# STERLING RANCH FILING NO. 2

COUNTY OF EL PASO. STATE OF COLORADO

# STREET IMPROVEMENT PLANS

INCLUDING STORM SEWER, SIGNING & STRIPING FEBRUARY 2018

#### **AGENCIES**

OWNER /DEVELOPER

SR LAND, LLC 20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 471-1742

CIVIL ENGINEER:

M & S CIVIL CONSULTANTS, INC. 20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ P.E. (719) 955-5485

COUNTY ENGINEERING:

AND COMMUNITY DEVELOPMENT
2880 INTERNATIONAL CIRCLE, SUITE 110
COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520-6300

TRAFFIC ENGINEERING:

EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE, P.E. (719) 520-6460

WATER RESOURCES:

STERLING RANCH METRO DISTRICT ENGINEERS JDS-HYDRO CONSULTANTS
545 E. PIKES PEAK AVE., SUITE 300
COLORADO SPRINGS, CO 80903
JOHN MCGINN (719) 668-8769

FIRE DISTRICT:

BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908

CHIEF BRYAN JACK (719) 495-4300

GAS DEPARTMENT:

COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668-3556

ELECTRIC DEPARTMENT

MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283

COMMUNICATIONS:

QWEST COMMUNICATIONS (U.N.C.C. LOCATORS) (800) 922-1987 AT&T (LOCATORS) (719) 635-3674

# **BENCHMARKS**

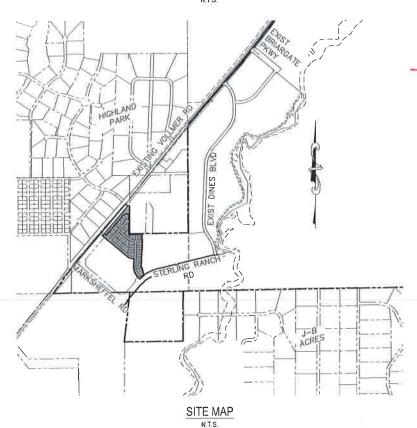
- 1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION NORTHING = 411416.273 EASTING = 235167.071 ELEVATION = 7023.42
- 2. THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHHEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION NORTHING = 41095.404 
  EASTING = 235052.131 
  ELEVATION = 7000.40

3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT

THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDISION NORTHING = 411399,962 EASTING = 233849,817 ELEVATION = 7030.82



N.T.S.



#### APPROVALS:

## ENGINEER'S STATEMENT:

DETAILED IMPROVEMENT PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT: DETAILED IMPROVEMENT PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT:
THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERISION 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 DRAINAGE PLANS AND
SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR DRAINAGE FICHINY(S) IS DESIGNED. JACCEPT RESPONSIBILITY FOR ANY LABILITY
CAUSED BY ANY NEGLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARATION OF THE DETAILED IMPROVEMENT PLANS AND SPECIFICATIONS.

VIRGIL A SANCHEZ, COLORADO P.E. NO. 37160 FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

## OWNER/DEVELOPER STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE DRAINAGE REPORT AND PLAN AND THIS SET OF CONSTRUCTION DOCUMENTS. THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

JAMES F. MORLEY SR LAND, LLC 20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903 (719) 471-1742

#### EL PASO COUNTY:

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

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

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

#### STERLING RANCH METROPOLITAN DISTRICT

THESE DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR STORM DRAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

FOR AND ON BEHALF OF THE STERLING RANCH METRO. DISTRICT

DATE

## BLACK FOREST FIRE PROTECTION DISTRICT:

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

- check name

FOR AND ON BEHALF OF THE BLACK FOREST FIRE PROTECTION DISTRICT

DATE

DATE

DATE

DATE

### SHEET INDEX

TITLE SHEET
NOTES & DETAILS
PLAN & PROFILE — ALZADA DRIVE
PLAN & PROFILE — BEAVERHEAD CIRCLE
PLAN & PROFILE — BYNUM DRIVE
PLAN & PROFILE — BYNUM DRIVE
PLAN & PROFILE — CORDORASS DRIVE
MAIL KIDSK ACCESS & SITE DETAIL
SIGNAGE & STIPPING PLAN
STORM SEWER NOTES AND DETAILS
GENERAL NOTES AND DETAILS

SHEET 8
SIGNAGE & STRIPING PLAN
SHEET 9
STORM SEWER NOTES AND DETAILS
SHEET 10
GENERAL NOTES AND DETAILS
SHEET 11
STORM SEWER PLAN & PROFILE
SHEET 12
STORM SEWER PLAN & PROFILE

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FOR BURNETS LITTLITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

LE: Marg/Const Day/Street & Storm Plans/300.deg
SCALE DATE: 2/28/2018 STREET IN







- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERSREEIND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINATE
- THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- 3. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION
- ALL BACKFILL SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE BOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION.
- ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TGB).
- 6. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K = 1.20.
- ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT WSIBILITY TRIANGLES IS REQUIRED AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAM 18" VERTICAL BY THIS AREA.
- ALL CULVERTS AND STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDPE), REINFORCED CONCRETE PIPE (RCP). ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS, ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERRIED BY OWNERS SECTIONAL ENGINEER TO SUPPORT MINIMUM SO YEAR DESIGN LIFE. CULVERTS MUST COMPORM TO EPC ECM SECTION 3.32.— CULVERTS.
- 9. ASPHALT INICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT THE TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION PRIOR TO CONSTRUCTION

# SIGNING AND STRIPING NOTES:

- 1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
- (MUTCU).

  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 STRIPPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES.
- ALL SICNS 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 MUTCO STANDARDS.

- MEET CURRENT EL PASO COUNTY AND MOTOD STANDARDS.

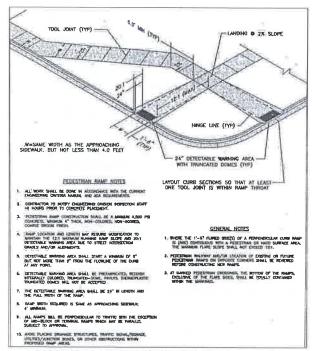
  STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON DIE SAME POST AT INTERSECTIONS.

  ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.

