

STERLING RANCH FILING NO. 2

COUNTY OF EL PASO, STATE OF COLORADO

STORM SEWER PLANS

FEBRUARY 2018

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
 FOR BURIED UTILITY INFORMATION
 48 HRS BEFORE YOU DIG
 CALL 1-800-922-1987

STERLING RANCH FILING NO. 2
 STORM SEWER PLANS
 PROJECT NO. 09-002
 DATE: 02/27/2018
 SCALE: HORIZONTAL: N/A VERTICAL: N/A
 DESIGNED BY: ET
 DRAWN BY: SM
 CHECKED BY: VAS
 SHEET 1 OF 22
 ST01

AGENCIES

OWNER/DEVELOPER: SR LAND, LLC
 20 BOULDER CRESCENT, SUITE 201
 COLORADO SPRINGS, CO 80903
 JIM 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: EL PASO COUNTY DEVELOPMENT SERVICES
 2880 INTERNATIONAL CIRCLE, SUITE 110
 COLORADO SPRINGS, CO 80910
 JENNIFER IRVINE, P.E. (719) 520-6300

TRAFFIC ENGINEERING: EL PASO COUNTY PUBLIC SERVICES & TRANS. DEPT.
 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

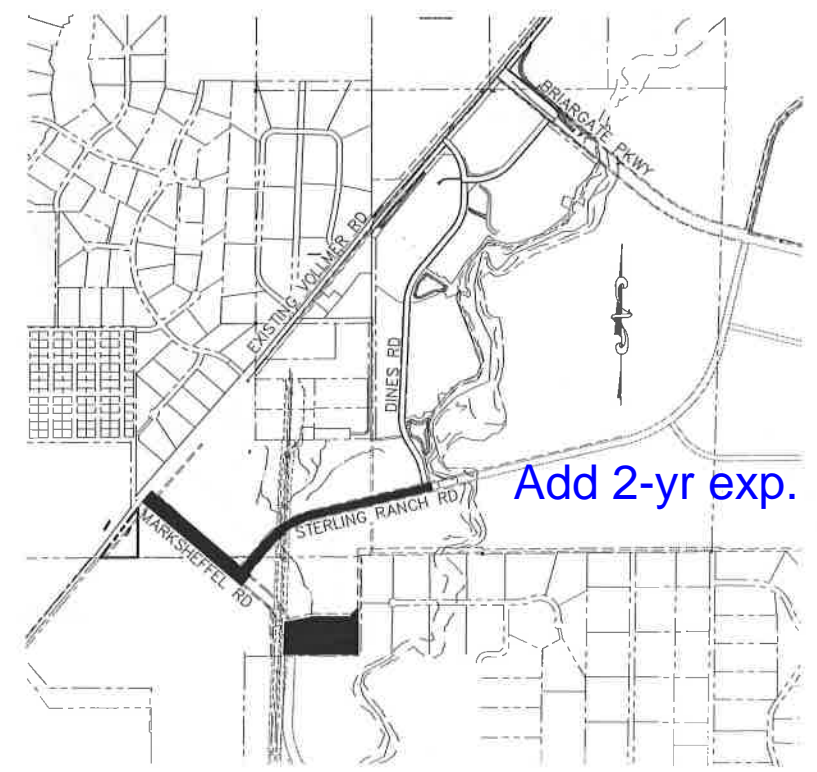
GAS DEPARTMENT: COLORADO SPRINGS UTILITIES
 7710 DURANT DR.
 COLORADO SPRINGS, CO 80947
 TIM WENDT (719) 668-3556

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



VICINITY MAP
 NTS



SITE MAP
 NTS

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 NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION
 NORTHING = 410095.404
 EASTING = 235052.131
 ELEVATION = 7000.40
3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
 NORTHING = 411399.962
 EASTING = 233949.817
 ELEVATION = 7030.62

ABBREVIATIONS

ACT	ACTUAL	FT	FEET, FOOT	PVT	POINT OF VERTICAL TANGENT
BCR	BACK OF CURB RETURN	FUT	FUTURE	PT	POINT OF TANGENCY
BOV	BLOWOFF VALVE ASSEMBLY	(O)	GAS	PROP	PROPOSED
BRK	BREAK	GB	GRADE BREAK	REM	REMOVE
BT	BEGINNING OF TRANSITION	GRD	GRADE	ROW	RIGHT OF WAY
BW	BOTTOM OF WALL	HORZ	HORIZONTAL	RSNTS	RESTRAINTS
CATV	CABLE TV	HP	HIGH POINT ELEVATION	RT	RIGHT
CL	CLASS, CENTERLINE	INT	INTERSECTION	SAN	SANITARY SEWER
CLR	CLEARANCE	LAT	LATERAL	SD	STANDARD DETAIL
CONST	CONSTRUCT	LP	LOW POINT ELEVATION	STA	STATION
CSU	COLORADO SPRINGS UTILITIES	LT	LEFT	STM	STORM SEWER
DET.	DETENTION	LOC	LOCATION	COB	TOP CORNER OF BOX
ECR	END CURB RETURN	MIN	MINIMUM	TELE	TELEPHONE
EL	ELEVATION	MISC.	MISCELLANEOUS	TW	TYPICAL
EOA	EDGE OF ASPHALT	N,S,E,W	NORTH,SOUTH,EAST,WEST	TYP	TYPICAL
EOP	END OF PAVEMENT	NTS	NOT TO SCALE	UNK	UNKNOWN
EPC	EL PASO COUNTY	PC	POINT OF VERTICAL CURVATURE	@	UNDERGROUND POWER
ESMT	ESMANT	PCC	POINT OF COMPOUND CURVE	UTL	UTILITY
ET	END TRANSITION	PCR	POINT OF CURB RETURN	VERT	VERTICAL
EW	EACH WAY	PL	PROPERTY LINE	WTR	WATER LINE
EX	EXISTING	PRC	POINT OF REVERSE CURVE	XING	CROSSING
FG	FINISHED GRADE	PUB	PUBLIC	YD	YARD (CUBIC)
FL	FLOW LINE	PVI	POINT OF VERTICAL INTERSECTION		
		PVC	POINT OF VERTICAL CURVE		

APPROVALS:

ENGINEER'S STATEMENT:

DETAILED DRAINAGE CONSTRUCTION PLANS AND SPECIFICATIONS 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 DRAINAGE PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR DRAINAGE FACILITY(S) IS DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY 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. DATE

GRADING AND EROSION CONTROL PLAN ENGINEER'S STATEMENT: THIS EROSION AND STORMWATER QUALITY CONTROL/GRADING PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. IF SUCH WORK IS PERFORMED IN ACCORDANCE WITH THE GRADING AND EROSION CONTROL PLAN, THE WORK WILL NOT BECOME A HAZARD TO LIFE AND LIMB, ENDANGER PROPERTY, OR ADVERSELY AFFECT THE SAFETY, USE, OR STABILITY OF A PUBLIC WAY, DRAINAGE CHANNEL, OR OTHER PROPERTY.

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

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 EROSION AND STORMWATER QUALITY CONTROL PLAN INCLUDING TEMPORARY BMP INSPECTION REQUIREMENTS AND FINAL STABILIZATION REQUIREMENTS. I ACKNOWLEDGE THE RESPONSIBILITY TO DETERMINE WHETHER THE CONSTRUCTION ACTIVITIES ON THESE PLANS REQUIRE COLORADO DISCHARGE PERMIT SYSTEM (CDPS) PERMITTING FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.

JIM MORLEY, SR LAND, LLC
 DIRECTOR OF PLANNING AND ENGINEERING DATE

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 DATE

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

SHEET INDEX

SHEET 1	TITLE SHEET
SHEET 2	GENERAL NOTES AND DETAILS
SHEET 3	GENERAL NOTES AND DETAILS
SHEET 4	STORM SEWER SHEET KEY
SHEET 5	PLAN & PROFILE - STM 23 STA 0+18.54 TO 13+00.00 & STM 25 STA 0+28.21 TO 0+62.92
SHEET 6	PLAN & PROFILE - STM 23 STA 13+00.00 TO STA 26+00.00
SHEET 7	PLAN & PROFILE - STM 23 STA 26+00.00 TO STA 40+00.00
SHEET 8	PLAN & PROFILE - STM 20 STA 1+00.22 TO STA 1+66.27, STM 26 STA 1+36.50 TO STA 2+25.25, STM 22 STA 0+76.17 TO STA 2+56.84, STM 24 STA 1+00.00 TO STA 1+63.88
SHEET 9	FULL SPECTRUM DETENTION POND W-5
SHEET 10	FULL SPECTRUM DET. POND W-5 DETAILS
SHEET 11	POND W-5 OUTLET STRUCTURE & POND DETAILS
SHEET 12	OUTLET STRUCTURE & MISC. POND DETAILS
SHEET 13	FULL SPECTRUM DET. POND W-5 DETAILS
SHEET 14	FULL SPECTRUM DET. POND W-4
SHEET 15	POND W-4 ROUNDOWN & FOREBAY DETAILS
SHEET 16	FULL SPECTRUM DET. POND W-4 DETAILS
SHEET 17	FULL SPECTRUM DET. POND W-4 DETAILS
SHEET 18	PLAN & PROFILE - STM 14 STA 2+00.00 TO STA 15+38.69
SHEET 19	PLAN & PROFILE - STM 15 STA 3+61.52 TO STA 5+19.80, STM 16 STA 5+31.38 TO STA 6+81.32, STM 16 LAT 1 STA 1+00.00 TO STA 1+14.70, STM 17 STA 0+80.31 TO STA 9+98.90, STM 17 LAT 1 STA 0+59.87 TO STA 1+16.20, STM 17 LAT 2 STA 1+23.74 TO STA 2+36.15
SHEET 20	PLAN & PROFILE - STM 18 STA 0+20.29 TO STA 1+25.56, STM 21 STA 0+45.76 TO STA 2+49.44
SHEET 21	PLAN & PROFILE - STM 21 LAT 1 STA 1+00.00 TO STA 1+26.83
SHEET 22	PLAN & PROFILE - STM 19 STA 0+21.65 TO STA 6+42.42, STM VT 2 STA 2+34.00 TO STA 3+68.75

NO.	DATE	BY	DESCRIPTION

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF THE STERLING RANCH METRO. DISTRICT

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USE OF THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION

STANDARD CONSTRUCTION NOTES:

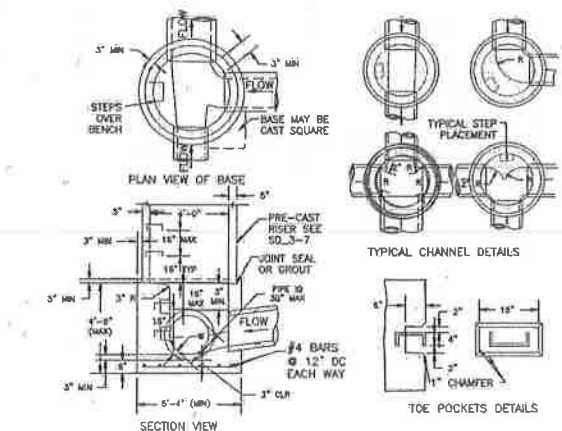
- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF 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:
 - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - CITY OF COLORADO SPRINGS/EL PASO COUNTY ENGINEERING CRITERIA MANUAL VOLUMES 1 AND 2.
 - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
 - CDOT M&S STANDARDS.
- IT IS THE DESIGN ENGINEER'S 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 DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORM WATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, US ARMY CORPS OF ENGINEER ISSUED 401 AND/OR 404 PERMITS AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- ANY TEMPORARY SIGNAGE AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOW AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DDT INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- 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.

STORM SEWER GENERAL NOTES:

- ALL STATIONING IS ALONG STORM SEWER CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE INVERT UNLESS OTHERWISE INDICATED.
- ALL STORM SEWER BENDS AND WYES SHOWN ON THE PLAN SHALL BE PREFABRICATED.
- HORIZONTAL AND VERTICAL BENDS ARE INDICATED ON THE PLANS.
- 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 ALIGNMENT EXCEED 1 INCH OR ONE AND ONE-HALF INCH ON CURVED ALIGNMENT.
- INLET DIMENSIONS SHOWN ON PLANS REFER TO DISTANCES FROM INSIDE FACES OF BOX BETWEEN THE WIDTHS AND LENGTHS.
- 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.
- THE MH RING (FRAME) SHALL BE SET IN A BED OF GROUT. THE FRAME SHALL BE SURROUNDED WITH A GROUT IN UNPAVED AREA, OR A CONCRETE COLLAR IN PAVED AREA.
- PRECAST MANHOLES AND REINFORCEMENT SHALL CONFORM TO ASTM C 478 (AASHTO M 199).
- CAST IN PLACE MANHOLES SHALL BE CLASS B CONCRETE.
- STEPS SHALL BE REQUIRED WHEN THE MANHOLE DEPTH EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
- ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI. VERTICAL STEEL SHALL BE PLACED AT ϕ OF WALL. ALL BARS SHALL HAVE A 2" MINIMUM CLEARANCE.
- FLOW CHANNELS AND INVERTS SHALL BE FORMED BY SHAPING WITH CLASS B CONCRETE OR APPROVED GROUT.
- STUB-OUTS SHALL EXTEND 4 FT MINIMUM BEYOND OUTSIDE WALL SURFACE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
- CHECK WITH THE LOCAL GOVERNMENT AUTHORITY FOR ANY ADDITIONAL STORM SEWER SPECIFICATIONS, DETAILS, OR REGULATIONS.
- THE SLOPE OF THE MANHOLE COVER SHALL MATCH THE ROADWAY PROFILE AND CROSS SLOPE.
- THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PREFABRICATED STRUCTURES TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION.

ADDITIONAL NOTES:

- RIPRAP CHANNEL: THE SIZE OF RIPRAP AND BOULDERS SHALL BE AS INDICATED ON THE PLANS. BOULDERS FOR GROUTED BOULDER FOREBAY SHALL MEET THE SAME REQUIREMENTS FOR DURABILITY AND SPECIFIC GRAVITY AS RIPRAP. BOULDERS USED IN GROUTED BOULDER FOREBAY SHALL BE CLEAN AND FREE OF SOIL TO PROVIDE A PROPER BOND WITH THE GROUT.

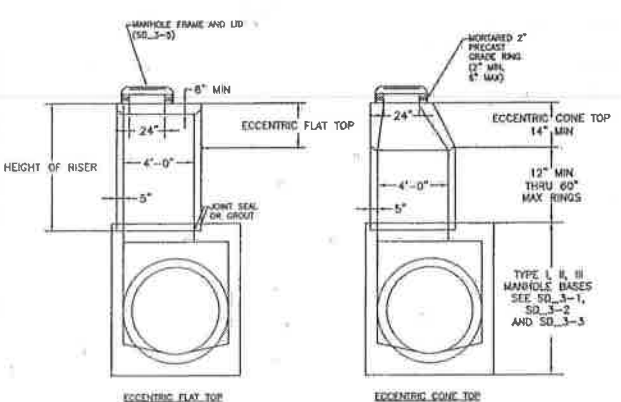


NOTES

- TYPE II MANHOLES SHALL BE USED WHEN APPROPRIATE AND TYPICALLY WHEN THE PIPE SIZES ARE 30" OR LESS INSIDE DIAMETER.
- VIEW AND DETAILS ARE TYPICAL. DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.
- EITHER LADDER OR STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". STEPS IN BASE SHALL BE INSTALLED IN "TOE POCKETS" (SEE DETAIL THIS SHEET). LOWEST STEP SHALL BE A MAXIMUM OF 16" ABOVE THE FLOOR.
- PIPES SHALL BE TRIMMED TO FINAL SHAPE AND SET BEFORE MANHOLE IS POURED.
- BENCH SHALL BE SLOPED TOWARD CENTER OF MANHOLE BASE (4:1 MAX., 1/2" PER FOOT, MIN.).
- FLOOR OF MANHOLE SHALL BE TROWELLED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1, 1/2" PER FT. MIN.). FLOOR SHALL BE SHAPED AND CHANNELLED; SEE DETAILS THIS SHEET.

**STORM SEWER MANHOLE DETAIL
TYPE II SD 3-2**

SCALE: NOT TO SCALE

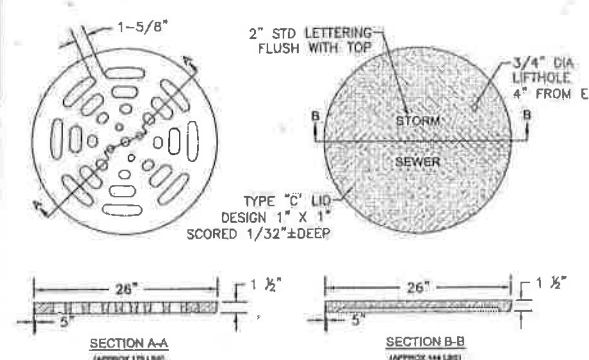


NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SUPPLEMENTAL SPECIFICATIONS APPLICABLE TO THE PROJECT.
- PRECAST RISER SHALL CONFORM TO ASTM C443.
- STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". STEPS SHALL BE CAST FROM OR EXTENDED ALUMINUM 1000 LB CAPACITY, 1/2" WIDE WITH HOPE-SHAPED GROOVES AND GRIP FRONT ON SAFETY NOSELS, IN ACCORDANCE WITH APPROVED OSHA REQUIREMENTS.

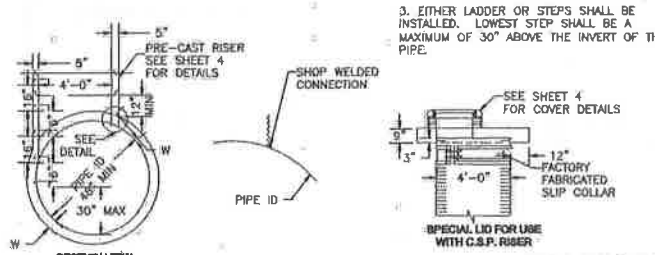
**STORM SEWER MANHOLE
RISER AND COVER DETAIL
TYPE SD 3-7**

SCALE: NOT TO SCALE



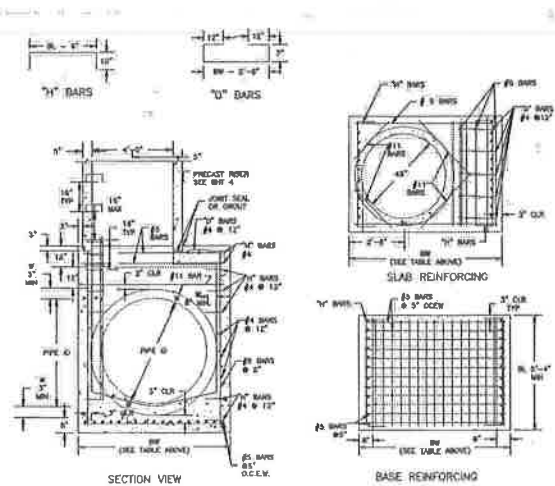
**STORM SEWER MANHOLE LID
DETAILS SD 3-2**

SCALE: NOT TO SCALE



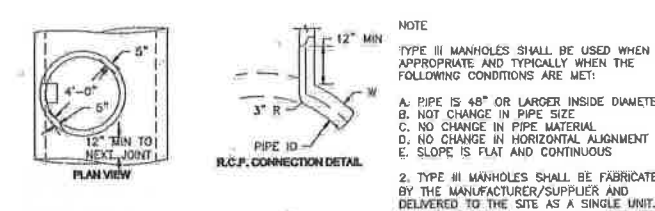
**STORM SEWER MANHOLE DETAIL
TYPE III SD 3-3**

SCALE: NOT TO SCALE



**STORM SEWER MANHOLE DETAIL
TYPE I SD 3-1**

SCALE: NOT TO SCALE



NOTE

TYPE III MANHOLES SHALL BE USED WHEN APPROPRIATE AND TYPICALLY WHEN THE FOLLOWING CONDITIONS ARE MET:

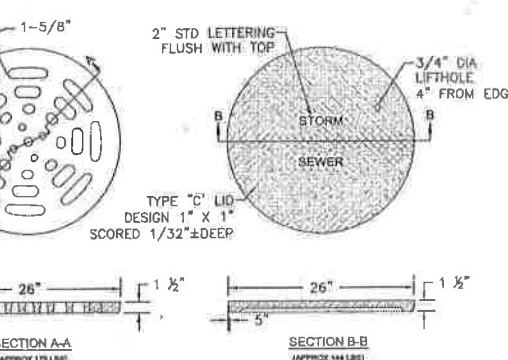
- PIPE IS 48" OR LARGER INSIDE DIAMETER.
- NOT CHANGE IN PIPE SIZE.
- NO CHANGE IN PIPE MATERIAL.
- NO CHANGE IN HORIZONTAL ALIGNMENT.
- SLOPE IS FLAT AND CONTINUOUS.

