

CLAREMONT BUSINESS PARK 2 FILING NO. 2

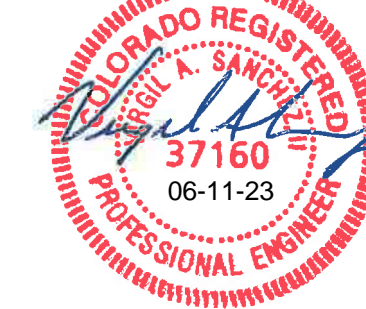
COUNTY OF EL PASO, STATE OF COLORADO

CONSTRUCTION PLANS

JUNE 2023

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.

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 06-11-23
DATE

DOUBLETREE VENTURES

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.

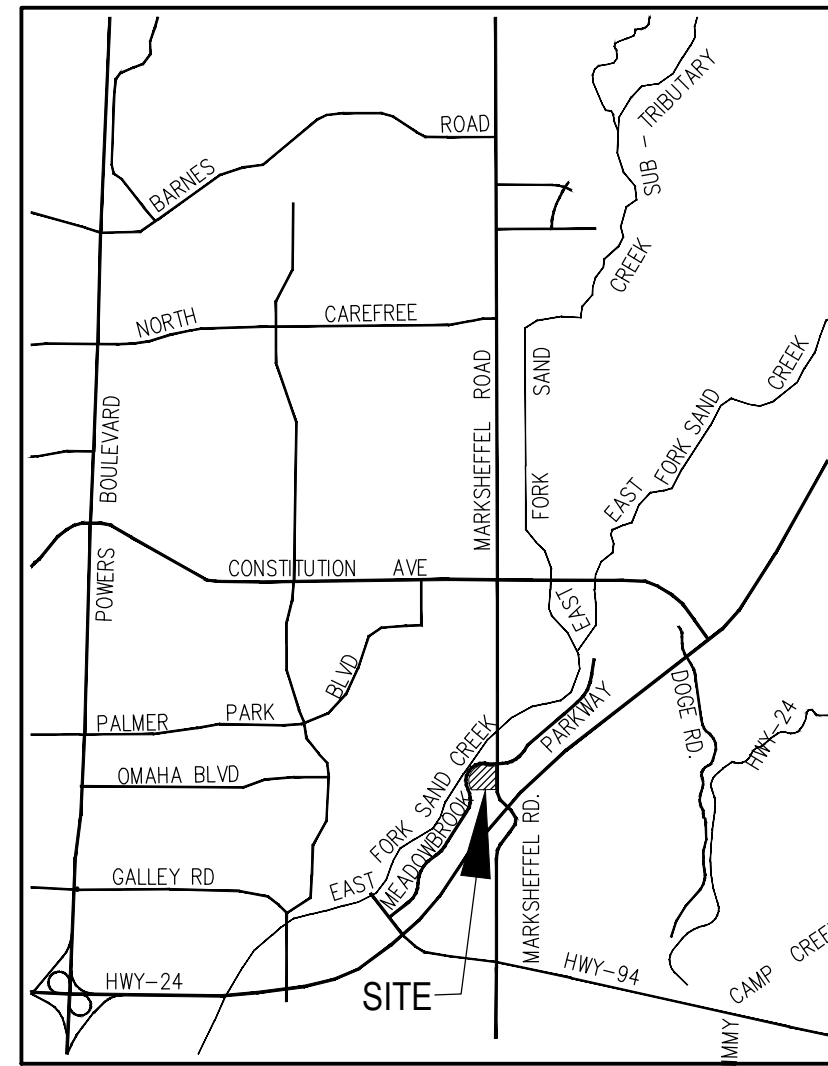
IN ACCORDANCE WITH EGM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF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

JOSHUA PALMER, P.E. DATE
COUNTY ENGINEER / ECM ADMINISTRATOR

SHEET INDEX

- SHEET 1 TITLE SHEET
- SHEET 2 CONSTRUCTION NOTES, LEGEND & DETAILS
- SHEET 3 CONSTRUCTION STANDARD DETAILS
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- SHEET 6 STRIPING AND SIGNAGE PLAN
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- 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

Resolved - dothernandez
07/05/2023 2:59:02 PM



VICINITY MAP
N.T.S.

AGENCIES:

- OWNER/DEVELOPER:** DOUBLETREE VENTURES
BRIAN ZUREK, MANAGING 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:

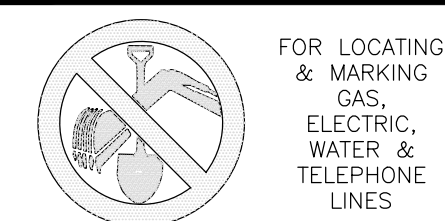
THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL TIE-IN/CONNECTIONS TO EXISTING MANHOLES AND/OR STUBS PRIOR TO CONSTRUCTION. ANY DISCREPANCY TO THE ANTICIPATED/PREVIOUSLY MEASURED ELEVATIONS PROVIDED ON THE PLANS SHALL BE CONVEYED TO THE ENGINEER AND A RESOLVE REACHED PRIOR TO INSTALLATION.

BENCHMARKS:

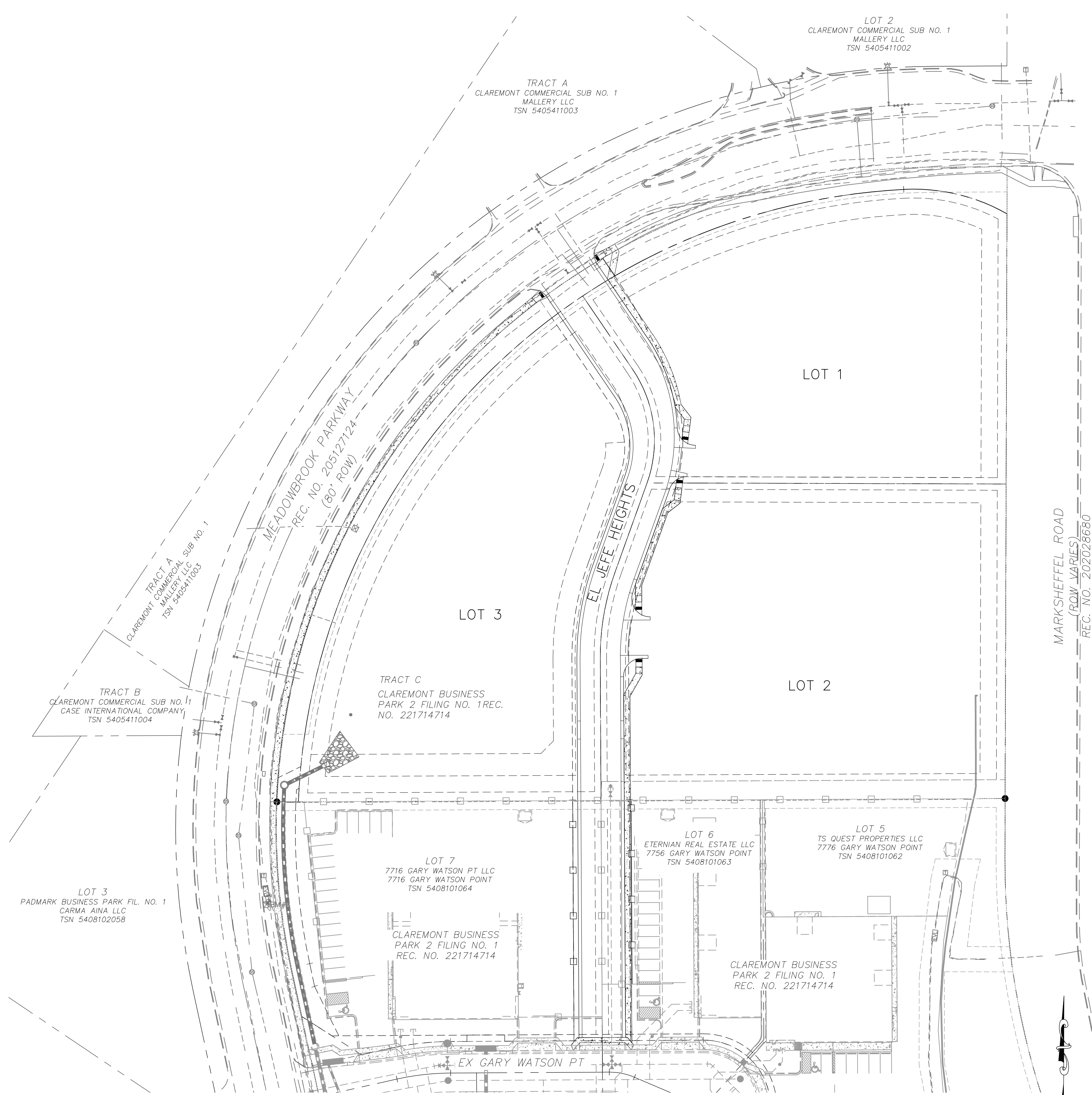
- BL33 BEING A BERNTSEN TOP SECURITY MONUMENT IN RANGE BOX 5' SOUTH OF SOUTH ROW FENCE OF HWY 24 UNDER CENTERLINE OF TRANSMISSION LINE.
ELEVATION = 6372.26' PLAT AVE.
- CONTROL POINT 1, SET PK NAIL IN NE CORNER OF ELECTRIC TRANSFORMER PAD
ELEVATION = 6372.26'

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



SITE MAP
N.T.S.

CLAREMONT BUSINESS PARK 2 FIL. NO. 2

TITLE SHEET

PROJECT NO. 10-020 SCALE: HORIZONTAL: N/A VERTICAL: N/A DATE: 06/01/23 SHEET 1 OF 14 CD01

DESIGNED BY: GW CLP CHECKED BY: VAS

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

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

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

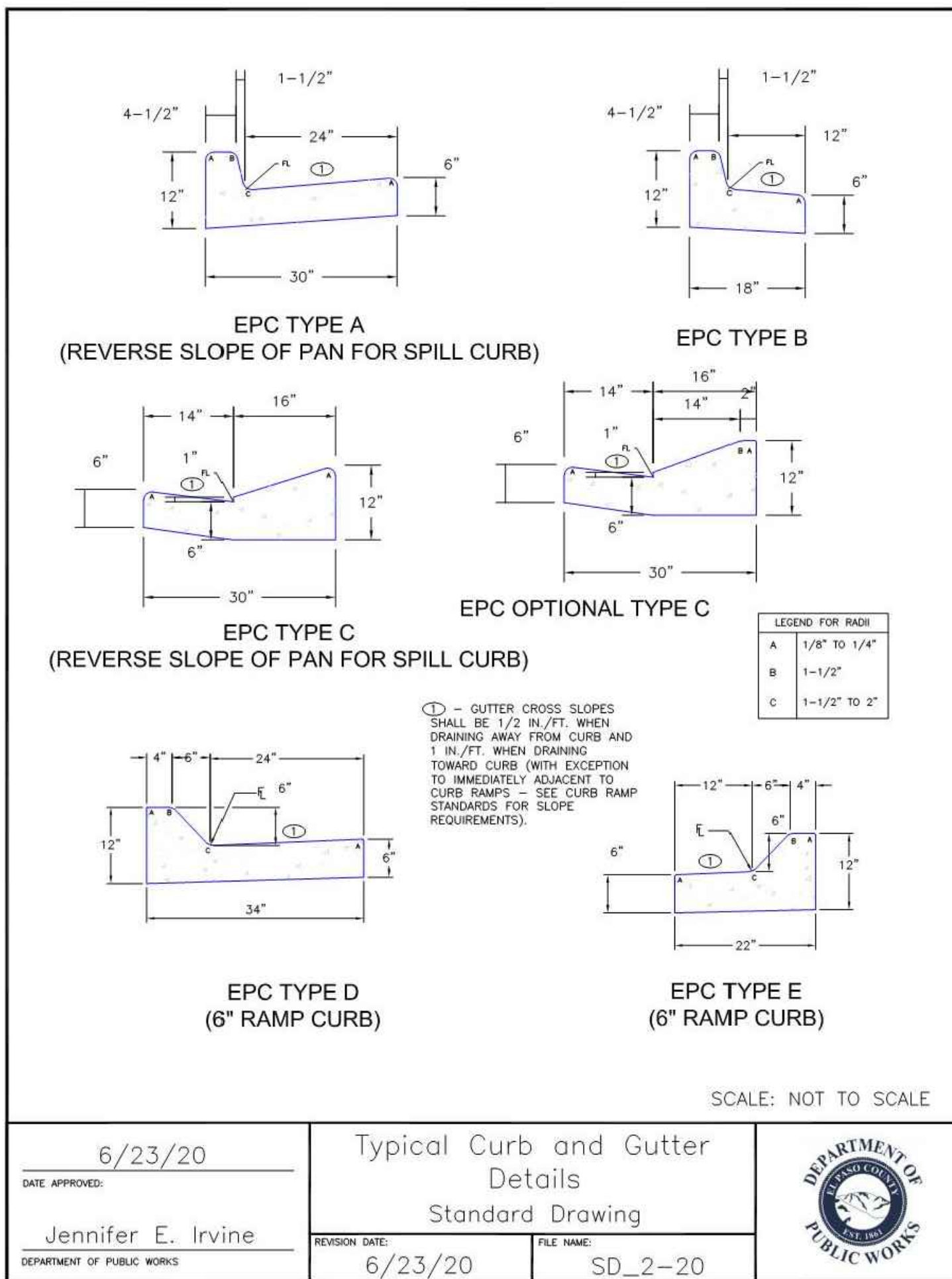
EL PASO COUNTY REGISTERED PROFESSIONAL ENGINEER VIRGIL A. SANCHEZ P.E. NO. 37160 06-11-23

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 PREPARE OF THESE PLANS.

CAUTION

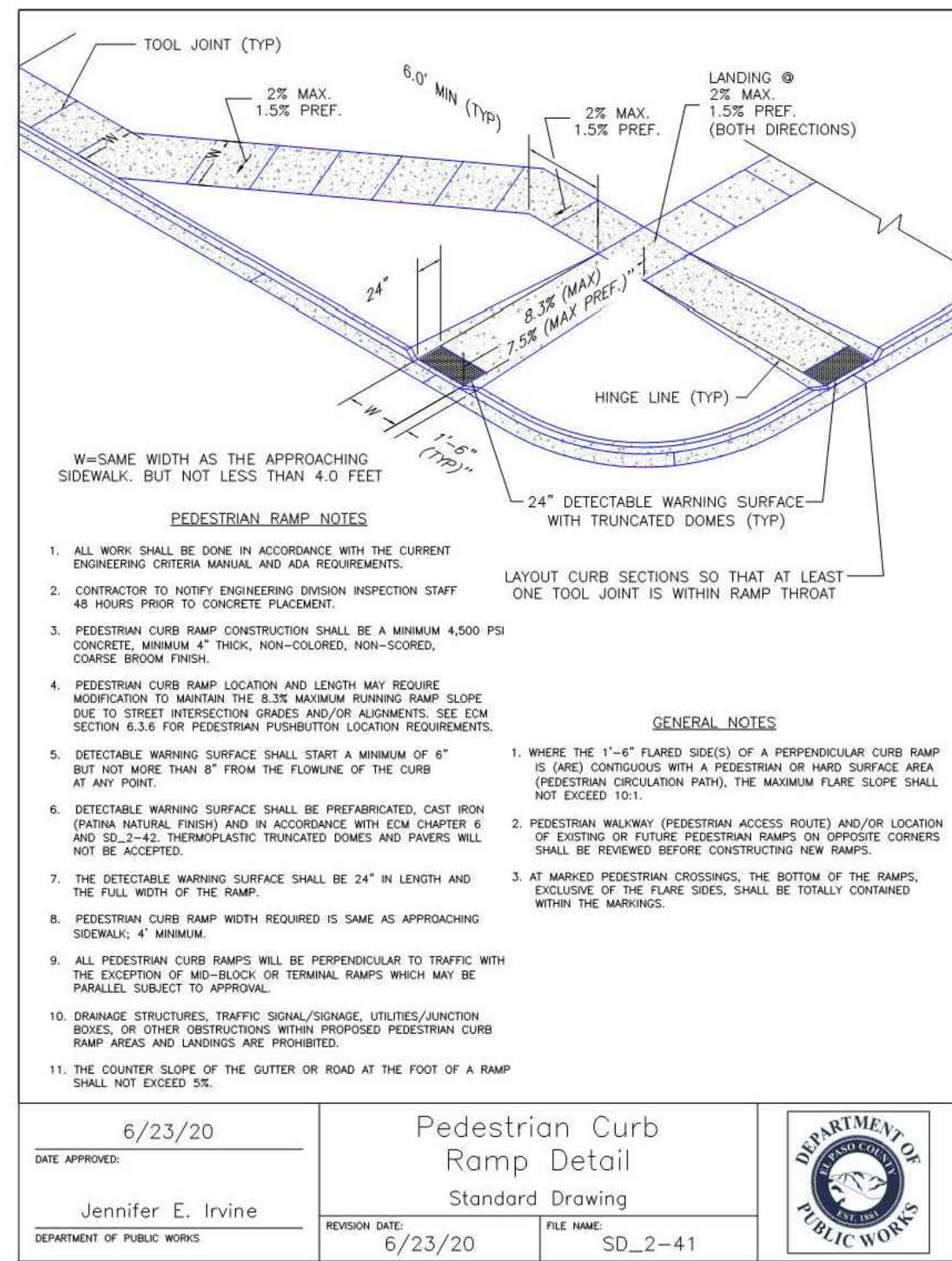
EL PASO COUNTY FILE NO. VR233



6/23/20
DATE APPROVED:
Jennifer E. Irvine
DEPARTMENT OF PUBLIC WORKS

Typical Curb and Gutter Details
Standard Drawing

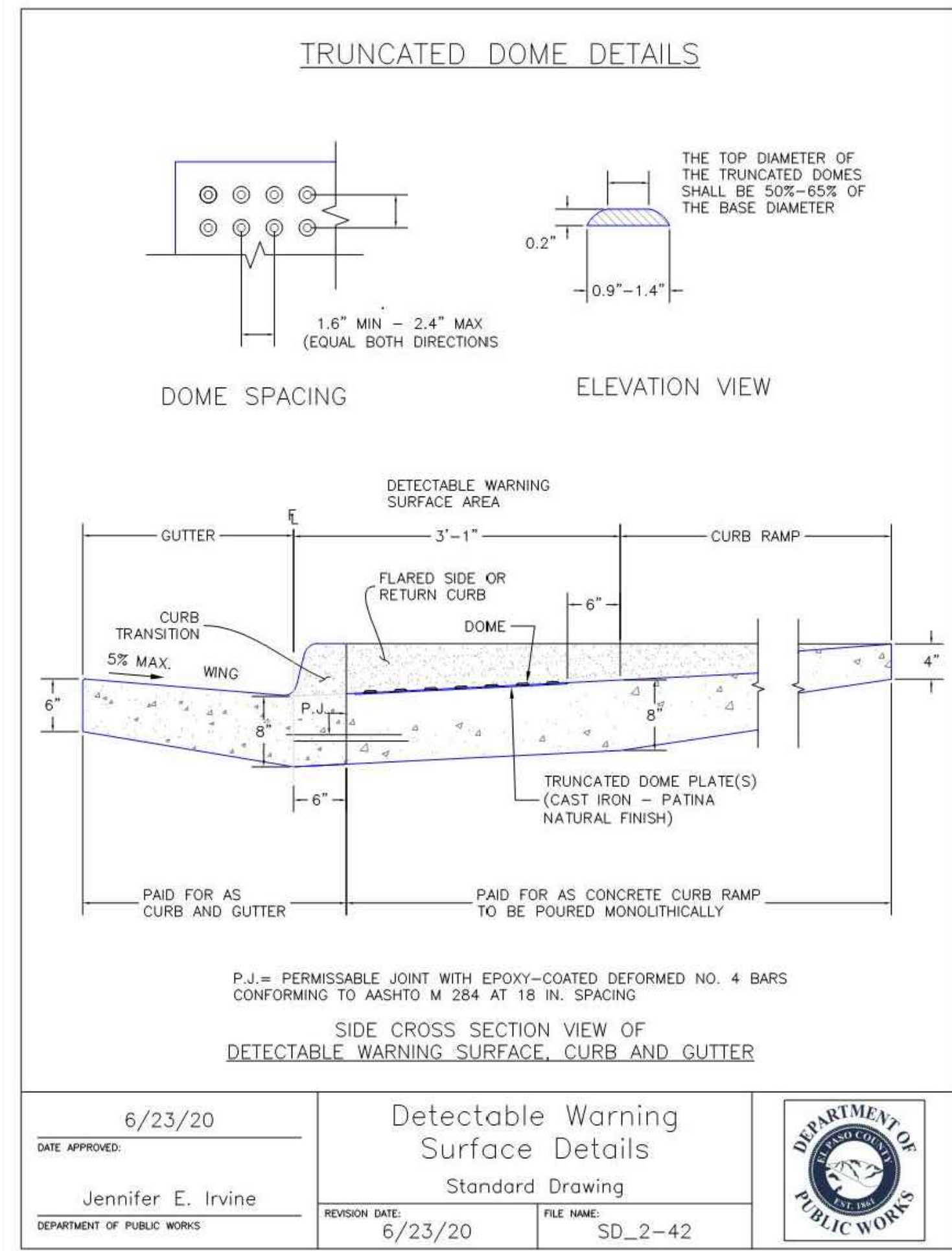
REVISION DATE: 6/23/20
FILE NAME: SD_2-20



6/23/20
DATE APPROVED:
Jennifer E. Irvine
DEPARTMENT OF PUBLIC WORKS

Pedestrian Curb Ramp Detail
Standard Drawing

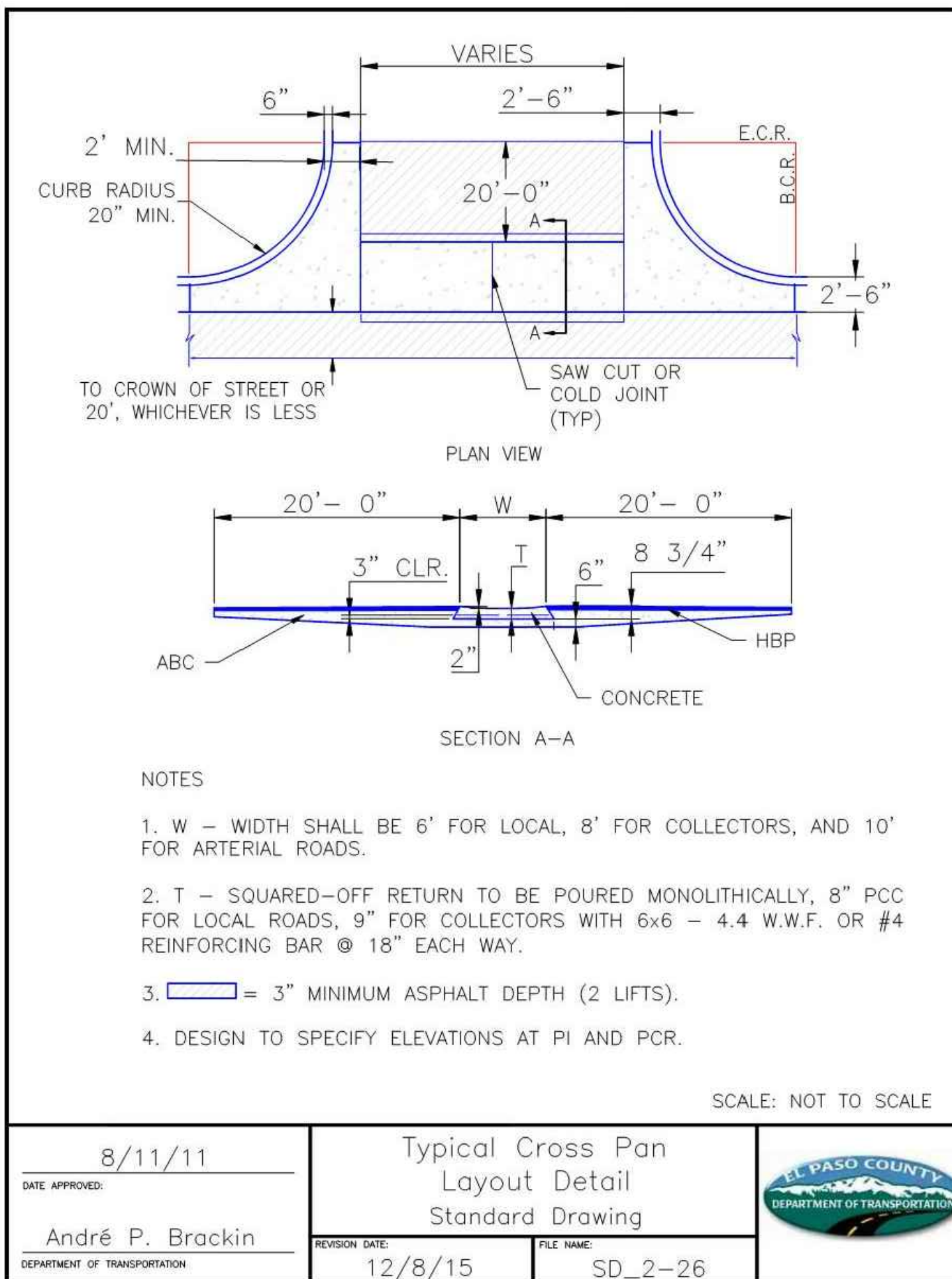
REVISION DATE: 6/23/20
FILE NAME: SD_2-41



