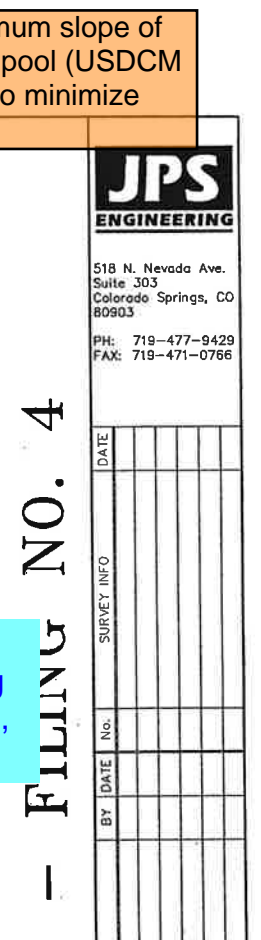
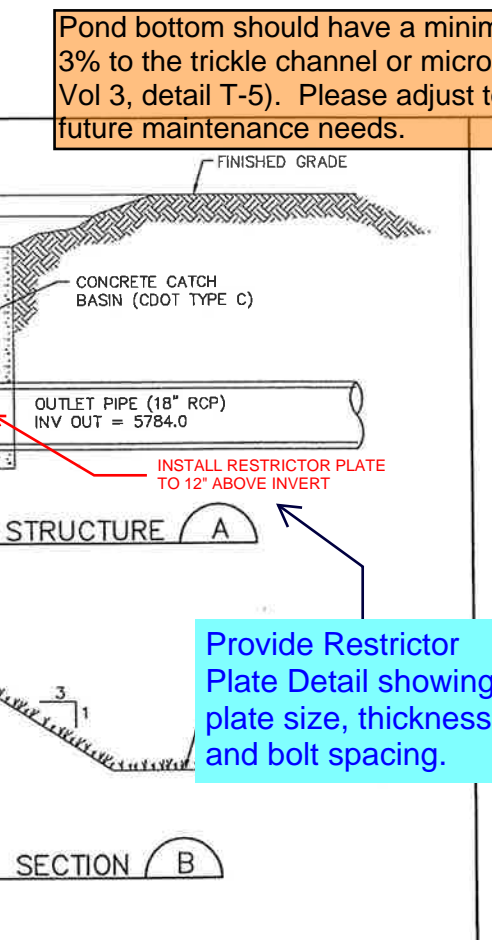
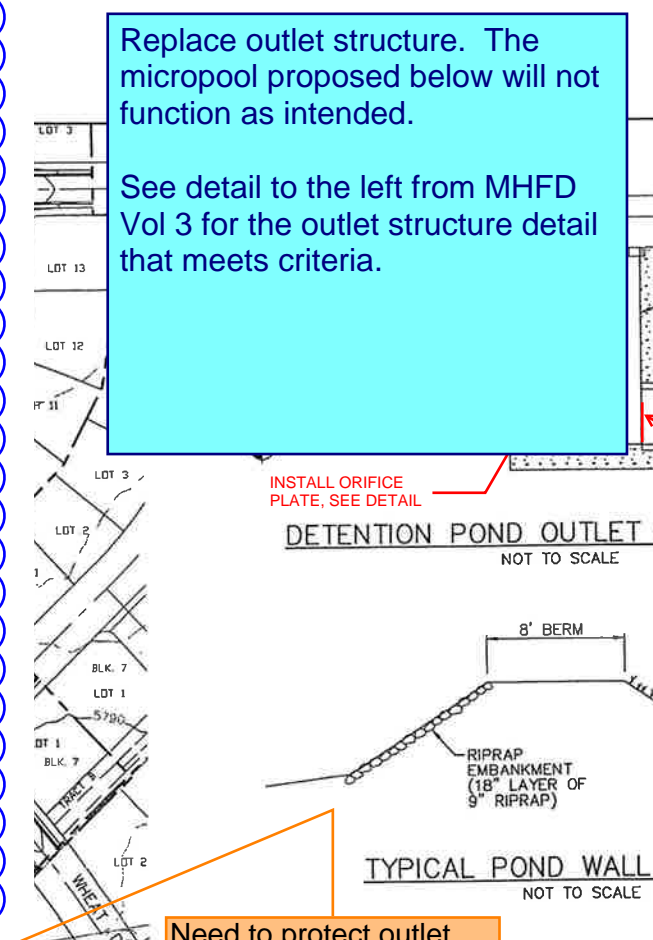
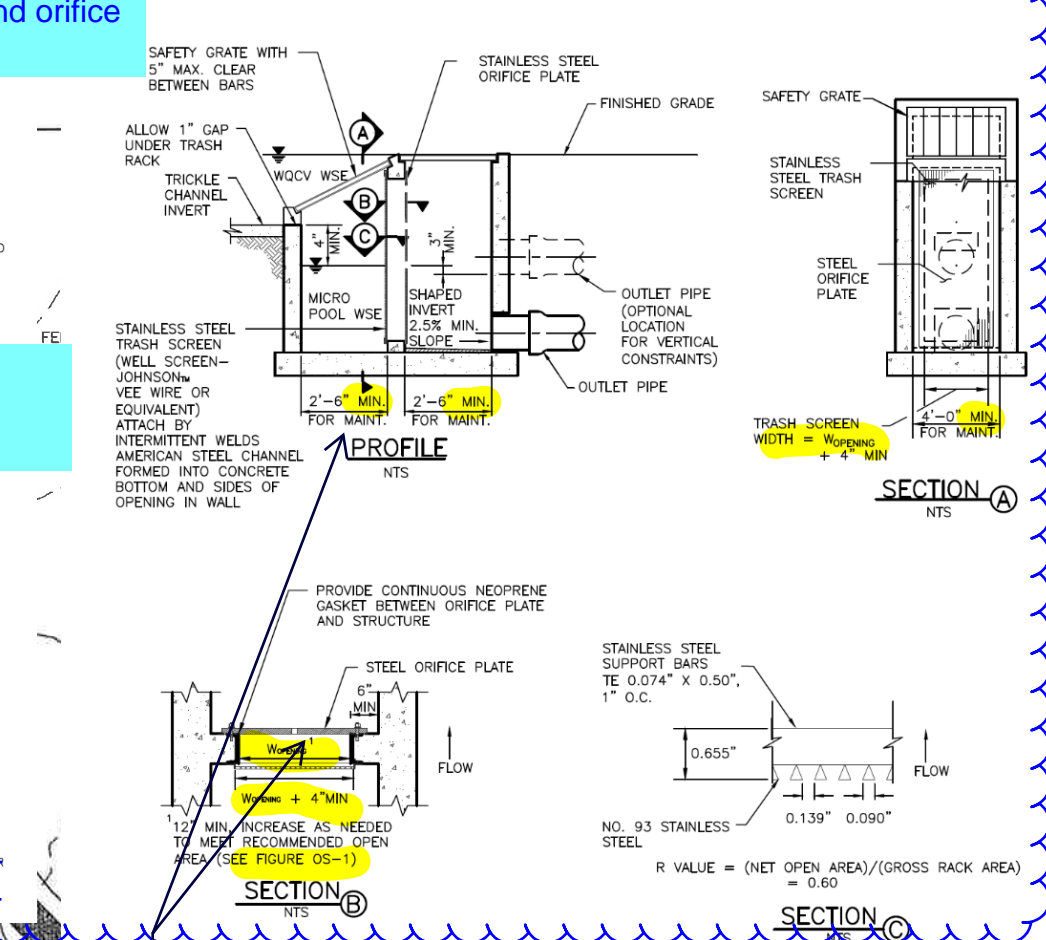
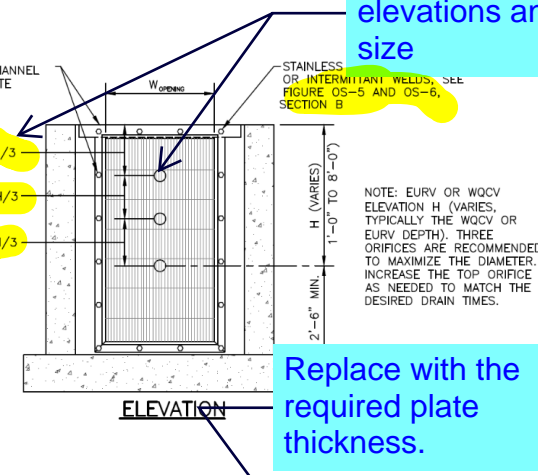
SUNSET VILLAGE - FILING NO. 4

STORM DRAIN PLAN & PROFILE

HORZ. SCALE: 1"=50'	DRAWN: M.P.
VERT. SCALE: 1"=5'	DESIGNED: JPS
SURVEYED: UP&E	CHECKED: JPS
CREATED: 2/28/01	LAST MODIFIED: 10/11/01
PROJECT NO: 090006	MODIFIED BY: JPS
SHEET:	