2. TYPE III MANHOLES SHALL BE FABRICATED BY THE MANUFACTURER/SUPPLIER AND DELIVERED TO THE SITE AS A SINGLE UNIT. FIELD FABRICATION SHALL NOT BE PERMITTED.

3. EITHER LADDER OR STEPS SHALL BE INSTALLED. LOWEST STEP SHALL BE A MAXIMUM OF 30" ABOVE THE INVERT OF THE PIPE.

**STORM SEWER MANHOLE DETAIL
TYPE III SD 3-3**

SCALE: NOT TO SCALE



**STORM SEWER MANHOLE LID
DETAILS SD 3-2**

SCALE: NOT TO SCALE

ABBREVIATIONS
 E.C. -- EPOXY COATED O.F. -- OUTSIDE FACE E.F. -- EACH FACE E.W. -- EACH WAY I.F. -- INSIDE FACE N.F. -- NEAR FACE
 T.O.C. -- TOP OF CONCRETE B.O.C. -- BOTTOM OF CONCRETE CONT. -- CONTINUOUS

SOIL RIPRAP NOTES:

- THE SOIL MATERIAL SHALL BE NATIVE OR TOPSOIL AND MIXED WITH SIXTY FIVE PERCENT (65%) RIPRAP AND THIRTY FIVE PERCENT (35%) SOIL BY VOLUME.
- SOIL RIPRAP SHALL CONSIST OF A UNIFORM MIXTURE OF SOIL AND RIPRAP WITHOUT VOIDS.
- CONTRACTOR SHALL COOPERATE WITH ENGINEER IN OBTAINING AND PROVIDED SAMPLES OF ALL SPECIFIED MATERIALS.
- CONTRACTOR SHALL SUBMIT CERTIFIED LABORATORY TEST CERTIFICATES FOR ALL ITEMS REQUIRED FOR SOIL RIPRAP.
- 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.
- NEITHER WIDTH NOR THICKNESS OF A SINGLE STONE OF RIPRAP SHALL BE LESS THAN ONE-THIRD (1/3) OF ITS LENGTH.
- THE SPECIFIC GRAVITY OF THE RIPRAP SHALL BE TWO AND ONE-HALF (2.5) OR GREATER.
- MINIMUM DENSITY FOR ACCEPTABLE RIPRAP SHALL BE ONE HUNDRED AND SIXTY FIVE (165) POUNDS PER CUBIC FOOT.
- RIPRAP SPECIFIC GRAVITY SHALL BE ACCORDING TO THE BULK-SATURATED, SURFACE-DRY BASIS, IN ACCORDANCE WITH AASHTO T85.
- BROKEN CONCRETE OR ASPHALT PAVEMENT SHALL NOT BE ACCEPTABLE FOR USE IN THE WORK.
- ROUNDED RIPRAP (RIVER ROCK) IS NOT ACCEPTABLE, UNLESS SPECIFICALLY DESIGNATED ON THE DRAWINGS.

STRUCTURAL CONCRETE NOTES:

- 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 #4. SPLICING, LAP SPLICING SHALL BE MINIMUM IN THE FOLLOWING TABLE UNLESS OTHERWISE SPECIFIED:
 BAR SIZE #4 #5 #6 #7 #8
 SPLICE LENGTH 1'-9" 2'-2" 2'-7" 3'-4" 4'-3"
 ALL REINFORCING SHALL HAVE A 2-INCH MINIMUM COVER UNLESS OTHERWISE SPECIFIED. ALL REINFORCED STEEL TO BE EPOXY COATED.
- CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f_c) 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.
- EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.
- 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.
- 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.
- PRIOR TO THE PLACEMENT OF CONCRETE IN AREAS WHERE SOIL IS PRESENT, THE SOIL SHALL BE SCANNED TO A MINIMUM DEPTH OF 6-INCHES. THE MOISTURE CONTENT SHALL BE ADJUSTED TO WITHIN PLUS OR MINUS 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION (AASHTO-T-180).

ABBREVIATIONS
 E.C. -- EPOXY COATED O.F. -- OUTSIDE FACE E.F. -- EACH FACE E.W. -- EACH WAY I.F. -- INSIDE FACE N.F. -- NEAR FACE
 T.O.C. -- TOP OF CONCRETE B.O.C. -- BOTTOM OF CONCRETE CONT. -- CONTINUOUS



STERLING RANCH FILING NO. 2

GENERAL NOTES AND DETAILS

PROJECT NO. 09-002 FILE: VwgConst Dwg\Storm - District\ST02.dwg

DESIGNED BY: ET SCALE: N/A

DRAWN BY: ELY HORIZ: N/A

CHECKED BY: VAS VERT: N/A

DATE: 05/19/2017

SHEET 2 OF 22

ST02

20 BOULDER CREEK SUITE 110
 COLORADO SPRINGS, CO 80903
 PHONE: 719.555.5485

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF CIVIL CONSULTANTS, INC.

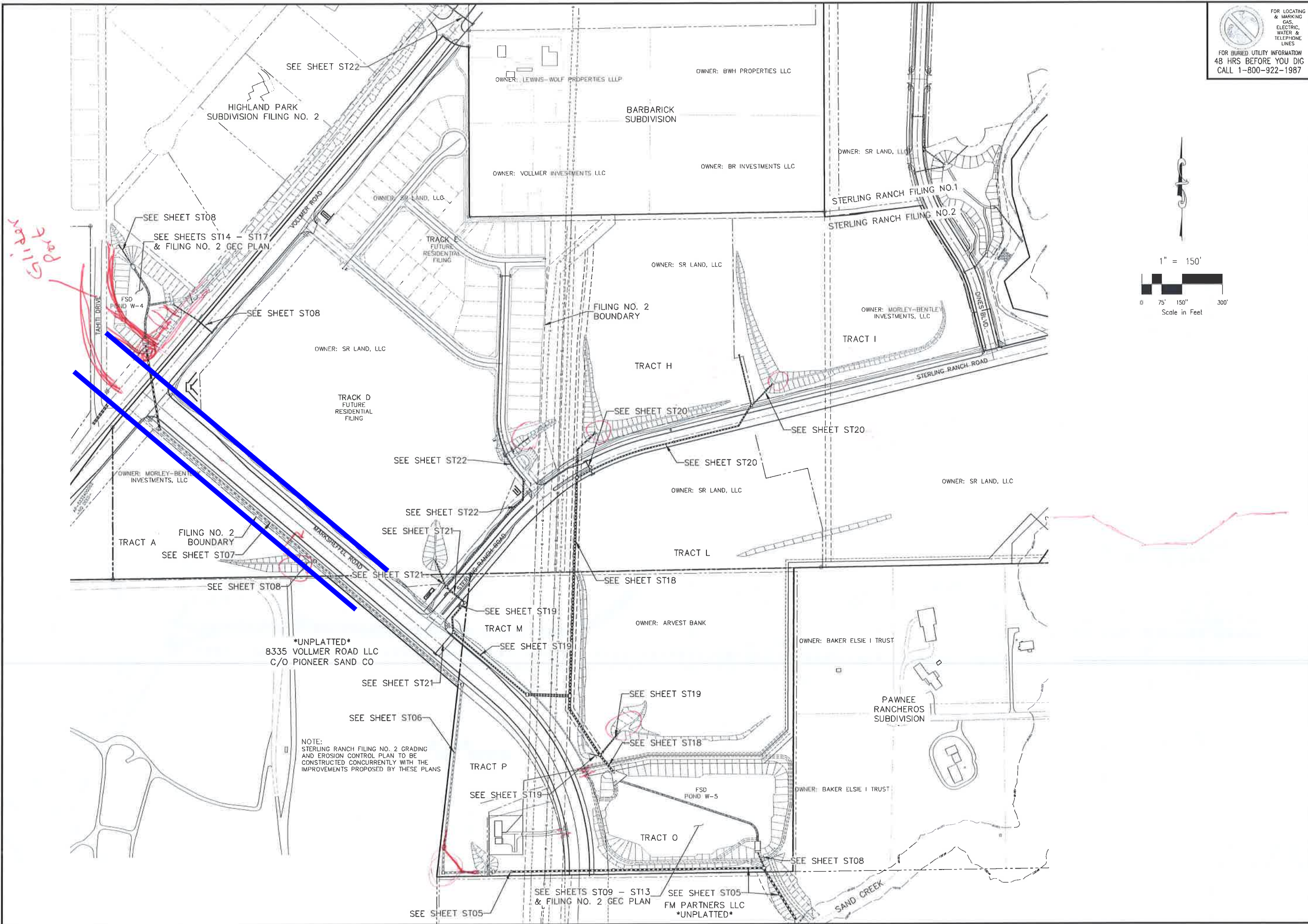
STRIK A. SANCHEZ, COLORADO P.E. NO. 37165

REVISIONS:

NO.	DATE	DESCRIPTION

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR UNAUTHORIZED CHANGES TO OR ALTERATIONS TO THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE ENGINEER PREPARING THESE PLANS.

CAUTION



FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987

STERLING RANCH FILING NO. 2	
STORM SEWER SHEET KEY	
PROJECT NO. 09-002	DATE: 05/19/2017
DESIGNED BY: ET	HORIZONTAL SCALE: 1"=150'
DRAWN BY: ELY	VERTICAL SCALE: N/A
CHECKED BY: VAS	
	ST04
	SHEET 4 OF 22

20 BOULDER CRESCENT SUITE 110
COLORADO SPRINGS, CO 80903
PHONE 719.555.5465

CIVIL CONSULTANTS, INC.

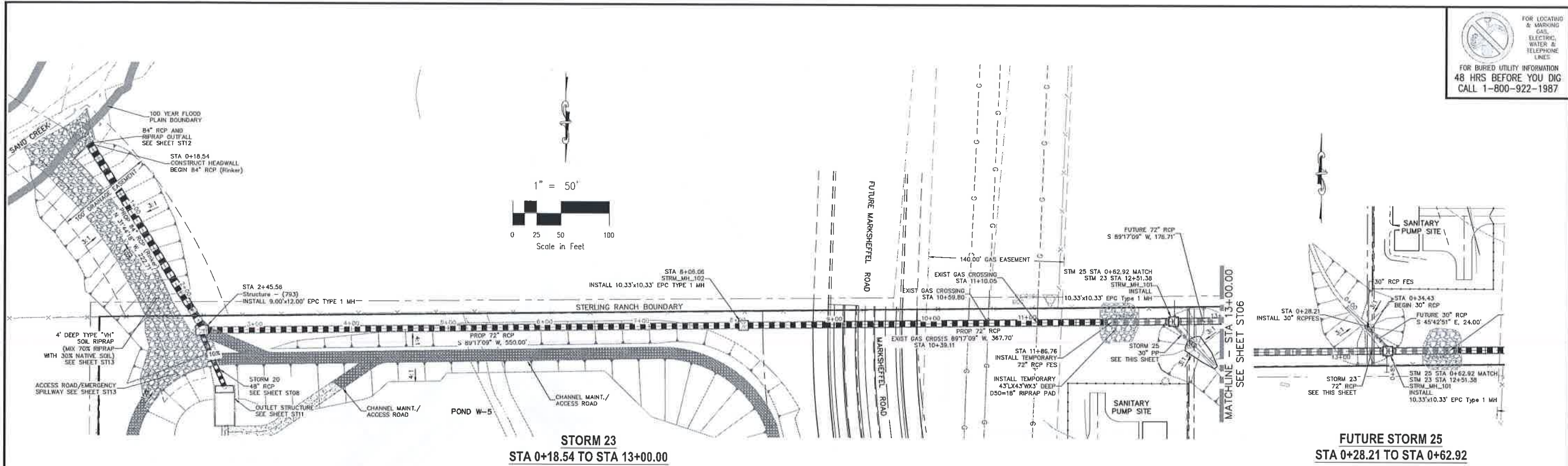
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON BEHALF OF CIVIL CONSULTANTS, INC.

NO.	DATE	DESCRIPTION	APPROVED BY	DATE

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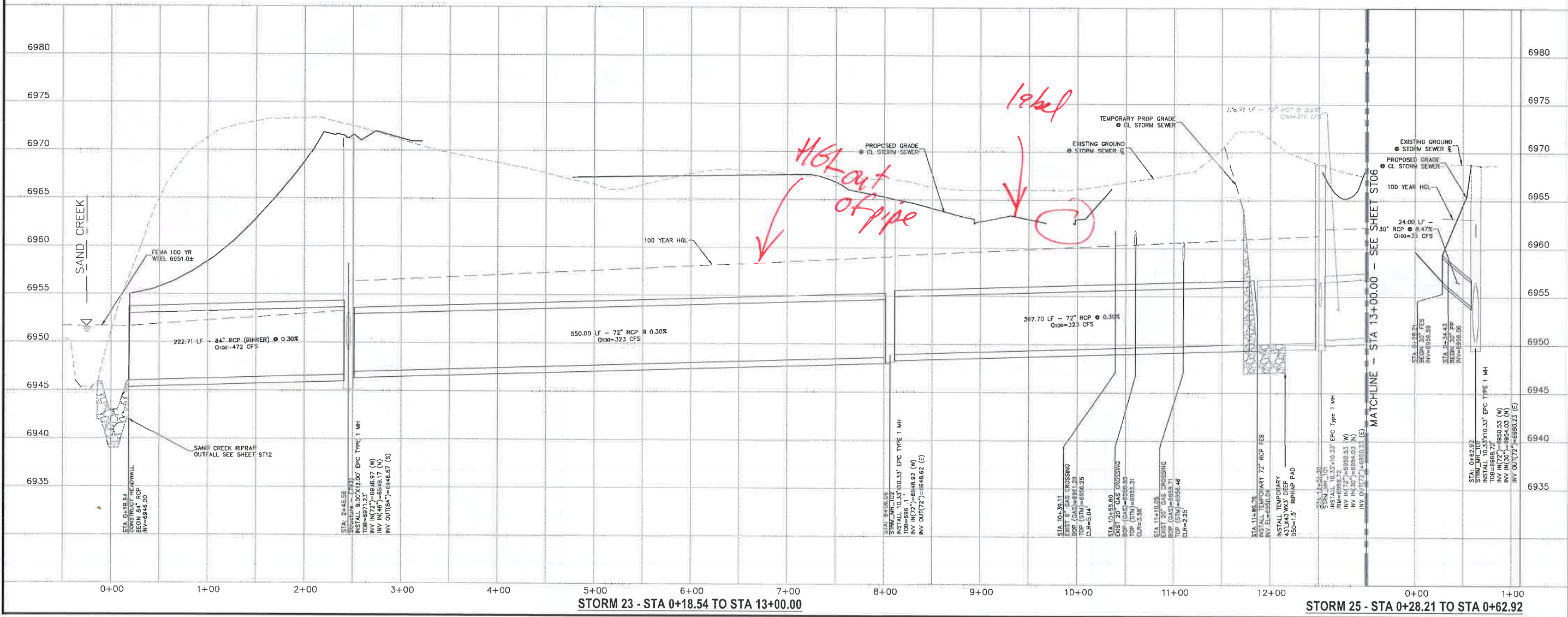
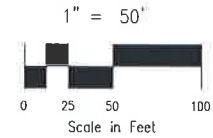
CAUTION



STORM 23
STA 0+18.54 TO STA 13+00.00

FUTURE STORM 25
STA 0+28.21 TO STA 0+62.92

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987

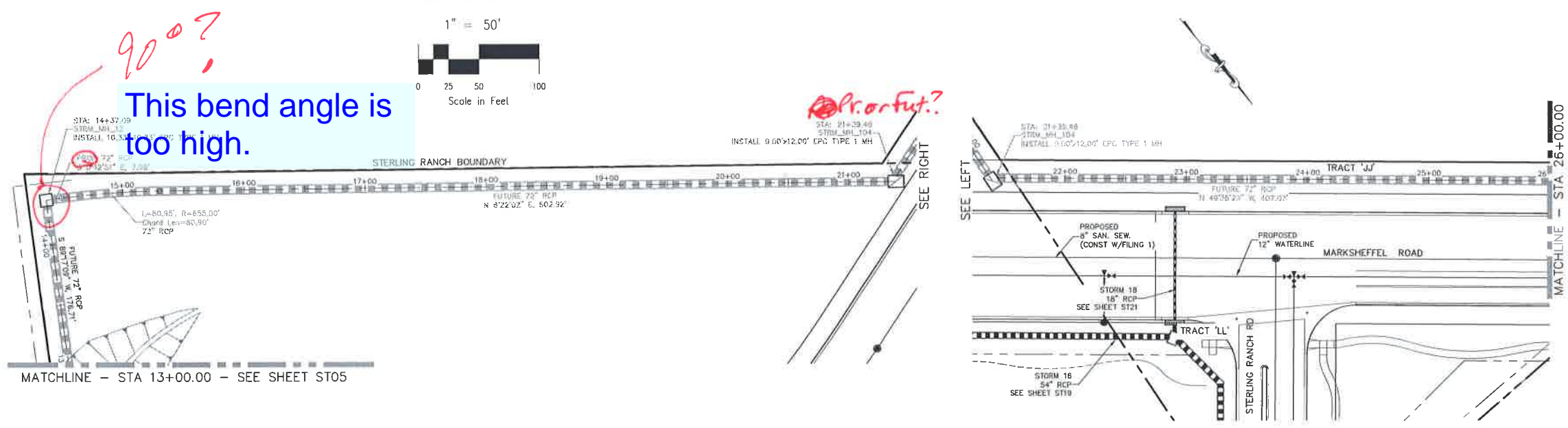
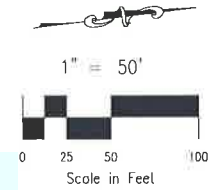


