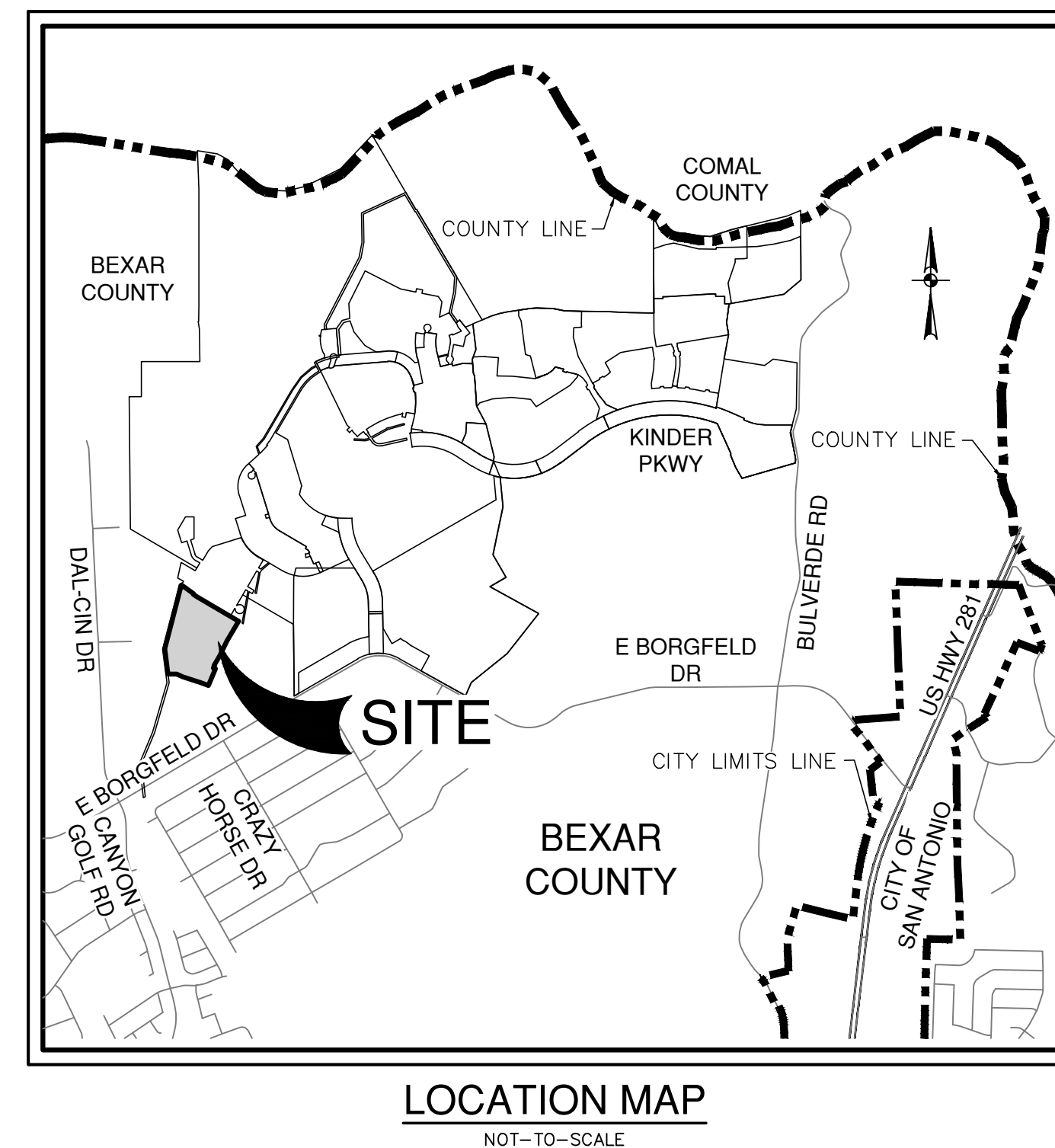


# KINDER GALE UNIT 2

## SAN ANTONIO, TEXAS

### CIVIL CONSTRUCTION PLANS

Sheet List Table	
Sheet Title	Sheet Number
COVER SHEET	C0.00
MASTER DRAINAGE PLAN	C1.00
DRAIN "A" & "C" PLAN & PROFILE	C1.01
DRAIN "B" & "D" PLAN & PROFILE	C1.02
DRAIN "E" PLAN & PROFILE	C1.03
DRAIN "E" PLAN & PROFILE	C1.04
DRAIN "E" PLAN & PROFILE	C1.05
DRAINAGE DETAILS	C1.10
DRAINAGE DETAILS	C1.11
DRAINAGE DETAILS	C1.12
COLARES WAY PLAN & PROFILE	C2.00
HENDEL POINT PLAN & PROFILE	C2.01
CHARMING BROOK PLAN & PROFILE	C2.02
HARDENED TRAIL PLAN & PROFILE	C2.03
BIRCH FIRE PLAN & PROFILE	C2.04
STREET DETAILS	C2.10
STREET DETAILS	C2.11
STREET DETAILS	C2.12
OVERALL SIGNAGE PLAN	C3.00
SIGNAGE DETAILS	C3.10
SIGNAGE DETAILS	C3.11
SIGNAGE DETAILS	C3.12

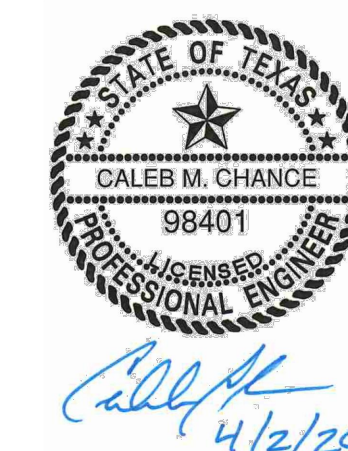


Sheet List Table	
Sheet Title	Sheet Number
OVERALL WATER DISTRIBUTION PLAN	C4.00
WATER DETAILS	C4.10
WATER NOTES	C4.11
OVERALL SANITARY SEWER PLAN	C5.00
SANITARY SEWER LINE "A" PLAN & PROFILE	C5.01
SANITARY SEWER LINE "A" PLAN & PROFILE	C5.02
SANITARY SEWER LINE "B" PLAN & PROFILE	C5.03
SANITARY SEWER LINE "C" & "D"	C5.04
SANITARY SEWER DETAILS	C5.10
SANITARY SEWER DETAILS	C5.11
OVERALL UTILITY PLAN	C6.00
OVERALL GRADING PLAN	C7.00
STORMWATER POLLUTION PREVENTION PLAN	C8.00
STORMWATER POLLUTION PREVENTION DETAILS	C8.10

PREPARED FOR:

KINDER RANCH GALE INVESTMENT  
11 LYN BATTS LANE, SUITE 100  
SAN ANTONIO, TEXAS 78218

JANUARY 2025



WATER (SAWS PRESSURE ZONE 11A)

DEVELOPER'S NAME: KINDER RANCH GALE INVESTMENT
ADDRESS: 11 LYN BATTS LANE, SUITE 100
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78218
PHONE# (210) 828-6131 FAX# (210) 828-6137
SAWS BLOCK MAP# 164-684 TOTAL EDU'S 62 TOTAL ACREAGE 18.704
TOTAL LINEAR FOOTAGE OF PIPE: 8" ~ 3,378 LF PLAT NO. 25-11800016
NUMBER OF LOTS 64 SAWS JOB NO. 25-1021

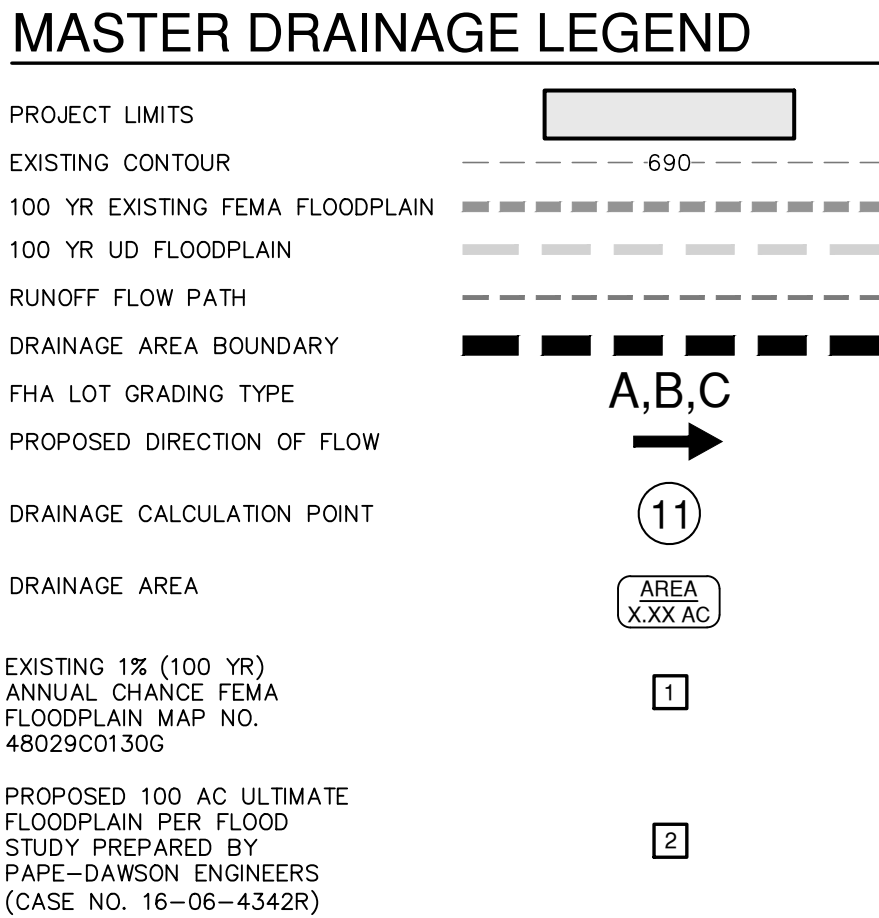
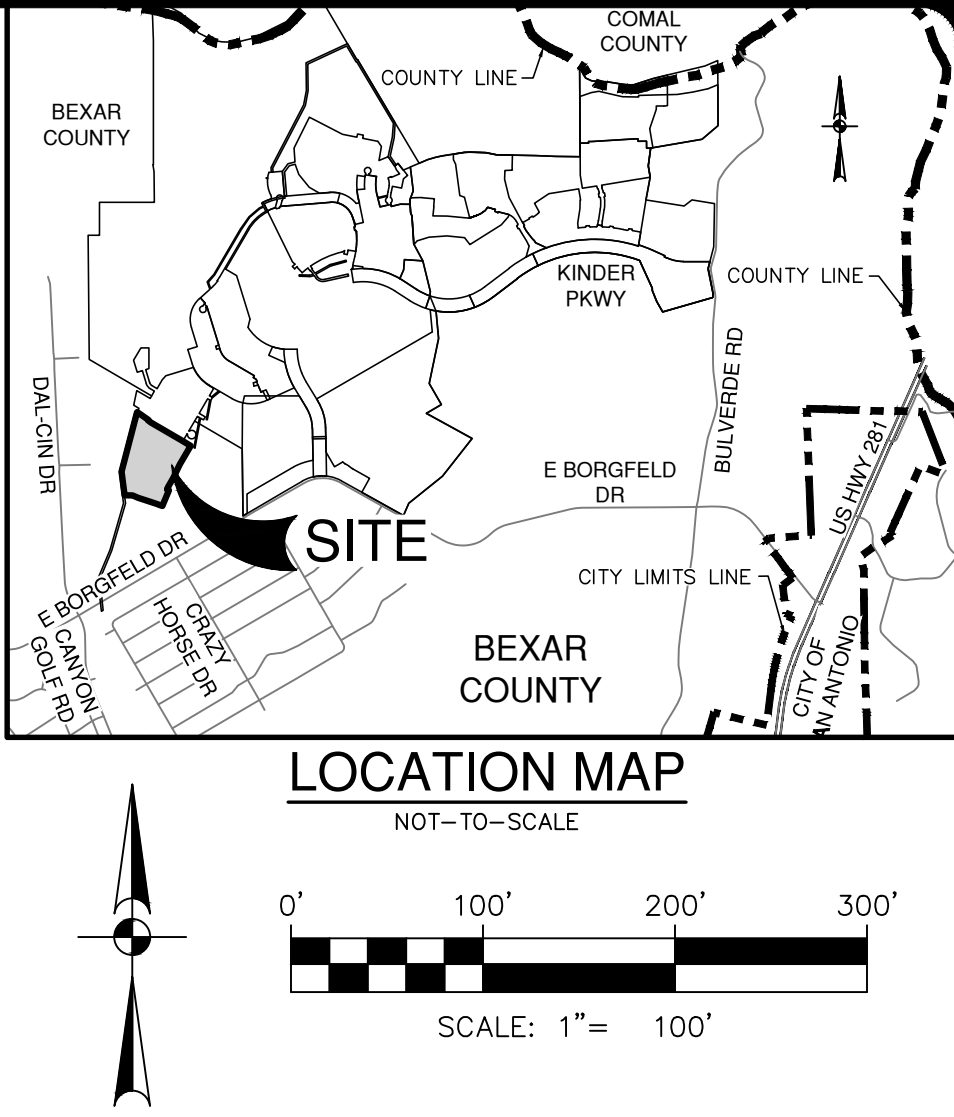
SEWER: (DOS RIOS SEWERSHED)

DEVELOPER'S NAME: KINDER RANCH GALE INVESTMENT
ADDRESS: 11 LYN BATTS LANE, SUITE 100
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78218
PHONE# (210) 828-6131 FAX# (210) 828-6137
SAWS BLOCK MAP# 164-684 TOTAL EDU'S 62 TOTAL ACREAGE 18.704
TOTAL LINEAR FOOTAGE OF PIPE: 8" 1,093 LF PLAT NO. 25-11800016
NUMBER OF LOTS 64 SAWS JOB NO. 25-1511

SHEET C0.00



KINDER GALE UNIT 2 ULTIMATE CONDITIONS MASTER DRAINAGE SUMMARY TABLE																
Point	Structure	Area	Total Flow Length (ft)	Total Area (ac)	Character of Ground	Overland Flow			Shallow Concentrated			Channel Flow (6 fps)		Total Tc (min)	C	Frequency (yrs)
						Slope %	L (ft)	Tc (min)	Slope %	L (ft)	Surface	Tc (min)	Tc (min)			
1	Street Capacity - Birch Fire	A	704	4.51	Bare Soil	6.0	100	10	3.9	604	Composite	2.2	0.0	12.0	0.72	5.92 19.22 5
2	Street Capacity - Charming Brook	B	419	1.74	Bare Soil	3.2	100	11	7.2	319	Composite	0.0	0.0	11.0	0.72	6.34 27.08 25
3	Drain B - Curb Inlet in Sump	A+B+C	1354	7.05	Bare Soil	6.0	100	10	3.3	1254	Composite	5.2	0.0	15.0	0.72	10.59 34.39 100
4	Drain A - Curb Inlets on Grade	D	562	5.04	Bare Soil	6.0	100	10	4.2	462	Composite	3.4	0.0	13.0	0.73	6.13 7.68 5
5	Drain D - Storm Drain	A+B+C+D	1354	13.57	Bare Soil	6.0	100	10	3.3	1254	Composite	5.2	0.0	15.0	0.73	8.66 10.85 25
6	Existing 10' Curb Inlets in Sump	D+E+F+G	1610	14.41	Bare Soil	6.0	100	10	3.3	1510	Composite	6.2	0.0	16.0	0.86	11.00 13.78 100
7	Existing Storm Drain	A+B+C+D+E+F+G	1610	21.46	Bare Soil	6.0	100	10	3.2	1510	Composite	6.2	0.0	16.0	0.81	5.32 27.00 5
8	Existing Curb Inlet on Grade	G	1537	7.09	Bare Soil	5.0	100	10	0.0	0	Composite	8.2	0.0	16.0	0.96	7.44 37.77 25
9	Existing Storm Drain	A+B+C+D+E+F+G	1610	21.46	Bare Soil	6.0	100	10	3.2	1510	Composite	6.2	0.0	16.0	0.81	9.43 47.87 100
10	Drain D - Earthen Channel	H	976	5.70	Bare Soil	5.0	100	10	6.6	876	Composite	8.2	0.0	18.0	0.73	5.71 21.01 5
11	Drain D - Concrete U-Channel	H+I	976	7.96	Bare Soil	5.0	100	10	6.6	876	Composite	8.2	0.0	22.0	0.72	8.03 29.54 25
12	Drain E - Earthen Channel	J	868	5.50	Bare Soil	5.5	100	10	5.7	768	Composite	7.7	0.0	17.0	0.67	10.19 37.49 100
13	Drain E - 4-Way Inlet	H+I+J	1304	13.46	Bare Soil	5.5	100	10	5.7	1204	Composite	12.1	0.0	22.0	0.70	5.32 52.70 5



**PAPE-DAWSON ENGINEERS**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

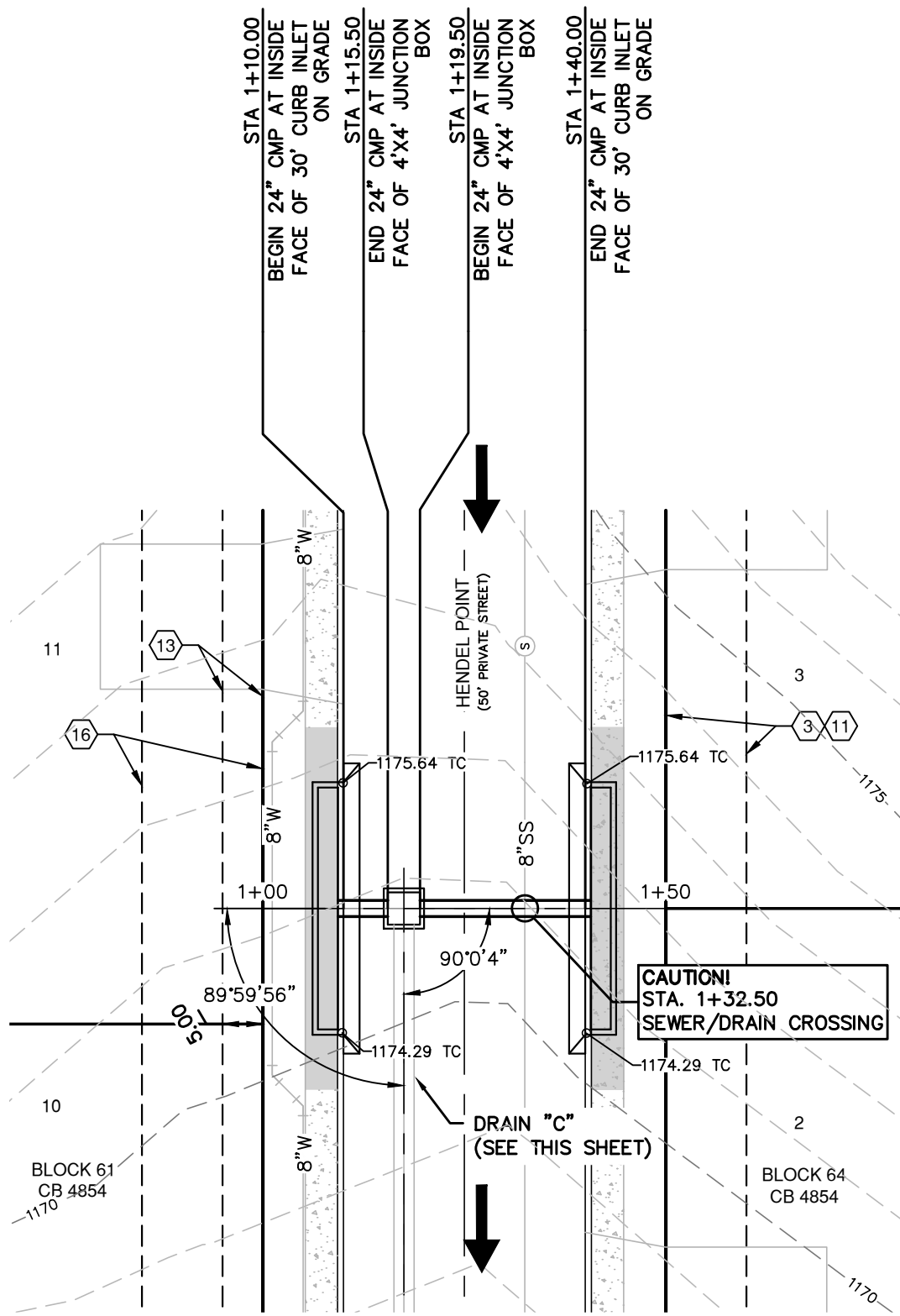
**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS  
MASTER DRAINAGE PLAN

PLAT NO. 24-11800281  
JOB NO. 8802-76  
DATE JANUARY 2025  
DESIGNER  
CHECKED DRAWN  
SHEET C1.00



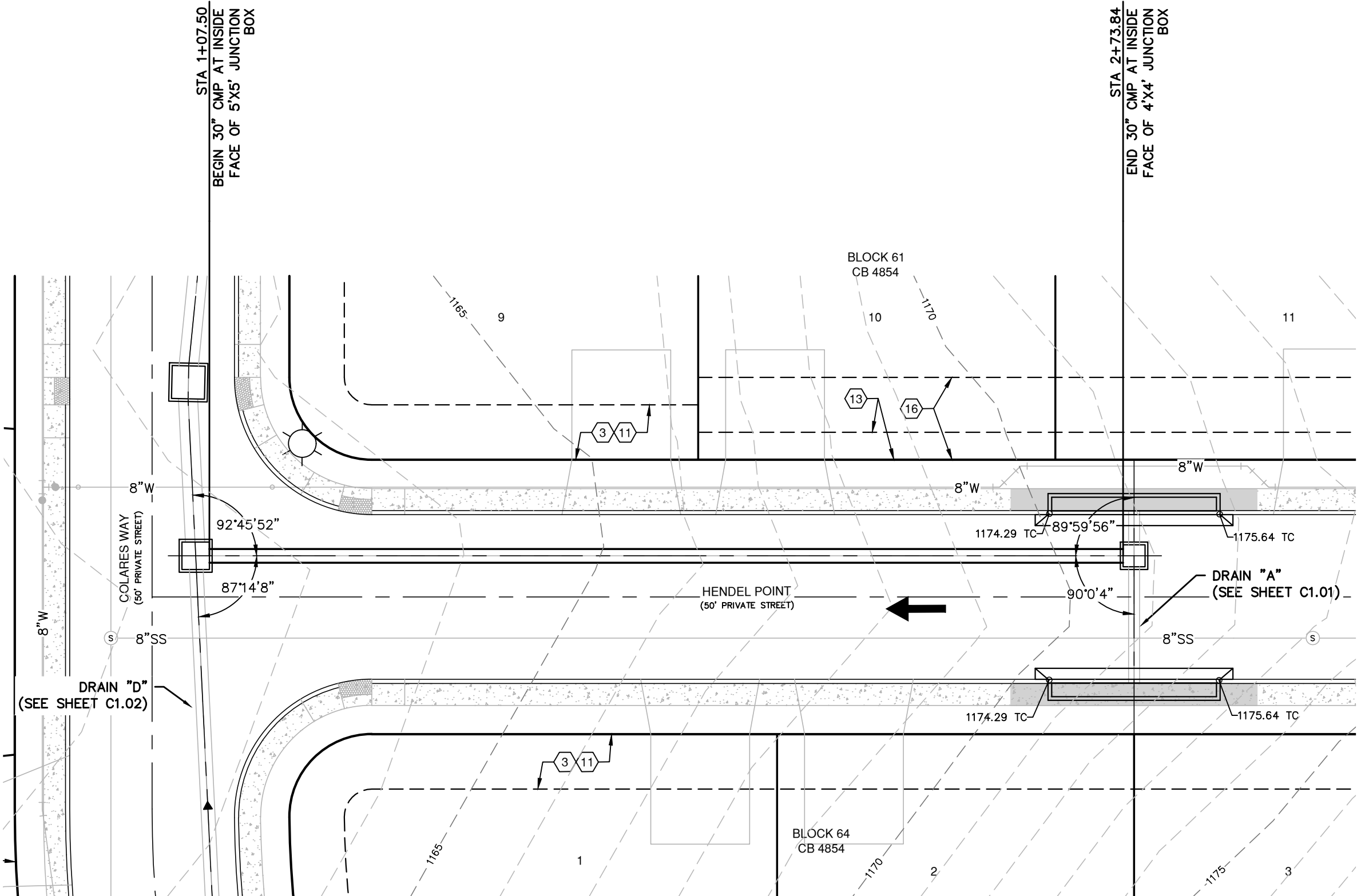
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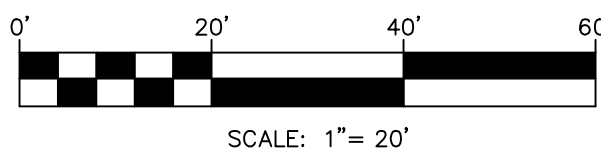
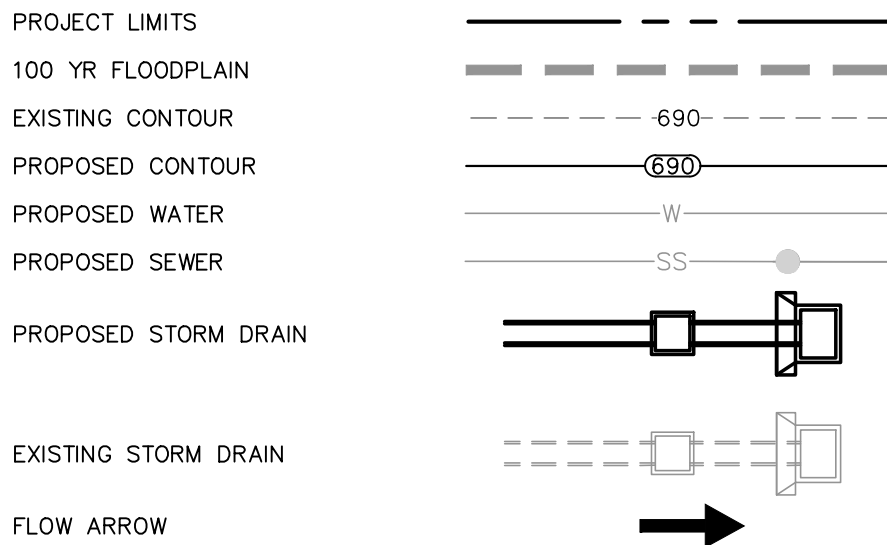
HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 1+09.34 TO 1+15.50	
Q25 = 11.87 cfs	
Sf = 0.28%	
Vn = 5.56 fps	
n = 0.013	
D = 24"	
S = 0.50%	
Dn = 1.30'	

HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 1+19.50 TO 1+40.67	
Q25 = 11.87 cfs	
Sf = 0.28%	
Vn = 5.56 fps	
n = 0.013	
D = 24"	
S = 0.50%	
Dn = 1.30'	



HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 1+07.50 TO 2+73.84	
Q25 = 23.74 cfs	
Sf = 0.33%	
Vf = 4.84 fps	
n = 0.013	
D = 30"	
S = 2.00%	
Dn = 1.14'	

## DRAINAGE LEGEND



## KEYED NOTES:

- 10" GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT
- 15" DRAINAGE AND ACCESS EASEMENT (0.250 AC)
- 10" BUILDING SETBACK LINE
- 10" EASEMENT
- 10" EASEMENT
- CONCRETE COLLAR (SEE DETAIL SHEET C1.10)
- CONTRACTOR TO GROUT BOTTOM OF BOX TO ALLOW FOR POSITIVE DRAINAGE

## 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 TYPICAL DRAINAGE STRUCTURES SHALL MEET TYPICAL 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:

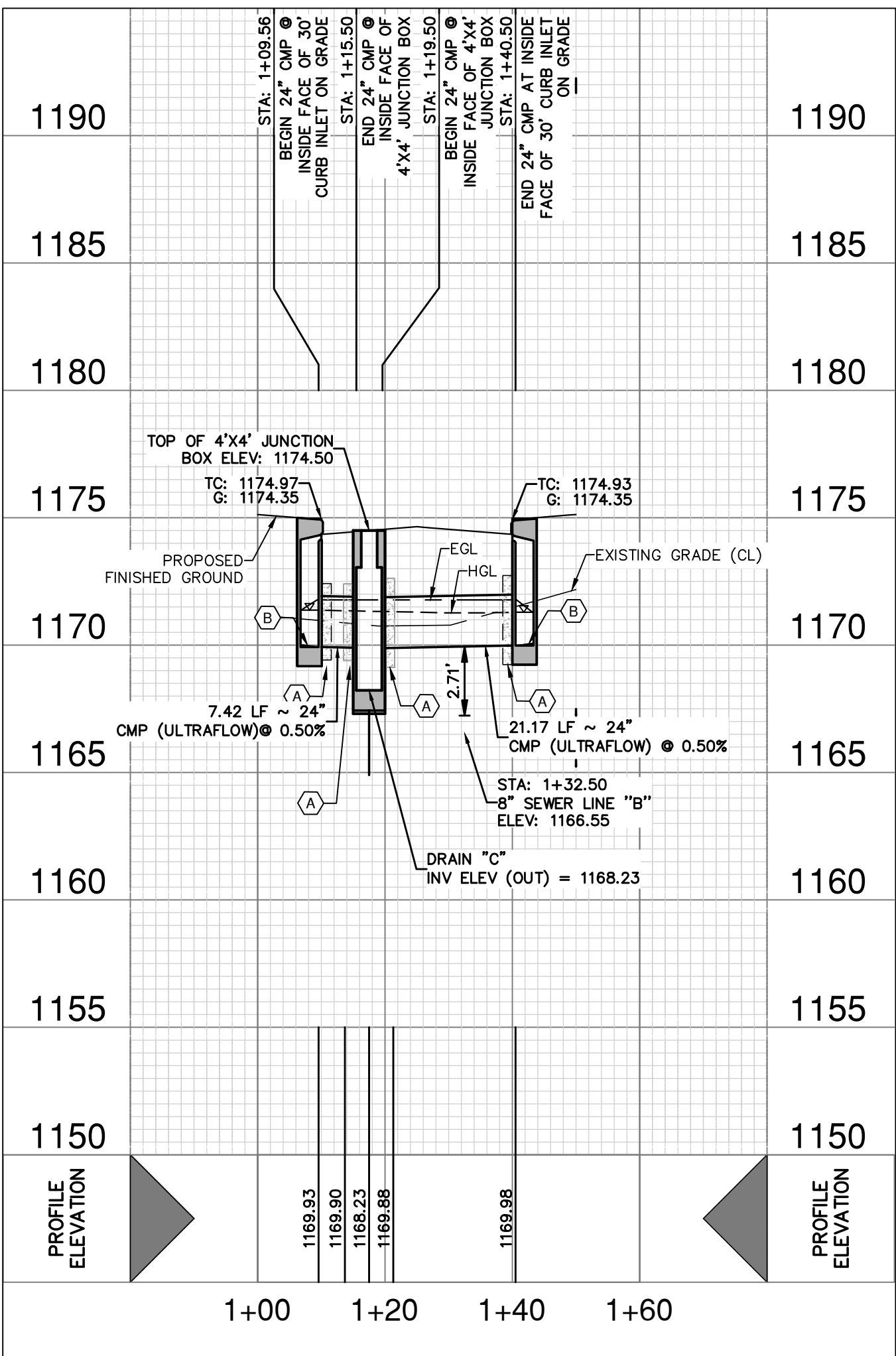
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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!!

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.

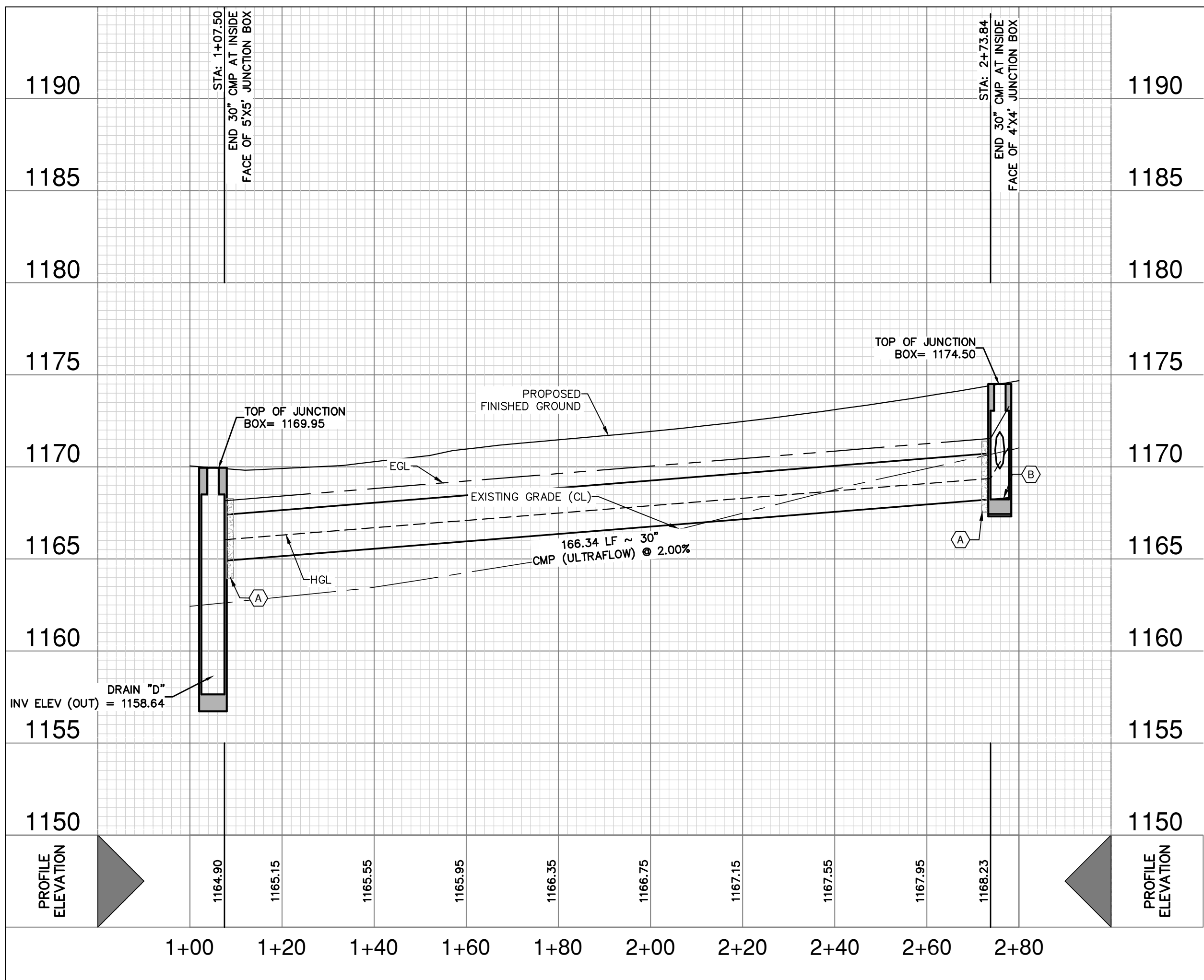
DRAIN "A"  
STA. 1+00.00 TO END

VERTICAL SCALE: 1" = 5'  
HORIZONTAL SCALE: 1" = 20'



DRAIN "C"  
STA. 1+00.00 TO END

VERTICAL SCALE: 1" = 5'  
HORIZONTAL SCALE: 1" = 20'



**PAPE-DAWSON**  
**ENGINEERS**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008800

**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS

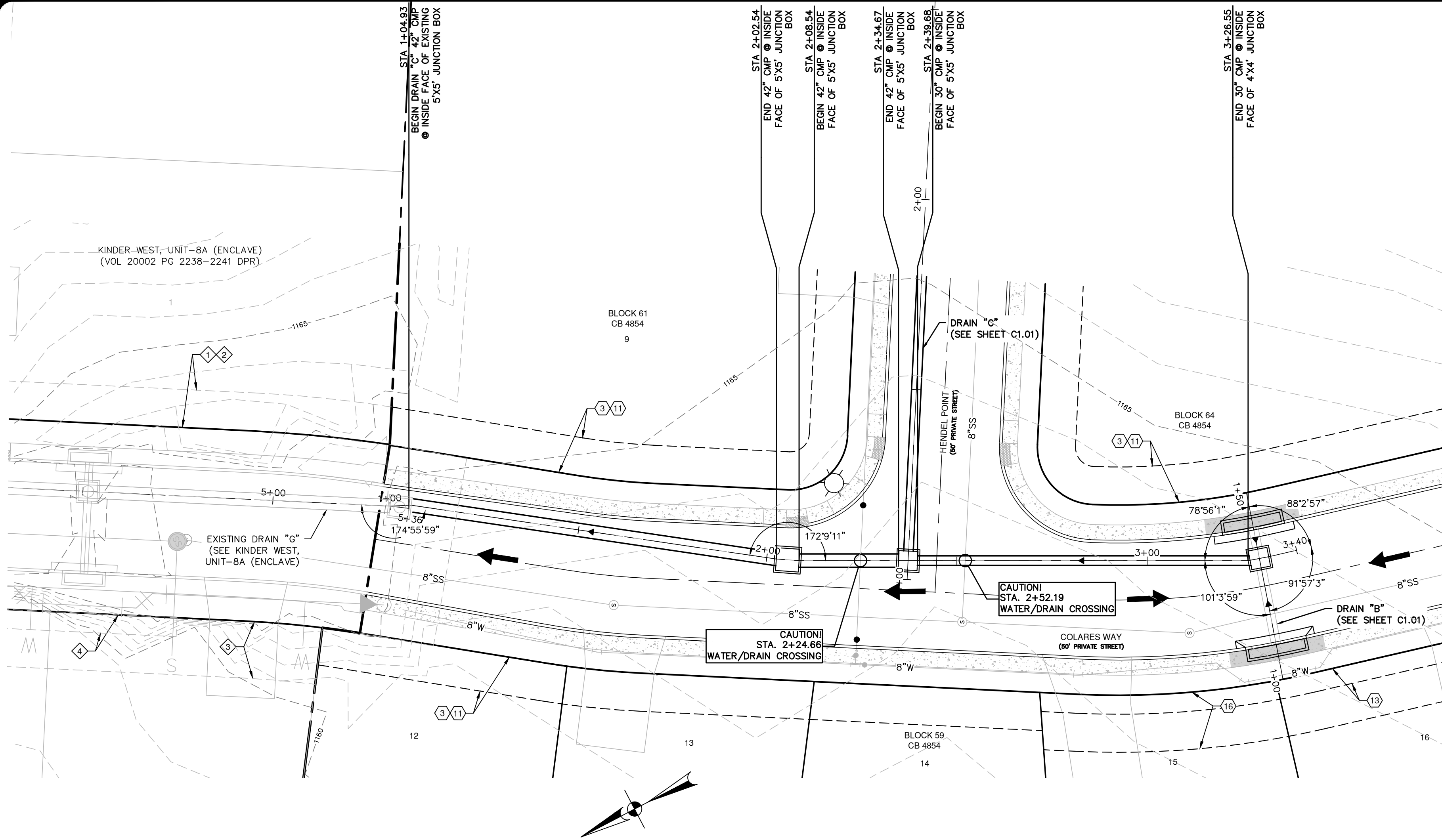
DRAIN "A" & "C" PLAN & PROFILE  
STA. 1+00.00 TO END

PLAT NO. 25-11800016  
JOB NO. 8802-76  
DATE JANUARY 2025  
DESIGNER  
CHECKED DRAWN  
SHEET C1.01

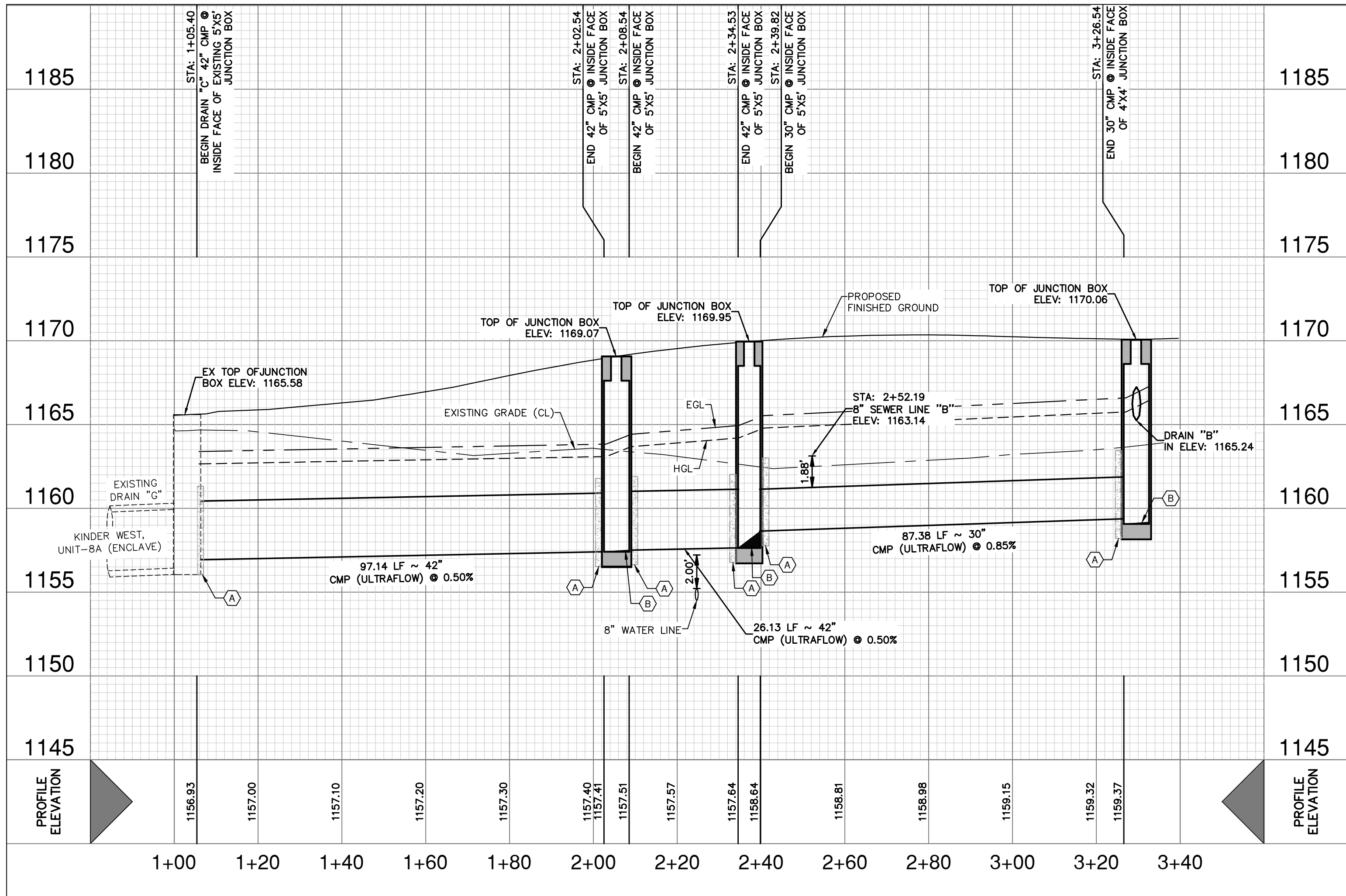


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DRAIN "D"  
STA. 1+00.00 TO END  
VERTICAL SCALE: 1" = 5'  
HORIZONTAL SCALE: 1" = 20'

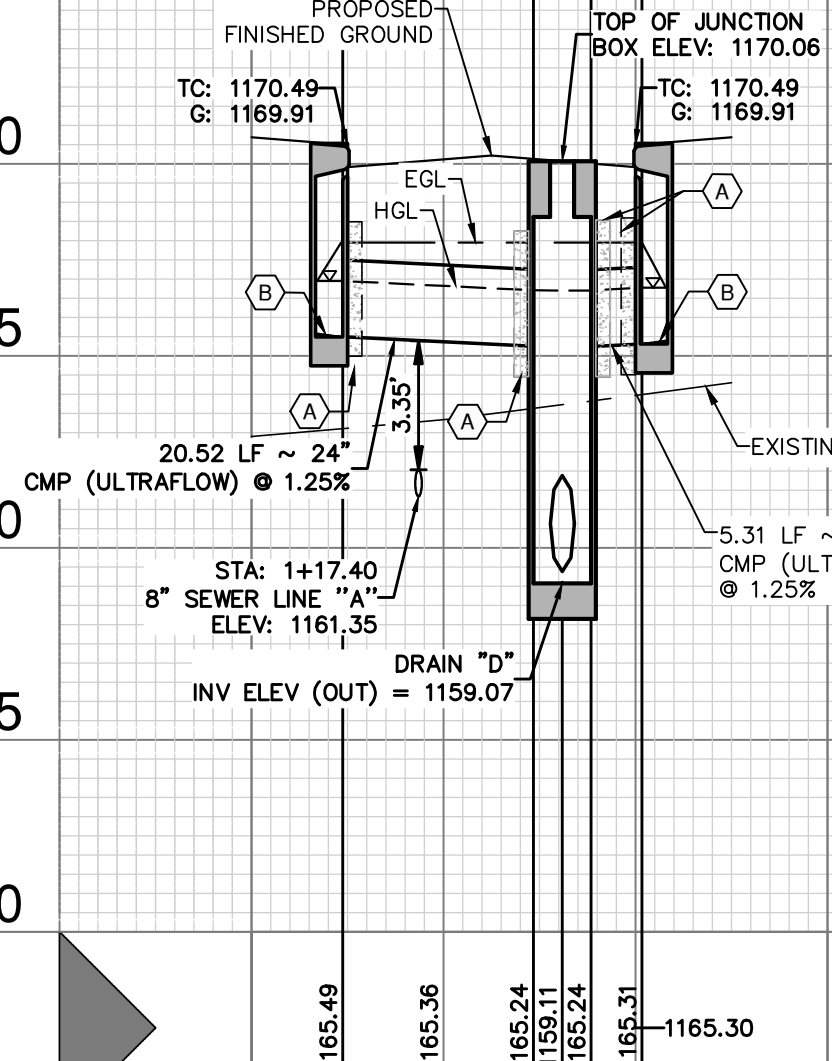
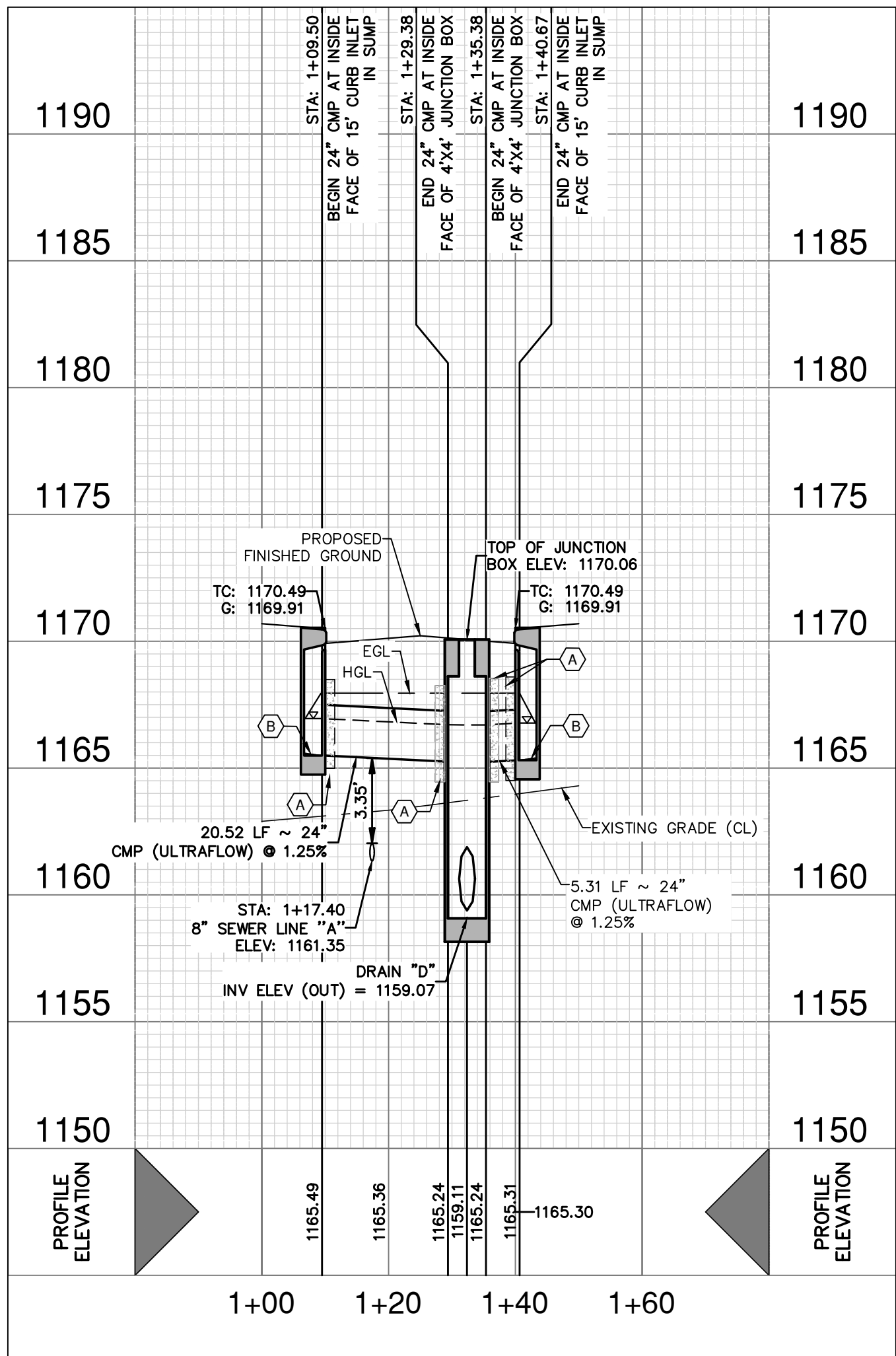


HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 1+05.40 TO 2+02.54	
Q25 = 67.89 cfs	
Sf = 0.45%	
Vf = 7.06 fps	
n = 0.013	
D = 42"	
S = 0.50%	
Dn = 2.73'	

HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 2+08.54 TO 2+34.53	
Q25 = 67.89 cfs	
Sf = 0.45%	
Vf = 7.06 fps	
n = 0.013	
D = 42"	
S = 0.50%	
Dn = 2.73'	

HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 2+39.82 TO 3+26.54	
Q25 = 37.77 cfs	
Sf = 0.85%	
Vf = 7.70 fps	
n = 0.013	
D = 30"	
S = 0.50%	
Dn = 2.02'	

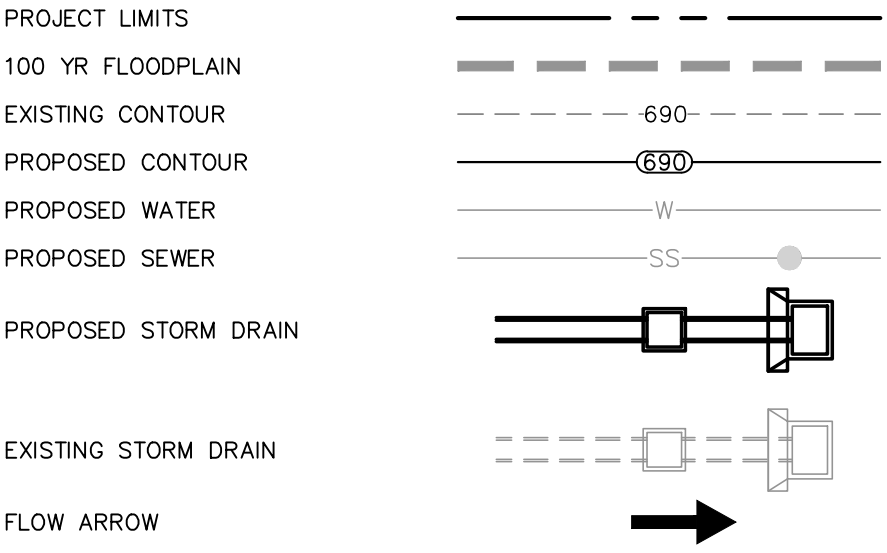
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VERTICAL SCALE: 1" = 5'  
HORIZONTAL SCALE: 1" = 20'



HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 1+09.33 TO 1+29.35	
Q25 = 18.89 cfs	
Sf = 0.70%	
Vn = 8.80 fps	
n = 0.013	
D = 24"	
S = 1.25%	
Dn = 1.30'	

HYDRAULIC CALCULATIONS STORM DRAIN	
STA. 1+35.35 TO 1+40.67	
Q25 = 18.89 cfs	
Sf = 0.70%	
Vn = 8.80 fps	
n = 0.013	
D = 24"	
S = 1.25%	
Dn = 1.30'	

## DRAINAGE LEGEND



## KEYED NOTES:

- 10" GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
- 10" BUILDING SETBACK LINE
- 5" WATER EASEMENT
- 15" GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
- CONCRETE COLLAR (SEE DETAIL SHEET C1.10)
- CONTRACTOR TO GROUT BOTTOM OF BOX TO ALLOW FOR POSITIVE DRAINAGE
- 10" ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT
- 10" BUILDING SETBACK LINE
- 5" WATER EASEMENT
- 15" GAS, ELECTRIC, TELEPHONE & CABLE TV EASEMENT
- 15" ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT

## HYDRAULIC CALCULATIONS-DRAIN "B"

TOTAL Q25 = 37.77 CFS (18.89 CFS EACH INLET)

$Q_{25} = 18.89 \text{ CFS}$   
 $Q_{25} = CA\sqrt{2gh}$  (ORIFICE FLOW EQN.)  
 $A = L(0.44)$ ,  $h = 0.56$ ,  $g = 32.2$ ,  $c = 0.67$   
 $L = \frac{18.89 \text{ CFS}}{(0.67) (0.50)\sqrt{2} (32.2) (0.50)}$   
 $L = 9.4 \text{ FT}$  USE 1 ~ 10 FT CURB INLET EACH SIDE

CHECK WITH WEIR FORMULA  
 $h = \left(\frac{Q}{(CL)}\right)^{2/3} = \left(\frac{18.89}{(3.087) (10)}\right)^{2/3} = 0.72 \text{ FT.}$

$h = 0.72 < 0.79$  OK

## DRAINAGE & GRADING NOTES:

- 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.
- 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!!