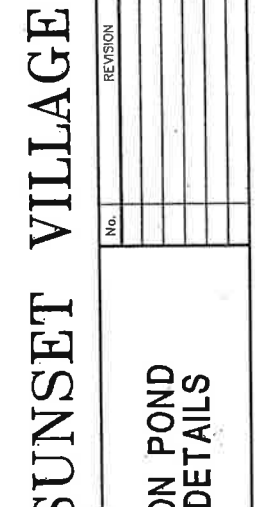
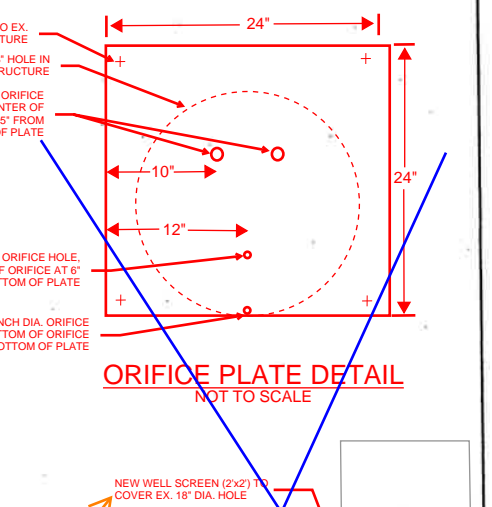
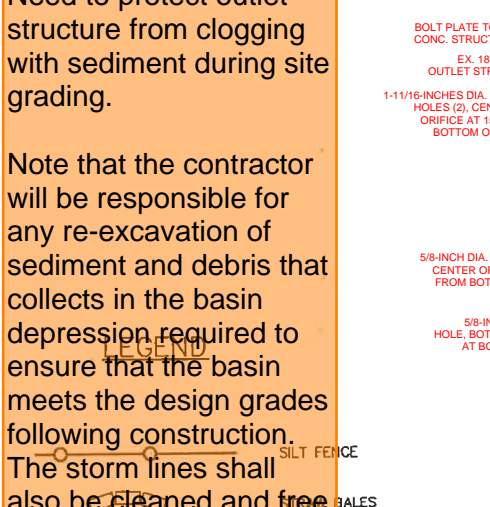
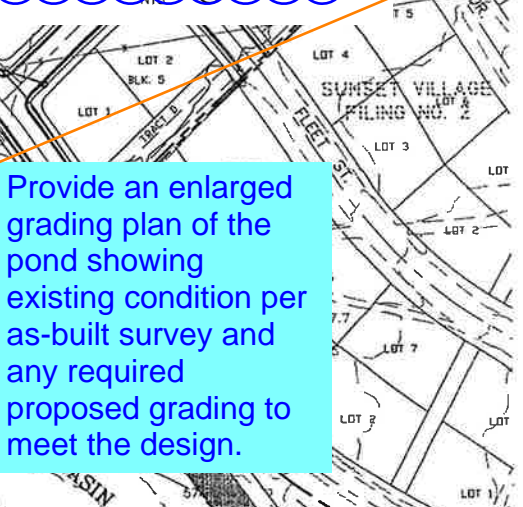
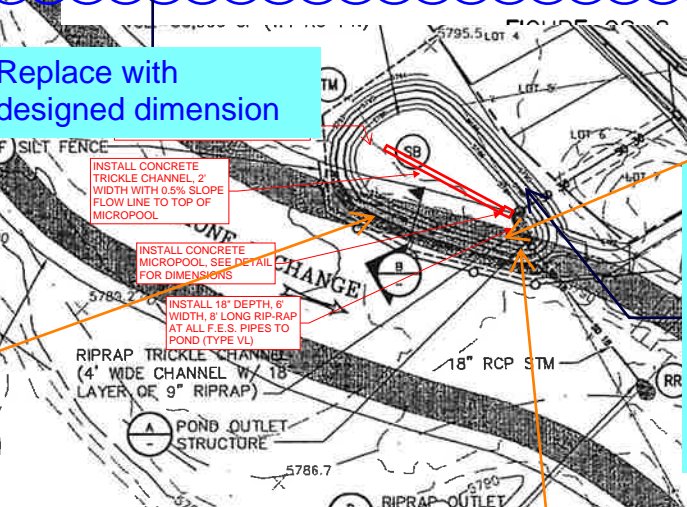
D2





Add the notes above and modify for site specific requirements.

Do not add the notes with strike through. These are notes for the designer to consider and incorporate into the outlet structure design.

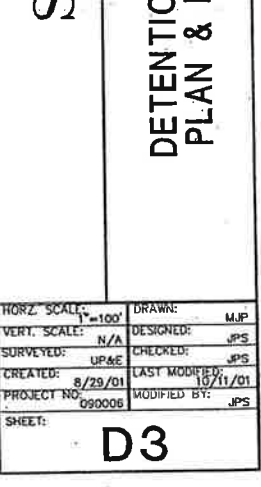
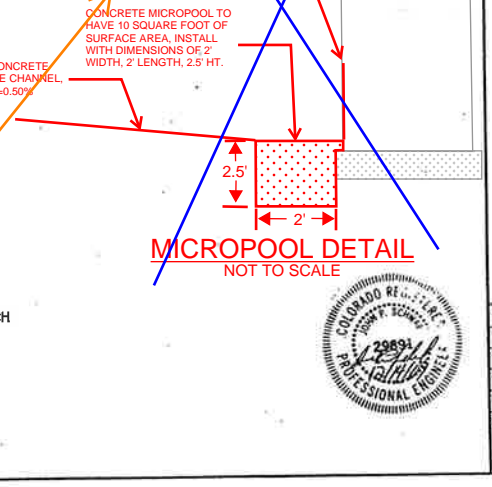
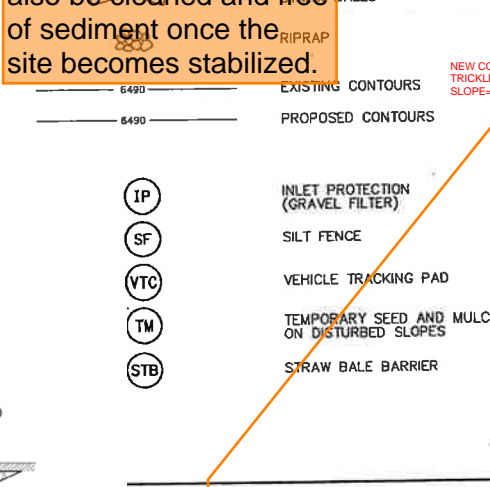
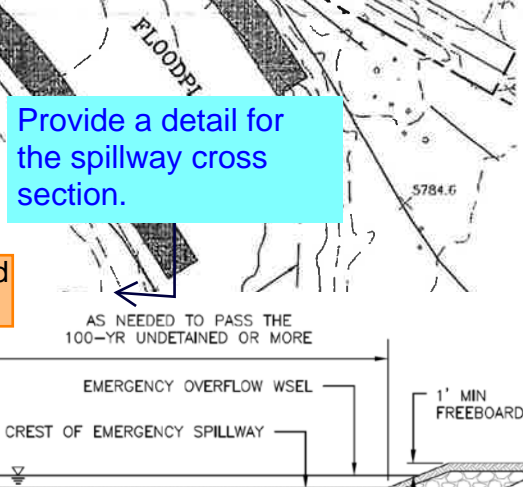
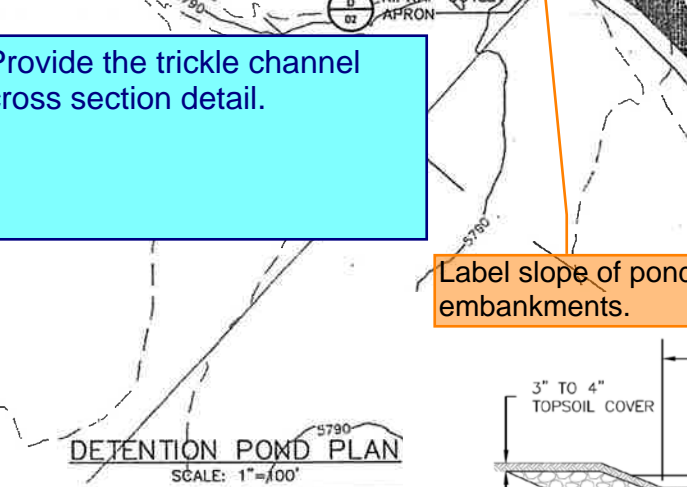


Show a pond maintenance access road from Jayhawk Ave to pond and from top of pond down to bottom of pond.

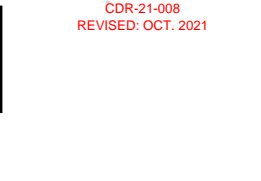
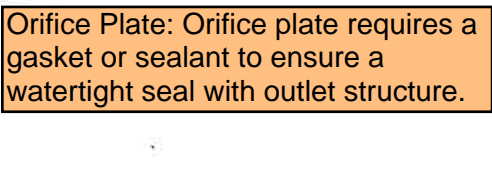
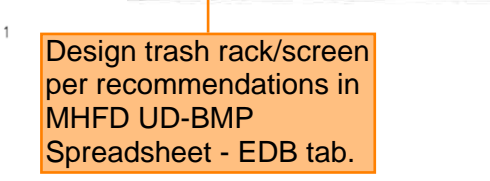
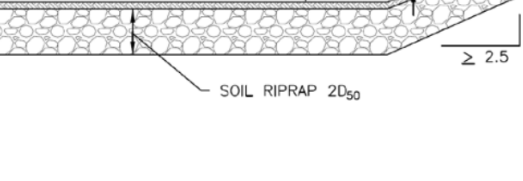
Stabilized access ramp shall be a minimum of 15ft wide and no greater than 12% slope, in accordance with DCMv1, Chap 11.2.2.

Provide roadway detail/cross section, including stone sizing and gradation.

Consider using a base course that will minimize migration of fines when the pond is detaining water.



Scale: 1"=100'



JPS ENGINEERING
518 N. Nevada Ave. Suite 303 Colorado Springs, CO 80903
PH: 719-477-9429 FAX: 719-471-0786

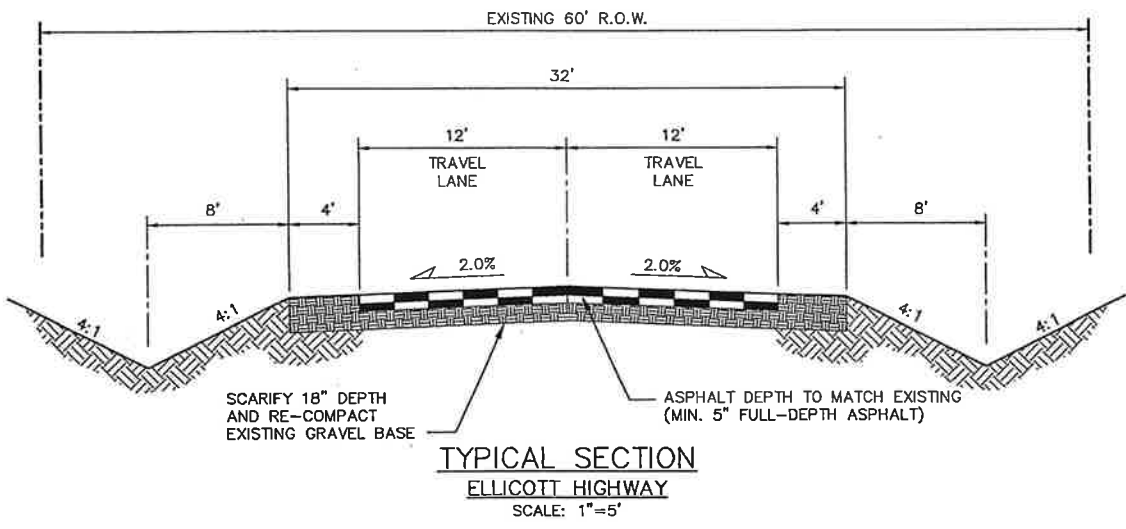
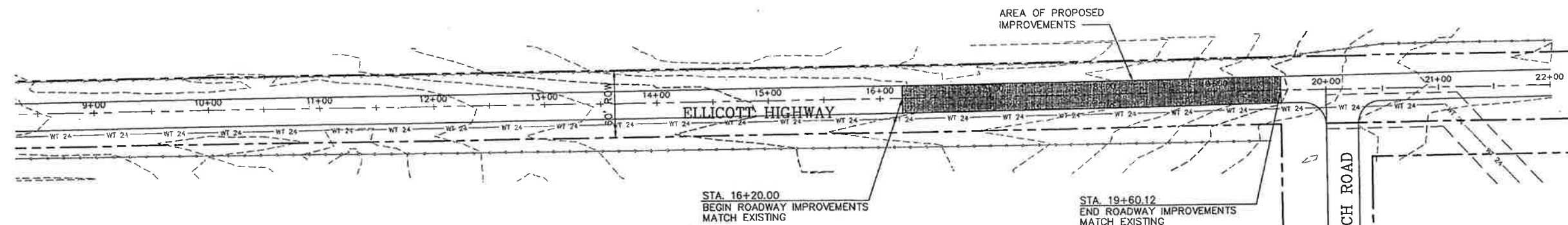
SUNSET VILLAGE - FILING NO. 4