  ALL STREET HAME SIGNS SHALL HAVE 'DI SERVES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON BE BLAIN, AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLAIN, WITH A WHITE BORDER THAT IS NOT RECESSED. MILTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE B" UPPER-LOWER CASE LETTERING ON BE BLAINK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDER THAT IS NOT RECESSED.
- ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
  ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOI OTHER APPLICATIONS, REFER TO THE COOT STANDARD S-614-8 RECARDING USE OF THE P2 TUBELLAR STEEL POST SLIPBASE DESIGN.
- ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
- 10. ALL SIGNS SHALL BE SIGNED SHELL ALUMINON WITH GLOOP MINOMON HICKNESS.

  11. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LICENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PRECORDED. INFRINCIPLES PAVEMENT MARKINGS WITH TAPERED LEADING EGGES PER CORT STATIOARD S—627—1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WOE AND 6" LONG PER CORT S—627—1.

  2. ALL CONGTIGIONAL LINES SHALL BE A MINIMUM TOWN. THICKNESS EPOXY PAINT. ALL NON-LOCAL RESULTION, ROADWAYS SHALL BROLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STREPING AS REQUIRED BY COUT S—627—1.
- THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY DEVELOPMENT SERVICES (719) 529-6819 PRIOR TO AND UPON COMPLETION OF SIGNEYS AND STRIPING.
- 14. THE CONTRACTOR SHALL GETAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY PUBLIC SERVICE DEPARTMENT (PSD) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.



PEDESTRIAN INTERSECTION RAMP (SD 2-41)

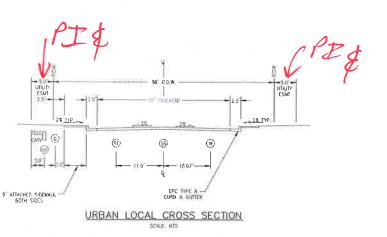
# STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

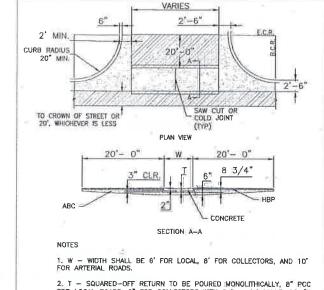
- ALL DRAMAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/FLL PASO COUNTY DRAMAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL
- Z. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, REFORE BEQUINING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL SIT TO CONTRACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNICE).
- 3 CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP). THE SOLIS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:

  6. CITY OF COLORADO GRRINGS/EL PASO COUNTY DATA MANUAL (ECM).

  6. CITY OF COLORADO GRRINGS/EL PASO COUNTY DATA MANUAL EXCHINGE CRITERIA MANUAL, VOLUMES 1 AND 2

  6. COLORADO OPPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND SPRIGE CONSTRUCTION.
- d CDOT M & 5 STANDARDS
- 6. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAWLAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADDRED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CHIEFINA MAMULAL THE DRAWLAGE GRITERIA MANUAL AND THE DRAWLAGE CHIEFINA MANUAL VOLUME 2. ANY DEVIATIONS FROM PEQULATIONS 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.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLAIS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, DMISSIONS, OR CHANCED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY DEVELOPMENT SERVICES DEPARTMENT (DSG) -INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- 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 JULIPES TO DURITY EROSION AND STORWAYER QUALITY CONTROL FERMIT (ESOCY). REGOVER, BUILDING FLOORING DEVELOPMENT PERMIT, U.S. ARMY CORES OF ENGINEERSSED AND HABYON 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 DSD. 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 DSD.
- 10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DSD 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 WISBLITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROMDED AT ALL INTERSECTIONS. QBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- 13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCO CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, 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.



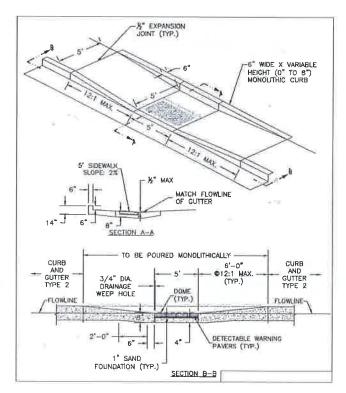


2. T — SQUARED-OFF RETURN TO BE POURED MONOLITHICALLY, 8° PCC FOR LOCAL ROADS, 9° FOR COLLECTORS WITH 6x6 — 4.4 W.W.F. OR #4 REINFORCING BAR @ 18" EACH WAY.

3, STATES = 3" MINIMUM ASPHALT DEPTH (2 LIFTS).

4. DESIGN TO SPECIFY ELEVATIONS AT PLAND PCR.

TYPICAL CROSS PAN LAYOUT DETAIL (SD 2-26)



PARALLEL PEDESTRIAN RAMP DETAIL (SD 2-50)



