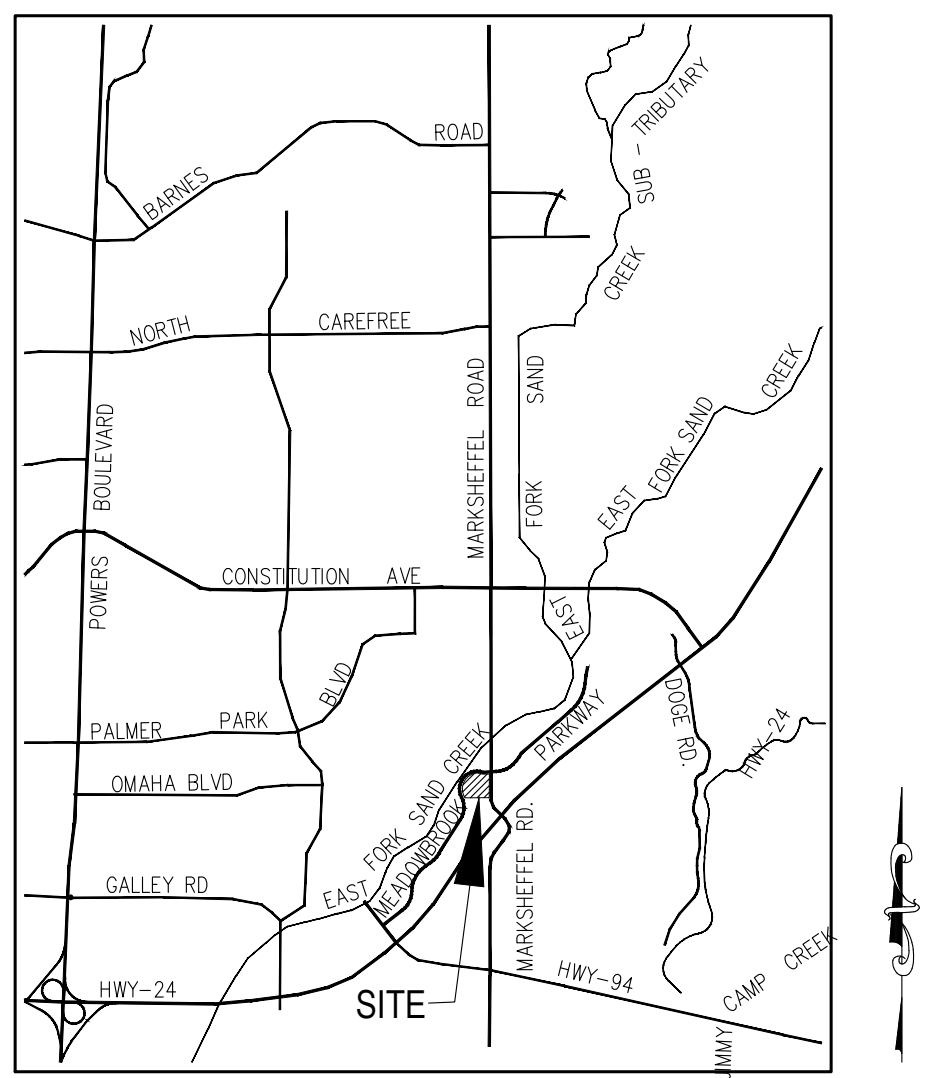


CLAREMONT BUSINESS PARK 2 FILING NO. 2

COUNTY OF EL PASO, STATE OF COLORADO

CONSTRUCTION PLANS

JULY 2023



VICINITY MAP
N.T.S.

AGENCIES:

- OWNER/DEVELOPER: DTV MEADOWBROOK LLC
BRIAN ZUREK, MANAGERING PARTNER
106 S. KYRENE RD. #2
CHANDLER, AZ 85226
(480) 313-2724
- CIVIL ENGINEER: M & S CIVIL CONSULTANTS, INC.
212 N. WAHSATCH, SUITE 305
COLORADO SPRINGS, CO 80903
VIRGIL A. SANCHEZ P.E. (719) 955-5485
- COUNTY ENGINEERING: EL PASO COUNTY PLANNING
AND COMMUNITY DEVELOPMENT
2880 INTERNATIONAL CIRCLE, SUITE 110
COLORADO SPRINGS, CO 80910
(719) 520-6300
- TRAFFIC ENGINEERING: EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS
3275 AKERS DRIVE
COLORADO SPRINGS, CO 80922
JOSHUA PALMER, P.E. (719) 520-6460
- WATER RESOURCES: CHEROKEE METROPOLITAN DISTRICT
6250 PALMER PARK BOULEVARD
COLORADO SPRINGS, CO 80915-1721
JEFF MUNGER (719) 597-5080
- FIRE DISTRICT: CIMARRON HILLS FIRE DEPARTMENT
1835 TUSKEGEE PLACE
COLORADO SPRINGS, CO 80915
(719) 591-0960
- GAS DEPARTMENT: COLORADO SPRINGS UTILITIES
7710 DURANT DR.
COLORADO SPRINGS, CO 80947
TIM WENDT (719) 688-3556
- ELECTRIC DEPARTMENT: COLORADO SPRINGS UTILITIES
7710 DURANT DR.
COLORADO SPRINGS, CO 80947
TIM WENDT (719) 688-3556
- COMMUNICATIONS: QWEST COMMUNICATIONS
(U.N.C.C. LOCATORS) (800) 922-1987
AT&T (LOCATORS) (719) 635-3674

NOTE:

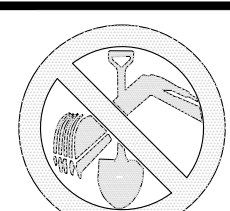
THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL TIE-IN/CONNECTIONS TO EXISTING MANHOLES AND/OR STUBS PRIOR TO CONSTRUCTION. ANY DISCREPANCY TO THE ANTICIPATED/PREVIOUSLY MEASURED ELEVATIONS PROVIDED ON THE PLANS SHALL BE CONVEYED TO THE ENGINEER AND A RESOLVE REACHED PRIOR TO INSTALLATION.

BENCHMARKS:

- BL33 BEING A BERNTSEN TOP SECURITY MONUMENT IN RANGE BOX 5' SOUTH OF SOUTH ROW FENCE OF HWY 24 UNDER CENTERLINE OF TRANSMISSION LINE.
ELEVATION = 6372.26' PLAT AVE.
- CONTROL POINT 1, SET PK NAIL IN NE CORNER OF ELECTRIC TRANSFORMER PAD
ELEVATION = 6372.26'

BASIS OF BEARINGS

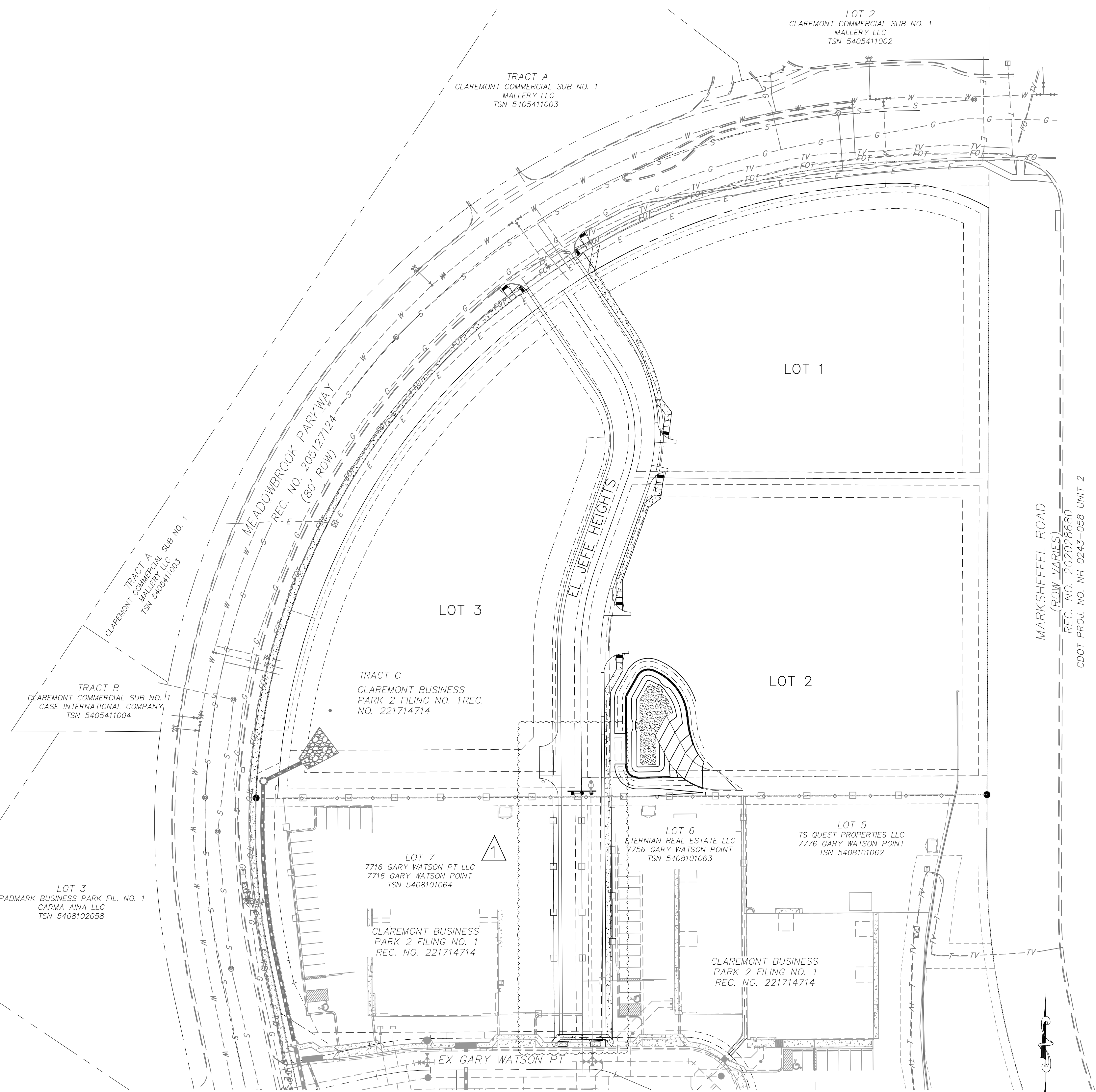
THE NORTH LINE OF LOTS 5, 6 AND 7 "CLAREMONT BUSINESS PARK 2 FILING NO. 1" AS RECORDED UNDER RECEPTION NO. 221714714 OF THE RECORDS OF EL PASO COUNTY, COLORADO, MONUMENTED AT THE NORTHEAST CORNER OF LOT 5 WITH A NO. 5 REBAR WITH ORANGE SURVEYOR'S CAP STAMPED "M&S CIVIL PLS 25966", FROM WHICH THE NORTHWEST CORNER OF LOT 7, MONUMENTED WITH A NO. 5 REBAR WITH ORANGE SURVEYOR'S CAP STAMPED M&S CIVIL PLS 25966, BEARS S89°44'12"W, A DISTANCE OF 578.27 U.S. SURVEY FEET.



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



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



SITE MAP
N.T.S.

DESIGN ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.



VIRGIL A. SANCHEZ, COLORADO P.E. #37160
FOR AND ON BEHALF OF M & S CIVIL
CONSULTANTS, INC.

AS BUILT



OWNER/DEVELOPER'S STATEMENT:

I, THE DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS IN THESE DETAILED PLANS AND SPECIFICATIONS.

BRIAN ZUREK, MANAGING PARTNER 7/25/2023
DATE

DTV MEADOWBROOK LLC

ADDRESS: 106 S. KYRENE RD, CHANDLER, AZ 85226

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 THE 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 MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH EGM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

Approved

By: Gilbert LaForce, P.E.
Engineering Manager
Date: 11/13/2023 3:51:52 PM
El Paso County Department of Public Works



DATE

SHEET INDEX

- SHEET 1 TITLE SHEET
- SHEET 2 CONSTRUCTION NOTES, LEGEND & DETAILS
- SHEET 3 CONSTRUCTION STANDARD DETAILS
- SHEET 4 STREET IMPROVEMENT PLAN
- SHEET 5 SIDEWALK AND INTERSECTION DETAILS
- SHEET 6 STRIPING AND SIGNAGE PLAN
- SHEET 7 STORM SEWER PLAN AND PROFILE
- SHEET 8 STORM SEWER PLAN AND PROFILE
- SHEET 9 STORM SEWER PLAN AND PROFILE
- SHEET 10 STORM SEWER NOTES
- SHEET 11 STORM SEWER DETAILS
- SHEET 12 OUTLET POND STRUCTURE DETAILS
- SHEET 13 OUTLET POND STRUCTURE DETAILS
- SHEET 14 OUTLET POND STRUCTURE DETAILS

APPROVED
Engineering Department
05/23/2024 1:25:56 PM
dotdurham
EPC Planning & Community
Development Department

1

REVISION 1 INVOLVES THE ADDITION OF A BARRICADE AT THE SOUTHERN BOUNDARY WITHIN EL JEFE HTS. FURTHERMORE, THE CONNECTION FROM THE PROPERTY'S SOUTHERN BOUNDARY TO GARY WATSON, PT. SHALL NOT BE CONSTRUCTED AT THIS TIME. INSTEAD, IT HAS BEEN IDENTIFIED AS A POTENTIAL FUTURE CONNECTION THAT MAY BE BUILT IF EL PASO COUNTY DEEMS NECESSARY. ADDITIONALLY, A CURB RETURN HAS BEEN ADDED TO LOT 3 FOR TEMPORARY USE AS A TURNAROUND UNTIL LOT 3 DEVELOPS, WHERE A PERMANENT TURNAROUND SHALL BE PROVIDED.

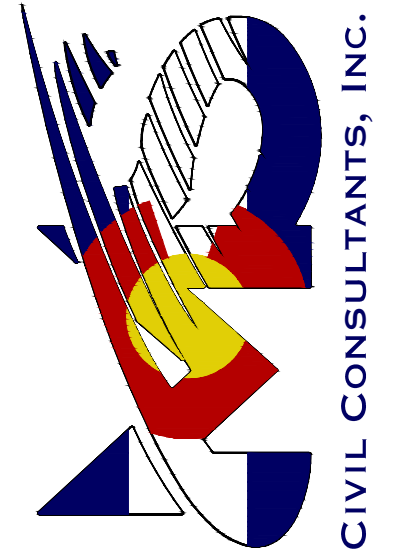
EL PASO COUNTY FILE NO. VR233

CLAREMONT BUSINESS PARK 2 FIL. NO. 2

TITLE SHEET

PROJECT NO. 10-020	DATE: 07/20/23	SHEET 1 OF 14	CD01
DESIGNED BY: GW	HORIZONTAL: N/A		
DRAWN BY: CLP	VERTICAL: N/A		
CHECKED BY: VAS			

212 N. WAHSATCH AVE. STE 305
COLORADO SPRINGS CO 80903
PHONE: 719.955.5485



CIVIL CONSULTANTS, INC.

FOR AND ON
BEHALF OF
CONSULTANTS,
INC.



REVISIONS: NO. DATE BY: DESCRIPTION

1	02/14/24	GW	REVISE EL JEFE HEIGHTS ROAD CONNECTION TO GARY WATSON PT
---	----------	----	--

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 PREPAREY OF THESE PLANS.

CAUTION

GENERAL CONSTRUCTION NOTES:

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND 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 DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- 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.
- 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 SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY PCD.
- 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 (TOB).
- ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K – 1.2C.
- ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES IS REQUIRED AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" VERTICAL IN 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 VERIFIED BY OWNER'S GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM 50 YEAR DESIGN LIFE. CULVERTS MUST CONFORM TO EPC ECM SECTION 3.32 – CULVERTS.
- ASPHALT THICKNESS 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 PCD PRIOR TO CONSTRUCTION.

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

- 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 NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
 - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
 - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
 - CDOT M & S STANDARDS
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PCD – 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 EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEViate FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DPW AND MUTCD CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DPW, 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.

SIGNING AND STRIPING NOTES:

- ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- 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.
- ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT.
- 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.
- STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
- ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
- ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A 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"
- 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. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
- ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
- ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
- ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
- THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
- 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.

SPECIAL NOTE:

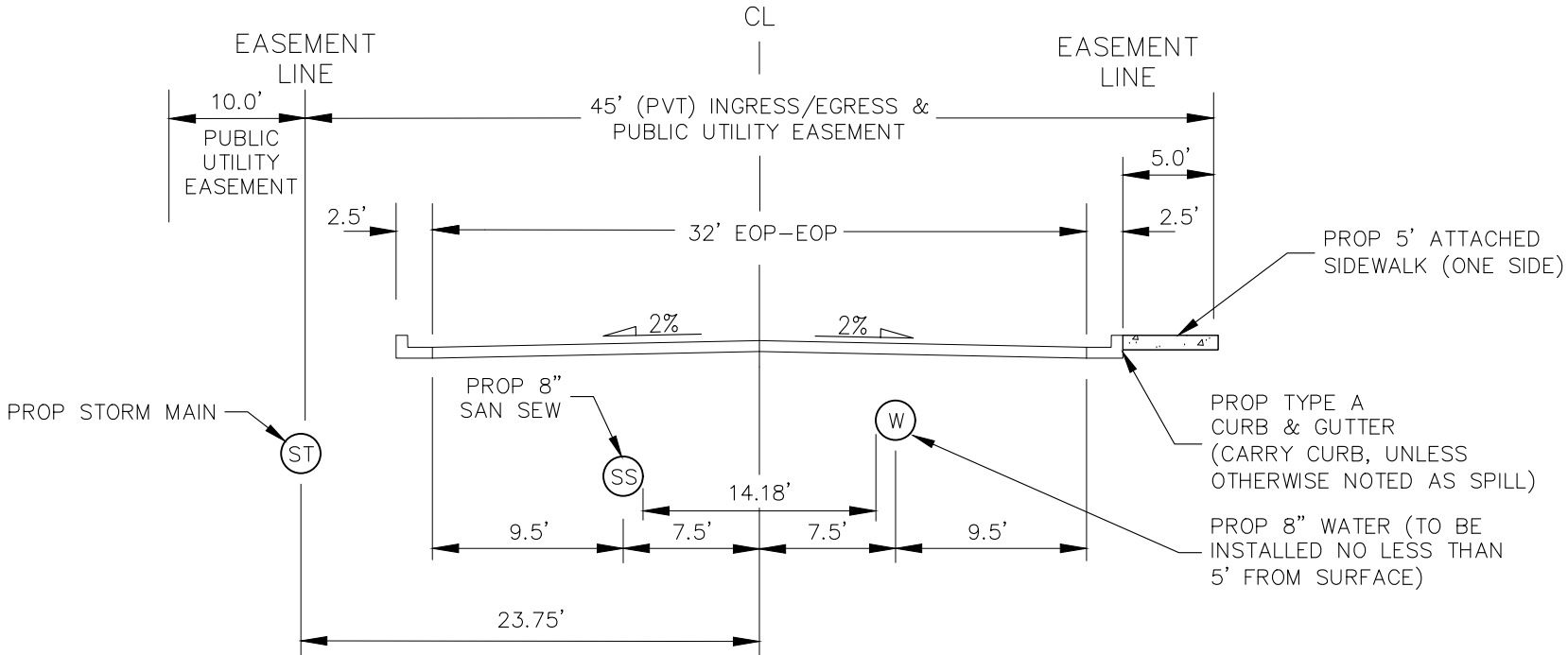
THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATIONS AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL 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.

ABBREVIATION LEGEND:

CL	CENTERLINE INTERSECTION	LT	LEFT
FL-FL	FLOWLINE INTERSECTION	RT	RIGHT
BT	BEGIN TRANSITION	FL	FLOWLINE
ET	END TRANSITION	TBC	TOP BACK OF CURB
PC	POINT OF CURVE	XSPAN	CROSSSPAN
PCC	POINT OF COMPOUND CURVE	STD	STANDARD
PCR	POINT OF CURB RETURN	SHT	SHEET
PRC	POINT OF REVERSE CURVE	P&P	PLAN AND PROFILE
PT	POINT OF TANGENT	C&G	CURB AND GUTTER
EL	ELEVATION	W	WEST
CDS	CUL-DE-SAC	E	EAST
KN	KNUCKLE	ROW	RIGHT OF WAY
LP	LOW POINT	EOP	EDGE OF PAVEMENT
N	NORTH	WTR	WATER
S	SOUTH	SAN	SANITARY SEWER
HP	HIGH POINT	PVT	PRIVATE
PUB	PUBLIC	WV	WATER VALVE
C&G	CURB AND GUTTER	PED	PEDESTRIAN
CMD	CHEROKEE METRO DISTRICT		

LEGEND:

SAWCUT LINE	----
SITE BOUNDARY	=====
ADJACENT PROPERTY	-----
EXIST STORM SEWER LINE	=====
EX. UNDERGROUND ELECTRIC LINE	-----UE
EX. SANITARY SEWER LINE	-----SS
EX. WATER LINE	-----WL
EX. GAS MAIN	-----UG
EX. FENCE	-----
EASEMENT	-----
PROP C&G	=====
EX. STORM MH	ST
EX. SANITARY MANHOLE	SS
EX. WATER VALVE	W



EL JEFFE HEIGHTS
URBAN LOCAL CROSS SECTION (PRIVATE)
POSTED SPEED 25 MPH
DESIGN SPEED 30 MPH



AS BUILT



CLAREMONT BUSINESS PARK 2 FIL. NO. 2

CONSTRUCTION NOTES, LEGEND & DETAILS

PROJECT NO. 10-020

DATE: 07/20/23

SCALE: HORIZONTAL: N/A VERTICAL: N/A

DESIGNED BY: GW

DRAWN BY: CLP

CHECKED BY: VAS

SHEET 2 OF 14

CD02

212 N WAHATCH AVE, STE 305
COLORADO SPRINGS CO 80903
PHONE: 719.555.5465

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF VIRGIL A. SANCHEZ, INC.

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 PREPAREY OF THESE PLANS.