DATE	REVISION	BY	DATE	NO.	REVISION

DETENTION POND PLAN & DETAILS

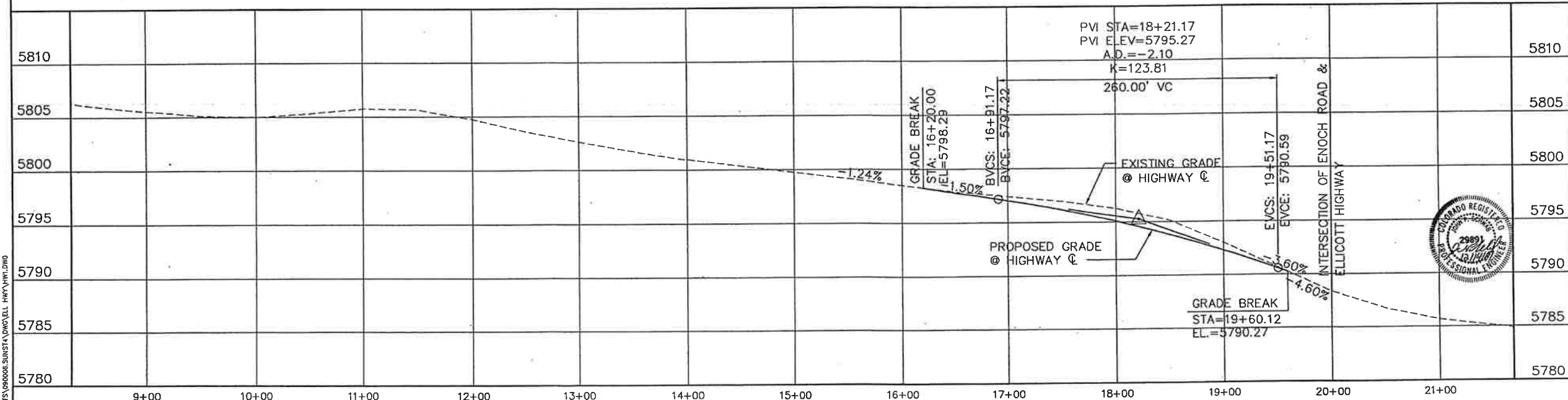
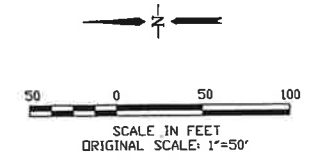
HORIZ. SCALE: 1"=100'
VERT. SCALE: N/A
DESIGNED: JPS
SURVEYED: UPAC
CHECKED: JPS
CREATED: 8/29/01
LAST MODIFIED: 10/11/01
PROJECT NO: 090006
MODIFIED BY: JPS
SHEET: **D3**

CDR-21-008
REVISED: OCT. 2021



GENERAL NOTES

1. CONFORM TO EL PASO COUNTY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
2. THE CONTRACTOR SHALL CONTACT ALL UTILITIES FOR LOCATIONS TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION.
3. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AS A RESULT OF HIS ACTIONS. THE CONTRACTOR SHALL MAKE ALL THE REQUIRED REPAIRS IMMEDIATELY TO THE SATISFACTION OF THE UTILITY.
4. CONTRACTOR SHALL SUBMIT DETAILED TRAFFIC CONTROL PLANS AND OBTAIN PERMITS AS REQUIRED BY EL PASO COUNTY.
5. PROVIDE REQUIRED SIGNING AND TRAFFIC CONTROL DEVICES MEETING MUTCD, CDOT, AND EL PASO COUNTY STANDARDS.
6. CONTRACTOR SHALL FIELD VERIFY GRADES TO ENSURE POSITIVE DRAINAGE TRANSITION TO ADJACENT PAVEMENT.
7. REMOVE & DISPOSE OF EXISTING ASPHALT WITHIN LIMITS OF PROPOSED WORK.
8. ROADSIDE DITCHES SHALL BE RESTORED TO THE ORIGINAL CONDITION. DITCH RESTORATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
9. NEW PAVEMENT ON ELLICOTT HIGHWAY SHALL BE TAPERED INTO EXISTING PAVEMENT WITH FINE MIX ASPHALT.
10. CONTRACTOR SHALL TAKE CORE SAMPLES ON AN UNDISTURBED SECTION OF ELLICOTT HIGHWAY TO DETERMINE EXISTING ASPHALT AND GRAVEL BASE THICKNESS.



ELLICOTT HIGHWAY

NO.	REVISION	BY	DATE

HIGHWAY IMPROVEMENT PLAN

HORIZ. SCALE: 1"=50'	DRAWN: MJP
VERT. SCALE: 1"=5'	DESIGNED: JPS
SURVEYED: UP&E	CHECKED: JPS
CREATED: 7/10/01	LAST MODIFIED: 9/11/01
PROJECT NO: 090006	MODIFIED BY: MJP

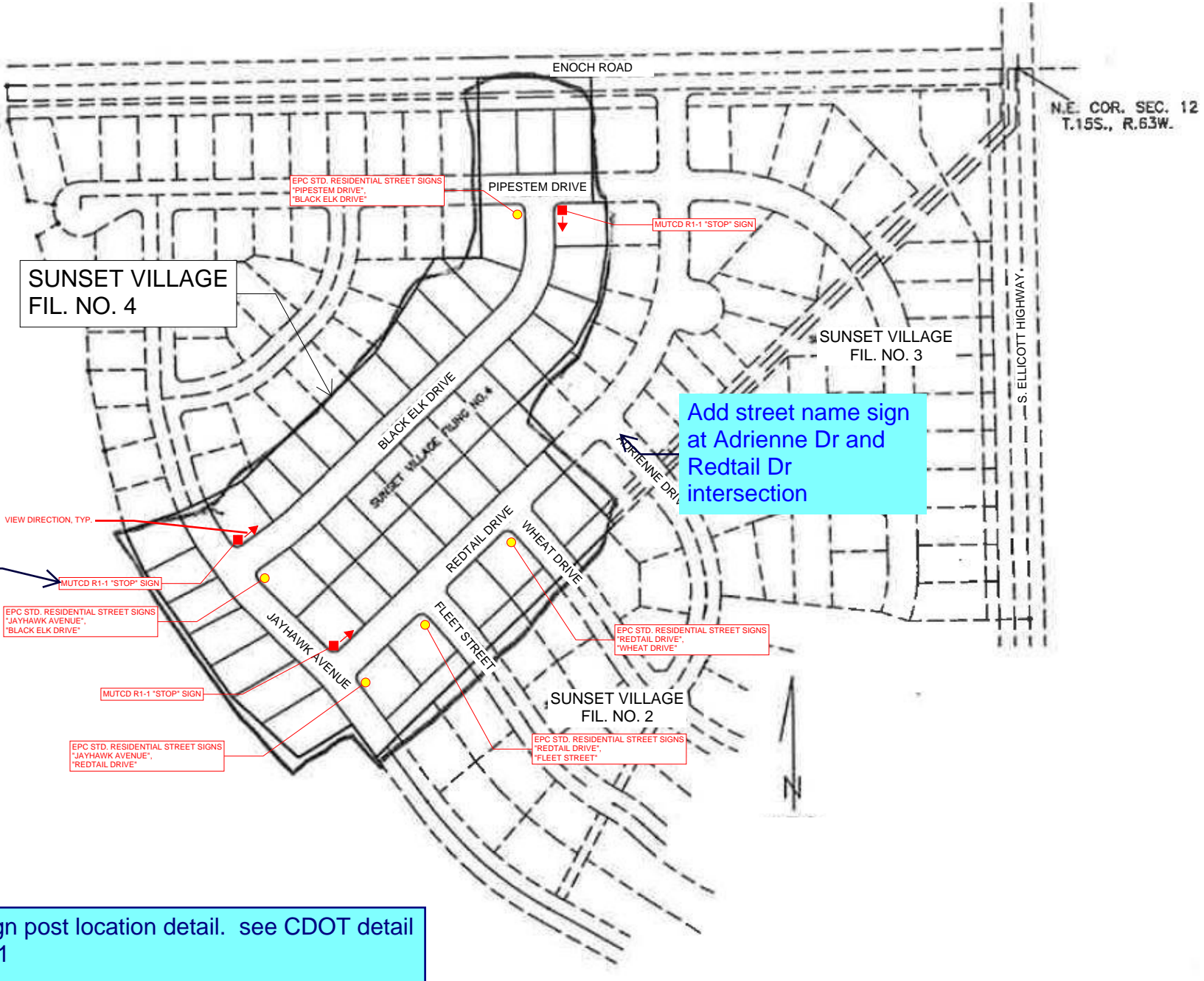
SHEET: **HW1**

J:\PROJECTS\090006\SUBSTA\DWG\EL_HHW1.PLT.DWG

Modify signage striping plan. Per County standard signing and striping note no. 5 "Street name and regulatory stop signs shall be on the same post at intersections.

Identify the size of the stop sign

Add sign post location detail. see CDOT detail S-614-1



Add street name sign at Adrienne Dr and Redtail Dr intersection

PROJECT DESCRIPTION
STRIPING AND SIGNAGE MODIFICATIONS WITHIN SUNSET VILLAGE FILING NO. 4.

