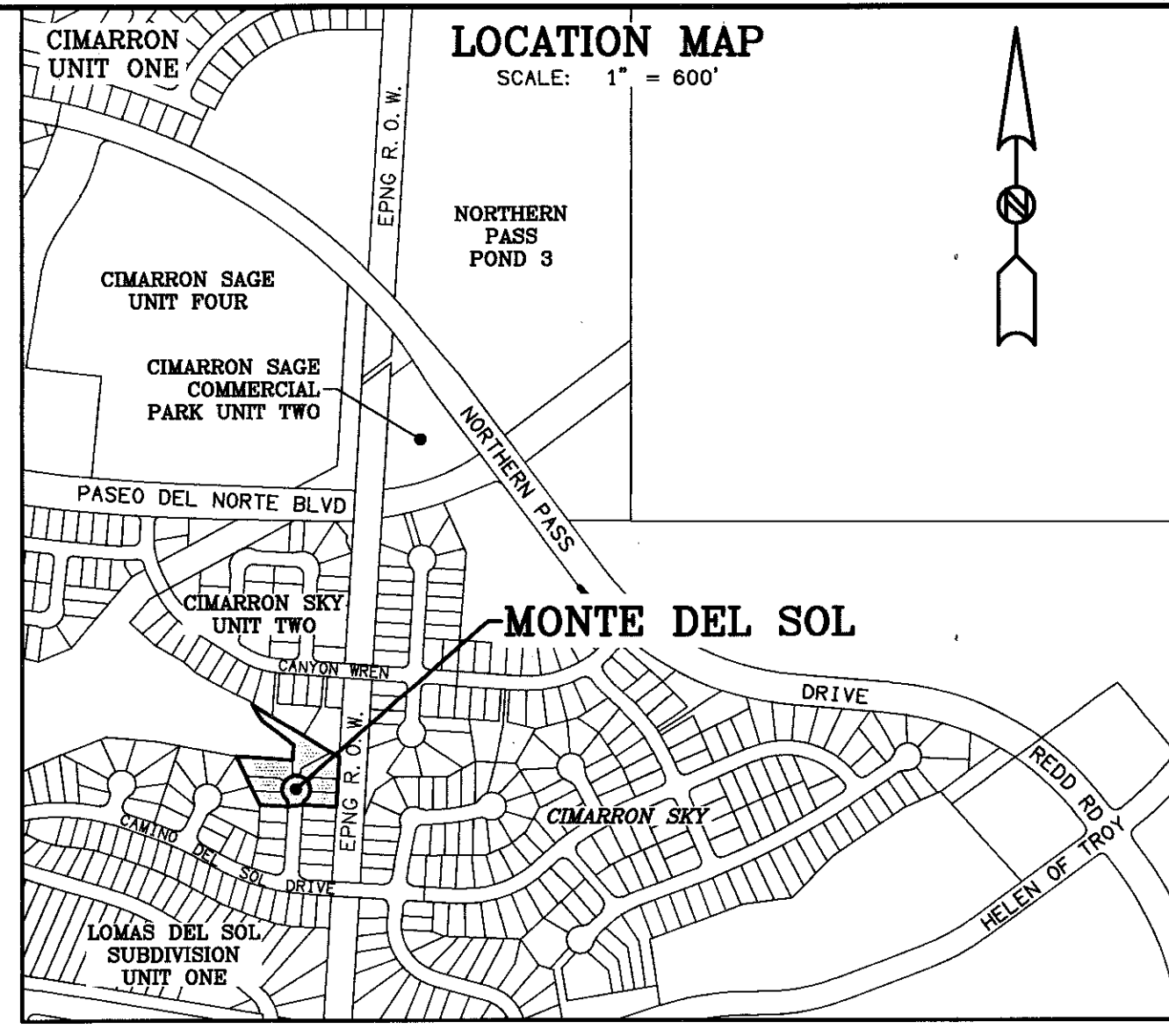


MONTE DEL SOL

BEING A PORTION OF TRACT 1B5B2, S.J. LARKIN SURVEY 266, EL PASO, EL PASO COUNTY, TEXAS CONTAINING 1.551 ± ACRES (67,567 SQ. FT.)

NOTE:

- SET 5/8" REBAR WITH CAP MARKED "RPLS 6489" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS OTHERWISE INDICATED.
- WATER AND SEWER SERVICES WILL BE PROVIDED TO MONTE DEL SOL FROM EXISTING FACILITIES ON EXISTING MONTE DEL SOL STREET BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.343 OF THE TEXAS WATER CODE.
- U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS.
- BASIS OF BEARINGS IS THE MONUMENTED CENTERLINE OF NORTHWESTERN DRIVE FROM THE PLAT OF EL PASO WEST UNIT ONE IN BOOK 57, PAGE 5, PLAT RECORDS, EL PASO COUNTY, TEXAS.
- S.J. LARKIN SURVEY 266 IS DESCRIBED SEPTEMBER 10, 1949, IN BOOK 945, PAGE 405, DEED RECORDS, EL PASO COUNTY, TEXAS.
- TRACT 1A, S.J. LARKIN SURVEY 266 (THE EL PASO NATURAL GAS COMPANY R.O.W.) IS DESCRIBED JANUARY 23, 1973, IN BOOK 431, PAGE 617 (PARCEL 6), DEED RECORDS, EL PASO COUNTY, TEXAS.
- EXISTING MONTE DEL SOL STREET AND QUINTA DEL SOL COURT, HAVING 52-FOOT RIGHTS-OF-WAY, IS FROM THE PLAT OF LOMAS DEL SOL SUBDIVISION UNIT ONE RECORDED IN BOOK 78, PAGES 93 AND 93A, PLAT RECORDS, EL PASO COUNTY, TEXAS.
- THE SUBJECT PROPERTY LIES WITHIN THE CANUTILLO INDEPENDENT SCHOOL DISTRICT.
- CIMARRON SKY UNIT TWO IS RECORDED IN CLERK'S FILE NO. 20120092780, PLAT RECORDS, EL PASO COUNTY, TEXAS.
- CIMARRON SAGE UNIT ONE IS RECORDED IN CLERK'S FILE NO. 20120091757, PLAT RECORDS, EL PASO COUNTY, TEXAS.
- THE SUBJECT PROPERTY PREVIOUSLY DESCRIBED MAY 17, 2021, IN CLERK'S FILE NO. 20210046813, DEED RECORDS, EL PASO COUNTY, TEXAS.



DECLARATION OF USE RESTRICTIONS AND DEVELOPMENT CONDITIONS FOR THIS SUBDIVISION ARE RECORDED IN THE OFFICE OF THE CLERK OF EL PASO COUNTY, TEXAS, DEED AND RECORDS SECTION, INSTRUMENT NO. 20220009824, DATED 2/1/2022.

TAX CERTIFICATES FOR THIS SUBDIVISION ARE RECORDED IN THE OFFICE OF THE CLERK OF EL PASO COUNTY, TEXAS, DEED AND RECORDS SECTION, INSTRUMENT NO. 20220009823, DATED 2/1/2022.

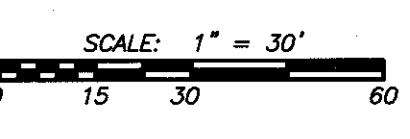
CURVE TABLE					
CURVE #	DELTA	RADIUS	ARC	CHORD BEARING	CHORD
C1	48°55'04"	20.00'	17.08'	N20°59'33"W	16.56'
C2	34°44'58"	50.00'	30.32'	S28°04'36"E	29.86'
C3	45°06'22"	50.00'	39.36'	S11°51'04"W	38.35'
C4	41°08'29"	50.00'	35.90'	S54°58'30"W	35.14'
C5	28°33'58"	50.00'	24.93'	S89°49'44"W	24.67'
C6	40°53'01"	50.00'	35.68'	N55°26'46"W	34.93'
C7	41°44'58"	50.00'	36.43'	N14°07'47"W	35.63'
C8	45°38'20"	50.00'	39.83'	N29°33'52"E	38.78'
C9	49°05'18"	20.00'	17.14'	S27°50'23"W	16.62'

LINE TABLE		
LINE #	BEARING	DISTANCE
T1	S83°12'09"W	26.42'
T2	S83°12'09"W	26.42'
T3	N3°27'59"E	9.48'
T4	S55°35'45"E	23.45'
T5	S14°06'43"W	27.02'
T6	N54°59'44"E	25.75'

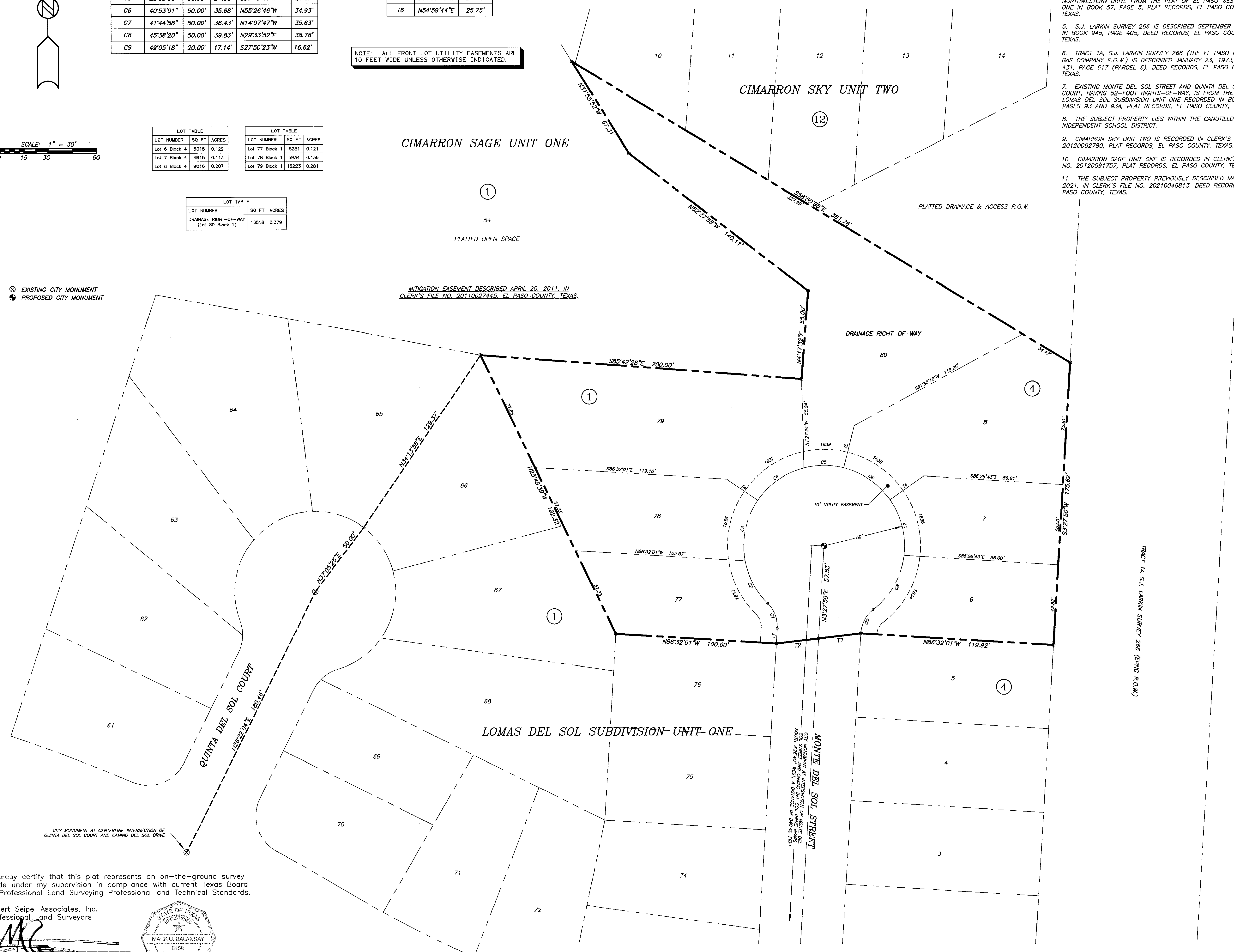
NOTE: ALL FRONT LOT UTILITY EASEMENTS ARE 10 FEET WIDE UNLESS OTHERWISE INDICATED.

LOT TABLE		
LOT NUMBER	SQ FT	ACRES
Lot 6 Block 4	5315	0.122
Lot 7 Block 4	4915	0.113
Lot 8 Block 4	9016	0.207

LOT TABLE		
LOT NUMBER	SQ FT	ACRES
DRAINAGE RIGHT-OF-WAY (Lot 80 Block 1)	18518	0.379



⊗ EXISTING CITY MONUMENT
⊙ PROPOSED CITY MONUMENT



MITIGATION EASEMENT DESCRIBED APRIL 20, 2011, IN CLERK'S FILE NO. 20110027445, EL PASO COUNTY, TEXAS.

TRACT 1A, S.J. LARKIN SURVEY 266 (EPNG R.O.W.)

DEDICATION

We, Cimarron Hunt Communities, LLC, owners of this land, do hereby present this plat and dedicate to the use of the public the street, the drainage right-of-way and utility easements as hereon laid down and designated, including easements for overhang of service wires, conduits and pipes for underground utilities, the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

Cimarron Hunt Communities, LLC
By: Hunt Communities Development Co., LLC, Its Sole Member,

Jose L. Lares
Jose L. Lares, Vice President

ACKNOWLEDGMENT

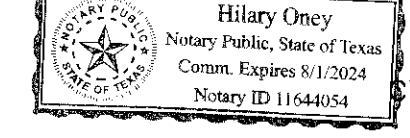
STATE OF TEXAS
COUNTY OF EL PASO

This instrument was acknowledged before me on 12/01/2021 by Jose L. Lares, Vice President of Hunt Communities Development Co., LLC, Sole Member of Cimarron Hunt Communities, LLC, a Texas limited liability company, on behalf of said company.

Given under my hand and seal of office this 7th day of December, 2021.

Hilary Oney
Notary Public, State of Texas

08/01/2024
My Commission Expires



CITY PLAN COMMISSION

This subdivision is hereby approved as to the platting and as to the conditions of the dedication in accordance with Chapter 212 of the Local Government Code of Texas this 1 day of July, 2021.

AC
Chairperson

Xi Z. Li
Executive Secretary

Approved for filing this 22 day of December, 2021:

Philip Stearns
Planning & Inspections Director

FILING

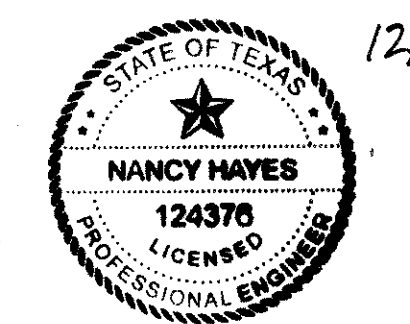
Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 1st day of February, 2021, in File No. 20220009822, Plat Records.

Delia Brinson
County Clerk

NANCY HAYES
By Deputy

Subdivision improvement plans prepared by and under the supervision of OSA Design Group, Inc.

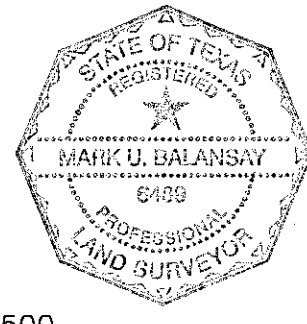
Nancy Hayes
Nancy Hayes, P.E.
Registered Professional Engineer
Texas License No. 124376
Texas Registered Engineering Firm F-9997



I hereby certify that this plat represents an on-the-ground survey made under my supervision in compliance with current Texas Board of Professional Land Surveying Professional and Technical Standards.

Robert Seipel Associates, Inc.
Professional Land Surveyors

Clark U. Balanog
Clark U. Balanog
Registered Professional Land Surveyor
Texas License No. 6489
Texas Registered Surveying Firm 10060500

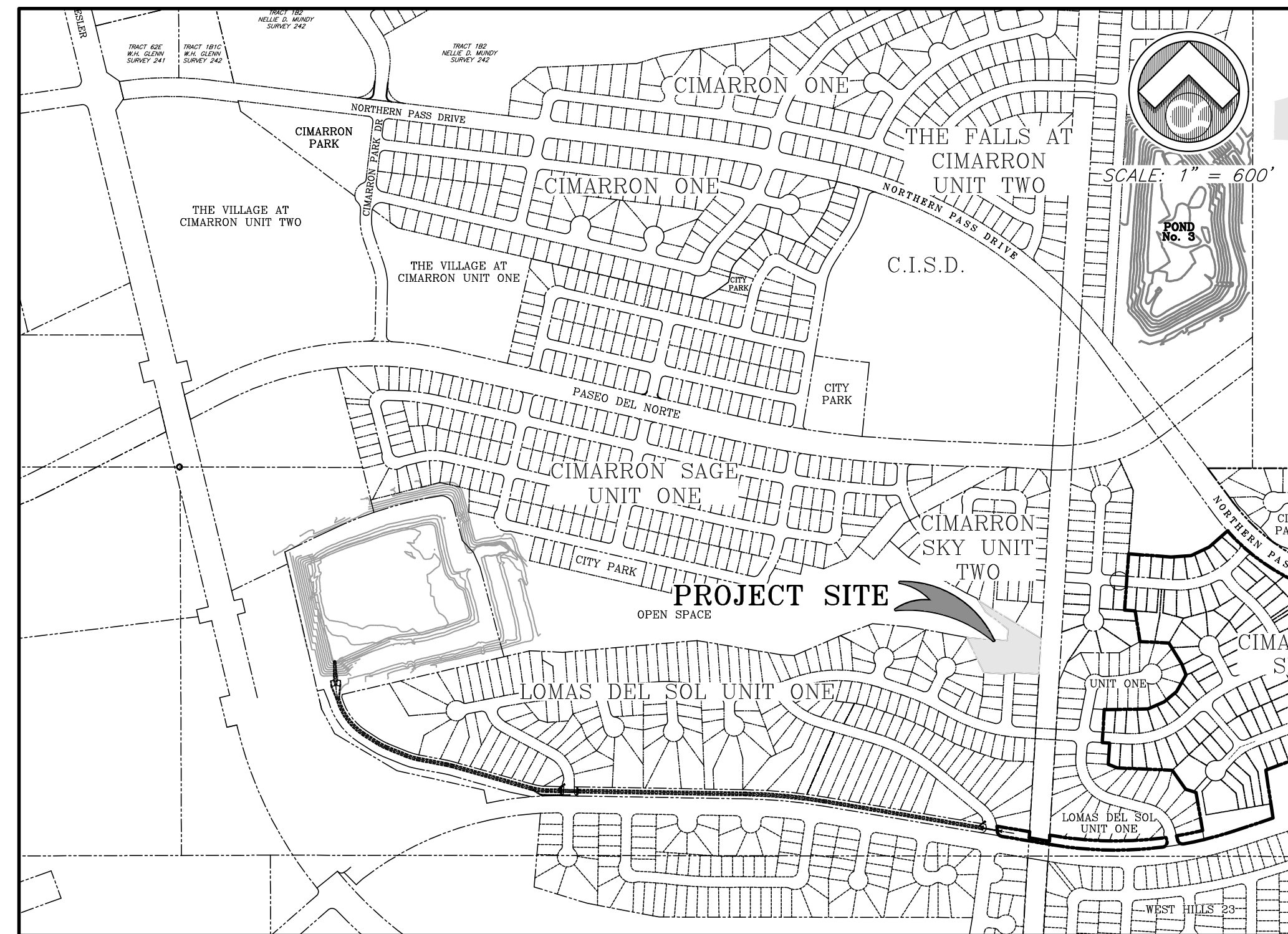


ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP PANELS 480214-16C AND 480214-17C, DATED FEBRUARY 5, 1986, THIS PROPERTY LIES IN FLOOD HAZARD ZONE "C".

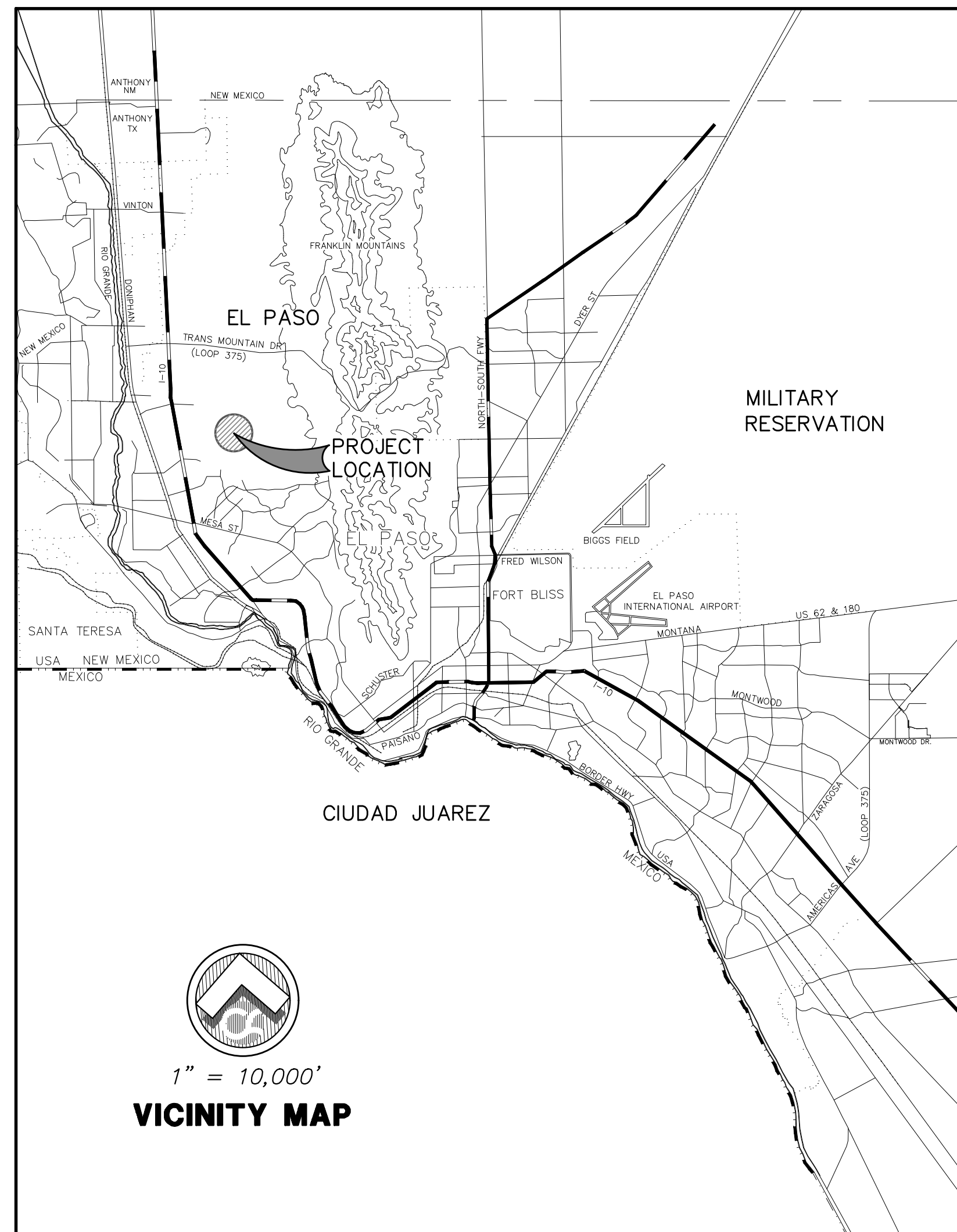
ROBERT SEIPEL ASSOCIATES, INC. PROFESSIONAL LAND SURVEYORS
1845 NORTHWESTERN DRIVE EL PASO TX 79912 PHONE (915) 877-1928 FAX (915) 877-2095

REVISION: DECEMBER 6, 2021
REVISION: NOVEMBER 12, 2021
REVISION: MAY 26, 2021
DATE OF PREPARATION: MARCH 30, 2021

PLANS FOR CONSTRUCTION OF MONTE DEL SOL CITY OF EL PASO, TEXAS



LOCATION MAP



1" = 10,000'
VICINITY MAP

csa design group, inc.
Texas Registered Engineering Firm F-9997
1845 Northwestern Dr. Ste C
El Paso, Texas 79912
tel [915] 877.4155
fax [915] 877.4334
www.csaengineers.com

FILE No. 2020-23

Sep 09, 2021 - 10:25am
 S:\proj\2020-23 Monte del Sol\2020-23 3rd Submittal-CURRENT\2020-23 SH 1 (Comp).dwg
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DRAWING INDEX

SHEET NO.	DRAWING TITLE	SHEET SEQUENCE
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2	DRAWING INDEX	2 OF 29
3	DRAWING INDEX (CONTINUED)	3 OF 29
4	GENERAL NOTES	4 OF 29
5	PRELIMINARY PLAT	5 OF 29
6	SUBDIVISION PLAT (FOR REFERENCE ONLY)*	6 OF 29

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8	GRADING PLAN	8 OF 29
9	TYPICAL CROSS SECTIONS	9 OF 29
10	CROSS SECTIONS A-D	10 OF 29
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12	STANDARD DETAILS	12 OF 29
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15	FLOW DISSIPATION DEVICE PLAN AND PROFILE	15 OF 29
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17	STORM DETAILS	17 OF 29
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19	GRADING STABILIZATION PLAN	19 OF 29
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21	GRADING STABILIZATION NOTES AND DETAILS	21 OF 29
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28	UTILITY DETAILS ~ 3 OF 3	28 OF 29
S1.0	MONTE DEL SOL RETAINING WALLS	29 OF 29


*THE SUBDIVISION PLAT, SHEET 6 ISSUED WITH THIS PLAN SET IS FOR REFERENCE ONLY.
 THIS SHEET IS NOT AND SHOULD NOT BE REFERRED TO AS 'THE FINAL PLAT'.

NOTE:
 CALLOUTS SUCH AS 'REFER TO SHEET . . .'
 'REFER TO DETAIL ON SHEET . . .'
 'SEE SHEET . . .'
 'SEE DETAIL ON SHEET . . .'
 NOTES AND MATCHLINES CONTAINED IN THIS
 PLAN SET REFER TO THE SHEET NUMBER,
 NOT THE SHEET SEQUENCE.

BENCHMARK: CITY MONUMENT AT THE CENTERLINE
 INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE
 ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
2	6/4/2021	First City Submittal	AHO
1	10/9/2020	Client Review	AHO

WARNING! BEFORE YOU DIG
 IN PROJECT AREA CONTRACTOR
 SHALL FIELD LOCATE ALL EXISTING
 UNDERGROUND IMPROVEMENTS

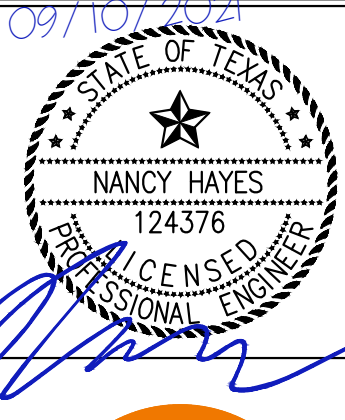


Know what's below.
Call before you dig.

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY 543-5720
 1-800-016-TESS
 AT&T 544-6000
 TEXAS GAS SERVICE LINE 544-6000
 PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411
 AFTER HOURS EMERGENCY (EPW) 1-800-016-TESS
 TEXAS EVACUATION SAFETY SYSTEM 594-5775
 KINDER-MORGAN EPNG PIPELINES 1-800-344-8377
 EL PASO METRIC SIGNALS AND MAINTENANCE 1-800-238-3764
 Ingepol@geopol.com

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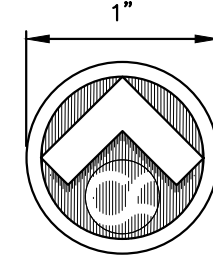

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 Texas Registered Engineering Firm F-8997
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 tel [915] 877.4155
 fax [915] 877.4334
 www.csaengineers.com

SUBDIVISION
 MONTE DEL SOL
 UNIT ONE
 SUBDIVISION

SHEET TITLE
DRAWING INDEX

GOB	2020-08
DESIGN BY	08
GOB-DM-DG	07/08/2020
DATE BY	DATE OF COMPLETION
AHO	AS NOTED
CHECKED BY	SCALE
SHEET SEQUENCE	
2 OF 29	

GRAPHIC SCALE



SCALE: 1" = 1'

WHEN PRINTED TO SCALE, THE CSA NORTH ARROW USED IN THIS PLAN SET HAS BEEN INSERTED INTO THE DRAWINGS SO THAT THE OUTER RING MEASURES EXACTLY ONE INCH IN DIAMETER AND THEREFORE MAY BE USED AS A GRAPHIC SCALE.

ABBREVIATIONS

AC	ACRES	LONG	LONGITUDINAL
ACFT	ACRE FEET	LP	LOW POINT
AD	ALGEBRAIC DIFFERENCE	MH	MANHOLE
A	AREA	MAX	MAXIMUM
AT,ASPH	ASPHALT	MIN	MINIMUM
BVCE	BEGINNING VERTICAL CURVE ELEVATION	OS	OFF SITE
BVCS	BEGINNING VERTICAL CURVE STATION	OC	ON CENTER
BW	BOTTOM OF WALL	OCEW	ON CENTER EACH WAY
BIW	BOTTOM INSIDE OF WALL	OD	OUTSIDE DIAMETER (DIMENSION)
BOC	BACK OF CURB	O/O	OUTSIDE TO OUTSIDE
BOW	BOTTOM OUTSIDE OF WALL	OAW	OVERALL WIDTH
BYP	BYPASSED FLOW	PKG	PARKING
CAP	CAPACITY	PV, PWIT	PAVEMENT
CAP'D	CAPTURED FLOW	PSI	POUNDS PER SQUARE INCH
C/C	CENTER TO CENTER	PC	POINT OF CURVATURE
CL	CENTER LINE	PCC	POINT OF CONTINUOUS CURVATURE
PI	CONCRETE	PI	POINT OF INTERSECTION
CC, CONC	CONCRETE	PRC	POINT OF REVERSE CURVATURE
COEFF	COEFFICIENT	PT	POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	PVI	POINT OF VERTICAL INTERSECTION
CFS	CUBIC FEET PER SECOND	PL	PROPERTY LINE
CY	CUBIC YARDS	R, RAD	RADIUS
CPI	CURB POINT INTERSECTION	RCBC	REINFORCED CONCRETE BOX CULVERT
CR	CURB RETURN	RCP	REINFORCED CONCRETE PIPE
DI	DIAMETER	REQ'D	REQUIRED
DI	DIAMETER INSIDE	RET	RETAINING
DO	DIAMETER OUTSIDE	ROW, R.O.W.	RIGHT-OF-WAY
DA	DRAINAGE AREA	RUN OFF	RUN OFF
EW	EACH WAY	SS	SANITARY SEWER LINE
ESMT	EASEMENT	SW	SEWER
EL	ELEVATION	SL	SLOPE
EVCE	END VERTICAL CURVE ELEVATION	STD	STANDARD
EVCS	END VERTICAL CURVE STATION	STA	STATION
EG	EXISTING GRADE	SF	SQUARE FEET
EXP	EXPECTED, EXPECTANCY	SY	SQUARE YARDS
FPS	FEET PER SECOND	TEMP	TEMPORARY
FF	FINISHED FLOOR	TC	TOP OF CURB
FG	FINISHED GROUND	TG	TOP OF GRADE
FS	FINISHED SURFACE	THC	TOP OF HEADER CURB
FH	FIRE HYDRANT	TP	TOP OF PAVEMENT
FL	FLOW LINE	TW	TOP OF WALL
GALV	GALVANIZED	TYP	TYPICAL
GR	GROUND	UNO	UNLESS NOTED OTHERWISE
GT, GUT	GUTTER	VEL	VELOCITY IN FEET PER SECOND
HC	HEADER CURB	VERT	VERTICAL
HP	HIGH POINT	W, WL	WATER LINE
HWE	HIGH WATER ELEVATION	WM	WATER METER
HORIZ	HORIZONTAL	WS	WATERSHED
HGL	HYDRAULIC GRADE LINE	WV	WATER VALVE
ID	INSIDE DIAMETER	WWM	WELDED WIRE MESH
I/I	INSIDE TO INSIDE	ANGLE	ANGLE
I	INTENSITY	DIAMETER	DIAMETER
INV	INVERT	SQUARE TUBE	SQUARE TUBE
LF	LINEAR FEET		

LEGEND

---	LOT LINE
---	UTILITY & SIDEWALK EASEMENT
---	CENTER LINE OF STREET
---	STREET R.O.W.
---	DRAINAGE & UTILITY R.O.W.
---	4" ROLLED CURB & GUTTER
---	FLOW LINE
---	SUBDIVISION BOUNDARY LINE
---	DRAINAGE AREA BOUNDARY
---	DRAINAGE SUB-AREA
---	FLOOD ZONE BOUNDARY
---	BASE FLOOD ELEVATION (NAVD 88 SHOWN)
---	PROPOSED CONTOUR
---	EXISTING CONTOUR
---	SWALE
---	ROCK RETAINING WALL BY DEVELOPER UNLESS NOTED OTHERWISE
---	4" or 6" ROCK WALL FROM HIGH SIDE BY DEVELOPER UNLESS NOTED OTHERWISE
---	RETAINING WALL BY BUILDER UNLESS NOTED OTHERWISE
---	DIRECTION OF RUNOFF FLOW
---	HIGH POINT
---	LOW POINT
---	POINT OF VERTICAL INTERSECTION
---	50' PAVEMENT TRANSITION
---	PROPOSED CITY MONUMENT
---	PROPOSED BUILDING PAD W/ FINISHED GRADE AND FINISHED FLOOR ELEVATION
DA#1	DRAINAGE AREA
---	POINT OF RUN OFF CONCENTRATION
---	PROPOSED TOP OF CURB FINISHED GRADES
---	PROPOSED TOP OF CURB (3729.2)
---	EXISTING GRADE
---	PROPOSED TOP OF CURB ELEVATION
---	PROPOSED PAVEMENT ELEVATION
---	99.353999.35
---	00.354000.35
---	09.354009.35
---	10.354010.35

WARNING! BEFORE YOU DIG

COORDINATION WITH UTILITIES

CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

EL PASO ELECTRIC CO.	543-5720
AT&T	1-800-DIG-TESS
TEXAS GAS SERVICE	544-6300
EMERGENCY HOTLINE	562-8411/562-2003
PUBLIC SERVICE BOARD (WATER & SEWER)	1-800-DIG-TESS
TEXAS EXCAVATION SAFETY SYSTEM	1-800-344-8377
SPECTRUM/CHARTER COMMUNICATION	775-7414
KINDER-MORGAN EPNG PIPELINES	1-800-238-3764
EPDOT LINE SPOT	621-6750
EL PASO STREETS AND MAINTENANCE	212-0151
EL PASO TRAFFIC SIGNAL STREETS AND MAINTENANCE	linespots@elpasotexas.gov

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
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TEXAS 811
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STATE OF TEXAS
NANCY HAYES
124376
PROFESSIONAL ENGINEER



csa design group, inc.
Texas Registered Engineering Firm F-8997
1845 Northwestern Dr. Ste C
El Paso, Texas 79912
tel [915] 877.4155
fax [915] 877.4334
www.csaengineers.com

SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

SHEET TITLE

DRAWING INDEX (CONTINUED)

GOB	2020-08
DESIGN BY	08
GOB-SM-DG	07/08/2020
DATE OF COMMISSION	
AHO	AS NOTED
CHECKED BY	SCALE
3	
SHEET SEQUENCE	
3 OF 29	

NOTE:
CALLOUTS SUCH AS 'REFER TO SHEET . . .'
'REFER TO DETAIL ON SHEET . . .'
'SEE SHEET . . .'
'SEE DETAIL ON SHEET . . .'
NOTES AND MATCHLINES CONTAINED IN THIS PLAN SET REFER TO THE SHEET NUMBER, NOT THE SHEET SEQUENCE.

GENERAL NOTES: WATER AND SANITARY SEWER CONSTRUCTION

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE TO THE MOST STRINGENT OF THE REQUIREMENTS OF THE CITY OF EL PASO, EL PASO WATER (EPWater), THE TCEQ OR THE PROJECT SPECIFICATIONS. AT A MINIMUM, THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D.
- THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AND EPWater RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS/HER AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRECONSTRUCTION CONFERENCE BETWEEN THE CONSULTING ENGINEER REPRESENTATIVE, CONTRACTOR(S), EPWater, TCEQ, THE CITY OF EL PASO AND ANY OTHER AFFECTED PARTIES. NOTIFY ALL SUCH PARTIES AT LEAST 48 HOURS PRIOR TO THE TIME OF THE CONFERENCE AND 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- THE CONTRACTOR SHALL GIVE THE ENGINEER, CITY OF EL PASO ENGINEERING DIVISION, A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.
- ANY EXISTING PAVEMENT, CURBS AND/OR SIDEWALKS DAMAGED OR REMOVED DURING CONSTRUCTION WILL BE REPAIRED BY THE CONTRACTOR AT THEIR OWN EXPENSE BEFORE ACCEPTANCE OF THE WORK.
- THE LOCATION AND DEPTHS OF ANY EXISTING WATER AND/OR WASTEWATER LINES TO BE CROSSED OR CONNECTED TO SHALL BE VERIFIED BY THE CONTRACTOR AT THE TIME OF COMMENCEMENT OF CONSTRUCTION.
- CONTRACTORS SHALL VERIFY EXACT DEPTH AND LOCATION OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, DRIVEWAYS, PAVEMENT, CURB AND GUTTER, SIDEWALKS, ETC., SHALL BE REPAIRED BY THE CONTRACTOR, OR THE UTILITY, AT UTILITIES OPTION, AND SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- EL PASO WATER (EPWater), THE DESIGN ENGINEER AND ANY OTHER CONCERNED PARTIES SHALL BE CONTACTED A MINIMUM OF 48 HOURS PRIOR TO CONNECTING TO EXISTING WATER AND/OR WASTEWATER LINES.
- ALL FILL AREAS OVER ALL UTILITIES, SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY IN ACCORDANCE WITH ASTM D-1557.
- WATER AND WASTEWATER ALIGNMENTS SHOWN ON THE PLANS SHOULD BE ACHIEVED BY FLEXURE WITHIN THE MANUFACTURER'S SPECIFICATIONS, EXCEPT WHERE SPECIFIC FITTINGS ARE CALLED FOR THE PLANS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL EXISTING UTILITIES SUCH AS GAS LINES, ELECTRIC LINES, WATER LINES, VALVE BOXES, FIRE HYDRANTS, STRUCTURES AND ANY OTHER APPURTENANCES THAT LIE WITHIN THE RIGHT-OF-WAY OR EASEMENT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR ALL UTILITIES, DRIVEWAYS, PAVEMENT, CURB, GUTTER, SIDEWALKS, FENCES, OR OTHER ITEMS DAMAGED DURING CONSTRUCTION, REGARDLESS OF WHETHER ALL ITEMS ARE SHOWN ON THE PLANS, AT HIS SOLE EXPENSE. IN ADDITION TO NORMAL PRECAUTIONS WHEN EXCAVATING, TAKE EXTRA CAUTION WHEN EXCAVATING WITHIN 25 FT. OF ANY UTILITIES SHOWN ON THE PLANS.
- ALL CONSTRUCTION ACTIVITIES, INCLUDING ACCESS, EGRESS, TRAVEL, STOCKPILING, ETC., ARE TO BE CONFINED TO AREAS IDENTIFIED BY THE ENGINEER.
- DISPOSAL OF ALL SPOIL OFFSITE WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- PIPE FITTINGS AND JOINTS: WATER-PVC DR 18, C-900, CL-235 WITH BOLTLESS GASKETED JOINTS AND M.J. OR FLANGED FITTINGS UNLESS OTHERWISE SHOWN ON THE PLANS; FLUSHING VALVE / FIRE HYDRANTS LEAD - DUCTILE IRON, CLASS 350, MECHANICAL JOINTS AND C.I. (D. ENDS) FITTINGS, UNLESS OTHERWISE SHOWN ON THE PLANS; GRAVITY SEWER - PVC SDR 35 AND SDR 26 UNLESS OTHERWISE NOTED. IN PROJECT SPECIFICATIONS OR ON THE DRAWINGS.
- AT ALL LOCATIONS WHERE A WATERLINE CROSSES A WASTEWATER LINE, THE CONSTRUCTION SHALL STRICTLY COMPLY WITH ALL APPLICABLE RULES AND REGULATIONS OF THE TCEQ AND EPWater.
- THE CONTRACTOR SHALL FURNISH THE ENGINEER ONE SET OF AS-BUILT PLANS REFLECTING ALL CHANGES MADE IN THE FIELD, AND TWO MEASUREMENTS TO ALL VALVES AND MANHOLES INSTALLED FROM PERMANENT OBJECTS.
- THE EPWater AND THE ENGINEER SHALL BE GIVEN 48 HOURS NOTICE PRIOR TO ANY TESTING PHASE. (DENSITY, PRESSURE, LEAKAGE, ETC.)
- ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE / NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.
- PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 235 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS.
- NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY.
- WATER TRANSMISSION AND DISTRIBUTION LINES MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS HOWEVER; THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE.
- THE HYDROSTATIC LEAKAGE RATE FOR PVC PIPE, DUCTILE IRON PIPE, AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICAN WATER ASSOCIATION (AWWA) STANDARD C605 AND STANDARD C600, AS REQUIRED IN 30 TAC §290.44(c)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND IN USE;

$$Q = \frac{LD\sqrt{P}}{148,000}$$
 WHERE:
 - Q=THE QUANTITY OF MAKEUP WATER, IN GALLONS PER HOUR;
 - L=THE LENGTH OF PIPE BEING TESTED, IN FEET;
 - D=THE NOMINAL DIAMETER OF THE PIPE, IN INCHES; AND
 - P=THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST, IN PSI.
- PROJECTS CONSTRUCTED ON OR AFTER JANUARY 4, 2014 MUST COMPLY WITH CHANGES TO THE SAFE DRINKING WATER ACT THAT REDUCE THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES TO 0.25 PERCENT.
- THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES IN THE DISTRIBUTION SYSTEM AT ALL POINTS WHERE TOPOGRAPHY OR OTHER FACTORS MAY CREATE AIR LOCKS IN THE LINES. ALL VENT OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT.
- THE SYSTEM SHALL BE DESIGNED TO AFFORD EFFECTIVE CIRCULATION OF WATER WITH A MINIMUM OF DEAD ENDS. ALL DEAD END MAINS SHALL BE PROVIDED WITH ACCEPTABLE FLUSH VALVES AND DISCHARGE PIPING. ALL DEAD END LINES LESS THAN TWO INCHES IN DIAMETER WILL NOT REQUIRE FLUSH VALVES IF THEY END AT A CUSTOMER SERVICE. WHERE DEAD ENDS ARE NECESSARY AS A STAGE IN THE GROWTH OF THE SYSTEM, THEY SHALL BE LOCATED AND ARRANGED TO ULTIMATELY CONNECT THE ENDS TO PROVIDE CIRCULATION.
- THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
- THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER.
- WATER LINE / NEW SEWER LINE SEPARATION: WHEN NEW SANITARY SEWERS ARE INSTALLED, THEY SHALL BE INSTALLED NO CLOSER TO WATER LINES THAN NINE (9) FEET IN ALL DIRECTIONS. SEWERS THAT PARALLEL WATER LINES MUST BE INSTALLED IN SEPARATE TRENCHES. WHERE THE NINE (9) FOOT SEPARATION DISTANCE CANNOT BE ARCHIVED, THE FOLLOWING GUIDELINES APPLY:
 - WHERE A SANITARY SEWER PARALLELS A WATERLINE, THE SEWER SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC MEETING ASTM SPECIFICATION WITH A PRESSURE RATING FOR BOTH THE PIPE AND JOINTS OF 150 PSI. THE VERTICAL SEPARATION SHALL BE A MINIMUM OF TWO FEET BETWEEN OUTSIDE DIAMETERS AND THE HORIZONTAL SEPARATION SHALL BE A MINIMUM OF FOUR (4) FEET BETWEEN OUTSIDE DIAMETERS. THE SEWER SHALL BE LOCATED BELOW THE WATER LINE.
 - 30 TAC §290.44(e)(4)(B)(v) REQUIRES THAT WHERE A NEW POTABLE WATERLINE CROSSES A NEW, PRESSURE RATED WASTEWATER LINE, ALL OF THE FOLLOWING CONDITIONS MUST BE MET:
 - ONE SEGMENT OF THE WATERLINE PIPE SHALL BE CENTERED OVER THE WATERLINE SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTER LINE OF THE WASTEWATER LINE;
 - THE POTABLE WATERLINE SHALL BE AT LEAST 6 INCHES ABOVE THE WASTEWATER LINE;
 - WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER LINE;
 - THE WASTEWATER LINE SHALL HAVE A MINIMUM PRESSURE RATING OF AT LEAST 150 PSI; AND
 - THE WASTEWATER LINE SHALL BE EMBEDDED IN CEMENT STABILIZED SAND (CONTAINING AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE) FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END.
 - CLAY A SANITARY SEWER CROSSES UNDER A WATER LINE AND THE SEWER IS CONSTRUCTED OF ABS TRUSS PIPE, SIMILAR SEMI-RIGID PLASTIC COMPOSITE PIPE, CLAY PIPE OR CONCRETE PIPE WITH GASKETED JOINTS, A MINIMUM TWO FOOT SEPARATION DISTANCE SHALL BE MAINTAINED, THE INITIAL BACKFILL SHALL BE CEMENT STABILIZED SAND (TWO BAGS OF CEMENT PER CUBIC YARD OF SAND) FOR ALL SECTIONS OF SEWER WITHIN NINE (9) FEET OF THE WATER LINE. THIS INITIAL BACKFILL SHALL BE FROM ONE QUARTER DIAMETER BELOW THE CENTERLINE OF THE PIPE TO ONE PIPE DIAMETER (BUT NOT LESS THAN TWELVE (12) INCHES) ABOVE THE TOP OF THE PIPE.
 - 30 TAC §290.44(e)(4)(B)(iv)(ii) REQUIRES THAT WHEN A NEW WATERLINE CROSSES UNDER A WASTEWATER LINE, AN ABSOLUTE MINIMUM SEPARATION DISTANCE OF ONE FOOT BETWEEN THE WATERLINE SHALL BE PROVIDED. BOTH THE WATERLINE AND WASTEWATER LINE MUST PASS A PRESSURE AND LEAKAGE TEST AS SPECIFIED IN AWWA C600 STANDARDS AND ONE OF THE FOLLOWING CONDITIONS MUST BE MET:
 - THE WATERLINE SHALL BE ENCASED IN AN 18" FOOT (OR LONGER) SECTION OF PIPE. THE ENCASEING PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 115 PSI AT 5.0% DEFLECTION (e.g., SDR-26 PVC), AND SHALL BE AT LEAST TWO NOMINAL PIPE DIAMETERS LARGER THAN THE WATERLINE PIPE. THE SPACE AROUND THE CARRIER SHALL BE SUPPORTED AT FIVE (5) FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. EACH END OF THE CASING SHALL BE SEALED WITH WATERTIGHT NON-SHRINK CEMENT GROUT OR A MANUFACTURED WATERTIGHT SEAL; OR
 - THE WATERLINE SHALL BE CONSTRUCTED OF DUCTILE IRON OR STEEL PIPE WITH MECHANICAL OR WELDED JOINTS AS APPROPRIATE.
 - WATER LINE / MANHOLE SEPARATION, UNLESS MANHOLES CAN BE MADE WATER TIGHT AND TESTED FOR NO LEAKAGE THEY MUST BE INSTALLED SO AS TO PROVIDE A MINIMUM OF NINE (9) FEET OF HORIZONTAL CLEARANCE FROM AN EXISTING OR PROPOSED WATER LINE. IF THE NINE (9) FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE WATERLINE MUST BE ENCASED IN A JOINT OF 150 PSI PRESSURE CLASS PIPE AT LEAST EIGHTEEN (18) FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE WATERLINE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE (5) FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ABOVE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEAL.
- MANHOLE CONSTRUCTION AND REHABILITATION: ALL MANHOLES SHALL BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. IF MANHOLES ARE WITHIN THE 100-YEAR FLOODPLAIN THE MANHOLE COVERS SHALL HAVE GASKETS AND BE BOLTED. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE, ALTERNATE MEANS OF VENTING SHALL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE PER 30 TAC 217.55 (F). ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE FOLLOWING REQUIREMENTS: MANHOLES AND WELLS MUST BE TESTED SEPARATELY AND INDEPENDENTLY OF THE COLLECTION LINES. ALL MANHOLES MUST BE HYDROSTATICALLY TESTED WITH A MAXIMUM OF ONE GALLON PER FOOT OF DIAMETER PER FOOT OF HEAD PER HOUR. OTHER TESTING METHODS, SUCH AS VACUUM TESTING, MAY BE APPROVED ON A CASE-BY-CASE BASIS BY THE EXECUTIVE DIRECTOR OF THE TCEQ.

29. ALL SEWER LINES SHALL BE TESTED USING THE FOLLOWING METHOD:

- ALL LOW PRESSURE AIR TESTS SHALL CONFORM TO THE PROCEDURES DESCRIBED IN ASTM C-828, ASTM C-924, OR OTHER APPROPRIATE PROCEDURES. THE TIME FOR THE PRESSURE TO DROP SHALL BE AT LEAST AS STRINGENT AS THE REQUIREMENTS OF TCEQ RULES SECTION 217.57 (A)(1)(B) DESCRIBED BELOW:
 - FOR SECTIONS OF PIPE UP TO 36 INCHES AVERAGE INSIDE DIAMETER, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 POUNDS PER SQUARE INCH GAUGE TO 2.5 POUNDS PER SQUARE INCH GAUGE SHALL BE COMPUTED FROM THE FOLLOWING EQUATION:

$$T = \frac{0.085D(Q)(K)(L)}{Q}$$
 WHERE:
 - T=TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS.
 - K=0.000491D(O)(L), BUT NOT LESS THAN 1.0
 - D=AVERAGE INSIDE DIAMETER IN INCHES
 - L=LENGTH OF LINE IN FEET OF SAME SIZE BEING TESTED
 - Q=RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOR INTERNAL SURFACE SHALL BE USED
 SINCE A K VALUE OF LESS THAN 1.0 SHALL NOT BE USED, THERE ARE MINIMUM TIMES FOR EACH PIPE DIAMETER AS OUT LINED BELOW:

PIPE DIA. (IN)	MIN. TIME (SEC)	LEN. FOR MIN. (FT)	TIME FOR LONGER LENGTH (SEC)
6	340	398	0.855 (L)
8	454	298	1.920 (L)
10	567	239	2.374 (L)
12	680	199	3.419 (L)
14	850	159	5.342 (L)
18	1020	133	7.693 (L)
21	1190	114	10.471 (L)
24	1360	100	13.676 (L)
27	1530	88	17.309 (L)
30	1700	80	21.369 (L)
33	1870	72	25.856 (L)

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30	1700	80	21.369 (L)
33	1870	72	25.856 (L)

LINES WITH A 36 INCH AVERAGE INSIDE DIAMETER AND LARGER MAY BE TESTED AT EACH JOINT. THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSIG TO 2.5 PSIG DURING A JOINT TEST, REGARDLESS OF PIPE SIZE, SHALL BE 20 SECONDS.

- ALL INFILTRATION / EXFILTRATION TESTS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS. THE TOTAL INFILTRATION OR EXFILTRATION, AS DETERMINED BY WATER TEST, MUST BE AT A RATE NOT GREATER THAN 50 GALLONS PER INCH OF PIPE DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET. IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, REMEDIAL ACTION MUST BE UNDERTAKEN IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED IN 30 TAC SEC 217.57(A) (2).
- DEFLECTION TEST SHALL BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID PIPES. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF FIVE (5) PERCENT. IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID BALL OR MANDREL, SUCH TEST DEVICE SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TESTS SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. THE DESIGN ENGINEER SHOULD RECOGNIZE THAT THIS IS A MAXIMUM DEFLECTION CRITERION FOR ALL PIPES. A REDUCED PERCENT DEFLECTION MAY BE MORE APPROPRIATE FOR SPECIFIC TYPES AND SIZES OF PIPE. REFERENCE 30 TAC SEC 217.57 (B).
- THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE SHALL COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES I OR II. FOR RIGID PIPE THE BEDDING SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C-12 CLASSES A OR B. REFERENCE 30 TAC SECTION 217.54(A).
- SEWER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE OR WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEANOUT, IT SHALL BE TESTED FROM AN EXISTING MANHOLE TO A NEW MANHOLE.
- ALL FORCE AND GRAVITY SANITARY SEWER LINES SHALL HAVE A MINIMUM 48 INCHES OF COVER FROM FINISHED GRADE OR 36 INCHES BELOW ACTUAL SUBGRADE UNLESS OTHERWISE DENOTED ON PLANS.
- INCLUDE ADDITIONAL FLUSHING VALVES, GATE VALVES AND TEST CONNECTIONS NECESSARY TO PERFORM TEST AND STERILIZATION OPERATION.
- ALL GATE VALVES SHALL HAVE RESILIENT VALVE SEATS.
- ALL MANHOLES AND WELL TUMS MUST BE TESTED SEPARATELY AND INDEPENDENTLY OF THE COLLECTION LINES.
- AFTER A FORCE MAIN HAS BEEN INSTALLED AND BACKFILLED AND ALL OTHER APPURTENANCES INSTALLED AND CONNECTED, A PRESSURE TEST, FOLLOWED BY A LEAKAGE TEST, WILL BE CONDUCTED BY THE CONTRACTOR UNDER THE OBSERVATION BY THE DISTRICT. THE CONTRACTOR SHALL BE PRESENT AND SHALL FURNISH ALL NECESSARY LABOR AND EQUIPMENT FOR CONDUCTING THE TESTS. THE SPECIFIED TEST PRESSURES WILL BE BASED ON THE ELEVATION OF THE LOWEST POINT OF THE LINE OR SECTION UNDER TEST. BEFORE APPLYING THE SPECIFIED TEST PRESSURE, ALL AIR SHALL BE EXPELLED FROM THE PIPE. IF PERMANENT AIR VENTS ARE NOT LOCATED AT ALL HIGH POINTS, THE CONTRACTOR SHALL INSTALL CORPORATION COCKS AT SUCH POINTS.

- PRESSURE TEST:** THE ENTIRE PROJECT OR EACH VALVED SECTION SHALL BE TESTED, AT A PRESSURE OF 200 PSI FOR A SUFFICIENT PERIOD (APPROXIMATELY 10 MINUTES) TO DISCOVER ALL LEAKING OR DEFECTIVE MATERIALS. REPAIRS SHALL BE MADE BY THE CONTRACTOR TO CORRECT ANY LEAKING OR DEFECTIVE MATERIALS.
- PRESSURE PIPE LEAKAGE TEST:** A LEAKAGE TEST WILL FOLLOW THE PRESSURE TEST AND BE CONDUCTED ON THE ENTIRE PROJECT OR EACH VALVED SECTION. THE LEAKAGE TEST SHALL BE AT 150 PSI FOR AT LEAST ONE HOUR.
 - ALLOWABLE LEAKAGE: LEAKAGE SHALL BE DEFINED AS THE QUANTITY OF WATER THAT MUST BE SUPPLIED INTO ANY TEST SECTION OF PIPE TO MAINTAIN THE SPECIFIED LEAKAGE TEST PRESSURE AFTER THE AIR IN THE PIPELINE HAS BEEN EXPELLED AND THE PIPE HAS BEEN FILLED WITH WATER. NO PIPE INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE EXCEEDS 25 GALLONS/24 HOURS/MILE OF PIPE/ INCH NOMINAL PIPE DIAMETER.

$$(25 \text{ GDP}) / (IN.-MI.)$$
 - LOCATION AND CORRECTION OF LEAKAGE: IN SUCH TESTING DISCLOSES LEAKAGE IN EXCESS OF THIS SPECIFIED ALLOWABLE, THE CONTRACTOR, AT THEIR EXPENSE, SHALL LOCATE AND CORRECT ALL DEFECTS IN THE PIPE LINE UNTIL THE LEAKAGE IS WITHIN THE INDICATED ALLOWANCE. ALL VISIBLE LEAKAGE IN PIPE SHALL ALSO BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE.

- SEWERS SHALL BE LAID IN STRAIGHT ALIGNMENT WITH UNIFORM GRADE BETWEEN MANHOLES. DEVIATION FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE SHALL BE APPROVED ONLY ON A CASE BY CASE BASIS BY THE TCEQ. IF APPROVAL IS GIVEN FOR DEVIATION FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE, CURRENT COMMISSION POLICY REGARDING HORIZONTAL CURVATURE SHALL BE COMPLIED WITH FULLY. GENERAL NOTES FOR CURVED SEWER LINES:
 - ALL CURVATURE OF SEWER PIPE WILL BE ACHIEVED BY PIPE FLEXURE PER RECOMMENDED PROCEDURE:
 - IN-PLACE DEFLECTION TESTS (MANDREL TEST) MUST BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID PIPE IN ACCORDANCE WITH 30 TAC SECTION 217.57(B) (I).
 - INFILTRATION TEST SHALL BE CONDUCTED IN ACCORDANCE WITH 30 TAC SECTION 217.57(A) (2) (C) - 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE.
 - SPECIFIC CARE SHALL BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC SECTION 217.54 (A).

- THE ASTM, ANSI OR AWWA SPECIFICATION NUMBERS FOR THE PIPE AND JOINTS ARE ASTM D-3034 AND ASTM 2241. THE PIPE MATERIAL, THE PRESSURE CLASSES AND THE SDR AND/OR DR DESIGNATIONS ARE SDR 35 AND SDR 26.
- THE DIAMETER OF THE MANHOLES SHALL BE A MINIMUM OF FOUR (4) FEET AND THE MANHOLE OPENING SHALL HAVE A MINIMUM NOMINAL DIAMETER OF THIRTY (30) INCHES. THESE DIMENSIONS ARE LABELED ON THE MANHOLE DRAWING ON THE DETAIL SHEET. THE MANHOLE DETAILS SHALL INSURE THAT THE TCEQ RULES CONCERNING SEWER INVERTS HAVE BEEN COMPLIED WITH AS DESCRIBED IN SECTION 217.55(L) (2).
- A CROSS SECTION OF THE TRENCH DETAILS IS INCLUDED IN THE PLANS WHICH SHOW THE DIMENSIONS OF THE TRENCH AND PIPE AND THE CLASS OF BEDDING MATERIAL REQUIRED.

TRENCH SAFETY NOTES:

- IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES, OVER FIVE (5) FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN FIVE (5) FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHERE HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED.
- IN ACCORDANCE WITH THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN EMPLOYEES ARE REQUIRED TO BE IN TRENCHES FOUR (4) FEET IN DEPTH OR GREATER, ADEQUATE MEAN EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN TWENTY-FIVE (25) FEET OF LATERAL TRAVEL.
- A TRENCH SAFETY SYSTEM MUST BE UTILIZED FOR TRENCHES FIVE (5) FEET OR MORE IN DEPTH OR FOR TRENCHES LESS THAN FIVE (5) FEET IN DEPTH IN AN AREA WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED, IF A TRENCH SAFETY SYSTEM IS NOT IN PLACE AS REQUIRED, OR IS DEEMED TO BE UNSAFE, ALL CONSTRUCTION SHALL CEASE, THE TRENCHED AREA SHALL BE BARRICADED AND THE ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SYSTEMS ARE IMPLEMENTED.
- STACKING OF TRENCH BOXES SHALL NOT BE PERMITTED IN SOILS WITH PLASTICITY INDICES LESS THAN 25. CONTRACTOR SHALL MAINTAIN A BENCH 24" IN WIDTH MINIMUM, 18" BELOW THE RIM OF ALL TRENCH BOXES WHERE CUT SLOPES INTERSECT THE BOX. SLOPES SHALL BE 1.5 TO 1.5 FEET AT THE STEEPEST POINT, OR SHALL BE STEPPED WITH CUT BENCHES 3'X3' MINIMUM.
- OPEN TRENCHES MUST BE PROTECTED TO WITHSTAND A 10-YEAR STORM EVENT MINIMUM. WORK IN TRENCHES IS PROHIBITED DURING A RAINFALL EVENT EXCEPT THAT WORK MAY PROCEED IN LIGHT TO MODERATE EVENTS IF TRENCH BOXES ARE IN USE, AND ONLY WITHIN THE CONFINES OF THE TRENCH BOXES.
- CONTRACTOR SHALL PROVIDE TO THE BUILDING OFFICIAL OF THE CITY OF EL PASO, A TRENCH SAFETY PLAN FOR ALL WORK FIVE (5) FEET IN DEPTH OR GREATER. IN ACCORDANCE WITH THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, A TRENCH SAFETY PLAN MUST BE SEALED BY A REGISTERED ENGINEER FOR ALL WORK TWENTY (20) FEET IN DEPTH OR GREATER, OR FOR ALL WORK AT ANY DEPTH WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED.

WARNING! BEFORE YOU DIG

COORDINATION WITH UTILITIES

CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

EL PASO ELECTRIC CO.	543-5720
AT&T	1-800-DIG-TESS
TEXAS GAS SERVICE	544-6300
EMERGENCY HOTLINE	562-8411/562-2003
PUBLIC SERVICE BOARD (WATER & SEWER)	1-800-DIG-TESS
TEXAS EXCAVATION SAFETY SYSTEM	1-800-344-8377
SPECTRUM/CHARTER COMMUNICATION	775-7414
KINDER-MORGAN ENPG PIPELINES	1-800-238-3764
EPOUT LINE SPOT	621-8750
EL PASO STREETS AND MAINTENANCE	212-0151
EL PASO TRAFFIC SIGNAL STREETS AND MAINTENANCE	linespots@elposotexas.gov

TEN COMMANDMENTS OF TRENCHING

- A COMPETENT PERSON MUST INSPECT THE TRENCH PRIOR TO THE START OF WORK AND PRIOR TO EMPLOYEE ENTRANCE.
- PROPER SLOPING OR TRENCH PROTECTION MUST EXIST AT 5 FEET OR DEEPER.
- SPOILS MUST BE AT LEAST 2 FEET FROM EDGE TO TRENCH.
- LADDERS OR RAMPS ARE REQUIRED WHEN TRENCHES ARE 4 FEET OR MORE IN DEPTH.
- 25 FEET IS THE MAXIMUM DISTANCE A PERSON CAN BE FROM A LADDER OR RAMP.
- LADDERS MUST BE TIED OFF.
- TRENCH BOXES MUST EXTEND TO THE TOP OF THE EXCAVATION.
- A TRENCH SHIELD MUST BE WITHIN 2 FEET OF BOTTOM OF THE TRENCH.
- CLASS B SOILS MUST BE SLOPED 1 : 1.
- CLASS C SOILS MUST BE SLOPED 1.50 : 1.

GENERAL NOTES

- THE CONTRACTOR SHALL VISIT AND FAMILIARIZE THEMSELVES WITH THE PROJECT SITE PRIOR TO SUBMITTING BIDS.
- CONTRACTOR SHALL MAINTAIN VEHICLE AND PEDESTRIAN ACCESS ALONG PERIMETER OF PROJECT SITE ADJACENT TO PUBLIC RIGHT OF WAY AT ALL TIMES.
- CONTRACTOR SHALL WATER CONSTRUCTION AREA A MINIMUM OF TWICE A DAY TO KEEP DUST TO A MINIMUM. ONCE IN THE MORNING AND ONCE BEFORE QUITTING TIME. THIS SHALL ALSO BE DONE DURING WEEKENDS AND HOLIDAYS.
- CONTRACTOR IS RESPONSIBLE TO LOCATE, PROTECT AND PLACE ALL UNDERGROUND UTILITY LINES AT NO EXTRA COST TO THE OWNER WHEN LINES ARE DISTURBED AS A RESULT OF THE WORK. SERVICE SHALL BE PROVIDED TO USER AT ALL TIMES.
- CONTRACTOR IS RESPONSIBLE TO SCHEDULE AND PERFORM THEIR WORK SO AS TO ASSURE PROPER PASSAGE OF STORM RUNOFF DURING THE COURSE OF THE OPERATIONS. ALL LABOR, TOOLS, EQUIPMENT AND SUPERVISION REQUIRED TO ASSURE SUCH PROPER PASSAGE OF RUNOFF WATER AND ANY REMOVAL OR HANDLING OF WATER IN ORDER TO MAINTAIN DRY CONDITIONS SHALL BE CONSIDERED INCIDENTAL TO THE WORK AND SHALL BE AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE USER. ALL UTILITIES AND ALL OTHER AGENCIES WITH JURISDICTION OVER THE PROJECT.
- ALL EXISTING PAVEMENT, ADJACENT UTILITIES, STRUCTURES, ETC., DISTURBED AS A RESULT OF THE NEW CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- THE OWNER WILL FURNISH HORIZONTAL AND VERTICAL CONTROL REFERENCE POINTS ONLY. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES BEFORE PROCEEDING THE WORK. ANY DISCREPANCIES FOUND SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER. OTHERWISE THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THEIR CORRECTNESS.
- VIBRATORY ROLLERS WILL NOT BE PERMITTED ON ANY PHASE OF THE PROJECT, UNLESS APPROVED IN WRITING BY THE ENGINEER.
- ALL WORK REQUIRED BY THESE PLANS SHALL BE CONDUCTED IN CONFORMANCE WITH CURRENT SAFETY CODES AND STANDARDS WITH JURISDICTION OVER THE PROJECT.
- THE LOCATION OF THE FLUMES AND INLETS SHALL BE AT THE FIELD LOW POINT AND APPROVED BY THE ENGINEER.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES:

- THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE OWNER OF THE SYSTEM OR HIS/HER REPRESENTATIVE MUST NOTIFY THE APPROPRIATE TCEQ REGIONAL OFFICE IN WRITING OF THE DATE ON WHICH CONSTRUCTION WILL BEGIN.
- ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARD INSTITUTE / NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI
- PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS.
- NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY.
- WATER TRANSMISSION AND DISTRIBUTION LINES MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS HOWEVER; THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN TWENTY-FOUR (24) INCHES BELOW GROUND SURFACE.
- THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE.
- THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES IN THE DISTRIBUTION SYSTEM AT ALL POINTS WHERE TOPOGRAPHY OR OTHER FACTORS MAY CREATE AIR LOCKS IN THE LINES. ALL VENT OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT.
- THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE (9) FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS AND MATERIALS UTILIZED MUST MEET §290.44(E) OF THE CURRENT RULES.
- THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER.
- THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OF WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.

UTILITY NOTES:

EXISTING UNDERGROUND UTILITIES AND SERVICES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ACCORDING TO KNOWN INFORMATION AVAILABLE. THE LOCATIONS SHOWN ARE INTENDED ONLY AS GUIDE AND CANNOT BE GUARANTEED TO BE ACCURATE OR COMPLETE. UTILITIES, WHETHER SHOWN ON THE CONSTRUCTION DRAWINGS OR NOT, IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR RESTORATION OF SAME TO THE SATISFACTION OF THE OWNER OR UTILITY OWNER AT THE CONTRACTOR SOLE EXPENSE. ELECTRIC SERVICE, GAS SERVICE, WATER SERVICE, TELEPHONE AND CABLE SERVICE, AND OTHER UTILITY LINES MAY BE LOCATED IN THE PROXIMITY OF THE WORK AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR:

- CONTACTING THE INDIVIDUAL UTILITY OWNERS TEN (10) DAYS PRIOR TO CONSTRUCTION AND ADVISING THEM OF THE WORK TO TAKE PLACE.
- SOLICITING THEIR AID IN LOCATING AND PROTECTING AND RELOCATING ANY UTILITY THAT MAY INTERFERE WITH CONSTRUCTION.
- VERIFYING THE HORIZONTAL AND VERTICAL LOCATION FOR EACH UTILITY IN THE PROJECT VICINITY BEFORE STARTING CONSTRUCTION.
- ALL DAMAGE TO EXISTING UTILITY, AND REPAIR THEREOF.
- CONTACTING TEXAS 811 72 HOURS MINIMUM PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO RESTORE ALL EXISTING UTILITIES WHETHER SHOWN OR NOT, ENCOUNTERED OR DISTURBED DURING CONSTRUCTION CONDITIONS OR BETTER, AS ACCEPTABLE TO UTILITY OWNER.

