

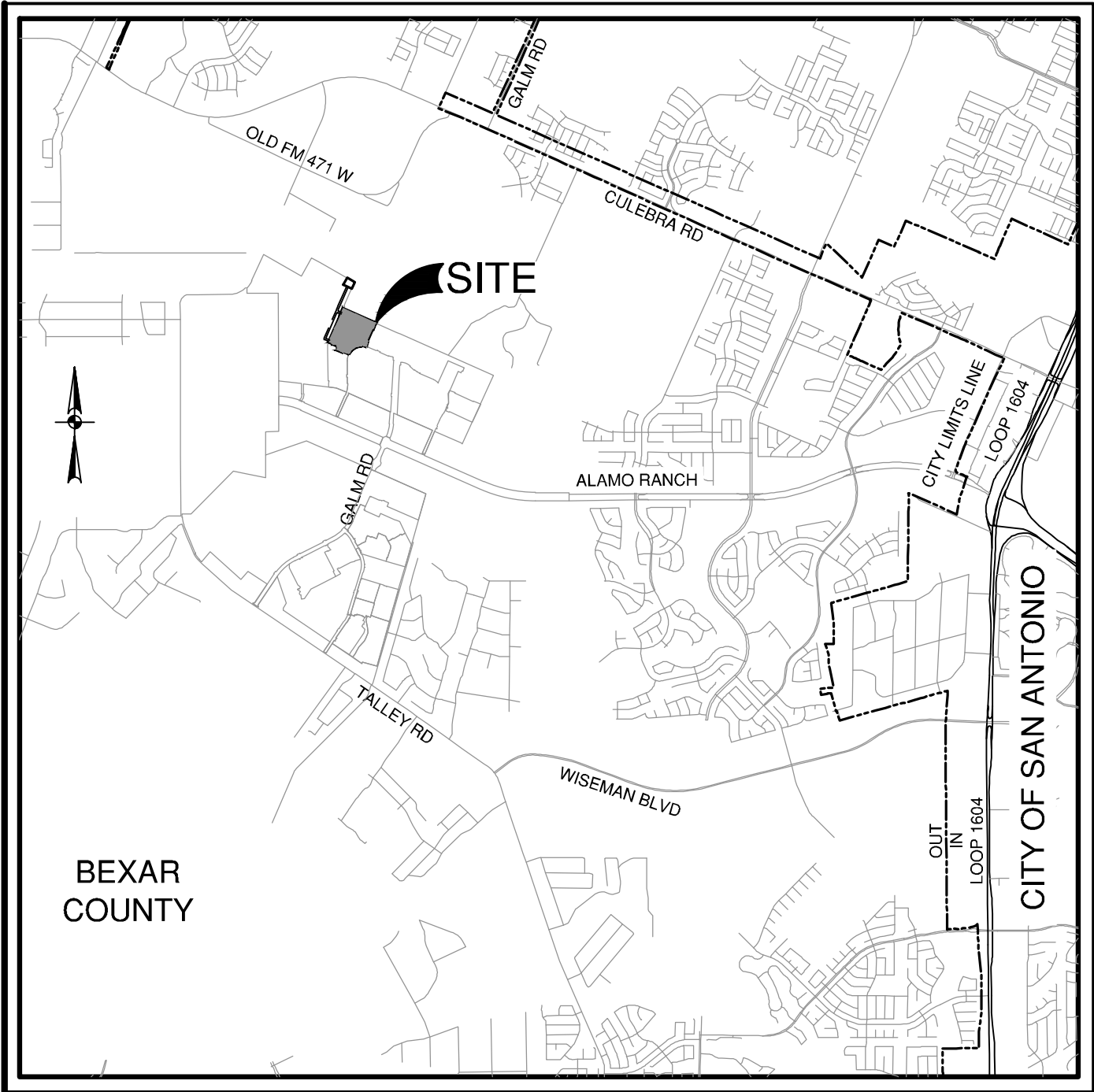
RIVERSTONE UNITS - G5 & G6

SAN ANTONIO, TEXAS

CIVIL CONSTRUCTION PLANS

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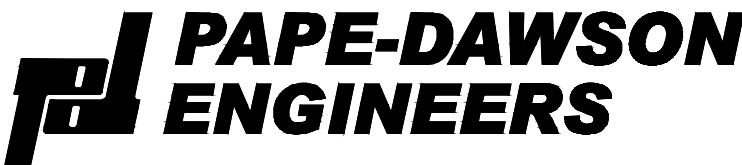


LOCATION MAP
NOT-TO-SCALE

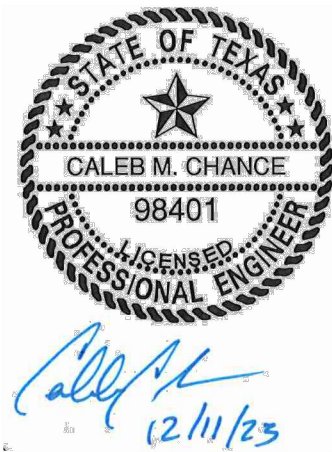
PREPARED FOR:

CONTINENTAL HOMES OF TEXAS, L.P.
5419 N LOOP 1604 E
SAN ANTONIO, TX 78247

DECEMBER 2023



SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



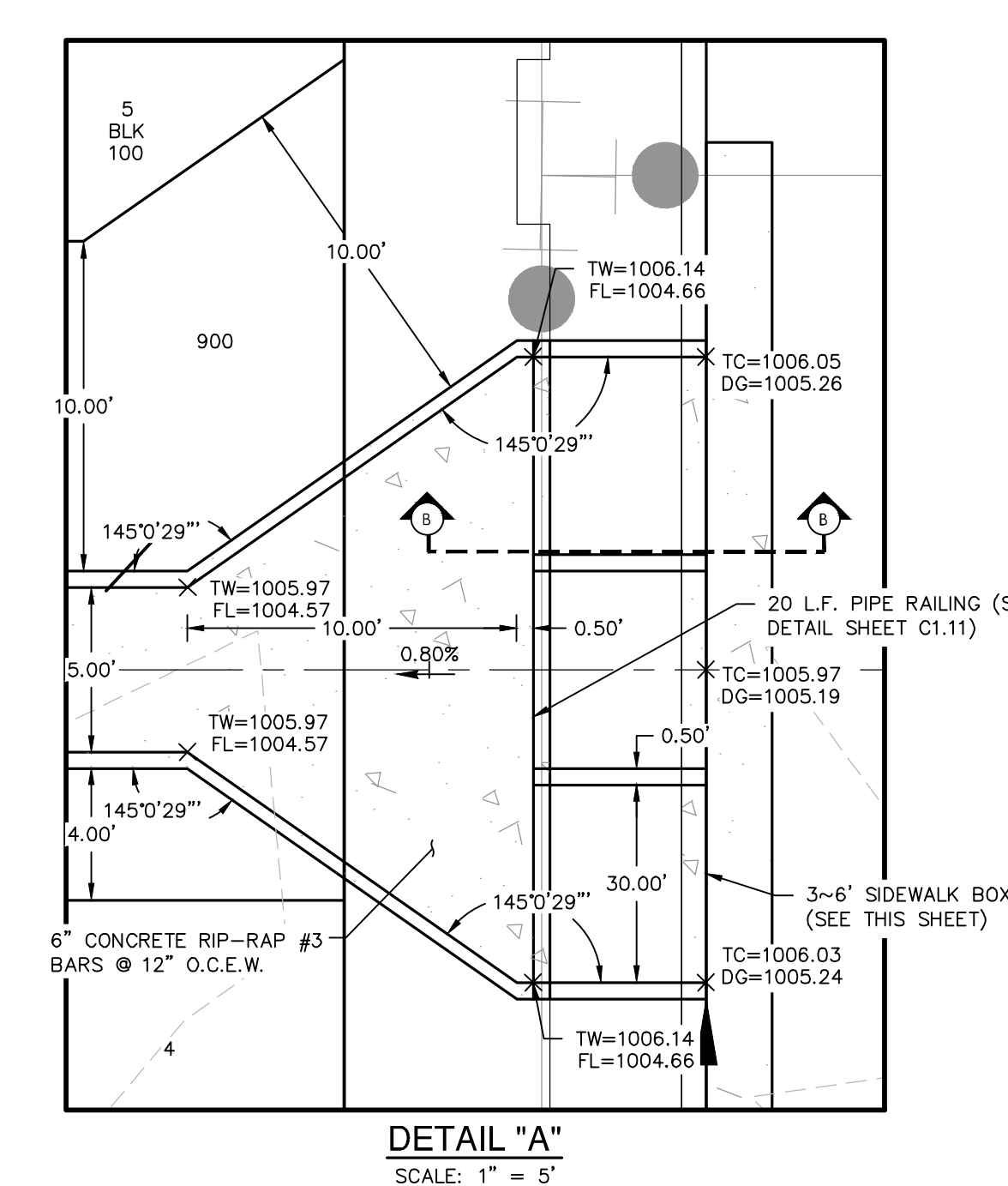
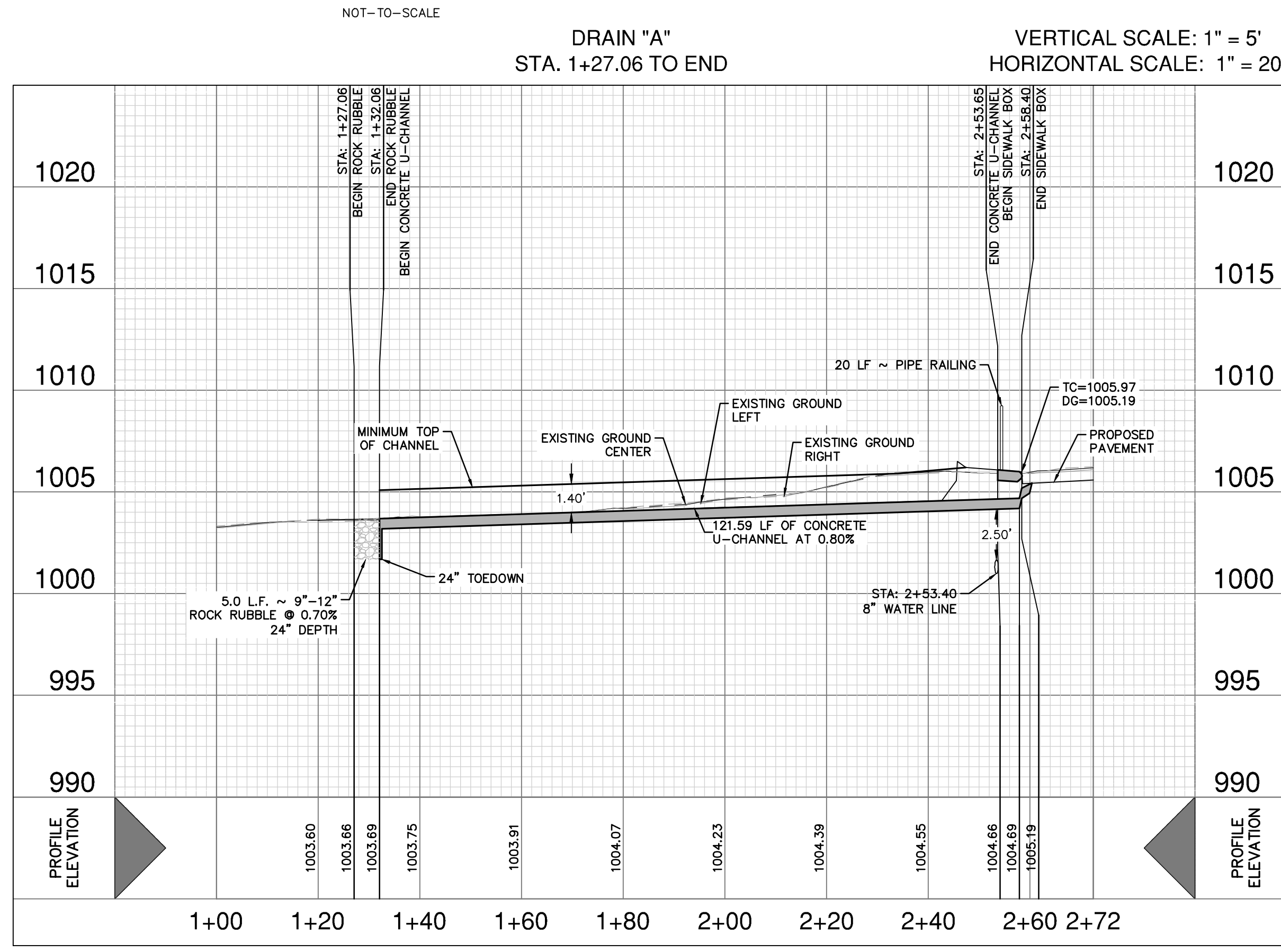
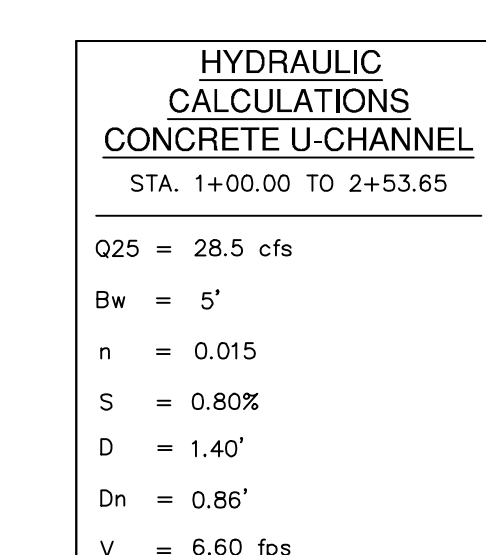
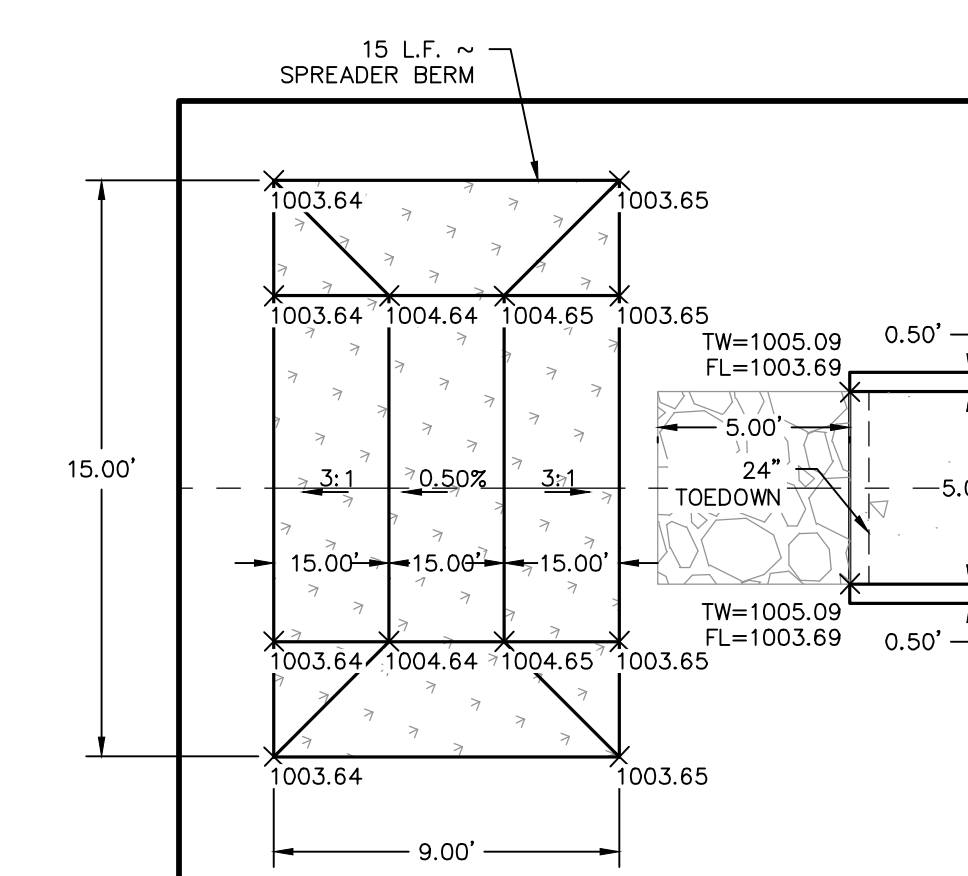
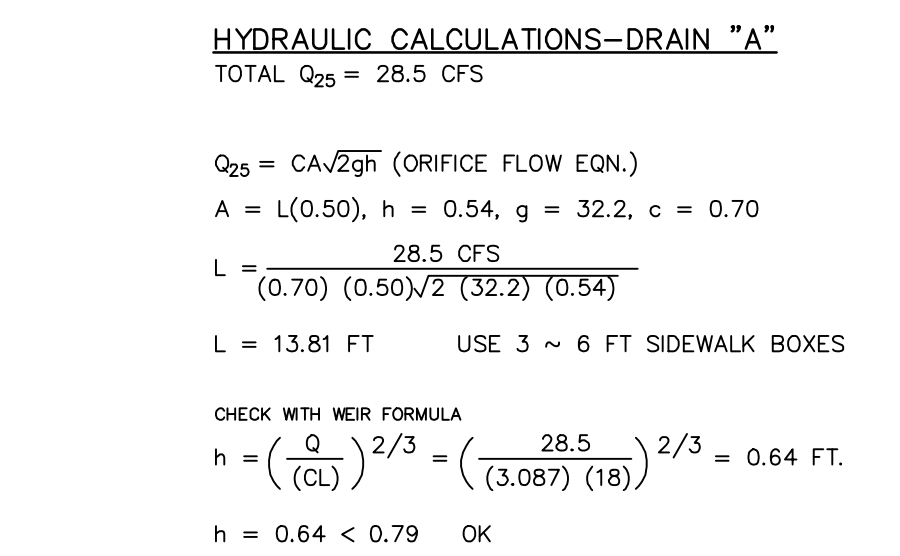
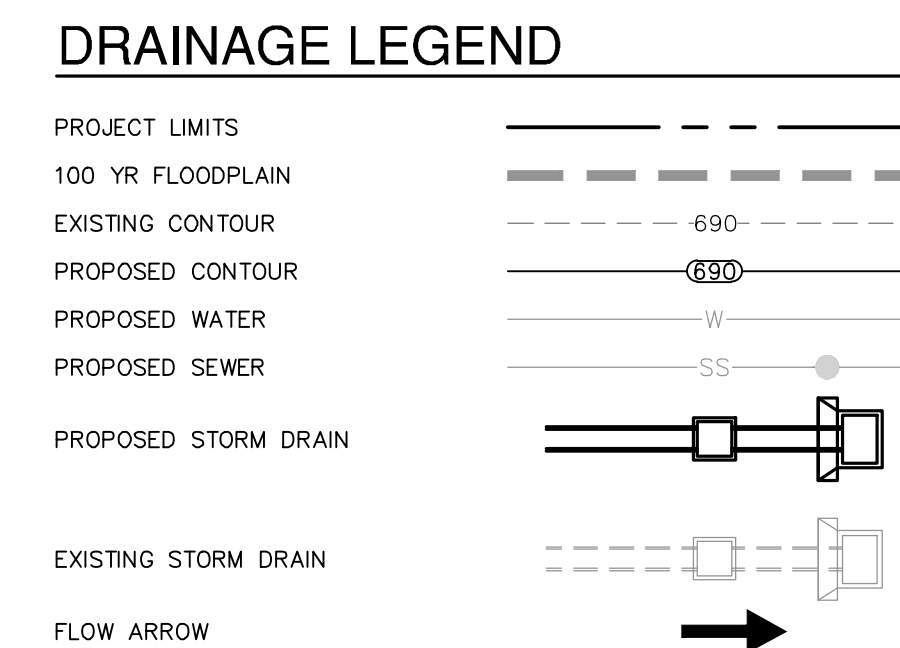
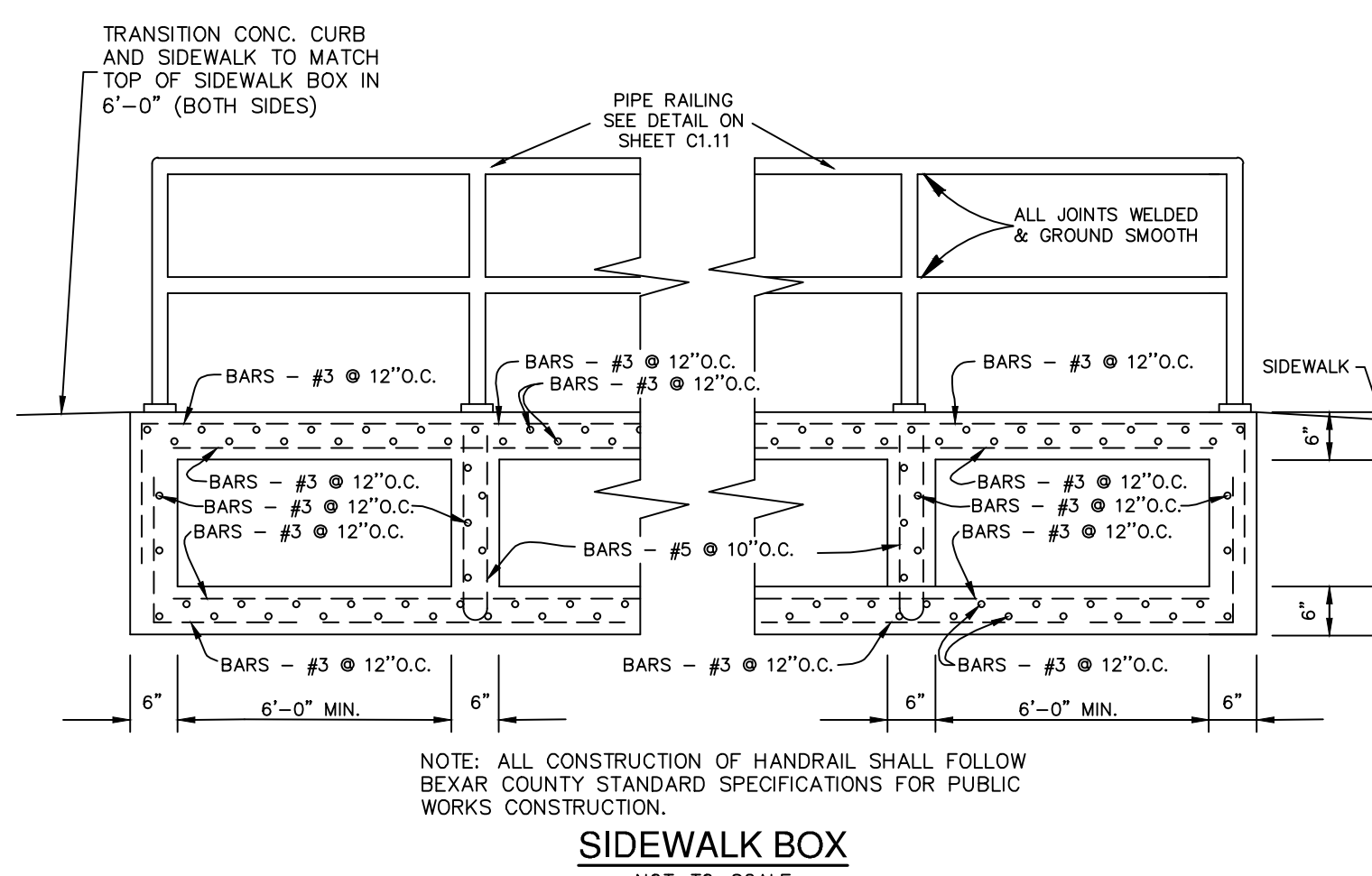
WATER (SAWS PRESSURE ZONE 8)

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS	
ADDRESS: ADDRESS	
CITY: CITY	STATE: STATE ZIP: ZIP
PHONE# (210) 496-2668	FAX#
SAWS BLOCK MAP# 072604 TOTAL EDU'S 162 TOTAL ACREAGE 29.56	
TOTAL LINEAR FOOTAGE OF PIPE: 12" - 104.00 PLAT NO. 23-11800237	
NUMBER OF LOTS XX SAWS JOB NO. 22-1206	

SEWER

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, L.P.	
ADDRESS: 5419 N LOOP 1604 E	
CITY: SAN ANTONIO	STATE: TX ZIP: 78247
PHONE# (210) 496-2668	FAX#
SAWS BLOCK MAP# 072604 TOTAL EDU'S 162 TOTAL ACREAGE 29.56	
TOTAL LINEAR FOOTAGE OF PIPE: 8" - 5,783.83 LE PLAT NO. 22-11800582	
NUMBER OF LOTS 162 SAWS JOB NO. 22-1700	

SHEET C0.00



- ## DRAINAGE & GRADING NOTES:
1. A BEAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEAR COUNTY. THE CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE REQUIRED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
 2. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER OWNED BY THE CITY OF SAN ANTONIO OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
 3. ALL CONCRETE FOR TYPICAL DRAINAGE STRUCTURES SHALL MEET TYPICAL SPECIFICATIONS, ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
 4. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
 5. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
 6. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
 7. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE

TRENCH EXCAVATION SAFETY PROTECTION:

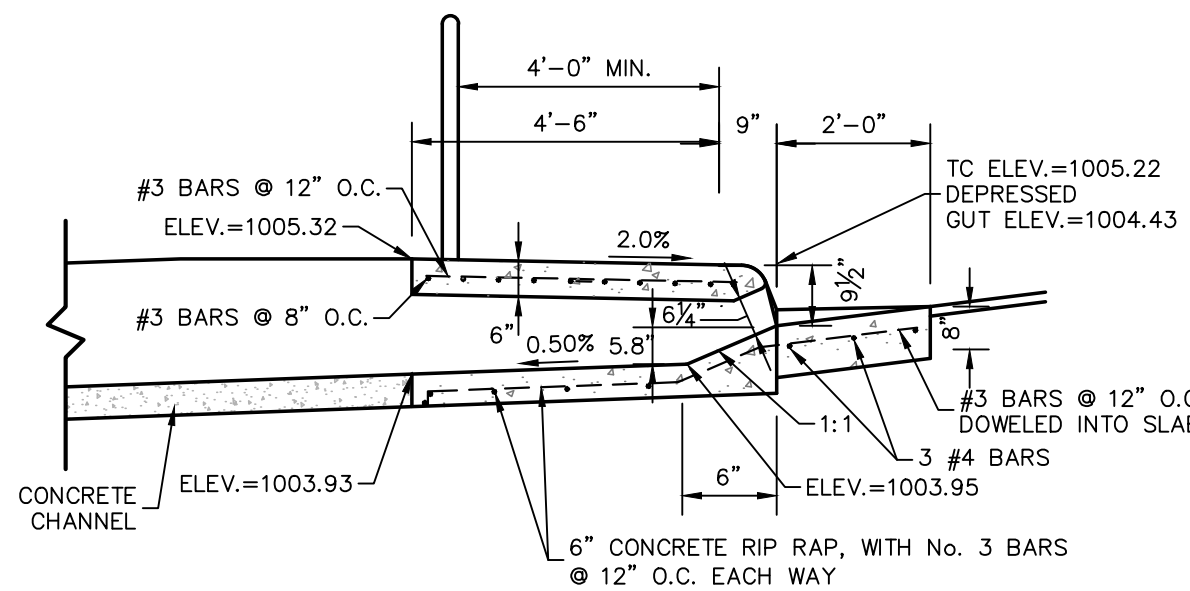
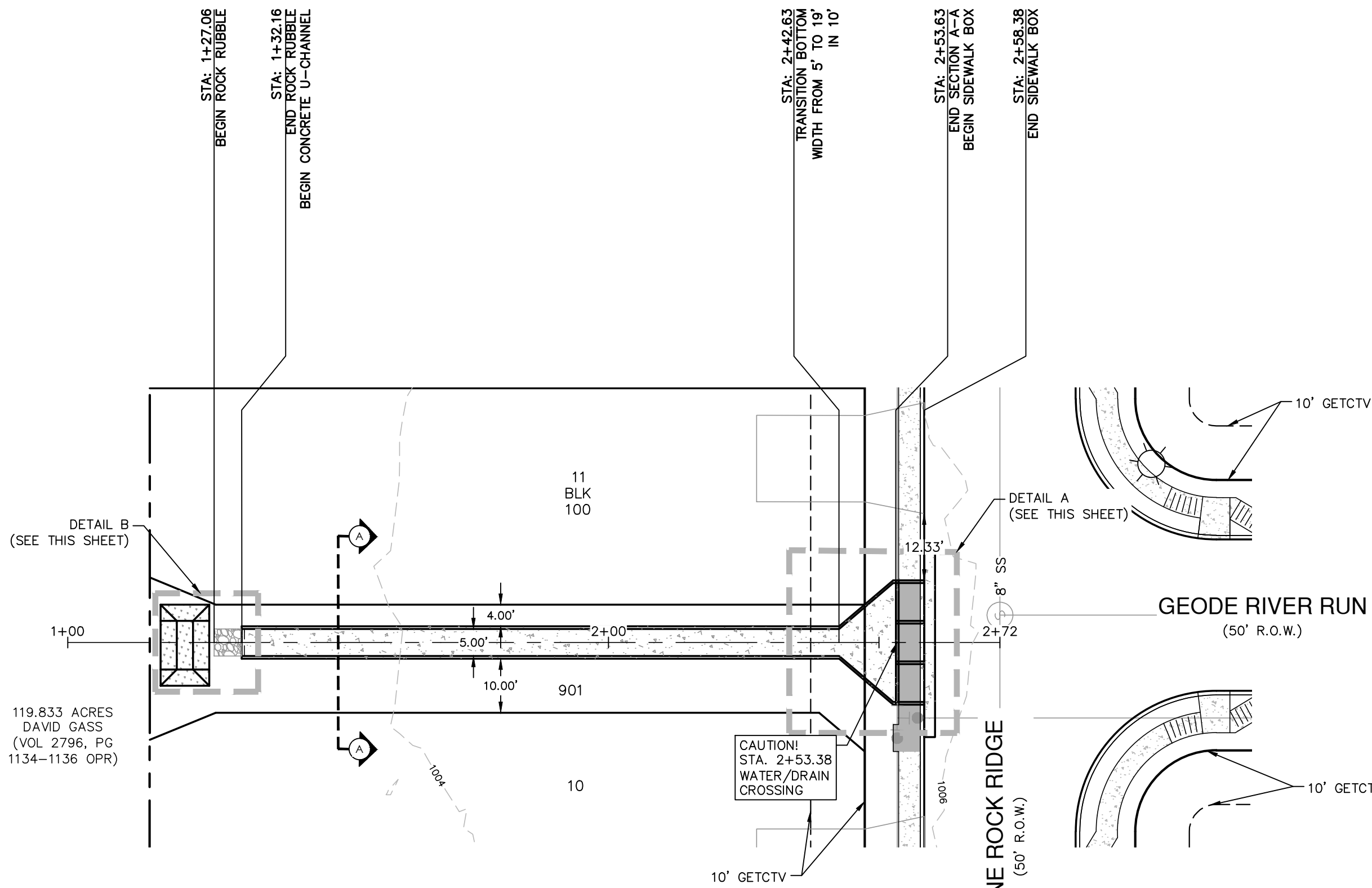
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYER OR STRUCTURAL DESIGNER, GEOTECHNICAL SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA TO IDENTIFY ANY POTENTIAL TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYER OR SAFETY CONSULTANT SHALL COMPLY WITH OSHA STANDARDS GOVERNING ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!

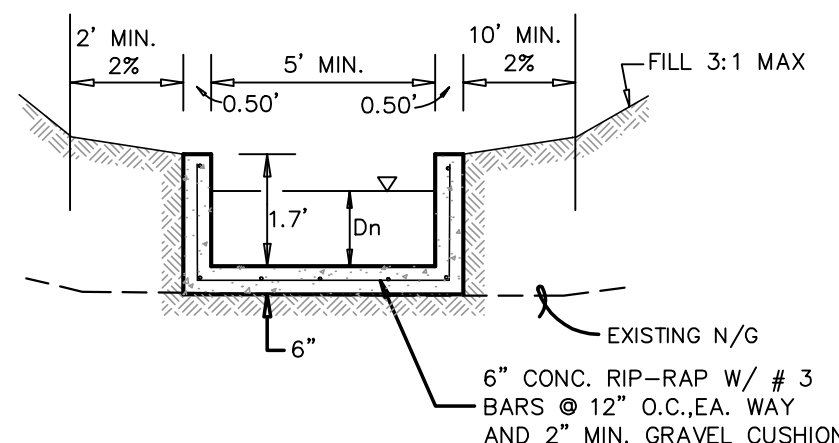
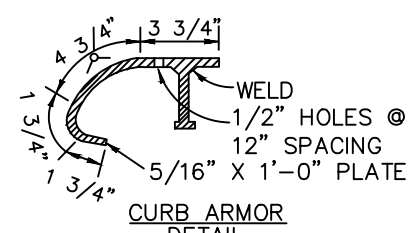
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND GAS LINES, CABLES, FIBER OPTIC CABLES, CABLES, CABLES, CABLES, ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE CONTRACTOR IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT CONTRACTOR'S SOLE EXPENSE, WHETHER THE UTILITY IS SHOWN ON

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File: E:\16580\57\Design\Chal\968 - 1168057.dwg

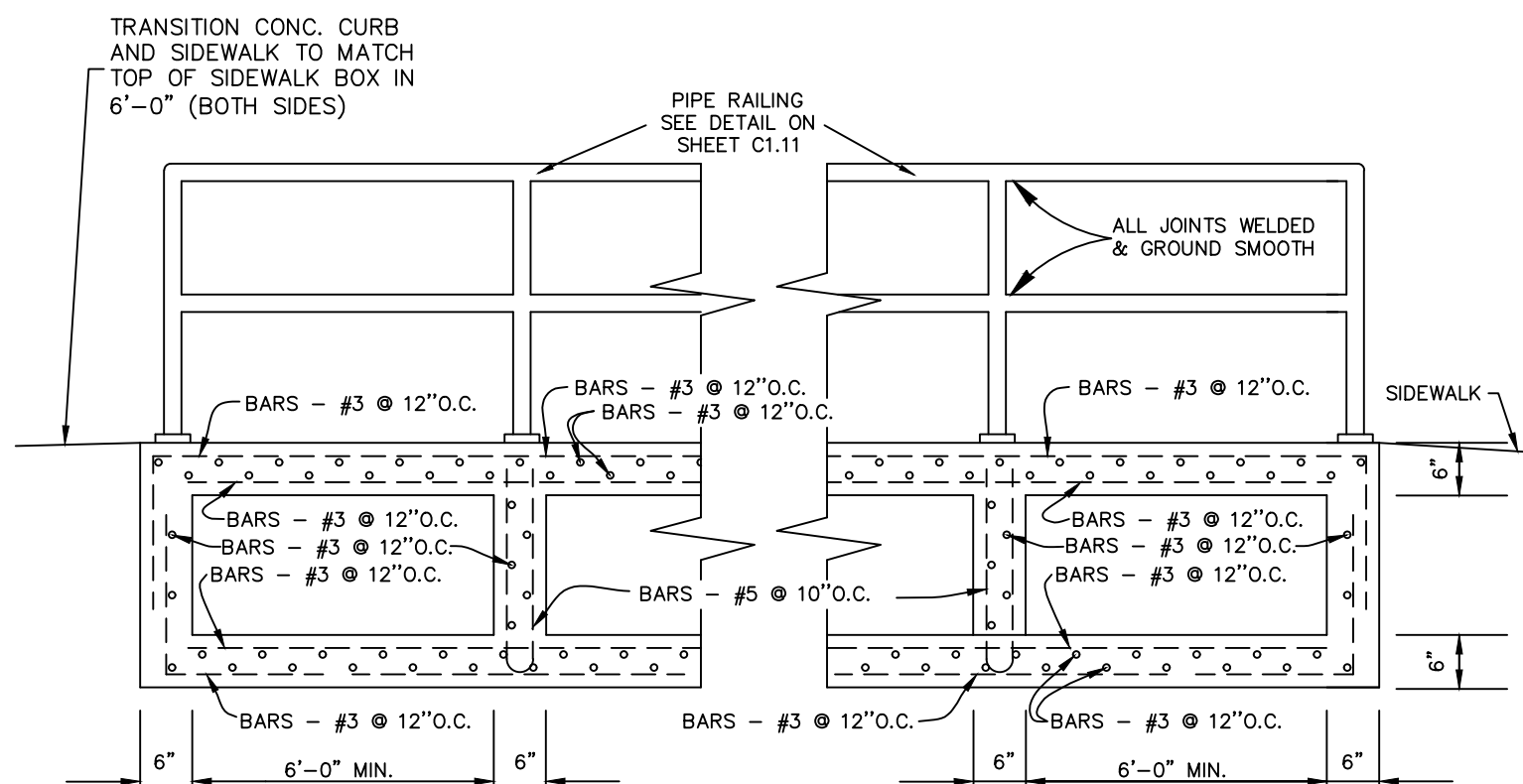
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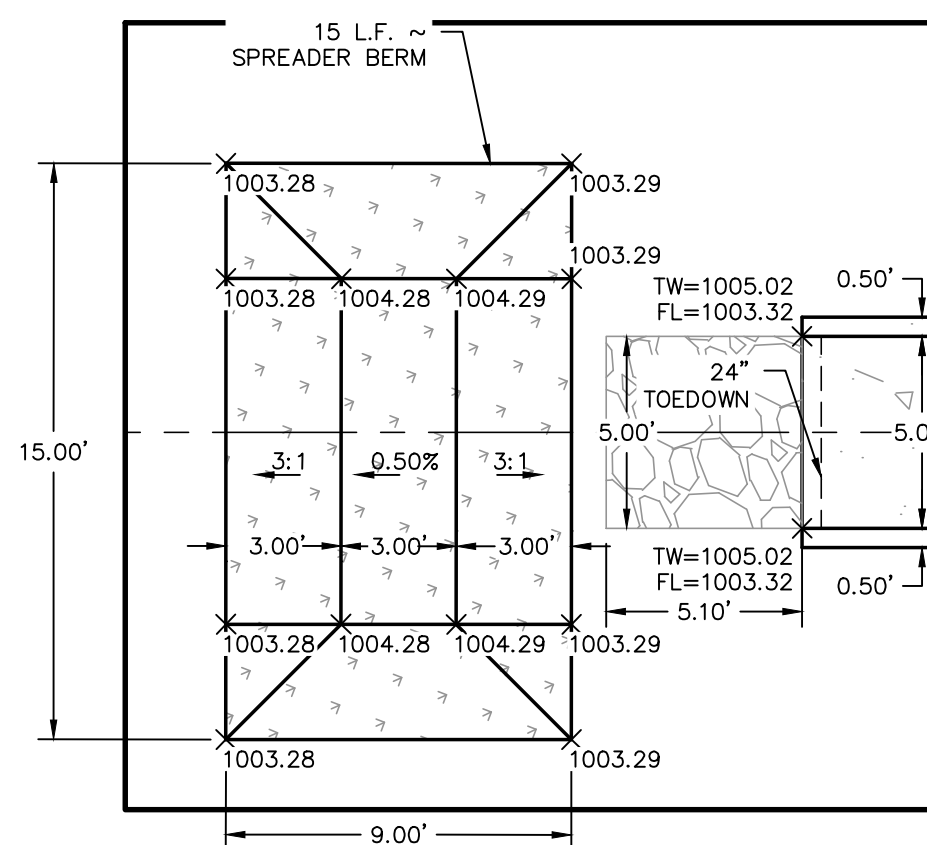
SIDEWALK BOX DETAIL SECTION "B-B"
NOT-TO-SCALE



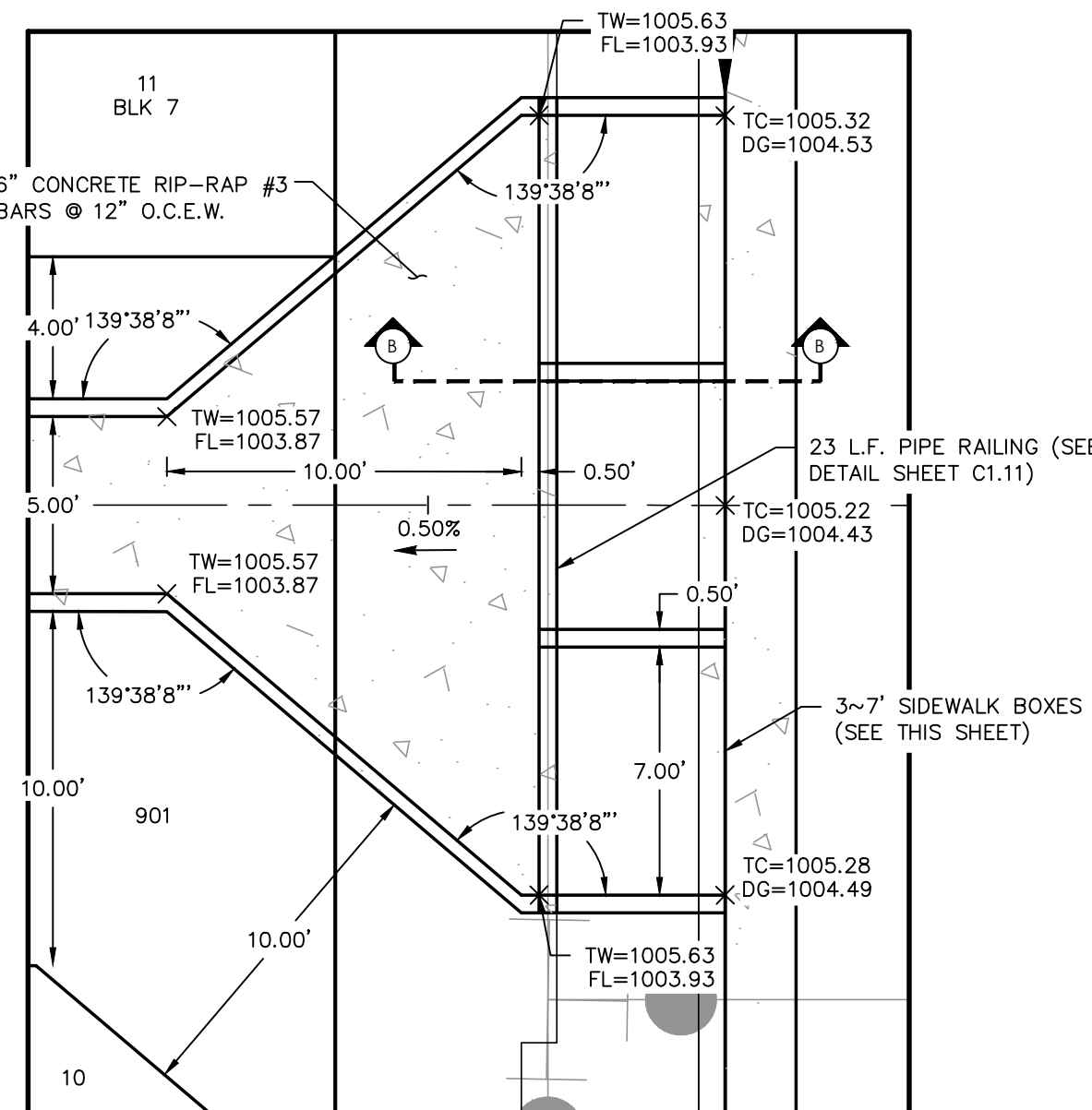
SECTION "A-A"
STA 1+32.16 TO 2+53.63
PROPOSED CONCRETE U-CHANNEL
NOT TO SCALE



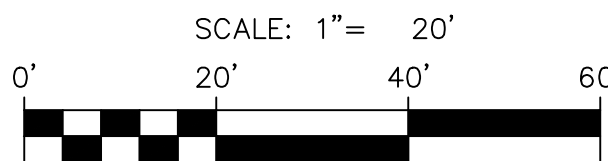
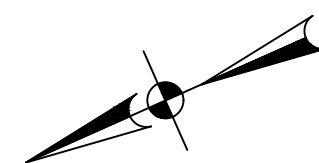
SIDEWALK BOX
NOT-TO-SCALE



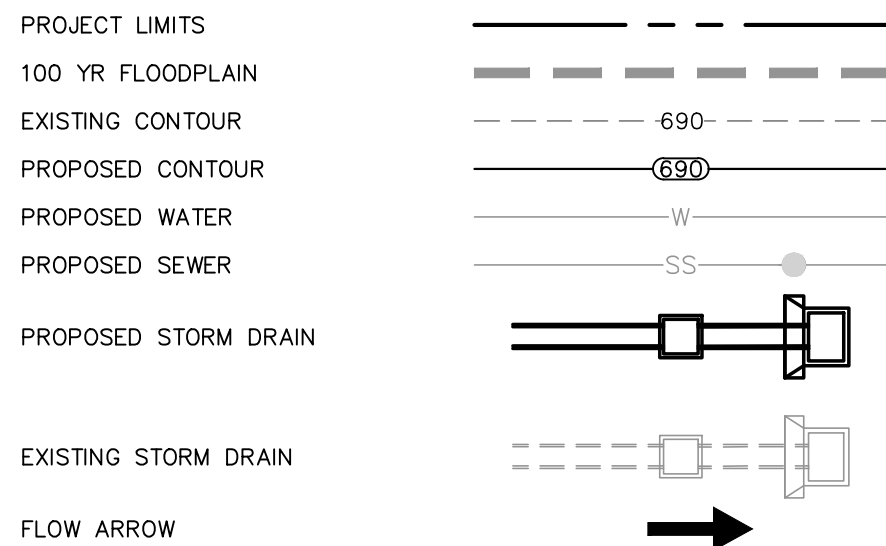
DETAIL "B"
SCALE: 1" = 5'



DETAIL "A"
SCALE: 1" = 5'



DRAINAGE LEGEND



HYDRAULIC CALCULATIONS-DRAIN "B"

TOTAL Q₂₅ = 33.0 CFS

$$Q_{25} = CA\sqrt{2gh} \text{ (ORIFICE FLOW EQN.)}$$
$$A = L(0.50), h = 0.54, g = 32.2, c = 0.70$$
$$L = \frac{33.0 \text{ CFS}}{(0.70)(0.50)/2(32.2)(0.54)}$$
$$L = 15.99 \text{ FT} \quad \text{USE 3 ~ 7 FT SIDEWALK BOXES}$$

CHECK WITH WEIR FORMULA

$$h = \left(\frac{Q}{(CL)} \right)^{2/3} = \left(\frac{33.0}{(3.087)(21)} \right)^{2/3} = 0.64 \text{ FT.}$$

h = 0.64 < 0.79 OK

HYDRAULIC CALCULATIONS CONCRETE U-CHANNEL

STA. 1+32.16 TO 2+53.63

Q₂₅ = 33.0 cfs

Bw = 5'

n = 0.015

S = 0.50%

D = 1.70'

Dn = 1.12'

V = 5.90 fps

DRAINAGE & GRADING NOTES:

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3. ALL CONCRETE FOR TXDOT DRAINAGE STRUCTURES SHALL MEET TXDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
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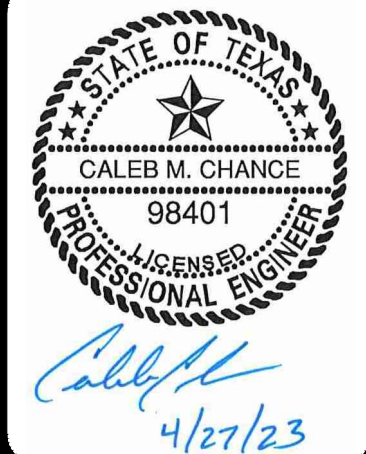
TRENCH EXCAVATION SAFETY PROTECTION:

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CAUTION!!