STERLING

9

FILING

RANCH

SHEET

DETAIL

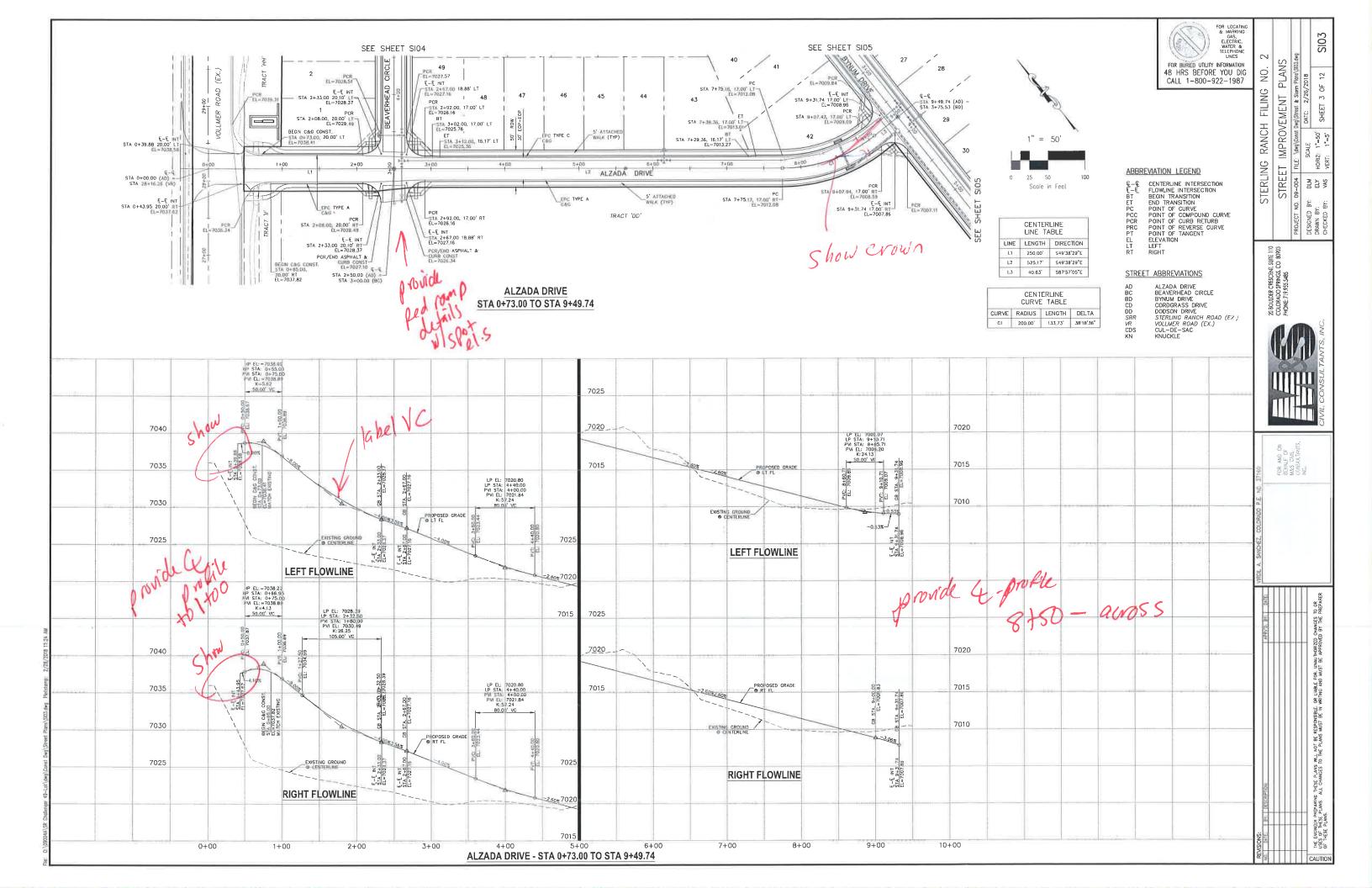
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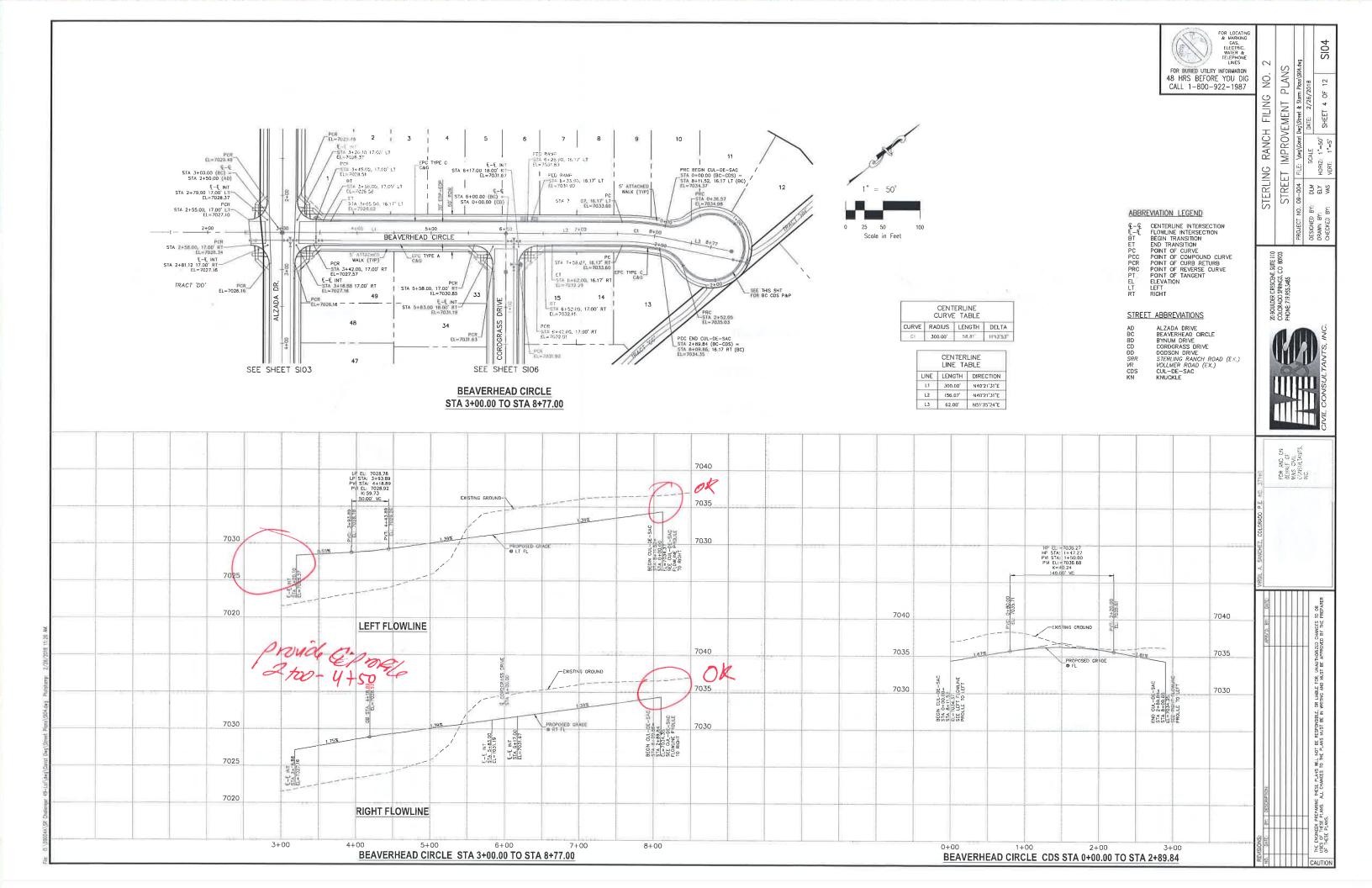
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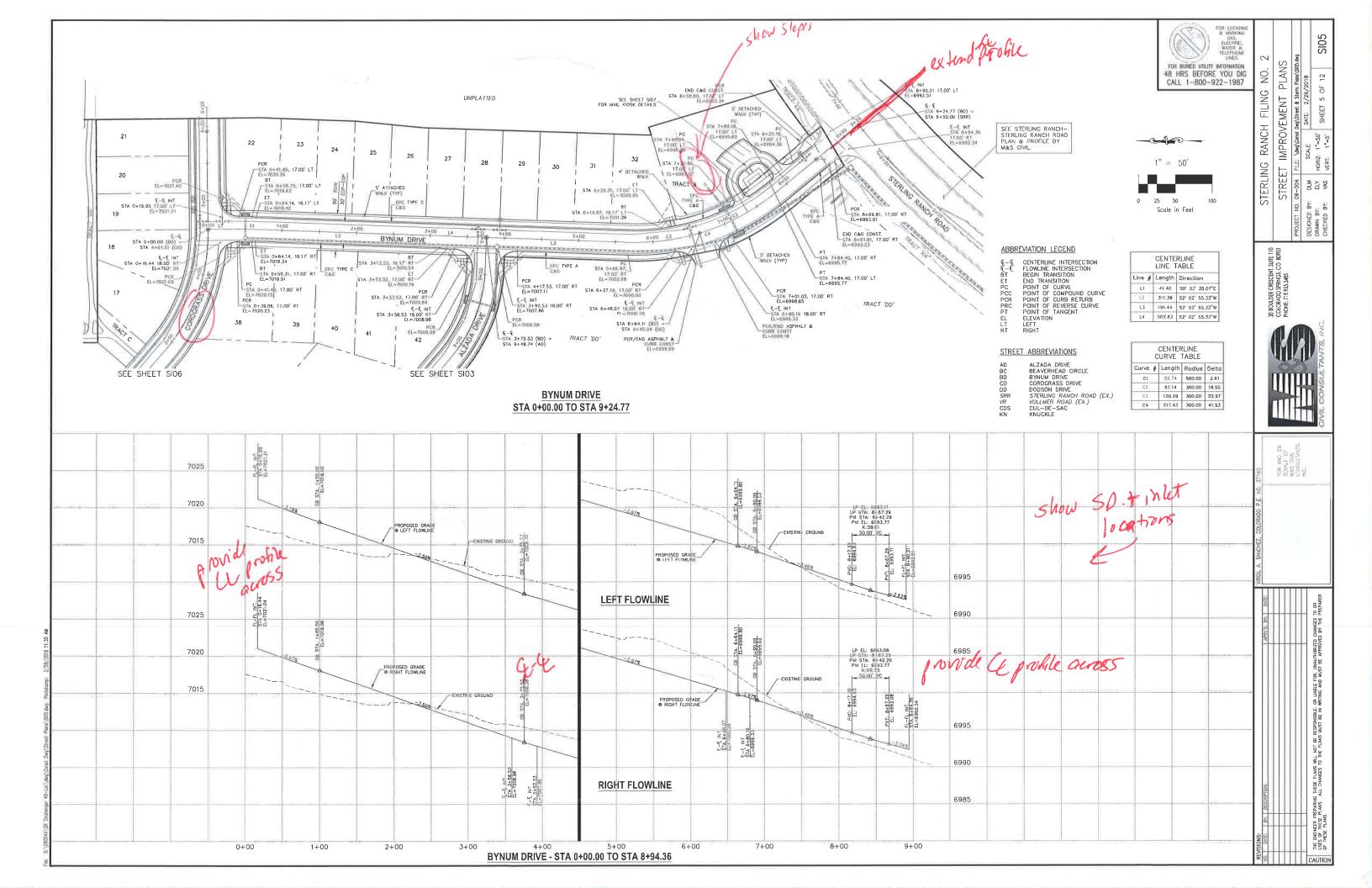
**SI02** 