STORM 23 - STA 0+18.54 TO STA 13+00.00

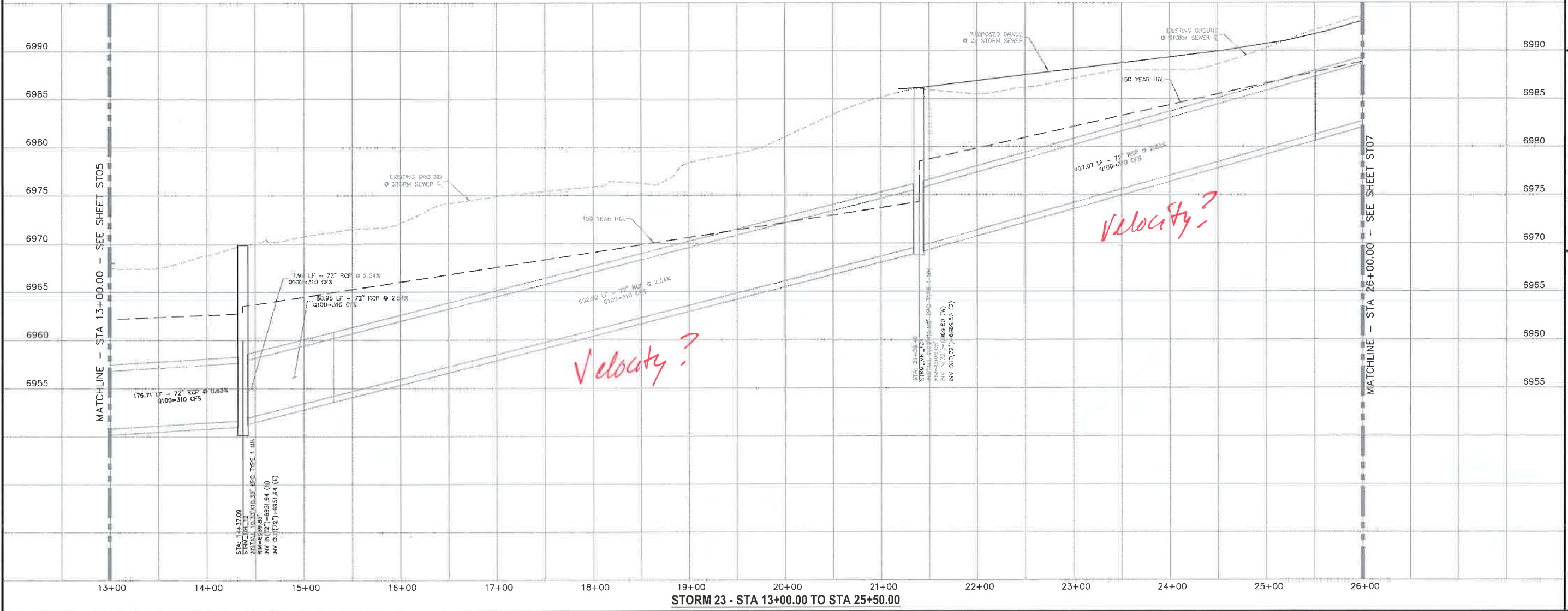
STORM 25 - STA 0+28.21 TO STA 0+62.92

STERLING RANCH FILING NO. 2	
STORM SEWER PLANS	
PROJECT NO. 09-002	DATE: 05/19/2017
DESIGNED BY: ET	HORIZONTAL: 1"=50'
DRAWN BY: ELY	VERTICAL: 1"=5'
CHECKED BY: VAS	SHEET 5 OF 22
ST05	
28 BOULDER CREEK, SUITE 110 COLORADO SPRINGS, CO 80903 PHONE: 719.535.5485	
FOR AND ON BEHALF OF CONSULTANTS, INC.	
REVISIONS:	APP'D. BY: DATE:
NO. DATE	BY DESCRIPTION
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.	
CAUTION	

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
 FOR BURIED UTILITY INFORMATION
 48 HRS BEFORE YOU DIG
 CALL 1-800-922-1987



**FUTURE STORM 23
 STA 13+00.00 TO STA 25+00.00**



File: O:\0002A\Sterling Ranch District - Filing 2\dwg\Const.Dwg\Storm - Filing 2.dwg (Const. Dwg) Storm - Filing 2.dwg PlotStamp: 5/25/2017 10:17 AM

STERLING RANCH FILING NO. 2	
STORM SEWER PLANS	
PROJECT NO. 09-002	SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'
DESIGNED BY: ELY	DATE: 05/19/2017
DRAWN BY: WAS	SHEET 6 OF 22
CHECKED BY:	ST06

20 BOULDER CRESCENT SUITE 110
 COLORADO SPRINGS, CO 80903
 PHONE: 719.555.5495

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF MASS CIVIL CONSULTANTS, INC.

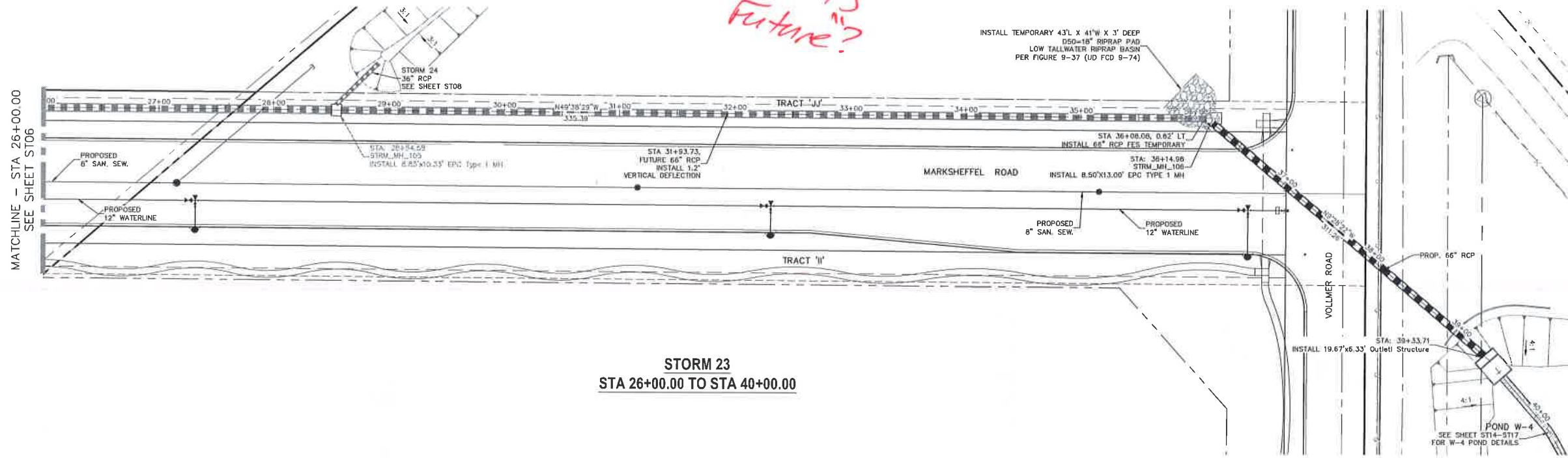
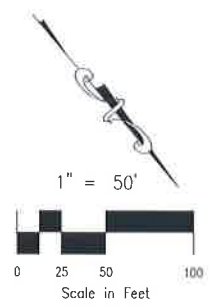
NO.	DATE	BY	DESCRIPTION	APPROVAL	DATE

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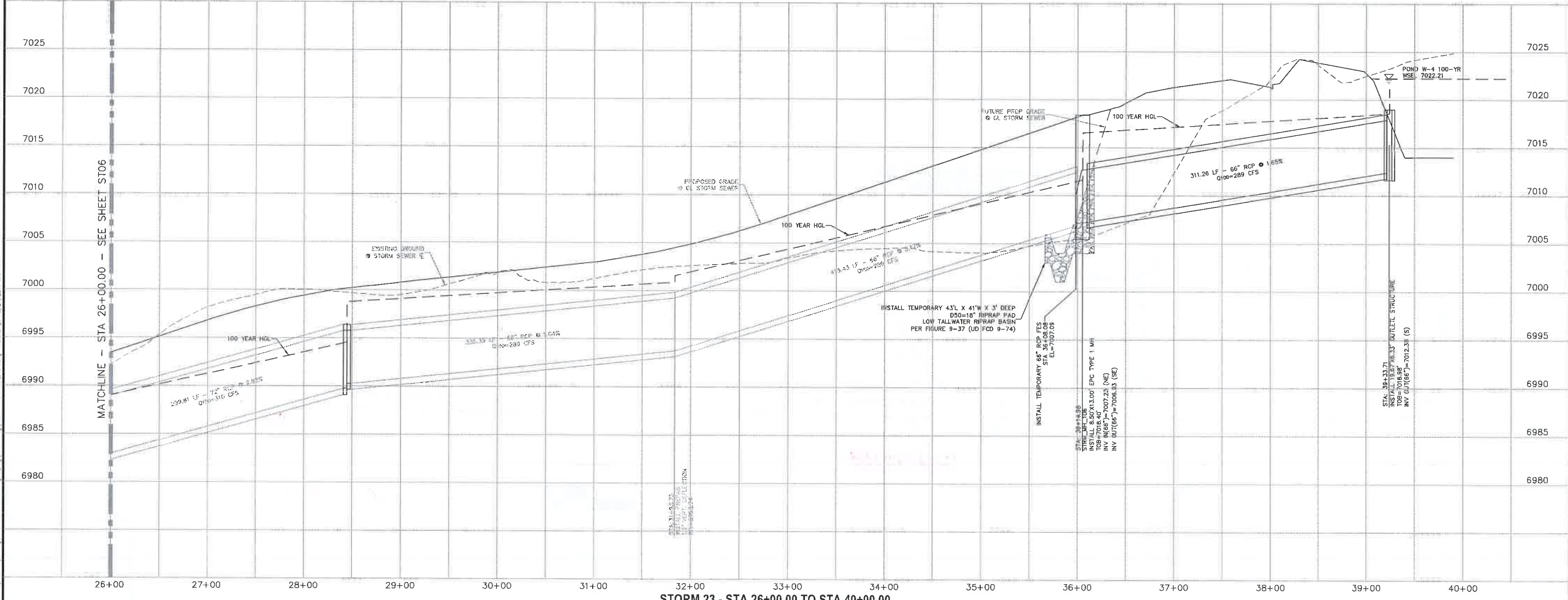
CAUTION

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

When is Future?



**STORM 23
STA 26+00.00 TO STA 40+00.00**



STORM 23 - STA 26+00.00 TO STA 40+00.00

STERLING RANCH FILING NO. 2
STORM SEWER PLANS
PROJECT NO. 09-002
FILE: \\ep\Cent\Eng\Storm - District\ST07.dwg
DATE: 05/19/2017
SCALE: 1"=50'
DESIGNED BY: ET
DRAWN BY: VAS
CHECKED BY: VAS
SHEET 7 OF 22
ST07

2830ULDB CRECENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485



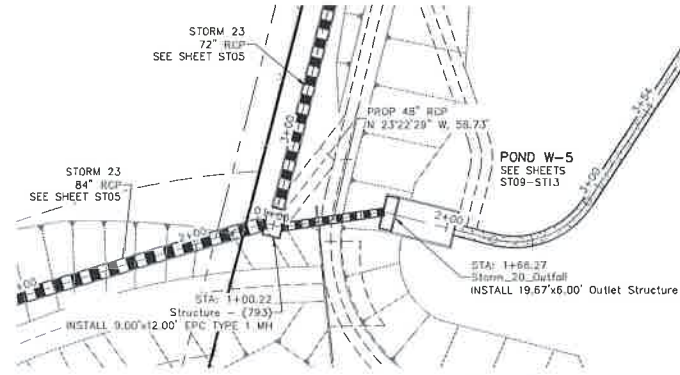
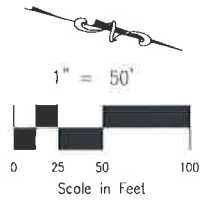
VIRGIL A. SMICHEL, COLORADO P.E. NO. 37160
FOR AND ON BEHALF OF CIVIL CONSULTANTS, INC.

NO.	DATE	DESCRIPTION	APPROV. BY	DATE

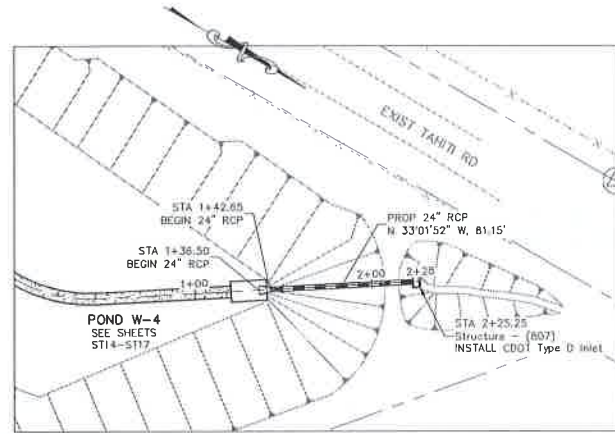
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FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987

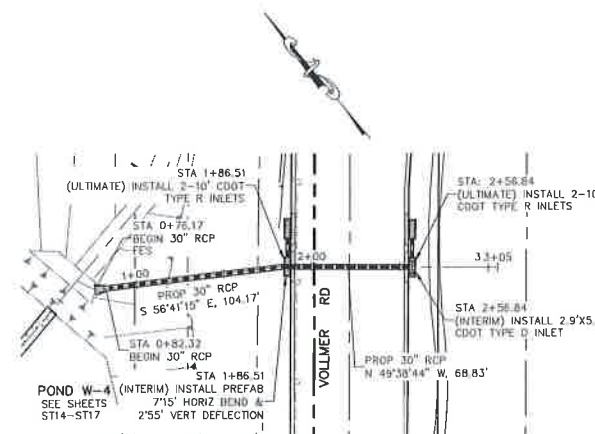


STORM 20
STA 1+00.22 TO STA 1+66.27

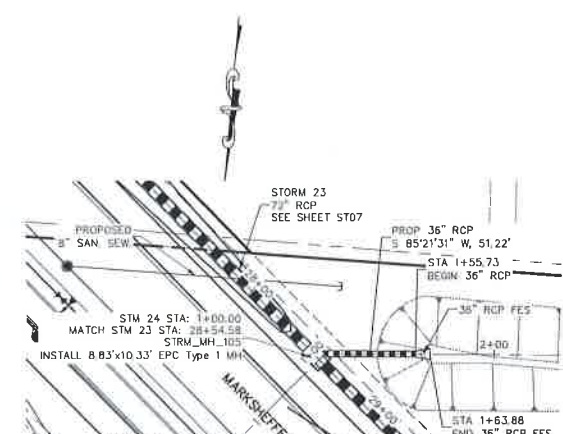


STORM 26
STA 1+36.50 TO STA 2+25.25

Sediment control?



STORM 22
STA 0+76.17 TO STA 2+56.84



STORM 24
STA 1+00.00 TO STA 1+63.88

Sediment control?

Station	Storm 20 (STA 1+00.22 to 1+66.27)	Storm 26 (STA 1+36.50 to 2+25.25)	Storm 22 (STA 0+76.17 to 2+56.84)	Storm 24 (STA 1+00.00 to 1+63.88)
6975				EXISTING GROUND CL STORM SEWER
6970				EXISTING GROUND CL STORM SEWER
6965				EXISTING GROUND CL STORM SEWER
6960				EXISTING GROUND CL STORM SEWER
6955				EXISTING GROUND CL STORM SEWER
6950				EXISTING GROUND CL STORM SEWER
6945				EXISTING GROUND CL STORM SEWER
6940				EXISTING GROUND CL STORM SEWER
6935				EXISTING GROUND CL STORM SEWER
6930				EXISTING GROUND CL STORM SEWER
7010				EXISTING GROUND CL STORM SEWER
7005				EXISTING GROUND CL STORM SEWER
7000				EXISTING GROUND CL STORM SEWER
6995				EXISTING GROUND CL STORM SEWER
6990				EXISTING GROUND CL STORM SEWER
6985				EXISTING GROUND CL STORM SEWER
6980				EXISTING GROUND CL STORM SEWER
6975				EXISTING GROUND CL STORM SEWER

V=

Piping control detail?

V=

V=

STERLING RANCH FILING NO. 2
STORM SEWER PLANS

PROJECT NO. 09-002
SCALE: HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

DESIGNED BY: ET
DRAWN BY: WAS
CHECKED BY: WAS

DATE: 05/19/2017
SHEET 8 OF 22
ST08

26 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.553.5485

MARCUS CONSULTANTS, INC.

MARCEL A. SANCHEZ, COLORADO P.E. NO. 37180

FOR AND ON BEHALF OF MARCUS CONSULTANTS, INC.

REVISIONS:

NO.	DATE	DESCRIPTION	APPROVED BY	DATE

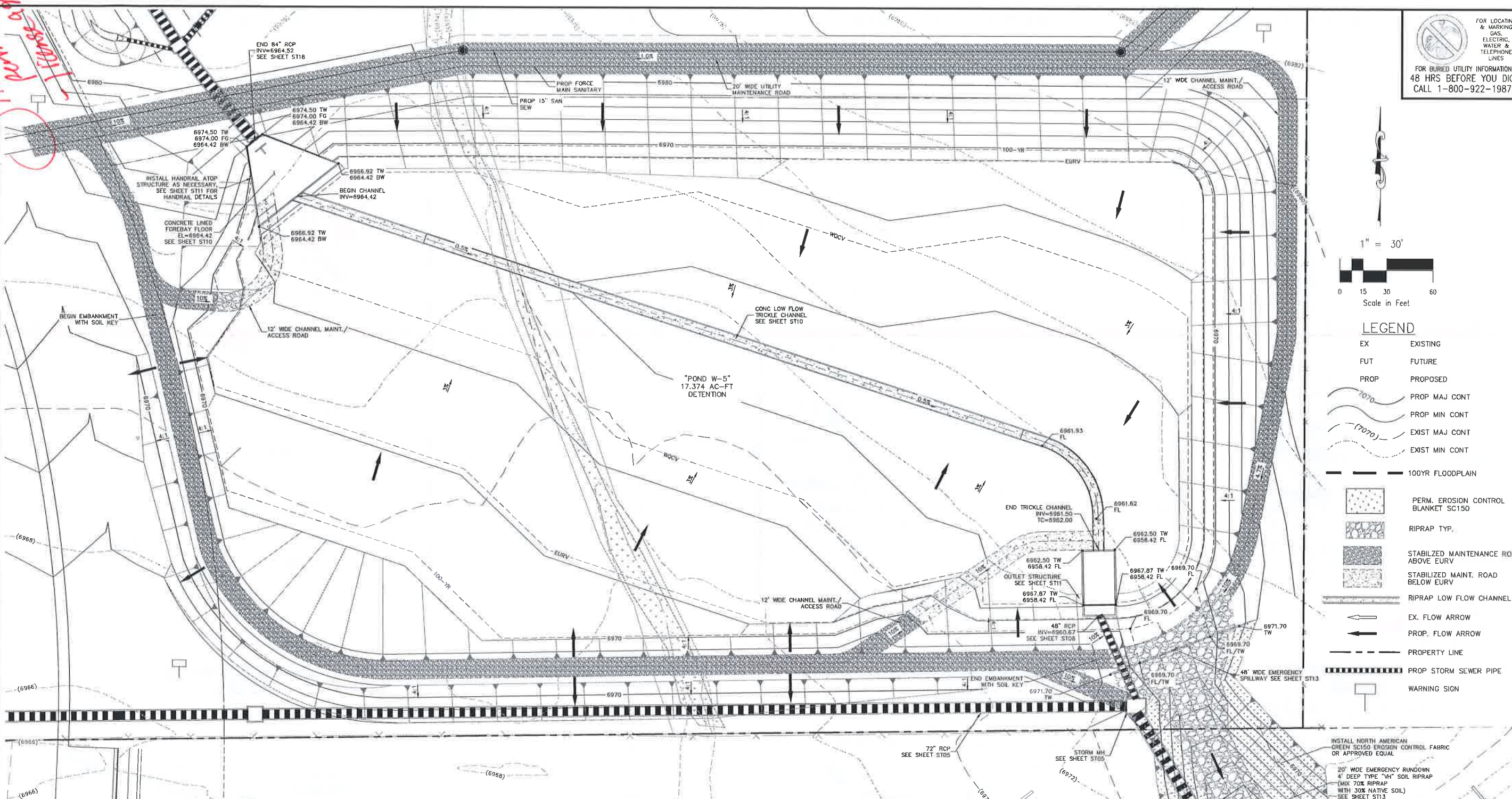
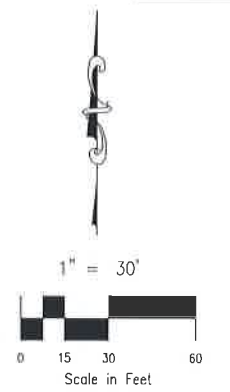
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CAUTION

Handwritten notes: AUGUST 1st, 11:00 AM, 11:00 AM, 11:00 AM

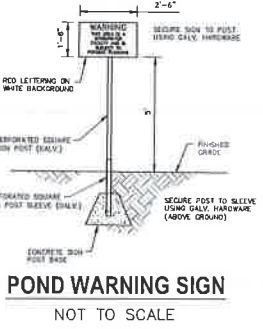
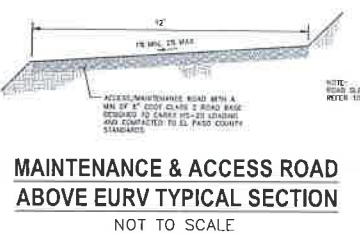
FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

STERLING RANCH FILING NO. 2
FULL SPECTRUM DETENTION POND W-5
PROJECT NO. 09-002
DESIGNED BY: ET
DRAWN BY: ELY
CHECKED BY: VAS
DATE: 05/19/2017
SCALE: HORIZ: 1"=30'
VERT: N/A
SHEET 9 OF 22
ST09



NOTES:
1. SEE STERLING RANCH-FILING NO. 2 STORM SEWER PLANS BY M&S CIVIL FOR ADDITIONAL CONSTRUCTION DETAILS. FULL SPECTRUM DETENTION POND TO BE MAINTAINED BY STERLING RANCH METRO DISTRICT.