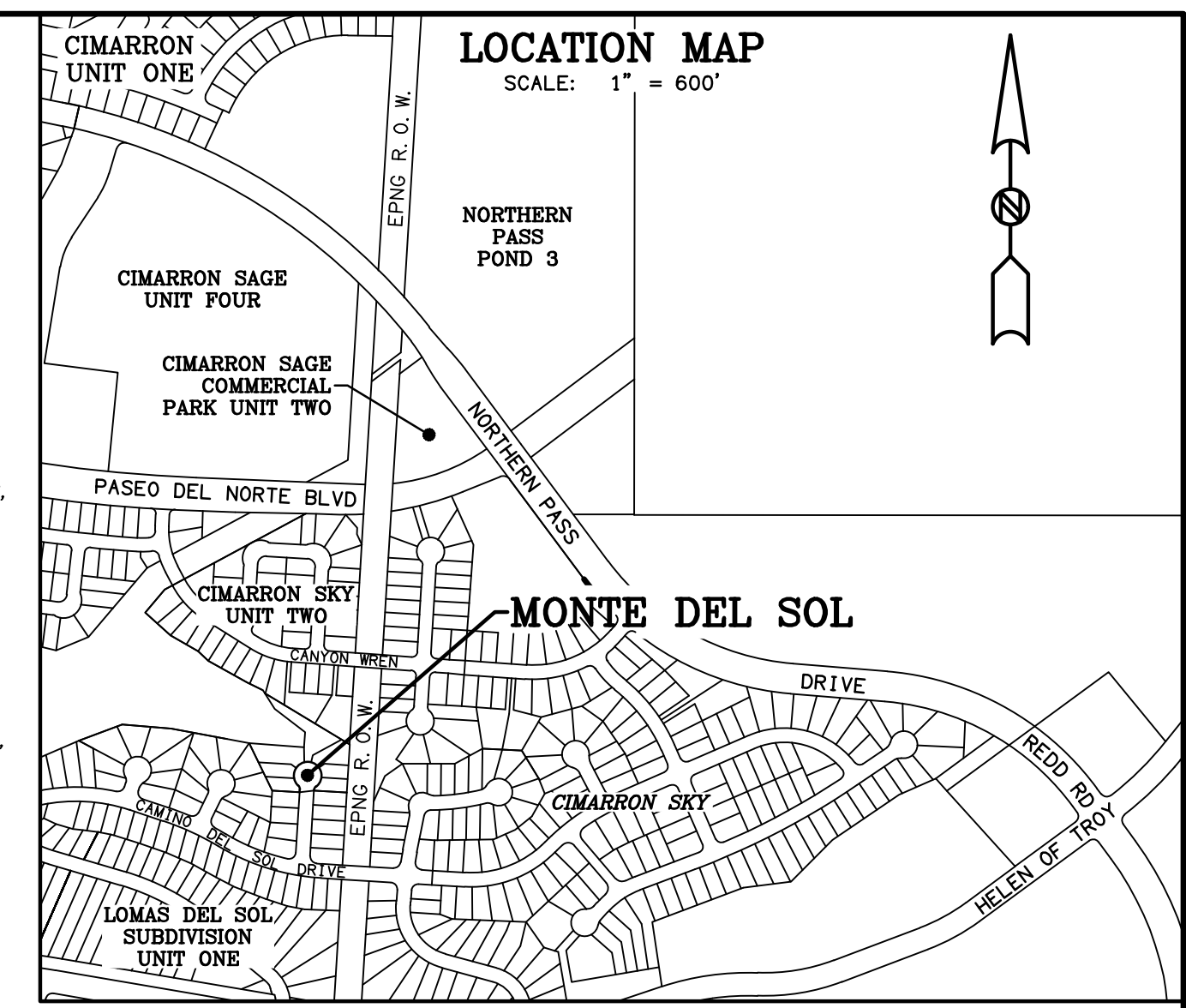
GRADING NOTES:

- CLEARING AND GRUBBING:** CLEAR SITE OF TREES, SHRUBS AND OTHER VEGETATION. COMPLETELY REMOVE STUMPS, ROOTS AND OTHER DEBRIS PROTRUDING THROUGH GROUND SURFACE. FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY FILL MATERIAL, UNLESS FURTHER EXCAVATION OF EARTHWORK IS INDICATED. REMOVE EXISTING ABOVE GRADE AND BELOW GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION. BURNING IS NOT PERMITTED ON OWNER'S PROPERTY. REMOVE WASTE MATERIALS FROM OWNER'S PROPERTY.
- SATISFACTORY FILL MATERIALS:** FILL MATERIALS SHALL BE GRANULAR, FREE OF CLAY AND ORGANIC MATERIAL AND SHALL NOT CONTAIN GRAVEL LARGER THAN FOUR (4) INCH (4) INCH GREATEST DIMENSION AND SHALL BE DEFINED AS THOSE COMPLYING WITH ASTM D2487 SOIL CLASSIFICATION GROUPS GM, SM, SM-SW, GM-GW, AND GM-GP.
- UNSATISFACTORY FILL MATERIAL:** ARE DEFINED AS THOSE COMPLYING WITH ASTM D2487 SOIL CLASSIFICATION GROUPS ML, MH, CL, CH, SP, OL, OH AND PT, OR WHERE THE PLASTICITY INDEX EXCEEDS 12.
- EXCAVATION:** IS UNCLASSIFIED AND INCLUDES EXCAVATION TO ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIAL AND OBSTRUCTIONS ENCOUNTERED.
- GROUND SURFACE PREPARATION FOR FILL:** REMOVE VEGETATION, DEBRIS, UNSATISFACTORY SOIL MATERIAL, OBSTRUCTIONS AND DELETERIOUS MATERIAL FROM GROUND SURFACE UPON WHICH THE FILL IS TO BE PLACED. THE SURFACE SHALL THEN BE SCARIFIED TO A DEPTH OF AT LEAST TEN (10) INCHES, AND UNTIL THE SURFACE IS FREE FROM RUTS, HUMMOCKS OR OTHER UNEVEN FEATURES WHICH WOULD PREVENT UNIFORM COMPACTION FLOW STRIP OR BREAK UP SLOPED SURFACES STEEPER THAN ONE (1) VERTICAL TO FOUR (4) HORIZONTAL SO THAT FILL MATERIAL WILL BOND WITH EXISTING SURFACE. AFTER PLOWING AND SCARIFYING FILL AREA, IT SHALL THEN BE DISCED OR BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS, BROUGHT TO OPTIMUM MOISTURE AND COMPACTED 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH MODIFIED PROCTOR ASTM D-1557.
- PLACEMENT OF THE FILL:** PLACE BACKFILL AND FILL MATERIALS IN LIFTS FROM EIGHT (8) TO TEN (10) INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT AND NOT MORE THAN FOUR (4) INCHES IN LOOSE DEPTH MATERIAL COMPACTED BY HAND OPERATED TAMPERS. BEFORE COMPACTION MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE OPTIMUM MOISTURE CONTENT. PLACE FILL MATERIALS EVENLY ADJACENT TO SITE APPURTENANCES, PIPING OR CONDUIT TO PREVENT ELEVATIONS. PREVENT WEDGING ACTION OF BACKFILL AGAINST SITE APPURTENANCES OR DISPLACEMENT OF PIPING OR CONDUIT TO APPROXIMATELY SAME ELEVATION IN EACH LIFT. COMPACT SOIL TO NOT LESS THAN 95% OF MAXIMUM DENSITY, IN ACCORDANCE WITH MODIFIED PROCTOR.
- MOISTURE CONTROL:** WHERE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE CONDITIONED FOR OPTIMUM MOISTURE BEFORE COMPACTION, UNFORMALLY APPLY WATER TO SURFACE OF SUBGRADE OF LAYER OF SOIL MATERIAL. APPLY WATER IN MINIMUM QUANTITY AS NECESSARY TO PREVENT COMPACTION OPERATIONS. WATER CONTENT SHALL BE WITHIN THREE (3) PERCENT POINTS OF OPTIMUM MOISTURE CONTENT. REMOVE AND REPLACE OR SCARIFY AND AIR DRY SOIL MATERIAL THAT IS TOO WET TO PERMIT COMPACTION TO SPECIFIED DENSITY, ACCORDING TO PROJECT SPECIFICATIONS. COMPACTION OF SOIL EXCEEDING THREE (3) PERCENT POINTS OF OPTIMUM MOISTURE CONTENT WILL BE REJECTED.
- QUALITY CONTROL:**

MONTE DEL SOL

BEING A PORTION OF TRACT 1B5B2, S.J. LARKIN SURVEY 266, EL PASO, EL PASO COUNTY, TEXAS CONTAINING 1.551 ± ACRES (67,567 SQ. FT.)

- NOTE:**
- SET 5/8" REBAR WITH CAP MARKED "RPLS 6489" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS OTHERWISE INDICATED.
 - WATER AND SEWER SERVICES WILL BE PROVIDED TO MONTE DEL SOL FROM EXISTING FACILITIES ON EXISTING MONTE DEL SOL STREET BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.343 OF THE TEXAS WATER CODE.
 - U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS.
 - BASIS OF BEARINGS IS THE MONUMENTED CENTERLINE OF NORTHWESTERN DRIVE FROM THE PLAT OF EL PASO WEST UNIT ONE IN BOOK 57, PAGE 5, PLAT RECORDS, EL PASO COUNTY, TEXAS.
 - S.J. LARKIN SURVEY 266 IS DESCRIBED SEPTEMBER 10, 1949, IN BOOK 945, PAGE 405, DEED RECORDS, EL PASO COUNTY, TEXAS.
 - TRACT 1A, S.J. LARKIN SURVEY 266 (THE EL PASO NATURAL GAS COMPANY R.O.W.) IS DESCRIBED JANUARY 23, 1973 IN BOOK 431, PAGE 617 (PARCEL 6), DEED RECORDS, EL PASO COUNTY, TEXAS.
 - EXISTING MONTE DEL SOL STREET AND QUINTA DEL SOL COURT IS FROM THE PLAT OF LOMAS DEL SOL SUBDIVISION UNIT ONE RECORDED IN BOOK 78, PAGES 93 AND 93A, PLAT RECORDS, EL PASO COUNTY, TEXAS.
 - THE SUBJECT PROPERTY LIES WITHIN THE CANUTILLO INDEPENDENT SCHOOL DISTRICT.
 - CIMARRON SKY UNIT TWO IS RECORDED IN CLERK'S FILE NO. 20120092780, PLAT RECORDS, EL PASO COUNTY, TEXAS.
 - CIMARRON SAGE UNIT ONE IS RECORDED IN CLERK'S FILE NO. 20120091757, PLAT RECORDS, EL PASO COUNTY, TEXAS.



CURVE TABLE					
CURVE #	DELTA	RADIUS	ARC	CHORD BEARING	CHORD
C1	48°55'04"	20.00'	17.08'	N20°59'33"W	16.56'
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C3	45°06'22"	50.00'	39.36'	S11°51'04"W	38.35'
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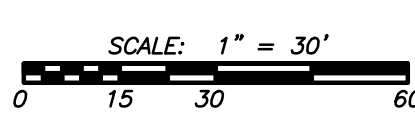
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NOTE: ALL FRONT LOT UTILITY EASEMENTS ARE 10 FEET WIDE UNLESS OTHERWISE INDICATED.

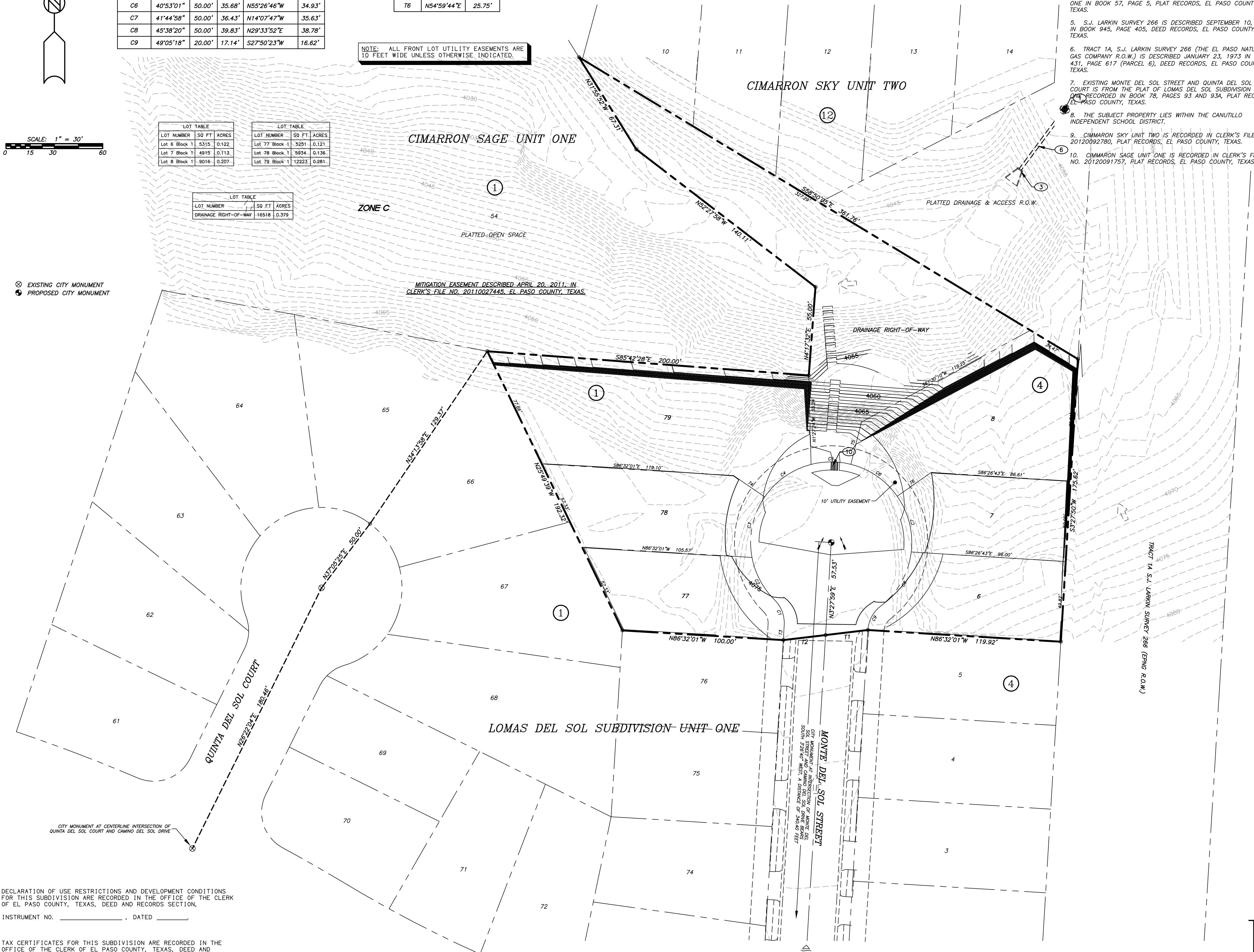
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LOT NUMBER	SQ FT	ACRES
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Lot 78 Block 1	5934	0.136
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LOT TABLE		
LOT NUMBER	SQ FT	ACRES
DRAINAGE RIGHT-OF-WAY	16518	0.379



⊗ EXISTING CITY MONUMENT
⊙ PROPOSED CITY MONUMENT



PROPERTY OWNER:
COLONY PARTNERS L.P.
4487 N MESA STREET STE 201
EL PASO TX 79902

PLAT PREPARED BY: MARK U. BALANSAY
TEXAS RPLS #6489

- DRAINAGE KEY NOTES**
- ① EXISTING DRAINAGE INLET
 - ② EXISTING PIPE COLLAR
 - ③ EXISTING HEADWALL
 - ④ EXISTING JUNCTION BOX
 - ⑤ EXISTING OUTFALL STRUCTURE
 - ⑥ EXISTING 18" STORM PIPE
 - ⑦ EXISTING 24" STORM PIPE
 - ⑧ EXISTING 36" STORM PIPE
 - ⑨ EXISTING CONCRETE CHANNEL
 - ⑩ PROPOSED SIDEWALK FLUME WITH DIAMOND PLATE
- EXISTING DRAINAGE FLOW
→ PROPOSED DRAINAGE FLOW
⊕ EXISTING HIGH POINT

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TAX CERTIFICATES FOR THIS SUBDIVISION ARE RECORDED IN THE OFFICE OF THE CLERK OF EL PASO COUNTY, TEXAS, DEED AND RECORDS SECTION, INSTRUMENT NO. _____, DATED _____.

ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP PANELS 480214-16C AND 480214-17C, DATED FEBRUARY 5, 1986, THIS PROPERTY LIES IN FLOOD HAZARD ZONE "C".

ROBERT SEIPEL ASSOCIATES, INC. PROFESSIONAL LAND SURVEYORS
1845 NORTHWESTERN DRIVE EL PASO TX 79912 PHONE (915) 877-1928 FAX (915) 877-2095

DATE OF PREPARATION: MARCH 30, 2021

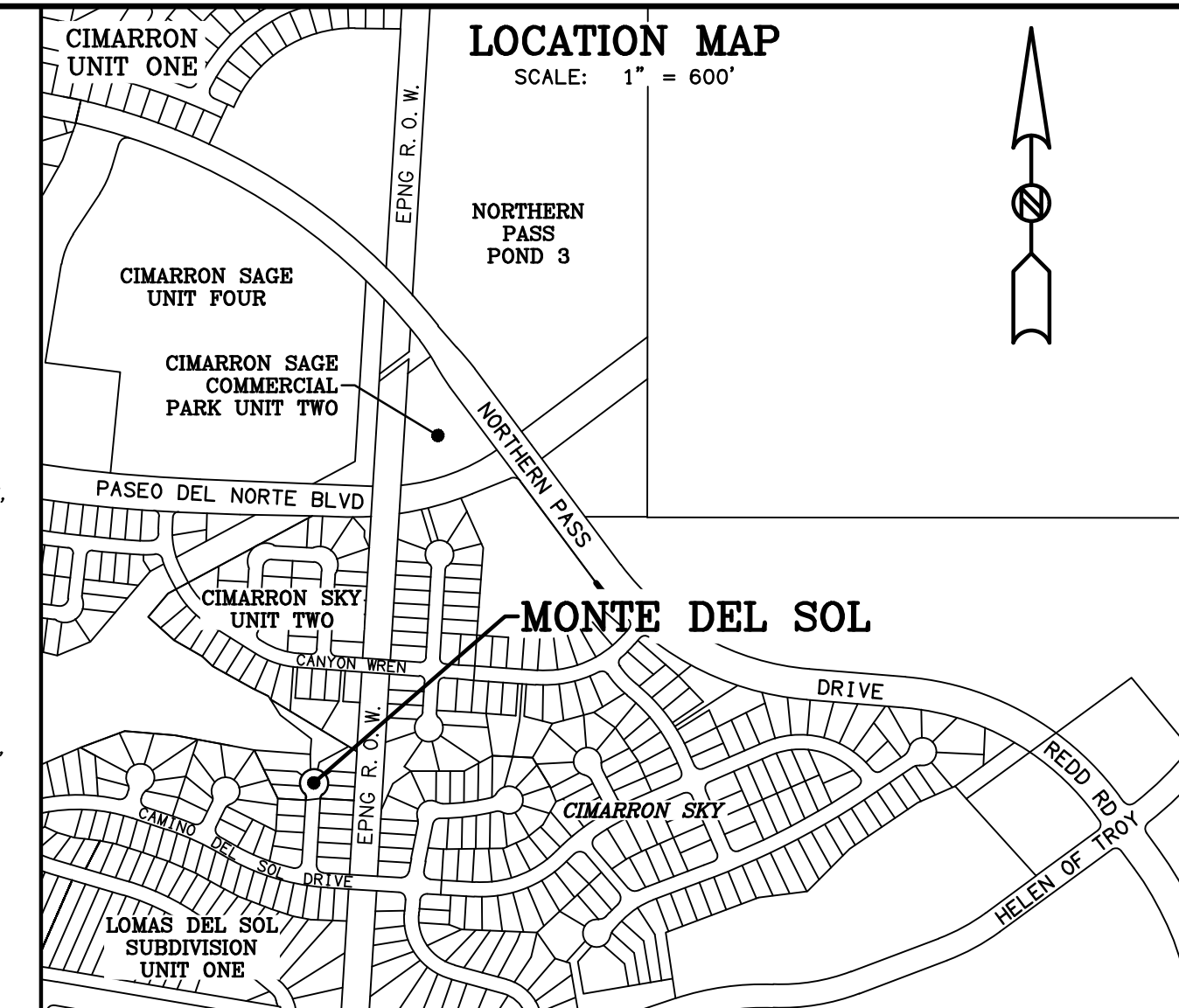
PRELIMINARY

MONTE DEL SOL

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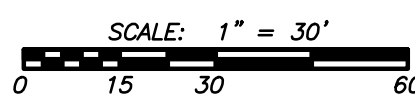
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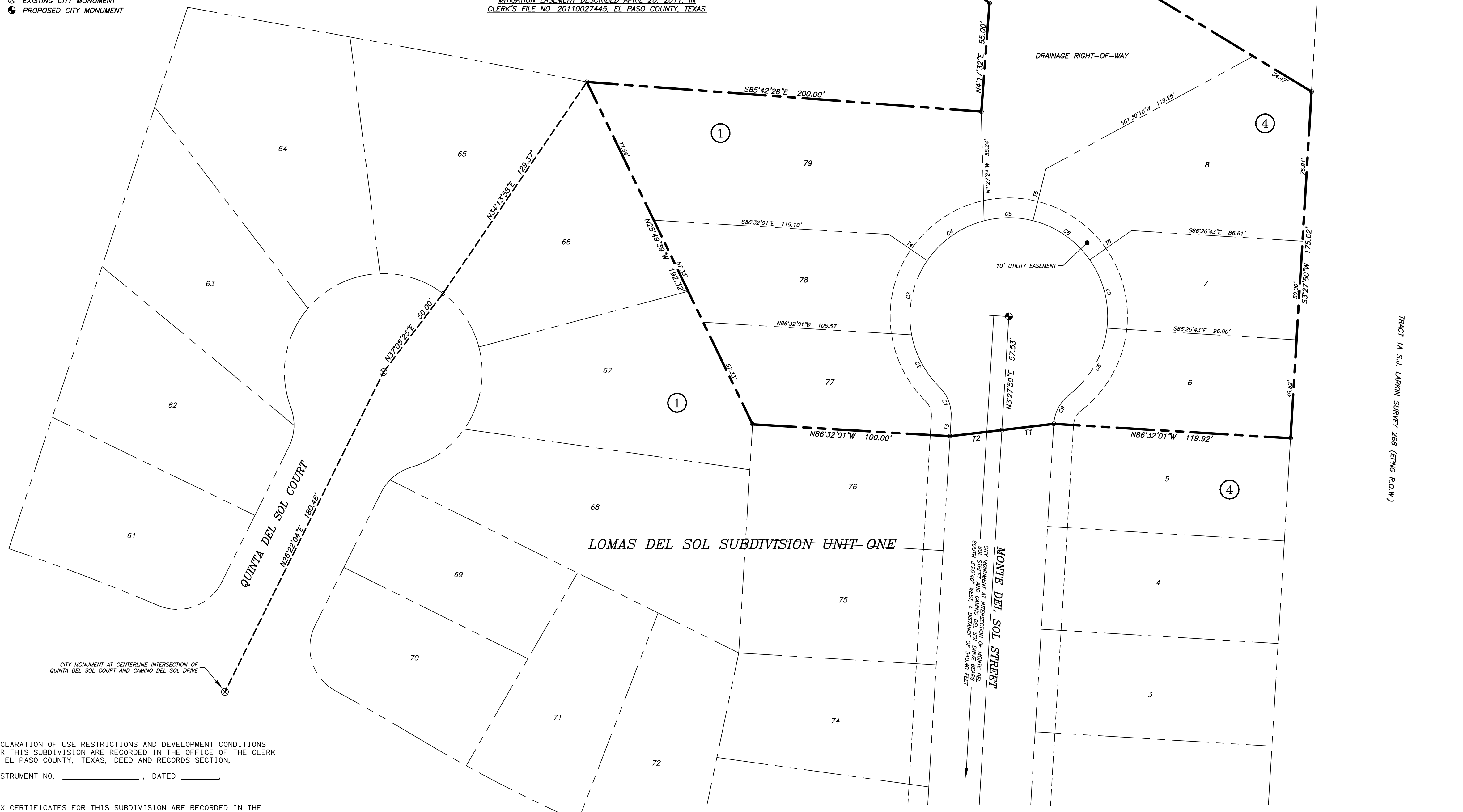
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ROBERT SEIPEL ASSOCIATES, INC. PROFESSIONAL LAND SURVEYORS
 1845 NORTHWESTERN DRIVE EL PASO TX 79912 PHONE (915) 877-1928 FAX (915) 877-2095

DATE OF PREPARATION: MARCH 30, 2021

DEDICATION
 We, Colony Partners L.P., owners of this land, do hereby present this plat and dedicate to the use of the public the street, the drainage right-of-way and utility easements as hereon laid down and designated, including easements for overhang of service wires, conduits and pipes for underground utilities, the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

By _____
 Russel Hanson, President

ACKNOWLEDGMENT

STATE OF TEXAS
 COUNTY OF EL PASO
 This instrument was acknowledged before me on _____
 by Russel Hanson, President of Colony Partners L.P.

Given under my hand and seal of office this _____ day of _____, 2021.

Notary Public, State of Texas _____ My Commission Expires _____

CITY PLAN COMMISSION
 This subdivision is hereby approved as to the platting and as to the conditions of the dedication in accordance with Chapter 212 of the Local Government Code of Texas this _____ day of _____, 2021.

Chairperson _____ Executive Secretary _____

Approved for filing this _____ day of _____, 2021.

Planning & Inspections Director _____

FILING
 Filed and recorded in the office of the County Clerk of El Paso County, Texas, this _____ day of _____, 2021, in File No. _____, Plat Records.

County Clerk _____ By Deputy _____

Subdivision improvement plans prepared by and under the supervision of CSA Design Group, Inc.

Adrian I. Holguin-Ontiveros, P.E.
 Registered Professional Engineer
 Texas License No. 124089
 Texas Registered Engineering Firm F-9997

I hereby certify that this plat represents an on-the-ground survey made under my supervision in compliance with current Texas Board of Professional Land Surveying Professional and Technical Standards.

Robert Seipel Associates, Inc.
 Professional Land Surveyors

Mark U. Balansay
 Registered Professional Land Surveyor
 Texas License No. 6489
 Texas Registered Surveying Firm 10060500

GENERAL NOTES:

- LOCATIONS OF ALL UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES FOR THE EXACT LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES INCLUDING UTILITIES NOT SHOWN ON PLANS. THE CONTRACTOR SHALL PROTECT ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES AND UTILITIES NOT SHOWN ON THIS PLAN DURING CONSTRUCTION. THE CONTRACTOR WILL RELOCATE AS PER LOCAL UTILITY CONSTRUCTION SPECIFICATIONS. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS ON SITE AND SHALL CONTACT THE DESIGN ENGINEER AND REPORT ANY DISCREPANCIES, OMISSIONS AND/OR ERRORS ON PLANS PRIOR TO COMMENCING WORK.
- ALL CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH THE CITY OF EL PASO STANDARD SPECIFICATIONS AND DETAILS.
- CONTRACTOR SHALL PERFORM ALL EARTHWORK REQUIREMENTS AS PER GEOTECHNICAL STUDY REPORT.
- GRADING SHALL BE PERFORMED WITHOUT MAJOR ALTERATION OF WATERSHEDS AND DRAINAGE PATTERNS UNLESS APPROPRIATE AND ADEQUATE MEANS OF WATER RETAINAGE OR CONTROL ARE UTILIZED AND SHOWN OF THE GRADING PLAN.
- NO ON-SITE PROCESSING OF MATERIAL FOR COMMERCIAL OR RETAIL SALES SHALL BE ALLOWED. ON-SITE PROCESSING OF MATERIALS TO BE USED FOR PREPARATION OR CONSTRUCTION IMPROVEMENTS WITHIN THE SITE COVERED BY THE GRADING PERMIT SHALL BE ALLOWED.
- WORK SHALL BE CONDUCTED IN A MANNER THAT PRESERVES AND DOES NOT OBSTRUCT, IMPEDE, OR INTERFERE WITH THE FLOW OF STORM WATER IN NATURAL DRAINAGE WAYS. UNIMPROVED CHANNELS OR WATERCOURSES, OR IMPROVED DITCHES, CHANNELS, OR CANALS IN SUCH A MANNER AS TO CAUSE FLOODING WHERE IT WOULD NOT OTHERWISE OCCUR.
- CONSTRUCTION EQUIPMENT SHALL BE KEPT OUT OF WATERCOURSES EXCEPT WHEN NECESSARY TO TO PERFORM WORK ON THE APPROVED PLANS. WHERE IN-CHANNEL WORK IS DESIGNATED ON THE APPROVED PLANS, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION AS SHOWN ON THE PLANS. THE CHANNEL, INCLUDING THE BED AND THE BANKS, SHALL ALWAYS BE RE-STABILIZED IMMEDIATELY AFTER THE IN-CHANNEL WORK IS COMPLETED.
- WHERE A DRAINAGE WAY WILL BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION, A TEMPORARY CROSSING SHALL BE CONSTRUCTED AS REQUIRED IN THE APPROVED GRADING PLANS.
- MATERIAL STOCKPILING SHALL BE LIMITED TO FOUR (4) FEET HIGH WHEN GRADING OPERATIONS ARE IDELE FOR MORE THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS. STOCKPILING SHALL BE LIMITED TO TEN (10) FEET HIGH WHEN GRADING OPERATIONS ARE BEING CONDUCTED.
- A TRAFFIC CONTROL PERMIT SHALL BE REQUIRED IF GRADING OPERATIONS WILL IMPACT TRAFFIC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ACQUIRE SAID PERMIT IF NOT SUPPLIED BY THE DEVELOPER OR HIS DESIGNEE.
- ANY USE OF VIBRATORY EQUIPMENT SHALL BE APPROVED IN WRITING BY THE CITY ENGINEER IN ADVANCE OF SUCH USE.
- THE CITY ENGINEER MUST BE NOTIFIED NO LATER THAN 4:00 PM ONE DAY PRIOR TO ANY GRADING WORK, BACKFILL DENSITIES, INSPECTIONS AND/OR CONSTRUCTION OPERATIONS SUCH AS PLACEMENT OF CURB AND GUTTER, PAVEMENT, AND STORM SEWER STRUCTURES. ADDITIONAL ACTIVITY REQUIREMENTS/RESTRICTIONS MAY BE SPECIFIED BY THE DESIGN ENGINEER OF RECORD.
- A BORROW OR WASTE PERMIT SHALL BE REQUIRED FOR ANY SITE THAT HAS AN UNBALANCED EARTHWORK OF GREATER THAN TEN PERCENT (10%) AN APPROVED HAUL ROUTE SHALL BE REQUIRED FOR MATERIALS ENTERING OR LEAVING THE SITE UTILIZING CITY RIGHTS-OF-WAY FOR TRANSPORT. A WASTE/BORROW PERMIT SHALL NOT BE REQUIRED FOR TRANSPORT OF MATERIALS TO AN ADJACENT SITE OWNED OR UNDER DEVELOPMENT BY THE SAME PROPERTY OWNER.
- A COPY OF ALL CURRENT PERMITS REQUIRED FOR CONSTRUCTION SHALL BE MAINTAINED ON-SITE. THESE PERMITS MUST BE DISPLAYED IN A COMMON AND INCONSPICUOUS LOCATION ON-SITE.
- NO GRADING OF ANY KIND WILL BE CONDUCTED ON LEGAL HOLIDAYS OR WEEKENDS (7:00 PM FRIDAY THROUGH 7:00 AM ON THE FOLLOWING MONDAY) UNLESS THE DEVELOPER OR HIS AUTHORIZED AGENT HAS NOTIFIED THE CITY'S ENGINEERING DEPARTMENT BY NOON THE DAY BEFORE THE HOLIDAY, OR BY NOON ON FRIDAY. GRADING SHALL NOT BE PERMITTED WITHIN THREE HUNDRED (300) FEET OF A RESIDENTIALLY ZONED AREA BEFORE 7:00 AM OR AFTER 7:00 PM ON WEEKENDS OR HOLIDAYS.
- INSTALLATION OF A TRENCH SAFETY SYSTEM IS REQUIRED FOR ALL TRENCHES EXCEEDING A DEPTH OF FIVE FEET (5') AND MUST CONFORM TO THE CITY OF EL PASO DESIGN STANDARDS AS WELL AS OSHA REQUIREMENTS.
- ALL ORGANIC MATERIAL SHALL BE CLEARED AND GRUBBED TO A DEPTH OF A MINIMUM OF SIX (6) INCHES AND RESERVED PER GRADING STABILIZATION PLAN. REFER TO SHEETS XX-XX FOR DETAILS.
- SLOPES WHICH ARE TO RECEIVE FILL MUST BE CLEARED OF ALL VEGETATION. OVERSPILL ON NATURAL SLOPES CAUSED BY GRADING OPERATIONS SHALL NOT BE ALLOWED.
- POSITIVE DRAINAGE SHALL BE PROVIDED BY CONTRACTOR DURING ALL PHASES OF CONSTRUCTION AND GRADING. ALL LOTS SHOULD DRAIN TOWARD STREET UNLESS OTHERWISE INDICATED ON THE GRADING PLAN.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PREPARATION AND SUBMITTAL OF ALL PERMITTING NECESSARY FOR EARTHWORK OPERATIONS AND STORM WATER POLLUTION CONTROL.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL BOUNDARY PERIMETER WALLS AS WELL AS ROCK WALLS RETAINING FOUR (4) FEET OR MORE. ALL OTHER WALLS SHALL BE INSTALLED BY THE BUILDER. NOTE TO BUILDERS: RETAINING WALLS MUST BE PROVIDED WHENEVER THE GRADE DIFFERENTIAL BETWEEN LOT GRADES IS GREATER THAN TWO (2) FEET. WALLS MUST BE DESIGNED AND CERTIFIED BY A CIVIL ENGINEER (FOR APPROVAL) WHEN APPLYING FOR A BUILDING PERMIT.

LEGEND

99.35	3999.35
00.35	4000.35
09.35	4009.35
10.35	4010.35

66
FG=75.72
FF=76.22

PROPOSED BUILDING PAD
W/ FINISHED GRADE AND
FINISHED FLOOR ELEVATION

75.72C
PROPOSED TOP OF CURB

EXISTING HIGH POINT

PROPOSED LOW POINT

3955
3950
PROPOSED CONTOUR

EXISTING CONTOUR

EXISTING WALL

ROCK RETAINING WALL WITH GARDEN WALL EXTENSION
BY DEVELOPER, HEIGHTS AS NOTED

GARDEN OR STEM WALL BY DEVELOPER,
HEIGHTS AS NOTED

ROCK RETAINING WALL, BATTER ONLY, BY DEVELOPER,
GARDEN WALL EXTENSION BY BUILDER

ROCK WALL WITH VIEW FENCE, RETAINING AS REQUIRED,
BY DEVELOPER, HEIGHTS AS NOTED

ROCK RETAINING WALL WITH 4' GARDEN WALL
EXTENSION BY BUILDER

ALL OTHER ROCK WALLS BY BUILDER UNLESS NOTED OTHERWISE

**REFER TO SHEET 10
FOR CROSS SECTION KEY**

FOR INFORMATION REGARDING SOILS, REFER TO THE PRELIMINARY SOILS STUDY
FOR MONTE DEL SOL SUBDIVISION (PROJECT No. SPG21026 DATED FEB 15,
2021); AND THE STREET PAVEMENT DESIGN (PROJECT No. SPG21026P DATED FEB
16, 2021) PREPARED BY SPEESOIL, INC.

18.44.220 - PERMIT CLOSEOUT PROCEDURE

AFTER THE PERMITTEE COMPLETES THE GRADING UNDER THE PERMIT, THE PERMIT SHALL BE CLOSED. AS A PART OF THE CLOSEOUT PROCEDURE, THE APPLICANT MUST SUBMIT THE FOLLOWING TO THE CITY:

- A STATEMENT FROM THE ENGINEER OF RECORD STATING THAT STATES, "THE GRADING OPERATION HAS BEEN SUBSTANTIALLY COMPLETED AND GENERALLY CONFORMS TO THE APPROVED SET OF PLANS." THE PERMITTEE SHALL CALL THE PERMIT OFFICIAL TO ESTABLISH THE BEGINNING OF THE WARRANTY PERIOD AND TO NOTIFY THE PERMIT OFFICIAL THAT THE GSP HAS BEEN IMPLEMENTED.
- A COPY OF THE NOTICE OF TERMINATION FILED WITH THE STATE OR DATED CONSTRUCTION SITE NOTICE, IF APPLICABLE, IN ACCORDANCE WITH CHAPTER 15.

18.44.090 - WARRANTY

ANY PERSON ISSUED A PERMIT SHALL AGREE WARRANT AND MAINTAIN THE AREA DESCRIBED IN THE PERMIT FOR A PERIOD OF TWO YEARS AFTER THE PERMIT IS CLOSED BY THE CITY PURSUANT TO SECTION 18.44.220, OR UNTIL A BUILDING PERMIT IS ISSUED FOR THE PURPOSE OF MAINTAINING A STABILIZED SITE IN ACCORDANCE WITH THE APPROVED GSP, WHICHEVER FIRST OCCURS (THE "WARRANTY" OR "WARRANTY PERIOD"). THE CITY MAY CONDUCT INSPECTIONS OF THE PERMITTED AREA THROUGHOUT THE WARRANTY PERIOD AND REQUIRE MAINTENANCE AND CORRECTION OF THE WORK BY THE PERMIT HOLDER. FAILURE OF THE PERMIT HOLDER TO CORRECT THE WORK SHALL CONSTITUTE A FAILURE TO COMPLY WITH THE PROVISIONS OF THIS CHAPTER.

18.44.200 - ENGINEERING CONTROLS FOR GRADING

- NO ON-SITE PROCESSING OF MATERIAL FOR COMMERCIAL OR RETAIL SALES SHALL BE ALLOWED. ON-SITE PROCESSING OF MATERIALS TO BE USED FOR PREPARATION OR CONSTRUCTION OR IMPROVEMENTS WITHIN THE SITE COVERED BY THE GRADING PERMIT SHALL BE ALLOWED.
- WORK SHALL BE CONDUCTED IN A MANNER THAT PRESERVES AND DOES NOT OBSTRUCT, IMPEDE OR INTERFERE WITH THE FLOW OF STORMWATER IN NATURAL DRAINAGE WAYS, UNIMPROVED CHANNELS OR WATERCOURSES, OR IMPROVED DITCHES, CHANNELS OR CANALS IN SUCH A MANNER AS TO CAUSE FLOODING WHERE IT WOULD NOT OTHERWISE OCCUR.
- CONSTRUCTION EQUIPMENT AND FENCING SHALL BE KEPT OUT OF WATERCOURSES EXCEPT WHEN NECESSARY TO PERFORM WORK ON THE APPROVED PLANS. ADEQUATE BY-PASS MEASURES SHALL BE INSTALLED WHERE TEMPORARY DRAINAGE BLOCKAGES WILL OCCUR. WHERE WORK WITHIN A CHANNEL IS DESIGNATED ON APPROVED PLANS, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION AS SHOWN ON THE PLANS. THE CHANNEL, INCLUDING BED AND BANKS, SHALL ALWAYS BE RESTORED/RE-STABILIZED IMMEDIATELY AFTER WORK IN THE CHANNEL IS COMPLETED.
- WHERE A DRAINAGE WAY WILL BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION, A TEMPORARY CROSSING SHALL BE CONSTRUCTED AS REQUIRED IN THE APPROVED GRADING PLANS.
- MATERIAL STOCKPILING SHALL NOT BE ALLOWED WHEN GRADING OPERATIONS ARE IDELE FOR MORE THAN SEVEN CONSECUTIVE CALENDAR DAYS. STOCKPILING SHALL BE LIMITED TO TEN FEET HIGH WHEN GRADING OPERATIONS ARE BEING CONDUCTED.
- A TRAFFIC CONTROL PERMIT SHALL BE REQUIRED IF THE GRADING OPERATION WILL IMPACT TRAFFIC.
- ANY USE OF VIBRATORY EQUIPMENT SHALL NOT BE ALLOWED, UNLESS APPROVED IN WRITING BY THE PERMIT OFFICIAL IN ADVANCE OF SUCH USE.
- THE PERMIT OFFICIAL MUST BE NOTIFIED NO LATER THAN 4:00PM THE DAY IN ADVANCE OF ANY GRADING WORK. ADDITIONAL ACTIVITY REQUIREMENTS/RESTRICTIONS MAY BE SPECIFIED BY THE DESIGN ENGINEER OF RECORD.

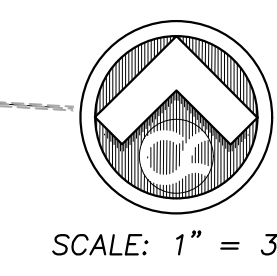
- OVERSPILL ON NATURAL SLOPES CAUSED BY GRADING OPERATIONS SHALL NOT BE ALLOWED.
- DEVELOPER SHALL STABILIZE SLOPES, IF DISTURBED, TO MINIMIZE EROSION.
- ALL SLOPES SHALL BE 3' HORIZONTAL TO 1' VERTICAL MAXIMUM UNLESS NOTED OTHERWISE.
- NO CONCENTRATED RUNOFF OVER UNPROTECTED SLOPES SHALL BE ALLOWED.
- DEVELOPER SHALL COMPLY WITH SECTION 13.08.170 OF THE SUBDIVISION ORDINANCE; "EXCESSIVE CUTS ON STREETS MAY RESULT IN REPAVING THE ENTIRE STREET."
- REFER TO DRAINAGE PLAN, SHEET 12, FOR LOT DESIGN.
- ALL ACCESSIBLE RAMPS WITHIN THE CITY RIGHT-OF-WAY SHALL BE INSTALLED BY THE DEVELOPER. SIDEWALKS SHALL BE INSTALLED BY BUILDER UNLESS NOTED OTHERWISE.
- 6' ROCK WALLS, RETAINING AS REQUIRED, SHALL BE INSTALLED ABUTTING ALL DRAINAGE RIGHTS-OF-WAY BY DEVELOPER.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL OFF SITE IMPROVEMENTS.

ADDITIONAL GRADING OF
LOTS BY BUILDER SHALL BE
BY SEPARATE PERMIT.

ALL BOUNDARY PERIMETER
WALLS AND RETAINING WALLS
GREATER THAN 4' SHALL BE
INSTALLED BY THE DEVELOPER.

ALL EXISTING AND PROPOSED SIDEWALKS, BARRIER FREE
RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS,
DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH
A.D.A., T.A.S. AND CITY OF EL PASO REQUIREMENTS. EXISTING
INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED
AND REPLACED TO MEET STANDARDS.

ALL GRADED SLOPES GREATER THAN 3:1 (THREE FEET
HORIZONTALLY TO 1 FOOT VERTICALLY) MUST BE
STABILIZED PER ORDINANCE. REFER TO GRADING
STABILIZATION PLAN, SHEETS 17-19 FOR DETAILS.



SCALE: 1" = 30'

BENCHMARK: CITY MONUMENT AT THE CENTERLINE
INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE
ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
2	6/4/2021	First City Submittal	AHO
1	10/9/2020	Client Review	AHO

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AT&T
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544-6000
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562-8411
AFTER HOURS EMERGENCY (EPW)
1-800-000-TESS
TELECOM SERVICE LINE
544-5775
TELECOM SERVICE LINE
544-5775
KINDER-MORGAN EPW PIPELINES
1-800-344-8377
EL PASO PUBLIC SIGNAL SERVICES AND MAINTENANCE
1-800-238-3764
1-800-238-3764
impeg@elpasotexas.gov

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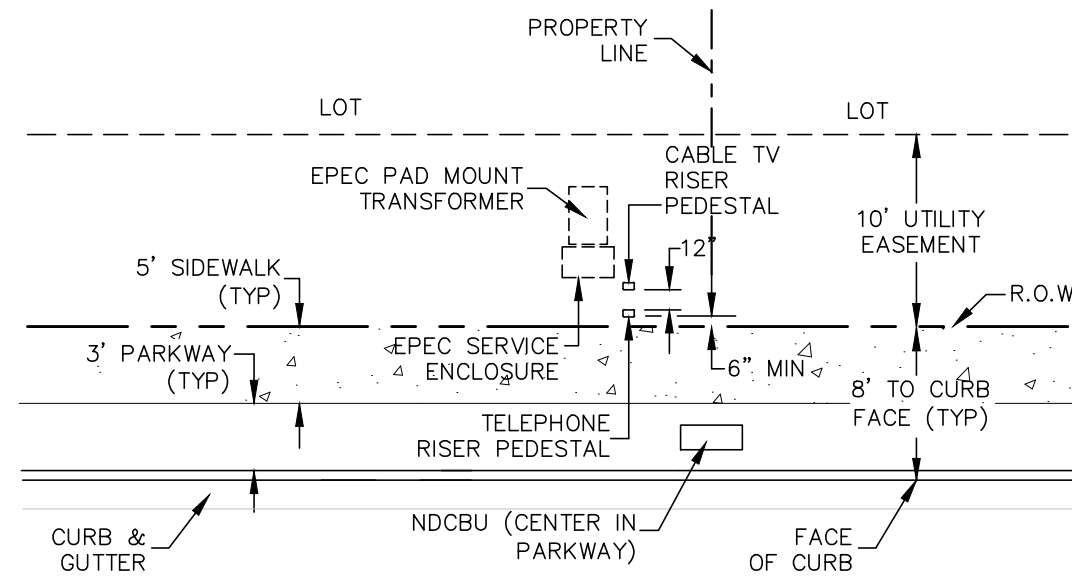
csa design group, inc.
Texas Registered Engineering Firm F-8997
1845 Northwestern Dr. Ste C
El Paso, Texas 79912
tel (915) 877-4155
fax (915) 877-4334
www.csaengineers.com

SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

**GRADING
PLAN**

GOB	2020-08
DESIGN BY	08/10/2020
GOB-DR-DG	07/08/2020
DATE OF CONSTRUCTION	
AHO	AS NOTED
SCALE	
SHEET NO.	8
SHEET SEQUENCE	8 OF 29

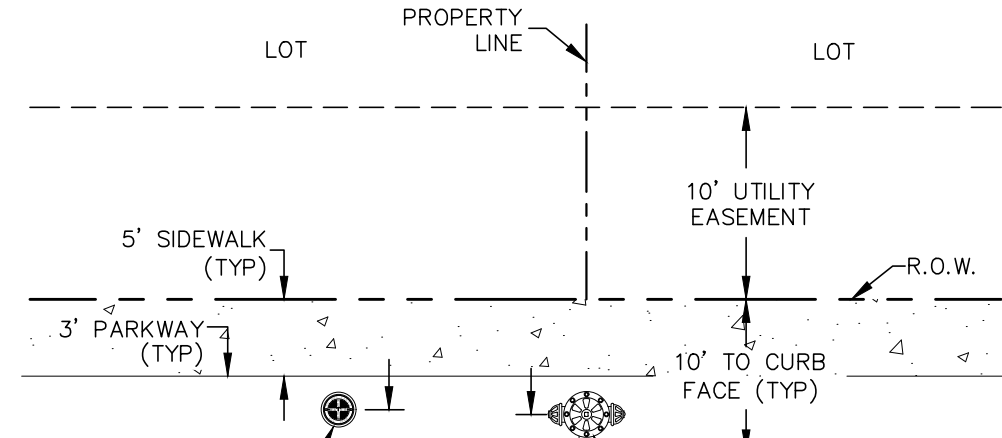
© CSA DESIGN GROUP, INC. - Sep 09, 2021 - 1:07pm
2020-08-10 10:07:29 Monte del Sol SPG21026-23 3rd Submittal-Construction 2020-08-10 10:07:29 8 of 29



TRANSFORMERS, JUNCTION BOXES, UTILITY PEDESTALS, ETC. SHALL NOT BE LOCATED IN UTILITY EASEMENTS LOCATED WITHIN PROPOSED CITY OF EL PASO PARKS. CONTRACTOR SHALL COORDINATE WITH PROPER ENTITY PRIOR TO INSTALLATION OF UTILITIES FOR EXACT OFFSETS AND LOCATIONS.

TYPICAL LOCATION OF TRANSFORMERS, POSTAL SERVICE NDCBU'S, TELEPHONE & CABLE JUNCTION BOXES

1" = 10'-0"



TYPICAL LOCATION OF METER BOX AND FIRE HYDRANT

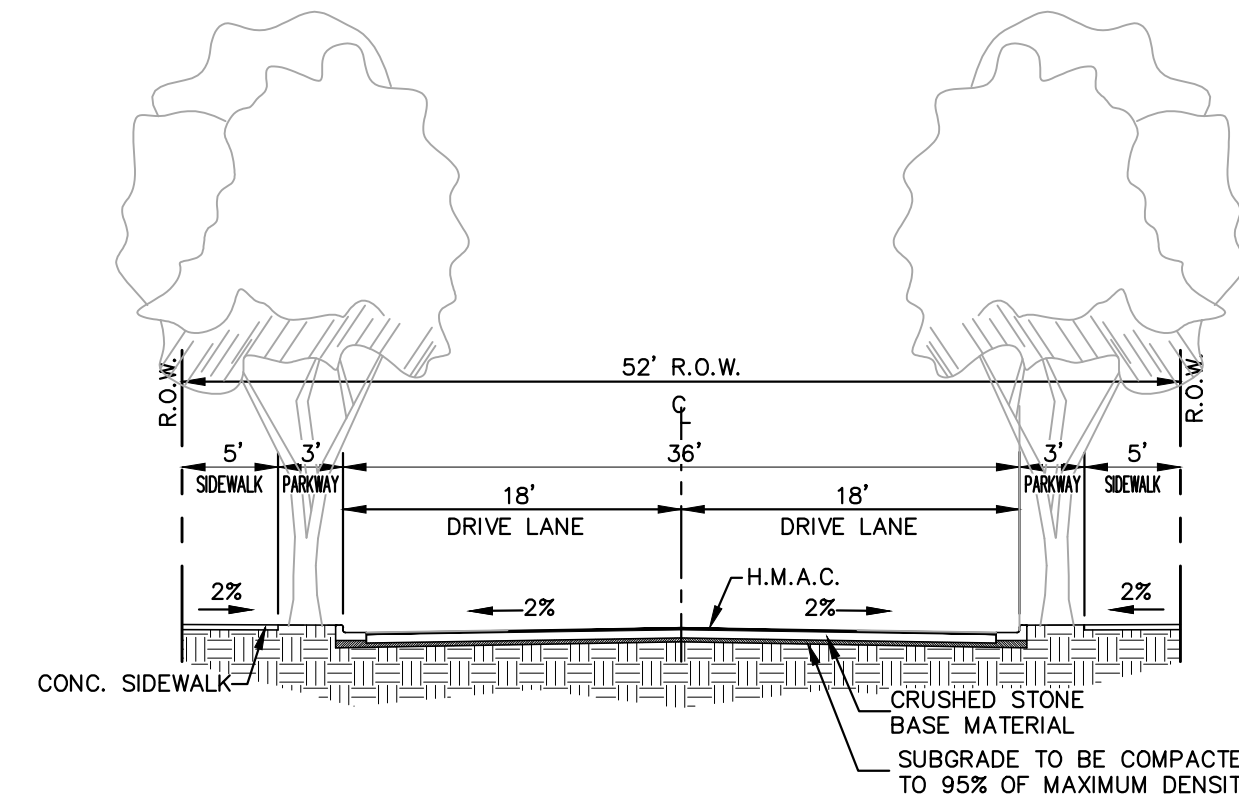
1" = 10'-0"

METER BOX NOTES:

1. SET TOP OF METER BOX SLIGHTLY HIGHER THAN SURROUNDING GROUND OR AT CURB LEVEL.
2. ANGLE VALVE SHALL BE IN LINE WITH THE INLET/OUTLET PORTS OF THE METER BOX.
3. METER BOXES SHALL NOT BE INSTALLED UNDER SIDEWALKS, DRIVEWAYS, OR PROPOSED ABOVE GROUND STRUCTURES.
4. WHERE NO CURB EXISTS, INSTALL BOXES IN ACCESSIBLE LOCATIONS BEYOND LIMITS OF STREET SURFACING, WALKS AND DRIVEWAYS.

FIRE HYDRANT NOTES:

1. FIRE HYDRANT SHALL BE LOCATED AT THE PROPERTY LINE COMMON TO ADJOINING LOTS.
2. A MINIMUM CLEARANCE OF 3 FT SHALL BE PROVIDED BETWEEN A FIRE HYDRANT AND A PERMANENT OBSTRUCTION (UTILITY POLE, LIGHT STANDARD, TRAFFIC SIGNAL, WHEEL CHAIR RAMP, FENCE PROTECTIVE POSTS, etc.)



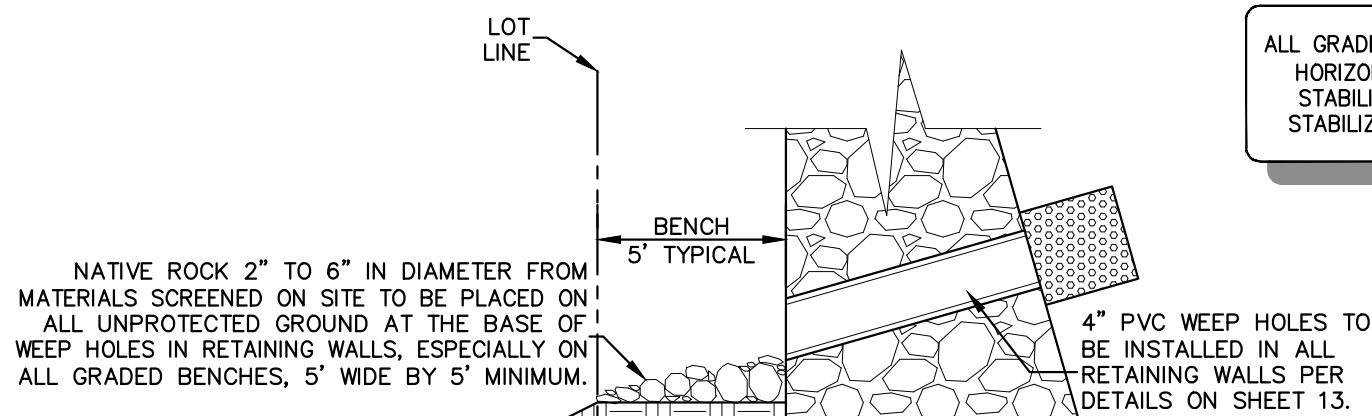
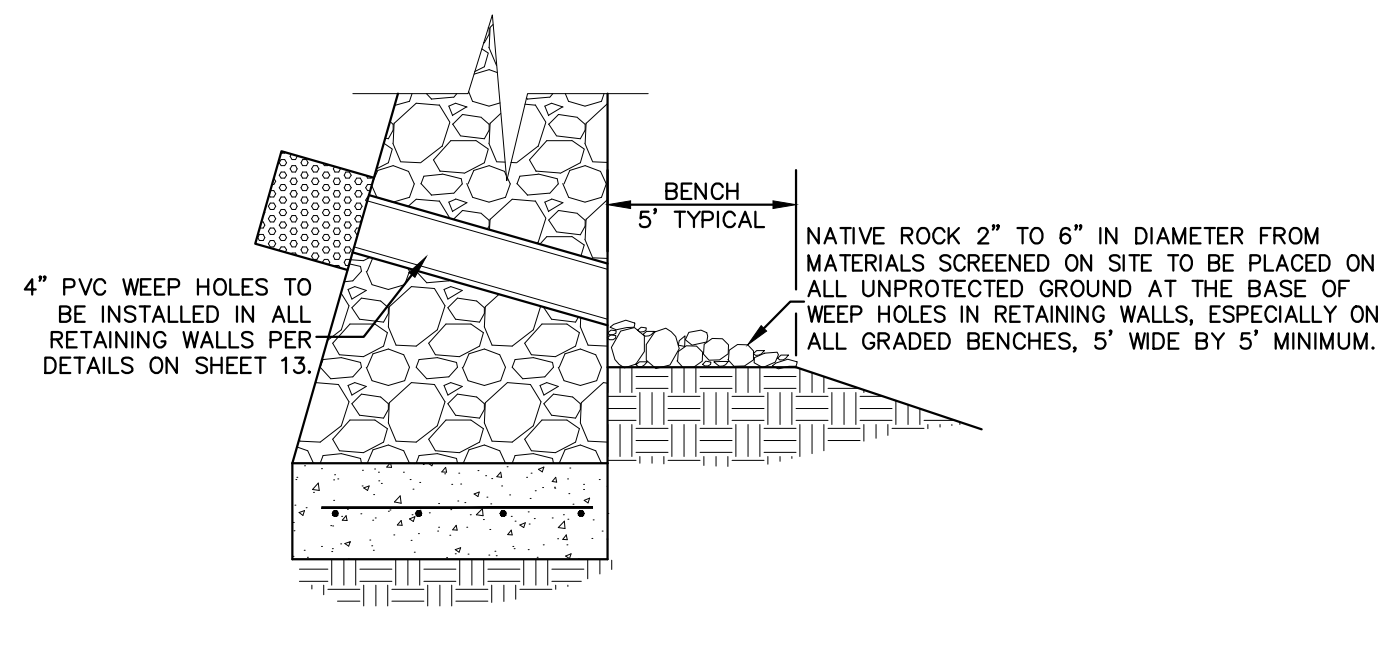
36' LOCAL RESIDENTIAL 3 (MODIFIED)

CUL-DE-SAC ON NORTH SIDE OF MONTE DEL SOL.
ALL LANDSCAPING OF PARKWAYS SHALL BE BY THE BUILDER.

DESIGN ALTERNATIVES APPROVED BY CITY PLAN COMMISSION FOR TRAFFIC CALMING

SCALE: 1" = 10'

REFER TO PRELIMINARY PLAT SHEET 5 AND SHEET 6 FOR TYPICAL CROSS STREET SECTIONS



ALL GRADED SLOPES GREATER THAN 3:1 (THREE FEET HORIZONTALLY TO 1 FOOT VERTICALLY) MUST BE STABILIZED PER ORDINANCE. REFER TO GRADING STABILIZATION PLAN, SHEETS 17-19 FOR DETAILS.

ALL EXISTING AND PROPOSED SIDEWALKS, BARRIER FREE RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S. AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.

ALL GRADED SLOPES GREATER THAN 3:1 SHALL BE REVEGETATED BY THE DEVELOPER USING NATIVE MATERIALS SALVAGED FROM SITE. STABILIZATION OF SLOPES 3:1 OR LESS WITHIN RESIDENTIAL SHALL BE THE RESPONSIBILITY OF THE BUILDER OR FUTURE HOME OWNER USING METHODS DETAILED ON SHEET 17

NATIVE ROCK 2" TO 4" IN DIAMETER FROM MATERIALS SCREENED ON SITE TO BE PLACED IN SWALE BEHIND WALLS AS SHOWN

LOWER TIER WALL, REFER TO DETAILS ON SHEET 13.

NATIVE ROCK NOT REQUIRED WITHIN LOTS. EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE BUILDER AND FUTURE HOME OWNER.

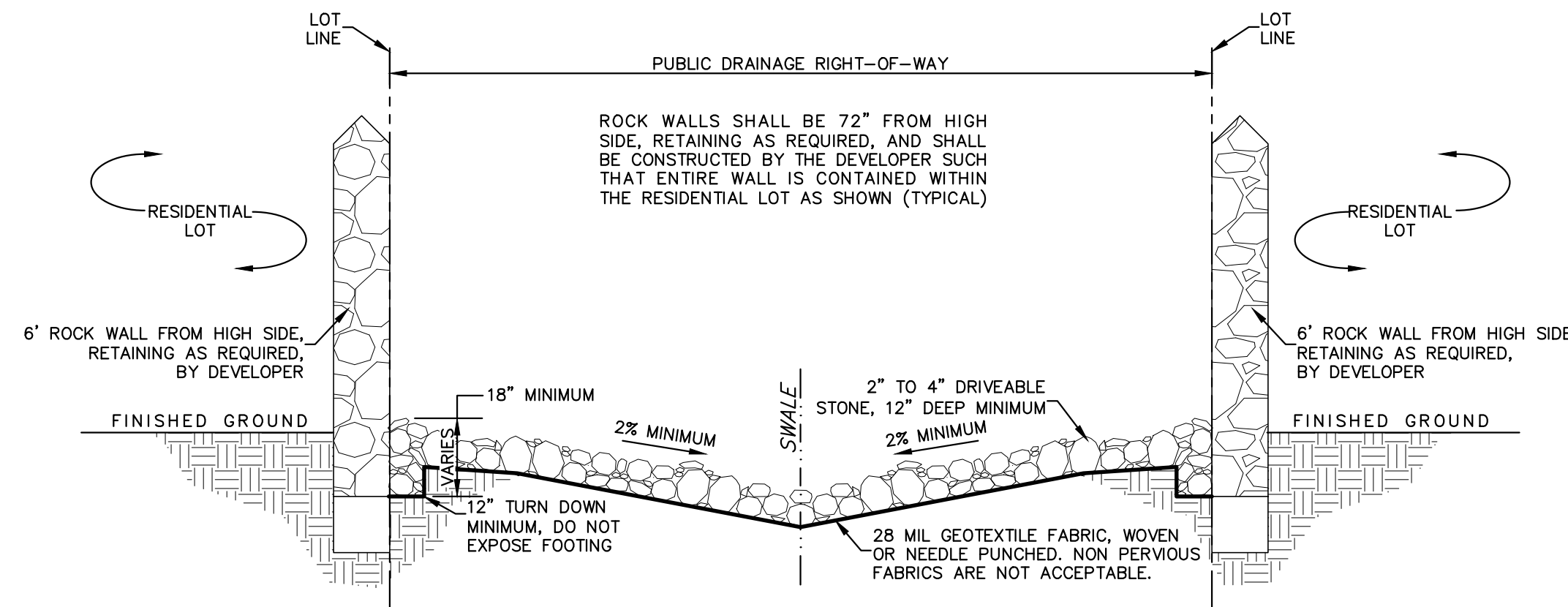
WHERE GRADED SLOPES MEET EXISTING GROUND, NATIVE ROCK 6" IN DIAMETER AND LARGER FROM MATERIALS SCREENED ON SITE TO BE PLACED AT TOE OF SLOPE UNLESS NOTED OTHERWISE IN PLANS.

THIS CONDITION WILL NOT BE REQUIRED FOR GRADED SLOPES THAT ARE TEMPORARY IN NATURE, UNLESS NOTED OTHERWISE. REFER TO THE GRADING STABILIZATION PLAN FOR DETAILS.

ROCK WALL AND RIP-RAP APPLICATIONS

NOT TO SCALE

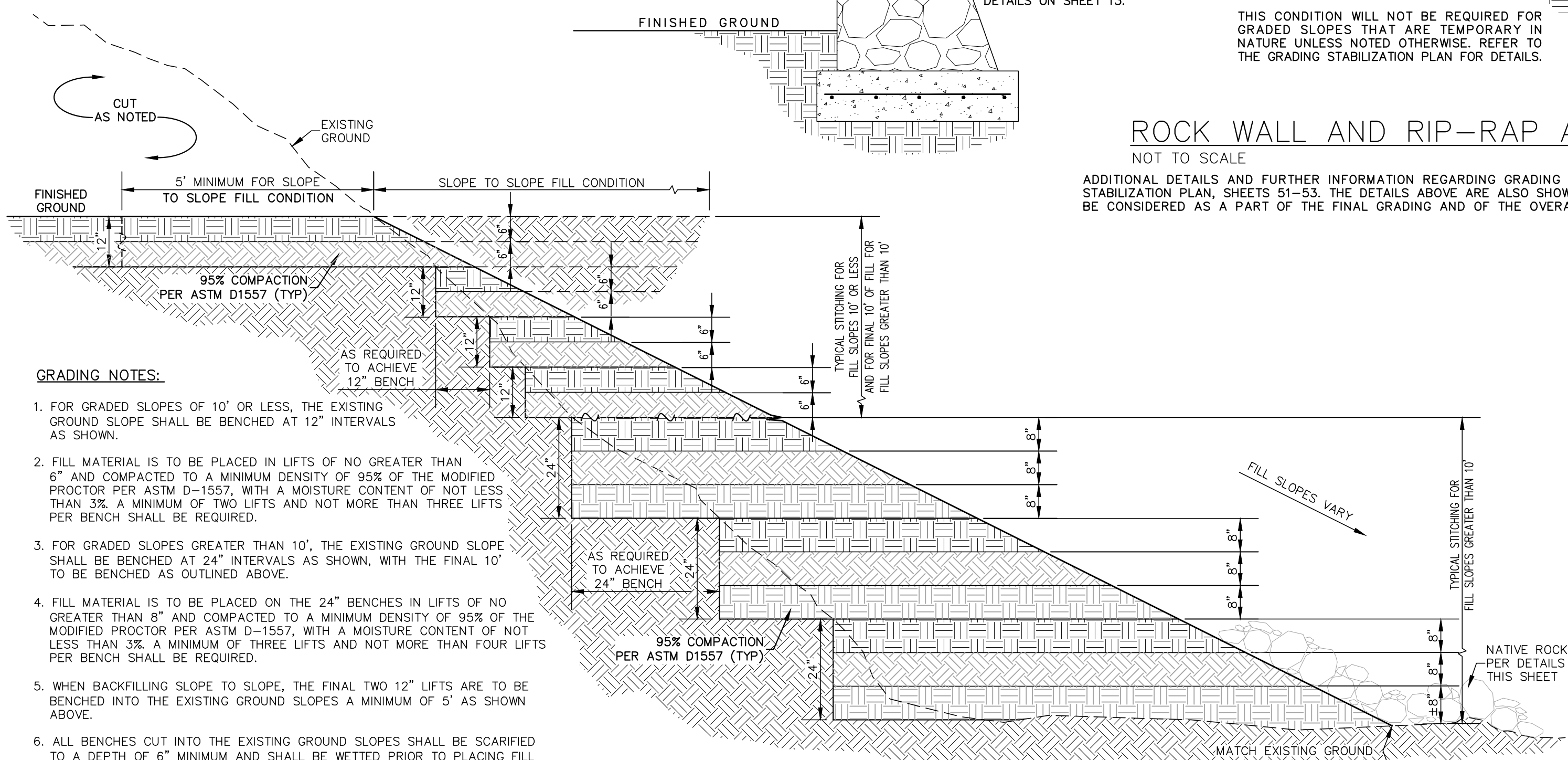
ADDITIONAL DETAILS AND FURTHER INFORMATION REGARDING GRADING CAN BE FOUND ON THE GRADING STABILIZATION PLAN, SHEETS 51-53. THE DETAILS ABOVE ARE ALSO SHOWN ON THOSE SHEETS AND SHOULD BE CONSIDERED AS A PART OF THE FINAL GRADING AND OF THE OVERALL GRADING STABILIZATION PLAN.



DRIVEABLE SURFACE

NOT TO SCALE

REFER TO SHEET 13 FOR ADDITIONAL ROCK WALL DETAILS.

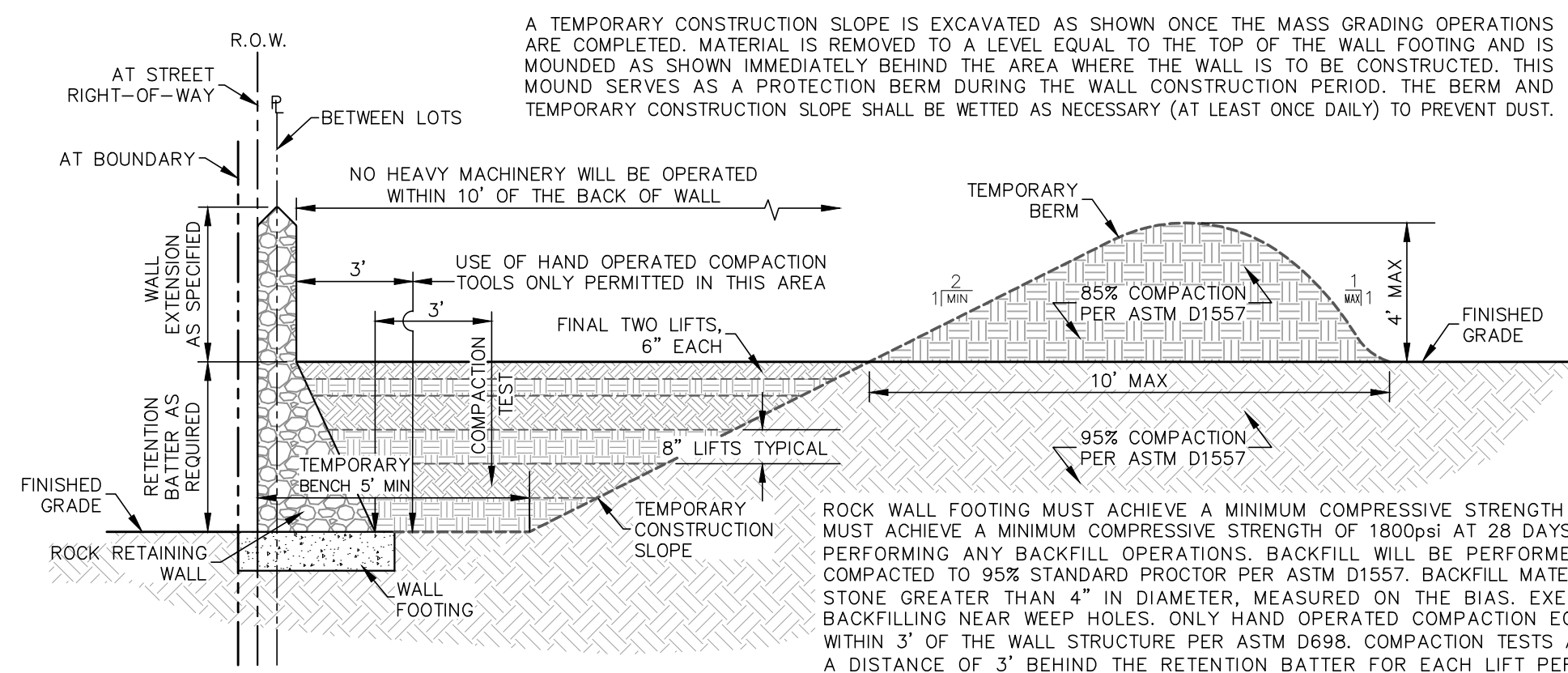


GRADING NOTES:

1. FOR GRADED SLOPES OF 10' OR LESS, THE EXISTING GROUND SLOPE SHALL BE BENCHMARKED AT 12" INTERVALS AS SHOWN.
2. FILL MATERIAL IS TO BE PLACED IN LIFTS OF NO GREATER THAN 6" AND COMPACTED TO A MINIMUM DENSITY OF 95% OF THE MODIFIED PROCTOR PER ASTM D-1557, WITH A MOISTURE CONTENT OF NOT LESS THAN 3%. A MINIMUM OF TWO LIFTS AND NOT MORE THAN THREE LIFTS PER BENCH SHALL BE REQUIRED.
3. FOR GRADED SLOPES GREATER THAN 10', THE EXISTING GROUND SLOPE SHALL BE BENCHMARKED AT 24" INTERVALS AS SHOWN, WITH THE FINAL 10' TO BE BENCHMARKED AS OUTLINED ABOVE.
4. FILL MATERIAL IS TO BE PLACED ON THE 24" BENCHES IN LIFTS OF NO GREATER THAN 8" AND COMPACTED TO A MINIMUM DENSITY OF 95% OF THE MODIFIED PROCTOR PER ASTM D-1557, WITH A MOISTURE CONTENT OF NOT LESS THAN 3%. A MINIMUM OF THREE LIFTS AND NOT MORE THAN FOUR LIFTS PER BENCH SHALL BE REQUIRED.
5. WHEN BACKFILLING SLOPE TO SLOPE, THE FINAL TWO 12" LIFTS ARE TO BE BENCHMARKED INTO THE EXISTING GROUND SLOPES A MINIMUM OF 5' AS SHOWN ABOVE.
6. ALL BENCHES CUT INTO THE EXISTING GROUND SLOPES SHALL BE SCARIFIED TO A DEPTH OF 6" MINIMUM AND SHALL BE WETTED PRIOR TO PLACING FILL MATERIALS.

GROUND STITCHING

SCALE: 1" = 2'-0"



A TEMPORARY CONSTRUCTION SLOPE WILL NOT BE REQUIRED FOR RETENTION CONDITIONS OF 36" OR LESS. HOWEVER, ALL REFERENCES TO CONCRETE AND MORTAR COMPRESSIVE STRENGTHS AS WELL AS COMPACTION, TO INCLUDE DENSITIES, METHODS AND EQUIPMENT TO BE USED, LIFT DEPTHS AND TESTING THEREOF SHALL STILL APPLY.

TEMPORARY CONSTRUCTION SLOPE FOR ROCK RETAINING WALL

SCALE: 1" = 4'-0"

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

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AFTER HOURS EMERGENCY (EPW) 1-800-706-TESS
TEXAS EXCAVATION SAFETY SYSTEM 594-5775
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NANCY HAYES
124376
PROFESSIONAL ENGINEER

CSA DESIGN GROUP, INC.