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 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.

**PAPE-DAWSON**  
**ENGINEERS**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008800

**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS

**DRAIN "B" & "D" PLAN & PROFILE**  
STA 1+00.00 TO END

PLAT NO. 25-11800016  
JOB NO. 8802-76  
DATE JANUARY 2025  
DESIGNER  
CHECKED DRAWN  
SHEET C1.02

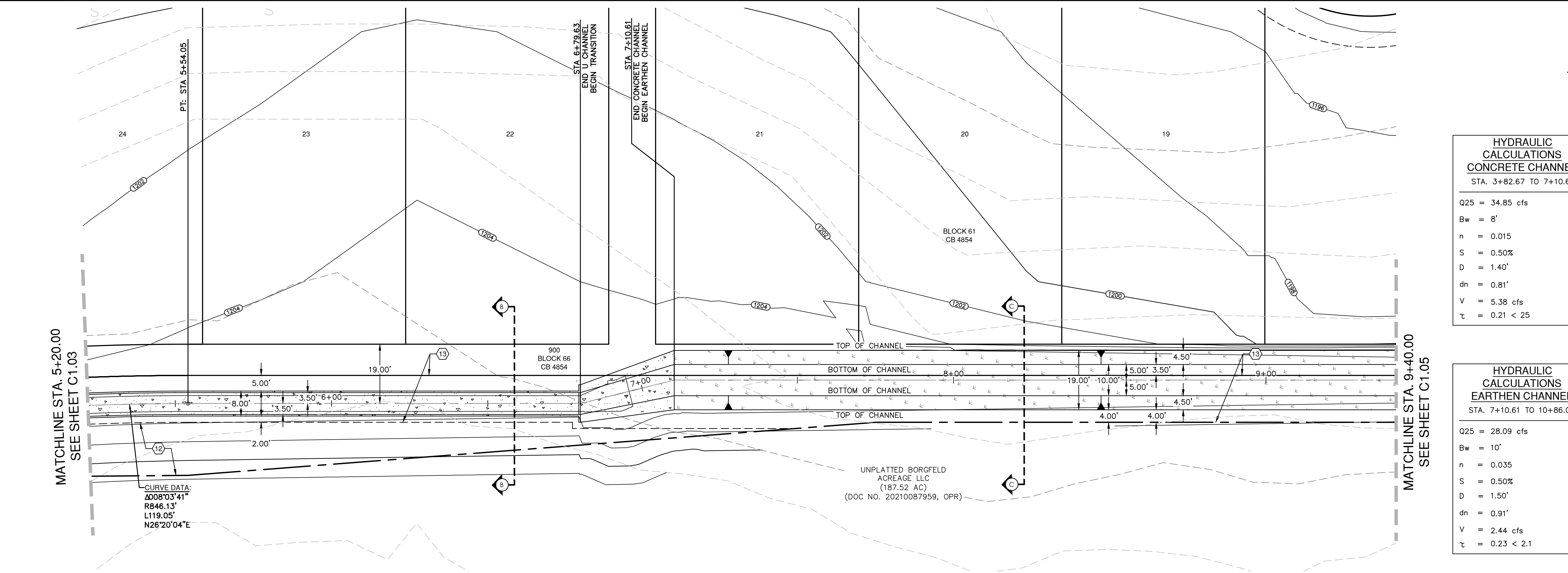






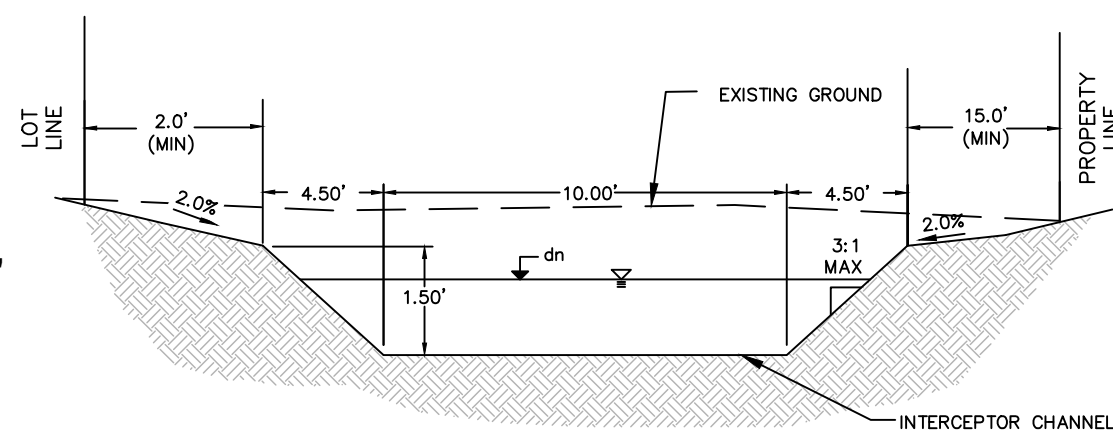
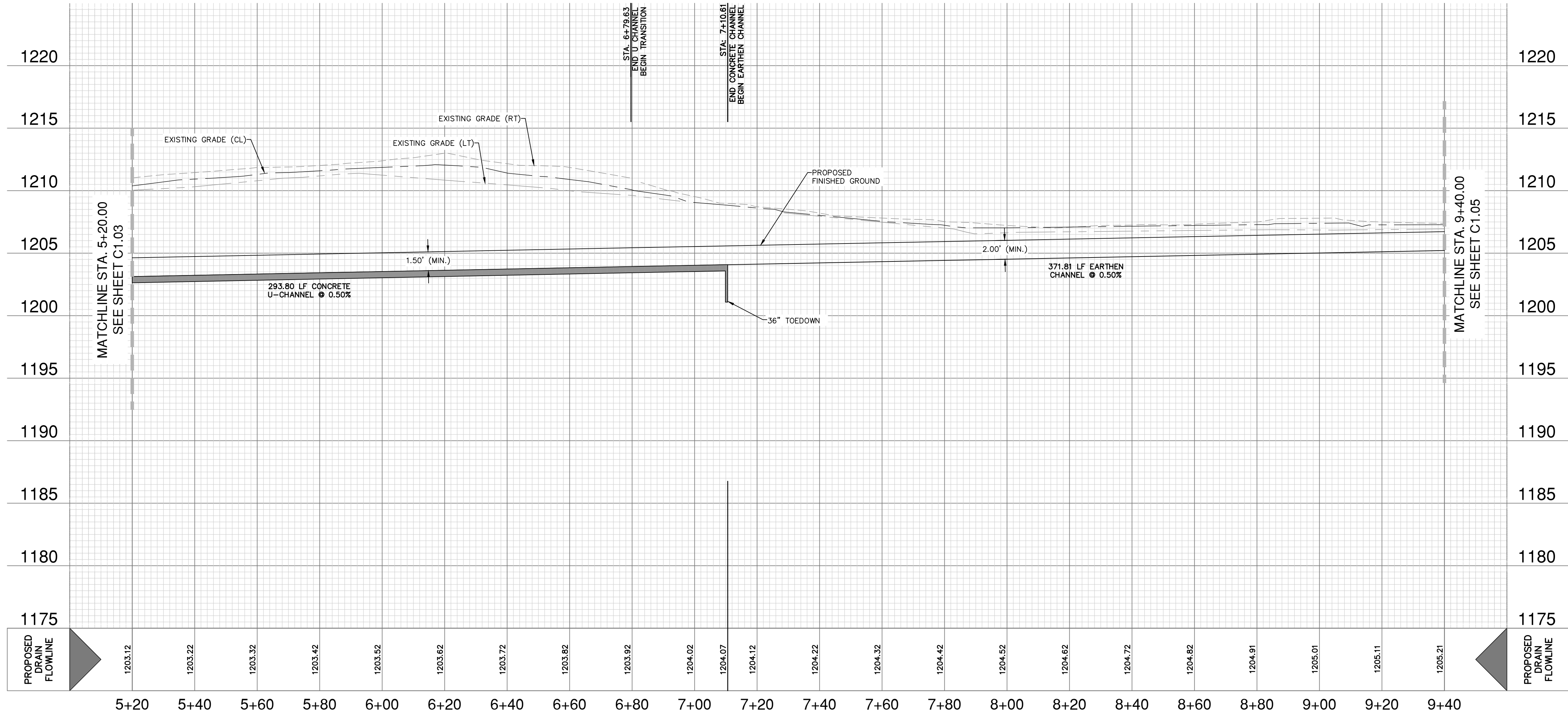
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DRAIN "E"  
STA. 5+20.00 TO 9+40.00

VERTICAL SCALE: 1" = 5'  
HORIZONTAL SCALE: 1" = 20'



#### DRAINAGE & GRADING NOTES:

1. 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.
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. 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 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 AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

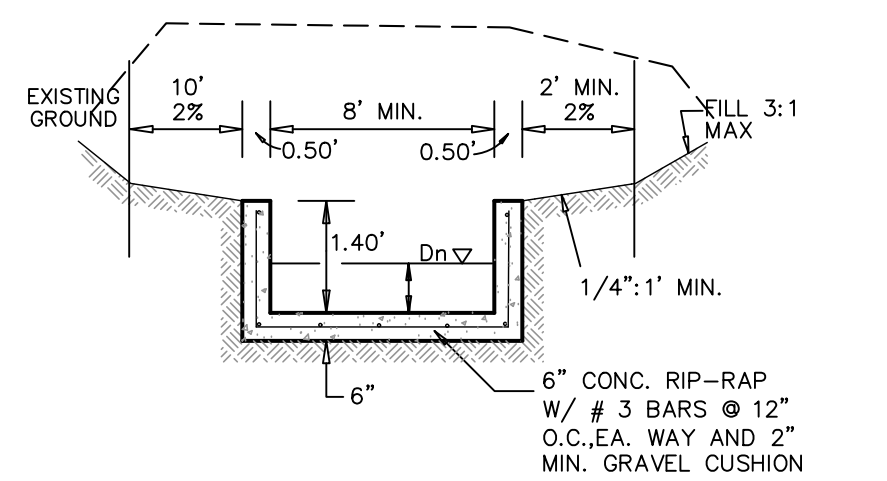
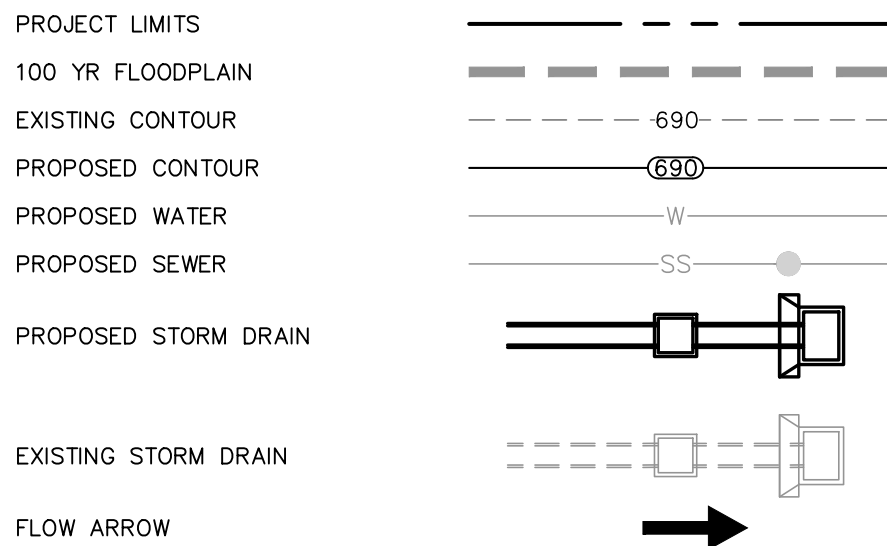
#### TRENCH EXCAVATION SAFETY PROTECTION:

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!!

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.

#### DRAINAGE LEGEND



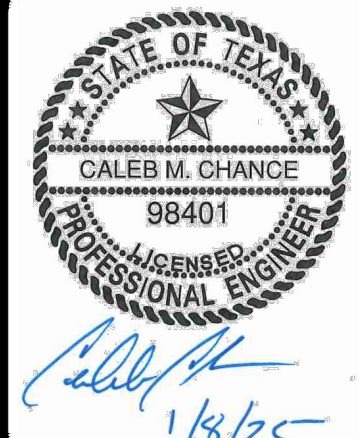
**PAPE-DAWSON  
ENGINEERS**  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS

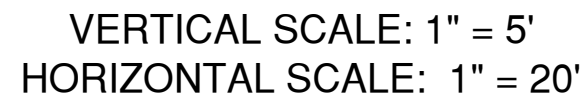
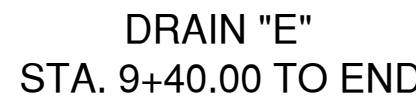
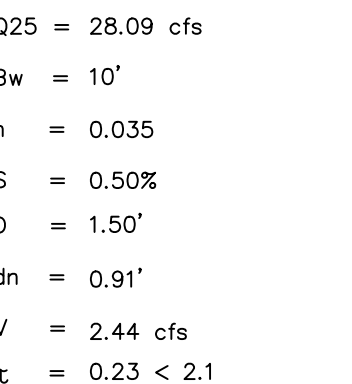
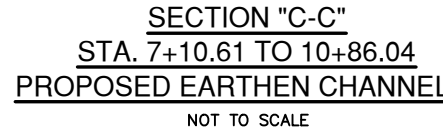
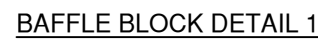
**DRAIN "E" PLAN & PROFILE**  
STA. 5+20.00 TO 9+40.00

PLAT NO. 24-11800281  
JOB NO. 8802-76  
DATE JANUARY 2025  
DESIGNER  
CHECKED DRAWN  
SHEET C1.04

NO.	REVISION	DATE







1. A BEXAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN WITH THE CITY OF SAN ANTONIO. 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 ALL UTILITIES AND DRAINAGE STRUCTURES TO VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY ALL WAGE 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 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. 65% OF CHANNEL SURFACE SHALL 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 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  
AND/OR SAFETY/ EQUIPMENT CONSULTANT'S RECOMMENDATIONS WITHIN THE  
PROJECT AREA IN ORDER TO DETERMINE THE CONTRACTOR'S RETAINED  
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 BE IN ACCORDANCE WITH ALL APPLICABLE  
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 TRENCH SAFETY PROGRAM IN  
ACCORDANCE WITH OSHA STANDARDS AND DURING THE PRESENCE  
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 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 FOUR WEEKS 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.



## DRAINAGE LEGEND

PROJECT LIMITS

100 YR FLOODPLAIN

EXISTING CONTOUR

PROPOSED CONTOUR

PROPOSED WATER

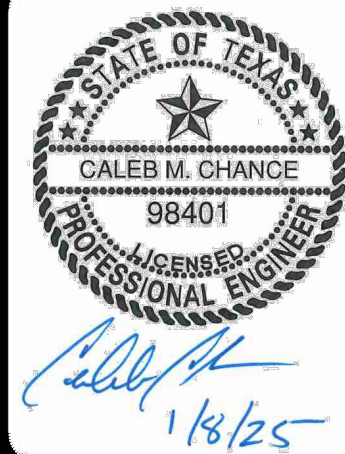
PROPOSED SEWER

PROPOSED STORM DRAIN

EXISTING STORM DRAIN

FLOW ARROW

The diagram illustrates the proposed storm drain installation. It shows the project limits, 100-year floodplain, existing and proposed contours, proposed water and sewer lines, and the proposed storm drain. The existing storm drain is shown as a dashed line, and the flow arrow indicates the direction of water flow.



**PAPE-DAWSON  
ENGINEERS**

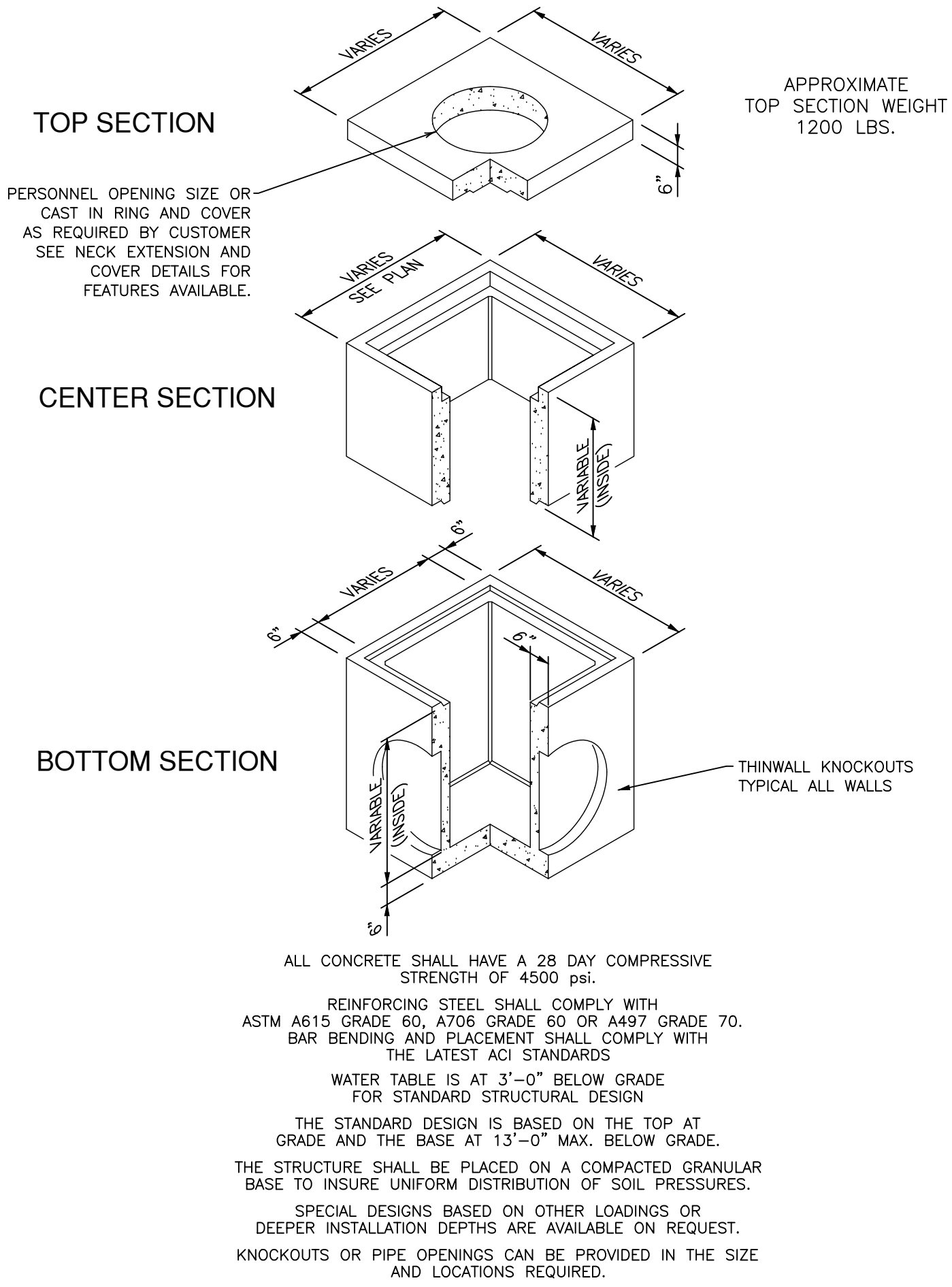
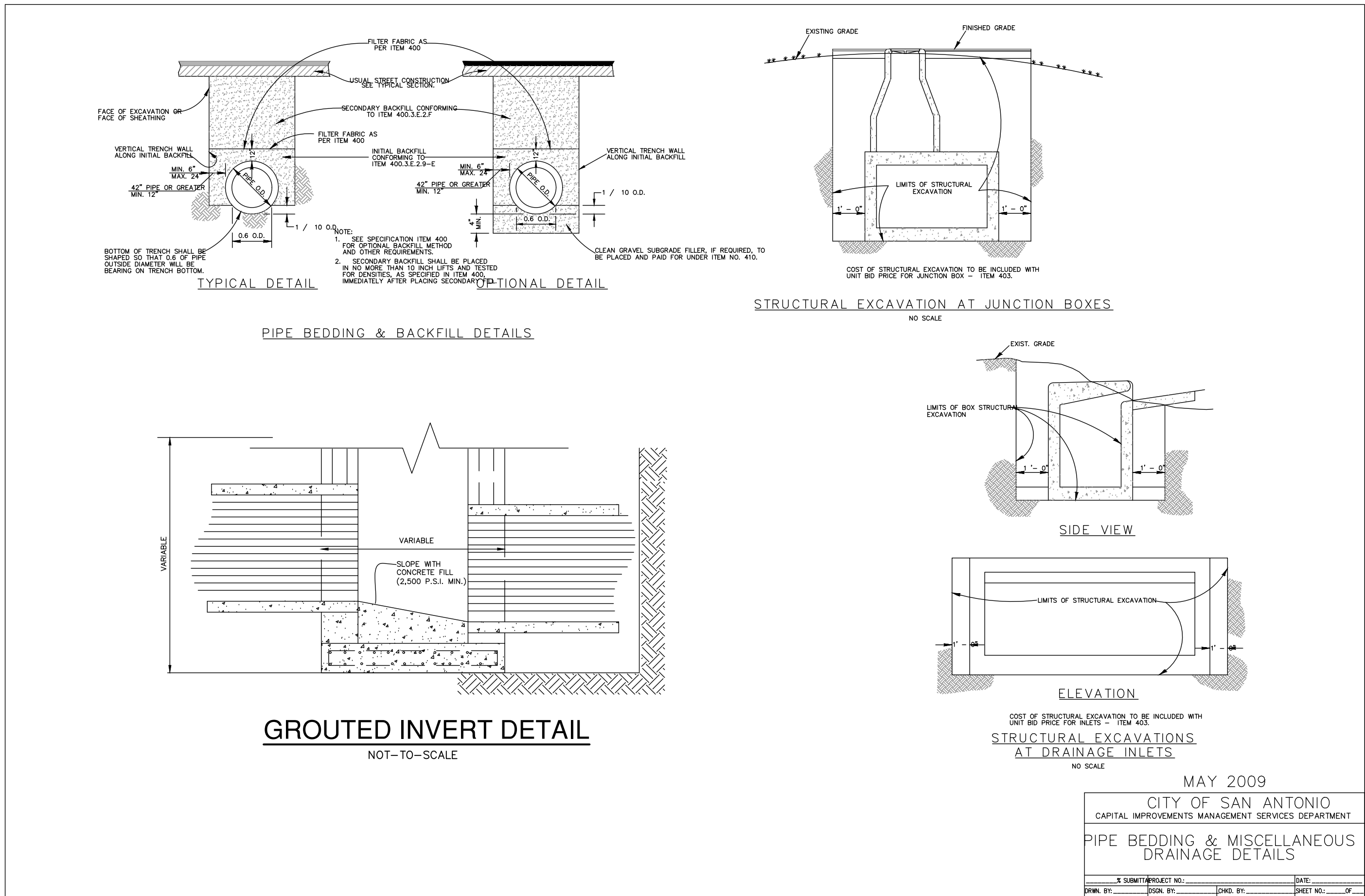
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