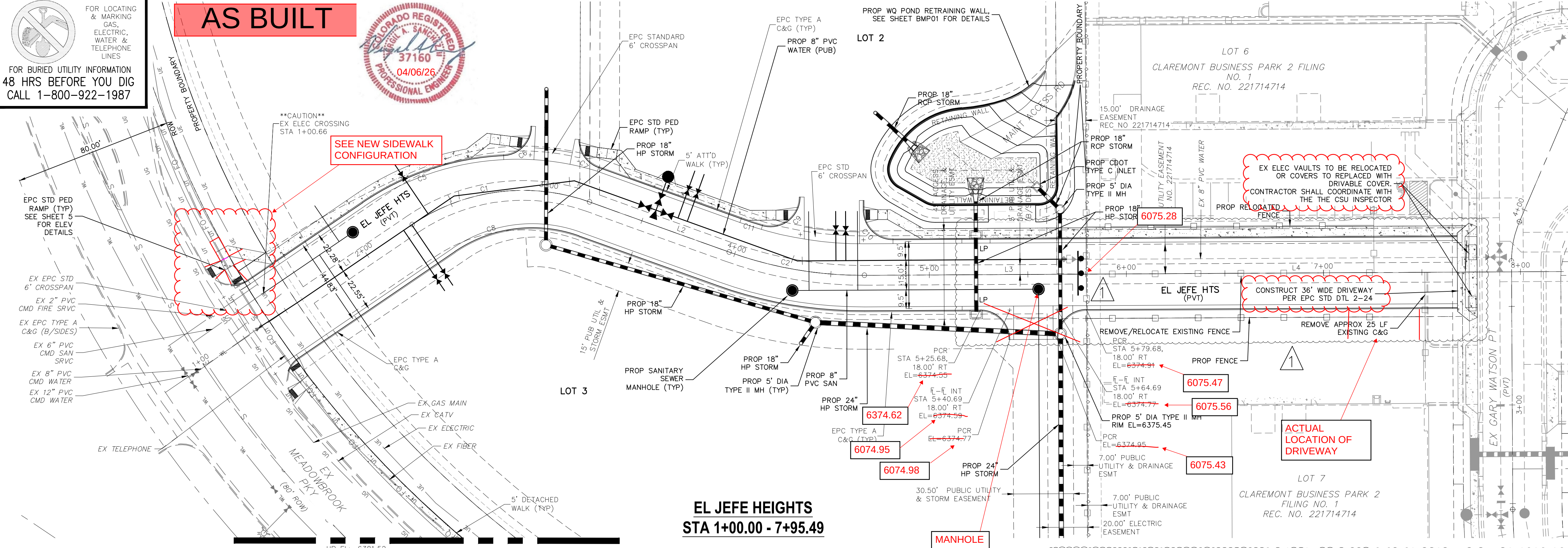
CAUTION



FOR LOCATING
& MARKING
GAS,
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WATER &
TELEPHONE
LINES

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

AS BUILT



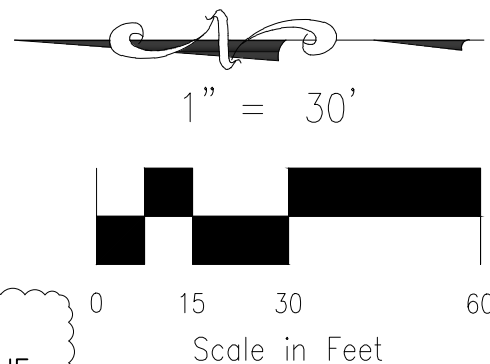
CENTERLINE LINE TABLE		
LINE	LENGTH	DIRECTION
L1	87.63	S34°12'27"E
L2	75.27	S19°45'08"W
L3	112.61	S0°18'37"E
L4	188.29	S0°18'37"E

CENTERLINE CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C1	94.18	100.00	53.96
C2	70.03	200.00	20.06

FLOWLINE CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C5	76.41	139.00	31.50
C6	22.81	15.00	87.11
C7	18.43	14.97	70.54
C8	65.92	70.00	53.96
C9	27.88	15.00	106.50
C10	23.56	15.00	90.00
C11	11.31	182.00	3.56

STREET LEGEND

GWP GARY WATSON POINT
EJH EL JEFE HEIGHTS



MATCHLINE SEE S102

EL JEFE HEIGHTS
STA 1+00.00 - 7+95.49

REVISION 1 INVOLVES THE ADDITION OF A BARRICADE AT THE SOUTHERN BOUNDARY WITHIN EL JEFE HTS. FURTHERMORE, THE CONNECTION FROM THE PROPERTY'S SOUTHERN BOUNDARY TO GARY WATSON, PT. SHALL NOT BE CONSTRUCTED AT THIS TIME. INSTEAD, IT HAS BEEN IDENTIFIED AS A POTENTIAL FUTURE CONNECTION THAT MAY BE BUILT IF EL PASO COUNTY DEEMS NECESSARY. ADDITIONALLY, A CURB RETURN HAS BEEN ADDED TO LOT 3 FOR TEMPORARY USE AS A TURNAROUND UNTIL LOT 3 DEVELOPS, WHERE A PERMANENT TURNAROUND SHALL BE PROVIDED.

LEFT FLOWLINE

RIGHT FLOWLINE

EL JEFE HEIGHTS

CLAREMONT BUSINESS PARK 2 FIL. NO. 2

STREET IMPROVEMENT PLAN

DATE: 07/20/23

SCALE: HORIZONTAL: 1"=30'

DESIGNED BY: GW

DRAWN BY: CLP

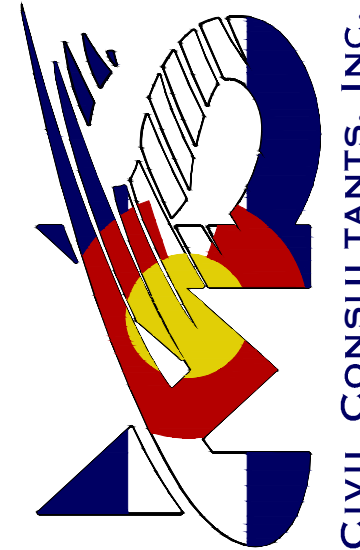
CHECKED BY: VAS

PROJECT NO. 10-020

SHEET 4 OF 14

S101

212 N WAHATCH AVE, STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5465



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

DATE:

APPROVED BY:

DESCRIPTION:

NO. 1

DATE: 03/01/24

BY: GW

REVISION: EL JEFE HEIGHTS ROAD

CONNECTION TO GARY WATSON PT

CONNECTION TO GARY WATSON PT

CONNECTION TO GARY WATSON PT

CONNECTION TO GARY WATSON PT

CONNECTION TO GARY WATSON PT

CONNECTION TO GARY WATSON PT

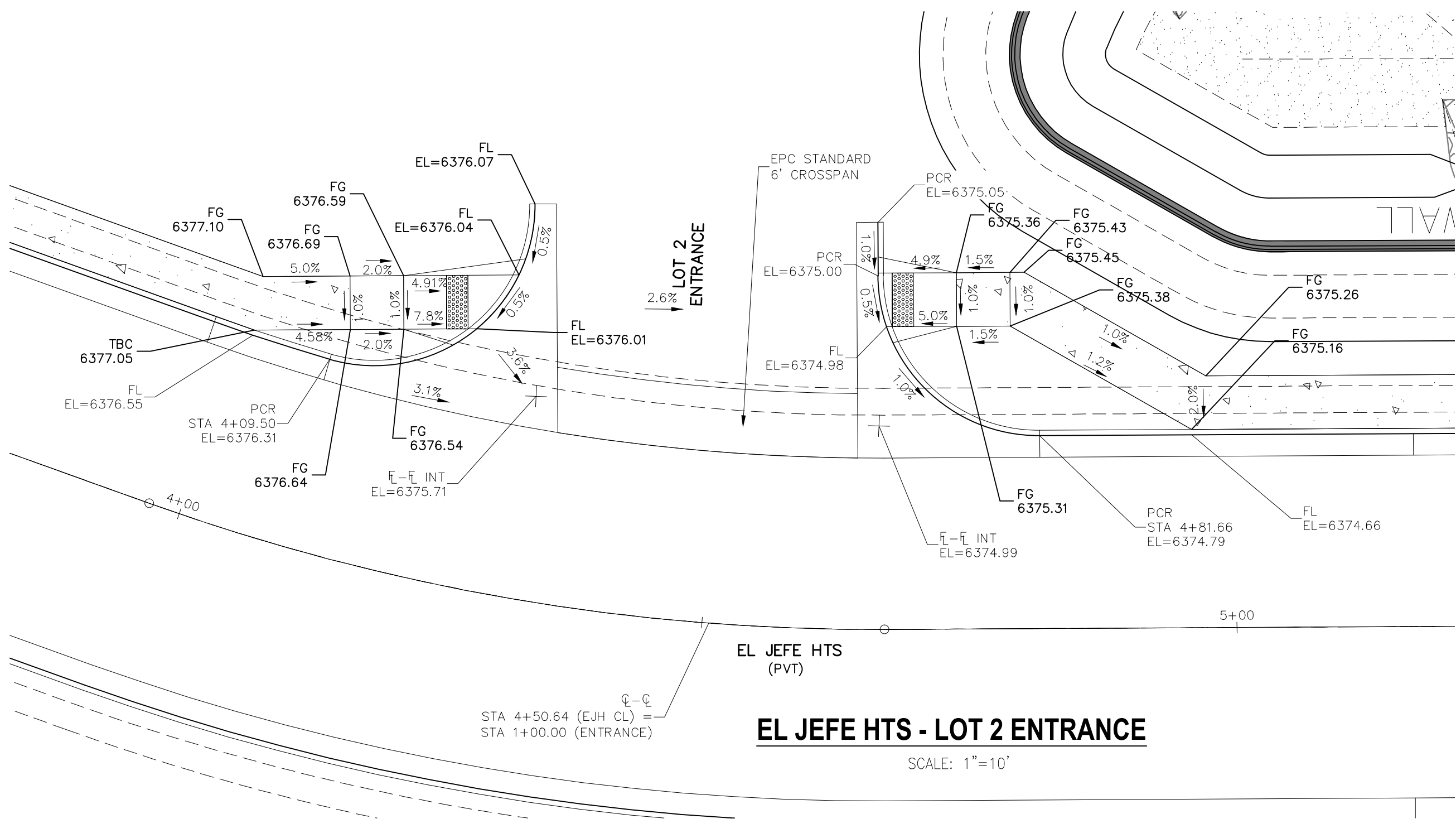
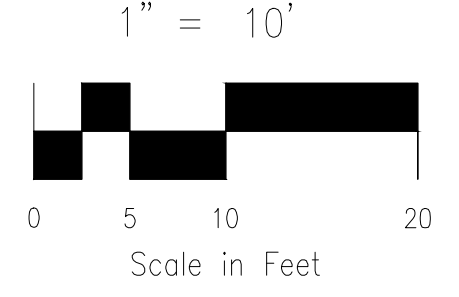
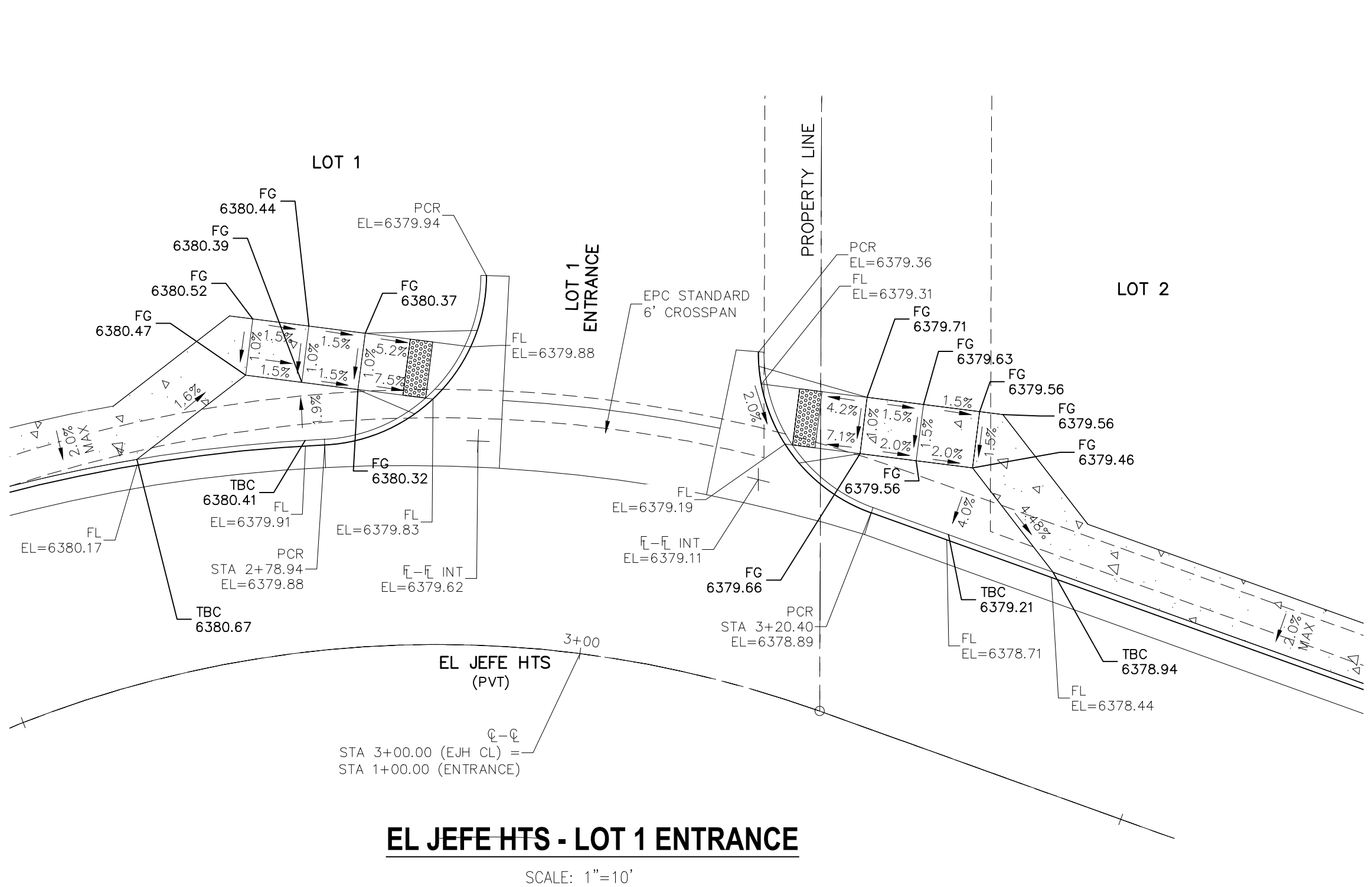
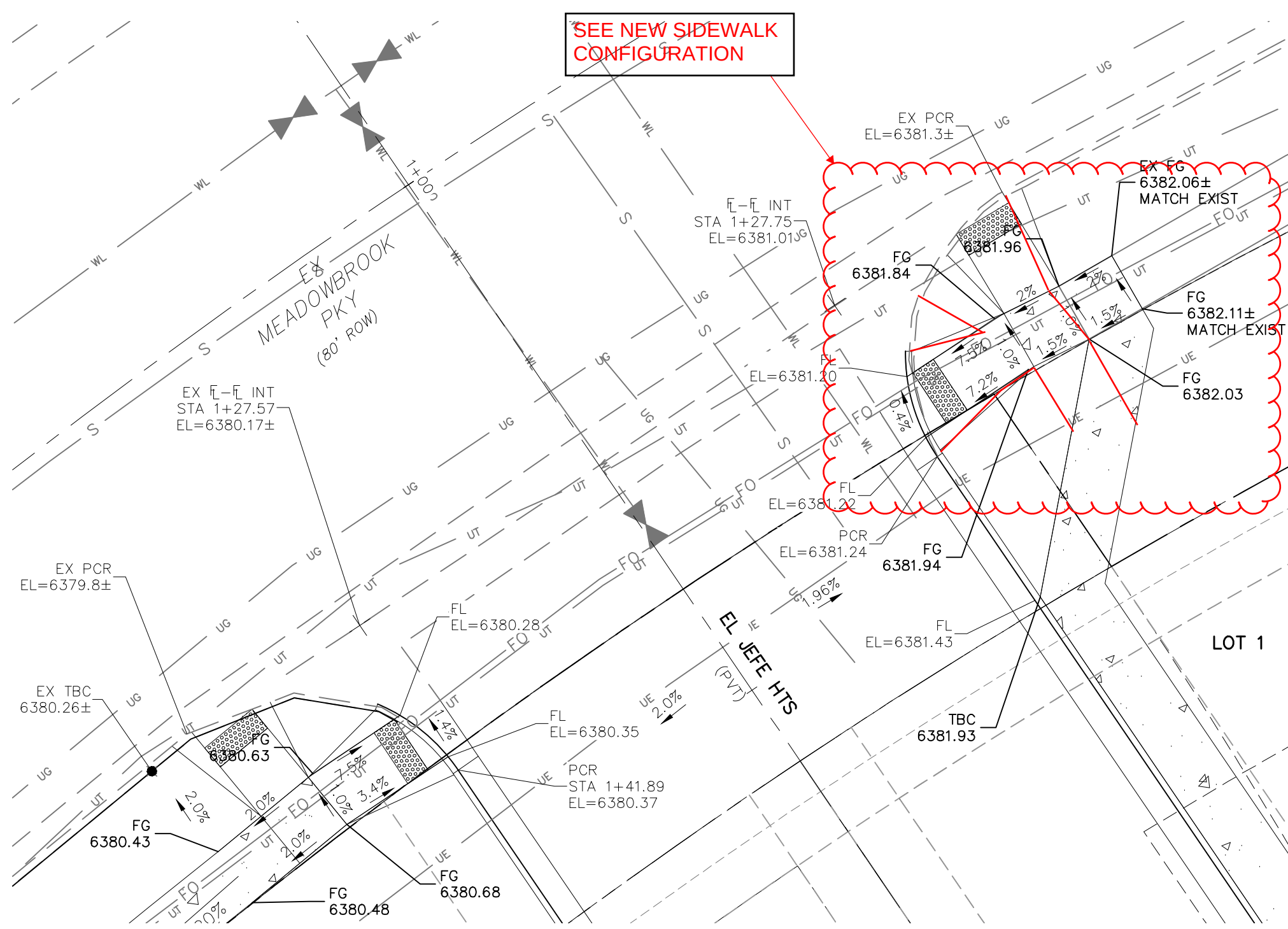
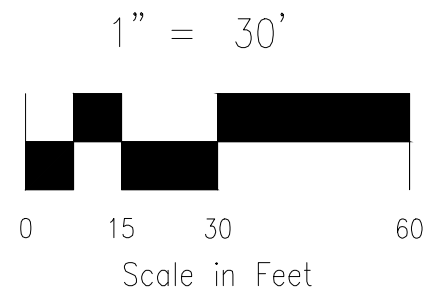
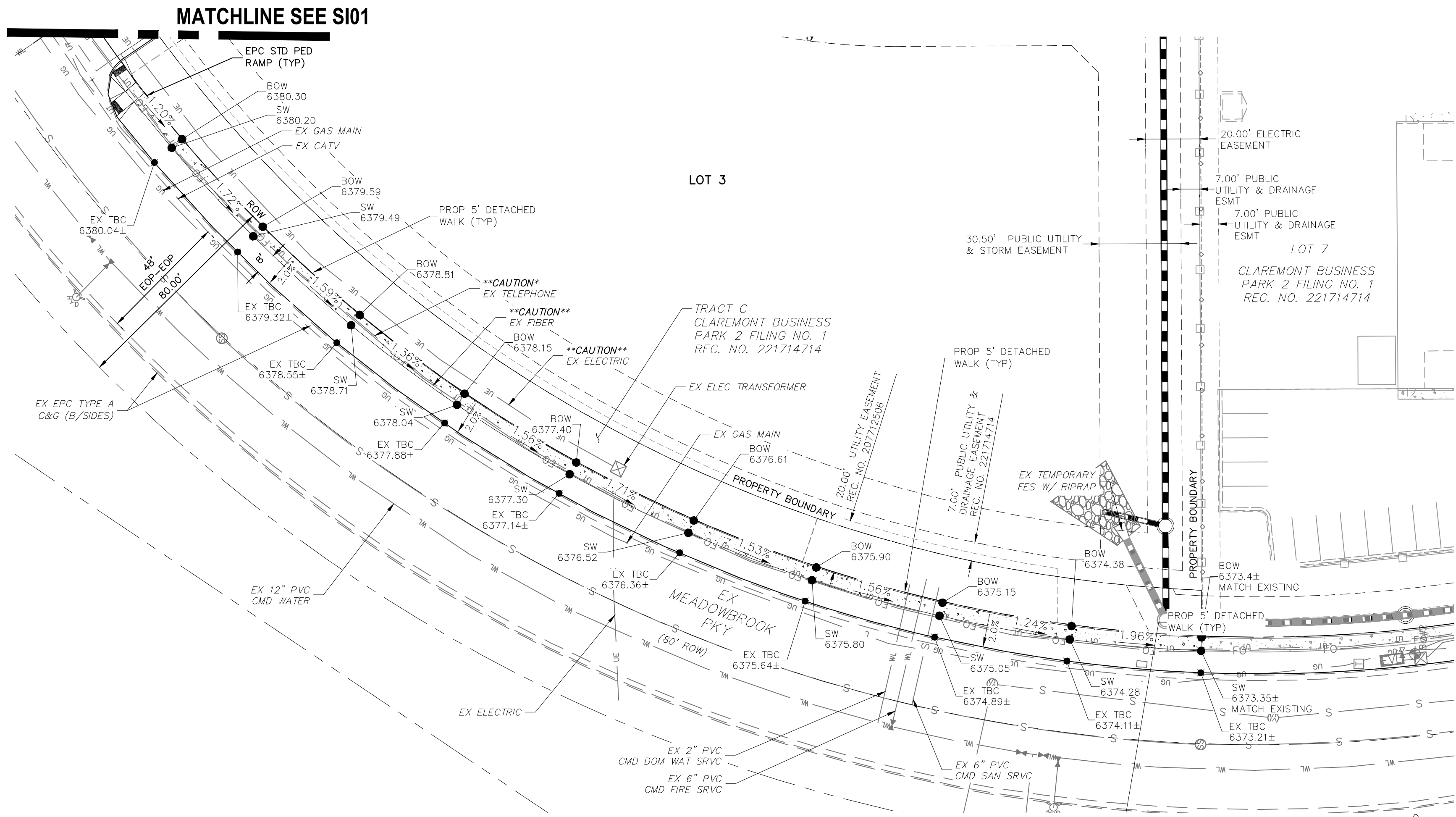
CONNECTION TO GARY WATSON PT

CONNECTION TO GARY WATSON PT

CONNECTION TO GARY WATSON PT

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 PREPARED OF THESE PLANS.