6/23/20
DATE APPROVED:
Jennifer E. Irvine
DEPARTMENT OF PUBLIC WORKS

Detectable Warning Surface Details
Standard Drawing

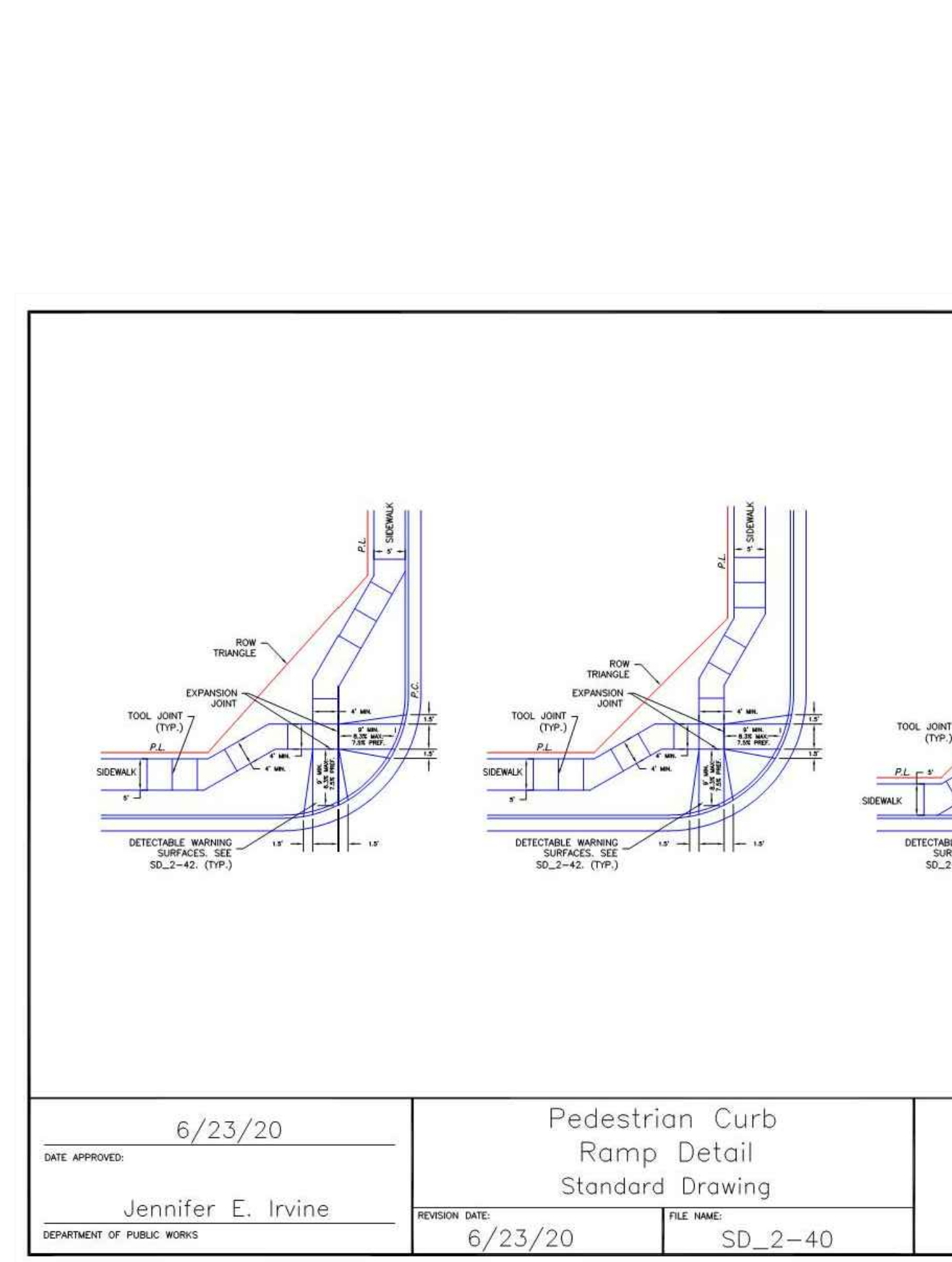
REVISION DATE: 6/23/20
FILE NAME: SD_2-42



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

Typical Cross Pan Layout Detail
Standard Drawing

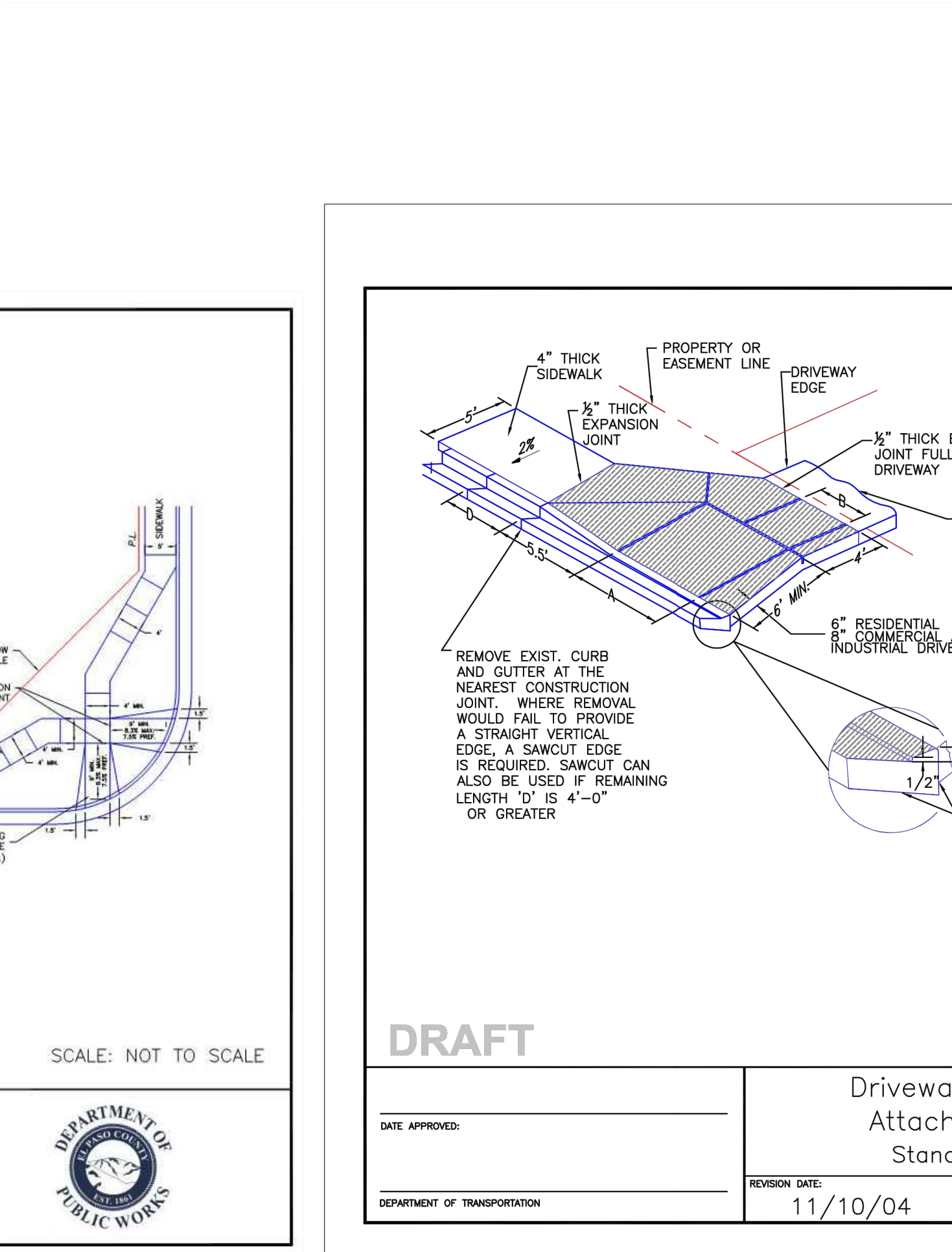
REVISION DATE: 12/8/15
FILE NAME: SD_2-26



6/23/20
DATE APPROVED:
Jennifer E. Irvine
DEPARTMENT OF PUBLIC WORKS

Pedestrian Curb Ramp Detail
Standard Drawing

REVISION DATE: 6/23/20
FILE NAME: SD_2-40



11/10/04
DATE APPROVED:
DEPARTMENT OF TRANSPORTATION

Driveway Detail With Attached Sidewalk
Standard Drawing

REVISION DATE: 11/10/04
FILE NAME: SD_2-24

CLAREMONT BUSINESS PARK 2 FIL. NO. 2

CONSTRUCTION STANDARD DETAILS

PROJECT NO. 10-020
DATE: 06/01/23
DESIGNED BY: GW
DRAWN BY: CLP
CHECKED BY: VAS

212 N. WABATCH AVE, STE 305
COLORADO SPRINGS CO 80903
PHONE: 719.555.5485

SHEET 3 OF 14
CD03

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF
MKS CIVIL CONSULTANTS, INC.

VIRGIL A. SANCHEZ, COLORADO, P.E. NO. 371160

06-11-23
37160
REGISTERED PROFESSIONAL ENGINEER

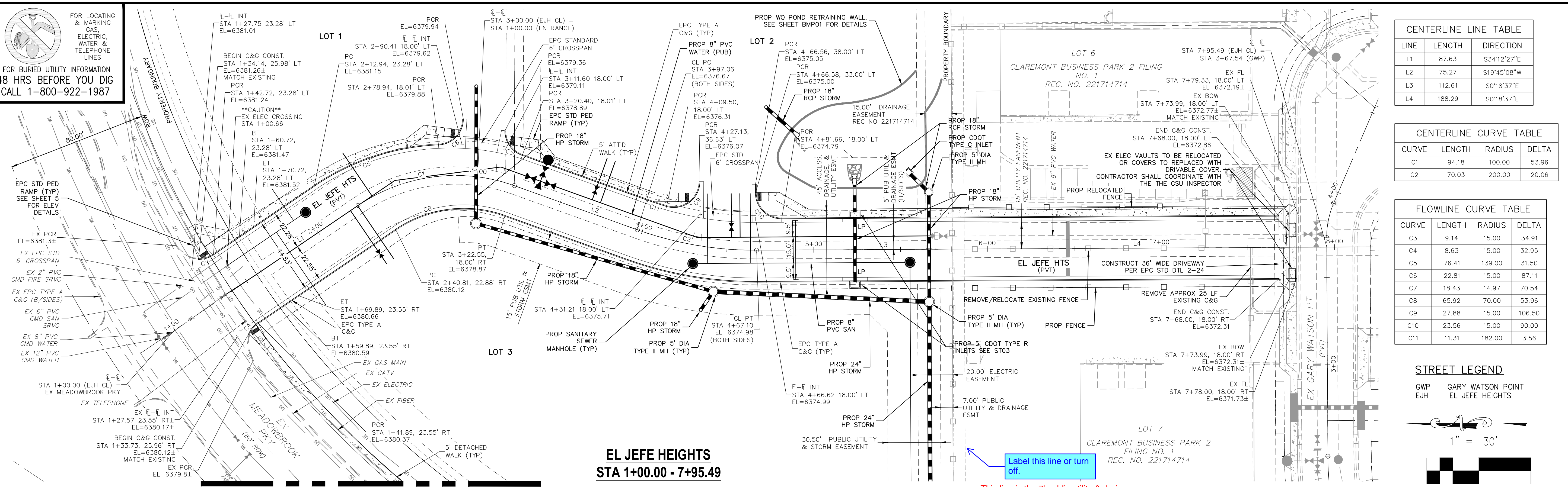
REVISIONS:

NO.	DATE	BY	DESCRIPTION

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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



CENTERLINE LINE TABLE

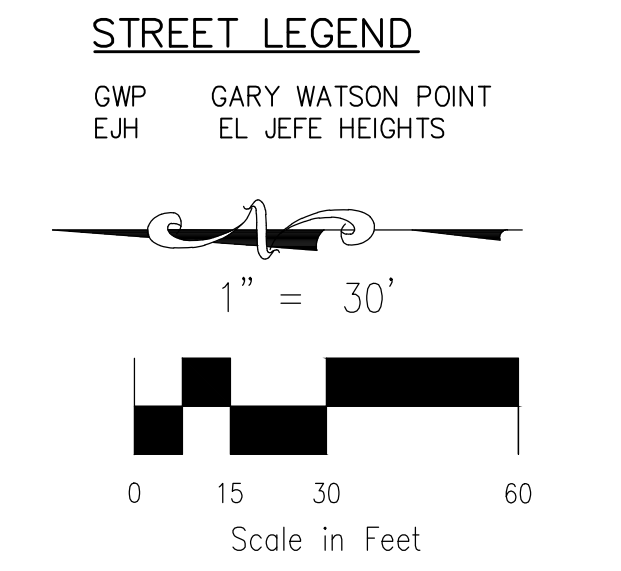
LINE	LENGTH	DIRECTION
L1	87.63	S34°12'27"E
L2	75.27	S19°45'08"W
L3	112.61	S01°8'37"E
L4	188.29	S01°8'37"E

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
C3	9.14	15.00	34.91
C4	8.63	15.00	32.95
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

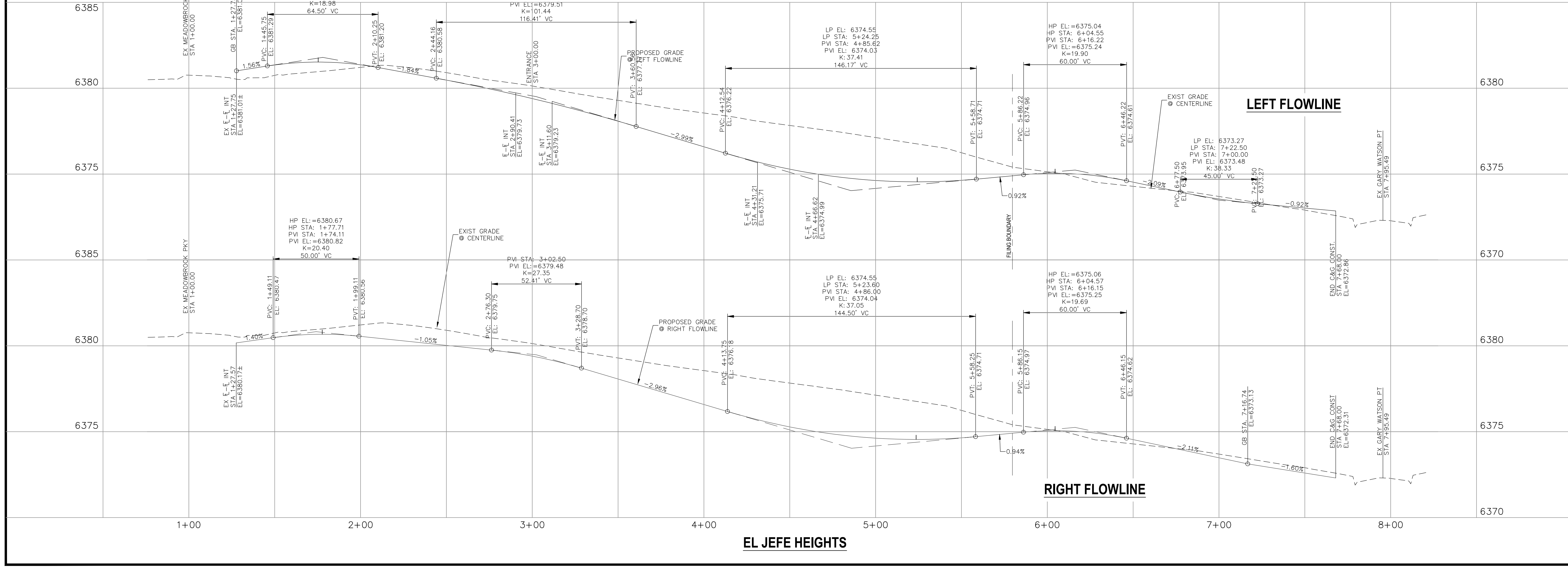


**EL JEFE HEIGHTS
 STA 1+00.00 - 7+95.49**

Label this line or turn off.

This line is the 7" public utility & drainage easement on the other side of the property line and has now been labeled.

MATCHLINE SEE S102



**CLAREMONT BUSINESS PARK 2 FIL. NO. 2
 STREET IMPROVEMENT PLAN**

PROJECT NO. 10-020 DATE: 06/01/23
 SCALE: HORIZONTAL: 1"=30' VERTICAL: 1"=3'
 DESIGNED BY: GW CLP
 DRAWN BY: VAS
 CHECKED BY: VAS

210 N. WABATCH AVE, STE 305
 COLORADO SPRINGS, CO 80903
 PHONE: 719.555.5485

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF MKS CIVIL CONSULTANTS, INC.

VIRGIL A. SANCHEZ, COLORADO, P.E. NO. 371160

REGISTERED PROFESSIONAL ENGINEER
 371160
 06-11-23


NO. DATE: BY: DESCRIPTION: APPROV. BY: DATE:

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

CLAREMONT BUSINESS PARK 2 FIL. NO. 2
 SIDEWALK & INTERSECTION DETAILS
 PROJECT NO. 10-020
 SCALE: HORIZONTAL: VERTICAL: N/A
 DATE: 06/01/23
 DESIGNED BY: GW
 DRAWN BY: CLP
 CHECKED BY: VAS
 SHEET 5 OF 14
 S102

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

 CIVIL CONSULTANTS, INC.

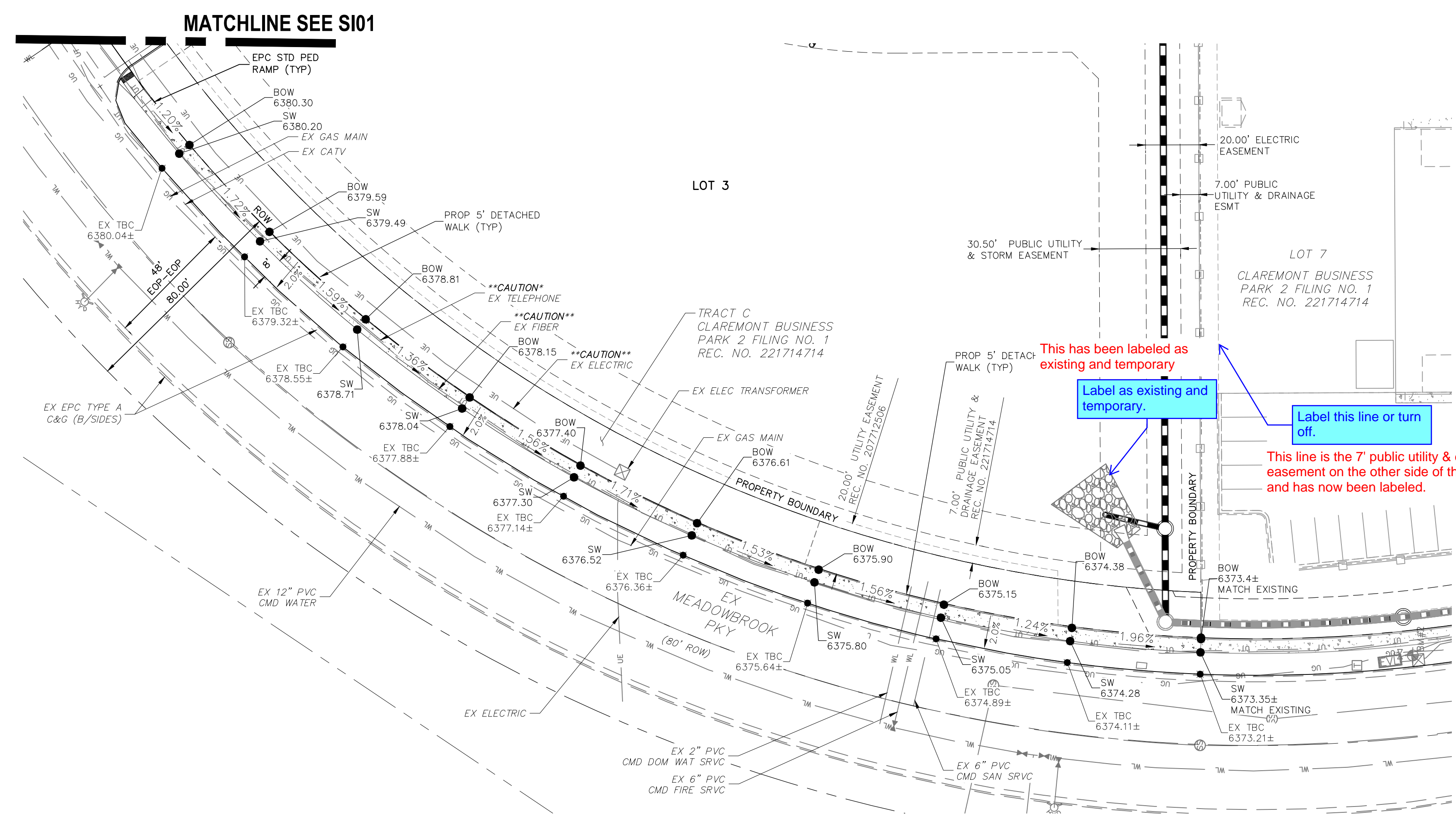
FOR AND ON BEHALF OF
 MKS CIVIL CONSULTANTS, INC.