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DATE	
NO.	REVISION



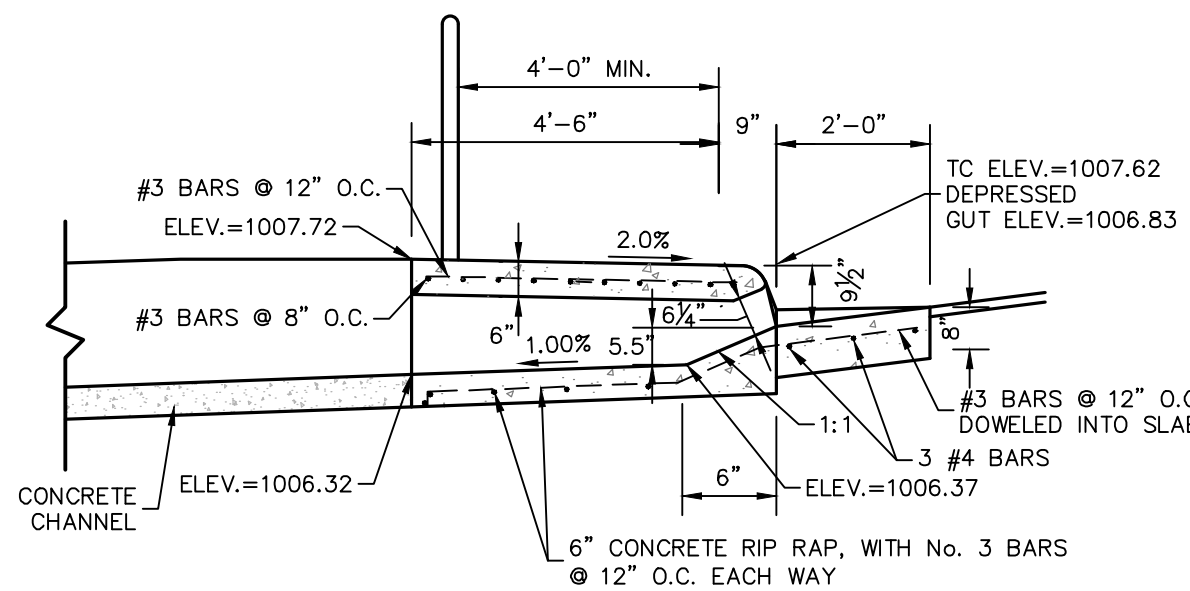
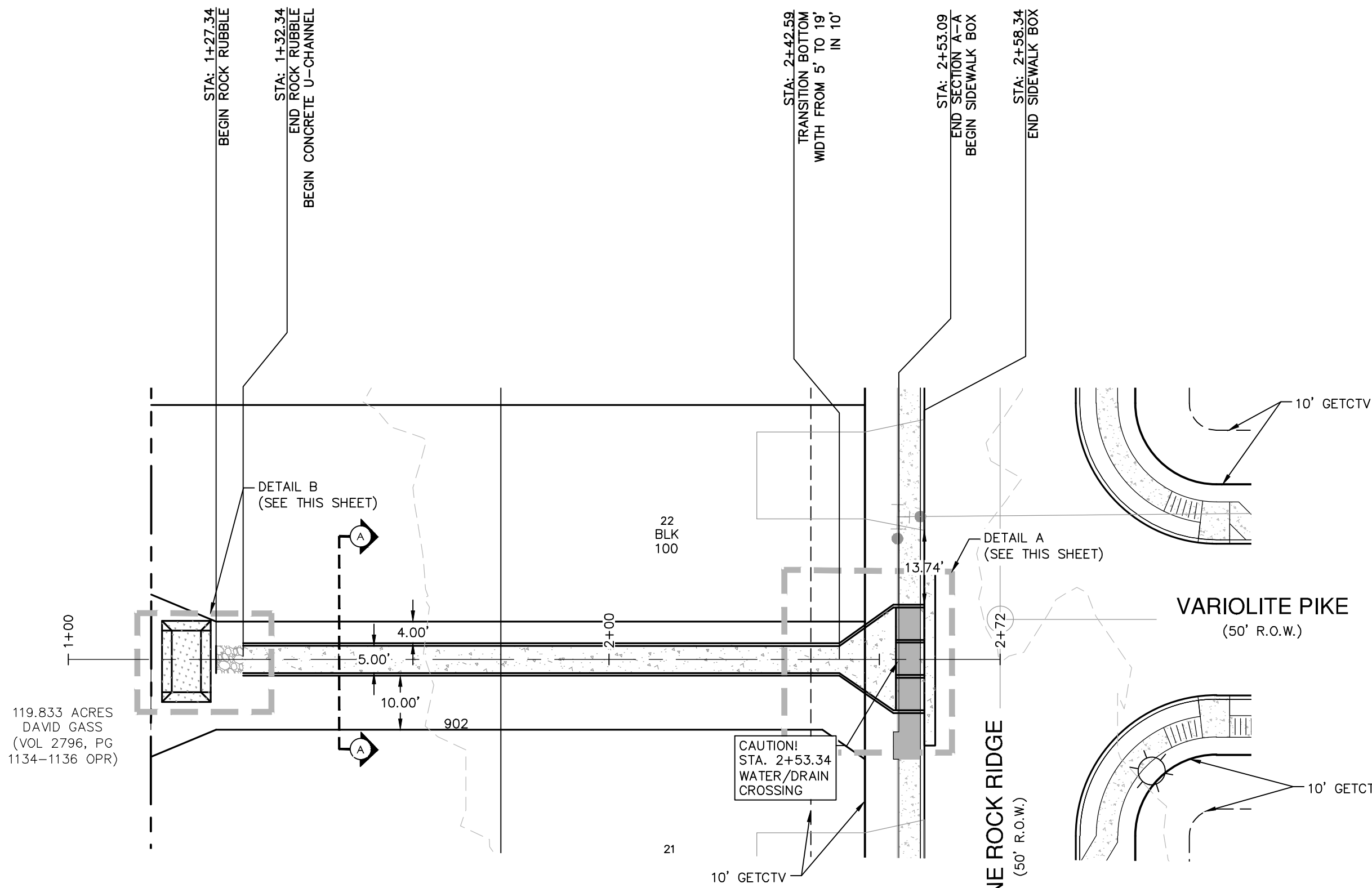
**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

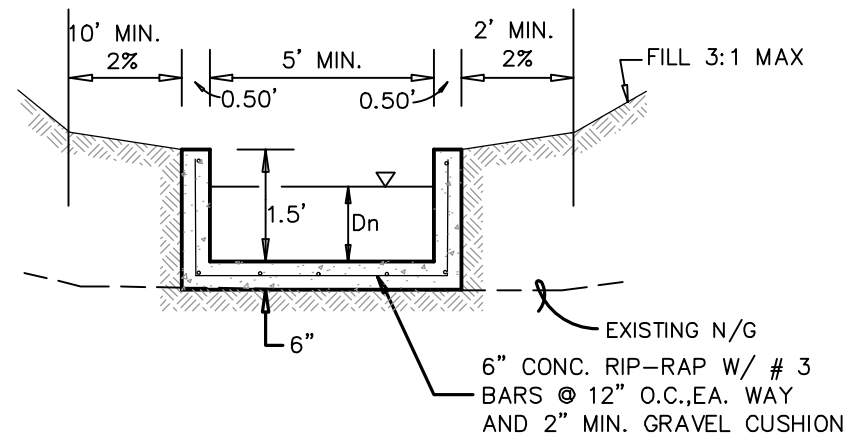
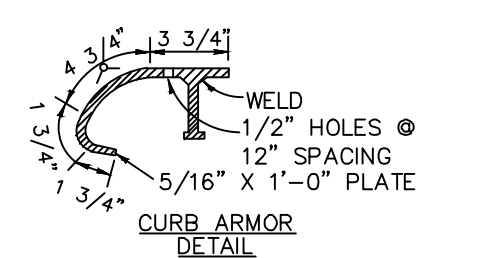
RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

DRAIN B PLAN & PROFILE
STA. 1+27.16 TO END

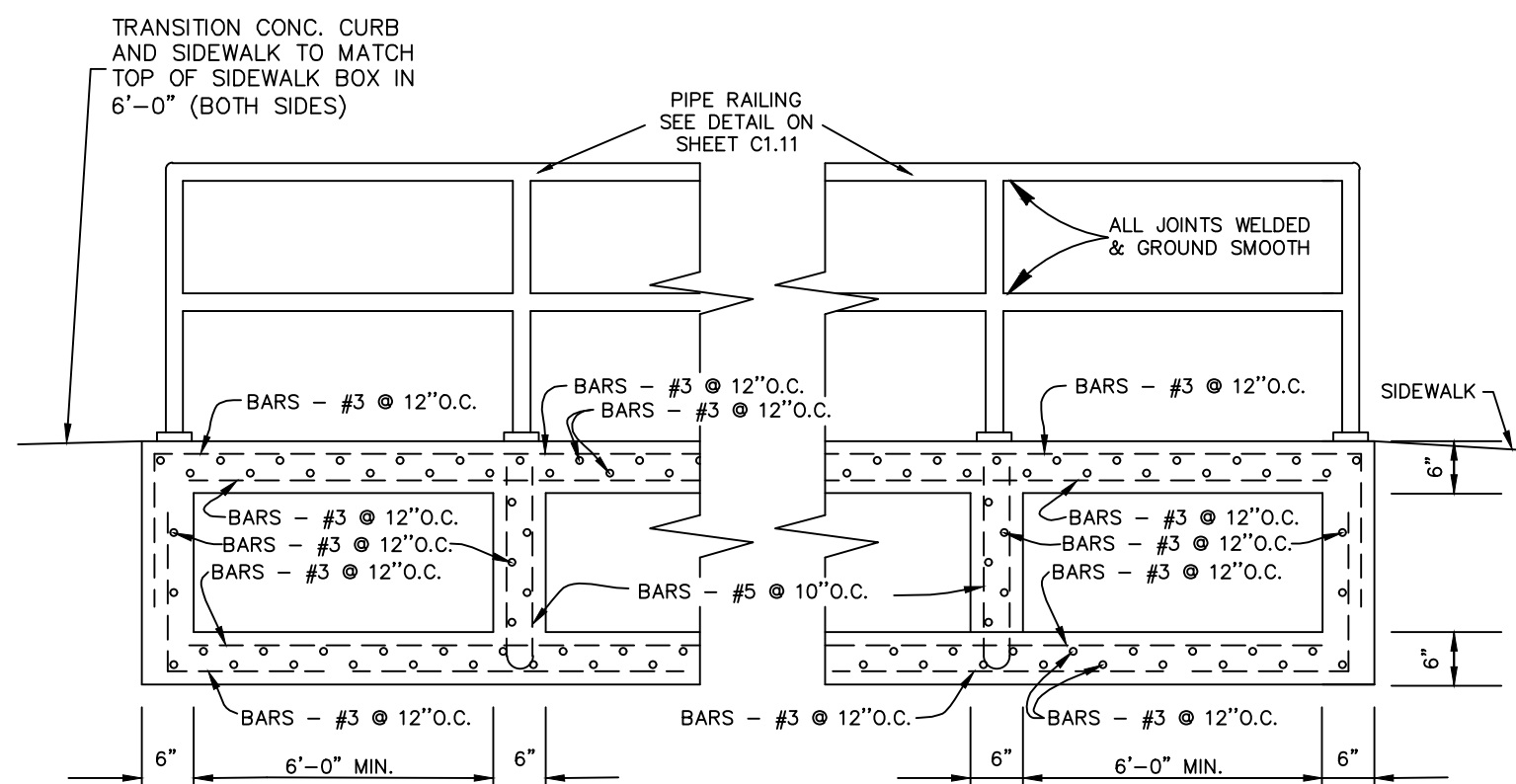
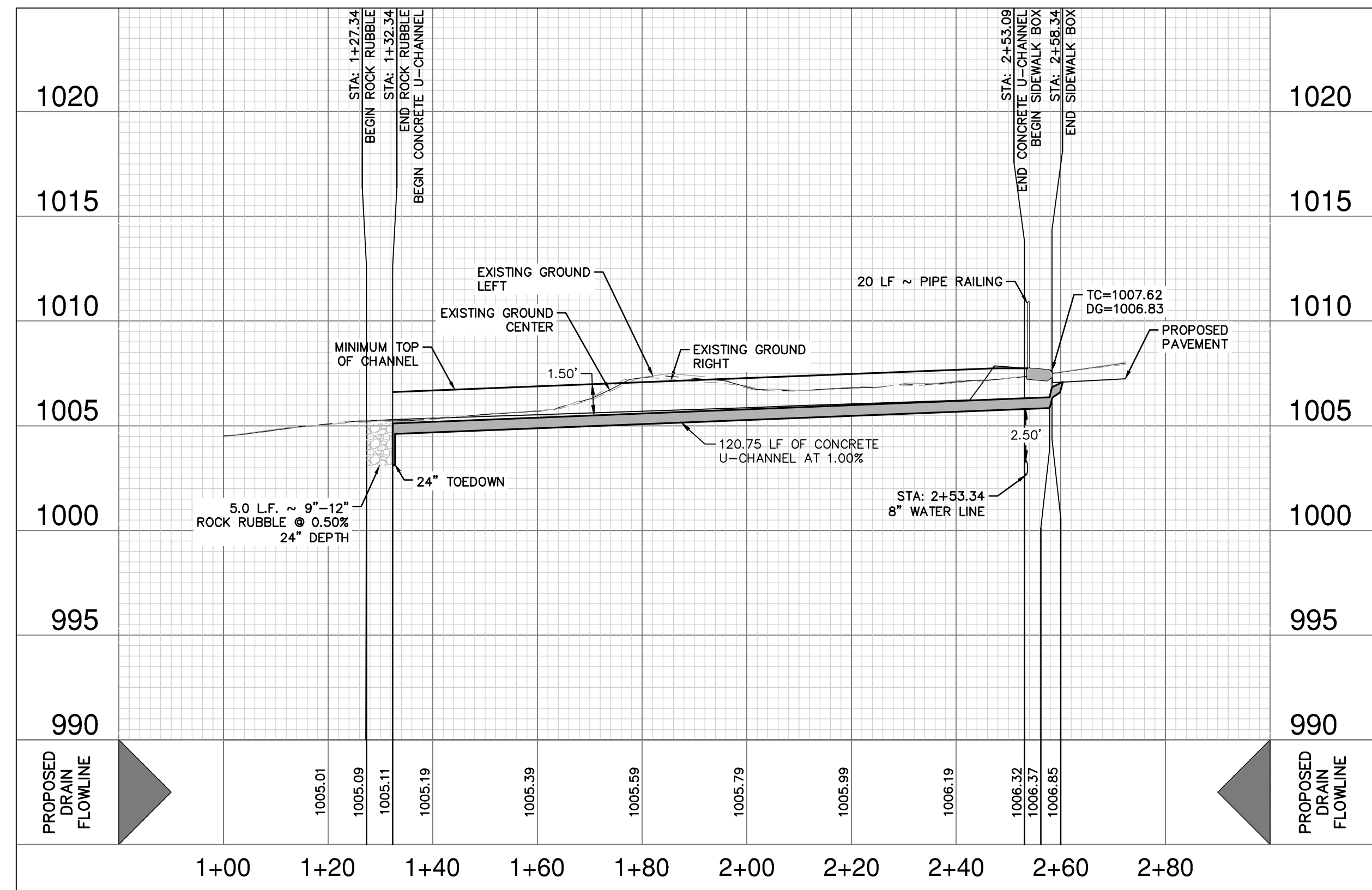
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JOB NO.	11680-57
DATE	MARCH 2023
DESIGNER	RG
CHECKED	BL
DRAWN	RG
SHEET	C1.02



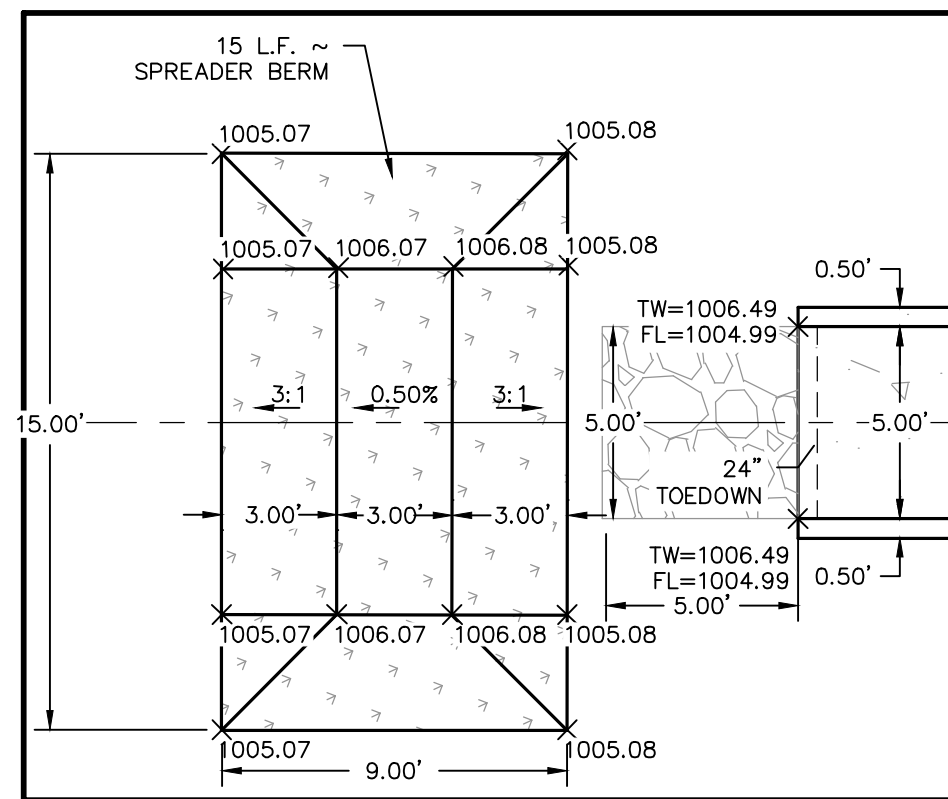
SIDEWALK BOX DETAIL SECTION "B-B"
NOT-TO-SCALE



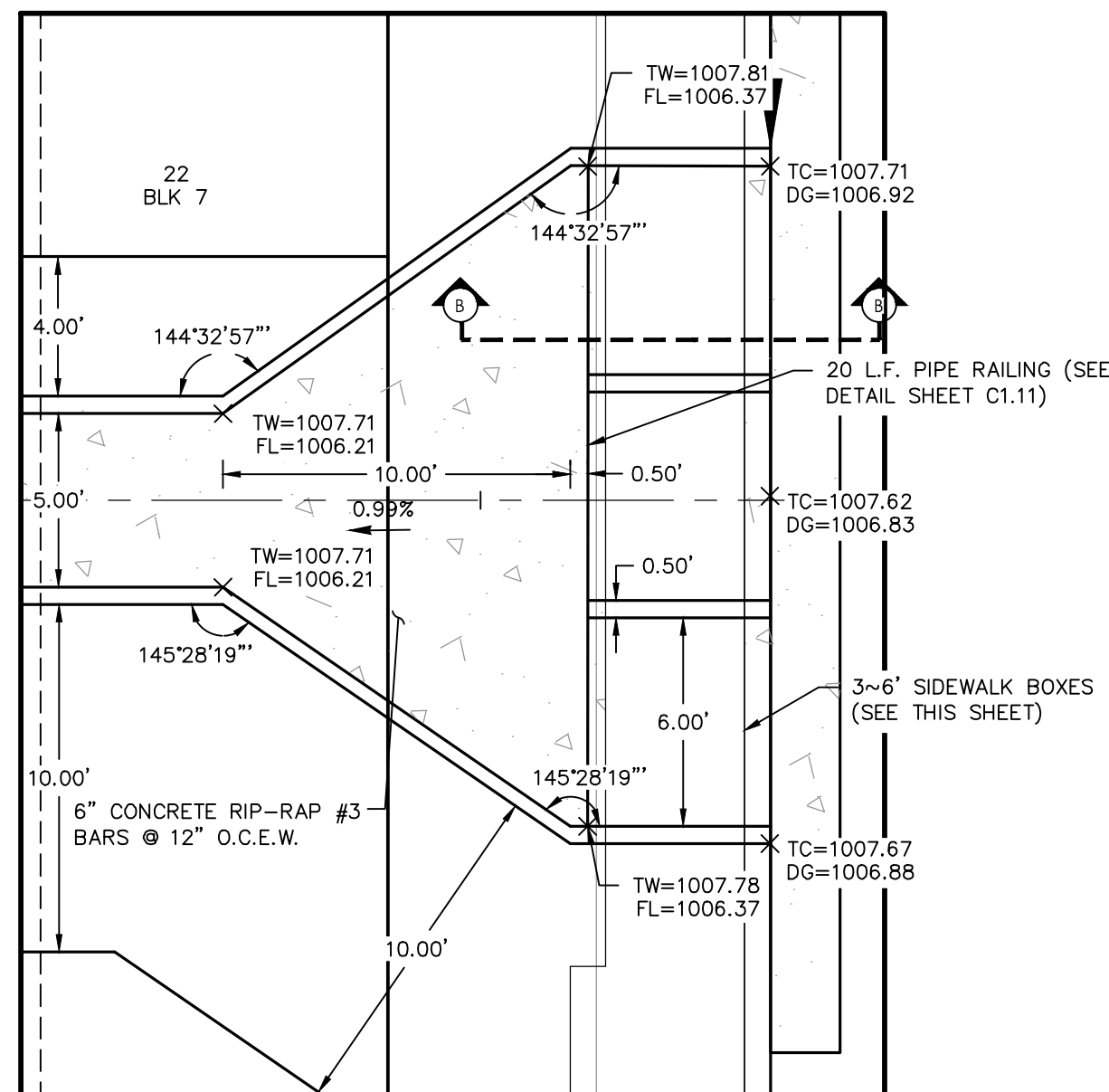
SECTION "A-A"
STA 1+32.34 TO 2+53.09
PROPOSED CONCRETE U-CHANNEL
NOT TO SCALE



SIDEWALK BOX
NOT-TO-SCALE

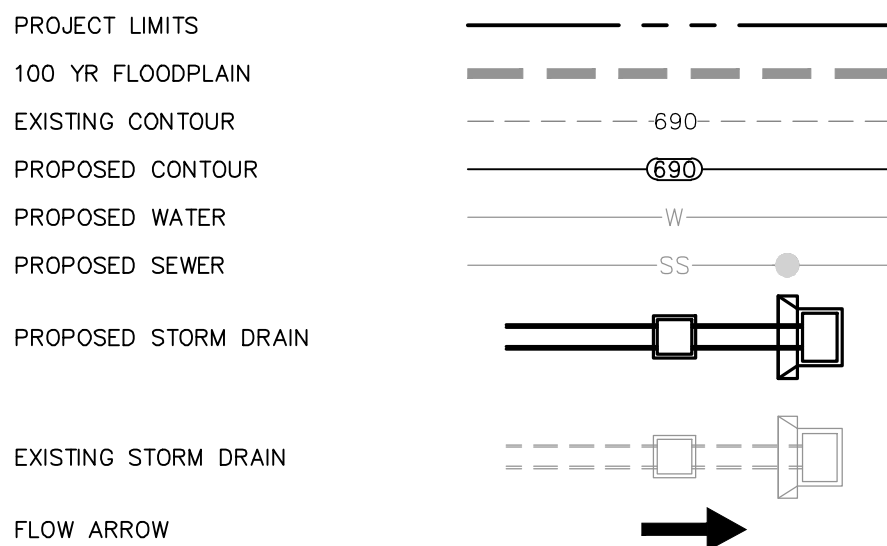


DETAIL "B"
SCALE: 1" = 5'



DETAIL "A"
SCALE: 1" = 5'

DRAINAGE LEGEND



HYDRAULIC CALCULATIONS-DRAIN "C"

TOTAL Q_{25} = 24.80 CFS

$$Q_{25} = CAV\sqrt{gh} \text{ (ORIFICE FLOW EQN.)}$$
$$A = L(0.50), h = 0.54, g = 32.2, c = 0.70$$
$$L = \frac{24.80 \text{ CFS}}{(0.70) (0.50)/2 (32.2) (0.54)}$$
$$L = 12.49 \text{ FT} \quad \text{USE 3 ~ 6 FT SIDEWALK BOXES}$$

CHECK WITH WEIR FORMULA

$$h = \left(\frac{Q}{(CL)} \right)^{2/3} = \left(\frac{24.80}{(3.087) (18)} \right)^{2/3} = 0.58 \text{ FT.}$$

$h = 0.58 < 0.79 \quad \text{OK}$

HYDRAULIC CALCULATIONS CONCRETE U-CHANNEL

STA. 1+32.34 TO 2+53.09

$$Q_{25} = 24.8 \text{ cfs}$$
$$B_w = 5'$$
$$n = 0.015$$
$$S = 1.00\%$$
$$D = 1.5'$$
$$D_n = .73'$$
$$V = 6.78 \text{ fps}$$

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CAUTION!!

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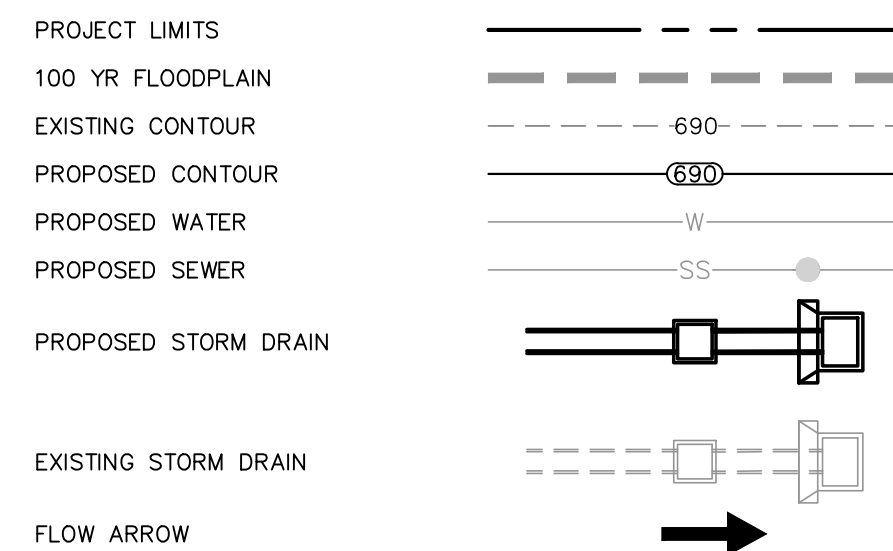
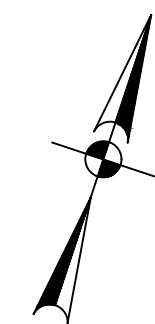
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TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008860

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

DRAIN C PLAN & PROFILE
1+27.34 TO END

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE FEBRUARY 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C1.03



**HYDRAULIC
CALCULATIONS
STORM DRAIN**

STA. 24+86.19 TO 26+42.39

Q25 = 6.1 cfs

Sf = 0.07%

Vf = 1.94 fps

D = 2.0'

S = 0.50%

n = .013

**HYDRAULIC
CALCULATIONS
STORM DRAIN**

STA. 26+46.39 TO 27+35.68

Q25 = 6.1 cfs

Sf = 0.07%

Vn = 4.62 fps

D = 2.0'

S = 0.50%

n = .013



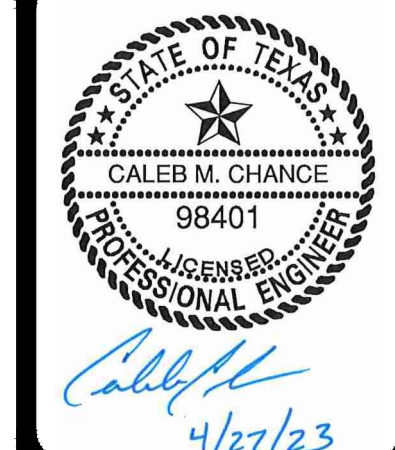
1. A BEAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING UTILITIES ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
3. ALL CONCRETE FOR TxDOT DRAINAGE STRUCTURES SHALL MEET TxDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
4. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
5. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
6. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
7. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND SURFACE AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN, GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL/GEOTECHNICAL INFORMATION AND THE PROPOSED INSTALLATION SITES WITHIN THE CONTRACT AREA TO DETERMINE IF ANY CONTRACT DOCUMENTS AND/OR EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS AND/OR THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT APPLY TO ALL TRENCH EXCAVATIONS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY/EQUIPMENT CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS AND REGULATIONS AND THE ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRICAL, SECONDARY ELECTRIC, PRIMARY ELECTRICAL, DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE REFUND SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

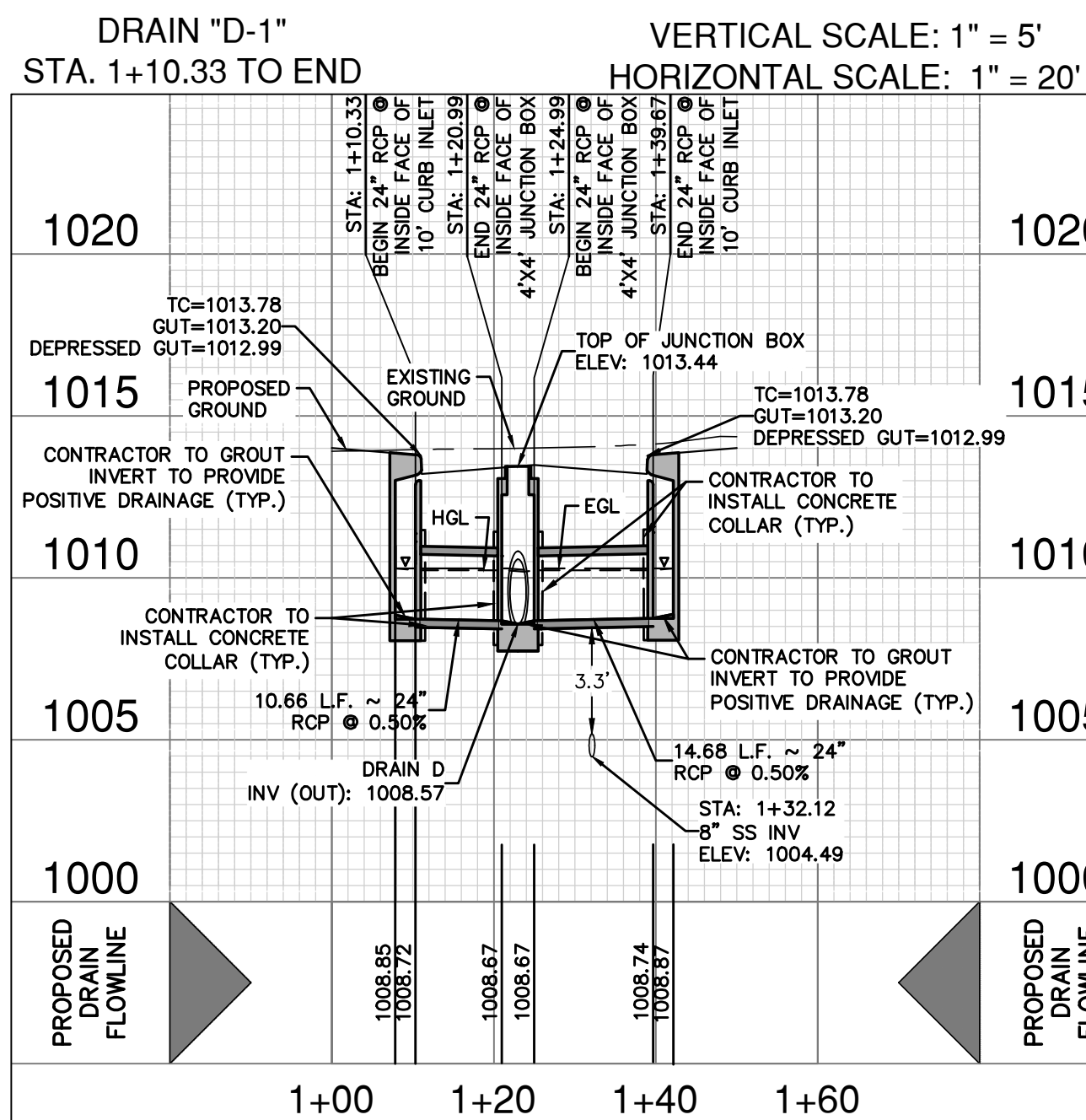
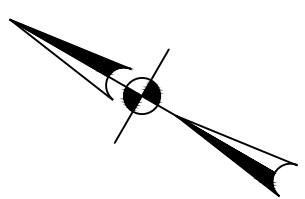
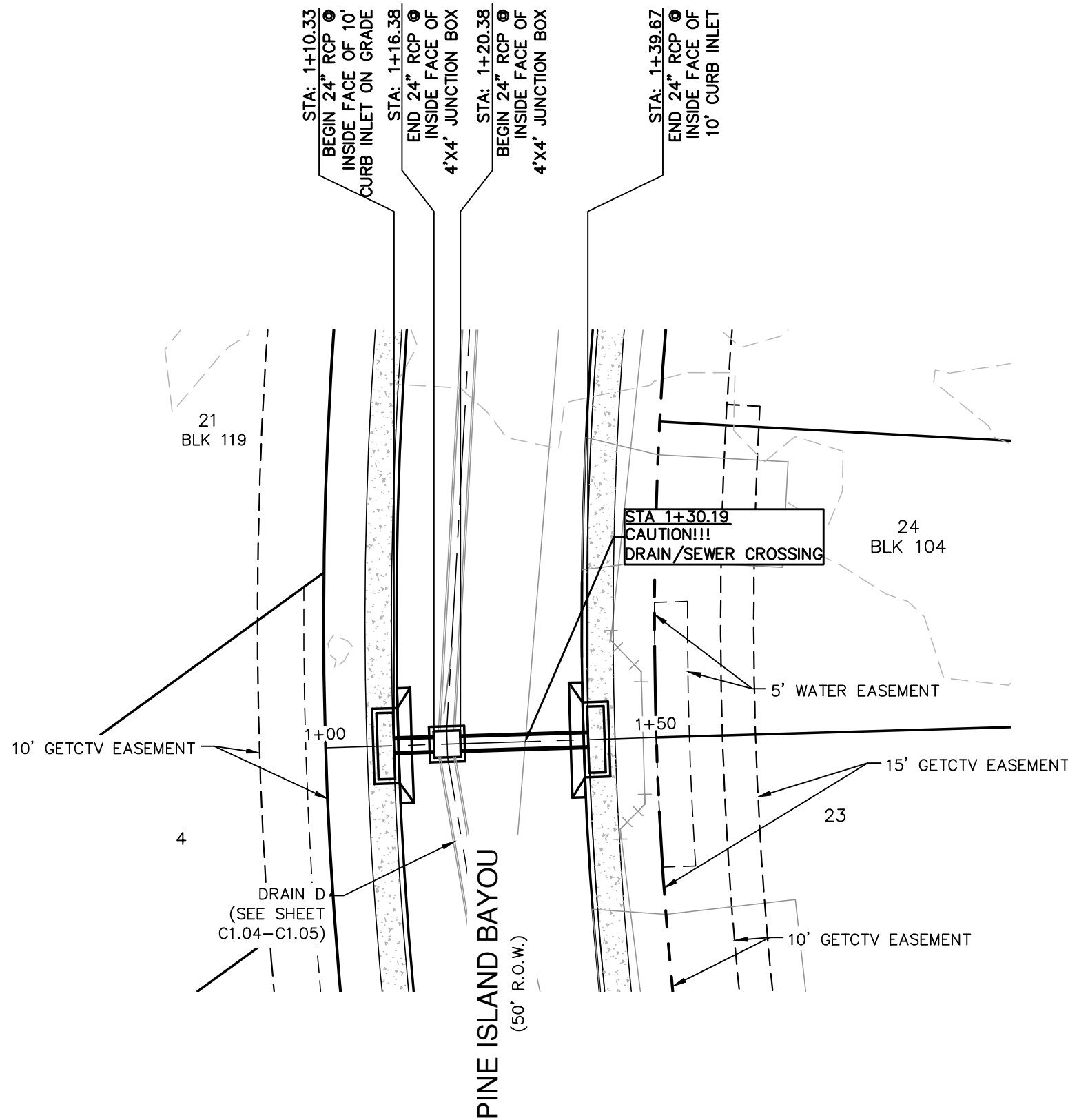
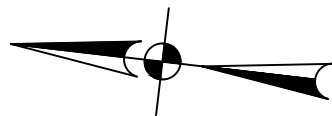
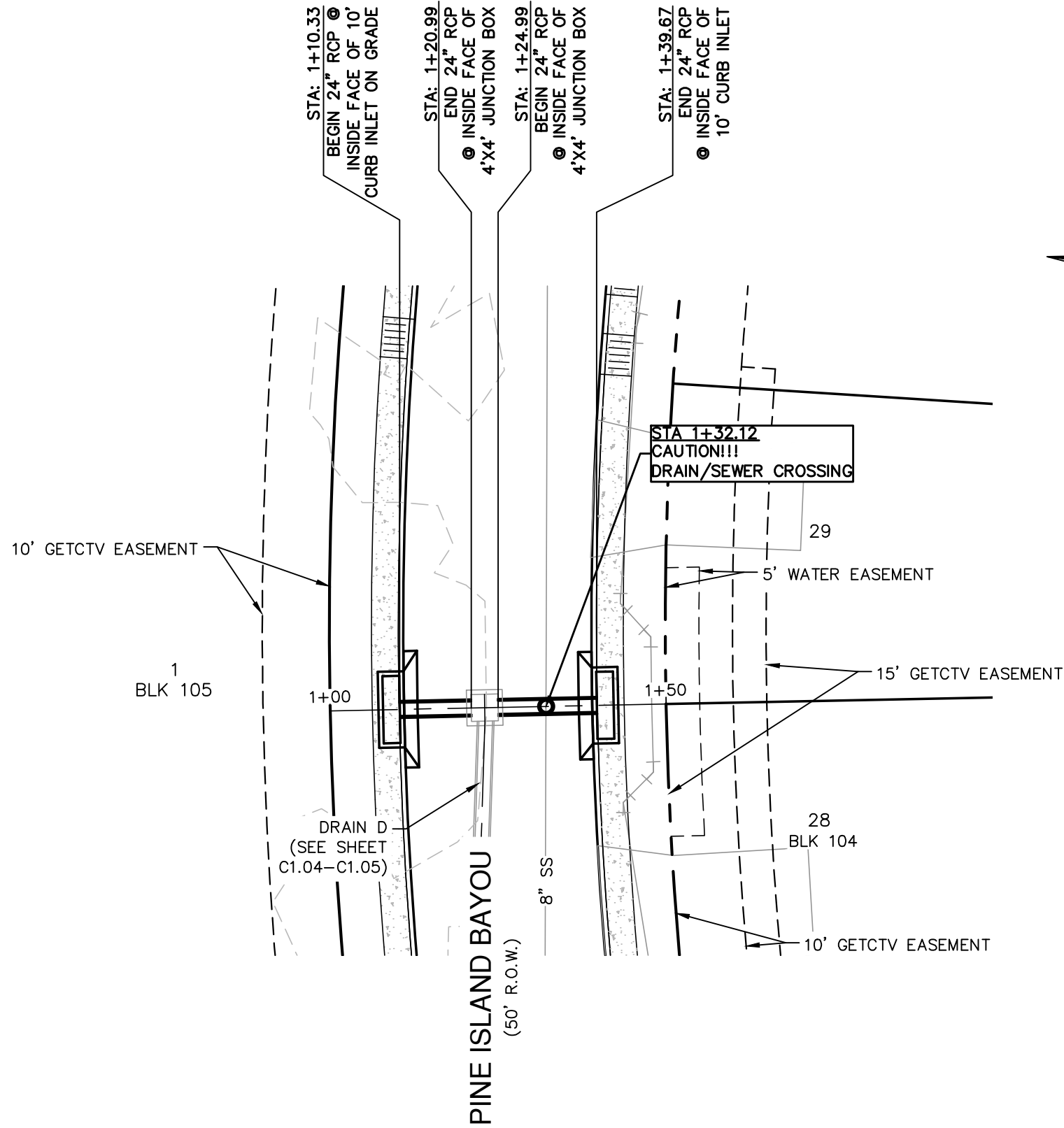
[illegible]

**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
20000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028690

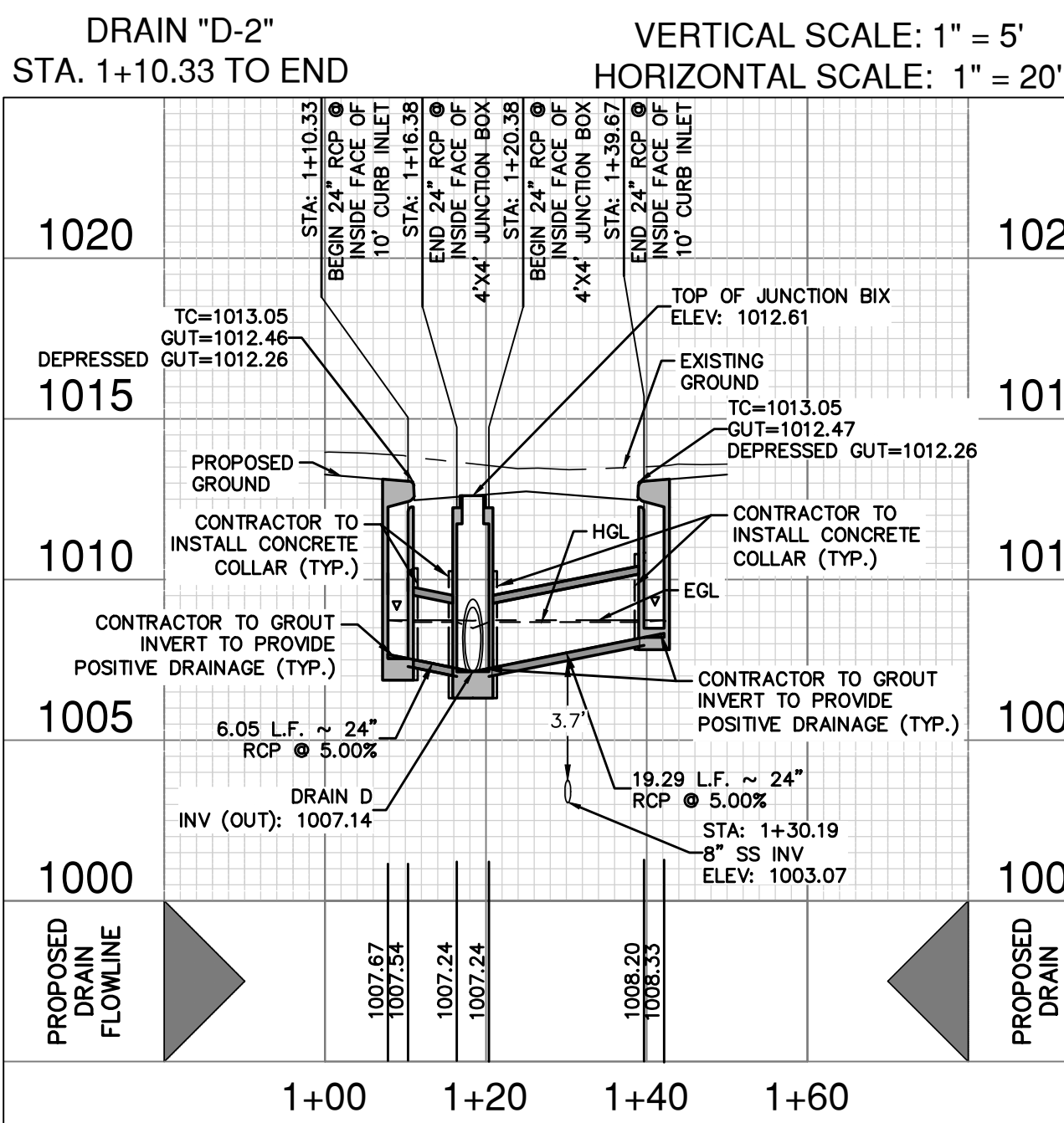
RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS
DRAIN D PLAN & PROFILE
STA. 24+80.00 TO END

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE MARCH 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C1.05



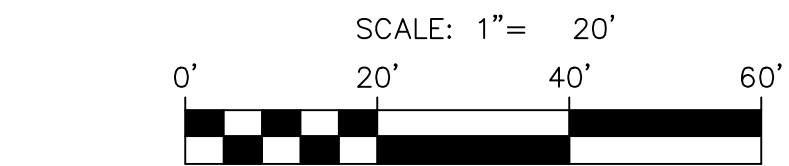
HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 1+10.33 TO 1+20.99	
Q ₂₅ = 3.05 cfs	
S _f = 0.02%	
V _n = 3.88 fps	
D _n = .61'	
S = 0.50%	
n = .013	

HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 1+24.99 TO 1+39.67	
Q ₂₅ = 3.05 cfs	
S _f = 0.02%	
V _n = 3.88 fps	
D _n = .61'	
S = 0.50%	
n = .013	

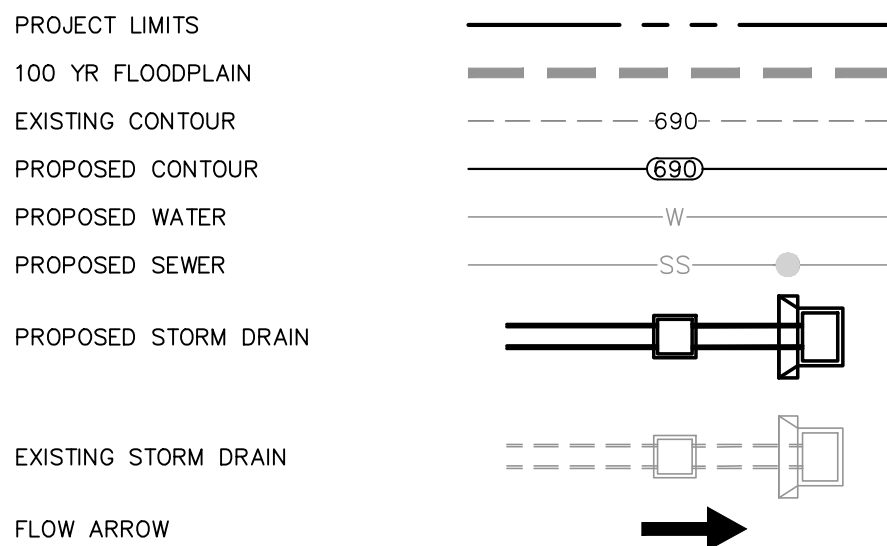


HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 1+10.33 TO 1+16.38	
Q ₂₅ = 3.15 cfs	
S _f = 0.02%	
V _n = 8.34 fps	
D _n = .34'	
S = 5.00%	
n = .013	

HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 1+20.38 TO 1+39.67	
Q ₂₅ = 3.15 cfs	
S _f = 0.02%	
V _n = 8.34 fps	
D _n = .34'	
S = 5.00%	
n = .013	



DRAINAGE LEGEND



HYDRAULIC CALCULATIONS--DRAIN "D-1"

TOTAL Q₂₅ = 6.1 CFS

$$Q_{25} = 3.05 \text{ CFS}$$
$$Q_{25} = CA\sqrt{2gh} \text{ (ORIFICE FLOW EQN.)}$$
$$A = L(0.52), h = 0.54, g = 32.2, c = 0.70$$
$$L = \frac{3.05 \text{ CFS}}{(0.70) (0.52)/2 (32.2) (0.54)}$$
$$L = 1.42 \text{ FT} \quad \text{USE } 2 \sim 10 \text{ FT CURB INLET}$$

CHECK WITH WEIR FORMULA

$$h = \left(\frac{Q}{(CL)} \right)^{2/3} = \left(\frac{3.05}{(3.087) (20)} \right)^{2/3} = 0.13 \text{ FT.}$$

h = 0.13 < 0.79 OK

HYDRAULIC CALCULATIONS--DRAIN "D-2"

TOTAL Q₂₅ = 6.3 CFS

$$Q_{25} = 3.15 \text{ CFS}$$
$$Q_{25} = CA\sqrt{2gh} \text{ (ORIFICE FLOW EQN.)}$$
$$A = L(0.52), h = 0.54, g = 32.2, c = 0.70$$
$$L = \frac{3.15 \text{ CFS}}{(0.70) (0.52)/2 (32.2) (0.54)}$$
$$L = 1.47 \text{ FT} \quad \text{USE } 2 \sim 10 \text{ FT CURB INLET}$$

CHECK WITH WEIR FORMULA

$$h = \left(\frac{Q}{(CL)} \right)^{2/3} = \left(\frac{3.15}{(3.087) (20)} \right)^{2/3} = 0.14 \text{ FT.}$$

h = 0.14 < 0.79 OK

DRAINAGE & GRADING NOTES:

- A BEXAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- ALL CONCRETE FOR TXDOT DRAINAGE STRUCTURES SHALL MEET TXDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
- REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
- CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
- EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
- CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION, SAFETY, PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!!

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NO.	REVISION	DATE

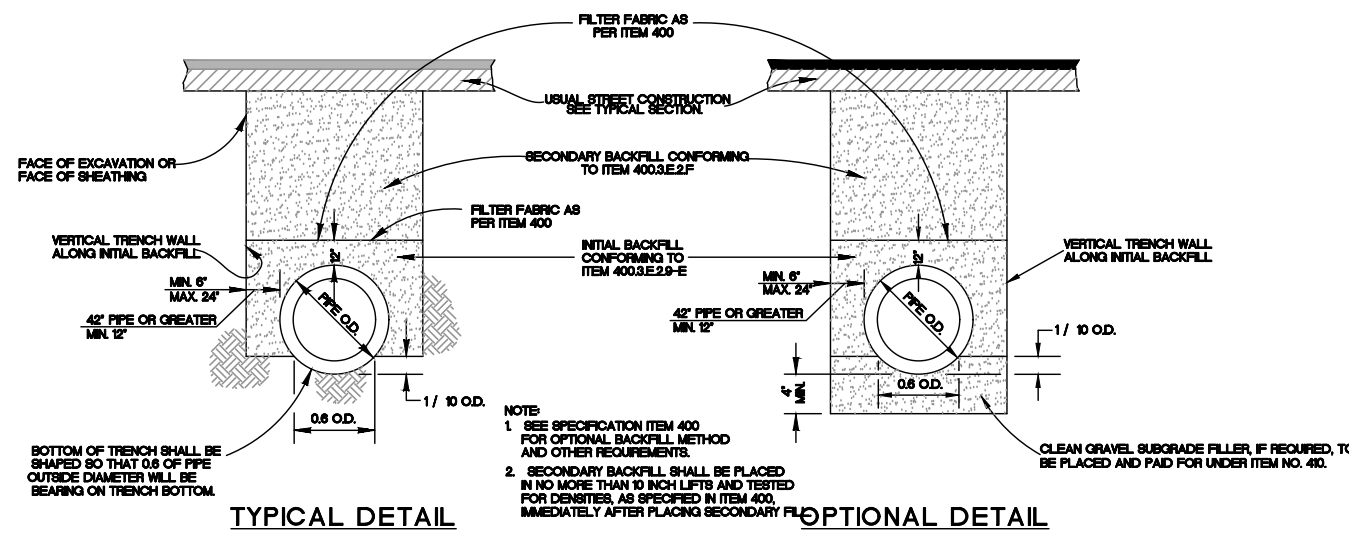


**PAPE-DAWSON
ENGINEERS**

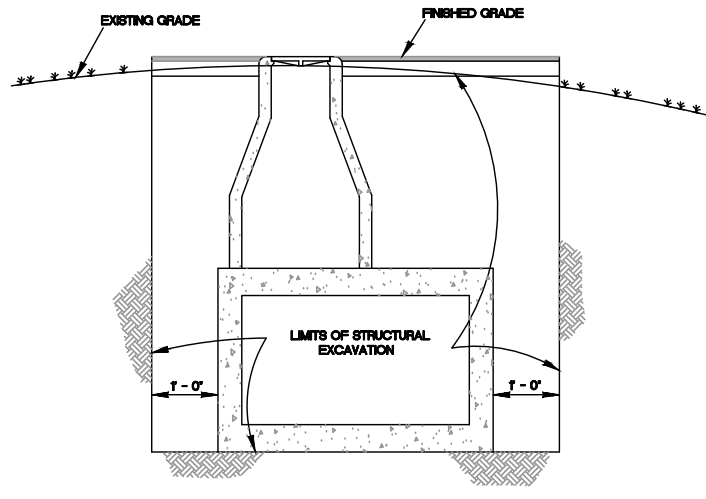
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008860

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS
DRAIN D-1 & D-2 PLAN & PROFILE
DRAIN D-1 (STA. 1+10.33 TO END)
DRAIN D-2 (STA. 1+10.33 TO END)

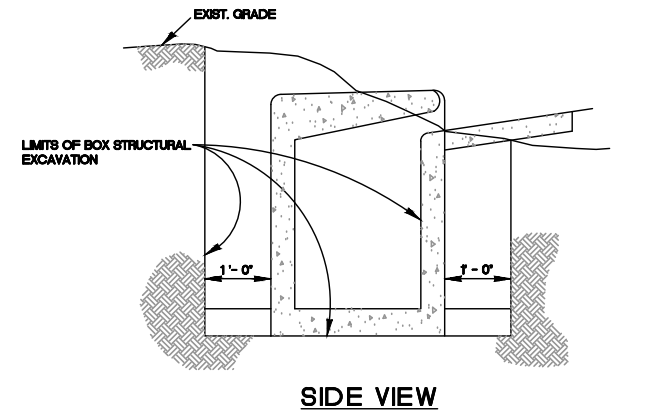
PLAT NO.	22-11800582
JOB NO.	11680-57
DATE	MARCH 2023
DESIGNER	RG
CHECKED	BL DRAWN
SHEET	C1.06



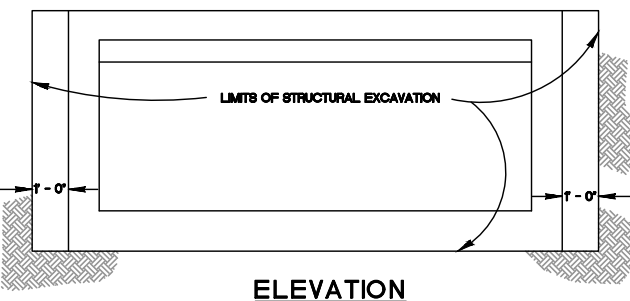
PIPE BEDDING + BACKFILL DETAILS



STRUCTURAL EXCAVATION AT JUNCTION BOXES



SIDE VIEW



ELEVATION

STRUCTURAL EXCAVATIONS AT DRAINAGE INLETS

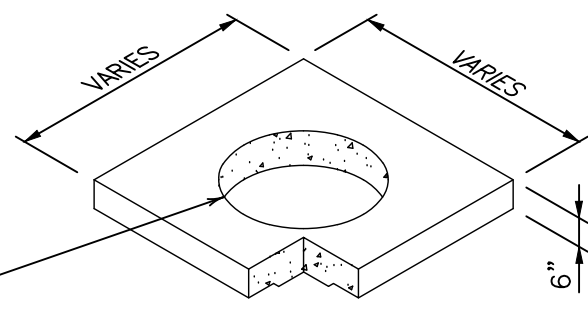
MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
PIPE BEDDING + MISCELLANEOUS DRAINAGE DETAILS

1. SUBMITTAL PROJECT NO. _____ DATE _____
DRAWN BY _____ CHECKED BY _____ SHEET NO. _____ OF _____

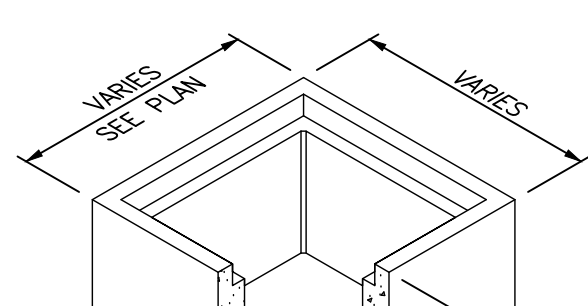
TOP SECTION

PERSONNEL OPENING SIZE OR CAST IN RING AND COVER AS REQUIRED BY CUSTOMER SEE NECK EXTENSION AND COVER DETAILS FOR FEATURES AVAILABLE.

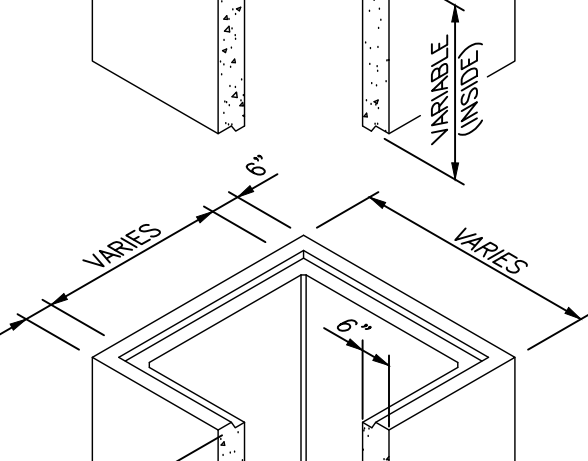


APPROXIMATE TOP SECTION WEIGHT 1200 LBS.