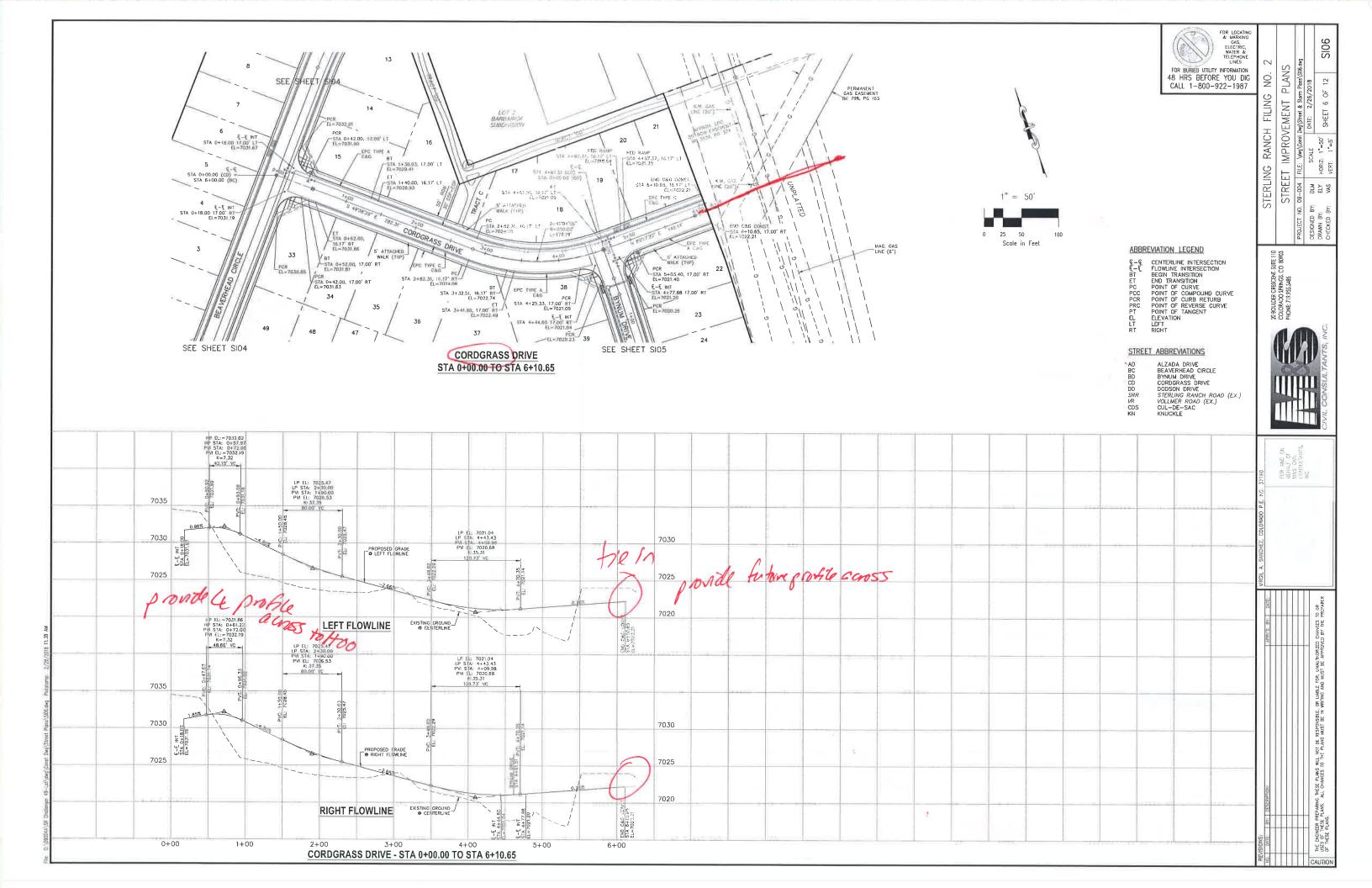
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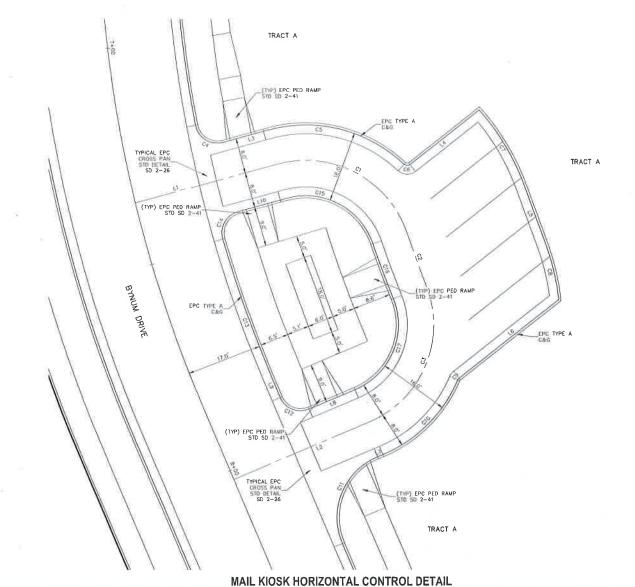
**SI07** 