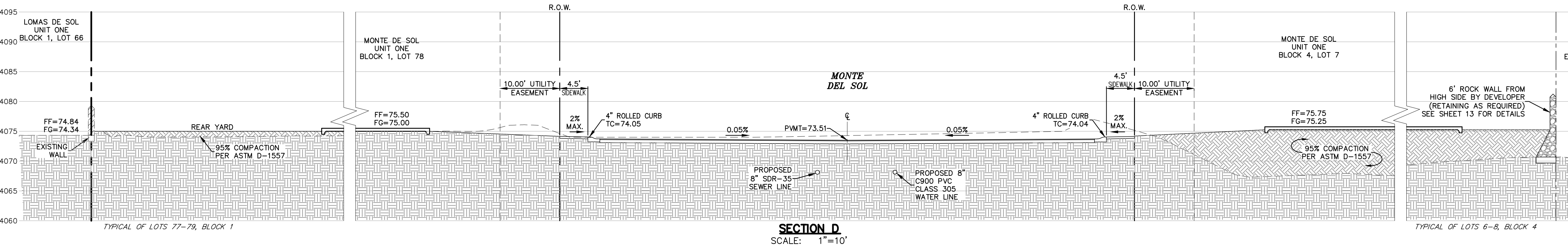
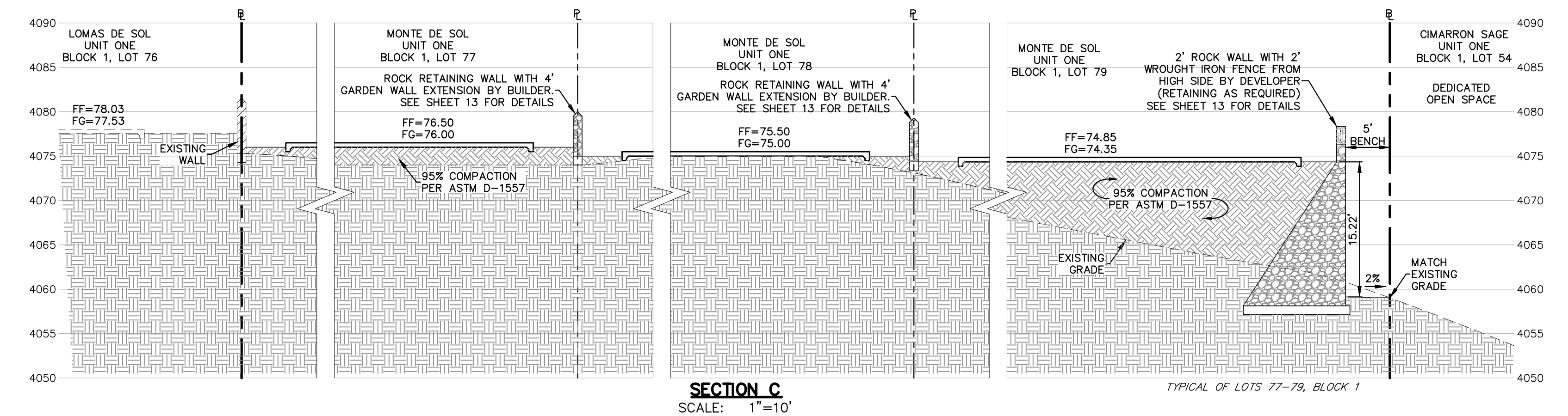
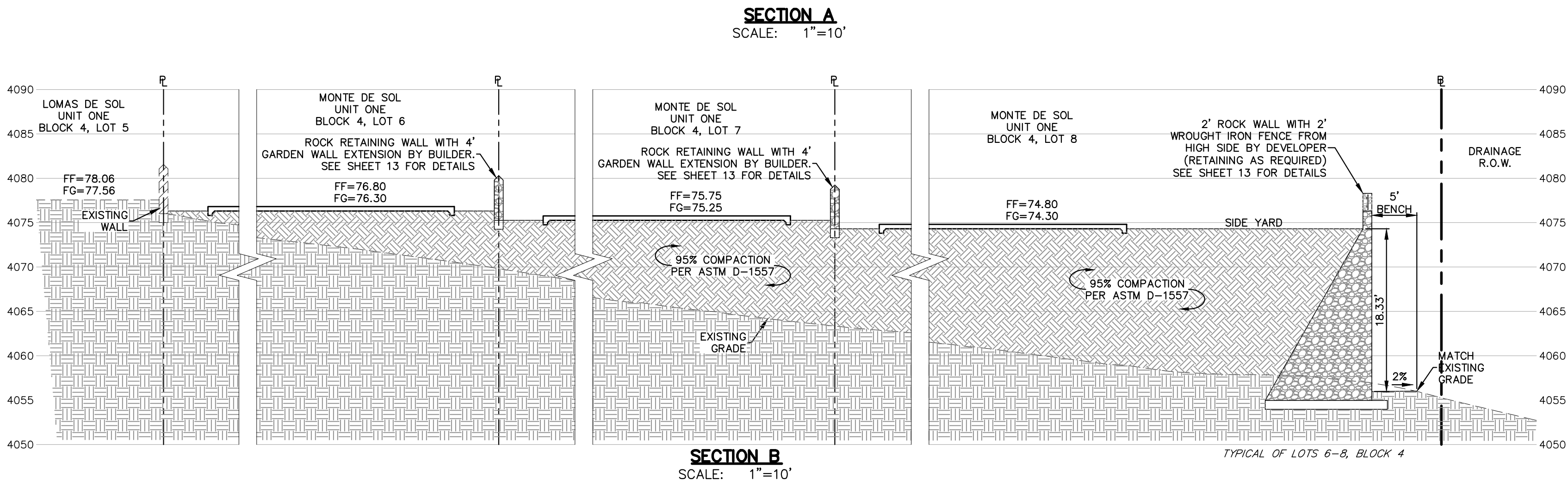
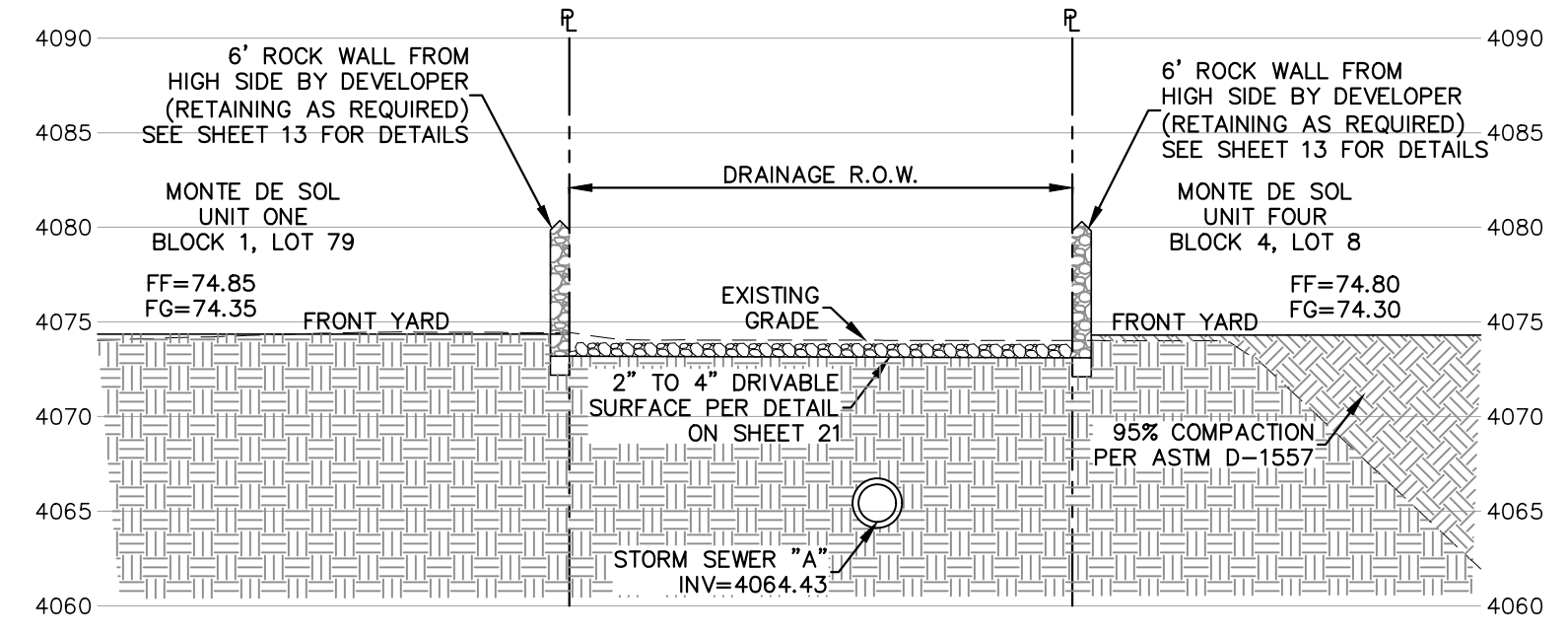
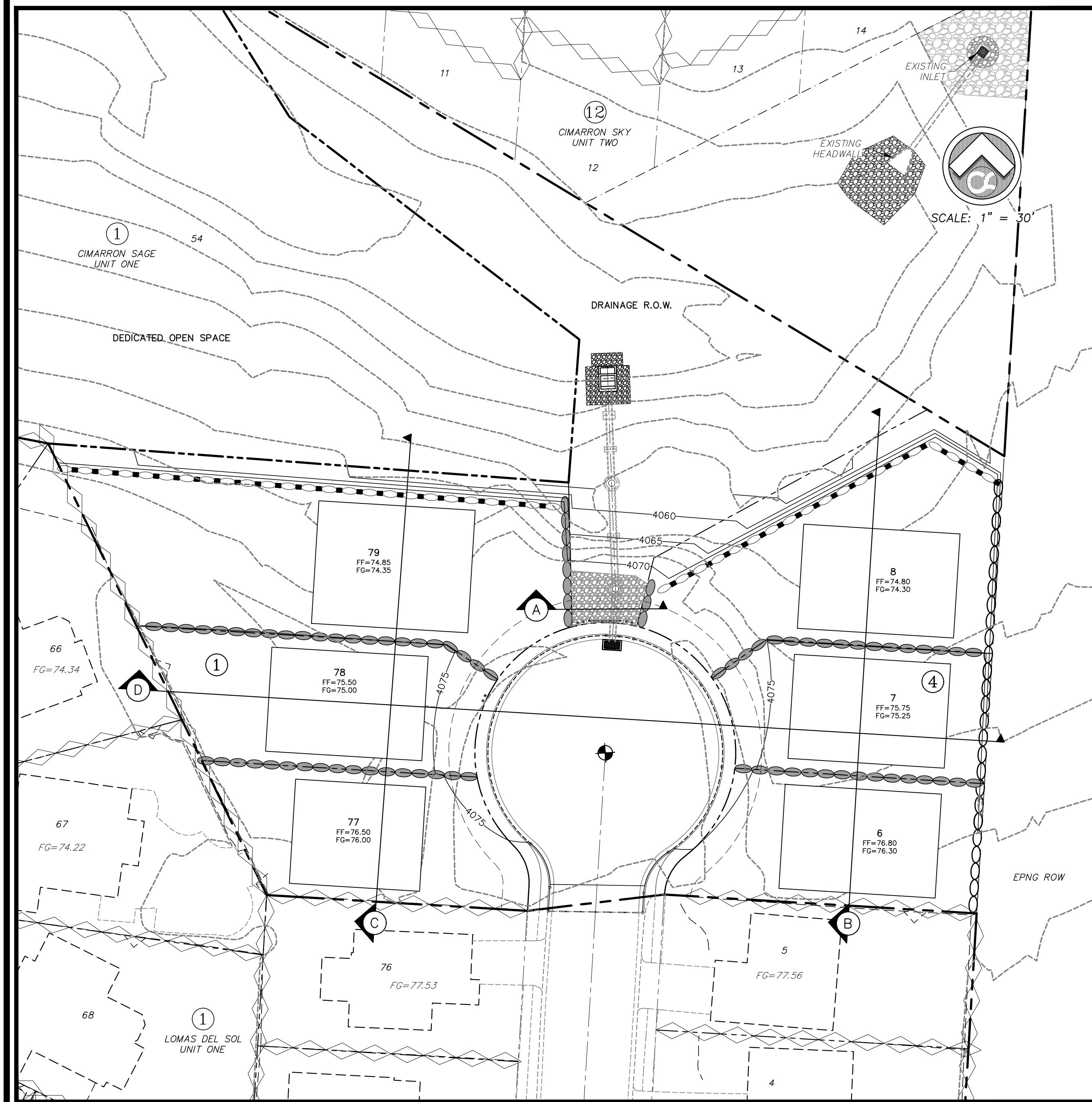
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El Paso, Texas 79912
tel [915] 877-4155
fax [915] 877-4334
www.csaengineers.com

SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

TYPICAL CROSS SECTIONS

COB	2020-08
COB-DG	07/08/2020
DATE BY	DATE OF COMPLETION
AHO	AS NOTED
CHECKED BY	SCALE

SHEET NO. 9
SHEET SEQUENCE 9 OF 29



ALL BOUNDARY PERIMETER WALLS AND RETAINING WALLS GREATER THAN 4' SHALL BE INSTALLED BY THE DEVELOPER. ALL EXISTING AND PROPOSED SIDEWALKS, BARRIER FREE RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S. AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET CURRENT CITY OF EL PASO STANDARDS.

ALL ACCESSIBLE RAMPS INSTALLED BY DEVELOPER. ALL SIDEWALKS WITHIN CITY RIGHT-OF-WAY ARE TO BE INSTALLED BY BUILDER UNLESS SPECIFIED OTHERWISE.

ALL CURBS AS SHOWN IS 6" STANDARD CURB AND GUTTER UNLESS NOTED OTHERWISE.

ALL OFFSITE GRADED SLOPES SHALL BE MAINTAINED BY THE DEVELOPER. ALL SLOPES WITHIN THE LOTS SHALL BE MAINTAINED BY THE HOME OWNER. ALL SLOPES LEFT NATURAL ARE 3:1 MAXIMUM. SLOPES GREATER THAN 3:1 REQUIRE SLOPE STABILIZATION AS NOTED.

ANY RE-GRADE OF LOTS BY BUILDER SHALL BE BY SEPARATE PERMIT.

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

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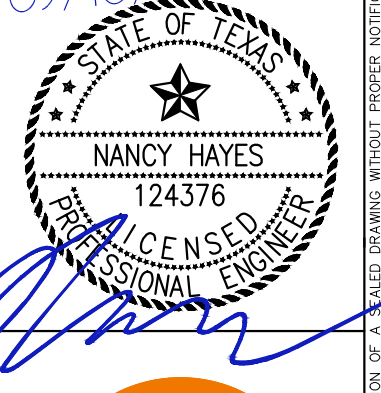
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PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411
AFTER HOURS EMERGENCY (EPW) 1-800-016-TESS
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TEXAS EVACUATION SAFETY SYSTEM 594-344-8377
EL PASO POLICE 544-3164
EL PASO BARRICADE SURVEILLANCE 1-800-238-3764
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tel [915] 877-4155
fax [915] 877-4334
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SUBDIVISION
MONTE DEL SOL UNIT ONE SUBDIVISION

SHEET TITLE
CROSS SECTIONS A-D

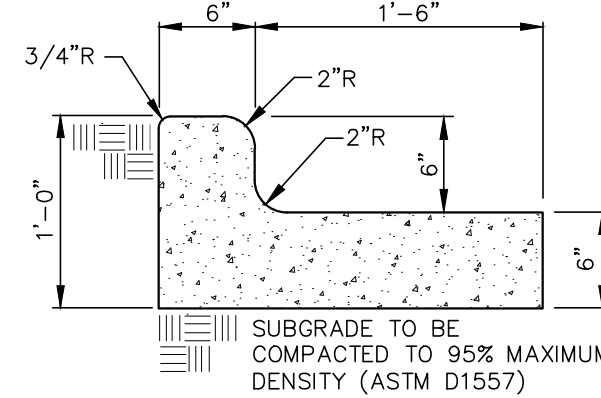
COB	2020-08
REASON BY	28
COB-DM-DG	07/08/2020
DATE BY	DATE OF COMPLETION
AHO	AS NOTED
CHECKED BY	SCALE

SHEET NO.
10
SHEET SEQUENCE
10 OF **29**

© CSA DESIGN GROUP, INC. - Sep 09, 2021 - 1:00pm
2020-08-28
Monte del Sol 07/08/2020 2:36 Submittal-Client/07/08/2020 2:36
10 1-Section.dwg
AHO

NOTES:

1. CONCRETE FOR CURBS, GUTTERS, & RETURNS SHALL BE 3000 P.S.I. MINIMUM.
2. DUMMY JOINT REQUIRED AT 10' O.C.
3. EXPANSION JOINTS REQUIRED AT CURB RETURNS. JOINTS TO BE PACKED WITH 1/2" PRE MOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.

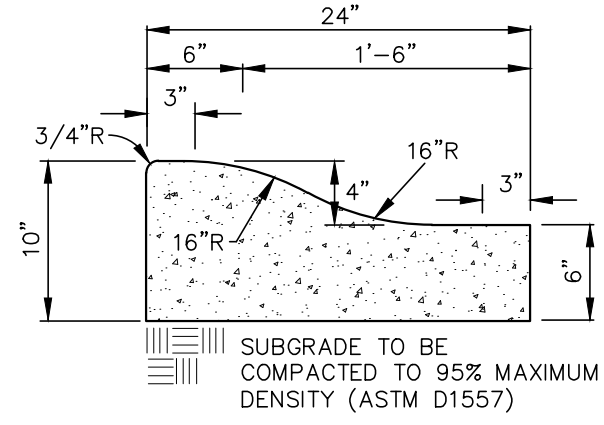


STANDARD 6" CURB & GUTTER DETAIL

SCALE: 1" = 1'-0"

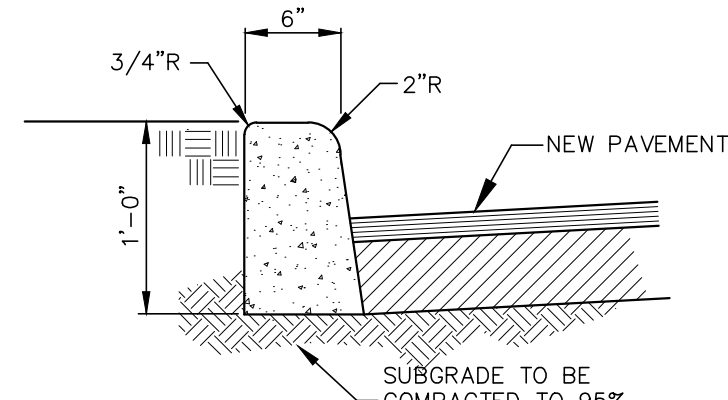
NOTES:

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4" ROLLED CURB TURNING HEEL & CUL-DE-SACS

SCALE: 1" = 1'-0"

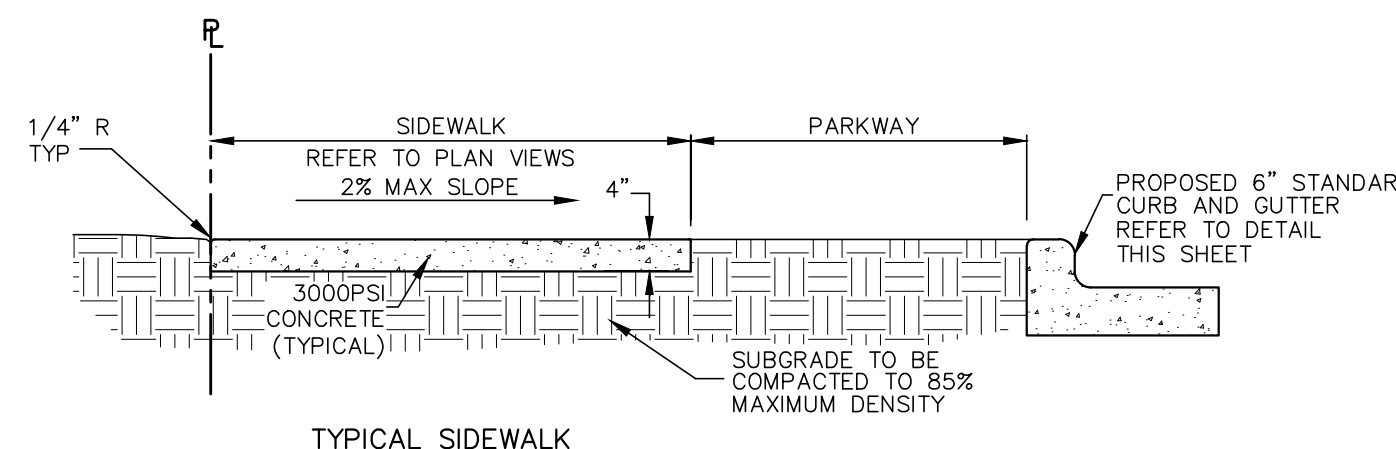


NOTES:

1. CONCRETE FOR CURBS, GUTTERS, & RETURNS SHALL BE 3000 P.S.I. MINIMUM.
2. DUMMY JOINT REQUIRED AT 10' O.C.
3. EXPANSION JOINTS REQUIRED AT CURB RETURNS. JOINTS TO BE PACKED WITH 1/2" PRE MOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.

STANDARD CURB

SCALE: 1" = 1'-0"

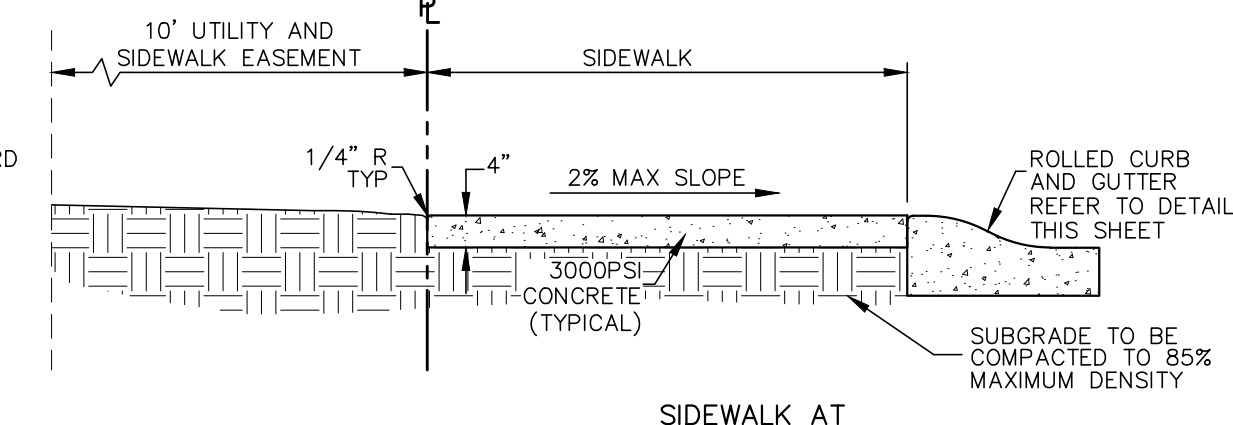


TYPICAL SIDEWALK

ALL EXISTING AND PROPOSED SIDEWALKS, BARRIER FREE RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S. AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.

NOTES:

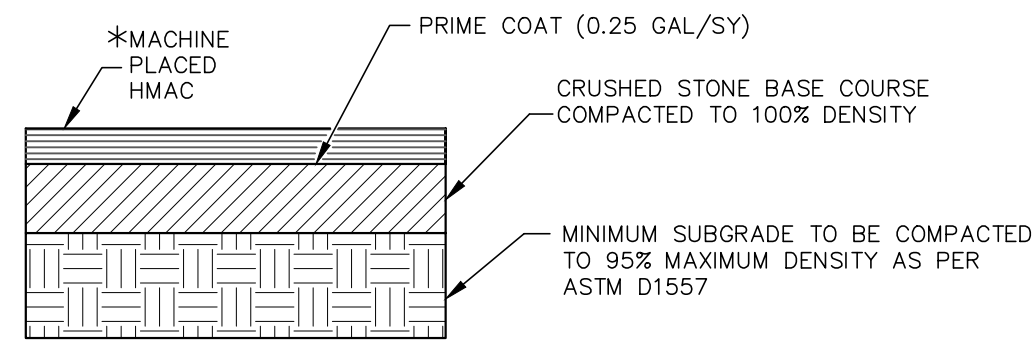
1. PROVIDE TRANSVERSE CONTRACTION JOINTS AT INTERVALS NOT EXCEEDING 5'-0" O.C.
2. PROVIDE EXPANSION JOINTS AT INTERVALS NOT EXCEEDING 20'-0" O.C. AND ALONG FEATURES THAT PROJECT THROUGH OR ADJACENT TO SIDEWALK
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS
4. EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED JOINT FILLER, AASHTO M-33.
5. WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS, EXPANSION JOINT FILLER SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
6. ALL SIDEWALKS FRONTING LOTS, AND ALL SIDEWALKS ADJACENT TO THE SIDES OF LOTS SHALL BE INSTALLED BY THE BUILDER OF THAT LOT UNLESS SPECIFIED OTHERWISE IN THE PLANS.



SIDEWALK AT AND CUL-DE-SAC

SIDEWALK DETAILS

SCALE: 1" = 2'

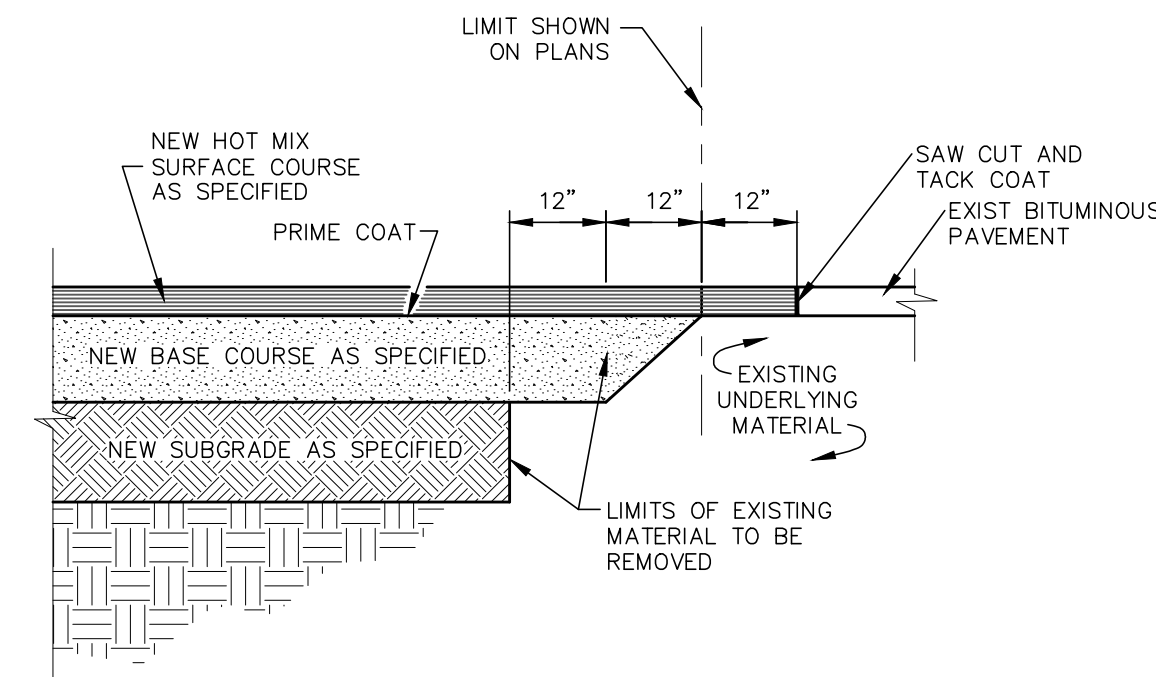


GENERAL H.M.A.C. PAVING NOTES:

1. FOR RECOMMENDATIONS REFER TO THE STANDARD PAVEMENT DESIGN BY SPEESOL, INC. PROJECT NO. SPG21026P, DATED 16 FEBRUARY 2021
2. BASE COURSE SHALL MEET THE REQUIREMENTS FOR TYPE "A", GRADE 1 OR 2 MATERIAL ACCORDING TO ITEM 247, FLEXIBLE BASE, AS DESCRIBED IN THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES. ALL THE REQUIREMENTS OF THIS DOCUMENT SHALL BE MET, EXCEPT WHERE DENSITY IS SPECIFIED. THE DENSITY SHALL BE NOT LESS THAN 100% OF ASTM D1557.
3. THE SURFACE COARSE SHALL MEET THE REQUIREMENTS FOR (HMAC), TxDOT TYPE "C" AS SPECIFIED IN ITEM 340 HMAC (HOT MIX ASPHALTIC CONCRETE PAVEMENT), AS DESCRIBED IN THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES. STABILITY SHALL BE NOT LESS THAN 1500 POUNDS, WHEN COMPACTED AT 75 BLOWS. FURTHERMORE, THE MIX SHALL HAVE A FLOW BETWEEN 0.08" AND 0.16", ACCORDING TO THE MARSHALL STABILITY ANALYSIS.
4. SUBGRADE TO BE COMPACTED IN 8" LIFTS TO 95% MAXIMUM DENSITY AS PER ASTM D1557.
5. FINAL PAVEMENT DESIGN TO BE DETERMINED BASED UPON FINAL CBR TEST RESULTS (REFER TO APPLICABLE SUBDIVISION ORDINANCE-PAVEMENT THICKNESS DESIGN PROCEDURE).
6. *IF THE THICKNESS FOR "CBR" VALUES ARE HIGHER THAN MINIMUM PAVEMENT THICKNESS SPECIFIED PER ORDINANCE, THE HIGHER VALUE SHALL BE USED.

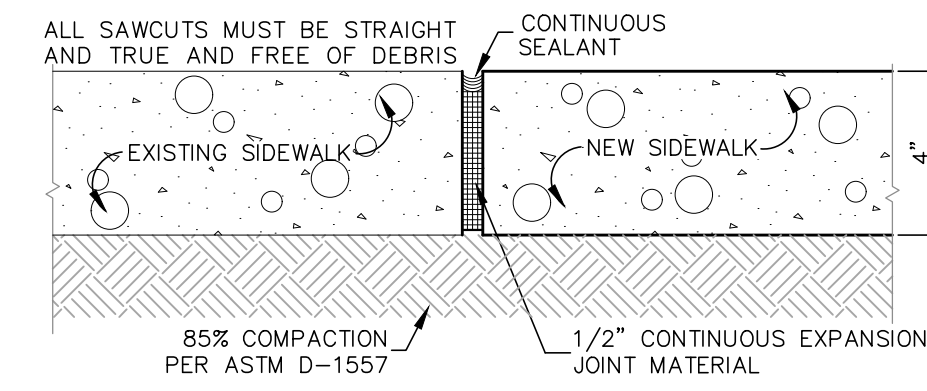
TYPICAL HMAC PAVEMENT SECTION

N.T.S.



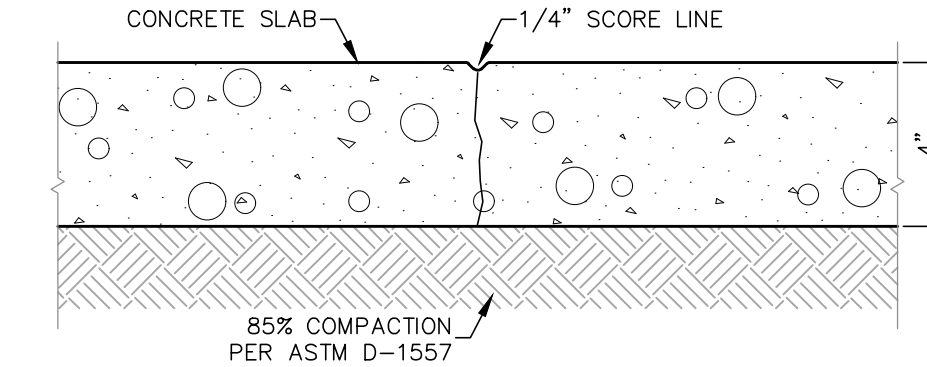
JUNCTURE OF NEW FLEXIBLE AND EXISTING FLEXIBLE PAVEMENT

SCALE: 1" = 2'-0"



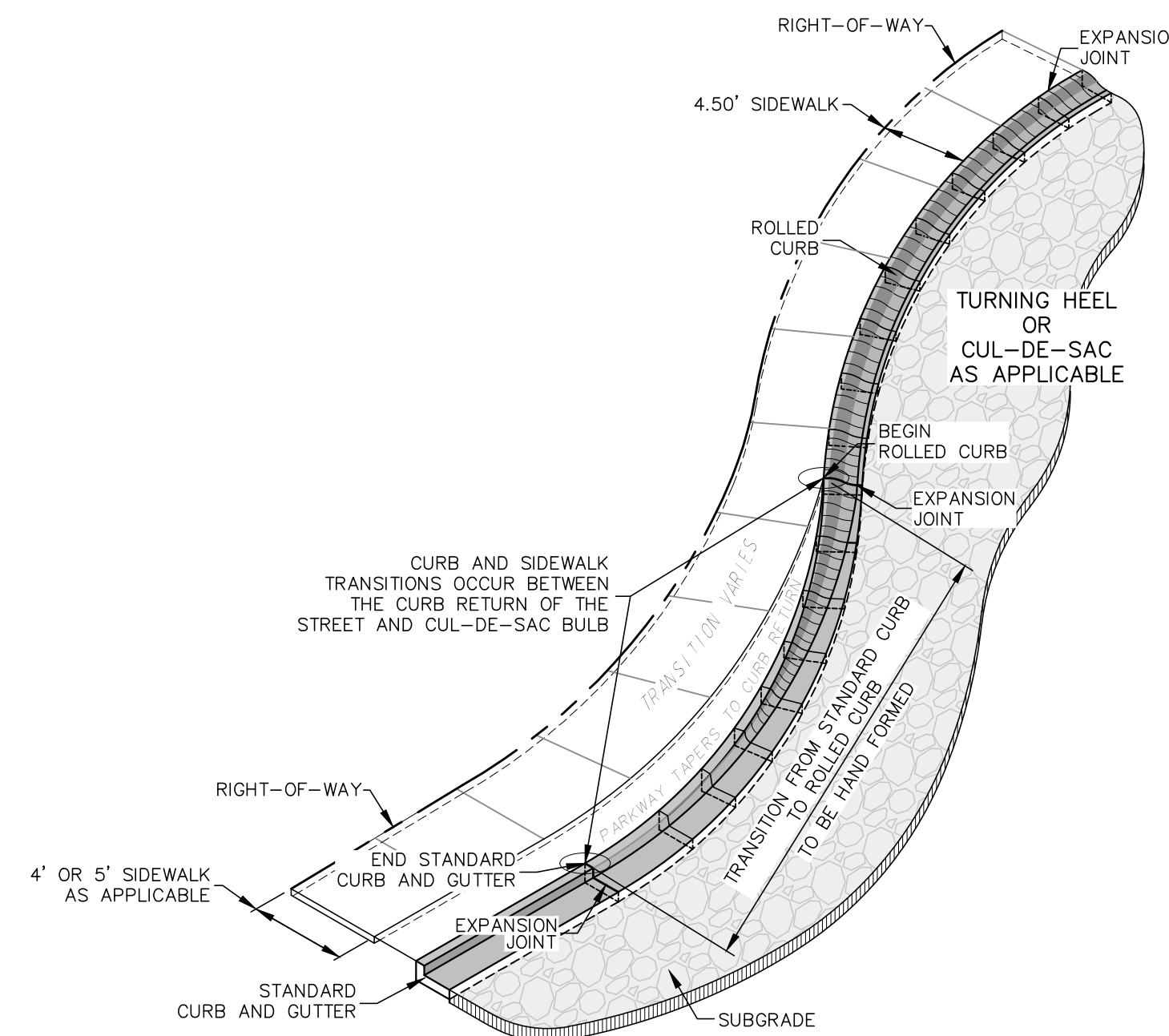
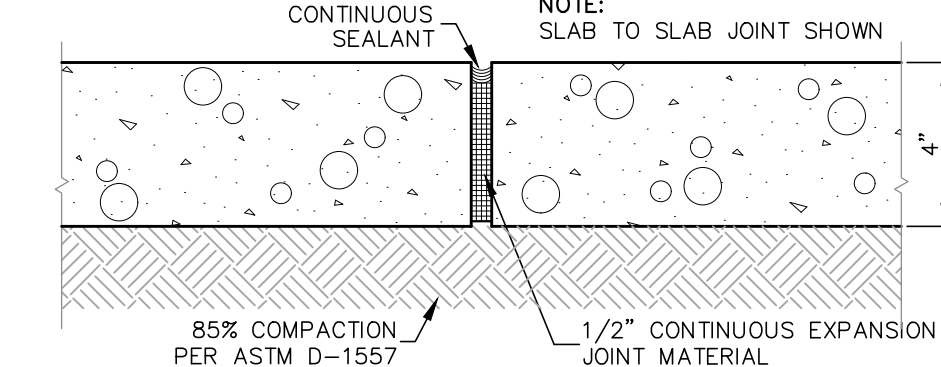
JUNCTURE OF EXISTING SIDEWALK AND NEW SIDEWALK

NOT TO SCALE



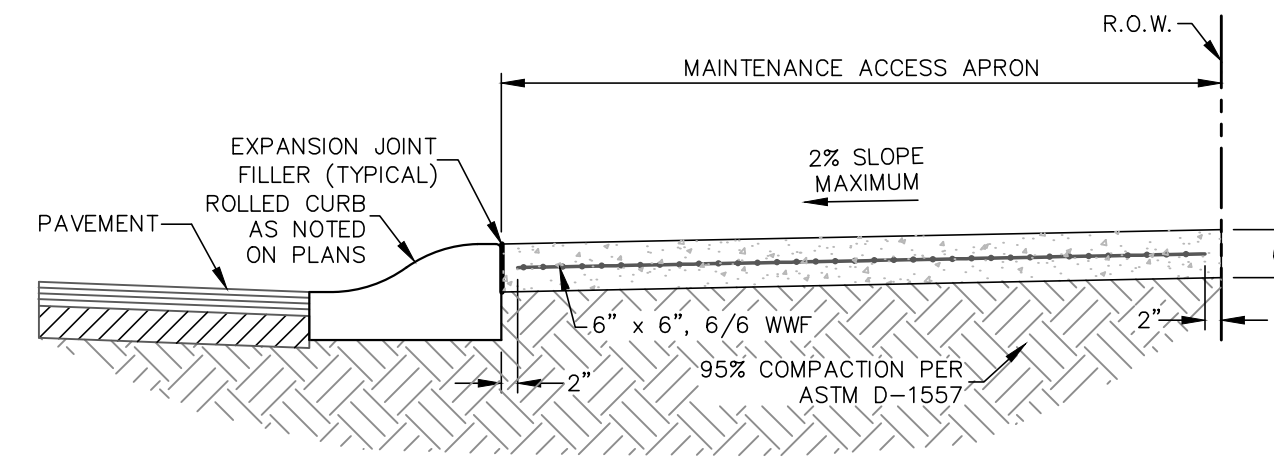
TYPICAL SIDEWALK JOINTS

NOT TO SCALE



TRANSITION FROM STANDARD CURB & GUTTER TO ROLLED CURB

N.T.S.

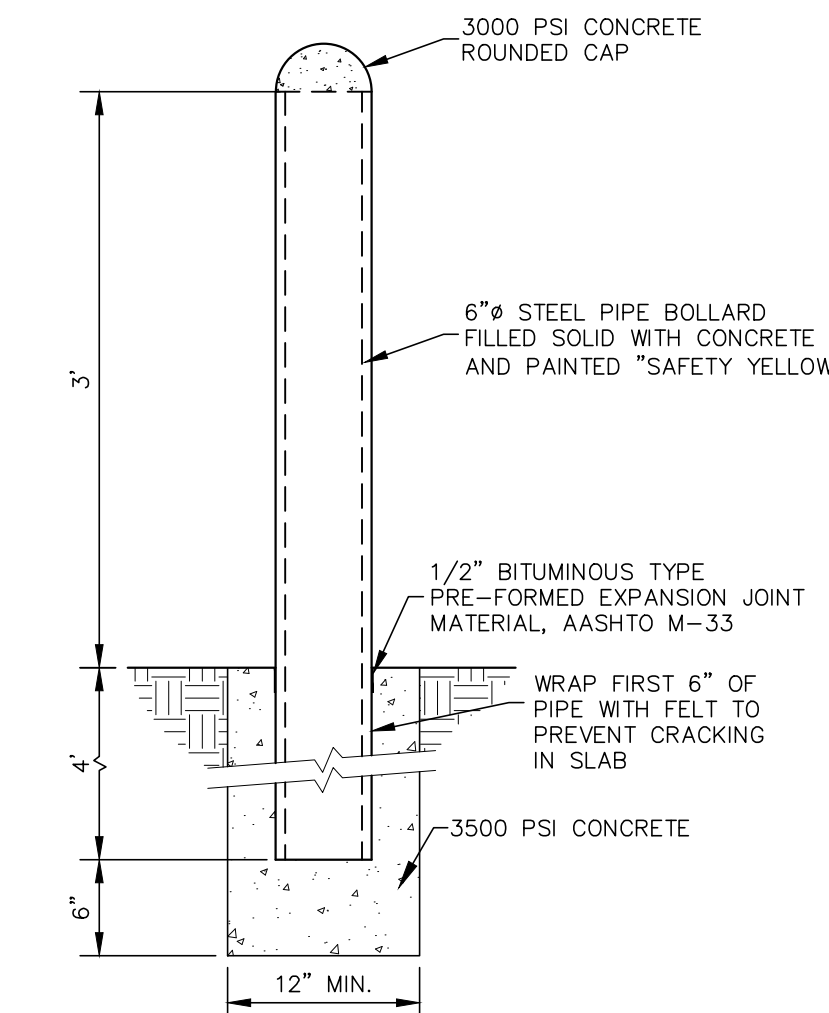


NOTES:

1. ALL CONCRETE USED SHALL BE 3500 PSI AT 28 DAYS.
2. SUBGRADE UNDER DRIVEWAY SHALL BE COMPACTED TO 95% MAXIMUM DENSITY AS PER ASTM D-1557.
3. EXPANSION JOINT FILLER 1/2" BITUMINOUS TYPE PREFORMED, AASHTO M-33.

MAINTENANCE ACCESS APRON AT CUL-DE-SAC

SCALE: 1" = 2'-0"



6" BOLLARD DETAIL

SCALE: 1" = 1'-0"

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
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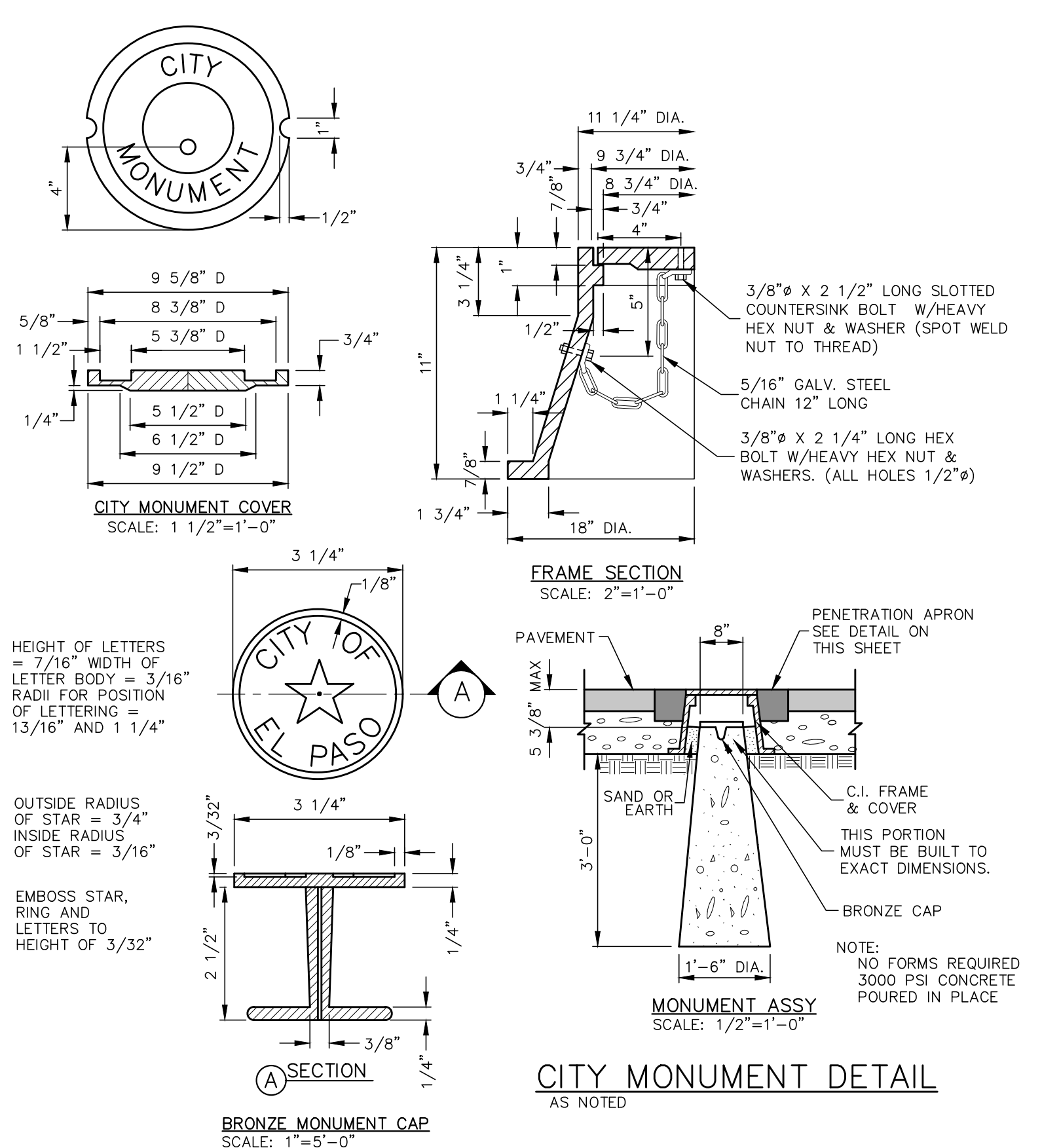
SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

SHEET TITLE

STANDARD DETAILS

GOB	2020-08
DESIGN BY	
GOB-DM-DG	07/08/2020
DATE OF COMPLETION	
AHO	AS NOTED
CHECKED BY	SCALE

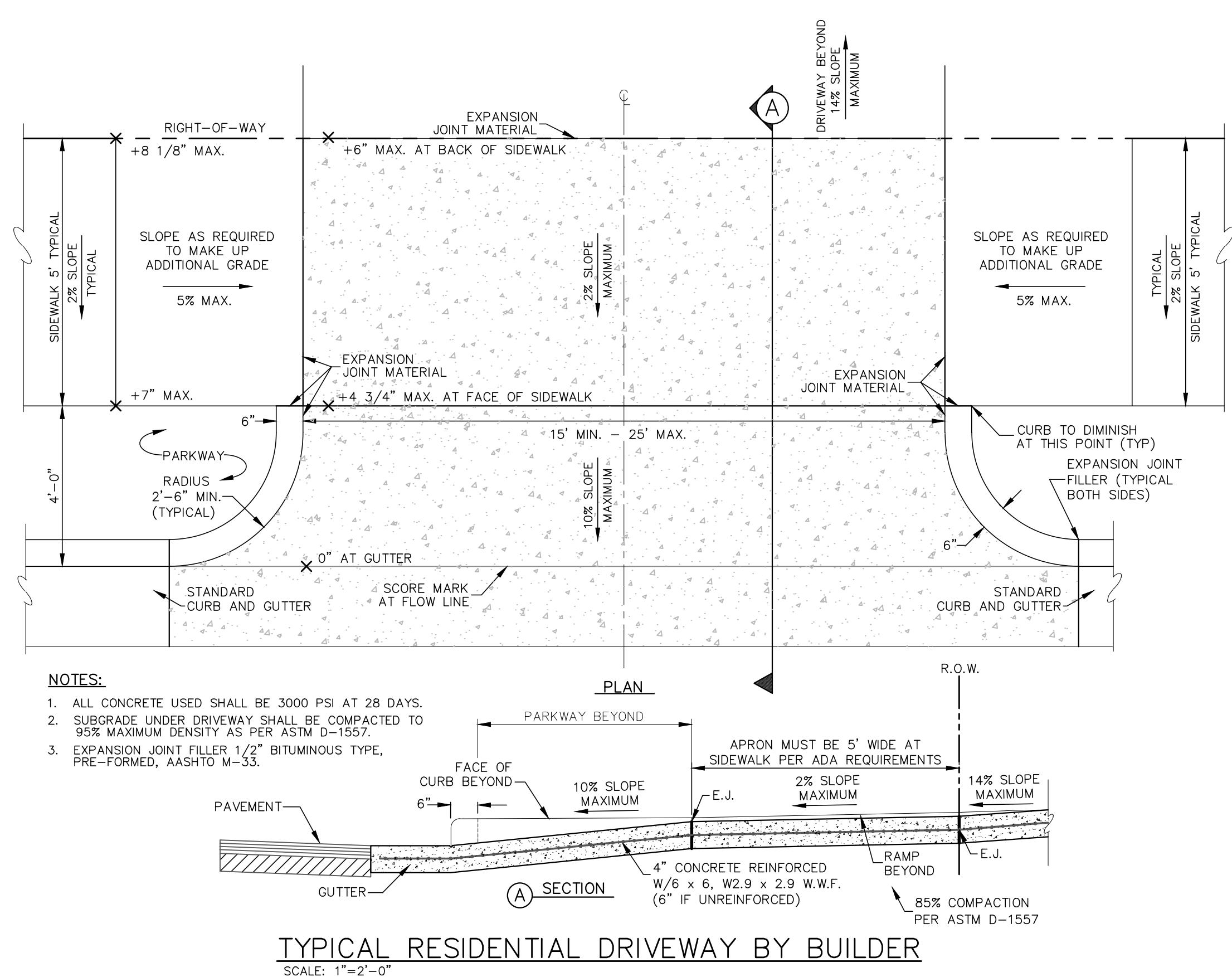
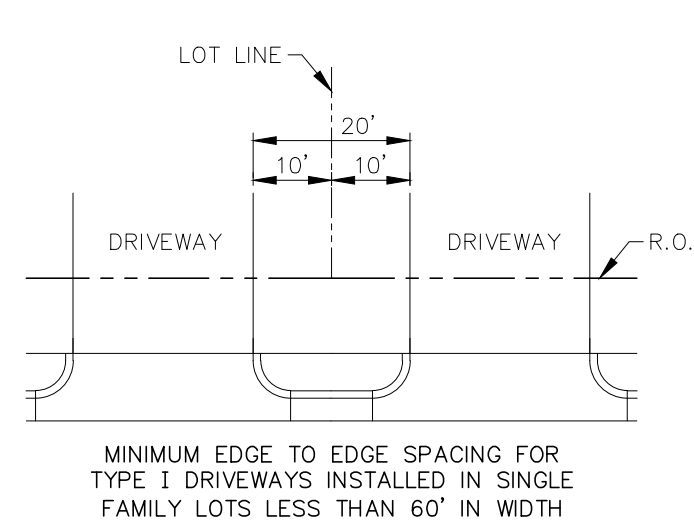
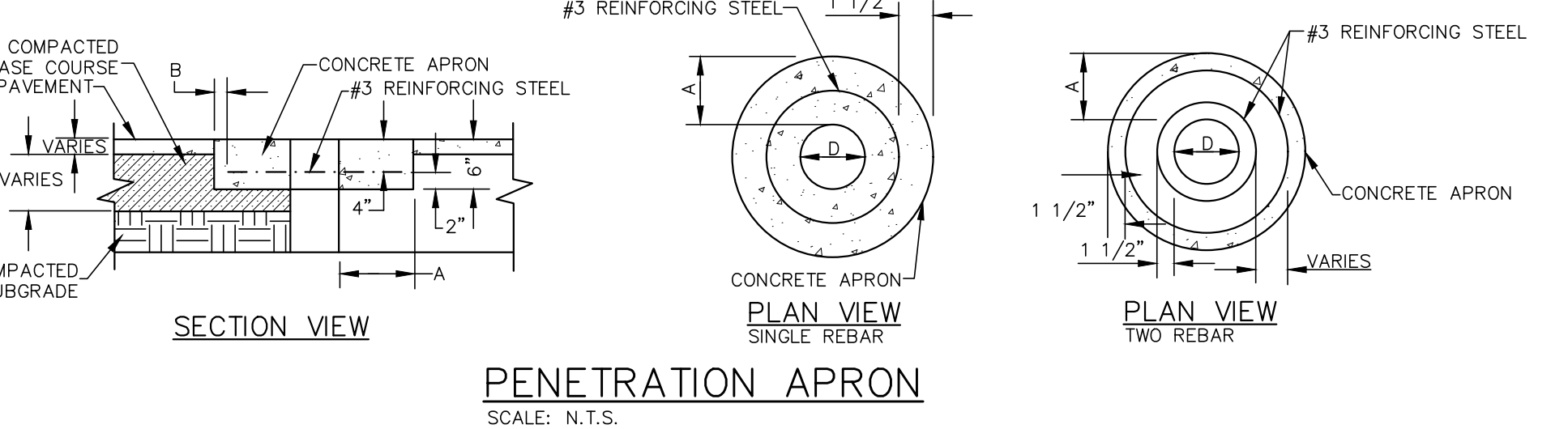
SHEET NO.
11
SHEET SEQUENCE
11 OF **29**



CONCRETE APRON FOR CIRCULAR PENETRATIONS IN ASPHALT PAVEMENT				
"D" DIAMETER OF PENETRATION (INCHES)	"A" CONCRETE HORIZONTAL DIMENSION FROM PENETRATION (INCHES)	NUMBER OF NO. 3 REINFORCING STEEL BARS (INCHES)	"B" MINIMUM CLEARANCE FROM EDGE OF CONCRETE APRON TO CENTER OF NEAREST REBAR (INCHES)	"C" MINIMUM CLEARANCE FROM PENETRATION EDGE TO CENTER OF NEAREST REBAR (INCHES)
0 TO 6.00	6	1	1 1/2	1 1/2
6.01 TO 18.00	8	2	1 1/2	1 1/2
18.01 AND OVER	12	3	1 1/2	1 1/2

- CONSTRUCTION NOTES:**
- ANY DISTURBED SUBGRADE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 95% DENSITY \pm 3% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 - ANY DISTURBED COARSE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 100% DENSITY \pm 2% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 - PROVIDE A MINIMUM OF 1 1/2" OF CONCRETE COVER FOR ALL REINFORCEMENT STEEL.
 - REINFORCING SHALL MEET ASTM C-478 AND TRAFFIC LOADING (HS-20).
 - NO. 3 REINFORCING STEEL HOOPS SHALL BE SPACED EQUALLY.

- GENERAL NOTES:**
- THE PENETRATION APRON SHOULD BE CAST IN-PLACE CONCRETE. (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI. HIGH EARLY CONCRETE IS REQUIRED)
 - TOPS OF PENETRATION APRON SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISH GRADE UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER.



- NOTES:**
- ALL CONCRETE USED SHALL BE 3000 PSI AT 28 DAYS.
 - SUBGRADE UNDER DRIVEWAY SHALL BE COMPACTED TO 95% MAXIMUM DENSITY AS PER ASTM D-1557.
 - EXPANSION JOINT FILLER 1/2" BITUMINOUS TYPE, PRE-FORMED, ASHTO M-33.

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL. PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
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1	10/9/2020	Client Review	AHO

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NANCY HAYES
124376
REGISTERED PROFESSIONAL ENGINEER

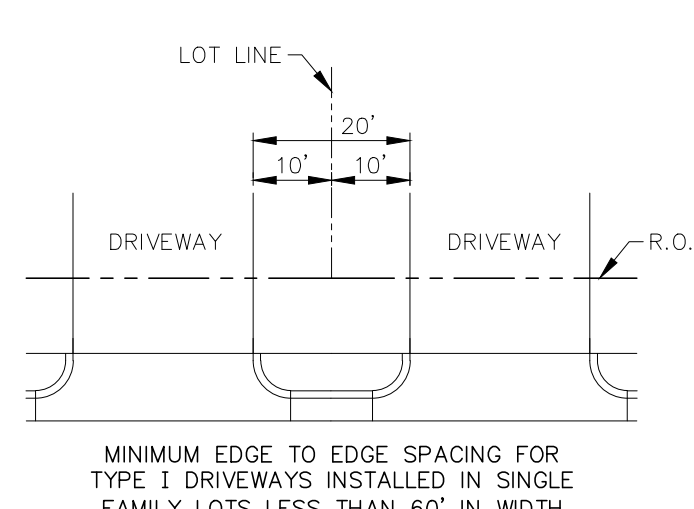
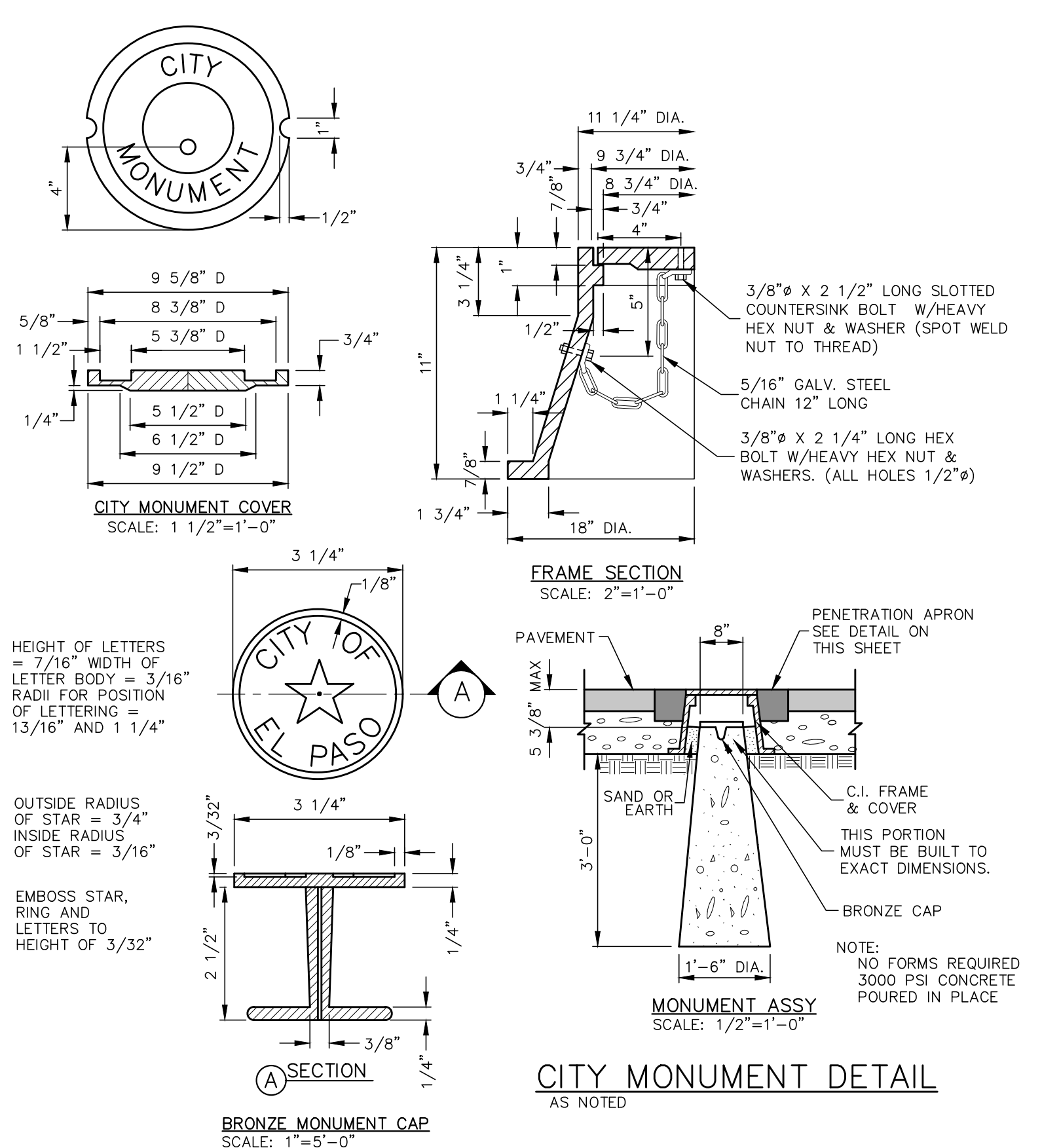
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SUBDIVISION
MONTE DEL SOL
UNIT ONE
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SHEET TITLE
STANDARD DETAILS

COB	2020-08
DESIGN BY	08
COB-DM-DG	07/08/2020
DATE OF COMMISSION	
AHO	AS NOTED
CHECKED BY	SCALE

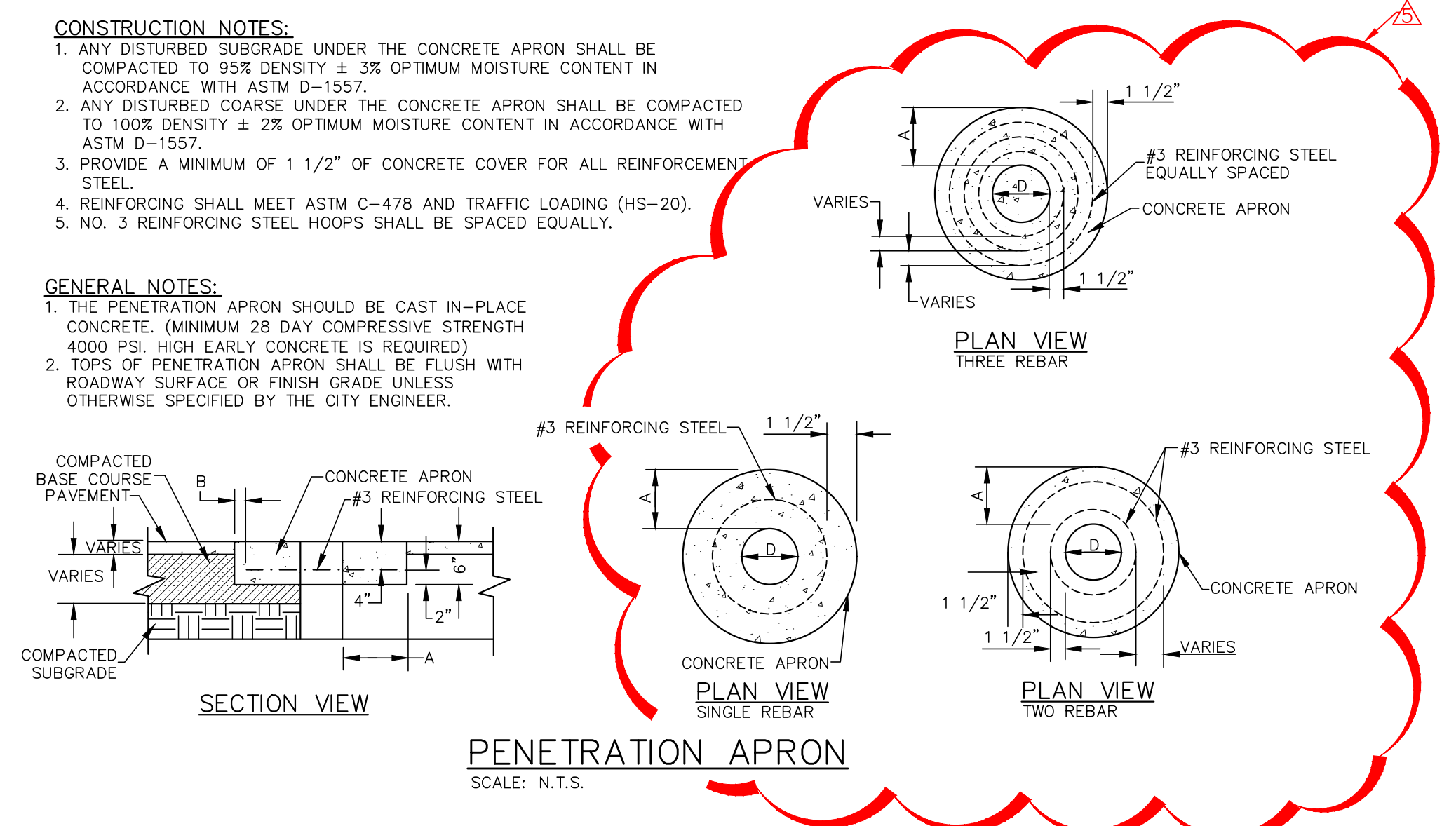
SHEET NO.
12
SHEET SEQUENCE
12 OF **29**



CONCRETE APRON FOR CIRCULAR PENETRATIONS IN ASPHALT PAVEMENT				
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NANCY HAYES

124376

PROFESSIONAL ENGINEER

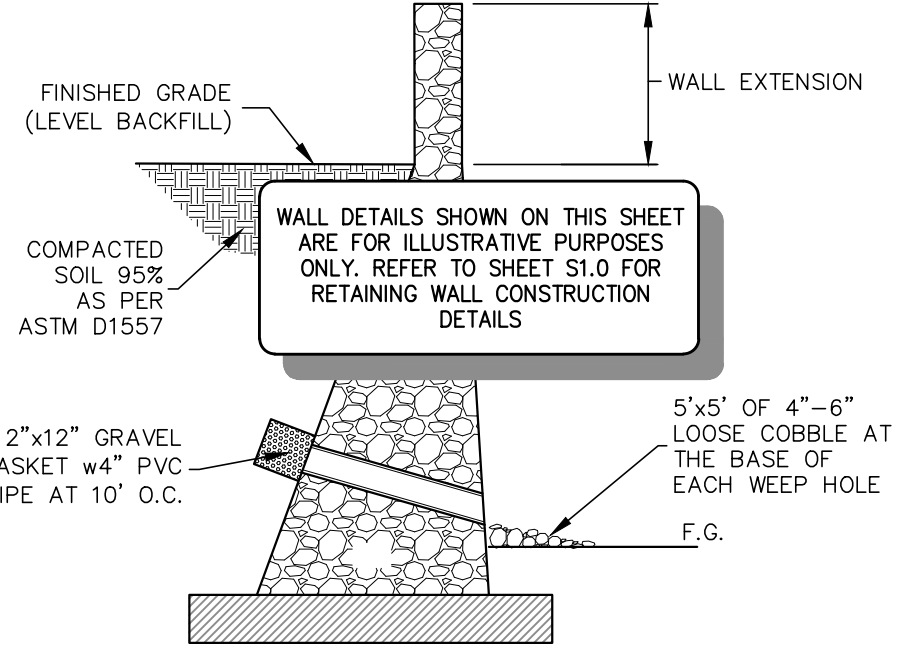
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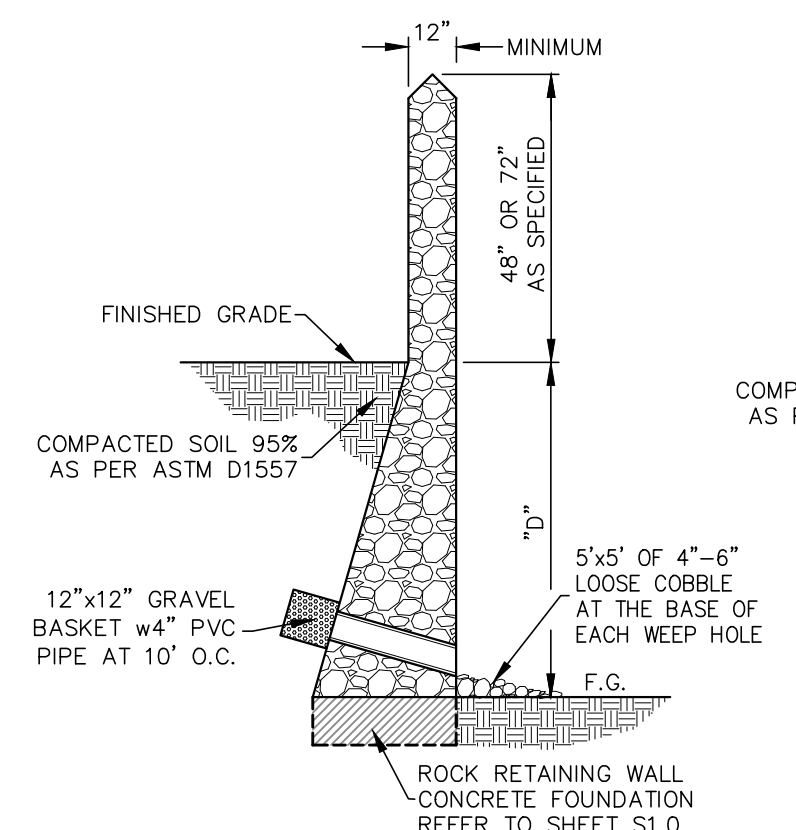
SHEET TITLE
STANDARD DETAILS

GOB	2020-08
DESIGN BY	08
GOB-DM-DG	07/08/2020
DATE OF COMMISSION	
AHO	AS NOTED
CHECKED BY	SCALE
SHEET NO.	12
SHEET SEQUENCE	12 OF 29

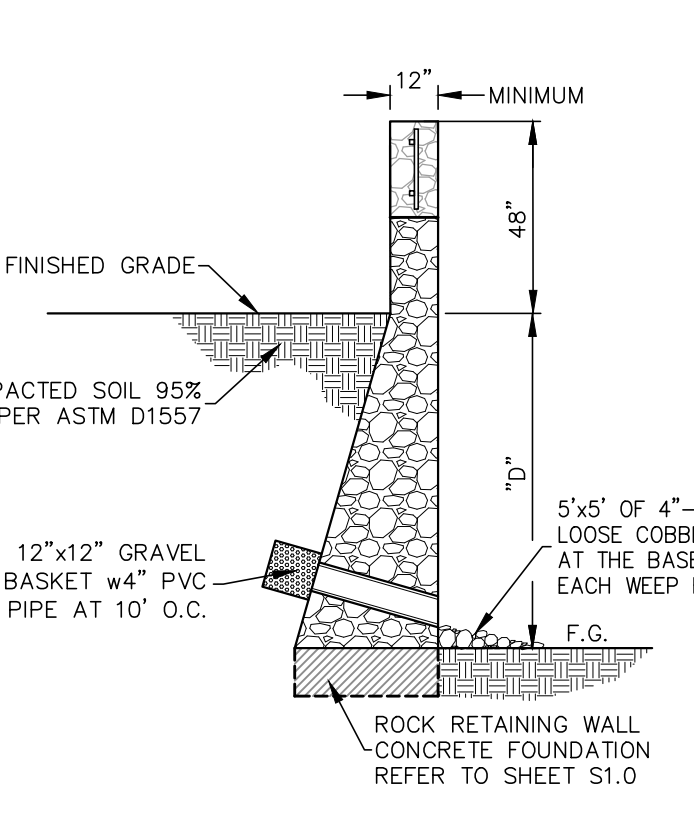


RETAINING WALL BY DEVELOPER
SCALE: NTS

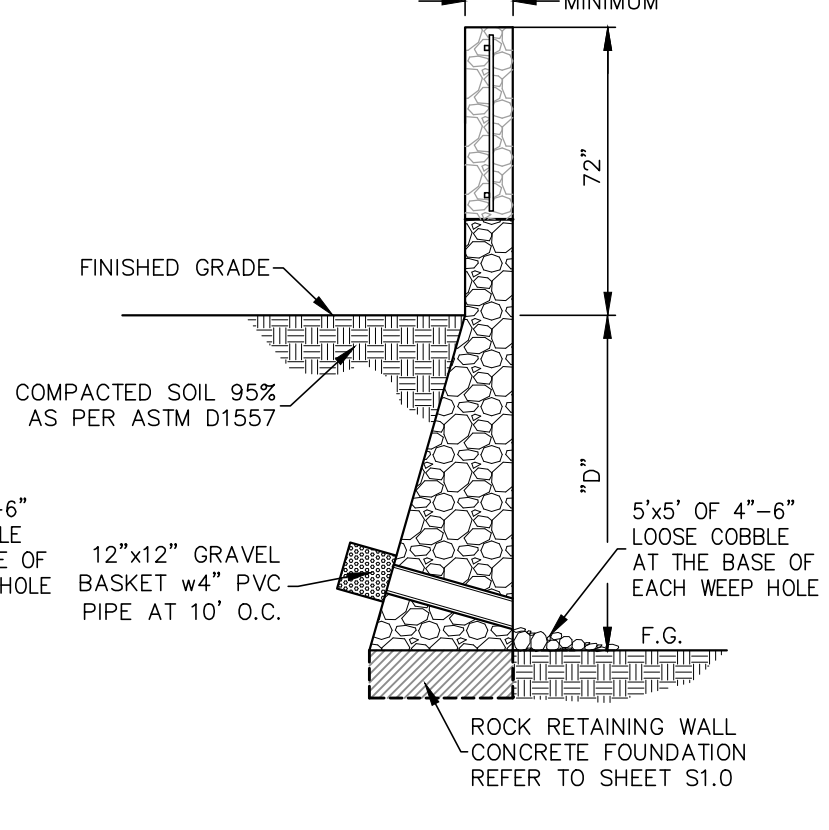
REFER TO SHEET S1.0 FOR RETAINING WALL MEASUREMENTS AND REBAR REQUIREMENTS



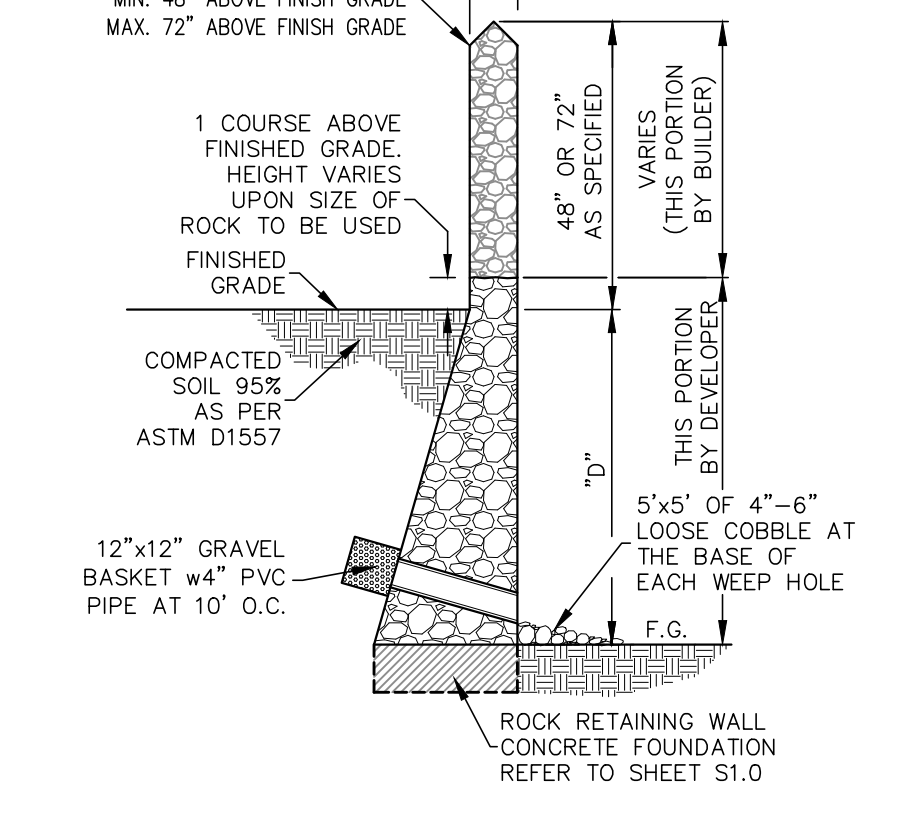
ROCK RETAINING WALL WITH GARDEN WALL EXTENSION
SCALE: NTS