**KINDER GALE UNIT 2**  
**SAN ANTONIO, TEXAS**

DRAIN "E" PLAN & PROFILE  
STA. 9+40.00 TO END

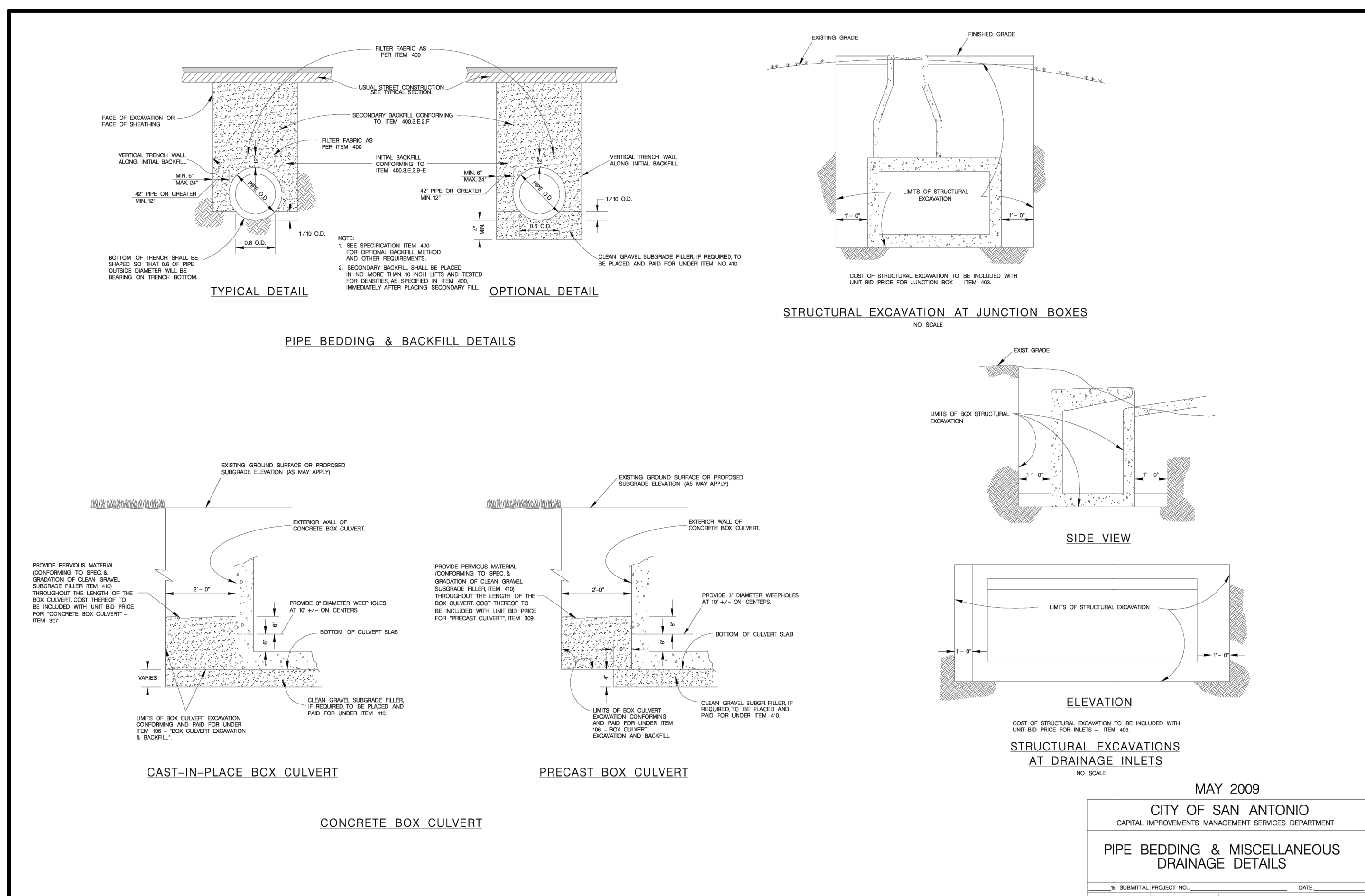
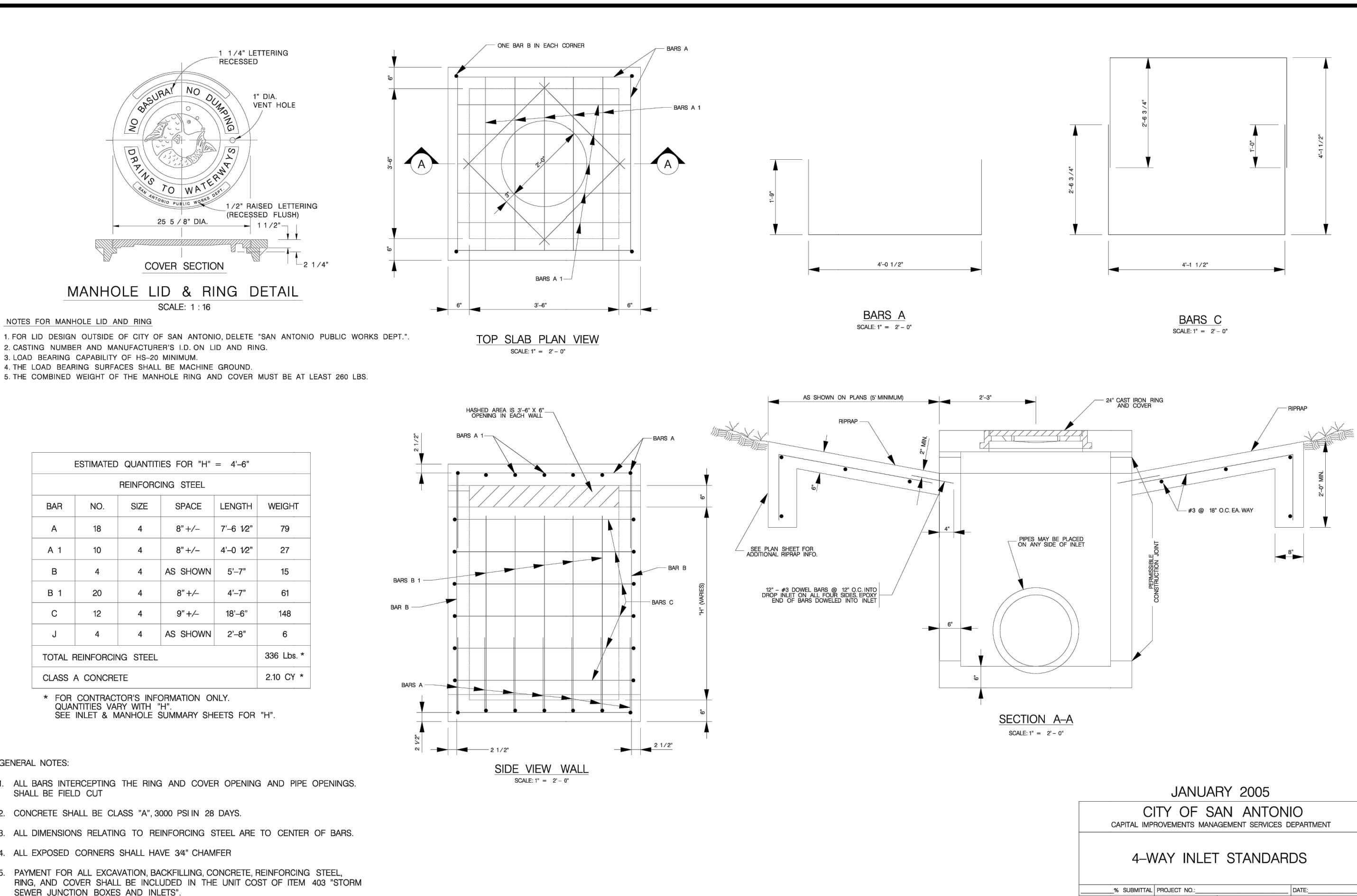
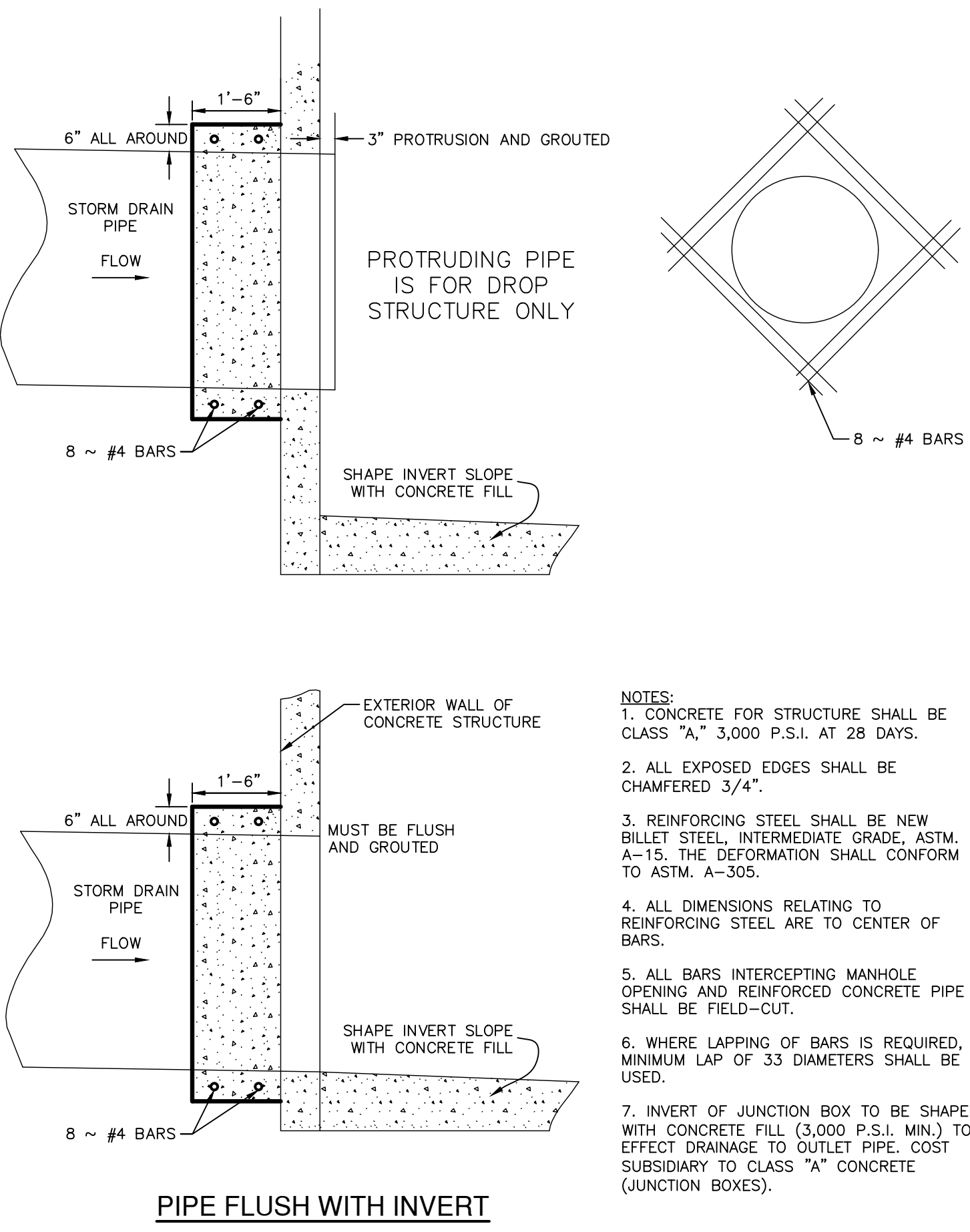
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JOB NO. 8802-76  
DATE JANUARY 2025  
DESIGNER  
CHECKED DRAWN  
SHEET C1.05



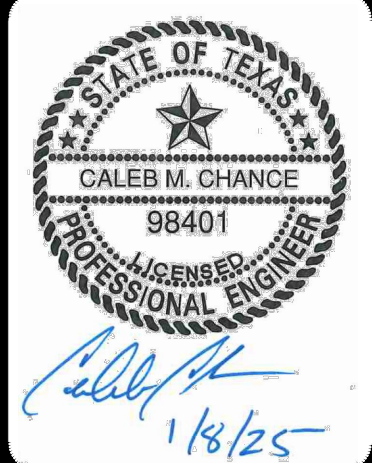


TYPICAL PRECAST JUNCTION BOX

NOT-TO-SCALE



DATE	
NO.	
REVISION	



**PAPE-DAWSON ENGINEERS**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS

DRAINAGE DETAILS

PLAT NO. 24-11800281

JOB NO. 8802-76

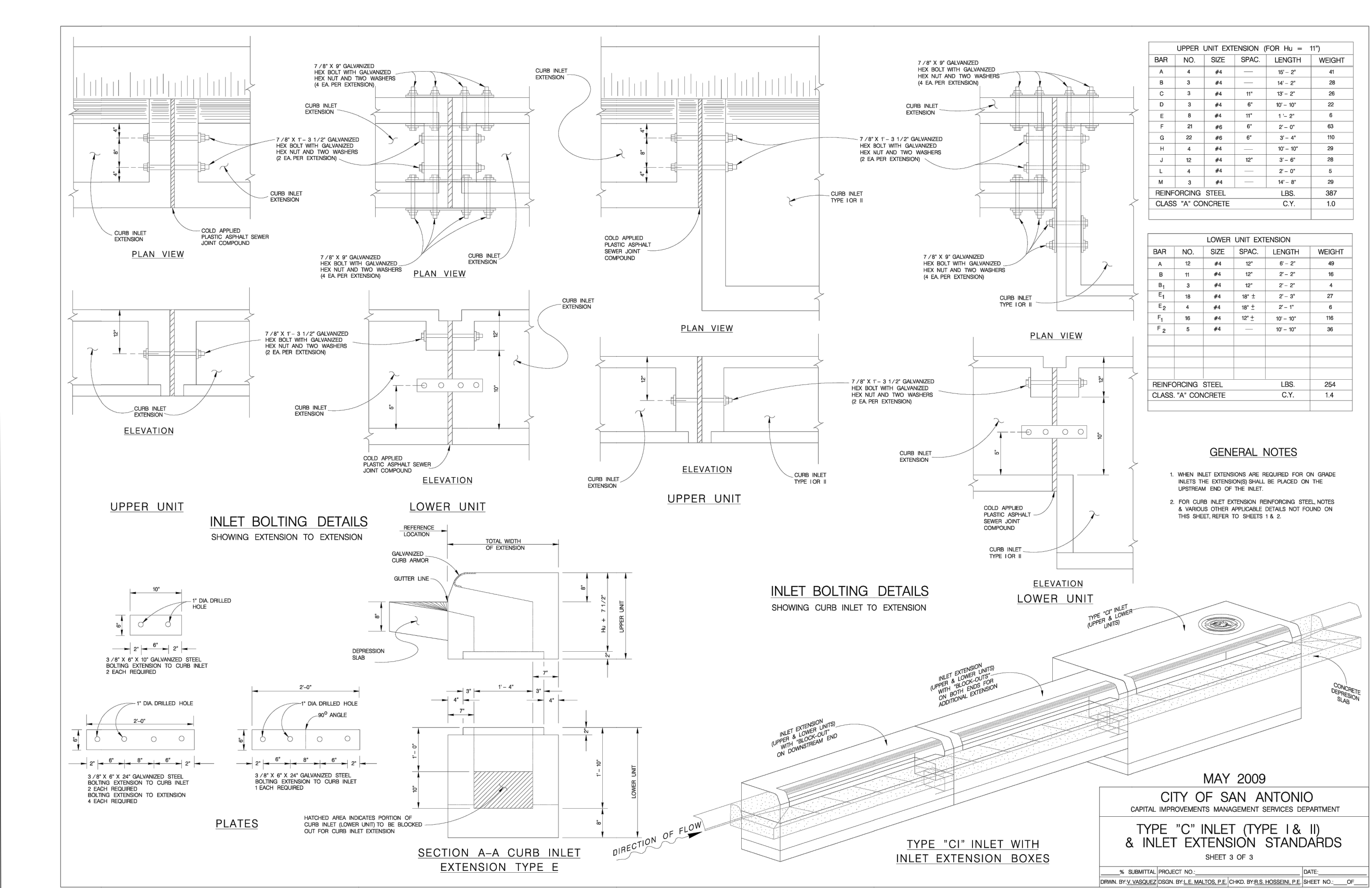
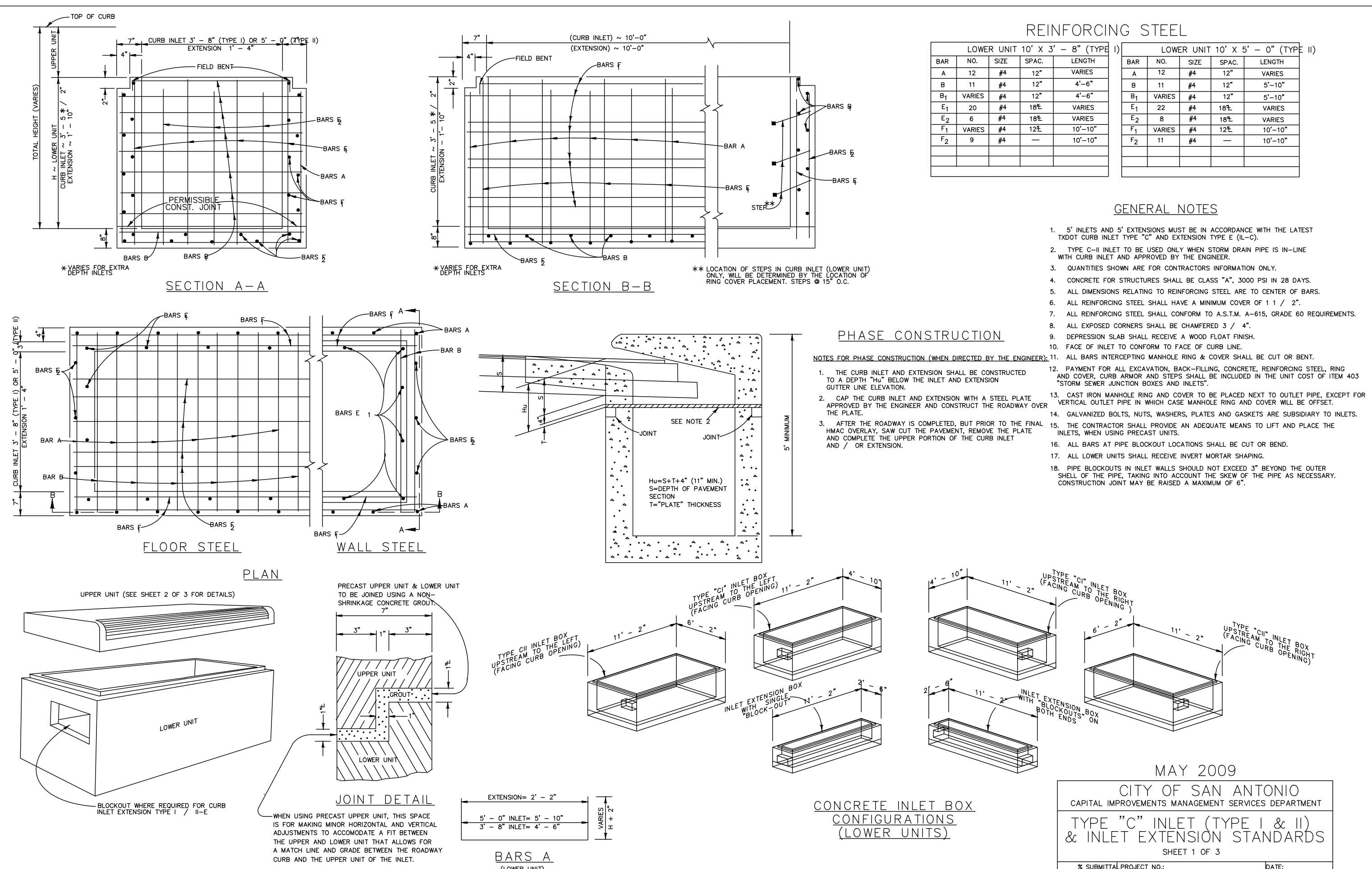
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DESIGNER

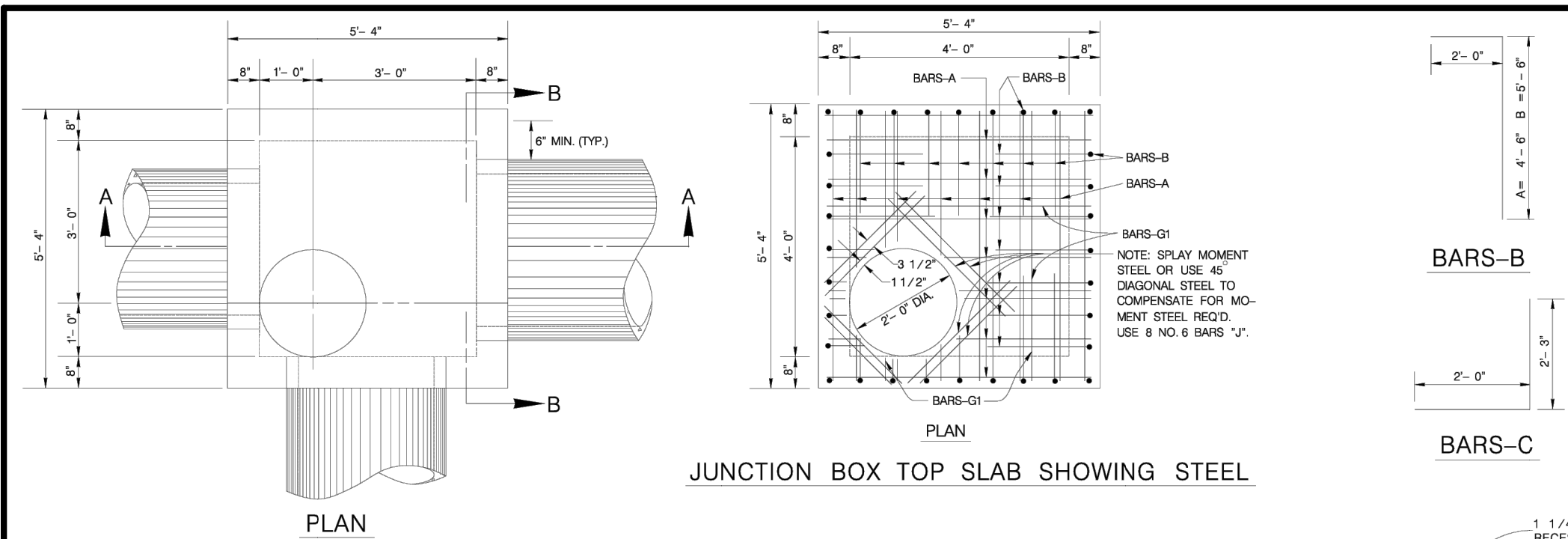
CHECKED DRAWN

SHEET C1.10









JUNCTION BOX TOP SLAB SHOWING STEEL

BARS-B

BARS-C

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

CLASS "A" CONCRETE - 3.43 CU YDS.  
(DOES NOT EXCLUDE MANHOLE OPENINGS OR PIPE OPENINGS)

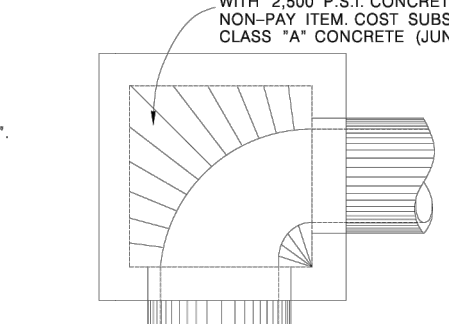
\* NOTE: BAR SIZE AND SPACING BASED ON SPANS AS SHOWN - ANY REVISIONS TO THESE SPANS SHALL INCLUDE A RE-DESIGN ON STEEL REQD.

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 BULLET STEEL, INTERMEDIATE GRADE, ASTM A-615, 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 (2,500 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).
8. 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."