CENTER SECTION



BOTTOM SECTION

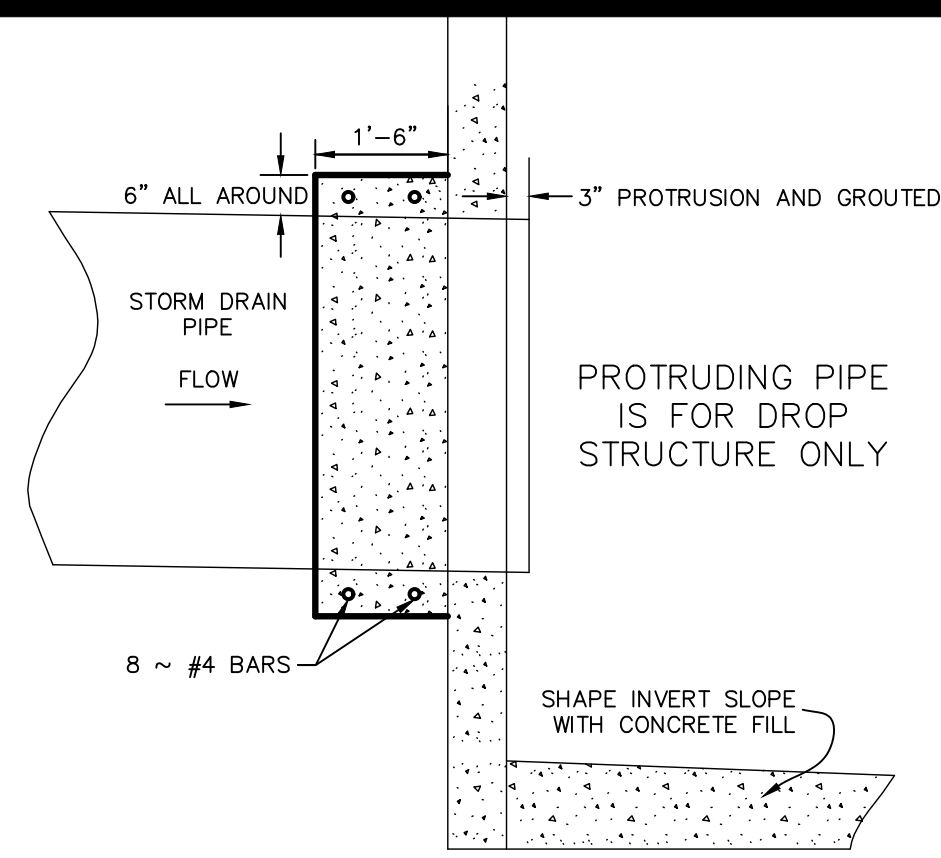


THINWALL KNOCKOUTS TYPICAL ALL WALLS

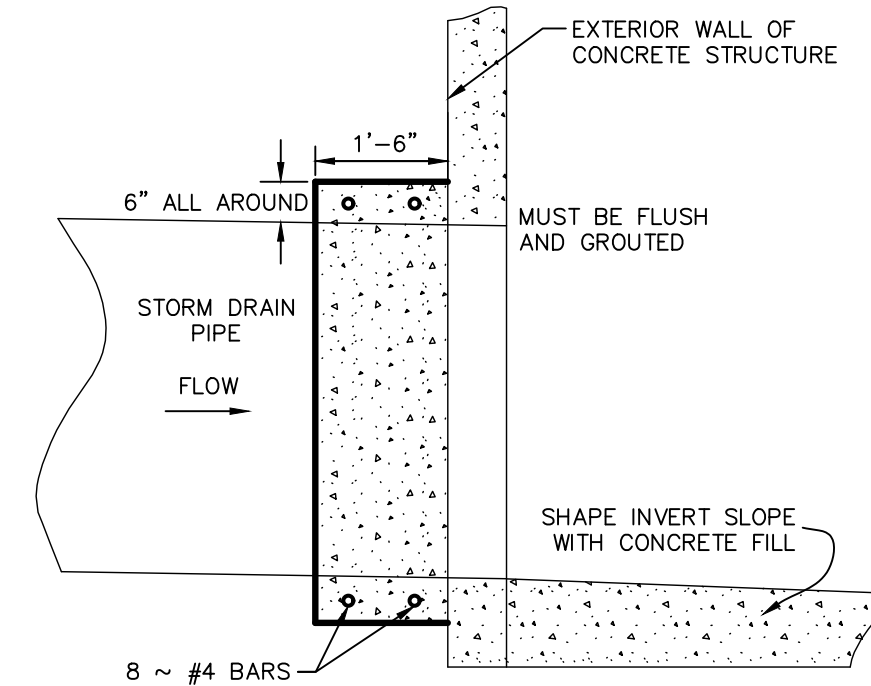
ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4500 psi.
REINFORCING STEEL SHALL COMPLY WITH ASTM A615 GRADE 60, A706 GRADE 60 OR A497 GRADE 70. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI STANDARDS.
WATER TABLE IS AT 3'-0" BELOW GRADE FOR STANDARD STRUCTURAL DESIGN.
THE STANDARD DESIGN IS BASED ON THE TOP AT GRADE AND THE BASE AT 13'-0" MAX. BELOW GRADE.
THE STRUCTURE SHALL BE PLACED ON A COMPACTED GRANULAR BASE TO INSURE UNIFORM DISTRIBUTION OF SOIL PRESSURES.
SPECIAL DESIGNS BASED ON OTHER LOADINGS OR DEEPER INSTALLATION DEPTHS ARE AVAILABLE ON REQUEST.
KNOCKOUTS OR PIPE OPENINGS CAN BE PROVIDED IN THE SIZE AND LOCATIONS REQUIRED.

TYPICAL PRECAST JUNCTION BOX

NOT-TO-SCALE

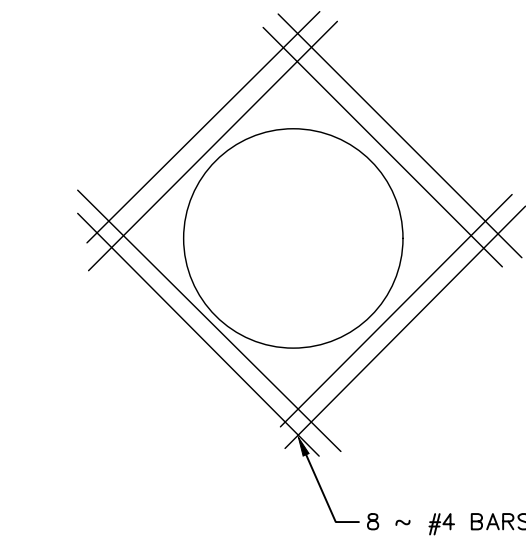


PIPE FLUSH WITH INVERT



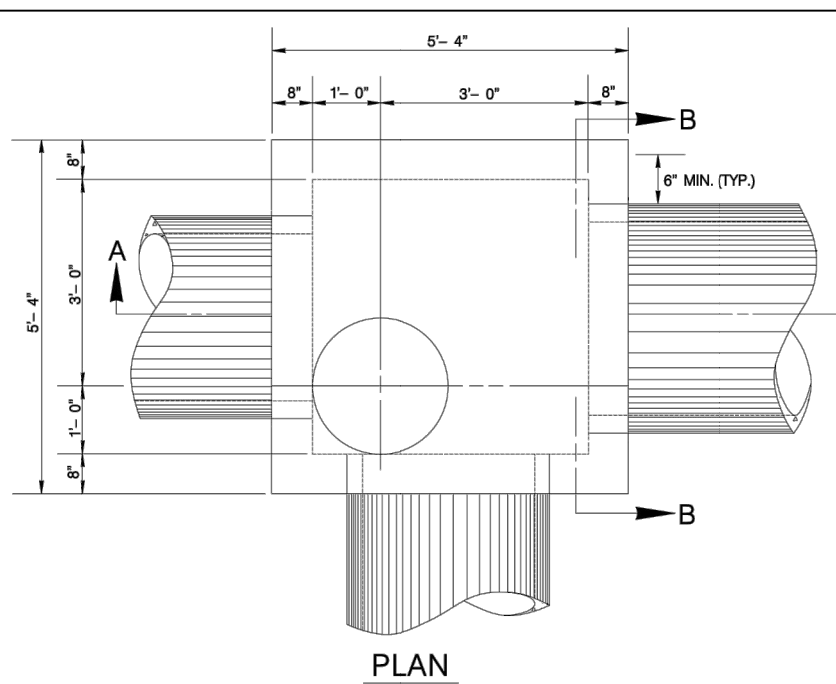
CONCRETE COLLAR DETAIL

NOT-TO-SCALE
PROVIDE AT CONNECTION TO ALL STRUCTURES

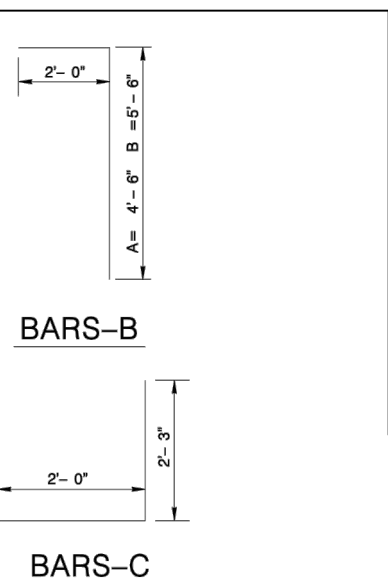
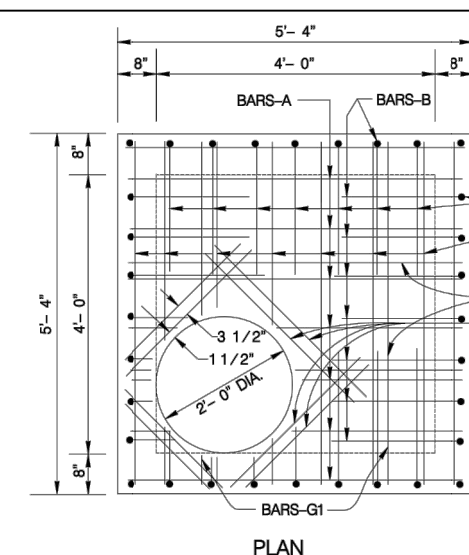


PROTRUDING PIPE IS FOR DROP STRUCTURE ONLY

NOTES:
1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A", 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE, ASTM A-15. THE DEFORMATION SHALL CONFORM TO ASTM A-305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
5. ALL BARS INTERCEPTING MANHOLE OPENING AND REINFORCED CONCRETE PIPE SHALL BE FIELD-CUT.
6. WHERE LAPPING OF BARS IS REQUIRED, A MINIMUM LAP OF 33 DIAMETERS SHALL BE USED.
7. INVERT OF JUNCTION BOX TO BE SHAPED WITH CONCRETE FILL (3,000 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).



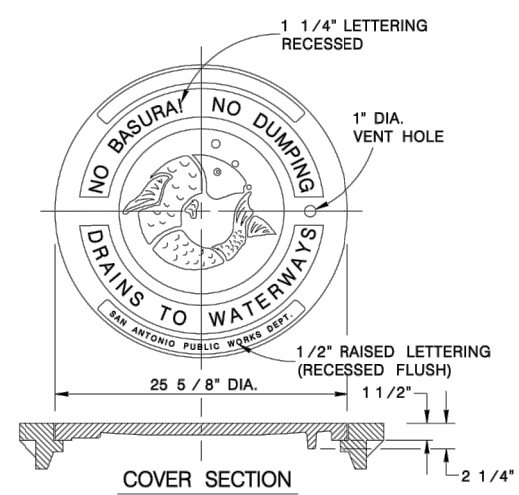
JUNCTION BOX TOP SLAB SHOWING STEEL



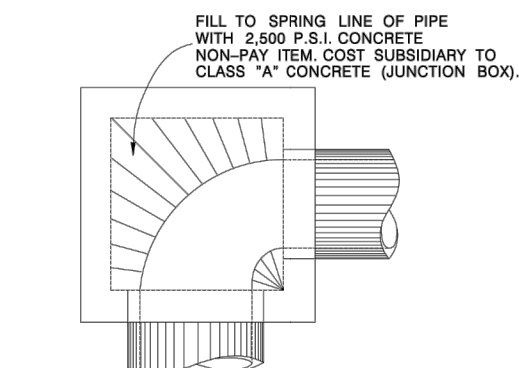
SHAPE	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
STRAIGHT	A	16	4	8" O.C.	5'-1"	54
	B	32	5	8" O.C.	6'-10"	228
	C	32	5	8" O.C.	4'-9"	142
STRAIGHT	D	16	4	8" O.C.	5'-1"	54
STRAIGHT	E	16	3	12" O.C.	9'-11"	24
STRAIGHT	G	16	4	12" O.C.	5'-1"	54
STRAIGHT	G ₁	8	4	AS SHOWN	5'-1"	27
STRAIGHT	H	20	3	12" O.C.	4'-8"	33
STRAIGHT	J	8	6	3 1/2"	2'-10"	34
						TOTAL 650 LBS.

CLASS "A" CONCRETE - 3,000 P.S.I. (DOES NOT EXCLUDE MANHOLE OPENINGS OR PIPE OPENINGS)
* NOTE: BAR SIZE AND SPACING BASED ON SPANS AS SHOWN - ANY REVISIONS TO THESE SPANS SHALL INCLUDE A RE-DESIGN ON STEEL REQ.

- CONCRETE FOR STRUCTURE SHALL BE CLASS "A", 3,000 P.S.I. AT 28 DAYS.
- ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
- REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE, ASTM A-15. THE DEFORMATION SHALL CONFORM TO ASTM A-305.
- ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
- ALL BARS INTERCEPTING MANHOLE OPENING AND REINFORCED CONCRETE PIPE SHALL BE FIELD-CUT.
- WHERE LAPPING OF BARS IS REQUIRED A MINIMUM LAP OF 33 DIAMETERS SHALL BE USED.
- INVERT OF JUNCTION BOX TO BE SHAPED WITH CONCRETE FILL (3,000 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).
- PAYMENT FOR ALL EXCAVATION, BACKFILLING, CONCRETE, REINFORCING STEEL, VERTICAL STACK, RING AND COVER SHALL BE INCLUDED IN THE UNIT COST OF ITEM 403 - "STORM SEWER JUNCTION BOXES AND INLETS".



NOTES FOR MANHOLE LID AND RING
1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT."
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF 15-20 MINIMUM.
4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 260 LBS.

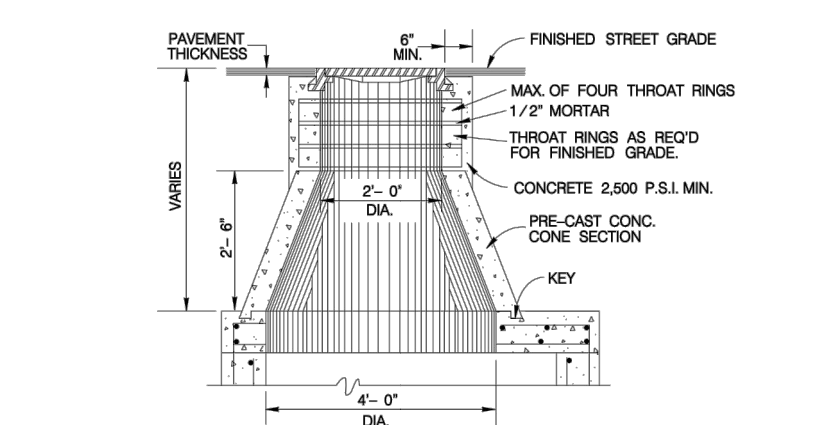


CURVED DEFLECTOR DETAIL

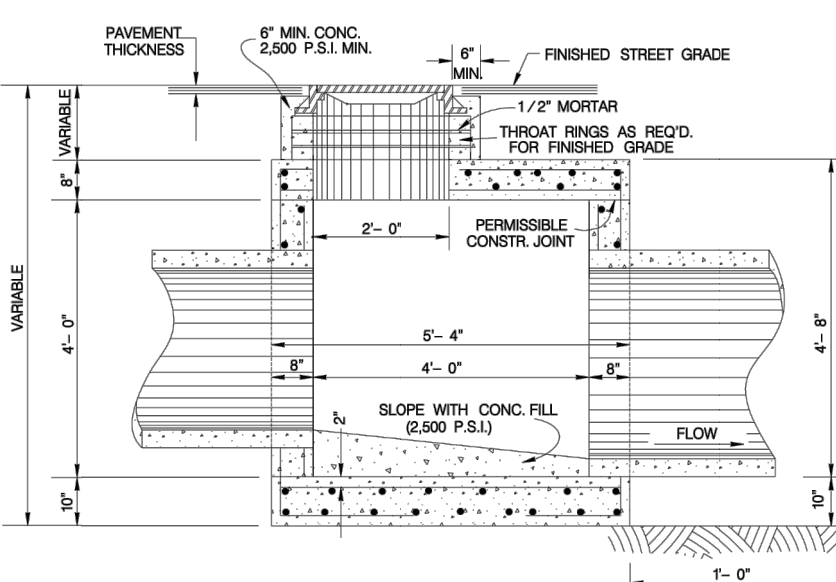
JANUARY 2005

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
4'x4'x4' JUNCTION BOX STANDARDS

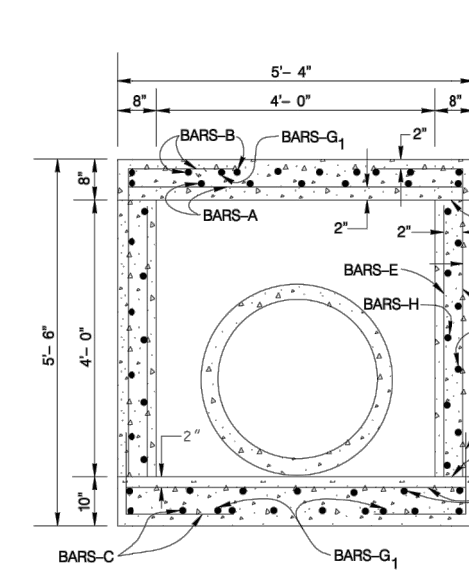
1. SUBMITTAL PROJECT NO. _____ DATE _____
DRAWN BY _____ CHECKED BY _____ SHEET NO. _____ OF _____



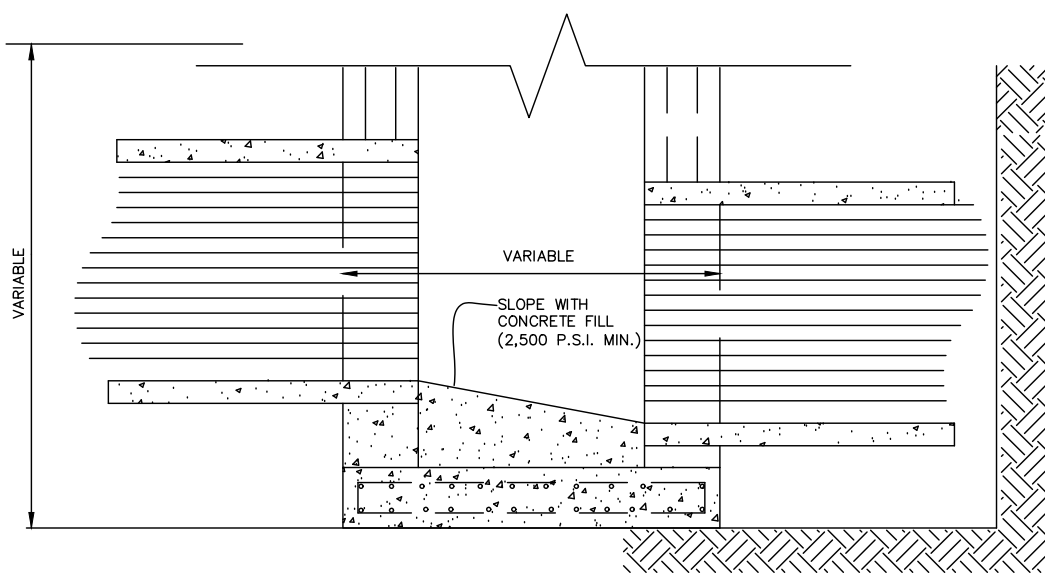
VARIATION OF VERTICAL STACK



SECTION A-A

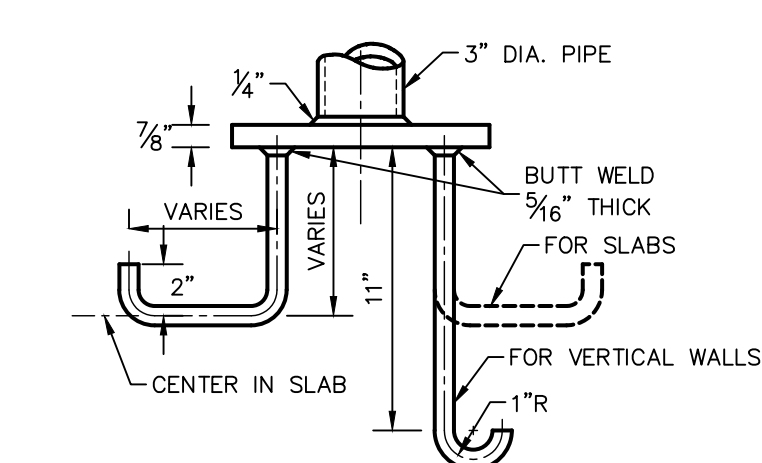


SECTION B-B



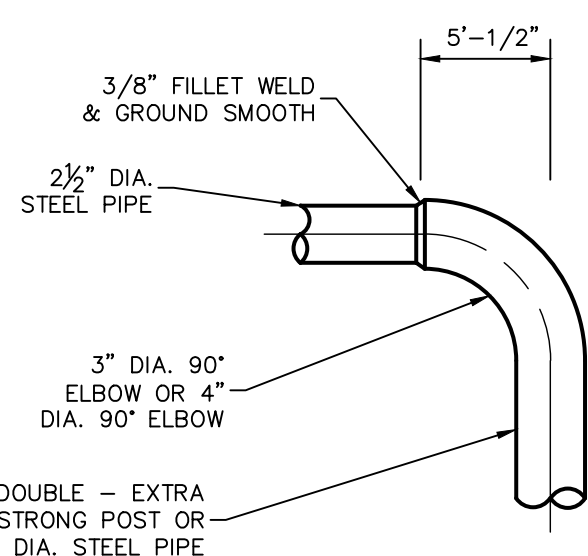
GROUTED INVERT DETAIL

NOT-TO-SCALE



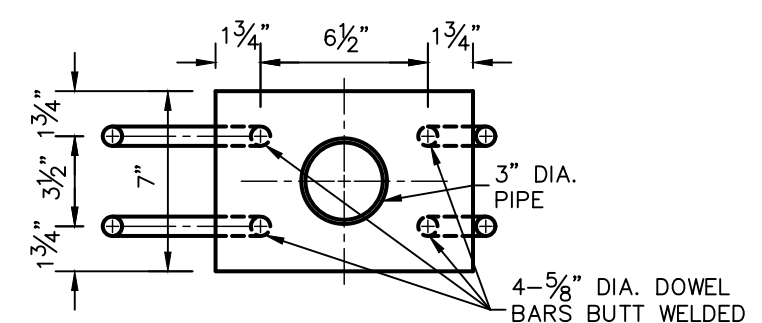
PIPE ANCHORAGE DETAIL

NOT-TO-SCALE

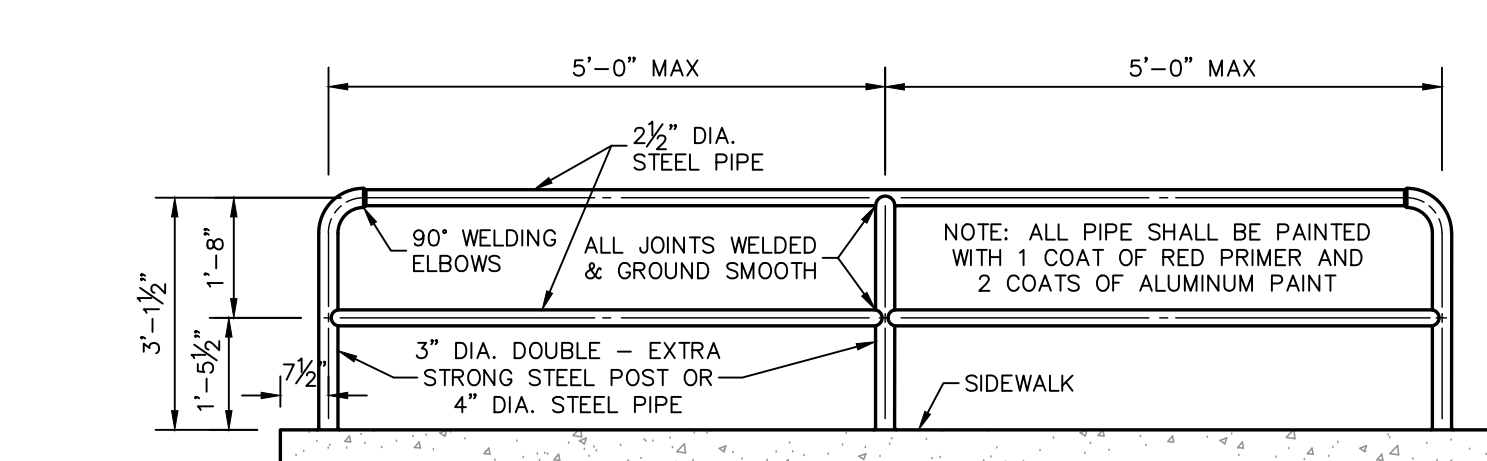


DETAIL OF 90° WELDING ELBOW

NOT-TO-SCALE



NOTE: A NEAT END SECTION, SATISFACTORY TO THE ENGINEER, FROM SUBMITTED SHOP DRAWINGS, MAY BE USED IN LIEU OF THE 90° WELDING ELBOW SHOWN.

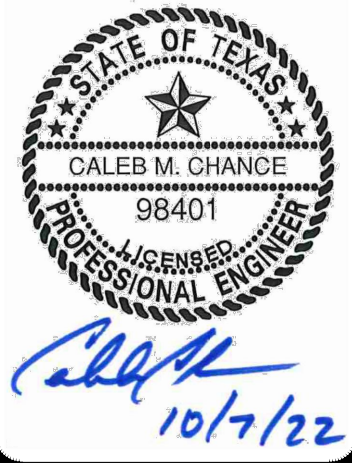


NOTE: ALL CONSTRUCTION OF HANDRAIL SHALL FOLLOW THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

PIPE RAILING DETAIL

NOT-TO-SCALE

NO.	REVISION	DATE



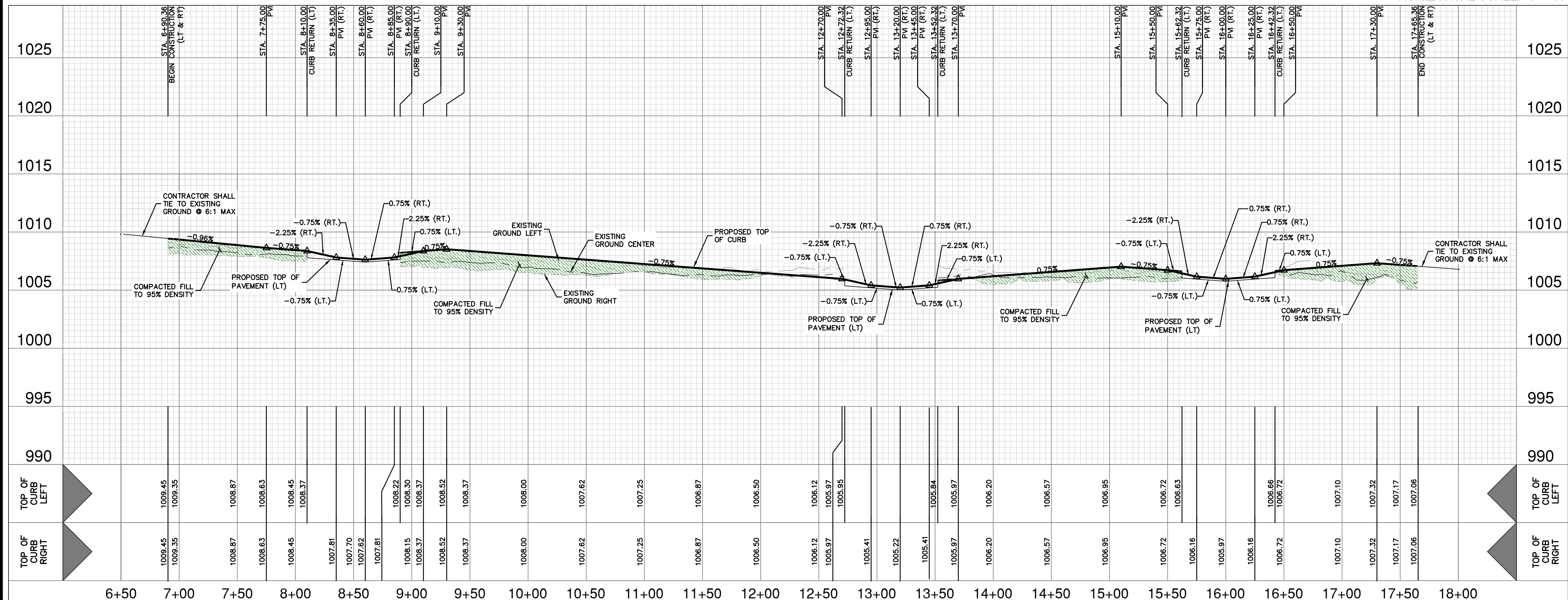
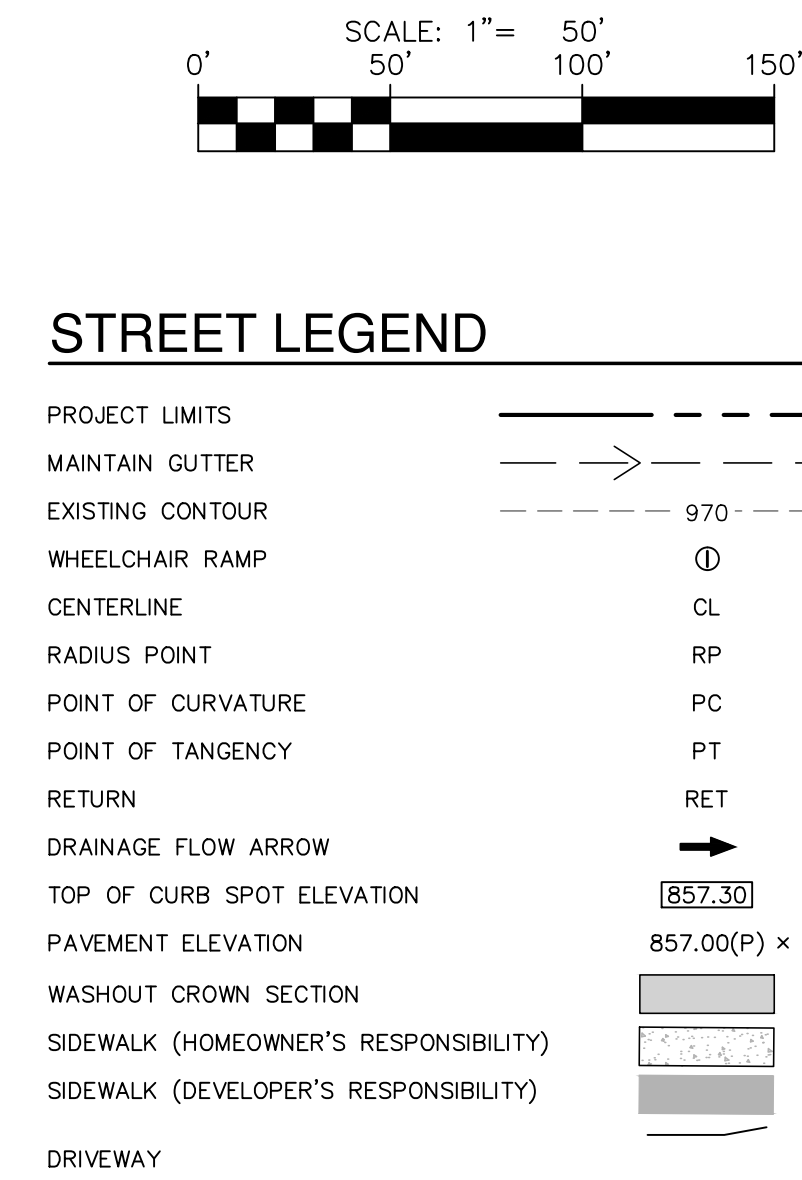
PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

DRAIN DETAILS

PLAT NO.	22-11800582
JOB NO.	11680-57
DATE	OCTOBER 2022
DESIGNER	RG
CHECKED	BL
DRAWN	RG
SHEET	C1.11



STREET NOTES:

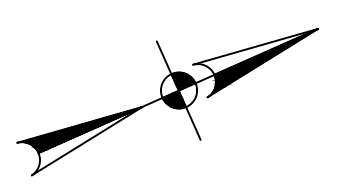
1. A BEAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
2. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT 1"=1'. IF EXISTING PAVEMENT DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
3. SIDEWALKS SHALL BE CONSTRUCTED 3'-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS NOW OFFSET. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
4. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
5. DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
6. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHOUT AMENDING THE STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 35-506 (O)(6).
7. THE CONSTRUCTION OF SIDEWALKS ADJACENT TO ALL 900 SERIES LOTS WILL BE THE RESPONSIBILITY OF THE DEVELOPER AS SHOWN ON THE DEVELOPMENT SIGNALING PLAN. REFER TO SHEET 33.00 FOR LOCATIONS OF SIDEWALK CONSTRUCTION.
8. FILL MATERIAL SHOULD BE NATIVE ON-SITE MATERIAL, FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 4.0 AND A PLI MAXIMUM OF 20. THE GRAVEL SIZE SHOULD NOT EXCEED 3 INCHES IN DIAMETER. LINE APPLICATION RATE SHOULD BE RE-EVALUATED FOR THE PROJECT. MATERIAL SIGNATURE SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS
OLIVINE ROCK RIDGE PLAN & PROFILE
(STA. 6+90.36 TO END)

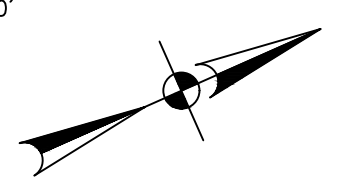
PLAT NO. 22-1180058
JOB NO. 11680-57
DATE MARCH 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C2.00

Date: Apr 27, 2023, 9:39am User ID: blindholm
File: P:\116\80\57\Design\Civil\ST1168057 - OLIVINE ROCK RIDGE.dwg

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PROJECT LIMITS	
MAINTAIN GUTTER	
EXISTING CONTOUR	
WHEELCHAIR RAMP	
CENTERLINE	
RADIUS POINT	
POINT OF CURVATURE	
POINT OF TANGENCY	
RETURN	
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	
PAVEMENT ELEVATION	
WASHOUT CROWN SECTION	
SIDEWALK (HOMEOWNER'S RESPONSIBILITY)	
SIDEWALK (DEVELOPER'S RESPONSIBILITY)	
DRIVEWAY	



1. A BEAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
2. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
3. SIDEWALKS SHALL BE CONSTRUCTED 3'-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFF-ROAD. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
4. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN THE CLEAR VISION EASEMENT SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
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6. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE ENGINEER UPON RECEIPT OF THE DEVELOPER AS SHOWN ON THE UTILITY LAYOUT PER UDC SECTION 35-506.2 (O)(6).
7. THE CONSTRUCTION OF SIDEWALKS ADJACENT TO ALL 900 SERIES LOTS WILL BE REQUIRED. THE LOCATION OF THE SIDEWALKS AS SHOWN ON THE OVERALL SIGNAGE PLAN. REFER TO SHEET C3.00 FOR LOCATIONS OF SIDEWALK CONSTRUCTION.
8. FILL MATERIAL SHOULD BE NATIVE ON-SITE MATERIAL, FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 4.0 AND A PI MAXIMUM OF 20. THE GRAVEL SIZE SHOULD NOT EXCEED 3 INCHES IN DIAMETER. LINE APPLICATION RATE SHOULD BE RE-EVALUATED FOR THE FILL MATERIAL. THE FILL MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.

[illegible]

**PAPE-DAWSON
ENGINEERS**

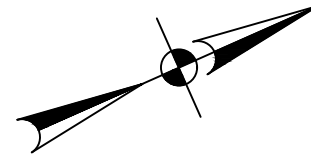
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028600

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

COLORADO RIVER PLAN & PROFILE
STA. 12+66.58 TO END

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE MARCH 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C2.01



PROJECT LIMITS	_____	_____
MAINTAIN GUTTER	_____	_____
EXISTING CONTOUR	-----	970
WHEELCHAIR RAMP		①
CENTERLINE		CL
RADIUS POINT		RP
POINT OF CURVATURE		PC
POINT OF TANGENCY		PT
RETURN		RET
DRAINAGE FLOW ARROW	➔	
TOP OF CURB SPOT ELEVATION		857.30
PAVEMENT ELEVATION		857.00(P) ×
WASHOUT CROWN SECTION		
SIDEWALK (HOMEOWNER'S RESPONSIBILITY)		
SIDEWALK (DEVELOPER'S RESPONSIBILITY)		
DRIVEWAY		



1. A BEAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
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7. THE CONSTRUCTION OF SIDEWALKS ADJACENT TO ALL 900 SERIES LOTS WILL BE REQUIRED. THE LOCATION OF THE SIDEWALKS AS SHOWN ON THE OVERALL SIGNAGE PLAN. REFER TO SHEET C3.00 FOR LOCATIONS OF SIDEWALK CONSTRUCTION.
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PAPE-DAWSON
ENGINEERS

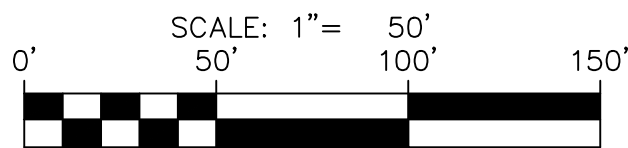
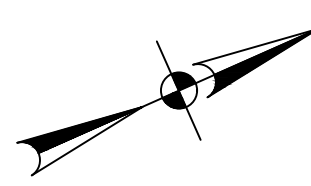
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM # 0028860

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

GEODE RIVER RUN PLAN & PROFILE
STA. 1+46.00 TO END

PLAT NO. 22-11800582
 JOB NO. 11680-57
 DATE MARCH 2023
 DESIGNER RG
 CHECKED BL DRAWN RG
 SHEET C2.02



PROJECT LIMITS	
MAINTAIN GUTTER	
EXISTING CONTOUR	
WHEELCHAIR RAMP	
CENTERLINE	
RADIUS POINT	
POINT OF CURVATURE	
POINT OF TANGENCY	
RETURN	
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	
PAVEMENT ELEVATION	
WASHOUT CROWN SECTION	
SIDEWALK (HOMEOWNER'S RESPONSIBILITY)	
SIDEWALK (DEVELOPER'S RESPONSIBILITY)	
DRIVEWAY	
5'x 5' ADA PASSING SPACE	



1. A BEAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
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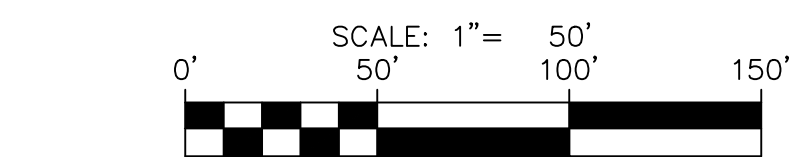
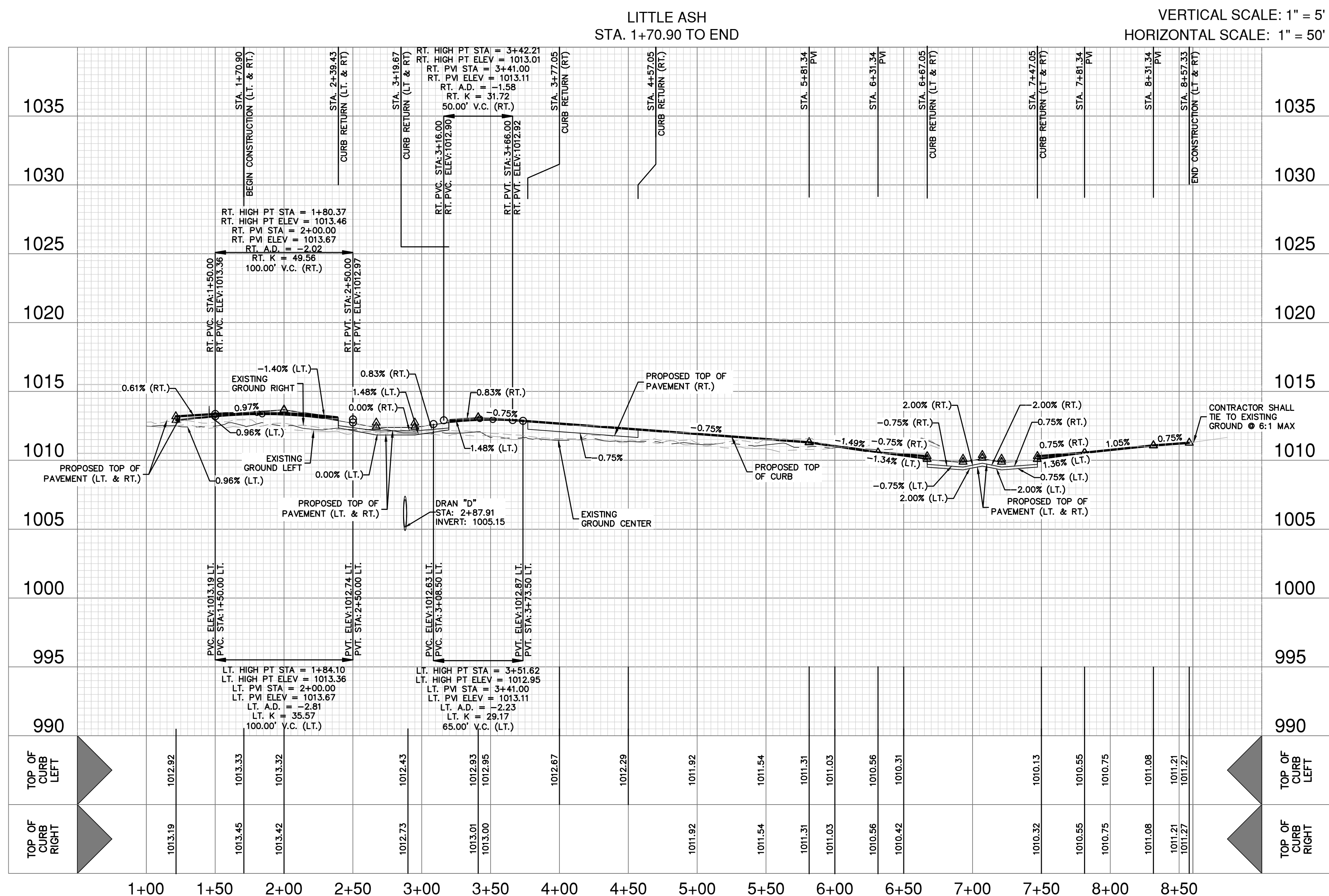
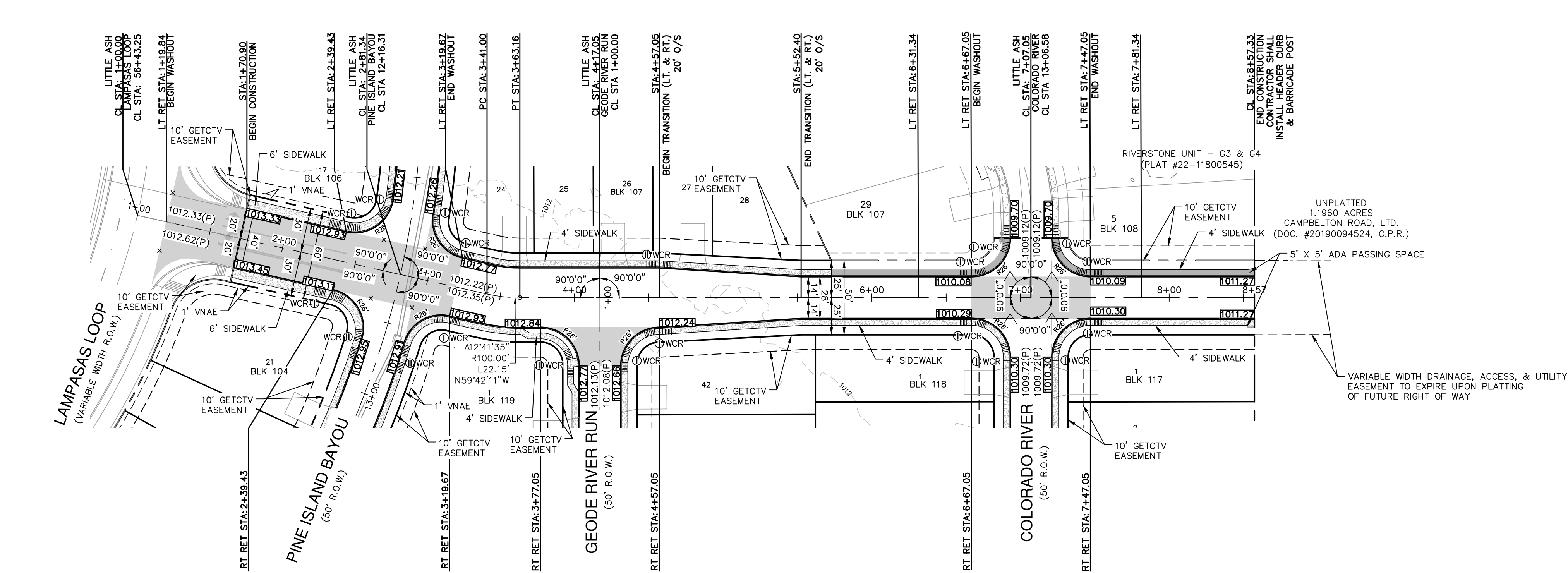
**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028600










RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

VARIOLITE PIKE PLAN & PROFILE
STA. 3+18.74 TO END

PLAT NO. 22-11800582
 JOB NO. 11680-57
 DATE MARCH 2023
 DESIGNER RG
 CHECKED BL DRAWN RG
 SHEET C2.03



STREET LEGEND

PROJECT LIMITS	
MAINTAIN GUTTER	
EXISTING CONTOUR	 970
WHEELCHAIR RAMP	
CENTERLINE	CL
RADIUS POINT	RP
POINT OF CURVATURE	PC
POINT OF TANGENCY	PT
RETURN	RET
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	
PAVEMENT ELEVATION	857.00(P) x
WASHOUT CROWN SECTION	
SIDEWALK (HOMEOWNER'S RESPONSIBILITY)	
SIDEWALK (DEVELOPER'S RESPONSIBILITY)	
DRIVEWAY	



**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
20200 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1028600

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

LITTLE ASH PLAN & PROFILE
STA. 1+70.90 TO END

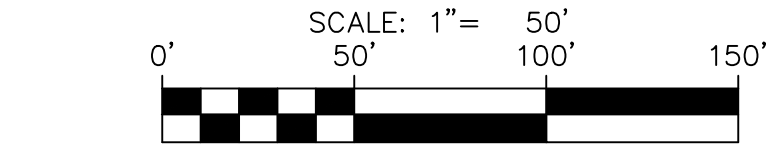
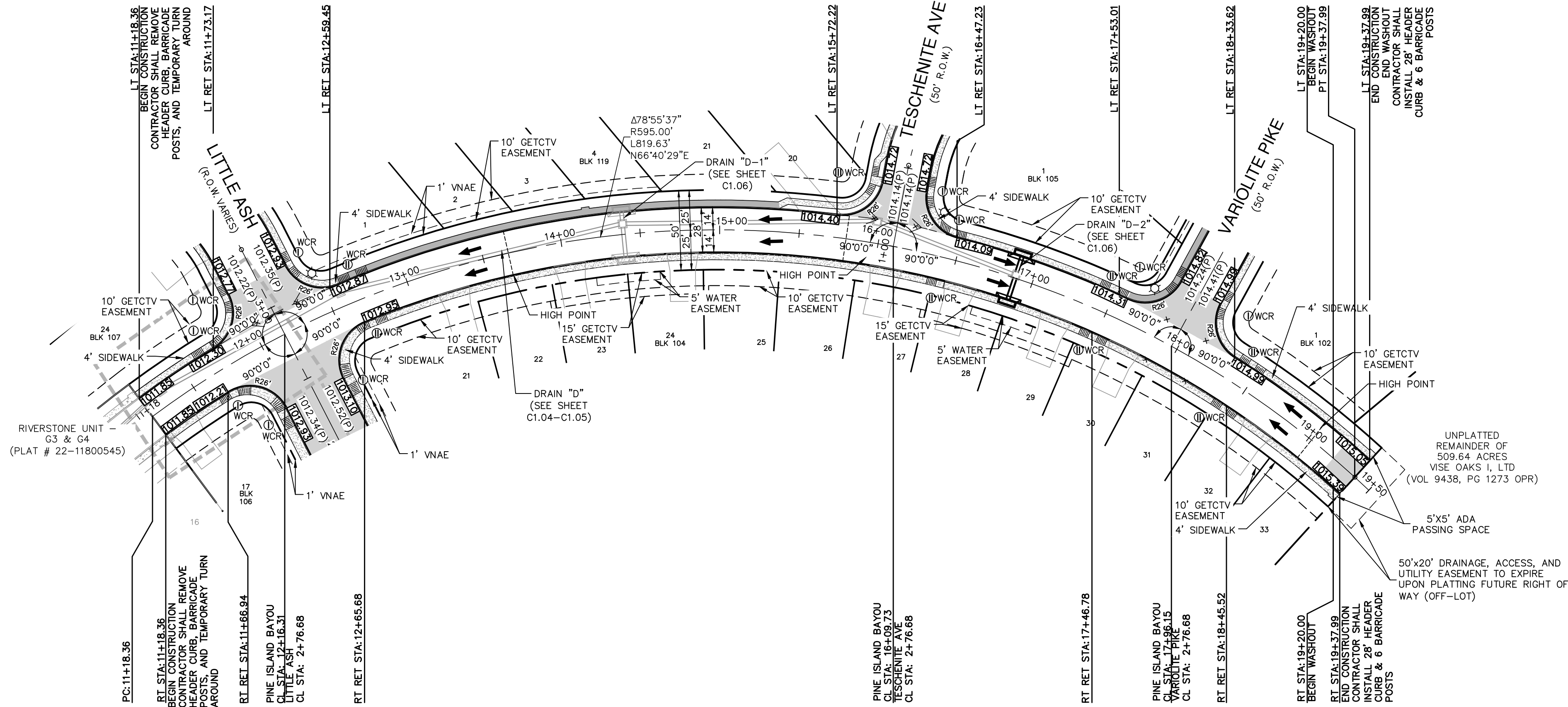
STREET NOTES:

1. A BEYAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEYAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
2. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
3. SIDEWALKS SHALL BE CONSTRUCTED 3'-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFSET. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
4. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VIEW EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VIEW EASEMENT SUCH THAT THE ELEVATION WITHIN THE CLEAR VIEW EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
5. DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
6. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHOUT AMENDING THE STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 35-506 (O)(6).
7. THE CONSTRUCTION OF SIDEWALKS ADJACENT TO ALL 900 SERIES LOTS WILL BE THE RESPONSIBILITY OF THE DEVELOPER AS SHOWN ON THE OVERLAP SCHEDULE. REFER TO SHEET C3.00 FOR LOCATIONS OF SIDEWALK CONSTRUCTION.
8. FILL MATERIAL SHOULD BE NATIVE ON-SITE MATERIAL, FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 4.0 AND A PI MAXIMUM OF 20. THE GRAVEL SIZE SHOULD NOT EXCEED 3 INCHES IN DIAMETER. LIME APPLICATION RATE SHOULD BE RE-EVALUATED FOR THE FILL MATERIAL. FILL MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE MARCH 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C2.04