NO.	DATE	BY	DESCRIPTION

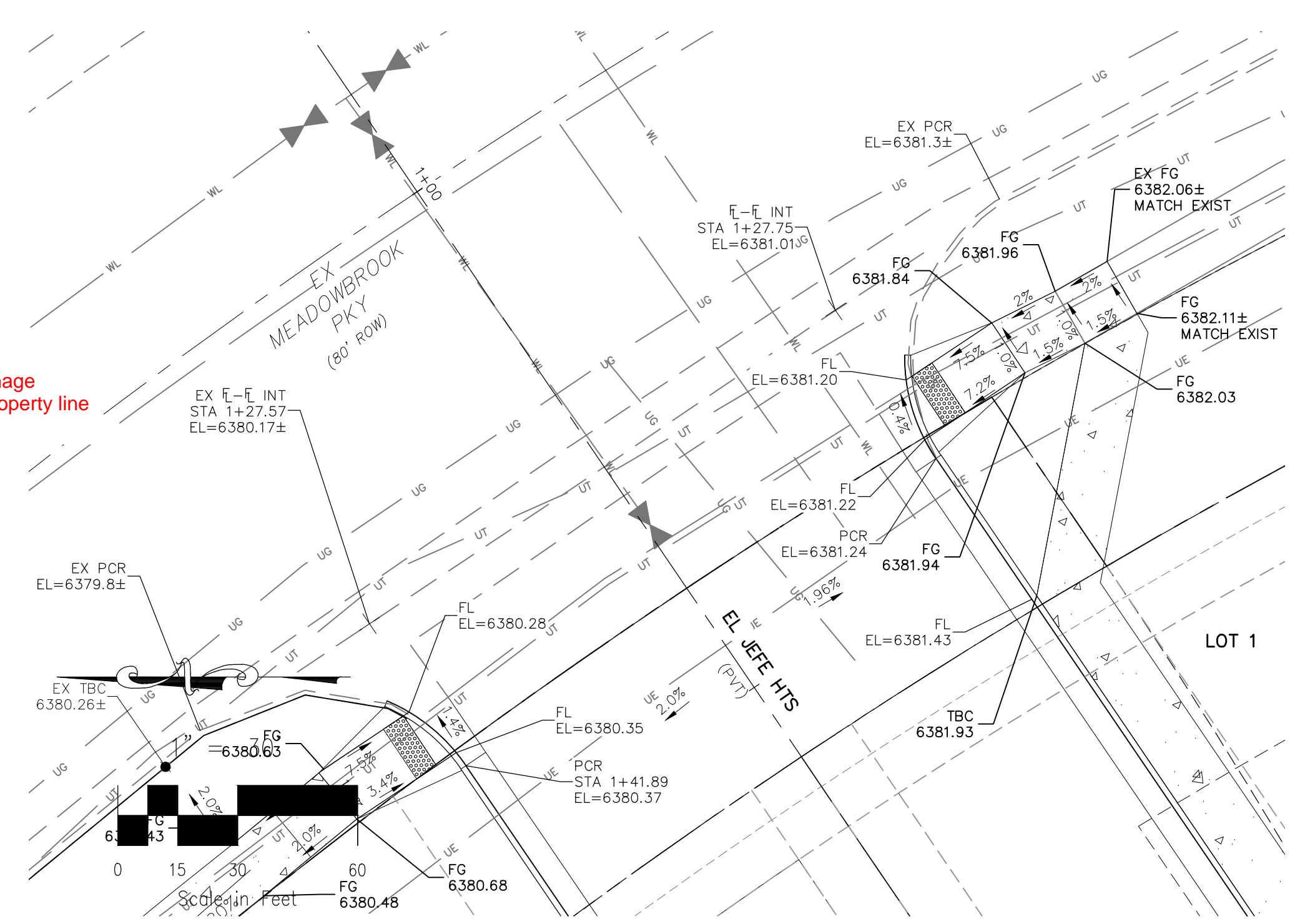
APPRO'D. BY: _____ DATE: _____

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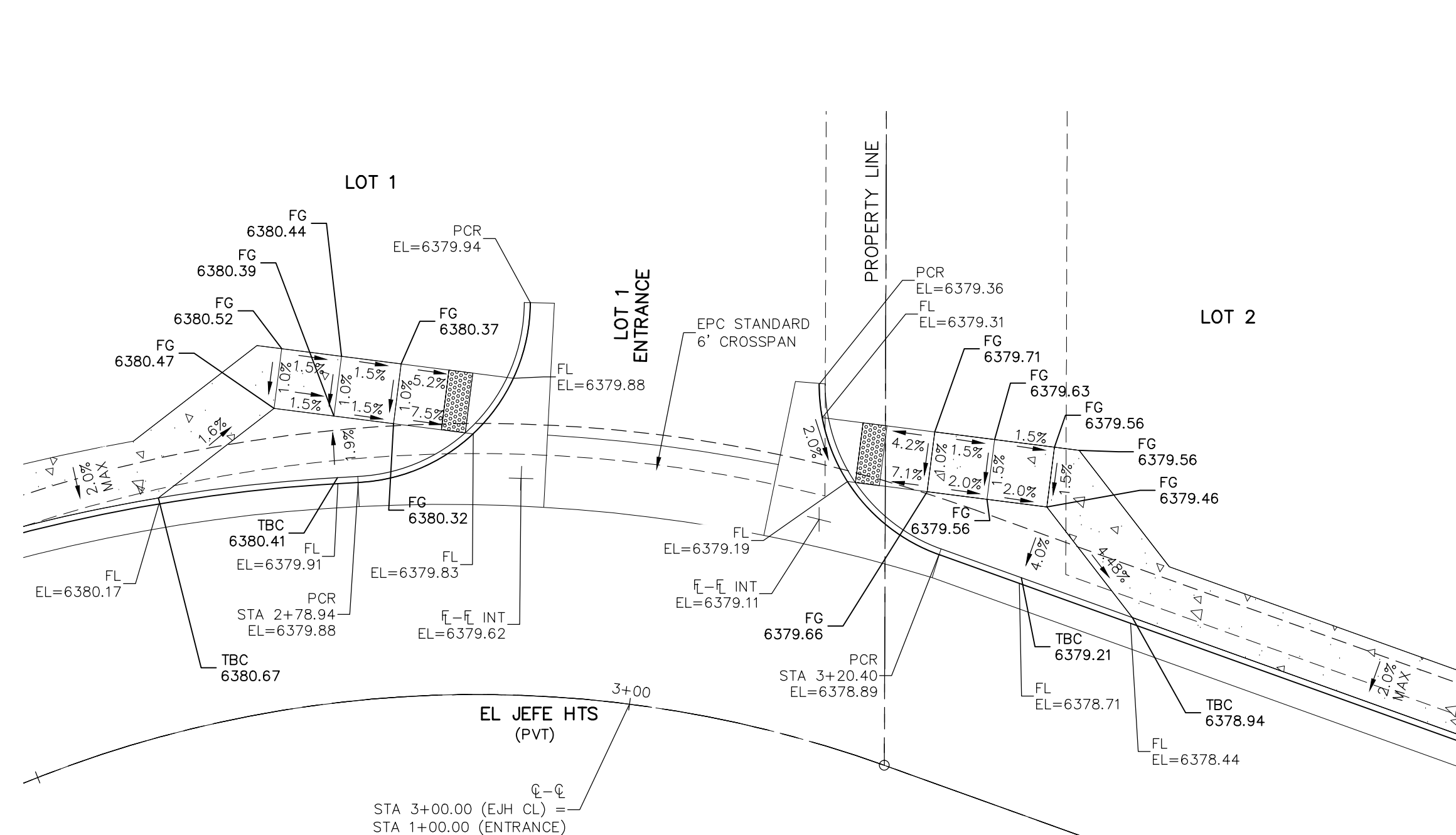
CAUTION



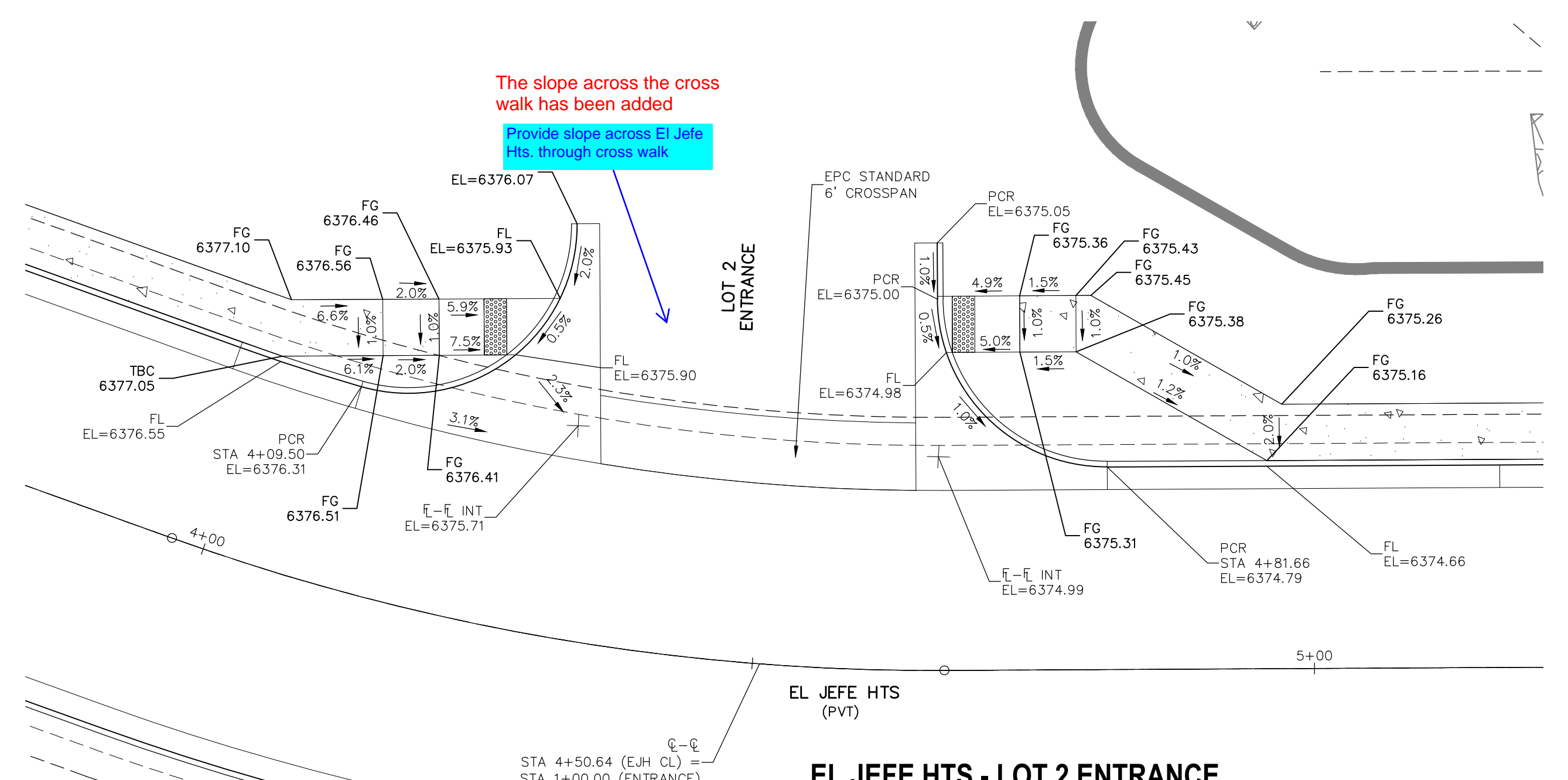
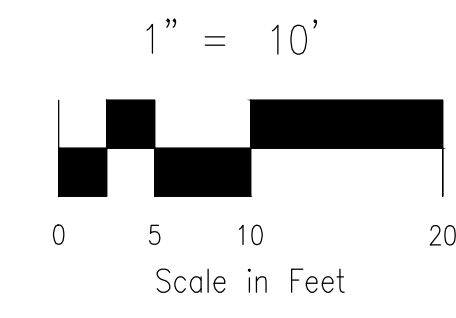
MEADOWBROOK PARKWAY SIDEWALK
 SCALE: 1"=30'



EX MEADOWBROOK PKY - EL JEFE HTS
 SCALE: 1"=10'



EL JEFE HTS - LOT 1 ENTRANCE
 SCALE: 1"=10'

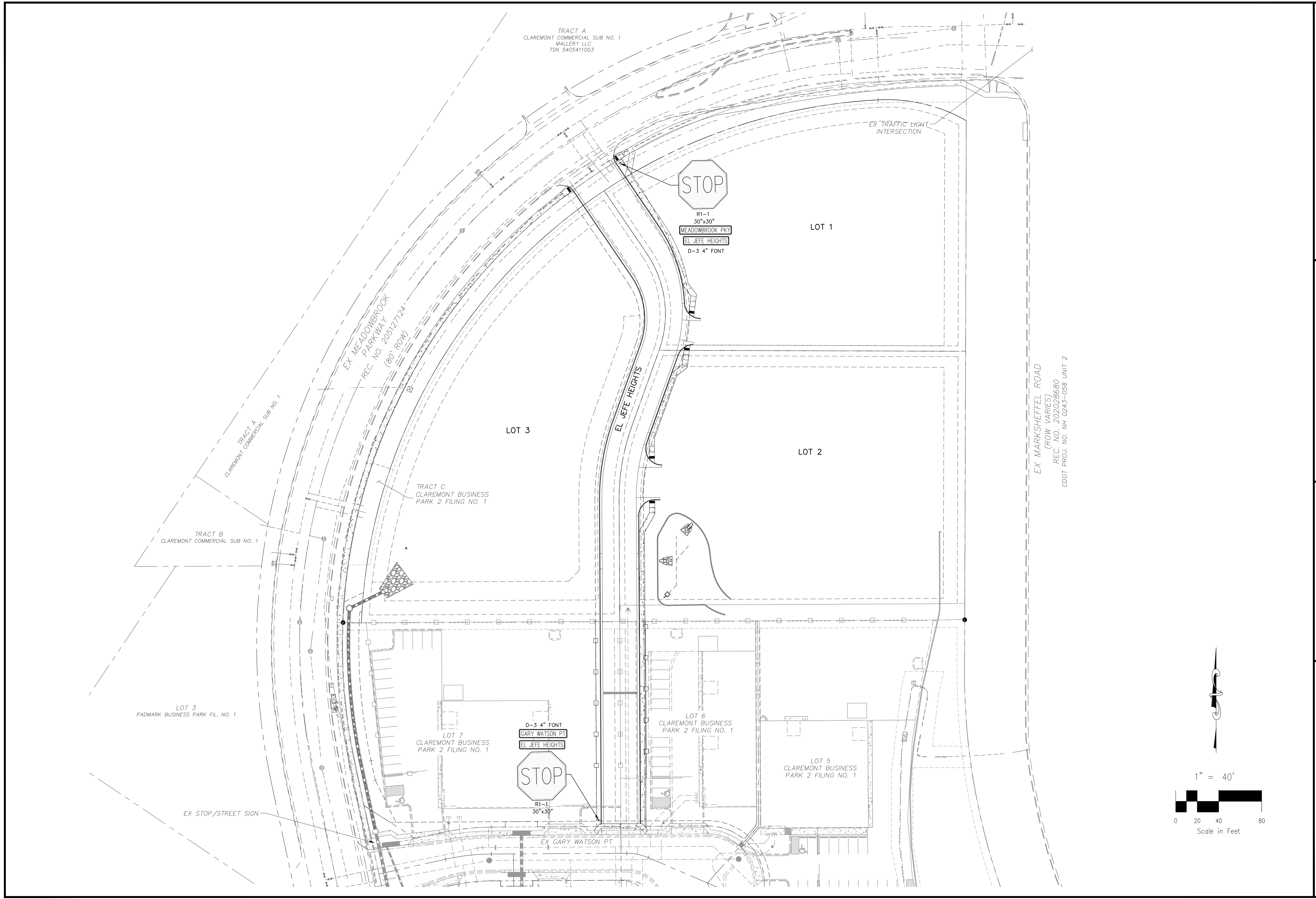


EL JEFE HTS - LOT 2 ENTRANCE
 SCALE: 1"=10'

This has been labeled as existing and temporary.
 Label as existing and temporary.
 Label this line or turn off.
 This line is the 7' public utility & drainage easement on the other side of the property line and has now been labeled.

The slope across the cross walk has been added
 Provide slope across El Jefe Hts. through cross walk

File: C:\10020A-CBP-Dunkin Donuts\Const Dwg\Street\10020A-S102.dwg PlotStamp: 6/5/2023 10:57 AM



EX MARKSHEFFEL ROAD
(ROW VARIES)
REC. NO. 202028680
CDDT PROJ. NO. NH 0243-058 UNIT 2

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: 06/01/23
DRAWN BY: CLP	SHEET 6 OF 14
CHECKED BY: VAS	S103

CIVIL CONSULTANTS, INC.

212 N. WASHCATCH AVE., STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485

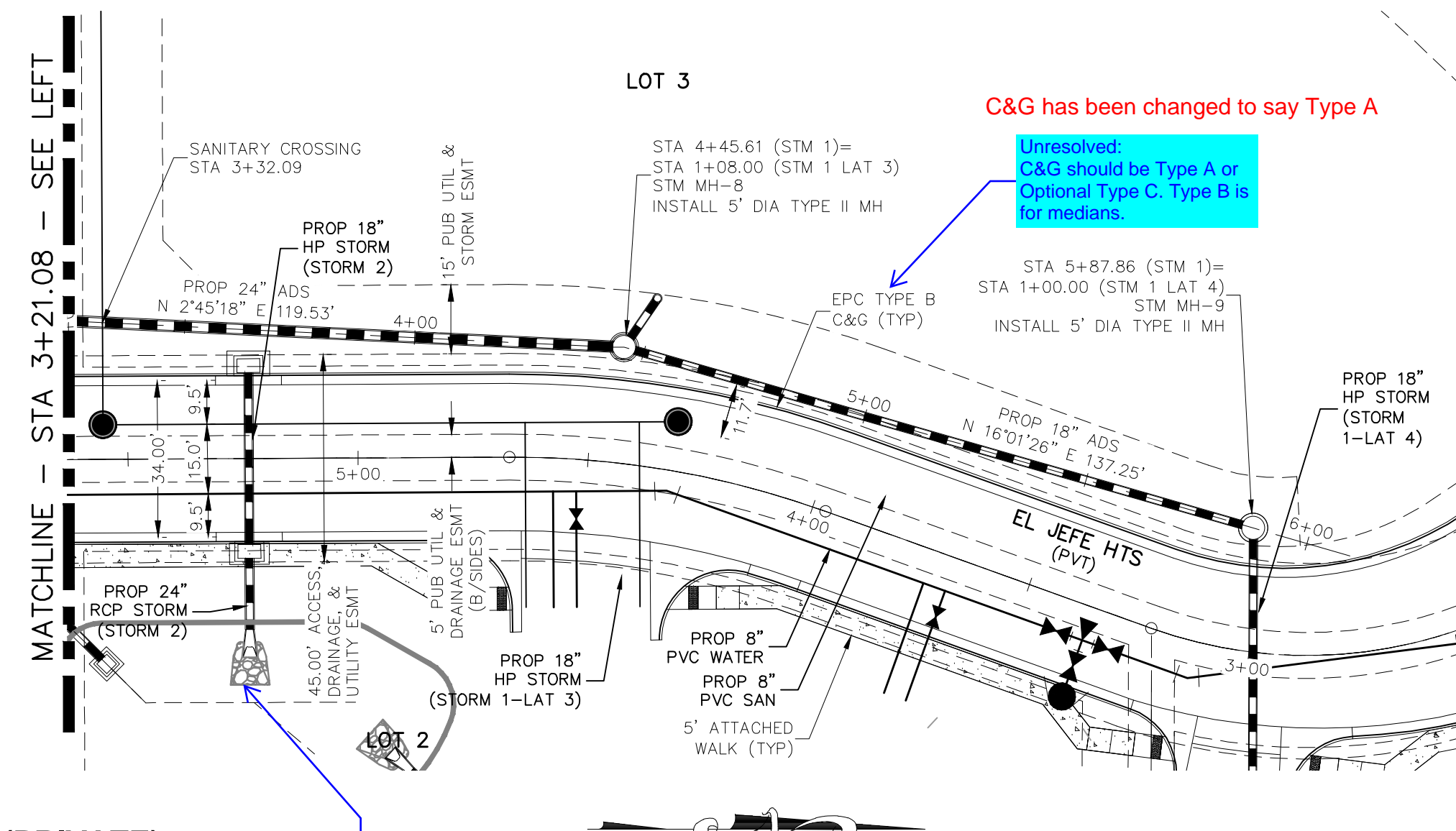
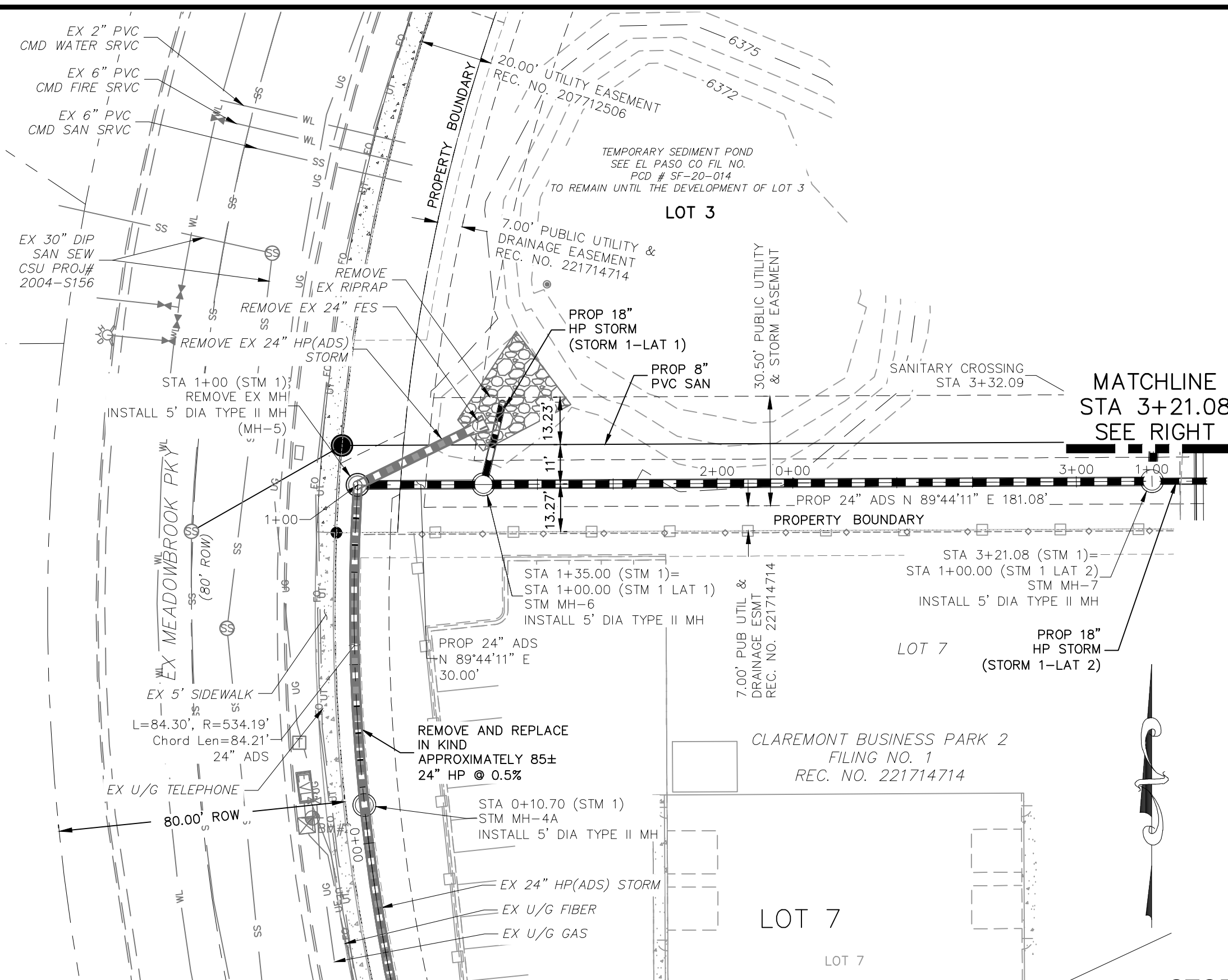
FOR AND ON BEHALF OF
MKS CIVIL CONSULTANTS, INC.