ILE: Morg/Const Dog/Street & Storm Pleas/S07.deg
SCALE | DATE: 2/26/2018

STERLING RANCH FILING

FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

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MAIL KIOSK GRADING DETAIL	DOV	de APA

Line #	Length	Direction
L1	33.57	N58" 19' 35.68"E
L2	33.27	S50' 31' 23.56"W
L3	10.89	N58" 19" 35.68"E
L4	20 01	S35' 31' 23 56"W
L5	14,11	S36° 37' 34 56"E
L6	28 89	535' 31' 23.56"W
L7	1_27	N50" 31" 23.56"E
L8	11.27	S50' 31' 23.56"W
L9	4.78	S39' 28' 35 44"E
L10	11.64	N58' 19' 35 68"E

Curve #	Length	Radius	Delta
CI	36.26	24.00	86.56
C2	12,84	242 80	3.03
C2	37,14	24.00	88 66
C4	8.23	5 00	94,33
C5	32.98	32.00	59.04
C6	1.43	1.00	81.85
C7	20,13	52.80	21.85
CB	12,94	52.80	14.04
C9	0.50	1,00	28.89
C10	24.51	32 00	43.89
C11	23,56	15.00	90.00
C12	7.85	5.00	90.00
C13	33.45	283 00	6.77
C14	7,94	5.00	91,03
C15	24.17	15.00	86 56
C16	13 26	250 BO	3 03
C17	24,76	16.00	88.66

CURVE TABLE

Curve # Length Radius Dolta

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 El Paso County does not assure compliance with the ADA or any regulations or guidelines enacted or promulgated under or with respect to such laws.

(Ref. LDC 6.1.3)