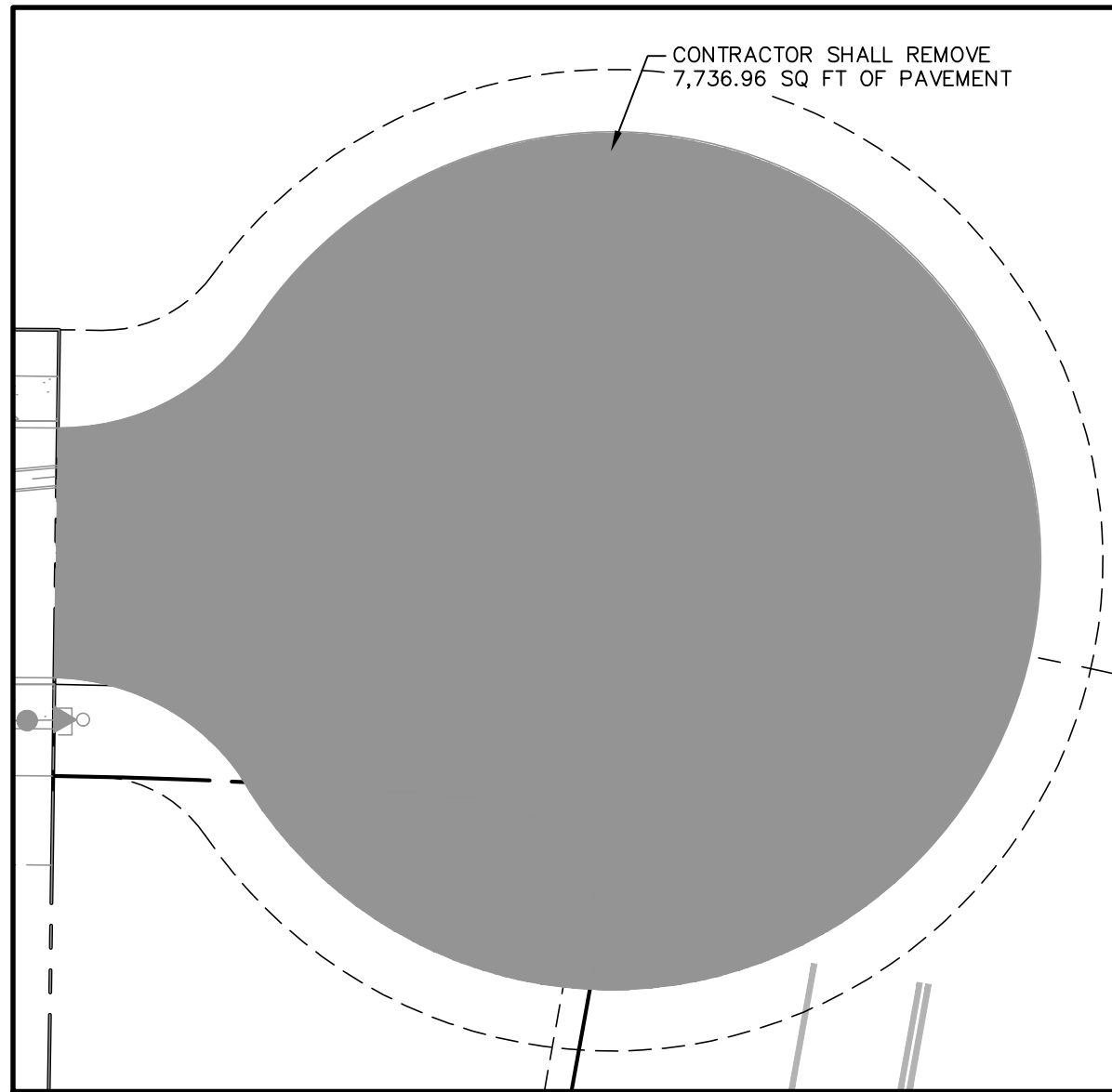
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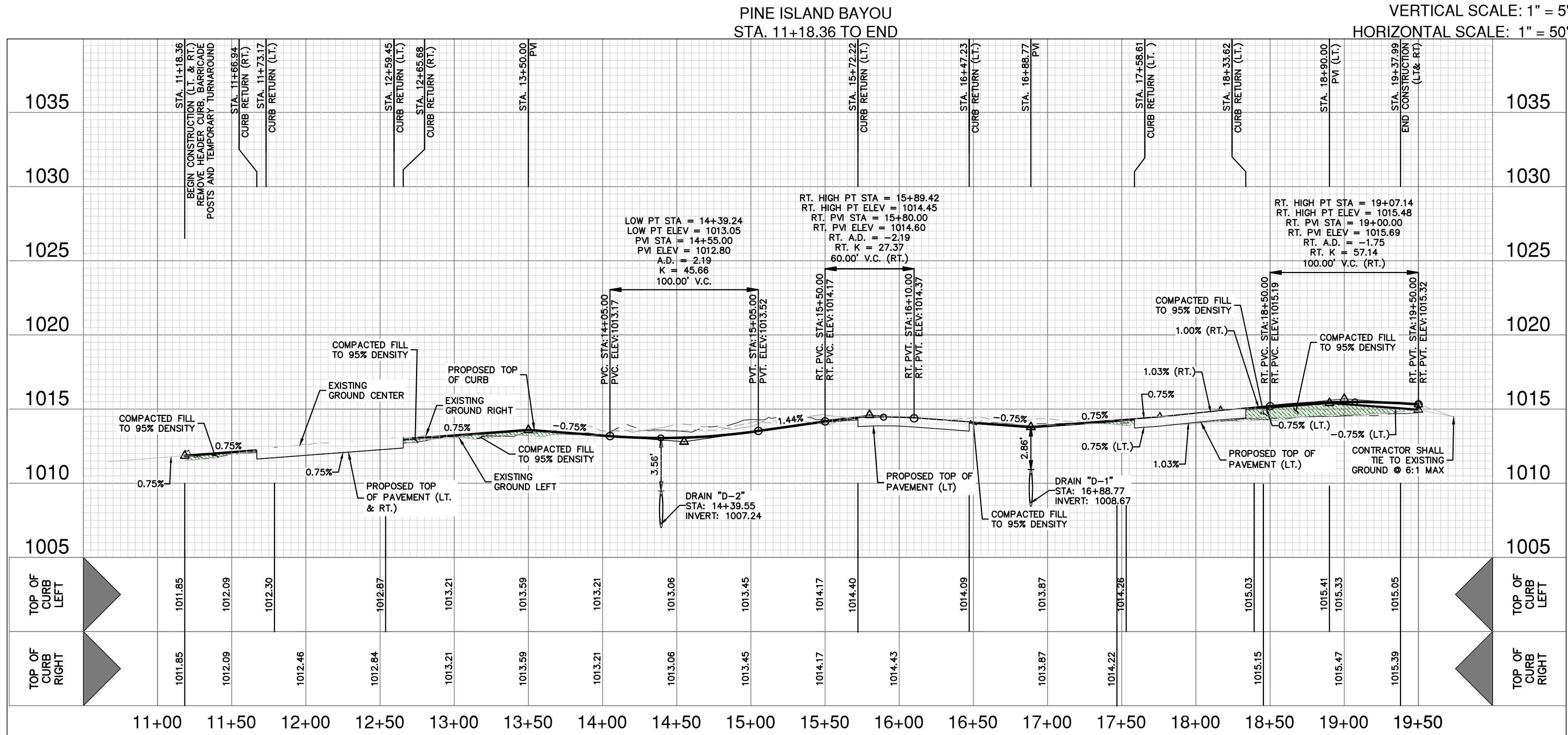
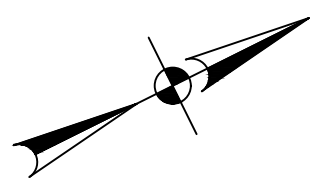


STREET LEGEND

PROJECT LIMITS	---
MAINTAIN GUTTER	---
EXISTING CONTOUR	---
WHEELCHAIR RAMP	---
CENTERLINE	CL
RADIUS POINT	RP
POINT OF CURVATURE	PC
POINT OF TANGENCY	PT
RETURN	RET
DRAINAGE FLOW ARROW	→
TOP OF CURB SPOT ELEVATION	(857.30) x
PAVEMENT ELEVATION	857.00(P) x
WASHOUT CROWN SECTION	---
SIDEWALK (HOMEOWNER'S RESPONSIBILITY)	---
SIDEWALK (DEVELOPER'S RESPONSIBILITY)	---
DRIVEWAY	---
5'x 5' ADA PASSING SPACE	---



DETAIL "A"
SCALE: 1" = 20'



STREET NOTES:

- A BEKAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEKAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
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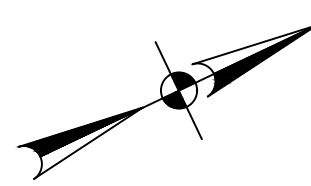
PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

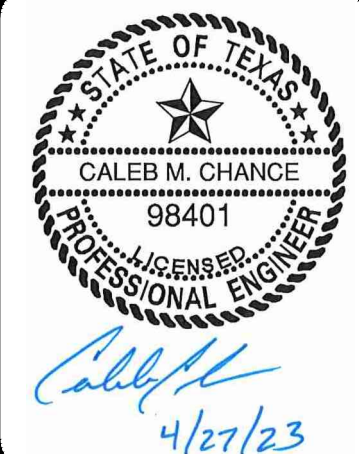
RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

PINE ISLAND BAYOU PLAN & PROFILE
11+18.36 TO END

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE MARCH 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C2.05



PROJECT LIMITS	_____	_____
MAINTAIN GUTTER	_____	_____
EXISTING CONTOUR	-----	970
WHEELCHAIR RAMP		Ⓢ
CENTERLINE		CL
RADIUS POINT		RP
POINT OF CURVATURE		PC
POINT OF TANGENCY		PT
RETURN		RET
DRAINAGE FLOW ARROW	➔	
TOP OF CURB SPOT ELEVATION		857.30
PAVEMENT ELEVATION		857.00(P) ×
WASHOUT CROWN SECTION		
SIDEWALK (HOMEOWNER'S RESPONSIBILITY)		
SIDEWALK (DEVELOPER'S RESPONSIBILITY)		
DRIVEWAY		



**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800



1. A BEAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
2. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TI-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
3. SIDEWALKS SHALL BE CONSTRUCTED 3'-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFF-PLAN. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
4. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN THE CLEAR VISION EASEMENT SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
5. DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
6. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE ENGINEER UPON RECEIPT OF THE DEVELOPER AS SHOWN ON THE UTILITY LAYOUT PER UDC SECTION 35-506.0 (O)(6).
7. THE CONSTRUCTION OF SIDEWALKS ADJACENT TO ALL 900 SERIES LOTS WILL BE REQUIRED. THE LOCATION OF THE SIDEWALKS AS SHOWN ON THE OVERALL SIGNAGE PLAN. REFER TO SHEET C3.00 FOR LOCATIONS OF SIDEWALK CONSTRUCTION.
8. FILL MATERIAL SHOULD BE NATIVE ON-SITE MATERIAL, FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 4.0 AND A PI MAXIMUM OF 20. THE GRAVEL SIZE SHOULD NOT EXCEED 3 INCHES IN DIAMETER. LINE APPLICATION RATE SHOULD BE RE-EVALUATED FOR THE FILL MATERIAL. THE FILL MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.

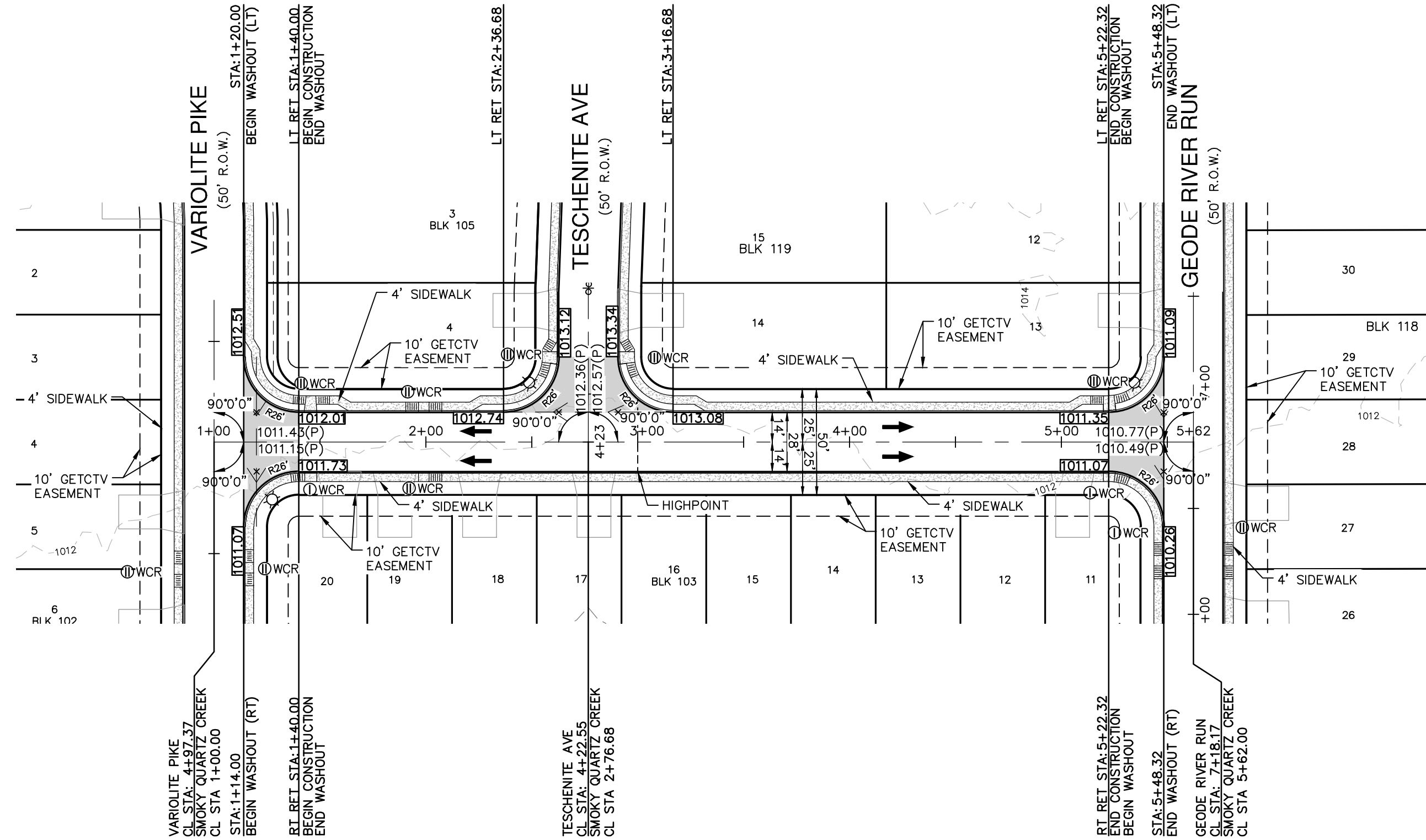
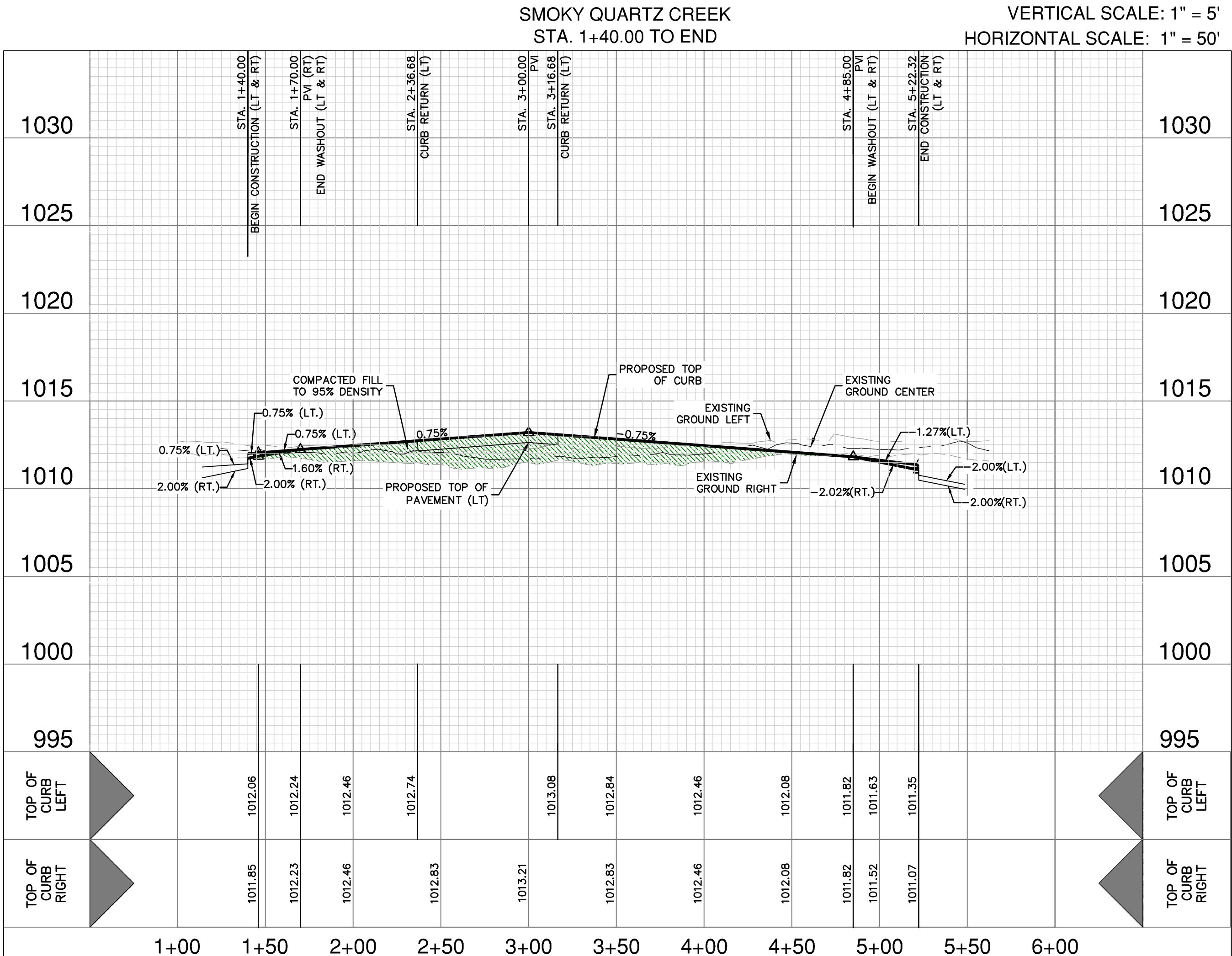
RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

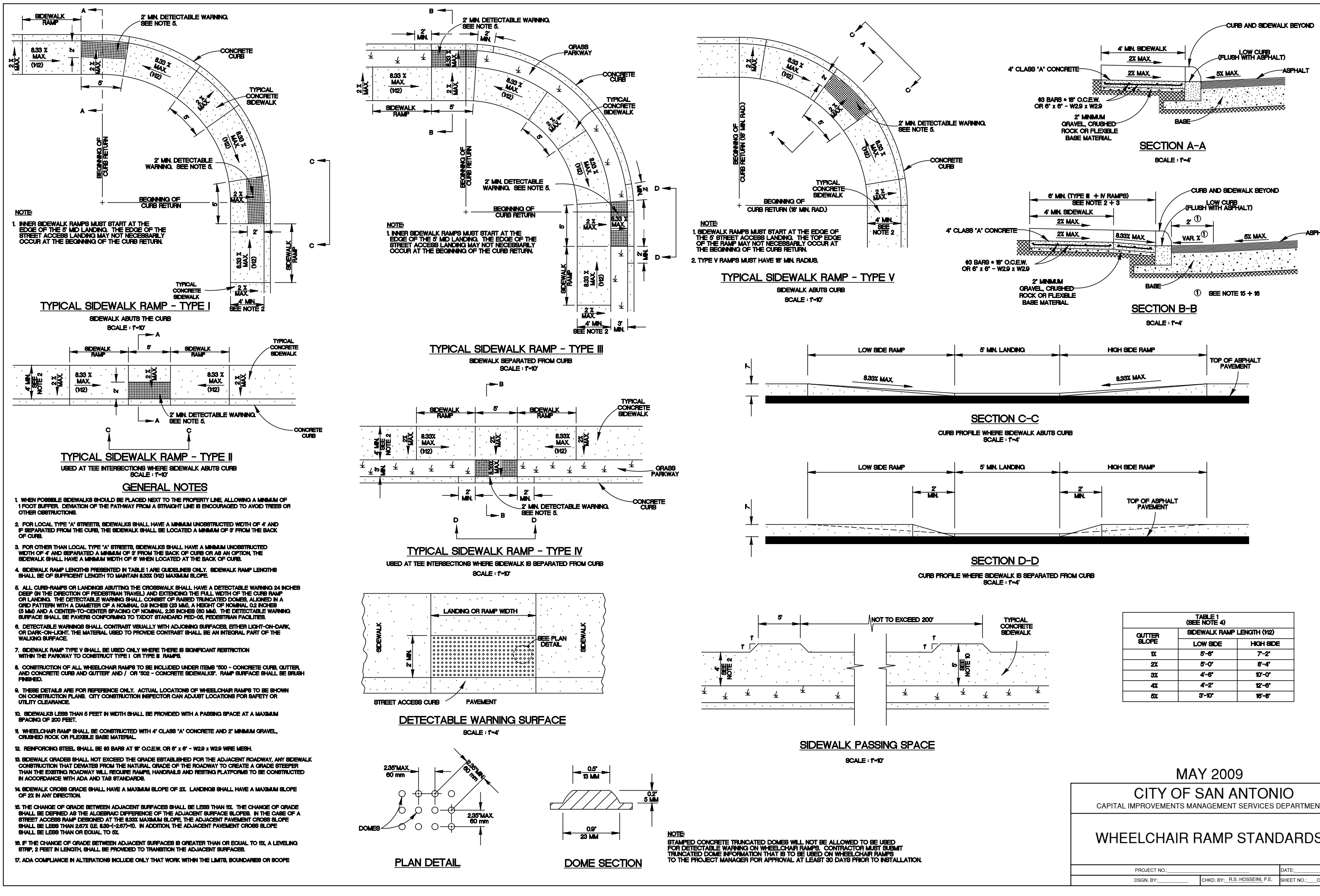
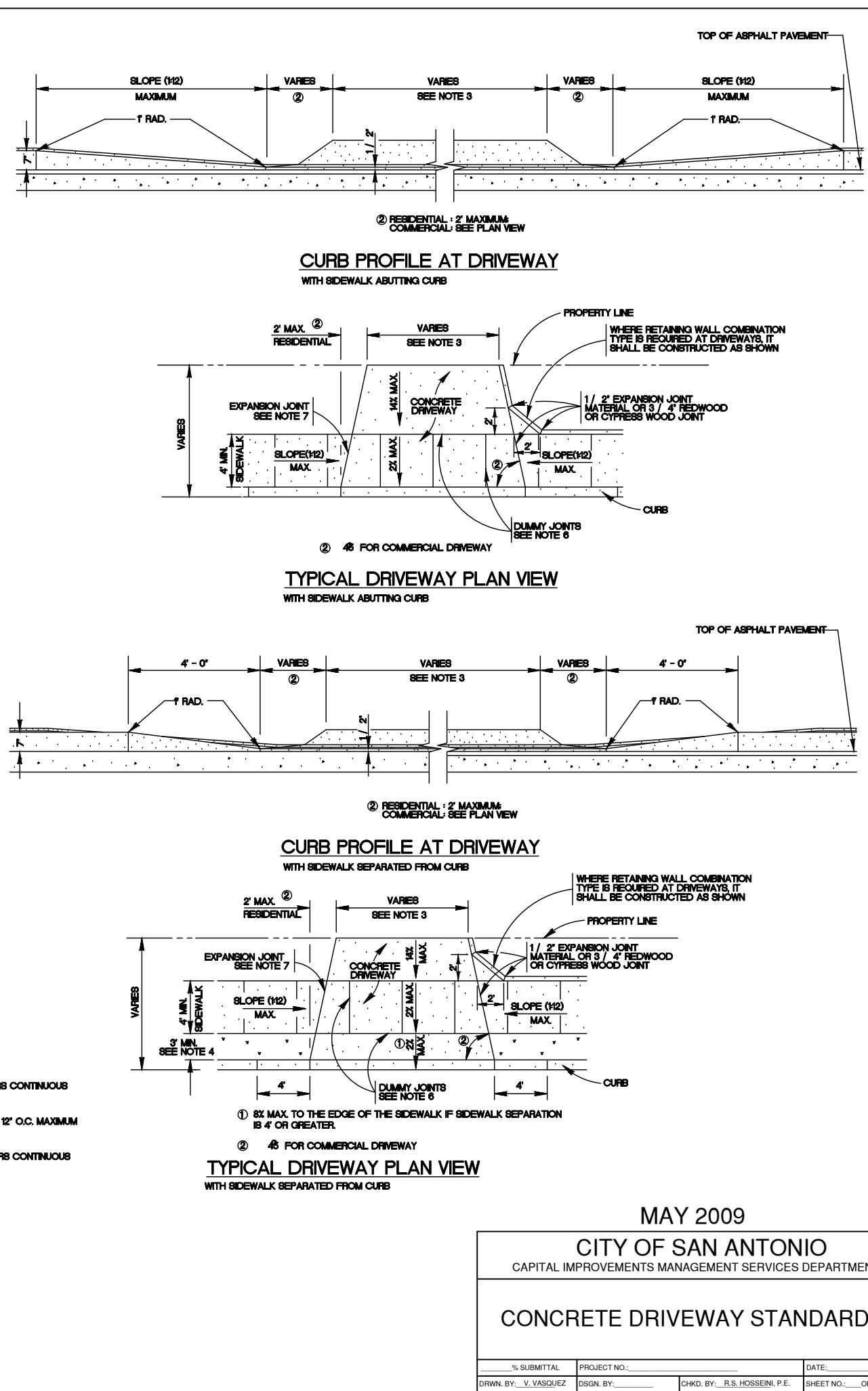
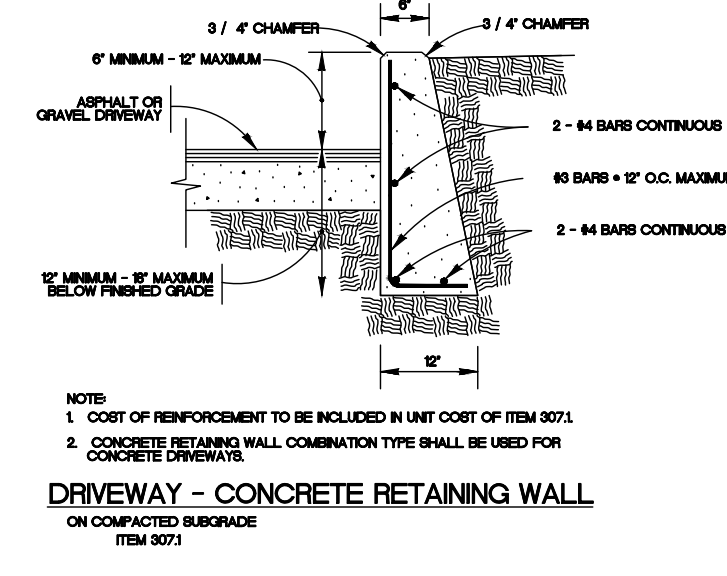
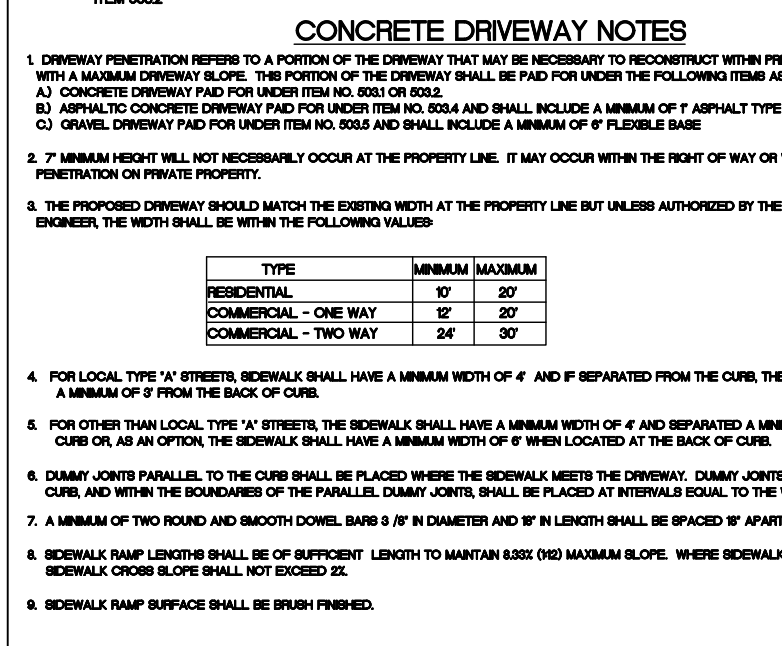
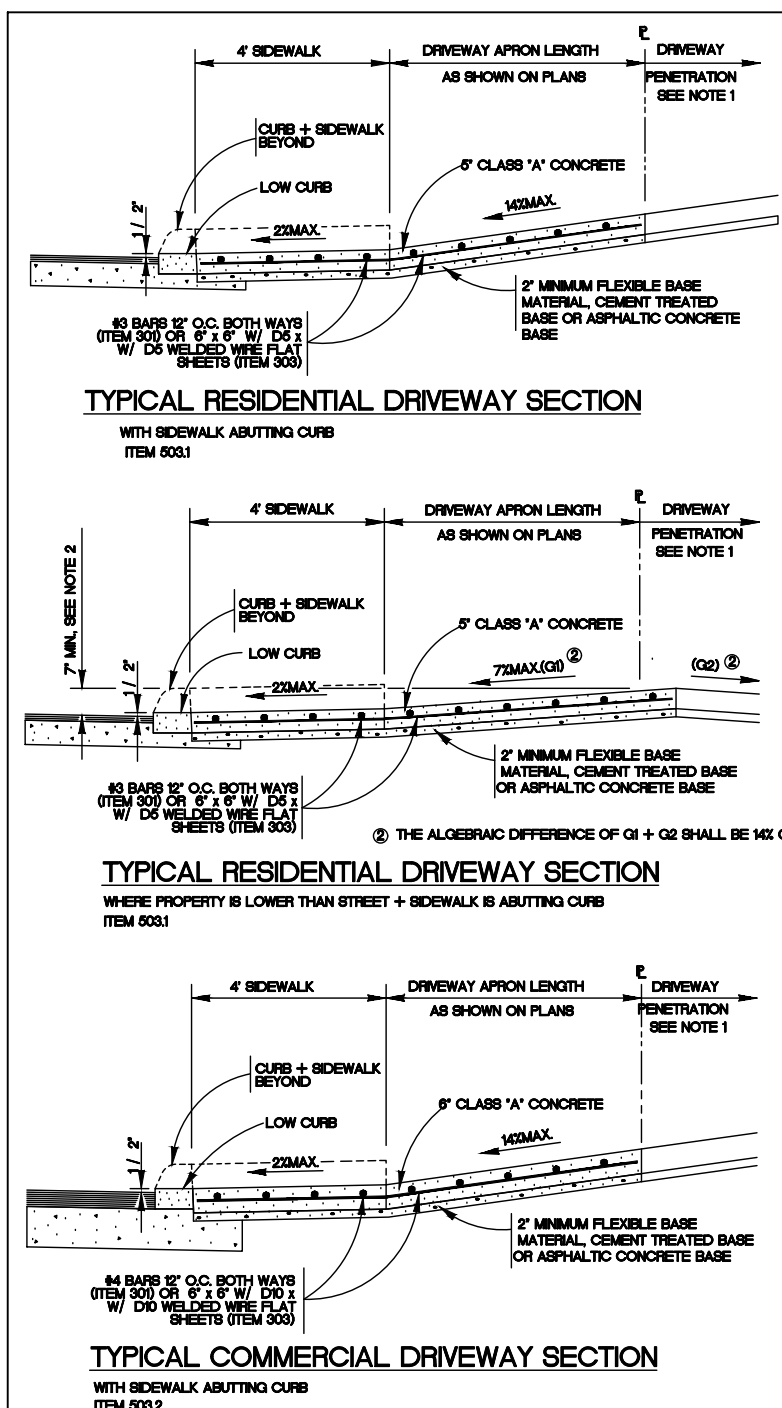
TESCHENITE AVENUE PLAN & PROFILE
STA. 1+38.74 TO END

PLAT NO. 22-11800582
 JOB NO. 11680-57
 DATE MARCH 2023
 DESIGNER RG
 CHECKED BL DRAWN RG
 SHEET C2.06

Date: Apr. 05, 2023, 11:45 am User: ID: RichardGarcia
File: P:\16180\57\Design\Ch\ST1168057 - SMOKY QUARTZ CREEK.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE/UNLESS OTHERWISE NOTED. Imagery © 2016, CARCO/USDA, Texas Orthomography Program, USDA Farm Service Agency.





PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS
STREET DETAILS

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE OCTOBER 2022
DESIGNER RG
CHECKED BL DRAWN BM
SHEET C2.12

SIGN SUPPORT DESCRIPTIVE CODES

(Quantities listed correspond to project estimate and quantities shown)

SM RD SGN ASSM TY XXXX(X)XX(X-XXXX)

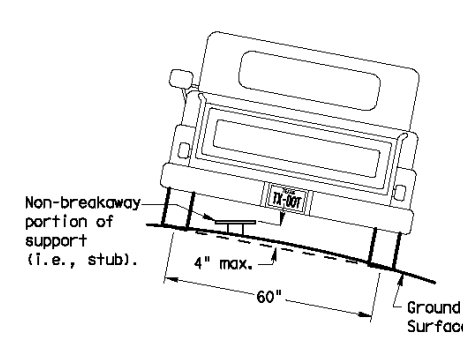
Post Type
FPP = Fiberglass Reinforced Plastic Pipe (see SMD(FPP))
TWT = Thin-Walled Tubing (see SMD(TWT))
10WB = 10 WBG Tubing (see SMD(SLIP-1) to (SLIP-3))
S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

Anchor Type
UA = Universal Anchor - Casted (see SMD(FPP) and (TWT))
UB = Universal Anchor - Bolted (see SMD(FPP) and (TWT))
W = Wedge Anchor Steel (see SMD(TWT))
W = Wedge Anchor Plastic (see SMD(TWT))
S = Slabbase - Casted (see SMD(SLIP-1) to (SLIP-3))
S = Slabbase - Bolted (see SMD(SLIP-1) to (SLIP-3))

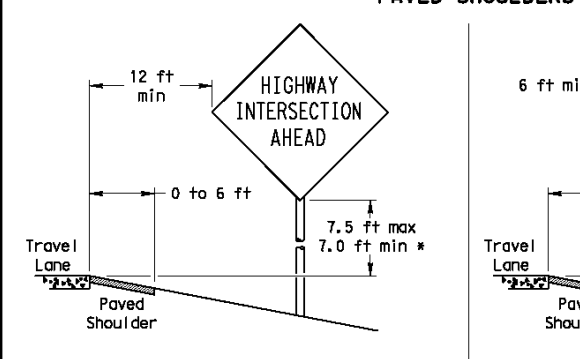
Sign Mounting Description
P = Precast, "P" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FPP))
T = Precast, "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
U = Precast, "U" (see SMD(SLIP-1) to (SLIP-3))
R = Reinforced Wing (see SMD(SLIP-1) to (SLIP-3))
10XT or 20XT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
SM = Extruded Alum. Window (see SMD(SLIP-1) to (SLIP-3))
W = 1.12 W/F Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-1) to (SLIP-3))

REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT

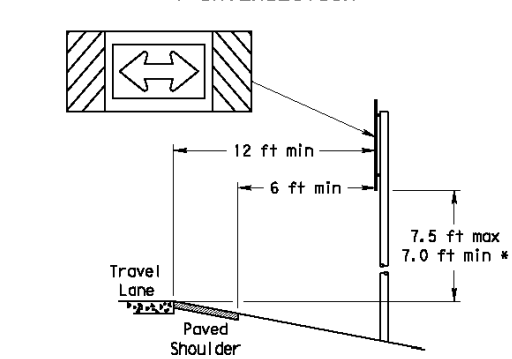


SIGN LOCATION

PAVED SHOULDERS



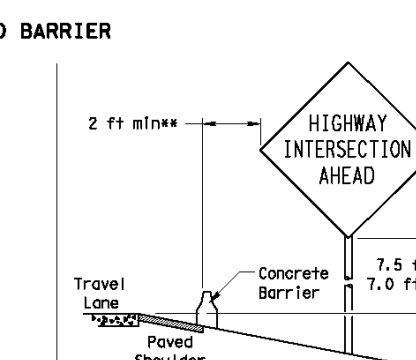
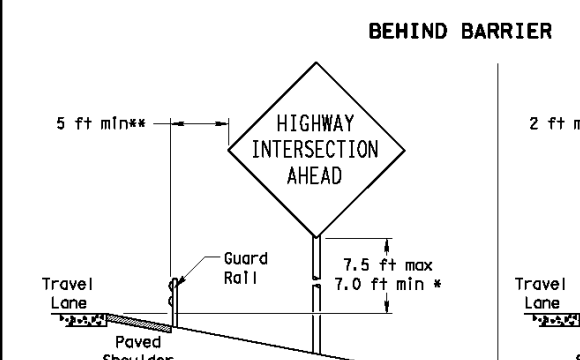
T-INTERSECTION



When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.

When the shoulder is greater than 6 ft. in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

When this sign is needed at the end of a two-lane, two-way roadway, the right edge of the sign should be in line with the center line of the roadway. Place as close to the center line as practical.



BEHIND GUARDRAIL

BEHIND CONCRETE BARRIER

*Sign clearance based on distance required for proper guard rail or concrete barrier performance.

*Signs shall be mounted using the following condition that results in the greatest sign elevation:
(1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or
(2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backstop.

The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of all signs, Triangular Slipbase System components and Wedge Anchor System components.

The website address is:
<http://www.tdot.org/publications/traffic.htm>

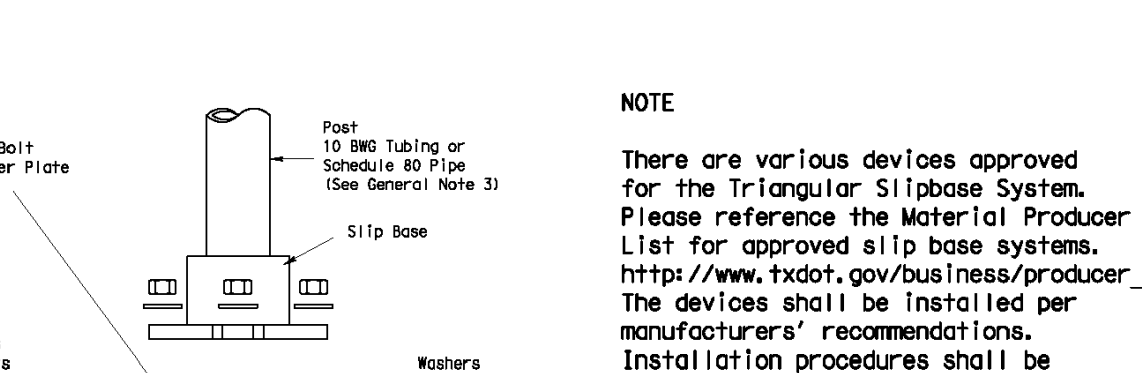
SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

SMD (GEN) - 08

REV	DATE	BY	CHKD	APPD	DESCRIPTION
9-08	07/10/02	WV/1008	DAV/1008	DAV/1008	REVISED TO ADD SMD (SLIP-3) - 08

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TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

- Slip base shall be permanently marked to indicate manufacturer, method, design, and location of working on subject to approval of the TxDOT Traffic Standards Engineer.
- Material used as post with this system shall conform to the following specifications:
 - 10 WBG Tubing (2.875\" data-bbox="764 94 894 224"/>

ASSEMBLY PROCEDURE

- Proportions 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
- The Engineer may permit locations of concrete less than 4\" data-bbox="764 230 894 324"/>

See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is:
<http://www.tdot.org/publications/traffic.htm>

Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above all plate when the slip plate is above the edge of the travelway. The cut shall be made and straight.

2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

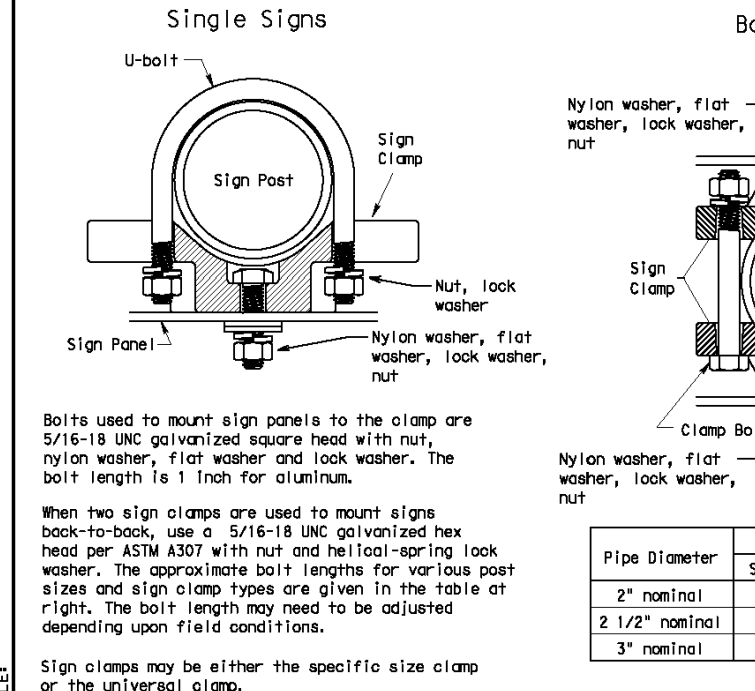
SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD (SLIP-1) - 08

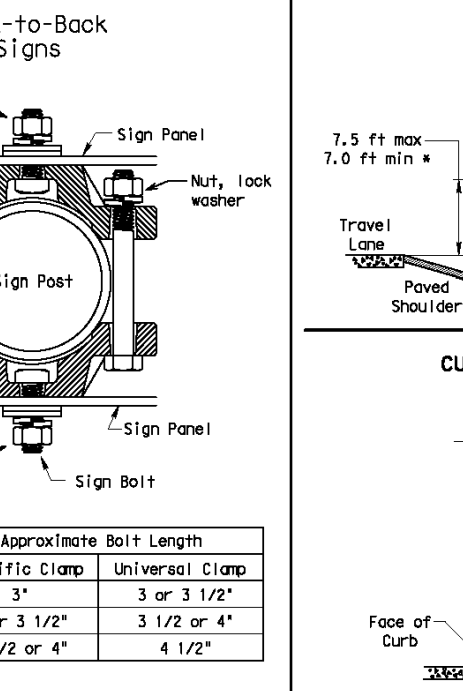
REV	DATE	BY	CHKD	APPD	DESCRIPTION
9-08	07/10/02	WV/1008	DAV/1008	DAV/1008	REVISED TO ADD SMD (SLIP-3) - 08

260

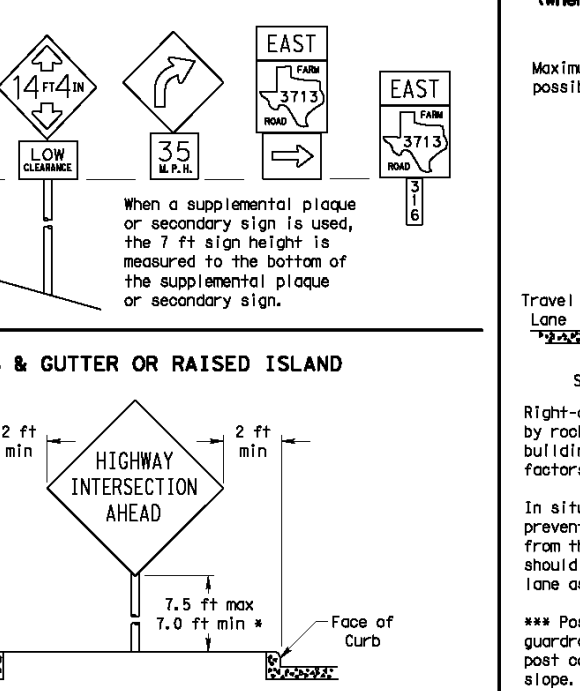
TYPICAL SIGN ATTACHMENT DETAIL



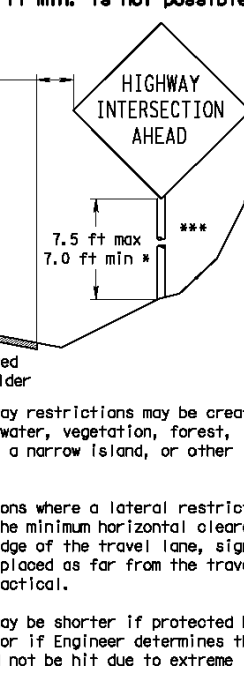
Back-to-Back Signs



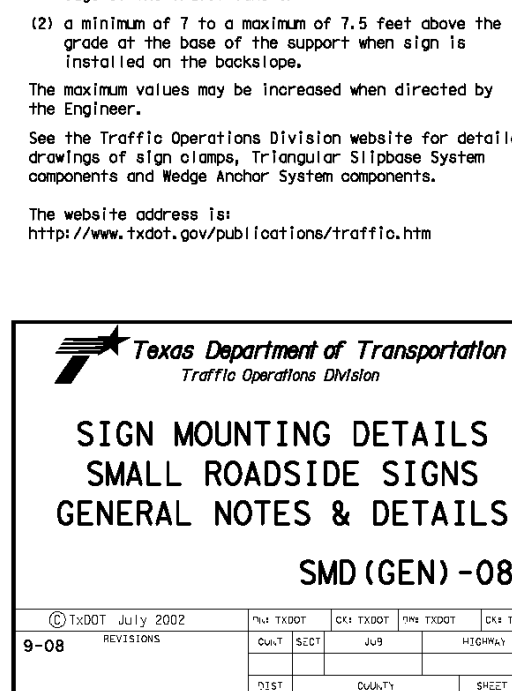
SIGNS WITH PLAQUES



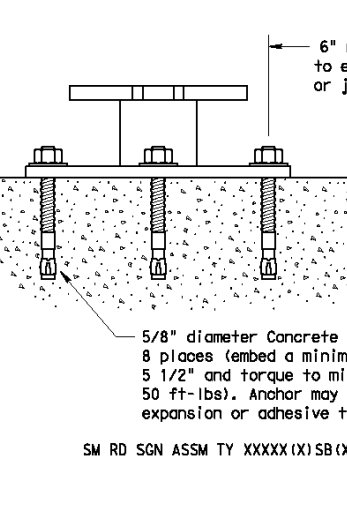
RESTRICTED RIGHT-OF-WAY (When 5 ft min. is not possible.)



CURB & GUTTER OR RAISED ISLAND



CONCRETE ANCHOR



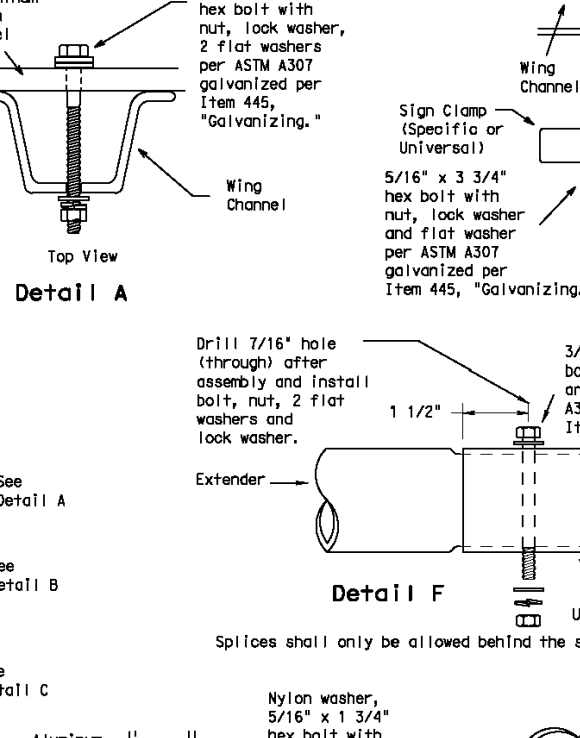
GENERAL NOTES

1. SIGN SUPPORT * OF POSTS MAX. SIGN AREA:
 - 10 WBG 18 sq. ft.
 - 10 WBG 2 32 sq. ft.
 - 10 WBG 2 32 sq. ft.
 - 10 WBG 2 64 sq. ft.
2. The Engineer may require that a Schedule 80 post be used in place of a 10 WBG where a sign height is greater than 18 ft. due to a fill slope.
3. Sign support posts shall not be spliced except where shown. Sign support posts shall not be spliced except where shown.
4. Sign support posts shall conform to Departmental Material Specifications SMD-1110 and shall have the following minimum tensile strength: 0.080 for sign less than 7.5 sq. ft., 0.100 for sign 7.5 to 15 sq. ft., and 0.125 for sign greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs reflected from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular or slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an error vehicle.
8. Wing channel shall meet ASTM A 101 SS or 50 and be galvanized per ASTM A 125.
9. Exposed pipe, wing channel, or window shall be cut off so that it does not extend beyond the sign panel (i.e., exposed support shall not be visible when the sign is viewed from the front.) Repeat galvanized coating on all support ends per Item 445, "Galvanizing."
10. Additional route markers may be used vertically, provided they do not exceed the maximum allowable amount per Item 11.
11. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT

SIGN DESCRIPTION	SUPPORT
48-Inch STOP sign (R1-1)	TY 1006G(1)XXX(1)
60-Inch YIELD sign (R1-2)	TY 1006G(1)XXX(1)
48x48-Inch ONE-WAY sign (R1-1)	TY 1006G(1)XXX(1)
36x48, 48x36, and 48x48-Inch signs	TY 1006G(1)XXX(1)
48x48-Inch signs	TY 1006G(1)XXX(1)
48x48-Inch signs (diamond or square)	TY 1006G(1)XXX(1)
48x48-Inch signs	TY 1006G(1)XXX(1)
48-Inch Advance School X-ing sign (S1-1)	TY 1006G(1)XXX(1)
48-Inch School X-ing sign (S2-1)	TY 1006G(1)XXX(1)
Large Arrow sign (W1-6 & W1-7)	TY 1006G(1)XXX(1)

FRICION CAP DETAIL



REQUIRED SUPPORT

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48-Inch School X-ing sign (S2-1)	TY 1006G(1)XXX(1)
Large Arrow sign (W1-6 & W1-7)	TY 1006G(1)XXX(1)

260

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD (SLIP-2) - 08

REV	DATE	BY	CHKD	APPD	DESCRIPTION
9-08	07/10/02	WV/1008	DAV/1008	DAV/1008	REVISED TO ADD SMD (SLIP-3) - 08

260

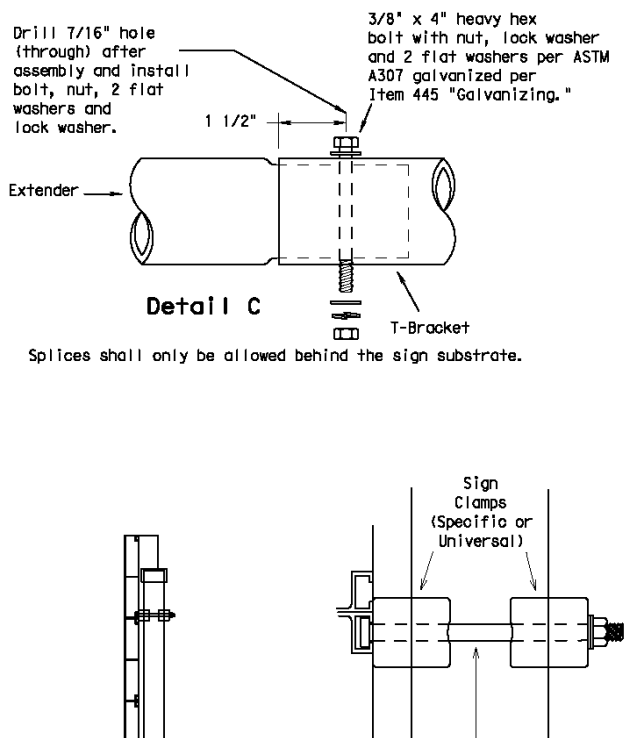
GENERAL NOTES

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36x48, 48x36, and 48x48-Inch signs	TY 1006G(1)XXX(1)
48x48-Inch signs	TY 1006G(1)XXX(1)
48x48-Inch signs (diamond or square)	TY 1006G(1)XXX(1)
48x48-Inch signs	TY 1006G(1)XXX(1)
48-Inch Advance School X-ing sign (S1-1)	TY 1006G(1)XXX(1)
48-Inch School X-ing sign (S2-1)	TY 1006G(1)XXX(1)
Large Arrow sign (W1-6 & W1-7)	TY 1006G(1)XXX(1)

FRICION CAP DETAIL



REQUIRED SUPPORT

SIGN DESCRIPTION	SUPPORT
48-Inch STOP sign (R1-1)	TY 1006G(1)XXX(1)
60-Inch YIELD sign (R1-2)	TY 1006G(1)XXX(1)
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Large Arrow sign (W1-6 & W1-7)	TY 1006G(1)XXX(1)