MANHOLE LID & RING DETAIL

SCALE: 1:16

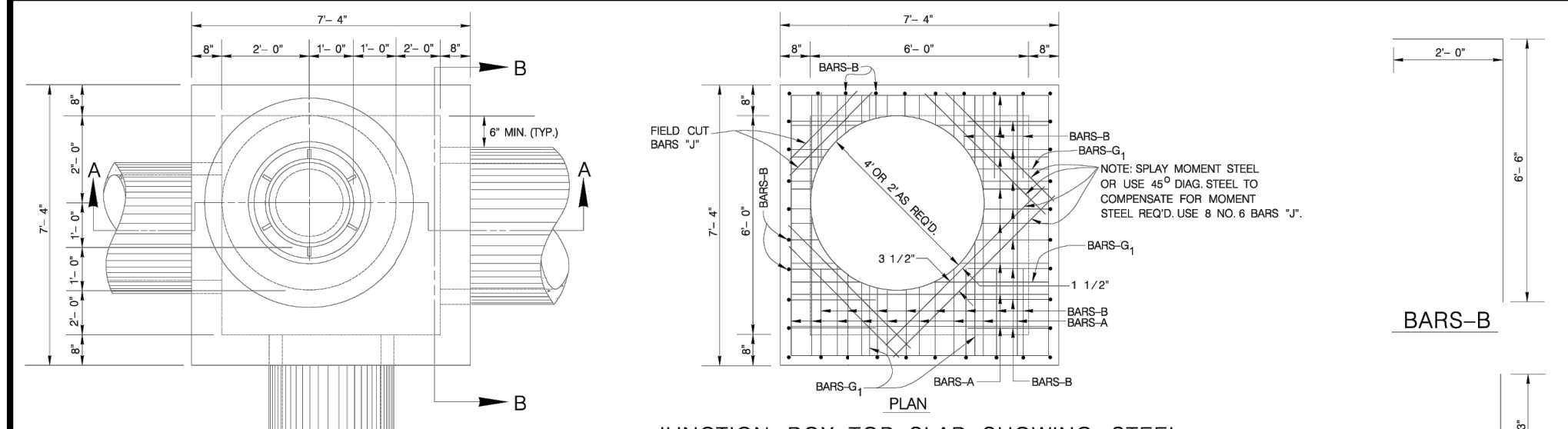
- NOTES FOR MANHOLE LID AND RING
1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT."
  2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
  3. LOAD BEARING CAPABILITY OF 18-20 MINIMUM.
  4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
  5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 280 LBS.



CURVED DEFLECTOR DETAIL

JANUARY 2005  
CITY OF SAN ANTONIO  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT  
4'x4'x4' JUNCTION BOX STANDARDS

% SUBMITTAL/PROJECT NO.	DATE
DRWN BY: _____	CHNG BY: _____
DESIGN BY: _____	SHEET NO. _____ OF _____



JUNCTION BOX TOP SLAB SHOWING STEEL

BARS-B

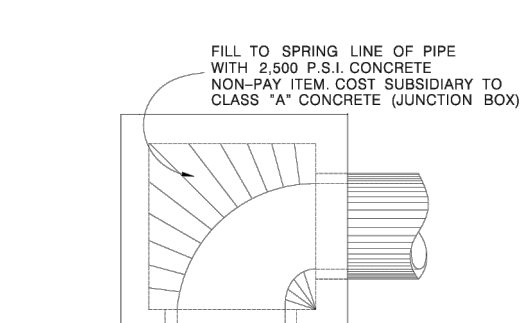
BARS-C

SHAPE	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
STRAIGHT	A	24	4	9" O.C.	7'-1"	89
STRAIGHT	B	48	5	8" O.C.	8'-6"	408
STRAIGHT	C	48	5	8" O.C.	5'-3"	252
STRAIGHT	D	24	4	9" O.C.	7'-1"	89
STRAIGHT	E	20	3	12" O.C.	5'-11"	62
STRAIGHT	F	20	4	12" O.C.	7'-1"	95
STRAIGHT	G	8	4	AS SHOWN	6'-1"	33
STRAIGHT	H	27	3	12" O.C.	7'-1"	72
STRAIGHT	I	8	6	3 1/2" O.C.	4'-11"	59
TOTAL						1,179 LBS.

CLASS "A" CONCRETE - 6.84 CU YDS.  
(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 REQD.

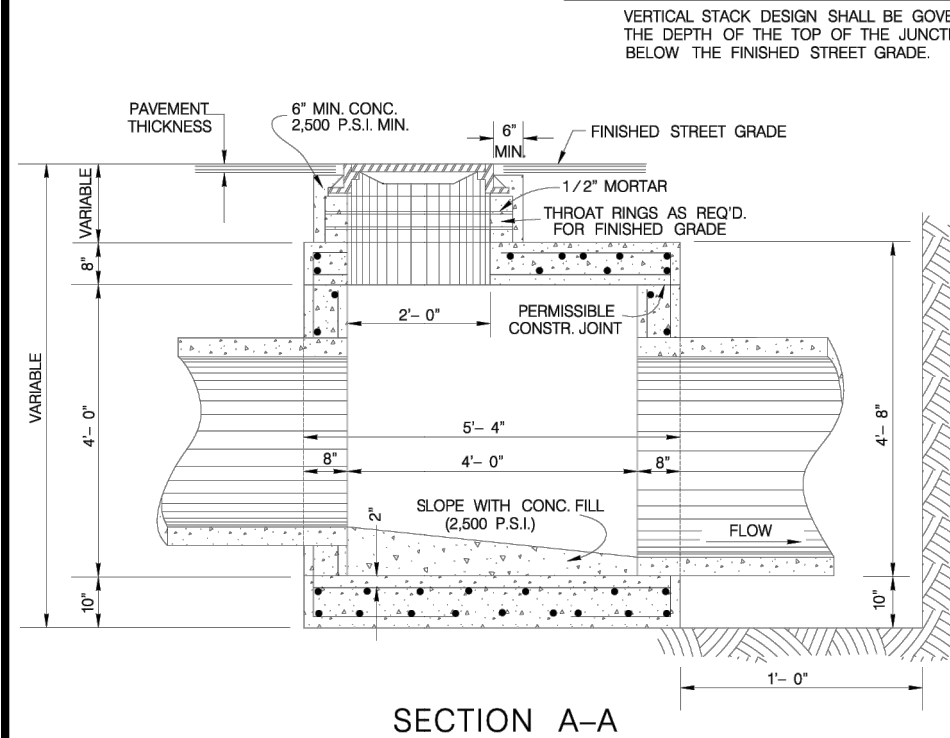
1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A" 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. REINFORCING STEEL SHALL BE NEW BULLET STEEL, INTERMEDIATE GRADE, ASTM A-615, THE DEFORMATION SHALL CONFORM TO ASTM A-305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER 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 (2,500 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).
8. 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."



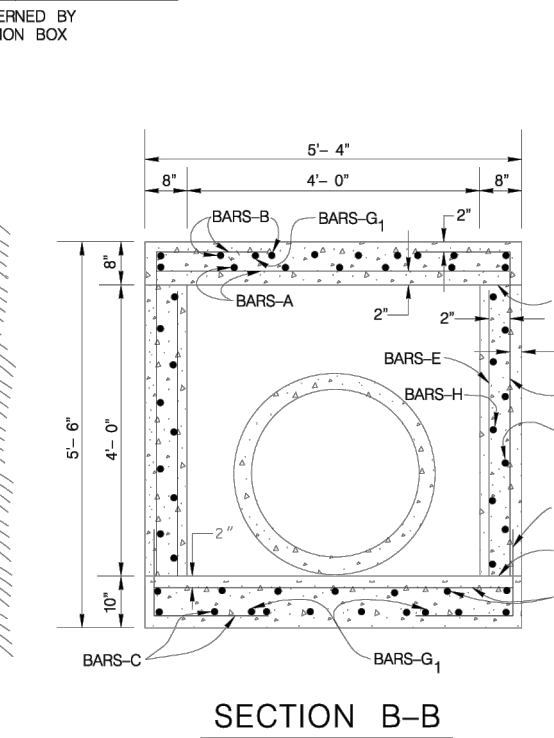
CURVED DEFLECTOR DETAIL

JANUARY 2005  
CITY OF SAN ANTONIO  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT  
6'x6'x6' JUNCTION BOX STANDARDS

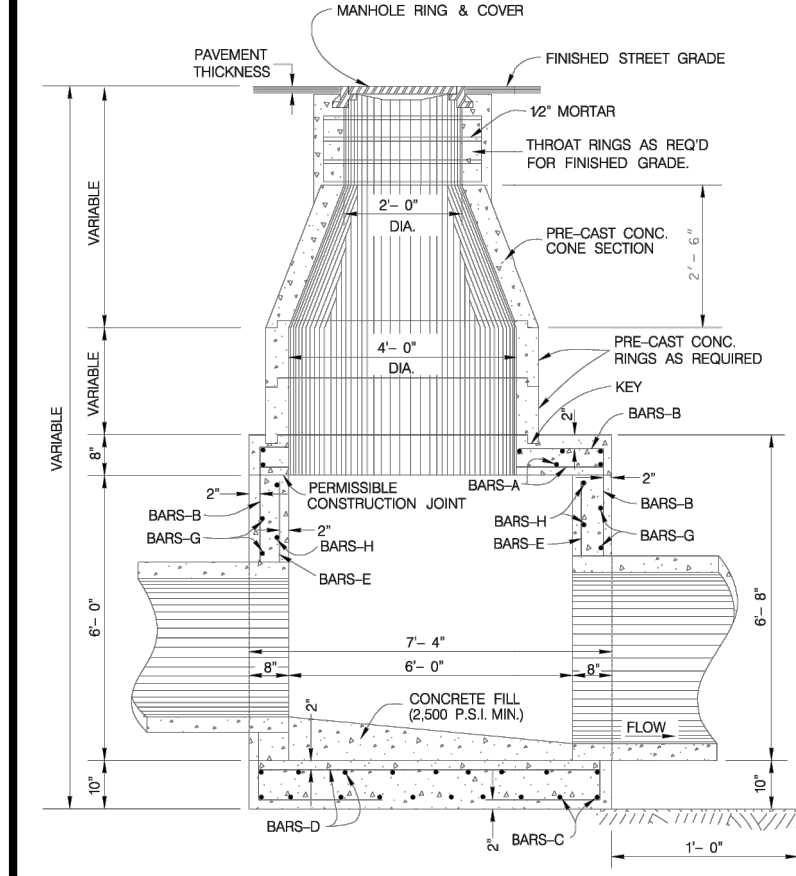
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DRWN BY: _____	CHNG BY: _____
DESIGN BY: _____	SHEET NO. _____ OF _____



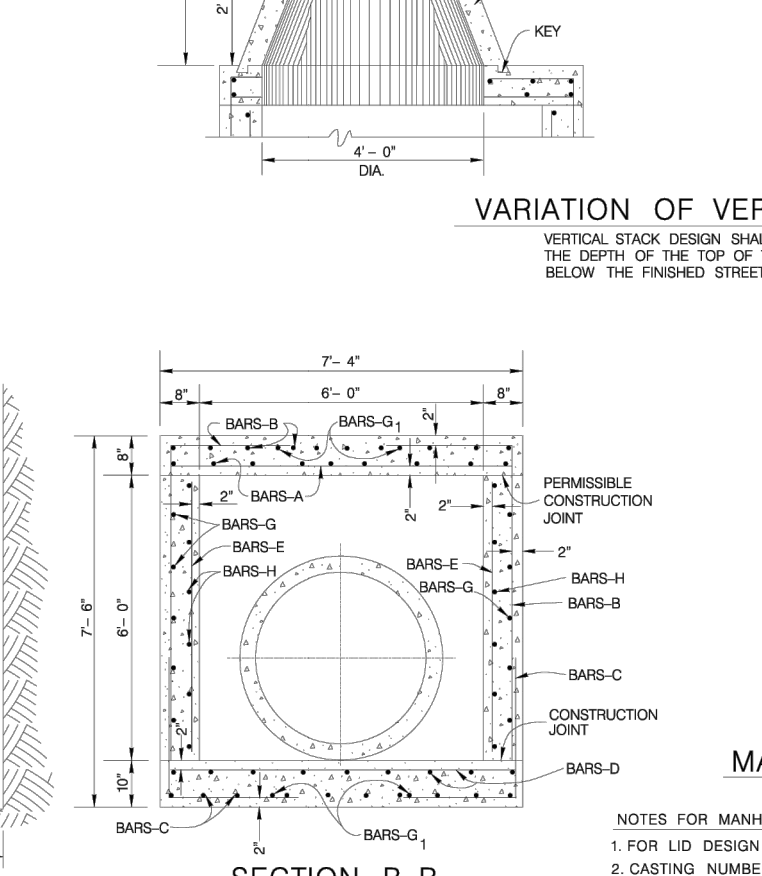
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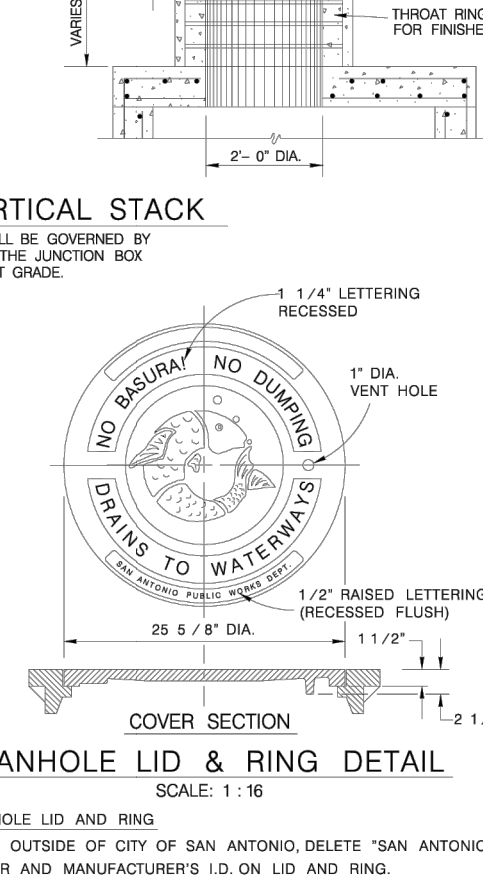
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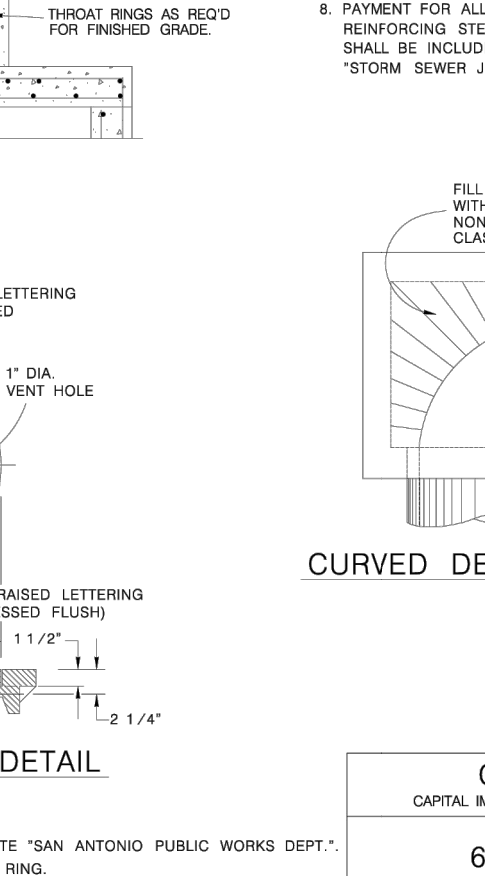
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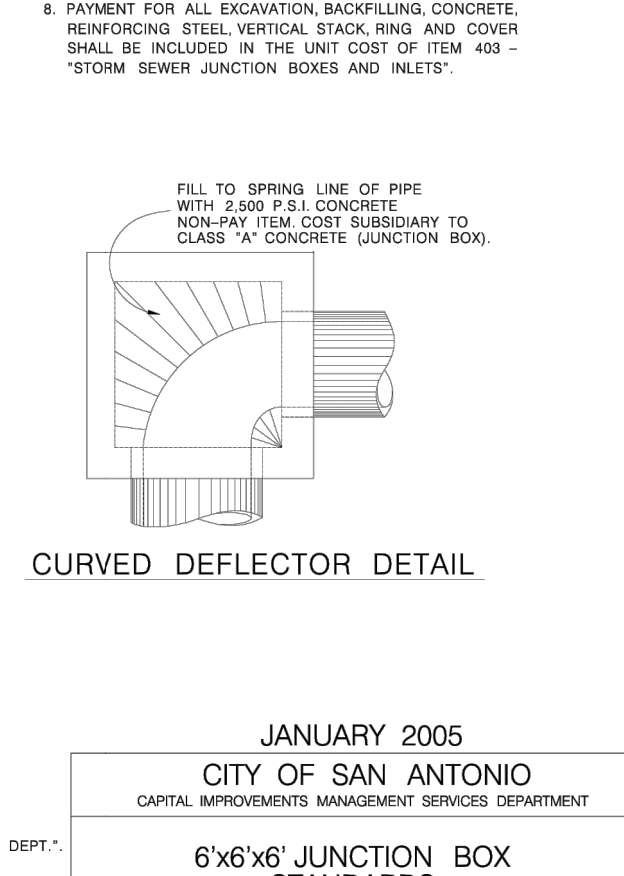
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SECTION A-A



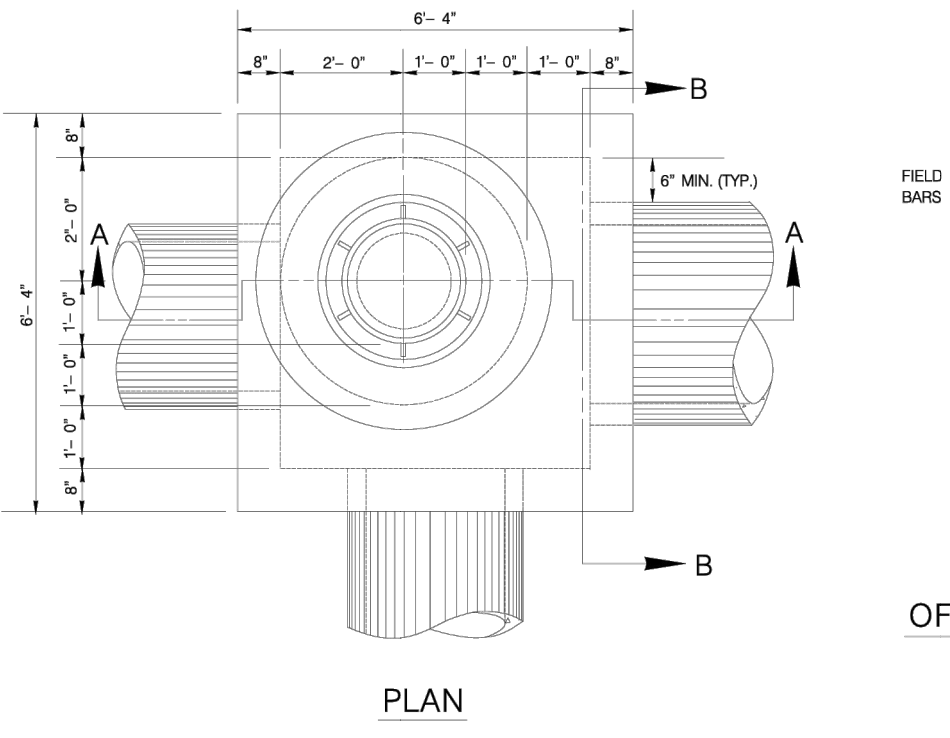
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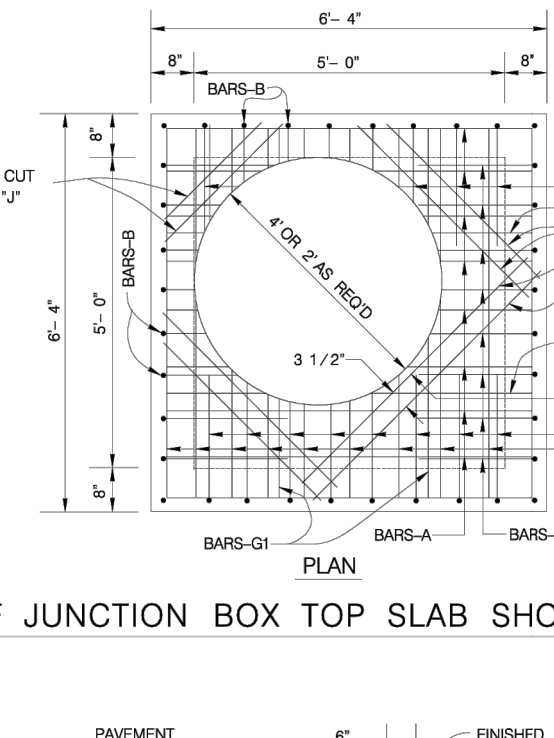
SECTION A-A



SECTION B-B



PLAN



OF JUNCTION BOX TOP SLAB SHOWING STEEL

BARS-B

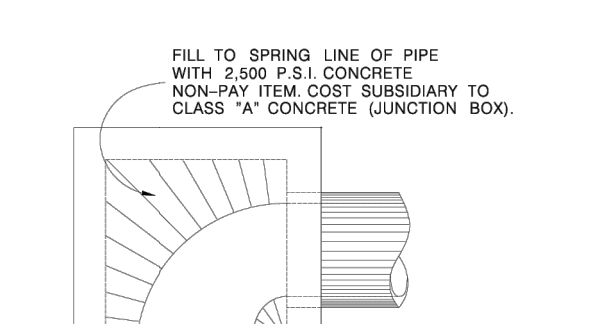
BARS-C

SHAPE	BAR	NO.	SIZE	SPACING	LENGTH	WEIGHT
STRAIGHT	A	16	4	9" O.C.	6'-1"	73
STRAIGHT	B	36	5	8" O.C.	7'-6"	282
STRAIGHT	C	36	5	8" O.C.	4'-3"	160
STRAIGHT	D	16	4	9" O.C.	6'-1"	73
STRAIGHT	E	20	3	12" O.C.	4'-11"	37
STRAIGHT	F	20	4	12" O.C.	6'-1"	81
STRAIGHT	G	8	4	AS SHOWN	6'-1"	33
STRAIGHT	H	24	3	12" O.C.	6'-1"	49
STRAIGHT	I	8	6	3 1/2" O.C.	4'-11"	59
TOTAL						847 LBS.

CLASS "A" CONCRETE - 5.03 CU YDS.  
(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 REQD.

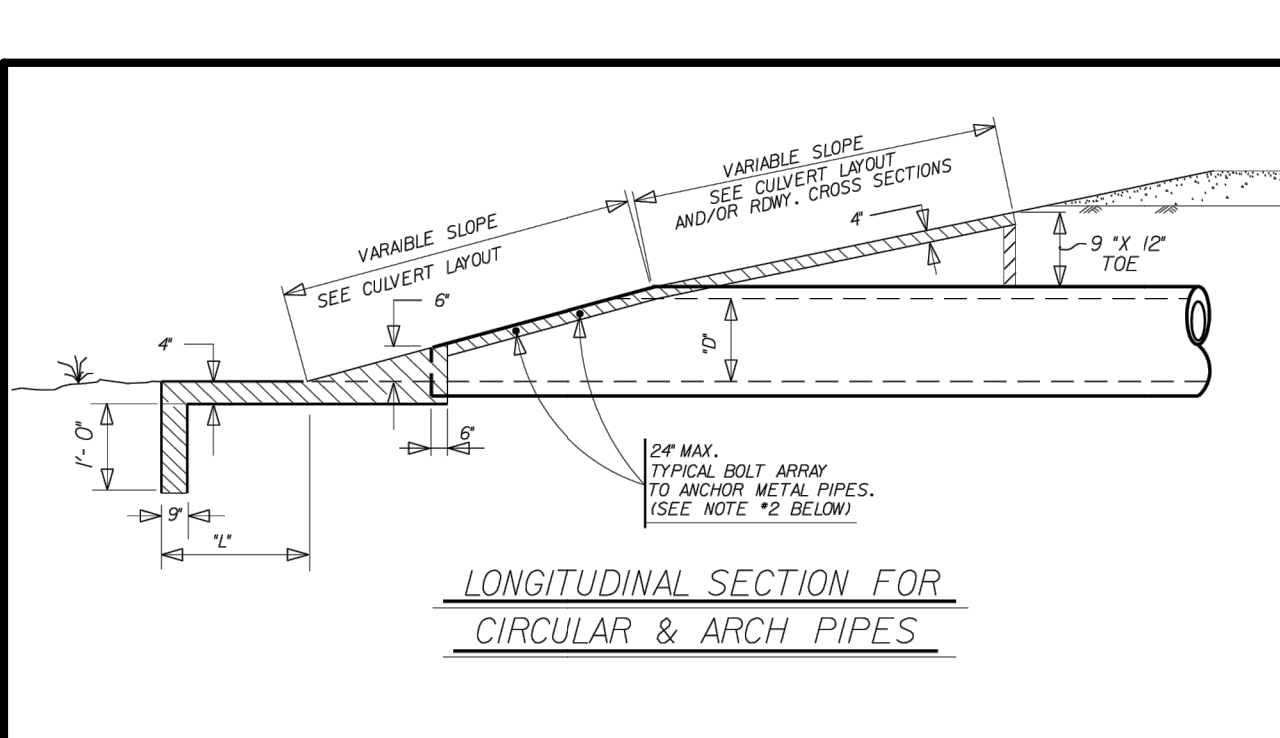
1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A" 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. REINFORCING STEEL SHALL BE NEW BULLET STEEL, INTERMEDIATE GRADE, ASTM A-615, THE DEFORMATION SHALL CONFORM TO ASTM A-305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER 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 (2,500 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).
8. 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."