CAUTION

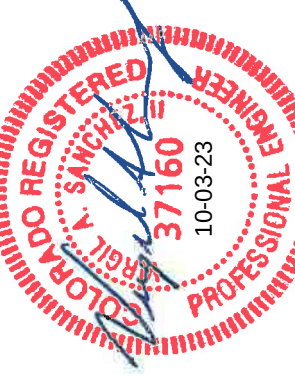


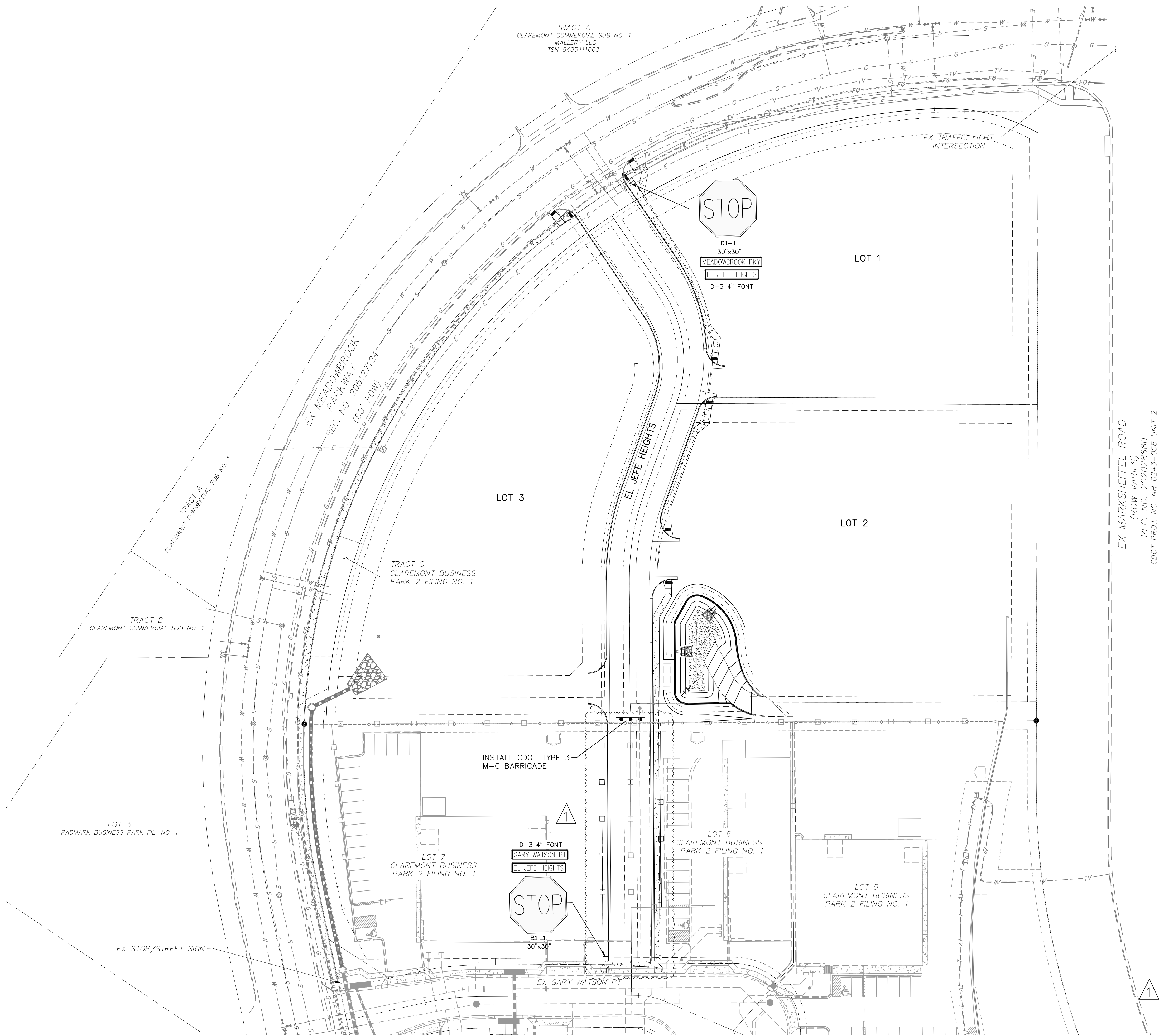
AS BUILT



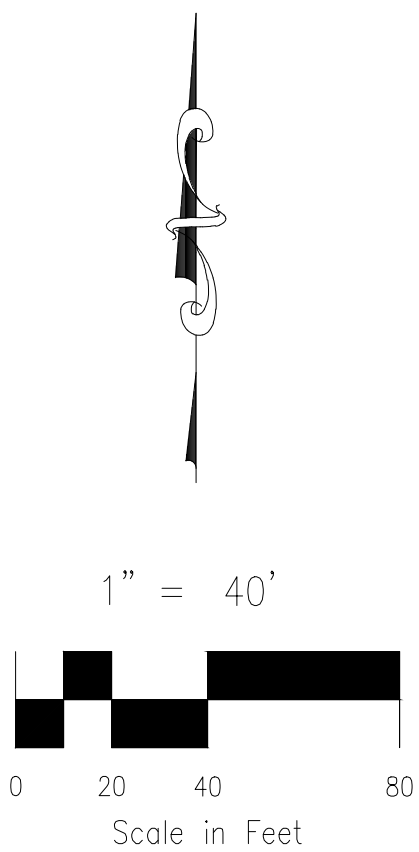
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CLAREMONT BUSINESS PARK 2 FIL. NO. 2					
SIDEWALK & INTERSECTION DETAILS					
PROJECT NO. 10-020	SCALE: HORIZONTAL: VARIES VERTICAL: N/A	DATE: 10/03/23	SHEET 5 OF 14 S102		
DESIGNED BY: GW	DRAWN BY: CLP	CHECKED BY: VAS			
212 N WAHATCH AVE, STE 305 COLORADO SPRINGS, CO 80903 PHONE: 719.555.5465					
 CIVIL CONSULTANTS, INC.					
FOR AND ON BEHALF OF CONSULTANTS, INC.					
					
REVISIONS:	NO.	DATE:	BY:	DESCRIPTION:	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 PREPARE OF THESE PLANS.					
CAUTION					



AS BUILT



REVISION 1 INVOLVES THE ADDITION OF A BARRICADE AT THE SOUTHERN BOUNDARY WITHIN EL JEFE HTS. FURTHERMORE, THE CONNECTION FROM THE PROPERTY'S SOUTHERN BOUNDARY TO GARY WATSON, PT. SHALL NOT BE CONSTRUCTED AT THIS TIME. INSTEAD, IT HAS BEEN IDENTIFIED AS A POTENTIAL FUTURE CONNECTION THAT MAY BE BUILT IF EL PASO COUNTY DEEMS NECESSARY. ADDITIONALLY, A CURB RETURN HAS BEEN ADDED TO LOT 3 FOR TEMPORARY USE AS A TURNAROUND UNTIL LOT 3 DEVELOPS, WHERE A PERMANENT TURNAROUND SHALL BE PROVIDED.

CLAREMONT BUSINESS PARK 2 FIL. NO. 2	
SIGNAGE AND STRIPING PLAN	
PROJECT NO. 10-020	SCALE: HORIZONTAL: 1"=40' VERTICAL: N/A
DESIGNED BY: GW	DATE: 10/03/23
DRAWN BY: CLP	SHEET 6 OF 14
CHECKED BY: VAS	S103

212 N. WABATCH AVE. STE 305
COLORADO SPRINGS CO 80903
PHONE: 719.555.5465

CIVIL CONSULTANTS, INC.

FOR AND ON
BEHALF OF
CIVIL CONSULTANTS,
INC.

REVISIONS:	NO.	DATE:	BY:	DESCRIPTION:	APPROVED BY:	DATE:
1	02/14/24	GW	REVISE	EL JEFE HEIGHTS ROAD CONNECTION TO GARY WATSON PT		

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

SEAL OF SERGIO A. SANCHEZ
 COLORADO REGISTERED
 37160
 04/06/26
 PROFESSIONAL ENGINEER

AS BUILT

1. ALL STORM SEWER CUNSTRUCTED WITH THESE PLANS SHALL BE CONSIDERED PRIVATE.
2. GAS LINE NOT LOCATED, LOCATION TO BE DETERIMED BY CONTRACTOR

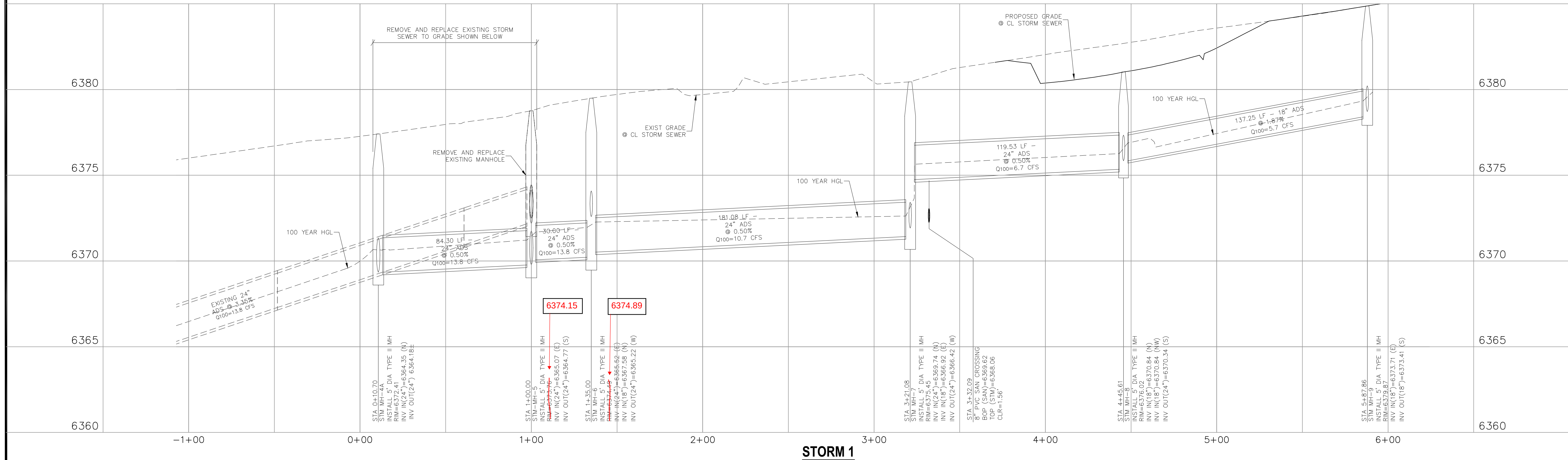
C&G	CURB AND GUTTER
CL	CENTERLINE
CONST	CONSTRUCTION
EL	ELEVATION
EX	EXISTING
LT	LEFT
N	NORTH
NTS	NOT TO SCALE
PUB	PUBLIC
PVT	PRIVATE
PROP	PROPOSED
RT	RIGHT
S	SOUTH
SAN	SANITARY SEWER
SLV	SLEEVE
SRV	SERVICE
STA	STATION
STM	STORM SEWER
W	WEST
WTR	WATER

1" = 30'

0 15 30 60

Scale in Feet

STORM 1 (PRIVATE)
STA 0+10.70 TO STA 5+87.86



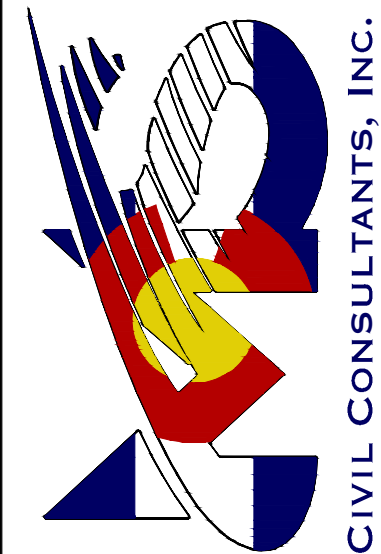
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& MARKING
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LINES

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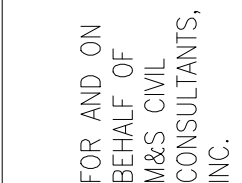
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212 N. WAHSATCH AVE., STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485



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

[illegible]

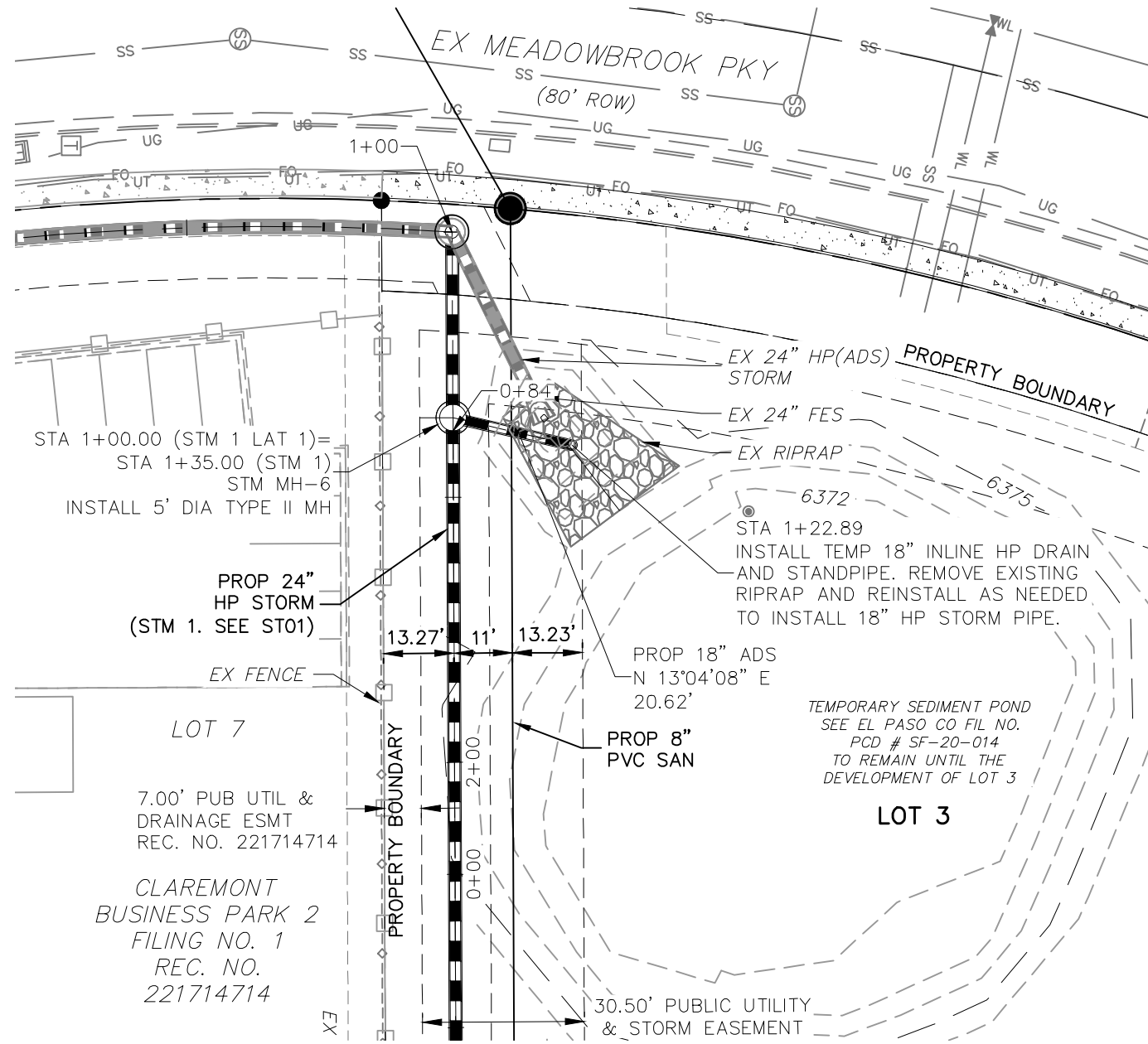
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CAUTION

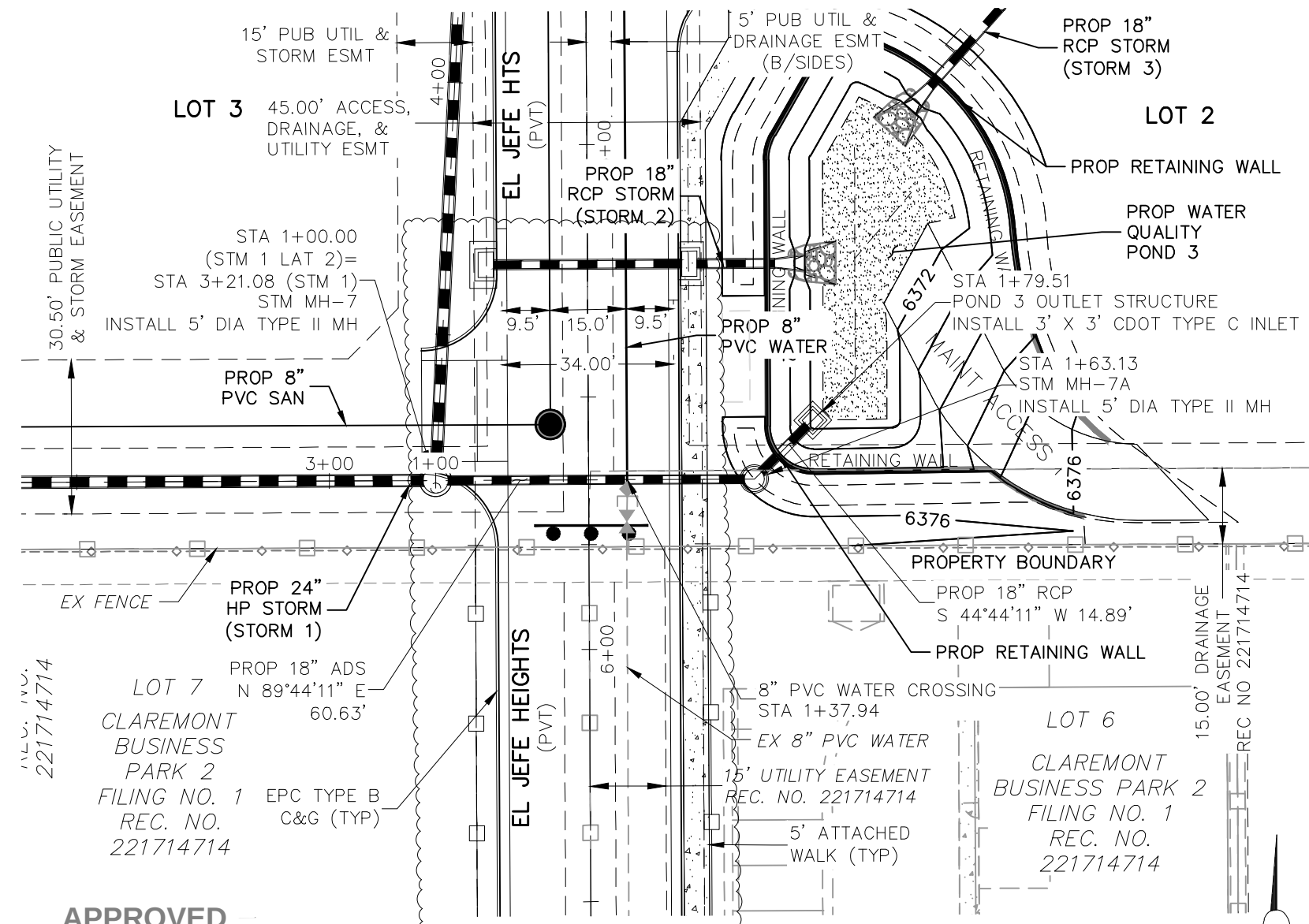


FOR LOCATING
& MARKING
GAS,
ELECTRIC,
WATER &
TELEPHONE
LINES

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STORM 1 LAT-1 (PRIVATE)
STA 1+00.00 TO STA 1+22.89



STORM 1 LAT-2 (PRIVATE)
STA 1+00.00 TO STA 1+79.51



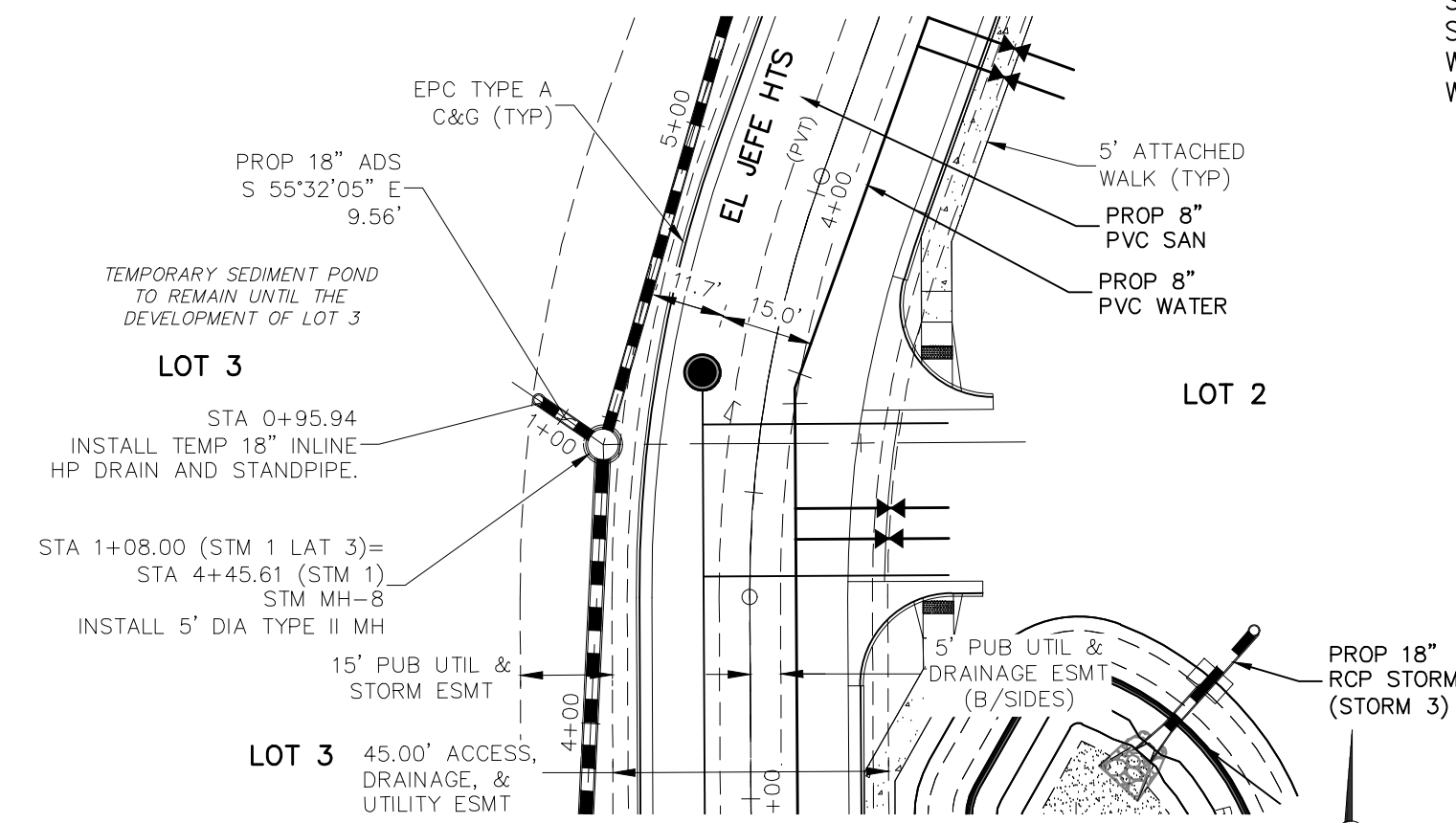
AS BUILT

NOTE:

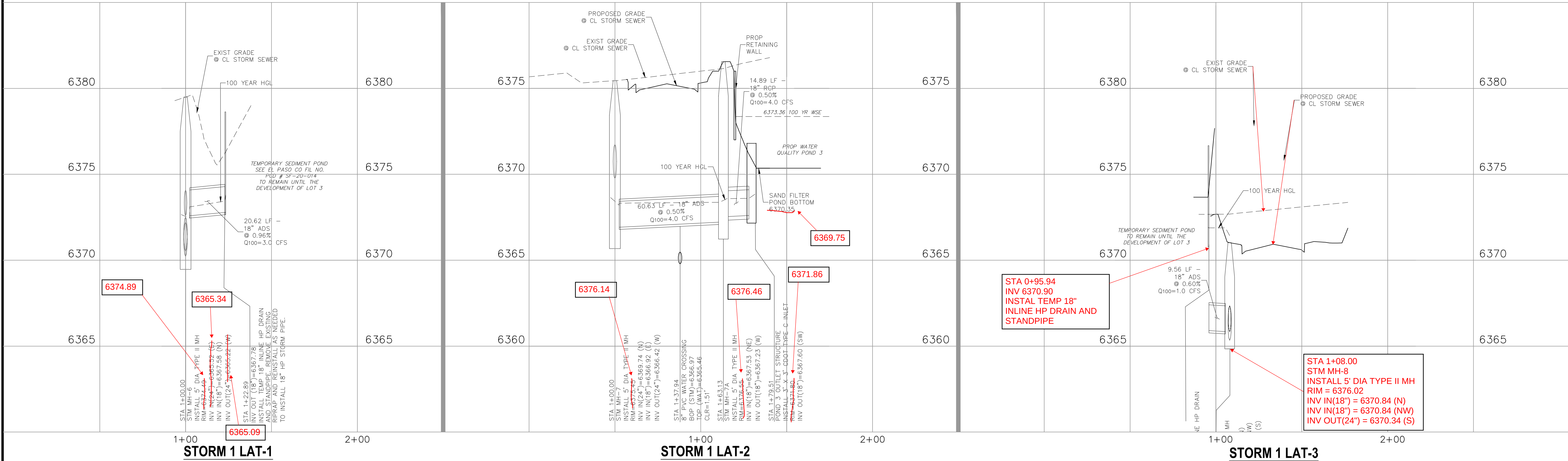
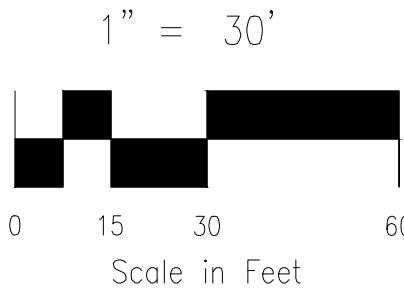
- ALL STORM SEWER CONSTRUCTED WITH THESE PLANS SHALL BE CONSIDERED PRIVATE.
- GAS LINE NOT LOCATED, LOCATION TO BE DETERMINED BY CONTRACTOR

ABBREVIATION LEGEND

C&G C&G
CL CONST
EL ELEVATION
EX EXISTING
LT LEFT
N NORTH
NTS NOT TO SCALE
PUB PUBLIC
PVT PRIVATE
PROP PROPOSED
RT RIGHT
S SOUTH
SAN SANITARY SEWER
SLV SLEEVE
SRV SERVICE
STA STATION
STM STORM SEWER
W WEST
WTR WATER



STORM 1 LAT-3 (PRIVATE)
STA 0+95.94 TO STA 1+08.00



STORM 1 LAT-1

STORM 1 LAT-2

STORM 1 LAT-3



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CLAREMONT BUSINESS PARK 2 FIL. NO. 2	
STORM SEWER PLAN & PROFILE	
PROJECT NO. 10-020	DATE: 10/03/23
DESIGNED BY: GW	CHECKED BY: VAS
DRAWN BY: CLP	SHEET 8 OF 14
ST02	

212 N. WAHATCH AVE. STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5465

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF VIRGIL A. SANCHEZ, INC.