260

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD (SLIP-3) - 08

REV	DATE	BY	CHKD	APPD	DESCRIPTION
9-08	07/10/02	WV/1008	DAV/1008	DAV/1008	REVISED TO ADD SMD (SLIP-3) - 08

260

RIVERSTONE UNITS - G5 & G6

SAN ANTONIO, TEXAS

OVERALL SIGNAGE DETAILS

PLAT NO. 22-11800582

JOB NO. 11680-57

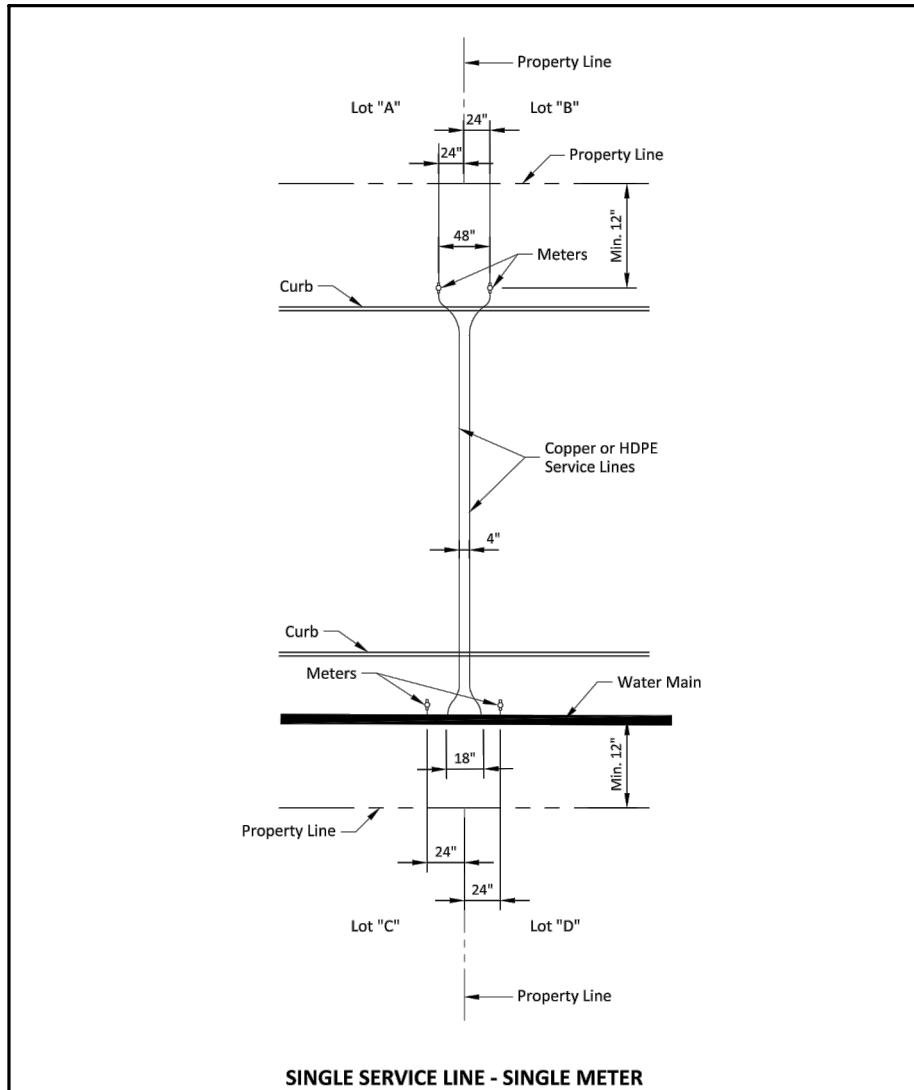
DATE OCTOBER 2022

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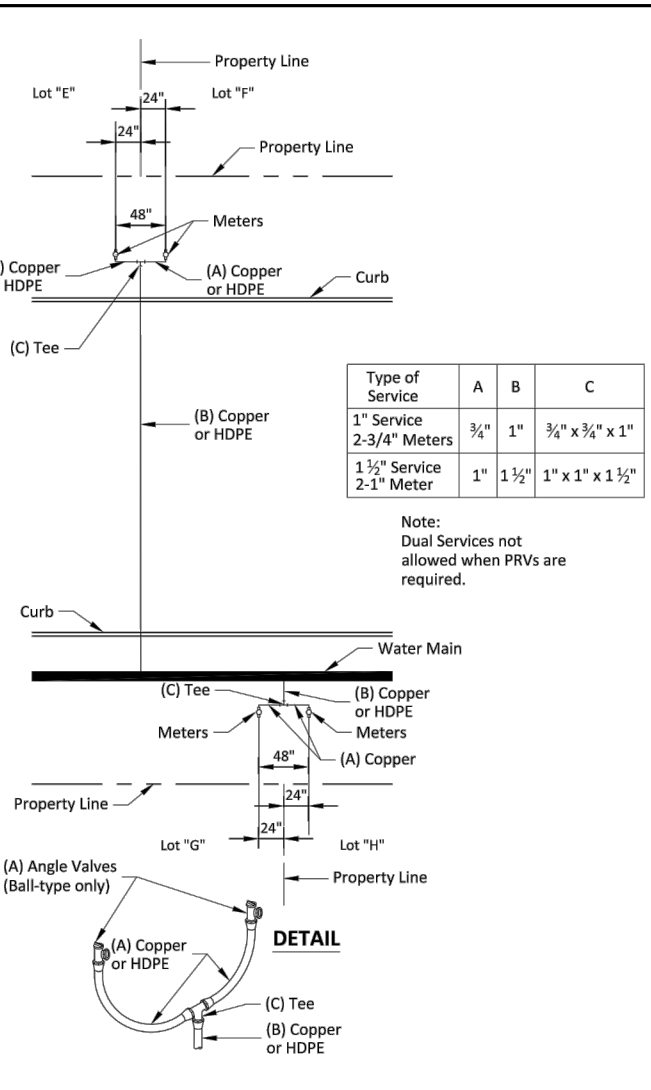
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SHEET C3.10

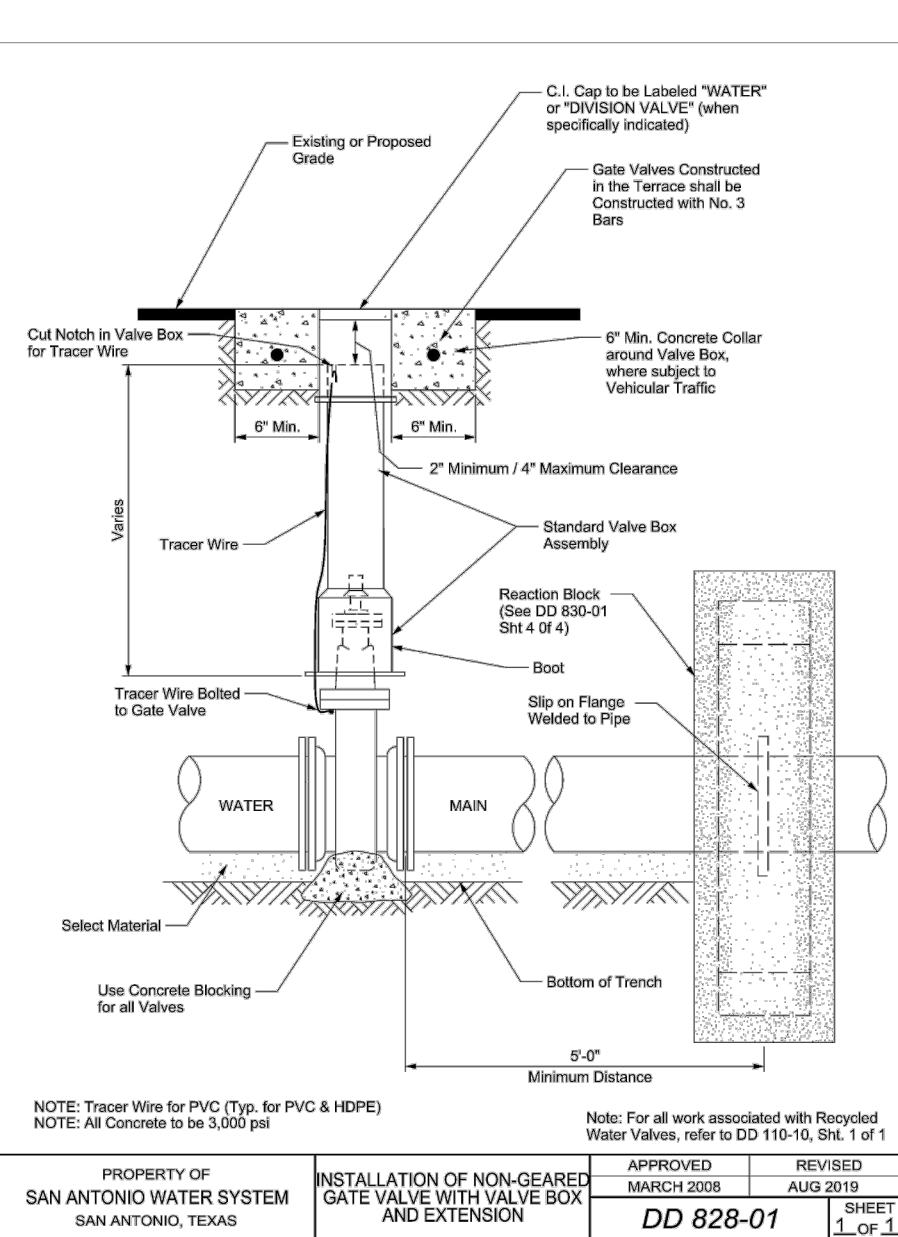
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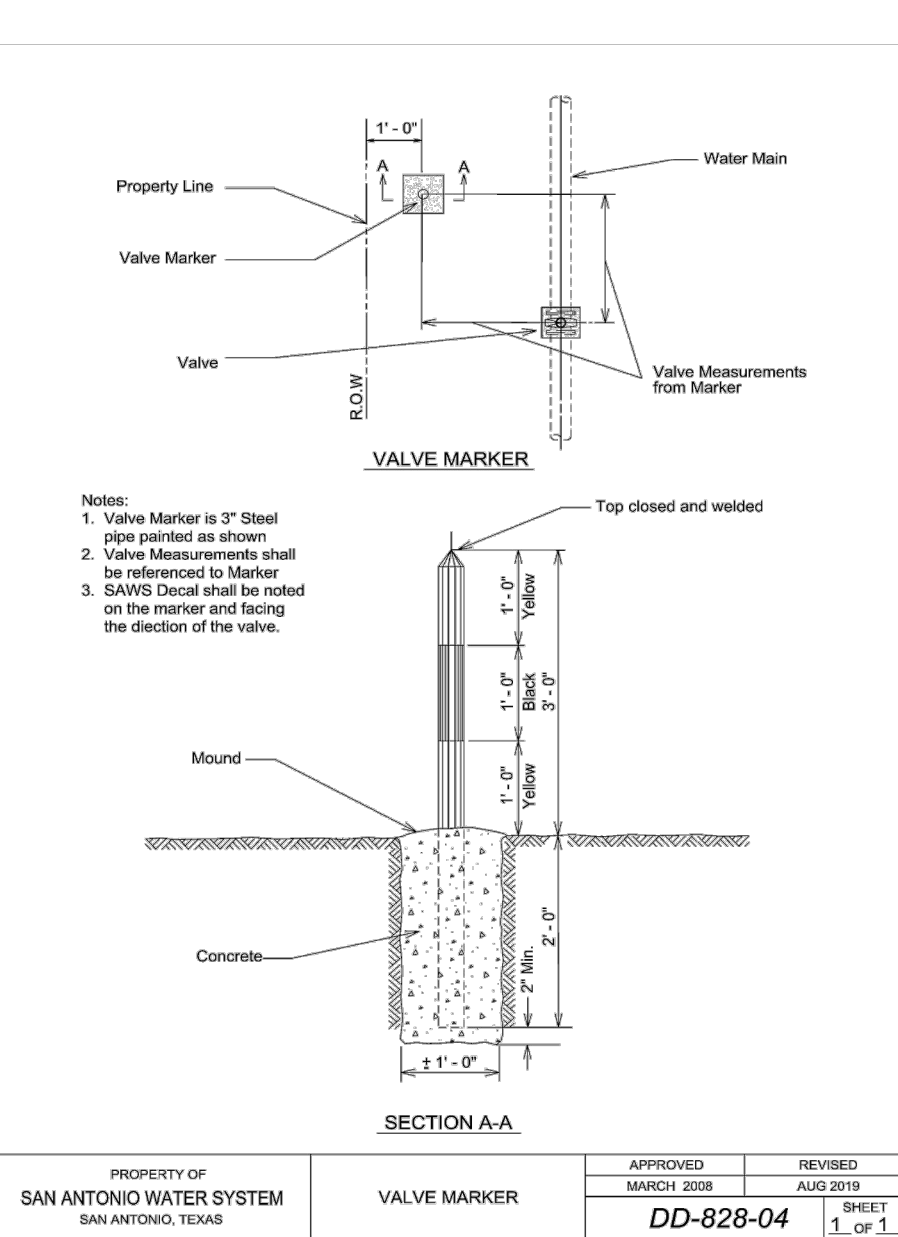
PROPERTY OF	TYPICAL	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	NEW DEVELOPMENT	MARCH 2008	DECEMBER 2018
SAN ANTONIO, TEXAS	SERVICE ARRANGEMENT	DD-824-05	1 OF 3



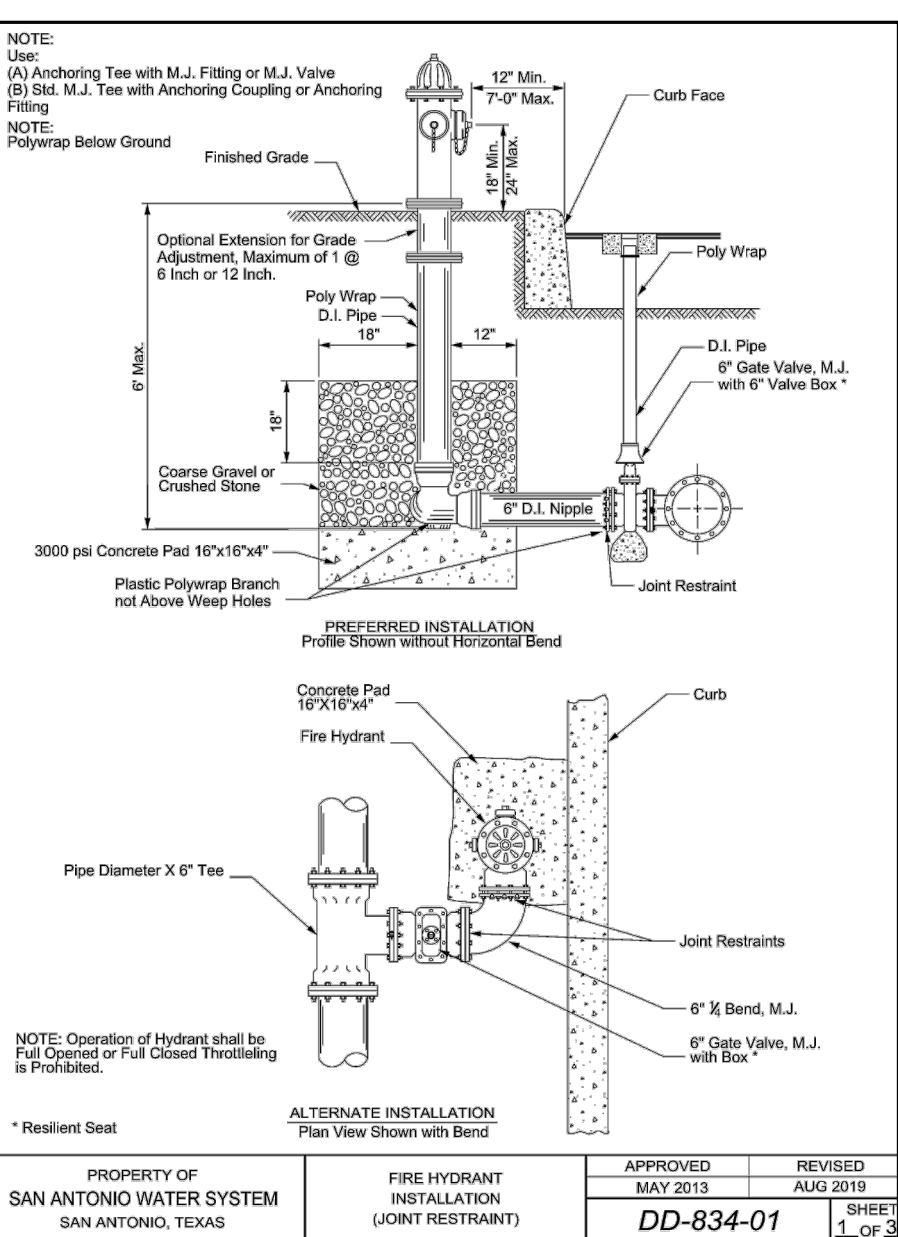
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SAN ANTONIO WATER SYSTEM	SERVICE ARRANGEMENT	MARCH 2008	DECEMBER 2018
SAN ANTONIO, TEXAS	SERVICE ARRANGEMENT	DD-824-05	2 OF 3



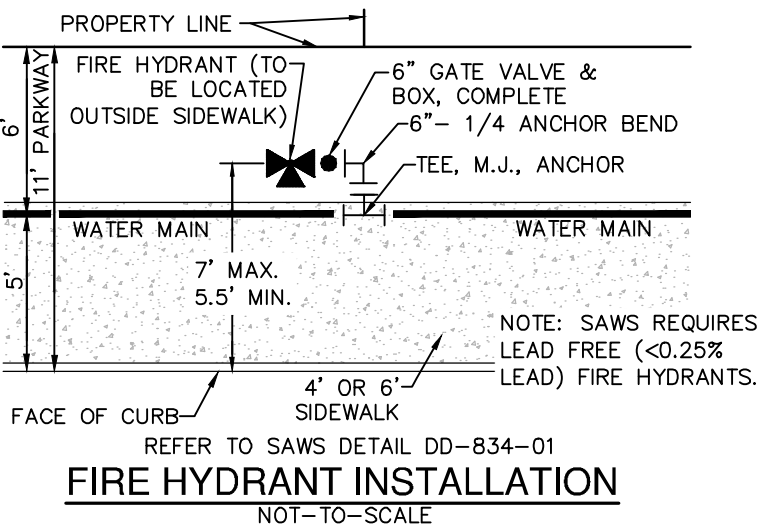
PROPERTY OF	INSTALLATION OF NON-GEARED GATE VALVE WITH VALVE BOX AND EXTENSION	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-828-01	1 OF 1



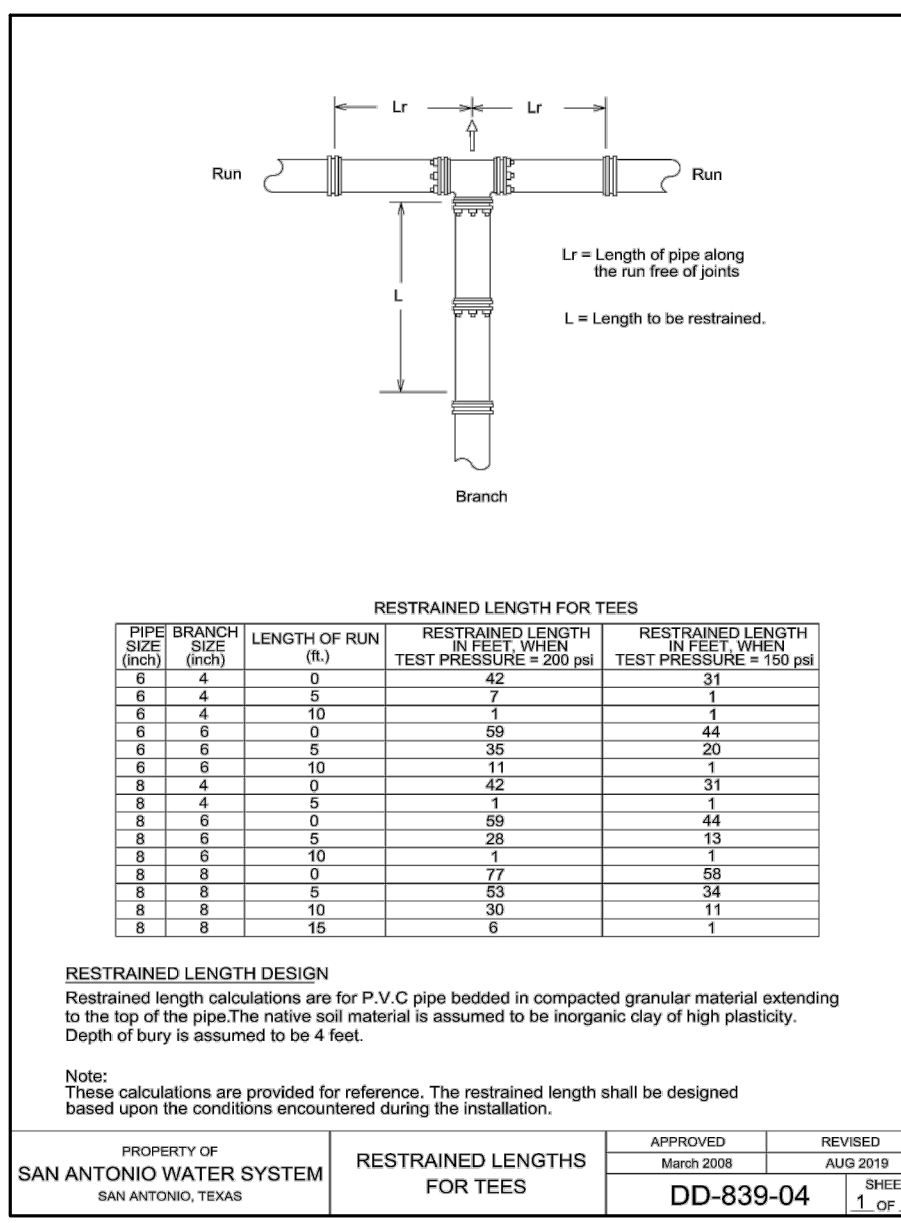
PROPERTY OF	VALVE MARKER	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-828-04	1 OF 1



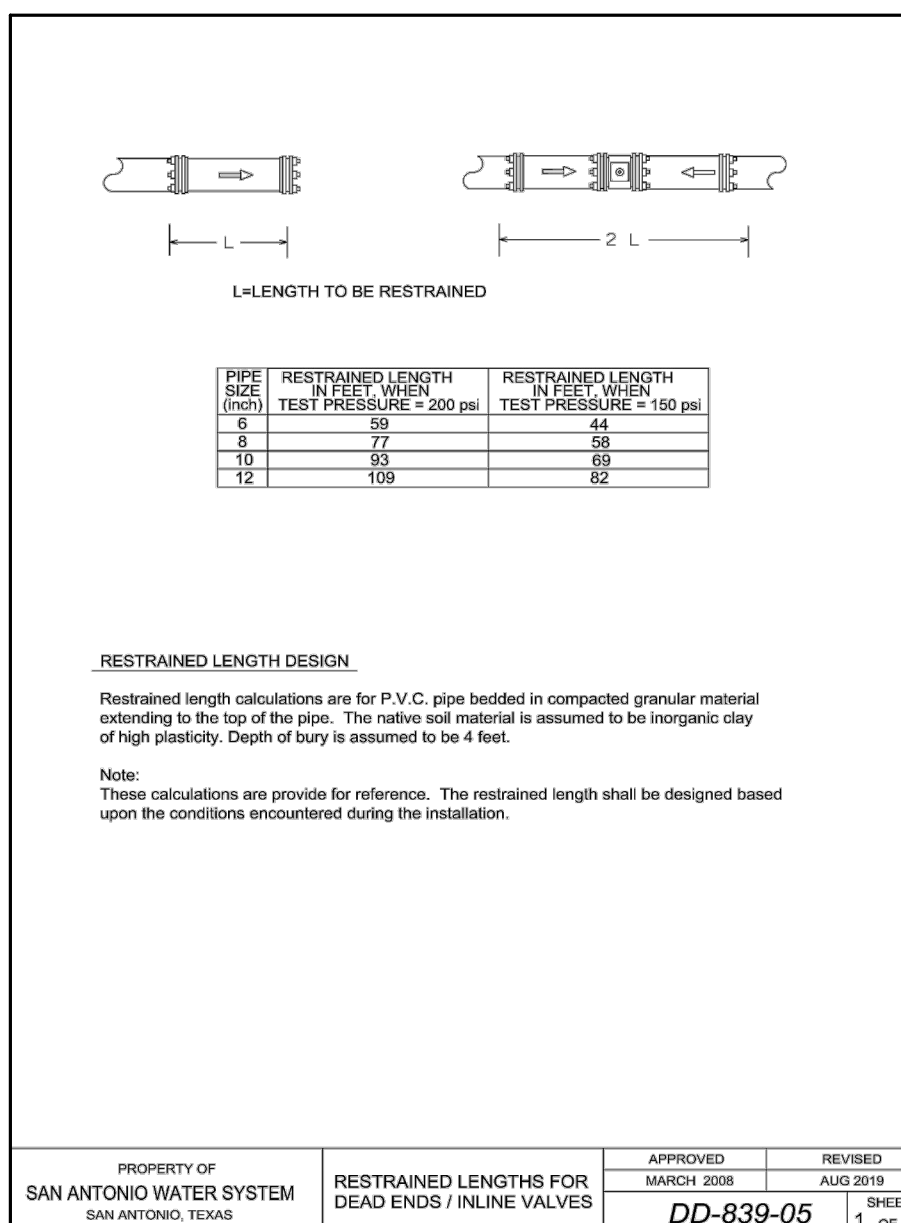
PROPERTY OF	FIRE HYDRANT INSTALLATION (JOINT RESTRAINT)	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MAY 2013	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-834-01	1 OF 3



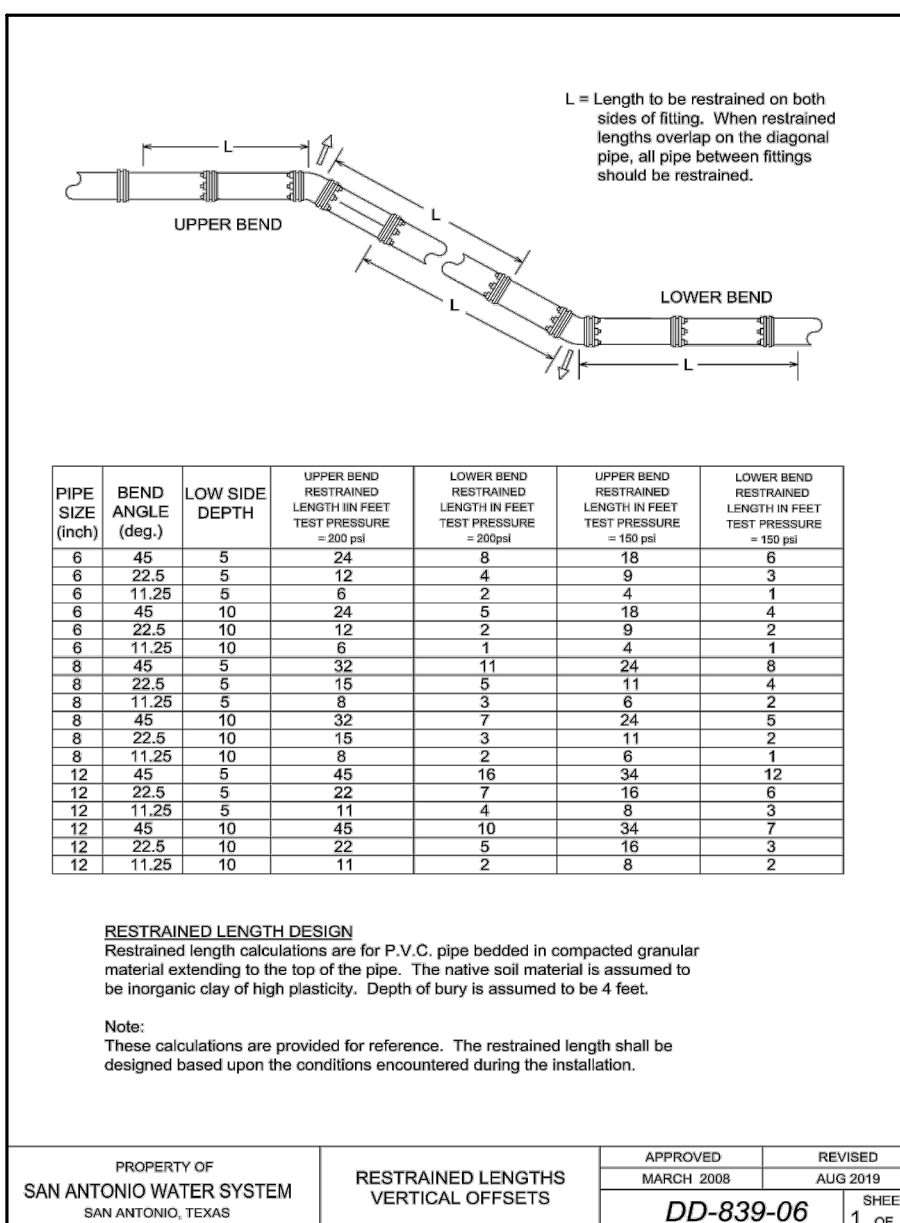
PROPERTY OF	FIRE HYDRANT INSTALLATION	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MAY 2013	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-834-01	2 OF 3



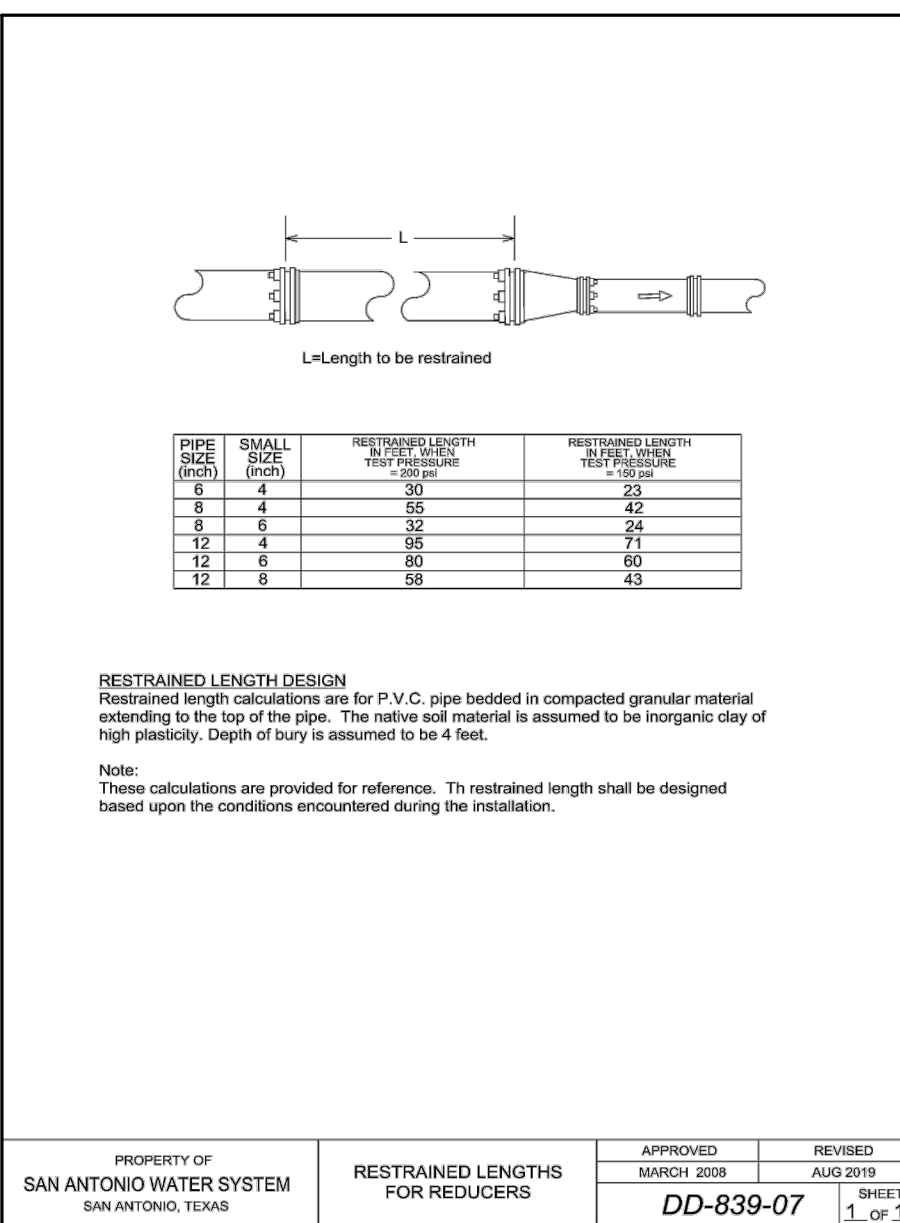
PROPERTY OF	RESTRAINED LENGTHS FOR TEES	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-839-04	1 OF 2



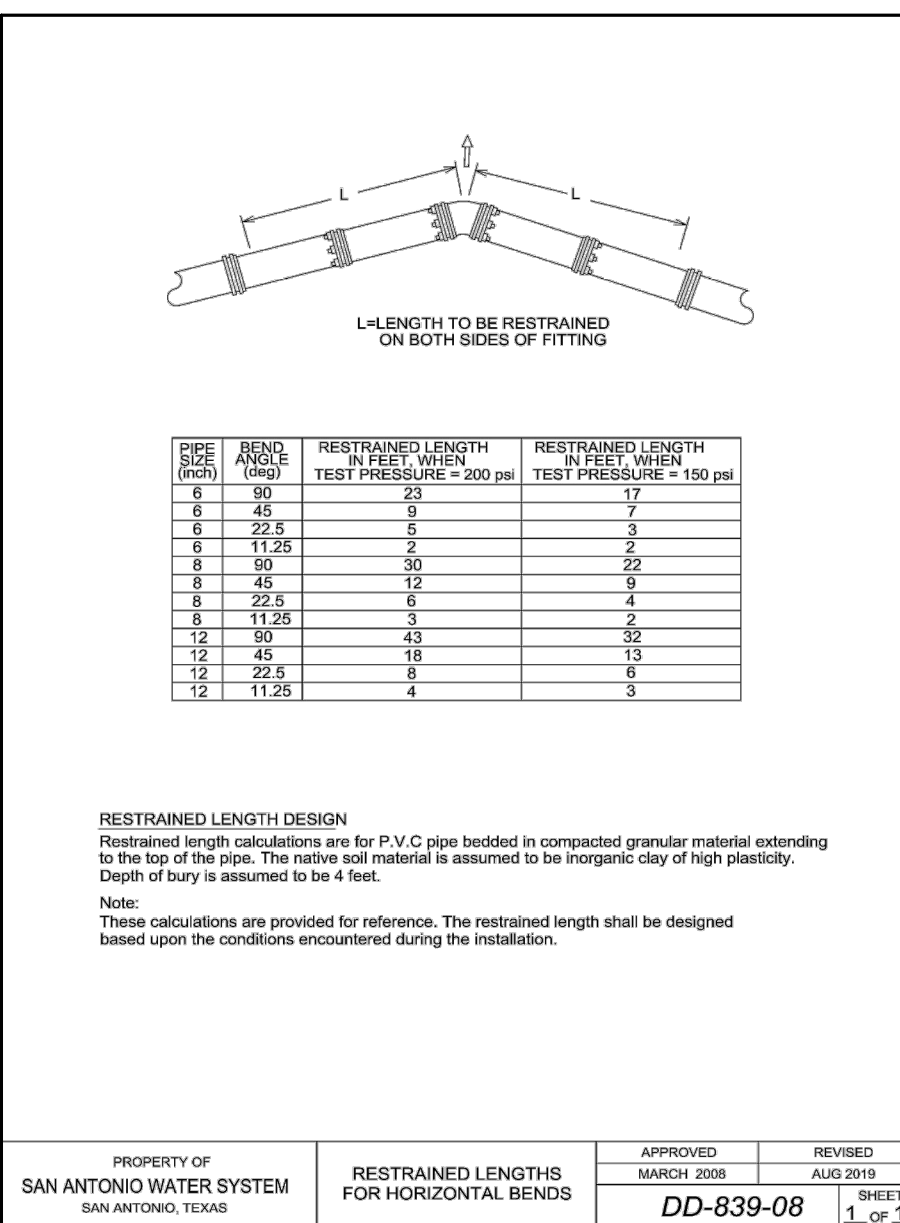
PROPERTY OF	RESTRAINED LENGTHS FOR DEAD ENDS / IN LINE VALVES	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-839-05	1 OF 1



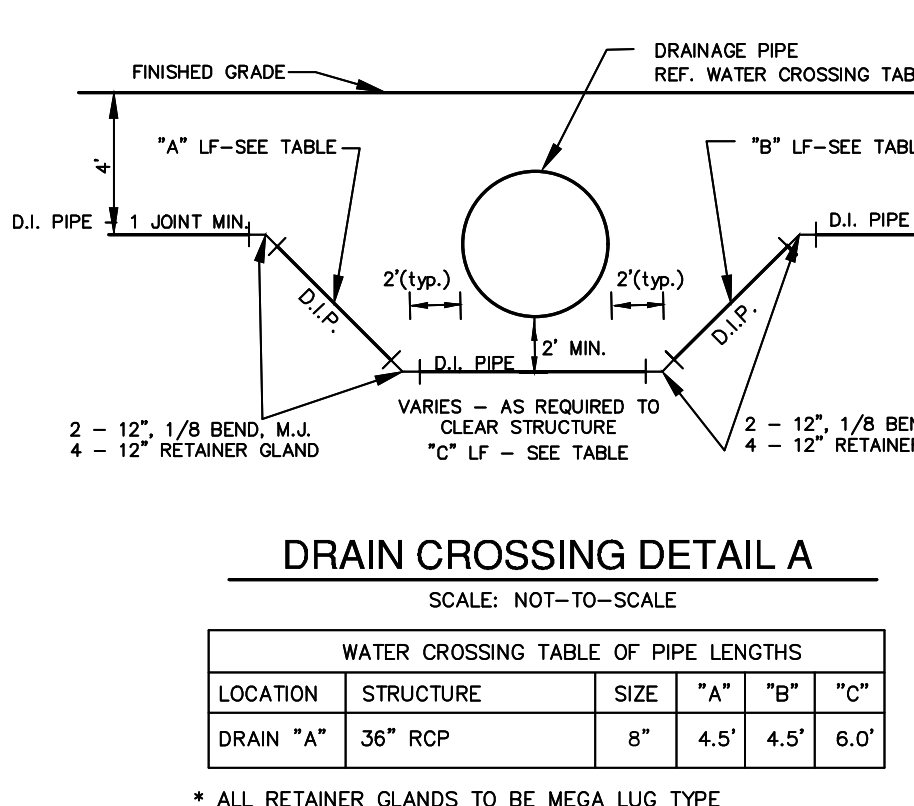
PROPERTY OF	RESTRAINED LENGTHS VERTICAL OFFSETS	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-839-06	1 OF 1



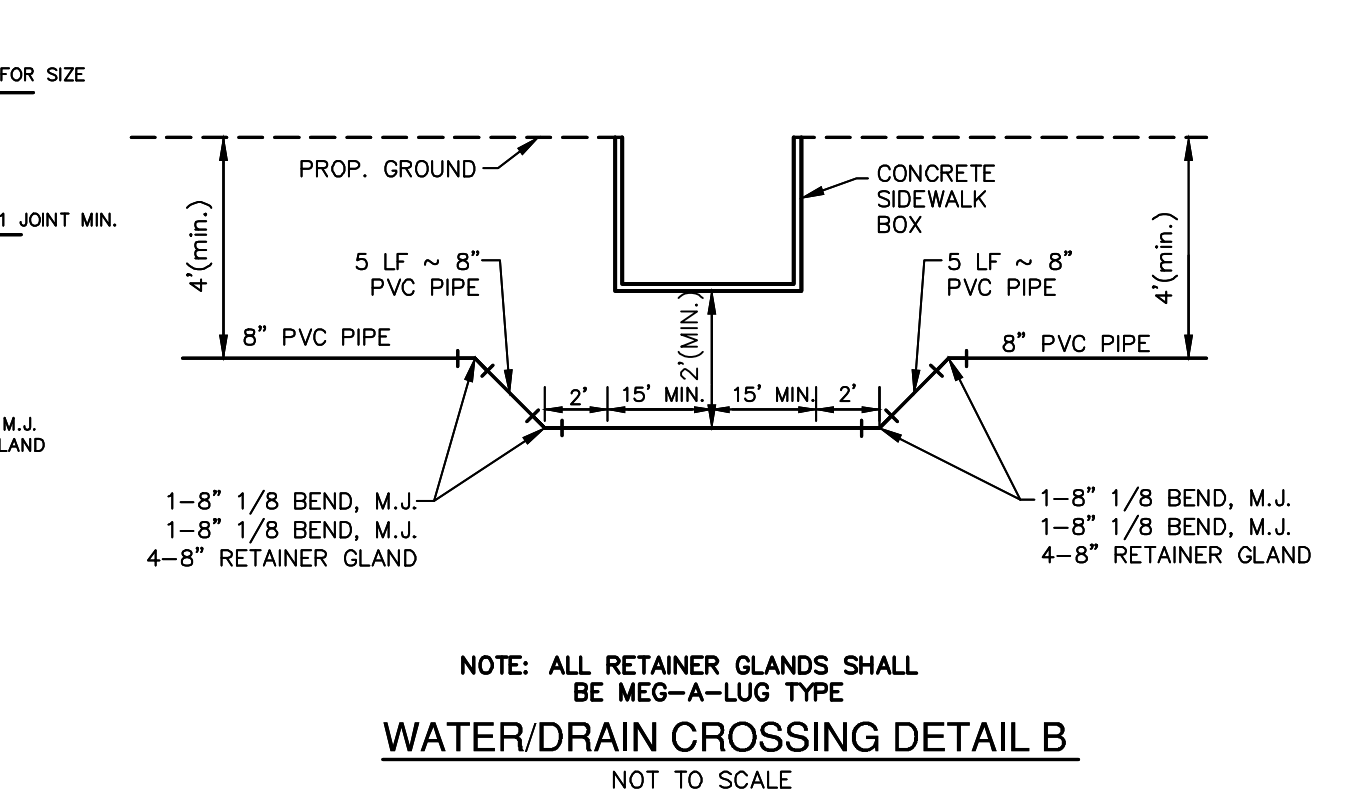
PROPERTY OF	RESTRAINED LENGTHS FOR REDUCERS	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-839-07	1 OF 1



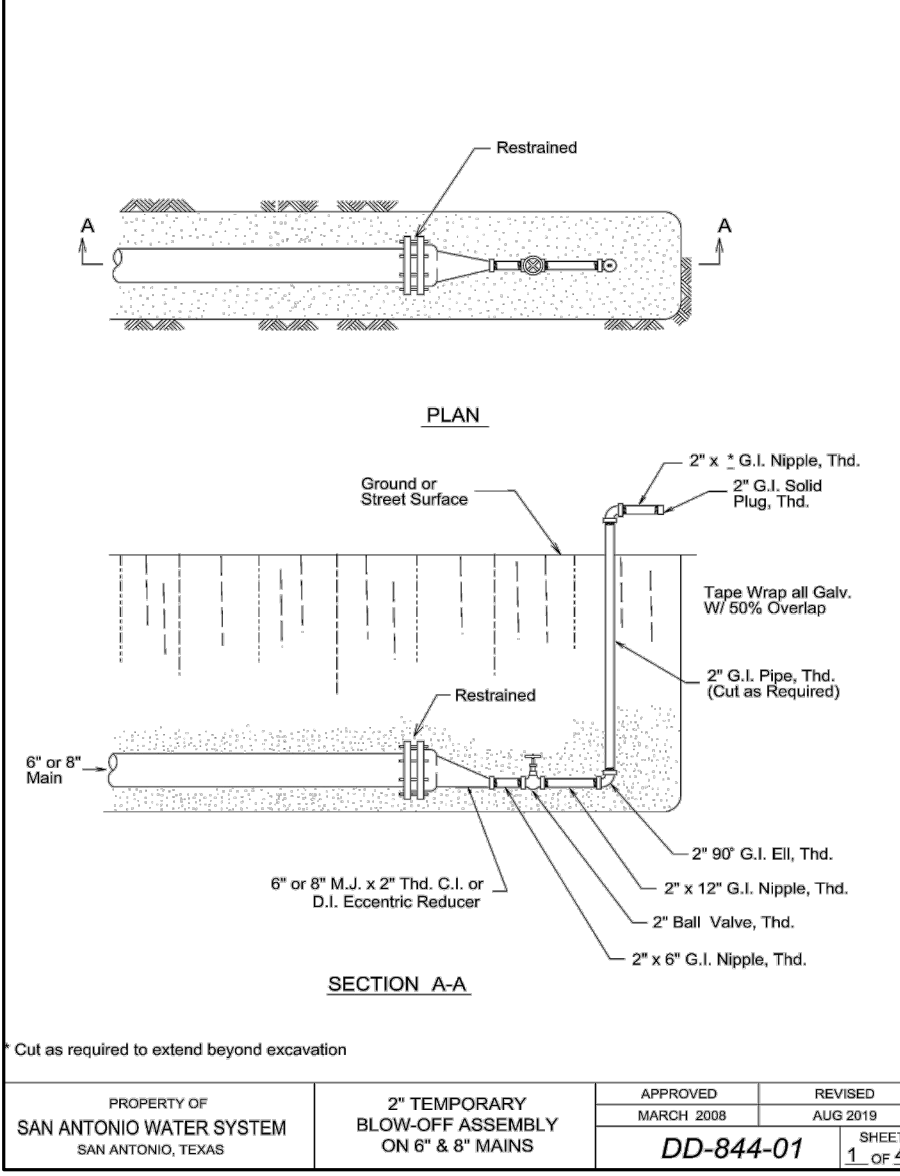
PROPERTY OF	RESTRAINED LENGTHS FOR HORIZONTAL BENDS	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-839-08	1 OF 1



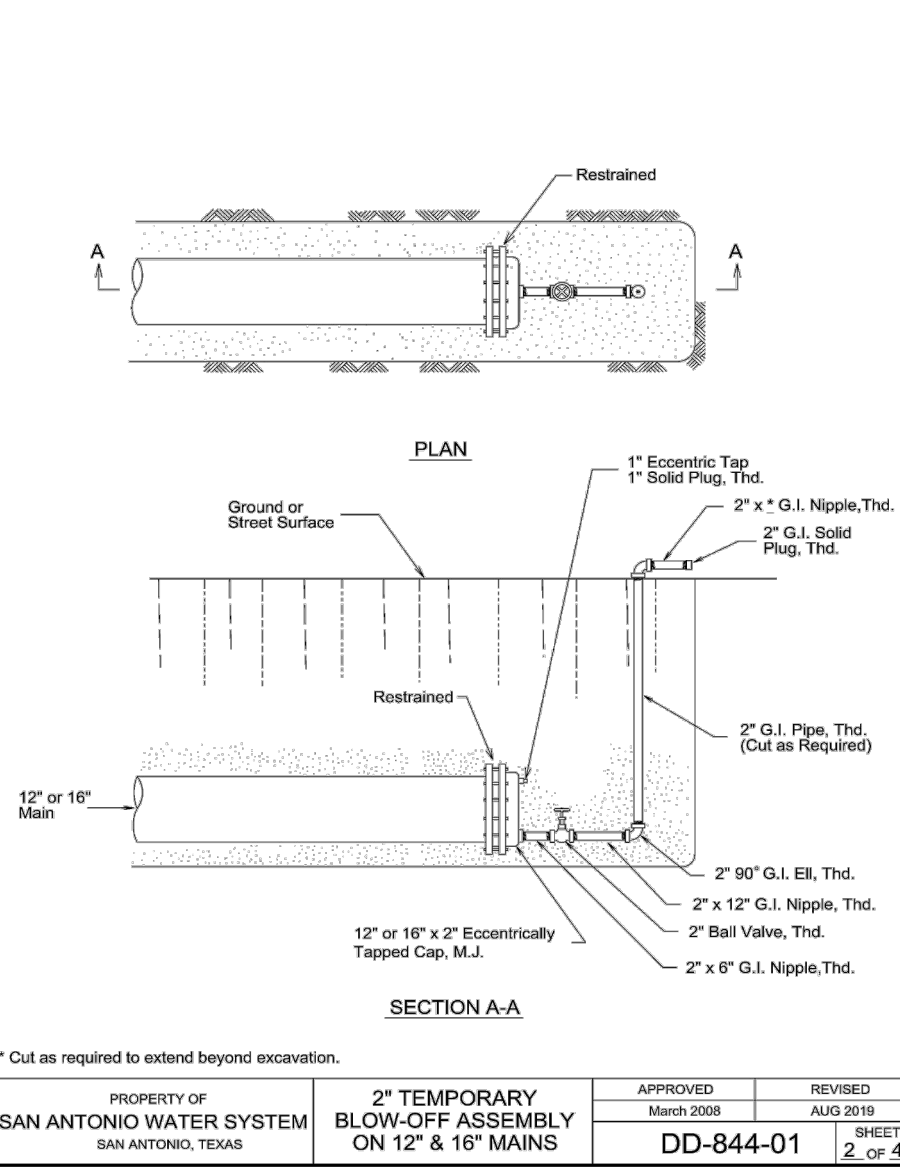
PROPERTY OF	WATER CROSSING TABLE OF PIPE LENGTHS	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-839-06	1 OF 1



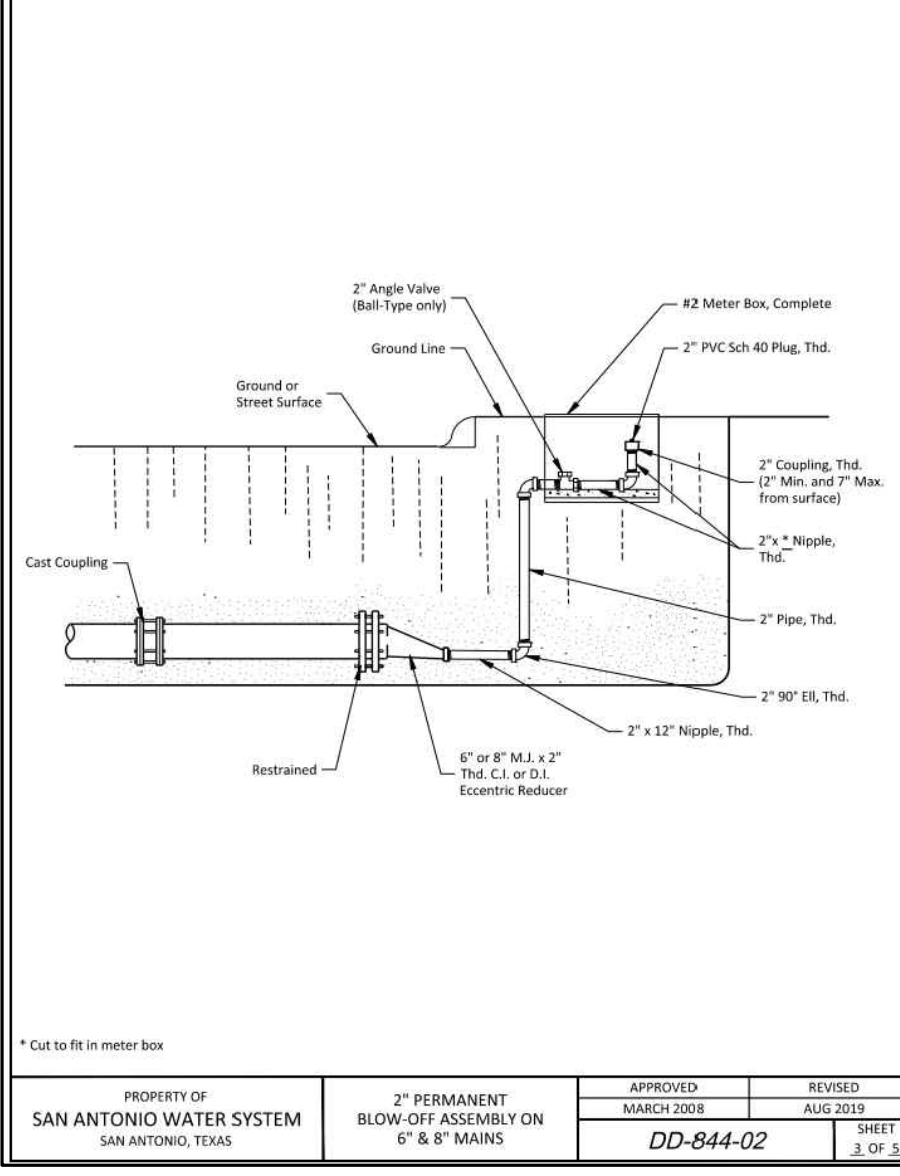
PROPERTY OF	WATER/DRAIN CROSSING DETAIL B	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-839-06	1 OF 1



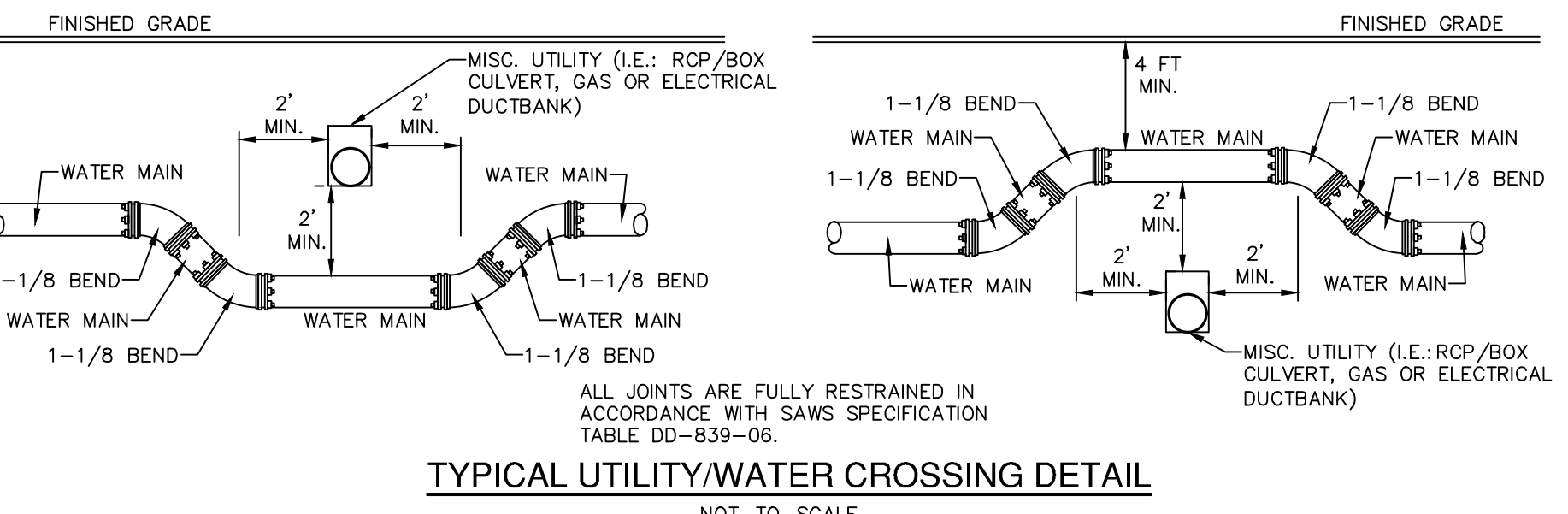
PROPERTY OF	2" TEMPORARY BLOW-OFF ASSEMBLY ON 12" & 16" MAINS	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-844-01	1 OF 4