CURVED DEFLECTOR DETAIL

JANUARY 2005  
CITY OF SAN ANTONIO  
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT  
5'x5'x5' JUNCTION BOX STANDARDS

% SUBMITTAL/PROJECT NO.	DATE
DRWN BY: _____	CHNG BY: _____
DESIGN BY: _____	SHEET NO. _____ OF _____



LONGITUDINAL ARCH PIPE FOR CIRCULAR & RECT. PIPIES

DIMENSIONS FOR CIRCULAR (CMP and RCP) PIPE CULVERTS

PIPE CULVERTS												
10' INSIDE DIA. OF PIPE	"L"	"G"		SINGLE	DOUBLE	TRIPLE	QUADRUPE					
		CGM	RCP									
								"W"				
18"	2'-0"	1'-2"	0'-9"	4'-6"	7'-2"	9'-10"	12'-6"					
24"	2'-0"	1'-3"	0'-10"	5'-3"	8'-4"	11'-4"	13'-4"					
30"	3'-0"	1'-5"	0'-11"	6'-0"	9'-5"	12'-10"	16'-3"					
36"	4'-0"	1'-8"	1'-1"	7'-6"	11'-6"	15'-10"	20'-0"					
42"	5'-0"	1'-11"	1'-3"	9'-0"	13'-11"	18'-10"	23'-9"					
48"	6'-0"	2'-2"	1'-5"	10'-6"	16'-2"	21'-0"	27'-6"					
54"	7'-0"	2'-5"	1'-7"	12'-0"	18'-5"	24'-0"	31'-3"					
60"	8'-0"	2'-10"	1'-11"	13'-6"	20'-10"	28'-2"	35'-6"					

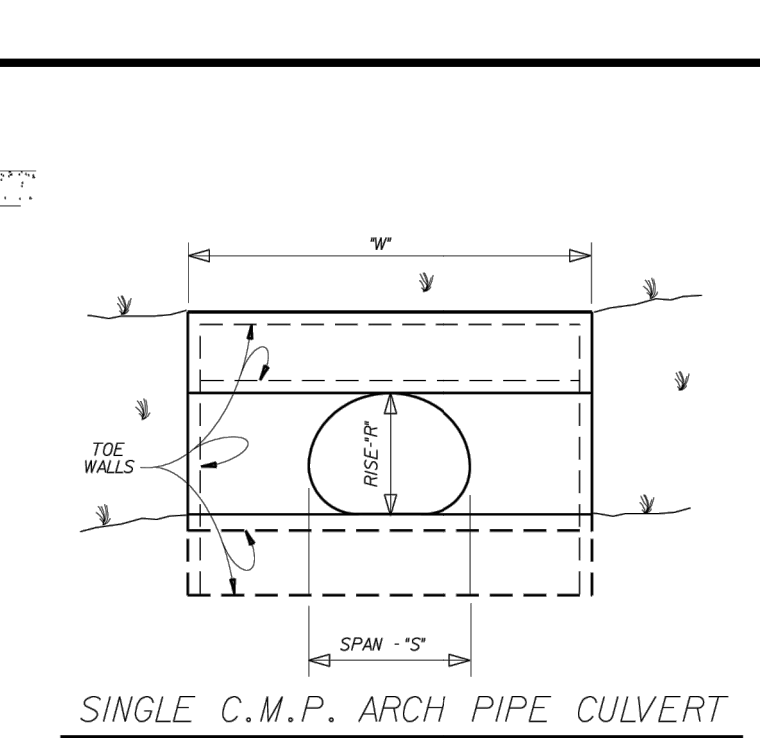
10' IS MEASURED BETWEEN THE OUTER SURFACES OF THE PIPES.

DIMENSIONS FOR C.M.P. ARCH PIPE CULVERTS

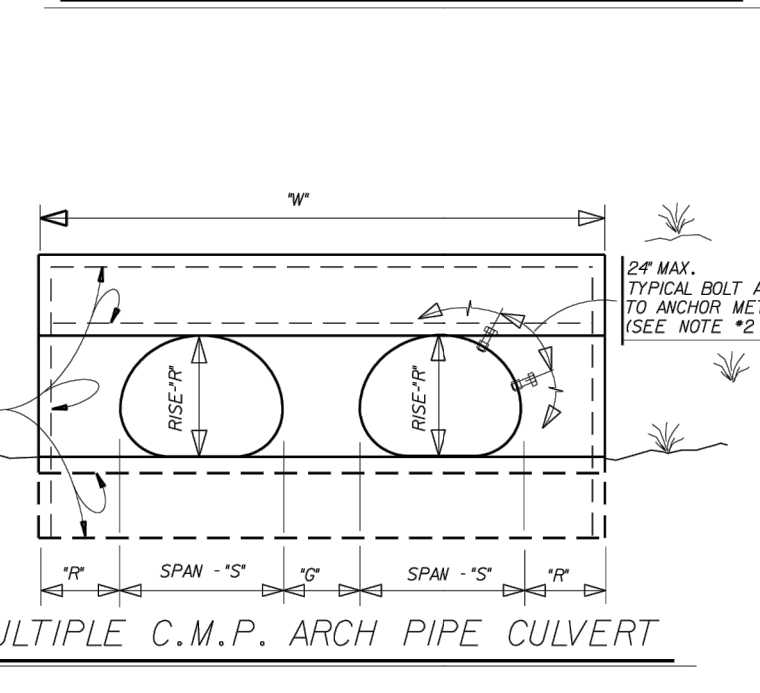
DESIGN SIZE	APPROX. ARCH. DIM. SPAN	RISE 10'	10'				SINGLE	DOUBLE	TRIPLE	QUAD
			'L'	'G'	W"					
2	2'	15'	2'-0"	1'-2"	4'-3"	7'-2"	10'-1"	13'-0"	16'-11"	20'-9"
3	3'	20'	3'-0"	1'-5"	5'-6"	9'-0"	13'-2"	16'-11"	20'-9"	24'-7"
4	4'	24'	4'-0"	1'-8"	6'-11"	10'-6"	15'-1"	19'-2"	24'-7"	28'-4"
5	5'	28'	5'-0"	1'-11"	8'-4"	13'-9"	19'-2"	24'-7"	28'-4"	32'-7"
6	6'	32'	6'-0"	2'-2"	9'-7"	15'-10"	22'-1"	28'-4"	32'-7"	37'-0"
7	7'	36'	7'-0"	2'-5"	11'-1"	18'-3"	25'-5"	32'-7"	37'-0"	41'-0"
8	8'	40'	8'-0"	2'-10"	12'-5"	20'-8"	28'-0"	37'-0"	41'-0"	45'-9"
9	9'	44'	9'-0"	3'-2"	13'-9"	22'-10"	31'-11"	41'-0"	45'-9"	50'-8"

BASED ON 2'-3/4" 1/2" CORRUGATION

10' IS MEASURED BETWEEN THE OUTER SURFACES OF THE PIPES.



SINGLE C.M.P. ARCH PIPE CULVERT

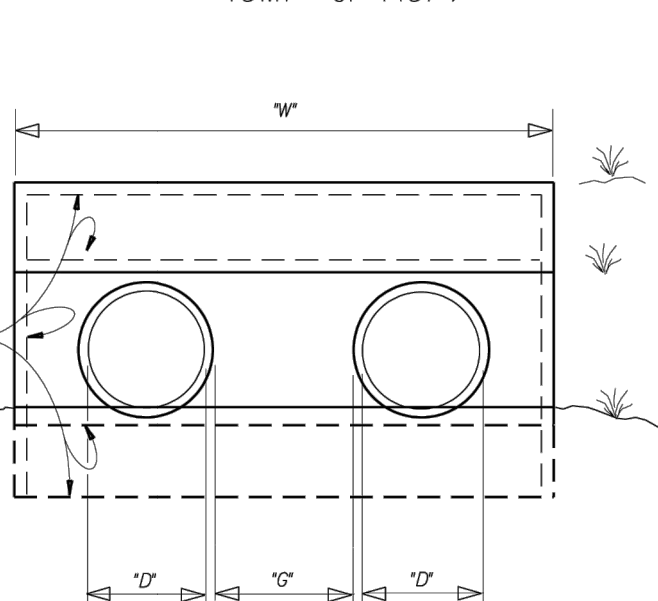


MULTIPLE C.M.P. ARCH PIPE CULVERT

NOTES:

1. FOR RIPRAP QUANTITIES AND SLOPES, SEE CULVERT LAYOUT SHEET. CONCRETE SHALL BE CLASS B UNLESS OTHERWISE SHOWN IN THE PLANS.
2. ALL METAL PIPES (CIRCULAR AND/OR ARCH) SHALL HAVE 5/8" X 6" GALVANIZED BOLTS WITH 2 HEX NUTS AT 24" CENTERS TO ANCHOR THE PIPE TO THE CONCRETE. THIS WORK WILL BE SUBSIDIARY TO THE RIPRAP HEADWALL.
3. FOR CONCRETE ARCH PIPES, THE C.M.P. ARCH PIPE CULVERT DIMENSIONS WILL HAVE TO BE ADJUSTED FOR THE PIPE WALL THICKNESS.
4. FOR PIPES LARGER THAN SHOWN, USE THE CLEAR DISTANCE BETWEEN PIPES SHOWN IN ITEMS 460 AND/OR 464.
5. IF THE SIDES OF THE HEADWALL IS ADJACENT TO A RIPRAP SLOPE AND IF THE TOP OF THE HEADWALL IS ADJACENT TO THE ROADWAY FOUNDATION OR RIPRAP SLOPE, THE SIDE AND TOP TOE WALLS MAY BE ELIMINATED IF APPROVED BY THE ENGINEER.

SINGLE CIRCULAR PIPE CULVERT (CMP or RCP)



MULTIPLE CIRCULAR PIPE CULVERT (CMP or RCP)

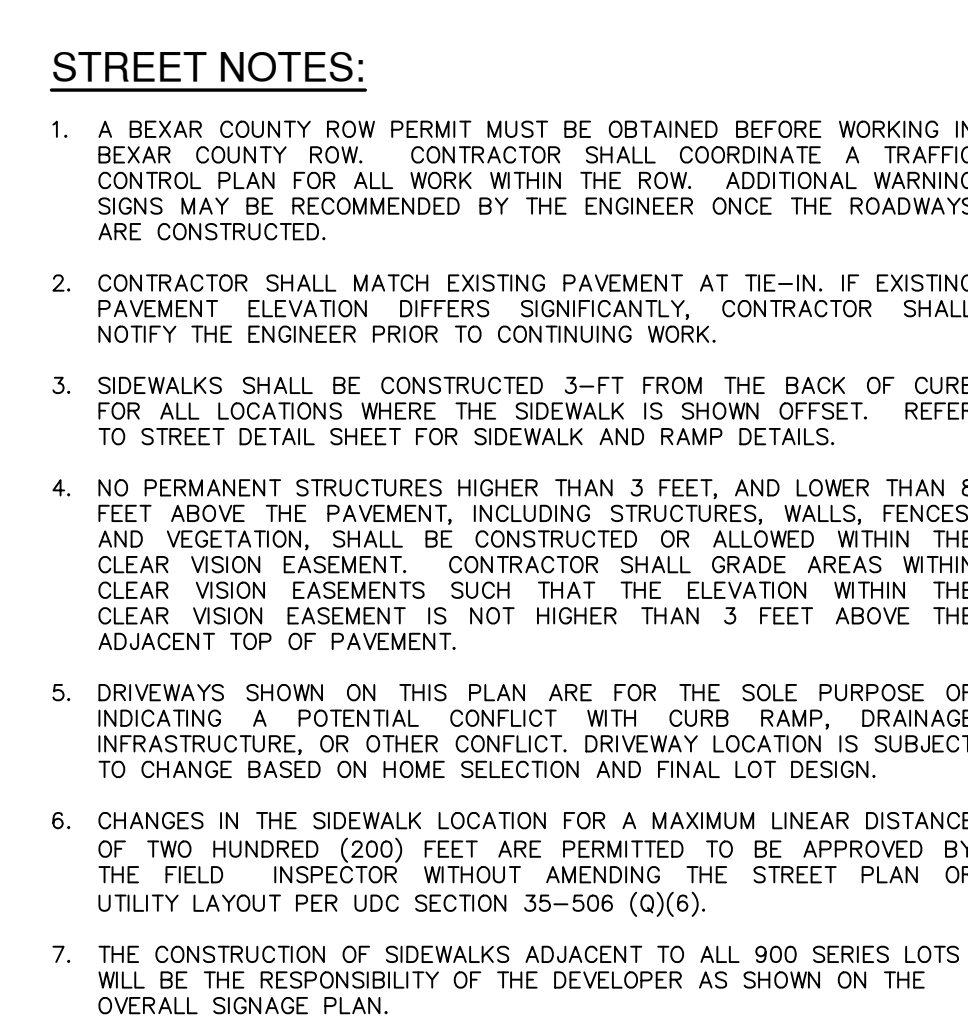
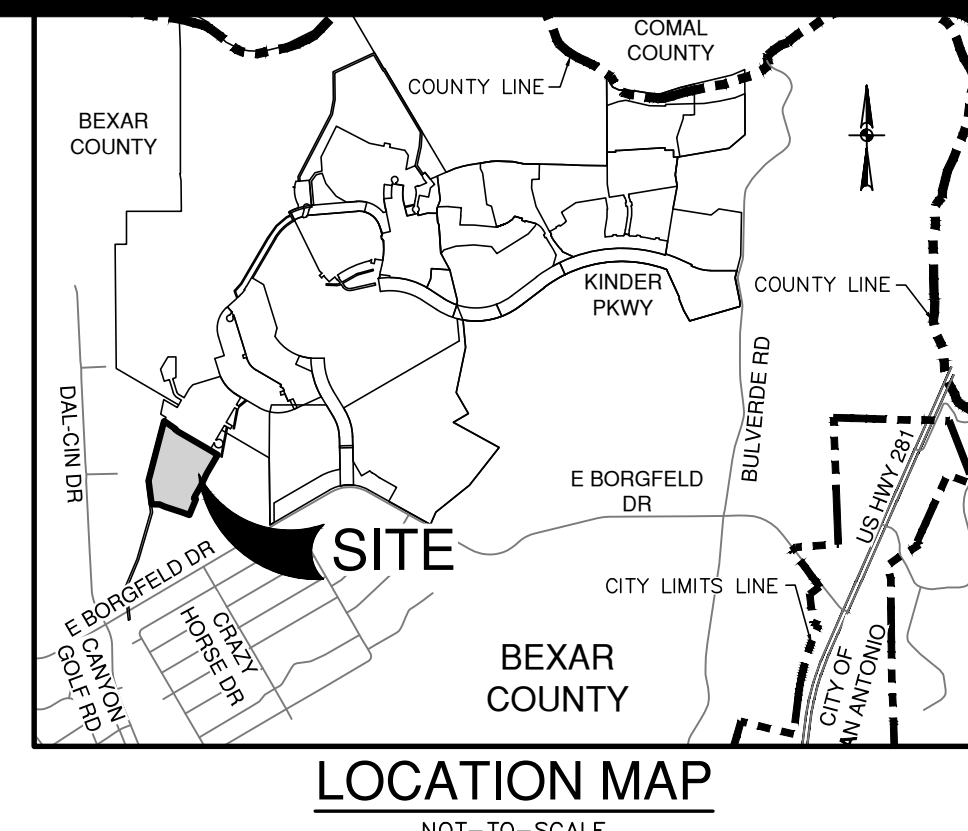
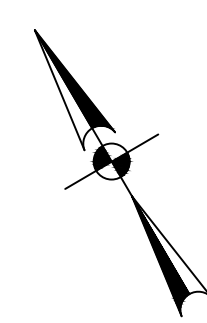
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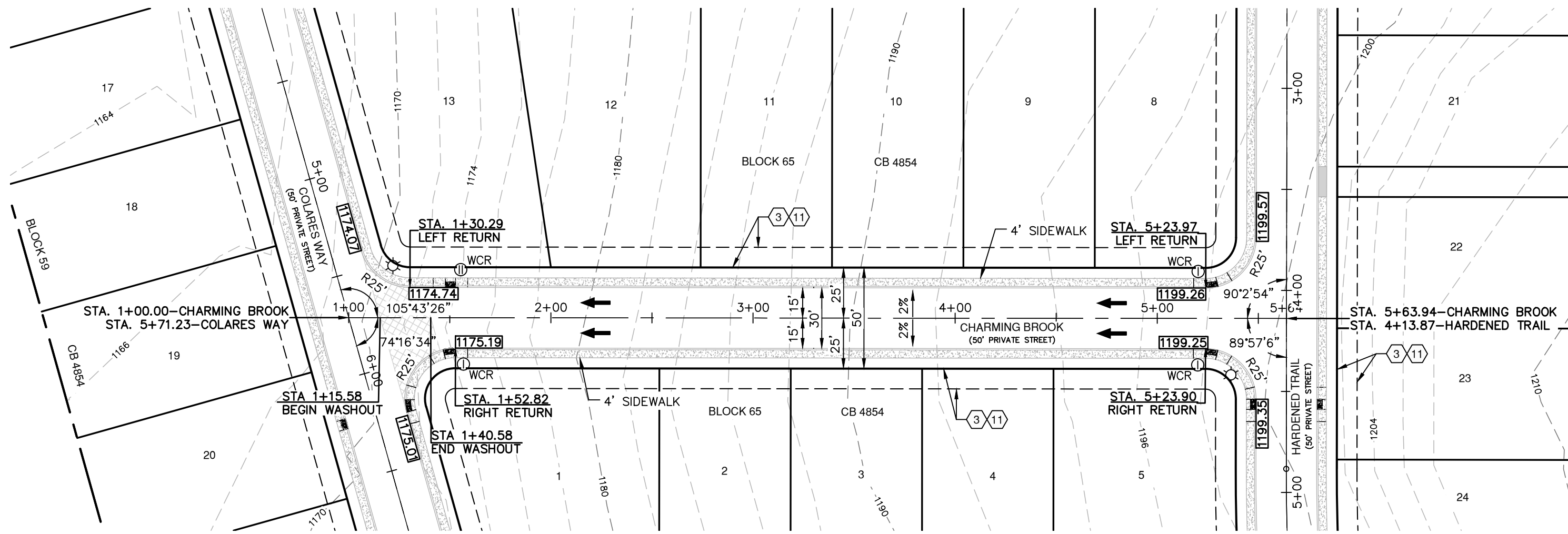






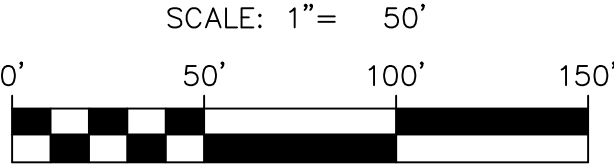
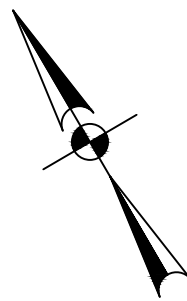
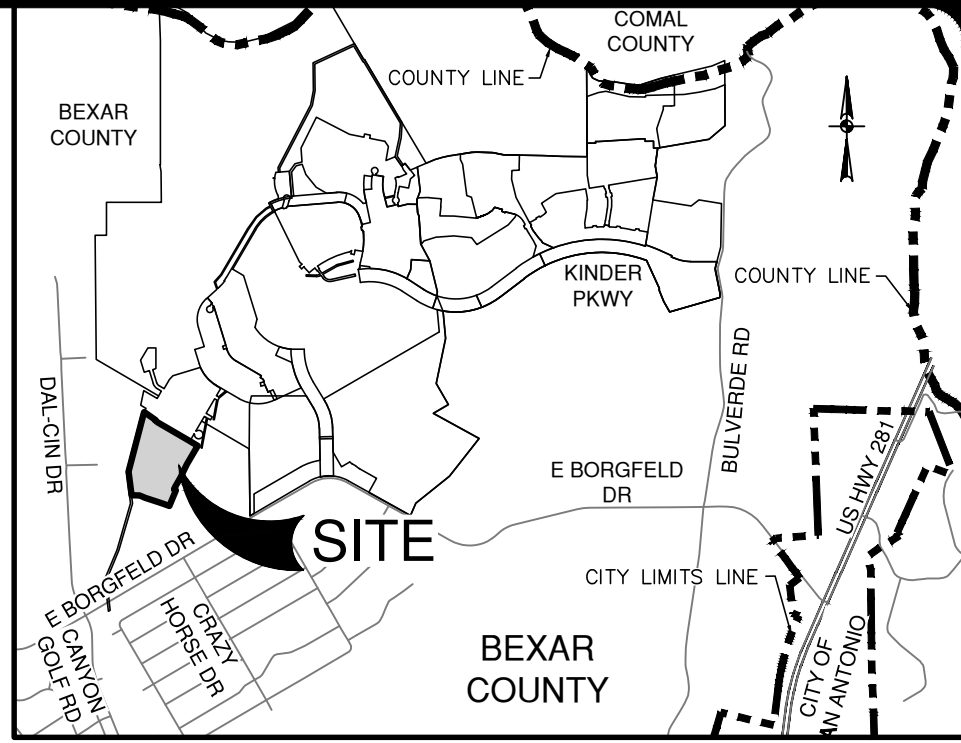
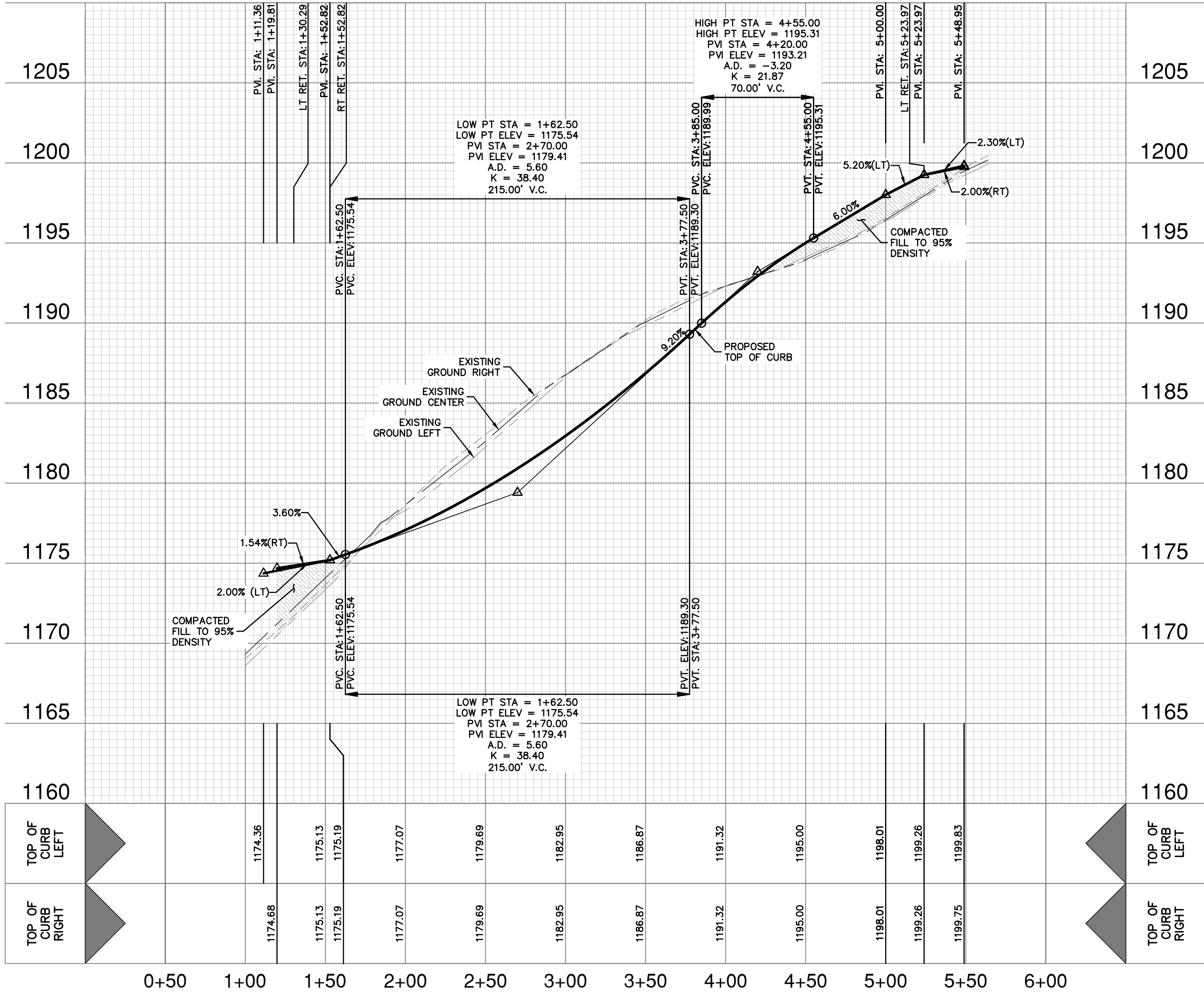
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CHARMING BROOK  
STA. 1+00.00 TO END

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



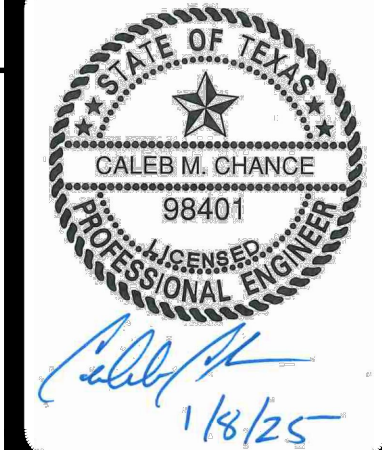
### STREET LEGEND

PROJECT LIMITS	---
MAINTAIN GUTTER	---
EXISTING CONTOUR	---
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) x
WASHOUT CROWN SECTION	[Pattern]
SIDEWALK (DEVELOPER'S RESPONSIBILITY)	[Pattern]
SIDEWALK (HOMEOWNER'S RESPONSIBILITY)	[Pattern]
DRIVEWAY	[Pattern]
STREET LIGHTS	☼

### STREET 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.
- CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
- 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.
- 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.
- 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.
- 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 (d)(6).
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NO.	REVISION	DATE