PROF. REG. NO. 37160
EXPIRES 06-11-23

NO.	DATE	BY	DESCRIPTION	APPRO'D. BY	DATE

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CAUTION



NOTE:

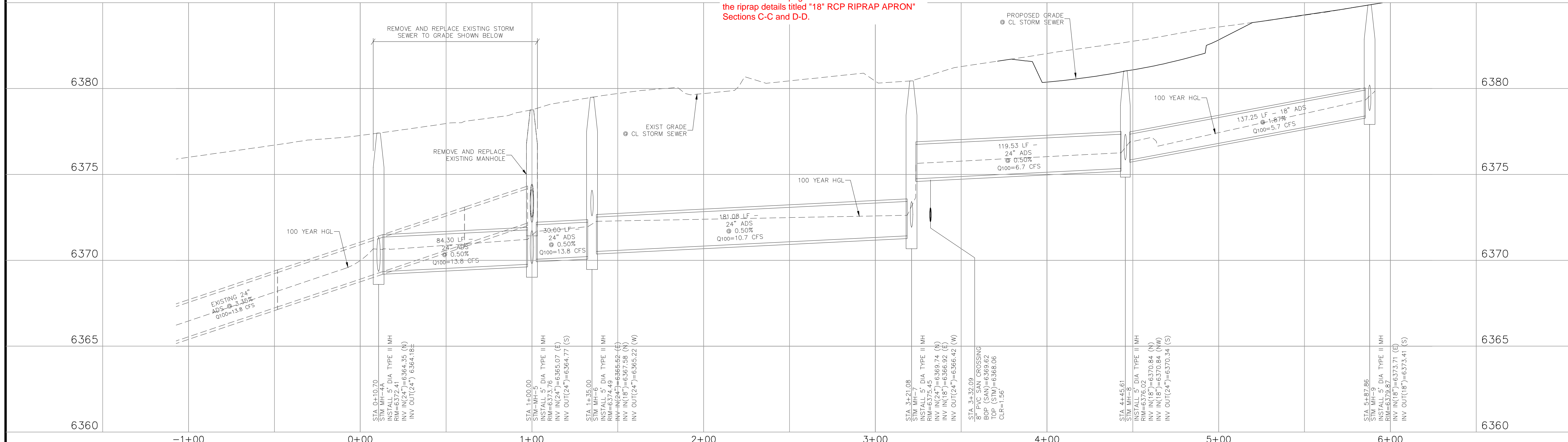
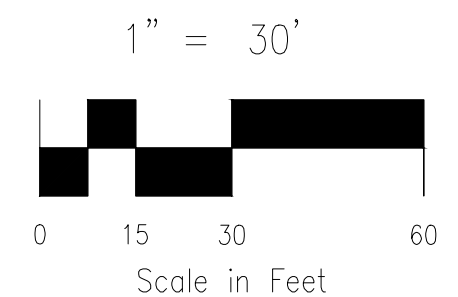
- ALL STORM SEWER CONSTRUCTED WITH THESE PLANS SHALL BE CONSIDERED PRIVATE.
- GAS LINE NOT LOCATED, LOCATION TO BE DETERMINED BY CONTRACTOR

ABBREVIATION LEGEND

C&G	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

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

Unresolved: Provide riprap details
 Details are included within the BMPs. Please refer to sheet BMP02 on page 13 of this sheet set and view the riprap details titled "18" RCP RIPRAP APRON" Sections C-C and D-D.



STORM 1

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

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CIVIL CONSULTANTS, INC.

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

STORM SEWER PLAN & PROFILE

PROJECT NO. 10-020 DATE: 05/22/23
 SCALE: HORIZONTAL: 1"=30' VERTICAL: 1"=3'
 DESIGNED BY: GW CLP
 DRAWN BY: VAS
 CHECKED BY: VAS

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

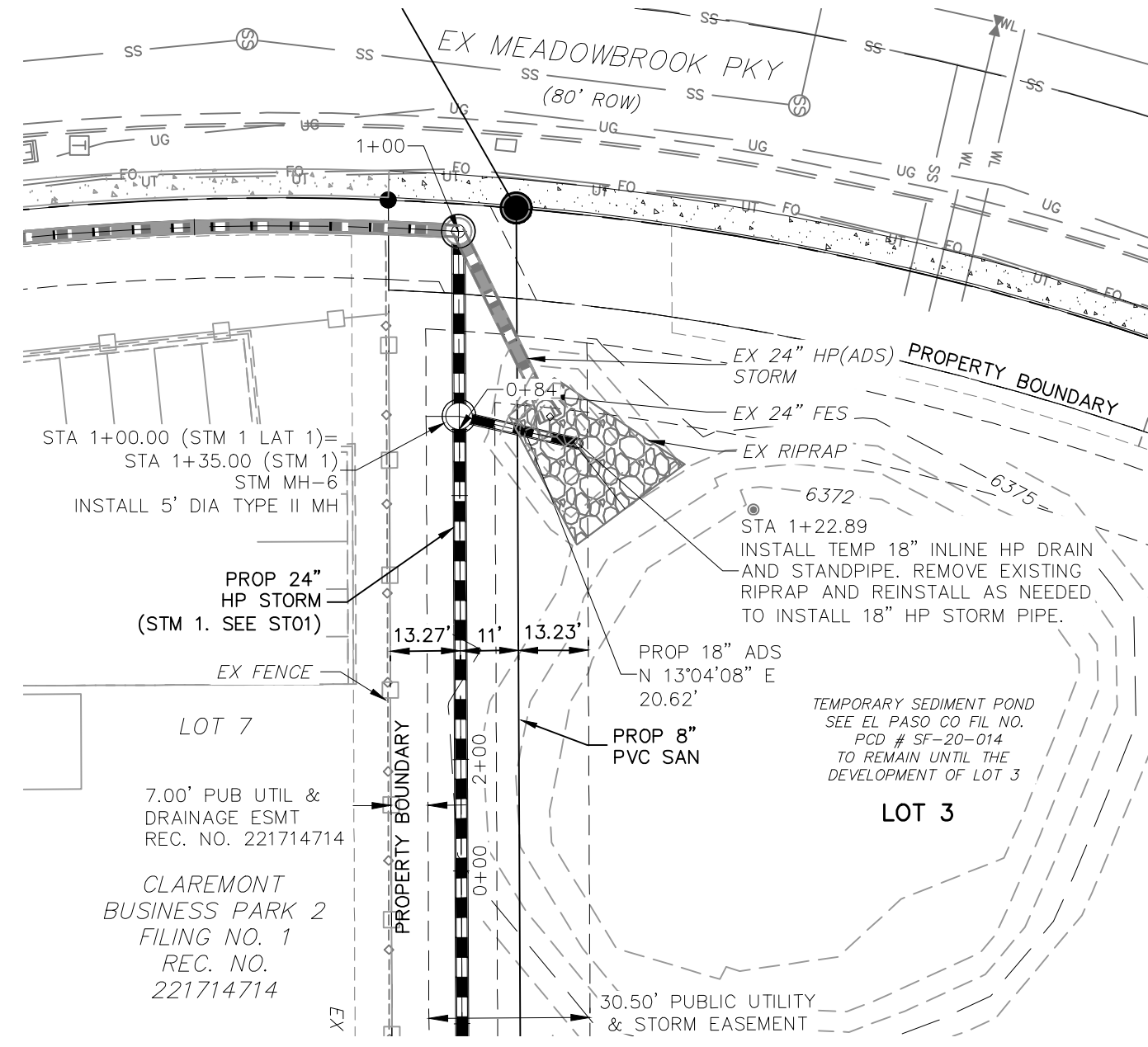
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

REGISTERED PROFESSIONAL ENGINEER
 NO. 37160
 06-11-23

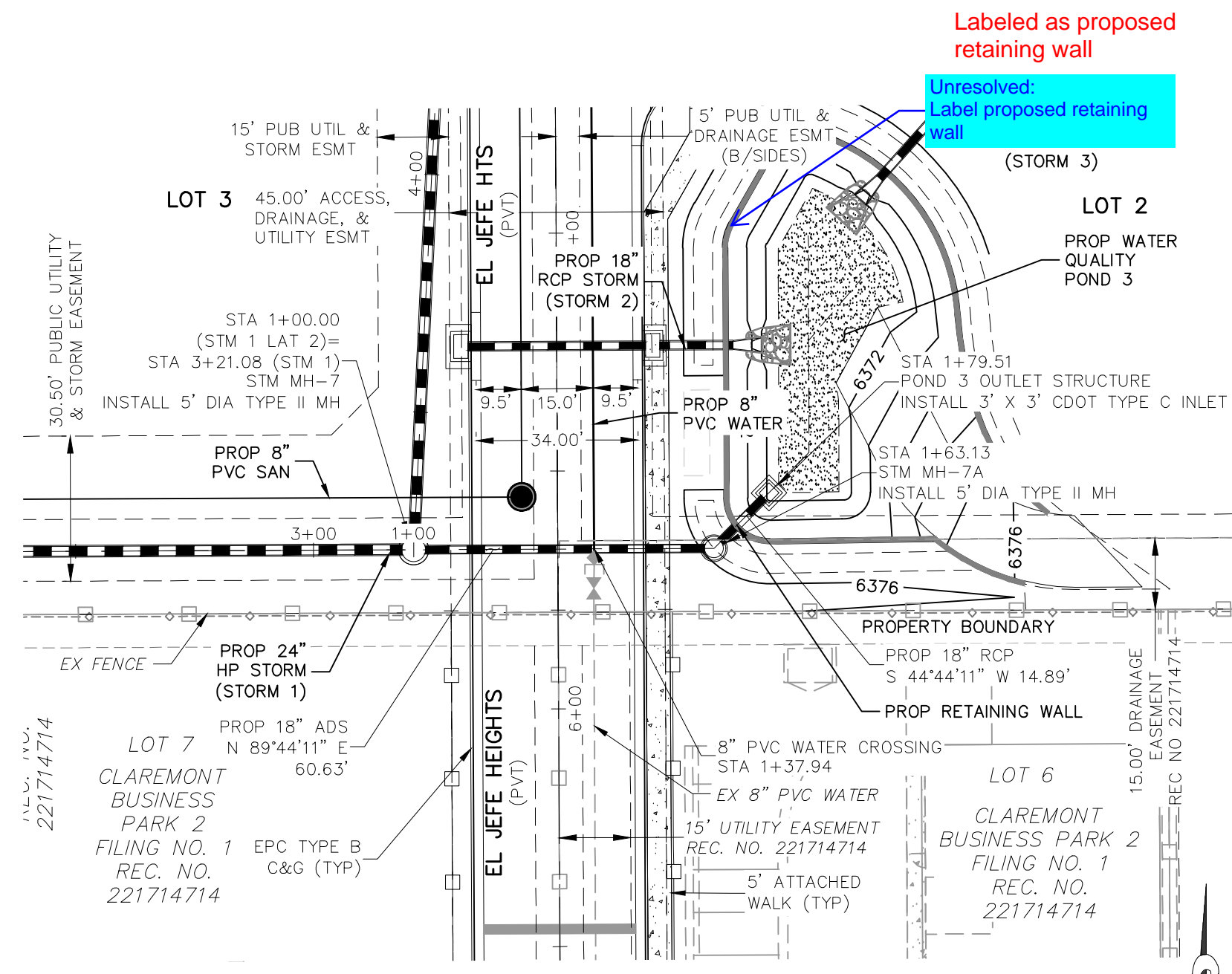
REVISIONS:
 NO. DATE BY DESCRIPTION

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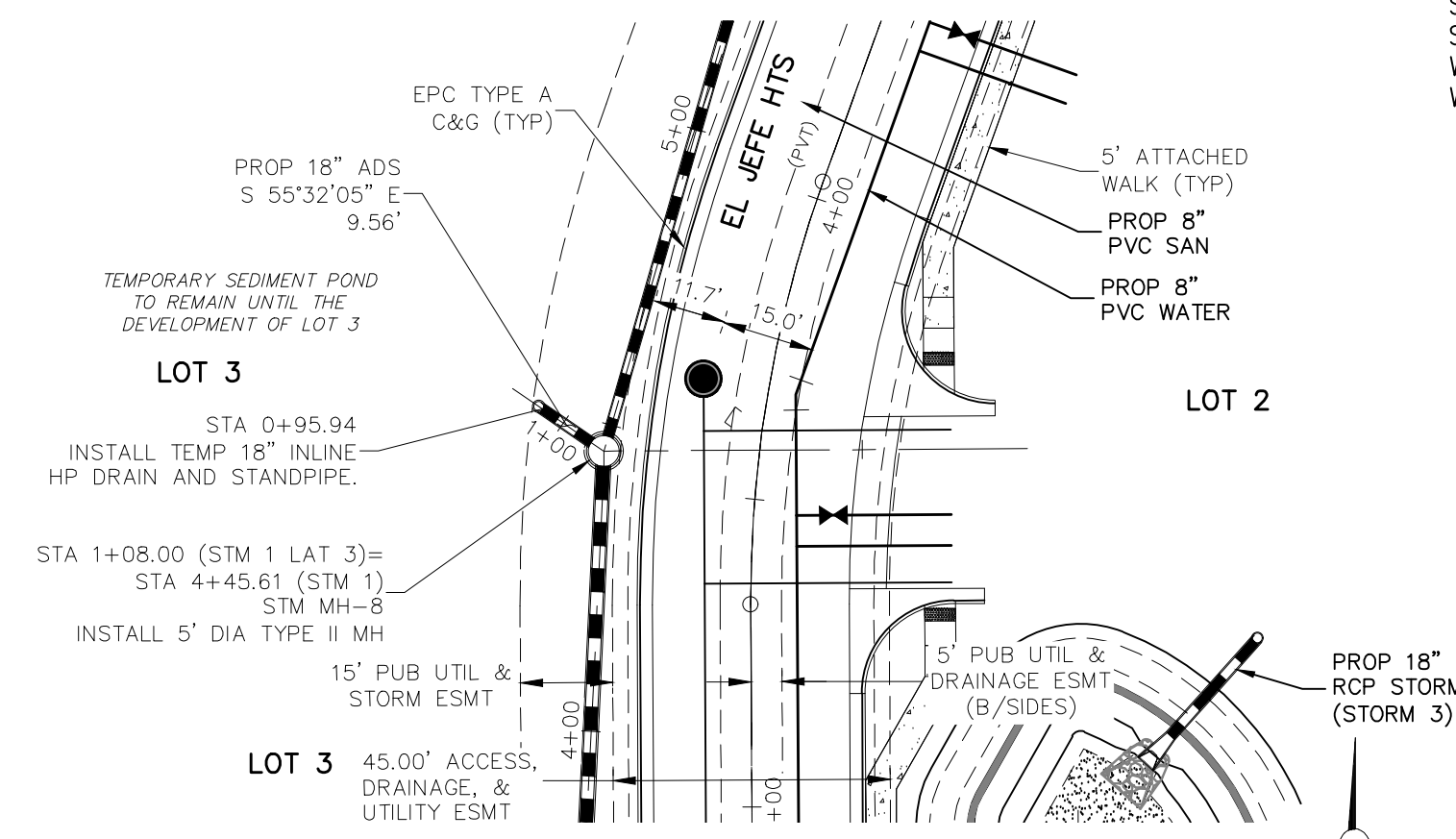
CAUTION



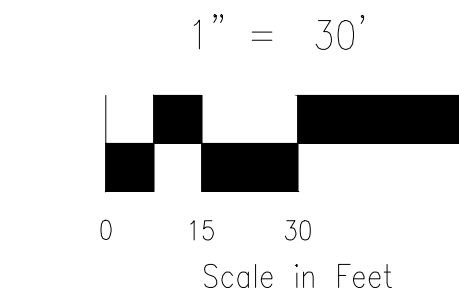
**STORM 1 LAT-1 (PRIVATE)
STA 1+00.00 TO STA 1+22.89**



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



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



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	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	SANITARY SEWER
SRV	SLEEVE
STA	STATION
STM	STORM SEWER
W	WEST
WTR	WATER

STATION	DESCRIPTION	ELEVATION	DESCRIPTION	ELEVATION	DESCRIPTION	ELEVATION
6380	EXIST GRADE @ CL STORM SEWER	6380	EXIST GRADE @ CL STORM SEWER	6375	EXIST GRADE @ CL STORM SEWER	6380
6375	TEMPORARY SEDIMENT POND TO REMAIN UNTIL THE DEVELOPMENT OF LOT 3	6375	100 YEAR HGL	6370	EXIST GRADE @ CL STORM SEWER	6375
6370	20.62 LF 18" ADS @ 0.50% Q100=3.0 CFS	6370	60.63 LF 18" ADS @ 0.50% Q100=4.0 CFS	6365	9.56 LF 18" ADS @ 0.60% Q100=1.0 CFS	6370
6365	INSTALL 5" DIA TYPE II MH	6365	PROP WATER QUALITY POND 3	6360	100 YEAR HGL	6365
			SAND FILTER POND BOTTOM 6370.35			
			PROP RETAINING WALL			
			PROP 18" RCP STORM (STORM 3)			

STORM 1 LAT-1

STORM 1 LAT-2

STORM 1 LAT-3



CLAREMONT BUSINESS PARK 2 FIL. NO. 2

STORM SEWER PLAN & PROFILE

PROJECT NO. 10-020 DATE: 05/22/23

DESIGNED BY: GW SCALE: HORIZONTAL: 1"=30'

DRAWN BY: CLP VERTICAL: 1"=3'

CHECKED BY: VAS

212 N. WABATCH AVE., STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.655.5465

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF
MKS CIVIL CONSULTANTS, INC.

REVISIONS:

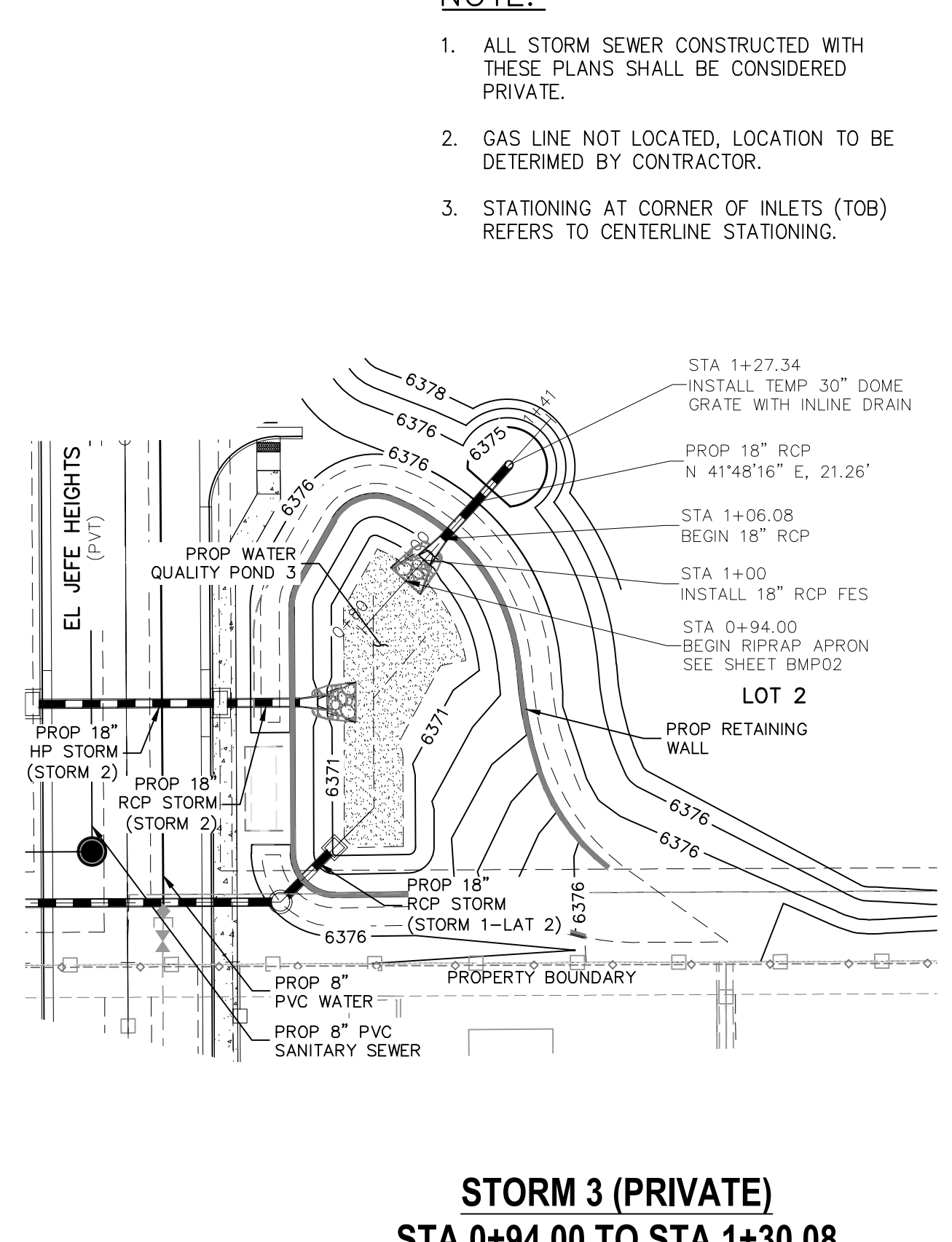
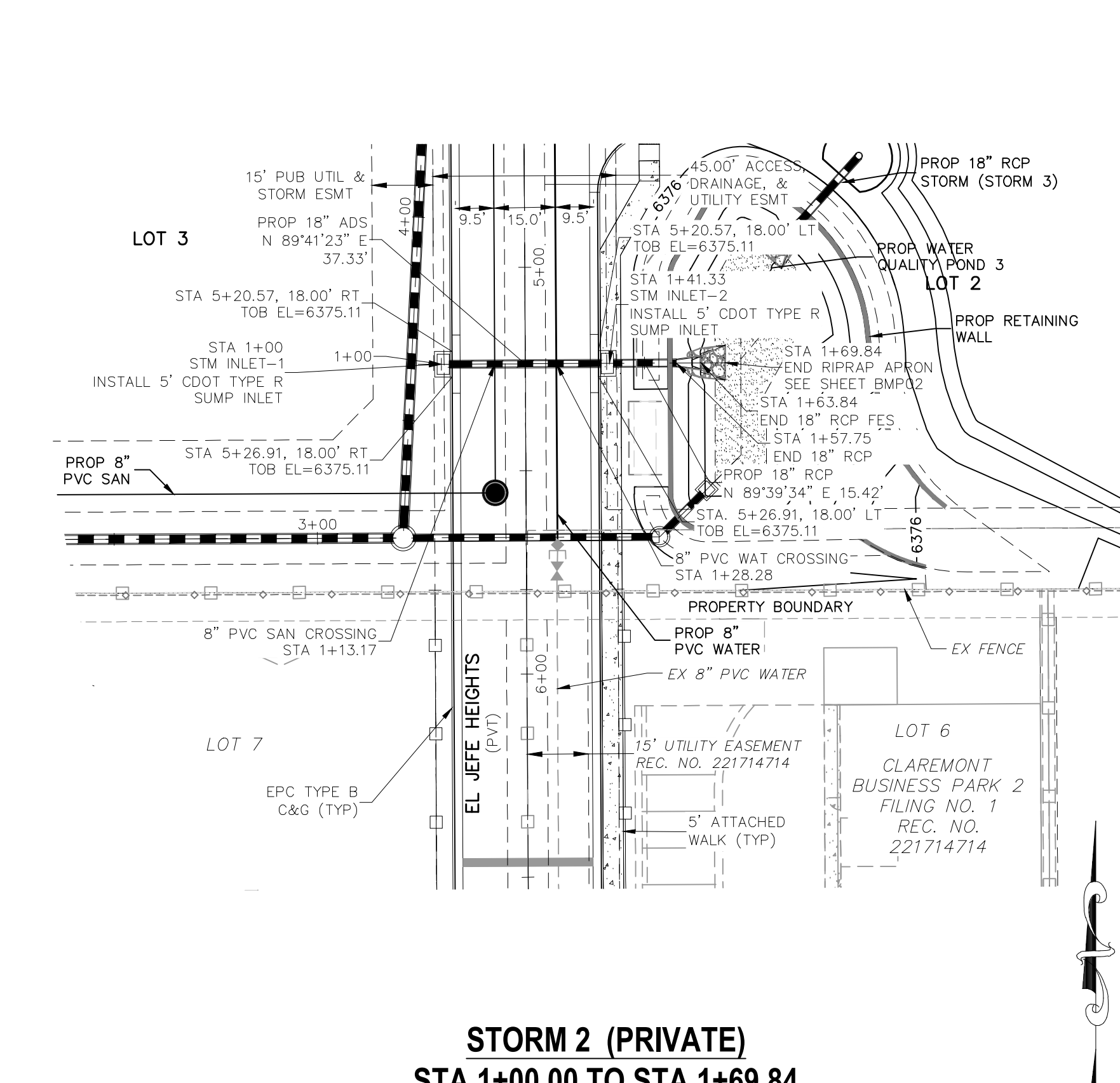
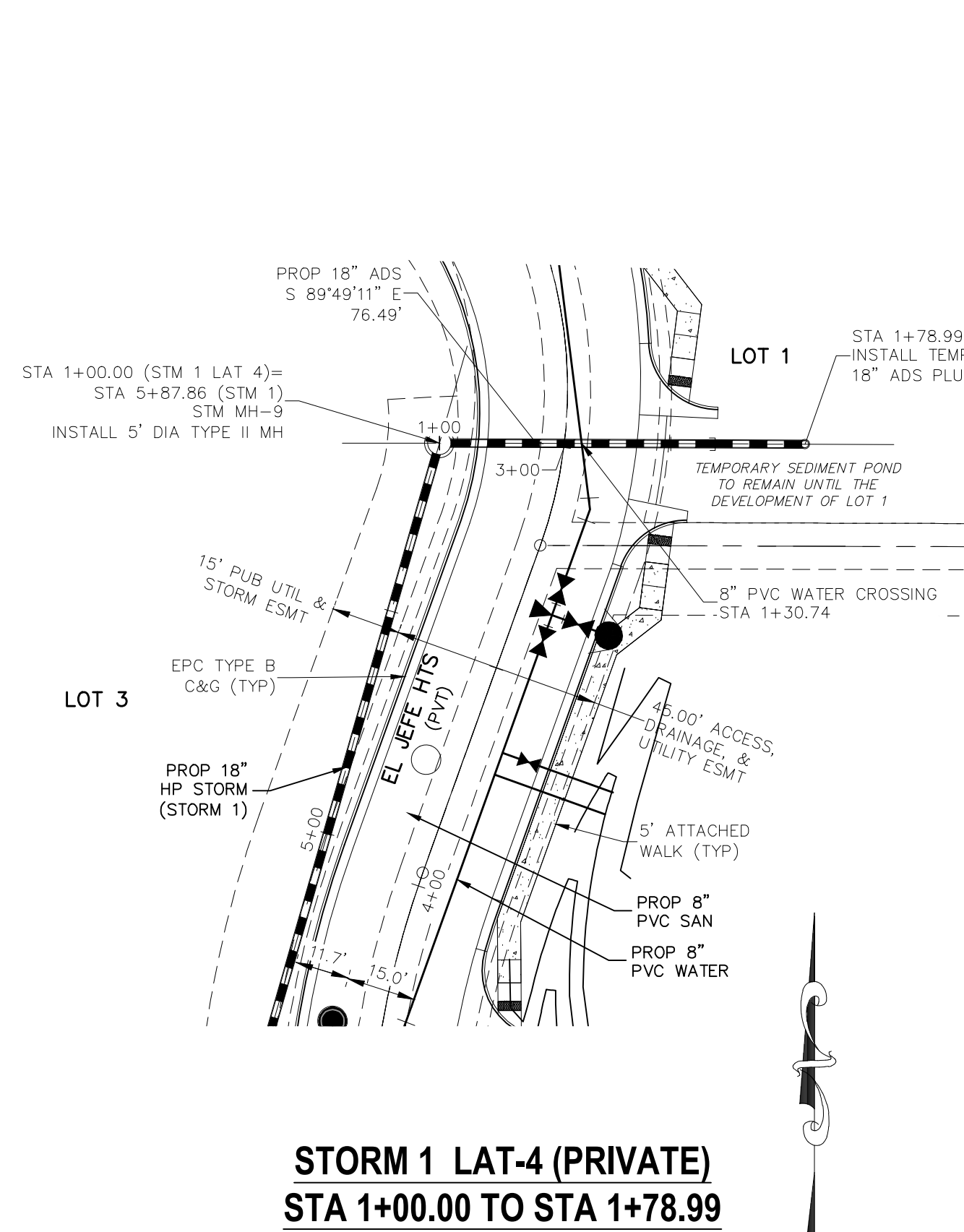
NO.	DATE	BY	DESCRIPTION	APPROV. BY	DATE

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

6380			6380		6380		6380		6380		
6375			6375		6375		6375		6375		
6370			6370		6370		6370		6370		
6365			6365		6365		6365		6365		
1+00		2+00		1+00		2+00		1+00		2+00	
STORM 1 LAT-4				STORM 2				STORM 3			

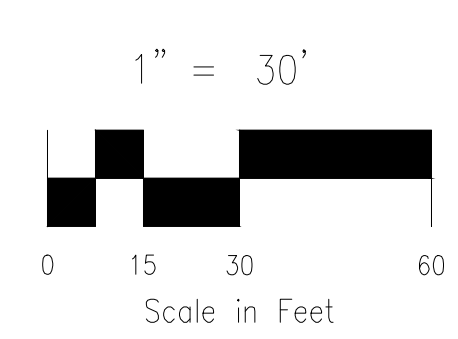


NOTE:

- ALL STORM SEWER CONSTRUCTED WITH THESE PLANS SHALL BE CONSIDERED PRIVATE.
- GAS LINE NOT LOCATED, LOCATION TO BE DETERMINED BY CONTRACTOR.
- 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
SLV	SANITARY SEWER
SRV	SLEEVE
STA	STATION
STM	STORM SEWER
W	WEST
WTR	WATER
TOB	TOP OF BOX AT CORNER OF INLET



CIVIL CONSULTANTS, INC.
212 N. WASHCATCH AVE., STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5465

STORM SEWER PLAN & PROFILE

PROJECT NO. 10-020
DATE: 05/22/23
SCALE: HORIZONTAL: 1"=30' VERTICAL: 1"=3'
DESIGNED BY: GW
DRAWN BY: CLP
CHECKED BY: VAS

CLAREMONT BUSINESS PARK 2 FIL. NO. 2

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

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

REGISTERED PROFESSIONAL ENGINEER
37160
06-11-23

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

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 (SWMP), 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 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.
- 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.
- 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 DOT 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 OFFSITE 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.
- 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.
- 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.
- 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 1/4 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.

RIPRAP NOTES:

- RIPRAP USED SHALL BE THE TYPE DESIGNATED ON THE DRAWINGS AND SHALL CONFIRM TO TABLE 1.
- 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.
- 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.
- RIPRAP SPECIFIC GRAVITY SHALL BE ACCORDING TO THE BULK-SATURATED, SURFACE-DRY BASIS, IN ACCORDANCE WITH AASHTO T85.
- THE BULK DENSITY FROM THE RIPRAP SHALL BE 1.3 TON/CY OR GREATER.
- 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.
- 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.
- 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.
- ROCK SHALL BE FREE OF CALCITE INTRUSIONS.
- ROUND RIPRAP (RIVER ROCK) IS NOT ACCEPTABLE, UNLESS SPECIFICALLY DESIGNATE 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 (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.
- 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 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. Coupled 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.

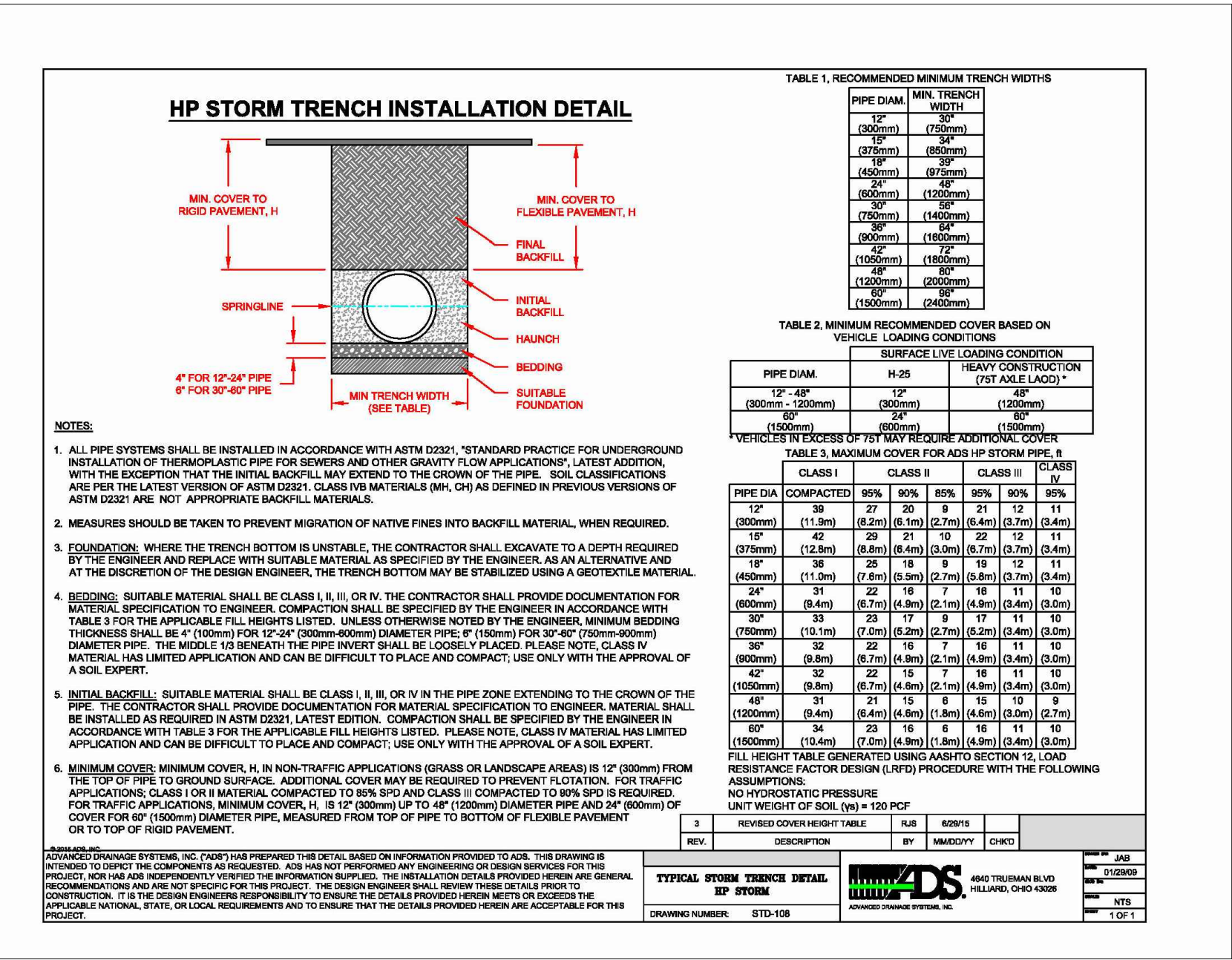
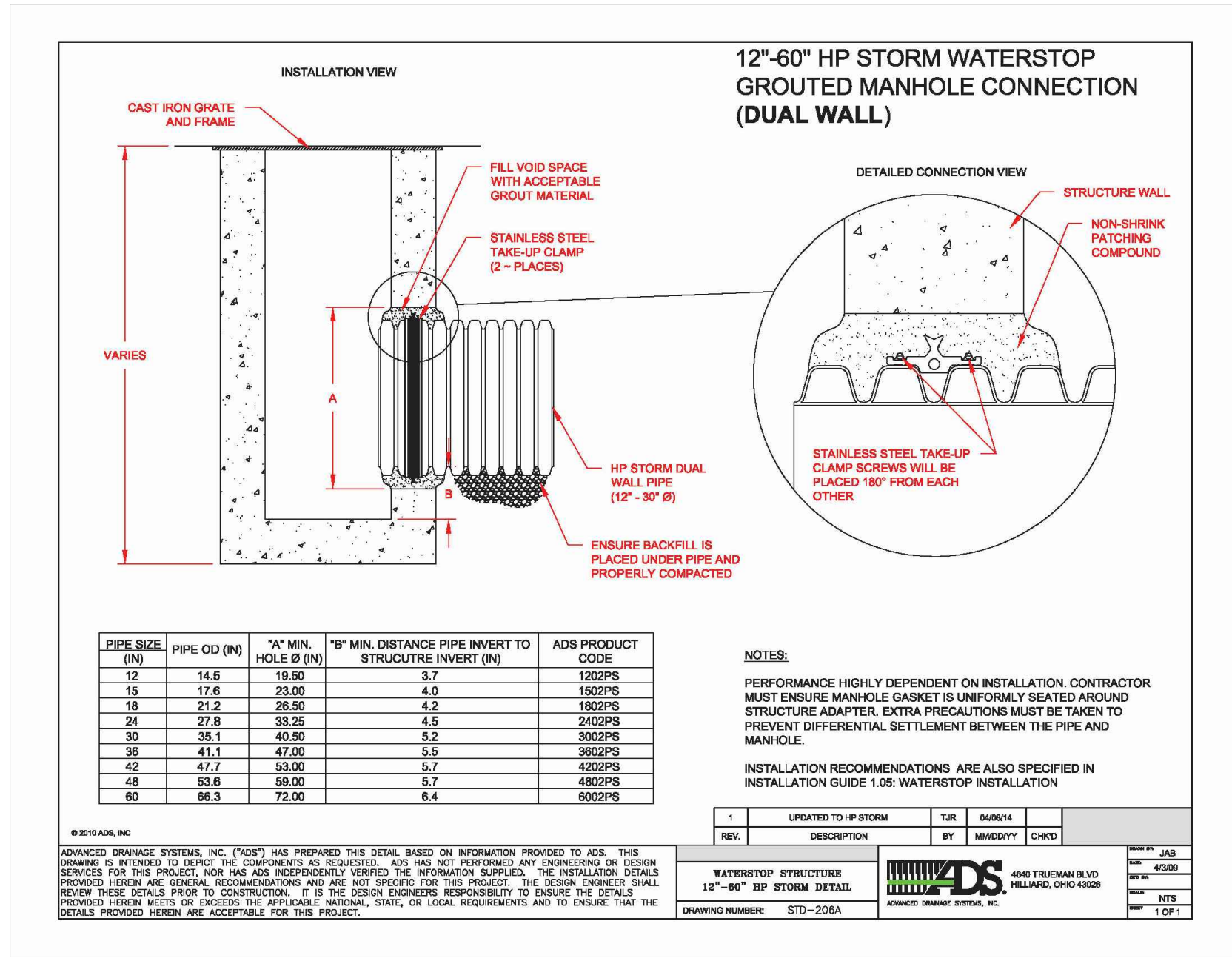
Material Properties
 Polypropylene compound for pipe and fitting production shall be impact modified copolymer meeting the material requirements of ASTM F2736, Section 4, ASTM F2881, Section 5 and AASHTO MP-21-11, Section 6.1, for the respective diameters.

Installation
 Installation shall be in accordance with ASTM D2321 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. Backfill for minimum cover situations shall consist of Class 1, Class 2 (minimum 90% STD) 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-inc.com for a copy of the latest installation guidelines.

Minimum Pipe ID	12	15	18	24	30	36	42	48	60
in. (mm)	12.0 (305)	15.0 (381)	18.0 (457)	24.0 (609)	30.0 (762)	36.0 (914)	42.0 (1067)	48.0 (1219)	60.0 (1524)
Minimum Pipe O.D.	12.0 (305)	15.0 (381)	18.0 (457)	24.0 (609)	30.0 (762)	36.0 (914)	42.0 (1067)	48.0 (1219)	60.0 (1524)
Minimum Pipe ID	12.0 (305)	15.0 (381)	18.0 (457)	24.0 (609)	30.0 (762)	36.0 (914)	42.0 (1067)	48.0 (1219)	60.0 (1524)
Minimum Pipe O.D.	14.0 (354)	17.0 (430)	21.0 (533)	27.0 (686)	33.0 (838)	39.0 (991)	45.0 (1143)	51.0 (1295)	63.0 (1601)
Minimum Pipe ID	12.0 (305)	15.0 (381)	18.0 (457)	24.0 (609)	30.0 (762)	36.0 (914)	42.0 (1067)	48.0 (1219)	60.0 (1524)
Minimum Pipe O.D.	14.0 (354)	17.0 (430)	21.0 (533)	27.0 (686)	33.0 (838)	39.0 (991)	45.0 (1143)	51.0 (1295)	63.0 (1601)