ROCK RETAINING WALL WITH 2' GARDEN WALL AND 2' VIEW FENCE
SCALE: NTS

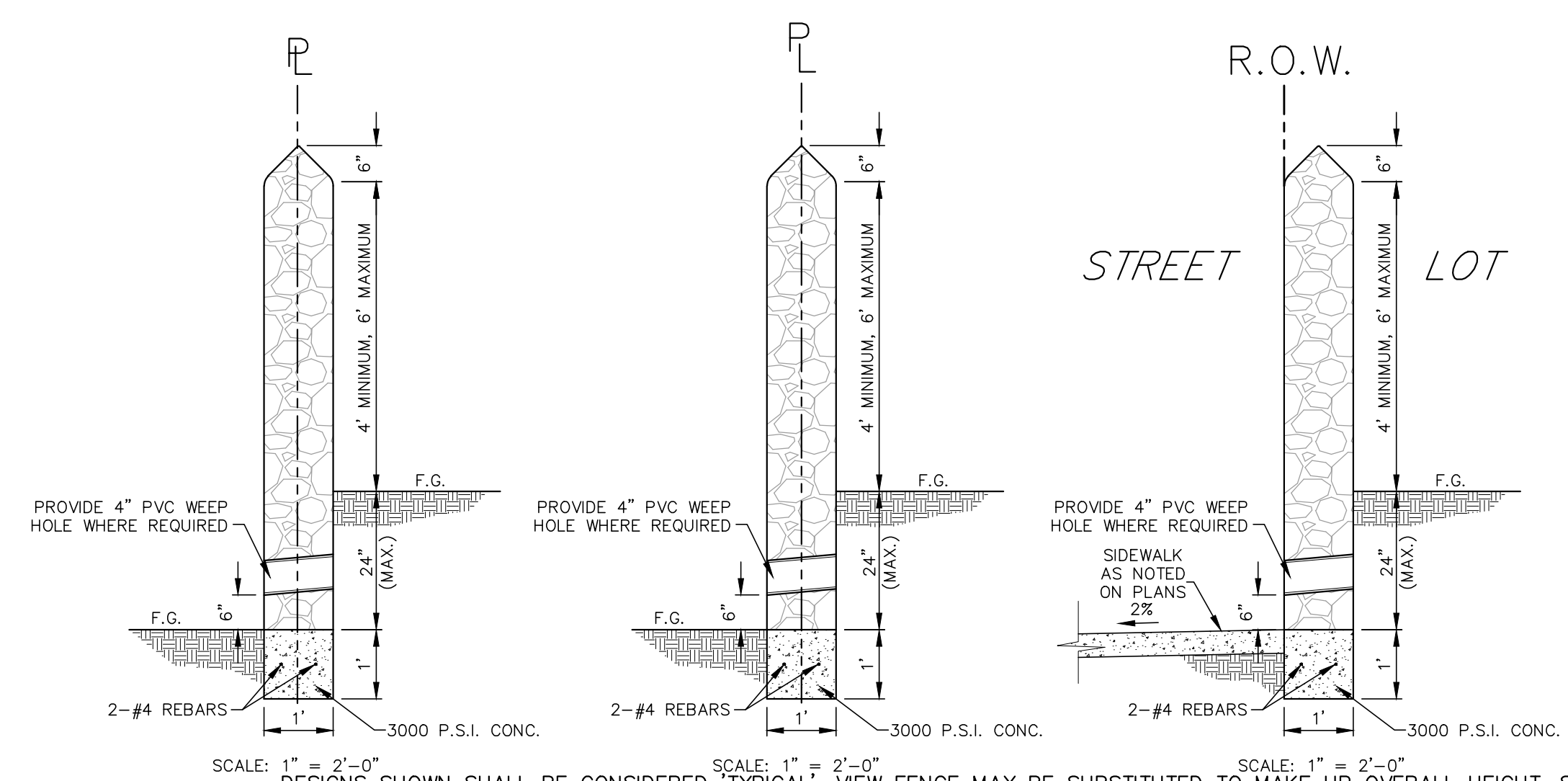


ROCK RETAINING WALL WITH 2' GARDEN WALL AND 4' VIEW FENCE
SCALE: NTS

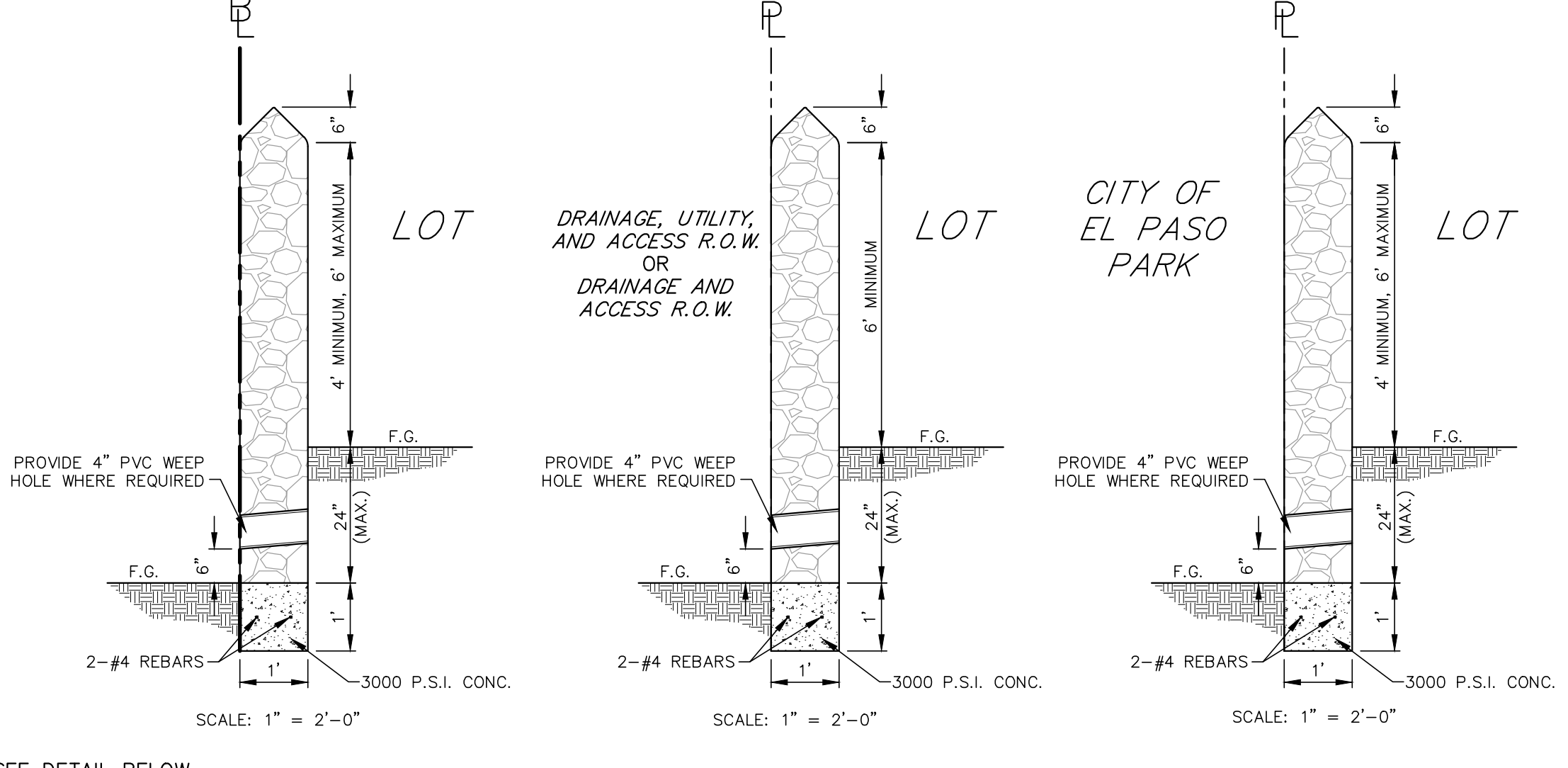


ROCK RETAINING WALL BY DEVELOPER WITH GARDEN WALL EXTENSION BY BUILDER
SCALE: NTS

REFER TO SHEET 14 ~ ADDITIONAL NOTES AND DETAILS MAY APPLY

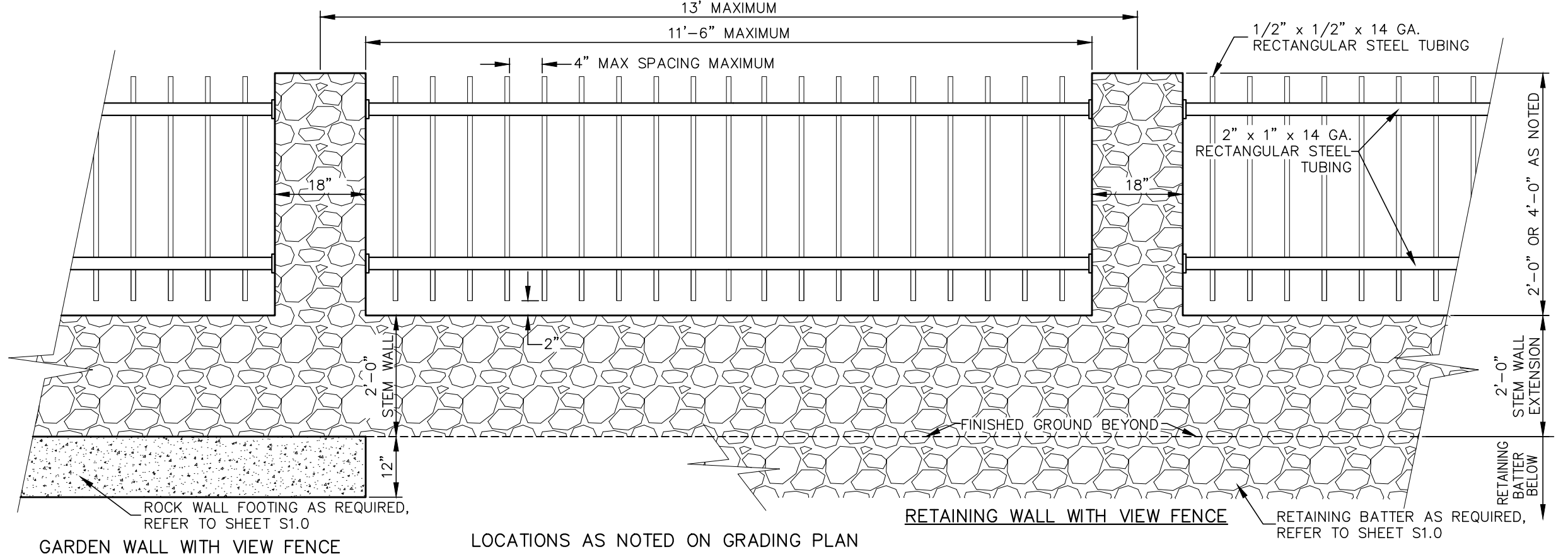


DESIGNS SHOWN SHALL BE CONSIDERED 'TYPICAL'. VIEW FENCE MAY BE SUBSTITUTED TO MAKE UP OVERALL HEIGHT. SEE DETAIL BELOW.

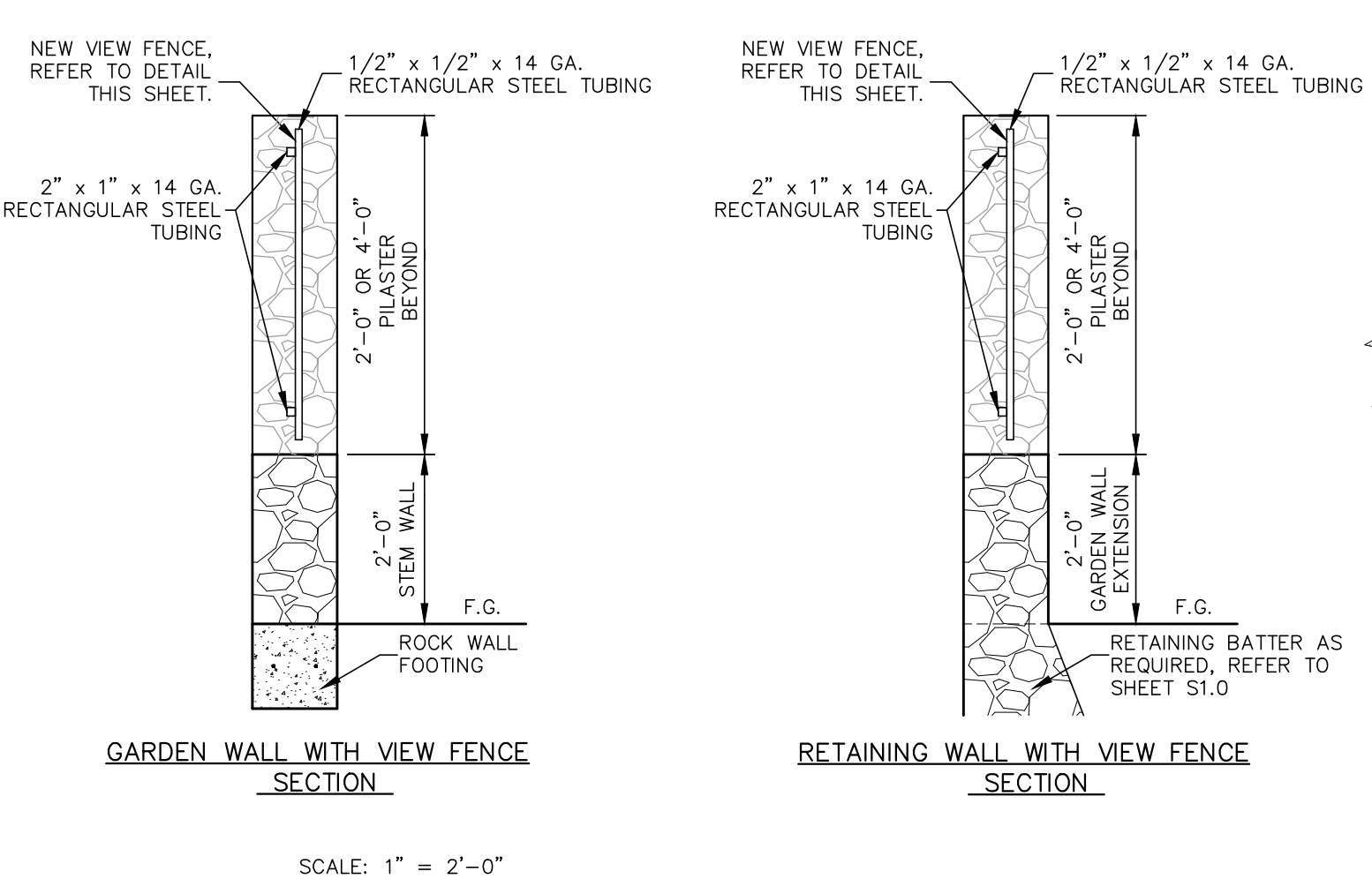


ALL ROCK WALLS AT THE SUBDIVISION BOUNDARY AND ROCK WALLS ABUTTING DRAINAGE AND ACCESS OR DRAINAGE, UTILITY AND ACCESS RIGHTS-OF-WAY, AND WALLS ABUTTING CITY OF EL PASO PARKS SHALL BE INSTALLED BY THE DEVELOPER.

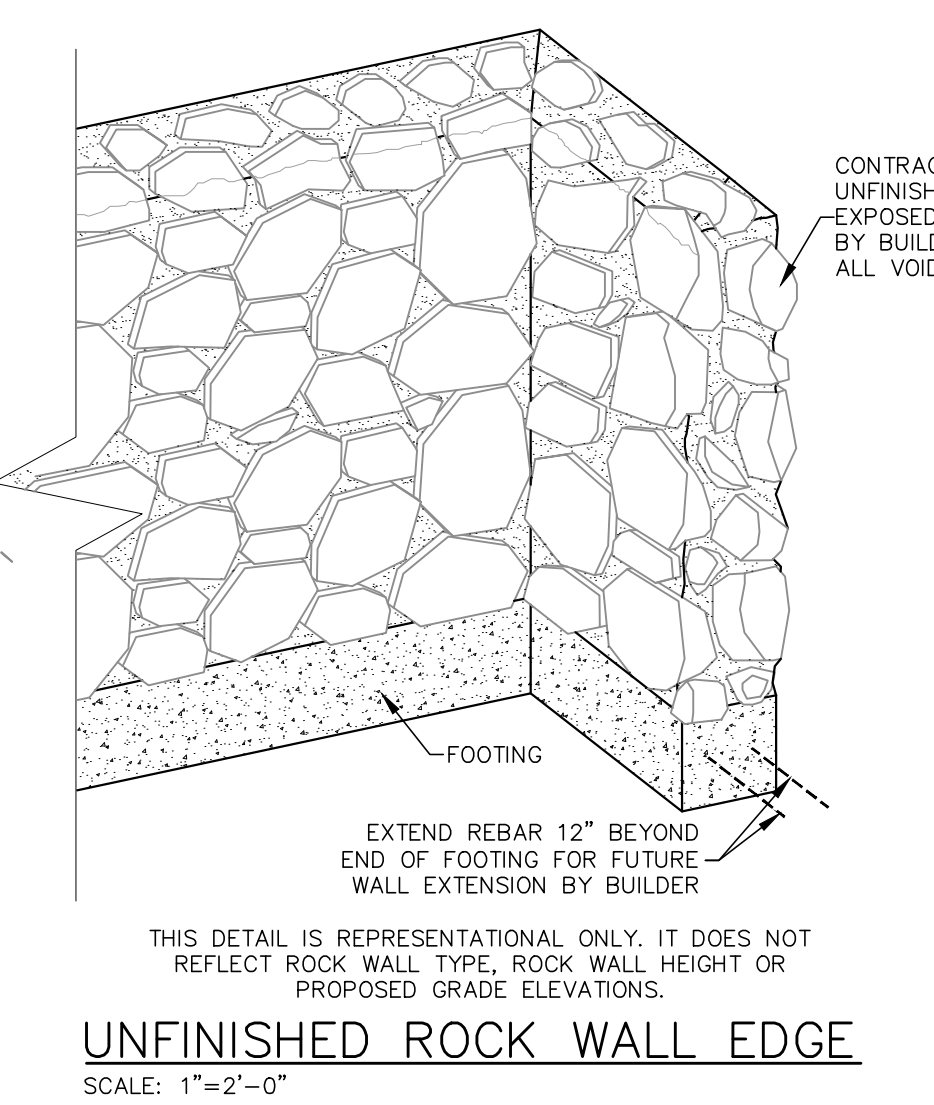
RETAINING WALLS GREATER THAN 4' SHALL BE INSTALLED BY THE DEVELOPER.



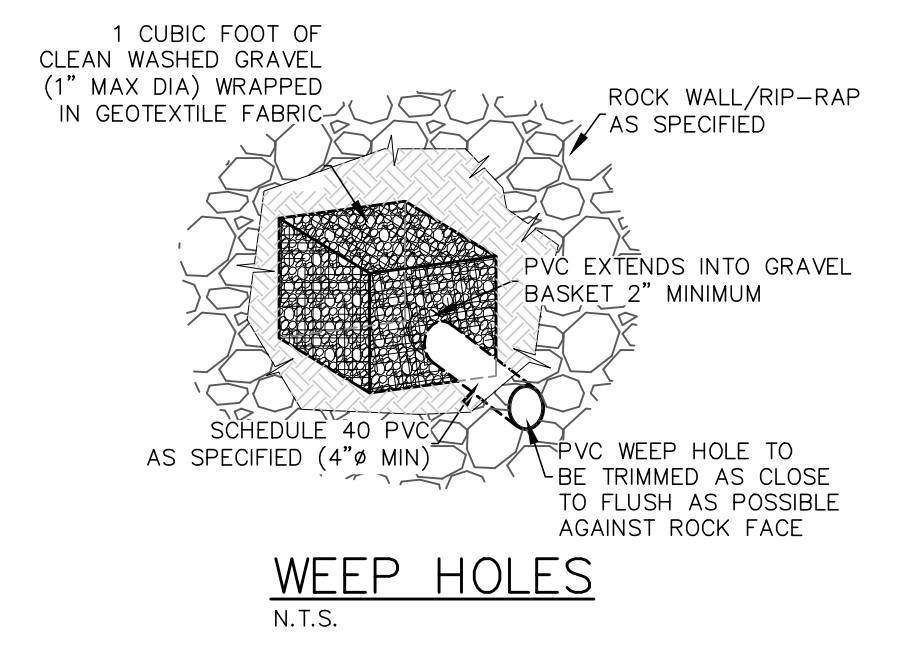
LOCATIONS AS NOTED ON GRADING PLAN



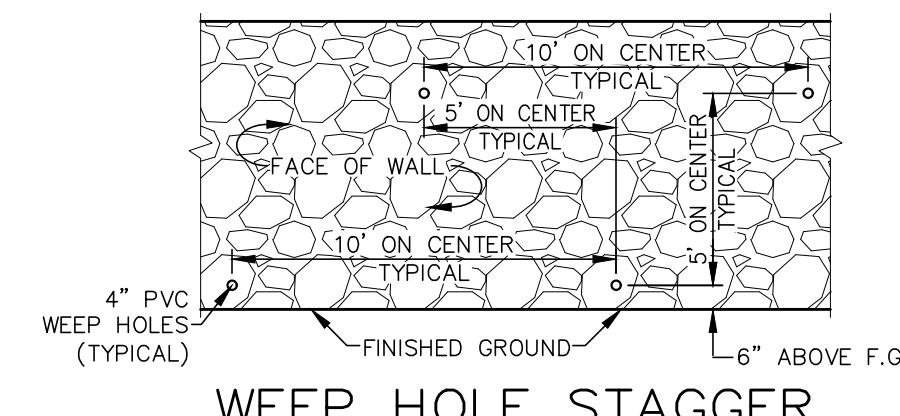
SCALE: 1" = 2'-0"



UNFINISHED ROCK WALL EDGE
SCALE: 1" = 2'-0"

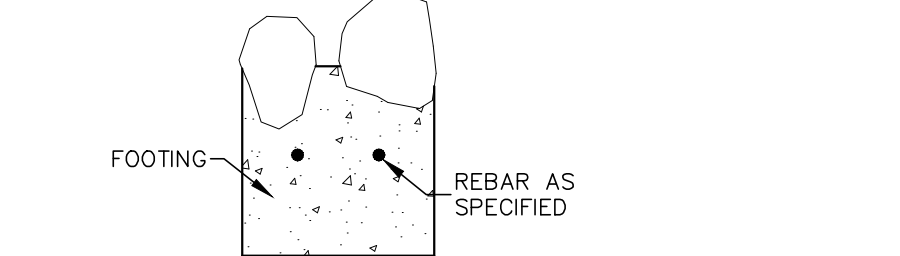


WEEP HOLES
N.T.S.



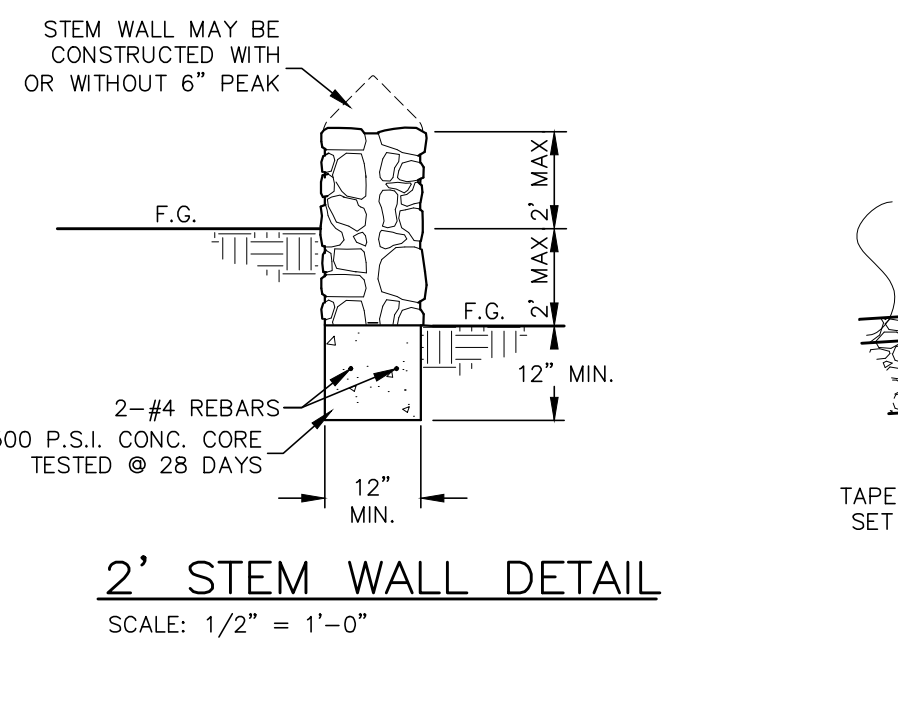
WEEP HOLE STAGGER
N.T.S.

ALL PVC FOR WEEP HOLES SHALL BE 4" DIAMETER SCHEDULE 40 MINIMUM, BLACK OR GRAY. WHITE OR OTHER COLORED PVC SHALL NOT BE ACCEPTED.

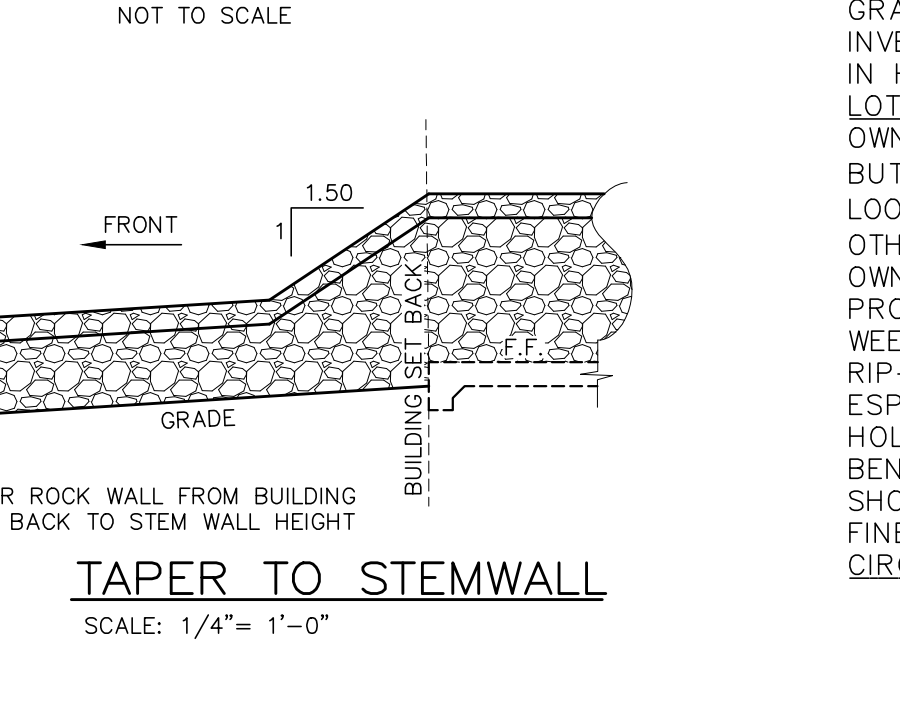


FIRST COURSE
NOT TO SCALE

THE FIRST COURSE OF ROCK FOR ALL ROCK WALLS SHALL BE EMBEDDED IN THE FOUNDATION FOOTING OF THE WALL AT THE TIME CONCRETE IS POURED. EMBEDMENT SHALL BE A MINIMUM OF 4" UP TO A MAXIMUM OF 6", AND SHALL BE ALLOWED TO CURE FOR AT LEAST 24 HOURS BEFORE ADDING ADDITIONAL COURSES TO THE WALL. DETAILS ON THIS SHEET ARE DRAWN GEOMETRICALLY FOR CLARITY AND DO NOT REPRESENT THIS STEP IN CONSTRUCTION.



2' STEM WALL DETAIL
SCALE: 1/2" = 1'-0"



TAPER TO STEM WALL
SCALE: 1/4" = 1'-0"

ALL SLOPE PROTECTION WITHIN THE BOUNDS OF THIS SUBDIVISION SHALL BE INSTALLED BY THE BUILDER UNLESS NOTED OTHERWISE IN THE PLANS. METHODS FOR PROTECTION ARE LISTED BUT NOT LIMITED TO THOSE SHOWN IN THE NOTE BELOW. BUILDER MUST RECEIVE APPROVAL FROM DEVELOPMENT SERVICES FOR METHOD(S) PROPOSED PRIOR TO INSTALLATION. SLOPE PROTECTION FOR OFFSITE GRADING SHALL BE INSTALLED AND MAINTAINED BY THE DEVELOPER.

GRADED SLOPES AS SHOWN ON THE GRADING PLAN HAVE BEEN ENGINEERED, BASED ON A GEOTECHNICAL SOILS INVESTIGATION REPORT, TO STAND AT THE SLOPE INDICATED. HOWEVER, EROSION IS INEVITABLE ON ANY SLOPE, EVEN IN HIGHLY COHESIVE SOILS. PROPERTY OWNERS ARE RESPONSIBLE FOR THE MAINTENANCE OF SLOPES WITHIN THEIR LOTS. IF NO MEASURES HAVE BEEN TAKEN PRIOR TO PURCHASE, IT IS HIGHLY RECOMMENDED THAT THE PROPERTY OWNER PROVIDE ANTI-EROSION CONTROLS ON GRADED SLOPES WITHIN THE BOUNDS OF THEIR LOT. THESE MAY INCLUDE BUT ARE NOT LIMITED TO CONCRETE RIP-RAP, MORTARED ROCK RIP-RAP (REQUIRED ON SLOPES 1:1 OR GREATER), LOOSE ROCK RIP-RAP OF A SPECIFIED DIAMETER, SOIL RETENTION BLANKETS, PLANTINGS OF NATIVE SPECIES. (SOD AND OTHER GRASSES ARE NOT RECOMMENDED ON SLOPES GREATER THAN 4:1). BEFORE PERFORMING ANY WORK, PROPERTY OWNERS SHOULD CONSULT A LICENSED, PROFESSIONAL CIVIL ENGINEER. ADDITIONALLY, IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CLEAN AND MAINTAIN ANY WEEP HOLES THAT HAVE BEEN INSTALLED IN WALLS OR RIP-RAP. WEEP HOLES ARE AN INTEGRAL COMPONENT OF DRAINAGE SO AS TO PREVENT GROUND SATURATION BEHIND WALLS AND RIP-RAP THAT COULD CAUSE STRUCTURAL FAILURES. PROPERTY OWNERS SHOULD PERFORM REGULAR INSPECTIONS, ESPECIALLY AFTER HEAVY RAINS, AND CLEAR WEEP HOLES OF ANY SILT AND DEBRIS. PROPERLY INSTALLED WEEP HOLES SHOULD ALLOW THE PASSAGE OF ANY STORM WATER RUN OFF THAT MAY ACCUMULATE BEHIND WALLS OR BENEATH RIP-RAP AS A RESULT OF INFILTRATION. WIRE ENCASED GRAVEL FILTERS WRAPPED IN A GEOTEXTILE FABRIC SHOULD PREVENT LARGE DEBRIS FROM BLOCKING THE WEEP HOLE. HOWEVER, THE PASSAGE OF SILT, SAND, AND OTHER FINE PARTICULATE MATERIAL UP TO ONE-QUARTER INCH IN DIAMETER SHOULD BE CONSIDERED NORMAL. UNDER NO CIRCUMSTANCES SHOULD THE WEEP HOLES BE INTENTIONALLY BLOCKED TO PREVENT PASSAGE OF STORM WATER.

GRADED SLOPES

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL ROAD DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
2	6/4/2021	First City Submittal	AHO
1	10/9/2020	Client Review	AHO

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TEXAS GAS SERVICE LINE 544-6000
PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411
AFTER HOURS EMERGENCY (EPW) 1-800-706-TESS
TEXAS EXCAVATION SAFETY SYSTEM 594-5775
KINDER-MORGAN EPIC PIPELINES 594-5775
EL PASO METRIC SIGNALS AND MAINTENANCE 1-800-238-3764
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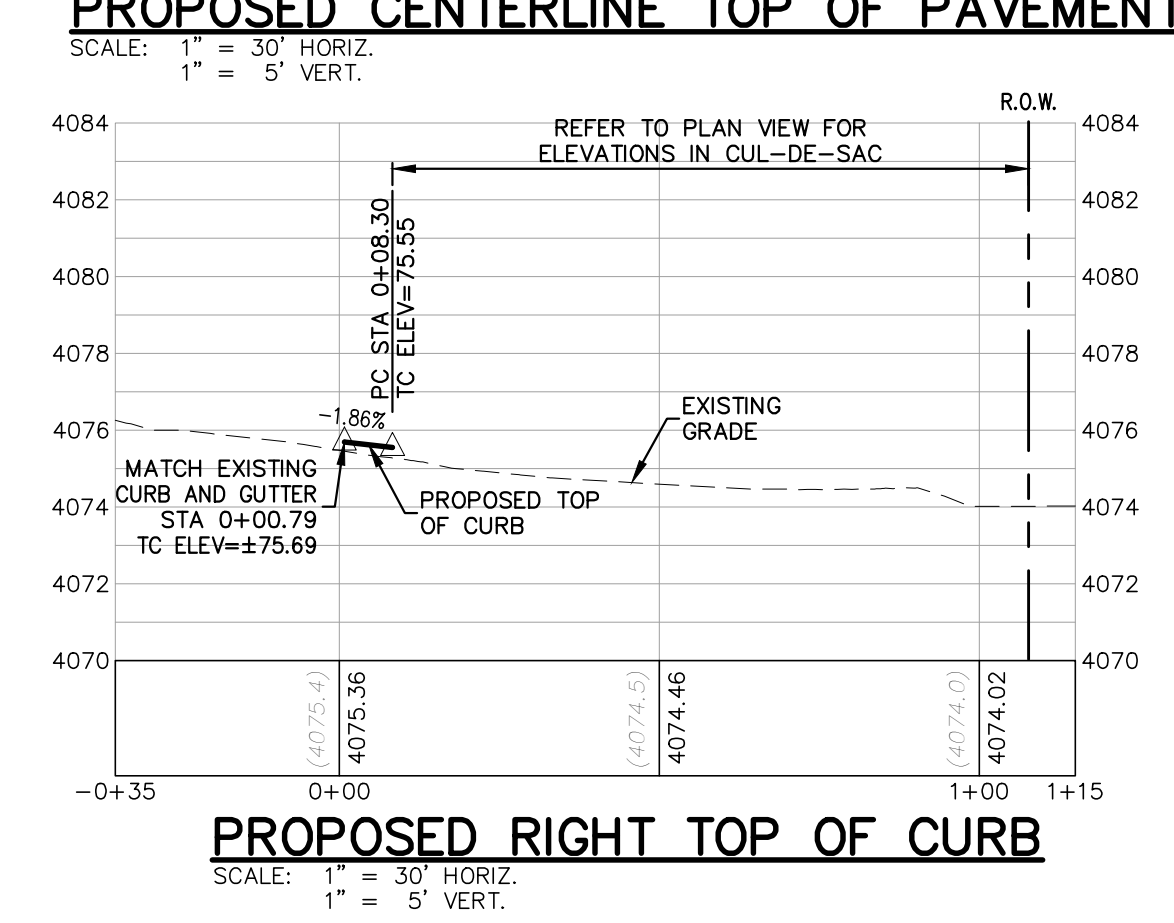
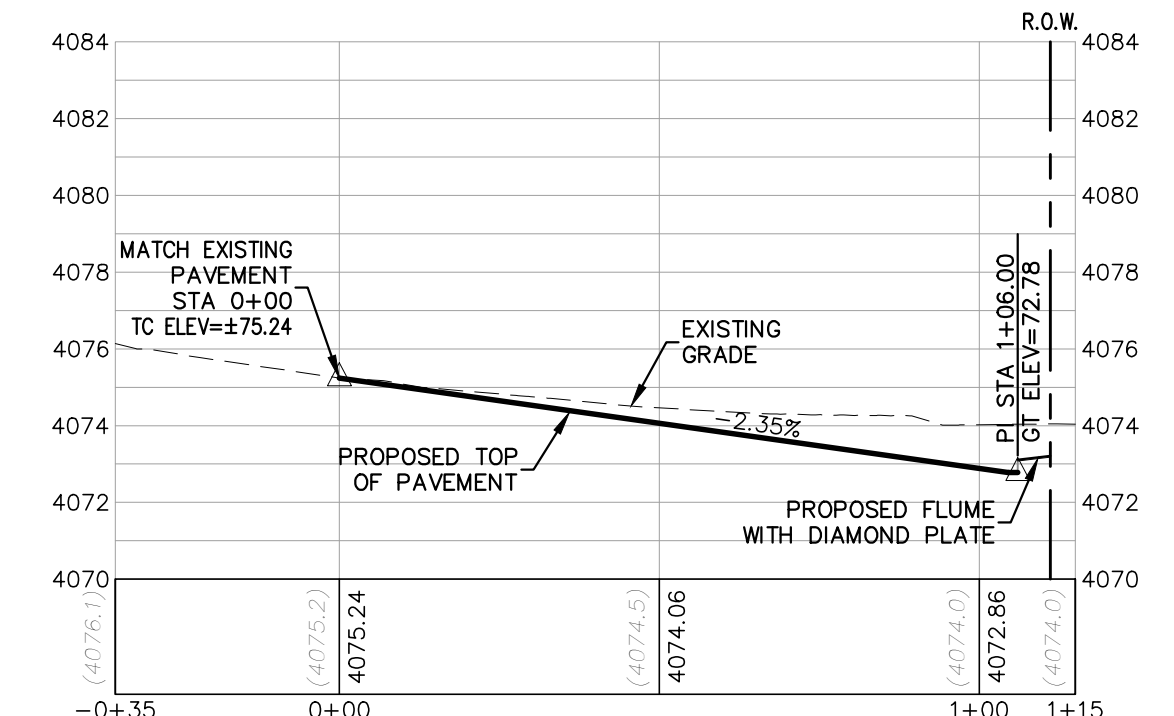
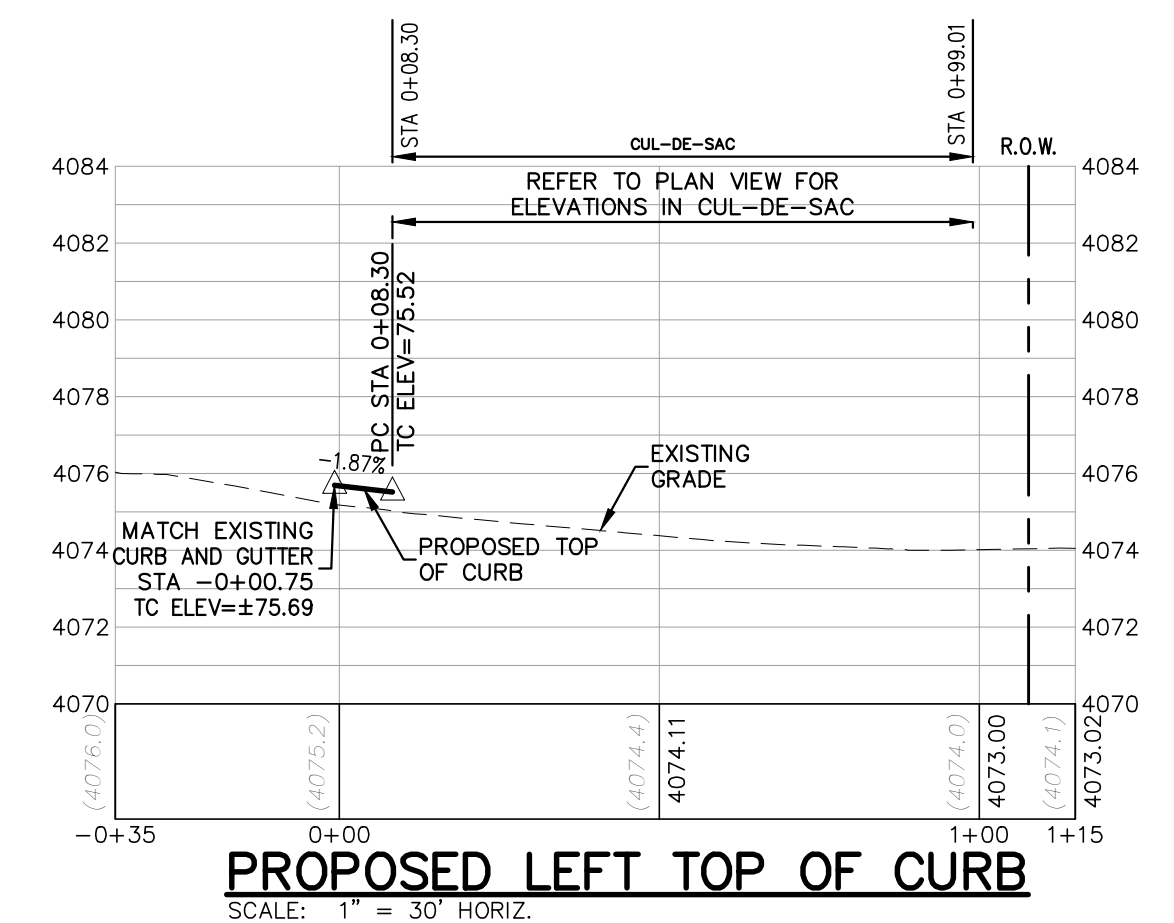
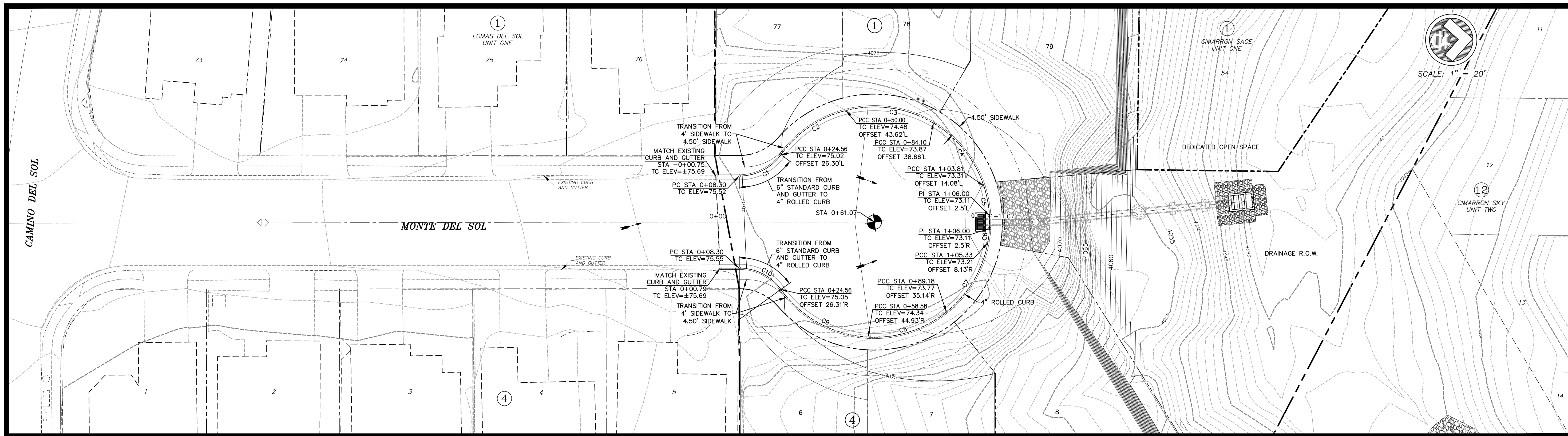
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El Paso, Texas 79912
tel (915) 877-4155
fax (915) 877-4334
www.csaengineers.com

SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

SHEET TITLE
ROCK WALL DETAILS

GOB	2020-08
DESIGN BY	
GOB-DM-DG	07/08/2020
DATE BY	DATE OF CONSTRUCTION
AHO	SCALE
CHECKED BY	SCALE
SHEET NO.	13
SHEET SEQUENCE	13 OF 29

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2020-08-23 2:36:58pm - 23 3rd Submittal-Client/2020-23 3rd 13 Rock Wall Details.dwg



CURVE #	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	20.00	18.93	10.24	18.23	N3°33'17"E	54°13'27"
C2	45.00	31.41	16.37	30.77	S10°40'44"E	39°59'26"
C3	45.00	35.36	18.65	34.45	S34°20'20"W	45°01'04"
C4	45.00	32.19	16.82	31.50	S75°19'06"W	40°58'46"
C5	45.00	11.82	5.94	11.79	N89°37'48"W	15°03'06"
C6	45.00	5.68	2.84	5.67	N76°02'02"W	7°13'36"
C7	45.00	32.14	16.79	31.46	N35°06'30"W	40°55'32"
C8	45.00	32.85	17.20	32.13	N6°43'23"E	41°49'53"
C9	45.00	40.10	21.49	38.79	N57°46'44"E	51°03'20"
C10	20.00	18.93	10.24	18.23	S57°46'44"W	54°13'27"

ALL EXISTING AND PROPOSED SIDEWALKS, BARRIER FREE RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S. AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.

ALL SIDEWALKS TO BE INSTALLED BY BUILDER UNLESS NOTED OTHERWISE

ALL ACCESSIBLE RAMPS WITHIN THE RIGHT-OF-WAY TO BE INSTALLED BY THE DEVELOPER

- LEGEND**
- LOT LINE
 - UTILITY & SIDEWALK EASEMENT
 - CENTER LINE OF STREET
 - STREET R.O.W.
 - DRAINAGE & UTILITY R.O.W.
 - 4" ROLLED CURB & GUTTER
 - SUBDIVISION BOUNDARY LINE
 - PROPOSED TOP OF CURB ELEVATION
 - EXISTING GRADE
 - PROPOSED PAVEMENT ELEVATION
 - DIRECTION OF RUNOFF FLOW
 - EXISTING HIGH POINT
 - LOW POINT
 - POINT OF VERTICAL INTERSECTION
 - 50' TRANSITION AT INTERSECTION
 - PROPOSED CITY MONUMENT

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
1	10/19/2020	Client Review	AHO
2	16/4/2021	First City Submittal	AHO
3	8/18/2021	Second City Submittal	AHO
4	9/10/2021	Third City Submittal	NH

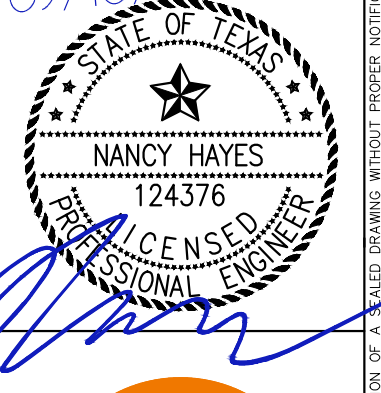
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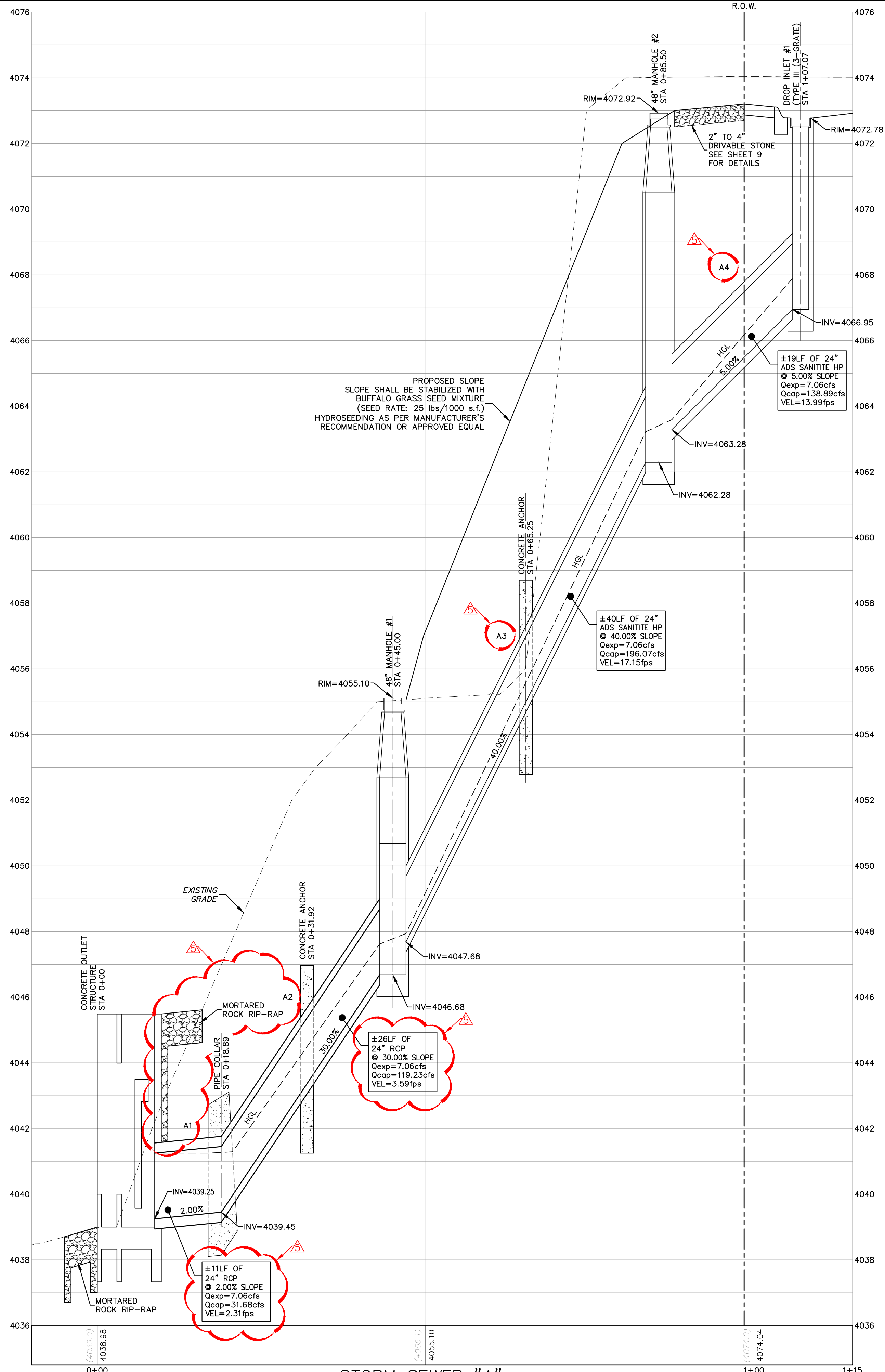


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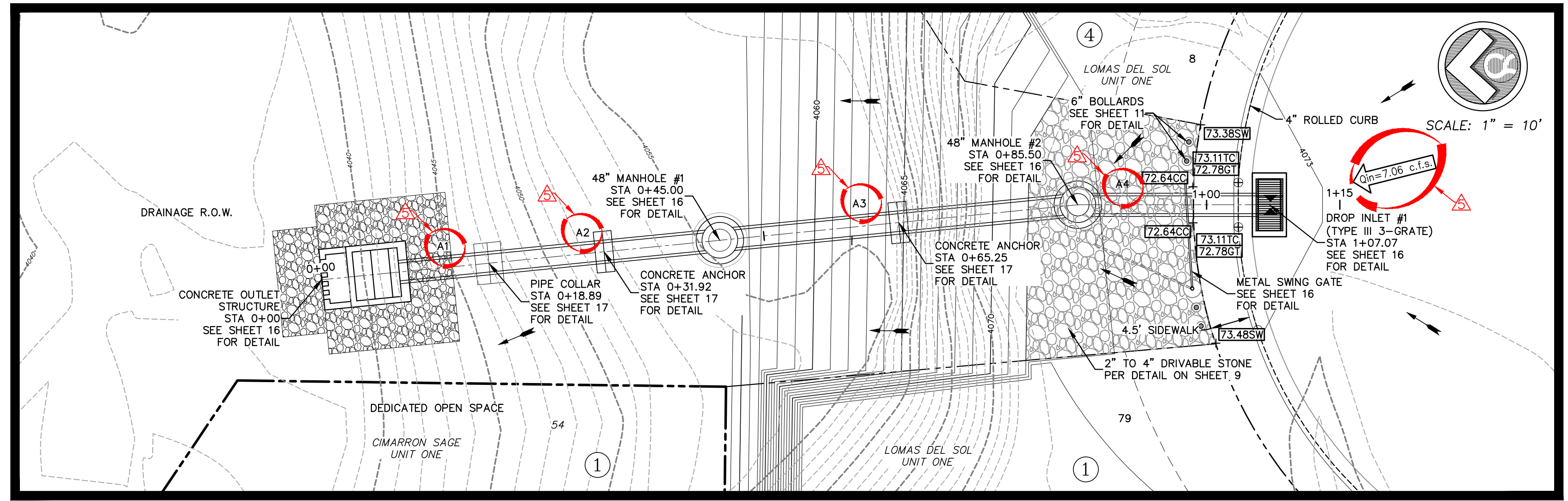
SUBDIVISION
MONTE DEL SOL UNIT ONE
 SUBDIVISION

SHEET TITLE
MONTE DEL SOL PLAN & PROFILE

GOB	2020-08
REASON BY	
GOB-SM-DG	07/08/2020
DATE OF COMMISSION	
SCALE	
AS NOTED	
CHECKED BY	
SCALE	
SHEET NO.	14
SHEET SEQUENCE	14 OF 29

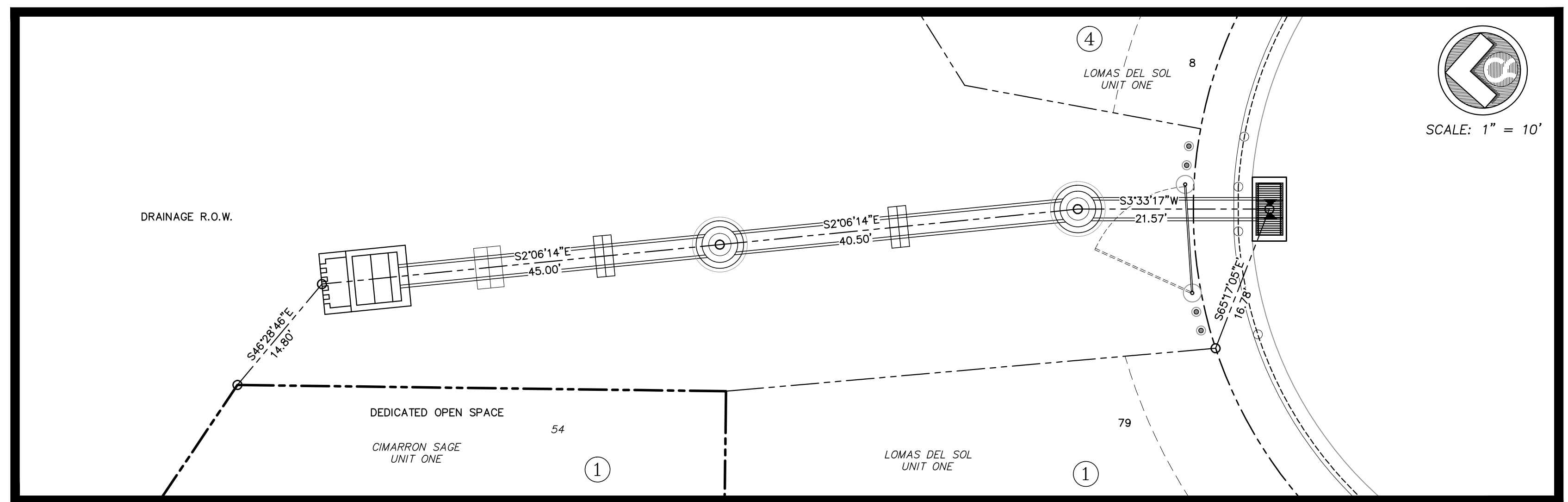


STORM SEWER "A"
SCALE: 1"=10' HORIZ.
SCALE: 1"=2' VERT.



DRAINAGE INLET DATA													
DRAINAGE INLET #	TYPE	NO. OF GRATES	PAVEMENT DESIGN	REQUIRED FLOW CAPACITY Q OF WATERSHED (CFS)	INLET BYPASS FLOW FROM	REQUIRED FLOW CAPACITY Q TOTAL W/BYPASS (CFS)	INLET FLOW CAPTURE (CFS)	FLOW BYPASS (CFS)	INLET BYPASS FLOW TO	DEPTH OF FLOW AT INLET (IN.)	APPROACH VELOCITY (FPS)	FLOW SPREAD AT INLET (FT.)	ROADWAY WIDTH AT INLET (FT.)
DI #1	III	3	SAG	7.06	NONE	7.06	7.06	NONE	NONE	0.33	N/A	17.76	35.00

LEGEND	
	PROPOSED LOW POINT
	PROPOSED CONTOUR
	EXISTING CONTOUR
	PROPOSED CONCRETE ELEVATION
	PROPOSED GUTTER ELEVATION
	PROPOSED TOP OF CURB ELEVATION
	PROPOSED SIDEWALK ELEVATION
	DIRECTION OF RUNOFF FLOW



Pipe	Section Size	Length (ft)	Constructed Slope (ft/ft)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Inlet C Coefficient	Inlet CA (acres)	Total CA (acres)	System Flow Time (min)	Discharge (cfs)	Capacity (cfs)	Average Velocity (ft/s)	Downstream Node	Downstream Rim Elevation (ft)	Downstream HGL (ft)	Upstream Node	Upstream Rim Elevation (ft)	Upstream HGL (ft)
A1	24 inch	11	0.0200	4,039.45	4,039.25	N/A	N/A	N/A	10.07	7.06	31.68	2.31	COS	4,045.50	4,041.25	PC	4,043.00	4,041.25
A2	24 inch	26	0.3000	4,046.68	4,039.45	N/A	N/A	N/A	119.23	7.06	119.23	3.59	PC	4,043.00	4,041.29	MH1	4,055.10	4,047.62
A3	24 inch	40	0.4000	4,062.28	4,047.68	N/A	N/A	N/A	10.04	7.06	196.07	17.15	MH1	4,055.10	4,047.94	MH2	4,072.92	4,063.22
A4	24 inch	19	0.0200	4,066.95	4,063.28	0.60	2.26	2.26	10.02	7.06	138.89	13.99	MH2	4,072.92	4,063.59	DI-1	4,072.78	4,067.89

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
5	9/27/2021	Fourth City Submittal	NH
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
2	6/4/2021	First City Submittal	AHO
1	10/9/2020	Client Review	AHO

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544-6000

TEXAS GAS SERVICE
544-6000
544-6000

AT&T
544-6000
544-6000

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1-800-016-TESS

AFTER HOURS EMERGENCY (EPW)
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594-5775

TEXAS EVACUATION SAFETY SYSTEM
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1-800-344-8377

KINDER-MORGAN EPW PIPELINES
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EL PASO METRIC SIGNALS AND MAINTENANCE
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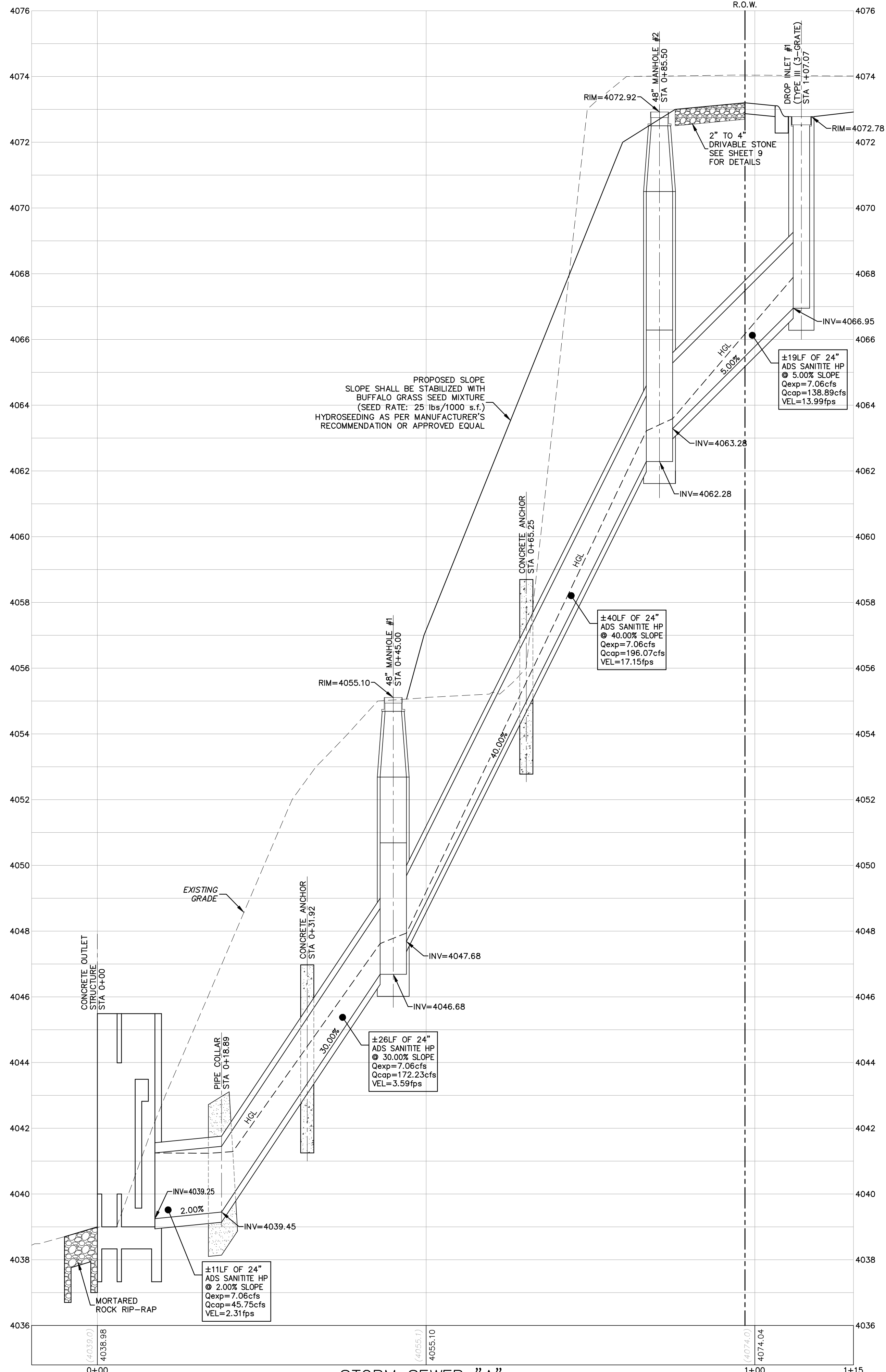
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SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

SHEET TITLE
STORM SEWER "A"
PLAN & PROFILE

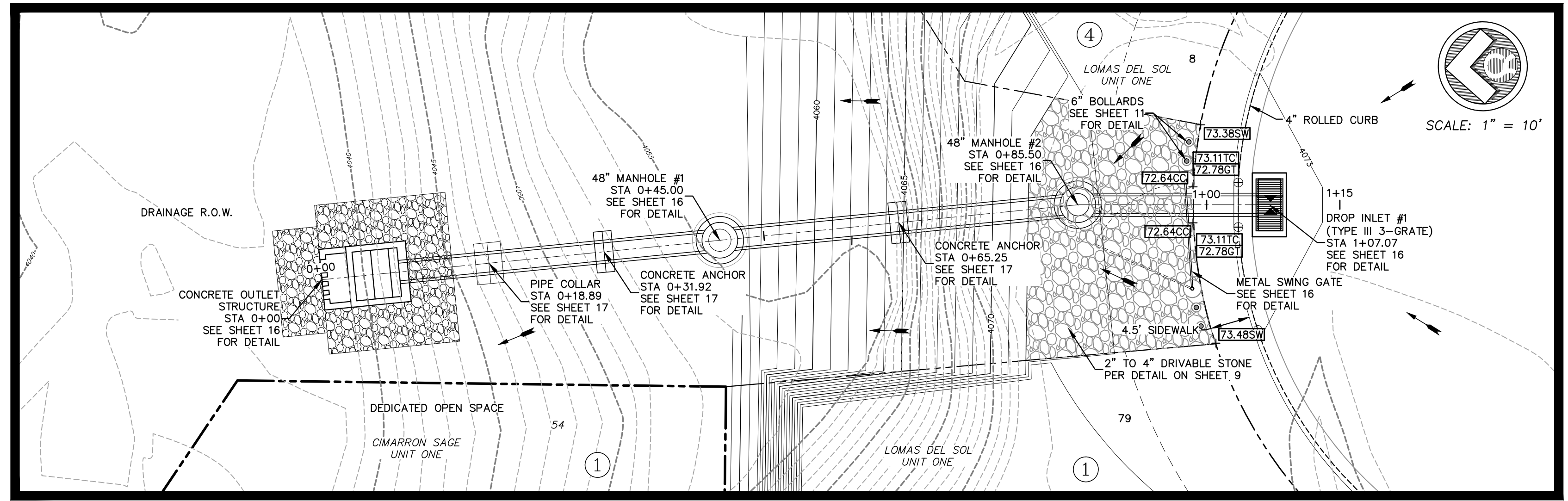
GOB	2020-08
DESIGN BY	08
GOB-DM-DG	07/08/2020
DATE BY	DATE OF COMPLETION
AHO	AS NOTED
CHECKED BY	SCALE

SHEET NO.
15
SHEET SEQUENCE
15 OF **29**



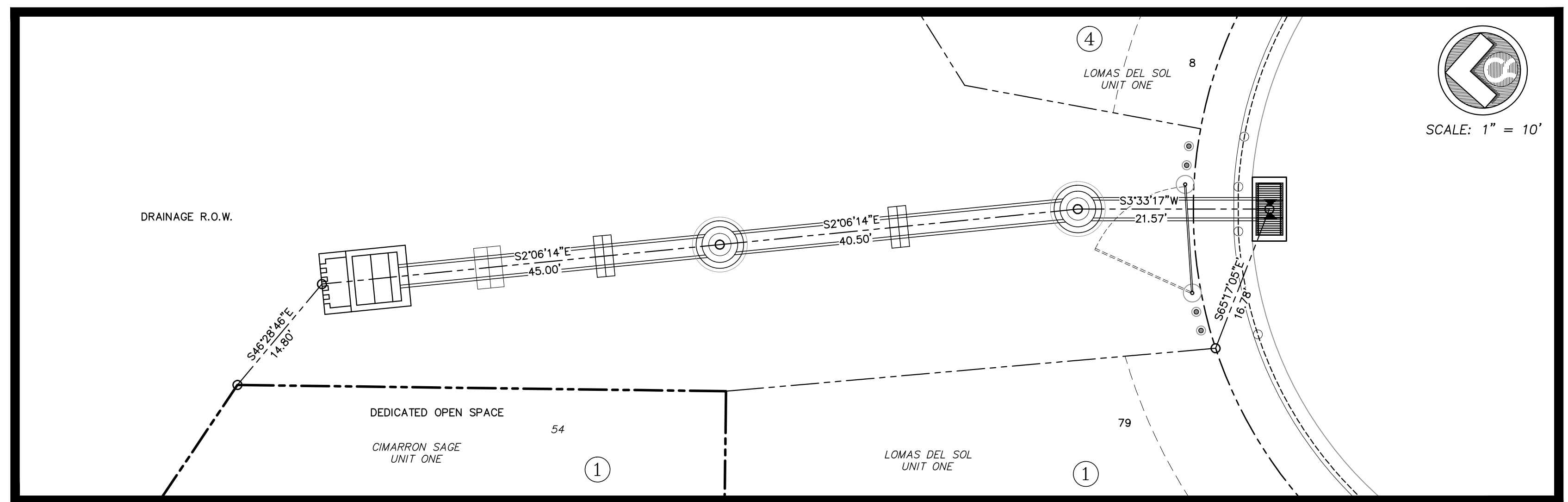
STORM SEWER "A"
 SCALE: 1"=10' HORIZ.
 SCALE: 1"=2' VERT.