LS
1.5%

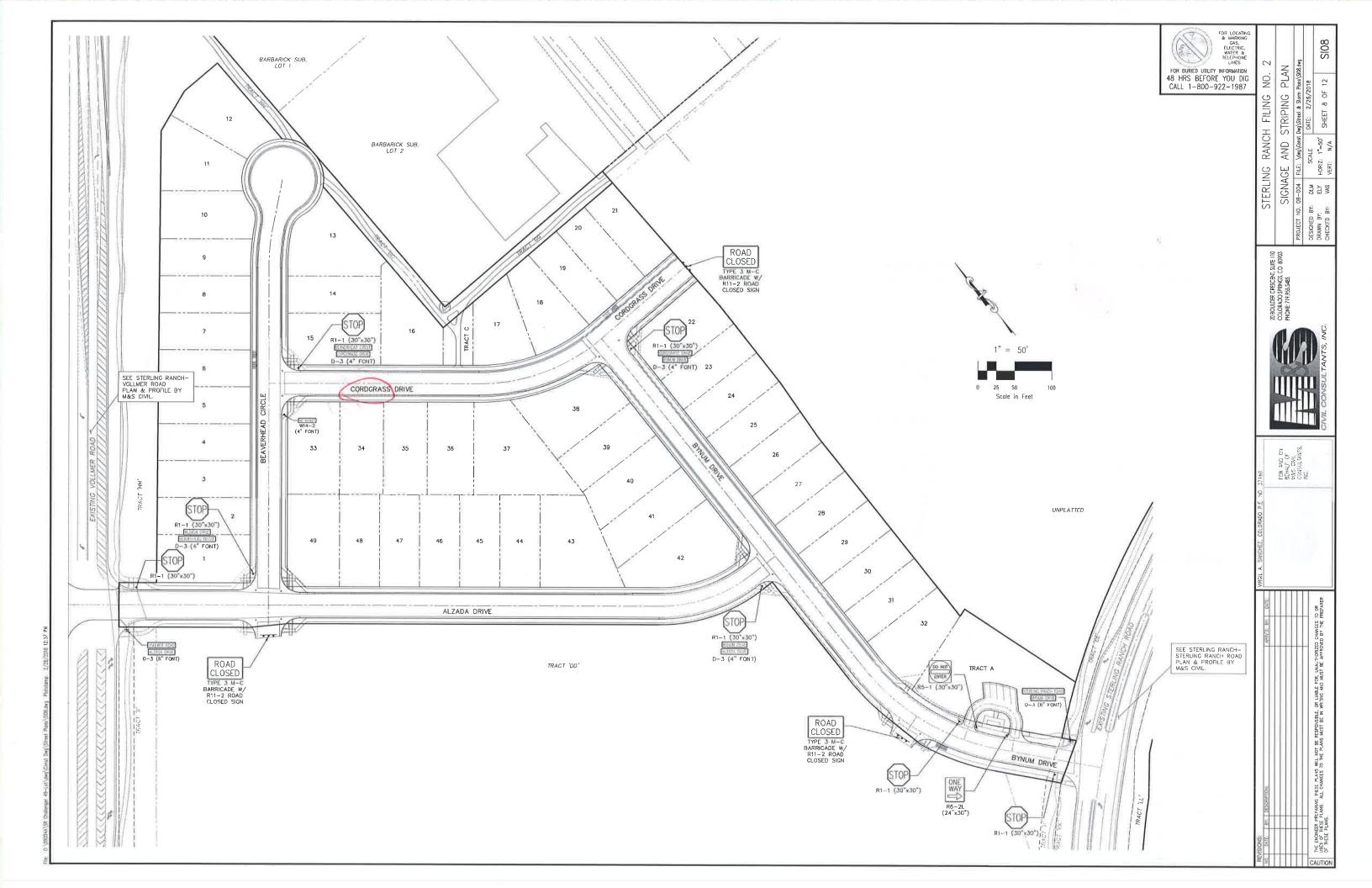
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NOTE:

STREET SIGNS FOR (FUTURE) ROADWAYS
SHALL BE INSTALLED WITH ADJACENT
SUBDIVISION STREET PLANS. ALL
SIGNAGE SHOWN ON THIS SET OF PLANS
SHALL BE INSTALLED,

ALL PROPOSED SIGN LOCATIONS ARE CONCEPTUAL. APPROVAL OF THE CONSTRUCTION DRAWINGS DOES NOT INCLUDE SIGN LOCATIONS.

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		RESPONSIBLE,
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DRAINAGE FLOW DIRECTION	I	L'ANS MILL N
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- 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.
- 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).
- 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 TIME INCLUDING THE FOLLOWING:

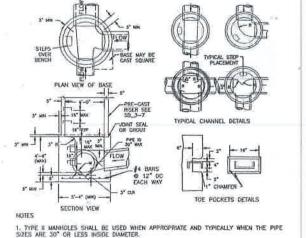
  3.1 EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
- CITY OF COLORAGO SPRINGS/EL PASO COUNTY ENGINEERING CRITERA MANUAL VOLUMES 1 AND 2.
- COLORADO DEPARTMENT OF TRANSPORTATION (COOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
- 4. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ACCURACY SHOW EXISTING CONDITION BOTH ONSITE AND OFFSITE ON THE CONSTRUCTION PLANS. ANY MODIFICATION NECESSARY DUE TO CONFLICT OMISSIONS OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPERS RESPONSIBILITY TO RECTIFY.
- 5, IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORM WATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, US ARMY CORPS OF ENGINEER ISSUED 401
- 6. ANY TEMPORARY SIGNAGE AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOW AND MUTCD CRITERIA.
- 7. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT INTERNIE WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- 8. 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 OFFSITE DISTURBANCE GRADING, OR CONSTRUCTION.

#### STORM SEWER GENERAL NOTES

- 1. ALL STATIONING IS ALONG STORM SEWER CENTERLINE UNLESS OTHERWISE INDICATED, ALL ELEVATIONS ARE INVERT UNLESS OTHERWISE INDICATED.
- 2. ALL STORM SEWER BENDS AND WYES SHOWN ON THE PLAN SHALL BE PREFABRICATED
- JOINTS SHALL BE IN ACCORDANCE WITH ASTM C443 "STANDARD SPECIFICATIONS FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKET," IN NO CASE SHALL THE MAXIMUM JOINT OPENING FOR STRAIGHT ALICNMENT EXCEED 1 INCH OR ONE AND ONE-HALF INCH ON CURVED ALIGNMENT.
- 5. INLET DIMENSIONS SHOWN ON PLANS REFER TO DISTANCES FROM INSIDE FACES OF BOX BETWEEN THE WIDTHS AND LENGTHS.
- 6. MANHOLE WIDTHS AND LENGTHS SHOWN ON PLAN REFER TO THE EXTERIOR WALL DIMENSIONS.
- ALL STORM SEWER SHALL BE A MINIMUM OF CLASS III REINFORCED CONCRETE PIPE. SPECIFIC SEGMENTS OF STORM SEWER SHALL BE REQUIRED TO BE CONSTRUCTED OF A MINIMUM OF 5000 PSI CONCRETE DUE TO EXCESSIVE VELOCITIES. REFER TO ADDITIONAL NOTES WITHIN CONSTRUCTION PLANS.
- SINCE ALL PIPE ENTRIES INTO THE BASE ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK.
- 9. THE MH RING (FRAME) SHALL BE SET IN A BED OF GROUT. THE FRAME SHALL BE SURROUNDED WITH A GROUT IN UNPAYED AREA, OR A CONCRETE COLLAR DI HAVED AREA.
- 10. PRECAST MANHOLES AND REINFORCEMENT SHALL CONFORM TO ASTM C 478 (AASHTO M 199).
- 11. CAST IN PLACE MANHOLES SHALL BE CLASS B CONCRETE
- 12. STEPS SHALL BE REQUIRED WHEN THE MANHOLE DEPTH EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199,
- 13. ALL REINFORCING STEEL SHALL HAVE A MINIMUM WELD STRENGTH OF 60,000 PSI. VERTICAL STEEL SHALL BE PLACED AT & OF WALL. ALL BARS SHALL HAVE A 2" MINIMUM CLEARANCE.
- 14. FLOW CHANNELS AND INVERTS SHALL BE FORMED BY SHAPING WITH CLASS B CONCRETE OR APPROVED GROUT.
- 15 STUB-OUTS SHALL EXTEND 4 FT MINIMUM BEYOAD CUITEDE WALL SURFACE OF MANHOLE AND BE SATISFACTORILY PLUIGED.
- 16. CHECK WITH THE LOCAL COVERNMENT AUTHORITY FOR ANY ADDITIONAL STORM SEWER SPECIFICATIONS, DETAILS, OF REGULATIONS
- 17 THE SLOPE OF THE MANHOLE COVER SHALL MATCH THE ROADWAY PROFILE AND CROSS SLOPE
- 16. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PREFABRICATED STRUCTURES TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION.