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

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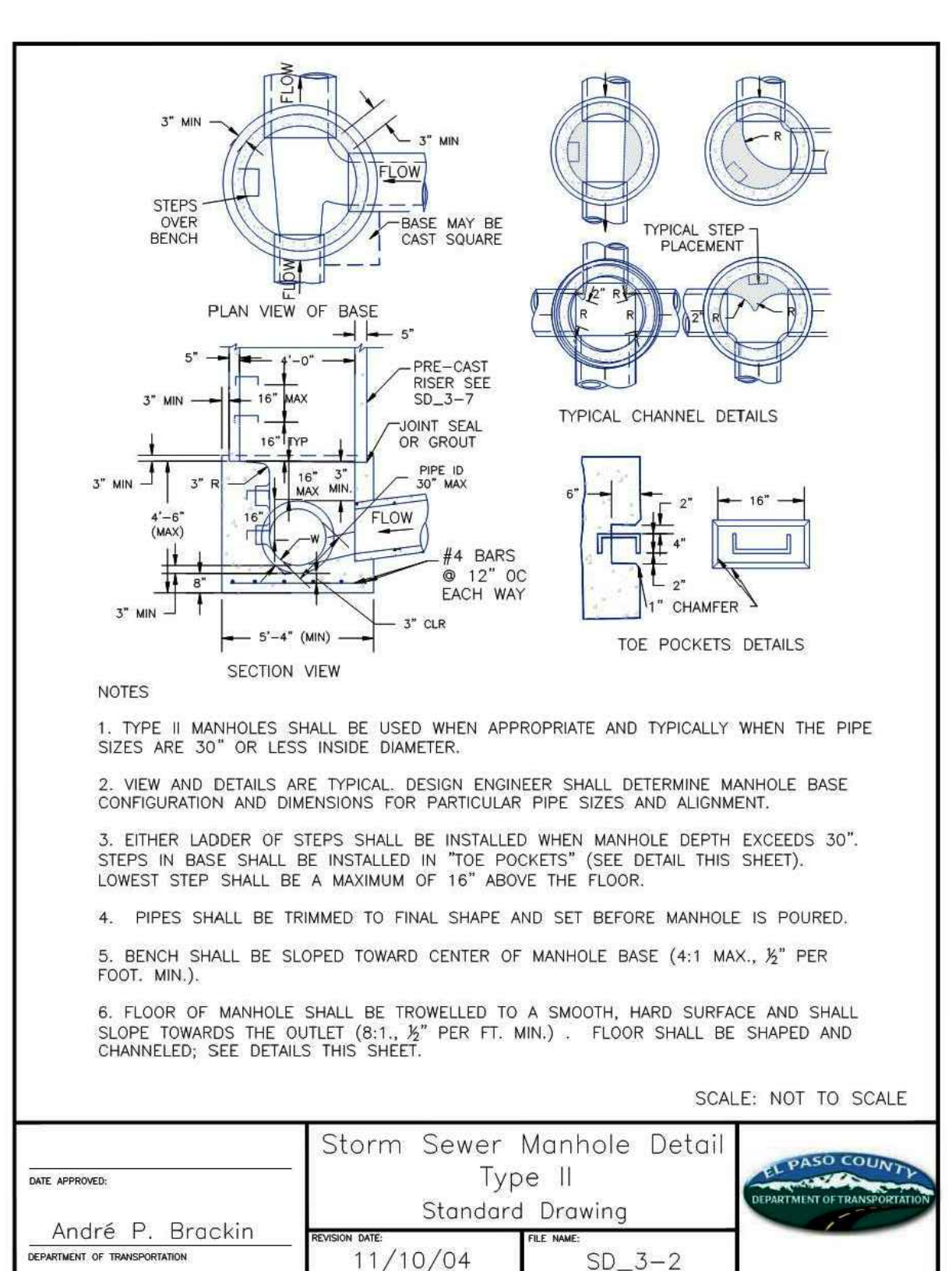
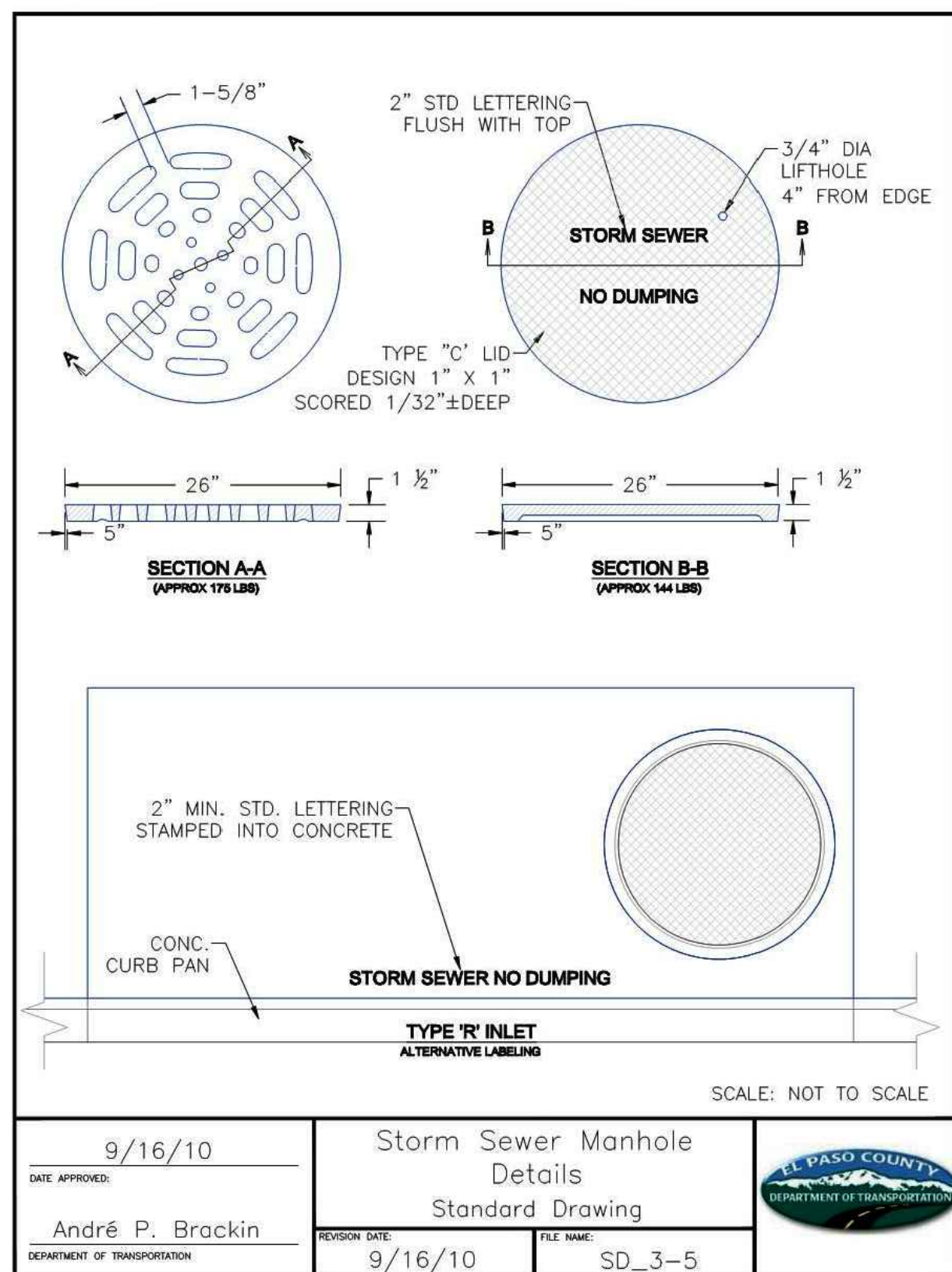
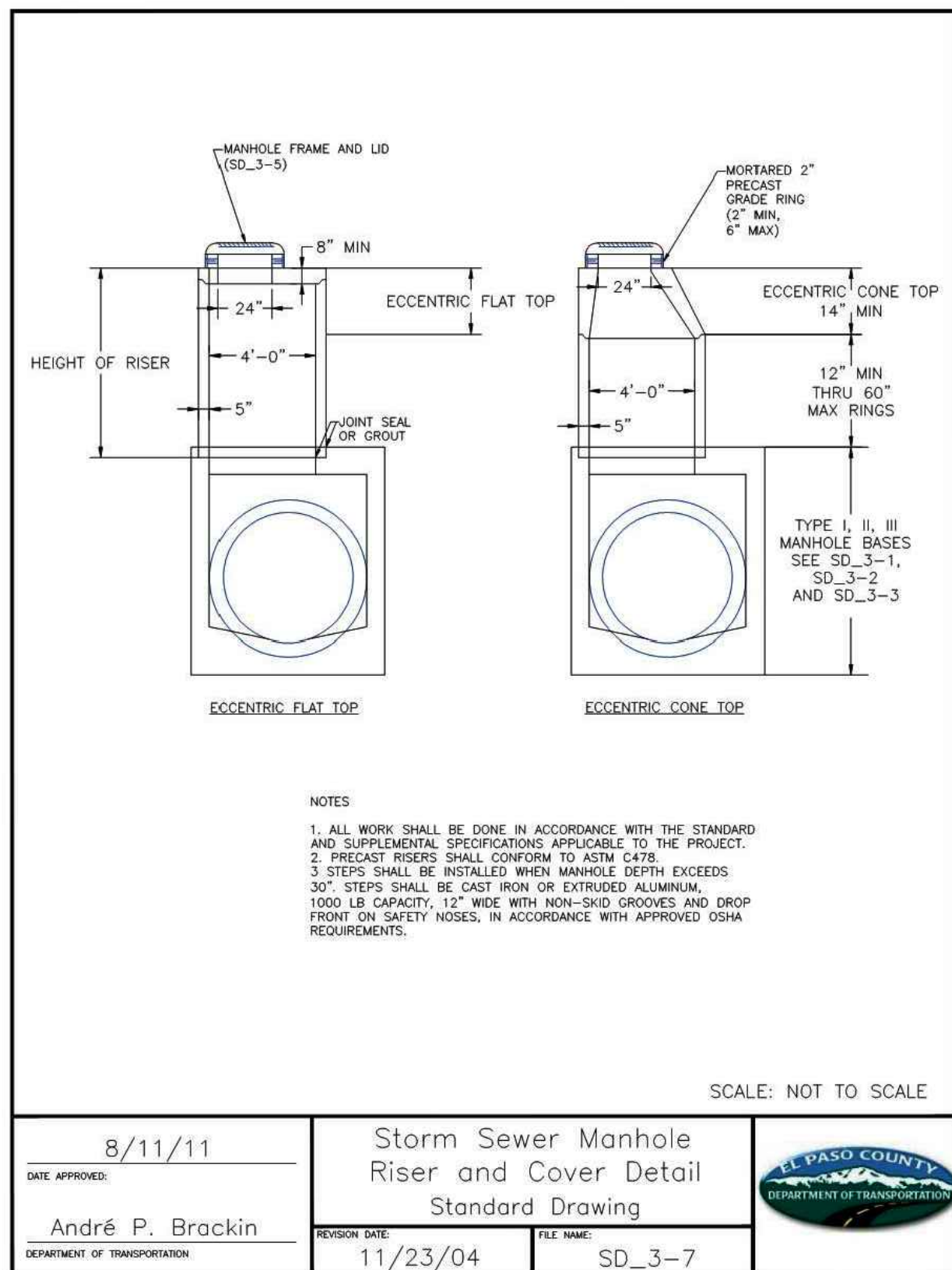
CLAREMONT BUSINESS PARK 2 FIL. NO. 2
STORM SEWER NOTES
 PROJECT NO. 10-020
 SCALE: HORIZONTAL: N/A VERTICAL: N/A
 DATE: 05/22/23
 DESIGNED BY: GW
 DRAWN BY: CLP
 CHECKED BY: VAS
 SHEET 10 OF 14
ST04

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



FOR AND ON BEHALF OF
 M&S CIVIL CONSULTANTS, INC.
 37160
 06-11-23
 PROFESSIONAL

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 PREPARER OF THESE PLANS.
CAUTION



Inline Drains

HOW DO YOU BUILD A PART NUMBER?
 See page (32) for Inline Drains

Part/Prefix	Product Description	Available Outlets
270AG_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"

When are Inline Drains Used?

- To enter a new or existing line by means of a riser and a tee.
- At the beginning of a drain line.

SCALE: NOT TO SCALE

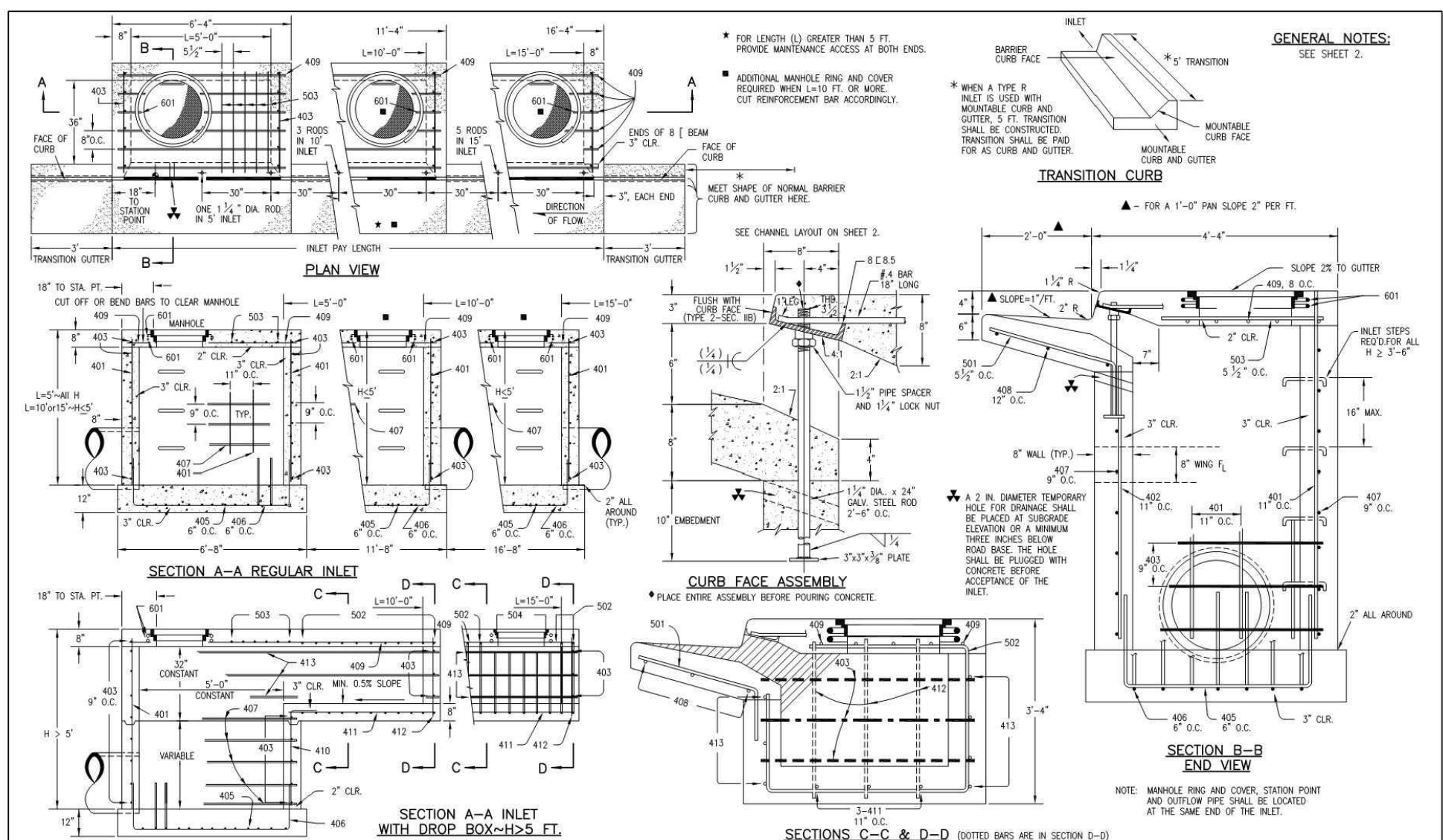
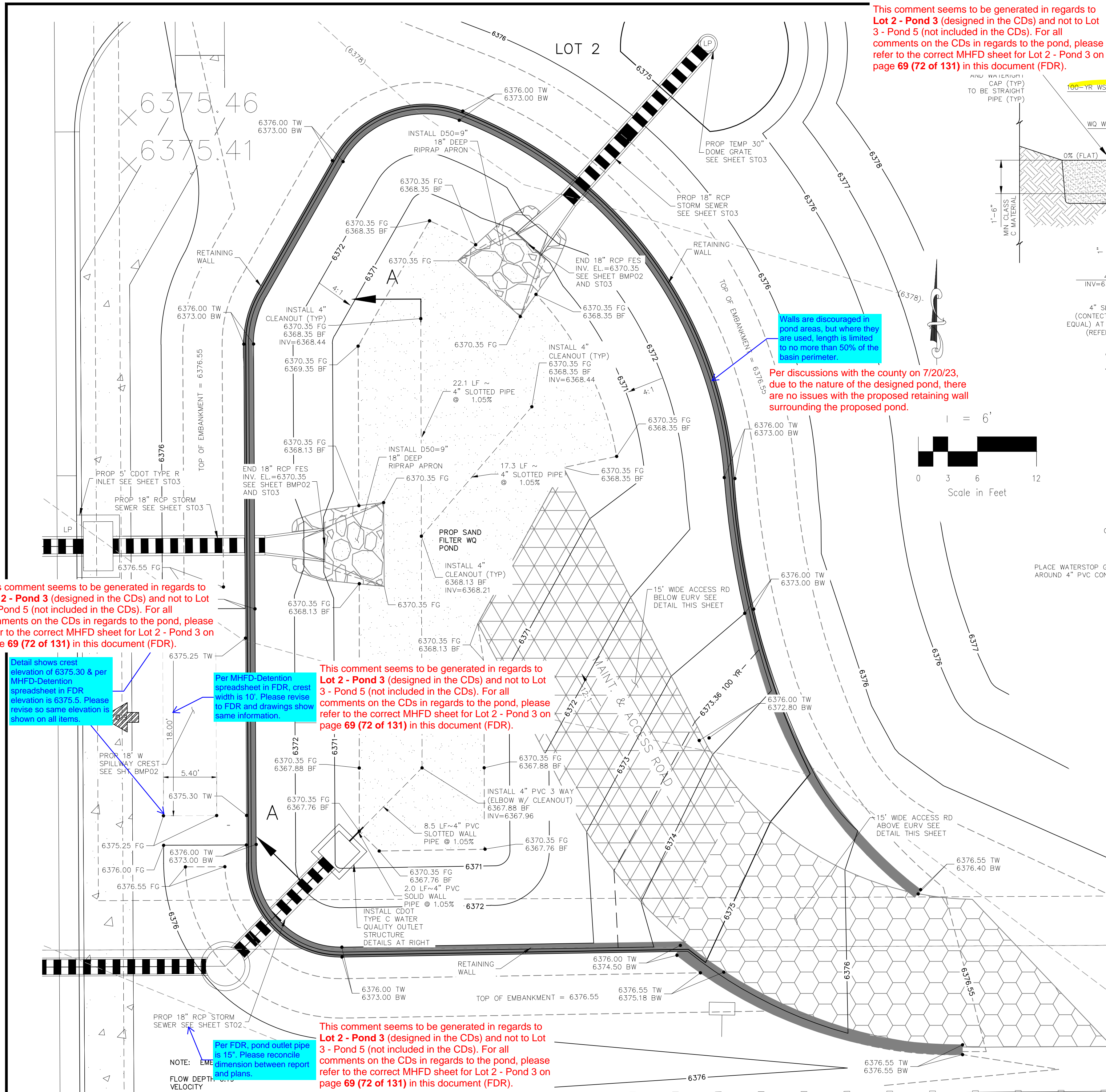


TABLE ONE - BAR LIST FOR CURB INLETS, TYPE "R"

WIRE NO.	BAR SIZE	O.C. SPACING	TYPE	INLETS L=5 FT.			INLETS L=10 FT.			INLETS L=15 FT.		
				NO. REIN.	LENGTH	NO. REIN.	LENGTH	NO. REIN.	LENGTH	NO. REIN.	LENGTH	NO. REIN.
401	4	12"	REG.	15	21	31	21	28	11	11	8"	
402	4	12"	REG.	15	21	31	21	28	11	11	8"	
403	4	12"	REG.	15	21	31	21	28	11	11	8"	
404	4	12"	REG.	15	21	31	21	28	11	11	8"	
405	4	12"	REG.	15	21	31	21	28	11	11	8"	
406	4	12"	REG.	15	21	31	21	28	11	11	8"	
407	4	12"	REG.	15	21	31	21	28	11	11	8"	
408	4	12"	REG.	15	21	31	21	28	11	11	8"	
409	4	12"	REG.	15	21	31	21	28	11	11	8"	
410	4	12"	REG.	15	21	31	21	28	11	11	8"	
411	4	12"	REG.	15	21	31	21	28	11	11	8"	
412	4	12"	REG.	15	21	31	21	28	11	11	8"	
413	4	12"	REG.	15	21	31	21	28	11	11	8"	
414	4	12"	REG.	15	21	31	21	28	11	11	8"	
415	4	12"	REG.	15	21	31	21	28	11	11	8"	
416	4	12"	REG.	15	21	31	21	28	11	11	8"	
417	4	12"	REG.	15	21	31	21	28	11	11	8"	
418	4	12"	REG.	15	21	31	21	28	11	11	8"	
419	4	12"	REG.	15	21	31	21	28	11	11	8"	
420	4	12"	REG.	15	21	31	21	28	11	11	8"	
421	4	12"	REG.	15	21	31	21	28	11	11	8"	
422	4	12"	REG.	15	21	31	21	28	11	11	8"	
423	4	12"	REG.	15	21	31	21	28	11	11	8"	
424	4	12"	REG.	15	21	31	21	28	11	11	8"	
425	4	12"	REG.	15	21	31	21	28	11	11	8"	
426	4	12"	REG.	15	21	31	21	28	11	11	8"	
427	4	12"	REG.	15	21	31	21	28	11	11	8"	
428	4	12"	REG.	15	21	31	21	28	11	11	8"	
429	4	12"	REG.	15	21	31	21	28	11	11	8"	
430	4	12"	REG.	15	21	31	21	28	11	11	8"	
431	4	12"	REG.	15	21	31	21	28	11	11	8"	
432	4	12"	REG.	15	21	31	21	28	11	11	8"	
433	4	12"	REG.	15	21	31	21	28	11	11	8"	
434	4	12"	REG.	15	21	31	21	28	11	11	8"	
435	4	12"	REG.	15	21	31	21	28	11	11	8"	
436	4	12"	REG.	15	21	31	21	28	11	11	8"	
437	4	12"	REG.	15	21	31	21	28	11	11	8"	
438	4	12"	REG.	15	21	31	21	28	11	11	8"	
439	4	12"	REG.	15	21	31	21	28	11	11	8"	
440	4	12"	REG.	15	21	31	21	28	11	11	8"	
441	4	12"	REG.	15	21	31	21	28	11	11	8"	
442	4	12"	REG.	15	21	31	21	28	11	11	8"	
443	4	12"	REG.	15	21	31	21	28	11	11	8"	
444	4	12"	REG.	15	21	31	21	28	11	11	8"	
445	4	12"	REG.	15	21	31	21	28	11	11	8"	
446	4	12"	REG.	15	21	31	21	28	11	11	8"	
447	4	12"	REG.	15	21	31	21	28	11	11	8"	
448	4	12"	REG.	15	21	31	21	28	11	11	8"	
449	4	12"	REG.	15	21	31	21	28	11	11	8"	
450	4	12"	REG.	15	21	31	21	28	11	11	8"	
451	4	12"	REG.	15	21	31	21	28	11	11	8"	
452	4	12"	REG.	15	21	31	21	28	11	11	8"	
453	4	12"	REG.	15	21	31	21	28	11	11	8"	
454	4	12"	REG.	15	21	31	21	28	11	11	8"	
455	4	12"	REG.	15	21	31	21	28	11	11	8"	
456	4	12"	REG.	15	21	31	21	28	11	11	8"	
457	4	12"	REG.	15	21	31	21	28	11	11	8"	
458	4	12"	REG.	15	21	31	21	28	11	11	8"	
459	4	12"	REG.	15	21	31	21	28	11	11	8"	
460	4	12"	REG.	15	21	31	21	28	11	11	8"	
461	4	12"	REG.	15	21	31	21	28	11	11	8"	
462	4	12"	REG.	15	21	31	21	28	11	11	8"	
463	4	12"	REG.	15	21	31	21	28	11	11	8"	
464	4	12"	REG.	15	21	31	21	28	11	11	8"	
465	4	12"	REG.	15	21	31	21	28	11	11	8"	
466	4	12"	REG.	15	21	31	21	28	11	11	8"	
467	4	12"	REG.	15	21	31	21	28	11	11	8"	
468	4	12"	REG.	15	21	31	21	28	11	11	8"	
469	4	12"	REG.	15	21	31	21	28	11	11	8"	
470	4	12"	REG.	15	21	31	21	28	11	11	8"	
471	4	12"	REG.	15	21	31	21	28	11	11	8"	
472	4	12"	REG.	15	21	31	21	28	11	11	8"	
473	4	12"	REG.	15	21	31	21	28	11	11	8"	
474	4	12"	REG.	15	21	31	21	28	11	11	8"	
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477	4	12"	REG.	15	21	31	21	28	11	11	8"	
478	4	12"	REG.	15	21	31	21	28	11	11	8"	
479	4	12"	REG.	15	21	31	21	28	11	11	8"	
480	4	12"	REG.	15	21	31	21	28	11	11	8"	
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482	4	12"	REG.	15	21	31	21	28	11	11	8"	
483	4	12"	REG.	15	21	31	21	28	11	11	8"	
484	4	12"	REG.	15	21	31	21	28	11	11	8"	
485	4	12"	REG.	15	21	31	21	28	11	11	8"	
486	4	12"	REG.	15	21	31	21	28	11	11	8"	
487	4	12"	REG.	15	21	31	21	28	11	11	8"	
488	4	12"	REG.	15	21	31	21	28	11	11	8"	
489	4	12"	REG.	15	21	31	21	28	11	11	8"	
490	4	12"	REG.	15	21	31	21	28	11	11	8"	
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492	4	12"	REG.	15	21	31	21	28	11	11	8"	
493	4	12"	REG.	15	21	31	21	28	11	11	8"	
494	4	12"	REG.	15	21	31	21	28	11	11	8"	
495	4	12"	REG.	15	21	31	21	28	11	11	8"	
496	4	12"	REG.	15	21	31	21	28	11	11	8"	
497	4	12"	REG.	15	21	31	21	28	11	11	8"	
498	4	12"	REG.	15	21	31	21	28	11	11	8"	
499	4	12"	REG.	15	21	31	21	28	11	11	8"	
500	4	12"	REG.	15	21	31	21	28	11	11	8"	

TABLE TWO - BARS AND QUANTITIES VARIABLE WITH "H"

WIRE NO.	BAR SIZE	O.C. SPACING	TYPE	REGULAR INLETS	DROP BOX INLETS
501	4	12"	REG.	15	21
502	4	12"	REG.	15	21
503	4	12"	REG.	15	21
504	4	12"	REG.	15	21
505	4	12"	REG.	15	21
506	4	12"	REG.	15	21
507	4	12"	REG.	15	21
508	4	12"	REG.	15	21
509	4	12"	REG.	15	21
510	4	12"	REG.	15	21
511	4	12"	REG.	15	21
512	4	12"	REG.	15	2



This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

Detail shows crest elevation of 6375.30 & per MHFD-Detention spreadsheet in FDR elevation is 6375.5. Please revise so same elevation is shown on all items.

Per MHFD-Detention spreadsheet in FDR, crest width is 10'. Please revise to FDR and drawings show same information.

This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

NOTE: Per FDR, pond outlet pipe is 15". Please reconcile dimension between report and plans.