Pipe	Section Size	Length (ft)	Constructed Slope (ft/ft)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Inlet C Coefficient	Inlet CA (acres)	Total CA (acres)	System Flow Time (min)	Discharge (cfs)	Capacity (cfs)	Average Velocity (ft/s)	Downstream Node	Downstream Rim Elevation (ft)	Downstream HGL (ft)	Upstream Node	Upstream Rim Elevation (ft)	Upstream HGL (ft)
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LEGEND

- Proposed Low Point
- Proposed Contour
- Existing Contour
- Proposed Concrete Elevation
- Proposed Gutter Elevation
- Proposed Top of Curb Elevation
- Proposed Sidewalk Elevation
- Direction of Runoff Flow



BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

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2	16/4/2021	First City Submittal	AHO
1	10/9/2020	Client Review	AHO

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 EL PASO METRIC SIGNAL SURVEY AND MAINTENANCE 1-800-238-272-0151
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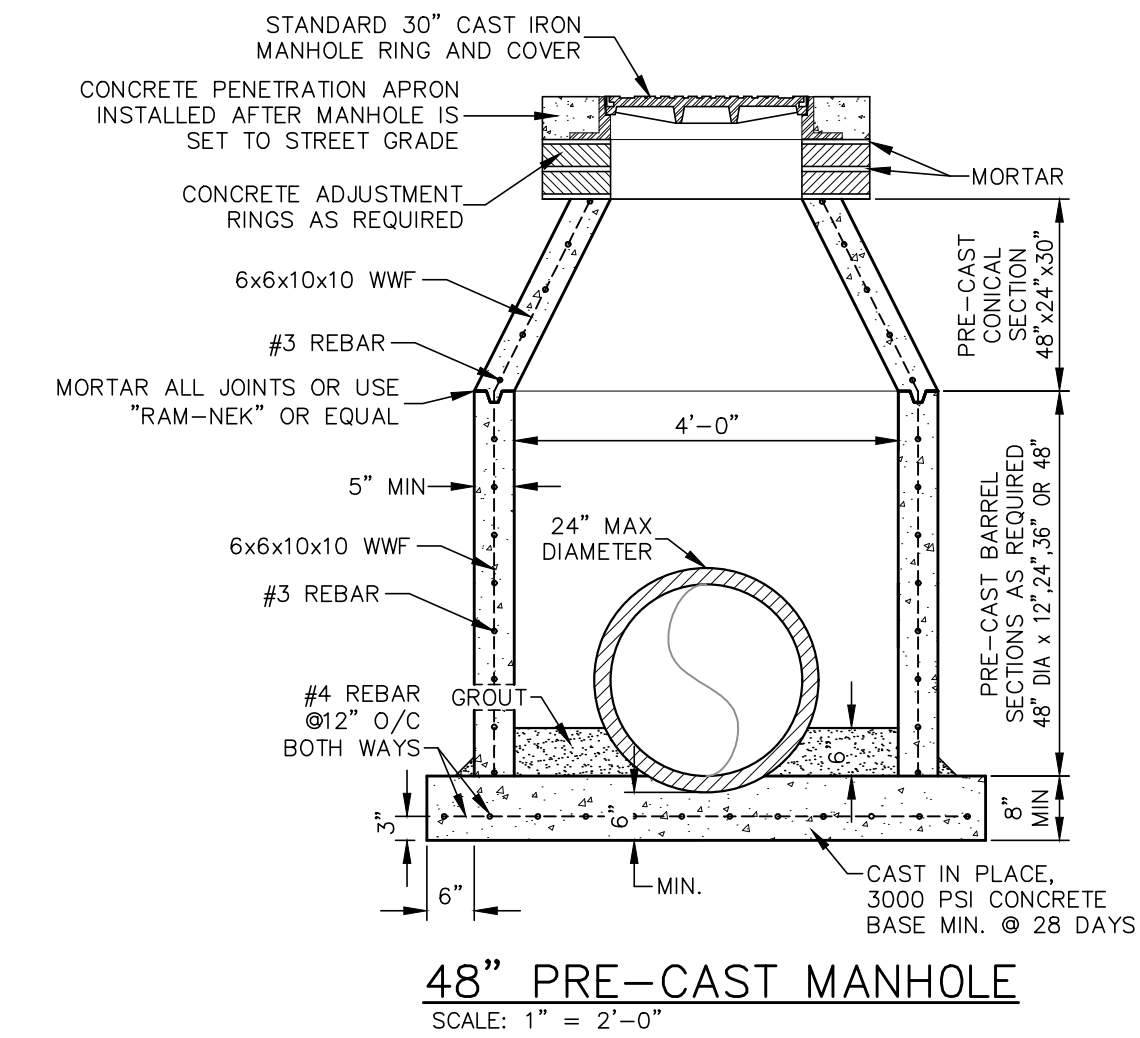
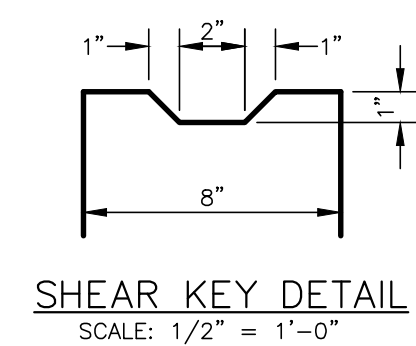
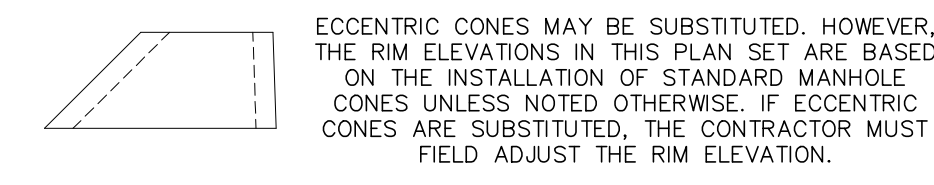
SHEET TITLE
**STORM SEWER
 "A"
 PLAN & PROFILE**

COB	2020-08
DESIGN BY	AS NOTED
COB-304-DG	07/08/2020
DATE OF COMPLETION	
AHO	AS NOTED
CHECKED BY	SCALE

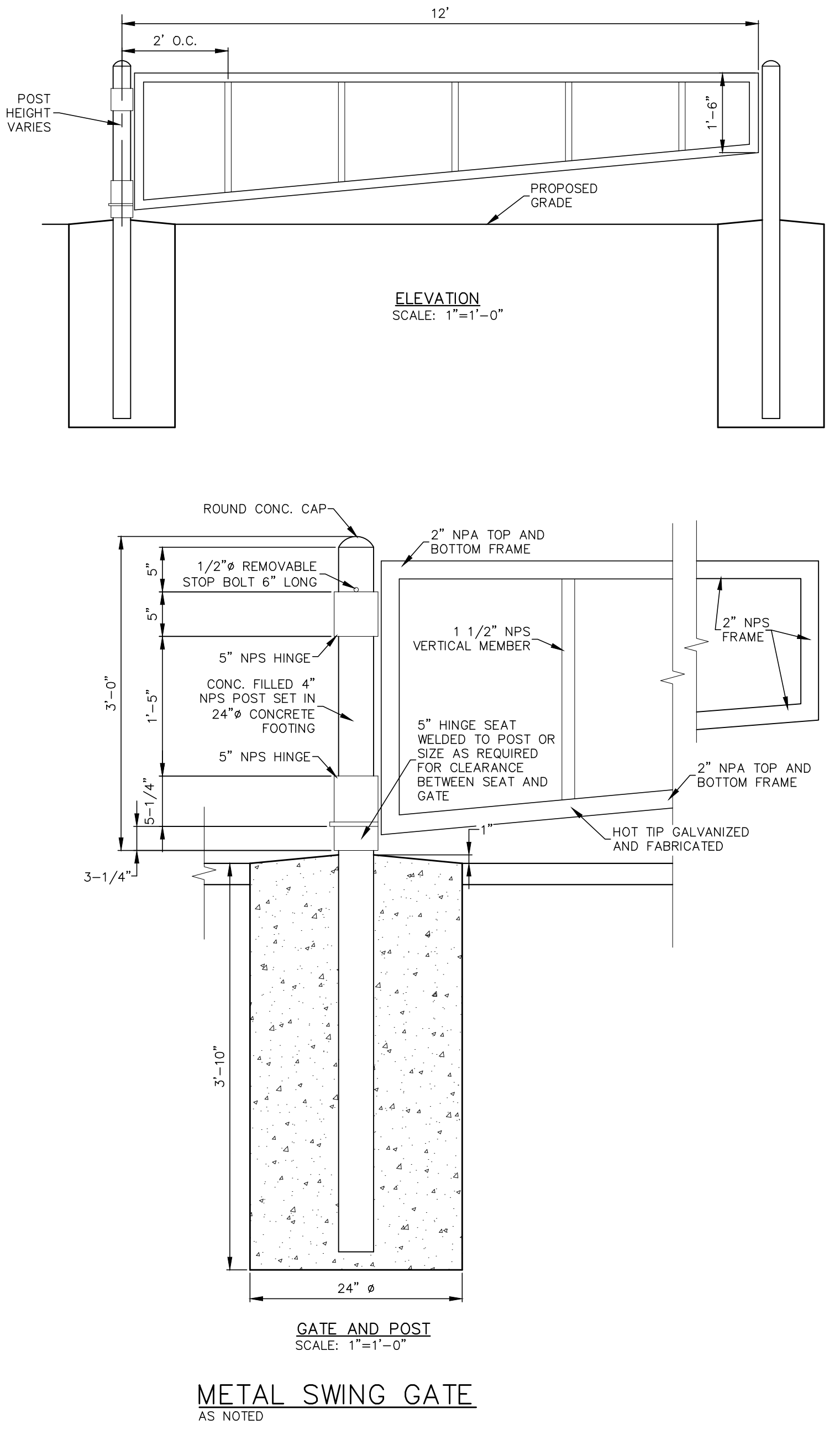
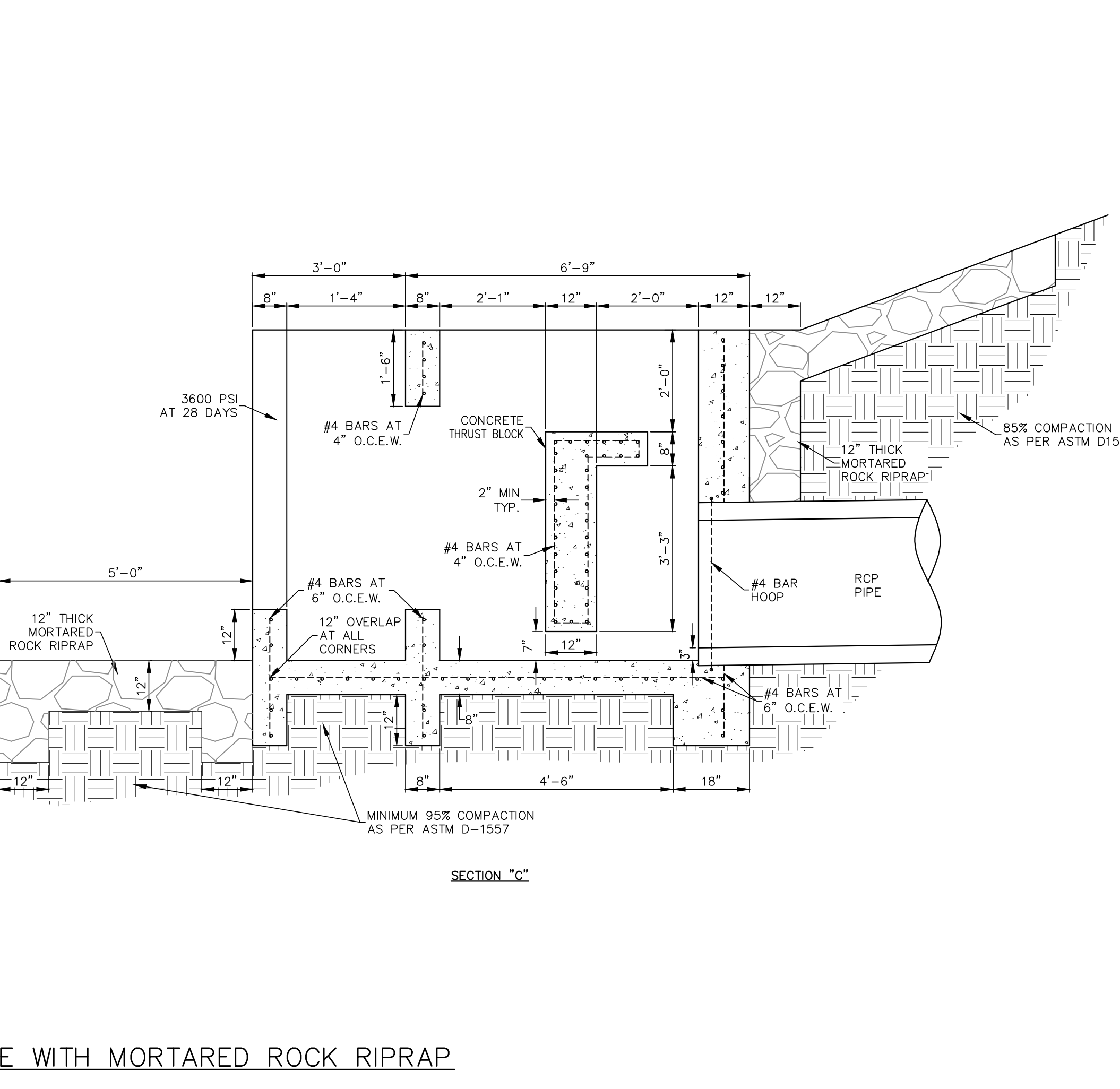
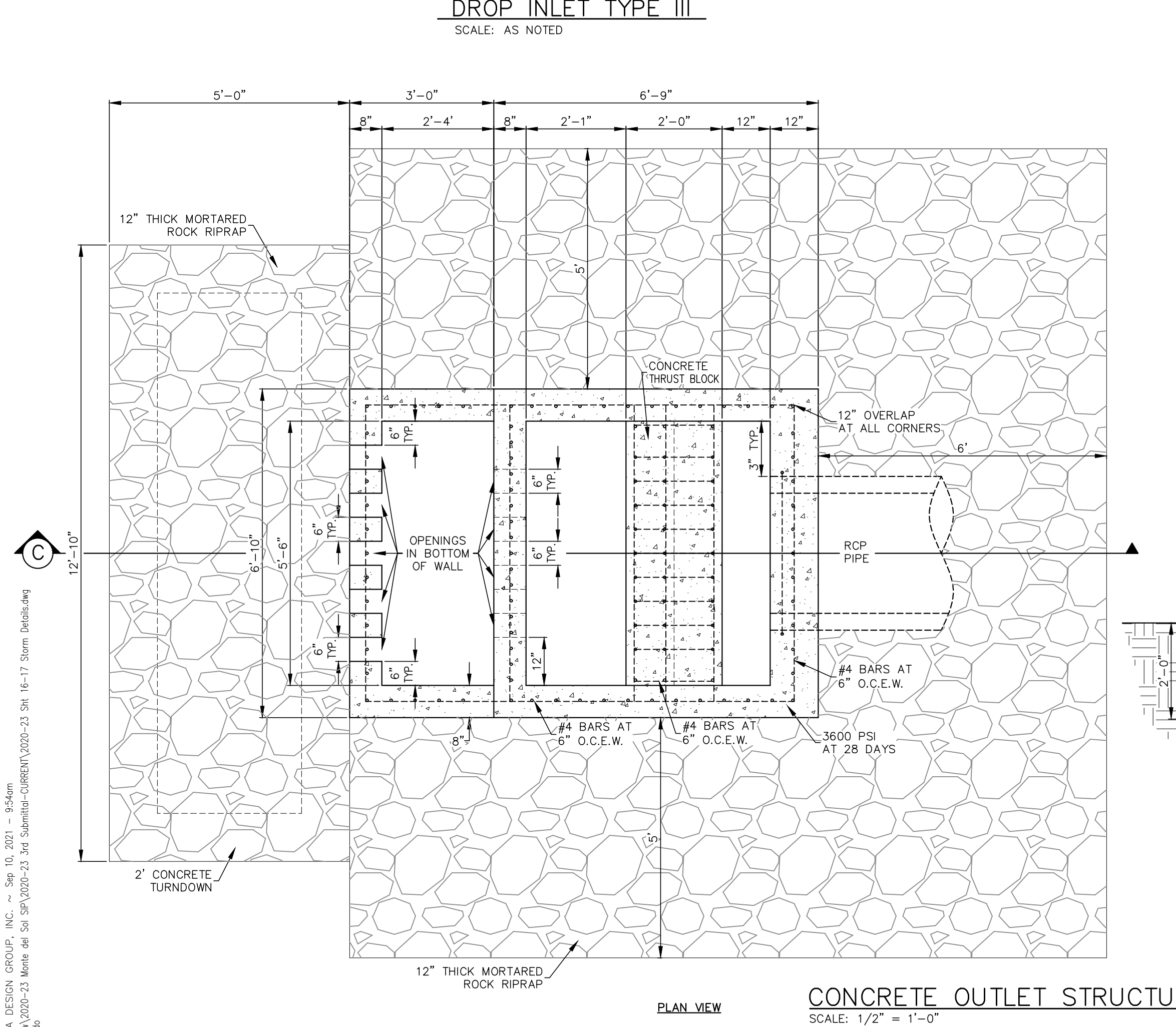
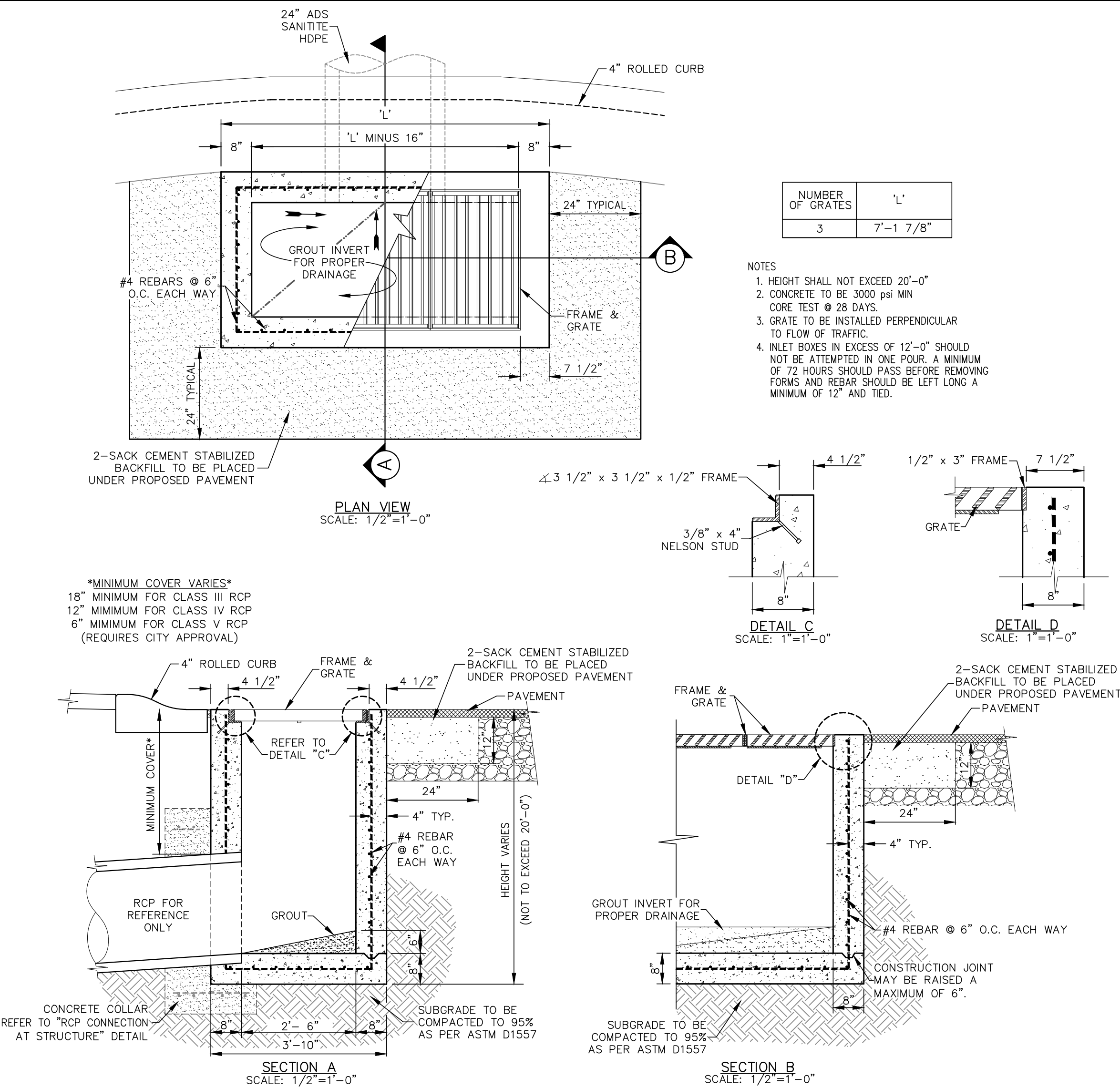
SHEET NO.
15
 SHEET SEQUENCE
15 OF **29**

DROP INLET NOTES

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3. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY AND HANDLING.
4. GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
5. WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-161 OR M-222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING GRADES OF STEEL ON THE SAME GRATE WILL NOT BE PERMITTED.
6. GRATES MADE OF M-183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
7. ALL WELDS SHALL BE A MINIMUM OF 1/4" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE AWS STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
8. CAST GRATES SHALL BE CAST STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-103, GRADE 65-35 OR OF DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-536, SPECIAL GRADE 60-45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 35B OR ASTM A-48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M-103 SCOPE 1.2.1, GRADE N-1.
9. FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKLY NOR BRITTLE.
10. ALL CASTINGS SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
11. ALL CONCRETE TO BE A MINIMUM OF 3000 p.s.i. CHAMFER ALL EXPOSED EDGES 3/4". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
12. MINIMUM CONCRETE COVER SHALL BE 1 1/2" FOR STEEL REINFORCING.
13. EXPANSION MATERIAL TO BE 1/2" BITUMINOUS FIBER AND TO BE PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR PROPOSED CONCRETE OR MASONRY STRUCTURE.
14. STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH T.H.D. ITEM 446 "PAINT AND PAINTING".
15. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
16. ALL REINFORCING BARS TO BE # 4 BARS AT 6" O.C. (UNLESS NOTED OTHERWISE) GRADE 60. BEND BARS AROUND PIPE OPENINGS.
17. INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
18. EXCAVATION WHICH WILL EXCEED FIVE (5) FEET IN DEPTH SHALL PROVIDE FOR TRENCH SAFETY AS PER OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
19. 2 - 3/8" DIA. x 4" LONG CONC. ANCHOR STUDS REQUIRED FOR EACH SIDE OF FRAME, WHERE RESTING ON CONCRETE, USE NELSON STUDS OR EQUAL.
20. THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.
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- ### JUNCTION BOX NOTES
1. STANDARD STRUCTURAL DESIGN SHALL BE BASED ON AASHTO H520 WHEEL LOADING.
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 4. THE PRE-CAST CONCRETE SHALL HAVE A MINIMUM ALLOWABLE COMPRESSIVE STRENGTH AT 28 DAYS OF 4000 POUNDS PER SQUARE INCH FOR THE RISER AND CONICAL SECTIONS.
 5. THE RISER SECTIONS SHALL BE REINFORCED WITH STEEL WIRE MESH 6x6x10-10 AND THE CONICAL SECTION SHALL HAVE 6x6x10-10 STEEL WIRE MESH REINFORCEMENT AND 3/8" ROD AT TOP AND BOTTOM (SEE ASTM STANDARDS PART 16-C-478). REINFORCING STEEL SHALL COMPLY WITH ASTM A615 GRADE 60, A706 GRADE 60 OR A497 GRADE 70. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI SPECIFICATIONS.
 6. REINFORCING STEEL FOR CAST IN PLACE JUNCTION BOX SHALL COMPLY WITH ASTM A615 GRADE 60, A706 GRADE 60 OR A497 GRADE 70. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI SPECIFICATIONS.
 7. ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.



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 2020-08-07 07:08/2020 DATE OF COMPLETION
 AHO AS NOTED SCALE
 SHEET NO. 16
 SHEET SEQUENCE 16 OF 29

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
1	10/9/2020	Client Review	AHO
2	16/4/2021	First City Submittal	AHO
3	8/18/2021	Second City Submittal	AHO
4	9/10/2021	Third City Submittal	NH

BEFORE YOU DIG - CALL

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 543-5720
 1-800-010-TESS
 544-6000

TEXAS GAS SERVICE LINE
 544-6000
 1-800-010-TESS

EL PASO WATER & SEWER
 544-5775
 1-800-010-TESS

TEXAS EXCAVATION SAFETY SYSTEM
 1-800-344-8377
 1-800-238-3764
 1-800-238-3764

EL PASO BARRICADE SERVICES AND MAINTENANCE
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 1-800-238-3764

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 NANCY HAYES
 124376
 LICENSED PROFESSIONAL ENGINEER

csa design group, inc.
 Texas Registered Engineering Firm F-8997
 1845 Northwestern Dr. Ste C
 El Paso, Texas 79912
 tel [915] 877.4155
 fax [915] 877.4334
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SUBDIVISION
 MONTE DEL SOL
 UNIT ONE SUBDIVISION

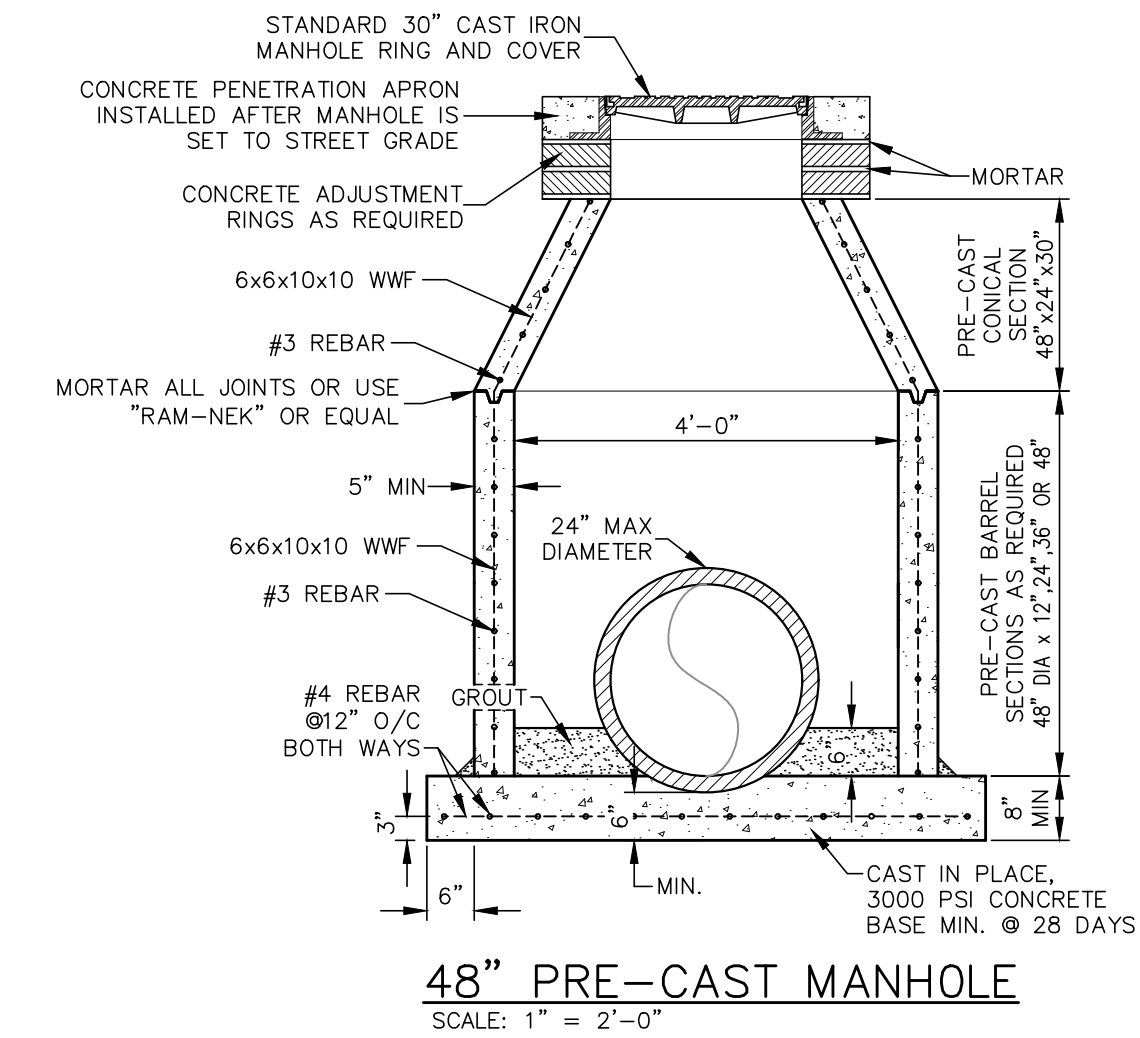
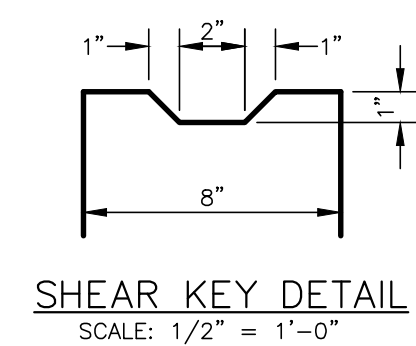
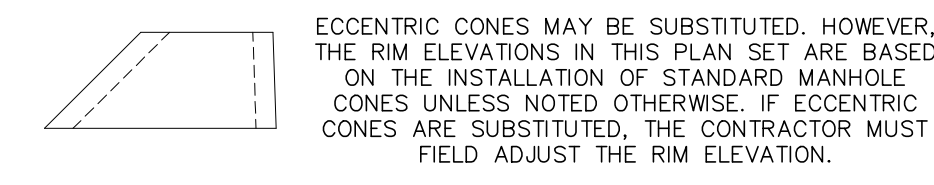
SHEET TITLE
STORM DETAILS

GOB 2020-08
 REVISION
 COB-SM-DG 07/08/2020
 DATE OF COMPLETION
 AHO AS NOTED
 CHECKED BY SCALE

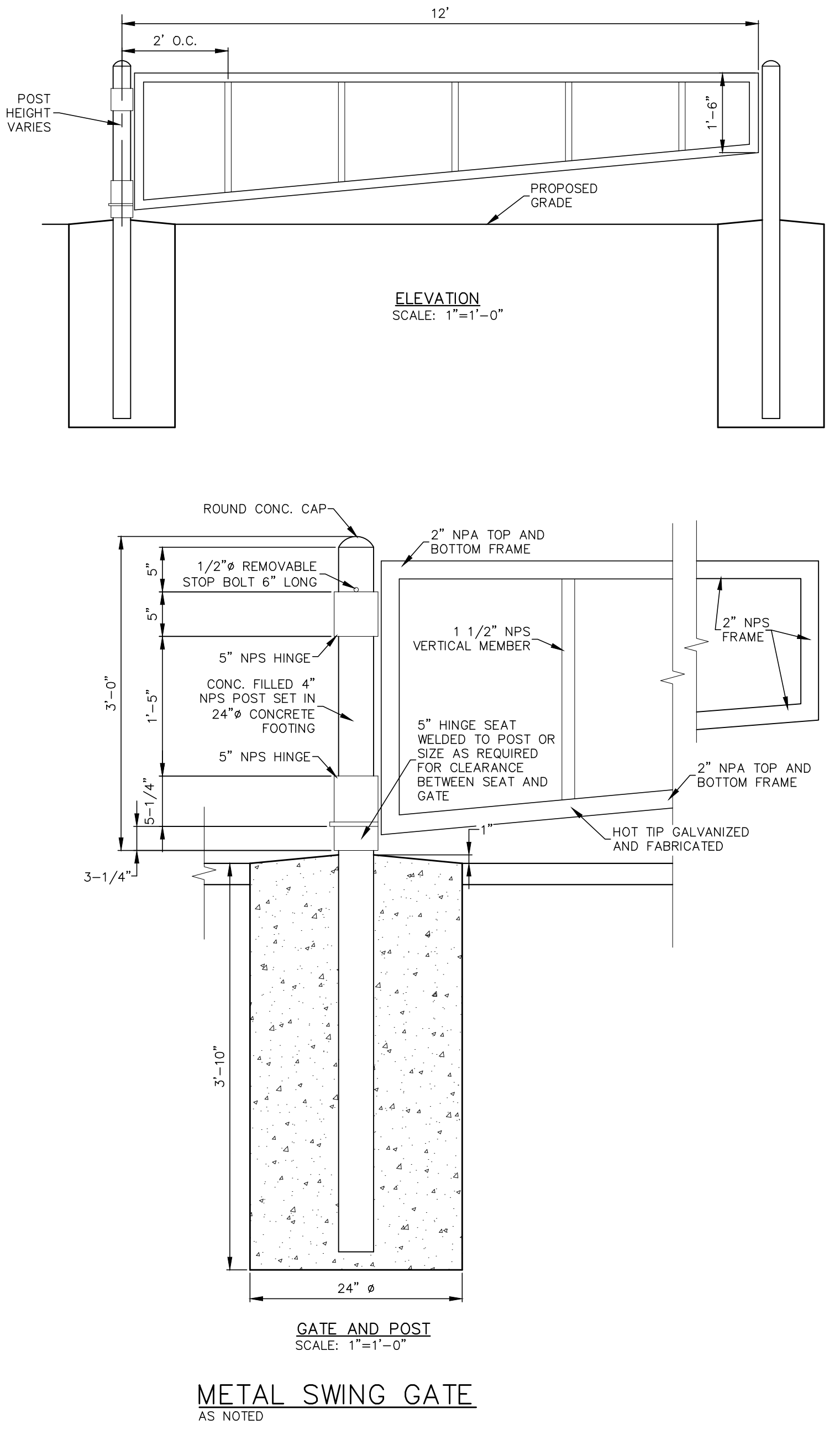
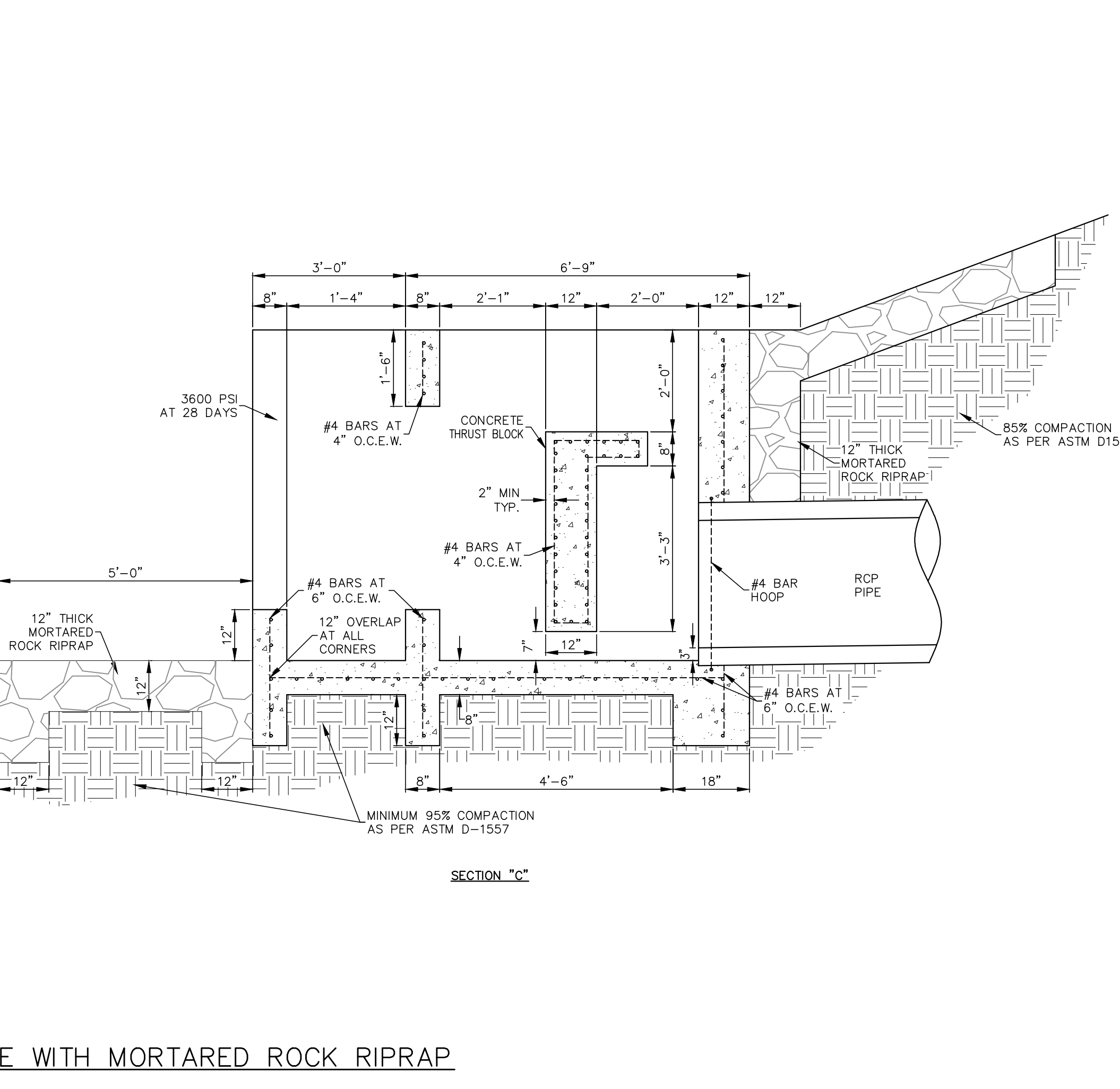
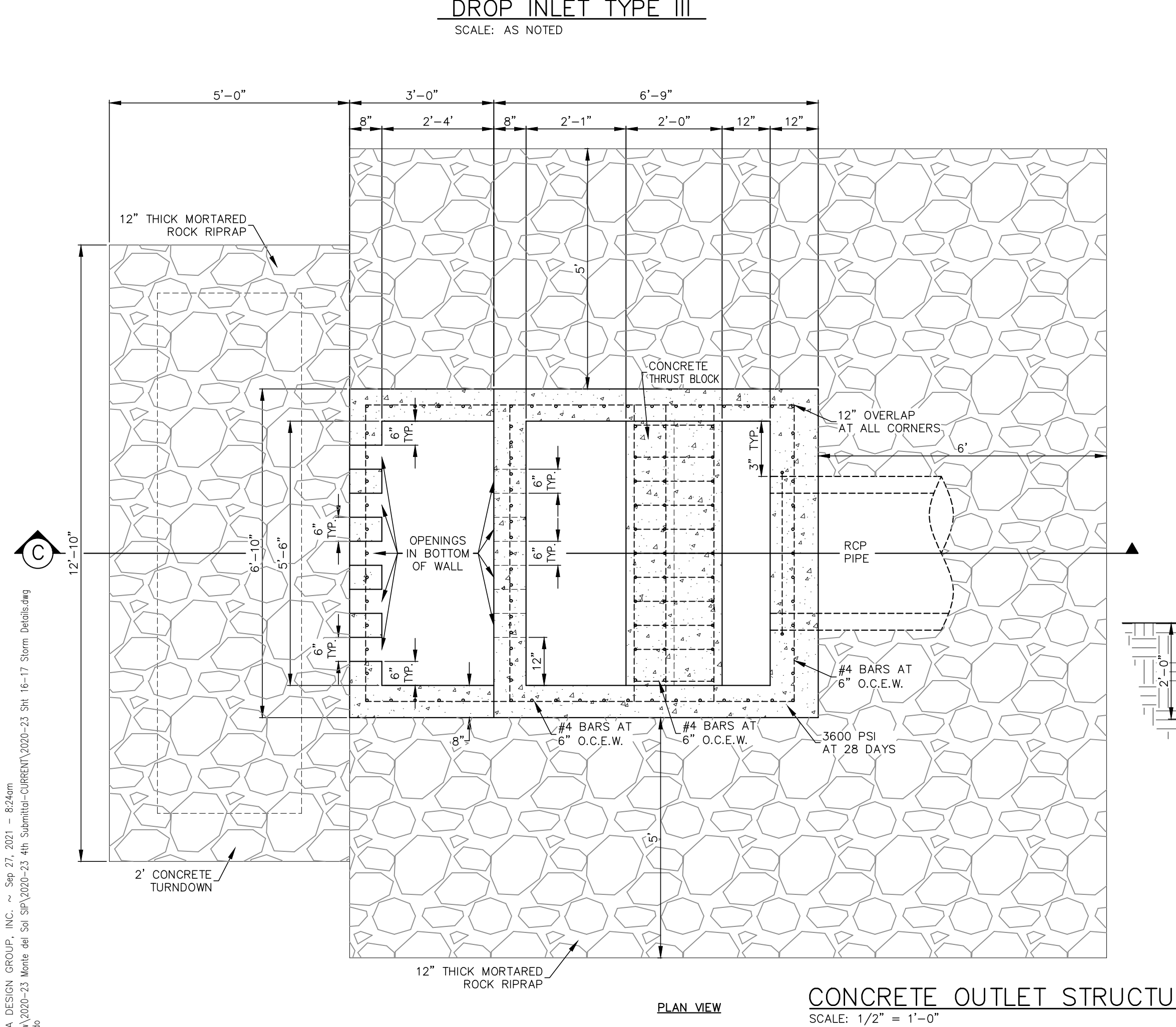
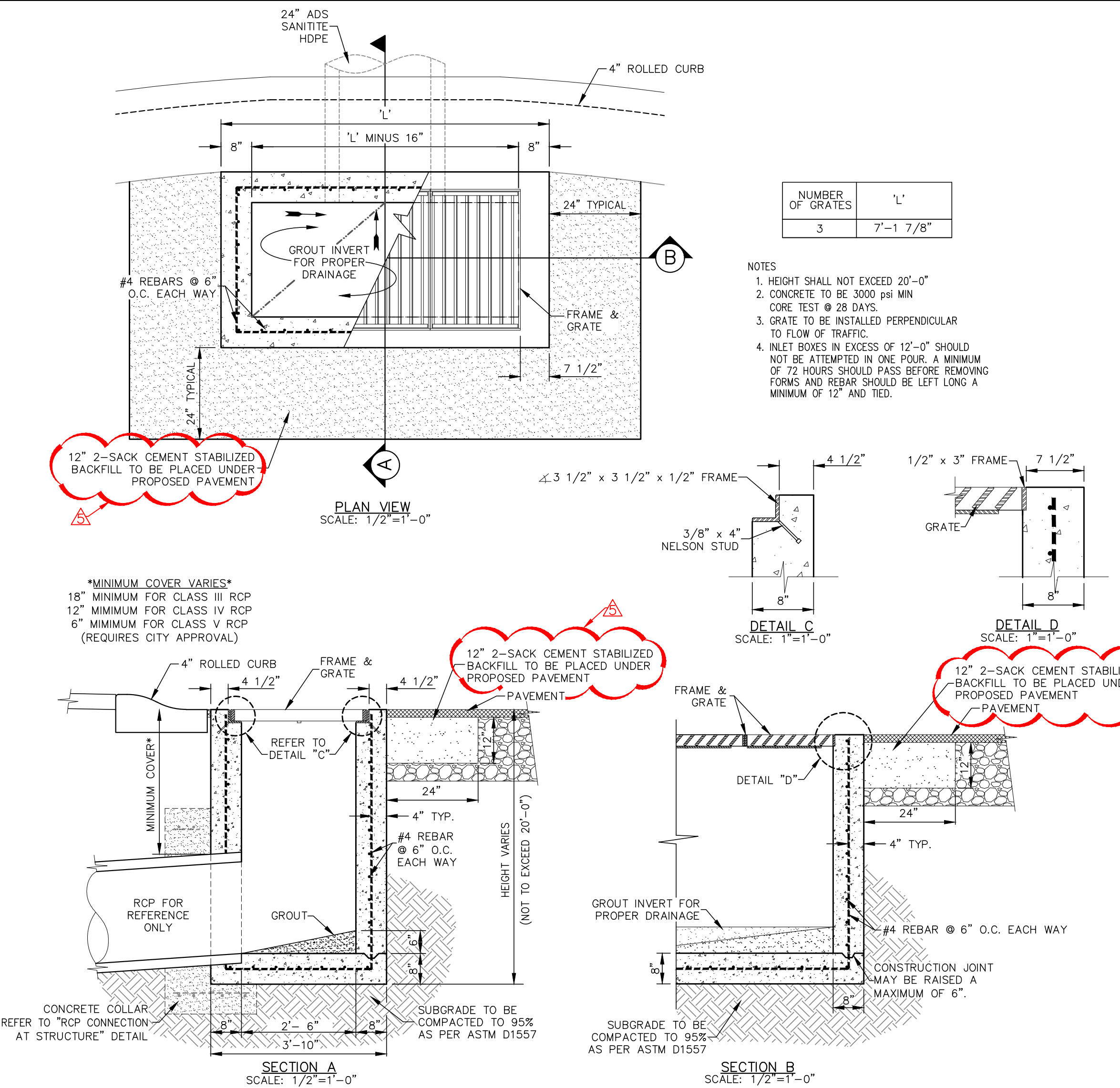
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4	9/10/2021	Third City Submittal	NH
5	9/27/2021	Fourth City Submittal	NH

WARNING! BEFORE YOU DIG
IN PROJECT AREA CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS.

TEXAS 811
Know what's below. Call before you dig.

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY 543-5720
AT&T 1-800-010-TESS
TEXAS GAS SERVICE LINE 544-6000
PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411
AFTER HOURS EMERGENCY (EPW) 1-800-100-TESS
TEXAS EXCAVATION SAFETY SYSTEM 594-5775
KINDER-MORGAN EPNG PIPELINES 1-800-344-8377
EL PASO BARRIC SIGNAL SERVICES AND MAINTENANCE 1-800-238-3764
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STATE OF TEXAS
NANCY HAYES
124376
LICENSED PROFESSIONAL ENGINEER

csa design group, inc.
Texas Registered Engineering Firm F-8997
1845 Northwestern Dr. Ste C
El Paso, Texas 79912
tel [915] 877-4155
fax [915] 877-4334
www.csaengineers.com

SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

SHEET TITLE
STORM DETAILS

GOB 2020-08
DESIGN BY
GOB-SM-DG 07/08/2020
DATE OF COMPLETION
AHO AS NOTED
CHECKED BY SCALE

SHEET NO.
16
SHEET SEQUENCE
16 OF **29**

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2020-08-08 10:00:23 Monte del Sol 16-17 Storm Details.dwg
Author: NANCY HAYES

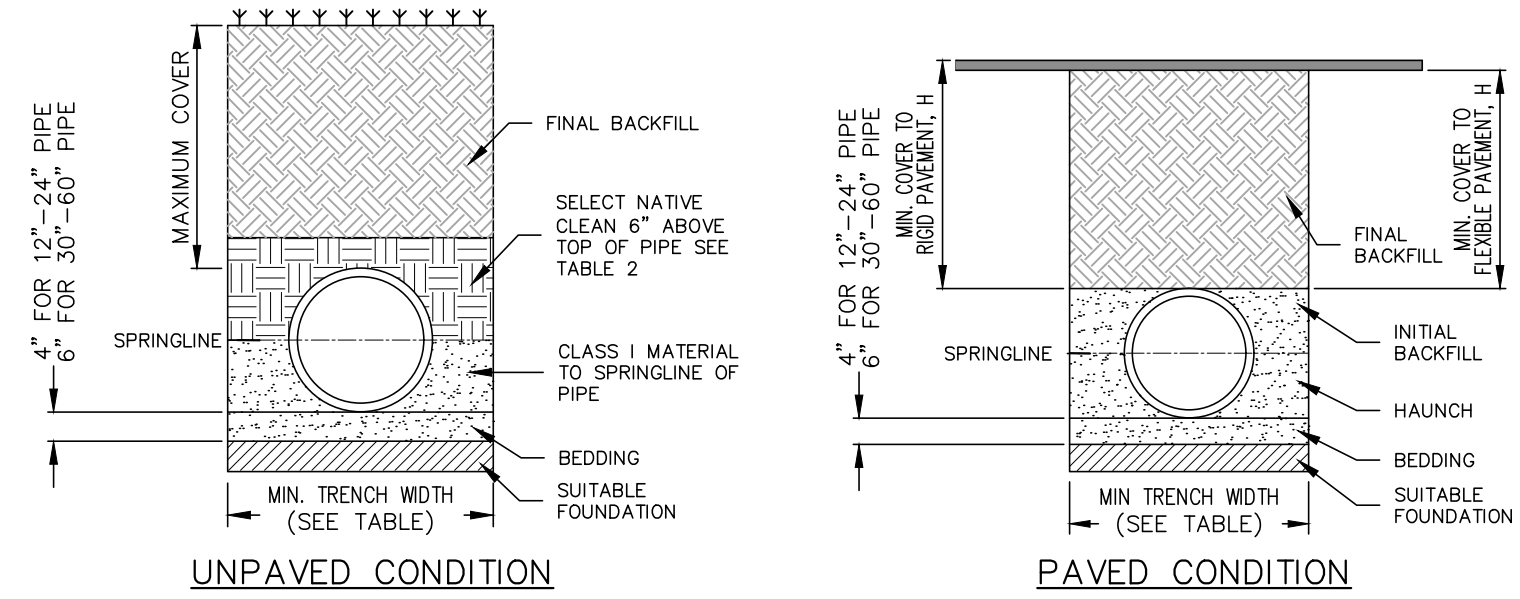


TABLE 1. RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIA.	MIN. TRENCH WIDTH
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
60"	96"

TABLE 2. MAXIMUM COVER FOR ADS HP STORM PIPE (γ=120)

PIPE DIA.	CLASS II	CLASS III	CLASS IV
12"	17"	14"	11"
15"	17"	14"	10"
18"	16"	13"	10"
24"	14"	12"	9"
30"	13"	12"	8"
36"	11"	11"	7"
42"	11"	11"	7"
48"	11"	10"	6"
60"	11"	10"	6"

TABLE 3. MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS (SURFACE LIVE LOADING CONDITION)

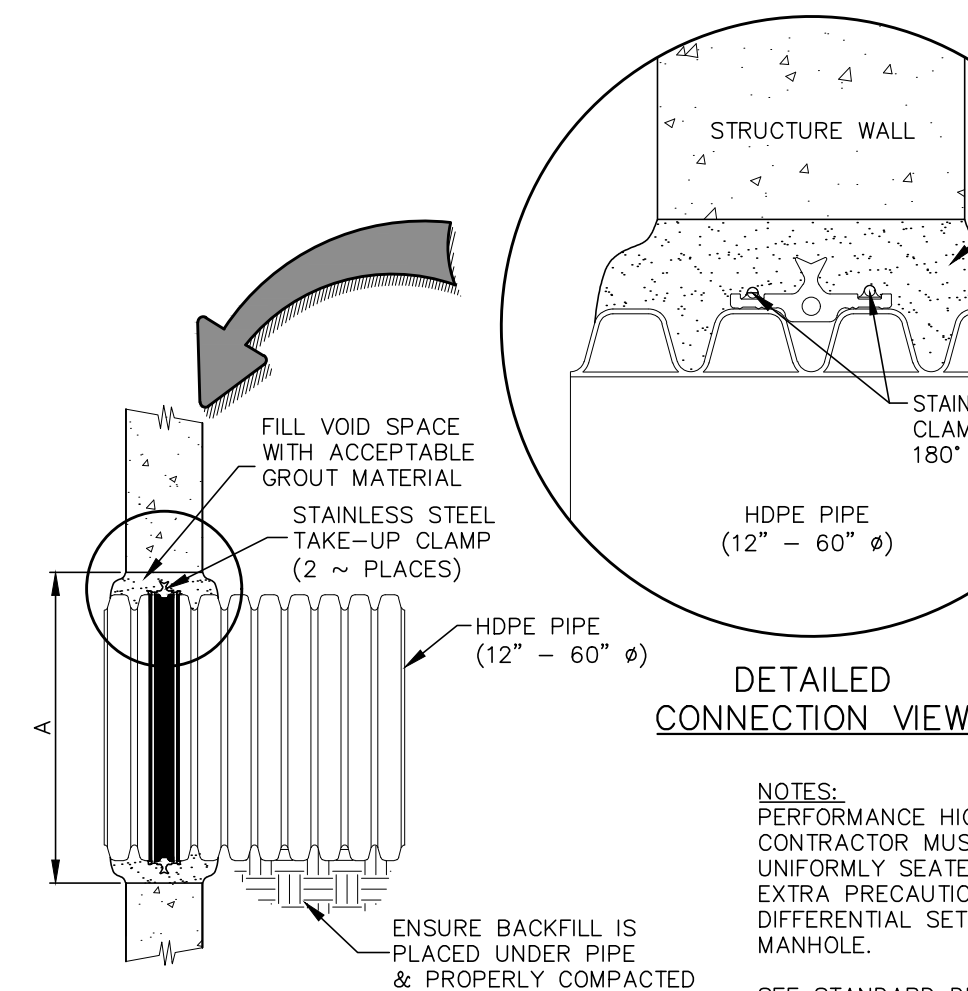
PIPE DIA.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

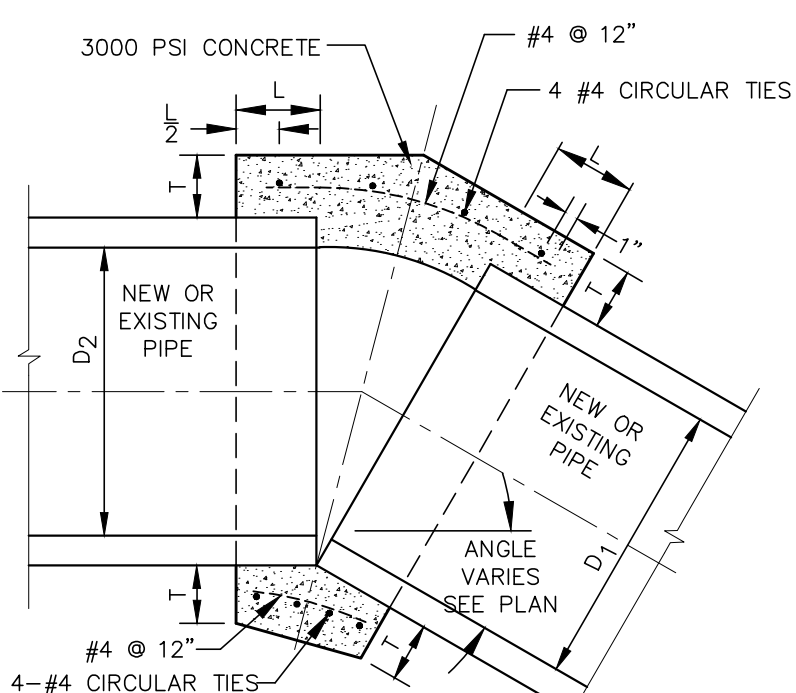
- NOTES:
- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION, WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IV MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
 - MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
 - FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
 - BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" FOR 12"-24" DIAMETER PIPE, 6" FOR 30"-60" DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
 - INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
 - MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (NATIVE GROUND, GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS: CLASS I OR II MATERIAL COMPACTED TO 90% SPD, AND CLASS III COMPACTED TO 95% SPD IS REQUIRED. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
 - SELECT NATIVE CLEAN BACKFILL SHALL BE WELL PLACED, MODERATELY COMPACTED (85% SPD) CLASS IV OR BETTER PER ASTM D2321 WITH NO FOREIGN DEBRIS INCLUDING ROCKS, LARGE CLUMPS ORGANIC MATERIAL, OR FROZEN MATERIAL.

HP STORM TRENCH INSTALLATION DETAILS
NTS
ADS DETAIL 101D AND 101E

PIPE SIZE	PIPE OD		MIN. DISTANCE PIPE INVERT TO STRUCTURE INVERT	ADS PRODUCT CODES
	A-PROFILE	H-PROFILE		
12"	14.5"	N/A	3.7"	1202PS
15"	17.6"	N/A	4.0"	1502PS
18"	21.2"	N/A	4.2"	1802PS
24"	27.8"	N/A	4.5	2402PS
30"	35.1"	N/A	5.2"	3002PS
36"	41.1"	N/A	5.5"	3602PS
42"	47.7"	48.0"	5.7"	4202PS
48"	53.6"	54.0"	5.7"	4802PS
60"	66.3"	67.3"	6.4"	6002PS



HDPE GROUDED WATERSTOP CONNECTION
NTS
ADS DETAIL 203

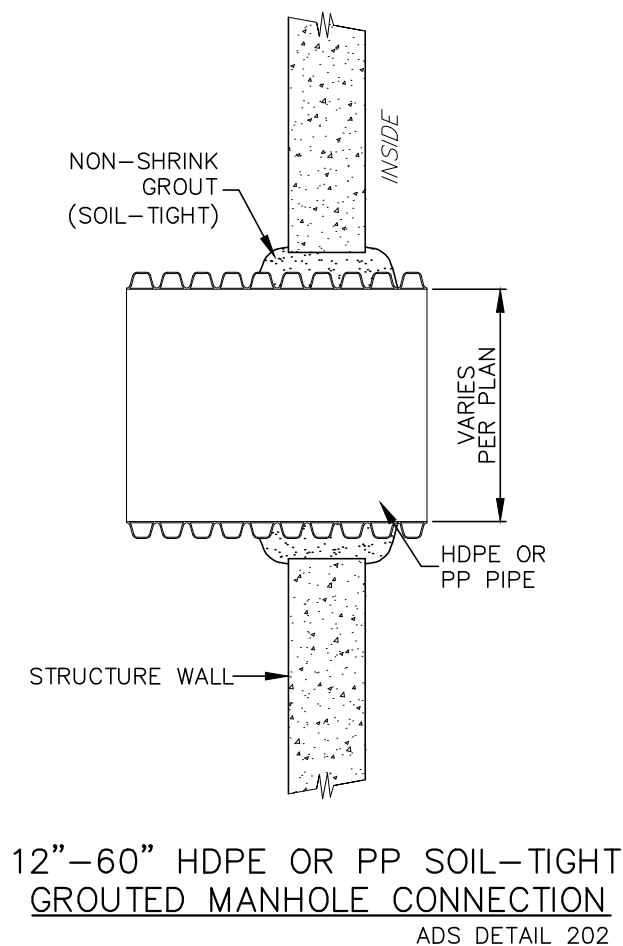


TABLE

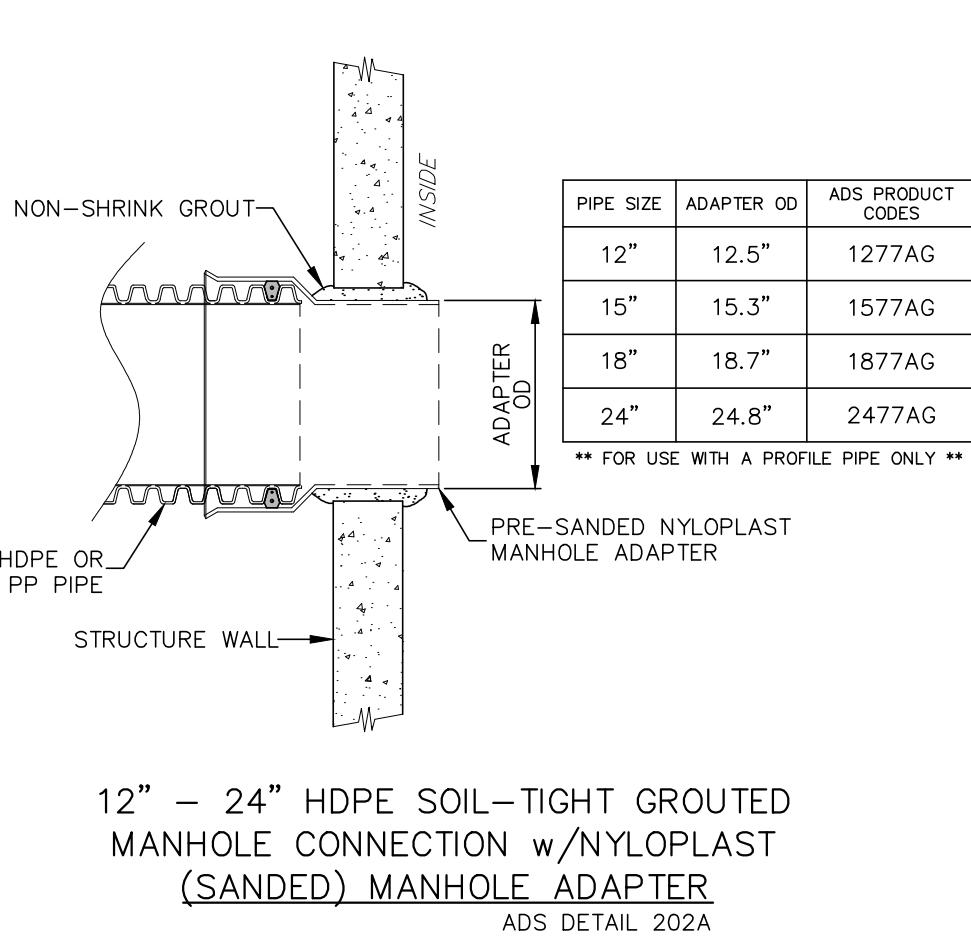
D	L	T
24"	1.0	6"

- NOTES:
- A CONCRETE COLLAR IS REQUIRED WHERE PIPES OF DIFFERENT DIAMETERS OR MATERIALS ARE JOINED, OR WHERE THE CHANGE IN ALIGNMENT OR GRADE EXCEEDS THAT ALLOWED FOR AN ORDINARY JOINT
 - WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONCRETE COLLAR, L & T SHOULD BE THOSE OF THE LARGER PIPE, D₁ OR D₂ WHICHEVER IS GREATER
 - FOR PIPE SIZES NOT LISTED USE NEXT SIZE LARGER
 - OMIT REINFORCING ON PIPES 24" OR LESS IN DIAMETER
 - WHERE REINFORCING IS REQUIRED THE DIAMETER OF THE CIRCULAR TIES SHALL BE D + (2 x WALL THICKNESS) + 8"
 - FIELD CLOSURES OF PIPE OF THE SAME DIAMETER AND WITHOUT CHANGE IN GRADE OR ALIGNMENT SHALL BE MADE WITH A CONCRETE COLLAR

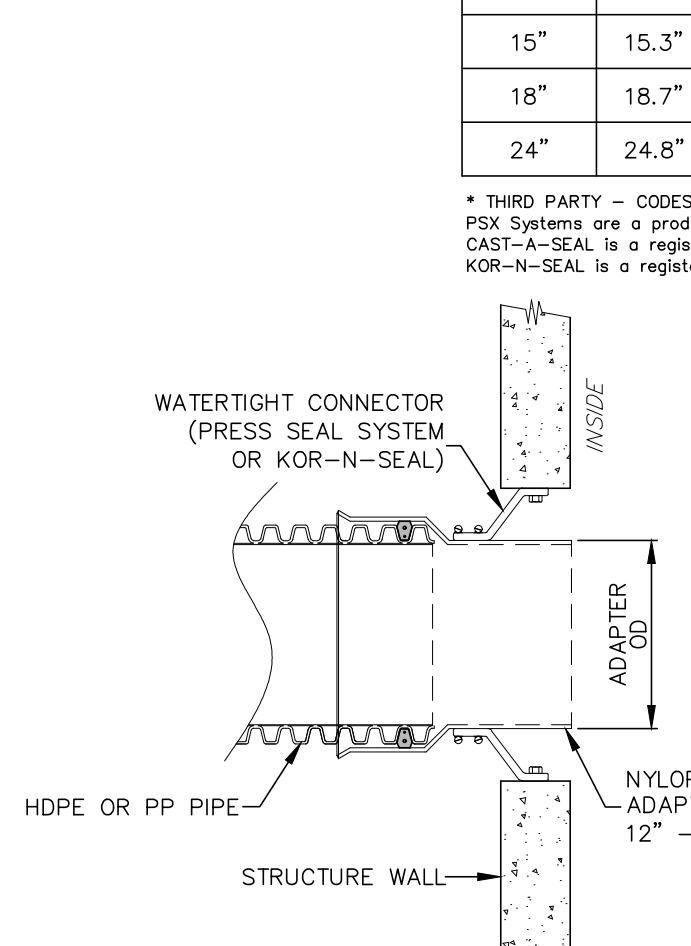
PIPE COLLAR
SCALE: 1" = 1'-0"



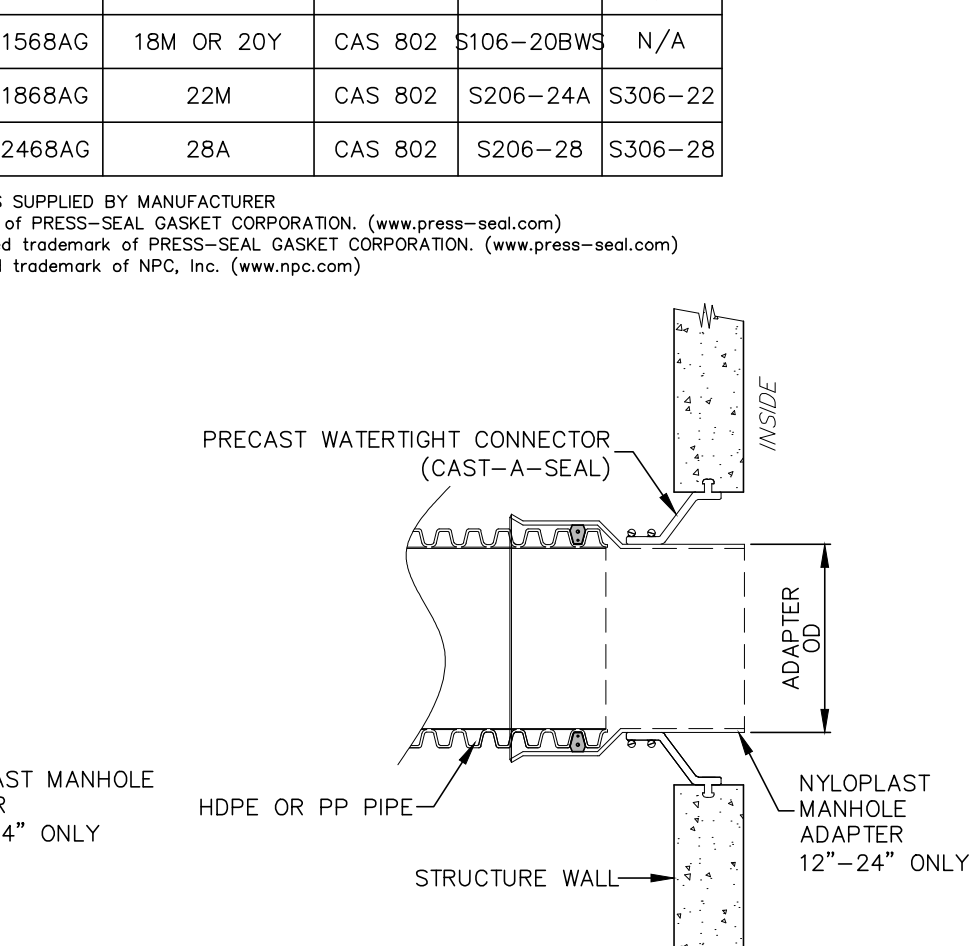
12"-60" HDPE OR PP SOIL-TIGHT GROUDED MANHOLE CONNECTION
ADS DETAIL 202



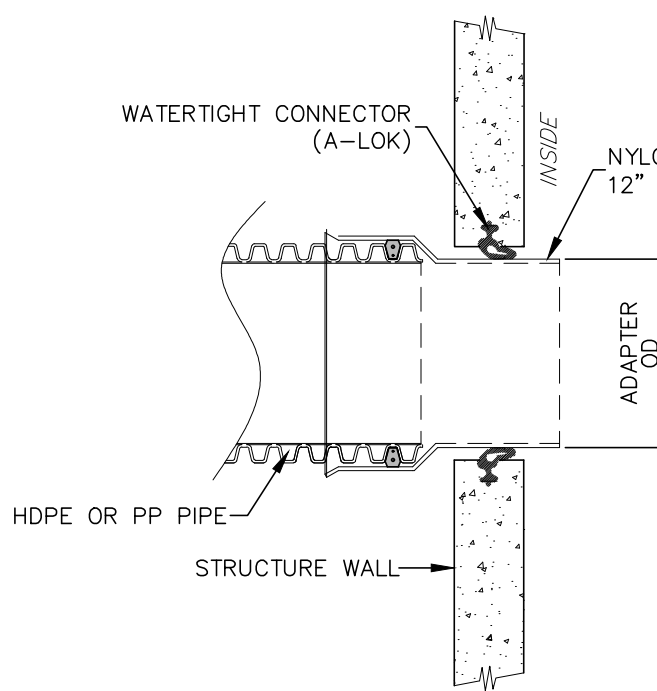
12"-24" HDPE SOIL-TIGHT GROUDED MANHOLE CONNECTION w/NYLOPLAST (SANDED) MANHOLE ADAPTER
ADS DETAIL 202A



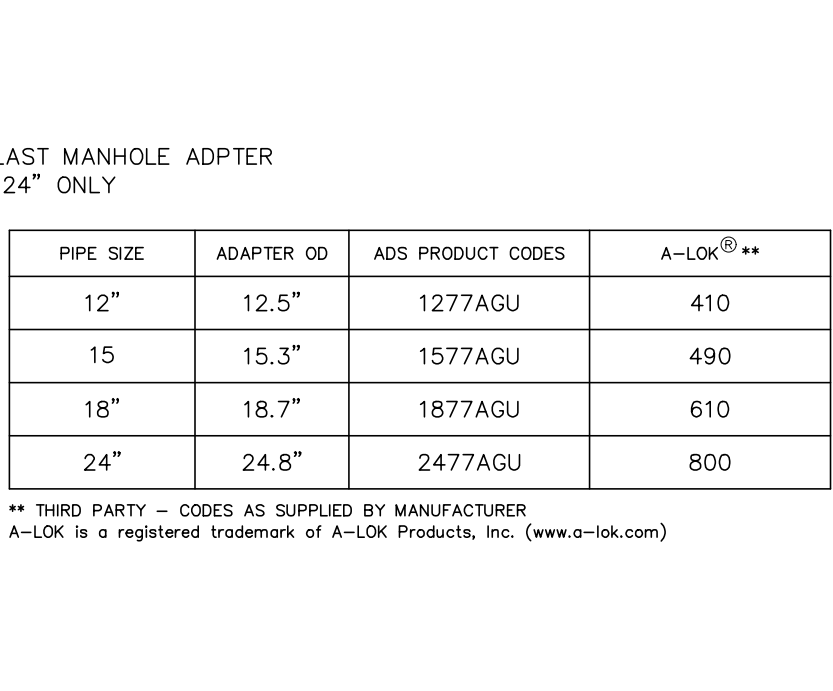
12"-24" HDPE WATERTIGHT CONNECTION USING A BOOT (CORED HOLE OR PRECAST) WITH NYLOPLAST MANHOLE ADAPTER
ADS DETAIL 202F



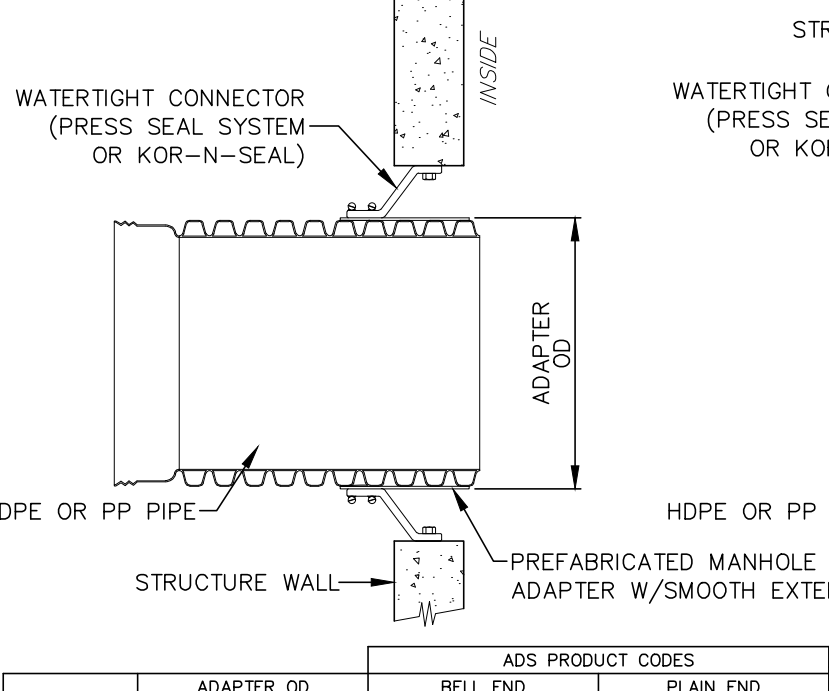
12"-24" HDPE WATERTIGHT CONNECTION USING A BOOT (CORED HOLE OR PRECAST) WITH NYLOPLAST MANHOLE ADAPTER
ADS DETAIL 202F



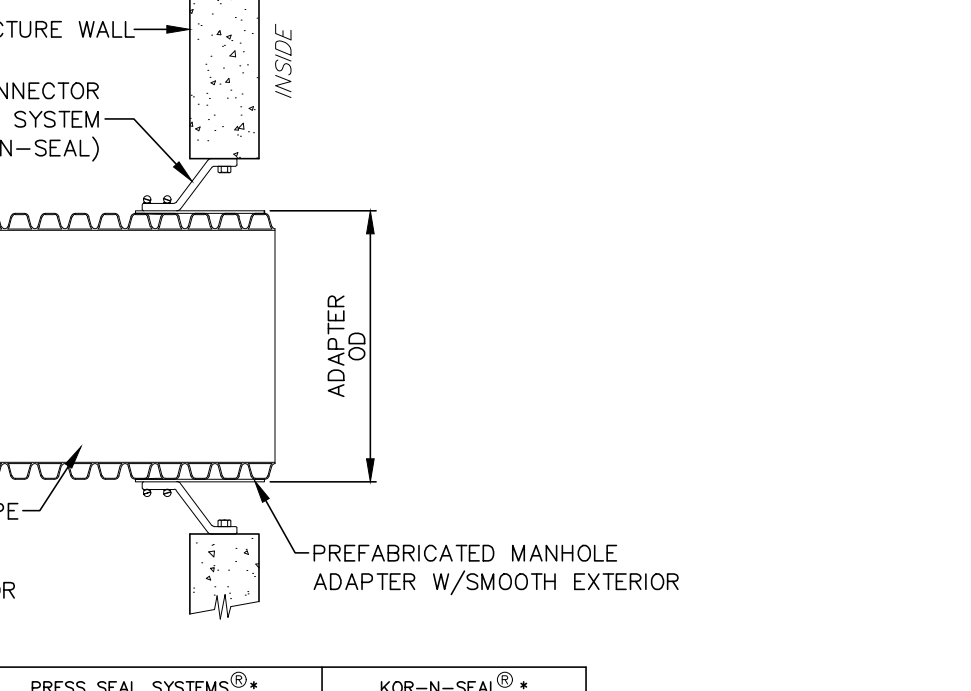
12"-24" HDPE WATERTIGHT CONNECTION USING A PRE-CAST COMPRESSION GASKET WITH NYLOPLAST MANHOLE ADAPTER
ADS DETAIL 202C



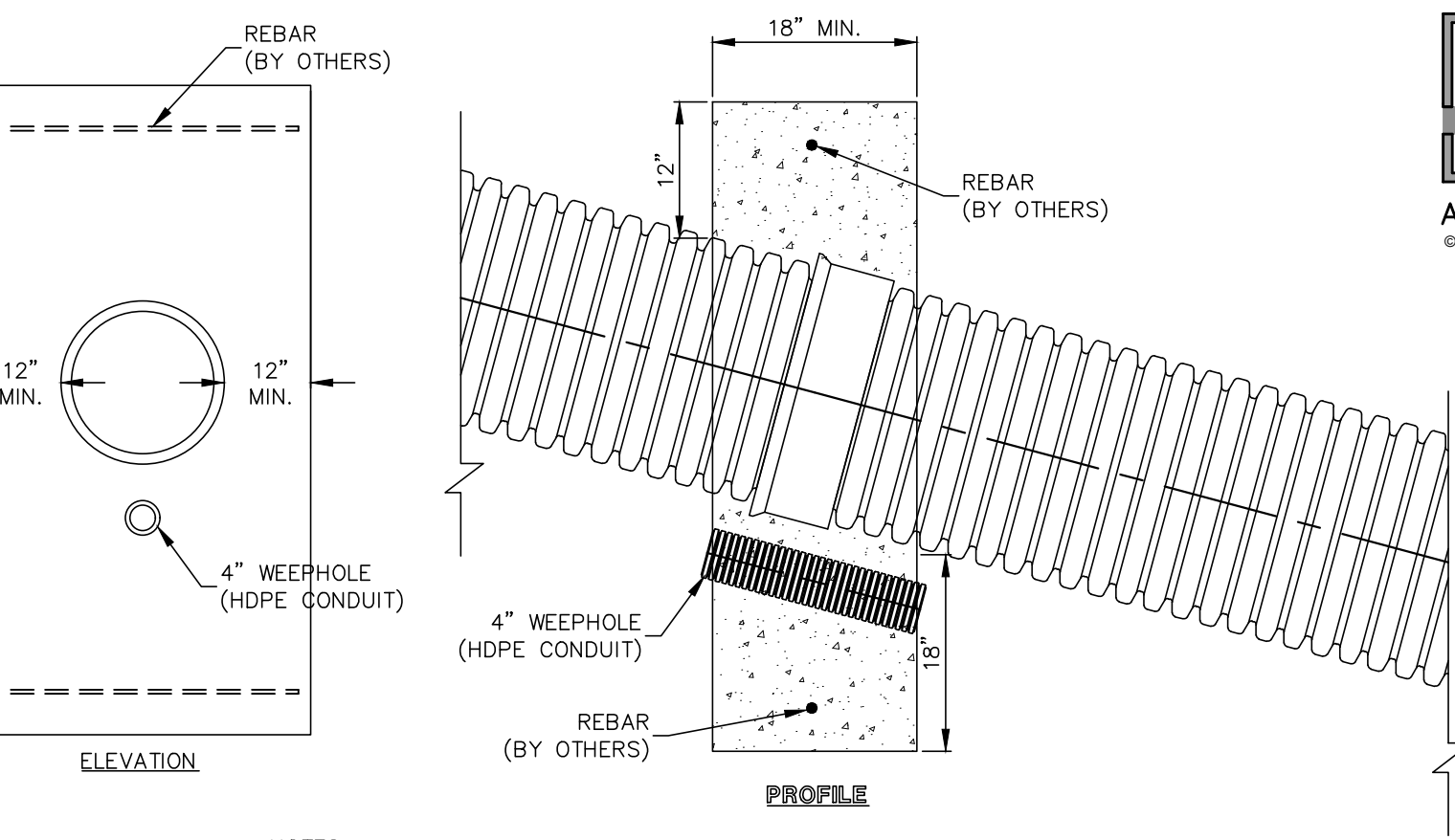
12"-24" HDPE WATERTIGHT CONNECTION USING A PRE-CAST COMPRESSION GASKET WITH NYLOPLAST MANHOLE ADAPTER
ADS DETAIL 202C



12"-60" HDPE WATERTIGHT CONNECTION USING A MANHOLE BOOT (CORED HOLE OR PRE-CAST) WITH PREFABRICATED ADAPTER
ADS DETAIL 202B



12"-60" HDPE WATERTIGHT CONNECTION USING A MANHOLE BOOT (CORED HOLE OR PRE-CAST) WITH PREFABRICATED ADAPTER
ADS DETAIL 202B

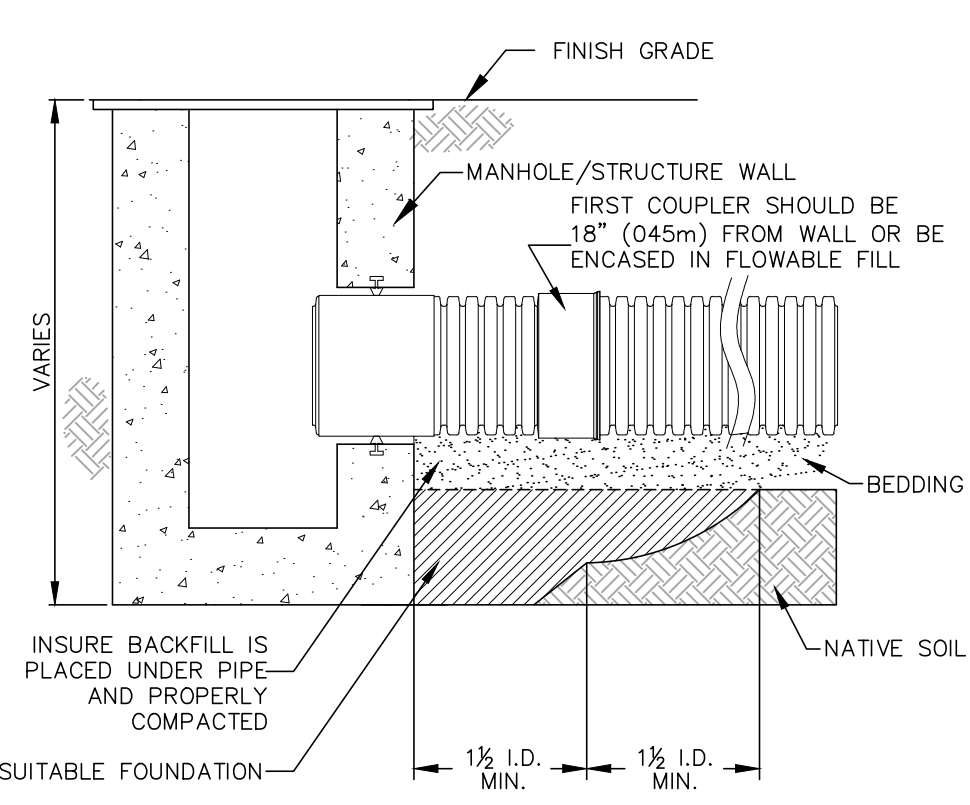


- NOTES:
- PIPE TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS. SEE STD-101.
 - ANCHORS SHALL BE PLACED EVERY JOINT.
 - VELOCITY REDUCTION METHODS SHALL BE TAKEN WHEN SLOPE CREATES VELOCITY GREATER THAN 20 FPS.