GRADING NOTES:
1. ALL PROPOSED CONTOURS ARE TO FINISHED GRADE.
2. EARTHEN CUT AND FILL SLOPES SHALL BE 3:1 MAXIMUM. SLOPES IN EXCESS OF 4:1 AND AREAS OTHERWISE INDICATED BY WITHIN THESE PLANS, SHALL BE COVERED WITH SOIL RETENTION BLANKET OVER 4" MIN. THICKNESS OF TOPSOIL AND SEEDED.
3. IF THE PROJECT IS CONSTRUCTED DURING THE SUMMER WHEN SEEDING IS NOT ALLOWED, APPLY 1-1/2 TONS OF CERTIFIED WEED FREE MULCH PER ACRE MECHANICALLY CRIMPED INTO THE SOIL IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER.
4. PRIOR TO ANY CONSTRUCTION ACTIVITIES THE PROPOSED SILT FENCE SHOWN ON THE EROSION CONTROL SHEET SHALL BE CONSTRUCTED. THE FENCE SHALL BE REMOVED UPON THE LATER OF STABILIZATION OF THE SITE OR COMPLETION OF CONSTRUCTION.
5. TO REDUCE THE POTENTIAL FOR CLOGGING OF DEBRIS GRATES, NO STRAW MULCH SHALL BE USED WITHIN THE EURV OR WQCV OF A DETENTION BASIN. INSTEAD, EROSION CONTROL BLANKETS SHALL BE INSTALLED FOR A WIDTH OF AT LEAST 6 FEET ON EITHER SIDE OF CONCRETE LOW-FLOW CHANNELS. THE BLANKETS SHALL COMPLY WITH THE MATERIALS AND INSTALLATION REQUIREMENTS FOR EROSION CONTROL BLANKETS (STRAW COCONUT OR 100 PERCENT COCONUT). SITE-SPECIFIC CONDITIONS MAY REQUIRE ADDITIONAL BLANKET OR OTHER EROSION CONTROL MEASURES.



POND W-5 FULL SPECTRUM DETENTION BASIN DATA

WQ WATER SURFACE EL =	6965.40
WQ VOLUME=	2.97 AC-FT
EURV WATER SURFACE EL =	6967.87
EURV VOLUME=	10.16 AC-FT
100-YR WATER SURFACE EL=	6969.70
SPILLWAY CREST EL=	6969.70
TOP OF EMBANKMENT EL=	6973.00
100-YR VOLUME=	17.37 AC-FT
100-YR INFLOW =	520.3 CFS
100-YR RELEASE =	149.7 CFS

20-BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE 719.555.3485



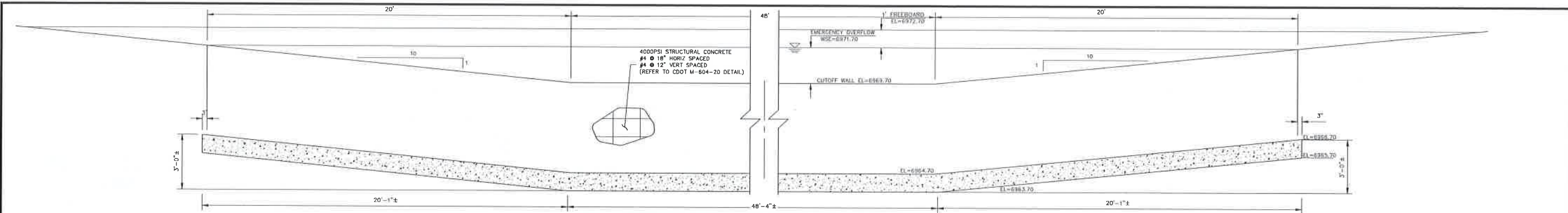
FOR AND ON BEHALF OF LOCAL CIVIL ENGINEERS, INC.
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

REVISIONS:

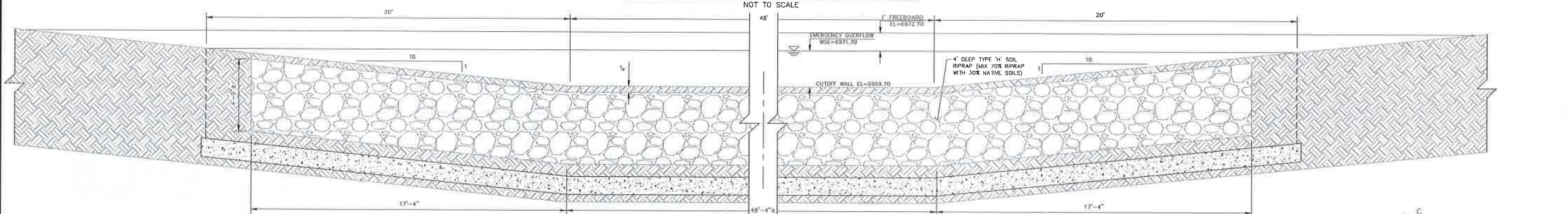
NO.	DATE	BY	DESCRIPTION

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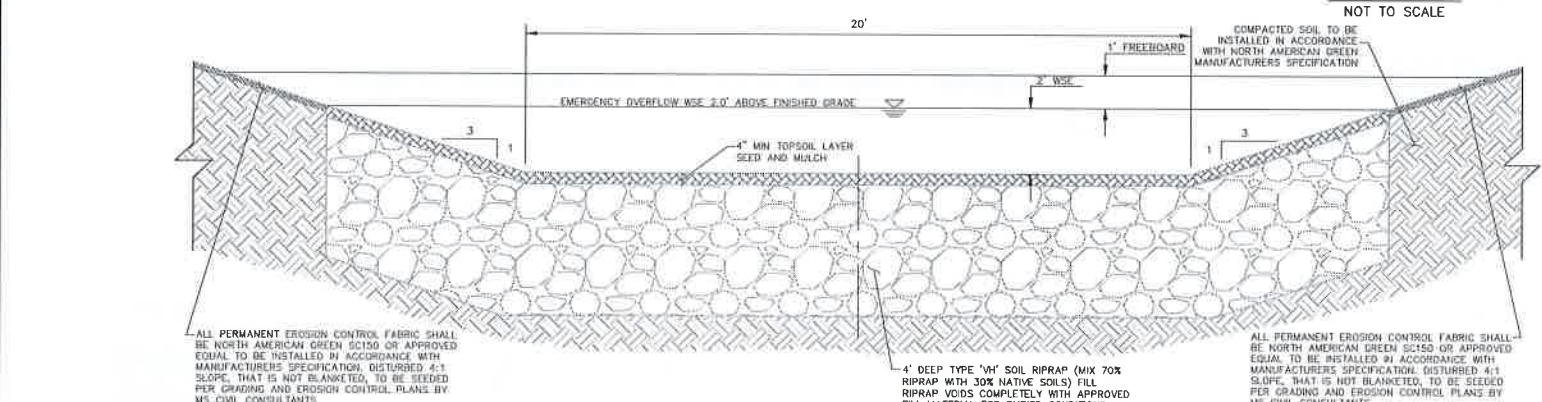
CAUTION



SECTION A-A CONCRETE CUTOFF WALL - ELEVATION



SECTION C-C

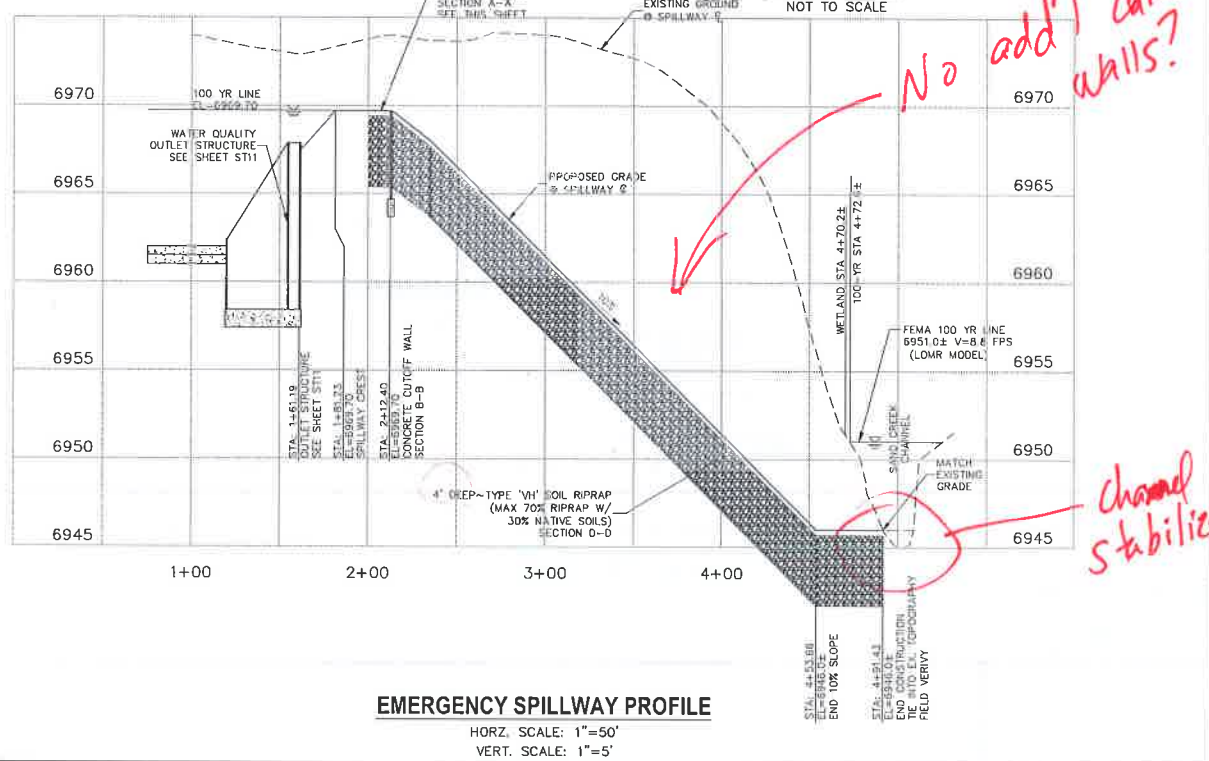


SECTION B-B

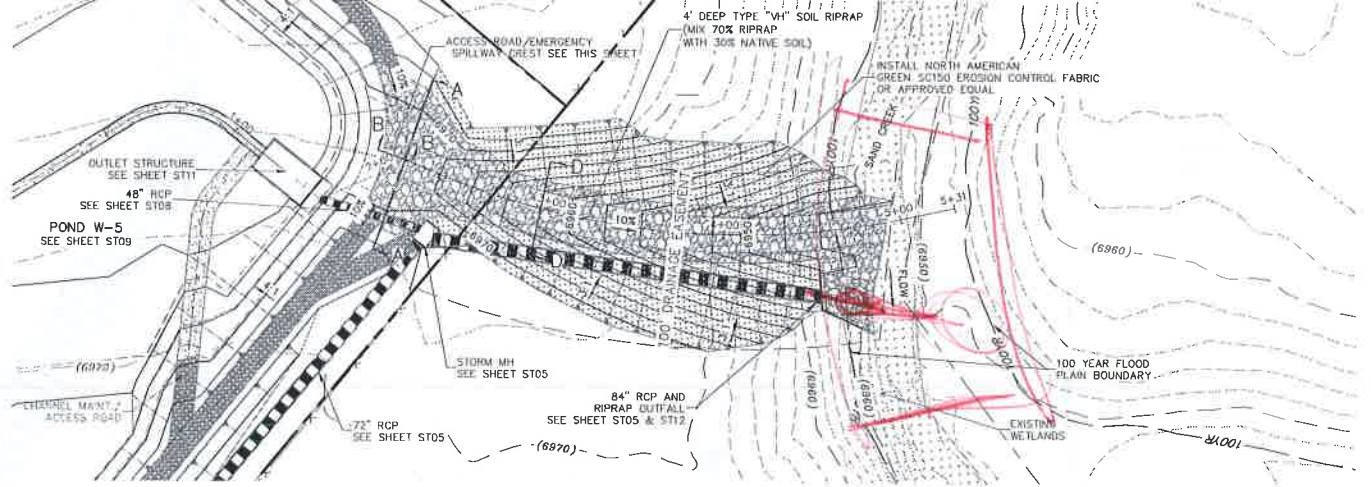
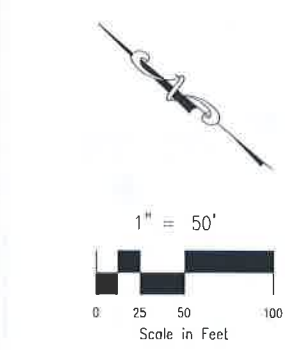


SPILLWAY RUNDOWN INTO SAND CREEK - SECTION D-D

NOTE: REFER TO STERLING RANCH FILING NO. 2 GRADING AND EROSION PLAN FOR POND EMBANKMENT AND CHANNEL STABILIZATION ADJACENT TO PROPOSED FACILITY.



EMERGENCY SPILLWAY PROFILE



EMERGENCY SPILLWAY AND RUNDOWN ALIGNMENT

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

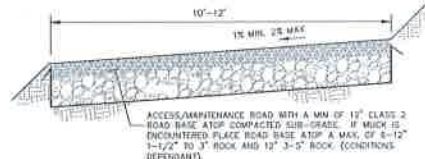
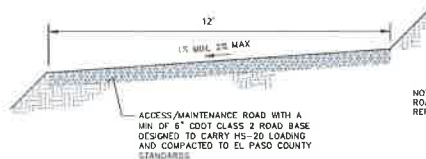
STERLING RANCH FILING NO. 2
FULL SPECTRUM DET. POND W-5 DETAILS
PROJECT NO. 08-002
FILE: \\ag\Cont\Eng\Storm - District\ST11.dwg
DESIGNED BY: ET
DRAWN BY: ELY
CHECKED BY: VAS
SCALE: N/A
DATE: 05/19/2017
SHEET 13 OF 22
ST13

26 SOULDER CREEK, JUNE 110
COLORADO SPRINGS, CO 80903
PHONE: 719-555-5485
CIVIL CONSULTANTS, INC.

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

REVISIONS:
NO. DATE: RFI DESCRIPTION
APPROVED: DATE:
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR ALTERATIONS TO THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.
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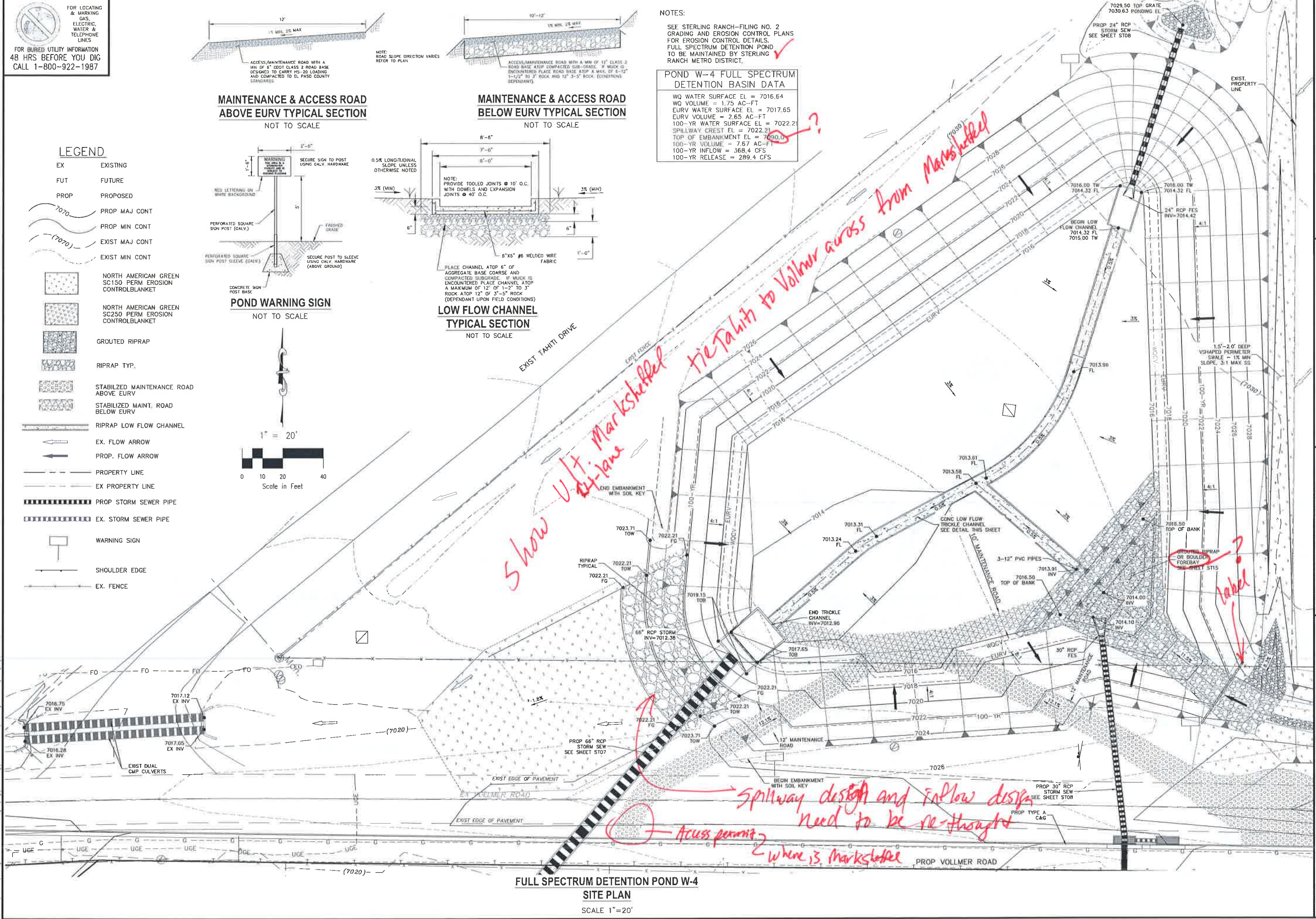
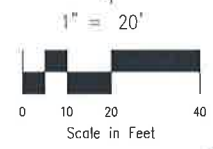
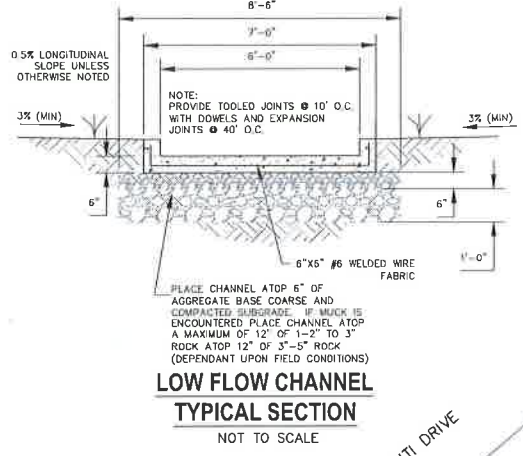
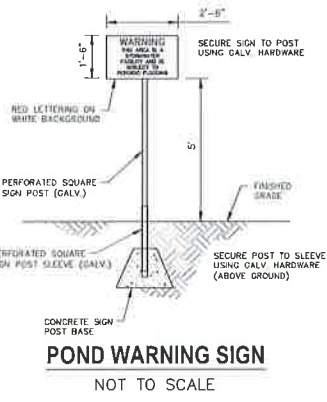


NOTES:
SEE STERLING RANCH-FILING NO. 2 GRADING AND EROSION CONTROL PLANS FOR EROSION CONTROL DETAILS. FULL SPECTRUM DETENTION POND TO BE MAINTAINED BY STERLING RANCH METRO DISTRICT.