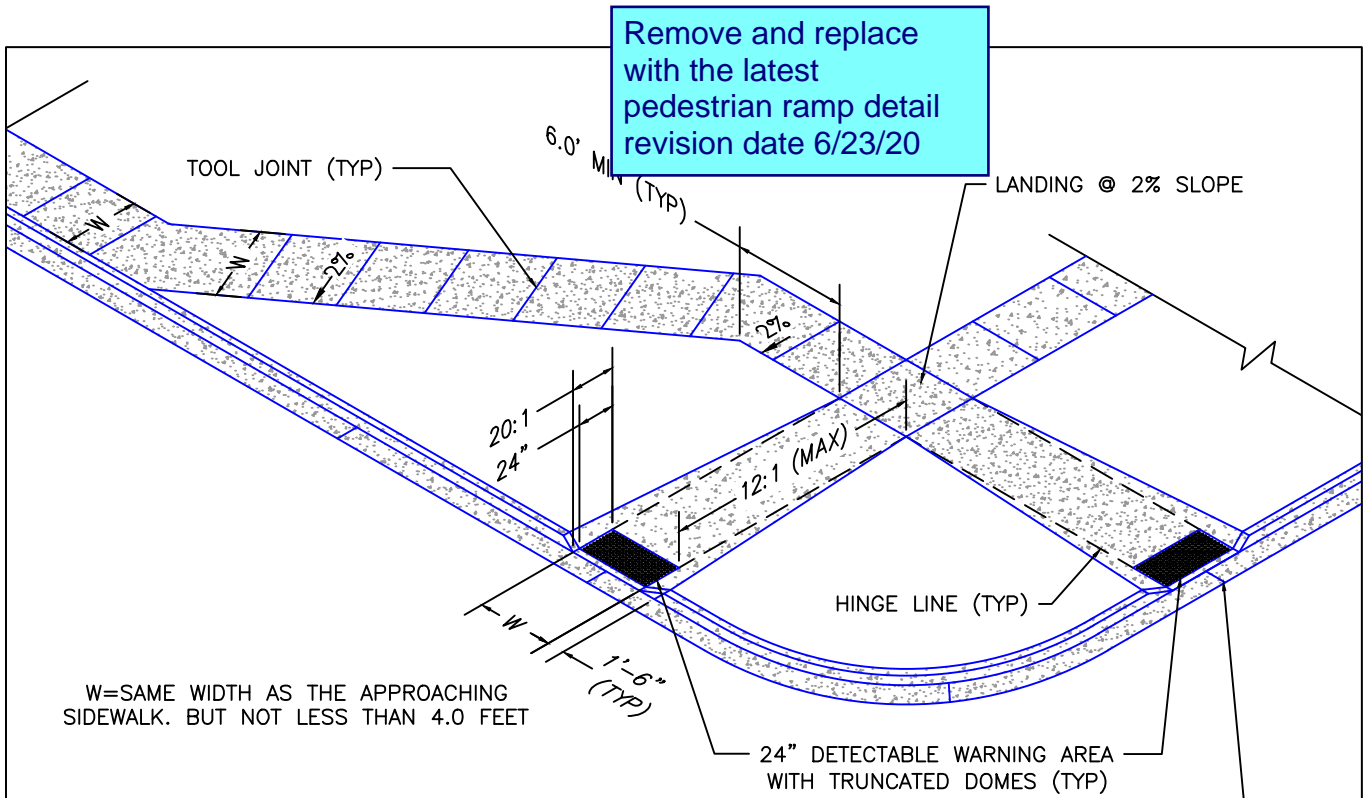
GENERAL NOTES
1. THE CONTRACTOR SHALL HAVE A COPY OF ALL APPLICABLE STANDARDS ON SITE FOR THE DURATION OF THE PROJECT.
2. THE CONTRACTOR SHALL ACQUIRE ALL NECESSARY PERMITS AND INSPECTIONS REQUIRED TO COMPLETE THE SCOPE OF WORK PRESENTED HEREIN.

TRAFFIC CONTROL
1. ALL SIGNAGE AND STRIPING SHALL FOLLOW THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", MUTCD, CURRENT EDITION, AND ALL APPLICABLE CDOT M&S STANDARDS.
2. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY TRAFFIC CONTROL DEVICES NECESSARY THROUGHOUT THE DURATION OF CONSTRUCTION IN CONFORMANCE WITH TRAFFIC CONTROL PLANS AND/OR APPROVED MHT.
3. THE TRAFFIC CONTROL SUPERVISOR SHALL COORDINATE CONSTRUCTION ZONE TRAFFIC CONTROL ACTIVITIES WITH ALL APPROPRIATE OFFICIALS.
4. THE CONTRACTOR SHALL MAINTAIN FULL COMPLIANCE PAVEMENT MARKINGS OR APPROVED DECISIONS ON THE ROADWAYS DURING ALL PHASES OF THE CONSTRUCTION PERIOD.

SIGNING AND STRIPING NOTES
1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT.
3. 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.
4. STREET NAME AND REGULATORY STOP SIGNS ARE ON SEPARATE POSTS.
5. ANY REMOVED SIGNS OR POSTS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
6. ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE 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".
7. GROUND-MOUNT SIGNS SHALL HAVE RETROFLECTIVE SHEETING BACKGROUND MATERIAL OF TYPE ASTM 4956 TYPE IV.
8. ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75"x1.75" 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.
9. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
10. NO LIMIT/STOP LINES OR CROSSWALK LINES ARE PROPOSED FOR THIS PLAN.
11. THE CONTRACTOR SHALL NOTIFY EL PASO PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT (PCD), 719-520-6819, PRIOR TO AND UPON COMPLETION OF THE SIGNING AND STRIPING.
12. 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.

Add the County standard signing and striping notes. Attached.





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 CONCRETE, M COARSE BRO
4. RAMP LOCAT MAINTAIN THE DETECTABLE GRADES AND
5. DETECTABLE BUT NOT MORE THAN 8" FROM THE FLOWLINE OF THE CURB AT ANY POINT.
6. DETECTABLE WARNING AREA SHALL BE PREFABRICATED, REDDISH INTEGRALLY COLORED, TRUNCATED-DOME, PAVERS. THERMOPLASTIC TRUNCATED DOMES WILL NOT BE ACCEPTED.
7. THE DETECTABLE WARNING AREA SHALL BE 24" IN LENGTH AND THE FULL WIDTH OF THE RAMP.
8. RAMP WIDTH REQUIRED IS SAME AS APPROACHING SIDEWALK; 4' MINIMUM.
9. ALL RAMPS WILL BE PERPENDICULAR TO TRAFFIC WITH THE EXCEPTION OF MID-BLOCK OR TERMINAL RAMPS WHICH MAY BE PARALLEL SUBJECT TO APPROVAL.
10. AVOID PLACING DRAINAGE STRUCTURES, TRAFFIC SIGNAL/SIGNAGE, UTILITIES/JUNCTION BOXES, OR OTHER OBSTRUCTIONS WITHIN PROPOSED RAMP AREAS.

LAYOUT CURB SECTIONS SO THAT AT LEAST ONE TOOL JOINT IS WITHIN RAMP THROAT

Inset the details in a detail sheet. Include the following details:
 SD_2-20 Typical C&G
 SD_2-42 Detectable Warning Surface Details
 SD_2-50 Parallel Pedestrian Curb Ramp

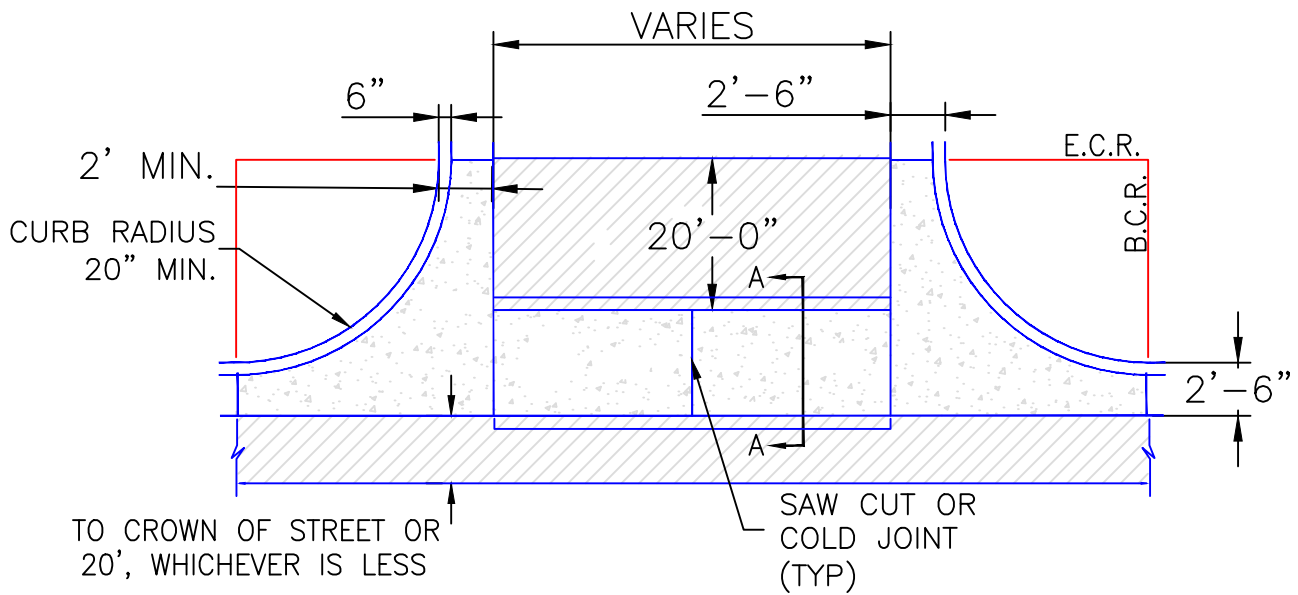
GENERAL NOTES

3. AT MARKED PEDESTRIAN CROSSINGS, THE BOTTOM OF THE RAMPS, EXCLUSIVE OF THE FLARE SIDES, SHALL BE TOTALLY CONTAINED WITHIN THE MARKINGS.
- RED SIDE(S) OF A PERPENDICULAR CURB RAMP WITH A PEDESTRIAN OR HARD SURFACE AREA, SLOPE SHALL NOT EXCEED 10:1.
- AND/OR LOCATION OF EXISTING OR FUTURE PEDESTRIAN CROSSINGS ON OPPOSITE CORNERS SHALL BE REVIEWED BEFORE CONSTRUCTING NEW RAMPS.

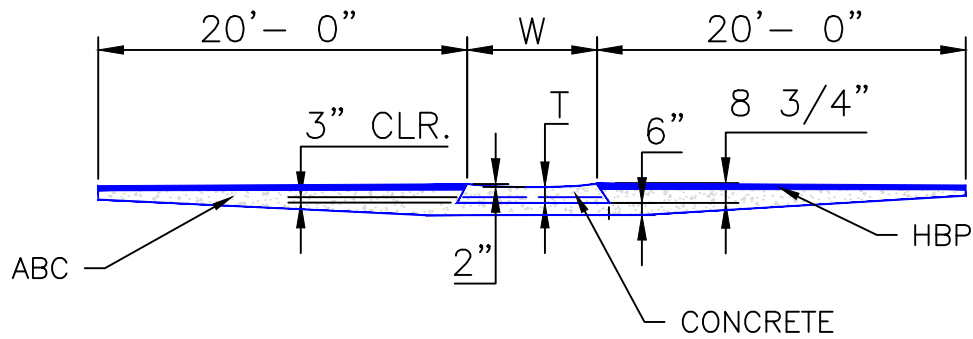
7/9/09
 DATE APPROVED:
 André P. Brackin
 DEPARTMENT OF TRANSPORTATION

Pedestrian Intersection Ramp
 Standard Drawing
 REVISION DATE: 12/8/15
 FILE NAME: SD_2-41





PLAN VIEW



SECTION A-A

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

<p style="text-align: center; font-size: 1.2em;">8/11/11</p> <p>DATE APPROVED:</p> <p style="text-align: center; font-size: 1.1em;">André P. Brackin</p> <p style="font-size: 0.8em;">DEPARTMENT OF TRANSPORTATION</p>	<p style="font-size: 1.2em;">Typical Cross Pan Layout Detail</p> <p style="font-size: 1.1em;">Standard Drawing</p>	
	<p style="font-size: 0.8em;">REVISION DATE:</p> <p style="font-size: 1.1em; text-align: center;">12/8/15</p>	<p style="font-size: 0.8em;">FILE NAME:</p> <p style="font-size: 1.1em; text-align: center;">SD_2-26</p>

Description

Concrete waste management involves designating and properly managing a specific area of the construction site as a concrete washout area. A concrete washout area can be created using one of several approaches designed to receive wash water from washing of tools and concrete mixer chutes, liquid concrete waste from dump trucks, mobile batch mixers, or pump trucks. Three basic approaches are available: excavation of a pit in the ground, use of an above ground storage area, or use of prefabricated haul-away concrete washout containers. Surface discharges of concrete washout water from construction sites are prohibited.