Virgil A. Sanchez, Colorado P.E. No. 37160

02/14/24
02-14-24
37160
04/06/26
PROFESSIONAL ENGINEER

REVISIONS:

NO.	DATE	BY	DESCRIPTION
1	02/14/24	GW	REVISE EL JEFE HEIGHTS ROAD CONNECTION TO GARY WATSON PT

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 PREPARED OF THESE PLANS.

CAUTION

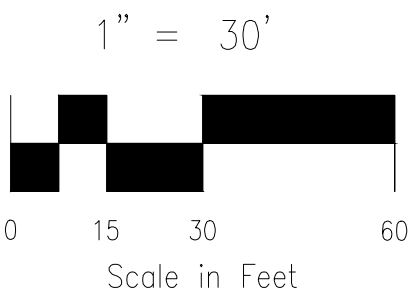
AS BUILT

NOTE:

1. ALL STORM SEWER CONSTRUCTED WITH THESE PLANS SHALL BE CONSIDERED PRIVATE.
2. GAS LINE NOT LOCATED, LOCATION TO BE DETERMINED BY CONTRACTOR.
3. STATIONING AT CORNER OF INLETS (TOB) REFERS TO CENTERLINE STATIONING.

ABBREVIATION LEGEND

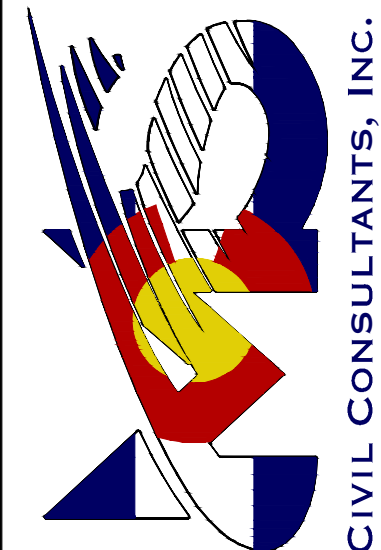
C&G	CURB AND GUTTER
CL	CENTERLINE
CONST	CONSTRUCTION
EL	ELEVATION
EX	EXISTING
LT	LEFT
N	NORTH
NTS	NOT TO SCALE
PUB	PUBLIC
PVT	PRIVATE
PROP	PROPOSED
RT	RIGHT
S	SOUTH
SAN	SANITARY SEWER
SLV	SLEEVE
SRV	SERVICE
STA	STATION
STM	STORM SEWER
W	WEST
WTR	WATER
TOB	TOP OF BOX AT CORNER OF INLET



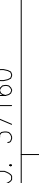
CLAREMONT BUSINESS PARK 2 FIL. NO. 2

PROJECT NO. 10-020	SCALE:	DATE: 10/03/23
DESIGNED BY: GW	HORIZONTAL:	SHEET 9 OF 14
DRAWN BY: CLP	1"=30'	
CHECKED BY: WAS	VERTICAL:	
	1"=7'	ST03

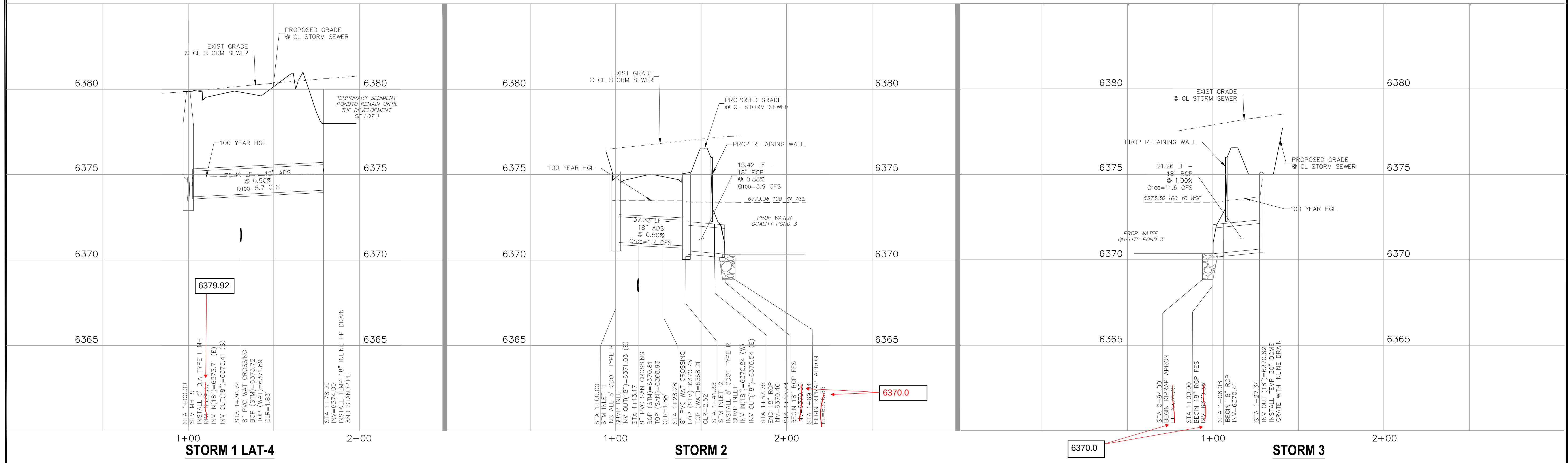
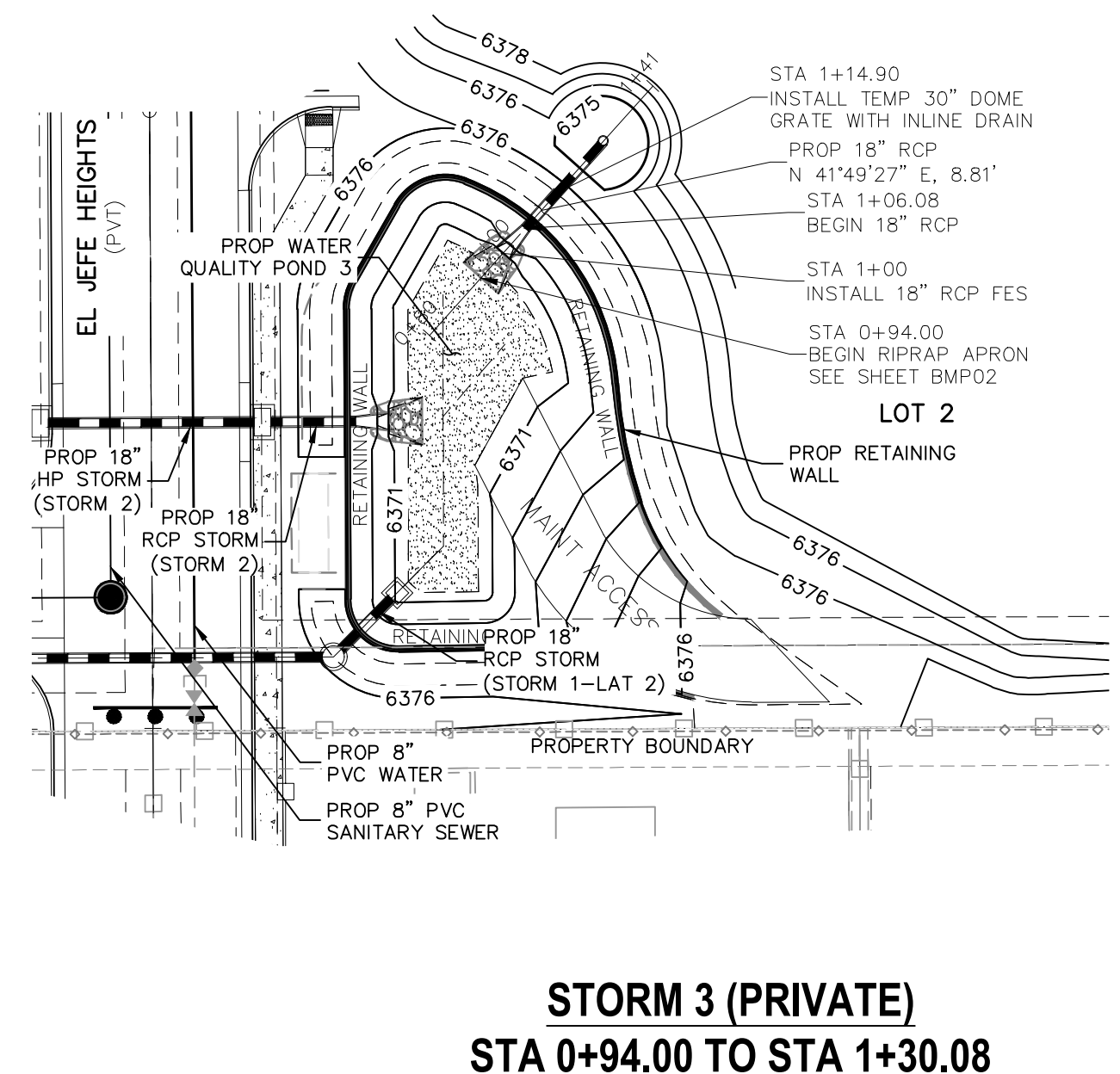
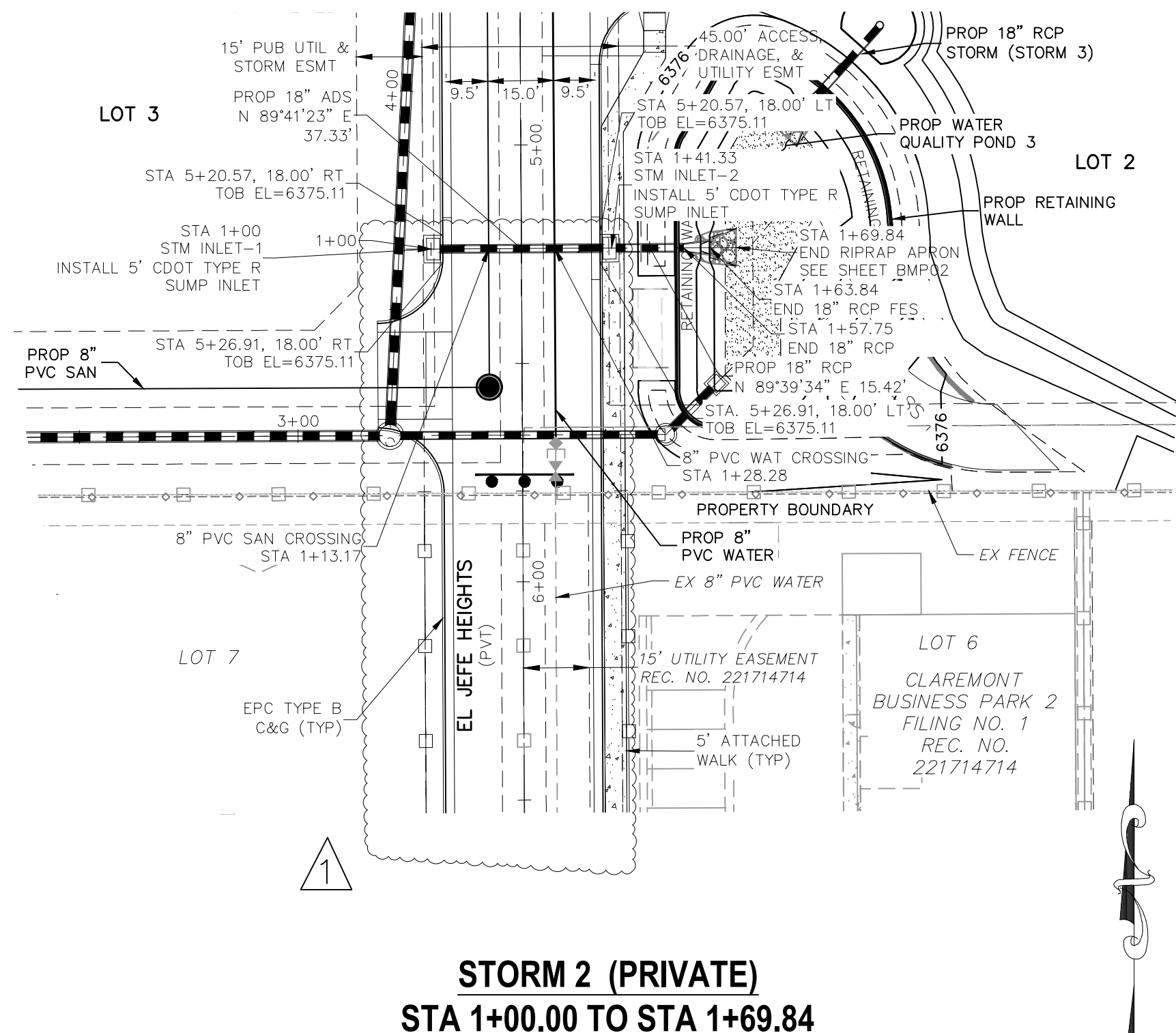
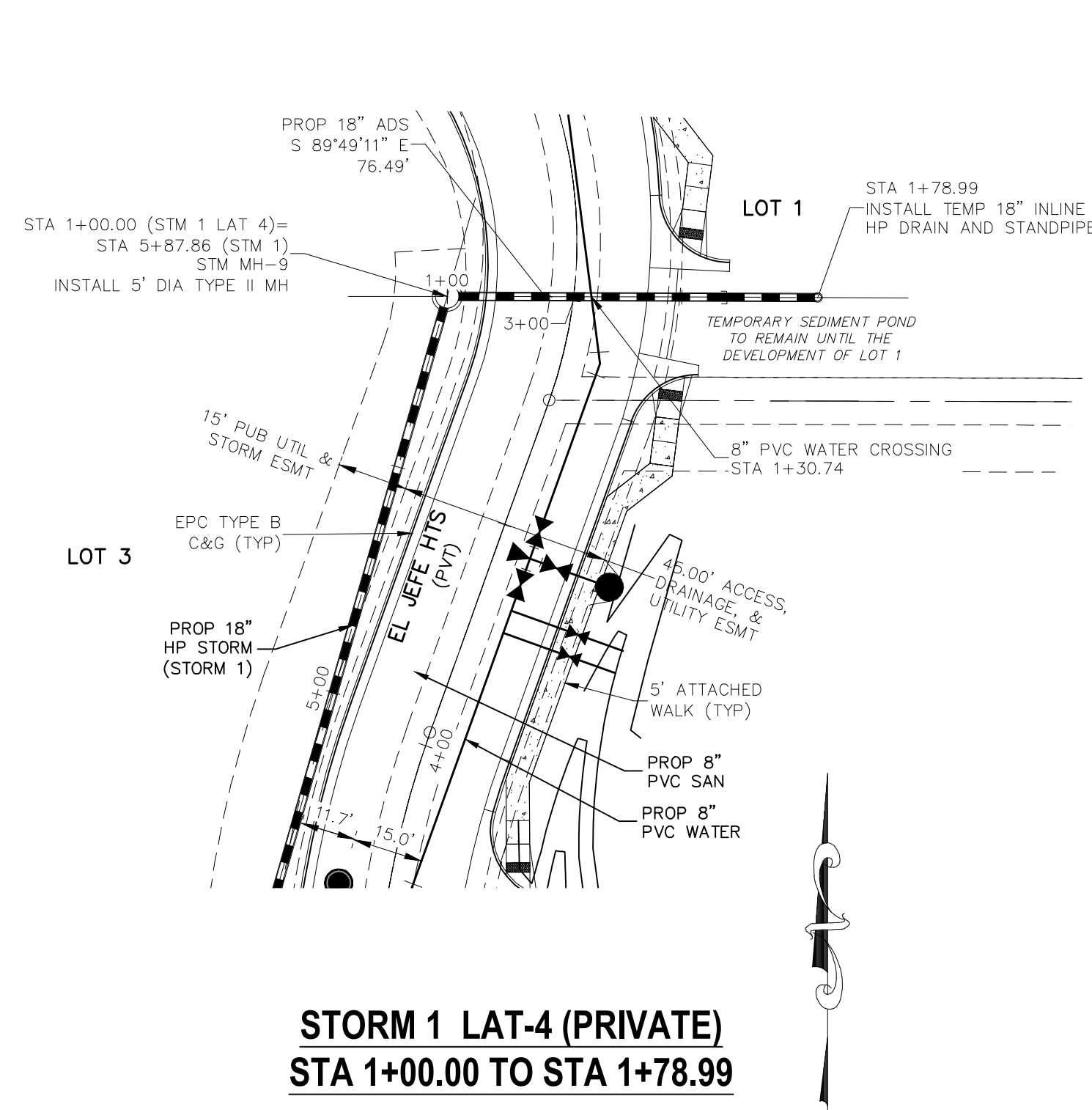
212 N. WAHSATCH AVE., STE 305
COLORADO SPRINGS, CO 80903
PHONE: 710.055.5495



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



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

[illegible]

REVISION 1 INVOLVES THE ADDITION OF A BARRICADE AT THE SOUTHERN BOUNDARY WITHIN EL JEFE TRS. FURTHERMORE, THE CONNECTION FROM THE PROPERTY'S SOUTHERN BOUNDARY TO GARY WATSON, PT. SHALL NOT BE CONSTRUCTED AT THIS TIME. INSTEAD, IT HAS BEEN IDENTIFIED AS A POTENTIAL FUTURE CONNECTION THAT MAY BE BUILT IF EL PASO COUNTY DEMANDS NECESSARY. ADDITIONALLY, A CURB RETURN HAS BEEN ADDED TO LOT 3 FOR TEMPORARY USE AS A TURNAROUND UNTIL LOT 3 DEVELOPS, WHERE A PERMANENT TURNAROUND SHALL BE PROVIDED.

STANDARD CONSTRUCTION NOTES:

1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIME INCLUDING THE FOLLOWING:

3.1 EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)

3.2 CITY OF COLORADO SPRINGS/EL PASO COUNTY ENGINEERING CRITERIA MANUAL VOLUMES 1 AND 2.

3.3 COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.

3.4 CDOT M&S STANDARDS.
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 AND/OR 404 PERMITS AND COUNTY AND STATE FUGITIVE DUST PERMITS.
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 INCLUDING 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.
3. 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.
4. INLET DIMENSIONS SHOWN ON PLANS REFER TO DISTANCES FROM INSIDE FACES OF BOX BETWEEN THE WIDTHS AND LENGTHS.
5. ALL REINFORCED CONCRETE PIPE STORM SEWER SHALL BE A MINIMUM OF CLASS III. ALL POLYPROPYLENE PIPE SHALL BE ADS N-12 DUAL WALL PIPE OR APPROVED EQUAL. 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.
6. 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.
7. 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.
8. PRECAST MANHOLES AND REINFORCEMENT SHALL CONFORM TO ASTM C 478 (AASHTO M 199).
9. CAST IN PLACE MANHOLES SHALL BE CLASS B CONCRETE.
10. STEPS SHALL BE REQUIRED WHEN THE MANHOLE DEPTH EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
11. ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI. VERTICAL STEEL SHALL BE PLACED AT ¼ OF WALL. ALL BARS SHALL HAVE A 2" MINIMUM CLEARANCE.
12. FLOW CHANNELS AND INVERTS SHALL BE FORMED BY SHAPING WITH CLASS B CONCRETE OR APPROVED GROUT.
13. STUB-OUTS SHALL EXTEND 4 FT MINIMUM BEYOND OUTSIDE WALL SURFACE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
14. CHECK WITH THE LOCAL GOVERNMENT AUTHORITY FOR ANY ADDITIONAL STORM SEWER SPECIFICATIONS, DETAILS, OR REGULATIONS.
15. 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.

RIPRAP NOTES:

1. RIPRAP USED SHALL BE THE TYPE DESIGNATED ON THE DRAWINGS AND SHALL CONFIRM TO TABLE 1.
2. THE RIPRAP DESIGNATION AND TOTAL THICKNESS OF RIPRAP SHALL BE AS SHOWN THE DRAWINGS. THE MAXIMUM STONE SIZE SHALL NOT BE LARGER THAN THE THICKNESS OF THE RIPRAP.
3. NEITHER WIDTH NOR THICKNESS OF A SINGLE STONE OF RIPRAP SHALL BE LESS THAN ONE-THIRD (1/3) OF ITS LENGTH
4. THE SPECIFIC GRAVITY OF THE RIPRAP SHALL BE TWO AND ONE HALF (2.5) OR GREATER.
5. RIPRAP SPECIFIC GRAVITY SHALL BE ACCORDING THE BULK-SATURATED, SURFACE-DRY BASIS, IN ACCORDANCE WITH AASHTO T85.
6. THE BULK DENSITY FROM THE RIPRAP SHALL BE 1.3 TON/CY OR GREATER.
7. THE RIPRAP SHALL HAVE A PERCENTAGE LOSS OF NOT MORE THAN FORTY PERCENT (40%) AFTER FIVE HUNDRED (500) REVOLUTIONS WHEN TESTED IN ACCORDANCE WITH AASHTO T96.
8. THE RIPRAP SHALL HAVE A PERCENTAGE LOSS OF NOT MORE THAN TEN PERCENT (10%) AFTER FIVE (5) CYCLES WHEN TESTED IN ACCORDANCE WITH AASHTO T104 FOR LEDGE ROCK USING SODIUM SULFATE.
9. THE RIPRAP SHALL HAVE A PERCENTAGE LOSS OF NOT MORE THAN TEN PERCENT (10%) AFTER TWELVE (12) CYCLES OF FREEZING AND THAWING WHEN TESTED IN ACCORDANCE WITH AASHTO T103 FOR LEDGE ROCK PROCEDURE A.
10. ROCK SHALL BE FREE OF CALCITE INTRUSIONS.
11. ROUND RIPRAP (RIVER ROCK) IS NOT ACCEPTABLE, UNLESS SPECIFICALLY DESIGNATE 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.
2. 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.

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 SHALL BE SCARIFIED 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

EC --- 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

ADS, Inc. Drainage Handbook

Specifications ♦ 1-22

ADS N-12® HP 12"-60" PIPE SPECIFICATION

Scope

This specification describes 12- through 60-inch (300 to 1500 mm) ADS N-12 HP pipe for use in gravity-flow storm drainage applications.

Pipe Requirements

- 12- through 30-inch (300 to 750 mm) pipe shall have a smooth interior and annular exterior corrugations and meet or exceed ASTM F2736 and AASHTO MP-21-11.
- 36- through 60-inch (900 to 1500 mm) pipe shall have a smooth interior and annular exterior corrugations and meet or exceed ASTM F2881 and AASHTO MP-21-11.
- Manning's *n* value for use in design shall be 0.012.

Joint Performance

Pipe shall be joined with a gasketed integral bell & spigot joint meeting the requirements of ASTM F2736 and F2881, for the respective diameters.