POND W-4 FULL SPECTRUM DETENTION BASIN DATA
WQ WATER SURFACE EL = 7016.64
WQ VOLUME = 1.75 AC-FT
EURV WATER SURFACE EL = 7017.65
EURV VOLUME = 2.65 AC-FT
100-YR WATER SURFACE EL = 7022.21
SPILLWAY CREST EL = 7022.21
TOP OF EMBANKMENT EL = 7020.0
100-YR VOLUME = 7.67 AC-FT
100-YR INFLOW = 368.4 CFS
100-YR RELEASE = 289.4 CFS

LEGEND

- EX EXISTING
- FUT FUTURE
- PROP PROPOSED
- PROP MAJ CONT
- PROP MIN CONT
- EXIST MAJ CONT
- EXIST MIN CONT
- NORTH AMERICAN GREEN SC150 PERM EROSION CONTROLBLANKET
- NORTH AMERICAN GREEN SC250 PERM EROSION CONTROLBLANKET
- GROUTED RIPRAP
- RIPRAP TYP.
- STABILIZED MAINTENANCE ROAD ABOVE EURV
- STABILIZED MAINT. ROAD BELOW EURV
- RIPRAP LOW FLOW CHANNEL
- EX. FLOW ARROW
- PROP. FLOW ARROW
- PROPERTY LINE
- EX PROPERTY LINE
- PROP STORM SEWER PIPE
- EX. STORM SEWER PIPE
- WARNING SIGN
- SHOULDER EDGE
- EX. FENCE



STERLING RANCH FILING NO. 2
FULL SPECTRUM POND W-4

PROJECT NO. 09-002 FILE: Vary/Comm/Eng/Street & Storm Plans/ST14.dwg DATE: 05/19/2017

DESIGNED BY: ET SCALE: N/A
DRAWN BY: ELY HORIZ: 1'-20'
CHECKED BY: VAS VERT: N/A

20 BOULDER CRESCENT SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485

CIVIL CONSULTANTS, INC.

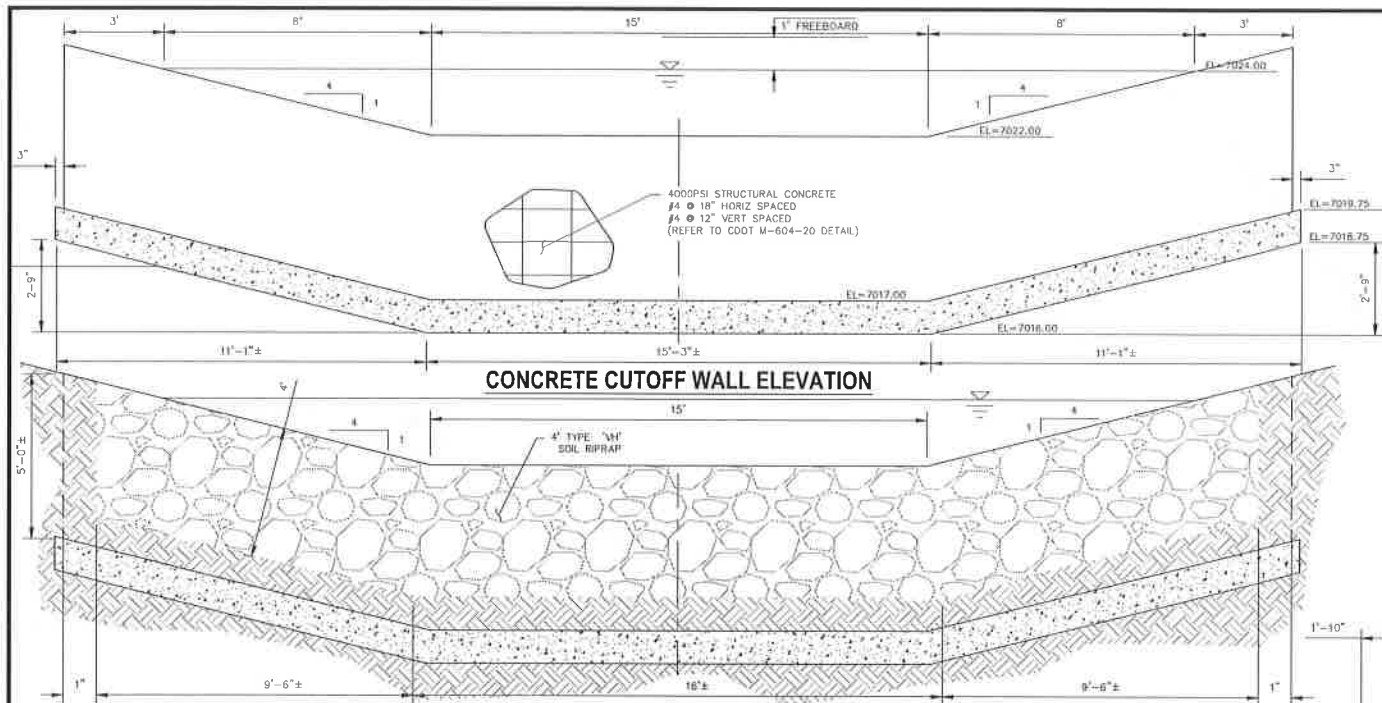
FOR AND ON BEHALF OF CIVIL CONSULTANTS, INC.

REVISIONS:

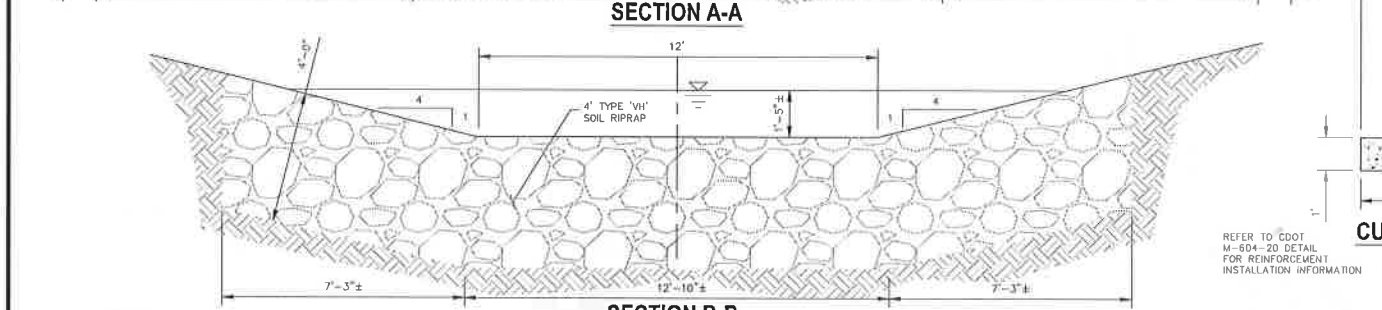
NO.	DATE	DESCRIPTION

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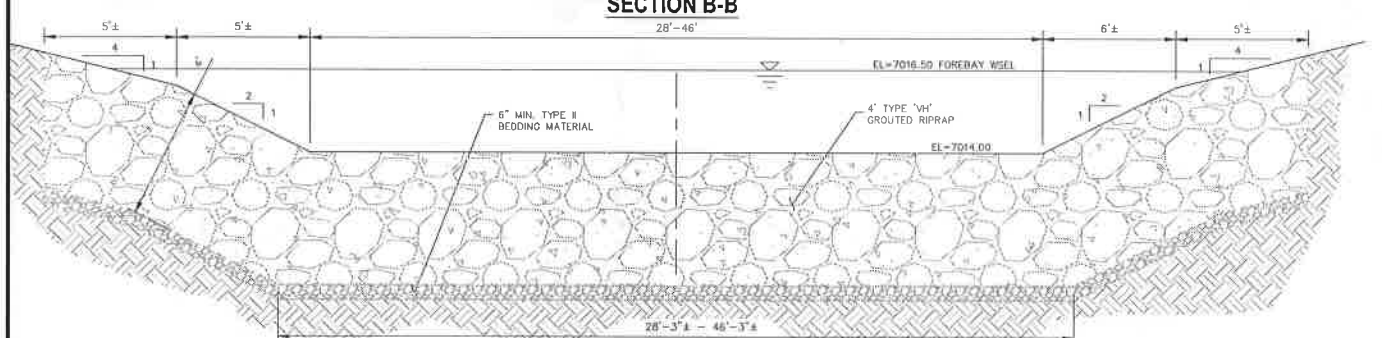
CAUTION



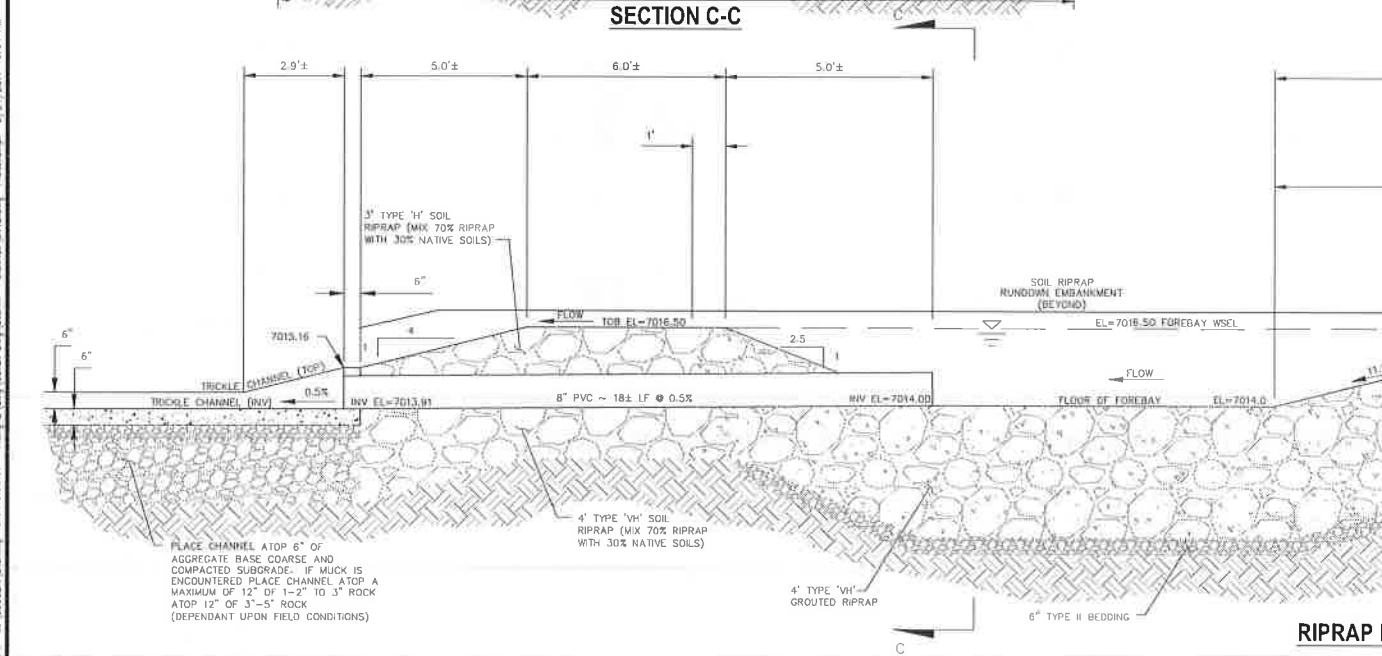
CONCRETE CUTOFF WALL ELEVATION



SECTION A-A



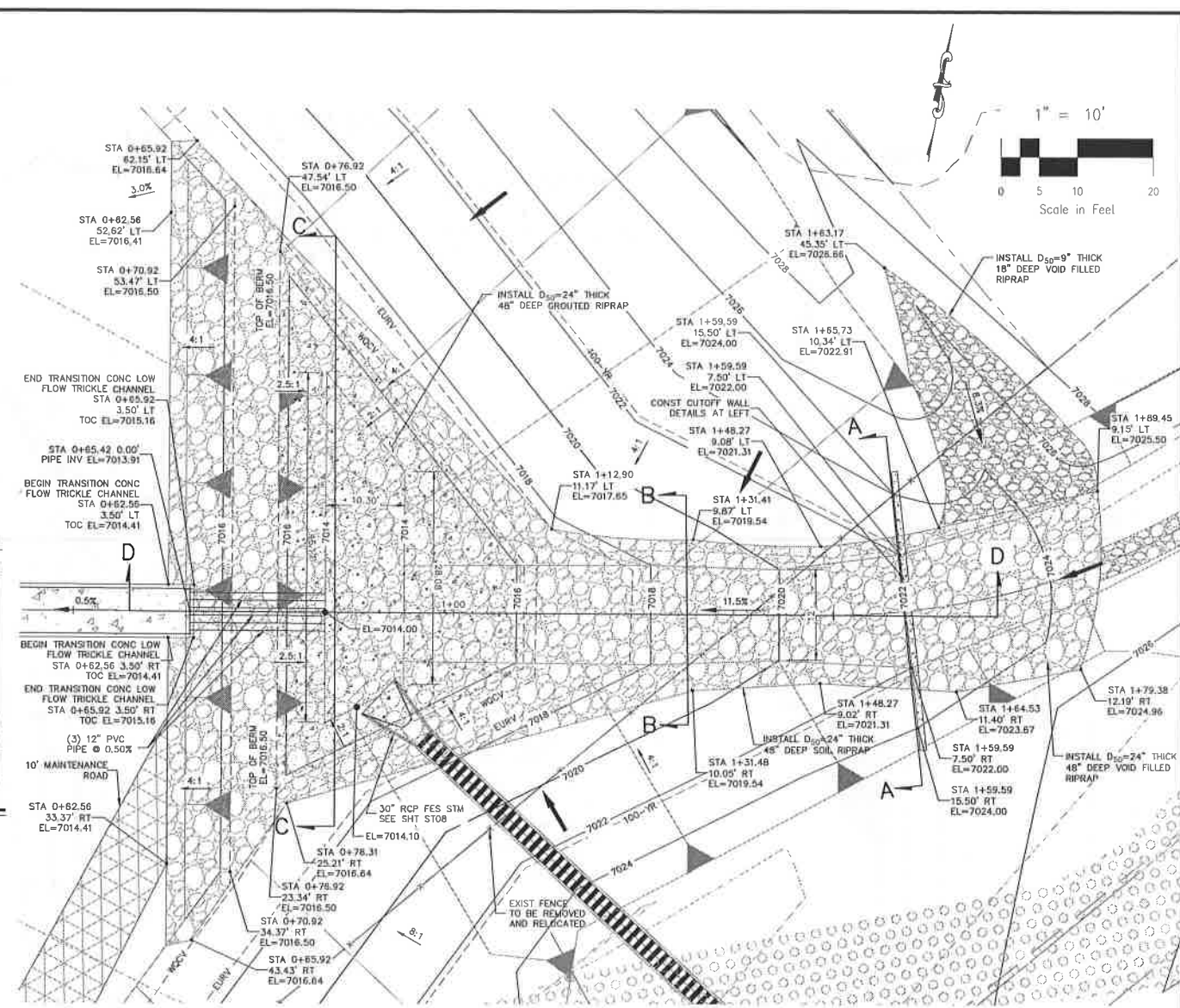
SECTION B-B



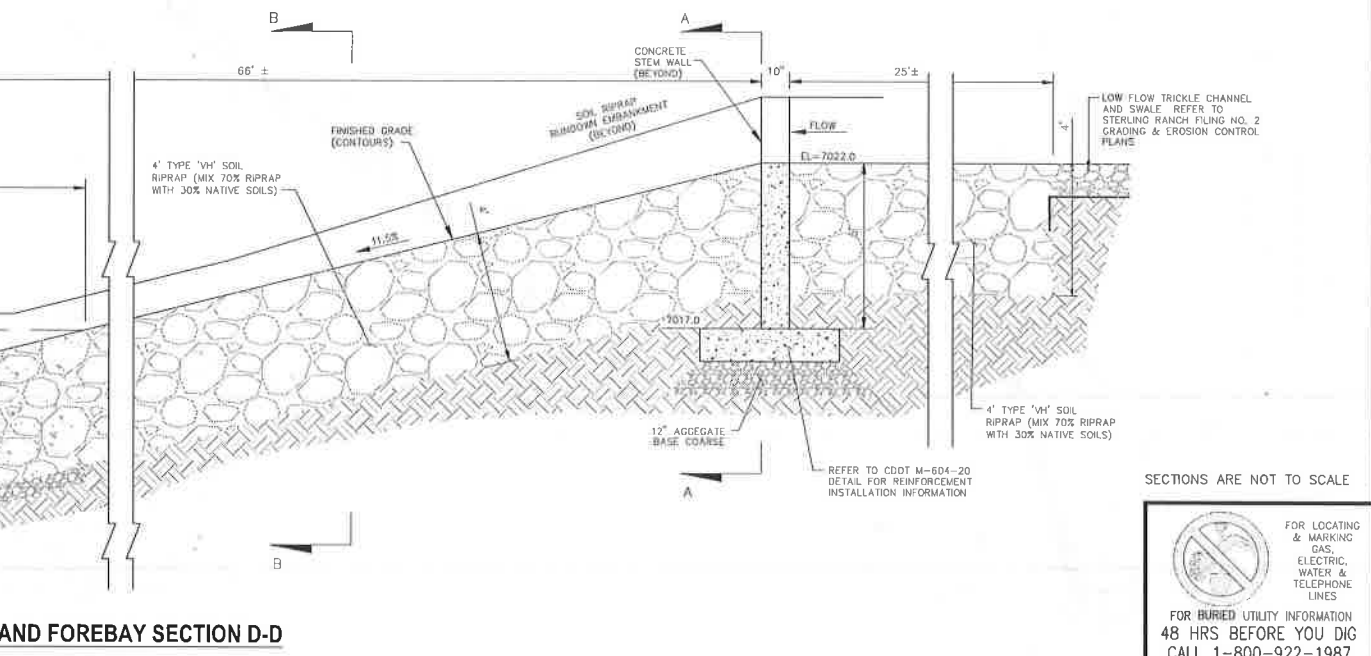
SECTION C-C



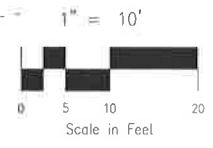
CUTOFF WALL SECTION



FULL SPECTRUM DETENTION POND W-4 RUNDOWN AND FOREBAY



RIPRAP RUNDOWN AND FOREBAY SECTION D-D



Scale in Feet

STERLING RANCH FILING NO. 2
POND W-4 RUNDOWN & FOREBAY DETAILS
 PROJECT NO. 09-002
 FILE: J:\proj\Cost\Det\Street & Storm\Plan\ST15.dwg
 DATE: 05/19/2017
 SCALE: NA
 DESIGNED BY: ELY
 DRAWN BY: VAS
 CHECKED BY: VAS
 SHEET 15 OF 22
ST15

20-3000 CRECENT, SUITE 110
 COLORADO SPRINGS, CO 80903
 PHONE 719.553.5485



FOR AND ON BEHALF OF CIVIL CONSULTANTS, INC.