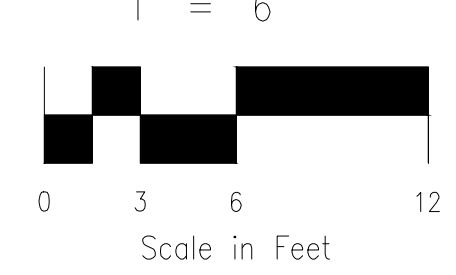
This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

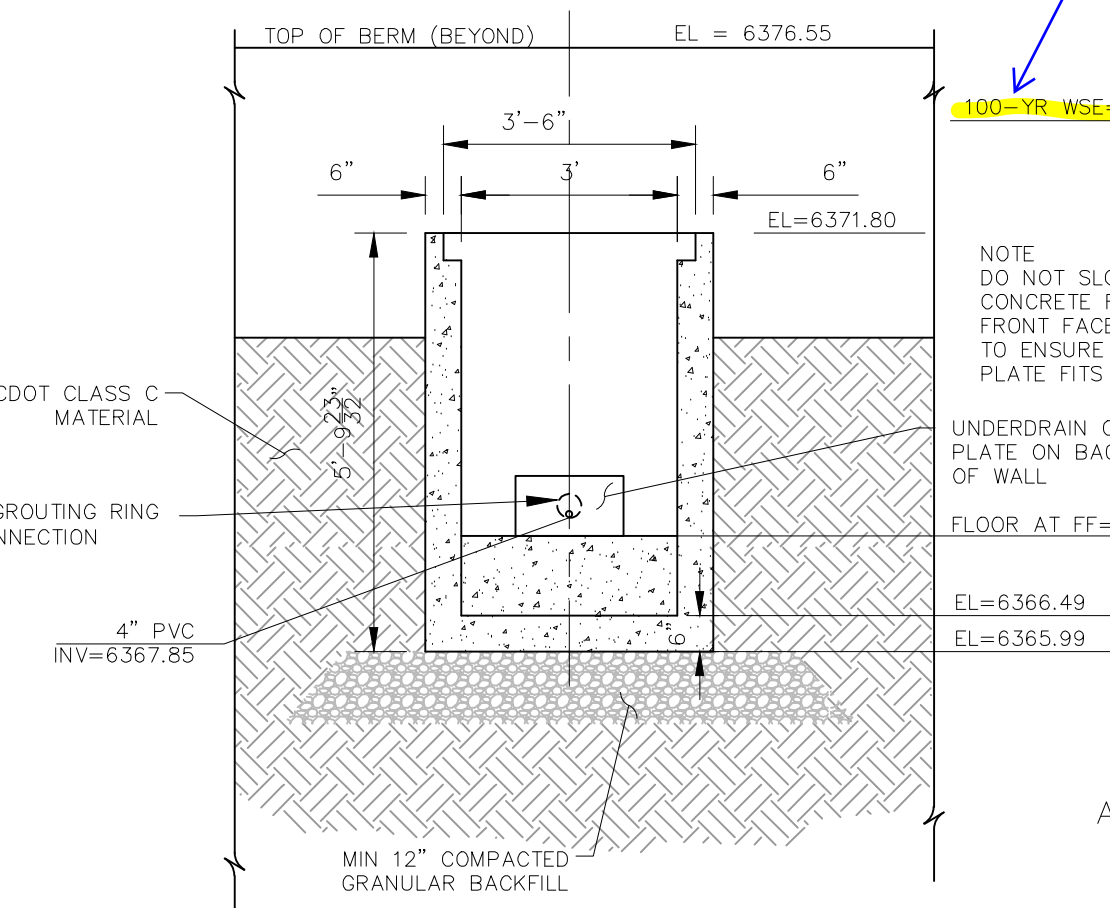
Elevation does not match information on MHFD-Detention spreadsheet in FDR

Walls are discouraged in pond areas, but where they are used, length is limited to no more than 50% of the basin perimeter.

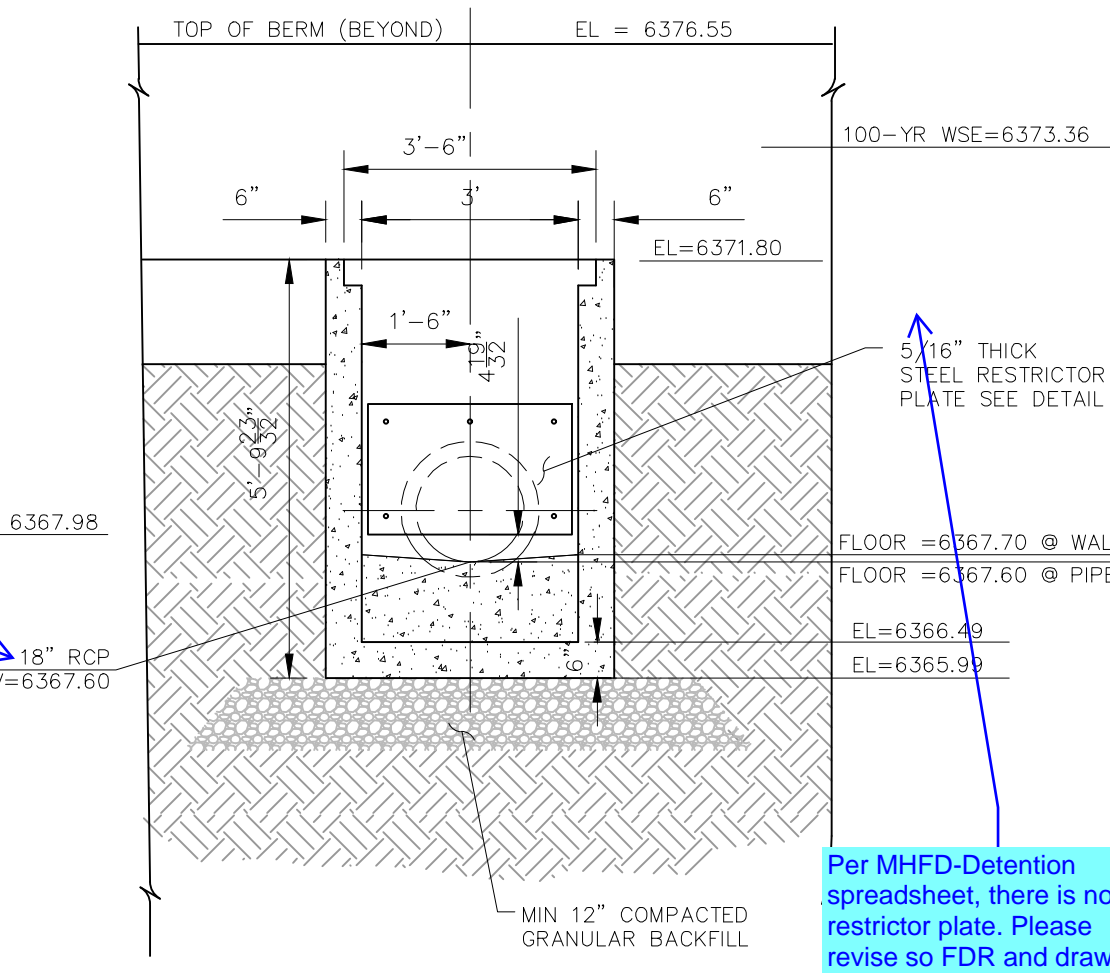
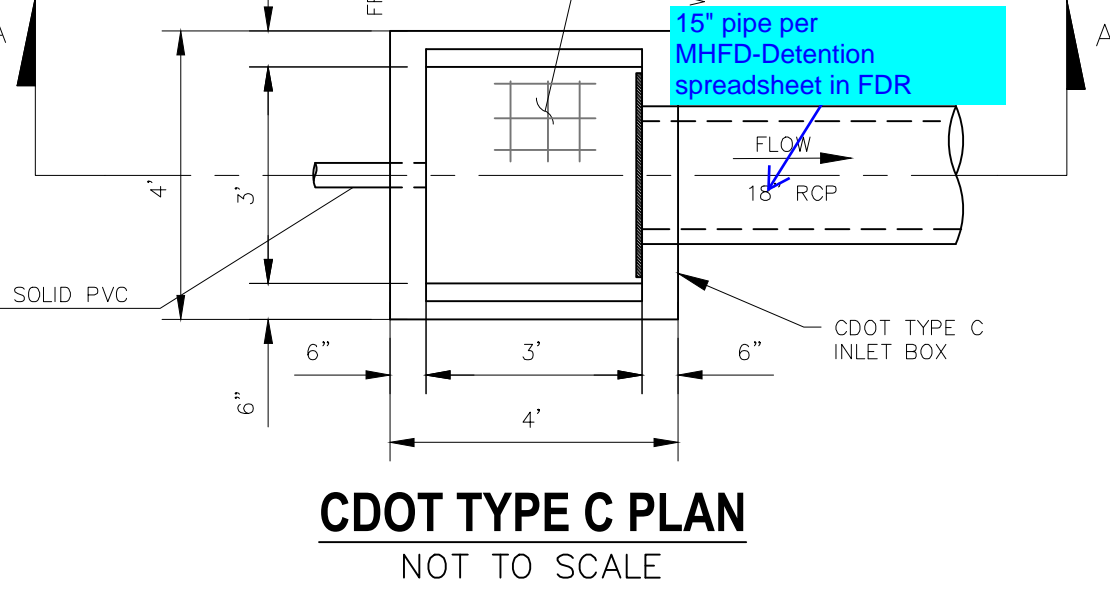
Per discussions with the county on 7/20/23, due to the nature of the designed pond, there are no issues with the proposed retaining wall surrounding the proposed pond.



CDOT TYPE C WATER QUALITY OUTLET BOX AND SAND FILTER SECTION A-A NOT TO SCALE



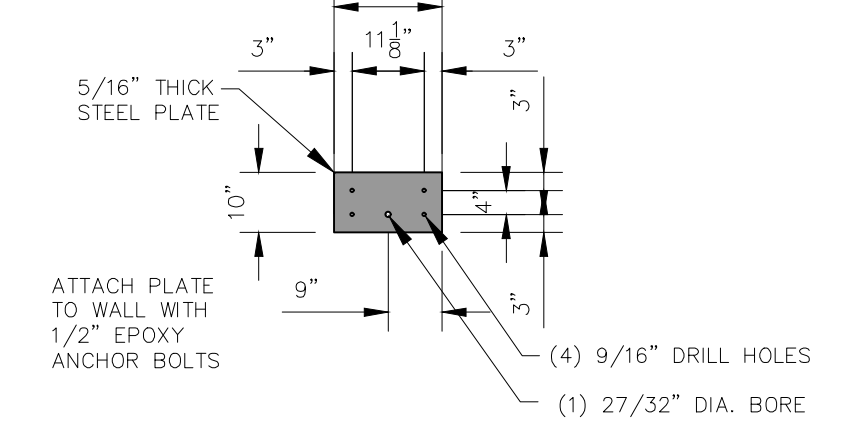
OUTLET BOX FRONT WALL NOT TO SCALE



OUTLET BOX NOT TO SCALE



This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).



UNDERDRAIN ORIFICE PLATE NOT TO SCALE

Per MHFD-Detention spreadsheet, there is no restrictor plate. Please revise so FDR and drawings have same information.

This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

RESTRICTOR PLATE FOR 18" RCP OUTLET NOT TO SCALE

This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

15" pipe per MHFD-Detention spreadsheet in FDR

Per MHFD-Detention spreadsheet, there is no restrictor plate. Please revise so FDR and drawings have same information.

This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

POND 3 SAND FILTER DETENTION BASIN DATA	
WQ WATER SURFACE EL =	6371.78
WQ VOLUME=	0.051 AC-FT
100-YR WATER SURFACE EL=	6373.36
100-YR VOLUME=	0.153 AC-FT
SPILLWAY CREST EL=	6375.30
TOP OF EMBANKMENT EL=	6376.55
RATIONAL 100-YR INFLOW=	14.8 CFS
MHFD 100-YR INFLOW =	9.0 CFS
MHFD 100-YR RELEASE =	4.0 CFS

LOT 2 - SAND FILTER POND 3 SITE PLAN SCALE 1"=6'

LEGEND:

- EMERGENCY OVERFLOW
- PROPOSED RIPRAP
- MAINTENANCE/ACCESS ROAD ABOVE EURL
- MAINTENANCE/ACCESS ROAD BELOW EURL
- LOT NUMBER OR TRACT
- 100 YR WATER SURFACE
- PROP MAJ CONT
- PROP MIN CONT
- EXIST MAJ CONT
- EXIST MIN CONT
- RIPRAP TYP.
- CDOT CLASS C MATERIAL
- PROP STORM SEWER PIPE
- WARNING SIGN



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

CLAREMONT BUSINESS PARK 2 FIL. NO. 2
OUTLET STRUCTURE POND 3 DETAILS
PROJECT NO. 10-020
SCALE: HORIZONTAL: DATE: 05/22/23
DESIGNED BY: GW
DRAWN BY: CJP
CHECKED BY: VAS
SHEET 12 OF 14
BMP01

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

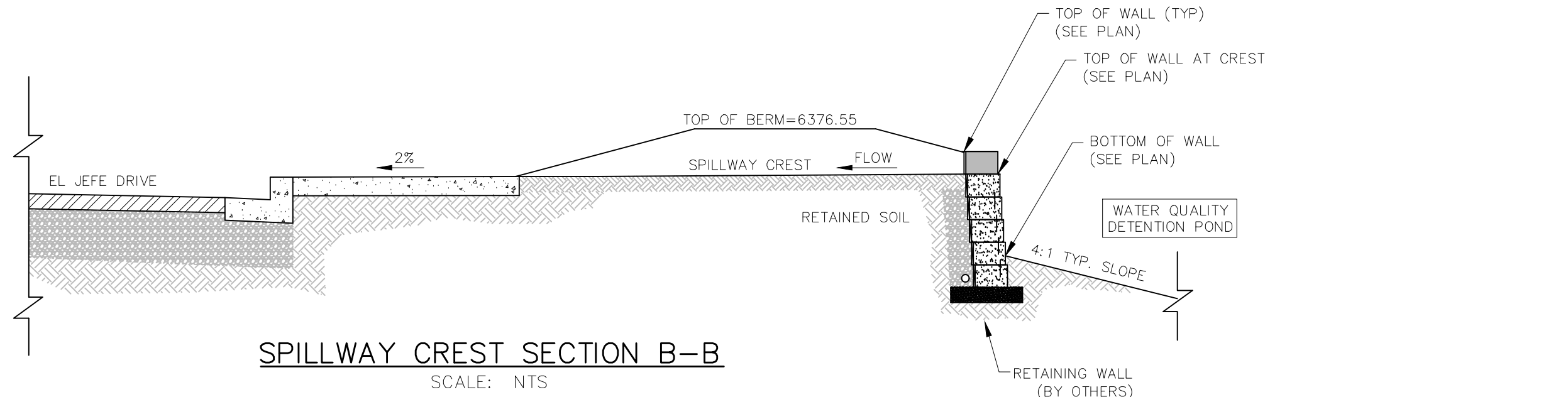
CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF
MKS CIVIL CONSULTANTS, INC.

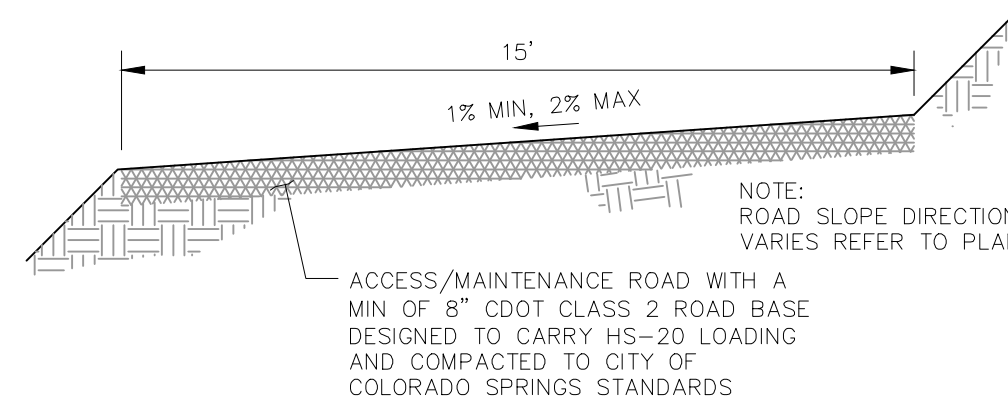
DESCRIPTION: DATE: APPROVED BY: DATE:

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 PREPARER OF THESE PLANS.

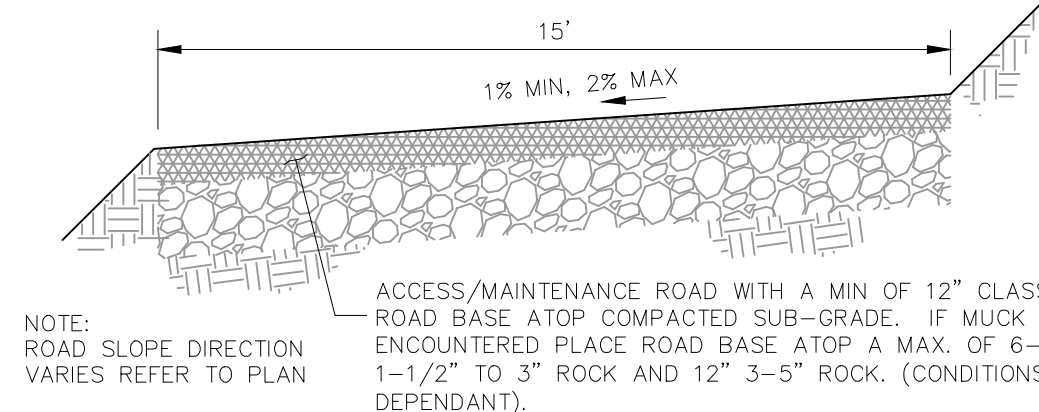
CAUTION



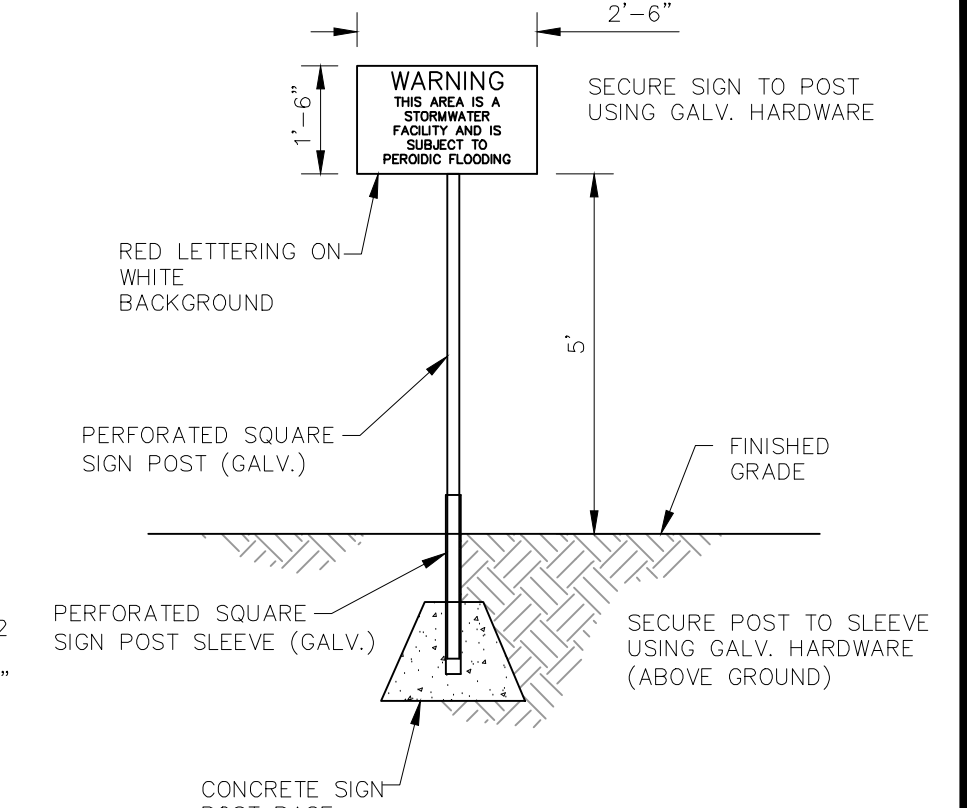
SPILLWAY CREST SECTION B-B
SCALE: NTS



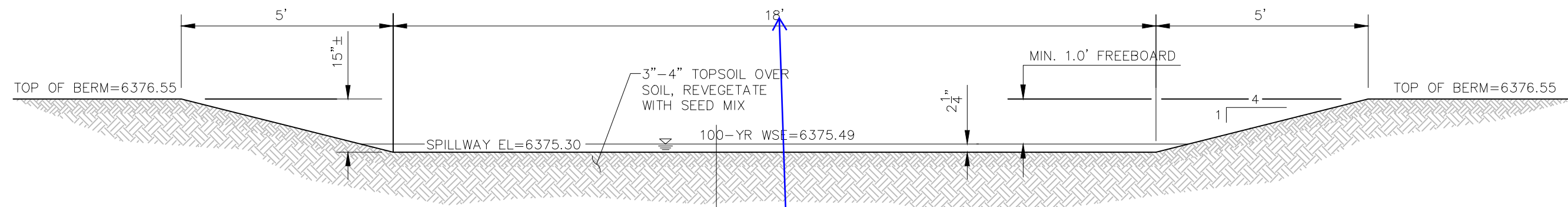
MAINTENANCE & ACCESS ROAD
ABOVE EURV TYPICAL SECTION
NOT TO SCALE



MAINTENANCE & ACCESS ROAD
BELOW EURV TYPICAL SECTION
NOT TO SCALE



POND WARNING SIGN (3)
SCALE: 3/8" = 1'