12- through 60-inch (300 to 1500 mm) shall be watertight according to the requirements of ASTM D3212. Spigots shall have gaskets meeting the requirements of ASTM F477. Gasket shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

12- through 60-inch (300 to 1500 mm) diameters shall have a reinforced bell with a polymer composite band installed by the manufacturer.

Fittings

Fittings shall conform to ASTM F2736, ASTM F2881 and AASHTO MP-21-11, for the respective diameters. Bell & spigot connections shall utilize a spun-on, welded or integral bell and spigot with gaskets meeting ASTM F477. Bell & spigot fittings joint shall meet the watertight joint performance requirements of ASTM D3212. Corrugated couplings shall be split collar, engaging at least 2 full corrugations.

Field Pipe and Joint Performance

To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F2487. Appropriate safety precautions must be used when field-testing any pipe material. Contact the manufacturer for recommended leakage rates.

Material Properties

Polypropylene compound for pipe and fitting production shall be impact modified copolymer meeting the material requirements of ASTM F2736, Section 4, ASTM F2881, Section 5 and AASHTO MP-21-11, Section 6.1, for the respective diameters.

Installation

Installation shall be in accordance with ASTM D3231 and ADS recommended installation guidelines, with the exception that minimum cover in traffic areas for 12- through 48-inch (300 to 1200 mm) diameters shall be one foot (0.3 m) and for 60-inch (1500 mm) diameters, the minimum cover shall be 2 ft (0.6 m) in single run applications. Baseline for minimum cover situations shall consist of Class I, Class 2 (minimum 50% SFD) or Class 3 (minimum 95%) material. Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.04. Contact your local ADS representative or visit our website at www.ads-pipe.com for a copy of the latest installation guidelines.

Pipe Dimensions

Nominal Pipe ID	12	16	18	24	30	36	42	48	60
in. mm	(300) (7620)	(405) (10287)	(450) (11430)	(600) (15240)	(750) (19050)	(900) (22860)	(1050) (26670)	(1200) (30480)	(1500) (38100)
Average Pipe I.D.	12.1	14.9	16.0	24.1	30.1	35.1	41.8	47.3	58.3
in. mm	(307) (7796)	(378) (9601)	(405) (10287)	(607) (15413)	(753) (19130)	(897) (22839)	(1062) (26976)	(1207) (30654)	(1483) (37661)
Average Pipe O.D.	14.6	17.4	21.2	28.0	35.4	41.1	47.2	53.8	66.5
in. mm	(369) (9370)	(442) (11228)	(538) (13658)	(711) (18065)	(895) (22823)	(1044) (26526)	(1199) (30354)	(1367) (34723)	(1689) (42801)
Minimum Pipe Stiffness*	15	16	18	20	22	24	26	28	30
in. mm	(381) (9687)	(406) (10301)	(457) (11611)	(508) (12898)	(559) (14193)	(610) (15490)	(661) (16787)	(712) (18084)	(763) (19381)
@ 5% Deflection (Modulus, MPa)	(520) (411)	(585) (459)	(649) (508)	(713) (552)	(778) (604)	(842) (650)	(907) (705)	(971) (752)	(1036) (800)

* Minimum pipe stiffness values listed; contact a representative for maximum values

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12"-60" HP STORM WATERSTOP GROUTED MANHOLE CONNECTION (DUAL WALL)

INSTALLATION VIEW

DETAILED CONNECTION VIEW

PIPE SIZE

PIPE OD (IN)	4" MIN. HOLE Ø (IN)	4" MIN. DISTANCE PIPE INVERT TO STRUCTURE INVERT (IN)	ADS PRODUCT CODE
12	14.6	19.00	1200PS
16	17.6	23.00	1600PS
18	21.2	26.50	1800PS
24	27.8	33.25	2400PS
30	35.1	40.80	3000PS
36	41.1	47.00	3600PS
42	47.7	55.00	4200PS
48	53.6	59.00	4800PS
60	66.3	72.00	6000PS

NOTES:

PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION; CONTRACTOR MUST ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

INSTALLATION RECOMMENDATIONS ARE ALSO SPECIFIED IN INSTALLATION GUIDE U-6: WATERSTOP INSTALLATION

ADVANCED DRAINAGE SYSTEMS, INC. (ADS) HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS PROVIDED TO ASSIST THE CONTRACTOR IN THE CONSTRUCTION OF THE PROJECT. ADS HAS NOT PERFORMED ANY VERIFICATION OR DESIGN SERVICES FOR THIS PROJECT. ADS HAS NOT INDEPENDENTLY VERIFIED THE INFORMATION PROVIDED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL PROVIDE HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

DESIGNED BY: JAG

CHECKED BY: KTS

DATE: 02/28/2023

PROJECT NO.: STD-205A

PROJECT NAME: 4840 TRUMAN BLVD, HIGHLAND, CO 80803

PROJECT LOCATION: HIGHLAND, CO 80803

PROJECT DESCRIPTION: 12"-60" HP STORM DETAILS

PROJECT DRAWING NO.: STD-205A

PROJECT DATE: 02/28/2023

PROJECT STATUS: 1 OF 1

HP STORM TRENCH INSTALLATION DETAIL

TABLE 1. RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIA.	MIN. TRENCH WIDTH
12" (300mm)	24" (750mm)
16" (400mm)	30" (750mm)
18" (450mm)	36" (900mm)
24" (600mm)	42" (1050mm)
30" (750mm)	48" (1200mm)
36" (900mm)	54" (1350mm)
42" (1050mm)	60" (1500mm)
48" (1200mm)	66" (1650mm)
60" (1500mm)	84" (2100mm)

TABLE 2. MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIA.	H-20	HEAVY CONSTRUCTION (1ST ALE LAOS) *
12" (300mm)	12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)	60" (1500mm)

TABLE 3. MAXIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	CLASS I	CLASS II	CLASS III	CLASS IV
12" (300mm)	36" (900mm)	30" (750mm)	24" (600mm)	18" (450mm)
16" (400mm)	42" (1050mm)	36" (900mm)	30" (750mm)	24" (600mm)
18" (450mm)	48" (1200mm)	42" (1050mm)	36" (900mm)	30" (750mm)
24" (600mm)	54" (1350mm)	48" (1200mm)	42" (1050mm)	36" (900mm)
30" (750mm)	60" (1500mm)	54" (1350mm)	48" (1200mm)	42" (1050mm)
36" (900mm)	66" (1650mm)	60" (1500mm)	54" (1350mm)	48" (1200mm)
42" (1050mm)	72" (1800mm)	66" (1650mm)	60" (1500mm)	54" (1350mm)
48" (1200mm)	78" (1950mm)	72" (1800mm)	66" (1650mm)	60" (1500mm)
60" (1500mm)	96" (2400mm)	90" (2250mm)	84" (2100mm)	78" (1950mm)

TABLE 4. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 5. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 6. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 7. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 8. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 9. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 10. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 11. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 12. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 13. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 14. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 15. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 16. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

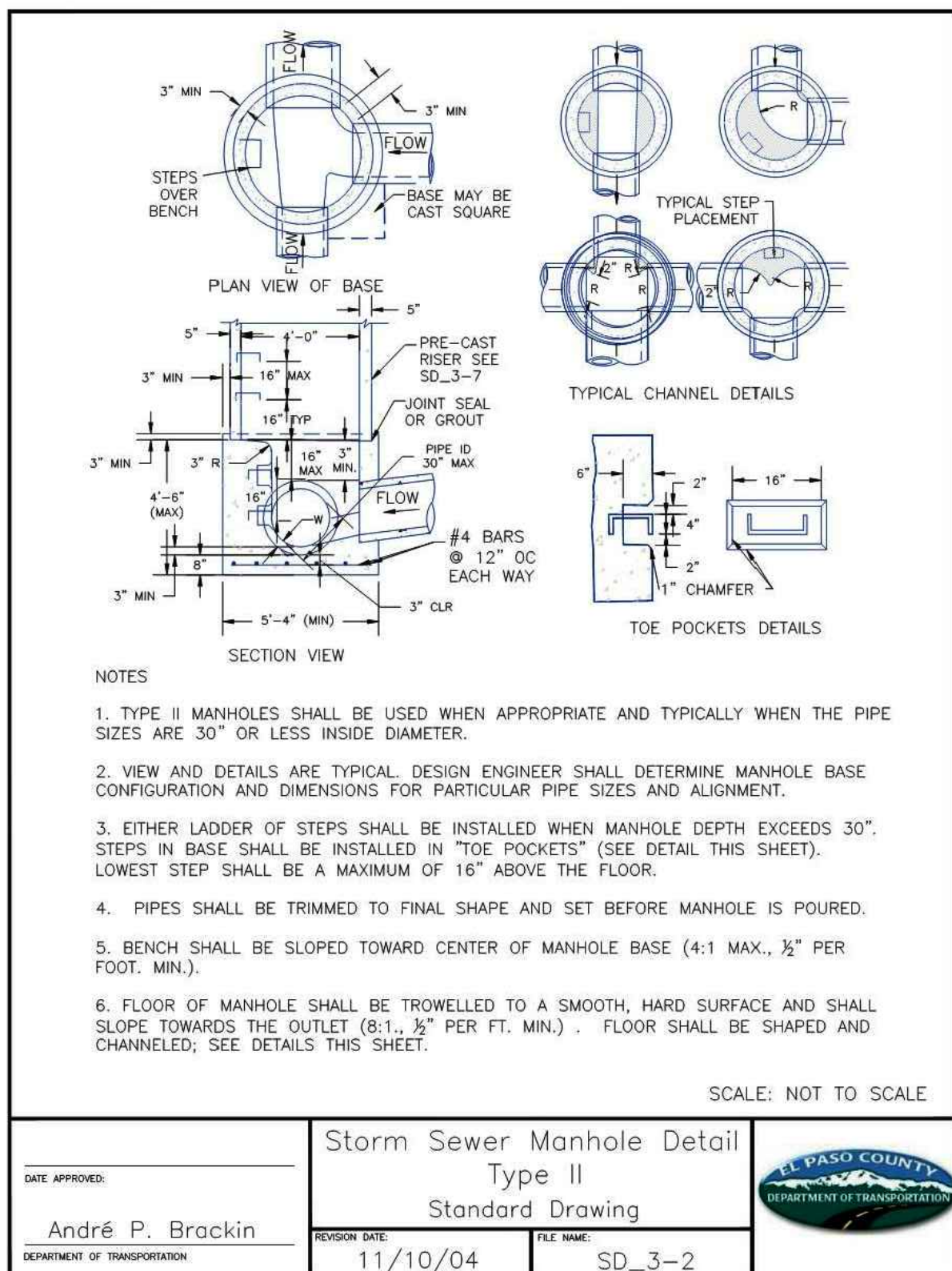
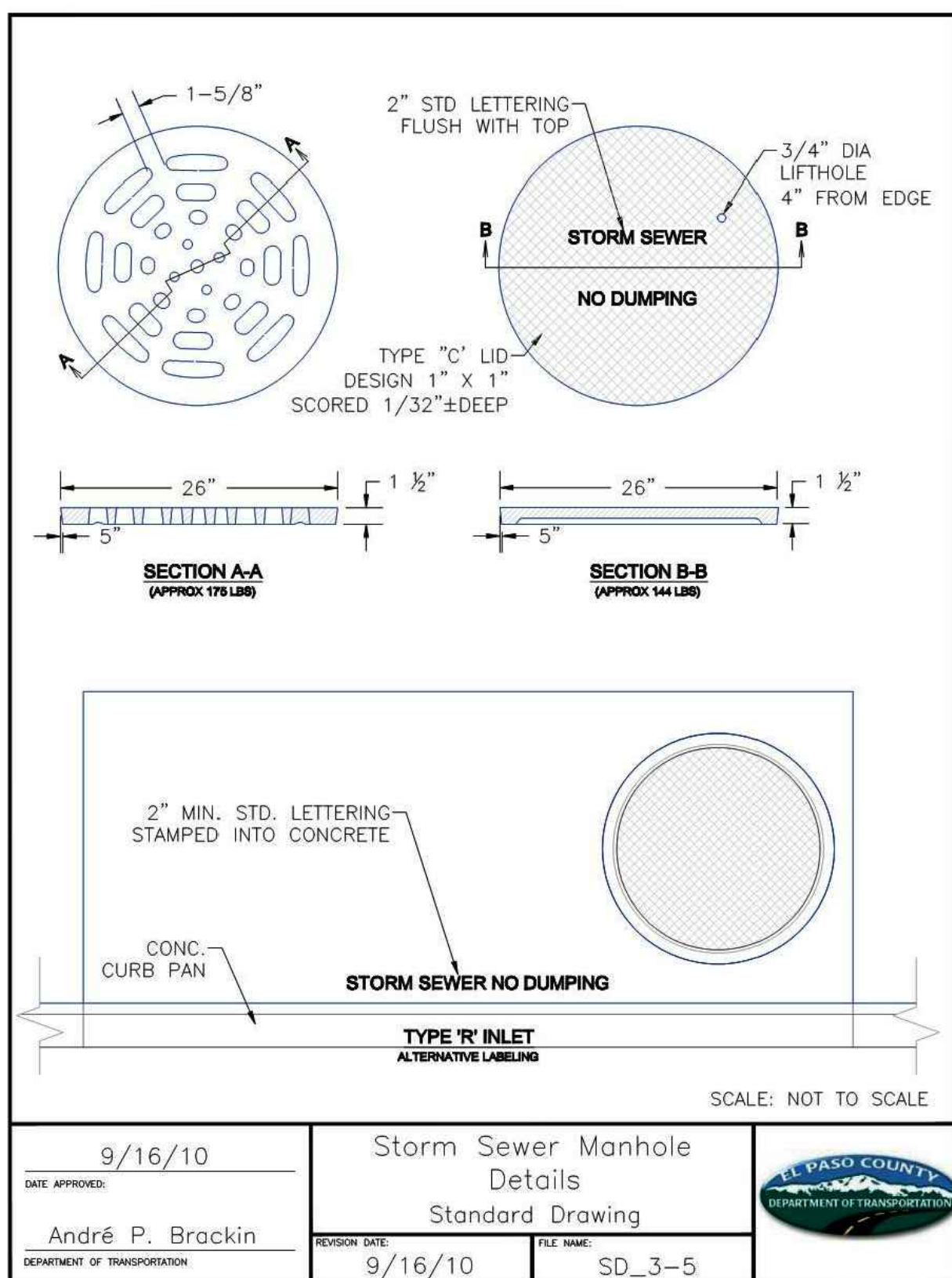
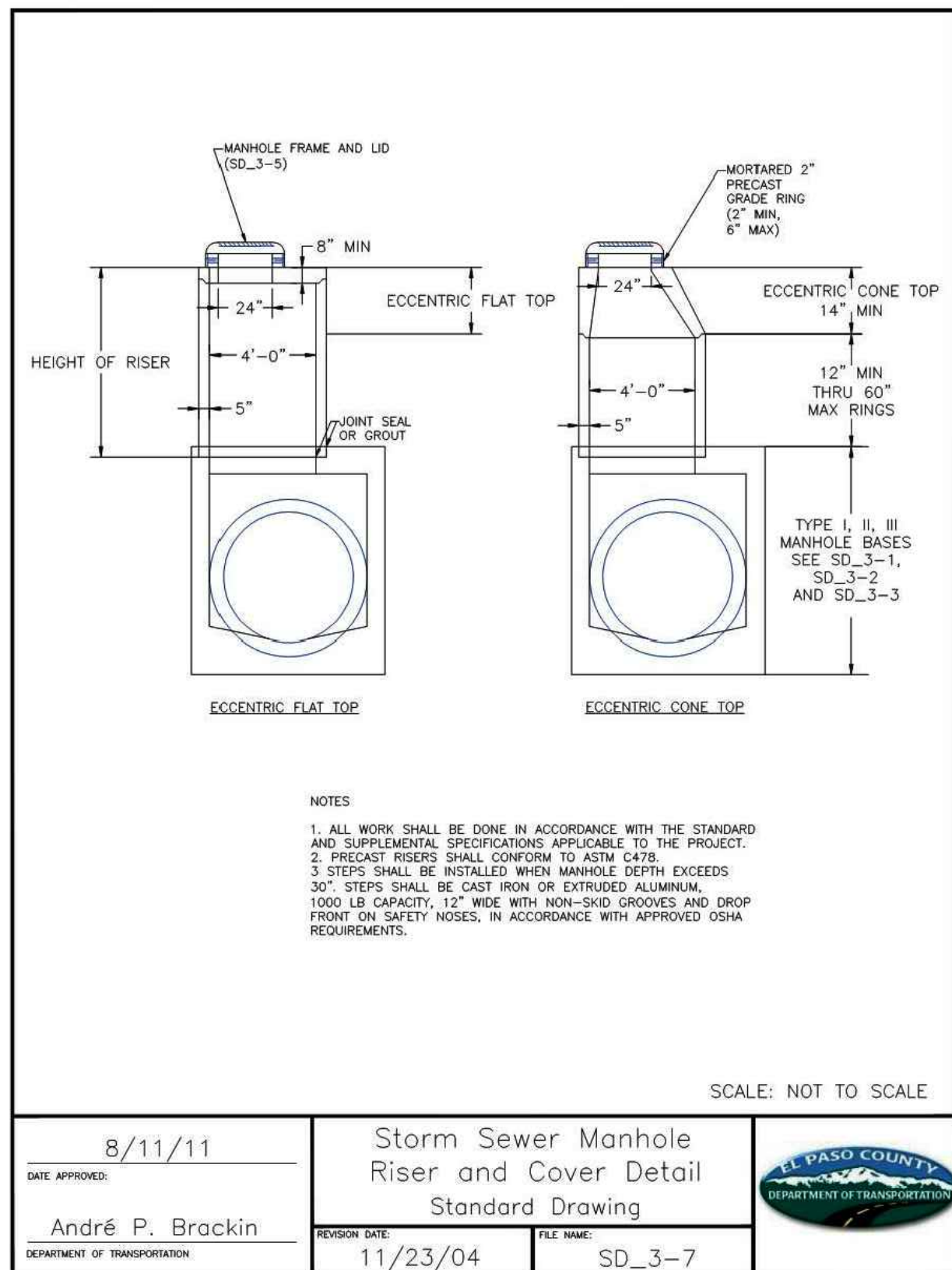
TABLE 17. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 18. MINIMUM COVER FOR ADS HP STORM PIPE, II

PIPE DIA.	MIN. COVER
12" (300mm)	12" (300mm)
16" (400mm)	16" (400mm)
18" (450mm)	18" (450mm)
24" (600mm)	24" (600mm)
30" (750mm)	30" (750mm)
36" (900mm)	36" (900mm)
42" (1050mm)	42" (1050mm)
48" (1200mm)	48" (1200mm)
60" (1500mm)	60" (1500mm)

TABLE 19. MINIMUM COVER

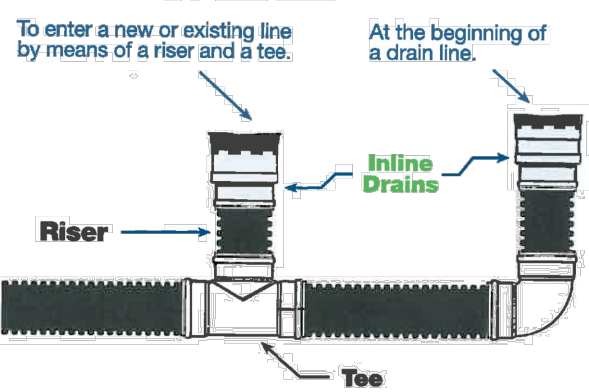


AS BUILT

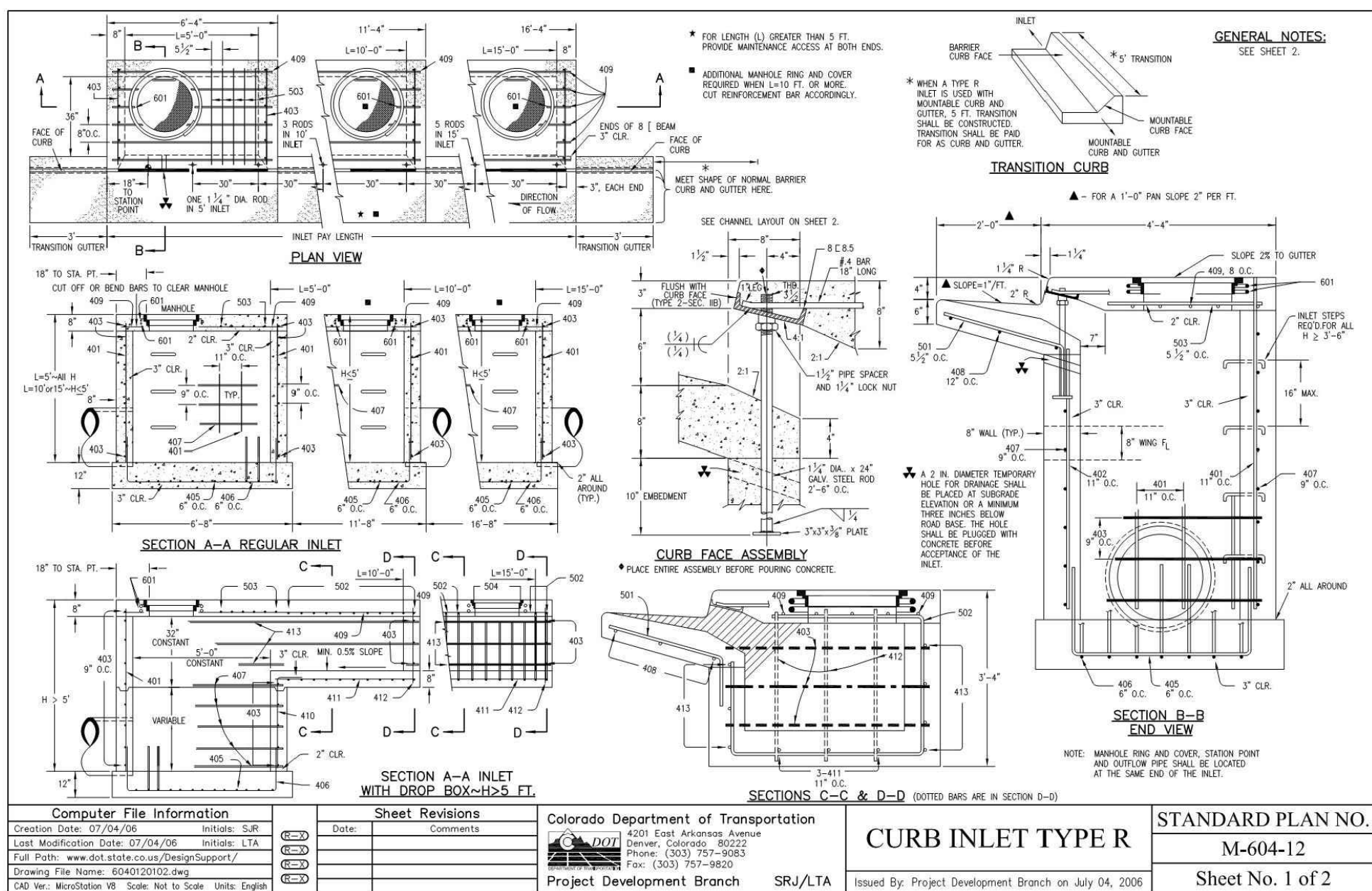
Part#/Prefix	Product Description	Available Outlets
2708AG_X	8" Inline Drain	4" thru 8"
2710AG_X	10" Inline Drain	4" thru 10"
2712AG_X	12" Inline Drain	4" thru 12"
2715AG_X	15" Inline Drain	4" thru 15"
2718AG_X	18" Inline Drain	4" thru 18"
2724AG_X	24" Inline Drain	4" thru 24"
2730AG_X	30" Inline Drain	4" thru 30"

Includes any grate option except bronze and domed. Bronze grates are available in 8", 10", 12", or 15" for Drain Basins and Inline Drains only.