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

NO.	DATE	BY	DESCRIPTION

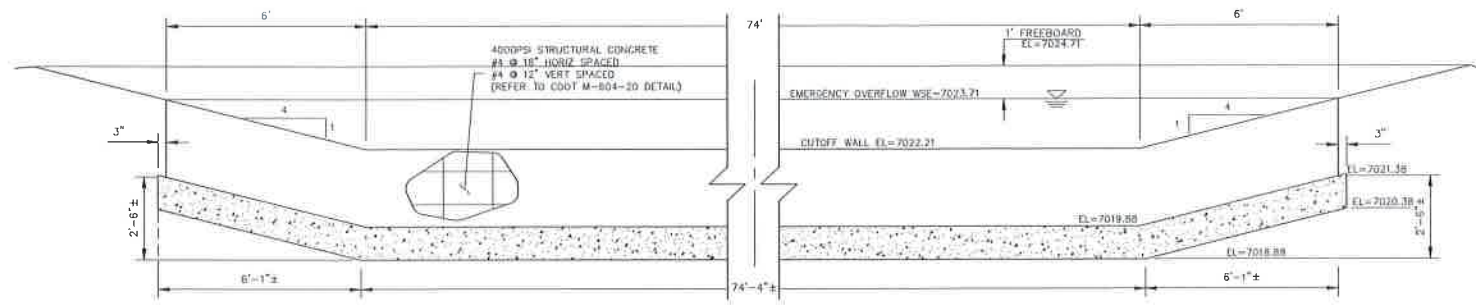
SECTIONS ARE NOT TO SCALE

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES

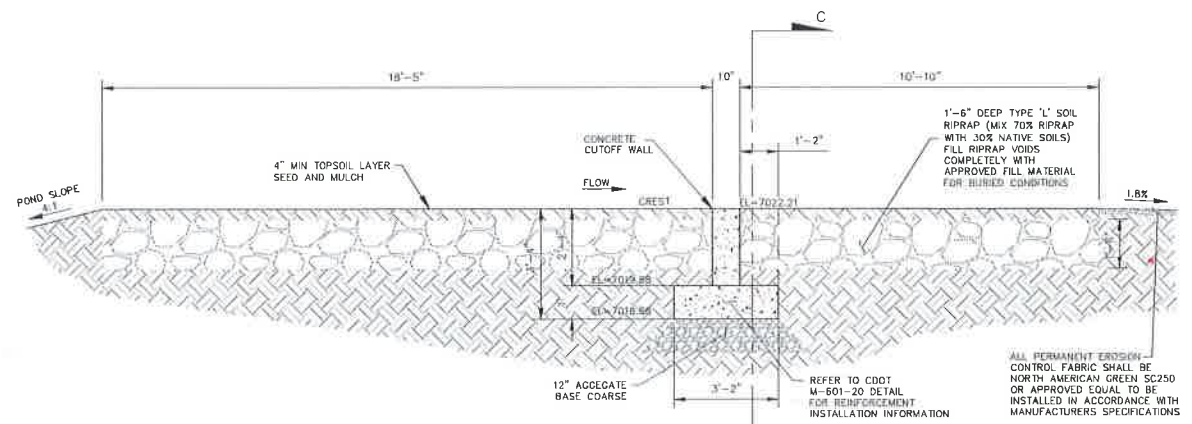
FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

CAUTION

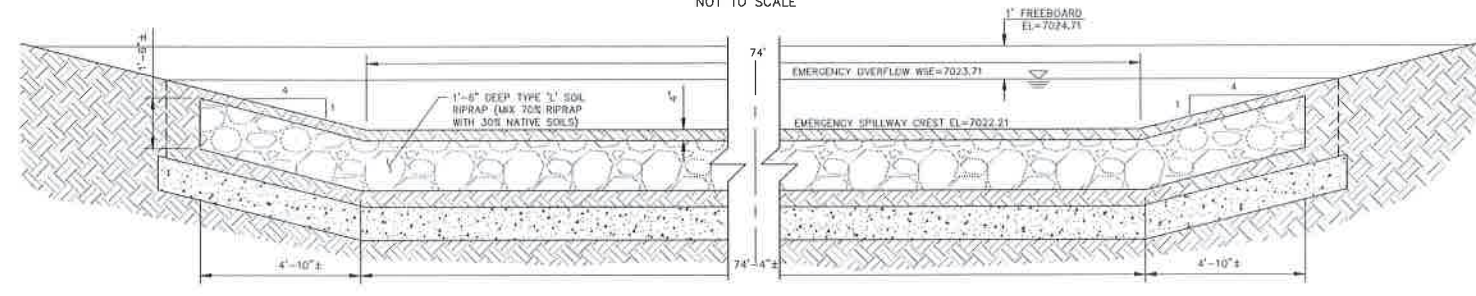
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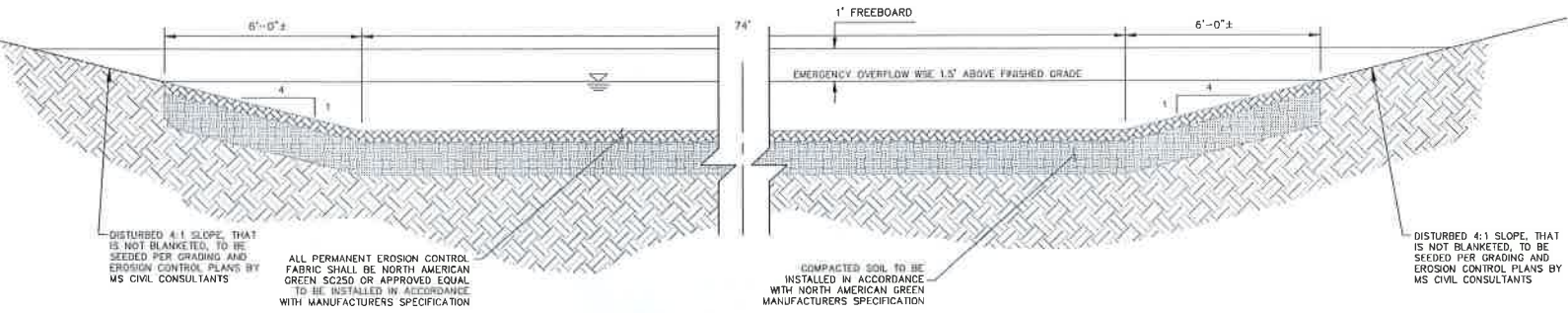
SECTION A-A CONCRETE CUTOFF WALL - ELEVATION
NOT TO SCALE



SECTION B-B
NOT TO SCALE



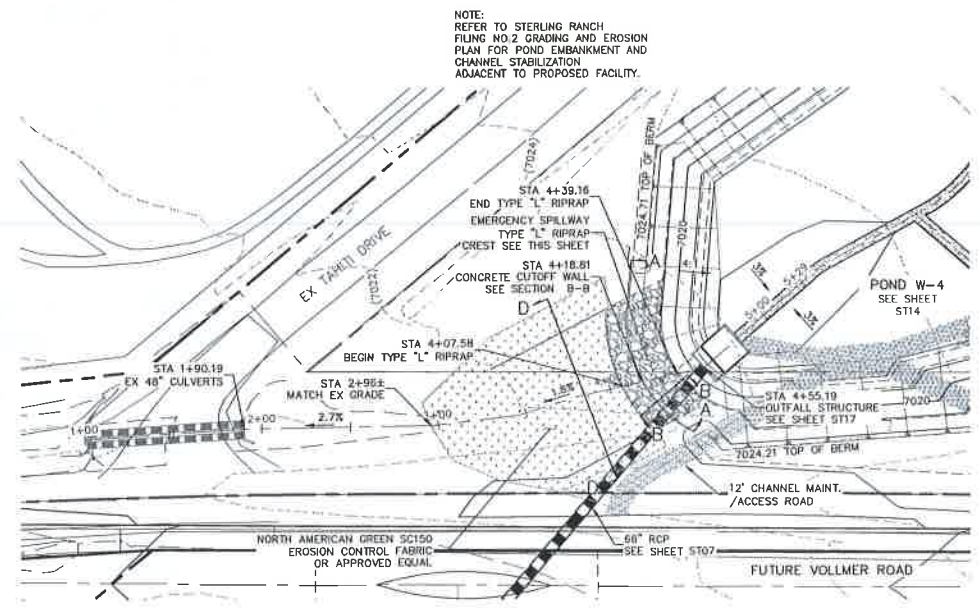
SECTION C-C
NOT TO SCALE



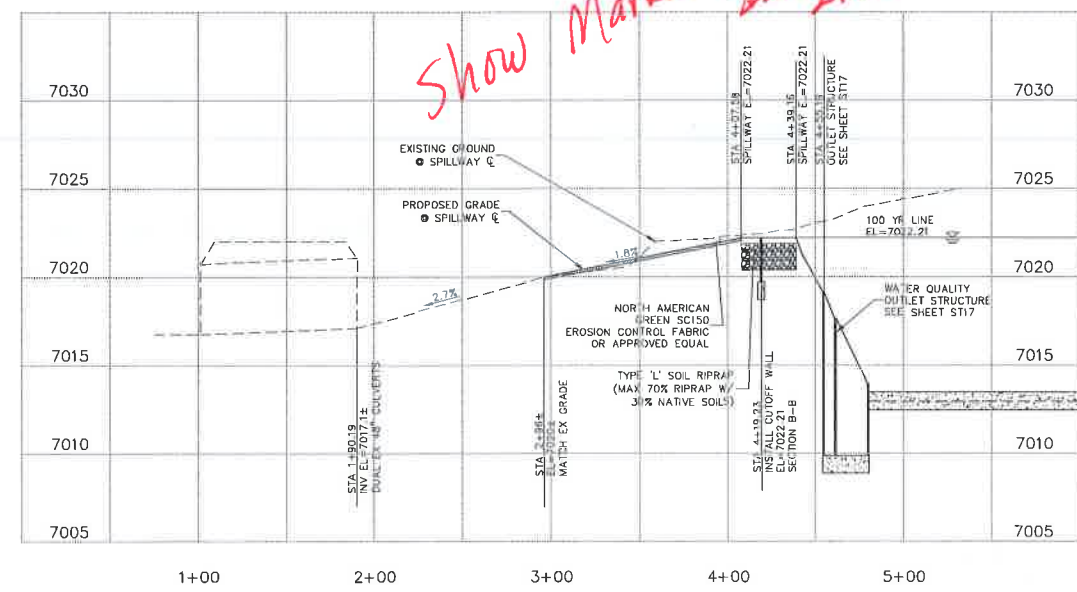
SECTION D-D SWALE RUNDOWN INTO VOLLMER DITCH
NOT TO SCALE

LEGEND

EX	EXISTING		RIPRAP LOW FLOW CHANNEL
FUT	FUTURE		EX. FLOW ARROW
PROP	PROPOSED		PROP. FLOW ARROW
	PROP MAJ CONT		PROPERTY LINE
	PROP MIN CONT		EX PROPERTY LINE
	EXIST MAJ CONT		PROP STORM SEWER PIPE
	EXIST MIN CONT		EX STORM SEWER PIPE
	NORTH AMERICAN GREEN SC150 PERM EROSION CONTROLBLANKET		WARNING SIGN
	NORTH AMERICAN GREEN SC250 PERM EROSION CONTROLBLANKET		SHOULDER EDGE
	GROUTED RIPRAP		EX. FENCE
	RIPRAP TYP.		STABILIZED MAINTENANCE ROAD ABOVE EURL
			STABILIZED MAINT. ROAD BELOW EURL

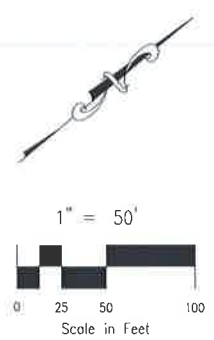


EMERGENCY SPILLWAY ALIGNMENT



EMERGENCY SPILLWAY PROFILE

HORZ. SCALE: 1"=50'
VERT. SCALE: 1"=5'



NOTE: REFER TO STERLING RANCH FILING NO. 2 GRADING AND EROSION PLAN FOR POND EMBANKMENT AND CHANNEL STABILIZATION ADJACENT TO PROPOSED FACILITY.

FILE: D:\30802A\Sterling Ranch District - Filing 2\wg\Cont.Dwg\Storm - District\ST16.dwg Plot Date: 5/22/2017 1:56 PM

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987

STERLING FILING NO. 2
FULL SPECTRUM DET. POND W-4 DETAILS
PROJECT NO. 09-002 FILE: Vwg\Cont.Dwg\Storm - District\ST16.dwg
DESIGNED BY: ELY
DRAWN BY: VAS
CHECKED BY: N/A
SCALE: NOTED
DATE: 05/19/2017
SHEET 16 OF 22
ST16

20 BOULDER CRESCENT SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485
CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

REVISIONS:	NO.	DATE	DESCRIPTION

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
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 CALL 1-800-922-1987

STERLING RANCH FILING NO. 2
 FULL SPECTRUM DET. POND W-4 DETAILS
 PROJECT NO. 09-002
 DESIGNED BY: ET
 DRAWN BY: N/A
 CHECKED BY: VAS
 DATE: 05/19/2017
 SCALE: N/A
 HORIZ: N/A
 VERT: N/A
 SHEET 17 OF 22
 ST17