PROPERTY OF	2" PERMANENT BLOW-OFF ASSEMBLY ON 12" & 16" MAINS	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-844-01	2 OF 4



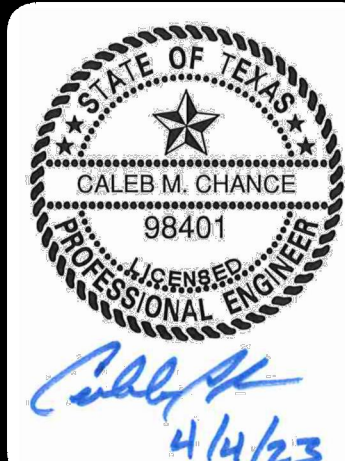
PROPERTY OF	2" PERMANENT BLOW-OFF ASSEMBLY ON 12" & 16" MAINS	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-844-02	1 OF 1



PROPERTY OF	TYPICAL UTILITY/WATER CROSSING DETAIL	APPROVED	REVISED
SAN ANTONIO WATER SYSTEM	SAN ANTONIO, TEXAS	MARCH 2008	AUGUST 2019
SAN ANTONIO, TEXAS	SAN ANTONIO, TEXAS	DD-839-06	1 OF 1

DEVELOPER'S NAME:	CONTINENTAL HOMES OF TEXAS, L.P.
ADDRESS:	5419 N LOOP 1604 E
CITY:	SAN ANTONIO
STATE:	TX
ZIP:	78247
PHONE#:	(210) 496-2668
FAX#:	
SAWS BLOCK MAP#:	072604
TOTAL EDU'S:	162
TOTAL ACRES:	29.58
TOTAL LINEAR FOOTAGE OF PIPE:	12" = 5,824.00
NUMBER OF LOTS:	162
SAWS JOB NO.:	22-11800582

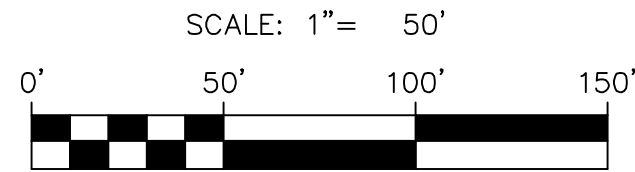
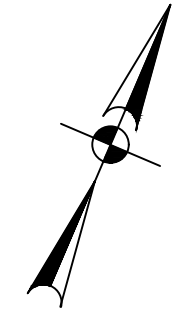
DATE	
NO.	
REVISION	



PAPE-DAWSON ENGINEERS
 SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
 2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008860

RIVERSTONE UNITS - G5 & G6
 SAN ANTONIO, TEXAS
 WATER DISTRIBUTION PLAN DETAILS

PLAT NO.	22-11800582
JOB NO.	11680-57
DATE	MARCH 2023
DESIGNER	RG
CHECKED	BL
DRAWN	RG
SHEET	C4.10



PROJECT LIMITS

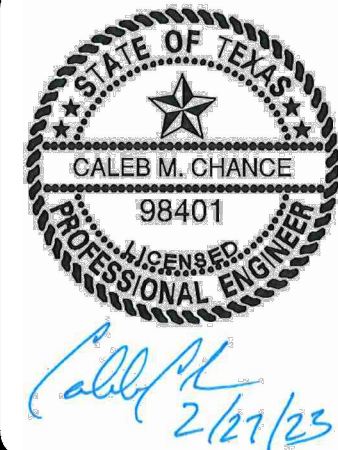
EXISTING WATER

EXISTING SEWER

PROPOSED SEWER

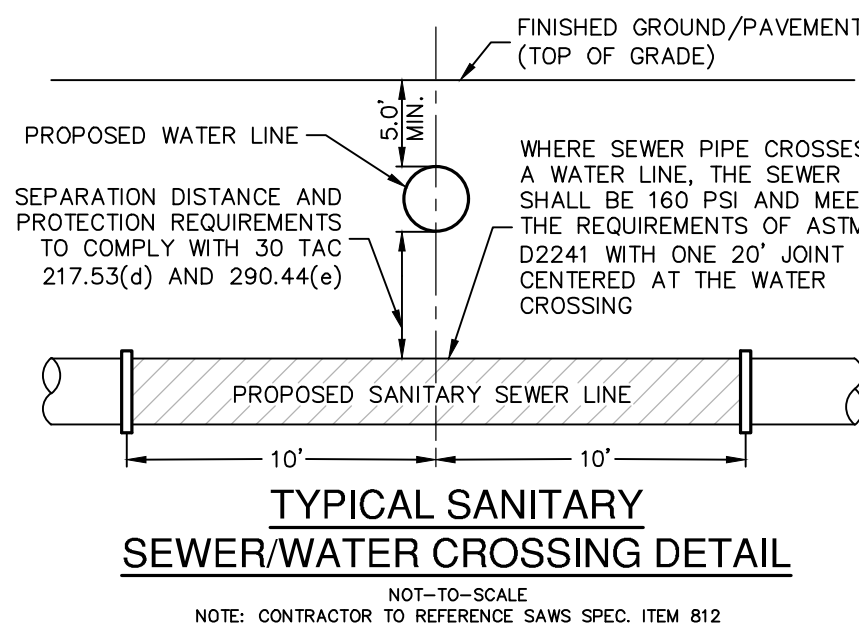
PROPOSED WATER

PROPOSED SEWER LATERAL



**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
20000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #10028800



CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND CABLE, FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRIC, DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITIES CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE OWNER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY AT 800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

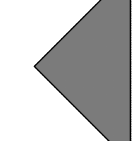
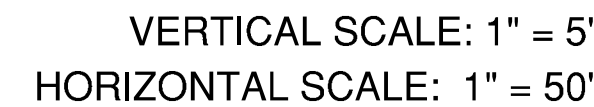
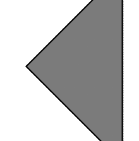
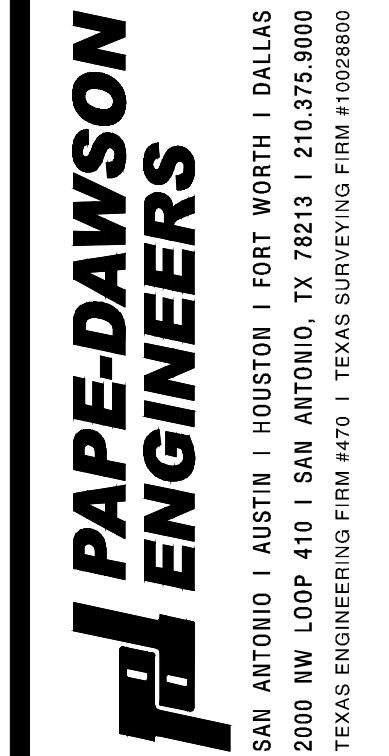
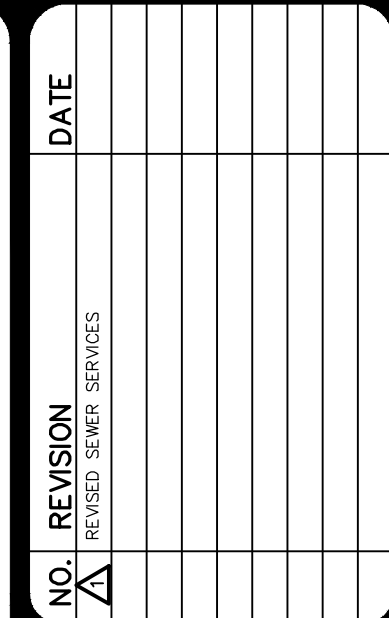
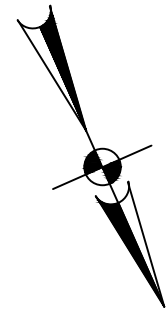
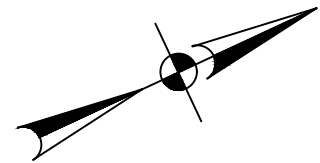
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND SHALL SIGNIFY TO THE AGENCY BY THE DATE OF THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND PROCEDURES SHALL BE SUBJECT TO ADDITIONAL REVIEW AND APPROVAL BY THE AGENCY'S SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARD FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY/EQUIPMENT CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM THAT COMPLY WITH OSHA REGULATIONS CONCERNING TRENCH AND EXCAVATION ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, L.P.
ADDRESS: 5419 N LOOP 1604 E
CITY: SAN ANTONIO STATE: TX ZIP: 78247
PHONE# (210) 496-2668 FAX# _____
SAWS BLOCK MAP# 027806 TOTAL EDU'S 162 TOTAL ACREAGE 29.56
TOTAL LINEAR FOOTAGE OF PIPE: 8' 6.359 30 LF PLAT NO. 22-1180058
NUMBER OF LOTS 162 SAWS JOB NO. 22-1720

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

SANITARY SEWER LINE A PLAN & PROFILE
STA. 1+00.00 TO END

PLAT NO. 22-1180058
JOB NO. 11680-57
DATE FEBRUARY 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C5.01



CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE, FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL, DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION, ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE THE CONTRACTOR'S SOLE EXPENSE. WHETHER THE UTILITY IS SHOWN OR NOT. THESE PLANS OR NOT.

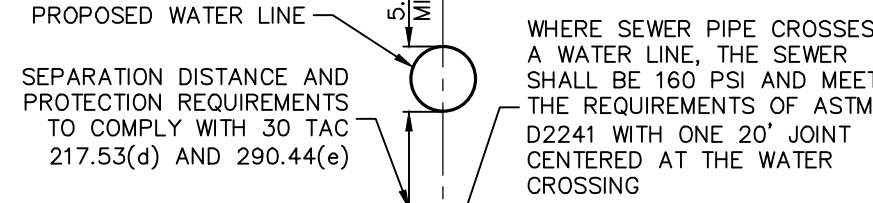
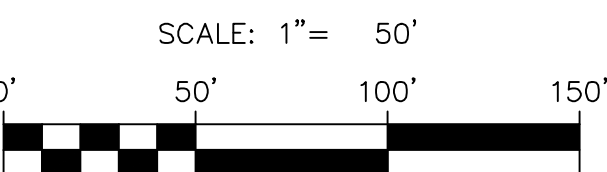
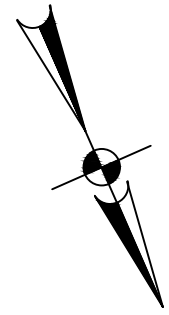
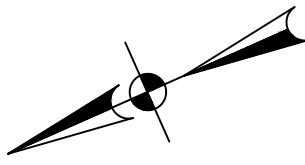
TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEES OR STRUCTURAL DESIGN, GEOTECHNICAL, SAFETY/EQUIPMENT CONSULTANT, OR ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL DATA AND REPORT THEREON TO THE CONTRACTOR AND/OR CONTRACTOR'S PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND PROCEDURES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT TRENCH SAFETY PROTECTION SYSTEMS WITH OSHA STANDARDS FOR TRENCH EXCAVATION ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.

SEWER

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS
SANITARY SEWER LINE B & C PLAN & PROFILE
SS LINE B - STA. 1+00.00 TO END
SS LINE C - STA. 1+00.00 TO END

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE MARCH 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C5.02



CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE, FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRIC DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS. IN ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 800-610-800-TESS A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, L.P.
ADDRESS: 5419 N LOOP 1604 F
CITY: SAN ANTONIO STATE: TX ZIP: 78247
PHONE: (210) 496-2668 FAX#
SAWS BLOCK MAP# 072868 TOTAL EDU'S 162 TOTAL ACREAGE 29.56
TOTAL LINEAR FOOTAGE OF PIPE: 8" 5,783.83 FL PLAT NO. 22-1180058
NUMBER OF LOTS 162 SAWS JOB NO. 22-1700

[illegible]

PAPE-DAWSON
ENGINEERS

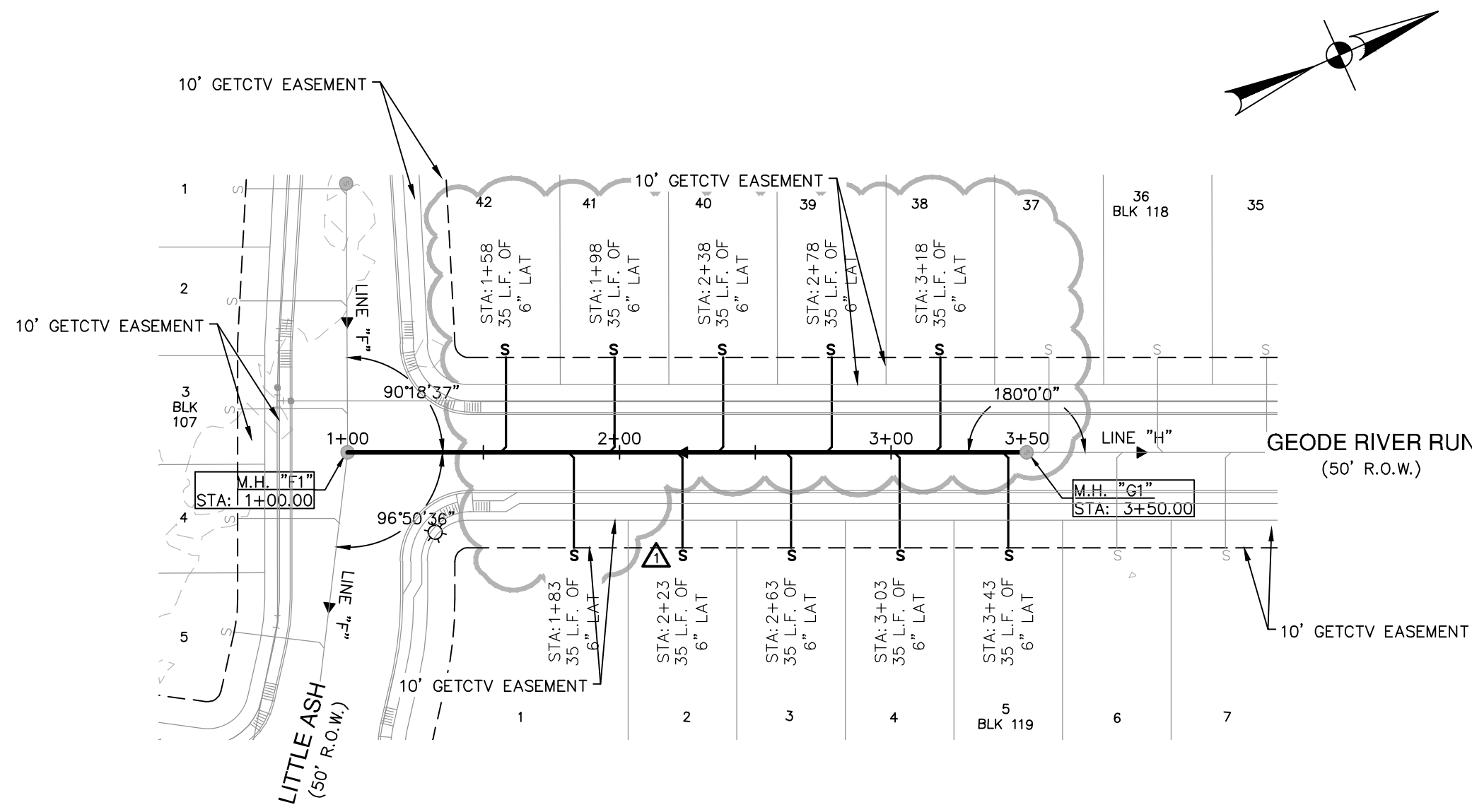
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS
SANITARY SEWER LINE D & F PLAN & PROFILE
SS LINE D - STA. 1+00.00 TO END
SS LINE F - STA. 1+00.00 TO END

PLAT NO. 22-11800582
 JOB NO. 11680-57
 DATE MARCH 2023
 DESIGNER RG
 CHECKED BL DRAWN RG
 SHEET C5.03

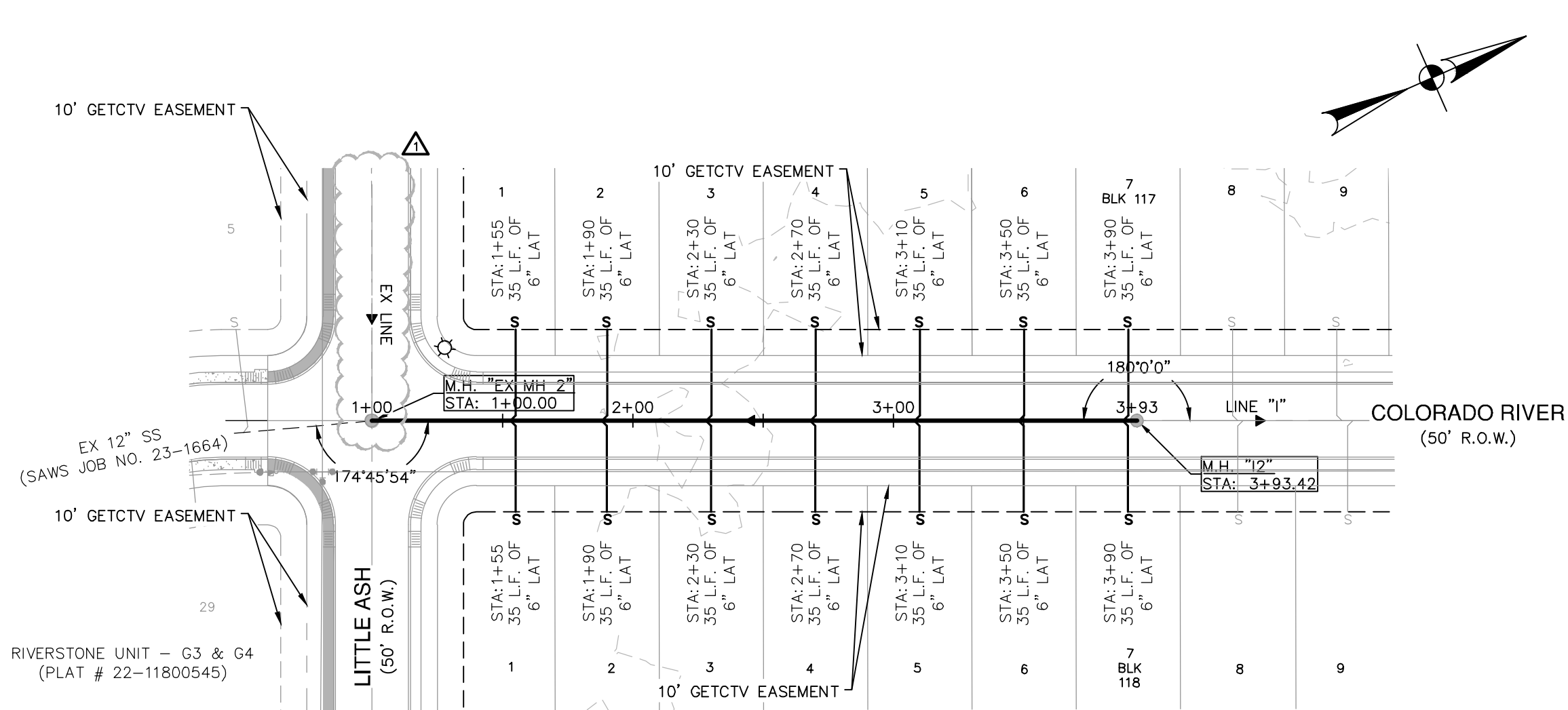
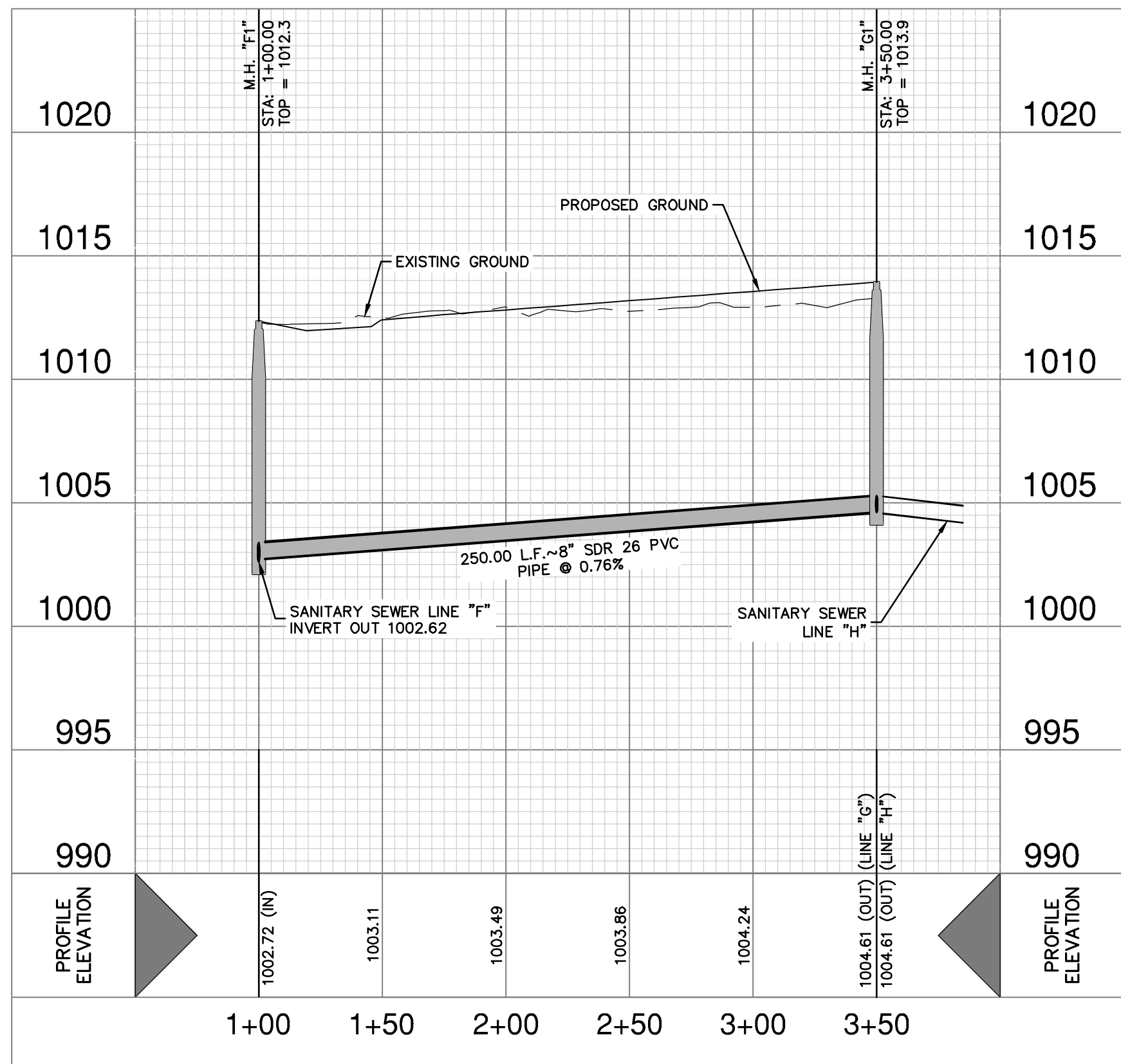
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THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY DOQQLEO UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG, Digital Globe, Texas Orthometry Program, USDA Farm Service Agency.



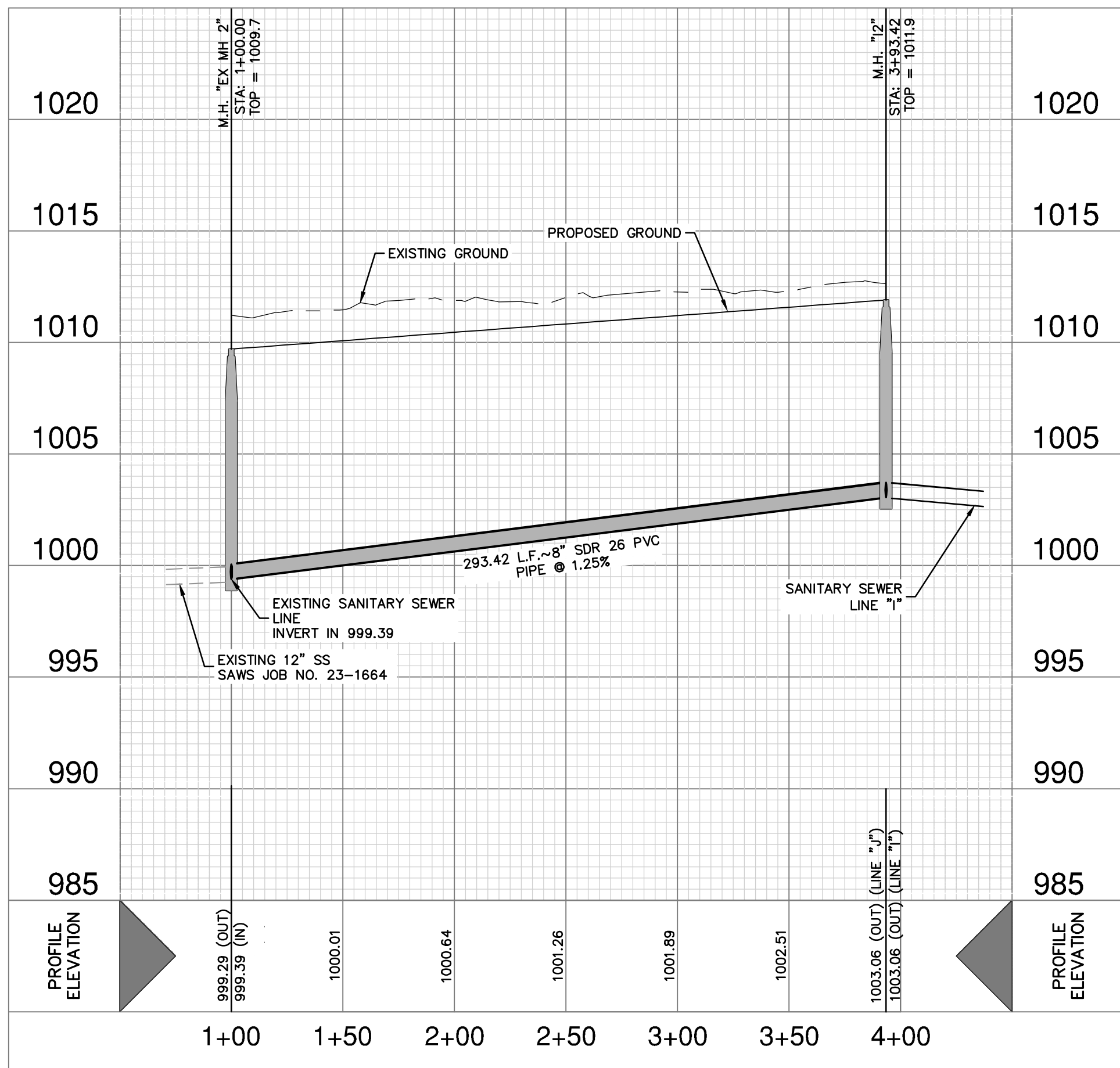
SANITARY SEWER LINE "G"
STA. 1+00.00 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'

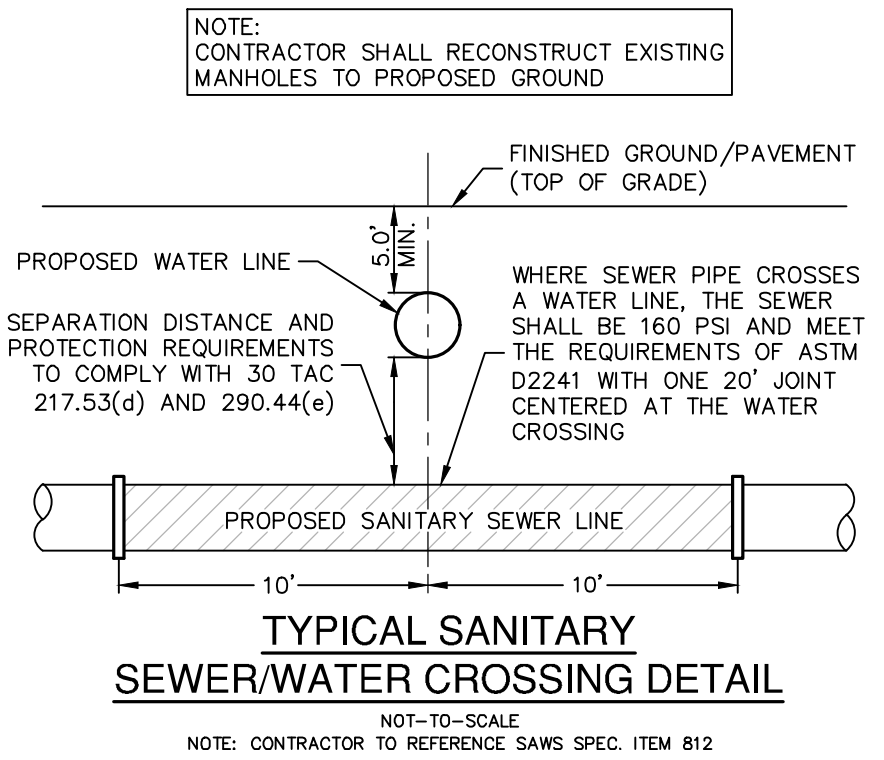
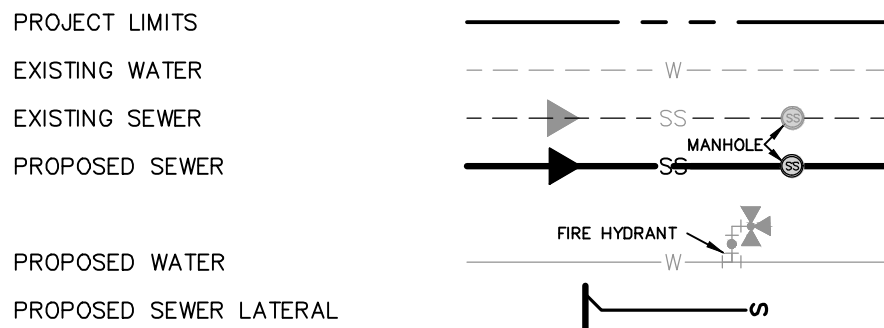


SANITARY SEWER LINE "J"
STA. 1+00.00 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



SEWER LEGEND



CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE, AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

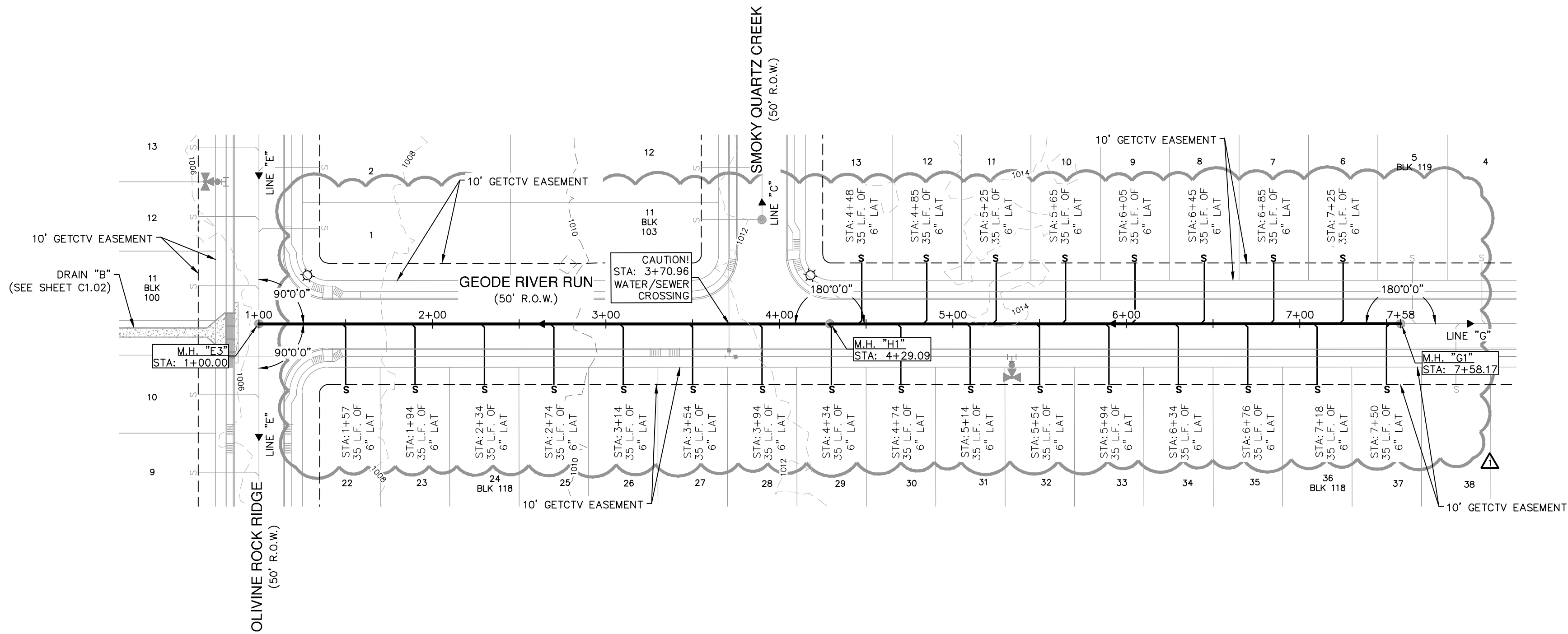
SEWER

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, L.P.
ADDRESS: 5419 N LOOP 1604 E
CITY: SAN ANTONIO STATE: TX ZIP: 78247
PHONE# (210) 496-2668 FAX#
SAWS BLOCK MAP# 072804 TOTAL EDU'S 162 TOTAL ACREAGE 29.56
TOTAL LINEAR FOOTAGE OF PIPE: 8" 5,783.83 LF PLAT NO. 22-11800582
NUMBER OF LOTS 162 SAWS JOB NO. 22-1700

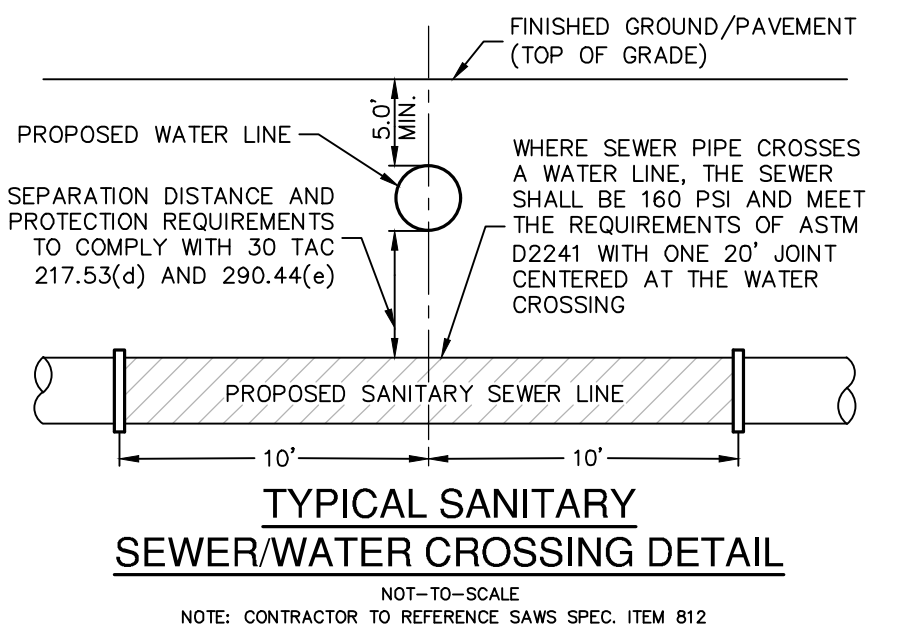
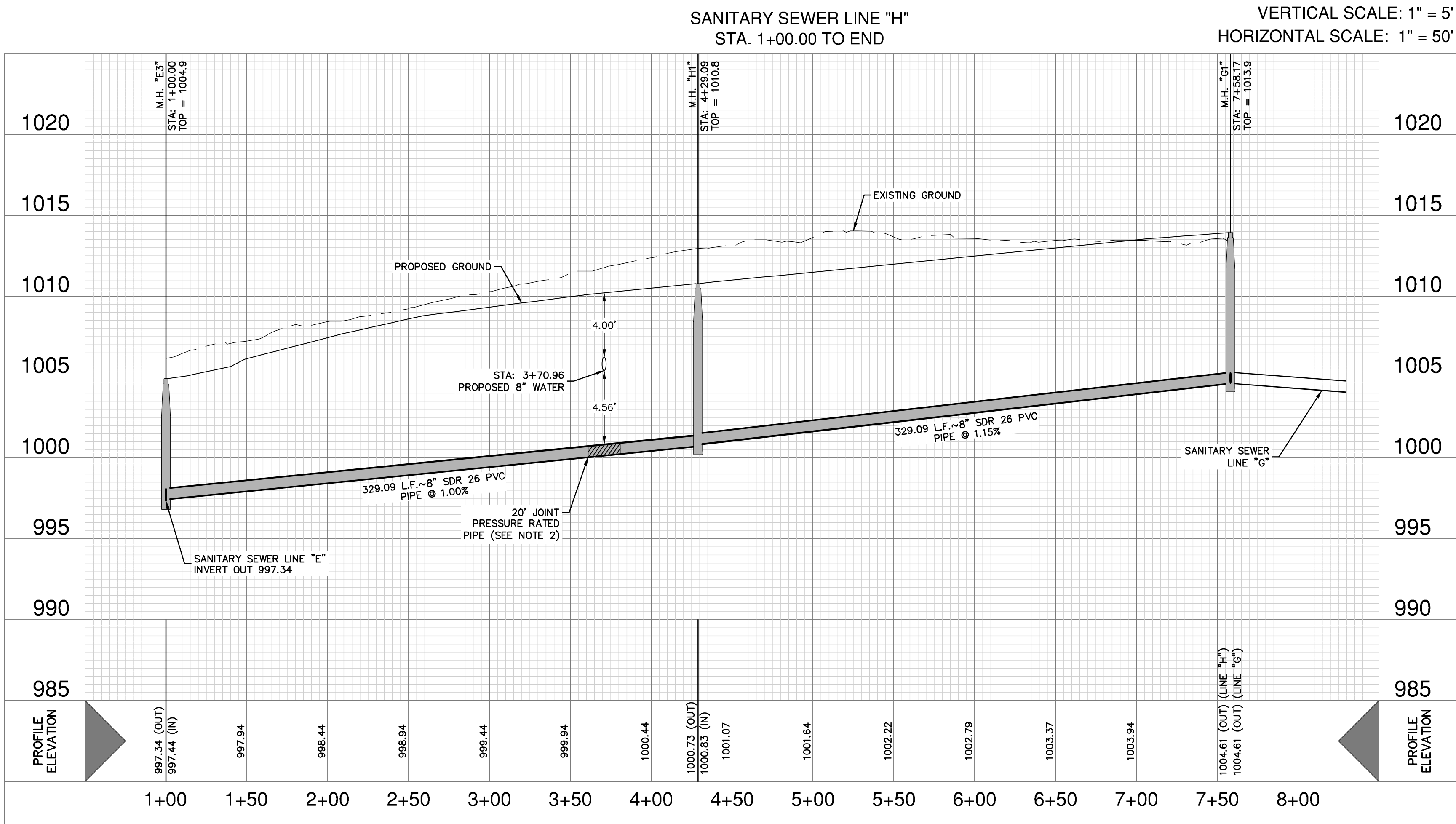
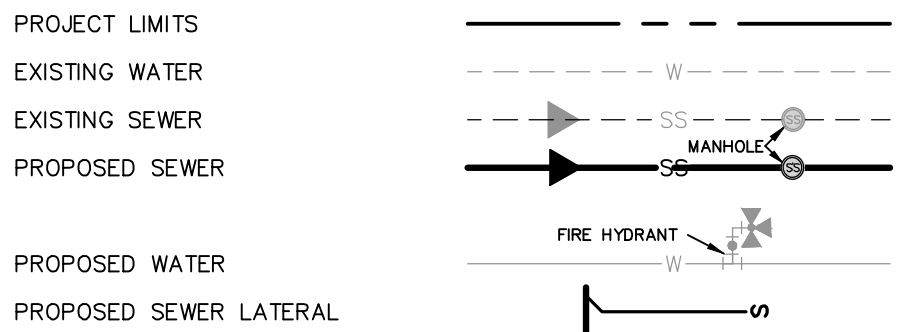
PAPE-DAWSON
ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008800

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS
SANITARY SEWER LINE G & J PLAN & PROFILE
SS LINE G - STA. 1+00.00 TO END
SS LINE J - STA. 1+00.00 TO END

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE MARCH 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C5.06



SEWER LEGEND



CAUTION!!
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

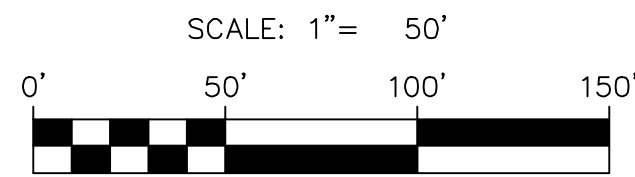
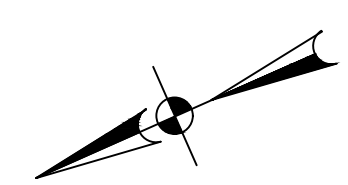
TRENCH EXCAVATION SAFETY PROTECTION:
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

SEWER	
DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, L.P.	
ADDRESS: 5419 N LOOP 1604 E	
CITY: SAN ANTONIO	STATE: TX ZIP: 78247
PHONE# (210) 496-2668	FAX#
SAWS BLOCK MAP# 072804 TOTAL EDU'S 162 TOTAL ACREAGE 29.56	
TOTAL LINEAR FOOTAGE OF PIPE: 8" 5,783.83 LF PLAT NO. 22-11800582	
NUMBER OF LOTS 162	SAWS JOB NO. 22-1700

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008860

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS
SANITARY SEWER LINE H PLAN & PROFILE
STA. 1+00.00 TO END

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE MARCH 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C5.07



PROJECT LIMITS

EXISTING WATER

EXISTING SEWER

PROPOSED SEWER

PROPOSED WATER

PROPOSED SEWER LATERAL

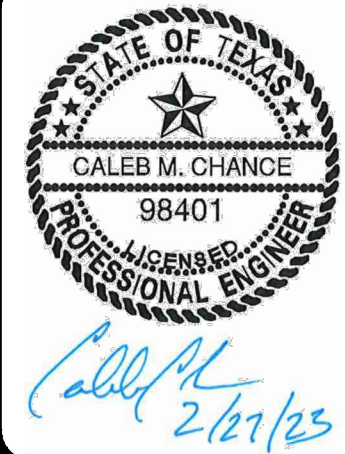
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MANHOLE

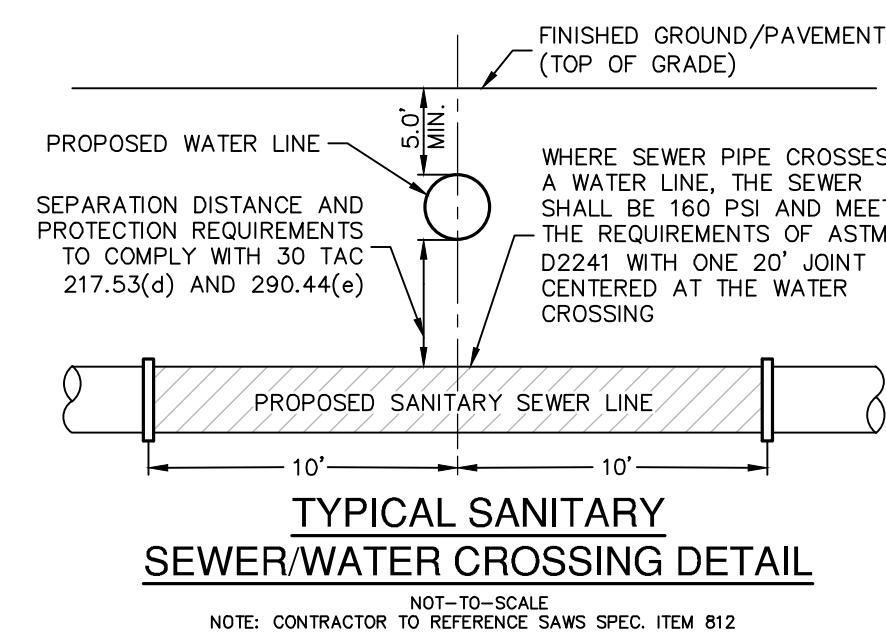
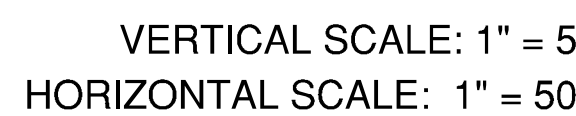
FIRE HYDRANT

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**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
20200 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1028600



CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE WORK AREA AND ADVISE CONTRACTOR OF ANY POTENTIAL TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION. CONTRACTOR SHALL ASSESS THE NEED FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PREVENTION OF ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, L.P.
ADDRESS: 5419 N LOOP 1604 E
CITY: SAN ANTONIO STATE: TX ZIP: 78247
PHONE# (210) 496-2668 FAX#
SAWS BLOCK MAP# 872806 TOTAL EDU'S 162 TOTAL ACREAGE 29.56
TOTAL LINEAR FOOTAGE OF PIPE: 8" 6,359.30 LF PLAT NO. 22-1180058
NUMBER OF LOTS 162 SAWS JOB NO. 22-1700