When are Inline Drains Used?



2



MARK	REF ID	QTY	SPACING	TYPE	ALL METS			METS H > 5 FT			METS H > 5 FT			METS H > 5 FT		
					L = 5 FT	L = 10 FT	L = 15 FT	L = 5 FT	L = 10 FT	L = 15 FT	L = 5 FT	L = 10 FT	L = 15 FT			
					NO REQ	LENGTH	NO REQ	LENGTH	NO REQ	LENGTH	NO REQ	LENGTH	NO REQ	LENGTH	NO REQ	LENGTH
402	4	11*	1	10	20	20	20	26	31	31	31	31	31	31	31	31
403	4	11*	1	10	20	20	20	26	31	31	31	31	31	31	31	31
405	4	9*	1	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8
406	4	8*	1	8	8-10*	23	6-10-10*	31	6-10-10*	31	6-10-10*	31	6-10-10*	31	6-10-10*	31
407	4	8*	1	8	8-10*	23	6-10-10*	31	6-10-10*	31	6-10-10*	31	6-10-10*	31	6-10-10*	31
409	4	9*	1	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8
409	4	9*	1	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8
409	4	8*	1	8	6	10-10*	6	10-10*	6	10-10*	6	10-10*	6	10-10*	6	10-10*
410	4	11*	1	10	20	20	20	26	31	31	31	31	31	31	31	31
413	4	9*	1	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8	8-10*	8
501	5	5.5*	1	5	11	3-4*	22	3-4*	33	2-4*	22	3-4*	33	2-4*	22	3-4*
501	5	5.5*	1	5	11	3-4*	22	3-4*	33	2-4*	22	3-4*	33	2-4*	22	3-4*
503	5	5.5*	1	5	3-4*	18	3-4*	27	2-4*	6	3-4*	6	3-4*	6	3-4*	6
504	5	5.5*	1	5	3-4*	18	3-4*	27	2-4*	6	3-4*	6	3-4*	6	3-4*	6
600	6	2.5*	1	2	8-10*	2	8-10*	2	8-10*	2	8-10*	2	8-10*	2	8-10*	2
601	6	2.5*	1	2	8-10*	2	8-10*	2	8-10*	2	8-10*	2	8-10*	2	8-10*	2

1 MARK, 1 SPACING

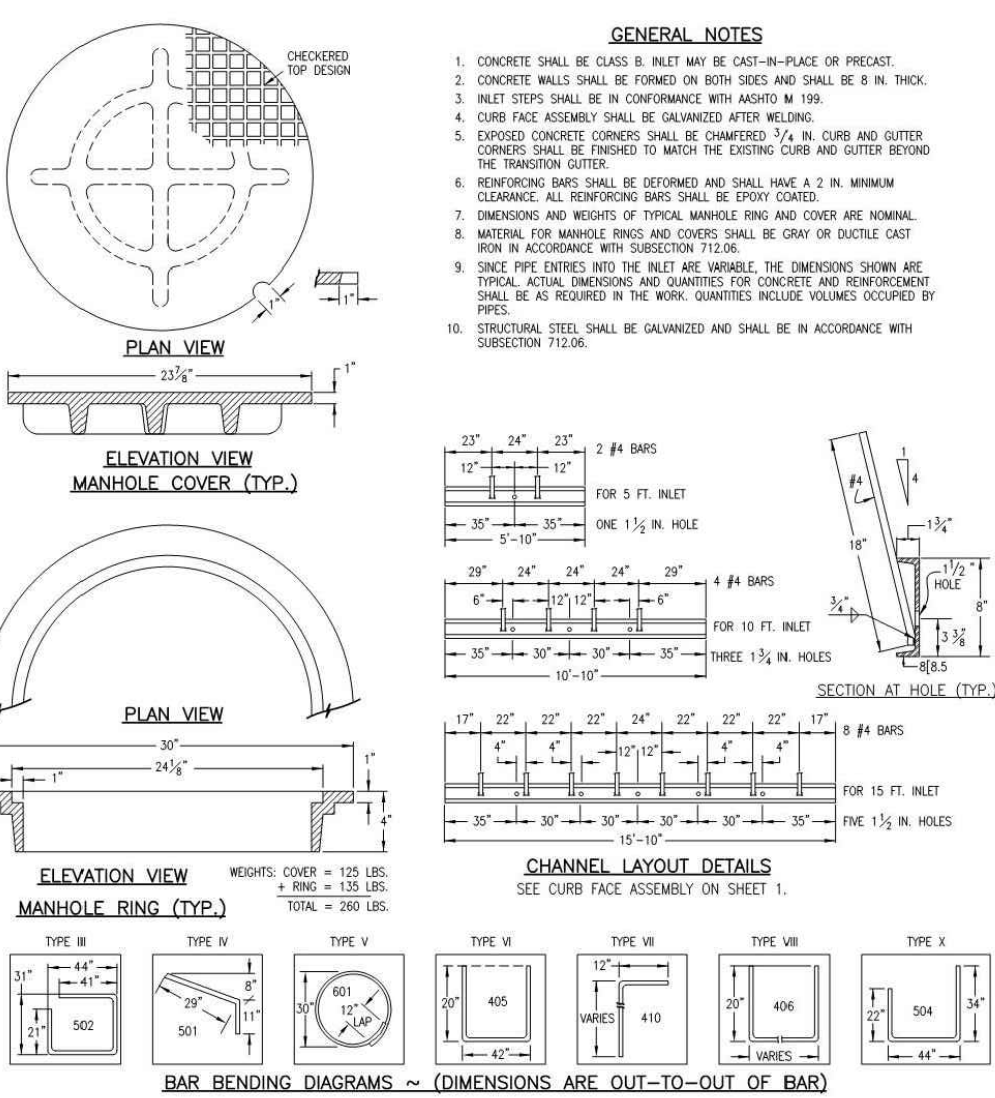
1 MARK, 1 SPACING

1 MARK, 1 SPACING

* VALUES REFER TO TABLE 20

[illegible]

STEEL WEIGHTS DO NOT INCLUDE STRUCTURAL STEEL CHANNEL		TABLE TWO ~ BARS AND QUANTITIES VARIABLE WITH "H"	
Computer File Information		Sheet Revisions	
Creation Date: 07/04/06	Initials: SUR	Date:	Comments
Last Modification Date: 07/04/06	Initials: LTA	☐	
Full Path: www.dot.state.tx.us/DesignSupport/		☐	
Drawing File Name: 6240120202.dwg		☐	
Drawn By: Morsellino VR	Scale: Not to Scale	☐	
Units: English			



CURB INLET TYPE R	STANDARD PLAN NO.
	M-604-12
Issued By: Project Development Branch on July 04, 2006	Sheet No. 2 of 2

Grate Options

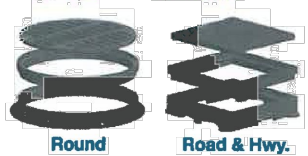
Grate Markers

Public education and outreach is part of the NPDES requirement. Storm drain marking is an established method of involving the public and increasing community awareness about non-point source pollution.

Nyloplast keeps inventory of only the featured marker shown below, however other markers may be purchased in 100 piece lots as custom orders. Call for details.



Grate Riser Extensions



Extension rings can be used to quickly raise the grade of existing grates when resurfacing is required. Nyloplast extension rings are only to be used with Nyloplast ductile iron castings.

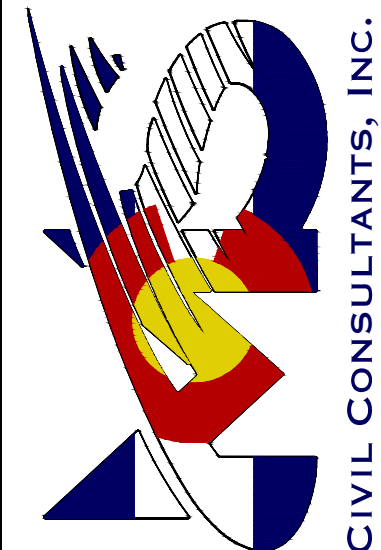
Size	Part #
18" Round with 2.0" Rise	1889GGER200
24" Round with 2.0" Rise	2489GGER200
30" Round with 2.0" Rise	3089GGER200
18" Round with 1.5" Rise	1889GGER150
24" Round with 1.5" Rise	2489GGER150
30" Round with 1.5" Rise	3089GGER150
Road & Highway	
2'x 2' with 2.0" Rise	3299GSGRER200
2'x 3' with 2.0" Rise	3299GSGRER200

	8\" data-bbox="235 35 345 105"/>		16\", 24\" & 30\" Dome Light-Duty
	8\" data-bbox="235 115 345 185"/>		16\", 24\" & 30\" Standard H-20
	8\" data-bbox="235 195 345 265"/>		16\", 24\" & 30\" Pedestrian H-10
	12\" data-bbox="235 275 345 345"/>		16\", 24\" & 30\" Solid H-20
	12\" data-bbox="235 355 345 425"/>		16\", 24\" & 30\" Solid H-20
	12\" data-bbox="235 435 345 505"/>		16\", 24\" & 30\" Solid H-20
	12\" data-bbox="235 515 345 585"/>		16\", 24\" & 30\" Solid H-20
	12\" data-bbox="235 595 345 665"/>		16\", 24\" & 30\" Solid H-20
	12\" data-bbox="235 675 345 745"/>		16\", 24\" & 30\" Solid H-20
	12\" data-bbox="235 755 345 825"/>		16\", 24\" & 30\" Solid H-20
	12\" data-bbox="235 835 345 905"/>		16\", 24\" & 30\" Solid H-20
	12\" data-bbox="235 915 345 985"/>		16\", 24\" & 30\" Solid H-20

Curb Inlet and Road & Highway Grates

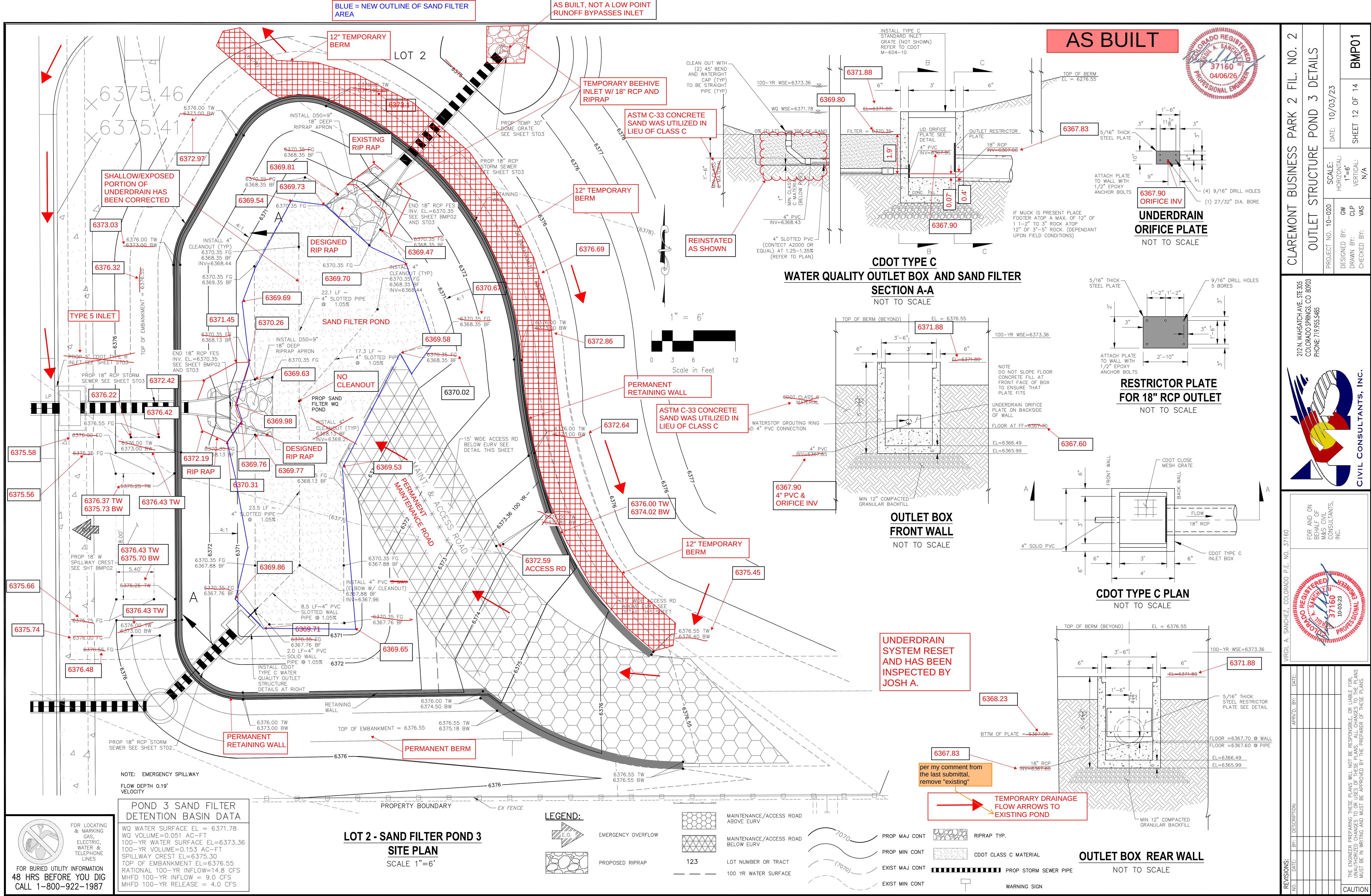
	Curb Inlet 2'x2' Standard Grate		Road & Hwy. 2'x2' Square Grate
	Curb Inlet 2'x2' Diagonal Flow Grate		Road & Hwy. 2'x2' Steel Bar Grate and Frame
	Curb Inlet 2'x3' Diagonal Flow Grate		Road & Hwy. 2'x3' Rectangular Bar Grate
	Curb Inlet 2'x3' High Flow Vane Grate		Road & Hwy. 2'x3' Steel Bar Grate and Frame

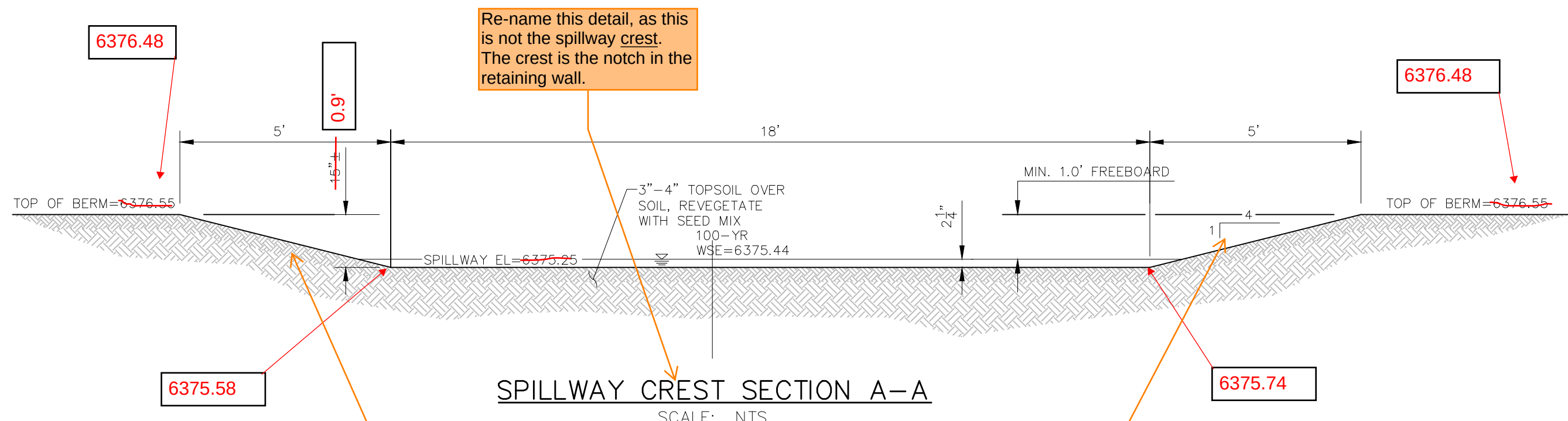
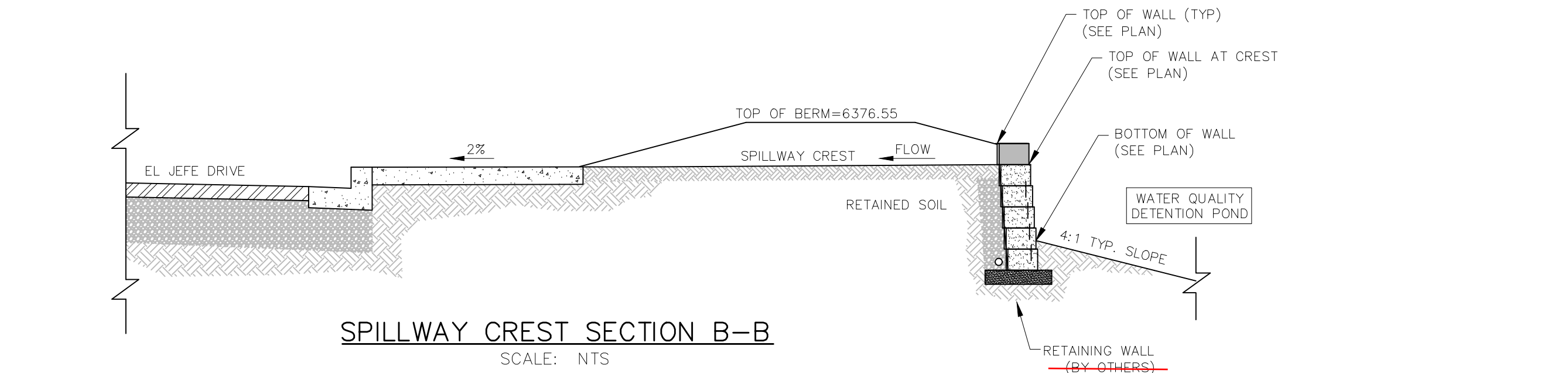
212 N. WAHSATCH AVE., STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485



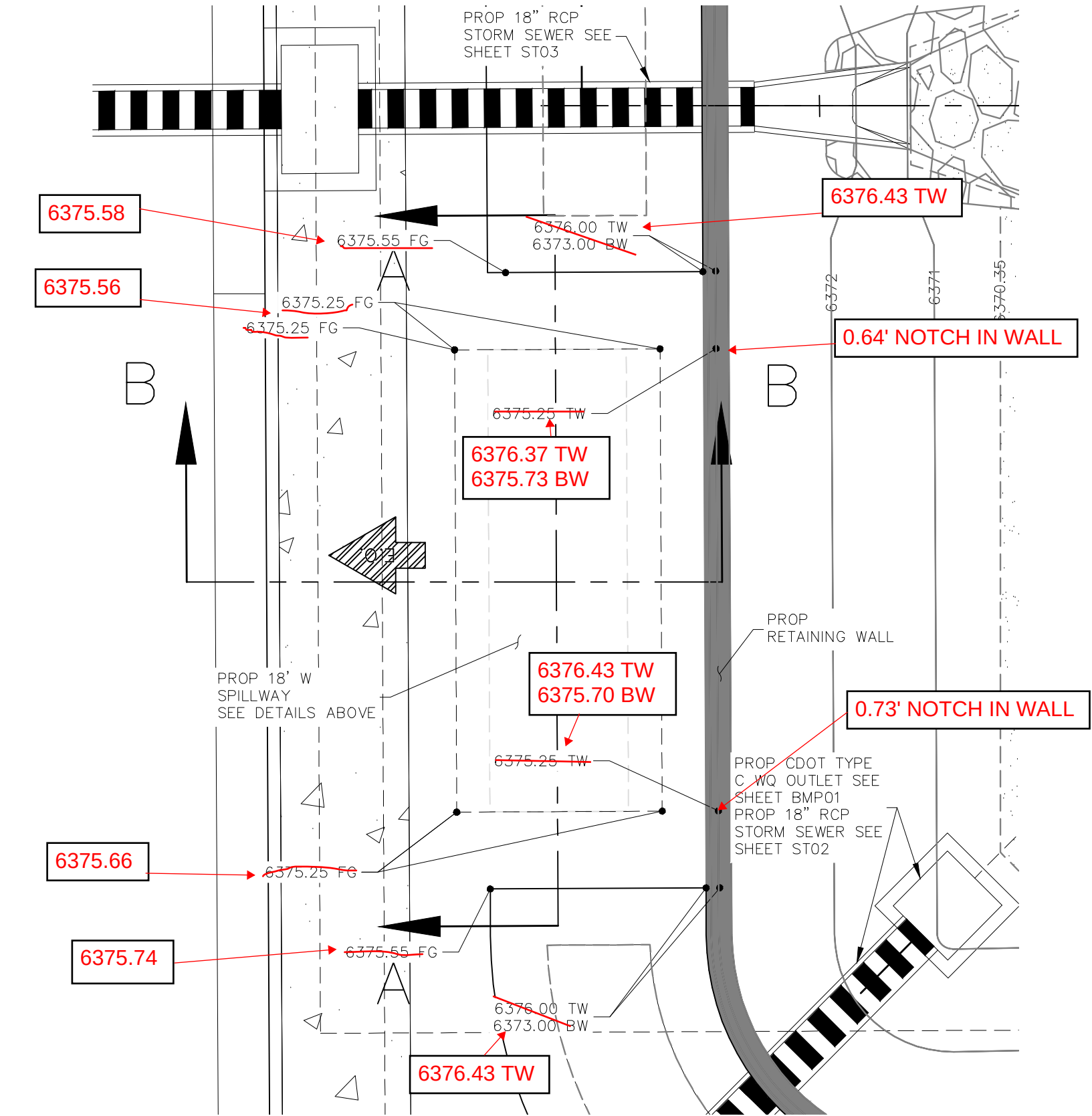
60 FOR AND ON
HALF OF
L&S CIVIL
CONSULTANTS,

[illegible]



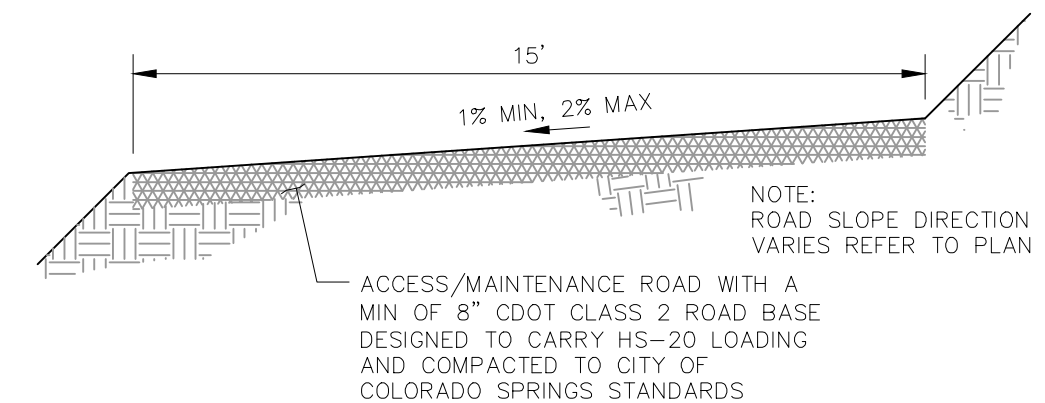


My V2 comment:
The side walls of the spillway are vertical, not 4:1. Please reflect this on this detail (already addressed on calcs, so those are good).
V3 update:
I see in your Comment Response doc that Section A-A is not at the wall. But that was not the crux of my comment. The point was that the controlling portion of the spillway is the notched wall upstream of Section A-A. So that's what should be reflected in the calcs (you have since incorrectly changed the calcs to reflect the 4:1 side slopes at Section A-A) and shown in an as-built detail. Obviously you are welcome to keep this Section A-A as-built detail to show the conveyance channel just downstream of the actual spillway if you want, but one is needed for the actual spillway crest.
See my V2 comments on this detail.