28-BOULDER CREEK, SUITE 110
 COLORADO SPRINGS, CO 80903
 PHONE: 719.955.5485

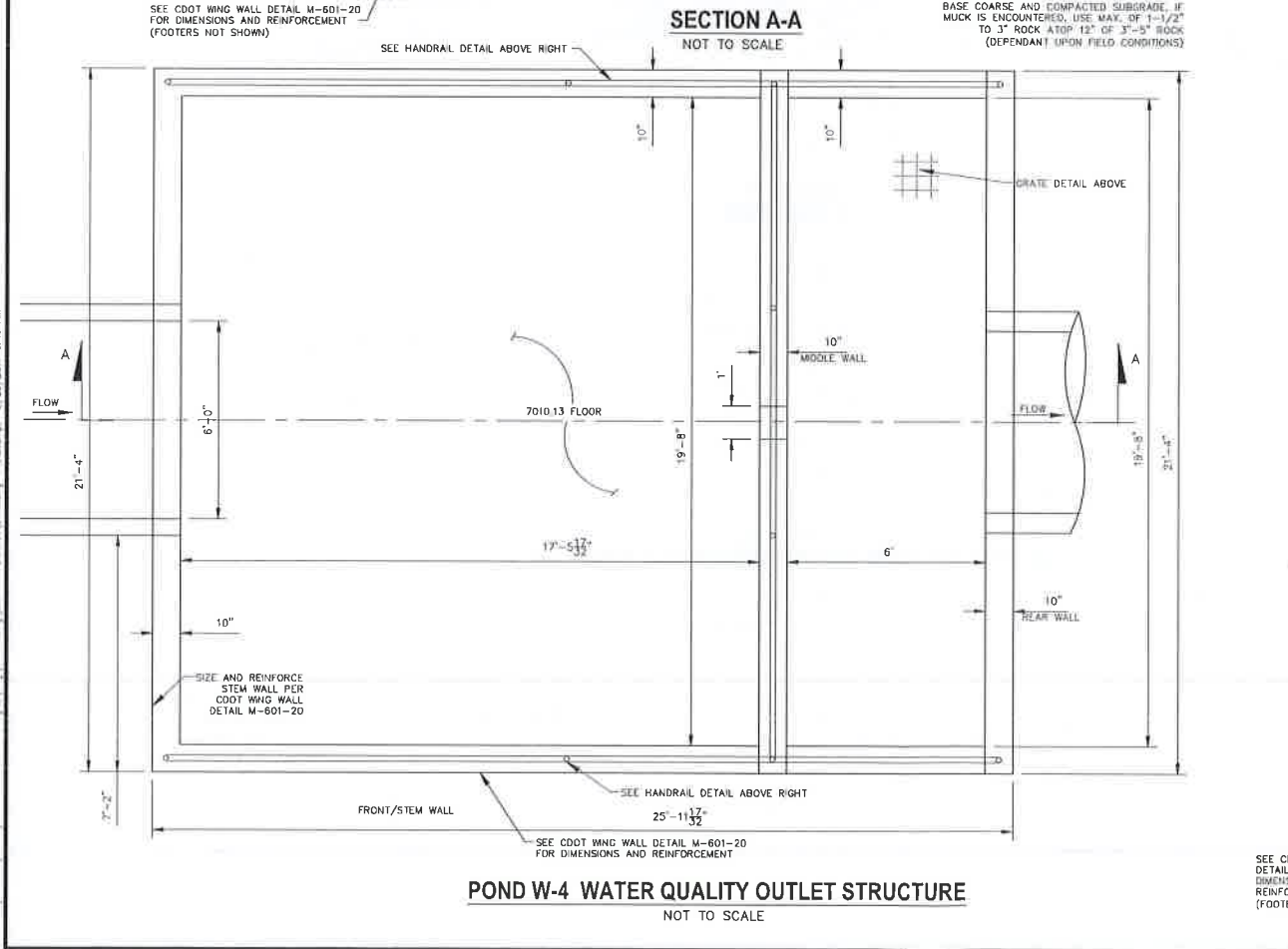
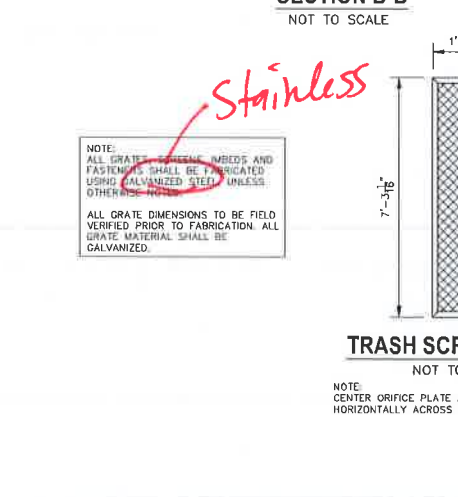
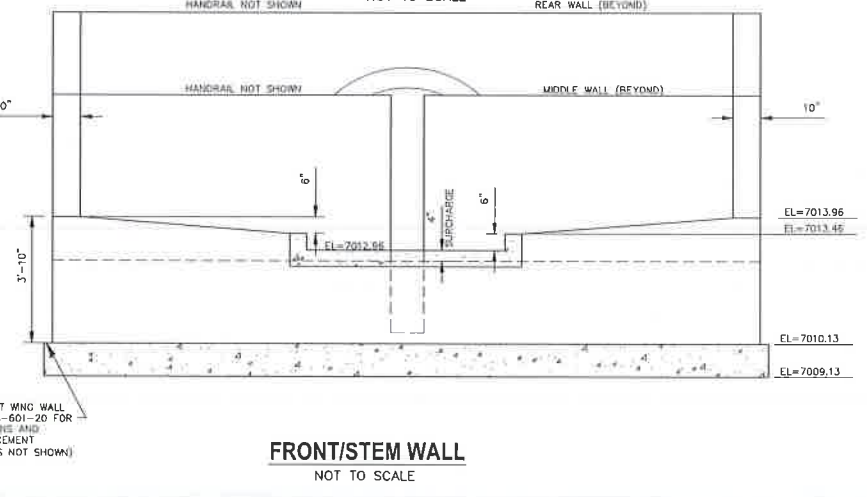
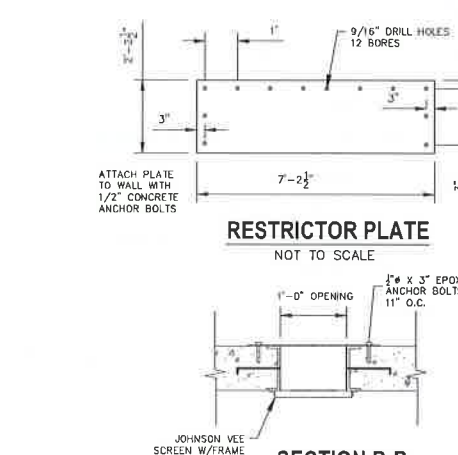
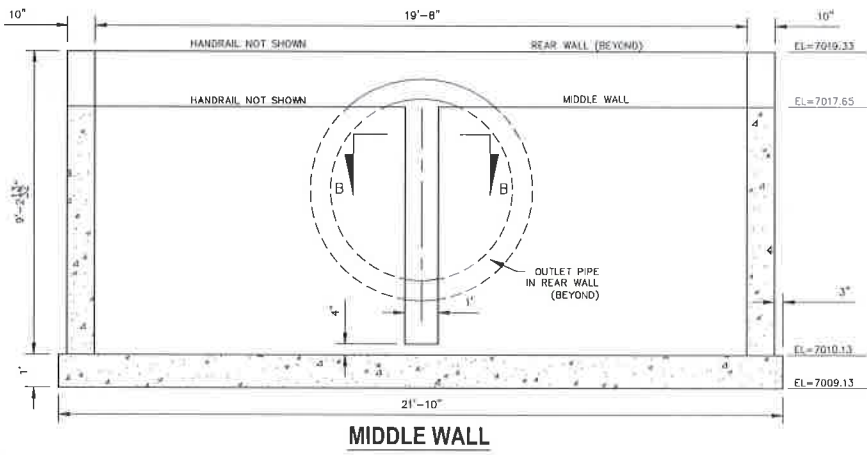
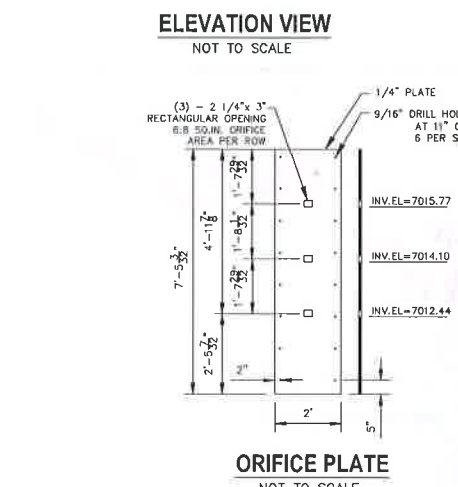
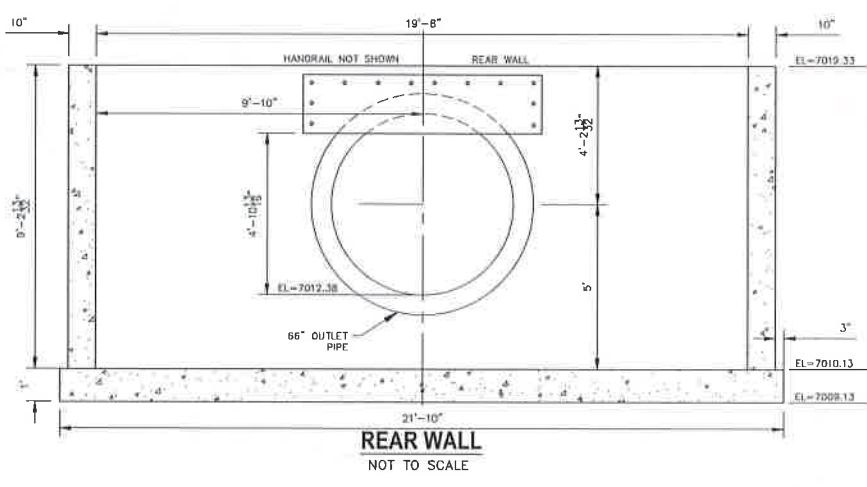
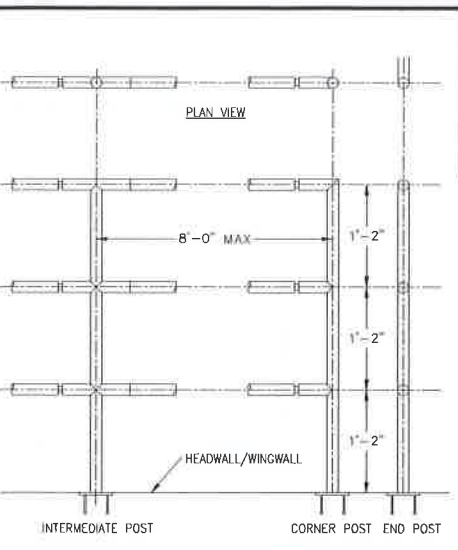
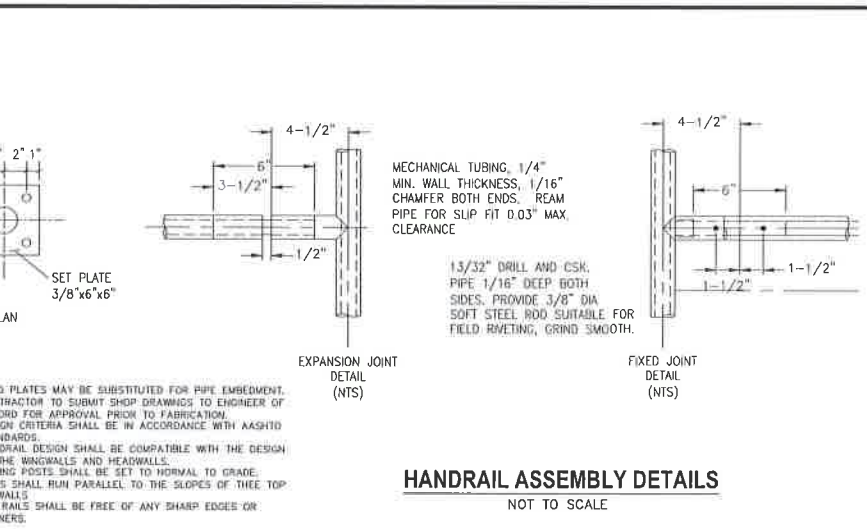
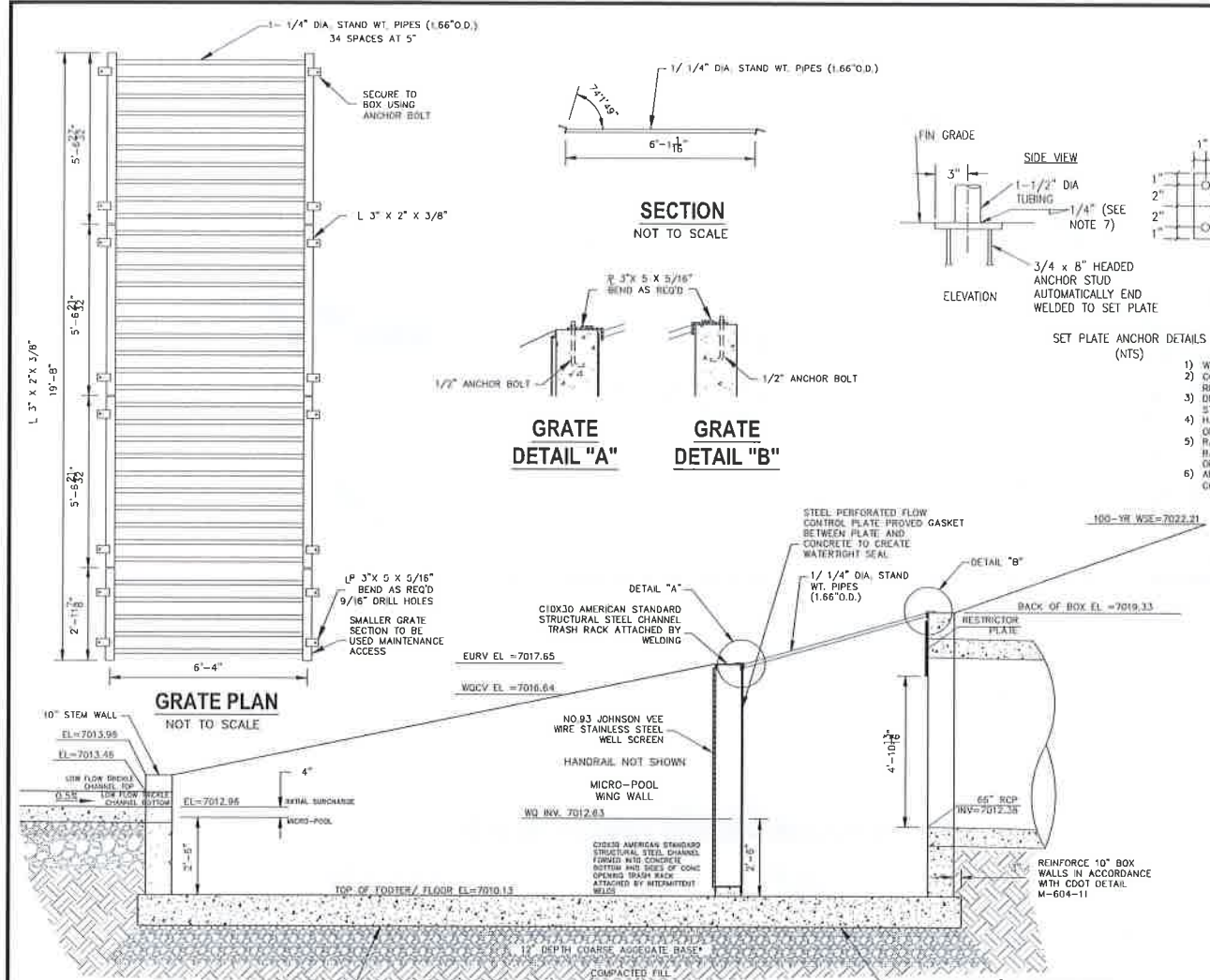
 CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF CIVIL CONSULTANTS, INC.
 VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37150

NO.	DATE	BY	DESCRIPTION

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR ALTERATIONS TO THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION



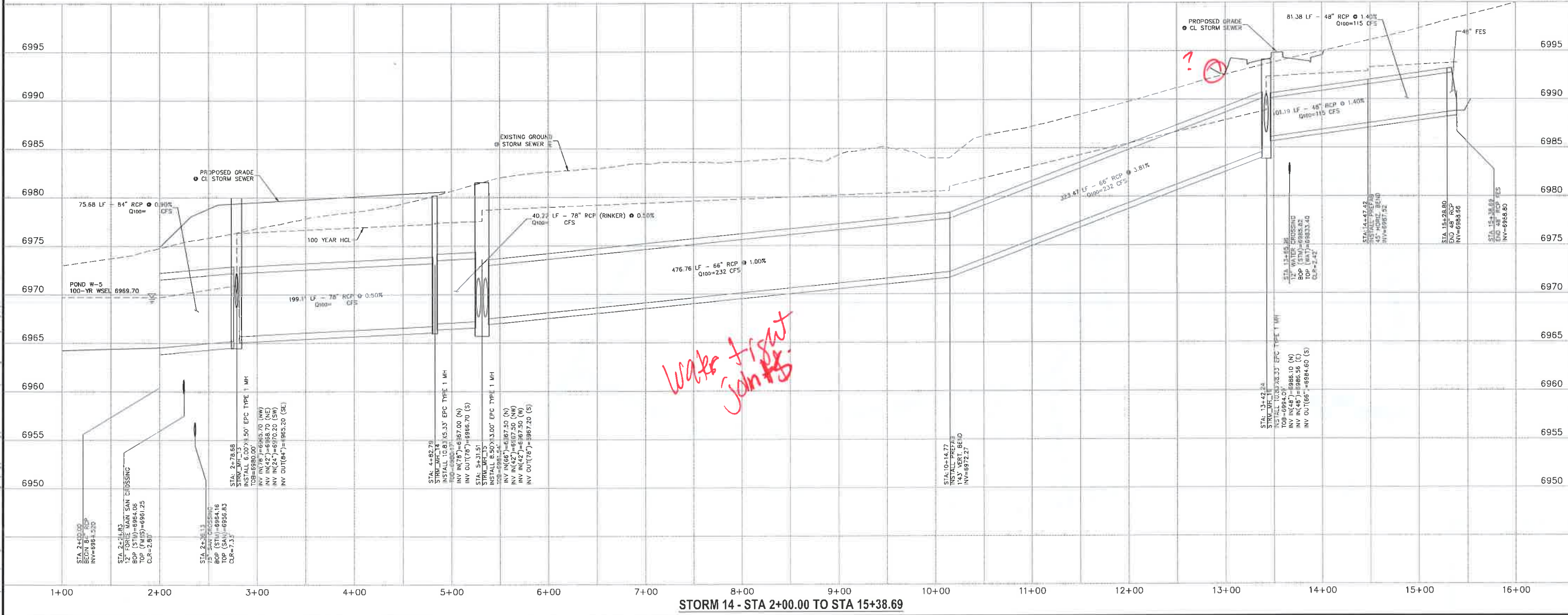
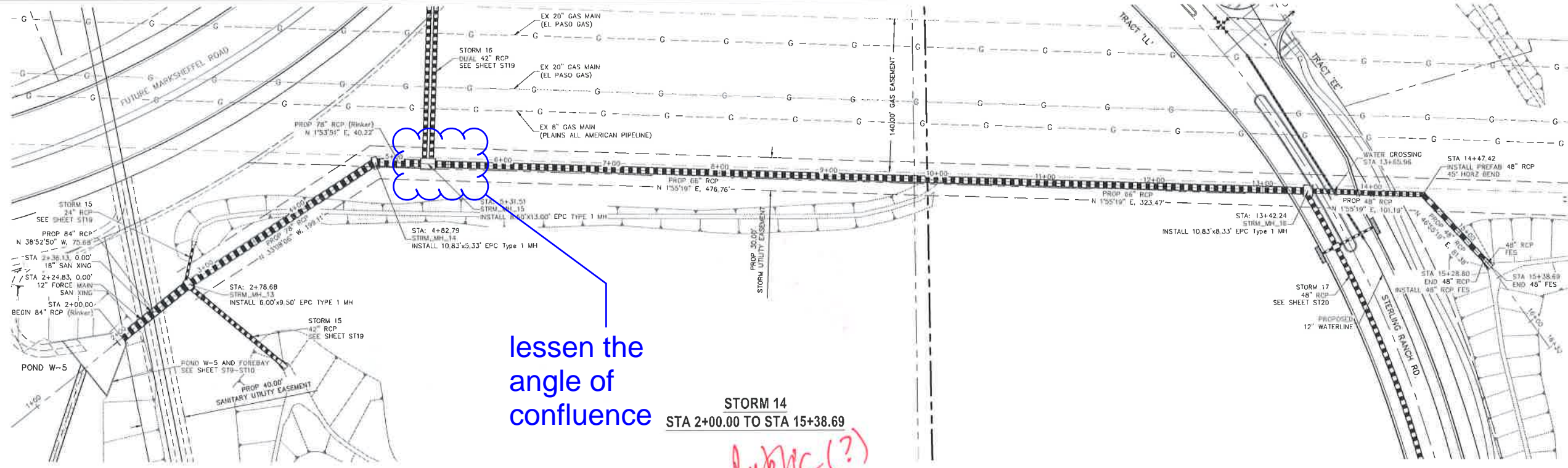
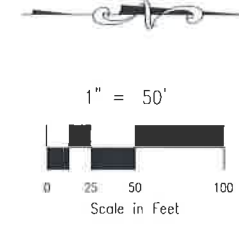
Stainless

NOTE: ALL GRATE MATERIAL SHALL BE FIELD VERIFIED PRIOR TO FABRICATION. ALL GRATE MATERIAL SHALL BE GALVANIZED.

FRAMED NO. 93 JOHNSON VEE WIRE STAINLESS STEEL WELL SCREEN

NOTE: CENTER ORIFICE PLATE AND TRASH SCREEN HORIZONTALLY ACROSS 1'-0" OPENING IN STRUCTURE

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
 FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987



STERLING RANCH FILING NO. 2

STORM SEWER PLANS

PROJECT NO. 09-002 FILE: Vmp\Cont\Dig\Storm - District\ST18.dwg DATE: 05/19/2017

DESIGNED BY: ET SCALE: HORIZ 1"=50' VERT 1"=5'

DRAWN BY: ELY SHEET 18 OF 22

CHECKED BY: VAS

20 BOULDER CRESCENT SUITE 110
 COLORADO SPRINGS, CO 80903
 PHONE: 719.555.5465

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF
 MAX CIVIL CONSULTANTS, INC.

MR. A. SANCHEZ, COLORADO P.E. NO. 37103

REVISIONS:

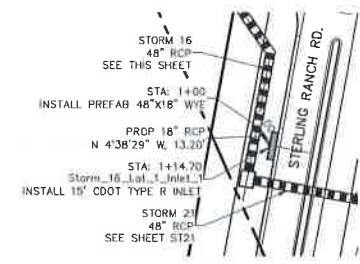
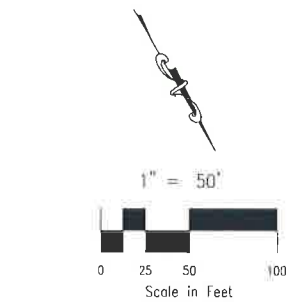
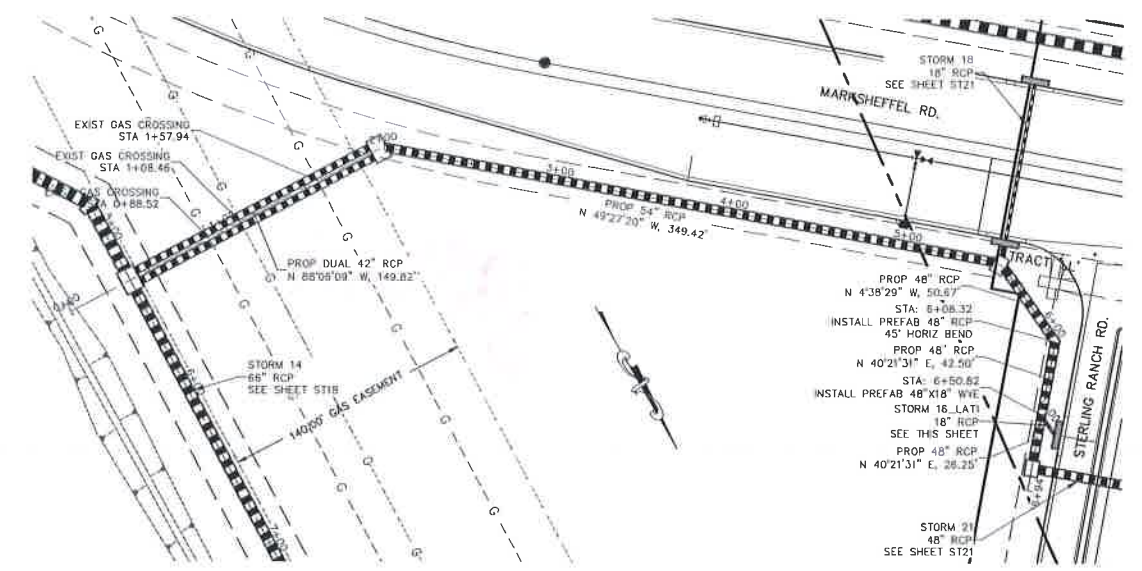
NO.	DATE	BY	DESCRIPTION