Photograph CWA-1. Example of concrete washout area. Note gravel tracking pad for access and sign.

Appropriate Uses

Concrete washout areas must be designated on all sites that will generate concrete wash water or liquid concrete waste from onsite concrete mixing or concrete delivery.

Because pH is a pollutant of concern for washout activities, when unlined pits are used for concrete washout, the soil must have adequate buffering capacity to result in protection of state groundwater standards; otherwise, a liner/containment must be used. The following management practices are recommended to prevent an impact from unlined pits to groundwater:

- The use of the washout site should be temporary (less than 1 year), and
- The washout site should be not be located in an area where shallow groundwater may be present, such as near natural drainages, springs, or wetlands.

Design and Installation

Concrete washout activities must be conducted in a manner that does not contribute pollutants to surface waters or stormwater runoff. Concrete washout areas may be lined or unlined excavated pits in the ground, commercially manufactured prefabricated washout containers, or aboveground holding areas constructed of berms, sandbags or straw bales with a plastic liner.

Although unlined washout areas may be used, lined pits may be required to protect groundwater under certain conditions.

Do not locate an unlined washout area within 400 feet of any natural drainage pathway or waterbody or within 1,000 feet of any wells or drinking water sources. Even for lined concrete washouts, it is advisable to locate the facility away from waterbodies and drainage paths. If site constraints make these

Concrete Washout Area	
Functions	
Erosion Control	No
Sediment Control	No
Site/Material Management	Yes

setbacks infeasible or if highly permeable soils exist in the area, then the pit must be installed with an impermeable liner (16 mil minimum thickness) or surface storage alternatives using prefabricated concrete washout devices or a lined aboveground storage area should be used.

Design details with notes are provided in Detail CWA-1 for pits and CWA-2 for aboveground storage areas. Pre-fabricated concrete washout container information can be obtained from vendors.

Maintenance and Removal

A key consideration for concrete washout areas is to ensure that adequate signage is in place identifying the location of the washout area. Part of inspecting and maintaining washout areas is ensuring that adequate signage is provided and in good repair and that the washout area is being used, as opposed to washout in non-designated areas of the site.

Remove concrete waste in the washout area, as needed to maintain BMP function (typically when filled to about two-thirds of its capacity). Collect concrete waste and deliver offsite to a designated disposal location.

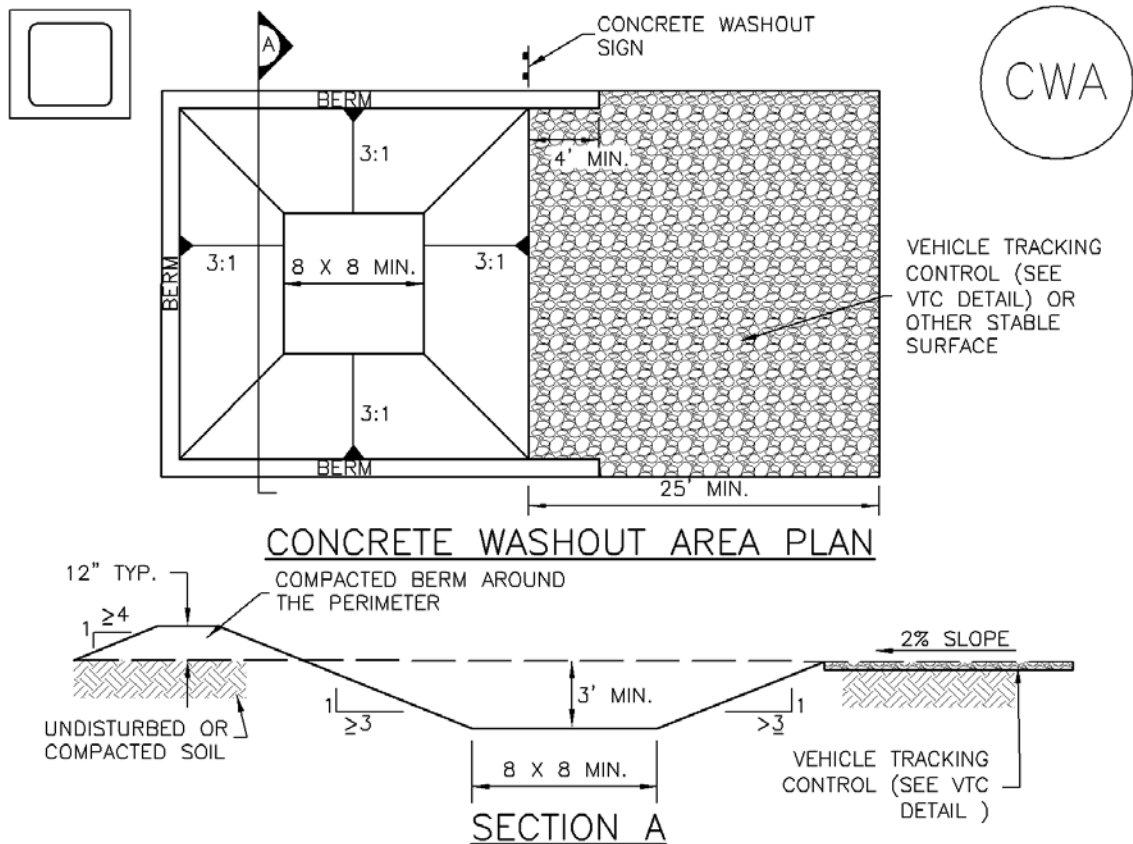
Upon termination of use of the washout site, accumulated solid waste, including concrete waste and any contaminated soils, must be removed from the site to prevent on-site disposal of solid waste. If the wash water is allowed to evaporate and the concrete hardens, it may be recycled.



Photograph CWA-2. Prefabricated concrete washout. Photo courtesy of CDOT.



Photograph CWA-3. Earthen concrete washout. Photo courtesy of CDOT.



CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
-CWA INSTALLATION LOCATION.
2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

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.

Description

Vehicle tracking controls provide stabilized construction site access where vehicles exit the site onto paved public roads. An effective vehicle tracking control helps remove sediment (mud or dirt) from vehicles, reducing tracking onto the paved surface.



Photograph VTC-1. A vehicle tracking control pad constructed with properly sized rock reduces off-site sediment tracking.

Appropriate Uses

Implement a stabilized construction entrance or vehicle tracking control where frequent heavy vehicle traffic exits the construction site onto a paved roadway. An effective vehicle tracking control is particularly important during the following conditions:

- Wet weather periods when mud is easily tracked off site.
- During dry weather periods where dust is a concern.
- When poorly drained, clayey soils are present on site.

Although wheel washes are not required in designs of vehicle tracking controls, they may be needed at particularly muddy sites.

Design and Installation

Construct the vehicle tracking control on a level surface. Where feasible, grade the tracking control towards the construction site to reduce off-site runoff. Place signage, as needed, to direct construction vehicles to the designated exit through the vehicle tracking control. There are several different types of stabilized construction entrances including:

VTC-1. Aggregate Vehicle Tracking Control. This is a coarse-aggregate surfaced pad underlain by a geotextile. This is the most common vehicle tracking control, and when properly maintained can be effective at removing sediment from vehicle tires.

VTC-2. Vehicle Tracking Control with Construction Mat or Turf Reinforcement Mat. This type of control may be appropriate for site access at very small construction sites with low traffic volume over vegetated areas. Although this application does not typically remove sediment from vehicles, it helps protect existing vegetation and provides a stabilized entrance.

Vehicle Tracking Control	
Functions	
Erosion Control	Moderate
Sediment Control	Yes
Site/Material Management	Yes

VTC-3. Stabilized Construction Entrance/Exit with Wheel Wash. This is an aggregate pad, similar to VTC-1, but includes equipment for tire washing. The wheel wash equipment may be as simple as hand-held power washing equipment to more advanced proprietary systems. When a wheel wash is provided, it is important to direct wash water to a sediment trap prior to discharge from the site.

Vehicle tracking controls are sometimes installed in combination with a sediment trap to treat runoff.

Maintenance and Removal

Inspect the area for degradation and replace aggregate or material used for a stabilized entrance/exit as needed. If the area becomes clogged and ponds water, remove and dispose of excess sediment or replace material with a fresh layer of aggregate as necessary.

With aggregate vehicle tracking controls, ensure rock and debris from this area do not enter the public right-of-way.

Remove sediment that is tracked onto the public right of way daily or more frequently as needed. Excess sediment in the roadway indicates that the stabilized construction entrance needs maintenance.

Ensure that drainage ditches at the entrance/exit area remain clear.

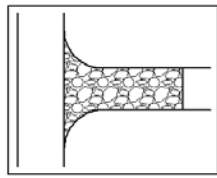
A stabilized entrance should be removed only when there is no longer the potential for vehicle tracking to occur. This is typically after the site has been stabilized.

When wheel wash equipment is used, be sure that the wash water is discharged to a sediment trap prior to discharge. Also inspect channels conveying the water from the wash area to the sediment trap and stabilize areas that may be eroding.