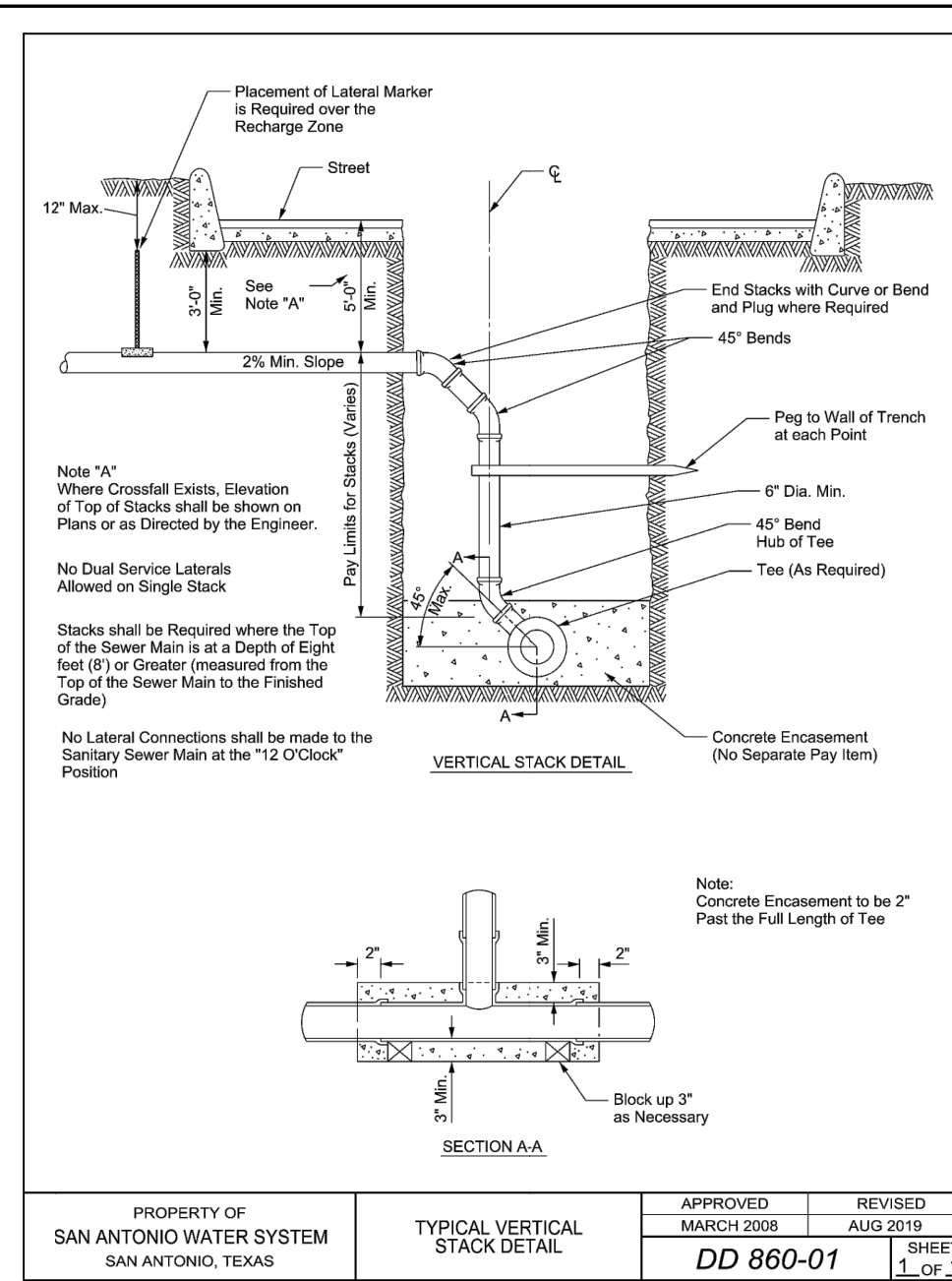
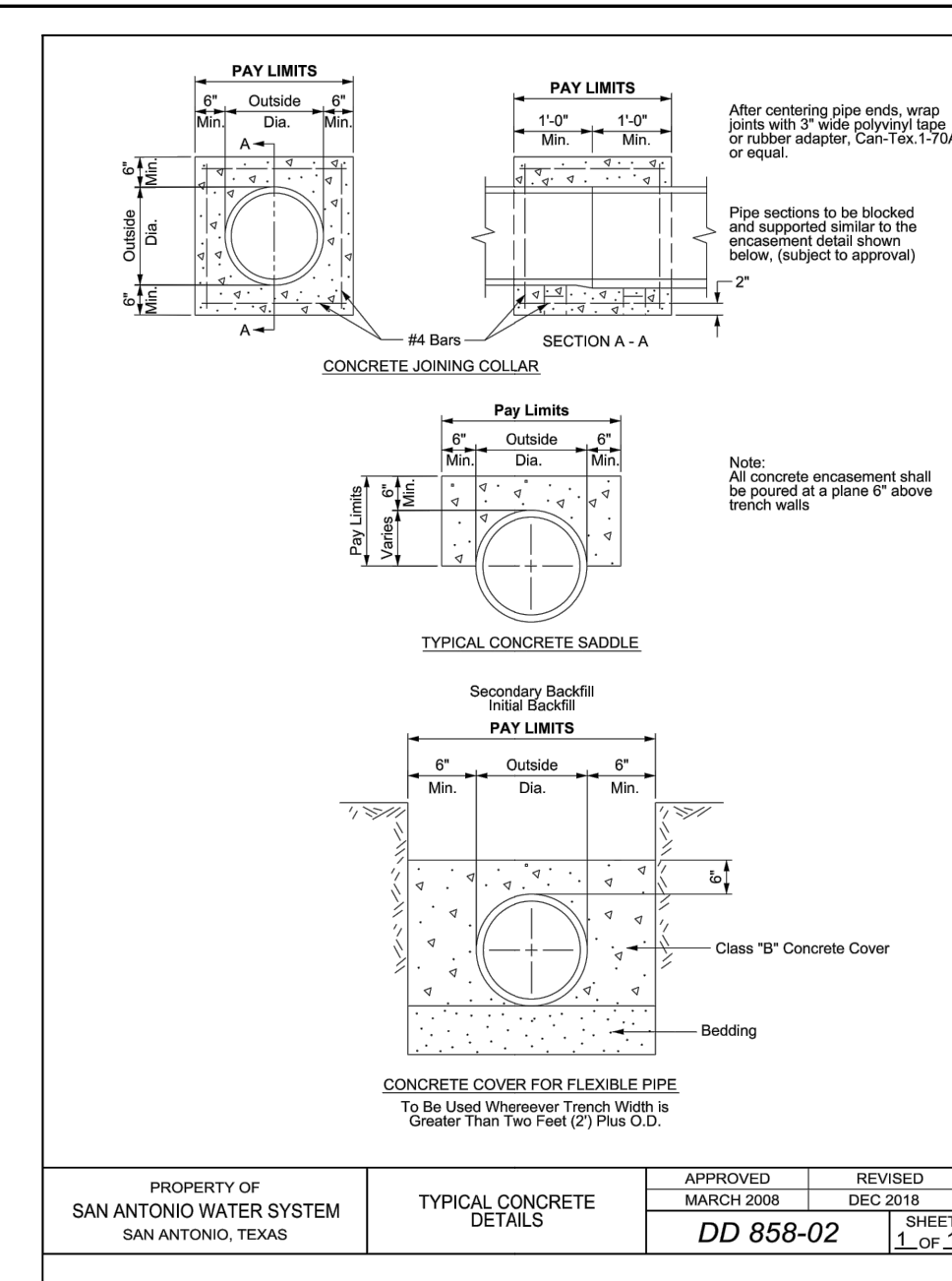
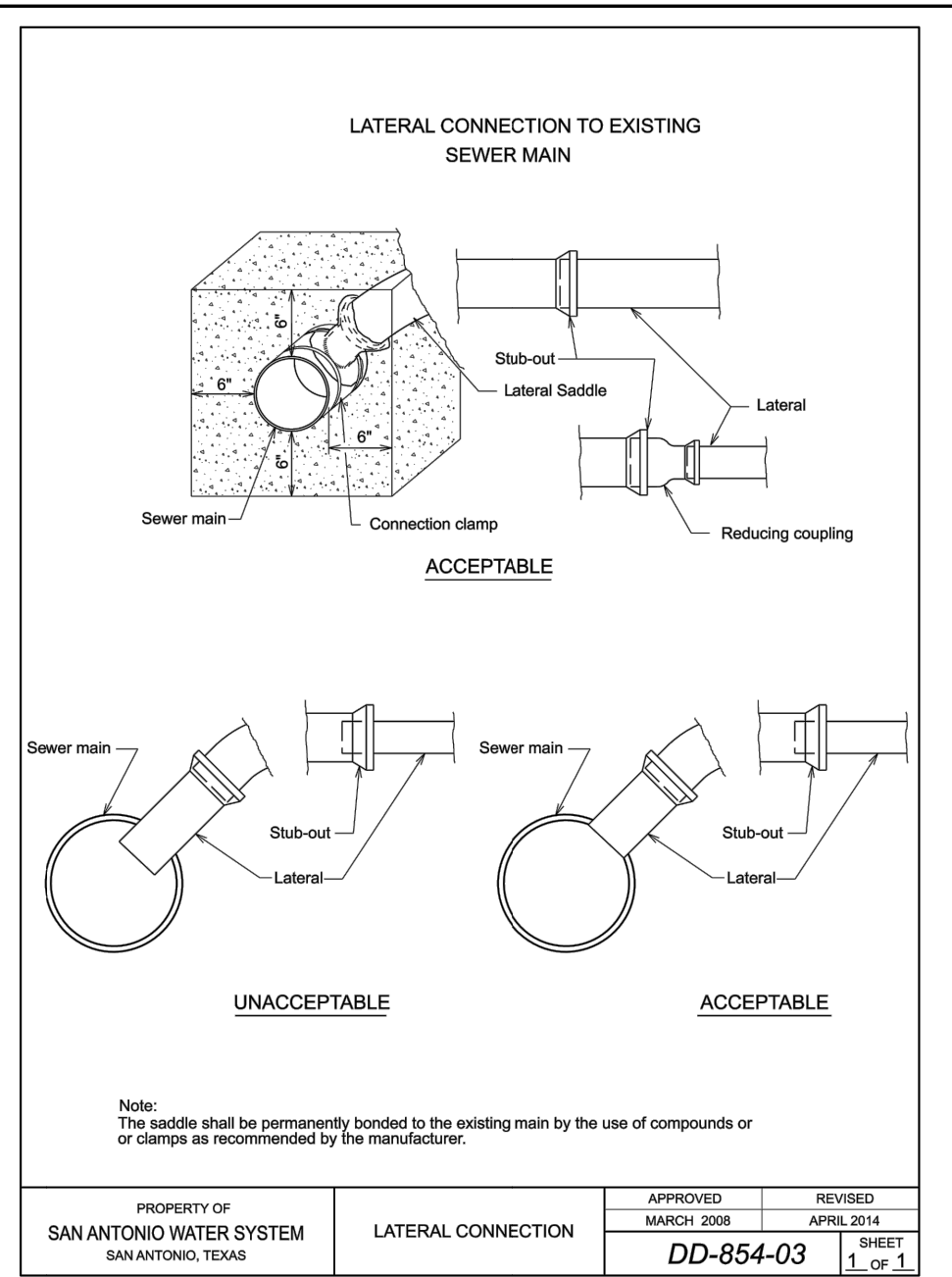
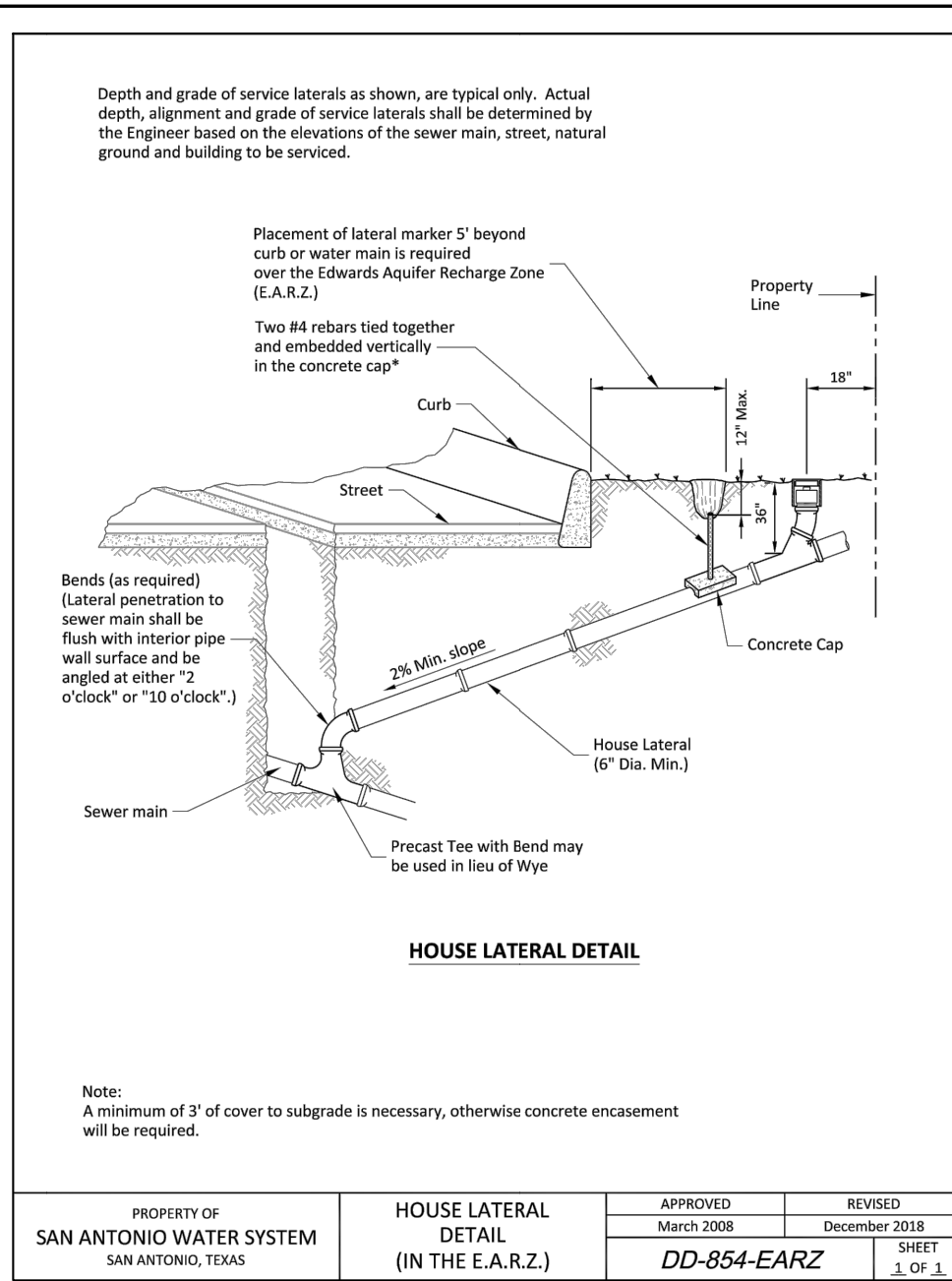
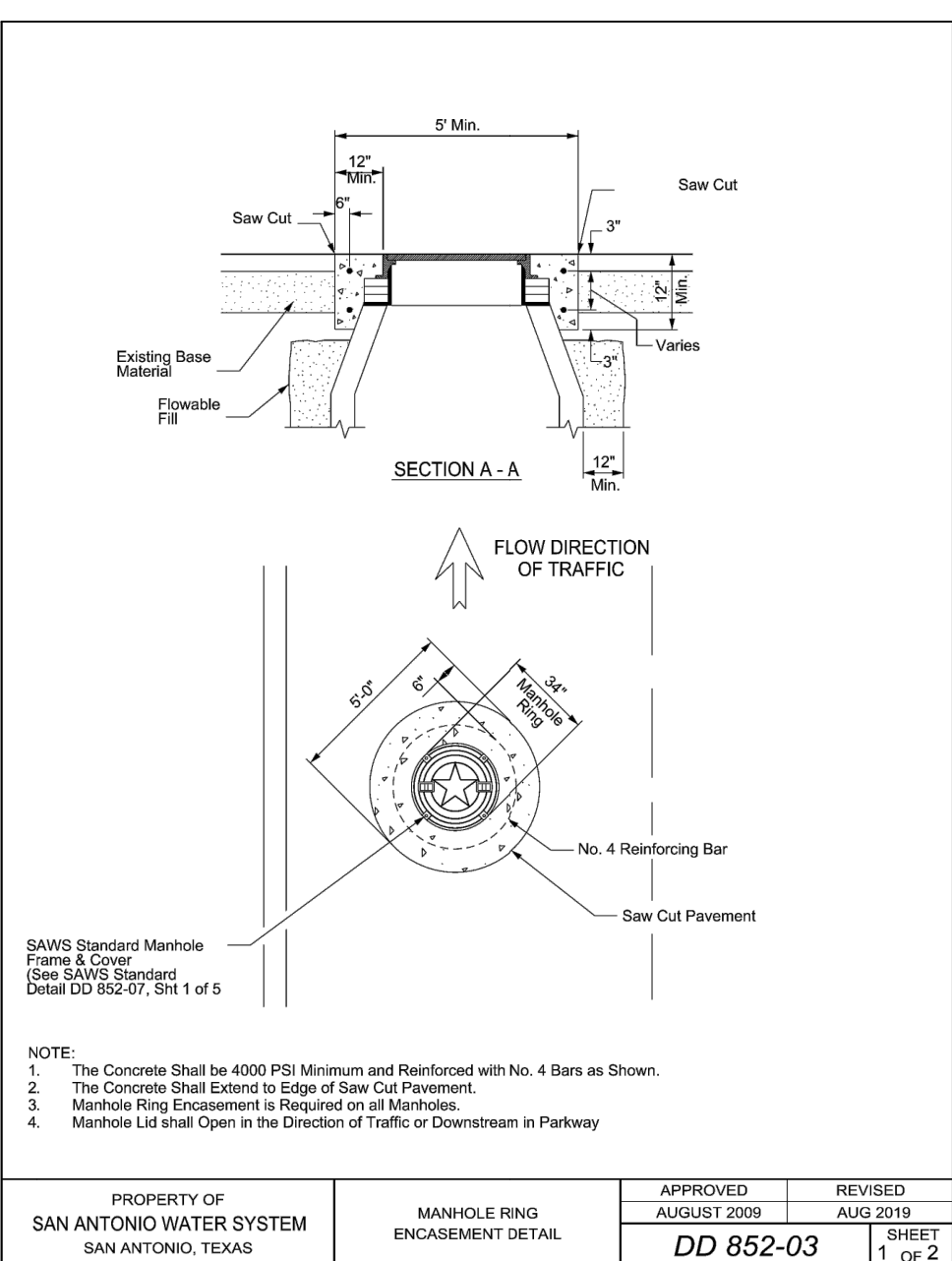
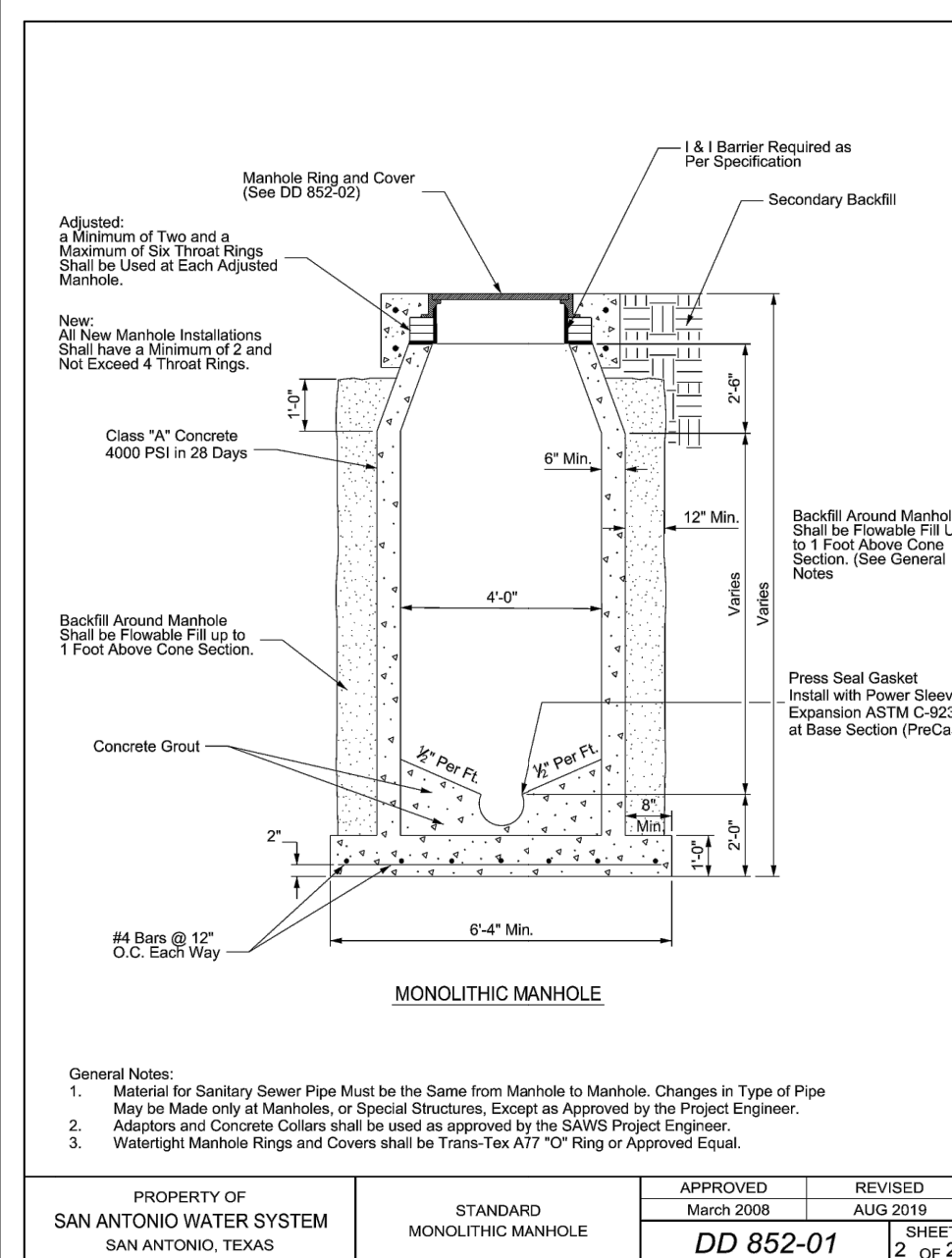
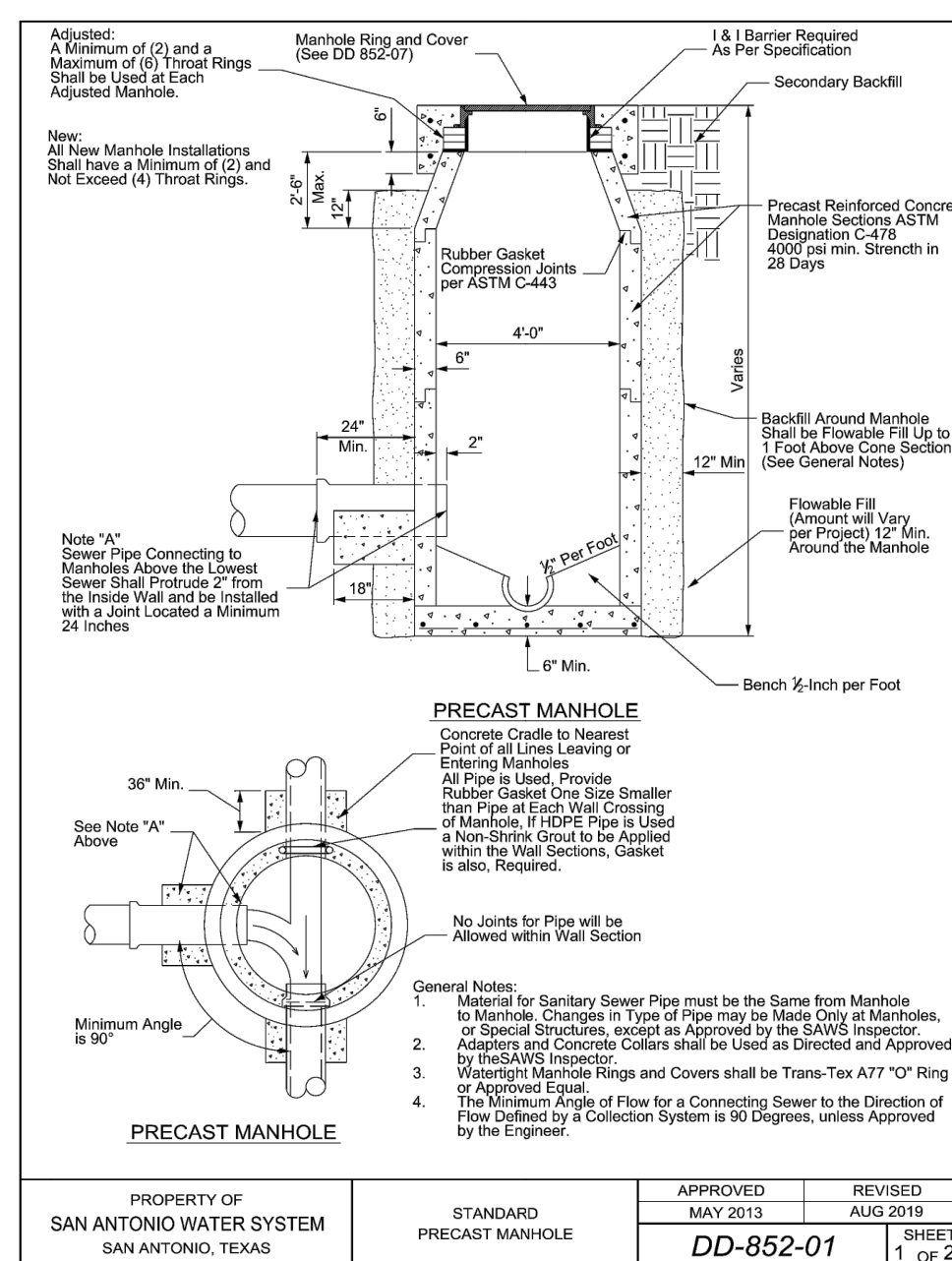
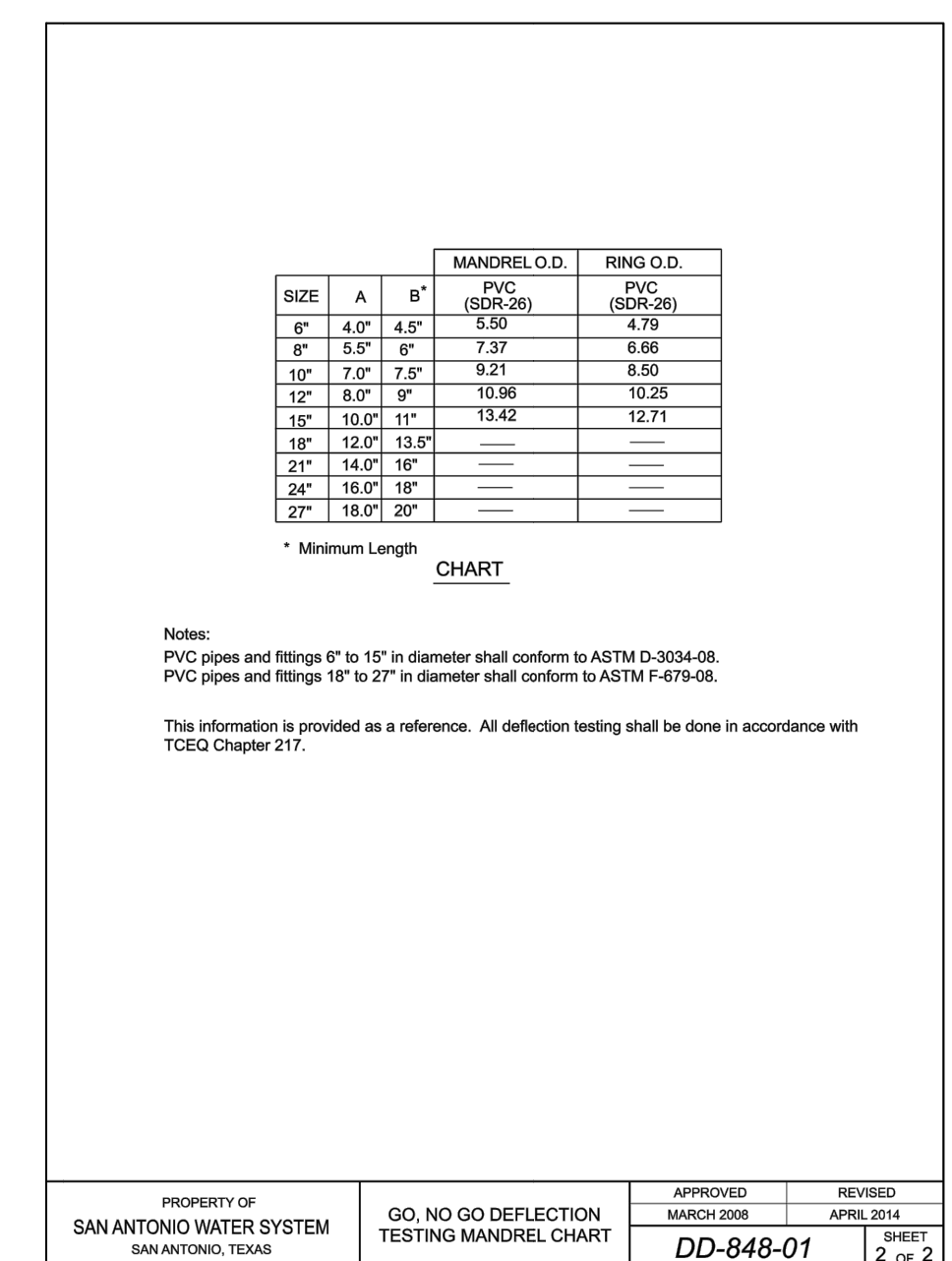
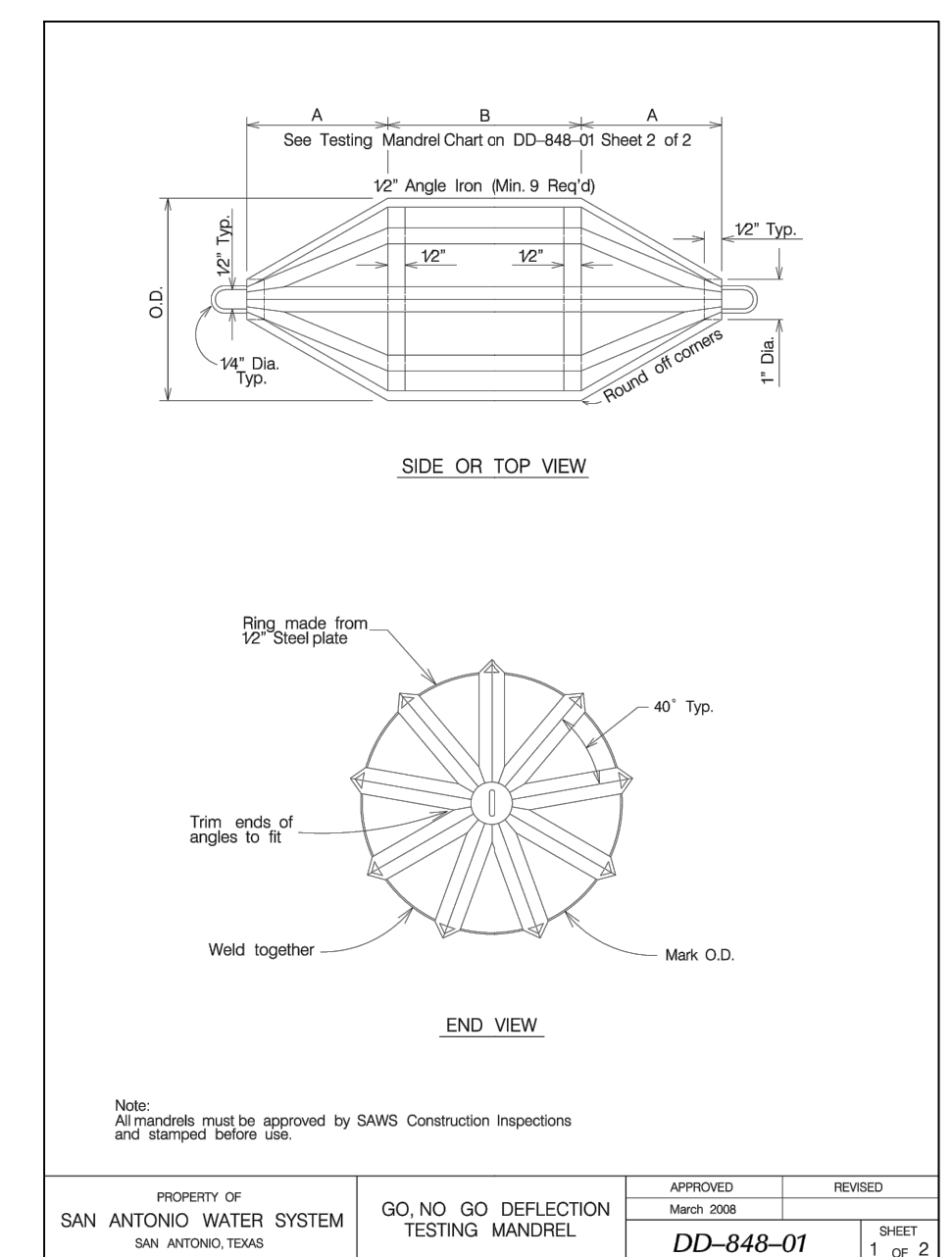
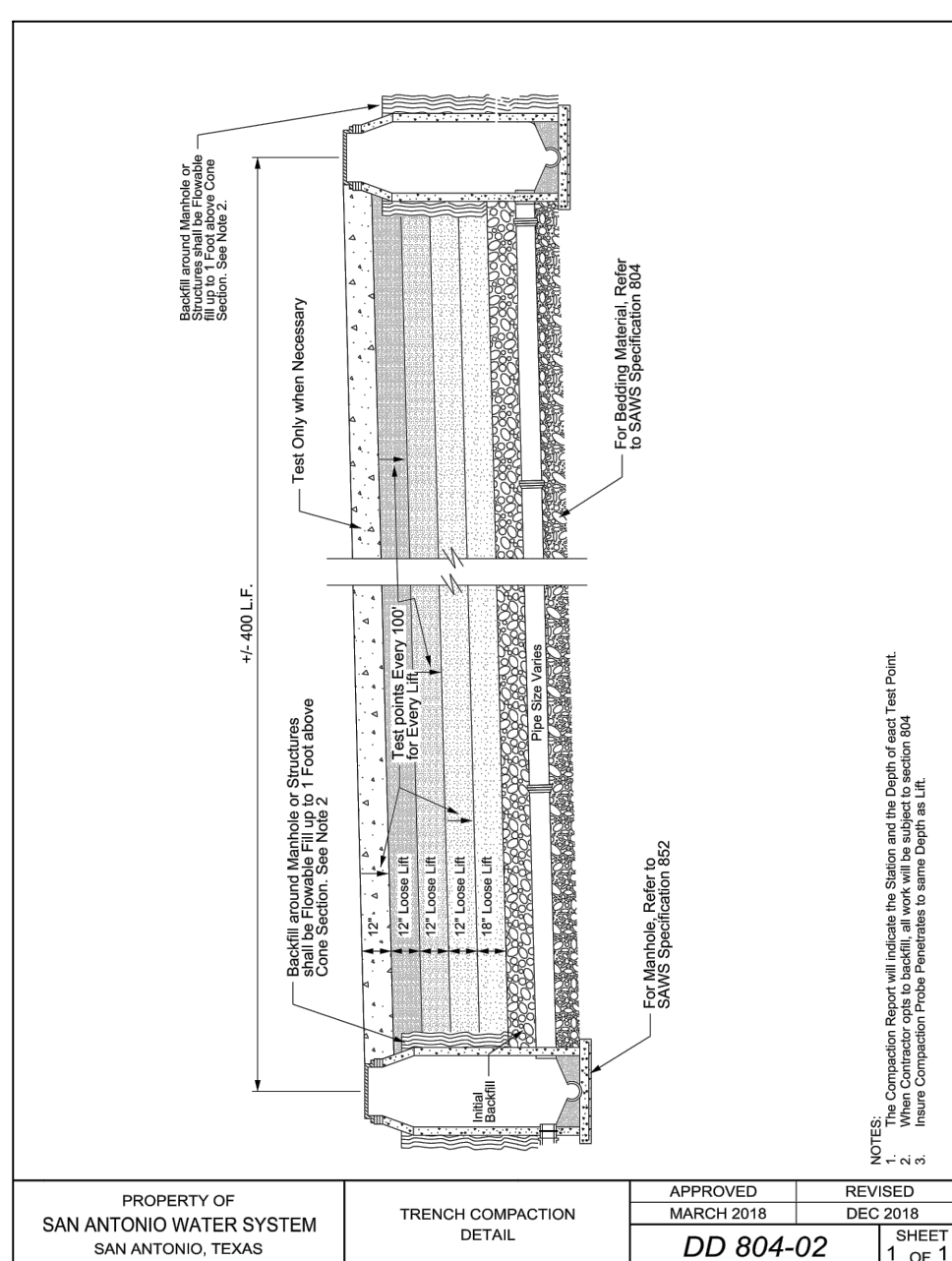
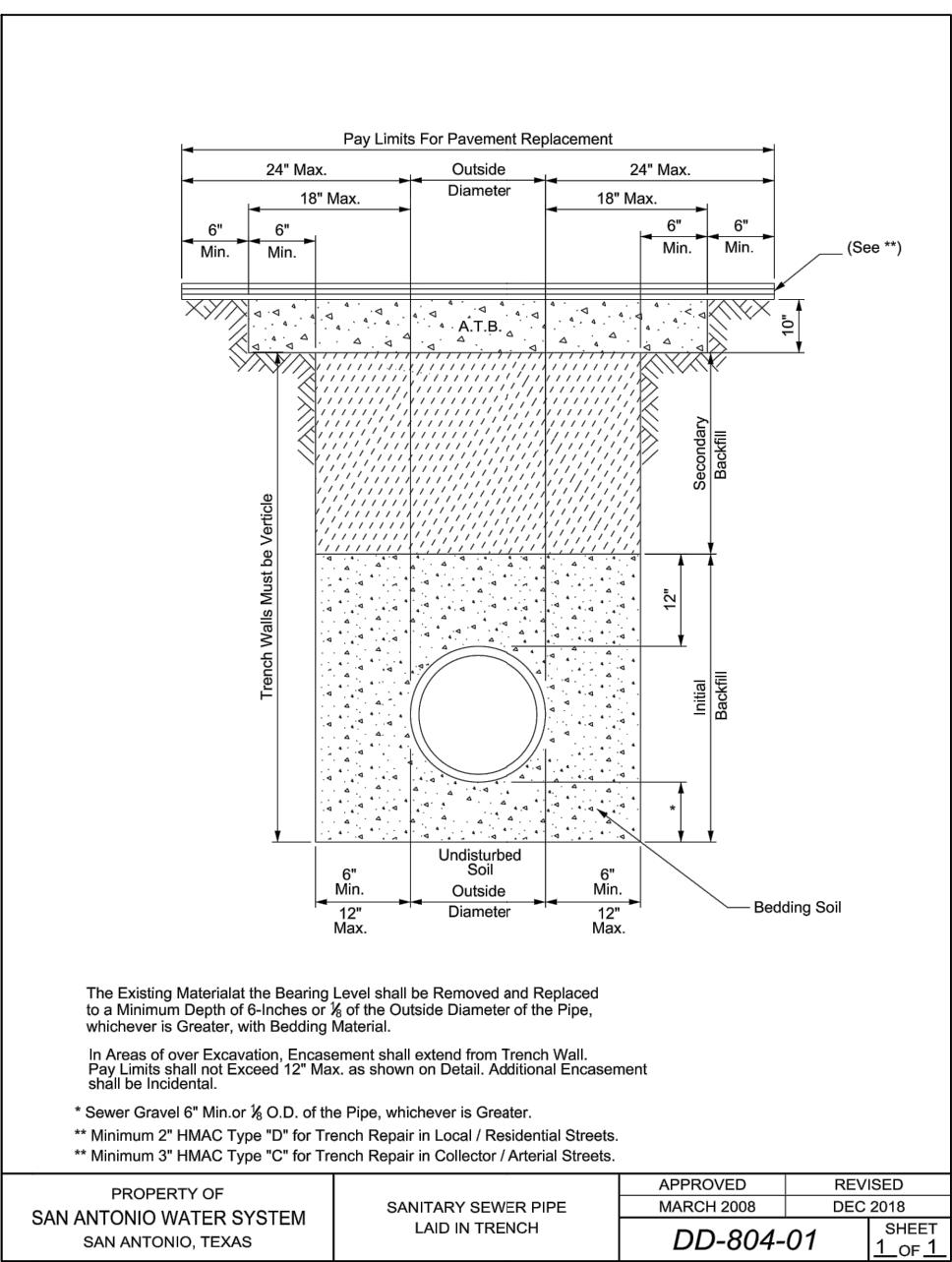
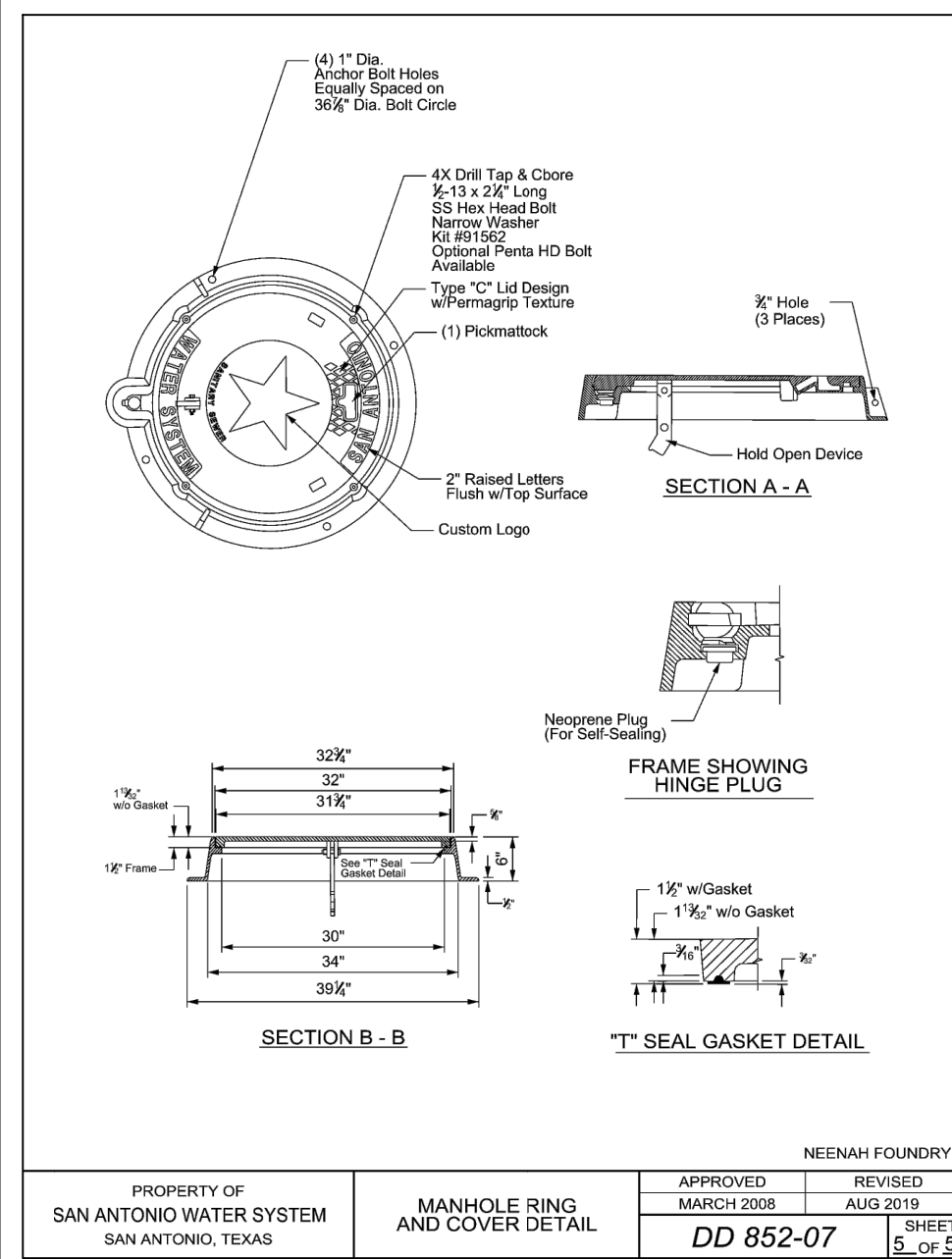
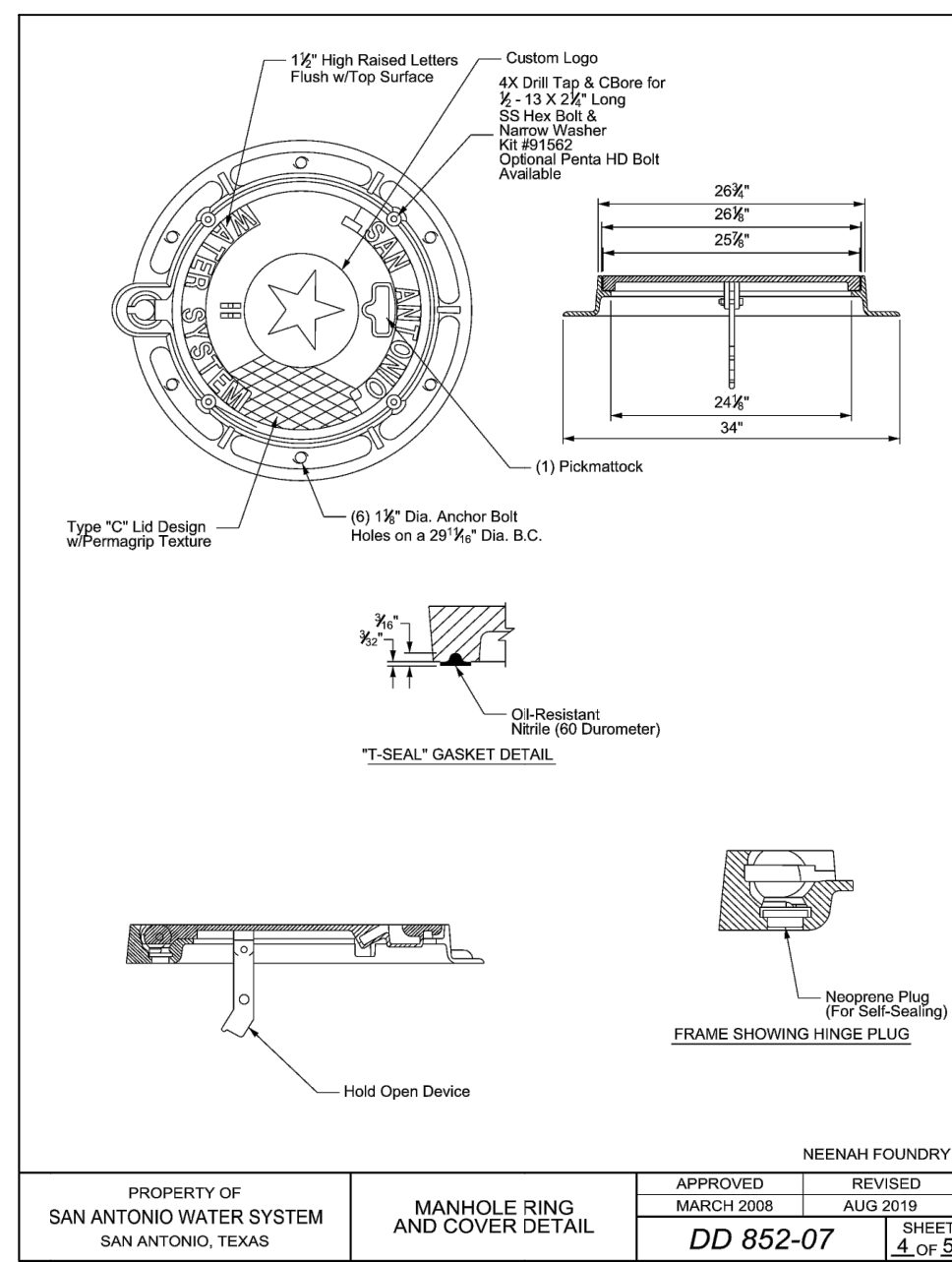
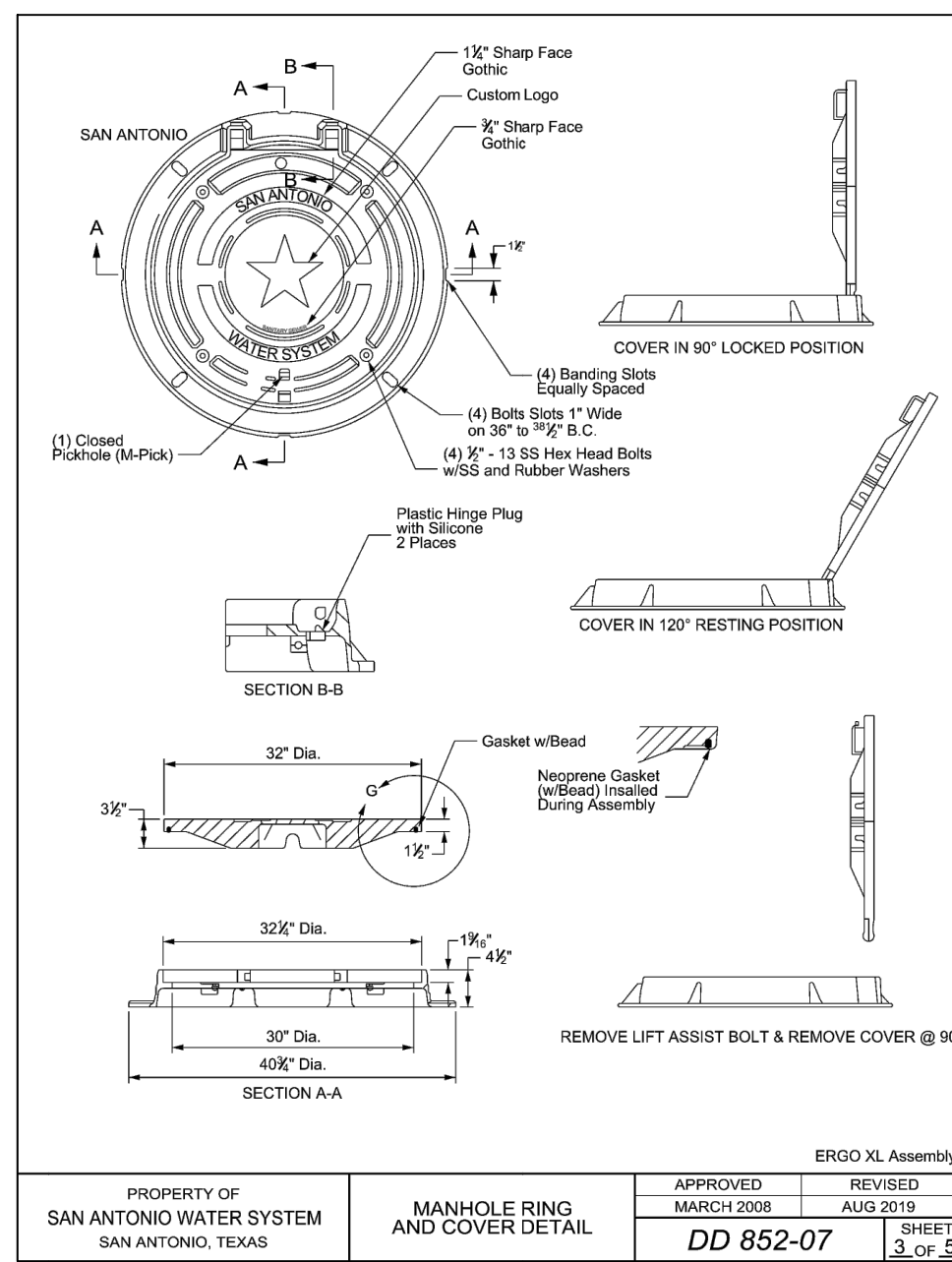
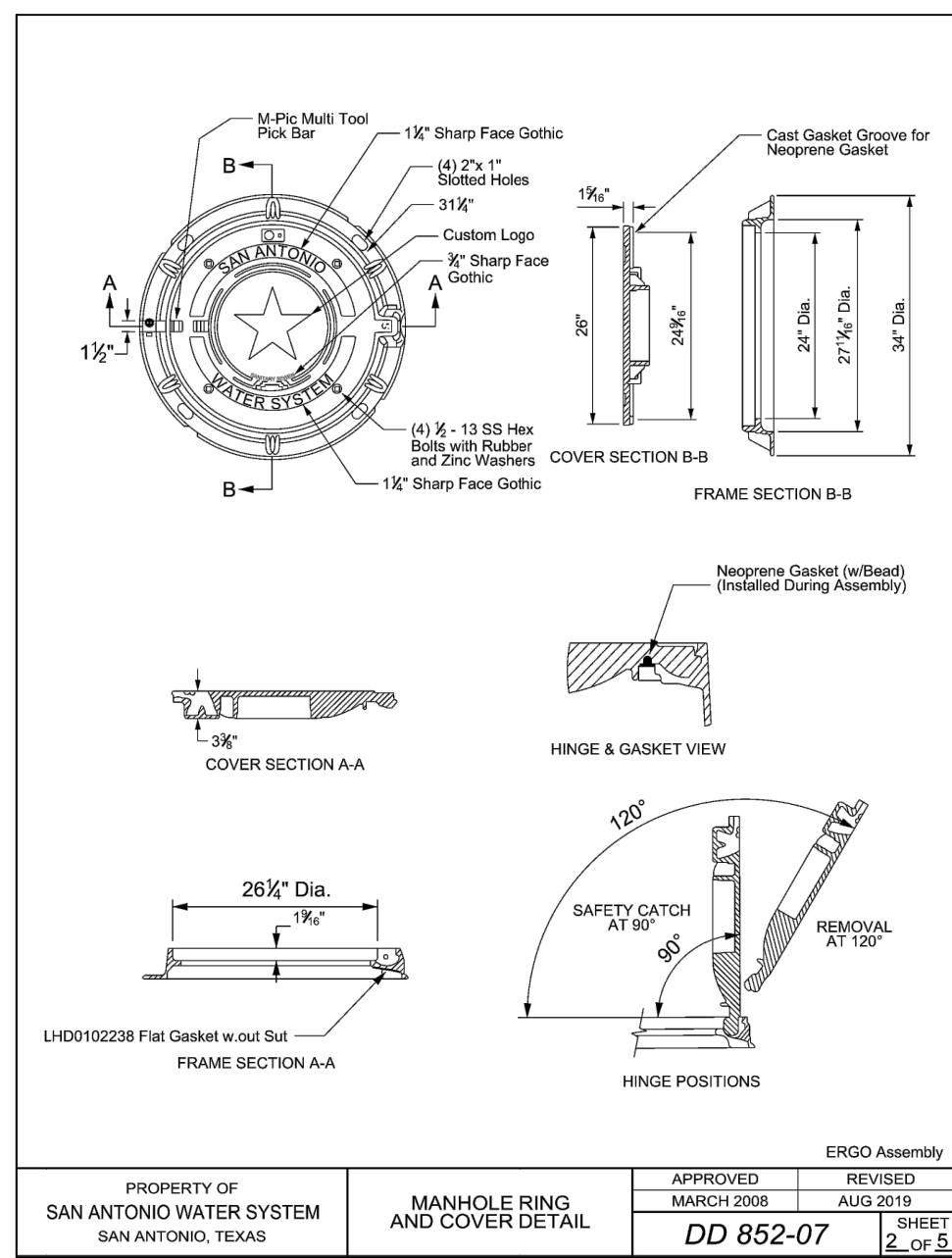
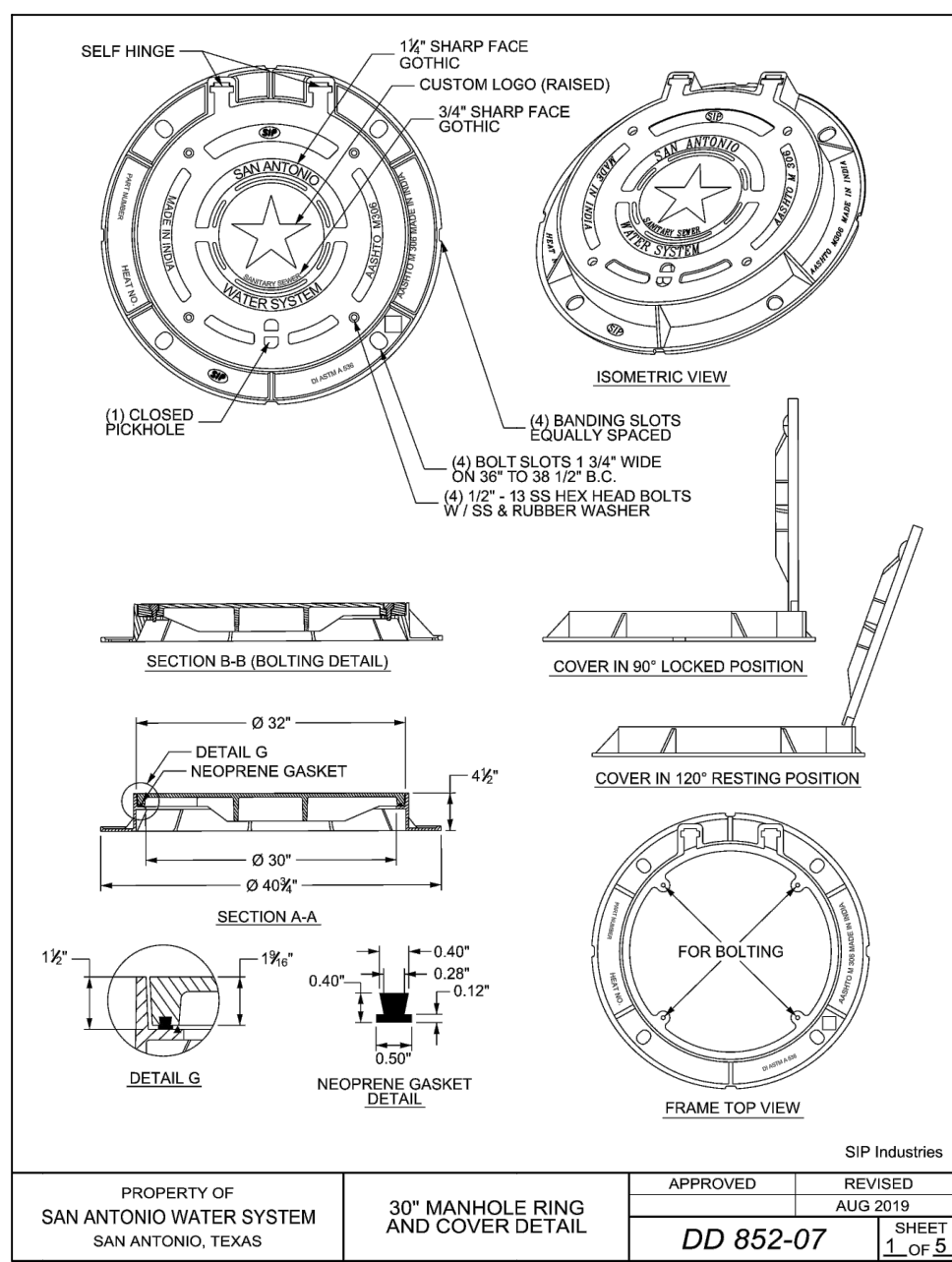
RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

SANITARY SEWER LINE I PLAN & PROFILE
STA. 1+00.00 TO END

PLAT NO. 22-11800582
 JOB NO. 11680-57
 DATE FEBRUARY 2023
 DESIGNER RG
 CHECKED BL DRAWN RG
 SHEET C5.08

Date: Oct 07, 2023, 6:02pm User: ID: RickusGarcia
File: P:\161605\Drawings\CA\SSDT-1168057.dwg

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SEWER

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, L.P.