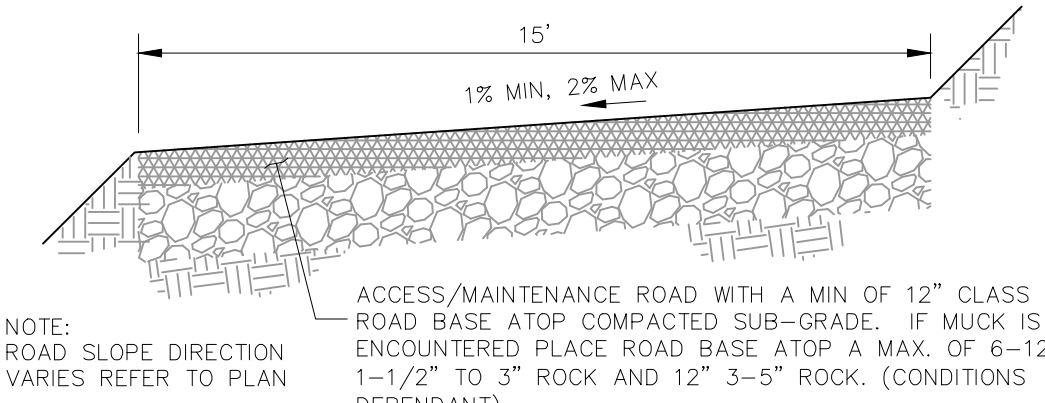


LOT 2 - SAND FILTER POND 3
SPILLWAY PLAN
SCALE 1"=10'

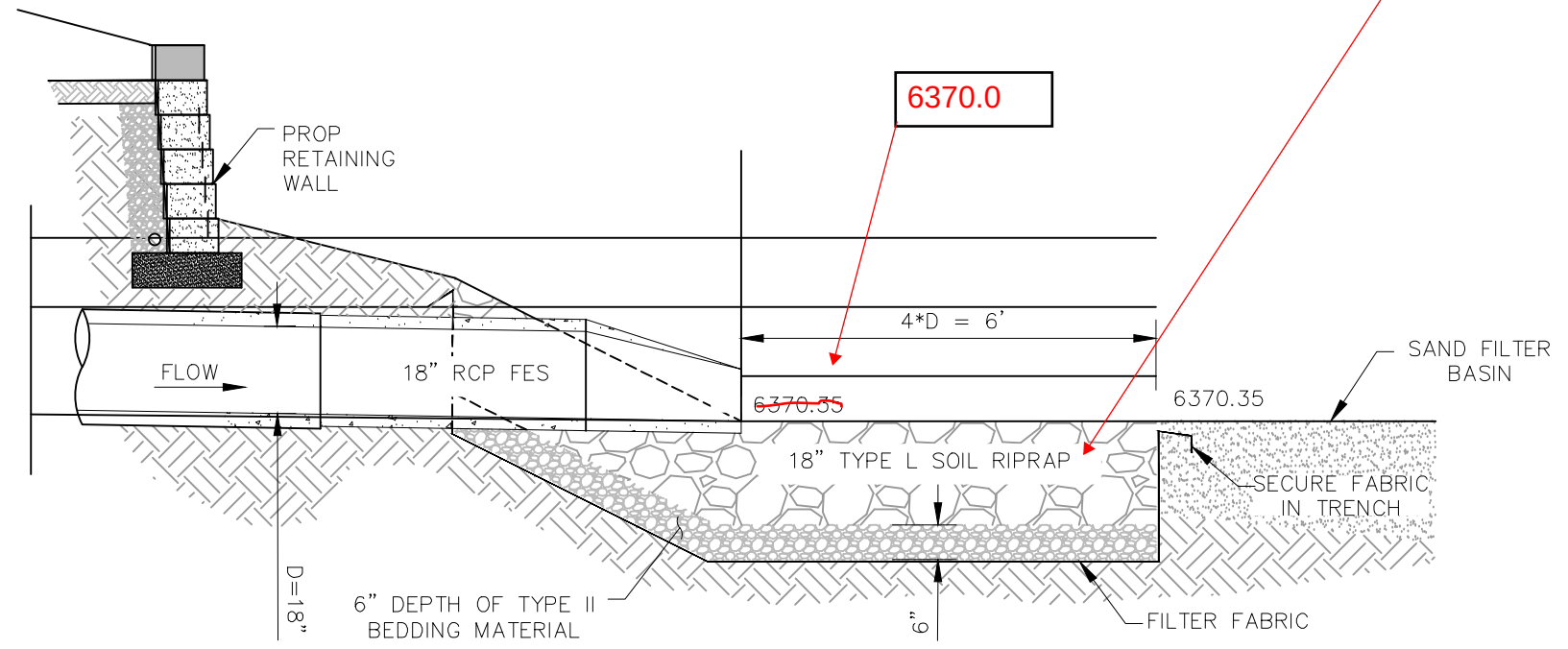
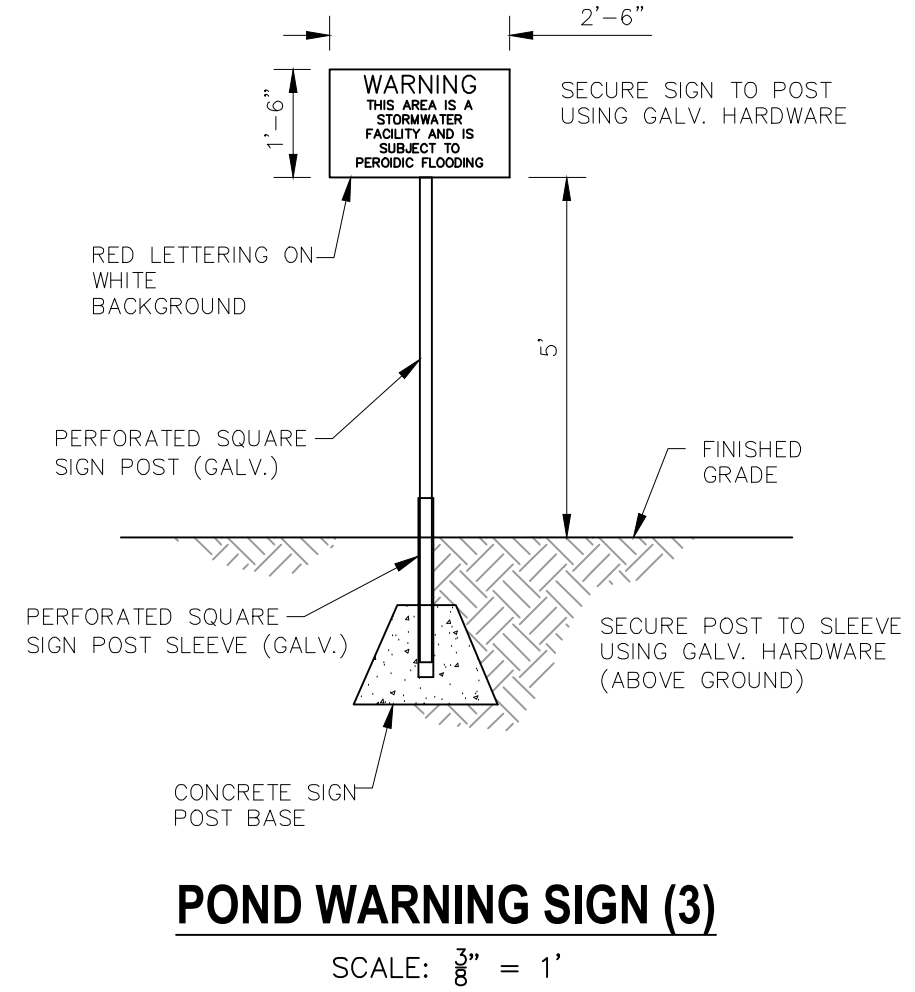
AS BUILT



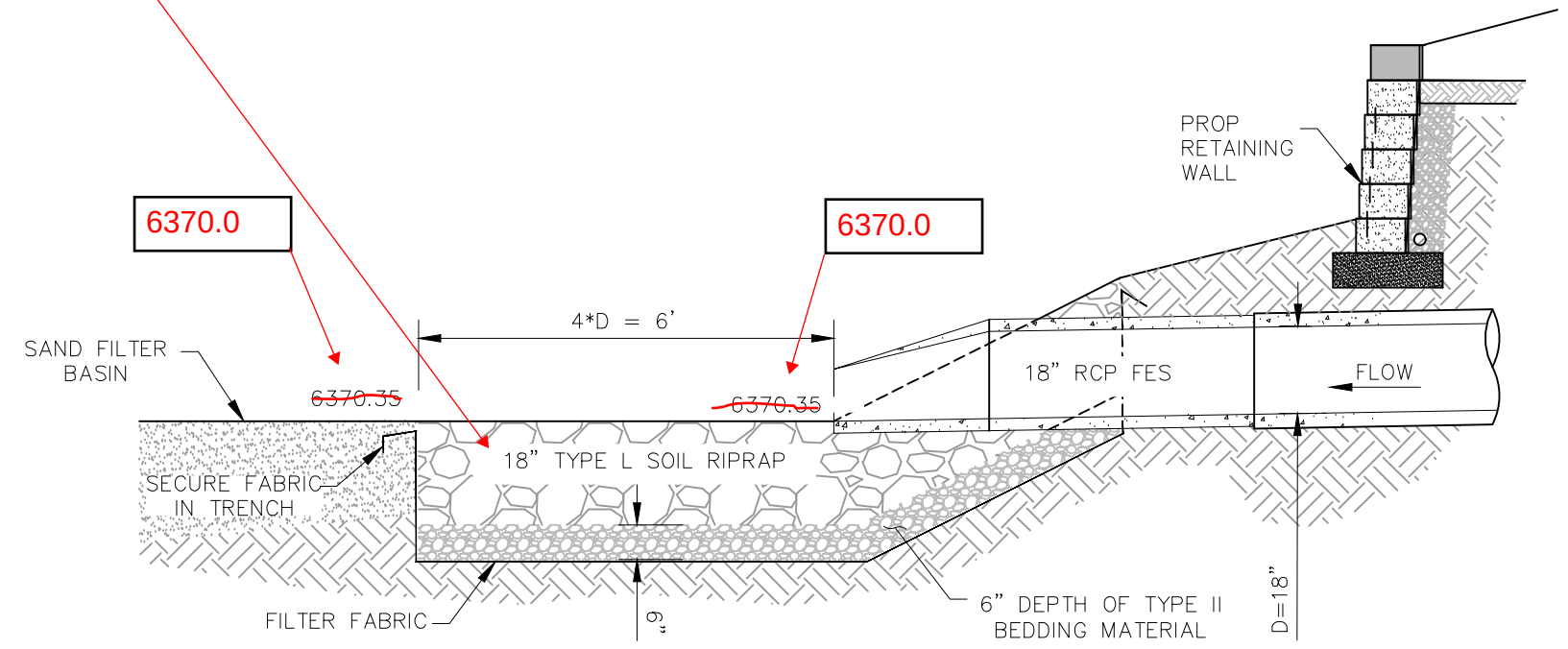
MAINTENANCE & ACCESS ROAD
ABOVE EURV TYPICAL SECTION
NOT TO SCALE



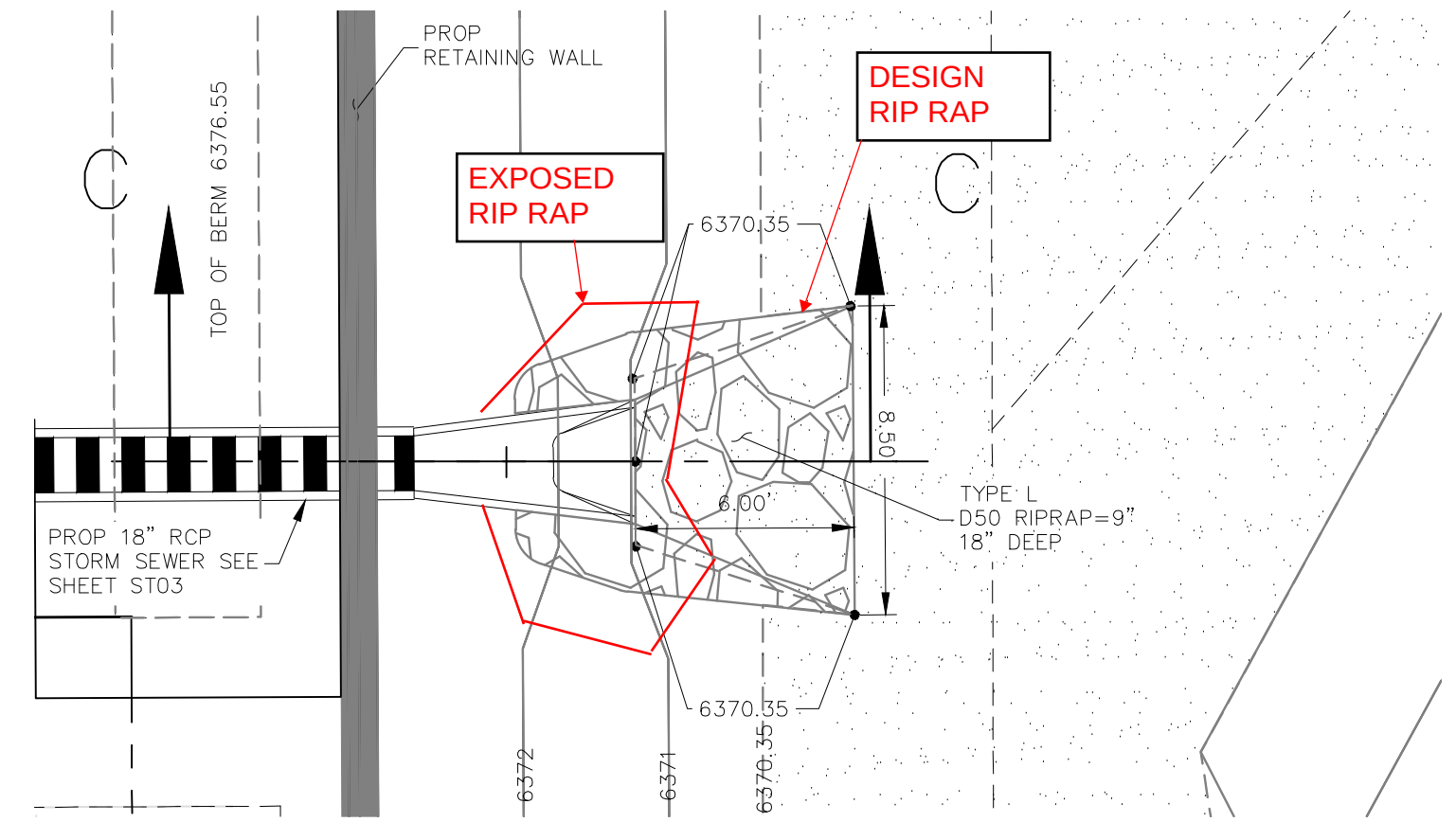
MAINTENANCE & ACCESS ROAD
BELOW EURV TYPICAL SECTION
NOT TO SCALE



18" RCP RIPRAP APRON
SECTION C-C
SCALE: NTS



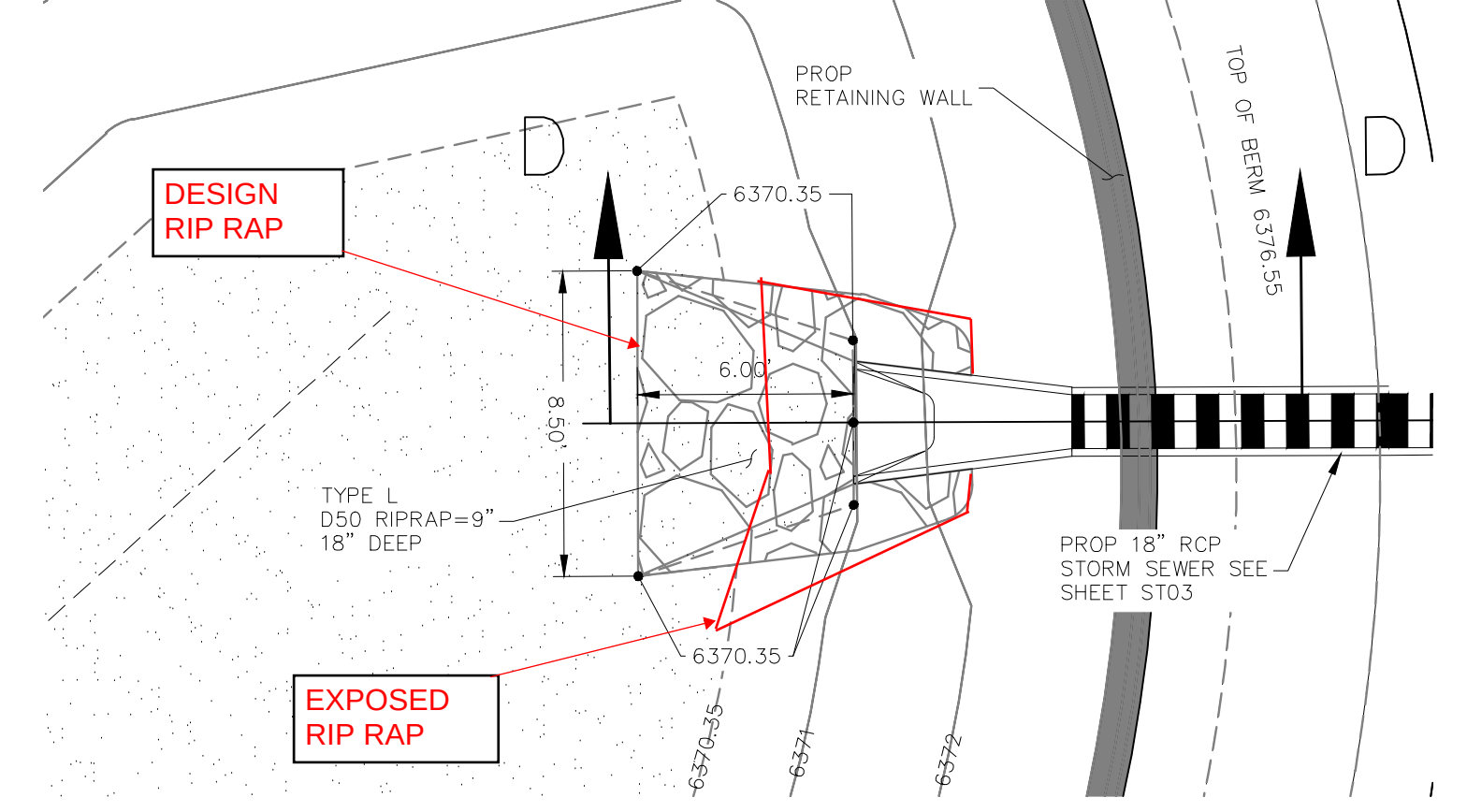
18" RCP RIPRAP APRON
SECTION D-D
SCALE: NTS



LOT 2 - SAND FILTER POND 3
WEST RIPRAP APRON (TYPICAL)
SCALE 1"=5'

TABLE 1			
RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (INCHES)	D ₅₀ • (INCHES)
TYPE VL	70-100	12	6
	50-70	9	
	35-50	6	
	2-10	2	
TYPE L	70-100	15	9
	50-70	12	
	35-50	9	
	2-10	3	
TYPE M	70-100	21	12
	50-70	18	
	35-50	12	
	2-10	4	
TYPE H	70-100	30	18
	50-70	24	
	35-50	18	
	2-10	6	
TYPE VH	70-100	41	24
	50-70	33	
	35-50	24	
	2-10	9	

*D₅₀ = MEAN PARTICLE SIZE
REFER TO SECTION 506 RIPRAP OF CDOT SPECIFICATIONS



LOT 2 - SAND FILTER POND 3
NORTHEAST RIPRAP APRON (TYPICAL)
SCALE 1"=5'

AS BUILT



Table SF-1. Gradation Specifications for CDOT Class C Filter Material
(Source: CDOT Table 703-7)

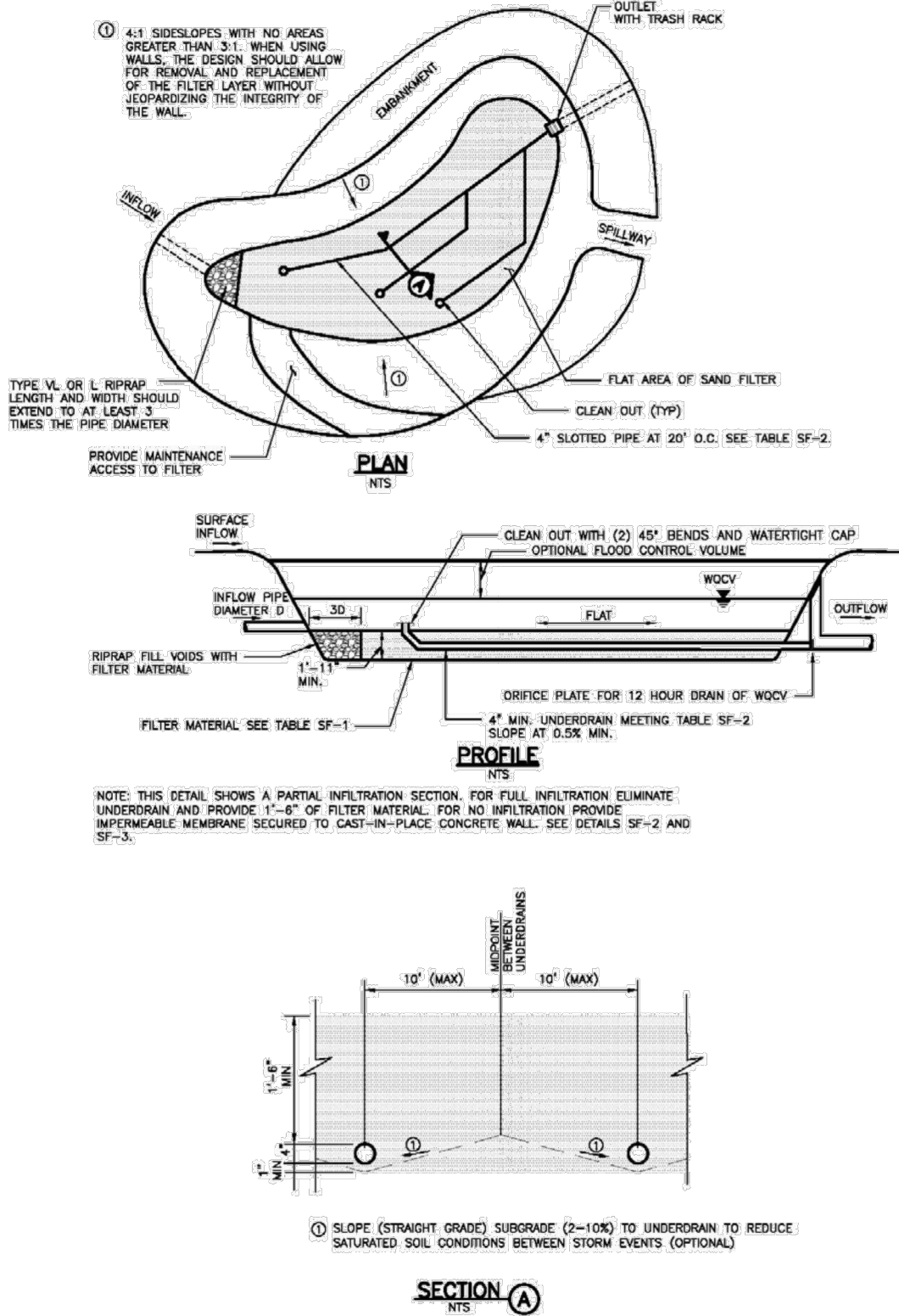
Sieve Size	Mass Percent Passing Square Mesh Sieves
19.0 mm (3/4")	100
4.75 mm (No. 4)	60 – 100
300 µm (No. 50)	10 – 30
150 µm (No. 100)	0 – 10
75 µm (No. 200)	0 - 3

ASTM C-33 CONCRETE SAND WAS UTILIZED IN LIEU OF CLASS C

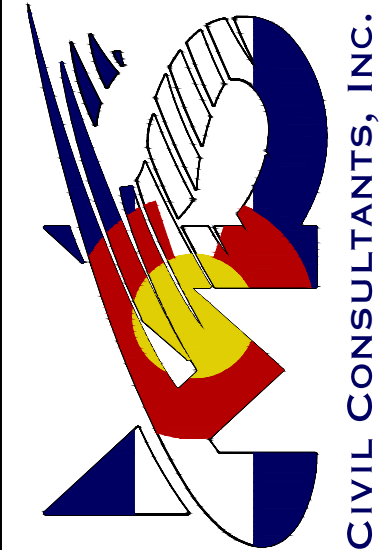
Table SF-2. Dimensions for Slotted Pipe

Pipe Size	Slot Length ¹	Maximum Slot Width	Slot Centers ¹	Open Area ¹ (per foot)
4"	1-1/16"	0.032"	0.413"	1.90 in ²
6"	1-3/8"	0.032"	0.516"	1.98 in ²

¹ Some variation in these values is acceptable and is expected from various pipe manufacturers. Be aware that both increased slot length and decreased slot centers will be beneficial to hydraulics but detrimental to the structure of the pipe.