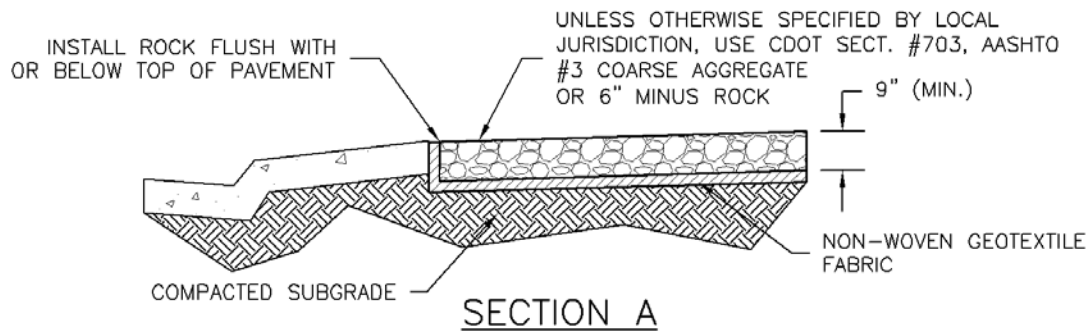
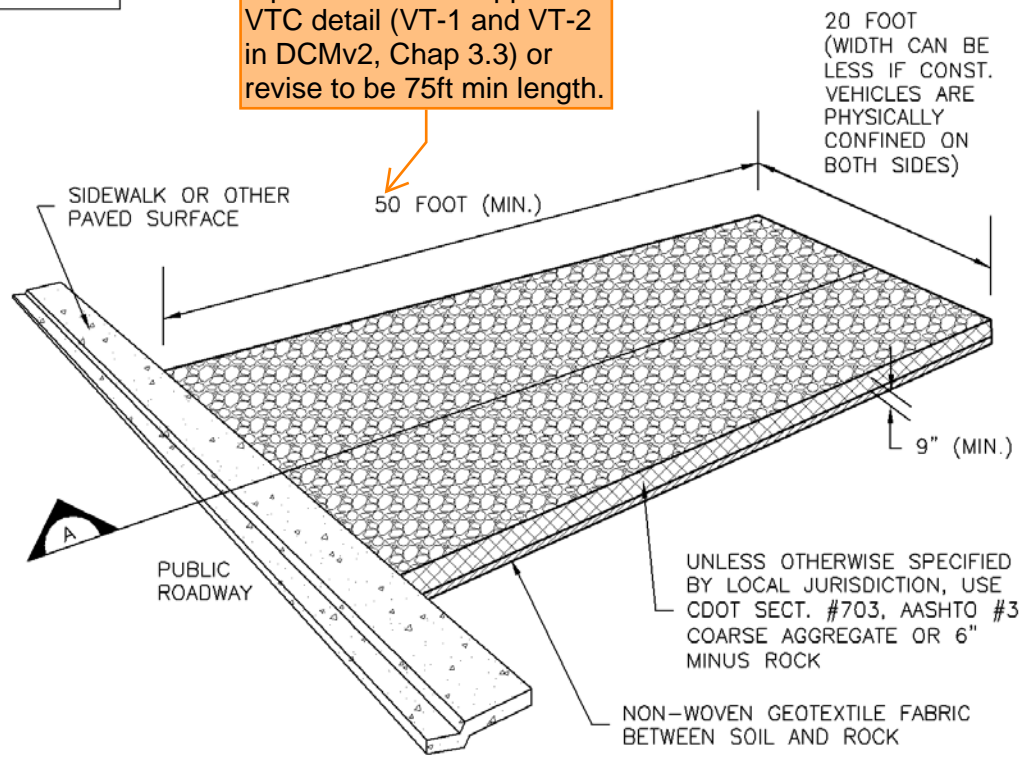
When a construction entrance/exit is removed, excess sediment from the aggregate should be removed and disposed of appropriately. The entrance should be promptly stabilized with a permanent surface following removal, typically by paving.



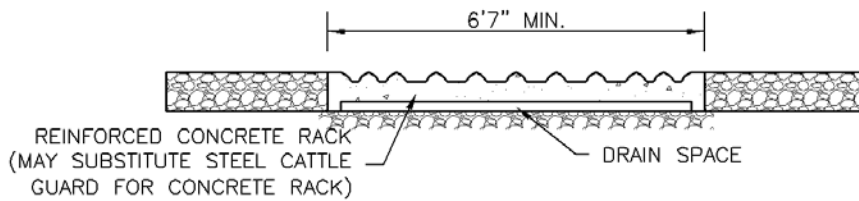
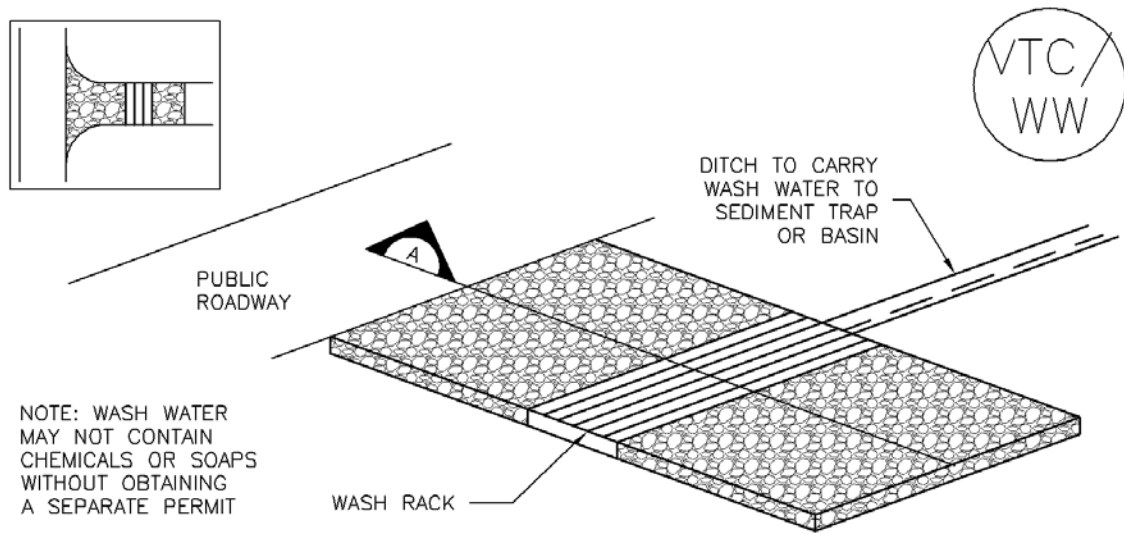
Photograph VTC-2. A vehicle tracking control pad with wheel wash facility. Photo courtesy of Tom Gore.



replace with EPC approved VTC detail (VT-1 and VT-2 in DCMv2, Chap 3.3) or revise to be 75ft min length.

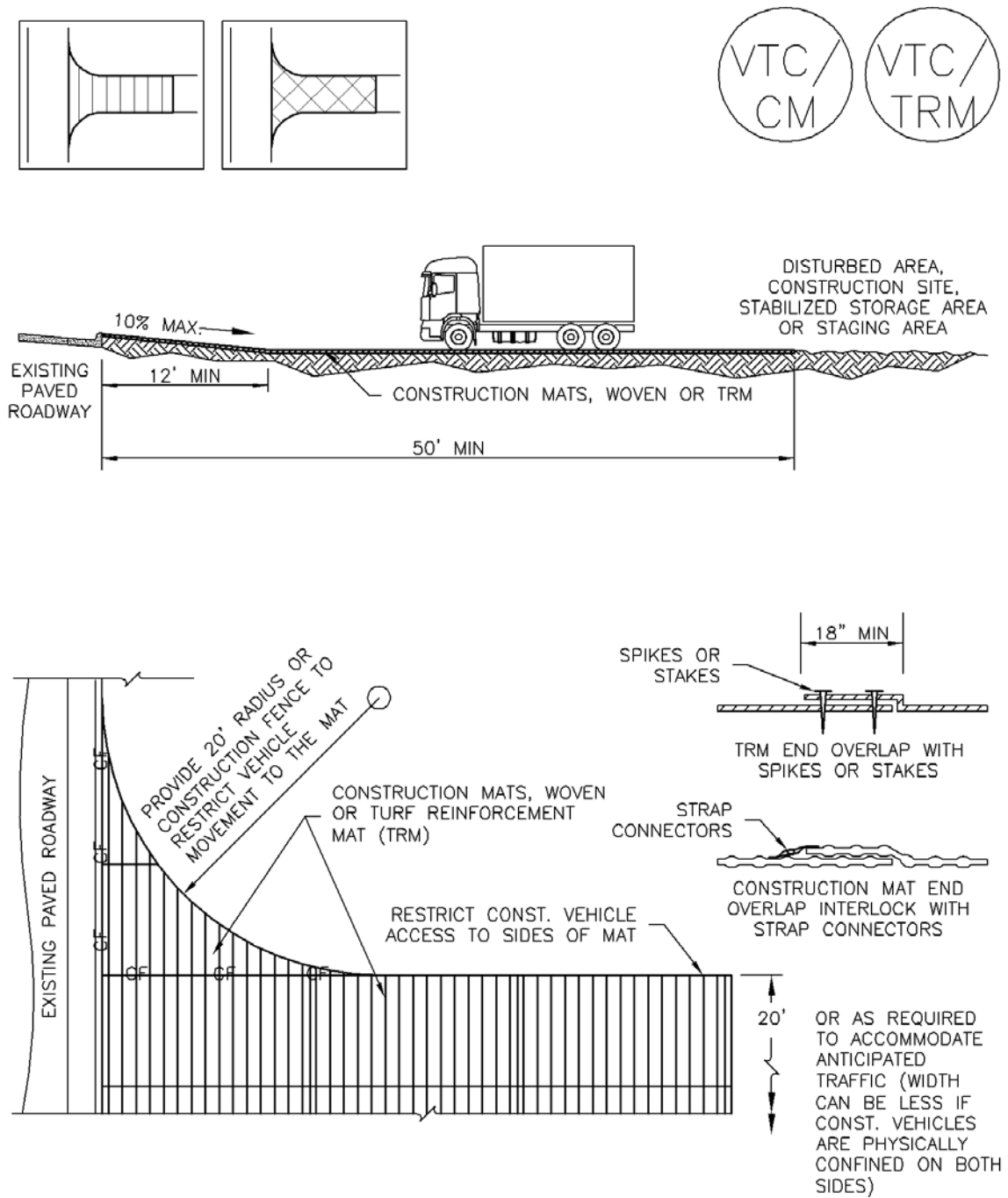


VTC-1. AGGREGATE VEHICLE TRACKING CONTROL



SECTION A

VTC-2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK



VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
 - LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
 - TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

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

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

Description

A rock sock is constructed of gravel that has been wrapped by wire mesh or a geotextile to form an elongated cylindrical filter. Rock socks are typically used either as a perimeter control or as part of inlet protection. When placed at angles in the curb line, rock socks are typically referred to as curb socks. Rock socks are intended to trap sediment from stormwater runoff that flows onto roadways as a result of construction activities.



Photograph RS-1. Rock socks placed at regular intervals in a curb line can help reduce sediment loading to storm sewer inlets. Rock socks can also be used as perimeter controls.

Appropriate Uses

Rock socks can be used at the perimeter of a disturbed area to control localized sediment loading. A benefit of rock socks as opposed to other perimeter controls is that they do not have to be trenched or staked into the ground; therefore, they are often used on roadway construction projects where paved surfaces are present.

Use rock socks in inlet protection applications when the construction of a roadway is substantially complete and the roadway has been directly connected to a receiving storm system.

Design and Installation

When rock socks are used as perimeter controls, the maximum recommended tributary drainage area per 100 linear feet of rock socks is approximately 0.25 acres with disturbed slope length of up to 150 feet and a tributary slope gradient no steeper than 3:1. A rock sock design detail and notes are provided in Detail RS-1. Also see the Inlet Protection Fact Sheet for design and installation guidance when rock socks are used for inlet protection and in the curb line.