**PAPE-DAWSON  
ENGINEERS**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

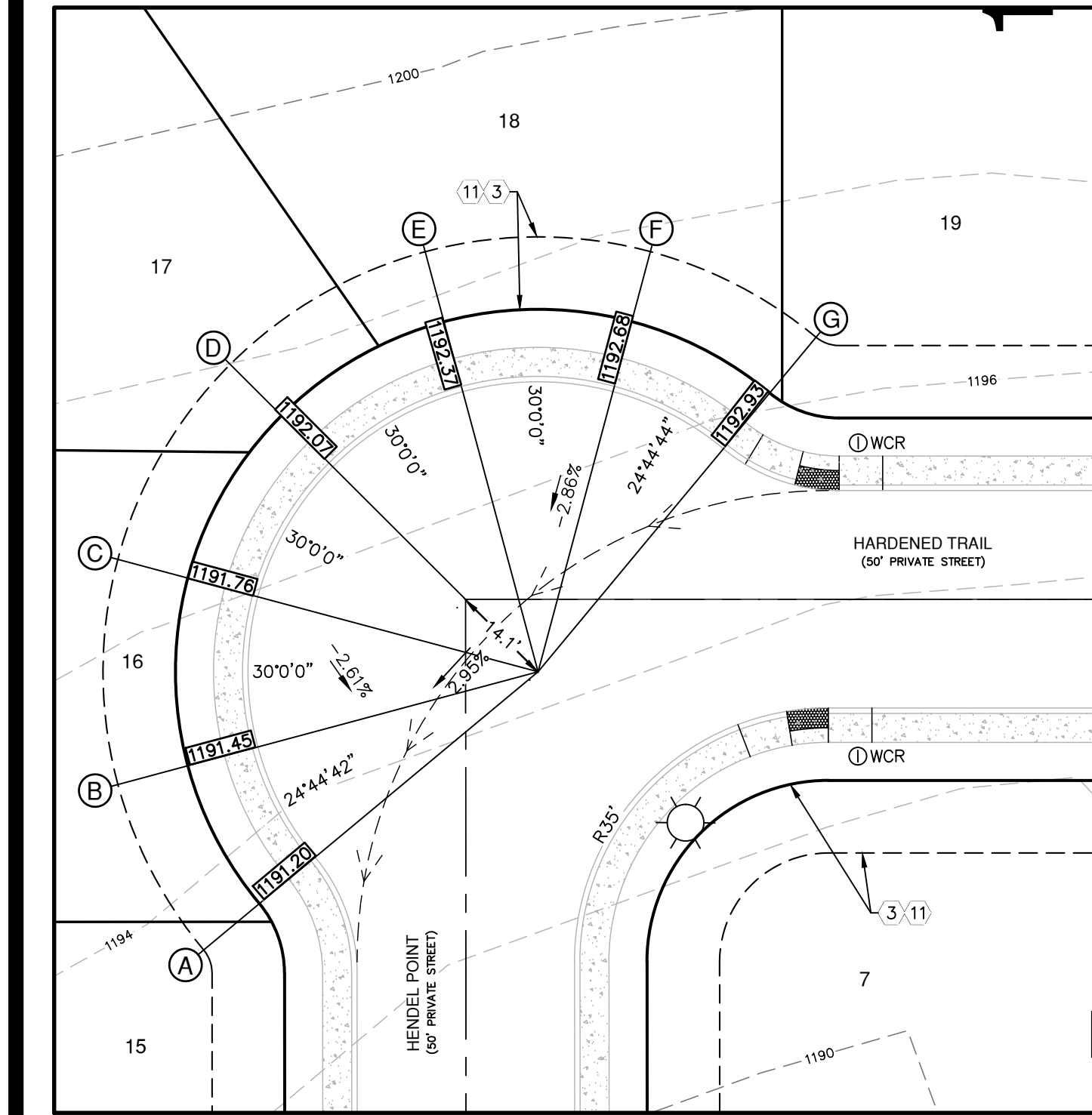
**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS

**CHARMING BROOK PLAN & PROFILE**  
STA. 1+00.00 TO END

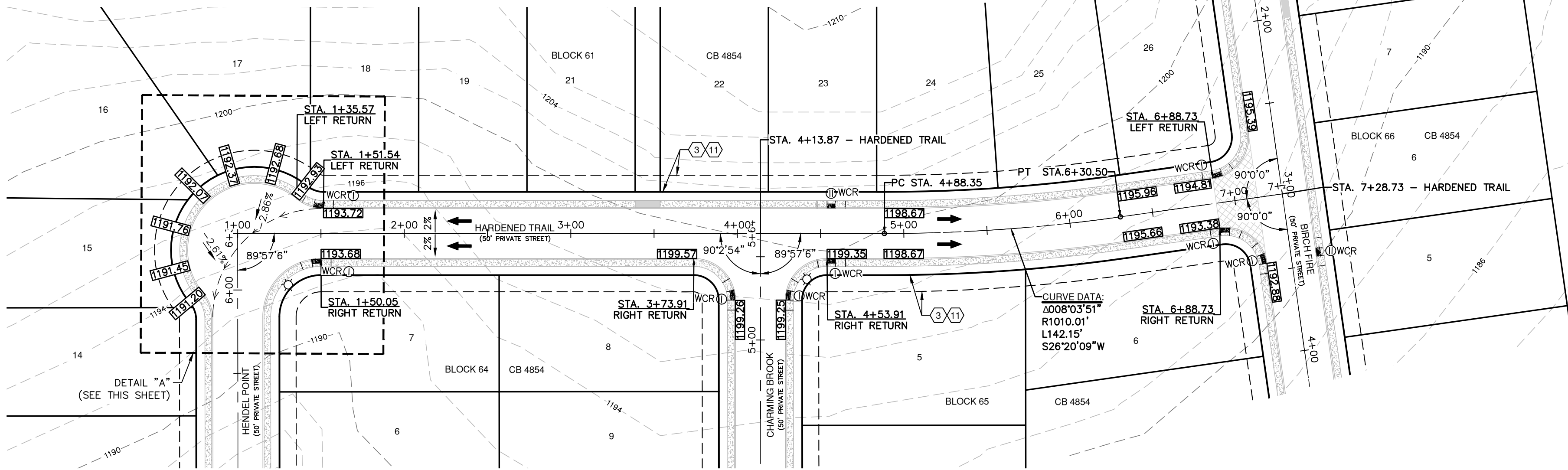
PLAT NO.	24-11800281
JOB NO.	8802-76
DATE	JANUARY 2025
DESIGNER	
CHECKED	DRAWN
SHEET	C2.02



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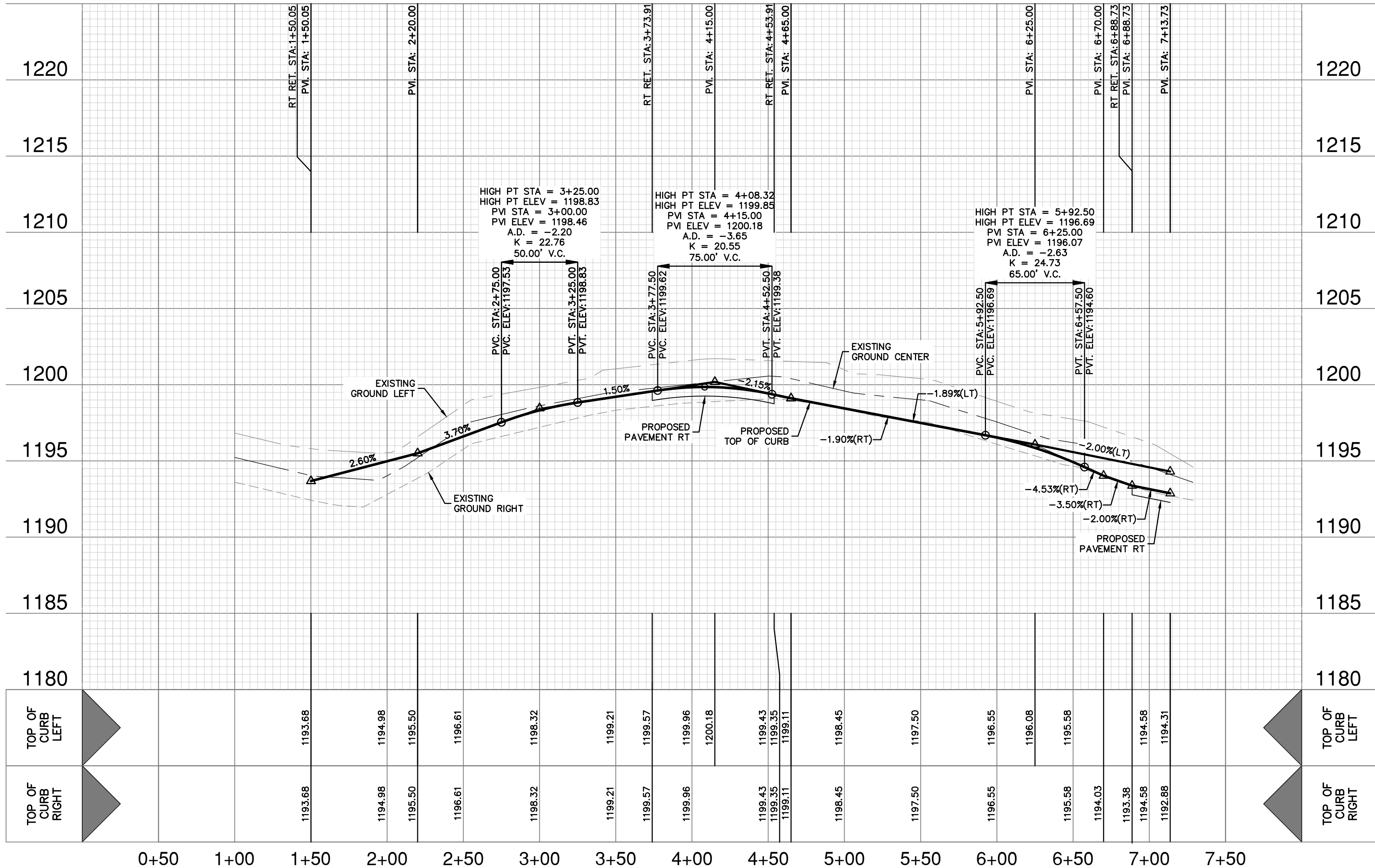


DETAIL "A"  
SCALE: 1" = 20'



HARDENED TRAIL  
STA. 1+00.00 TO END

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

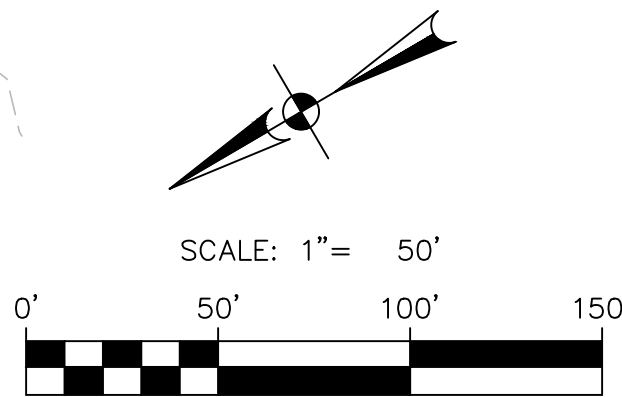
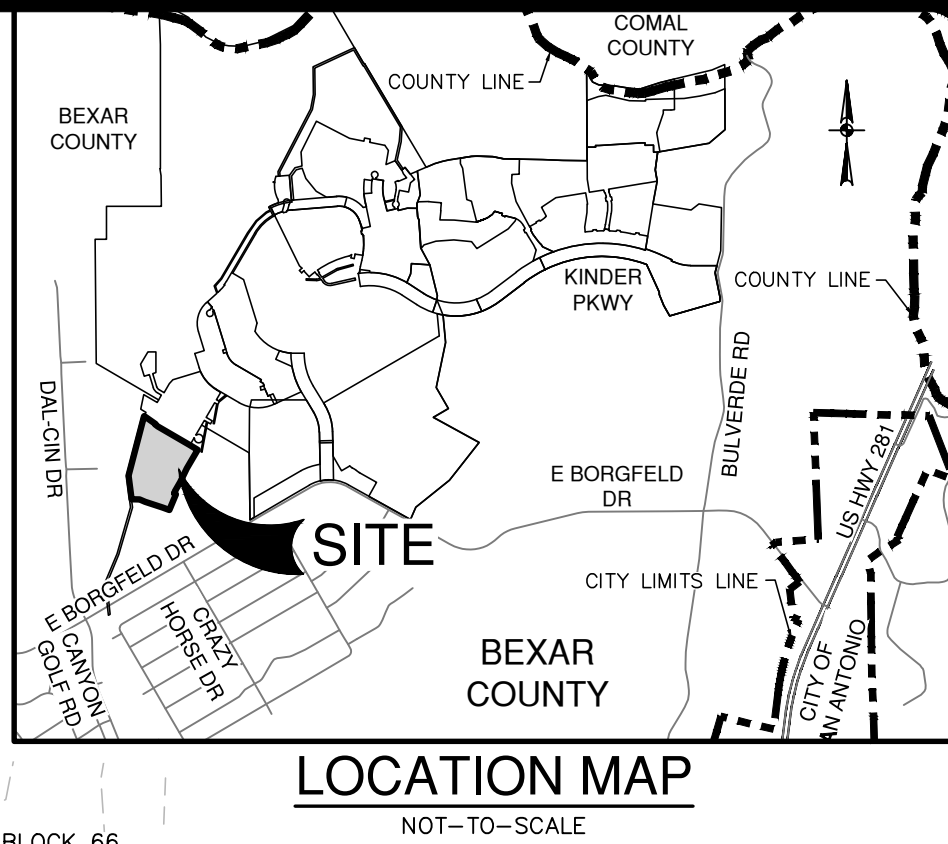


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#### STREET LEGEND

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	857.30
PAVEMENT ELEVATION	857.00(P) x
WASHOUT CROWN SECTION	---
SIDEWALK (DEVELOPER'S RESPONSIBILITY)	---
SIDEWALK (HOMEOWNER'S RESPONSIBILITY)	---
DRIVEWAY	---
STREET LIGHTS	⊙



**PAPE-DAWSON**  
**ENGINEERS**

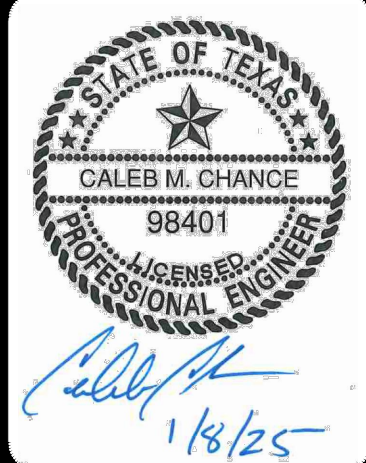
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

**KINDER GALE UNIT 2**  
**SAN ANTONIO, TEXAS**

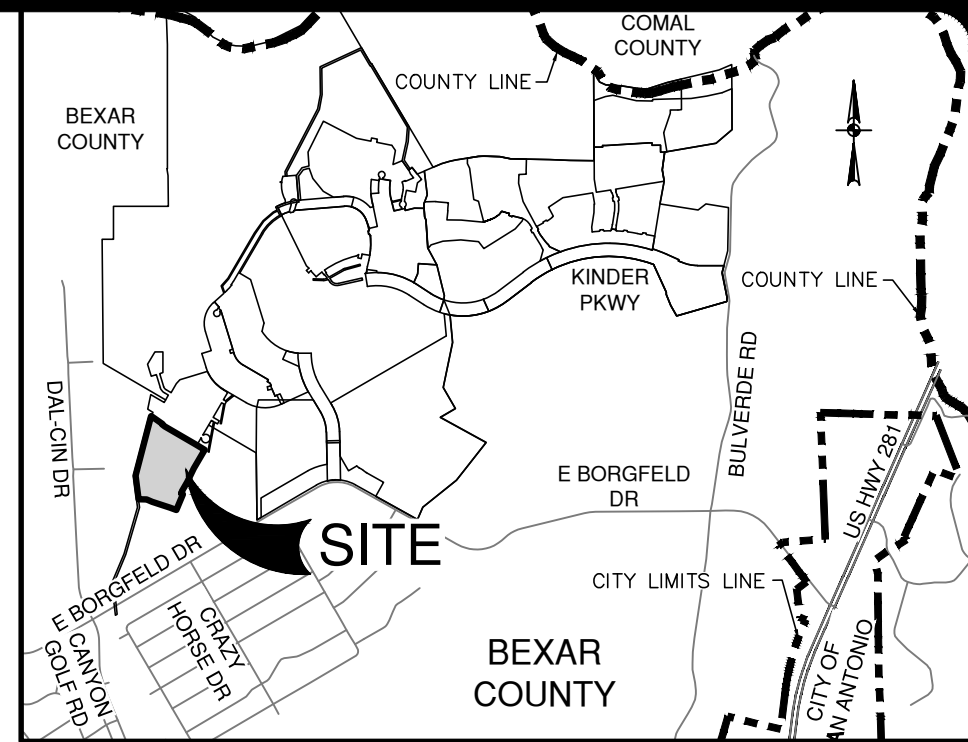
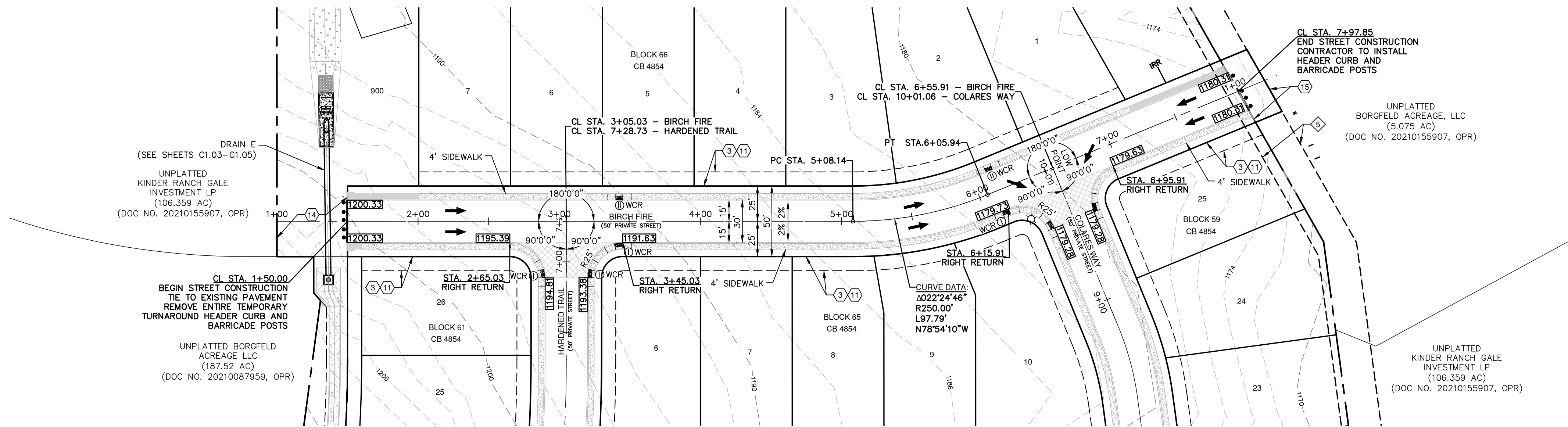
**HARDENED TRAIL PLAN & PROFILE**  
**STA. 1+00.00 TO END**

PLAT NO. **24-11800281**  
JOB NO. **8802-76**  
DATE **JANUARY 2025**  
DESIGNER  
CHECKED **DRAWN**  
SHEET **C2.03**

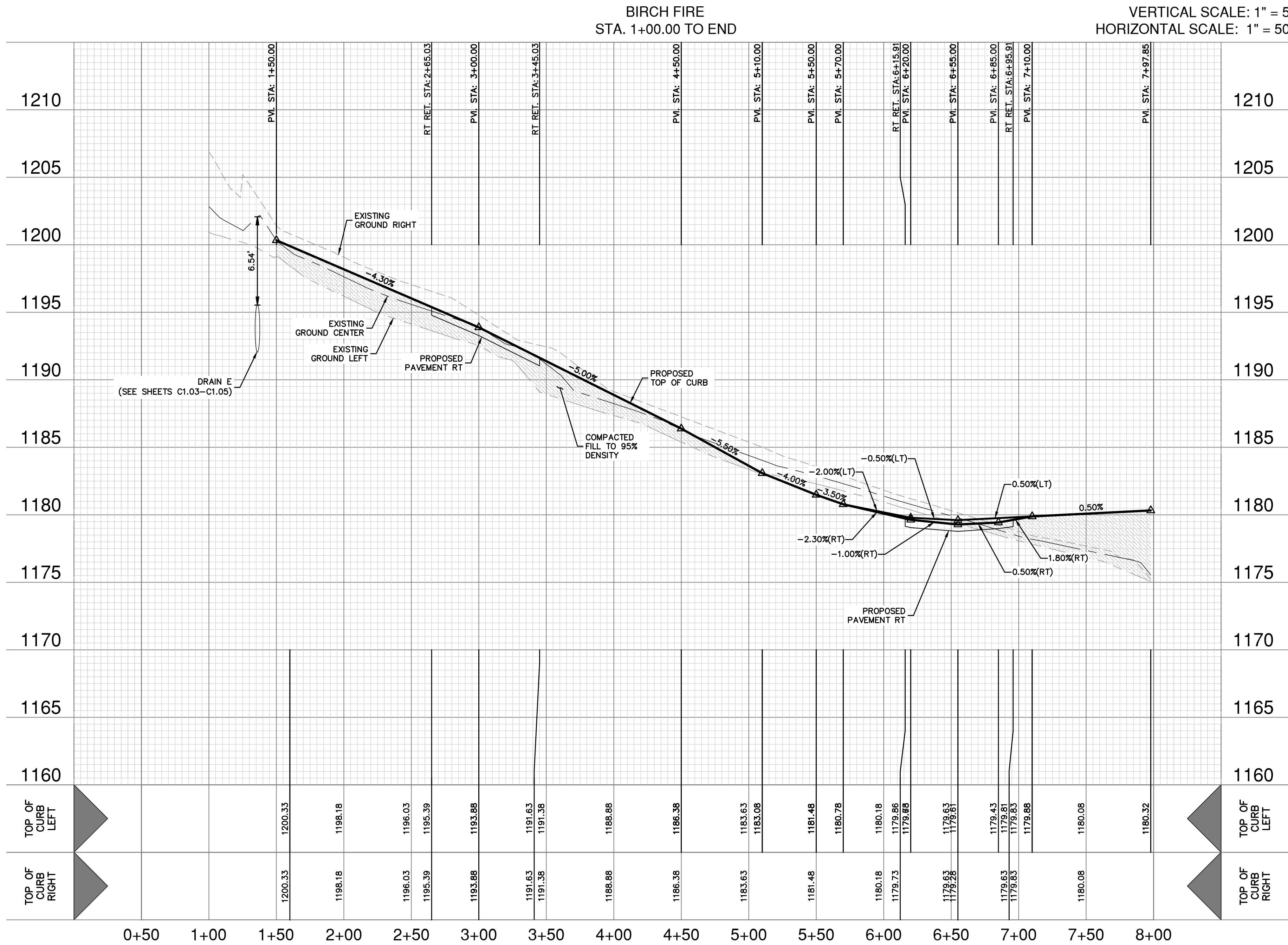
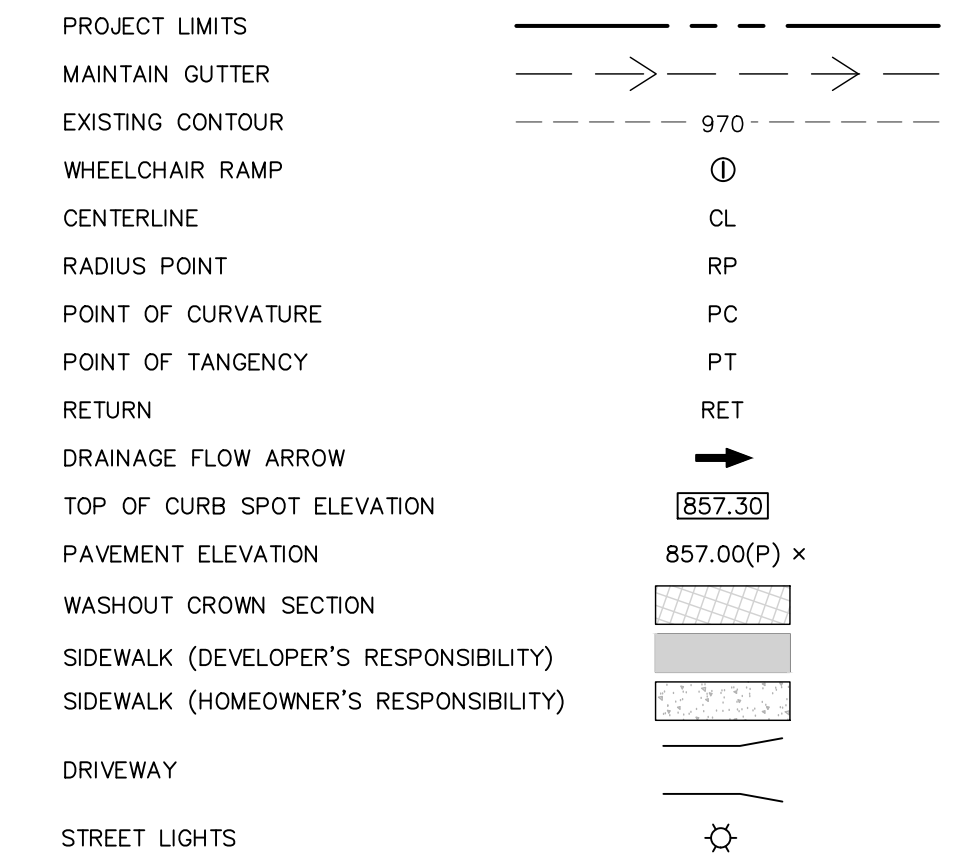
NO.	REVISION	DATE