212 N. WAHATCH AVE. STE 305
COLORADO SPRINGS CO 80903
PHONE: 719.555.5465



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

FOR AND ON
BEHALF OF
CIVIL CONSULTANTS,
INC.



REVISIONS: NO. DATE: BY: DESCRIPTION: APPROVED 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 PREPAREY OF THESE PLANS.

CAUTION

CLAREMONT BUSINESS PARK 2 FIL. NO. 2

OUTLET STRUCTURE POND 3 DETAILS

PROJECT NO. 10-020

DATE: 07/20/23

SCALE: HORIZONTAL: 1"=10' VERTICAL: N/A

DESIGNED BY: GW

DRAWN BY: CLP

CHECKED BY: VAS

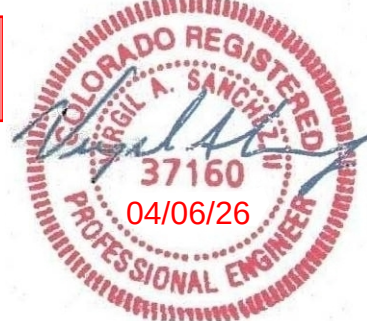
SHEET 14 OF 14

BMP03

ABBREVIATION LEGEND

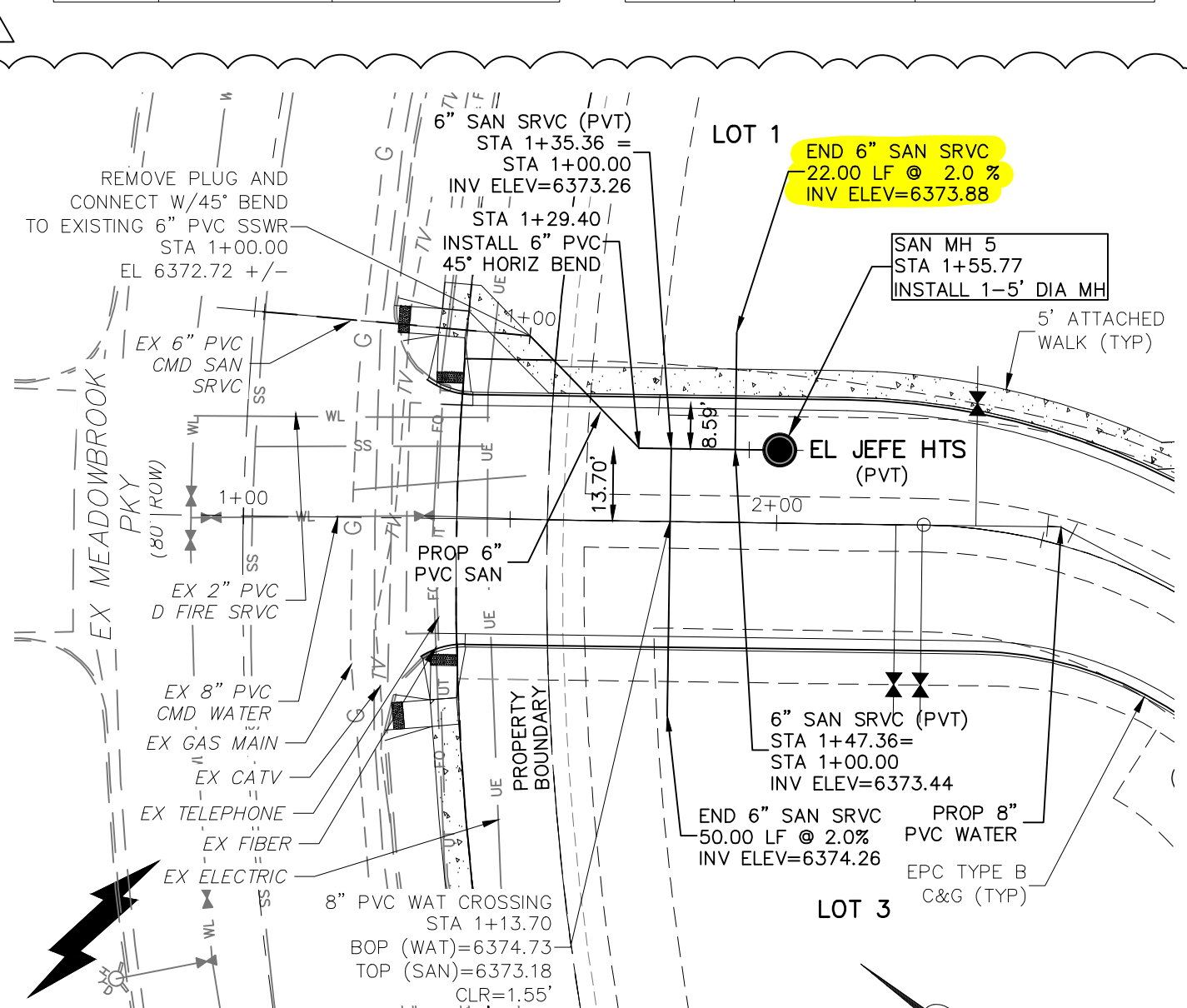
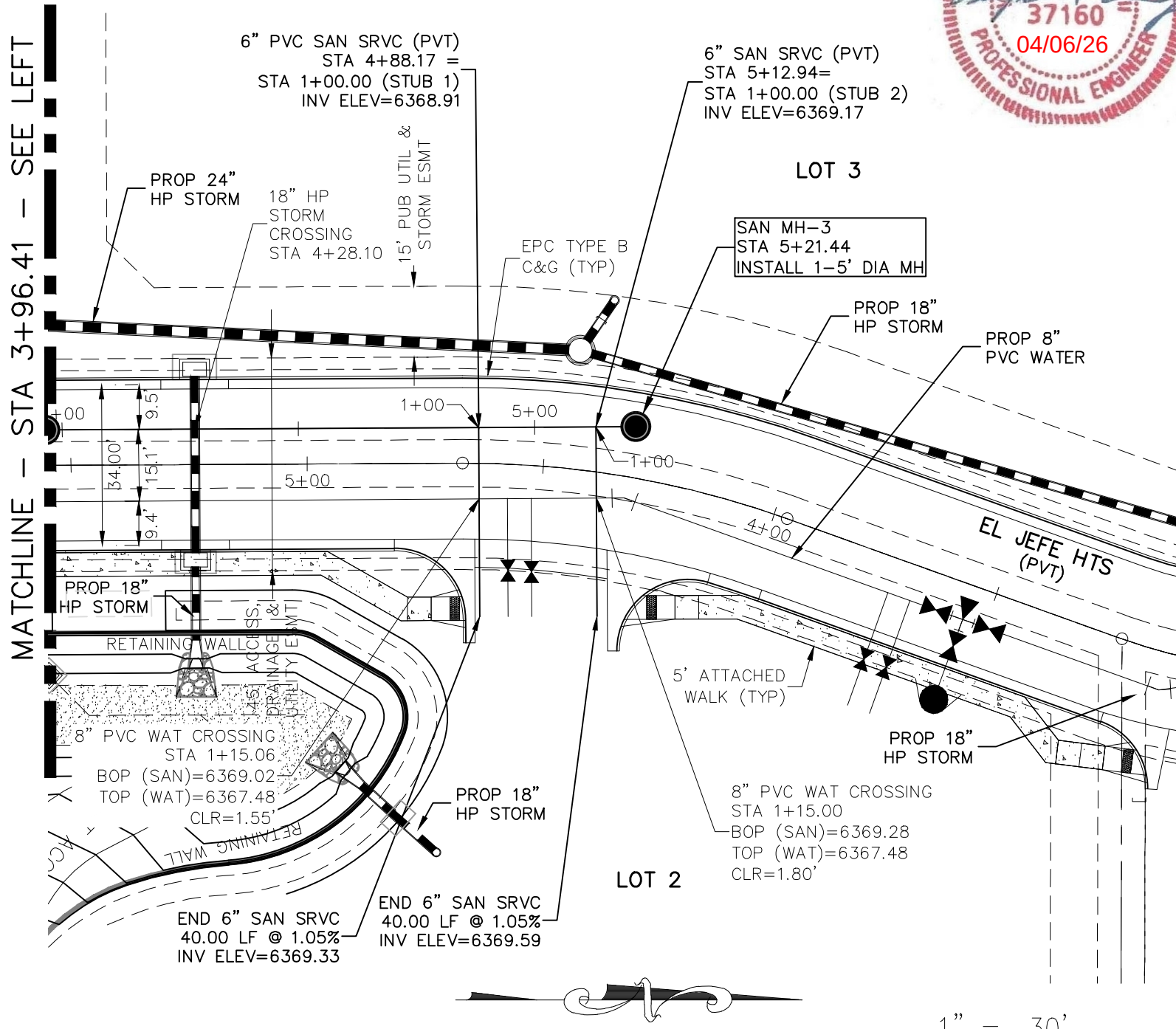
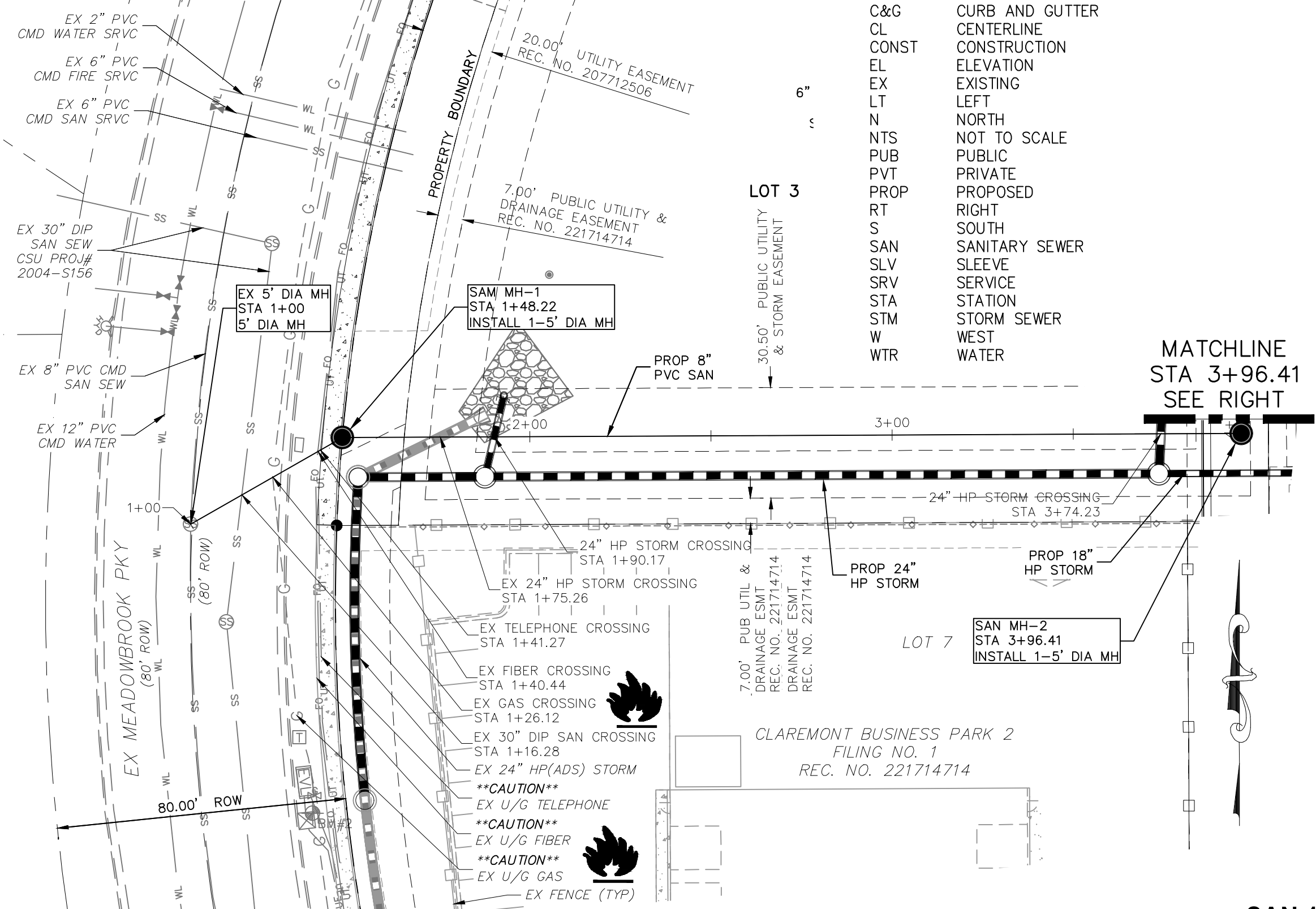
C&G CURB AND GUTTER
CL CENTERLINE
CONST CONSTRUCTION
EL ELEVATION
EX EXISTING
LT LEFT
N NORTH
NTS NOT TO SCALE
PUB PUBLIC
PVT PRIVATE
PROP PROPOSED
RT RIGHT
S SOUTH
SLV SLEEVE
SRV SERVICE
STA STATION
STM STORM SEWER
W WTR WEST WATER

AS BUILT



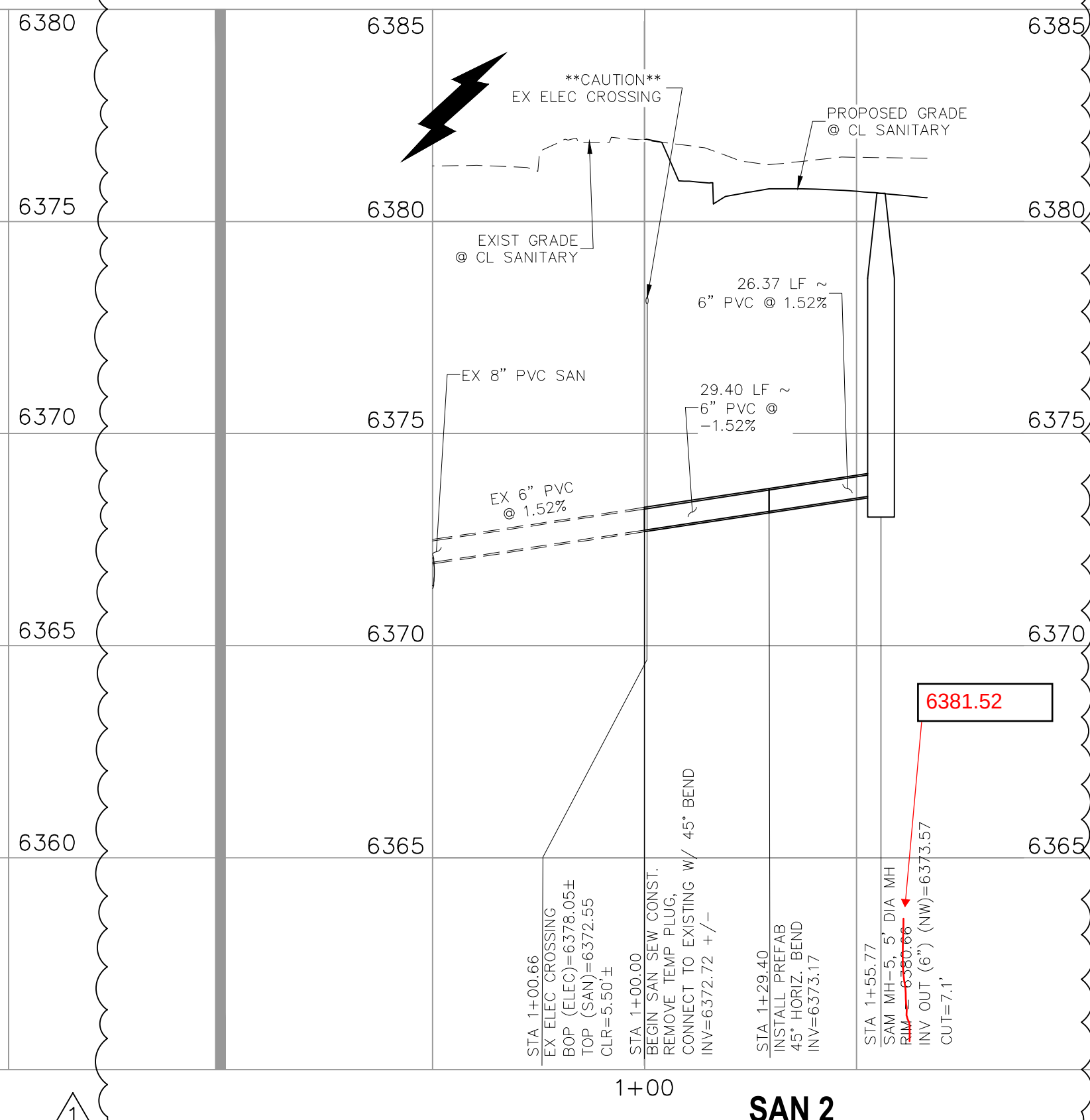
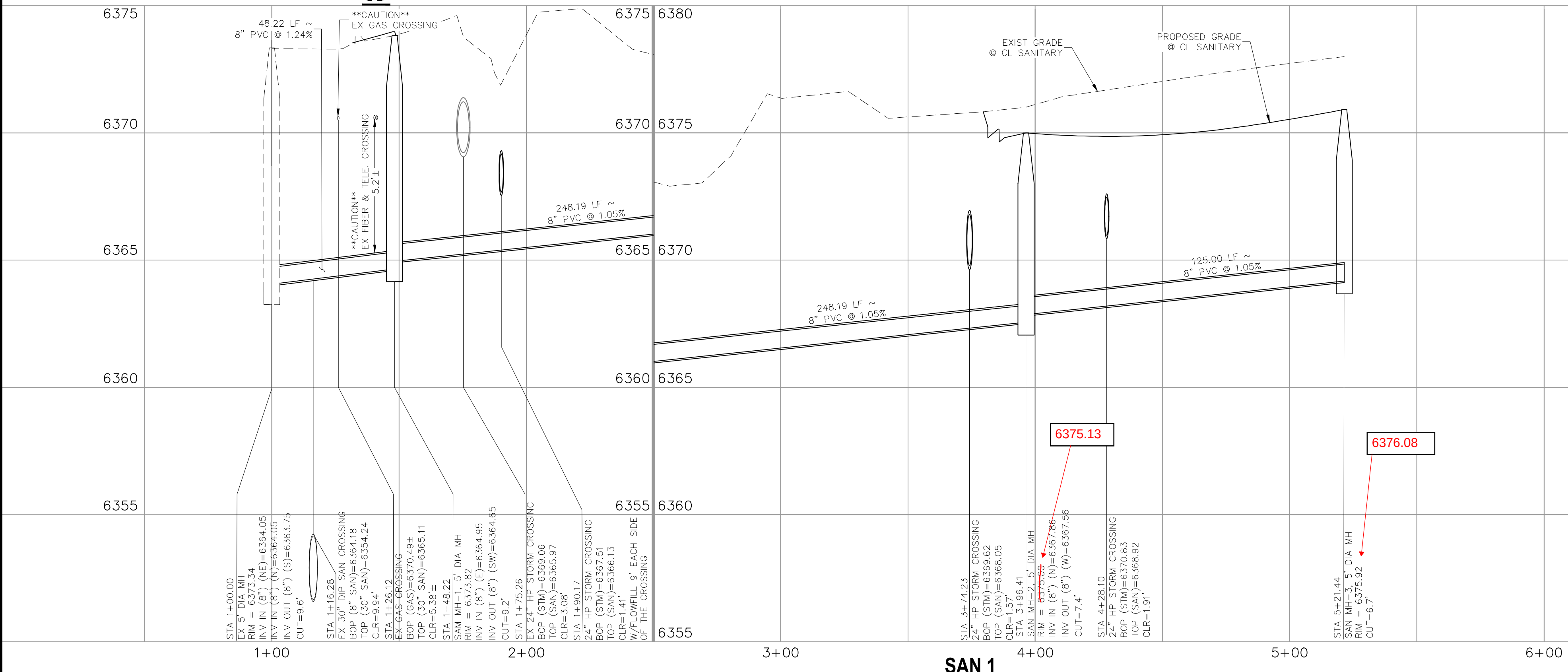
SANITARY SEWER LINE TABLE		
LINE	LENGTH	DIRECTION
L1	48.22'	N60°16'20"E
L2	248.19'	N89°44'11"E
L3	125.00'	N0°18'37"W
L5	55.47'	S34°12'27"E

SANITARY SERVICE LINE TABLE		
LINE	LENGTH	DIRECTION
L6	40.00'	N89°41'23"E
L7	40.00'	N89°41'23"E
L8	50.00'	S55°47'33"W
L9	22.00'	N55°47'33"E



SAN 1 (PUBLIC)
STA 1+00.00 TO STA 5+21.44

SAN 2 (PUBLIC) EL JEFE HTS
STA 1+00.00 TO STA 1+55.47



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& MARKING
GAS,
ELECTRIC,
WATER &
TELEPHONE
LINES

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

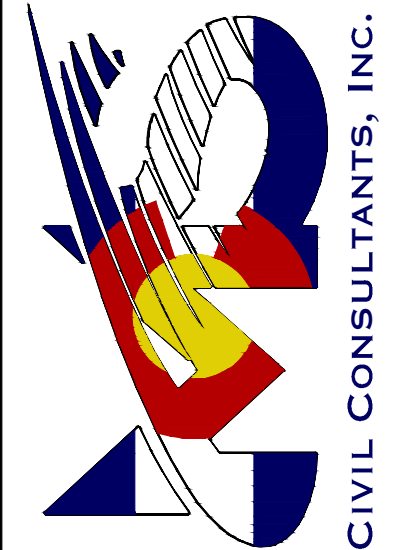
03/10/26

CLAREMONT BUSINESS PARK 2 FIL. NO. 2

SANITARY SEWER PLAN & PROFILE

DATE: 07/20/23
SCALE: HORIZONTAL: 1"=30'
VERTICAL: 1"=3'
DESIGNED BY: GW
DRAWN BY: CLP
CHECKED BY: VAS

212 N. WABACH AVE. STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5465



FOR AND ON
BEHALF OF
CIVIL CONSULTANTS,
INC.



REVISIONS:					APPR'D. BY:	DATE:
NO.	DATE	BY	DESCRIPTION			
1	4/17/2024	GW	FOUND EX 8" SAN DIFFERENT FROM DESIGN INV. SVC PIPES ADJUSTED TO MATCH EX INVERT			