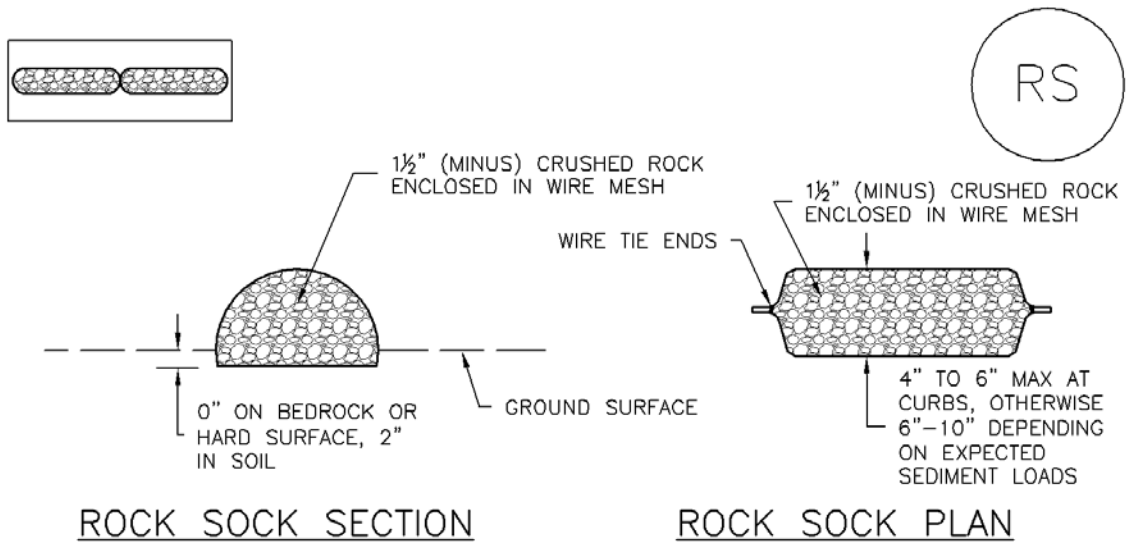
When placed in the gutter adjacent to a curb, rock socks should protrude no more than two feet from the curb in order for traffic to pass safely. If located in a high traffic area, place construction markers to alert drivers and street maintenance workers of their presence.

Maintenance and Removal

Rock socks are susceptible to displacement and breaking due to vehicle traffic. Inspect rock socks for damage and repair or replace as necessary. Remove sediment by sweeping or vacuuming as needed to maintain the functionality of the BMP, typically when sediment has accumulated behind the rock sock to one-half of the sock's height.

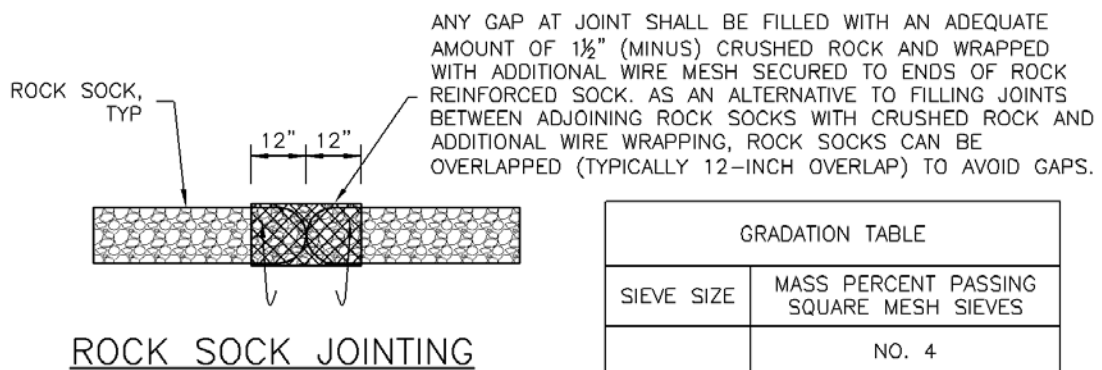
Once upstream stabilization is complete, rock socks and accumulated sediment should be removed and properly disposed.

Rock Sock	
Functions	
Erosion Control	No
Sediment Control	Yes
Site/Material Management	No



ROCK SOCK SECTION

ROCK SOCK PLAN



ROCK SOCK JOINTING

ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12-INCH OVERLAP) TO AVOID GAPS.

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 - 100
1"	20 - 55
¾"	0 - 15
⅜"	0 - 5

MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
-LOCATION(S) OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1½" MINUS).
3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½", RECOMMENDED MINIMUM ROLL WIDTH OF 48"
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.
5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS-1. ROCK SOCK PERIMETER CONTROL

ROCK SOCK MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.
5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY $\frac{1}{2}$ OF THE HEIGHT OF THE ROCK SOCK.
6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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

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

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

Description

Inlet protection consists of permeable barriers installed around an inlet to filter runoff and remove sediment prior to entering a storm drain inlet. Inlet protection can be constructed from rock socks, sediment control logs, silt fence, block and rock socks, or other materials approved by the local jurisdiction. Area inlets can also be protected by over-excavating around the inlet to form a sediment trap.



Photograph IP-1. Inlet protection for a curb opening inlet.

Appropriate Uses

Install protection at storm sewer inlets that are operable during construction. Consider the potential for tracked-out sediment or temporary stockpile areas to contribute sediment to inlets when determining which inlets must be protected. This may include inlets in the general proximity of the construction area, not limited to downgradient inlets. Inlet protection is not a stand-alone BMP and should be used in conjunction with other upgradient BMPs.

Design and Installation

To function effectively, inlet protection measures must be installed to ensure that flows do not bypass the inlet protection and enter the storm drain without treatment. However, designs must also enable the inlet to function without completely blocking flows into the inlet in a manner that causes localized flooding. When selecting the type of inlet protection, consider factors such as type of inlet (e.g., curb or area, sump or on-grade conditions), traffic, anticipated flows, ability to secure the BMP properly, safety and other site-specific conditions. For example, block and rock socks will be better suited to a curb and gutter along a roadway, as opposed to silt fence or sediment control logs, which cannot be properly secured in a curb and gutter setting, but are effective area inlet protection measures.

Several inlet protection designs are provided in the Design Details. Additionally, a variety of proprietary products are available for inlet protection that may be approved for use by local governments. If proprietary products are used, design details and installation procedures from the manufacturer must be followed. Regardless of the type of inlet protection selected, inlet protection is most effective when combined with other BMPs such as curb socks and check dams. Inlet protection is often the last barrier before runoff enters the storm sewer or receiving water.

Design details with notes are provided for these forms of inlet protection:

- IP-1. Block and Rock Sock Inlet Protection for Sump or On-grade Inlets
- IP-2. Curb (Rock) Socks Upstream of Inlet Protection, On-grade Inlets

Inlet Protection (various forms)	
Functions	
Erosion Control	No
Sediment Control	Yes
Site/Material Management	No

IP-3. Rock Sock Inlet Protection for Sump/Area Inlet

IP-4. Silt Fence Inlet Protection for Sump/Area Inlet

IP-5. Over-excavation Inlet Protection

IP-6. Straw Bale Inlet Protection for Sump/Area Inlet

CIP-1. Culvert Inlet Protection

Proprietary inlet protection devices should be installed in accordance with manufacturer specifications.

More information is provided below on selecting inlet protection for sump and on-grade locations.

Inlets Located in a Sump

When applying inlet protection in sump conditions, it is important that the inlet continue to function during larger runoff events. For curb inlets, the maximum height of the protective barrier should be lower than the top of the curb opening to allow overflow into the inlet during larger storms without excessive localized flooding. If the inlet protection height is greater than the curb elevation, particularly if the filter becomes clogged with sediment, runoff will not enter the inlet and may bypass it, possibly causing localized flooding, public safety issues, and downstream erosion and damage from bypassed flows.

Area inlets located in a sump setting can be protected through the use of silt fence, concrete block and rock socks (on paved surfaces), sediment control logs/straw wattles embedded in the adjacent soil and stacked around the area inlet (on pervious surfaces), over-excavation around the inlet, and proprietary products providing equivalent functions.

Inlets Located on a Slope

For curb and gutter inlets on paved sloping streets, block and rock sock inlet protection is recommended in conjunction with curb socks in the gutter leading to the inlet. For inlets located along unpaved roads, also see the Check Dam Fact Sheet.

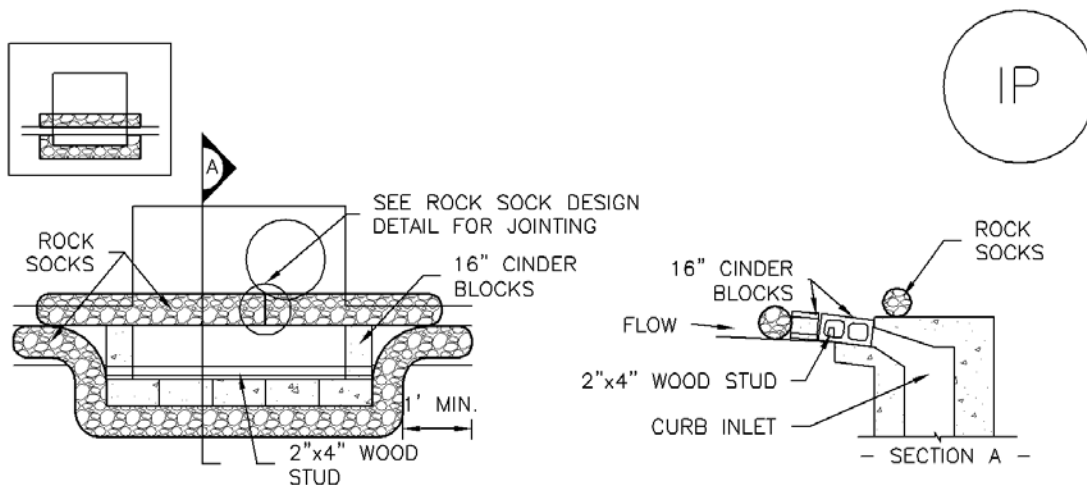
Maintenance and Removal

Inspect inlet protection frequently. Inspection and maintenance guidance includes:

- Inspect for tears that can result in sediment directly entering the inlet, as well as result in the contents of the BMP (e.g., gravel) washing into the inlet.
- Check for improper installation resulting in untreated flows bypassing the BMP and directly entering the inlet or bypassing to an unprotected downstream inlet. For example, silt fence that has not been properly trenched around the inlet can result in flows under the silt fence and directly into the inlet.
- Look for displaced BMPs that are no longer protecting the inlet. Displacement may occur following larger storm events that wash away or reposition the inlet protection. Traffic or equipment may also crush or displace the BMP.
- Monitor sediment accumulation upgradient of the inlet protection.