# ADDITIONAL NOTES:

PIPRAP CHANNEL: THE SIZE OF RIPRAP AND BOULDERS SHALL BE AS INDICATED ON THE PLANS. BOULDERS FOR GROUTED BOULDER FOREBAY SHALL NEET THE SAME REQUIREMENTS FOR DURIPULITY AND SPECIFIC GRAVITY AS RIPRAP. BOULDERS USED IN CROUTED BOULDER FOREBAY SHALL BE CLEAN AND FREE OF SOIL TO PROVIDE A PROPER BOND WITH THE CROUT.



VIEW AND DETAILS ARE TYPICAL, DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT. ETHER LADGER OF STEPS SHALL BE INSTALLED WHEN MAINFILE 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., X\* PER FOOT, MIN.).

6. FLOOR OF MANHOLE SHALL BE TROWELLED TO A SMOOTH, MARD SURFACE AND SMALL SLOPE TOWARDS THE OUTLET (B.1.),  $\hat{X}^{\mu}$  PER FT. MIN.) . FLOOR SHALL BE SHAPED AND CHANNELED, SEE DITAILS THIS SHEET.

TYPE II SD 3-2

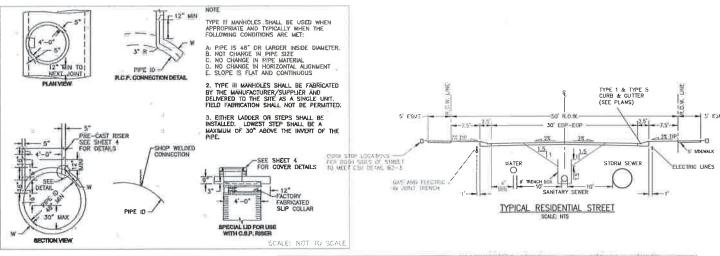
- 1. THE SOIL MATERIAL SHALL BE NATIVE OR TOPSOIL AND MIXED WITH SIXTY FIVE PERCENT (65%) RIPRAP AND THIRTY FIVE PERCENT (35%) SOIL BY VOLUME
- 2. SOIL RIPRAP SHALL CONSIST OF A UNIFORM MIXTURE OF SOIL AND RIPRAP WITHOUT VOIDS
- 4. CONTRACTOR SHALL SUBMIT CERTIFIED LABORATORY TEST CERTIFICATES FOR ALL ITEMS REQUIRED FOR SOIL RIPRAP.
- 5. RIPRAP USED SHALL BE THE TYPE DESIGNATED ON THE DRAWINGS AND SHALL CONFORM TO TABLE SHOWN TO THE RIGHT,
- THE RIPRAP DESIGNATION AND TOTAL THICKNESS OF RIPRAP SHALL BE AS SHOWN ON THE DRAWINGS. THE MAXIMUM STONE SIZE SHALL NOT LARGER THAN THE THICKNESS OF THE RIPRAP.
- 7. NEITHER WIDTH NOR THICKNESS OF A SINGLE STONE OF RIPRAP SHALL BE LESS THAN ONE-THIRD (1/2) OF ITS LENGTH.
- 8. THE SPECIFIC GRAVITY OF THE RIPRAP SHALL BE TWO AND ONE-HALF (2.5) OR GREATER
- 9. MINIMUM DENSITY FOR ACCEPTABLE RIPRAP SHALL BE ONE HUNDRED AND SIXTY FIVE (185) POUNDS PER CUBIC FOOT.
- 10. RIPRAP SPECIFIC GRAVITY SHALL BE ACCORDING TO THE BULK-SATURATED, SURFACE-DRY BASIS, IN ACCORDANCE WITH AASHTO T85.
- 11. BROKEN CONCRETE OR ASPHALT PAVEMENT SHALL NOT BE ACCEPTABLE FOR USE IN THE WORK
- 12. ROUNDED RIPRAP (RIVER ROCK) IS NOT ACCEPTABLE, UNLESS SPECIFICALLY DESIGNATED ON THE DRAWINGS.

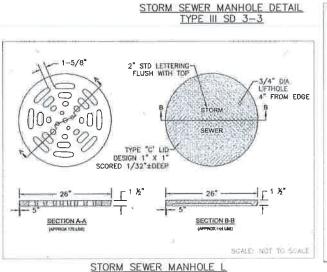
#### STRUCTURAL CONCRETE NOTES:

- 1. ALL CONSTRUCTION INVOLVING THE PLACEMENT OF STRUCTURAL CONCRETE SHALL BE COMPLETED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, AND AS SUPPLEMENTED BY THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION.
- STEEL REINFORCING SHALL BE GRADE 60 FOR ALL REINFORCING STEEL GREATER THAN 1/4. SPLICING, LAP SPLICING SHALL BE MINIMUM IN THE FOLLOWING TABLE UNLESS OTHERWISE SPECIFIED: BAR SIZE ALL REINFORCING SHALL HAVE A 2-INCH MINIMUM COVER UNLESS OTHERWIST SPECIFIED, ALL REINFORCED STEEL TO BE EPOXY COATED.
- 3. CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (fc) OF 4,000 PSI AT 28 DAYS, ALL CONCRETE PLACED AGAINST SOIL SHALL BE TYPE II PORTLAND CEMENT, ALL EXPOSED CORNERS SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS OTHERWISE SPECIFIED.
- 4. EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.
- 5, BACKFILL AGAINST STRUCTURES SHALL NOT COMMENCE UNTIL ALL SUPPORTING DIAPHRAGMS ARE IN PLACE AND CONCRETE HAS OBTAINED ITS FULL SEVEN DAY STRENGTH, BACKFILL SHALL BE PLACED EQUALLY ON EACH SIDE OF RETAINING WALL STRUCTURES AND CUTOFF WALLS UNTIL THE FINAL GRADE IS REACHED,
- 6. FOOTING EXCAVATIONS SHALL BE EXAMINED BY THE GEOTECHNICAL ENGINEER WITH A 24-HOUR MINIMUM NOTIFICATION FOR SOIL AND/OR CONCRETE TESTING, PLACEMENT OF CONCRETE IN THE ABSENCE OF TESTING SHALL BE COMPLETED AT THE SOLE RISK OF THE CONTRACTOR.
- 7. PRIOR TO THE PLACEMENT OF CONCRETE IN AREAS WHERE SOIL IS PRESENT. THE SOIL SHIBLL BE SCAPIFIED TO A MINIMUM DEPTH OF 6-INCHES, THE MOISTURE CONTENT SHALL BE ADJUSTED TO WITHIN PLUS OR MINUS 2 PERCENT OF THE OPTIMUM MO-STURE CONTENT AND RECOMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION (AASHTO-T-180).

ABBREWATIONS

EC -- EPOXY COATED O.F -- GUTSIDE FACE E.F. -- EACH FACE E.W. -- EACH WAY I.F. -- INSIDE FACE IN F. -- NEAR FACE
T.O.C. -- TOP OF CONGRETE B.O.C. -- BOITION OF CONCRETE CONT. -- CONTINUOUS





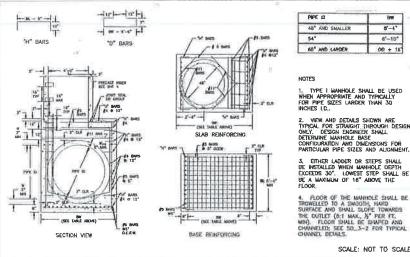
LID DETAILS SD 3-2

SCALE: NOT TO SCALE

STORM SEWER MANHOLE

RISER AND COVER DETAIL

TYPE SD 3-7



STORM SEWER MANHOLE DETAIL TYPE | SD 3-1

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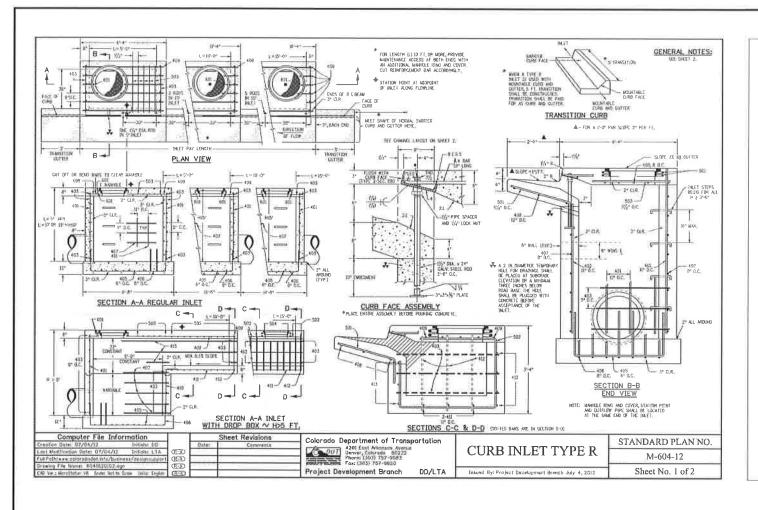
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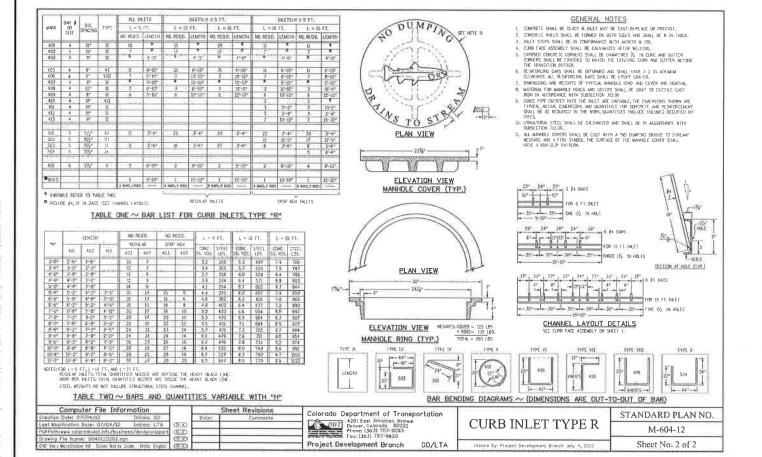
CMN CWP

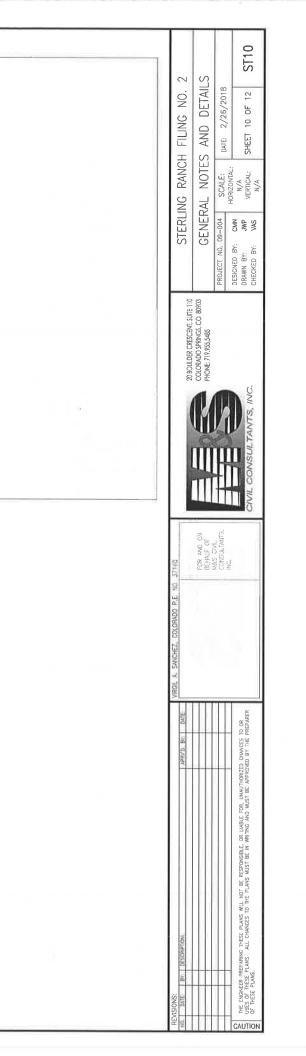
STORM

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STORM SEWER MANHOLE DETAIL







March 1907,