ADDRESS: 5419 N LOOP 1604 E

CITY: SAN ANTONIO STATE: TX ZIP: 78247

PHONE# (210) 496-2668 FAX#

SAWS BLOCK MAP# XXXX TOTAL EDU'S 162 TOTAL ACREAGE 28.89

TOTAL LINEAR FOOTAGE OF PIPE: 8" 6,396.72 LF PLAT NO 22-11800582

NUMBER OF LOTS 162 SAWS JOB NO. XXXX-XX

PLAT NO. 22-11800582

JOB NO. 11680-57

DATE OCTOBER 2022

DESIGNER RG

CHECKED BL DRAWN RG

SHEET C5.10

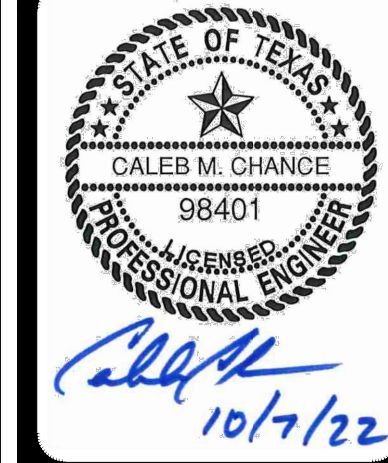
PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

SANITARY SEWER DETAILS

NO.	REVISION	DATE



Date: Oct 07, 2022, 6:02pm User: ID: RicheyGarcia
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SAWS CONSTRUCTION NOTES
 (LAST REVISED JANUARY 2022)

SAWS GENERAL SECTION

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
 - CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
 - CURRENT TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
 - CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
 - CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
 - CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.
- THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.
- THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION (210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
- LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
 - THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
 - SAWS UTILITY LOCATES: HTTP://WWW.SAWS.ORG/SERVICE/LOCATES
 - COSA DRAINAGE (210) 207-0724 OR (210) 207-6026
 - COSA TRAFFIC SIGNAL OPERATIONS (210) 206-8480
 - COSA TRAFFIC SIGNAL DAMAGES (210) 207-3951
 - TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.
- ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

 WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

 ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
- A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

SAWS SEWER NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:
 - IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210) 233-2014, PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
 - ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
 - CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
 - CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.
 - CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
 - MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISIONG THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.
- SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA, TCEQ AND/OR ANY OTHER FEDERAL, STATE OR LOCAL AGENCIES.
- NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.
- IF BYPASS PUMPING IS REQUIRED, THE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864, "BYPASS PUMPING".
- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973 AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
- SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241, TAC 217.53 AND TCEQ 290.44C(4)(G). CONTRACTOR SHALL CENTER A 20" JOINT OF 160 PSI PRESSURE RATED PVC AT THE PROPOSED WATER CROSSING.
- ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS. (NSPI)
- SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER: ALL SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, RECYCLED WATER, PETROLEUM PRODUCTS, OR CHEMICALS MUST BE REPORTED IMMEDIATELY TO THE SAWS INSPECTOR ASSIGNED TO THE COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP). THIS REQUIREMENT APPLIES TO EVERY SPILL, OVERFLOW, OR DISCHARGE REGARDLESS OF SIZE.
- MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAWS CONSTRUCTION DIVN INSPECTION DIVISION, AS PER THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
- ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

PROJECT SEWER NOTES

- ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND SHALL BE EXTENDED TO 10' PAST THE PROPERTY LINE AND CAPPED AND SEALED. CONTRACTOR SHALL INSTALL A 2' X 4' STRAKE, FOUR (4) FEET LONG, TWO (2) FEET DEEP INTO THE GROUND AT THE END OF EACH SERVICE. NO SEPARATE PAY ITEM.
- CONTRACTOR TO INSTALL CLEANOUTS AT THE END OF ALL SEWER LATERALS, PER LATERAL DETAIL SHEET **CX.XX**.
- NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
- ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TO THE PROPERTY LINE.
- WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAWS CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.
- CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 6" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT.
- ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
- CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER MAINS AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
- CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- CONCRETE RING ENCASEMENT TO BE INSTALLED ON ALL MANHOLES AND, WITHIN LIMITS OF PAVEMENT, BE INSTALLED TO THE TOP OF THE BASE LAYER WITH A MINIMUM OF 2" OF ASPHALT ON TOP OF THE RING ENCASEMENT.
- MANHOLE OPENING INCREASED TO 30" AS PER TAC CHAPTER 217.55.
- ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.
- IF THE GIVEN TOP OF MANHOLE ELEVATION DOES NOT AGREE ON ACTUAL GROUND SURFACE OR FINISH PAVEMENT, THE CONTRACTOR SHALL ADJUST ELEVATIONS SUCH THAT THE TOP OF MANHOLE SHALL BE 0.5' ABOVE EXISTING GROUND, OR FLUSH TO FINISH ASPHALT PAVEMENT.
- ALL MANHOLES CONSTRUCTED OVER THE EDWARDS AQUIFER RECHARGE ZONE SHOULD BE WATERTIGHT.

SEWER

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS, L.P.			
ADDRESS: 5419 N LOOP 1604 E			
CITY: SAN ANTONIO	STATE: TX	ZIP: 78247	
PHONE# (210) 496-2668	FAX#		
SAWS BLOCK MAP# XXXX TOTAL EDU'S 162 TOTAL ACREAGE 28.80			
TOTAL LINEAR FOOTAGE OF PIPE: 8" 6,396.72 LF PLAT NO. 22-11800582			
NUMBER OF LOTS 162 SAWS JOB NO. XXXX-XX			

NO.	REVISION	DATE

10/7/22

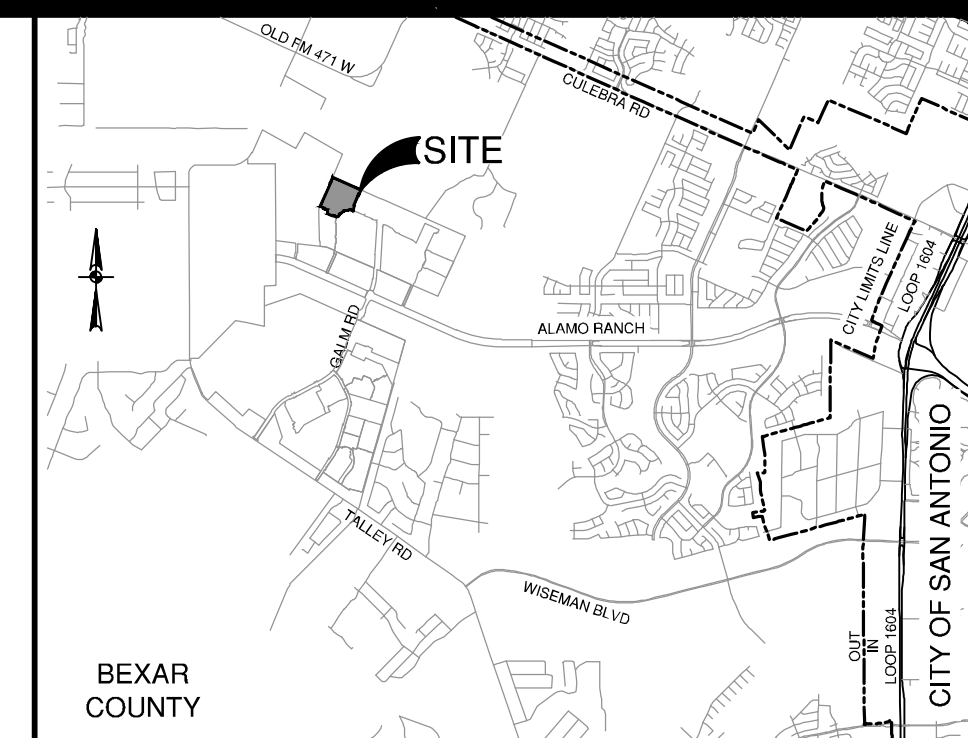
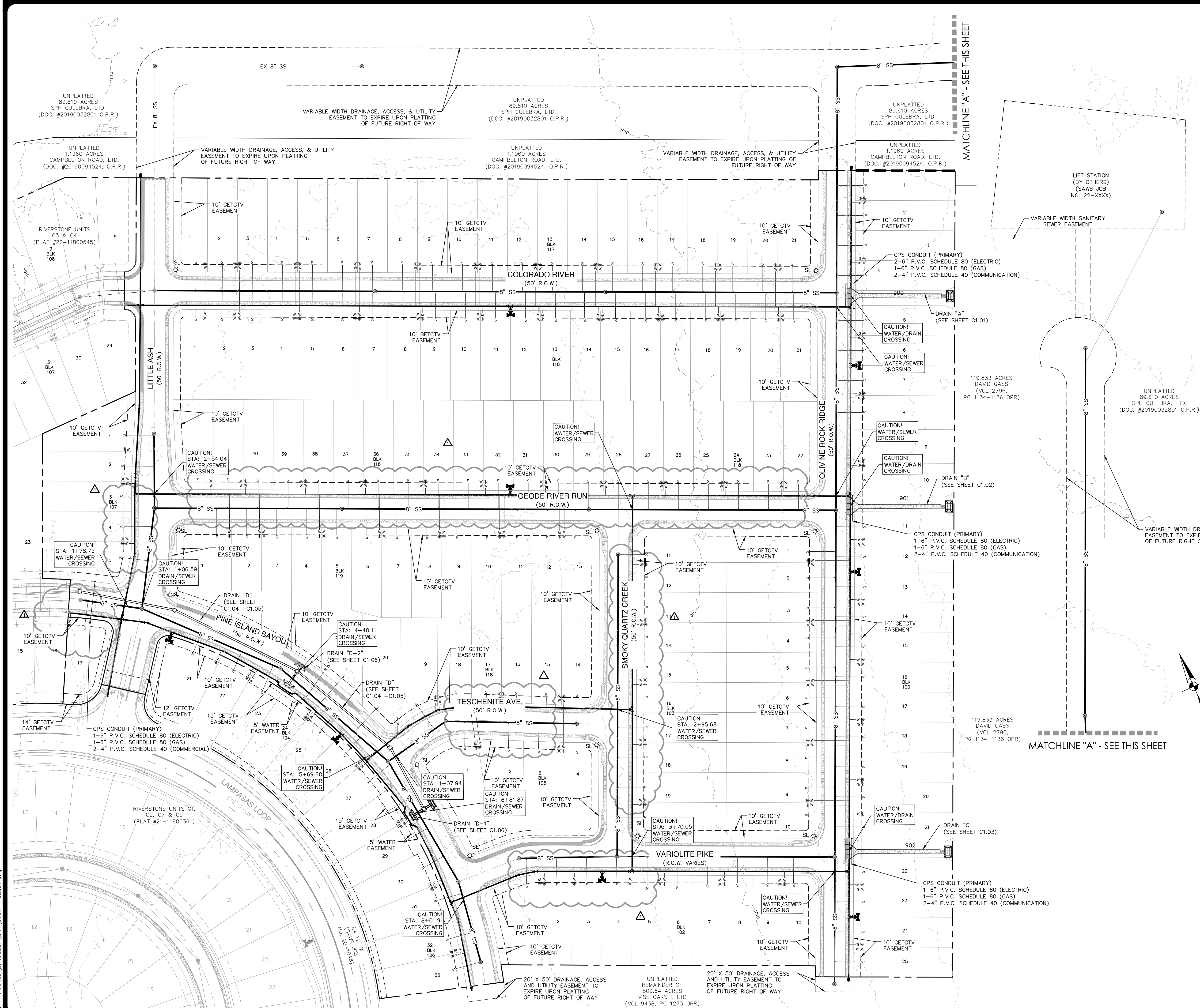
PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
 2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008860

RIVERSTONE UNITS - G5 & G6
 SAN ANTONIO, TEXAS

SANITARY SEWER NOTES

PLAT NO.	22-11800582
JOB NO.	11680-57
DATE	OCTOBER 2022
DESIGNER	RG
CHECKED	BL DRAWN RG
SHEET	C5.11



UTILITY LEGEND	
PROJECT LIMITS	---
EXISTING WATER	---
EXISTING SEWER	---
PROPOSED SEWER	---
PROPOSED WATER	---
PROPOSED WYE & LATERAL	---
SINGLE WATER SERVICE	---
DUAL WATER SERVICE	---
STREET LIGHTS	---
GAS, ELECTRIC, TELEPHONE & CABLE TELEVISION EASEMENT	---
GETCTV	---

- CONDUIT NOTES:**
- CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CURB WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).
 - CONDUITS SHALL BE PVC WITH MINIMUM BURY OF 36 INCHES BELOW PROPOSED FINISHED GRADE. SCHEDULE 80 TO BE USED FOR CPS CONDUITS, ALL OTHER CONDUITS ARE SCHEDULE 40.
 - ALL CONDUITS SHALL BE EXTENDED BEHIND CURBS OR PROPOSED SIDEWALKS A MINIMUM OF 3 FEET AND CAPPED FOR FUTURE USE.
 - ALL CONDUIT SLEEVES TO BE USED FOR ELECTRIC, GAS, OR TELECOMMUNICATION UTILITY CROSSINGS SHALL BE INSTALLED TO MEET OR EXCEED DESIGN REQUIREMENTS FOR THE UTILITY AGENCY WHICH THEY ARE SERVING, INCLUDING BUT NOT LIMITED TO THE DEPTH, TRENCH PLACEMENT, AND PROXIMITY TO OTHER UTILITIES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING AND INSTALLING THE CONDUIT SLEEVES TO MEET THESE SPECIFICATIONS INCLUDING COORDINATING WITH THE UTILITY AGENCY FOR ANY REQUIRED INSPECTIONS.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRICAL, SECONDARY ELECTRICAL, PRIMARY ELECTRICAL DUCTBANKS, IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TEST A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

NO. REVISION
REVISED WATER SERVICES

DATE

**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008860

RIVERSTONE UNITS - G5 & G6

SAN ANTONIO, TEXAS

OVERALL UTILITY PLAN

PLAT NO. 22-11800582

JOB NO. 11680-57

DATE MARCH 2023

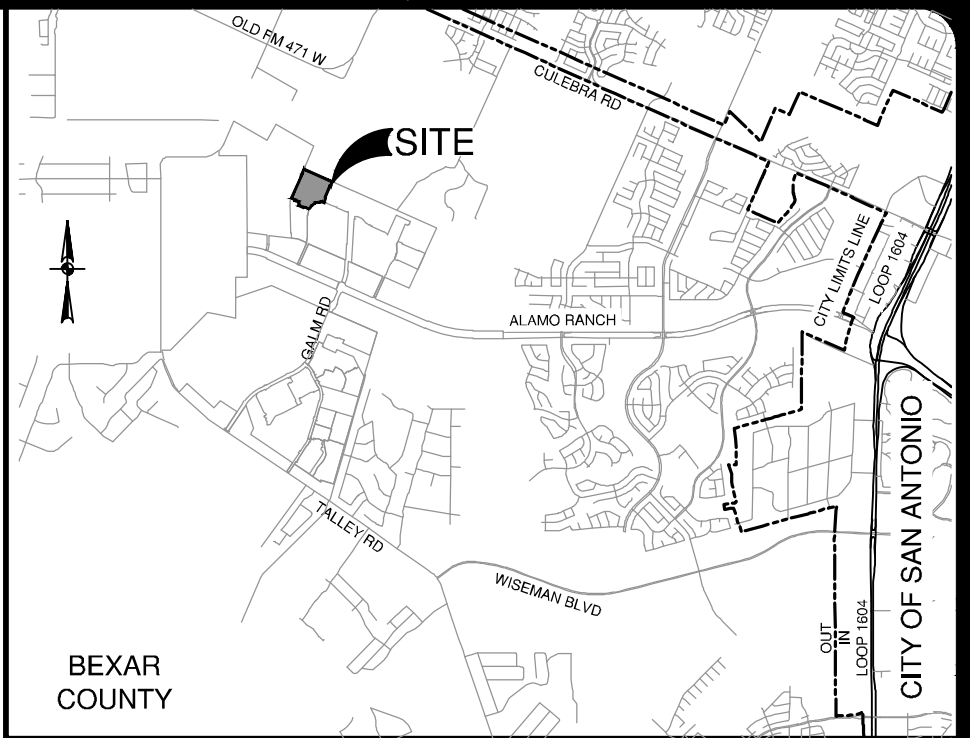
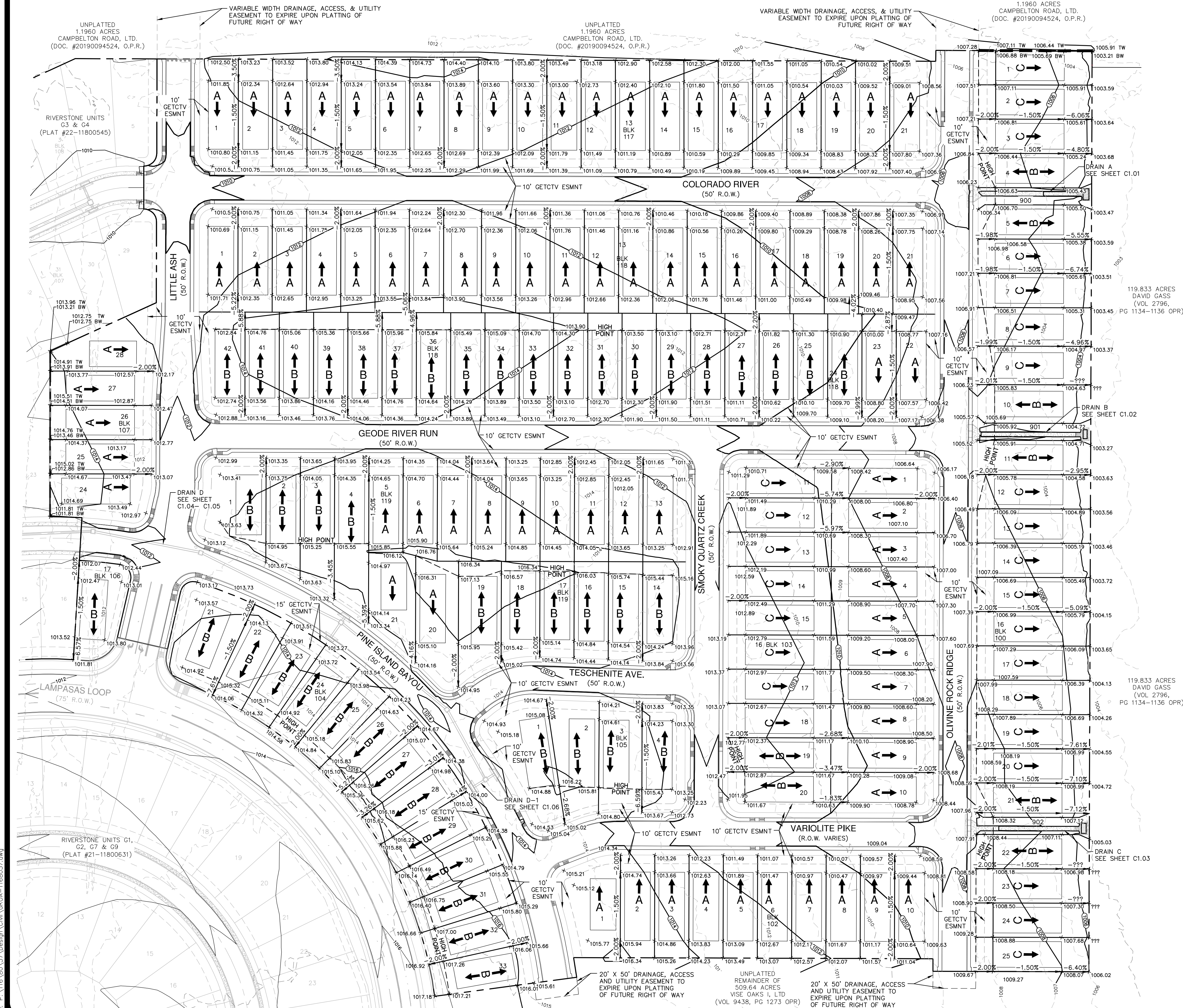
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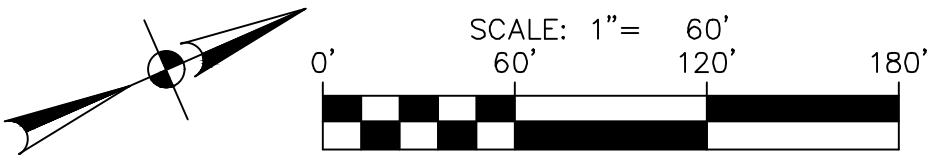
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LOCATION MAP

NOT-TO-SCALE



GRADING LEGEND

PROJECT LIMITS	---
100 YR FLOODPLAIN	---
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
FLOW ARROW (EXISTING)	→
FLOW ARROW (PROPOSED)	→
MINIMUM FINISHED FLOOR ELEVATION	FF = XXXX.XX
TREES TO REMAIN	○
PROPOSED WALL	---
EXISTING WALL	---

GRADING NOTES:

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TxDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
- SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
- ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
- ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
- THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
- THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
- THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
- THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN +/- ONE-TENTH (0.10) FOOT.
- IN PROPOSED PAVING AREAS, STREET DESIGN PLANS SHALL CONTROL. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1.0% UNLESS OTHERWISE SHOWN.
- THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APURTANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.
- UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
- POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
- FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
- NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.

PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78211 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008800

RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS

OVERALL GRADING PLAN

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE MARCH 2023
DESIGNER KC
CHECKED BL DRAWN KC
SHEET C7.00

UNPLATTED
89.610 ACRES
SPH CULEBRA, LTD.
(DOC. #20190032801 O.P.R.)

UNPLATTED
1,196.0 ACRES
CAMPBELTON ROAD, LTD.
(DOC. #20190094524, O.P.R.)

RIVERSTONE UNITS
G3 & G4
(PLAT #22-11800545)

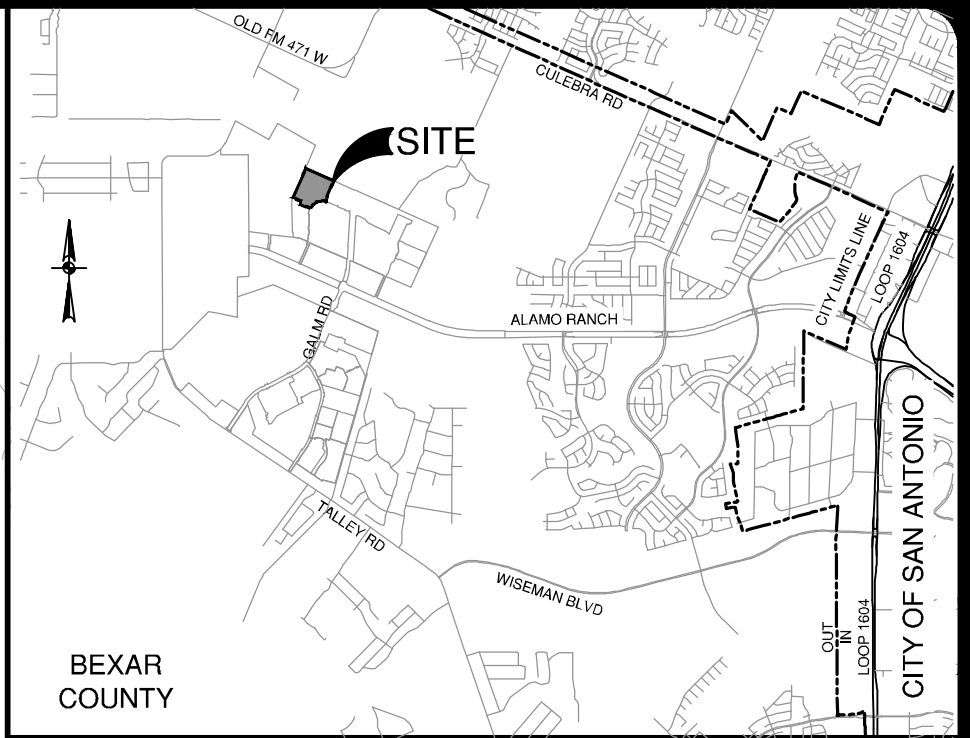
UNPLATTED
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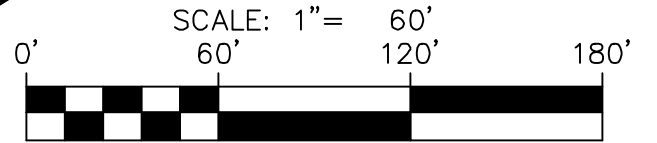
UNPLATTED
1,196.0 ACRES
CAMPBELTON ROAD, LTD.
(DOC. #20190094524, O.P.R.)

LIFT STATION
(BY OTHERS)
(SAWS JOB
NO. 22-XXXX)



LOCATION MAP

NOT-TO-SCALE



SWPPP LEGEND

- PROJECT LIMITS
EXISTING CONTOUR
PROPOSED CONTOUR
FLOW ARROW (EXISTING)
FLOW ARROW (PROPOSED)
SILT FENCE
ROCK BERM
GRAVEL FILTER BAGS
GRATE INLET PROTECTION
SEDIMENT CONTROL ROLL
LIMITS OF DISTURBED AREA
(29.516 ACRES)
STABILIZED CONSTRUCTION ENTRANCE/EXIT
(FIELD LOCATE)
CONSTRUCTION EQUIPMENT, VEHICLE &
MATERIALS STORAGE AREA
(FIELD LOCATE)
CONCRETE TRUCK WASH-OUT PIT
(FIELD LOCATE)

GENERAL NOTES

- DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
- CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
- STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
- RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
- ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
- FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.
- STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
- AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
- BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.
- BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
- UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
- WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.
- SHADED AREA DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES. HOUSE CONSTRUCTION ACTIVITIES WILL REQUIRE A SEPARATE STORM WATER POLLUTION PREVENTION PLAN.
- PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TxDOT RIGHT-OF-WAY WITH TxDOT.
- CPS ENERGY WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 2

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008860

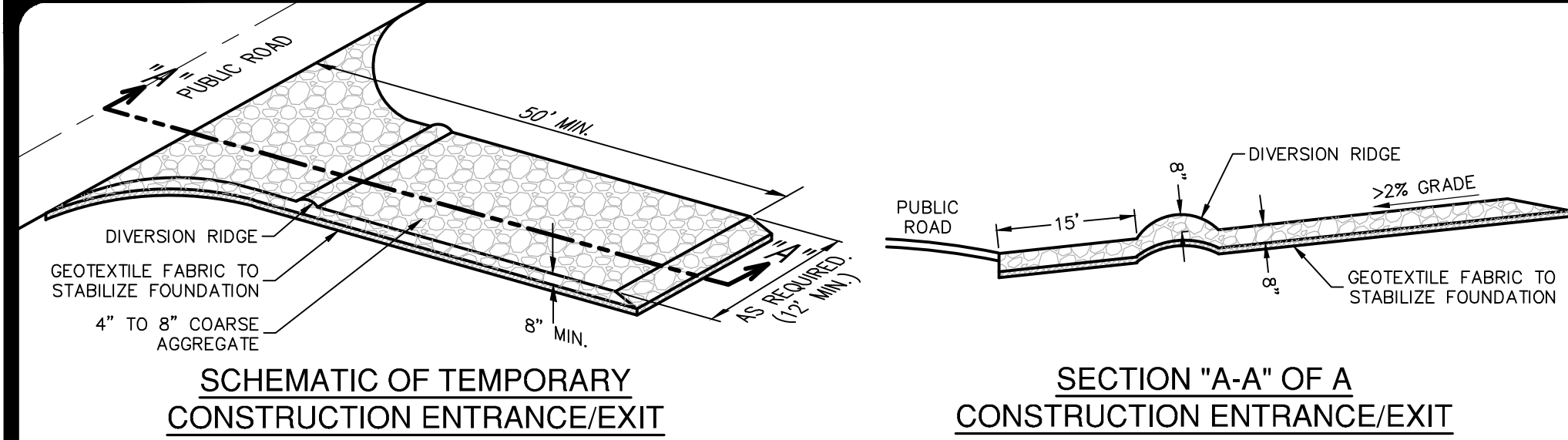
RIVERSTONE UNITS - G5 & G6
SAN ANTONIO, TEXAS
STORM WATER POLLUTION PREVENTION PLAN

PLAT NO. 22-11800582
JOB NO. 11680-57
DATE FEBRUARY 2023
DESIGNER RG
CHECKED BL DRAWN RG
SHEET C8.00

SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

DATE: Feb 27, 2023 4:42pm User: jdc@pape-dawson.com File: P:\1616\80151\Design\Civil\SWP3-11800582.dwg

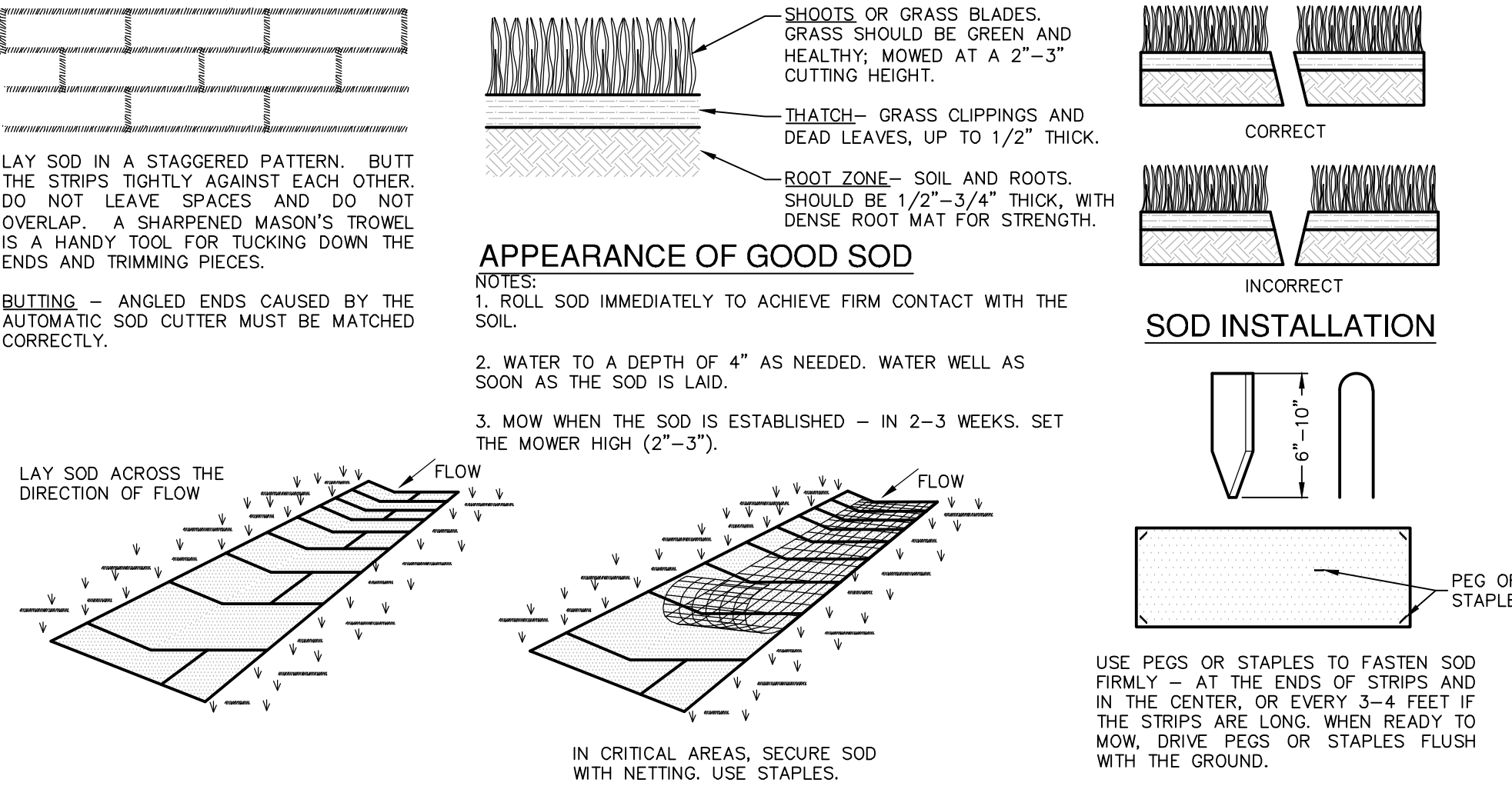


- MATERIALS**
1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
 2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8-INCHES.
 3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
 4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4-INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

- INSTALLATION**
1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
 2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
 3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
 4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6-INCHES TO 8-INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
 5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
 6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
 7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
 8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT-TO-SCALE



MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.
2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5% TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE.
3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT, THEIR SIZE AND SHAPE WHEN SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).
4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.
2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.
3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).
2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

SOD INSTALLATION DETAIL

NOT-TO-SCALE

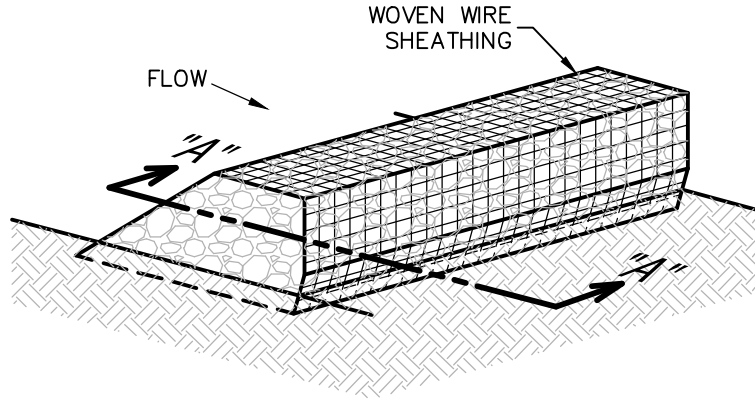
COMMON TROUBLE POINTS

1. INADEQUATE RUNOFF CONTROL-SEDIMENT WASHES ONTO PUBLIC ROAD.
2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.
3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC-EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.
4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.
5. UNSTABLE FOUNDATION - USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

ISOMETRIC PLAN VIEW



ROCK BERMS

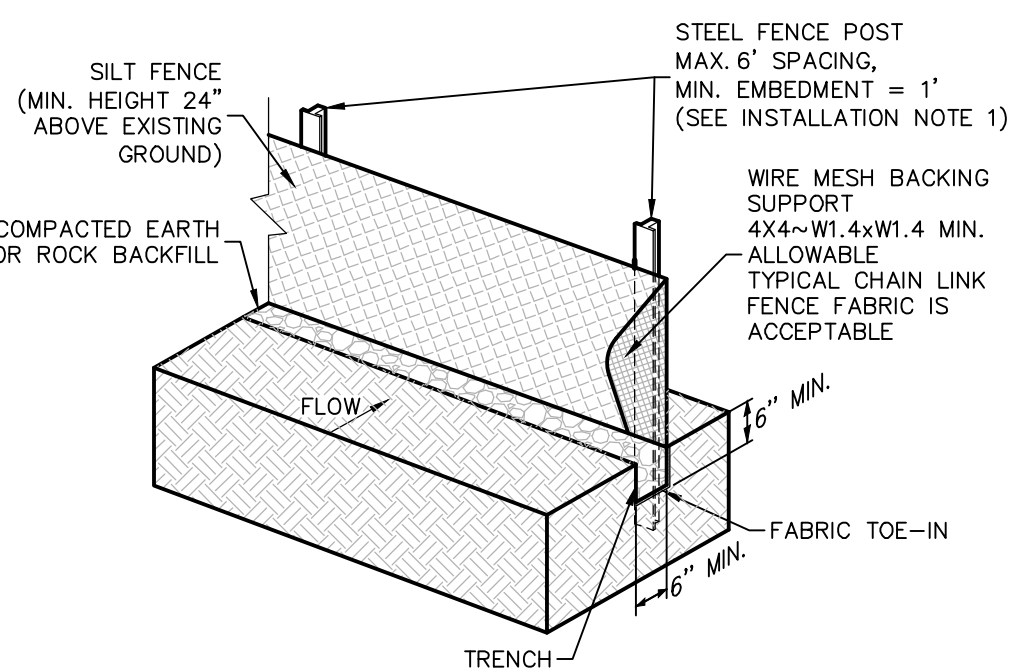
THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT-LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
3. REPAIR ANY LOOSE WIRE SHEATHING.
4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

ROCK BERM DETAIL

NOT-TO-SCALE



ISOMETRIC PLAN VIEW

SILT FENCE

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER-BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS

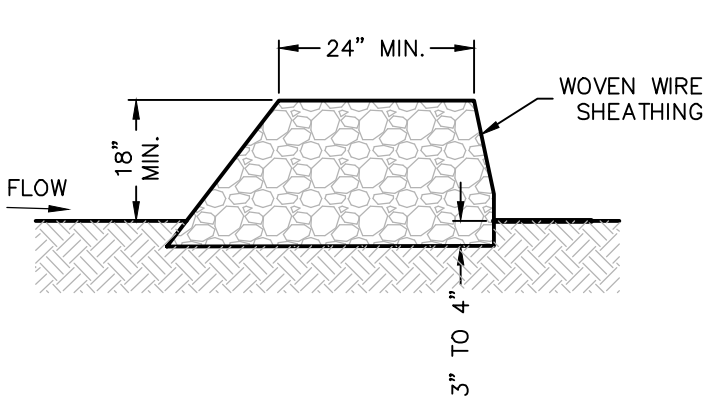
1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.
2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS EXCEEDING 140.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.
2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.

SILT FENCE DETAIL

NOT-TO-SCALE



SECTION "A-A"

MATERIALS

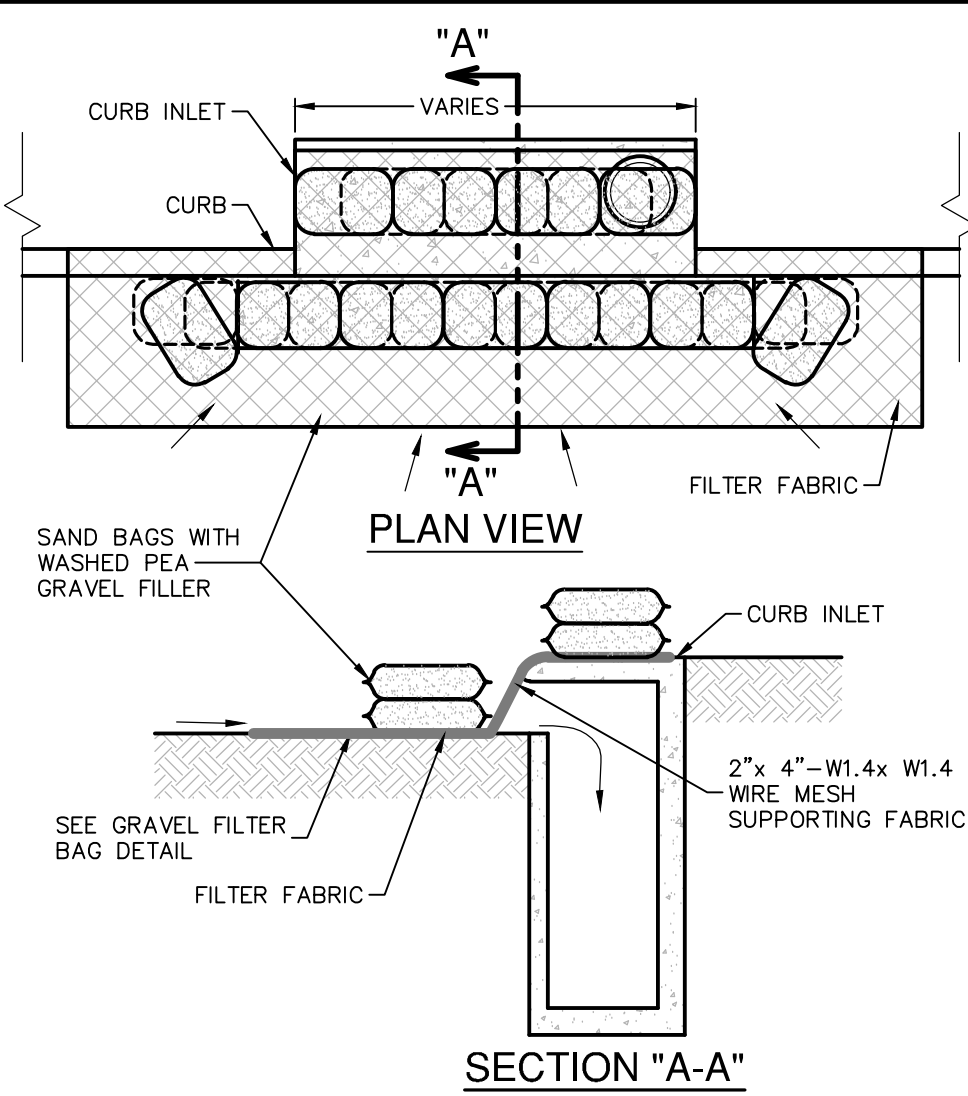
1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".
4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

COMMON TROUBLE POINTS

1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).
2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

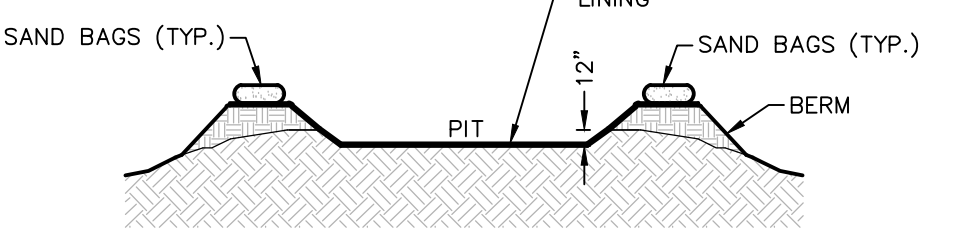
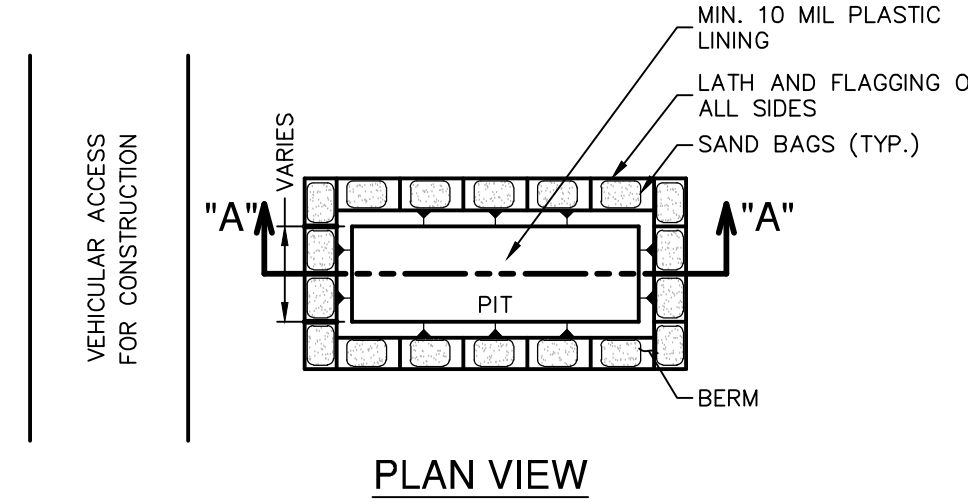


GENERAL NOTES

1. CONTRACTOR TO INSTALL 2"x4"-W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE CUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.
2. THE BAGS SHOULD BE TIGHTLY ABUTTED AROUND EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT-TO-SCALE



GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

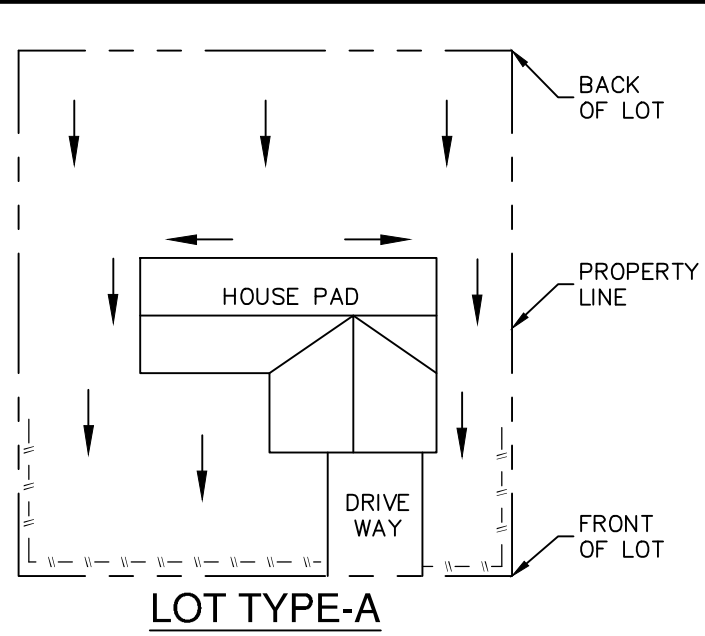
MAINTENANCE

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.
2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

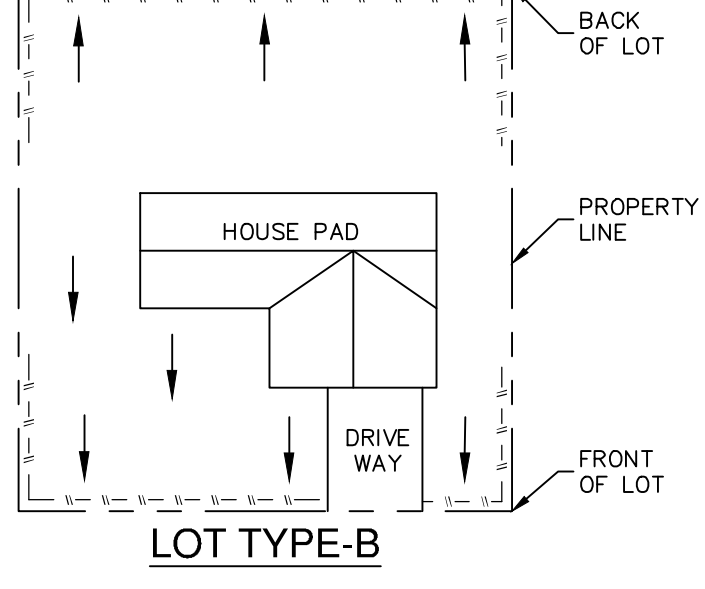
CONCRETE TRUCK WASHOUT

PIT DETAIL

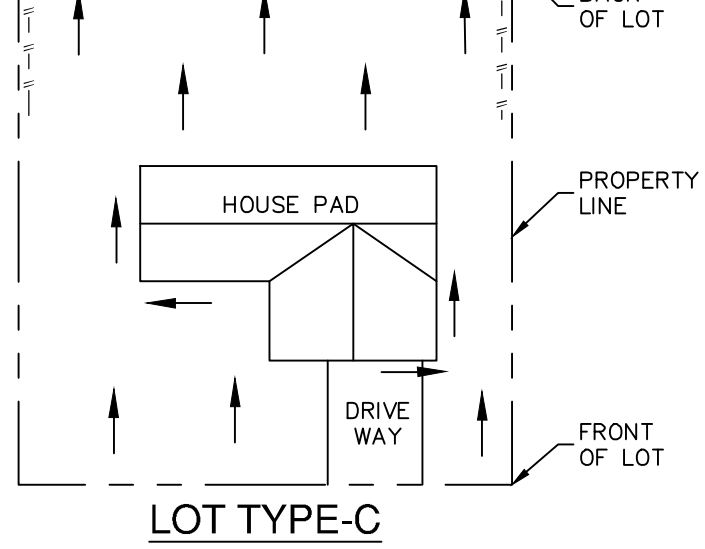
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LOT TYPE-A



LOT TYPE-B



LOT TYPE-C

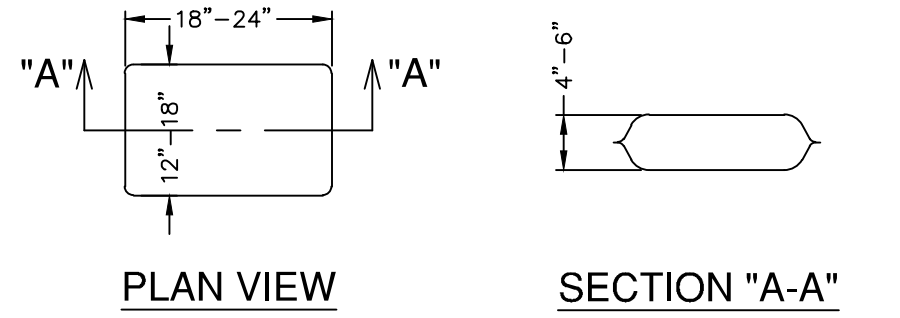
NOTE: SILT FENCE TO BE INSTALLED PER THESE DETAILS AND LOCATED ON THE DOWNDRAIN SIDE OF EACH LOT LINE OR LIMITS OF CLEARING AS GENERALLY SHOWN ON THE OVERALL SITE PLAN.

LEGEND

SILT FENCE DRAINAGE FLOW

TYPICAL HOUSE LOT LAYOUTS

NOT-TO-SCALE



PLAN VIEW

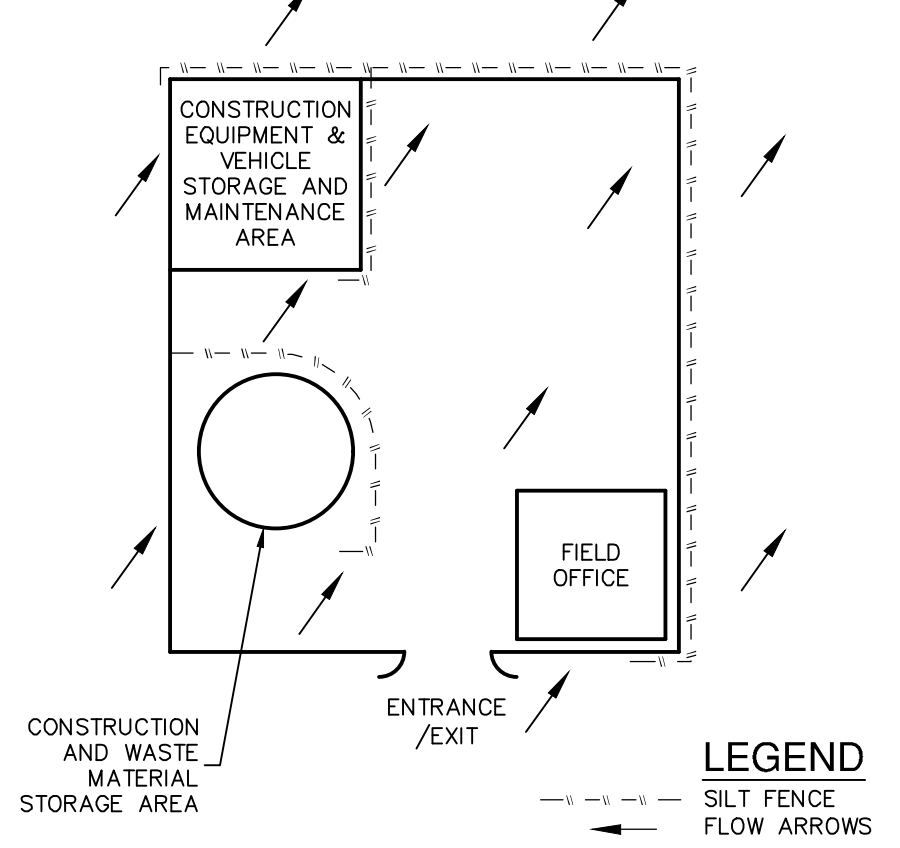
SECTION "A-A"

NOTES:
1. THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN. UNIT WEIGHT OF 4 OUNCES/SY, HAVE A MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.

2. THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM WASHED PEA GRAVEL TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).
3. SAND SHALL NOT BE USED TO FILL THE FILTER BAGS.

GRAVEL FILTER BAG DETAIL

NOT-TO-SCALE



LEGEND

SILT FENCE FLOW ARROWS

CONSTRUCTION STAGING AREA

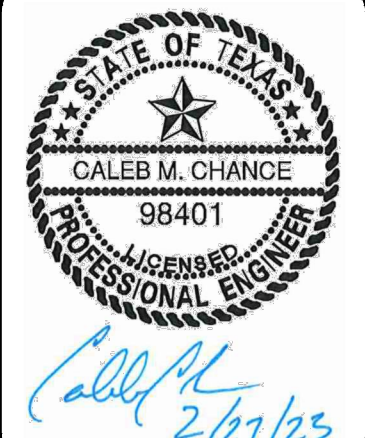
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THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 3

DATE	
NO.	
REVISION	



PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008860

RIVERSTONE UNITS - G5 & G6

SAN ANTONIO, TEXAS

STORM WATER POLLUTION PREVENTION PLAN DETAILS

PLAT NO.	22-11800582
JOB NO.	11680-57
DATE	FEBRUARY 2023
DESIGNER	RG
CHECKED	BL
DRAWN	RG
SHEET	C8.10