- Remove sediment accumulation from the area upstream of the inlet protection, as needed to maintain BMP effectiveness, typically when it reaches no more than half the storage capacity of the inlet protection. For silt fence, remove sediment when it accumulates to a depth of no more than 6 inches. Remove sediment accumulation from the area upstream of the inlet protection as needed to maintain the functionality of the BMP.
- Proprietary inlet protection devices should be inspected and maintained in accordance with manufacturer specifications. If proprietary inlet insert devices are used, sediment should be removed in a timely manner to prevent devices from breaking and spilling sediment into the storm drain.

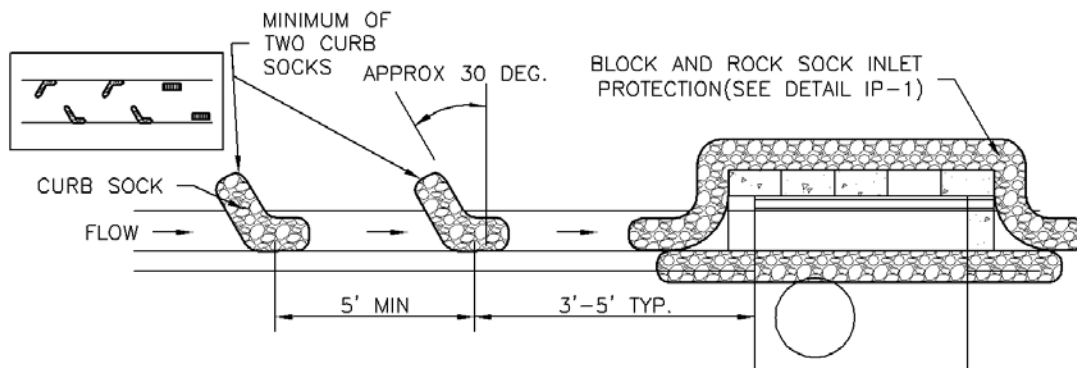
Inlet protection must be removed and properly disposed of when the drainage area for the inlet has reached final stabilization.



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

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

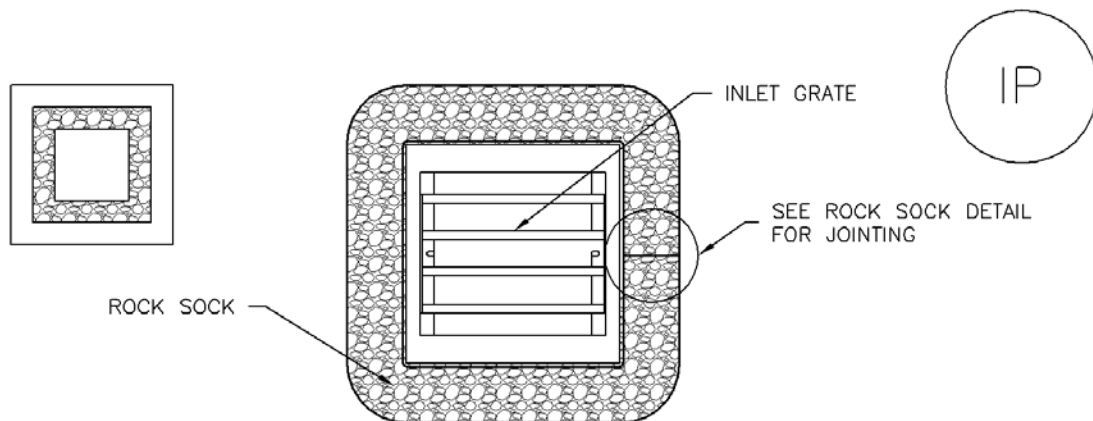
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

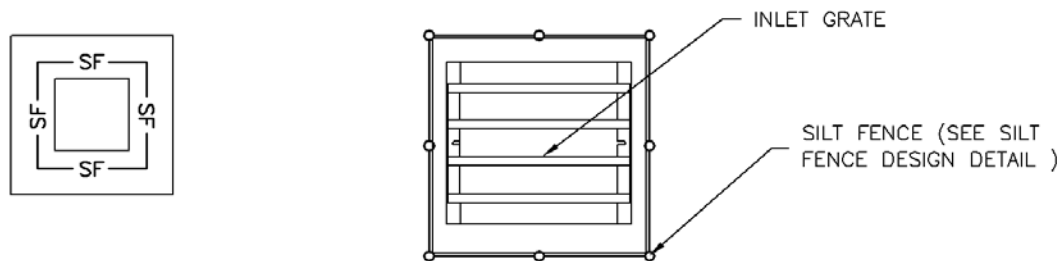
1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.



IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

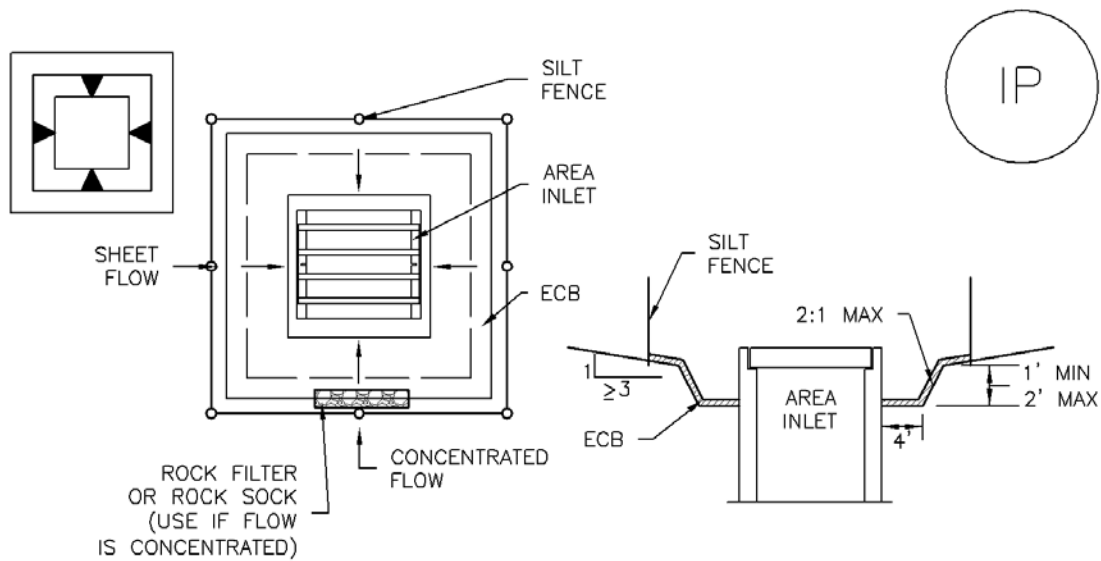
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

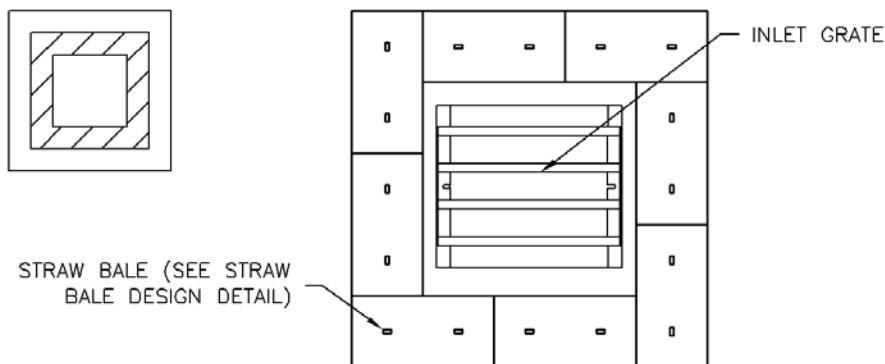
1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL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



IP-5. OVEREXCAVATION INLET PROTECTION

OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES

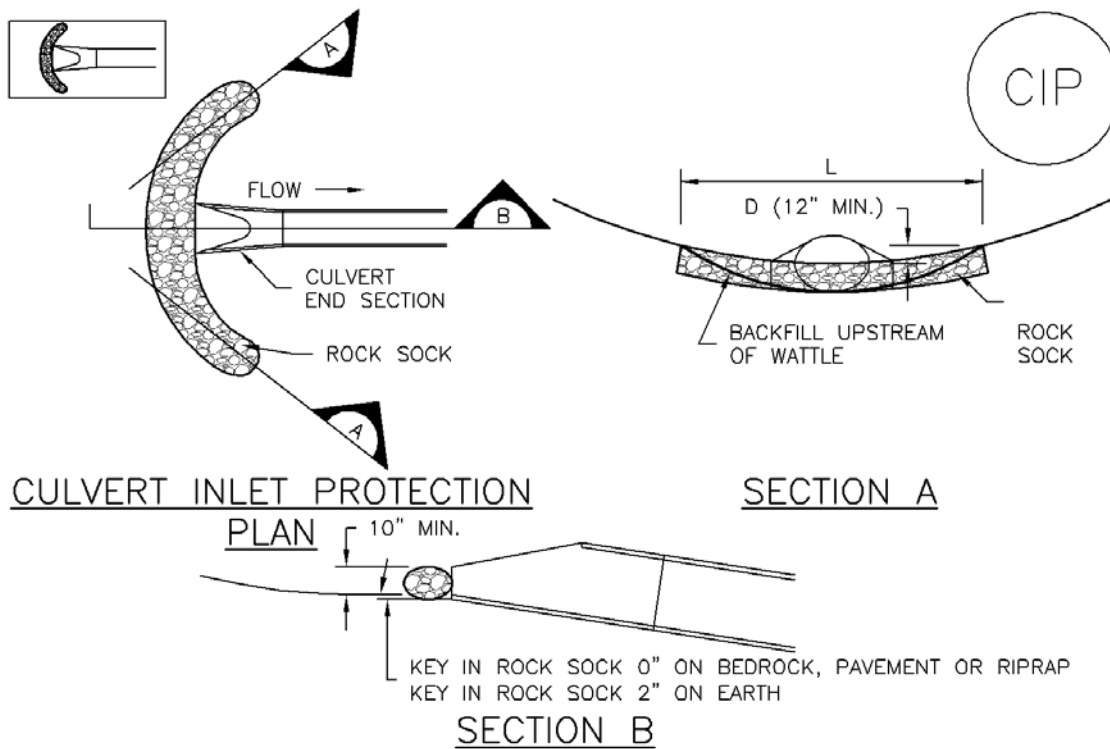
1. THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY SMALL CONTRIBUTING DRAINAGE AREA.
2. WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.
3. SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.



IP-6. STRAW BALE FOR SUMP INLET PROTECTION

STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES

1. SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALES TIGHTLY ABUTTING ONE ANOTHER.



CIP-1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR
-LOCATION OF CULVERT INLET PROTECTION.
2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT 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 THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS $\frac{1}{2}$ THE HEIGHT OF THE ROCK SOCK.
5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

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GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF INLET PROTECTION.
 - TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.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.

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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.