CONCRETE ANCHORS FOR STEEPLY SLOPED PIPES INSTALLATION
NTS
ADS DETAIL STD-804



CONNECTION OPTIONS
NTS



- NOTES:
- MAXIMUM INSERTION ANGLE SHALL NOT EXCEED REQUIREMENTS AS SPECIFIED BY THE MANUFACTURER.
 - SEE STANDARD DETAILS STD-202 AND 202A THROUGH STD-204 (A-F) FOR STRUCTURE CONNECTIONS. PRODUCT INFORMATION AND DIMENSIONAL PIPE DATA, INSTALLATION RECOMMENDATIONS ARE ALSO SPECIFIED IN TECHNICAL NOTE 5.04: HDPE CONNECTIONS TO MANHOLES AND STRUCTURES.
 - PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST INSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

STORM CONNECTION AT STRUCTURES
NTS
ADS DETAIL 201

PIPE SIZE	ADAPTER OD	ADS PRODUCT CODES	PRESS SEAL SYSTEMS®*		KOR-N-SEAL®*	
			PSX DIRECT DRIVE	CAS 802	SERIES I OR II	SERIES 306
12"	12.5"	126BAG	16M	CAS 802	S106-16AWF	N/A
15"	15.3"	156BAG	18M OR 20Y	CAS 802	S106-20BWS	N/A
18"	18.7"	186BAG	22M	CAS 802	S206-24A	S306-22
24"	24.8"	246BAG	28A	CAS 802	S206-28	S306-28

* THIRD PARTY - CODES AS SUPPLIED BY MANUFACTURER
PSX Systems are a product of PRESS-SEAL GASKET CORPORATION. (www.press-seal.com)
CAS/A-SEAL is a registered trademark of PRESS-SEAL GASKET CORPORATION. (www.press-seal.com)
KOR-N-SEAL is a registered trademark of NPC, Inc. (www.npc.com)

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE
ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
2	6/4/2021	First City Submittal	AHO
1	10/9/2020	Client Review	AHO

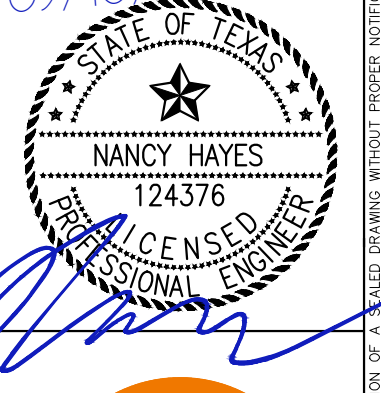
WARNING: BEFORE YOU DIG, CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS

Know what's below. Call before you dig.

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
543-5720
1-800-016-TESS
AT&T
1-800-8411
TELECOM SERVICE LINE
544-6000
PUBLIC SERVICE BOARD (WATER & SEWER)
562-8411
1-800-016-TESS
AFTER HOURS EMERGENCY (EPW)
594-5775
TELEPHONE SERVICE CENTER
594-5775
KINDER-MORGAN EPNG PIPELINES
1-800-344-8377
EL PASO NATURAL GAS PIPELINES
1-800-238-3764
EL PASO NATURAL GAS MAINTENANCE
1-800-238-2702-0151
linetools@elpasogas.com

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SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

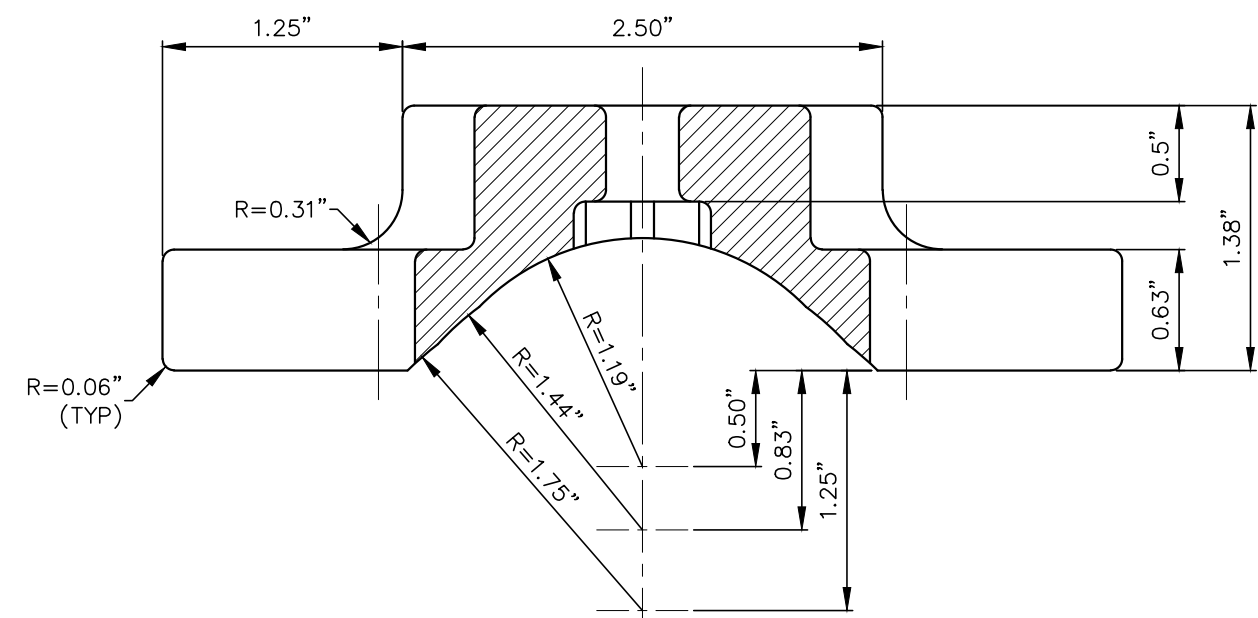
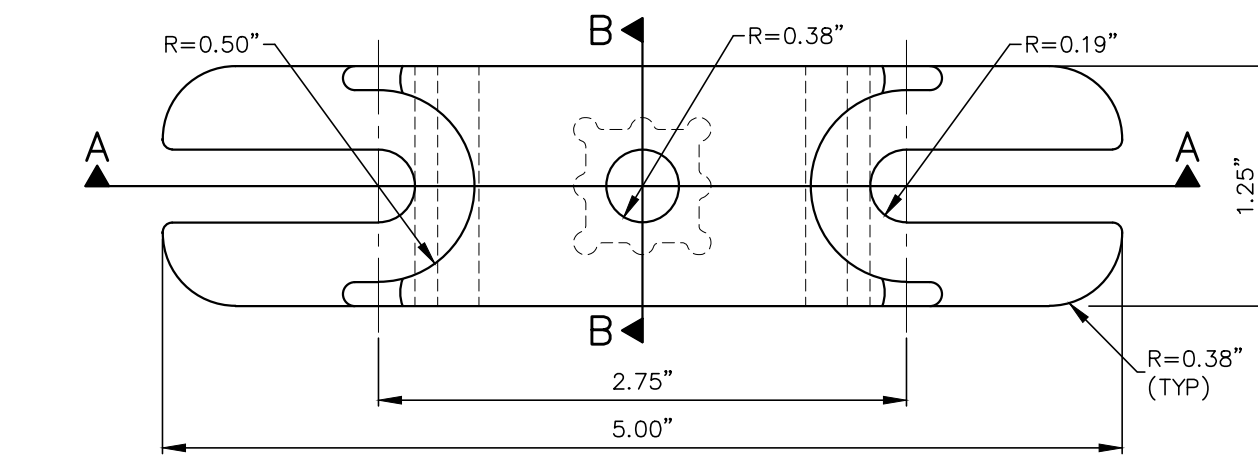
SHEET TITLE

STORM DETAILS

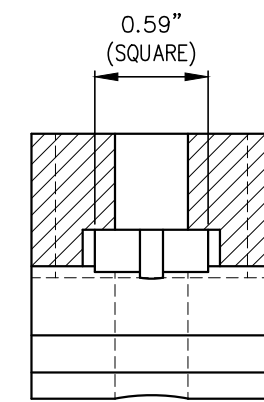
GOB	2020-08
DESIGN BY	AS NOTED
GOB-3M-DG	07/08/2020
SCALE BY	DATE OF COMPLETION
AHO	AS NOTED
CHECKED BY	SCALE

SHEET NO.
17

SHEET SEQUENCE
17 OF **29**



SECTION A-A



SECTION B-B

SIGN CLAMP CASTING SHALL MEET ASTM B95 ALLOY 360.0 OR A360.0, ASTM B26 ALLOY 356.0-F, OR ASTM B108 ALLOY 356.0-F OR A444.0-T4.

UNIVERSAL SIGN CLAMP
NOT TO SCALE

MOUNT BELOW EXISTING STOP SIGNS USING UNIVERSAL SIGN CLAMP



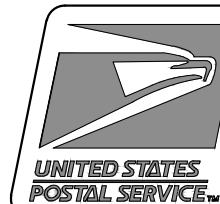
W14-1pR
36" x 8"
DEAD END

LEGEND

- EXISTING STREET LIGHTS
- EXISTING SIGN LOCATION

THE SUBDIVIDER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND ASSOCIATED COST OF ELECTRICAL ENERGY OF THE STREET LIGHTS UNTIL SUCH LIGHTS ARE ACCEPTED BY THE CITY OR COUNTY FOR MAINTENANCE AS PROVIDED IN SECTION 18.36.010. THE CITY OR COUNTY SHALL ACCEPT THE STREET LIGHT FOR MAINTENANCE AND ELECTRICAL ENERGY COSTS AT THE TIME IT ACCEPTS THE STREET AND OTHER PUBLIC IMPROVEMENTS WITHIN THE SUBDIVISION FOR MAINTENANCE.

PRIOR TO THE ACCEPTANCE OF THE STREET LIGHTS FOR MAINTENANCE BY THE CITY OR COUNTY, AN AMENDED ILLUMINATION PLAN SHOWING THE FINAL LOCATION OF THE STREET LIGHT INSTALLED BY THE SUBDIVIDER SHALL BE SUBMITTED TO THE DEPUTY DIRECTOR FOR ENGINEERING OR COUNTY ENGINEER.



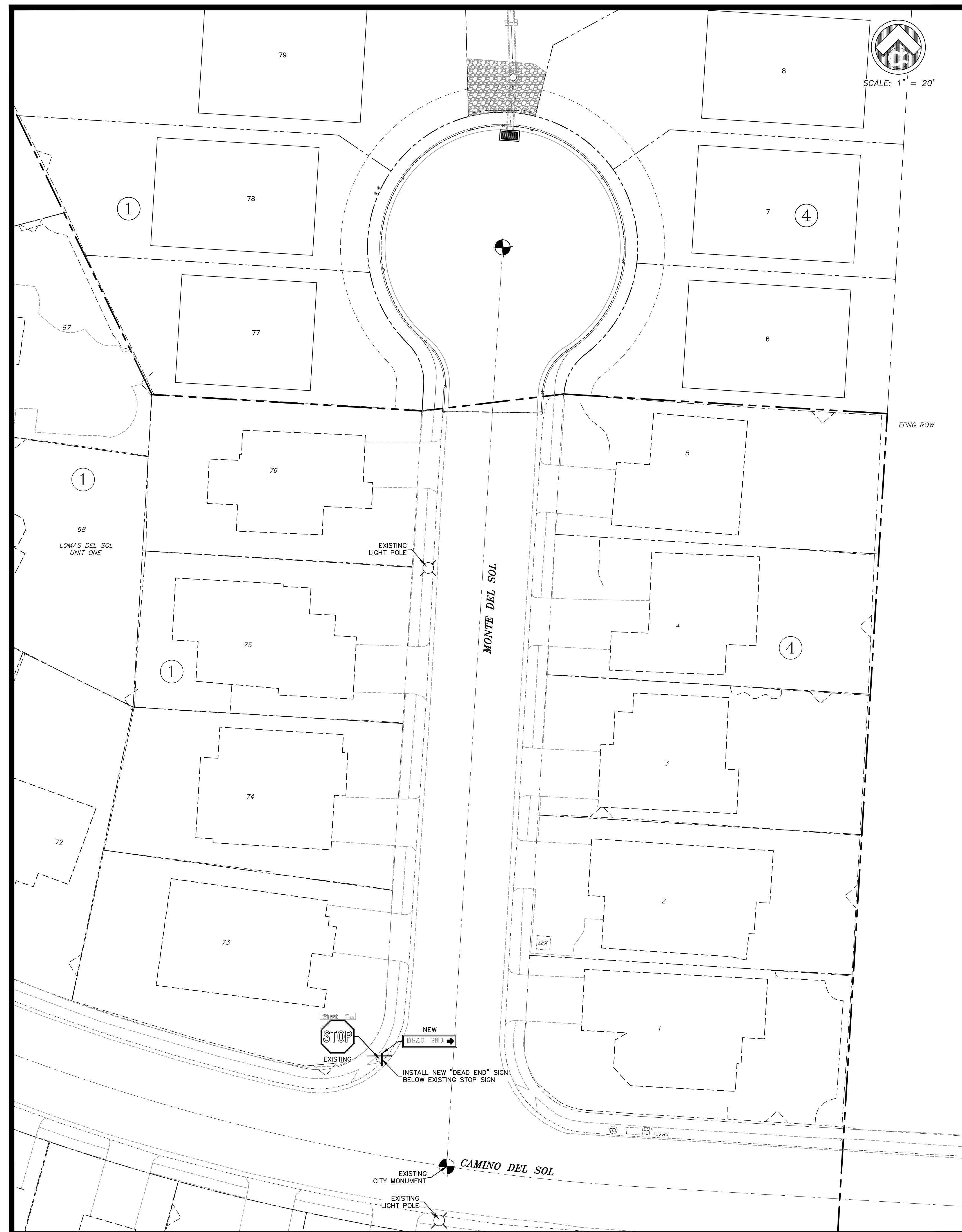
THIS SUBDIVISION SHALL RECEIVE MAIL DELIVERIES VIA NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS (NDCBU) AS INDICATED IN THE PLAN VIEW. THE NUMBER, STYLE, AND FINAL LOCATION OF THE NDCBU'S SHALL BE DETERMINED AT A LATER DATE BY PERSONNEL WITH THE U.S. POSTAL SERVICE.

SIGN PLACEMENT IS CRITICAL. IN ORDER TO MAINTAIN ADA COMPLIANCE, A MINIMUM OF 36" UNOBSTRUCTED PASSAGE MUST BE MAINTAINED BETWEEN ANY STRUCTURES OR FIXTURES AND THE FACE OF CURB AND/OR BACK OF SIDEWALK.

NOTE:
ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

ALL SIGNAGE AND STRIPING COMPLIES WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2011 EDITION.

ALL ROADWAYS INTERSECTING EXISTING PUBLIC ROADWAYS SHALL REMAIN COMPLETELY CLOSED FOR PUBLIC USE UNTIL ACCEPTED FOR MAINTENANCE BY THE COUNTY.



BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
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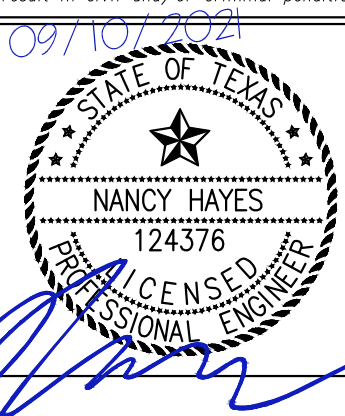
WARNING! BEFORE YOU DIG
IN PROJECT AREA CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS

TEXAS 811
Know what's below. Call before you dig.

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY 543-5720
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AT&T 544-6000
TEXAS GAS SERVICE LINE 544-6000
PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411
AFTER HOURS EMERGENCY (EPW) 1-800-DIG-TESS
TEXAS EVACUATION SAFETY SYSTEM 594-5775
KINDER-MORGAN EPNG PIPELINES 1-800-344-8377
EL PASO METRIC SIGNALS AND MAINTENANCE 1-800-238-2764
EL PASO METRIC SIGNALS AND MAINTENANCE Ingeopol@epmets.com

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SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

SHEET TITLE
SIGNAGE STRIPING & ILLUMINATION

COB	2020-08
DESIGN BY	08
COB-DM-DG	07/08/2020
DATE BY	DATE OF COMPLETION
AHO	AS NOTED
CHECKED BY	SCALE

SHEET NO.
18
SHEET SEQUENCE
18 OF **29**

SITE PREPARATION:

- PRIOR TO GRADING OF THE SITE, NATIVE PLANTS THAT ARE OF A DESIRABLE SPECIES AND THAT ARE OF SUFFICIENT MATURITY WILL BE TAGGED FOR EASE OF IDENTIFICATION. THESE PLANTS WILL BE HARVESTED, REMOVED FROM THE SITE, AND RESERVED FOR THE PURPOSES OF REVEGETATING GRADED SLOPES AND OTHER AREAS THAT ARE IDENTIFIED ON THE PLAN, OR OTHER AREAS THAT MAY HAVE BEEN DISTURBED BY GRADING OPERATIONS AND NOT IDENTIFIED ON THE PLAN.
- THE SITE SHOULD BE CLEARED OF ALL TRASH, RUBBISH, AND DEBRIS THAT IS NOT OF NATURAL ORIGIN. THIS SHOULD INCLUDE BUT IS NOT LIMITED TO PLASTICS, PAPER, CARDBOARD, CANS AND OTHER METAL CONTAINERS, PAINTS, CONCRETE, BRICKS, LUMBER AND OTHER CONSTRUCTION DEBRIS, TIRES, DISCARDED FURNISHINGS, APPLIANCES, ETC., AND CONCRETE OR ASPHALT RUBBLE. ALL SHOULD BE PLACED IN APPROPRIATE TRANSPORT CONTAINERS AND REMOVED TO A DISPOSAL SITE AUTHORIZED TO ACCEPT THE REFUSE.
- ONCE CLEARED OF UNDESIRABLE MATERIALS, TOPSOILS WITHIN THE LIMITS OF DISTURBANCE IS TO BE REMOVED TO A DEPTH OF 6" TO 12" AND RESERVED IN STOCKPILES AT AREAS WITHIN THE SITE AS IDENTIFIED IN THE PLAN VIEWS. THE TOPSOILS ARE NOT TO BE SCREENED AND ANY ORGANIC MATERIALS SCRUBBED IN THE GRADING OPERATIONS ARE TO BE LEFT INTERMINGLED WITHIN THE RESERVED MATERIALS. THE MATERIALS THAT ARE RESERVED WILL SERVE AS THE SEED BANK AND WILL BE THE BASE FOR OPERATIONS THAT WILL BE PERFORMED FOLLOWING THE GRADING OF AREAS NOTED FOR REVEGETATION ON THE PLANS.
- ANY NATIVE ROCK THAT MAY BE GATHERED WITH THE TOPSOILS ARE TO BE LEFT WITH THE MATERIALS RESERVED. THIS NATIVE ROCK IS A CRUCIAL MEMBER OF THE SOILS MAKE UP AND HELP TO INTERLOCK THE SOIL MATERIALS WHEN TRANSFERRED AND PLACED ON NEWLY GRADED AREAS. ONLY LARGER DIAMETER STONES THAT ARE ENCOUNTERED (12" DIAMETER AND LARGER) SHALL BE REMOVED FROM THE MATERIALS THAT ARE TO BE STOCKPILED. THESE LARGER STONES SHOULD BE SET ASIDE AND RESERVED FOR USE ELSEWHERE ON SITE AS SHOWN IN THE DETAILS ON THESE SHEETS.
- AREAS IDENTIFIED AS STOCKPILES FOR THE SEED BANK ON THE PLANS SHALL BE THOROUGHLY WETTED PRIOR TO PLACING THE TOPSOILS IN RESERVE. MATERIALS SHALL BE SPREAD LOOSELY AND LEFT UNCOMPACTED IN LAYERS NOT GREATER THAN 4" TO 6" IN DEPTH. RESERVED MATERIALS SHALL BE RETWETTED PRIOR TO PLACING ADDITIONAL MATERIALS ONTO THE STOCKPILE. MATERIALS STOCKPILED SHALL NOT EXCEED FOUR (4) FEET IN OVERALL HEIGHT. ONCE MATERIALS HAVE BEEN STOCKPILED, THE SEED BANK SHALL BE WATERED ON A FAIRLY REGULAR BASIS, NOT LESS THAN ONCE PER WEEK, UNTIL SUCH TIME THE MATERIALS ARE REMOVED FOR PLACEMENT WITHIN THE GRADED AREAS NOTED ON THE PLANS. FREQUENCY OF WATERING AND WATER VOLUMES SHALL BE AS DIRECTED BY THE BOTANIST.
- DURING THE PERIOD THAT THE SEED BANK IS IN RESERVE, ONLY UNDESIRABLE GROWTH THAT MAY OCCUR SHALL BE REMOVED. PLANTS SUCH AS TUMBLEWEEDS AND OTHER SPECIES AS IDENTIFIED IN THE CITY CODE AS UNDESIRABLE SHALL BE REMOVED. (REF: TITLE 9 (HEALTH AND SAFETY), CHAPTER 9.04 (SOLID WASTE MANAGEMENT), SECTION 9.04.860 (WEEDS AND VEGETATION PROHIBITED) AND MAINTAIN A SITE THAT IS FREE OF WEEDS AND VEGETATION OTHER THAN THOSE DEEMED AS "ACCEPTABLE" PER SECTION 9.04.870 (EXCEPTIONS).)
- PLANT HARVESTING, RESERVATION AND PRESERVATION OF THE SEED BANK, AND THE REVEGETATION OF THE AREAS NOTED IN THE PLAN SHALL BE PERFORMED UNDER THE SUPERVISION OF MICHAEL GAGLIO, BOTANIST AND MANAGING MEMBER OF HIGH DESERT NATIVE PLANTS AND MAY BE CONTACTED VIA EMAIL AT mike@hd-envy.com.

GENERAL GRADING NOTES:

- AREAS NOTED ON THE PLANS AS 'TO BE LEFT UNDISTURBED' SHOULD BE CORDONED OFF USING ORANGE CONSTRUCTION FENCING AND ALL MECHANIZED EQUIPMENT SHOULD BE RESTRICTED FROM OPERATIONS WITHIN THESE AREAS.
- ON HIGHER GROUND, GRADING OPERATIONS SHOULD BE CATEGORIZED AS 'HILL TOPPING' AND THE LIMITS OF GRADING SHOULD NOT EXTEND BEYOND WHAT IS SHOWN ON THE PLANS, ESPECIALLY THE GRADING SHOWN WITHIN BLOCKS 2, 3 AND 10. INITIAL GRADING CAN BE PERFORMED UTILIZING SCRAPERS, BUT AS THE FINISHED GRADE IS APPROACHED, GRADING AT THE EDGE OF THE LOTS SHOULD BE 'RAKED' IN TOWARD THE LOT. RAKED MATERIALS PULLED IN FROM THE EDGE OF SLOPE CAN BE REMOVED UTILIZING SCRAPERS, LEAVING A CLEAN CUT TO NATURAL GRADE IN THE NOTED AREAS IS CRUCIAL TO THE LOOK DESIRED AS A PART OF THE GRADING DESIGN.
- WHILE NOT EXPECTED, IT IS POSSIBLE THAT CLAYS OR OTHER SOILS WITH HIGHER PLASTICITY CAN BE ENCOUNTERED, ESPECIALLY WHEN GRADING OPERATIONS ARE PERFORMED WITHIN LOWER AREAS NEAR RESLER DRIVE AND WITHIN WATER COURSES AND WASHES. REMOVAL AND REPLACEMENT OF THESE SOILS WILL ONLY BE NECESSARY WHERE PAVEMENT IS PROPOSED, OR WHERE IT WILL IMPOSE ISSUES UPON THE PLACEMENT OF FOUNDATIONS BY THE BUILDERS. IT WILL NOT BE NECESSARY TO MITIGATE THESE SOILS WHERE FILL IS PROPOSED AND ENCAPSULATION OF THE UNDESIRABLE SOILS WILL OCCUR.

SCREENING OPERATIONS:

- DURING SCREENING OPERATIONS PERFORMED THROUGHOUT THE DURATION OF CONSTRUCTION, NATIVE ROCK OF ALL SIZES SHALL BE RESERVED AND STOCKPILED FOR FUTURE PLACEMENT ON SITE AS SHOWN ON THE PLAN AND PER THE DETAILS SHOWN ON THESE SHEETS.
- NATIVE ROCK SHOULD BE SORTED BY SIZE AND KEPT SEPARATED DURING THE PERIOD THE MATERIAL IS STOCKPILED. A SIGNIFICANT AMOUNT OF NATIVE ROCK PLACEMENT IS SPECIFIED AS A PART OF THE STABILIZATION PLAN AND ALL EFFORTS SHOULD BE MADE BY THE CONTRACTOR TO SORT AND RESERVE ALL NATIVE ROCK AS IS PERMITTED BY TIME AND BUDGETARY CONSTRAINTS.
- IN THE EVENT THAT SIGNIFICANTLY SIZED SANDSTONE CAPS ARE ENCOUNTERED DURING GRADING OPERATIONS, EFFORTS SHOULD BE MADE TO RESERVE SLABS OF THE SANDSTONE INTACT. LARGE SLABS MAY BE INCORPORATED INTO THE PARKS AS PART OF THE NATIVE DESIGN SCHEMES BEING PROPOSED.

GRADED SLOPES:

- ALL GRADED SLOPES GREATER THAN 3:1 (THREE FEET HORIZONTALLY TO 1 FOOT VERTICALLY) MUST BE STABILIZED PER ORDINANCE. OTHER GRADED SLOPES THAT ARE 3:1 OR LESS SHALL BE STABILIZED PER THE RECOMMENDATIONS OF THE SLOPE STABILITY REPORT PERFORMED BY THE GEOTECHNICAL ENGINEER.
- AS A STANDARD, THE CONTRACTOR SHOULD MAINTAIN REGULAR CONTACT WITH THE GEOTECHNICAL ENGINEER AND REQUEST TESTING OF SOILS TO BE USED IN THE CONSTRUCTION OF FILL SLOPES. WHENEVER POSSIBLE, IT IS DESIRABLE TO PLACE SOILS WITH HIGHER PLASTICITY LEVELS AT THE LOWER LEVELS OF FILL AND RESERVE THE LESSER COHESIVE SOILS FOR PLACEMENT NEARER THE TOPS OF THE CONSTRUCTED SLOPES, ESPECIALLY WHERE THOSE SOILS WILL BE CONTAINED WITHIN RETAINING WALLS.
- CONSTRUCTED SLOPES (FILL) SHOULD INCORPORATE A SOILS STITCHING METHODOLOGY WHEN PLACING LIFTS. IN ADDITION TO THE TESTING OF SOILS, FILL SLOPES SHOULD BE INSPECTED ON A REGULAR BASIS BY THE GEOTECHNICAL ENGINEER DURING THE GRADING OPERATIONS. AT A MINIMUM FILL SLOPES SHOULD BE EVALUATED FOR SLOPE STABILITY BY THE ENGINEER UPON COMPLETION OF EVERY FIVE (5) FEET OF VERTICAL FILL.
- SIGNIFICANT CUT SLOPES ARE PROPOSED AS A PART OF THE GRADING OPERATIONS FOR THIS SUBDIVISION. GRADING CONTRACTOR SHALL PAY VERY CLOSE ATTENTION TO THE MATERIALS THAT ARE ENCOUNTERED WHEN CUTTING SLOPES. WHILE MATERIALS WITH HIGH COHESIVE VALUES ARE DESIRED, IN THE EVENT THAT FLOWABLE MATERIALS SUCH AS DUNE, BLOW, OR SUGAR SANDS ARE DISCOVERED DURING CONSTRUCTION, THE GRADING CONTRACTOR SHALL IMMEDIATELY CONTACT THE GEOTECHNICAL ENGINEER TO INSPECT THE SITE CONDITIONS AND RECOMMEND OPTIONS TO COMPLETE THE SLOPE AS DESIGNED. ALL GRADING OF THE CUT SLOPE SHALL CEASE UNTIL OPTIONS CAN BE OFFERED AND A PLAN IS IMPLEMENTED TO MITIGATE THE POOR SOIL CONDITION.
- ALL SLOPES WITHIN THESE PLANS SHALL BE RE-INSPECTED BY THE GEOTECHNICAL ENGINEER AND THE DESIGN ENGINEER UPON COMPLETION. AT THAT TIME, FURTHER RECOMMENDATIONS MAY BE MADE TO ENSURE THE FUTURE STABILITY OF THE COMPLETED SLOPES. THESE RECOMMENDATIONS MAY INCLUDE BUT ARE NOT LIMITED TO THE INCORPORATION OF SOIL RETENTION BLANKETS SUCH AS PYRAMAT OR OTHER GEOTEXTILE GRID MATERIALS, APPLICATION OF HAY OR OTHER ORGANIC MULCHES, SPRAY MULCH APPLICATIONS, OR SOILS BLENDING TO ENCAPSULATE AND PRESERVE THE FINISHED GRADE OF THE SLOPES.
- MOST SLOPES WITHIN THE DISTURBED LIMITS ARE TO BE REVEGETATED BY THE DEVELOPER UNLESS NOTED OTHERWISE IN THE PLANS. THE FIRST STEP IN THE REVEGETATION PROCESS IS THE APPLICATION OF TOPSOILS THAT HAVE BEEN RESERVED HELD IN STOCKPILE. APPLICATION OF THE TOPSOIL CAN BE PERFORMED AS THE SLOPES ARE DEVELOPED BUT ONLY AFTER INSPECTION OF THE PORTION OF THE SLOPE TO RECEIVE THE TOPSOIL HAS BEEN INSPECTED BY THE GEOTECHNICAL ENGINEER AND PASSED FOR STABILITY OF THE SLOPE SPECIFIED. APPLICATION OF THE TOPSOIL SHALL BE PERFORMED PER THE 'REVEGETATION OF SLOPES' NOTES IN THESE PLANS.
- SLOPES THAT ARE NOT NOTED FOR REVEGETATION IN THESE PLANS ARE TEMPORARY IN NATURE AND WILL BE FURTHER AMENDED BY FUTURE DEVELOPMENT OF THIS AREA. ALTHOUGH TEMPORARY, THESE SLOPES ARE TO BE EVALUATED BY THE GEOTECHNICAL ENGINEER UPON COMPLETION AS NOTED ABOVE, AND IF DEEMED NECESSARY, ADDITIONAL SLOPE STABILITY MEASURES WILL BE IMPLEMENTED PER THE ENGINEER'S RECOMMENDATIONS.
- ALL SLOPES, WHETHER CONSTRUCTED BY FILL, OR CREATED BY CUT, AND THAT ARE TO BE REVEGETATED OR LEFT NATURAL, SHALL BE REINFORCED AND PROTECTED BY PLACING NATIVE ROCK SCREENED FROM MATERIALS ON SITE AT THE TOE OF ALL SLOPES PER THE DETAILS IN THIS PLAN UNLESS NOTED OTHERWISE.

- ALL SLOPES THAT ARE NOTED TO BE STABILIZED BY BUILDER SHALL BE COMPLETED AND SHOULD BE CONSIDERED AS A PARAMETER TO BE COMPLETED PRIOR TO RECEIVING A CERTIFICATE OF OCCUPANCY. ALL WORK IS TO BE PERFORMED OR SUBCONTRACTED BY THE INDIVIDUAL BUILDER OF THE LOT IN WHICH A SLOPE IS INDICATED AND SHALL CONFORM TO THE INSTRUCTIONS CONTAINED IN THE 'SLOPE STABILIZATION FOR BUILDERS' NOTE.

REVEGETATION OF SLOPES AND OTHER SCARRED AREAS:

- WHILE THE EROSION OF LAND IS INEVITABLE AND CAN ONLY BE MITIGATED BUT NEVER ERADICATED, IN THAT RESPECT, THE REVEGETATION OF SLOPES AND OTHER AREAS LEFT SCARRED BY GRADING OPERATIONS IS A CRUCIAL PORTION OF THE GRADING-STABILIZATION PROCESS AS DETAILED IN THIS PLAN. AS NOTED, THE REVEGETATION PROCESS IS TO BE PERFORMED BY THE DEVELOPER AS A FINAL STEP IN ABATING THE FUTURE EROSION OF SCARRED AREAS, ESPECIALLY GRADED SLOPES.
- ONCE GRADED SLOPES ARE COMPLETED, AND HAVE BEEN INSPECTED BY THE GEOTECHNICAL ENGINEER PER THE OTHER NOTES AND DETAILS IN THIS PLAN, TO INCLUDE THE APPLICATION OF ANY ADDITIONAL RECOMMENDATIONS REQUIRED BY THE SLOPE STABILITY ANALYSIS PERFORMED BY THE ENGINEER, THE REVEGETATION PROCESS CAN BEGIN.
- THE FIRST STEP IN THE REVEGETATION PROCESS IS THE PLACEMENT OF RESERVED TOPSOILS STOCKPILED AS THE SEED BANK UPON SCARRED AREAS LEFT UNPROTECTED TO THE ELEMENTS. IN PREPARATION FOR THIS STEP, THE SCARRED AREA SHOULD BE 'TRACK WALKED' TO PROVIDE A FOOT HOLD FOR THE SOILS TO BE APPLIED. WHERE TRACK WALKING MAY NOT BE POSSIBLE, THE USE OF A SHEEPSFOOT ROLLER DRUM ATTACHED TO AN EXCAVATOR CAN BE AN EFFECTIVE ALTERNATIVE. AT THIS TIME, ANY ADDITIONAL APPLICATION OF MULCHES SUCH AS HAY BEDDING SHALL BE PLACED AND THE SCARRED AREA SHALL BE WETTED THOROUGHLY BEFORE APPLYING THE RESERVED TOPSOILS. HYDROSEEDING SHOULD ONLY BE CONSIDERED IF A NATIVE SEED BLEND CAN BE OBTAINED.
- PRIOR TO REMOVING TOPSOILS FROM THE SEED BANK, THE STOCKPILE SHALL ALSO BE THOROUGHLY WETTED. IN THE EVENT THAT THE RESERVED MATERIAL HAS SETTLED TO A POINT WHERE IT HAS BECOME HARDPAN, THE MATERIAL SHALL BE HARDED PRIOR TO WATING. AT THIS TIME, ANY SOIL AMENDMENTS THAT MAY HAVE BEEN RECOMMENDED SHALL BE INCORPORATED INTO THE MATERIAL. THE RESERVED MATERIALS ARE TO BE REMOVED FROM THE SEED BANK IN LIFTS RELATIVE TO THE DEPTH IN WHICH THEY WERE PLACED. THIS SHOULD ENSURE A DEPTH OF SEEDING RELATIVE TO THAT WHICH WAS NATURAL WHEN THE MATERIALS WERE HARVESTED.
- ONCE THE MATERIALS ARE TRANSPORTED TO THE SITE THAT IS TO BE REVEGETATED, THE MATERIAL SHALL BE PLACED UPON THE EXPOSED SOILS AT A DEPTH OF NOT MORE THAN SIX TO EIGHT INCHES. THE APPLIED MATERIAL SHOULD BE TRACK WALKED BUT SHOULD ONLY BE COMPACTED TO A POINT AT WHICH A FIRM ADHESION TO THE SCARRED AREA IS ACHIEVED. THE TOPSOIL SHALL BE RETWETTED AS NECESSARY TO ADDITIONALLY ENSURE A FIRM ADHESION. THE USE OF SPRAY MULCH TACKIFIERS, OR AN UNDERLAYMENT OF JUTE, BURLAP, OR OTHER NATURAL DIAPHANOUS BIODEGRADABLE MATERIAL, OR SYNTHETIC POLYGRIDS, PRIOR TO THE PLACEMENT OF MATERIALS MAY ALSO BE CONSIDERED TO ENSURE ADHESION OF THE TOPSOIL TO THE GRADED SLOPES. THE REVEGETATED AREA SHALL BE RETWETTED ONE FINAL TIME ONCE THE APPLICATION OF THE TOPSOIL IS COMPLETE. WATERING SHOULD BE PERFORMED FROM THE TOE OF SLOPE AND UPWARD TO PREVENT POSSIBLE SLIDING OF WETTER SOILS TOWARDS THE TOP OF SLOPE.
- AREAS THAT HAVE RECEIVED TOPSOILS FROM THE SEED BANK SHALL BE WATERED BY THE DEVELOPER ON A REGULAR BASIS TO PROMOTE NEW GROWTH WITHIN THE APPLIED SOILS. ADDITIONAL SOIL AMENDMENTS MAY BE RECOMMENDED AND APPLIED DURING THIS PROCESS. WHILE IRRIGATION OF THE AREAS SLATED FOR REVEGETATION ARE NOT A PART OF THIS PLAN, A LOW WATERING IRRIGATION SYSTEM MAY BE INSTALLED AS A PERMANENT IN-GROUND APPLICATION, OR INSTALLED AS AN ABOVE-GROUND TEMPORARY MEASURE. IT IS HIGHLY RECOMMENDED THAT A PERMANENT DRIP IRRIGATION SYSTEM BE INSTALLED WITHIN THE COMMON OPEN SPACE AREAS, LOT 31, BLOCK 4 AND LOT 75 BLOCK 10 SINCE THEY WILL BE MAINTAINED BY THE HOME OWNERS ASSOCIATION FOR THE SUBDIVISION. THE USE OF PUMICE WICKS, POLYMER PRODUCTS, OR DIATOMACEOUS EARTH CAN BE CONSIDERED FOR USE TO ENHANCE THE WATER RETENTION OF THE TOPSOILS.
- ONCE THE APPLIED TOPSOILS HAVE BECOME WELL ESTABLISHED, NATIVE PLANTS THAT WERE HARVESTED FROM THE SITE PRIOR TO THE COMMENCEMENT GRADING OPERATIONS WILL BE RETURNED FOR REPLANTING. THE PLANTING OF THE VEGETATION SHOULD BE SUCH THAT IT APPEARS RANDOM. ANY SOIL AMENDMENTS THAT MAY BE REQUIRED OR THAT HAS BEEN RECOMMENDED WILL BE APPLIED AT THE TIME REPLANTING OCCURS. EXCAVATED PLANTING PITS WILL BE THOROUGHLY WETTED PRIOR TO PLACEMENT OF PLANTS AND WILL BE WETTED AGAIN ONCE COVERED. DEVELOPER WILL KEEP NEWLY REPLANTED VEGETATION WATERED UNTIL THE ROOT SYSTEM HAS BECOME WELL REESTABLISHED. THIS PERIOD MAY VARY AS COULD THE AMOUNT AND FREQUENCY OF WATERING AND SHALL BE PERFORMED PER THE RECOMMENDATIONS OF THE SUPERVISING BOTANIST.
- ON GRADED SLOPES, PLANTING BENCHES MAY BE INCORPORATED AS AN ADDED ENHANCEMENT. IF USED, THESE AMENITIES SHOULD BE INSTALLED IN A RANDOM PATTERN AND SHALL BE CONSTRUCTED PER THE DETAILS FOUND IN THIS PLAN.
- AT THE SAME TIME OF THE REPLANTING OF THE HARVESTED PLANTS, SMALLER DIAMETER NATIVE ROCK RETAINED FROM MATERIALS SCREENED ON SITE SHALL BE PLACED RANDOMLY IN REVEGETATED AREAS. ON SLOPE, NATIVE ROCK OF NOT GREATER THAN EIGHT (8) INCHES IN DIAMETER MAY BE PLACED BY SIMPLY TAMPING THE STONE INTO THE SURFACE. LARGER STONE CAN BE INCORPORATED, BUT SHALL BE EMBEDDED PER THE BOULDER EMBEDMENT DETAIL ON THIS PLAN.
- IN THE EVENT A SOIL RETENTION BLANKET HAS BEEN INSTALLED AS A SLOPE STABILITY MEASURE PER THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER, THE BLANKET SHALL BE CUT AND REPINNED PER THE MANUFACTURER'S DETAILS AND SPECIFICATIONS IN AREAS WHERE PLANTING PITS OR BOULDER EMBEDMENTS ARE REQUIRED.

NATIVE ROCK, BOULDERS, AND RIP-RAP NOTES:

- WHERE INDICATED IN THE PLAN VIEW, NATIVE ROCK OBTAINED FROM MATERIALS SCREENED ON SITE SHALL BE PLACED PER THE DETAILS CONTAINED IN THIS PLAN. NATIVE ROCK OF SIMILAR AVERAGE DIAMETER SHALL BE USED AS SPECIFIED, AND SMALLER NATIVE ROCK OF NOT LESS THAN ONE HALF THE DIAMETER OF THE COBBLE SPECIFIED CAN BE USED AS INFILL. INFILL NATIVE ROCK SHALL NOT EXCEED THIRTY (30) PERCENT OF THE OVERALL VOLUME OF THE INDICATED COBBLE FIELD. NATIVE ROCK SHALL BE PLACED TO A DEPTH OF AT LEAST ONE AND A HALF TIMES THE SIZE OF THE COBBLE DIAMETER SPECIFIED UNLESS NOTED OTHERWISE.
- WHERE A MIXTURE OF SIZES IS NOTED, THE MIX SHALL CONSIST OF SIXTY (60) PERCENT OF THE LARGER DIAMETER AND FORTY (40) PERCENT OF THE SMALLER DIAMETER. INFILL NATIVE ROCK USED SHALL NOT BE OF A LESSER DIAMETER OF THE LARGER COBBLE SPECIFIED AND SHALL NOT BE CONSIDERED IN THE CALCULATIONS FOR THE DIAMETER MIXTURE.
- MOST OF THE LOOSE COBBLE SPECIFIED IS TO BE PLACED ON FINISHED GRADE. THE EXCEPTION TO THIS RULE IS WHERE NATIVE ROCK ARE USED IN SWALES. THE AREAS INDICATED TO FUNCTION AS SWALES SHALL BE OVER EXCAVATED ONE HALF THE DIAMETER OF THE COBBLE SPECIFIED, ONE HALF THE DIAMETER OF THE LARGEST DIAMETER SPECIFIED IF A MIX IS NOTED, AND THE COBBLE IS TO BE PLACED EMBEDDED.
- THE USE OF SALVAGED COBBLE IS AN EXTENSIVE PART OF THIS PLAN. IN THE EVENT THAT COBBLE RESERVES ARE DEPLETED, ATTEMPTS SHOULD BE MADE BY THE CONTRACTOR TO RECEIVE SCREENED MATERIALS FROM OTHER JOB SITES THAT MIGHT OTHERWISE BE DISCARDED BY ANOTHER DEVELOPER. IN THE EVENT THAT STONE MUST BE PURCHASED FROM A SUPPLIER TO SUPPLEMENT NEEDED COBBLE, THE STONE PURCHASED SHOULD NOT BE A QUARRIED ROCK IF AT ALL POSSIBLE. HOWEVER, WHAT IS GENERALLY MARKETED AS 'RIVER ROCK' BY SUPPLIERS SHOULD BE AVOIDED, AS A NATURAL LOOK TO THE LAND IS THE DESIRED RESULT. PURCHASED ROCK SHOULD BE OF THE SAME APPEARANCE AS THE NATIVE ROCK SCREENED FROM THE SITE. STONE SPOILS THAT A SUPPLIER MAY HAVE SLATED FOR THE ROCK CRUSHER IS LIKELY AN ACCEPTABLE ALTERNATIVE. PURCHASED ROCK SHOULD BE AS INEXPENSIVE AS IS POSSIBLE.
- GEOTEXTILE FABRIC UNDERLAYMENT IS NOT REQUIRED FOR THE PLACEMENT OF NATIVE ROCK. PLANT GROWTH IS DESIRED WITHIN THE LOOSE COBBLE FIELDS SPECIFIED. RANDOM PLANT GROWTH SHOULD BE ANTICIPATED AND WILL ADD TO THE NATURAL LOOK OF THE COMPLETED INSTALLATIONS.
- STONE 30" IN DIAMETER AND GREATER SHALL BE CLASSIFIED AS BOULDERS. IN FLAT AREAS, THESE SHALL BE EMBEDDED PER THE DETAIL IN THIS PLAN. ON SLOPES 4:1 (ONE FOOT VERTICALLY TO FOUR FEET HORIZONTALLY) AND GREATER, ALL STONE 12" IN DIAMETER AND GREATER SHALL BE EMBEDDED.
- WHERE BOULDER WASHES ARE INDICATED ON THIS PLAN, NATIVE ROCK OF THE SPECIFIED DIAMETER SHALL BE USED AND EMBEDDED PER THE DETAIL IN THIS PLAN. NATIVE ROCK NOT LESS THAN TWELVE (12) INCHES IN DIAMETER MAY BE USED AS INFILL IN BOULDER WASHES. AS SPECIFIED ABOVE, THE INFILL SHALL NOT ACCOUNT FOR MORE THAN THIRTY (30) PERCENT OF THE BOULDER FIELD INDICATED.
- RIP-RAP, AND ROCK NOTED TO BE DRIVABLE STONE SHALL BE CLASSIFIED AS PURCHASED ROCK AND MAY BE QUARRIED STONE. THIS ROCK SHOULD BE GRAY, BROWN, OR OTHER NEUTRAL COLOR UNLESS IT IS SPECIFIED OTHERWISE IN THE PLANS. IF DEPTHS OF PLACEMENT ARE NOT INDICATED, THE DEPTH SHALL BE A MINIMUM OF ONE AND ONE HALF THE DIAMETER OF THE STONE SPECIFIED. AS WITH THE NATIVE ROCK, WHERE A RANGE OF SIZES IS INDICATED, THE MIX SHALL CONSIST OF SIXTY (60) PERCENT OF THE LARGER DIAMETER AND FORTY (40) PERCENT OF THE SMALLER DIAMETER SPECIFIED.
- GEOTEXTILE UNDERLAYMENT SHALL BE REQUIRED BENEATH ALL RIP-RAP OR DRIVABLE STONE. ONLY PERMEABLE FABRICS SUCH AS WOVEN OR NEEDLE PUNCHED MATERIALS SHALL BE USED. NON PERVIOUS PLASTICS OR OTHER MATERIALS SHALL NOT BE ACCEPTED.

- SCREENING MAY BE RECOMMENDED BY THE GEOTECHNICAL ENGINEER FOR PLACEMENT ON TRAILS, OR ON BENCHES AS AN ADDITIONAL ANTI-EROSIVE MEASURE. SCREENINGS PLACED ON WALKABLE SURFACES SUCH AS TRAILS SHOULD BE GREATER THAN ONE INCH IN DIAMETER AND PLACED IN A MINIMUM LIFT OF TWO (2) INCHES. NO. 57 STONE SHALL BE CONSIDERED AS AN ACCEPTABLE ALTERNATIVE SHOULD ROCK BE PURCHASED FOR PLACEMENT ON WALKABLE SURFACES.

SLOPE STABILIZATION FOR BUILDERS:

GRADED SLOPES AS SHOWN ON THE GRADING PLAN HAVE BEEN ENGINEERED, BASED ON A GEOTECHNICAL SOILS INVESTIGATION REPORT, TO STAND AT THE SLOPE INDICATED. HOWEVER, EROSION IS INEVITABLE ON ANY SLOPE, EVEN IN HIGHLY COHESIVE SOILS. PROPERTY OWNERS ARE RESPONSIBLE FOR THE MAINTENANCE OF SLOPES WITHIN THEIR LOTS. IF NO MEASURES HAVE BEEN TAKEN PRIOR TO PURCHASE, IT IS HIGHLY RECOMMENDED THAT THE PROPERTY OWNER PROVIDE ANTI-EROSION CONTROLS ON GRADED SLOPES WITHIN THE BOUNDS OF THEIR LOT. THESE MAY INCLUDE BUT ARE NOT LIMITED TO CONCRETE RIP-RAP, MORTARED ROCK RIP-RAP (REQUIRED ON SLOPES 1:1 OR GREATER), LOOSE ROCK RIP-RAP OF A SPECIFIED DIAMETER, SOIL RETENTION BLANKETS, PLANTINGS OF NATIVE SPECIES. (SOD AND OTHER GRASSES ARE NOT RECOMMENDED ON SLOPES GREATER THAN 4:1). BEFORE PERFORMING ANY WORK, PROPERTY OWNERS SHOULD CONSULT A LICENSED, PROFESSIONAL CIVIL ENGINEER. ADDITIONALLY, IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CLEAN AND MAINTAIN ANY WEEP HOLES THAT HAVE BEEN INSTALLED IN WALLS OR RIP-RAP. WEEP HOLES ARE AN INTEGRAL COMPONENT OF DRAINAGE SO AS TO PREVENT GROUND SATURATION BEHIND WALLS AND RIP-RAP THAT COULD CAUSE STRUCTURAL FAILURES. PROPERTY OWNERS SHOULD PERFORM REGULAR INSPECTIONS, ESPECIALLY AFTER HEAVY RAINS, AND CLEAR WEEP HOLES OF ANY SILT AND DEBRIS. PROPERLY INSTALLED WEEP HOLES SHOULD ALLOW THE PASSAGE OF ANY STORM WATER RUN OFF THAT MAY ACCUMULATE BEHIND WALLS OR BENEATH RIP-RAP AS A RESULT OF INFILTRATION. WIRE ENCASED GRAVEL FILTERS WRAPPED IN A GEOTEXTILE FABRIC SHOULD PREVENT LARGE DEBRIS FROM BLOCKING THE WEEP HOLE. HOWEVER, THE PASSAGE OF SILT, SAND, AND OTHER FINE PARTICULATE MATERIAL UP TO ONE-QUARTER INCH IN DIAMETER SHOULD BE CONSIDERED NORMAL. UNDER NO CIRCUMSTANCES SHOULD THE WEEP HOLES BE INTENTIONALLY BLOCKED TO PREVENT PASSAGE OF STORM WATER.

REFERENCE:

DRYLAND SEEDING IS A COMMON TECHNIQUE USED IN ATTEMPTS TO RESTORE VEGETATION ON DISTURBED SITES IN ARID REGIONS. COX AND OTHERS (1982) STUDIED DRYLAND SEEDING ATTEMPTS ON MULTIPLE SITES IN THE CHIHUAHUA DESERT AND CONCLUDED THAT SIGNIFICANT PLANT ESTABLISHMENT COULD BE EXPECTED ONLY ONCE OUT OF EVERY TEN ATTEMPTS. GRANTZ AND OTHERS (1998) INVESTIGATED THE EFFECTIVENESS OF UTILIZING THE SEED BANK METHOD TO MITIGATE DUST ON RETIRED GROPLAND IN THE MOJAVE DESERT OF CALIFORNIA. THEY CONCLUDED THAT THIS METHOD CAN LEAD TO PLANT ESTABLISHMENT IN YEARS WITH ABOVE AVERAGE RAINFALL, BUT IS LIKELY TO YIELD MINIMAL RESULTS IN MOST YEARS. BAINBRIDGE AND OTHERS (1995) STATE THAT VEGETATION OF LAND WITHOUT SUPPLEMENTAL IRRIGATION CAN BE A COST EFFECTIVE RESTORATION STRATEGY, ALTHOUGH PERFORMED WITH LIMITED RESULTS WHEN ATTEMPTED IN ARID LANDS BECAUSE OF UNPREDICTABLE AND INFREQUENT OCCURRENCE OF CONDITIONS FAVORABLE FOR SEED GERMINATION AND SEEDLING ESTABLISHMENT. TESTING PROVED THAT THE INSTALLATION OF MINIMALIST IRRIGATION SYSTEMS IN AREAS WHERE SEED BANK APPLICATIONS ARE UTILIZED VASTLY IMPROVED THE LIKELIHOOD OF SUCCESS FOR A REESTABLISHMENT OF NATIVE GROWTH IN SCARRED AREAS. WHERE SLOPES WERE THE RESTORATION OF VEGETATION WAS PROPOSED, BAINBRIDGE FOUND THAT A SINGLE DRIP IRRIGATION LINE PLACED IN AN 'ESS' PATTERN AND SPACED ONE PER EVERY TEN FEET OF VERTICAL RISE WAS EFFICIENT ENOUGH TO PROMOTE AN ESTIMATED 50% INCREASE IN THE EXPECTED GROWTH.

SALVAGE EXISTING NATIVE PLANT MATERIAL PRIOR TO CONSTRUCTION. THE SPECIES TO BE SALVAGED DEPENDS ON LOCATION, SOILS AND ANALYSIS OF PLANT VALUE INCLUDING THE POTENTIAL SURVIVAL RATE. SALVAGED PLANTS CAN READILY IMPROVE THE AESTHETICS OF A SITE BY PROVIDING MATURE PLANTS THAT WOULD NORMALLY TAKE MANY YEARS TO ESTABLISH. IN ADDITION, ENSURE NATIVE TOPSOIL IS COLLECTED AND STORED FOR REUSE. NATIVE TOPSOIL PROVIDES A SEED SOURCE AND IMPORTANT BACTERIA FOR SALVAGED PLANT ESTABLISHMENT AND GROWTH. CAREFULLY REMOVE, STOCKPILE, AND STORE THE NATIVE TOP SOIL OF NEW CONSTRUCTION PROJECTS TO BE USED AS FINAL BEDDING MATERIAL. ENSURE NATIVE SOIL STOCKPILES ARE PROTECTED FROM THE WIND TO AVOID EROSION AND THE CREATION OF A DUST HAZARD.

EVERY REVEGETATION PROJECT REQUIRES A PRESCRIBED SOIL TREATMENT. SOIL TREATMENTS INCLUDE PLOWING, DISKING, HARROWING, FURROWING, HYDROSEEDING, APPLYING MULCHES (SUCH AS STRAW), AND USING TACKIFIERS (SUCH AS JUTE OR DARK COLORED NETTING) TO FIRMLY ANCHOR THE MULCHES TO THE SITE. SOILS SHOULD BE TOUCHED BEFORE AND AFTER PLANTING TO CREATE FAVORABLE SEED SITES, PARTICULARLY FOR GRASS AND FORB SEEDS. IN SILTY CONDITIONS, A SOIL STABILIZER, SUCH AS A HYDROMULCH OR A MATTING MATERIAL, SHOULD BE APPLIED TO REDUCE POTENTIAL DUST PROBLEMS. SOME SITES REQUIRE DEEP RIPPING IN ORDER TO LOOSEN HARDPAN AND IMPROVE SEEDING SUCCESS. IN CONDITIONS OF STEEP CUT AND SLOPES GREATER THAN 40 PERCENT, SLOPE DISKING IS REQUIRED TO CREATE SEED POCKETS.

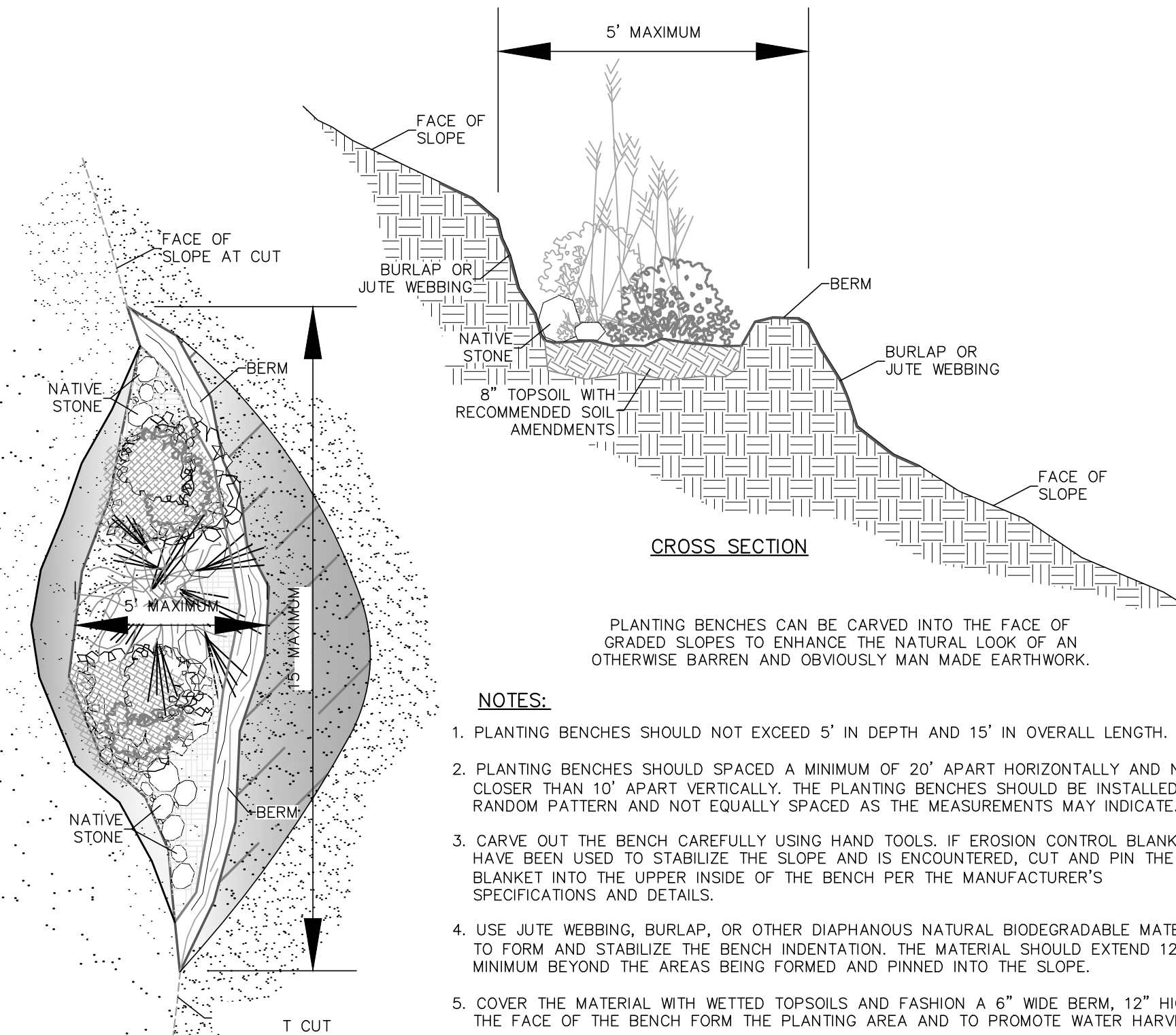
IN MOST CASES, ORGANIC MATERIAL WILL NEED TO BE ADDED TO THE SITE TO IMPROVE SOIL QUALITY. EACH SITE SHOULD BE CAREFULLY ANALYZED TO DETERMINE THE TYPE OF FERTILIZER APPLICATION. ON SITES WITH HARDPAN AND SALTS NEAR THE SURFACE, AN AMENDMENT TO CONTROL OR AMELIORATE PH SHOULD BE APPLIED. SCATTERED ROCK MULCH IS TO BE USED WITH THIS SOFTSCAPE TYPE AS GROUND COVER. IT WILL PROVIDE SEED POCKETS AND PROTECTION THAT WILL ASSIST IN THE ESTABLISHMENT OF SEED.

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SHANTZ HL, PHEMESEL RL. 1924. INDICATOR SIGNIFICANCE OF THE NATURAL VEGETATION OF THE SOUTHWESTERN DESERT REGIONS. JOURNAL OF AGRICULTURAL RESEARCH 28:721-801.



PLANTING BENCHES

N.T.S

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
2	6/4/2020	First City Submittal	AHO
1	10/9/2020	Client Review	AHO

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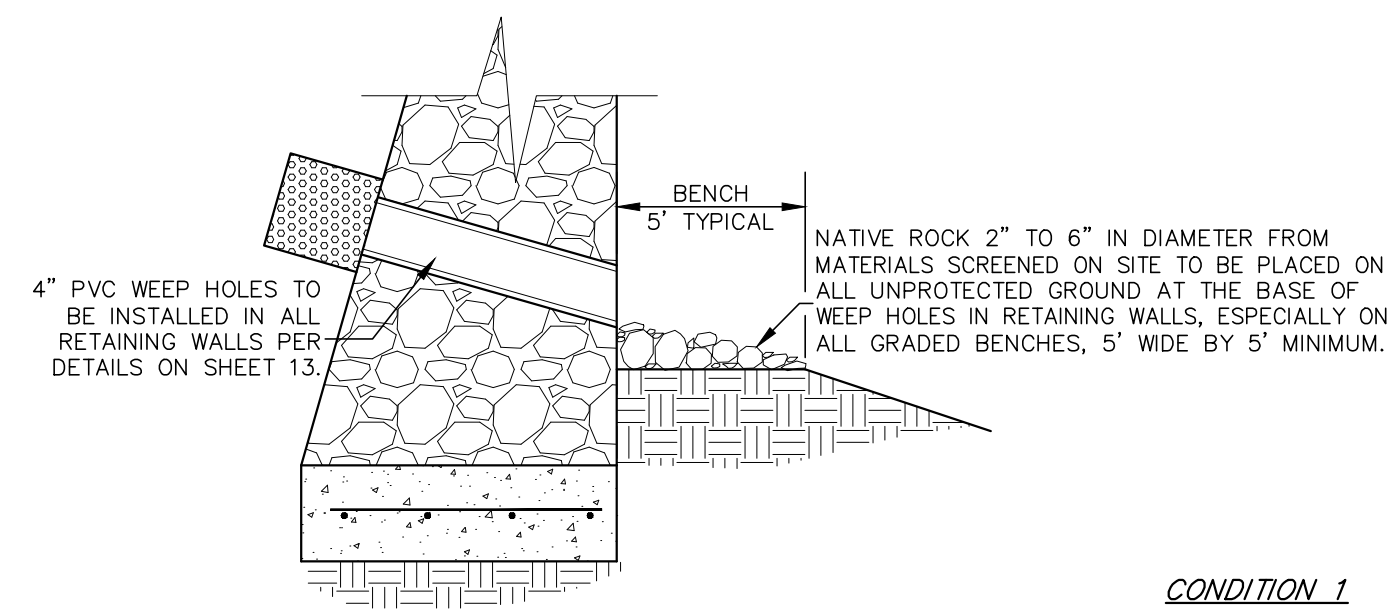
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UNIT ONE
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SHEET TITLE
GRADING STABILIZATION NOTES AND DETAILS

GOB	2020-08
DESIGN	07/08/2020
DATE OF COMPLETION	AS NOTED
AHO	SCALE
SCALE	SCALE
SHEET NO. 20	
SHEET SEQUENCE 20 OF 29	



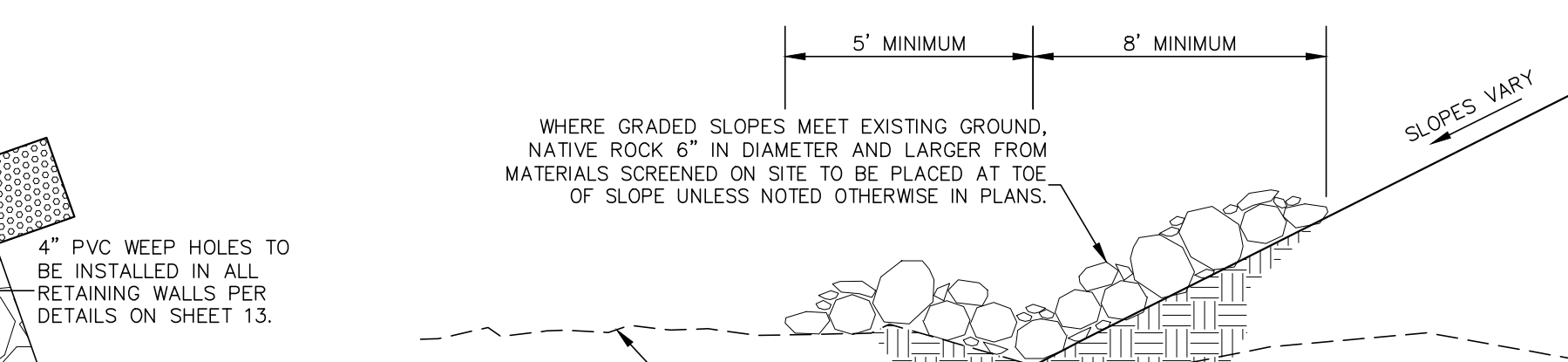
CONDITION 1

ALL GRADED SLOPES GREATER THAN 3:1 SHALL BE VEGETATED BY THE DEVELOPER USING NATIVE MATERIALS SALVAGED FROM SITE. STABILIZATION OF SLOPES 3:1 OR LESS WITHIN RESIDENTIAL SHALL BE THE RESPONSIBILITY OF THE BUILDER AND FUTURE HOME OWNER USING METHODS DETAILED ON SHEET 18.

NATIVE ROCK 2" TO 4" IN DIAMETER FROM MATERIALS SCREENED ON SITE TO BE PLACED IN SWALE BEHIND WALLS AS SHOWN

LOWER TIER WALL, REFER TO DETAILS ON SHEET 26.

NATIVE ROCK NOT REQUIRED WITHIN LOTS. EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE BUILDER AND FUTURE HOME OWNER.



WHERE GRADED SLOPES MEET EXISTING GROUND, NATIVE ROCK 6" IN DIAMETER AND LARGER FROM MATERIALS SCREENED ON SITE TO BE PLACED AT TOE OF SLOPE UNLESS NOTED OTHERWISE IN PLANS.

THIS CONDITION WILL NOT BE REQUIRED FOR GRADED SLOPES THAT ARE TEMPORARY IN NATURE UNLESS NOTED OTHERWISE IN THE PLAN VIEWS. ADDITIONALLY, NATIVE ROCK ARE NOT REQUIRED WITHIN LOTS. EROSION CONTROL MEASURES ON GRADED SLOPES WITHIN THE LOTS SHALL BE THE RESPONSIBILITY OF THE BUILDER AND FUTURE HOME OWNER.