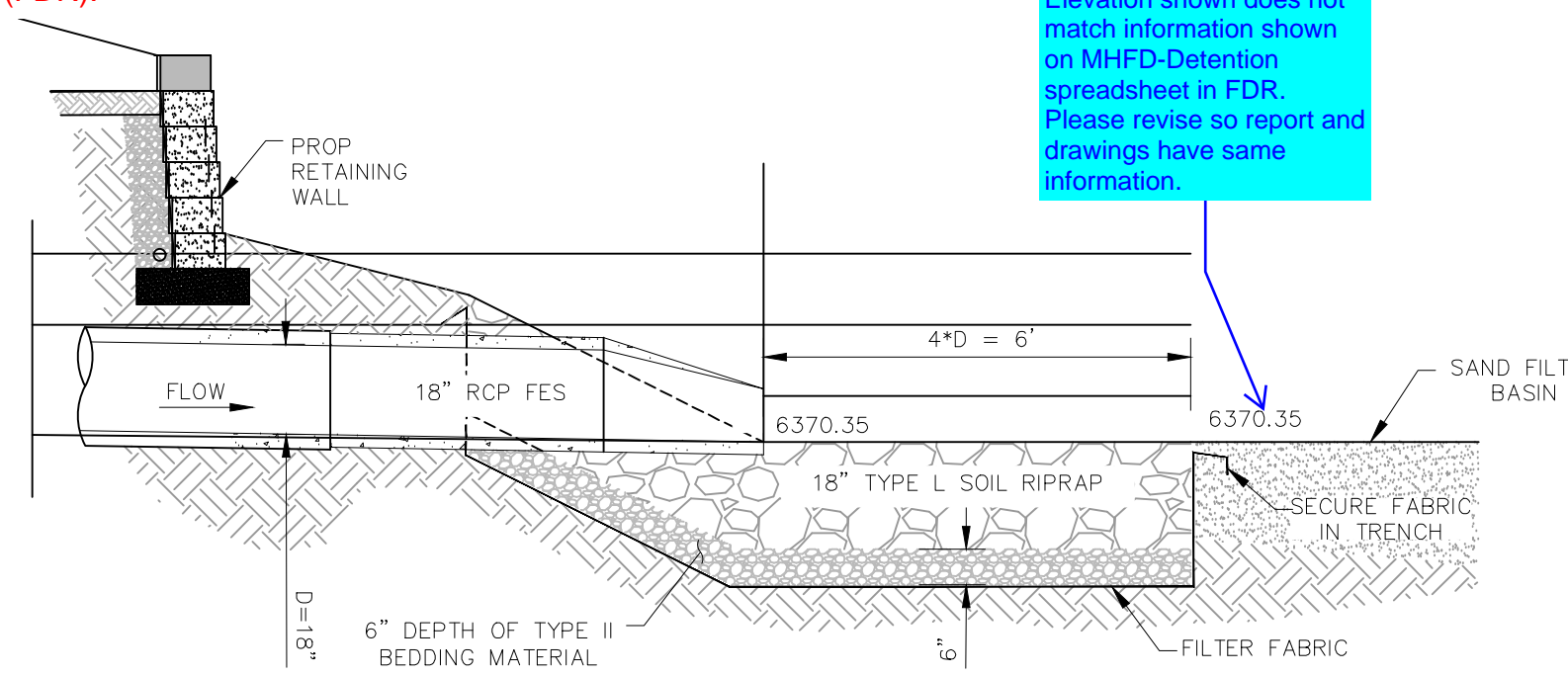
SPILLWAY CREST SECTION A-A
SCALE: NTS

10' per mHFD-Detention spreadsheet in FDR

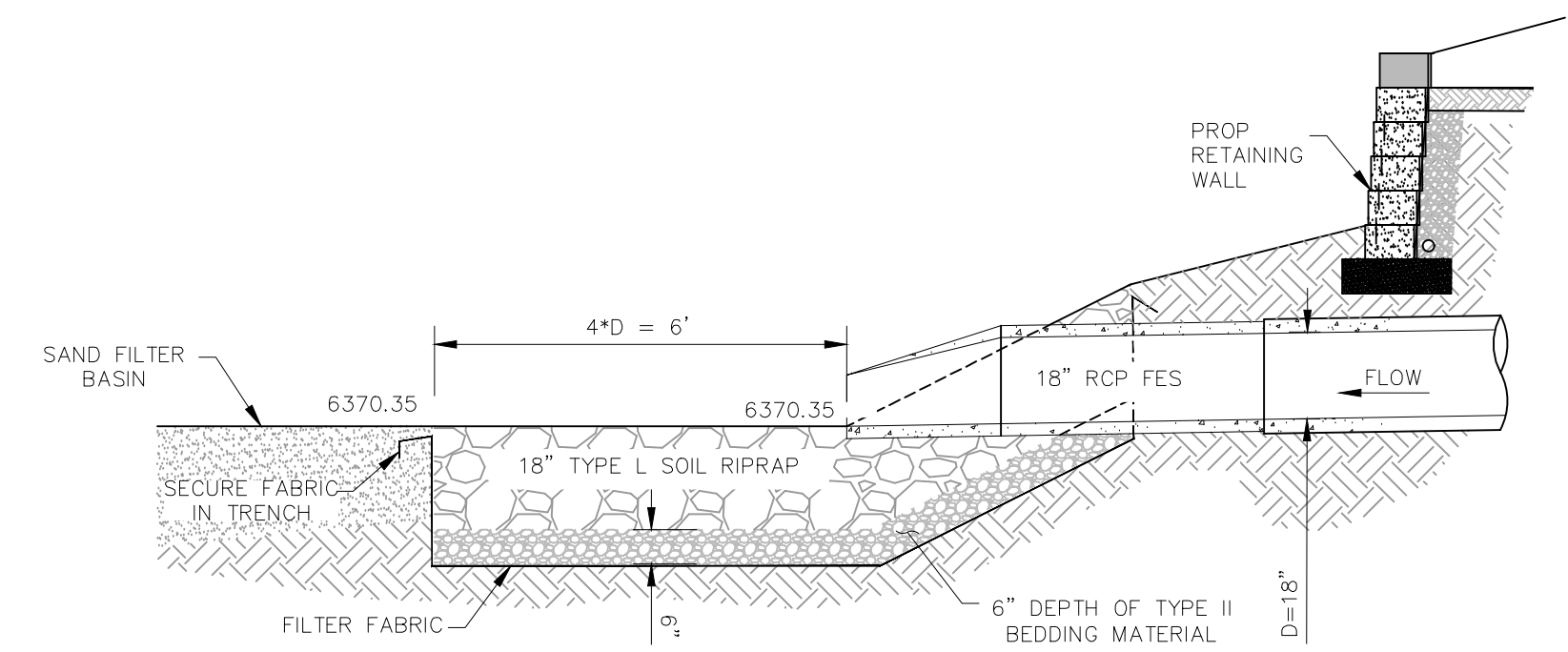
This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

This comment seems to be generated in regards to Lot 2 - Pond 3 (designed in the CDs) and not to Lot 3 - Pond 5 (not included in the CDs). For all comments on the CDs in regards to the pond, please refer to the correct MHFD sheet for Lot 2 - Pond 3 on page 69 (72 of 131) in this document (FDR).

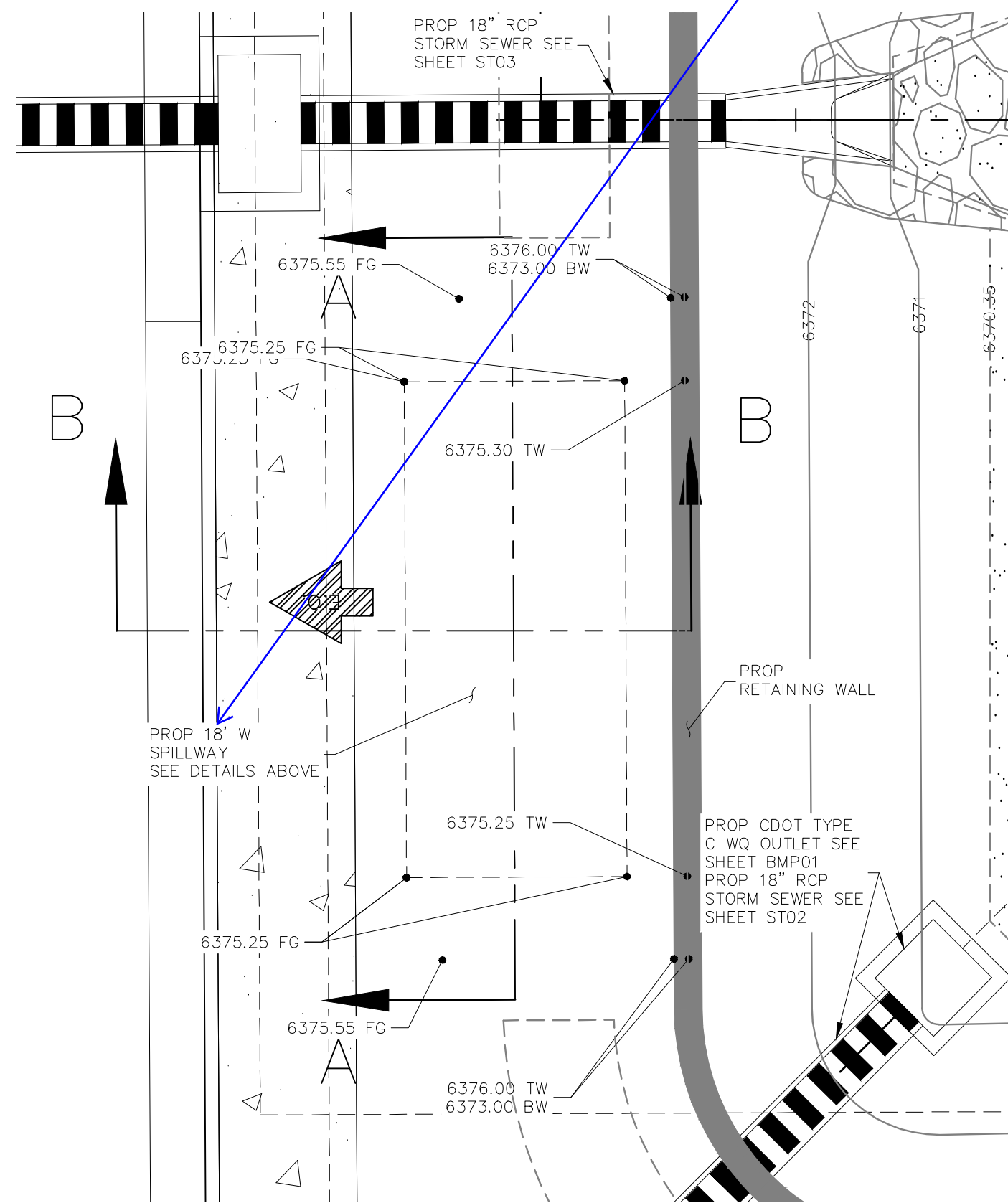
Elevation shown does not match information shown on MHFD-Detention spreadsheet in FDR. Please revise so report and drawings have same information.



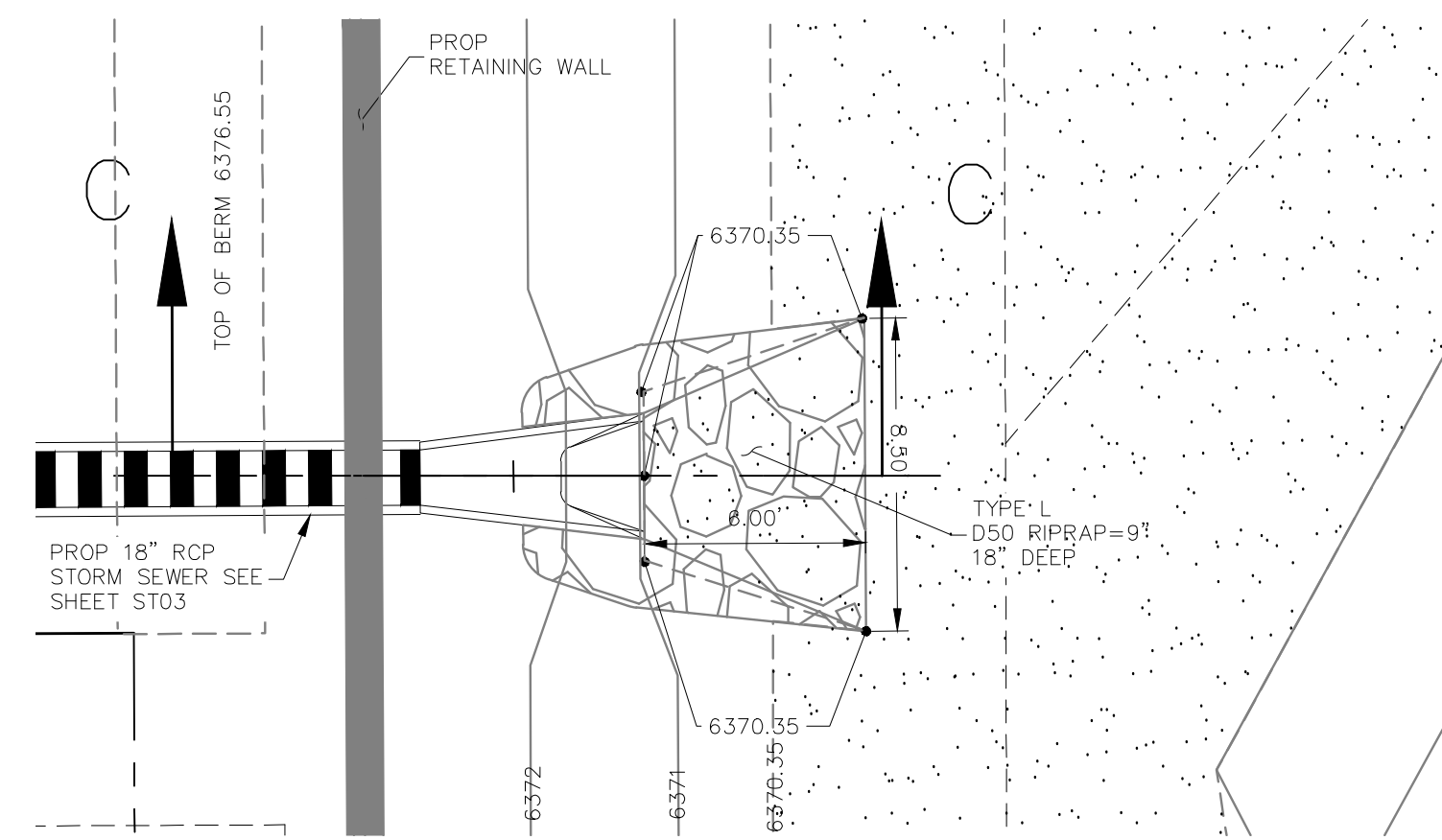
18" RCP RIPRAP APRON
SECTION C-C
SCALE: NTS



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



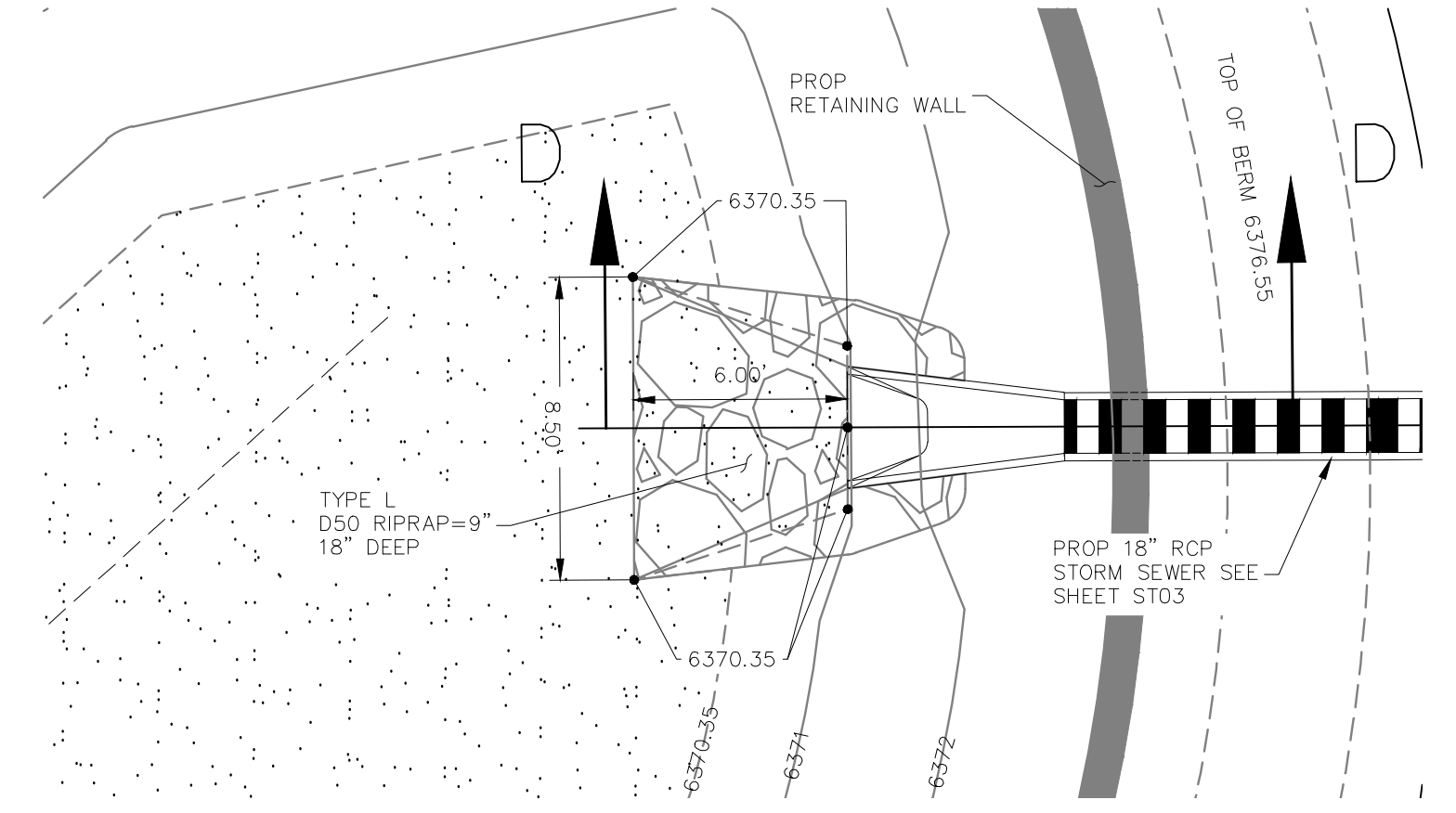
LOT 2 - SAND FILTER POND 3
SPILLWAY PLAN
SCALE 1"=10'



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

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'

CLAREMONT BUSINESS PARK 2 FIL. NO. 2
OUTLET STRUCTURE POND 3 DETAILS
PROJECT NO. 10-020
DATE: 05/22/23
SCALE: HORIZONTAL: N/A VERTICAL: N/A
DESIGNED BY: GW CUP
DRAWN BY: N/A
CHECKED BY: VAS

212 N. WABATCH AVE., STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5465

FOR AND ON BEHALF OF WAS CIVIL CONSULTANTS, INC.

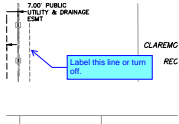
REVISIONS:
NO. DATE BY DESCRIPTION

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 PREPARE OF THESE PLANS.

CAUTION

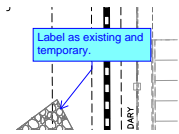
V2_Construction Drawings.pdf Markup Summary

Callout (18)



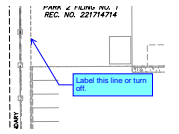
Subject: Callout
Page Label: [1] SI01
Author: Carlos
Date: 7/5/2023 4:58:55 PM
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Color: ■
Layer:
Space:

Label this line or turn off.



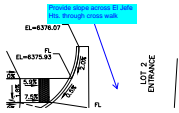
Subject: Callout
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Date: 7/5/2023 5:01:12 PM
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Layer:
Space:

Label as existing and temporary.



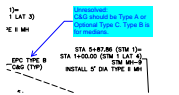
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Author: CDurham
Date: 7/6/2023 3:22:37 PM
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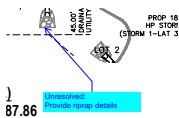
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Page Label: [1] SI02
Author: CDurham
Date: 7/12/2023 7:08:45 AM
Status:
Color: ■
Layer:
Space:

Provide slope across El Jefe Hts. through cross walk



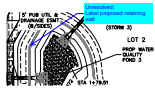
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Author: CDurham
Date: 7/12/2023 7:09:56 AM
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Color: ■
Layer:
Space:

Unresolved:
C&G should be Type A or Optional Type C. Type B is for medians.



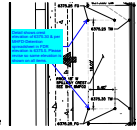
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Author: CDurham
Date: 7/12/2023 7:14:51 AM
Status:
Color: ■
Layer:
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Unresolved:
Provide riprap details



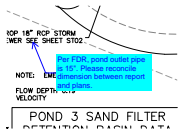
Subject: Callout
Page Label: [1] ST02
Author: CDurham
Date: 7/12/2023 7:16:46 AM
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Color: ■
Layer:
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Unresolved:
 Label proposed retaining wall



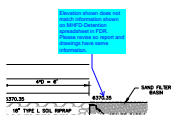
Subject: Callout
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Author: CDurham
Date: 7/12/2023 7:32:11 AM
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Detail shows crest elevation of 6375.30 & per MHFD-Detention spreadsheet in FDR elevation is 6375.5. Please revise so same elevation is shown on all items.



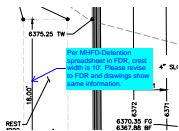
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Author: CDurham
Date: 7/12/2023 7:31:03 AM
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Per FDR, pond outlet pipe is 15". Please reconcile dimension between report and plans.



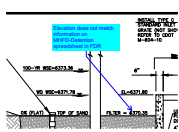
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Date: 7/12/2023 7:29:02 AM
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Color: ■
Layer:
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Elevation shown does not match information shown on MHFD-Detention spreadsheet in FDR. Please revise so report and drawings have same information.



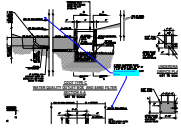
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Author: CDurham
Date: 7/12/2023 7:32:49 AM
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Per MHFD-Detention spreadsheet in FDR, crest width is 10'. Please revise to FDR and drawings show same information.



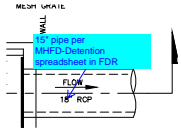
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Space:

Elevation does not match information on MHFD-Detention spreadsheet in FDR



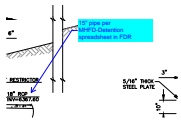
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Date: 7/12/2023 7:37:34 AM
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Color: ■
Layer:
Space:

Elevations do not match. Revise



Subject: Callout
Page Label: [1] BMP01
Author: CDurham
Date: 7/12/2023 7:38:09 AM
Status:
Color: ■
Layer:
Space:

15" pipe per MHFD-Detention spreadsheet in FDR



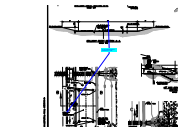
Subject: Callout
Page Label: [1] BMP01
Author: CDurham
Date: 7/12/2023 7:40:12 AM
Status:
Color: ■
Layer:
Space:

15" pipe per MHFD-Detention spreadsheet in FDR



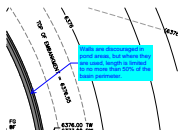
Subject: Callout
Page Label: [1] BMP01
Author: CDurham
Date: 7/12/2023 7:41:59 AM
Status:
Color: ■
Layer:
Space:

15" pipe per MHFD-Detention spreadsheet in FDR



Subject: Callout
Page Label: [1] BM02
Author: CDurham
Date: 7/12/2023 7:44:33 AM
Status:
Color: ■
Layer:
Space:

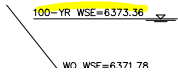
10' per mHFD-Detention spreadsheet in FDR



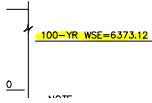
Subject: Callout
Page Label: [1] BMP01
Author: CDurham
Date: 7/12/2023 8:03:24 AM
Status:
Color: ■
Layer:
Space:

Walls are discouraged in pond areas, but where they are used, length is limited to no more than 50% of the basin perimeter.

Highlight (2)



Subject: Highlight
Page Label: [1] BMP01
Author: CDurham
Date: 7/12/2023 7:37:10 AM
Status:
Color: ■
Layer:
Space:



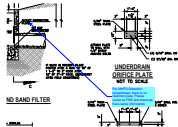
Subject: Highlight
Page Label: [1] BMP01
Author: CDurham
Date: 7/12/2023 7:37:12 AM
Status:
Color: ■
Layer:
Space:

Resolved (1)



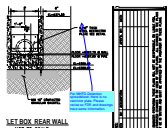
Subject: Resolved
Page Label: [1] CD01
Author: Carlos
Date: 7/5/2023 2:59:02 PM
Status:
Color: ■
Layer:
Space:

Text Box (2)



Subject: Text Box
Page Label: [1] BMP01
Author: CDurham
Date: 7/12/2023 7:40:24 AM
Status:
Color: ■
Layer:
Space:

Per MHFD-Detention spreadsheet, there is no restrictor plate. Please revise so FDR and drawings have same information.



Subject: Text Box
Page Label: [1] BMP01
Author: CDurham
Date: 7/12/2023 7:42:19 AM
Status:
Color: ■
Layer:
Space:

Per MHFD-Detention spreadsheet, there is no restrictor plate. Please revise so FDR and drawings have same information.