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION

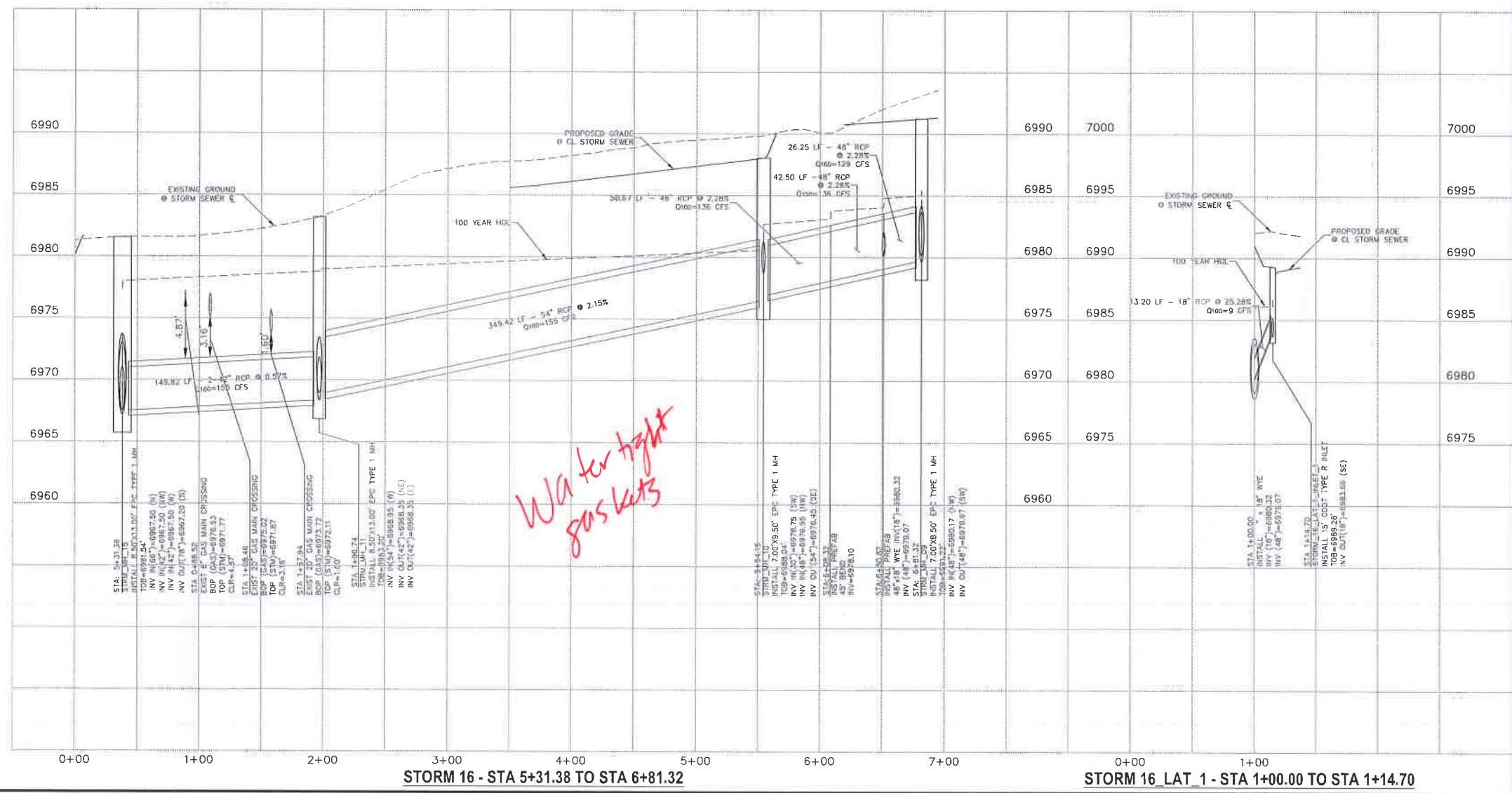
FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
 FOR BURIED UTILITY INFORMATION
 48 HRS BEFORE YOU DIG
 CALL 1-800-922-1987

STERLING RANCH FILING NO. 2
 STORM SEWER PLANS
 PROJECT NO. 09-002
 FILE: \map\Count\Map\Storm - District\ST19.dwg
 DATE: 05/19/2017
 SCALE: ET
 DESIGNED BY: ELY
 DRAWN BY: VAS
 CHECKED BY: VAS
 SHEET 19 OF 22
 ST19



STORM 16
 STA 5+31.38 TO STA 6+81.32

STORM 16 LAT 1
 STA 1+00.00 TO STA 1+14.70



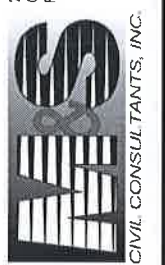
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160
 FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

REVISIONS:

NO.	DATE	BY	DESCRIPTION	APP'D.	RTL	DATE

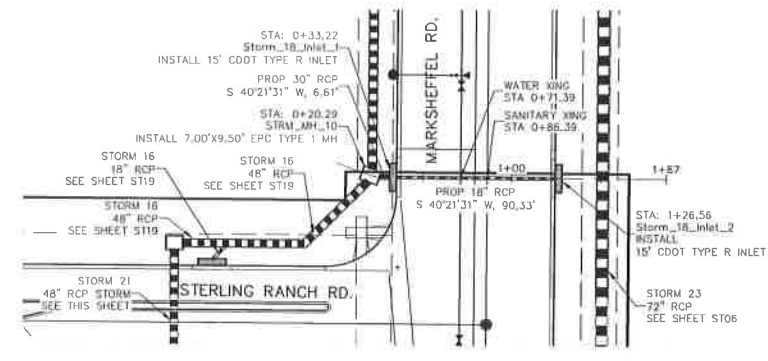
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION

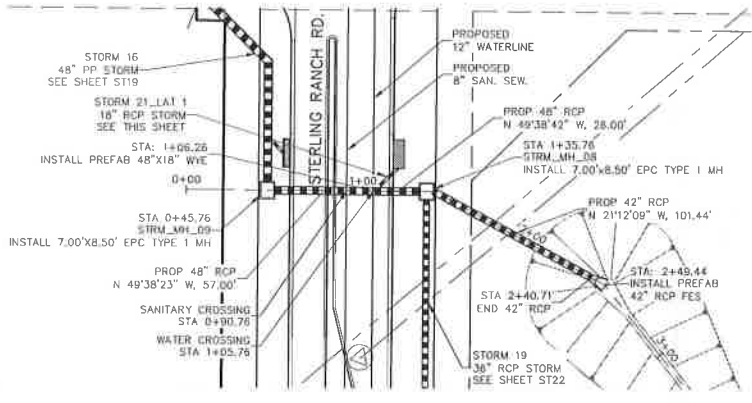


26900DES CRESCENT, SUITE 110
 COLORADO SPRINGS, CO 80903
 PHONE: 719.555.5485

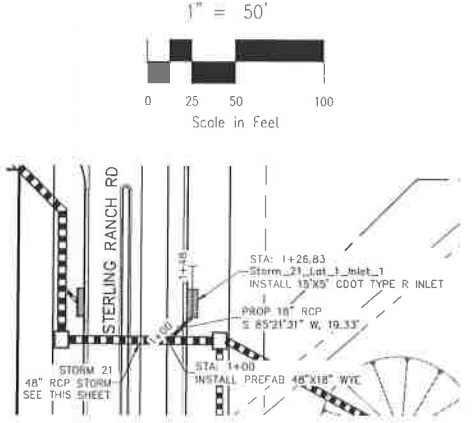
FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987



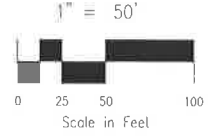
STORM 18
STA 0+20.29 TO STA 1+26.56



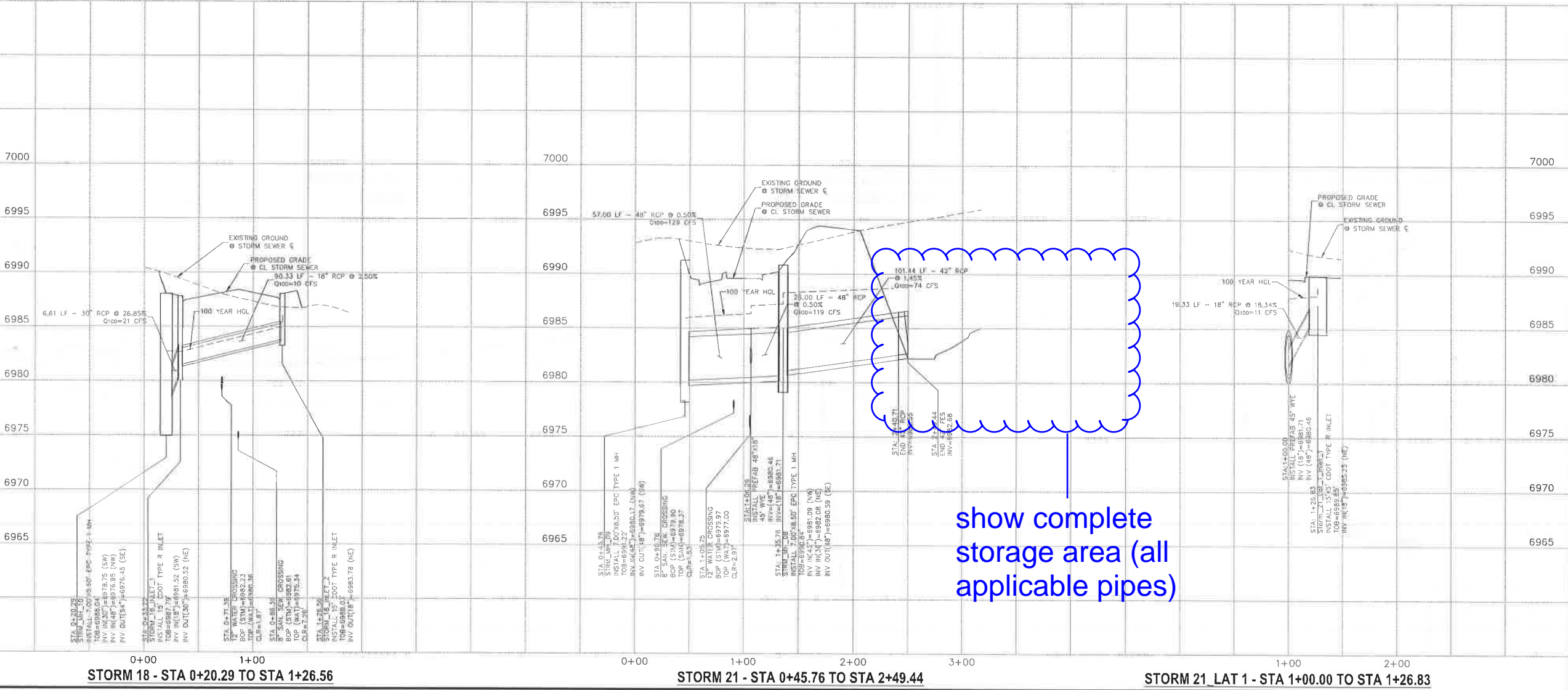
STORM 21
STA 0+45.76 TO STA 2+49.44



STORM 21 LAT 1
STA 1+00.00 TO STA 1+26.83



File: D:\00002\Gaming Ranch District - Filing 2\Draw\Const Draw\Storm - District\ST21.dwg Plotdate: 12/8/2017 3:07 PM



STORM 18 - STA 0+20.29 TO STA 1+26.56

STORM 21 - STA 0+45.76 TO STA 2+49.44

STORM 21 LAT 1 - STA 1+00.00 TO STA 1+26.83

STERLING RANCH FILING NO. 2	
STORM SEWER PLANS	
PROJECT NO. 09-002	FILE: \eng\Const Draw\Storm - District\ST21.dwg
DESIGNED BY: ET	DATE: 05/19/2017
DRAWN BY: VAS	SCALE: HORIZ: 1"=50'
CHECKED BY:	VERT: 1"=5'
SHEET 21 OF 22	
ST21	

2690ULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 PHONE: 719.555.5485	
 CIVIL CONSULTANTS, INC.	
FOR AND ON BEHALF OF REGS. CIVIL CONSULTANTS, INC.	
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160	

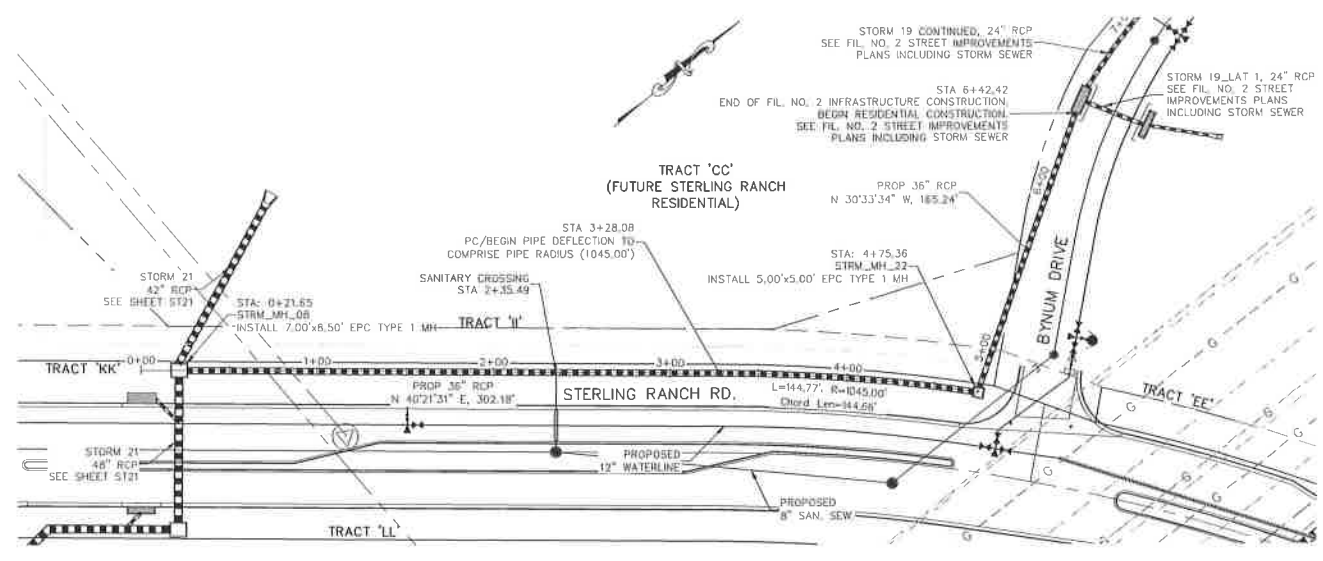
NO.	DATE	DESCRIPTION	APPROV. BY	DATE

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION

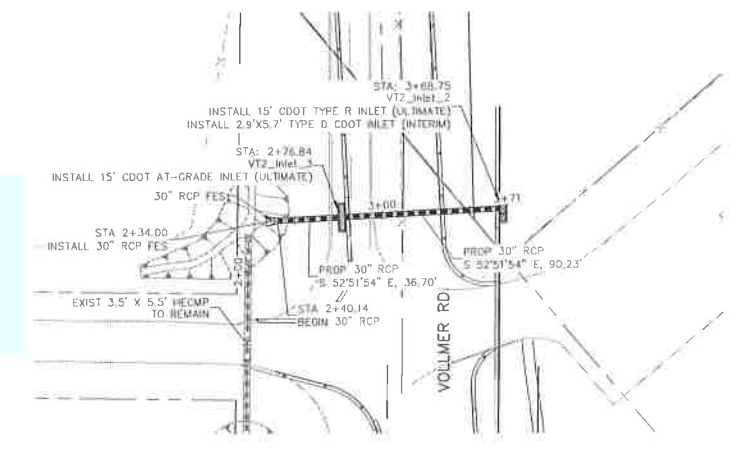
FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
 FOR BURIED UTILITY INFORMATION
 48 HRS BEFORE YOU DIG
 CALL 1-800-922-1987

STERLING RANCH FILING NO. 2	
STORM SEWER PLANS	
PROJECT NO. 09-002	DATE: 05/19/2017
DESIGNED BY: ET	SCALE: HORIZONTAL: 1"=50'
DRAWN BY: ELY	VERTICAL: 1"=5'
CHECKED BY: VAS	SHEET 22 OF 22
	ST22

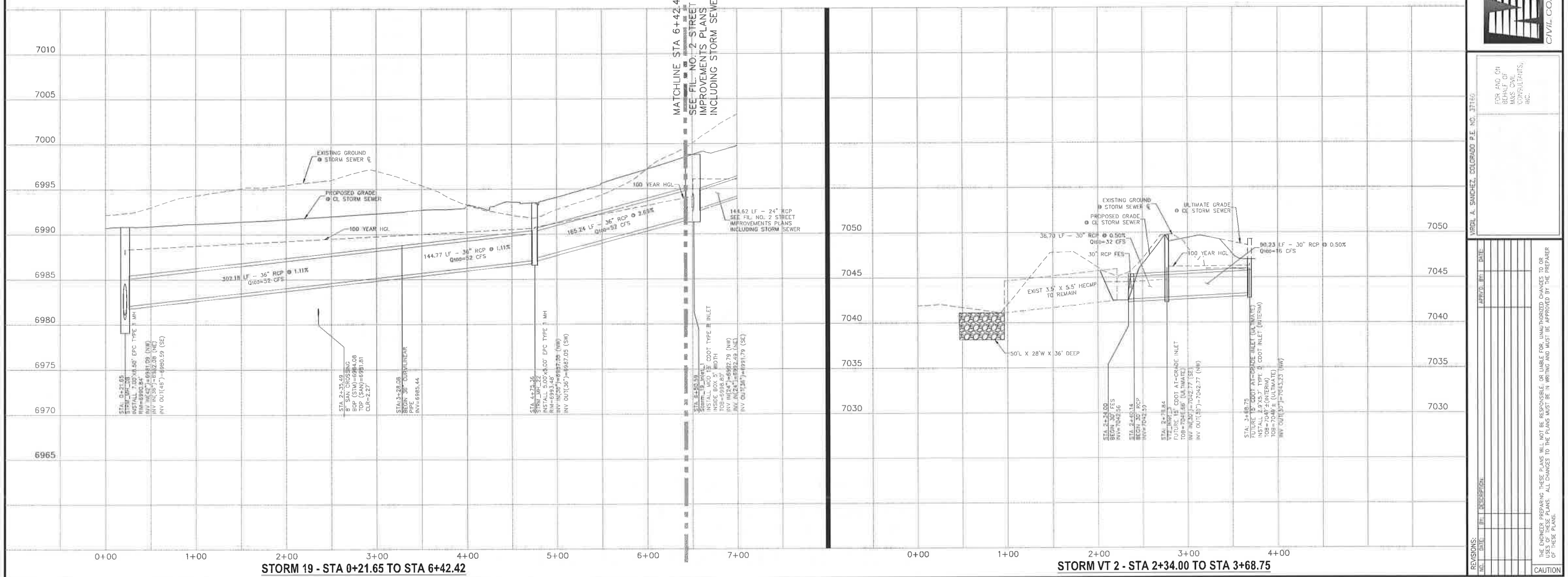
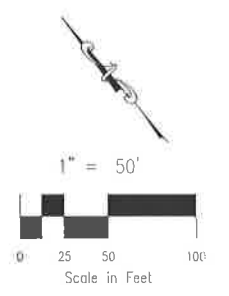


STORM 19
STA 0+21.65 TO STA 6+42.42

Provide sediment control.



STORM VT 2
STA 2+34.00 TO STA 3+68.75



STORM 19 - STA 0+21.65 TO STA 6+42.42

STORM VT 2 - STA 2+34.00 TO STA 3+68.75

70 BOULDER CRESCENT, SUITE 110
 COLORADO SPRINGS, CO 80903
 PHONE: 719.555.5485

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF
 MRS. CIVIL CONSULTANTS, INC.

REVISIONS:	DATE	DESCRIPTION

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CAUTION