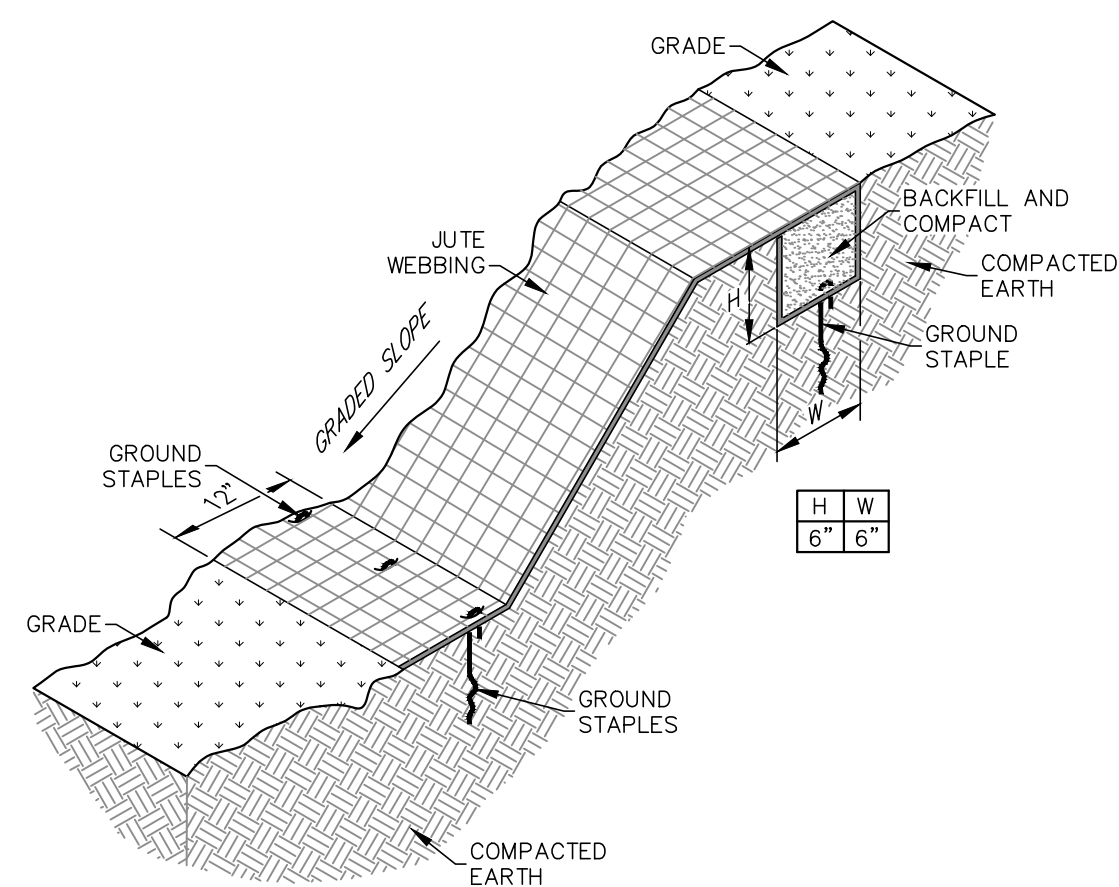
ALL GRADED SLOPES GREATER THAN 3:1 (THREE FEET HORIZONTALLY TO 1 FOOT VERTICALLY) MUST BE STABILIZED PER ORDINANCE.

GEOTEXTILE FABRIC UNDERLAYMENT SHALL NOT BE REQUIRED FOR 'LOOSE COBBLE' APPLICATIONS (TYPICAL)

REFER TO SHEET 13 FOR ADDITIONAL ROCK WALL DETAILS.

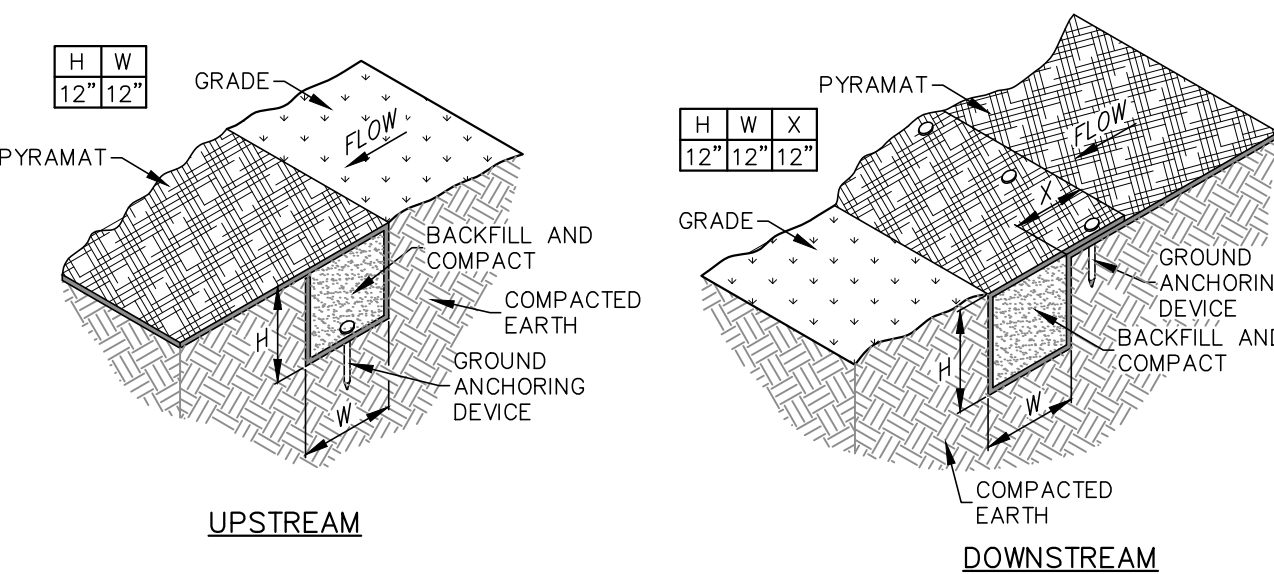
LOOSE COBBLE AND RIP-RAP APPLICATIONS

NOT TO SCALE



TACKIFIERS, HYDROMULCHES, AND NETTING

SPRAY APPLIED TACKIFIERS AND HYDROMULCHES SUCH AS 'EARTHBOUND' PRODUCTS MANUFACTURED BY LSC ENVIRONMENTAL PRODUCTS, LLC / TERRA NOVO OR 'GUARDIAN' AND 'SUPER TACK' BY RANTEC CAN BE CONSIDERED. RANTEC ALSO CARRIES A FULL LINE OF BOTH SYNTHETIC AND NATURAL SOIL WEBBINGS, AND CONWEG GLOBAL NETTING SOLUTIONS HAS A FEATURE LINE OF WEBBINGS AND OTHER PRODUCTS THAT ARE EXCELLENT FOR SOIL STABILIZATION. GROW ORGANIC CARRIES JUTE WEBBING BY THE ROLL THAT IS QUITE INEXPENSIVE AND VERY EFFECTIVE FOR USE IN SOIL STABILIZATION. ENVROSCAPE ECM, LTD. CARRIES A FULL LINE OF NATURAL EROSION CONTROL BLANKETS THAT INCLUDE AGRICULTURAL STRAW, ASPEN SHAVINGS, AND COCONUT FIBERS. ALL ARE ENCASED IN PHOTO OR BIODEGRADABLE NETTINGS, AND PROVIDE PROTECTION FROM 12 TO 36 MONTHS. THEIR COIR SERIES BLANKETS ARE SPECIFICALLY ENGINEERED FOR SLOPES OF 1:1 OR GREATER AND FOR USE AS LININGS FOR CHANNELS WITH HIGH RATES OF FLOW.



- SLOPE STABILIZATION FABRIC SHALL BE A HIGH PERFORMANCE TRM MATERIAL SUCH AS PYRAMAT BY SI GEOSOLUTIONS, OR APPROVED EQUAL.
- PRIOR TO INSTALLATION, SUBGRADE SHALL BE UNIFORM AND SMOOTH. REMOVE ALL ROCKS, CLOUDS, VEGETATION OR OTHER OBJECTS SO THE INSTALLED MAT WILL HAVE DIRECT CONTACT WITH SOIL SURFACE.
- EXCAVATE TRENCH AS SHOWN IN DETAIL AND INSTALL TOP END OF MAT INTO TRENCH AND SECURE TO BOTTOM USING GROUND ANCHORING DEVICES SPACED EVERY 12 INCHES MINIMUM. BACKFILL AND COMPACT SOIL INTO TRENCH.
- OVERLAPS SHALL BE 12" MINIMUM AND ANCHORED EVERY 18 INCHES ALONG THE OVERLAP. SECURE USING GROUND ANCHORING DEVICES. OVERLAPS ARE SHINGLED AWAY FROM PREVAILING WINDS.
- UNROLL MAT IN A MANNER TO MAINTAIN DIRECT CONTACT WITH SOIL. SECURE MAT TO GROUND SURFACE USING GROUND ANCHORING DEVICES.
- FOLLOWING INSTALLATION OF SLOPE STABILIZATION FABRIC, MAT SHALL BE COVERED IN A MINIMUM OF TWO (2) FOUR INCH LIFTS OF SOIL AND COMPACTED TO A MINIMUM OF 95% DENSITY, MODIFIED PROCTOR, PER ASTM D1557 EACH LIFT. FILL MATERIALS SHALL NOT CONTAIN NATIVE ROCK GREATER THAN 2" IN DIAMETER.
- OTHER DETAILS OR SPECIFICATIONS MAY APPLY. CONTRACTOR SHOULD REFER TO LITERATURE PROVIDED BY THE MANUFACTURER FOR MORE INFORMATION.

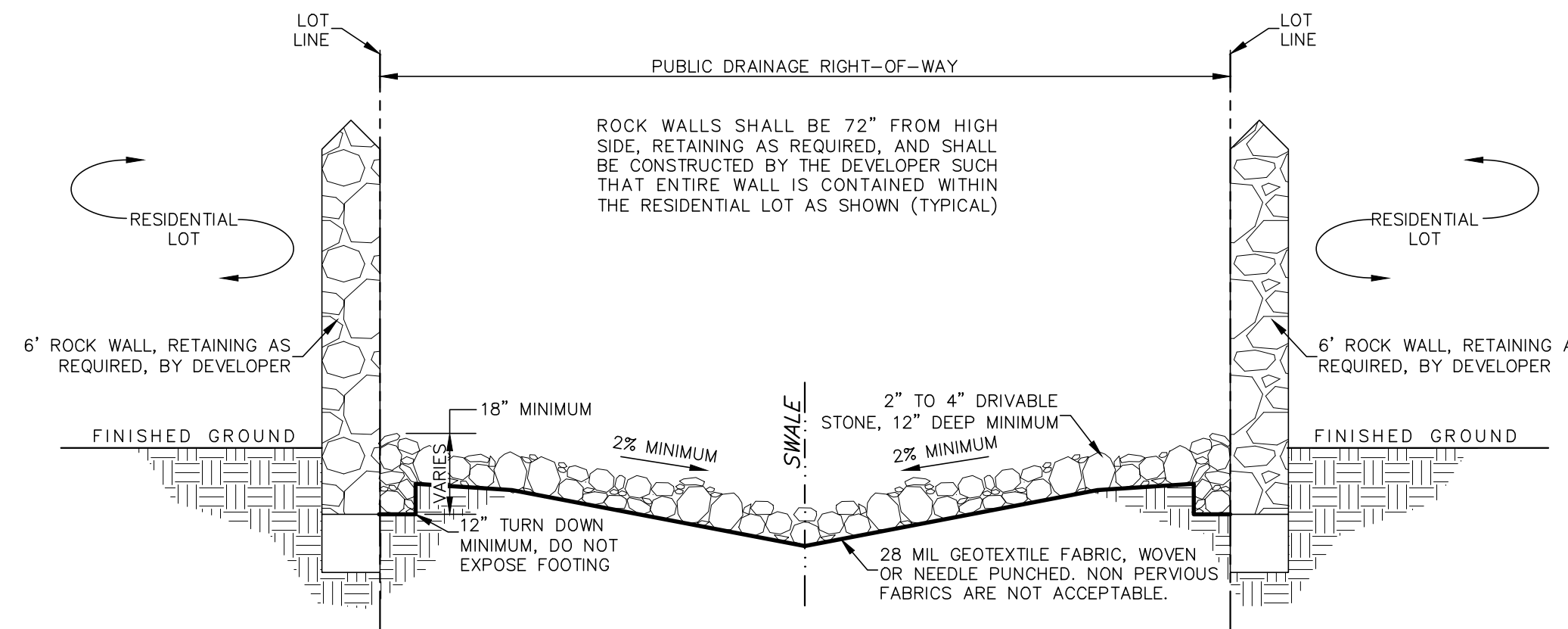
JUTE WEBBING
N.T.S.

PYRAMAT EROSION CONTROL MATTING
N.T.S.

DETAILS SHOWN ARE ACCEPTABLE EXAMPLES OF SLOPE STABILIZATION AND WILL ONLY BE INSTALLED AT THE DIRECTION OF AND PER THE METHOD(S) PRESCRIBED BY THE GEOTECHNICAL AND DESIGN ENGINEERS.

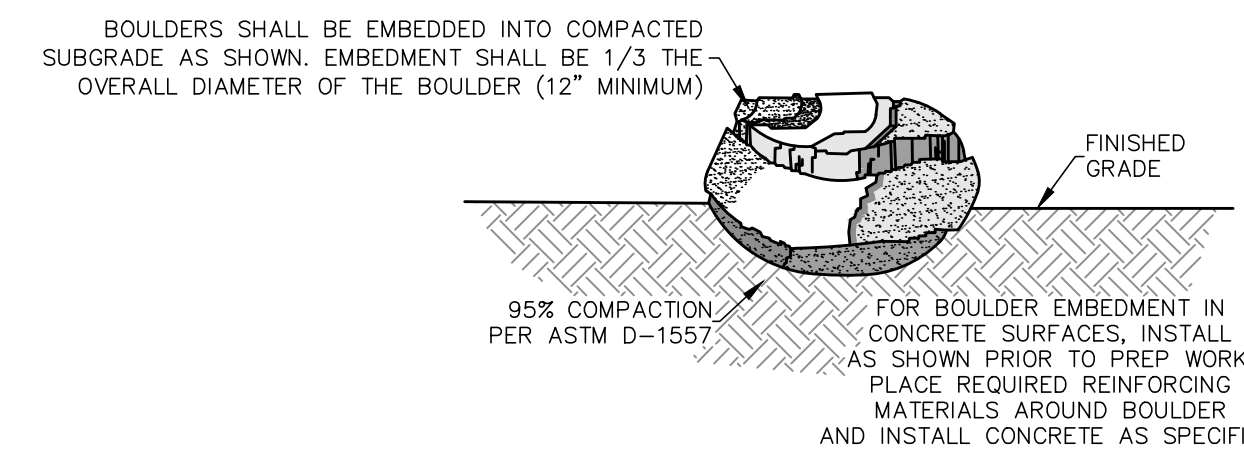
SLOPE STABILIZATION METHODS

N.T.S.



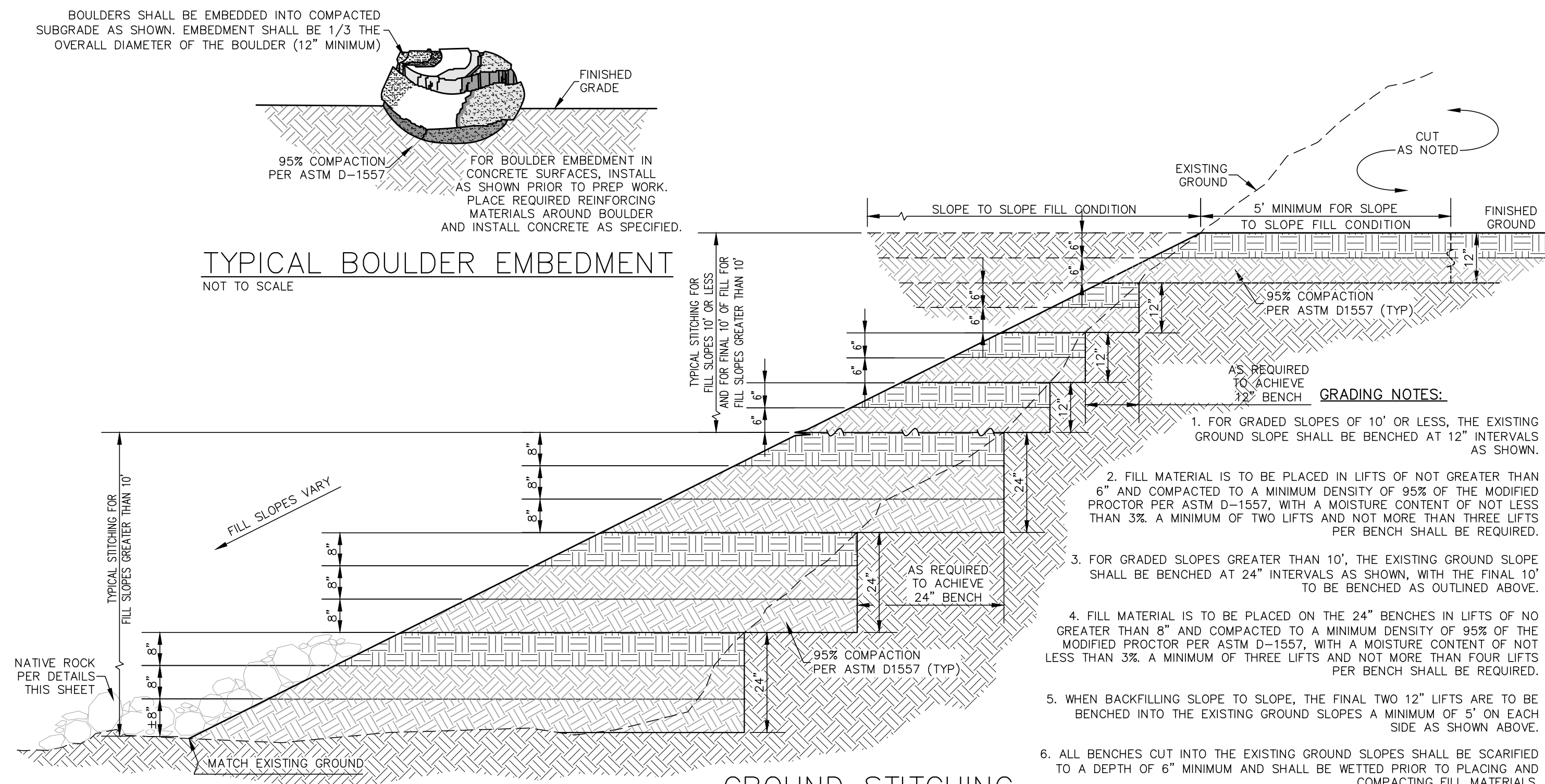
DRIVEABLE SURFACE

NOT TO SCALE



TYPICAL BOULDER EMBEDMENT

NOT TO SCALE



GRADING NOTES:

- FOR GRADED SLOPES OF 10' OR LESS, THE EXISTING GROUND SLOPE SHALL BE BENCHMARKED AT 12" INTERVALS AS SHOWN.
- FILL MATERIAL IS TO BE PLACED IN LIFTS OF NOT GREATER THAN 6" AND COMPACTED TO A MINIMUM DENSITY OF 95% OF THE MODIFIED PROCTOR PER ASTM D-1557, WITH A MOISTURE CONTENT OF NOT LESS THAN 3%. A MINIMUM OF TWO LIFTS AND NOT MORE THAN THREE LIFTS PER BENCH SHALL BE REQUIRED.
- FOR GRADED SLOPES GREATER THAN 10', THE EXISTING GROUND SLOPE SHALL BE BENCHMARKED AT 24" INTERVALS AS SHOWN, WITH THE FINAL 10' TO BE BENCHMARKED AS OUTLINED ABOVE.
- FILL MATERIAL IS TO BE PLACED ON THE 24" BENCHES IN LIFTS OF NO GREATER THAN 8" AND COMPACTED TO A MINIMUM DENSITY OF 95% OF THE MODIFIED PROCTOR PER ASTM D-1557, WITH A MOISTURE CONTENT OF NOT LESS THAN 3%. A MINIMUM OF THREE LIFTS AND NOT MORE THAN FOUR LIFTS PER BENCH SHALL BE REQUIRED.
- WHEN BACKFILLING SLOPE TO SLOPE, THE FINAL TWO 12" LIFTS ARE TO BE BENCHMARKED INTO THE EXISTING GROUND SLOPES A MINIMUM OF 5' ON EACH SIDE AS SHOWN ABOVE.
- ALL BENCHES CUT INTO THE EXISTING GROUND SLOPES SHALL BE SCARIFIED TO A DEPTH OF 6" MINIMUM AND SHALL BE WETTED PRIOR TO PLACING AND COMPACTING FILL MATERIALS.

GROUND STITCHING

SCALE: 1" = 2'-0"

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
2	6/4/2021	First City Submittal	AHO
1	10/9/2020	Client Review	AHO

WARNING! BEFORE YOU DIG
IN PROJECT AREA CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS

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PUBLIC SERVICE BOARD (WATER & SEWER) 544-5775
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TEXAS EXCAVATION SAFETY SYSTEM 1-800-344-8377
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STATE OF TEXAS
NANCY HAYES
124376
PROFESSIONAL ENGINEER

CSA DESIGN GROUP, INC.
1845 Northwestern Dr. Suite C
El Paso, Texas 79912
Tel: (915) 877-4155
Fax: (915) 877-4334
www.csaengineers.com

SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

SHEET TITLE
GRADING STABILIZATION NOTES AND DETAILS

GOB 2020-08
DESIGN BY AHO
DATE OF COMMISSION 07/08/2020
AHO AS NOTED
CHECKED BY SCALE

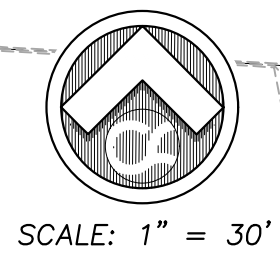
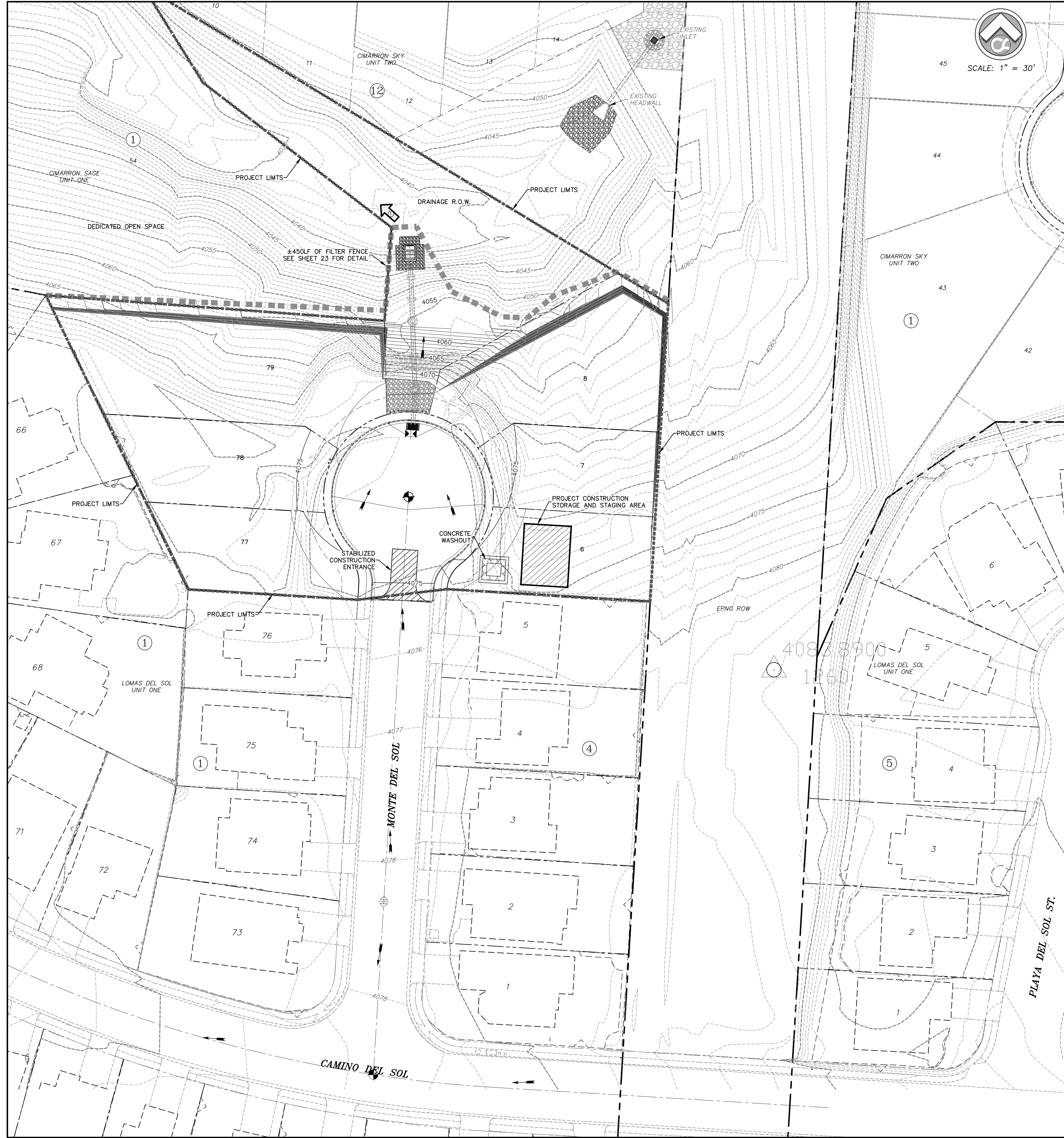
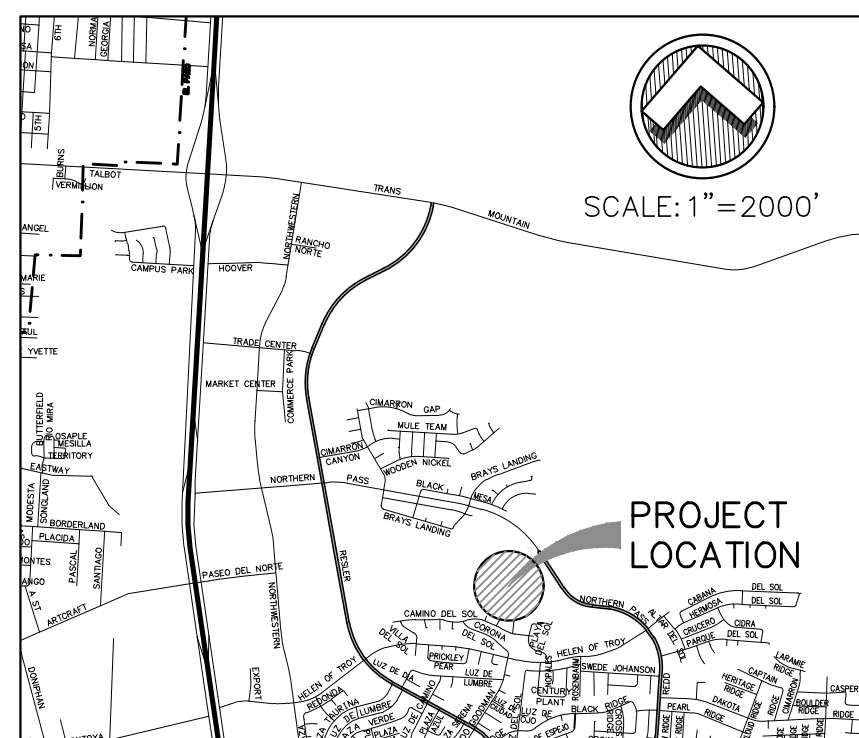
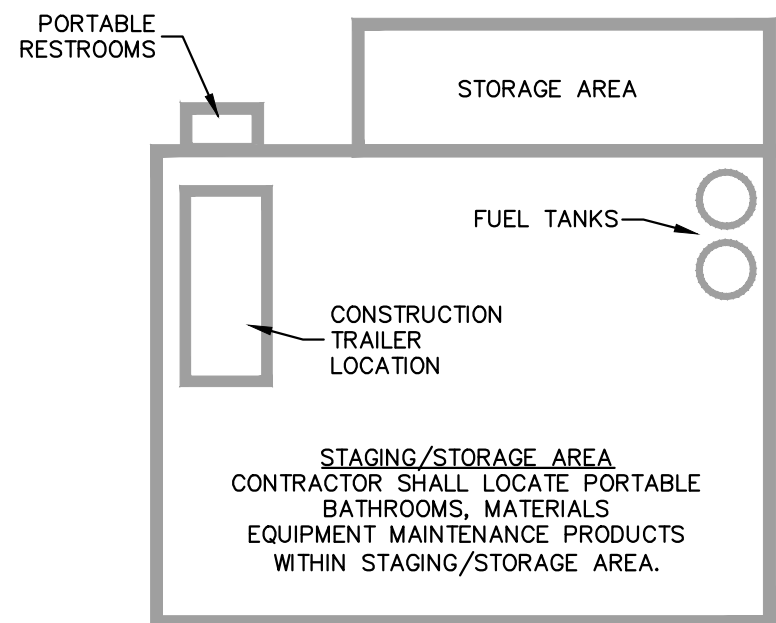
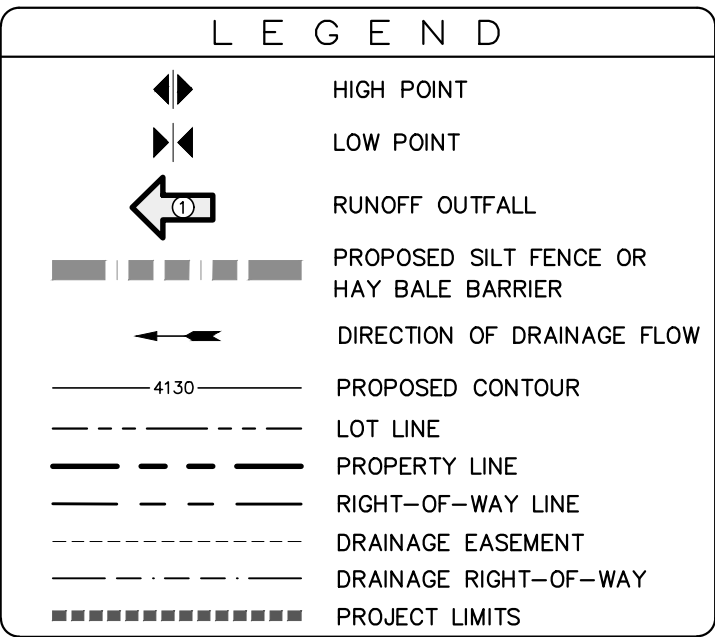
SHEET NO.
21

SHEET SEQUENCE
21 OF **29**

DRAINAGE NOTE:
REFER TO CIVIL DRAINAGE PLAN FOR DRAINAGE AREAS AND DISCHARGE COMPUTATIONS.

NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND SUBMITTAL OF ALL STORM WATER POLLUTION CONTROL PERMITS. THE CONTRACTOR SHALL SUBMIT A NOI AND SDPCP APPLICATION FORM PRIOR TO CONSTRUCTION. AFTER COMPLETION OF PROJECT, CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION FORM TO COMPLETE NPDES REQUIREMENTS.
STAGING AREA SHALL PROVIDE ADEQUATE SPACE FOR TRAILER STORAGE, FUEL/LUBRICANT STORAGE, PORTABLE RESTROOMS, EQUIPMENT STORAGE AND MAINTENANCE, ETC.

DUST AND EROSION CONTROL NOTE:
CONTRACTOR SHALL MAKE PROVISIONS FOR TEMPORARY DUST AND EROSION CONTROL WHERE EXTENSIVE DIRT OR DUST OPERATIONS ARE PERFORMED. USE WATER SPRINKLING AND OTHER METHODS TO LIMIT DUST AND DIRT MIGRATION. COMPLY WITH GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.



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LICENSED PROFESSIONAL ENGINEER



csa design group, inc.
Texas Registered Engineering Firm F-8997
1845 Northwestern Dr. Site C
El Paso, Texas 79912
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fax [915] 877-4334
www.csaengineers.com

SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

SHEET TITLE
STORM WATER POLLUTION PREVENTION PLAN

GOB 2020-08
DESIGN BY
GOB-DM-DG 07/08/2020
DATE OF COMPLETION
AHO AS NOTED
CHECKED BY SCALE

SHEET NO.
22
SHEET SEQUENCE
22 OF **29**

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2020-08-20 Monte del Sol SWPPP-23 3rd Submittal-Client/NOI/2020-23 SR 1223 SWPPP.dwg
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NARRATIVE:
 LOMAS DEL SOL UNIT ONE
 SUBDIVISION
 EL PASO, TEXAS

LEGAL DESCRIPTION
 BEING A PORTION OF TRACT 182
 NELLIE D. MUNDY SURVEY 242
 CITY OF EL PASO, EL PASO COUNTY, TEXAS,
 CONTAINING ±30.987 ACRES (1,349,776 SQ. FT.)

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES

TEMPORARY SEEDING
 PERMANENT PLANTING, SODDING, OR SEEDING
 MULCHING
 SOIL RETENTION BLANKET
 BUFFER ZONES
 PRESERVATION OF NATURAL RESOURCES
 OTHER: _____

STRUCTURAL PRACTICES: (P=PERMANENT T=TEMPORARY)

SILT FENCES
 HAY BALES
 ROCK BERMS
 DIVERSION, INTERCEPTOR, OR PERIMETER BERMS
 DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
 DIVERSION DIKE AND SWALE COMBINATIONS
 PIPE SLOPE DRAINS
 CONCRETE FLUMES
 ROCK BEDDING AT CONSTRUCTION EXIT
 TIMBER MATTING AT CONSTRUCTION EXIT
 CHANNEL LINERS
 SEDIMENT TRAPS
 SEDIMENT BASINS
 STORM INLET SEDIMENT TRAP
 STONE OUTLET STRUCTURES
 CURBS AND GUTTERS
 STORM DRAINS
 VELOCITY CONTROL DEVICES
 NATURAL SWALES & NATURAL DEPRESSIONS
 OTHER: _____

POST CONSTRUCTION CONTROLS
 INLETS, STILLING BASINS, DESILTING BASINS, NATURAL PONDING
 AREAS, EARTHEN BERMS AND EARTHEN SWALES AS PER PLAN

ESTIMATED TOTAL SIZE DISTURBED AREA
 PROJECT SITE APPROX. 1.27 ACRES
 ESTIMATED DISTURBED AREA 1.55 ACRES

CONSTRUCTION START DATE: **AUG 2020** CONSTRUCTION END DATE: **AUG. 2021**

NARRATIVE – SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:

- BEGIN CONSTRUCTION/MOBILIZATION (5 DAYS).
- INSTALL INITIAL STORMWATER POLLUTION PREVENTIONS (SWPP) MEASURES AS INDICATED ON SWPP PLAN (3 DAYS).
- CLEAR AND GRUB (2 WEEKS).
- SITE GRADING (2 MONTHS).
- PERFORM PERIODIC INSPECTIONS OF THE SWPP STRUCTURES. PERFORM MAINTENANCE AND REPLACEMENTS AS NEEDED (DURATION OF CONSTRUCTION).
- EXCAVATION FOR SITE UTILITIES AND STORM SEWER (3 MONTHS).
- CONSTRUCTION OF SITE IMPROVEMENTS AND STORM SEWER (3 MONTHS).
- END CONSTRUCTION – FINAL STABILIZATION, DEMOBILIZATION, REMOVAL OF SWPP CONTROLS, AND SUBMIT NOTICE OF TERMINATION.

GENERAL CONTRACTOR CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) GENERAL PERMIT THAT AUTHORIZES STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

SIGNED: _____ COMPANY: **HUNT COMMUNITIES GP, LLC**
 NAME: **MICHAEL S. VIRAMONTES** ADDRESS: **4401 N. MESA**
 TITLE: **VICE PRESIDENT** TELEPHONE: **(915) 298-4252**
 DATE: _____

SUB – CONTRACTOR CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I WILL COORDINATE, EITHER THROUGH THE GENERAL CONTRACTOR, OWNER, OR DIRECTLY, WITH THE CONTRACTOR(S) AND/OR SUBCONTRACTOR(S) IDENTIFIED IN THE POLLUTION PREVENTION PLAN HAVING RESPONSIBILITY FOR IMPLEMENTING STORM WATER CONTROL MEASURES TO MINIMIZE ANY IMPACT MY ACTIONS MAY HAVE ON THE EFFECTIVENESS OF THESE STORM WATER CONTROLS MEASURES.

SIGNED: _____ SIGNED: _____
 NAME: _____ NAME: _____
 TITLE: _____ TITLE: _____
 COMPANY: _____ COMPANY: _____
 ADDRESS: _____ ADDRESS: _____
 TELEPHONE: _____ TELEPHONE: _____
 DATE: _____ DATE: _____

OPERATOR

SIGNED: _____ COMPANY: _____
 NAME: _____ ADDRESS: _____
 TITLE: _____ TELEPHONE: _____
 DATE: _____

SOIL CONDITIONS

THE EXPLORATORY BORINGS WERE DRILLED TO DEPTHS RANGING FROM 1 TO 30 FEET BELOW THE EXISTING GROUND SURFACE. THE SOIL UNDERLYING THE SITE GENERALLY CONSISTS OF THREE MAJOR SOIL TYPES. THE NEAR SUBSURFACE SOILS CONSIST OF (1) GRAVELLY, SILTS SANDS (2) POORLY GRADED OR WELL GRADED GRAVEL WITH VARYING AMOUNTS OF CLAY, SILT, SAND AND CALCAREOUS MATERIAL AND (3) AND ALSO CONTAINED INTERBEDDED COBBLE AND BOULDER-SIZE MATERIALS.

ENDANGERED SPECIES ACT
 NOT LIKELY TO ADVERSELY AFFECT ANY CURRENTLY LISTED FEDERAL THREATENED OR ENDANGERED SPECIES.

HISTORIC PROPERTY SITE
 NO KNOWN SITES ELIGIBLE FOR HISTORIC RECORD

AUTHORIZED STORM WATER DISCHARGES

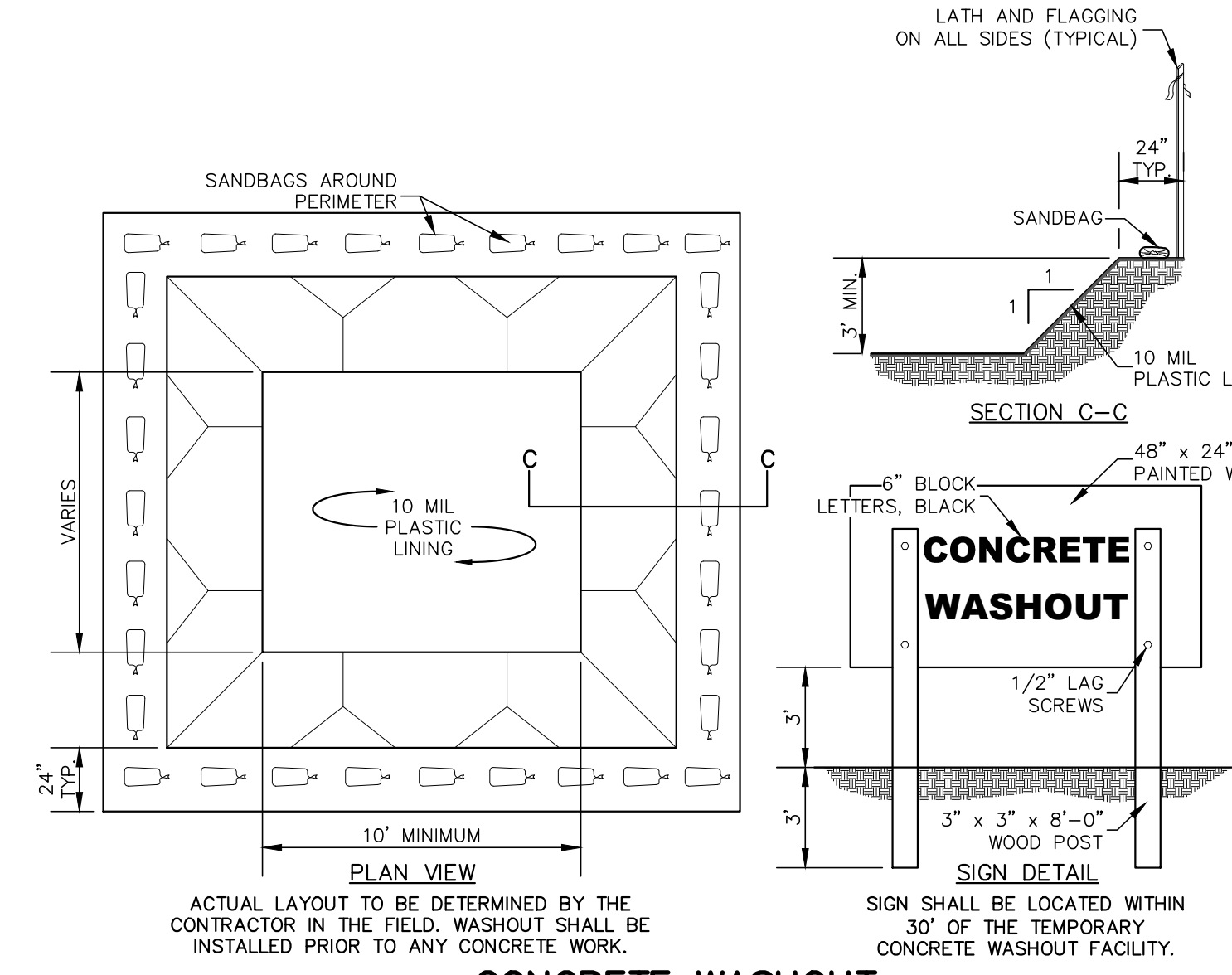
- STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY.
- DISCHARGES OF STORM WATER ASSOCIATED WITH CONSTRUCTION SUPPORT ACTIVITIES INCLUDING CONCRETE AND ASPHALT BATCH PLANTS, EQUIPMENT STAGING AREAS, MATERIAL STORAGE YARDS, MATERIAL BORROW AREAS, AND EXCAVATED MATERIAL DISPOSAL AREAS MAY BE AUTHORIZED AS PER TPDES PERMIT NO. TXR1500000, PART II, SECTION A.

AUTHORIZED NON-STORM WATER DISCHARGES
 THE FOLLOWING NON-STORM WATER DISCHARGES AREA AUTHORIZED AS PER TPDES PERMIT NO. TXR1500000, PART II, SECTION A.

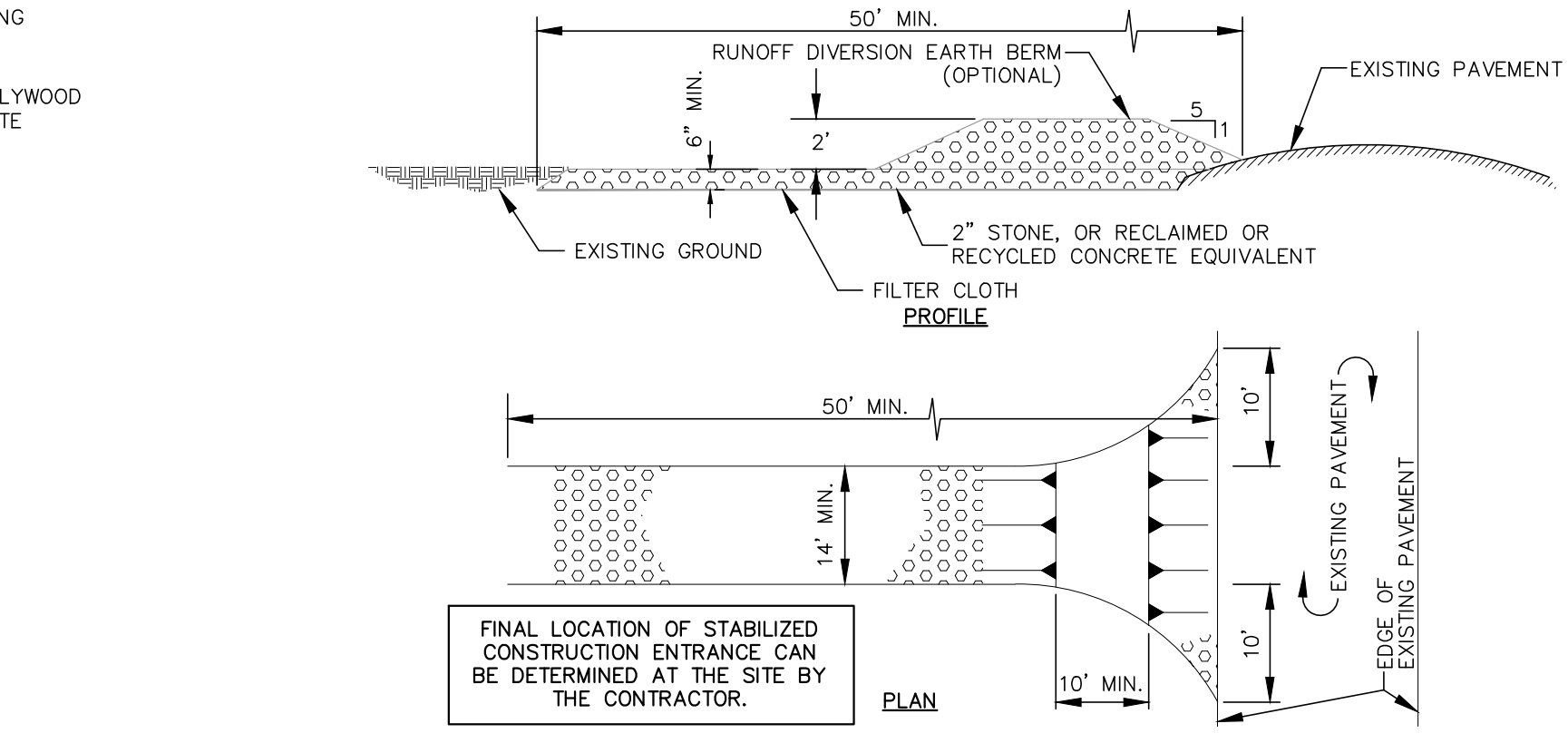
- DISCHARGES FROM FIRE FIGHTING ACTIVITIES.
- FIRE HYDRANT FLUSHING.
- WATER USED TO CONTROL DUST.
- WATER LINE FLUSHING.
- VEHICLE, EXTERNAL BUILDING AND PAVEMENT WASH WATER, FREE OF DETERGENTS AND SOAPS.
- AIR CONDITIONING CONDENSATE.

PROHIBITED POLLUTANTS DISCHARGES

- CONCRETE
- DETERGENTS
- PAINTS
- CLEANING SOLVENTS
- FUELS
- ELECTRICAL EQUIPMENT AND MATERIALS
- LUBRICANTS
- WOOD
- FERTILIZERS
- ASPHALT AND ASPHALT RELATED PRODUCTS
- STEEL PRODUCTS



CONCRETE WASHOUT
 N.T.S.



STABILIZED CONSTRUCTION ENTRANCE
 SCALE: 1" = 2'-0"

BEST MANAGEMENT PRACTICES

- STRUCTURAL MEASURES SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT IN EFFECTIVE OPERATING CONDITION.
- DOCUMENTATION OF MAINTENANCE ACTIVITIES INCLUDING FREQUENCY, LOT DESIGNATION, INSPECTION OF STRUCTURAL CONTROLS, MATERIAL STORAGE AREAS VEHICLES ENTRANCE AND EXITS: ACTIONS TAKEN AND INSPECTORS NAME.
- CONSTRUCTION SITE NOTICE WILL BE MAINTAINED ON SITE.
- COPY OF SWPPP SHALL BE KEPT ON SITE.
- PERIMETER MUST RETAIN THE SWPPS NOI AND INSPECTION LOG FOR A MINIMUM OF 3 YEARS FROM THE TERMINATION AND FINAL STABILIZATION OF PROJECT.

BEST MANAGEMENT PRACTICES CONTROLS

I WASTE MATERIALS:
 ALL WASTE MATERIALS, INCLUDING CONSTRUCTION DEBRIS, SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. NO CONSTRUCTION WASTE MATERIAL SHALL BE BURIED ON SITE. THE TRANSIT DUMPSTER SHALL COMPLY WITH ORDINANCE 18.52.010 (ENCLOSURE & REMOVAL OF WASTE MATERIALS DURING CONSTRUCTION). THE DUMPSTER SHALL BE EMPTIED AS NECESSARY OR AS REQUIRED BY ORDINANCE 9.04 (SOLID WASTE MANAGEMENT) AND THE TRASH SHALL BE HAULED TO A LICENSED LANDFILL.

II HAZARDOUS WASTE:
 AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES SHALL BE CONSIDERED HAZARDOUS: PAINT, ACIDS FOR CLEANING MASONRY SURFACES, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SPILL STABILIZATION, CURING COMPOUNDS AND ADDITIVES. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS, THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION AND CONTACT THE FIRE DEPT. AND TRWCC.

III SANITARY WASTE:
 ALL SANITARY WASTE SHALL BE COLLECTED FROM THE CONSTRUCTION PORTABLE UNITS AS NECESSARY OR AS REQUIRED, CHAPTER 18.08 (BUILDING CODE), BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR. ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

IV SPILL PREVENTION:
 THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURES OF MATERIALS TO STORM WATER RUNOFF.

V GOOD HOUSEKEEPING:

- STORE ONLY ENOUGH PRODUCTS REQUIRED TO DO THE JOB
- NEATLY STORE MATERIALS ON-SITE IN AN ORDERLY MANNER
- KEEP PRODUCTS IN THEIR ORIGINAL CONTAINER
- DO NOT MIX SUBSTANCES WITH ONE ANOTHER, UNLESS OTHERWISE RECOMMENDED BY THE MANUFACTURER
- USE ENTIRE CONTENTS OF A PRODUCT BEFORE DISPOSING THE CONTAINER
- FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL

VI HAZARDOUS PRODUCTS:
 PRACTICES USED TO REDUCE RISKS:

- KEEP PRODUCTS IN THEIR ORIGINAL CONTAINER IF AT ALL POSSIBLE
- RETAIN ORIGINAL LABELS, PRODUCT INFORMATION AND MATERIAL SAFETY DATA SHEETS (MSDS)
- DISPOSE SURPLUS PRODUCT IN ACCORDANCE WITH MANUFACTURER'S OR LOCAL & STATE RECOMMENDED METHODS

POSSIBLE POLLUTANTS ON-SITE

- GAS TANK CONTAINERS
- INSPECT CONTAINERS FOR LEAKS AND ENSURE LIDS AND CAPS ARE PROPERLY SEALED. DAMAGED TANKS OR CONTAINERS SHALL BE PROPERLY REMOVED/REPLACED AND DISPOSED OF.
- LUBRICATING GREASE CONTAINERS
- ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE CHANCE OF LEAKAGE; DRIP PANS SHALL BE UTILIZED FOR LEAKING VEHICLES AND FOR FLUID DRAINING.
- CEMENT DISCHARGE INTO EXISTING STORM SYSTEM
- ONSITE INSPECTIONS OF CONCRETE POUR AREAS SHALL BE DONE TO ENSURE THAT CEMENT DOES NOT RUNOFF AND DISCHARGE INTO EXISTING STORM SEWER SYSTEM.

VII PETROLEUM PRODUCTS:
 ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ON-SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.

VIII SPILL CONTROL PRACTICES:

- MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES;
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON-SITE;
- ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY
- SPILL AREA SHALL BE WELL VENTILATED AND APPROPRIATE CLOTHING WILL BE WORN;
- ANY SPILL SHALL BE REPORTED TO THE APPROPRIATE GOVERNMENTAL AGENCY
- MEASURES SHALL BE TAKEN TO PREVENT A SPILL FROM REOCCURRING

BEST MANAGEMENT PRACTICES CONTROLS

IX MAINTENANCE AND INSPECTION PROCEDURES:
 ALL POLLUTION PREVENTION MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY 7 DAYS AND FOLLOWING A STORM EVENT OF 0.5 INCHES OR MORE. INSPECTION IN FINAL STABILIZED AREAS OR DURING ARID PERIODS WILL BE CONDUCTED BI-WEEKLY. BEST MANAGEMENT PRACTICES AND POLLUTION CONTROL PROCEDURES SHALL BE INSPECTED FOR ADEQUACY, A REPORT SUMMARIZING THE SCOPE OF INSPECTION SHALL BE DONE & RETAINED ALONG WITH THE SDPPP.

X REMARKS:
 DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATERBODY OR STREAMBED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. ALL WATERWAYS SHALL BE CLEANED AS SOON AS PRACTICABLE OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSEWORK, PLUNG DEBRIS OR OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT A PART OF THE FINISHED WORK.

XI OFFSITE VEHICLE TRACKING:
 IN ADDITION TO THE STABILIZED CONSTRUCTION ENTRANCES, THE FOLLOWING MEASURES SHALL BE OBSERVED DURING CONSTRUCTION:
 HAUL ROADS SHALL BE DAMPENED FOR DUST CONTROL
 LOADED HAUL TRUCKS SHALL BE COVERED WITH TARP/AULIN
 STABILIZED CONSTRUCTION ENTRANCE
 OTHER: _____

MATERIALS WITH CONSTRUCTION SITE:

____ HAS BATCH PLANT WITH PROJECT
 HAS ASPHALT PLANT WITH PROJECT
 DOES NOT HAVE BATCH PLANT WITH PROJECT
 DOES NOT HAVE ASPHALT PLANT WITH PROJECT

OWNER CERTIFICATION

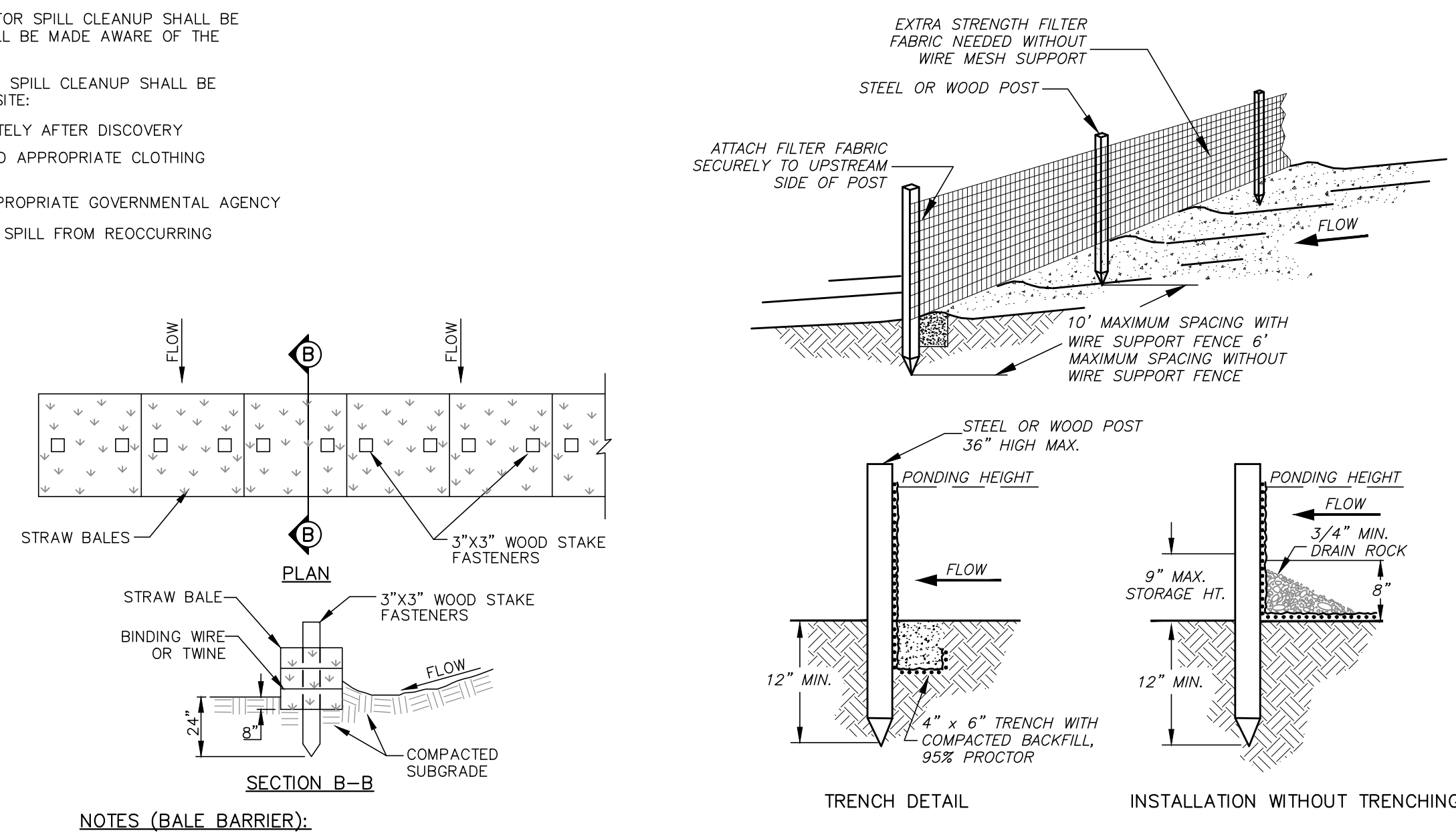
I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

OWNER : SIGNED _____ DATE _____
 MICHAEL S. VIRAMONTES _____
 OWNER : NAME _____ DATE _____
 VICE PRESIDENT _____
 TITLE _____ DATE _____

GENERAL NOTES

- CONTRACTOR TO PROVIDE A CONSTRUCTION SIGN ON-SITE, CONSPICUOUSLY NEAR MAIN ENTRANCE, WITH A COPY OF N.O.I. POSTED.
- CONTRACTOR TO DESIGNATE A QUALIFIED COMPETENT PERSON TO INSPECT AND RECORD SWPP AND BMP INSPECTION IN ACCORDANCE TO SITE INSPECTION REPORT.
- CONTRACTOR TO KEEP ORIGINAL N.O.I. AND INSPECTION REPORTS ON SITE AT ALL TIMES.
- CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN A CLEAN WORK SITE.
- CONTRACTOR MUST KEEP RECORD OF IMPORTANCE DATES SUCH AS, BUT NOT LIMITED TO, MAJOR GRADING ACTIVITIES, CONSTRUCTION TEMPORARILY OR PERMANENTLY WORK CEASED, STABILIZATION MEASURES INITIATED.
- CONTRACTOR SHALL KEEP A COPY OF TPDES PERMIT TXR 15000 ON-SITE.

NOTE:
 CONTRACTOR SHALL ENSURE COMPLIANCE WITH SWPP AND TPDES PERMIT TXR 15000. PERMIT TXR 15000 IS LOCATED AND CAN BE VIEWED WITH THE CIVIL ENGINEER – CSA CONSULTING ENGINEERS, 1845 NORTHWESTERN DR, SUITE C, EL PASO, TX 79912.



NOTES (BALE BARRIER):

- BALES TO BE PLACED PERPENDICULAR TO FLOW
- HAZ BALE PLACED IN "V" DITCH MUST BE STAGGERED.
- BALES MUST BE FIRMLY STAKED INTO THE ENTRENCHMENT AND THE ENTRENCHMENT BE PROPERLY BACKFILLED.
- BALES MUST BE PLACED END TO END AND THERE CAN BE NO GAPS BETWEEN THE BALES.
- BARRIERS MUST BE INSPECTED AND REPAIRED IMMEDIATELY AFTER EACH RAINFALL OR DAILY IF THERE IS PROLONGED RAINFALL.
- DAMAGED STRAW BALES REQUIRE IMMEDIATE REPLACEMENT.
- TRAPPED SEDIMENTS MUST BE REMOVED AND DISPOSED OF PROPERLY.

STRAW BALE BARRIER
 SCALE: 1" = 5'-0"

FILTER FENCE
 SCALE: 1" = 5'-0"

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 TEXAS GAS SERVICE 544-6000
 PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411
 AFTER HOURS EMERGENCY (EPW) 1-800-010-TESS
 TEXAS EXCAVATION SAFETY SYSTEM 594-5775
 KINDER-MORGAN EPNG PIPELINES 1-800-344-8377
 EL PASO METRIC SURVEYING AND MAINTENANCE 1-800-238-3764
 Ingeos@geospatial.com

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 CIVIL ENGINEER
 NANCY HAYES
 124376
 LICENSED PROFESSIONAL ENGINEER

csa design group, inc.
 Texas Registered Engineering Firm F-8997
 1845 Northwestern Dr. Site C
 El Paso, Texas 79912
 tel (915) 877-4155
 fax (915) 877-4334
 www.csaengineers.com

SUBDIVISION
 MONTE DEL SOL
 UNIT ONE
 SUBDIVISION

SHEET TITLE
**STORM WATER
 POLLUTION
 PREVENTION
 PLAN NOTES
 & DETAILS**

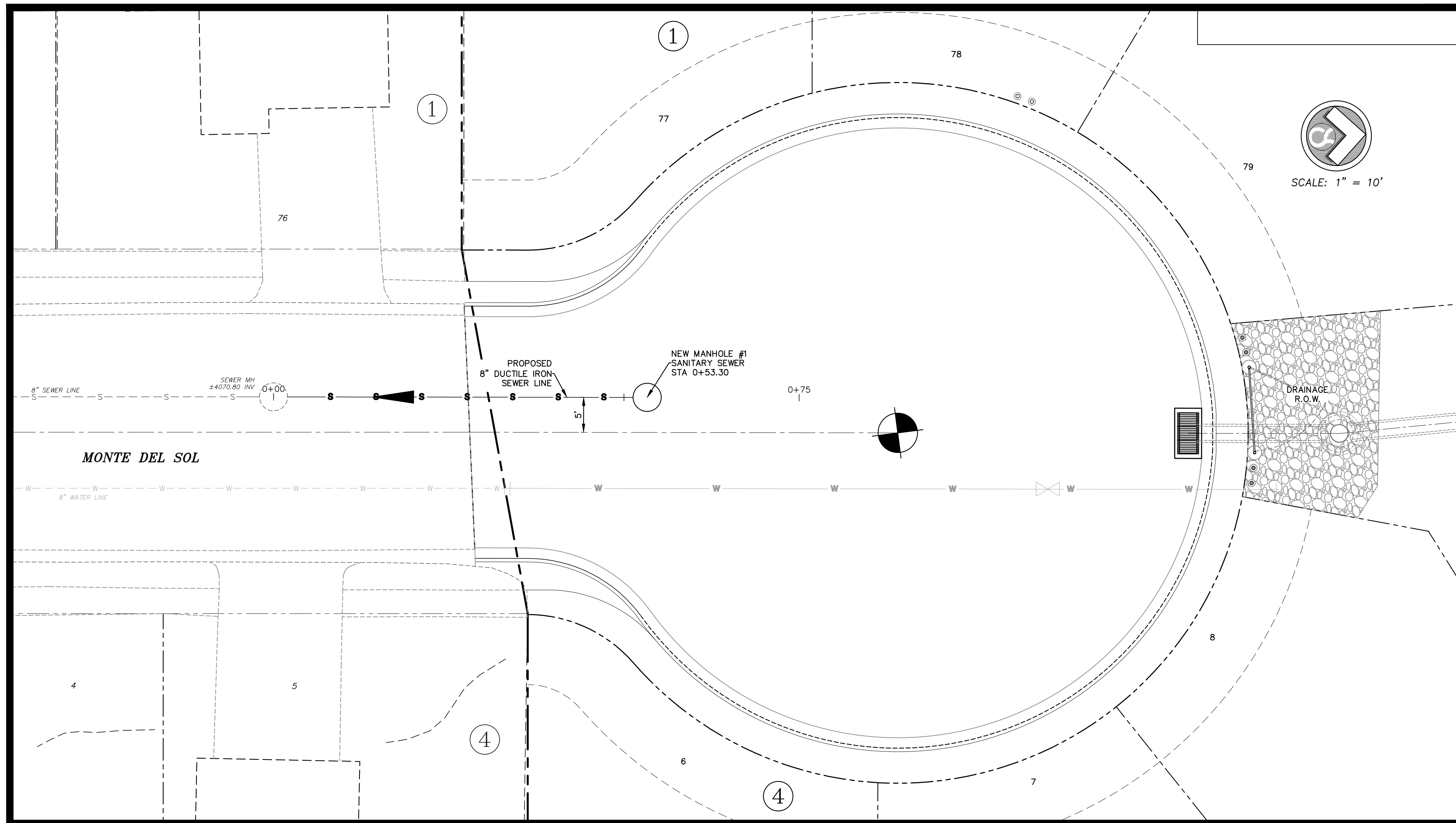
DATE
 07/08/2020

DATE OF CONSTRUCTION
 AS NOTED

SCALE
 AS NOTED

SHEET NO.
23

SHEET SEQUENCE
23 OF **29**



LEGEND	
---	R.O.W. LINE
---	PROPERTY LINE
---	BOUNDARY LINE
W	PROPOSED WATER LINE
W	EXISTING WATER LINE
S S	PROPOSED SANITARY SEWER
S	EXISTING SANITARY SEWER

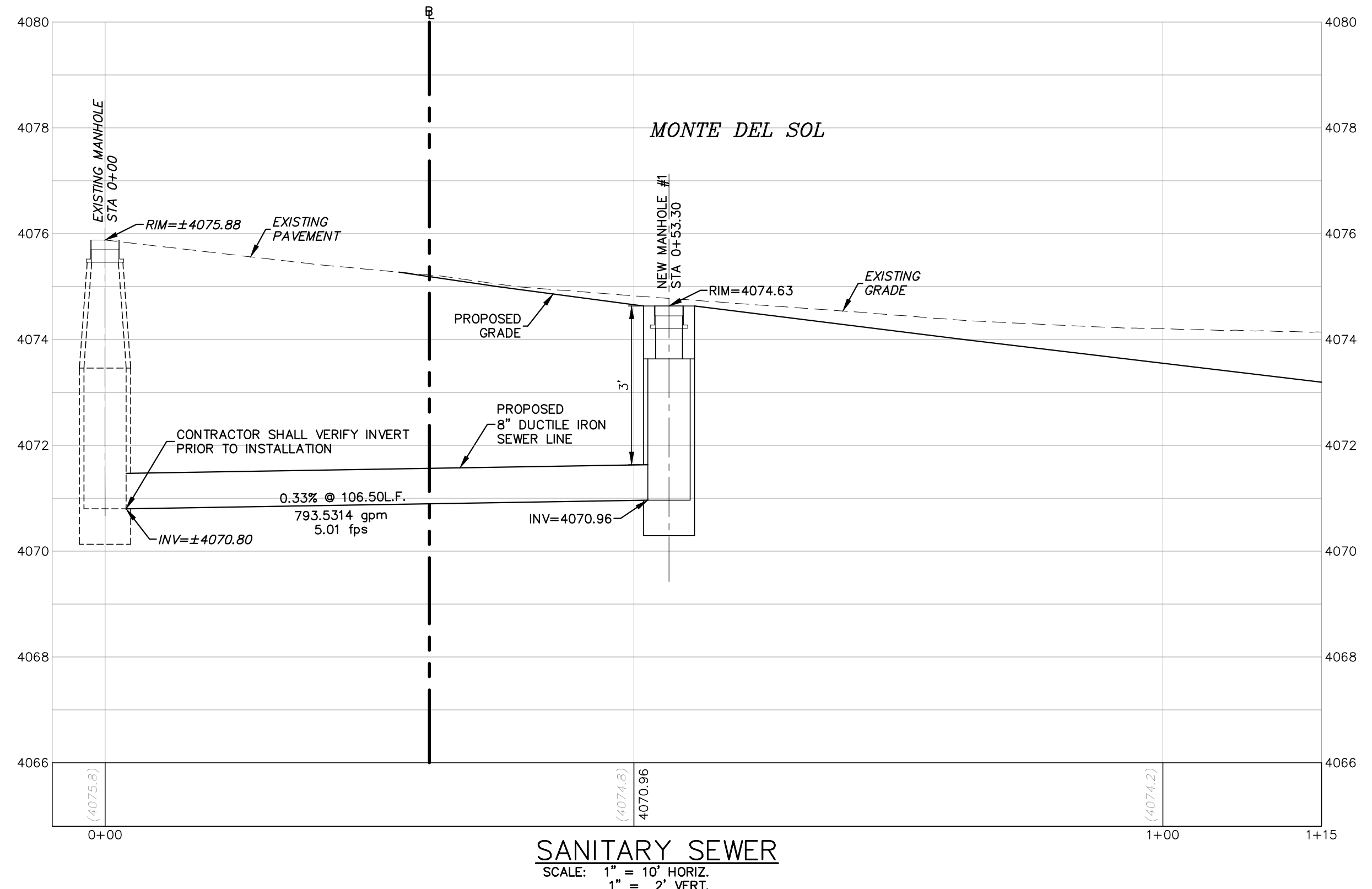
SEWER NOTES

CONTACT UTILITY COMPANIES FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.

INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF (5') FEET AS PER O.S.H.A. STANDARDS.

PROVIDE MANHOLE ADAPTER WHERE P.V.C. PIPE CONNECTS TO MANHOLE.

P.V.C. PIPE SHALL BE PLACED WITH SELECT BEDDING MATERIAL ALL AROUND.



BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL. PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
2	6/4/2021	First City Submittal	AHO
1	10/9/2020	Client Review	AHO

WARNING! BEFORE YOU DIG
IN PROJECT AREA CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS

Know what's below. Call before you dig.

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY 543-5720
 AT&T 1-800-DIG-TESS
 TEXAS GAS SERVICE LINE 544-6000
 PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411
 AFTER HOURS EMERGENCY (EPW) 1-800-DIG-TESS
 TEXAS EXCAVATION SAFETY SYSTEM 594-5775
 KINDER-MORGAN EPNG PIPELINES 1-800-344-8377
 EL PASO METRIC SIGNALS AND MAINTENANCE 1-800-238-3764
 EL PASO POLICE DEPARTMENT 212-0151
 linopolis@elpasopolice.com

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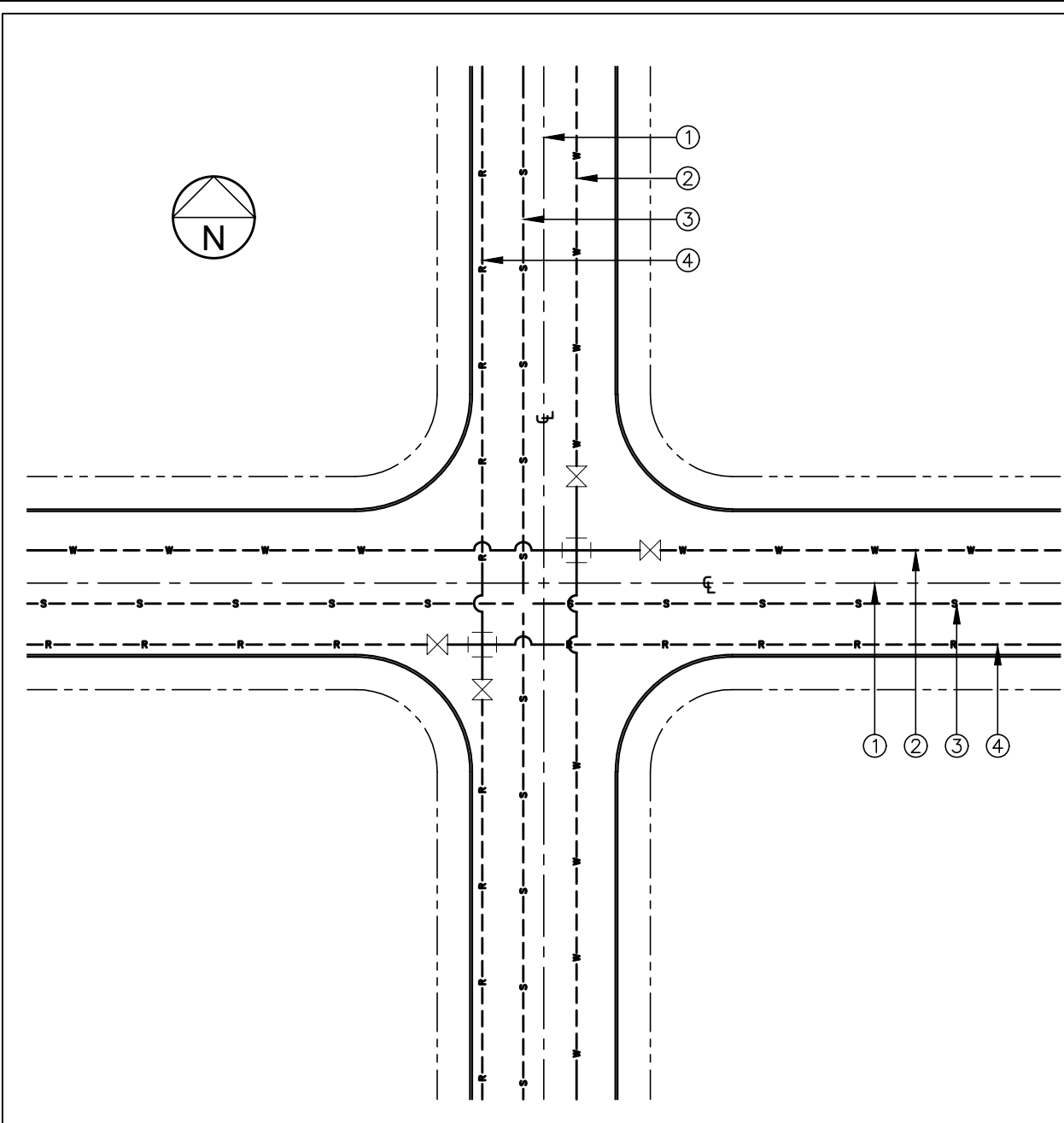
csa design group, inc.
 Texas Registered Engineering Firm F-8997
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 El Paso, Texas 79912
 tel [915] 877.4155
 fax [915] 877.4334
 www.csaengineers.com

SUBDIVISION
 MONTE DEL SOL
 UNIT ONE
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SHEET TITLE
SANITARY SEWER PLAN & PROFILE

GOB	2020-08
DESIGN BY	AS NOTED
GOB-DM-DG	07/08/2020
SCALE BY	DATE OF COMPLETION
AHO	AS NOTED
CHECKED BY	SCALE

SHEET NO.
25
 SHEET SEQUENCE
25 OF **29**



GENERAL NOTES:
 1. REFERENCE CENTERLINE SHALL BE CENTERLINE OF RIGHT OF WAY.
 2. WATER LINES SHALL BE LOCATED ON NORTH OR EAST SIDES OF DEDICATED STREETS OR ALLEYS.
 3. SEWER LINES SHALL BE LOCATED ON SOUTH OR WEST SIDES OF DEDICATED STREETS OR ALLEYS.
 4. RECLAIMED LINES SHALL BE LOCATED ON SOUTH OR WEST SIDES OF DEDICATED STREETS OR ALLEYS.

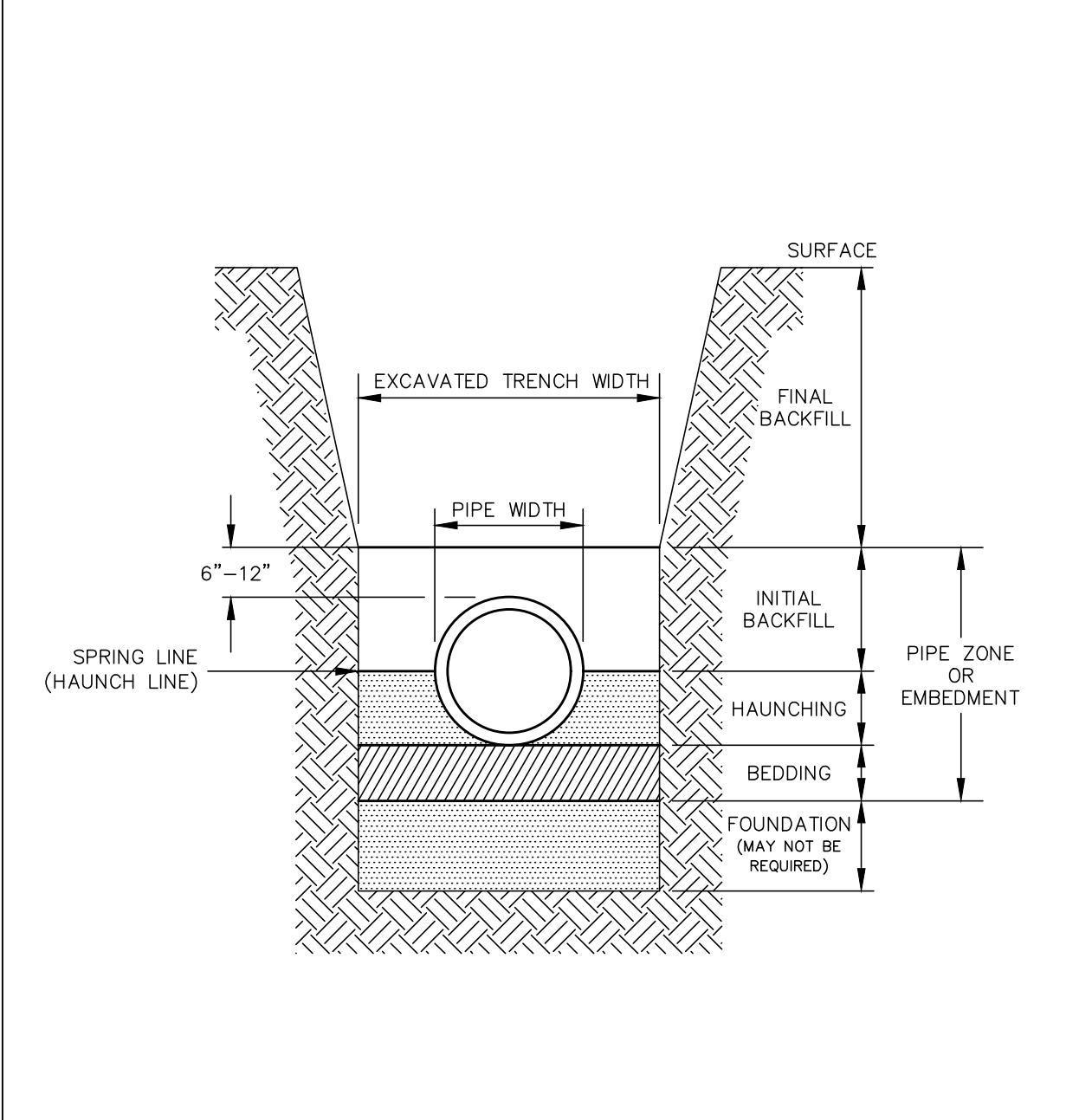
CONSTRUCTION KEY NOTES:
 A. DISTANCES FROM CENTERLINE VARY AND SHALL BE ACCORDING TO THE FOLLOWING:

RIGHT-OF-WAY WIDTH*	PIPELINE LOCATION WITHIN NEW RIGHT-OF-WAY OFFSET FROM CENTERLINE**		
	WATER	SEWER	RECLAIMED
36 FT.	9 FT.	1 FT.	6 FT.
44 FT.	8 FT.	3 FT.	8 FT.
52 FT.	8 FT.	5 FT.	10 FT.
64 FT.	10 FT.	5 FT.	10 FT.
72 FT.	10 FT.	5 FT.	10 FT.
76 FT.	10 FT.	5 FT.	10 FT.
84 FT.	20 FT.	5 FT.	10 FT.
110 FT.	25 FT.	15 FT.	20 FT.

*RIGHT OF WAY WIDTH SUBJECT TO CHANGE. VERIFY WITH CITY SUBDIVISION ORDINANCE.
 **DISTANCES MAY BE MODIFIED AS NEEDED TO MEET TCEQ SEPARATION REQUIREMENTS. REFER TO DETAILS 160 THRU 163 FOR ADDITIONAL INFORMATION.

STANDARD DETAIL DATE: 03/1994 REV: 3/28/2007 LOCATION FOR UTILITY LINES

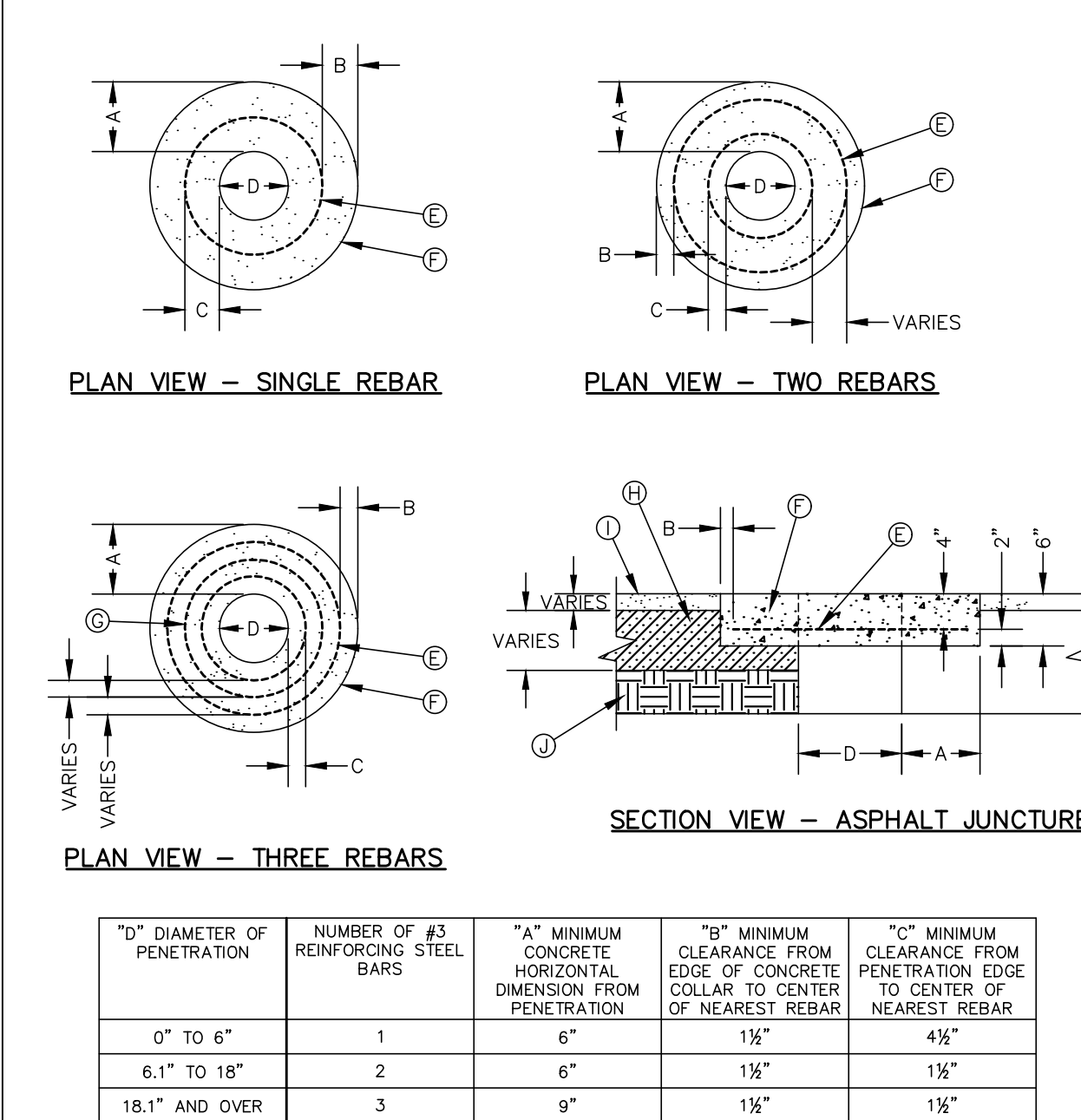
el paso WATER N.T.S. DETAIL No. 140



GENERAL NOTES:
 1. DETAIL DRAWING TERMINOLOGY IS IN ACCORDANCE WITH ASTM D-121.
 2. UNLESS OTHERWISE PERMITTED BY THE ENGINEER, ALL MATERIAL IN THE EMBEDMENT ZONE SHALL BE HOMOGENOUS.

STANDARD DETAIL DATE: 11/1992 REV: 3/28/2007 TRENCH CROSS SECTION TERMINOLOGY

el paso WATER N.T.S. DETAIL No. 170

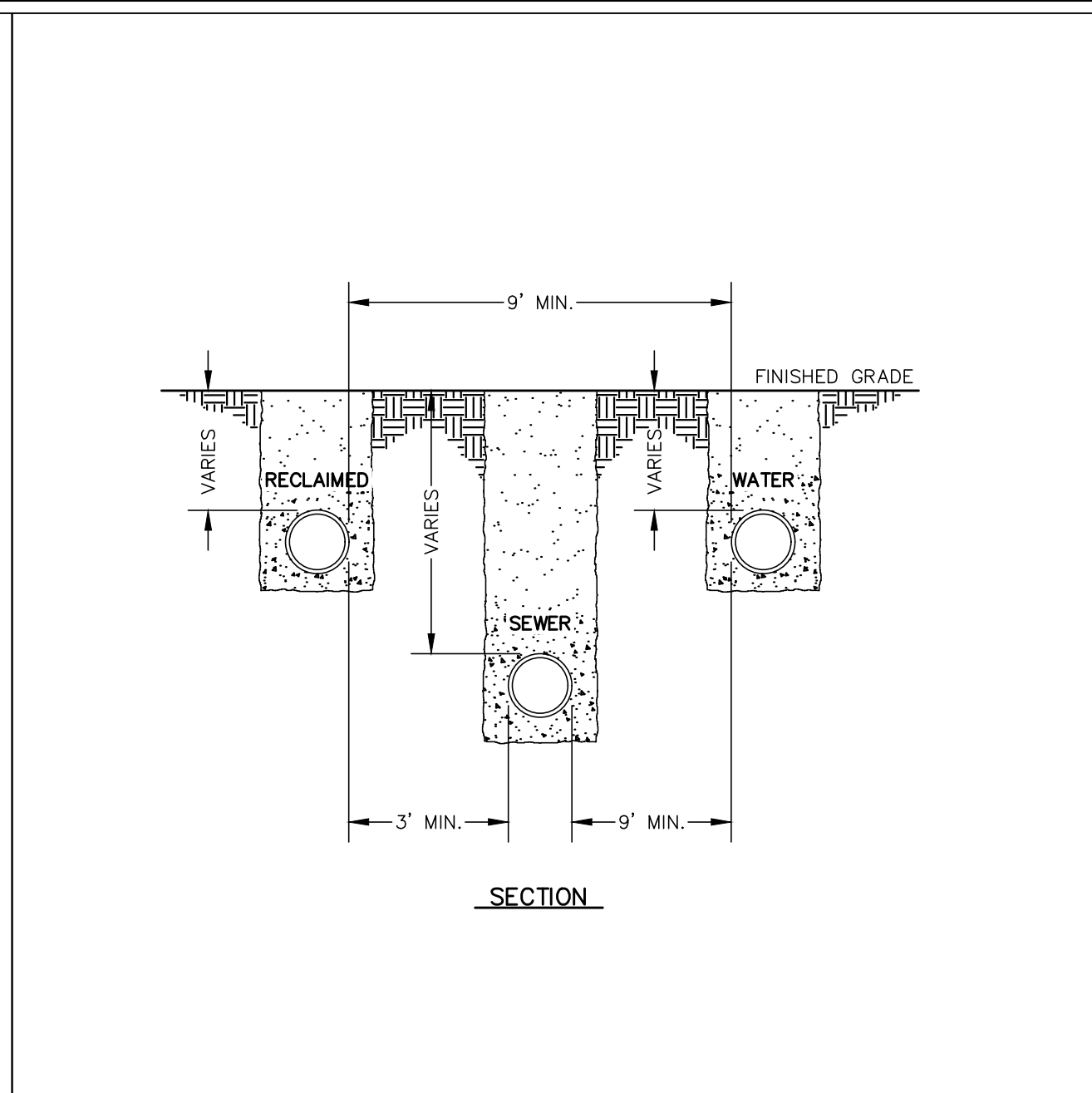


GENERAL NOTES:
 1. THE CONCRETE COLLAR SHOULD BE CAST IN-PLACE CONCRETE (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI. HIGH EARLY CONCRETE IS REQUIRED).
 2. TOPS OF CONCRETE COLLAR SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
 3. ANY DISTURBED SUBGRADE UNDER THE CONCRETE COLLAR SHALL BE COMPACTED TO 95% DENSITY ± 3% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 4. ANY DISTURBED BASE COARSE UNDER THE CONCRETE COLLAR SHALL BE COMPACTED TO 100% DENSITY ± 2% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 5. PROVIDE A MINIMUM OF 1 1/2" OF CONCRETE COVER FOR ALL REINFORCEMENT STEEL.
 6. REINFORCING SHALL MEET ASTM C-478 AND TRAFFIC LOADING (HS-20).
 7. NO. 3 REINFORCING STEEL HOOPS SHALL BE SPACED EQUALLY.

CONSTRUCTION KEY NOTES:
 E. #3 REINFORCING STEEL TYP.
 F. CONCRETE COLLAR.
 G. #3 REINFORCING STEEL EQUALLY SPACED.
 H. COMPACTED BASE COARSE.
 I. PAVEMENT.
 J. COMPACTED SUBGRADE.

STANDARD DETAIL DATE: 8/9/2006 REV: 11/6/2008 CONCRETE COLLAR INSTALLATION IN PAVED AREAS

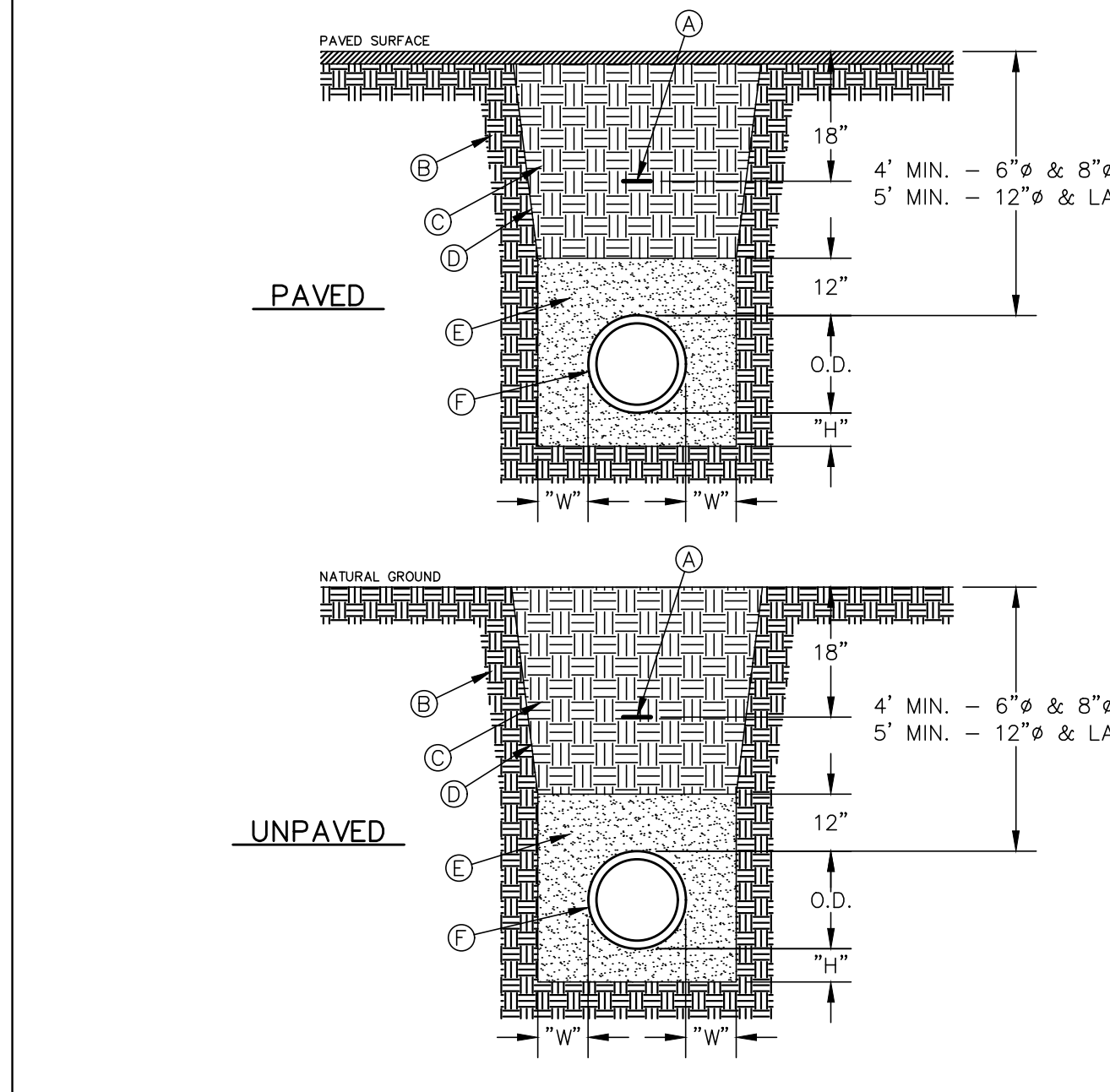
el paso WATER N.T.S. DETAIL No. 184-1



GENERAL NOTES:
 1. SEPARATION DISTANCES SHALL FOLLOW TEXAS COMMISSION ON ENVIRONMENTAL QUALITY STANDARD REQUIREMENTS.
 2. MINIMUM SEPARATION DISTANCES SHOWN, IF CONDITIONS DO NOT ALLOW FOR INDICATED DISTANCES REFER TO DETAILS 161, 162 & 163.
 3. RECLAIMED WATER LINE AT OR ABOVE SEWER LINE.

STANDARD DETAIL DATE: 8/3/2006 REV: 3/28/2007 SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER

el paso WATER N.T.S. DETAIL No. 160



GENERAL NOTES:
 1. BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
 2. PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
 3. IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL, AT HIS EXPENSE, IMPORT SELECT MATERIAL TO BE MIXED WITH OR USED IN PLACE OF THE NATIVE MATERIAL. SELECT MATERIAL MUST BE APPROVED BY EPW. SUBSTITUTE SOIL CEMENT SLURRY (1-SACK) IF REQUIRED IN SPECS.

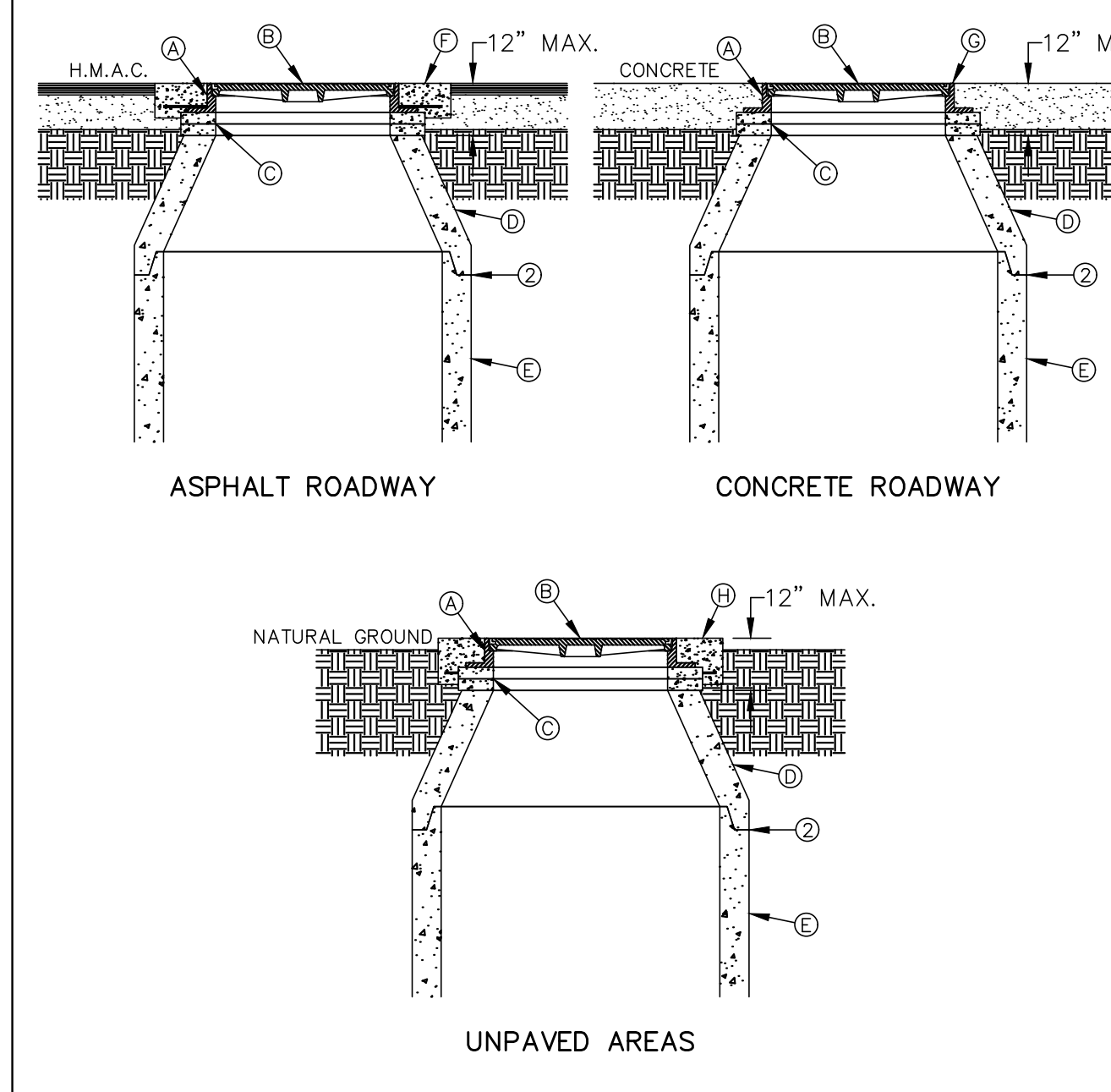
CONSTRUCTION KEY NOTES:
 A. APPROVED MARKING TAPE.
 B. UNDISTURBED STABLE MATERIAL.
 C. NATIVE MATERIAL BACKFILL. PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. (SEE NOTE #3 IF THESE PREVIOUS CONDITIONS CANNOT BE MET.)
 D. SLOPE TRENCH IN SANDY SOIL CONDITIONS.
 E. USE CLASS II OR CLASS III SAND PER ASTM D-2487. NATIVE MATERIAL OR IMPORTED SELECT MATERIAL MEETING OR EXCEEDING THIS REQUIREMENT MAY BE USED. COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR (OR 90% D-698 STANDARD PROCTOR).
 F. APPROVED PIPE.
 G. TRENCH DIMENSIONS AS FOLLOWS:

PIPE DIAMETER	"H"
6" - 30"	4"
GREATER THAN 30"	6"

PIPE DIAMETER	"W"
6" - 30"	8"
GREATER THAN 30"	12"

STANDARD DETAIL DATE: 4/24/2007 REV: 2/21/2011 EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE DRY CONDITIONS

el paso WATER N.T.S. DETAIL No. 171

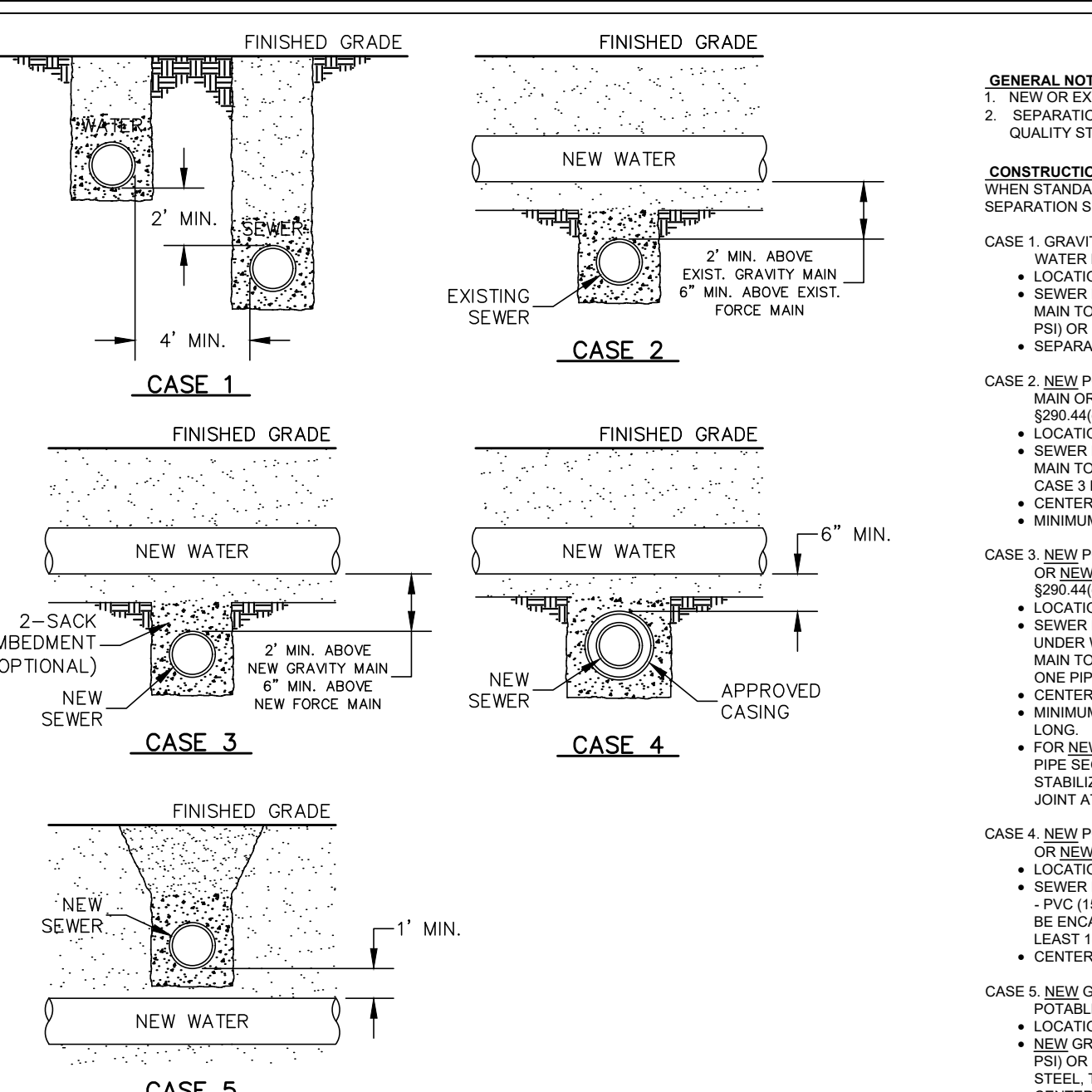


GENERAL NOTES:
 1. MANHOLE TYPE SHALL BE AS SHOWN ON THE PLANS.
 2. SEAL JOINTS PER SPECIFICATIONS.

CONSTRUCTION KEY NOTES:
 A. MANHOLE RING (SEE DETAIL 377).
 B. MANHOLE COVER (SEE DETAIL 378).
 C. SAND CUSHION.
 D. PROPOSED OR EXISTING PIPE.
 E. MANHOLE BARREL SECTION.
 F. CONCRETE COLLAR (SEE DETAIL 184-1) FLUSH WITH TOP OF H.M.A.C.
 G. MANHOLE RING FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
 H. CONCRETE APRON (SEE DETAIL 184-2) FLUSH WITH MANHOLE RING AND 2" ABOVE NATURAL GROUND.

STANDARD DETAIL DATE: 6/22/2009 REV: MANHOLE RING AND COVER INSTALLATION

el paso WATER N.T.S. DETAIL No. 185



GENERAL NOTES:
 1. NEW OR EXISTING POTABLE WATER AND SANITARY SEWER MAINS.
 2. SEPARATION DISTANCES SHALL FOLLOW TEXAS COMMISSION ON ENVIRONMENTAL QUALITY STANDARD REQUIREMENTS.

CONSTRUCTION KEY NOTES:
 WHEN STANDARD NINE (9) FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, SEPARATION SHALL BE DETERMINED ACCORDING TO THE FOLLOWING CONDITIONS:

CASE 1: GRAVITY SANITARY SEWER MAIN OR FORCE MAIN PARALLEL TO POTABLE WATER MAIN (PER TCEQ §290.446(A)(4)(A)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
 • CENTER ONE SEGMENT OF WATER PIPE OVER SEWER MAIN OR FORCE MAIN.
 • MINIMUM PIPE SEGMENT LENGTH FOR WATER PIPE SHALL BE 18 FEET LONG.
 • SEPARATE TRENCHES SHALL BE USED.

CASE 2: NEW POTABLE WATER MAIN CROSSING EXISTING GRAVITY SANITARY SEWER MAIN OR EXISTING FORCE MAIN (PER TCEQ §290.446(A)(4)(B)(i) AND §290.446(A)(4)(B)(ii)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
 • CENTER ONE SEGMENT OF WATER PIPE OVER SEWER MAIN OR FORCE MAIN.
 • MINIMUM PIPE SEGMENT LENGTH FOR WATER PIPE SHALL BE 18 FEET LONG.

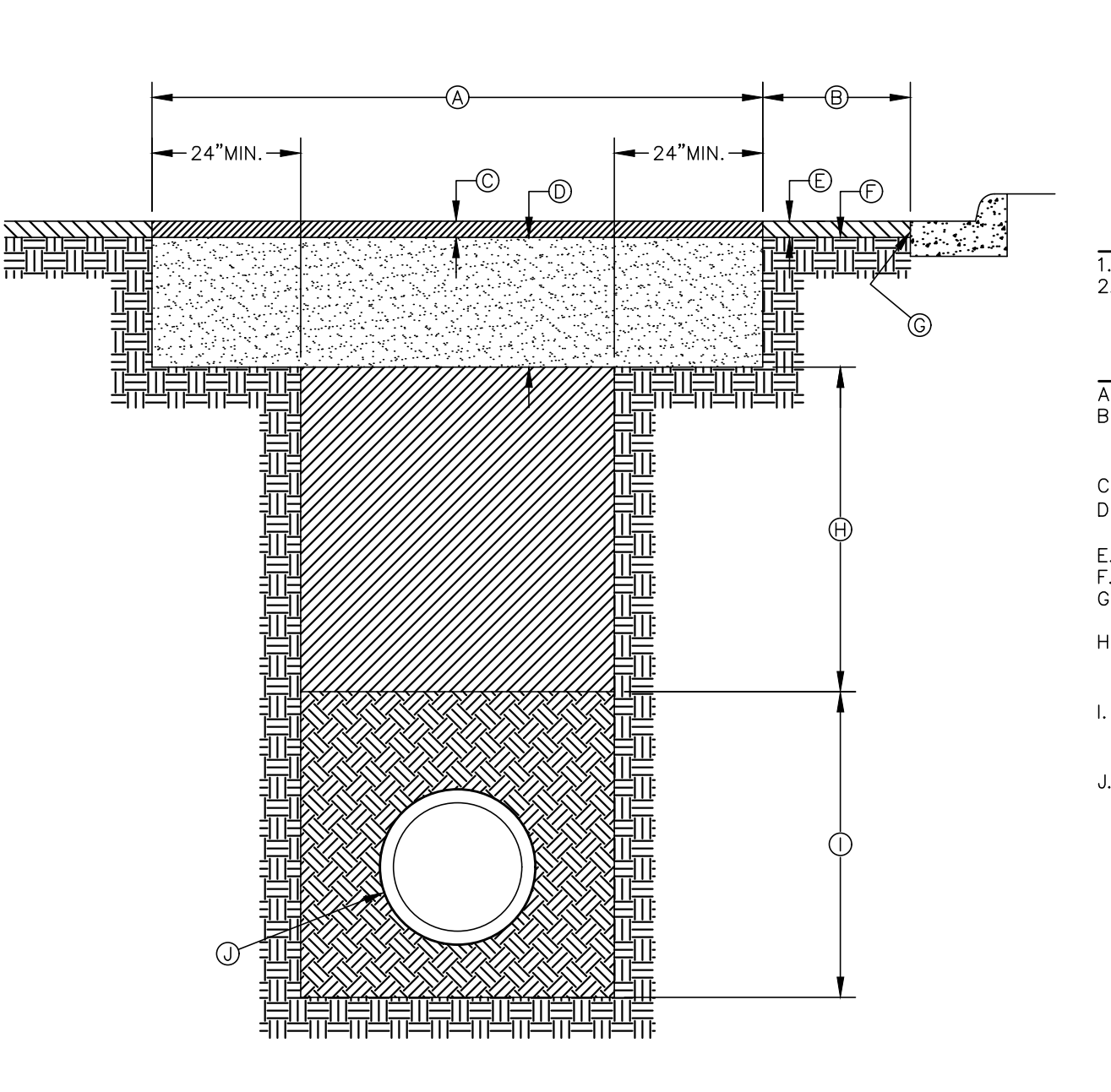
CASE 3: NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.446(A)(4)(B)(iii) AND §290.446(A)(4)(B)(iv)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: NEW GRAVITY MAIN - PVC (150 PSI) OR DI REQUIRED, CENTER UNDER WATER MAIN. NEW FORCE MAIN - PVC (150 PSI) OR DI REQUIRED, CENTER MAIN TO BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.
 • CENTER ONE SEGMENT OF WATER PIPE OVER SEWER PIPE OR FORCE MAIN.
 • MINIMUM PIPE SEGMENT LENGTH FOR WATER AND SEWER SHALL BE 18 FEET LONG.
 • FOR NEW GRAVITY SEWER ONLY, IN LIEU OF PVC (150 PSI) OR DI, INSTALL ONE PIPE SEGMENT OF SDR35 SEWER MAIN MUST BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.

CASE 4: NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.446(A)(4)(B)(v)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: NEW GRAVITY MAIN - SDR35 ACCEPTABLE, NEW FORCE MAIN - PVC (150 PSI) OR DI REQUIRED. IN ADDITION, SEWER MAIN OR FORCE MAIN MUST BE ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 • CENTER CASING PIPE ON WATER MAIN.

CASE 5: NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN (PER TCEQ §290.446(A)(4)(B)(vi)).
 • LOCATION: SEWER OR FORCE MAIN ABOVE WATER.
 • SEWER MATERIALS: NEW GRAVITY MAIN - SDR35 ACCEPTABLE, NEW FORCE MAIN - PVC (150 PSI) OR DI REQUIRED. IN ADDITION, SEWER MAIN OR FORCE MAIN MUST BE ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 • CENTER ONE SEGMENT OF SEWER PIPE ON WATER MAIN.

STANDARD DETAIL DATE: 8/3/2006 REV: 8/21/2007 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)

el paso WATER N.T.S. DETAIL No. 161

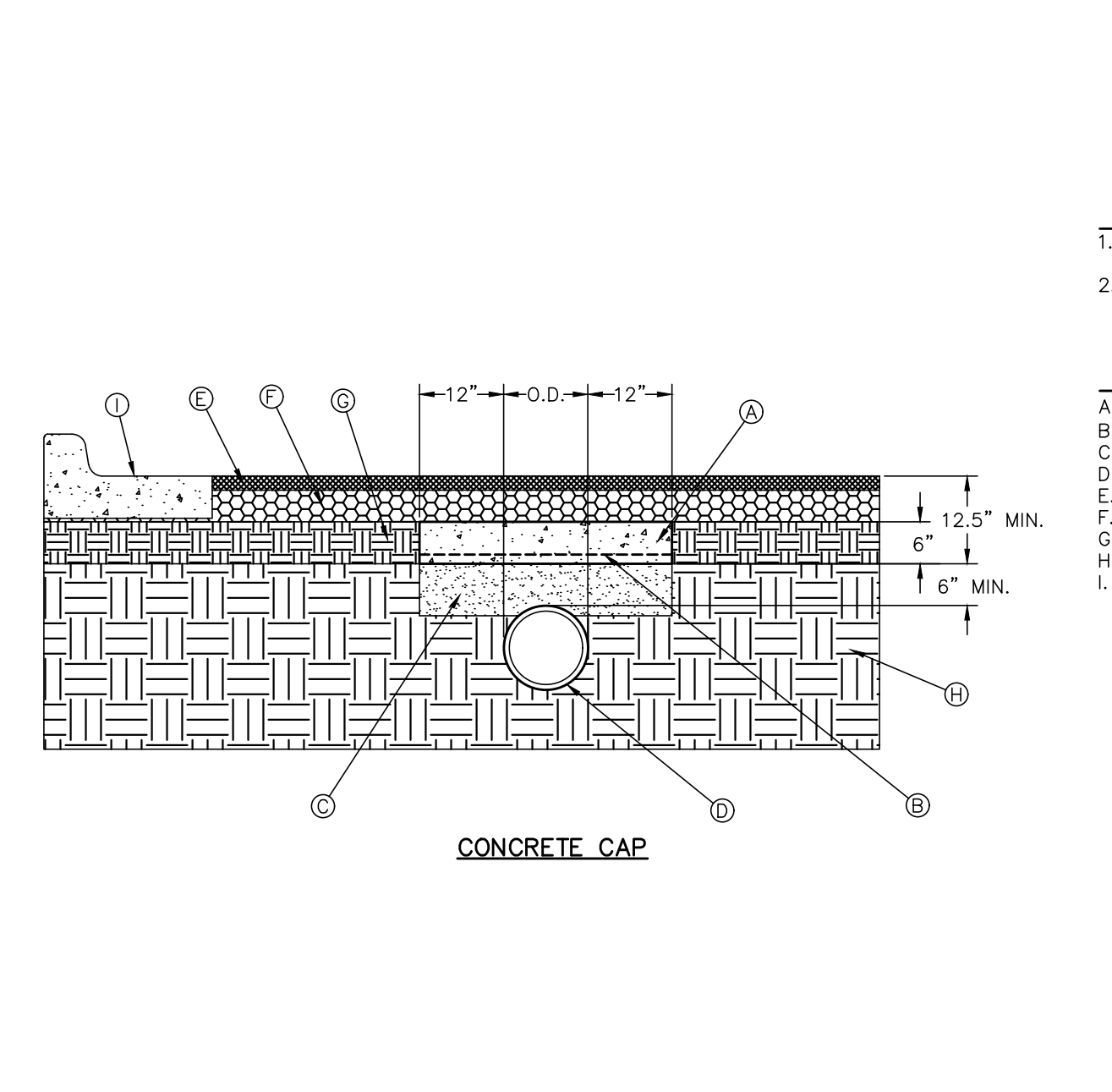


GENERAL NOTES:
 1. ALL ASPHALT CUTS MUST BE SAW CUT.
 2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

CONSTRUCTION KEY NOTES:
 A. REFER TO SPECS FOR LIMIT OF PAVING WIDTH.
 B. DIMENSION VARIES, WHERE GUTTER FACE, ETC. IS WITHIN 3' OF SAW CUT EDGE, CONTRACTOR SHALL REMOVE & REPLACE EXISTING HMA/C IN THIS AREA.
 C. 2" ASPHALT MIN.
 D. 12" THICK SOIL CEMENT BACKFILL (2 SACK PER C.Y. OF SOIL).
 E. EXISTING HMA/C-THICKNESS MAY VARY.
 F. EXISTING BASE COURSE-THICKNESS MAY VARY.
 G. EXISTING GUTTER FACE, EDGE OF PAVEMENT OR BEGINNING OF SHOULDER.
 H. BACKFILL DEPTH VARIES, REFER TO REQUIREMENTS LISTED IN EMBEDMENT DETAILS (DETAIL 171 THRU DETAIL 173).
 I. PIPE BEDDING AS SPECIFIED, REFER TO APPROPRIATE EMBEDMENT DETAIL (DETAIL 171 THRU DETAIL 173).
 J. APPROVED PIPE.

STANDARD DETAIL DATE: 10/1992 REV: 5/9/2011 PAVEMENT REPLACEMENT

el paso WATER N.T.S. DETAIL No. 179



GENERAL NOTES:
 1. DETAIL USED WHEN STANDARD COVER CANNOT BE MET.
 2. NEW PAVEMENT ELEVATION, HMA/C THICKNESS, BASE THICKNESS, AND SUB-BASE THICKNESS IS TO BE PROPOSED BY OTHERS.

CONSTRUCTION KEY NOTES:
 A. CONCRETE CAP 3000 P.S.I. CLASS "A"
 B. (6/8-10 WWF) WIRE MESH
 C. SAND CUSHION
 D. PROPOSED OR EXISTING PIPE
 E. HMA/C
 F. BASE
 G. SUB-BASE
 H. COMPACTED BACKFILL
 I. CONCRETE CURB

STANDARD DETAIL DATE: 5/1995 REV: 8/4/2006 CONCRETE CAP (PAVED CONDITION)

el paso WATER N.T.S. DETAIL No. 182

WARNING! BEFORE YOU DIG IN PROJECT AREA CONTRACTOR SHALL PROJECT LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS

el paso WATER

Know what's below. Call before you dig.

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
 543-5720
 1-800-506-7555

AT&T
 544-6000

TEXAS GAS SERVICE
 544-5775

PUBLIC SERVICE BOARD (WATER & SEWER)
 544-5775

AFTER HOURS EMERGENCY (EPW)
 544-5775

TEXAS EXCAVATION SAFETY SYSTEM
 KINDER-MORGAN EPNG PIPELINES
 1-800-238-3764

EL PASO BARRIC SAFETY SYSTEM
 1-800-238-3764

INTEGRATED SAFETY SYSTEMS
 1-800-238-3764

STATE OF TEXAS

NANCY HAYES

124376

PROFESSIONAL ENGINEER

csa design group, inc.

Texas Registered Engineering Firm F-8997
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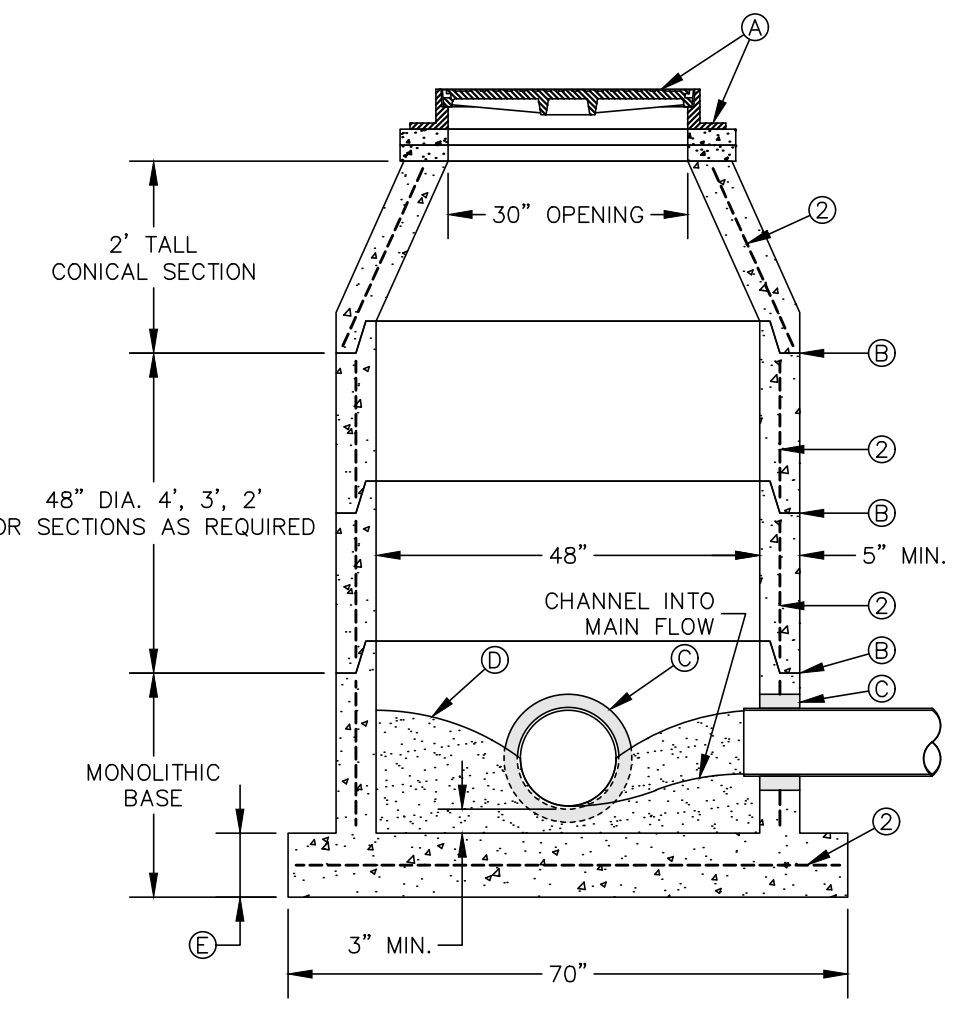
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SHEET TITLE
 UTILITY DETAILS

GOB 2020-08
 DESIGNED BY 08
 CQB-SM-DG 07/08/2020
 DRAWN BY DATE OF COMPLETION

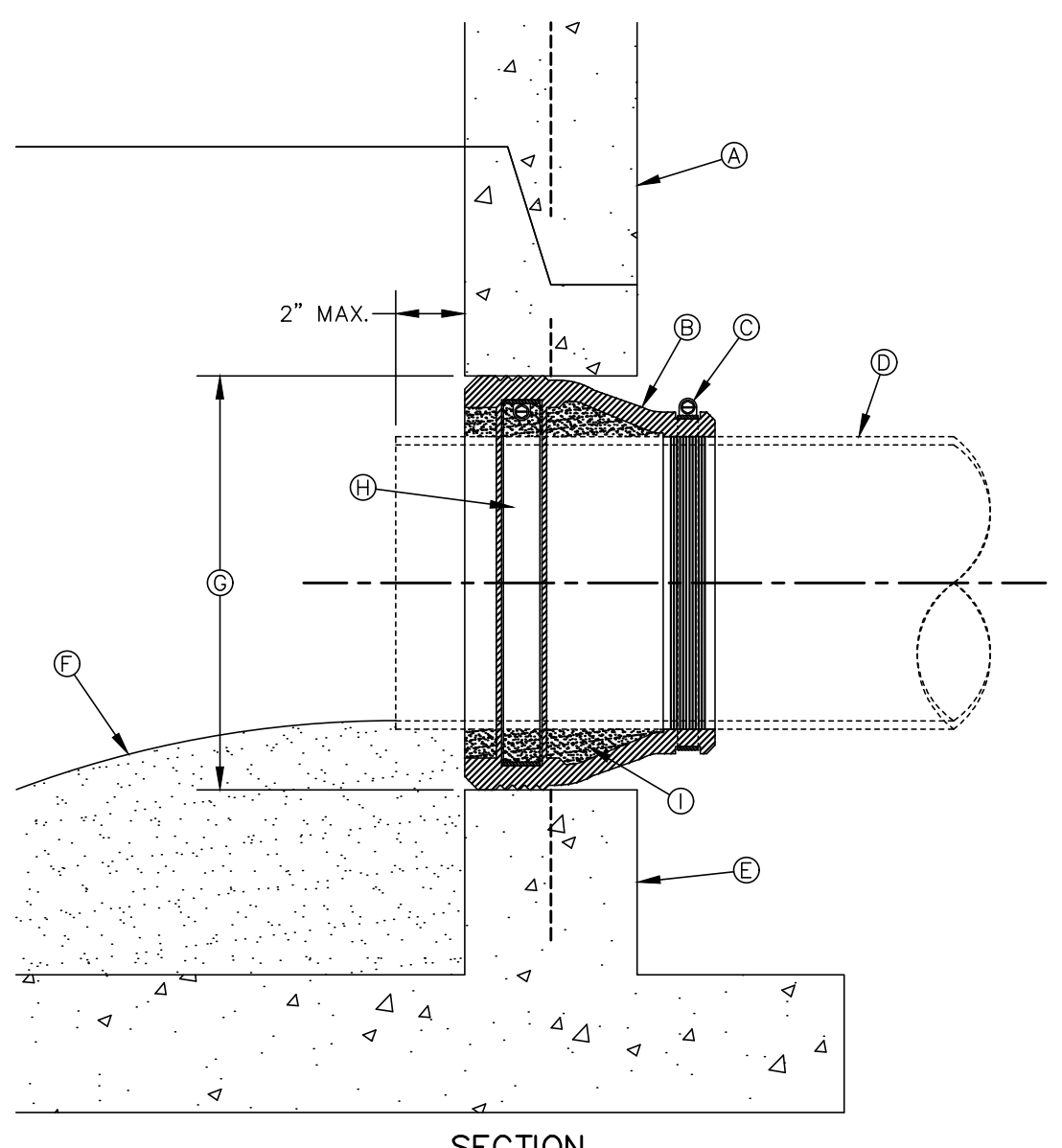
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SHEET NO. 26
 SHEET SEQUENCE 26 OF 29

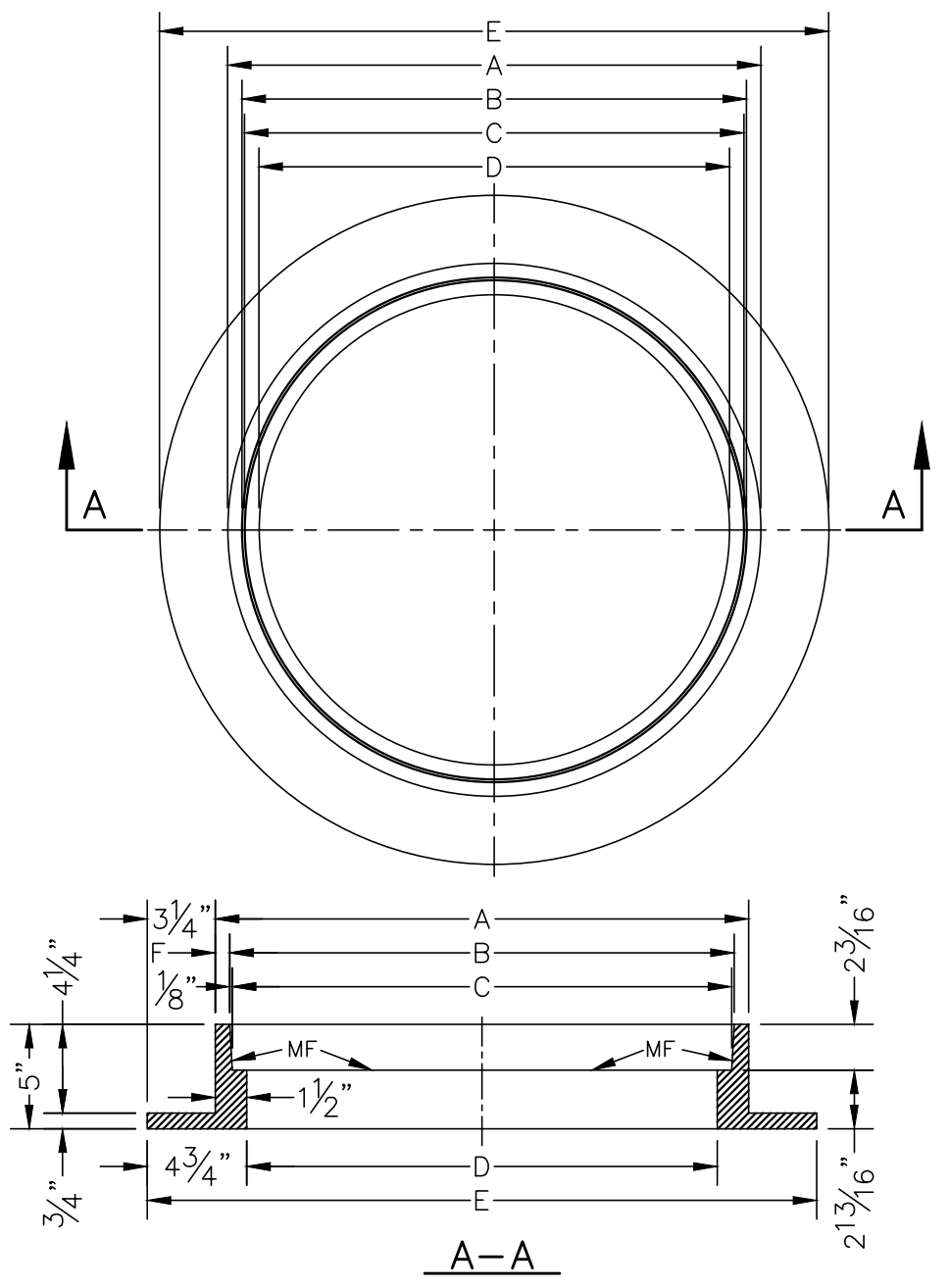


- GENERAL NOTES:**
1. MANHOLE TYPE "A" SHALL BE USED FOR LINES 21" AND SMALLER.
 2. PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADING. PROVIDE REINFORCEMENT WITHIN 3" OF OPENINGS OR KNOCKOUTS. OPENINGS (UP TO 8") MADE IN FIELD SHALL BE CORE DRILLED.
 3. CEMENT SHALL BE TYPE I-II, PER ASTM C-150, AND MUST CONTAIN A MINIMUM OF 4% FLY ASH OF THE TOTAL MANHOLE WEIGHT.
 4. THE BASE & RISER SHALL BE INTEGRALLY CAST. CONCRETE SHALL BE MIN. 28 DAY COMPRESSIVE STRENGTH 4000psi.
 5. MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
 6. THE SUBGRADE UNDER THE BASE SHALL BE COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM D-1557.
 7. MANHOLES BELOW GROUNDWATER TO BE EXTERNALLY AND INTERNALLY COATED WITH BITUMINOUS COATING.

- CONSTRUCTION KEY NOTES:**
- A. MANHOLE RING AND COVER (SEE DETAILS 377 & 378) SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 185).
 - B. ALL JOINTS TO BE TONGUE, GROOVE AND SEALED WITH RAM-NEK OR APPROVED EQUAL.
 - C. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE AND SHALL HAVE FLEXIBLE PIPE TO MANHOLE CONNECTORS (COMPRESSION TYPE ASTM-923). *KOR-N-SEAL* OR APPROVED EQUAL. GROUT AS REQUIRED.
 - D. GROUT AS REQUIRED.
 - E. CONCRETE BASE SHALL BE 8" FOR MH's UP TO 12' DEEP AND 12" FOR DEPTHS GREATER THAN 12'.



- GENERAL NOTES:**
1. MANHOLE CONNECTOR SHALL BE KOR-N-SEAL OR EQUAL MEETING THE REQUIREMENTS OF ASTM C-923. CONNECTOR SHALL BE FURNISHED BY CONTRACTOR.
- CONSTRUCTION KEY NOTES:**
- A. PRECAST MANHOLE BARREL.
 - B. FLEXIBLE CONNECTOR.
 - C. PIPE CLAMP SS 316.
 - D. APPROVED PIPE.
 - E. PRECAST MANHOLE BASE.
 - F. GROUT AS REQUIRED TO FORM SMOOTH CHANNEL TO MANHOLE INVERT.
 - G. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE.
 - H. EXPANSION BAND SS 316.
 - I. FILL SPACE WITH GROUT.



GENERAL NOTES:

1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES. (AASHTO M306-07).
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
4. AS-CAST DIMENSIONS MAY VARY $\pm 1/8$ " PER FOOT (AASHTO M306-07).
5. WEIGHT MAY VARY 5%± (AASHTO M306-07).

MANHOLE RING	MANHOLE - ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	33"	25 1/2"
B	31 3/4"	24 3/8"
C	31 1/2"	23 7/8"
D	30"	22 1/2"
E	39 1/2"	32"
F	5 1/2"	1 1/8"
WEIGHT	205 lbs.	170 lbs.

***OBSOLETE - DO NOT USE (FOR REFERENCE ONLY)**

STANDARD DETAIL DATE: 11/1992 REV: 2/8/2013

MANHOLE TYPE "A"

el paso WATER N.T.S. DETAIL No. 370-1

STANDARD DETAIL DATE: 11/1992 REV: 8/13/2009

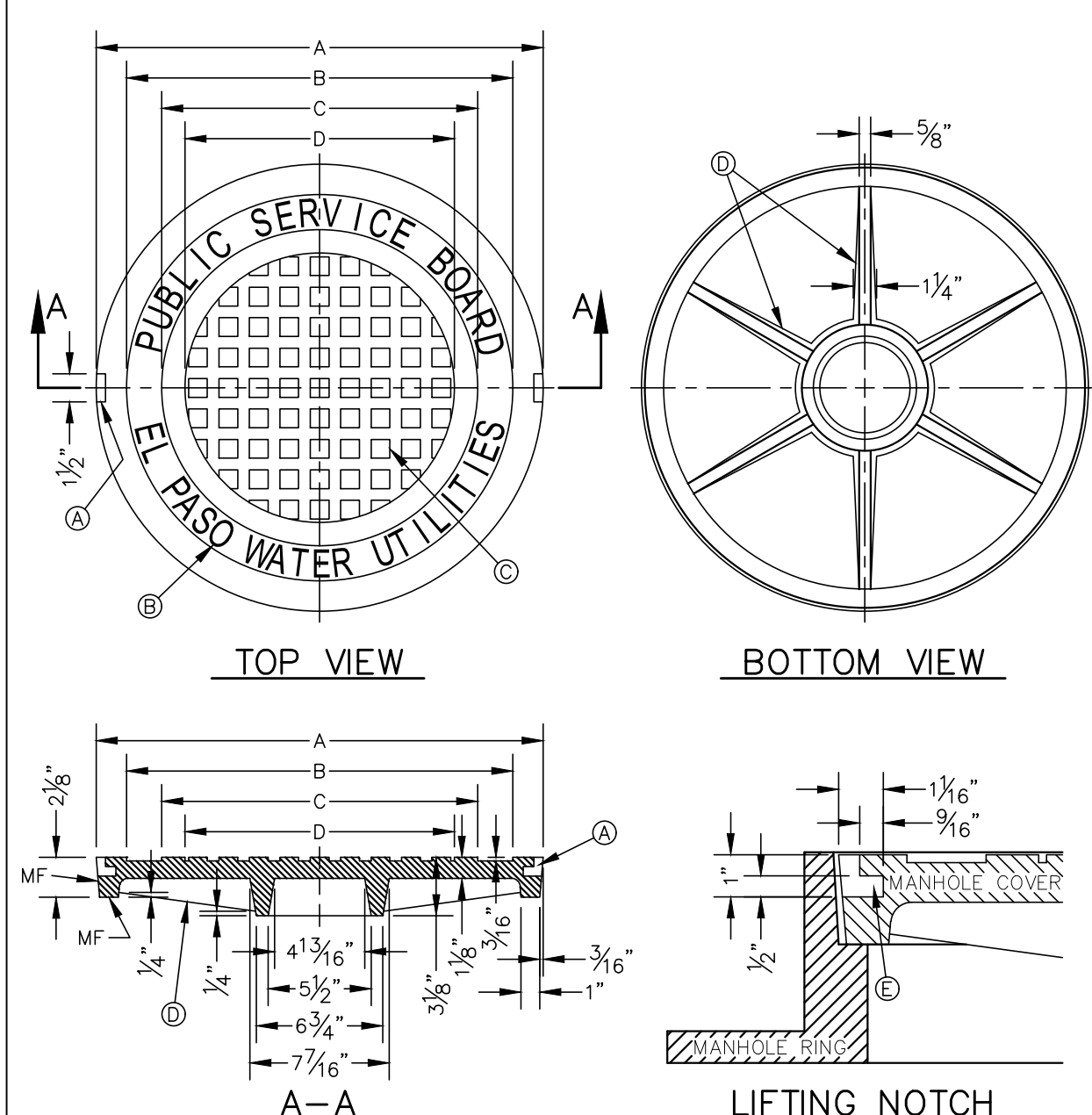
PIPE CONNECTION TO MANHOLE

el paso WATER N.T.S. DETAIL No. 376

STANDARD DETAIL DATE: 11/1992 REV: 2/21/2011

SEWER MANHOLE RING

el paso WATER N.T.S. DETAIL No. 377



- GENERAL NOTES:**
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
 3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
 4. AS-CAST DIMENSIONS MAY VARY $\pm 1/8$ " PER FOOT (AASHTO M306-07).
 5. WEIGHT MAY VARY 5%± (AASHTO M306-07).

CONSTRUCTION KEY NOTES:

- A. LIFTING NOTCH.
- B. 3/8" RAISED LETTERING.
- C. 1" SQUARES (3/8" TALL) WITH 3/8" SPACE BETWEEN.
- D. REINFORCING RIBS.
- E. SLOT.

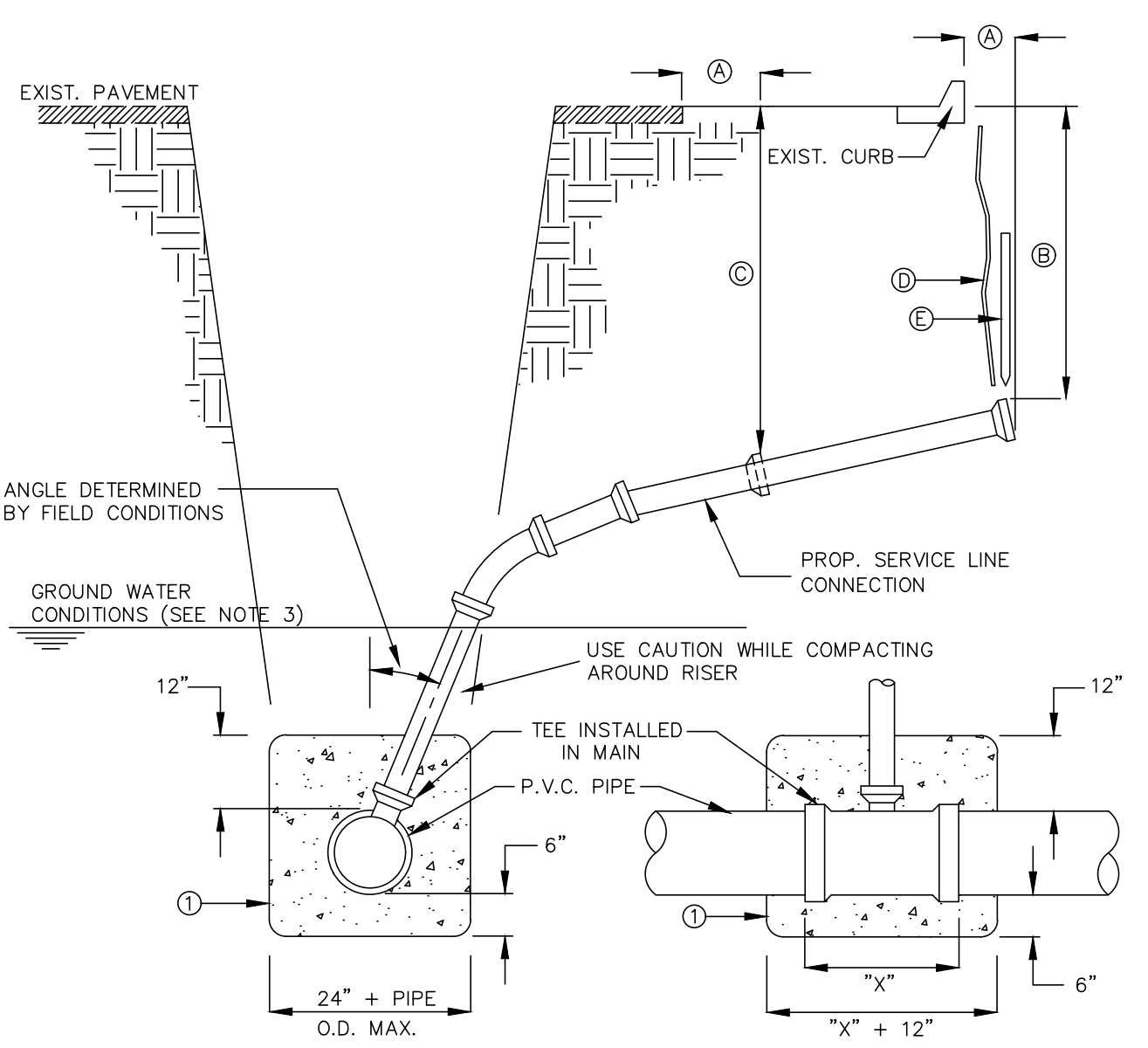
MANHOLE COVER	MANHOLE - ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	31 3/8"	23 7/8"
B	28 1/8"	20 5/8"
C	24 3/8"	16 7/8"
D	21 7/8"	14 3/8"
WEIGHT	200 lbs.	165 lbs.

***OBSOLETE - DO NOT USE (FOR REFERENCE ONLY)**

STANDARD DETAIL DATE: 11/1992 REV: 2/21/2011

SEWER MANHOLE COVER

el paso WATER N.T.S. DETAIL No. 378



- GENERAL NOTES:**
1. IN GROUNDWATER CONDITIONS ONLY, P.V.C. SADDLES OR TEES ARE TO BE ENCASED WITH CLASS B CONCRETE.
 2. UNDER CERTAIN CONDITIONS FIELD INVESTIGATIONS WILL BE REQUIRED TO DETERMINE THE ADEQUACY OF THE DEPTH ON THE LATERAL.
 3. WHEN GROUND WATER IS ENCOUNTERED SERVICE RISER SHALL BE EXTENDED ABOVE ANTICIPATED WATER TABLE LEVEL.

- CONSTRUCTION KEY NOTES:**
- A. CONTRACTOR TO INSTALL SEWER SERVICE LINE FROM THE MAIN TO A LOCATION 6" BEHIND THE CURB OR 18" BEYOND THE EDGE OF PAYMENT, UNLESS CONDITIONS REQUIRE OTHERWISE.
 - B. 18" FOR STANDARD SUBDIVISION, 3.5' FOR SUBDIVISIONS WITH ON-SITE PONDING OR FLAT TERRAIN.
 - C. RISERS OR LATERALS EXTENDING BEYOND EXISTING PAVING SHALL BE INSTALLED TO 3.5' MINIMUM TOP OF GROUND OR PAVEMENT, UNLESS CONDITIONS REQUIRE OTHERWISE.
 - D. PLASTIC METALLIC MARKING TAPE RISING TO WITHIN 6" OF GROUND SURFACE OR METALLIC DISK.
 - E. WOODEN STAKE (1"x2"x36") VERTICALLY PLACED AT PLUGGED END OF PROPOSED SERVICE LINE.

STANDARD DETAIL DATE: 11/1992 REV: 1/23/2009

SEWER SERVICE RISER AND SERVICE LINE CONNECTION

el paso WATER N.T.S. DETAIL No. 391

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF REDD ROAD AND PEARL RIDGE DRIVE ELEVATION = 4150.85 (EL. PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
4	9/10/2021	Third City Submittal	NH
3	8/18/2021	Second City Submittal	AHO
2	6/4/2021	First City Submittal	AHO
1	10/9/2020	Client Review	AHO

WARNING! BEFORE YOU DIG
IN PROJECT AREA CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS

TEXAS 811
Know what's below. Call before you dig.

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY 543-5720
1-800-016-TESS
AT&T 544-6000
TEXAS GAS SERVICE LINE 544-6000
PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411
AFTER HOURS EMERGENCY (EPW) 1-800-016-TESS
TEXAS EXCAVATION SAFETY SYSTEM 594-5775
KINDER-MORGAN EPW PIPELINES 594-5775
EL PASO METRIC SIGNAL MAINTENANCE 1-800-238-3764
EL PASO METRIC SIGNAL MAINTENANCE 1-800-238-3764
INTEGRATED UTILITIES 1-800-238-3764

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STATE OF TEXAS
NANCY HAYES
124376
REGISTERED PROFESSIONAL ENGINEER



csa design group, inc.
Texas Registered Engineering Firm F-8997
1845 Northwestern Dr. Ste C
El Paso, Texas 79912
tel [915] 877.4155
fax [915] 877.4334
www.csaengineers.com

SUBDIVISION
MONTE DEL SOL
UNIT ONE
SUBDIVISION

SHEET TITLE
UTILITY DETAILS

GOB	2020-08
DESIGN BY	
GOB-DM-DG	07/08/2020
DATE OF COMPLETION	
AHO	AS NOTED
CHECKED BY	SCALE

SHEET NO.
28
SHEET SEQUENCE
28 OF **29**