STREET LEGEND



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**PAPE-DAWSON**  
**ENGINEERS**

**KINDER GALE UNIT 2**  
**SAN ANTONIO, TEXAS**  
**BIRCH FIRE PLAN & PROFILE**  
**STA. 1+00.00 TO END**

PLAT NO. 24-11800281  
JOB NO. 8802-76  
DATE JANUARY 2025  
DESIGNER  
CHECKED DRAWN  
SHEET C2.04



PAVEMENT SECTION DETAIL							
STREET NAME	STATION	TYPE "D" HMAC	CRUSHED LIMESTONE BASE	STABILIZED SUBGRADE	GEOGRID (TENSAR TRIAX TX5)	CBR	STRUCTURAL NUMBER
COLARES WAY	STA. 1+00.00 TO END	2"	10"	8*	NO	2.0	2.92
HENDEL POINT	STA. 1+00.00 TO END	2"	10"	8*	NO	2.0	2.92
BIRCH FIRE	STA. 1+00.00 TO END	2"	10"	8*	NO	2.0	2.92
CHARMING BROOK	STA. 1+00.00 TO END	2"	10"	8*	NO	2.0	2.92
HARDENED TRAIL	STA. 1+00.00 TO END	2"	10"	8*	NO	2.0	2.92

GENERAL NOTES:

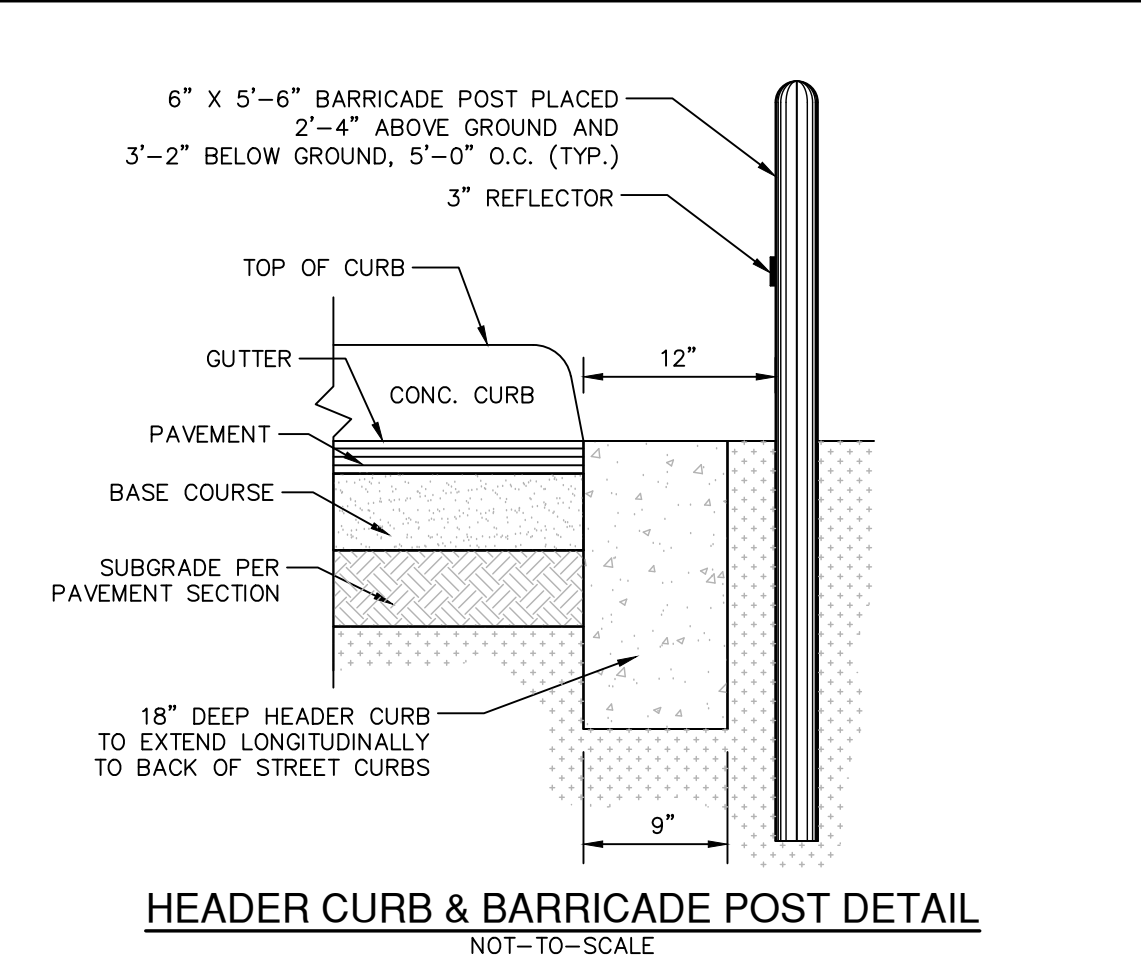
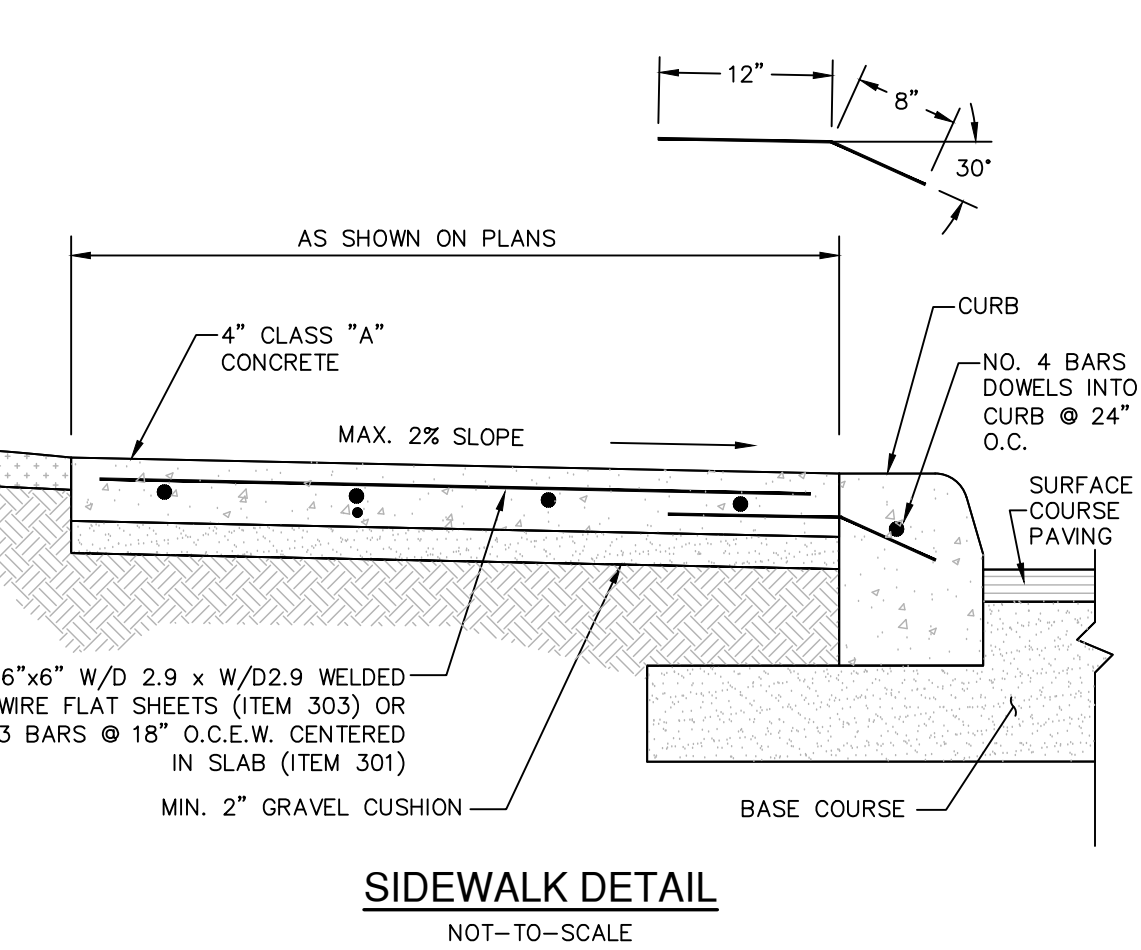
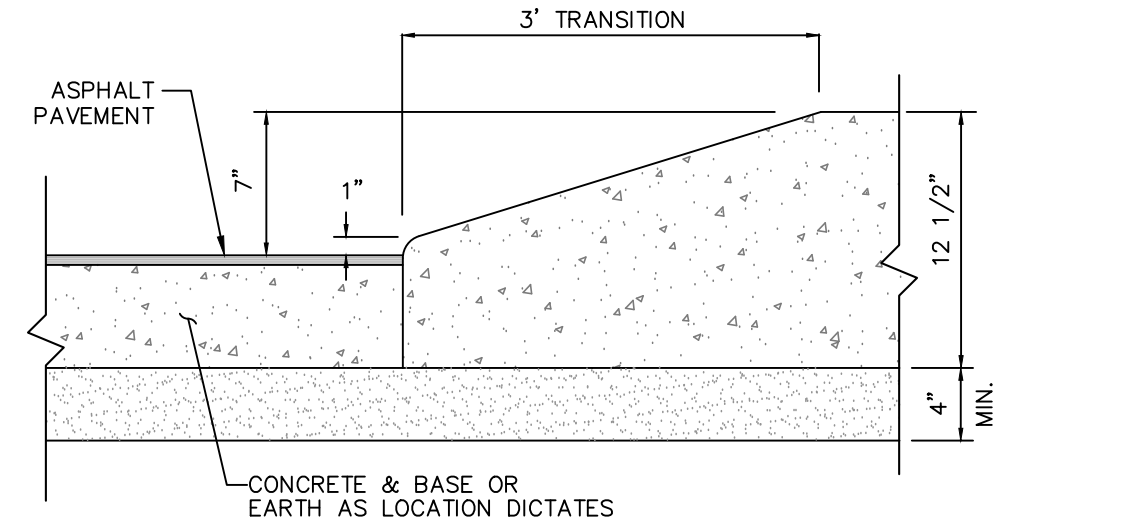
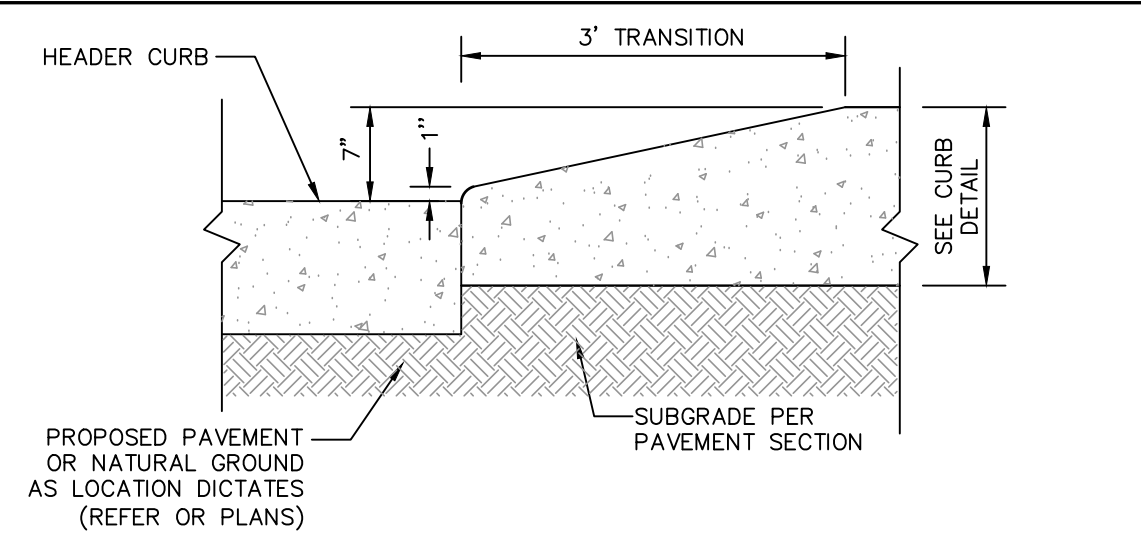
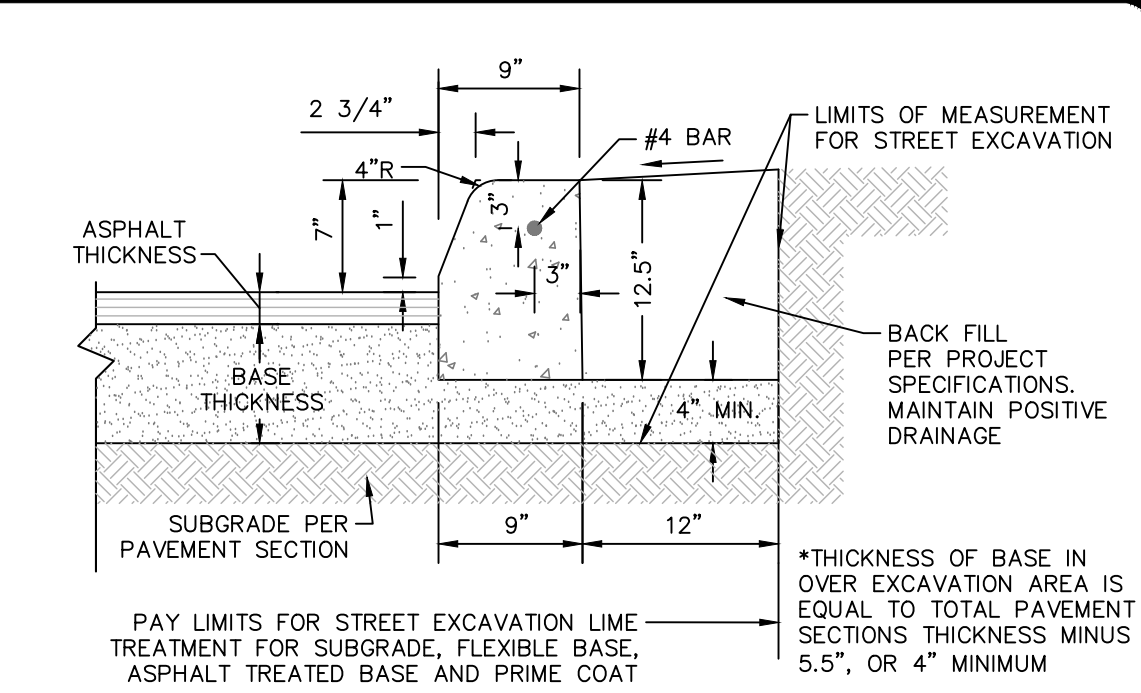
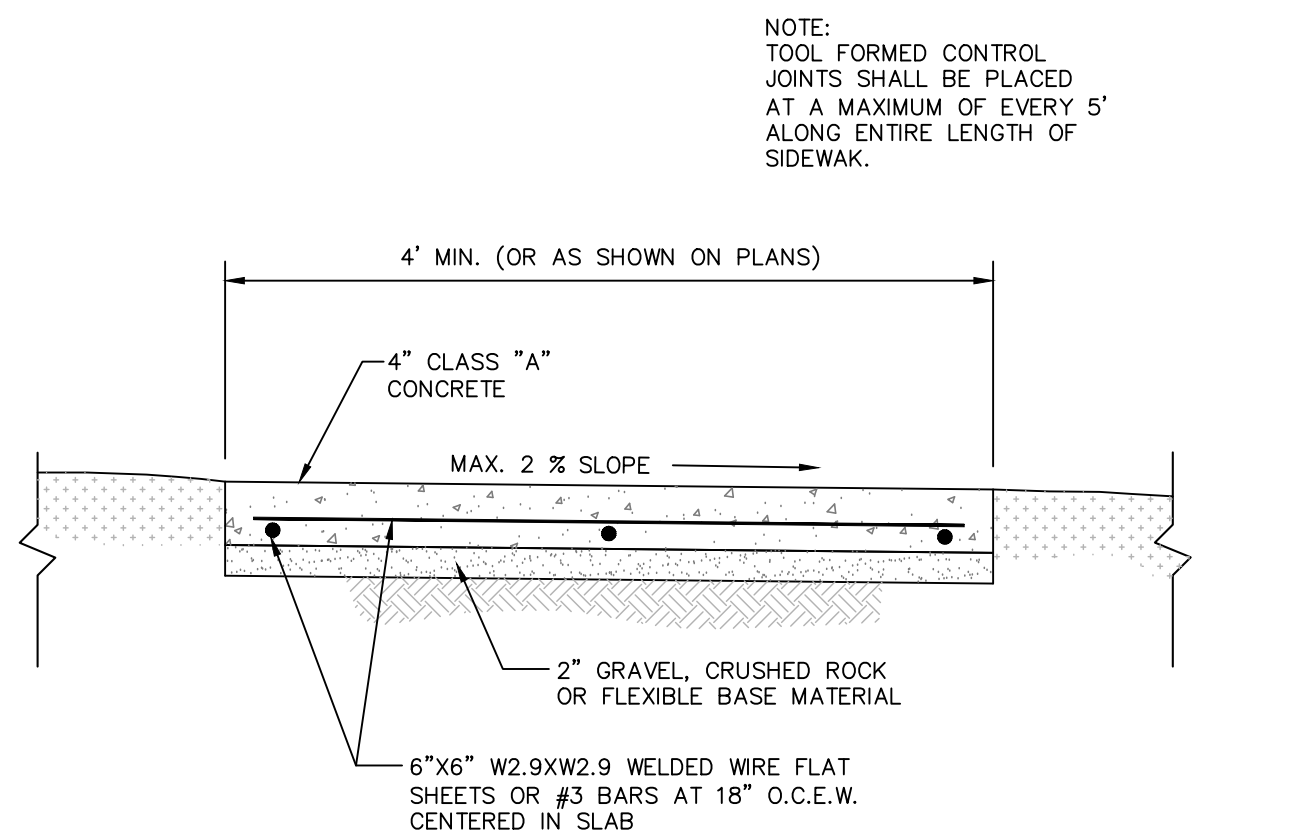
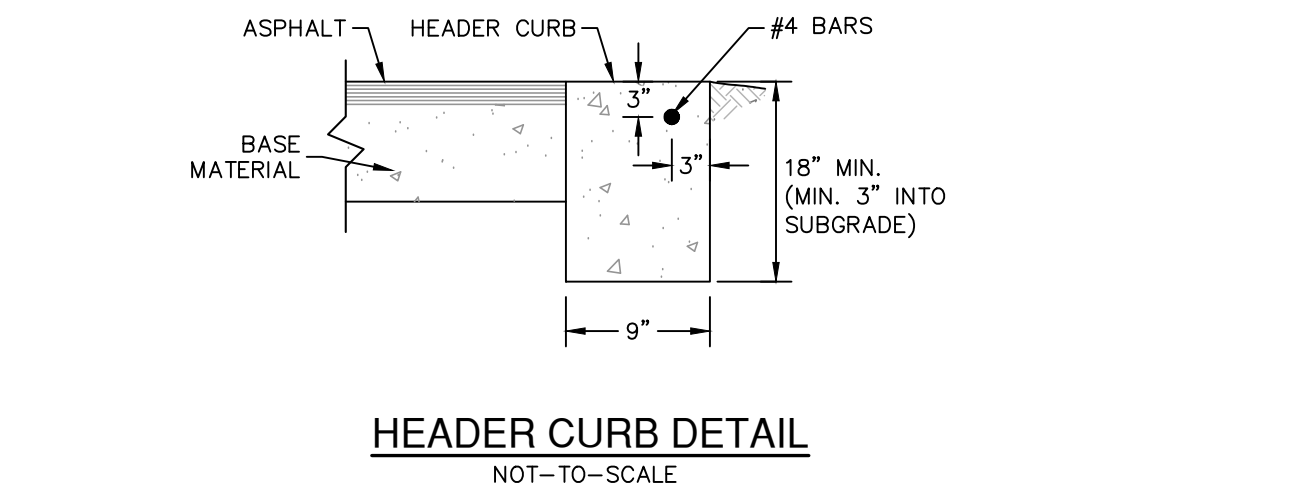
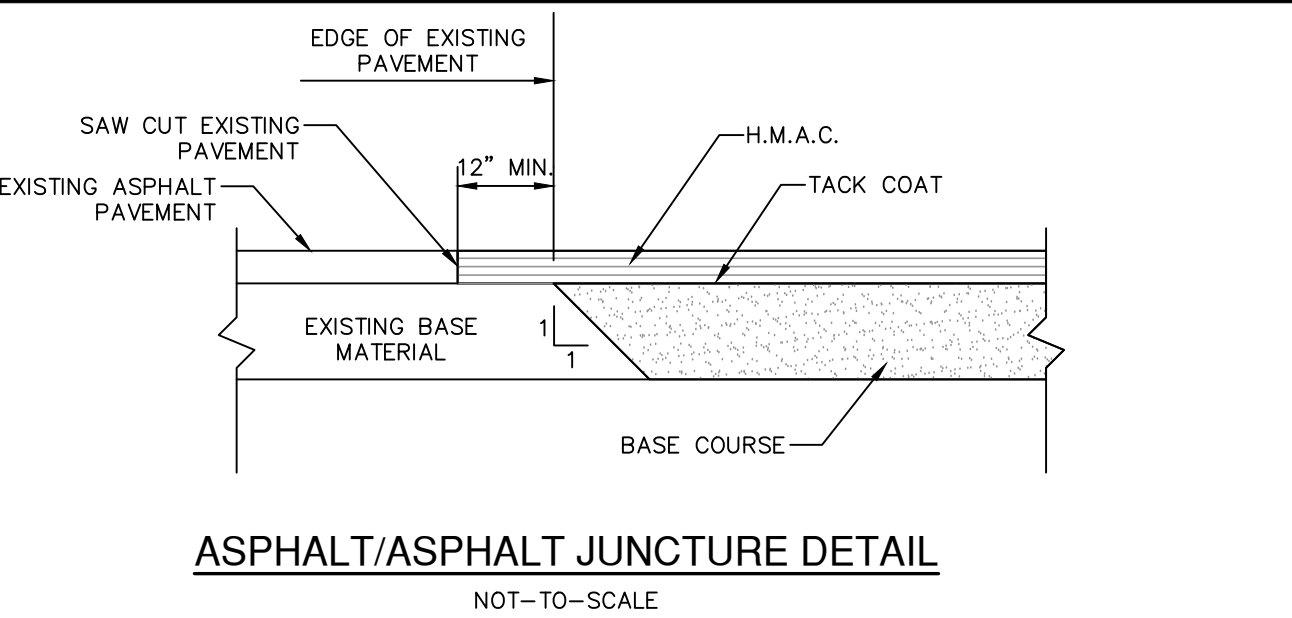
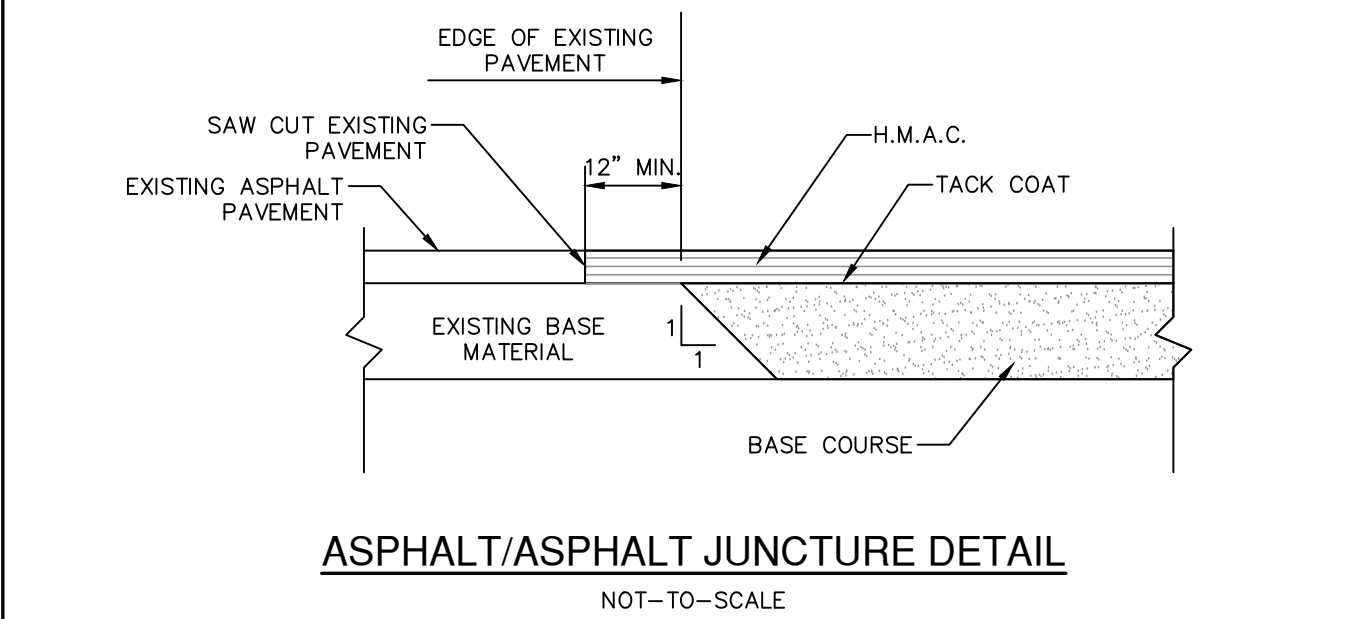
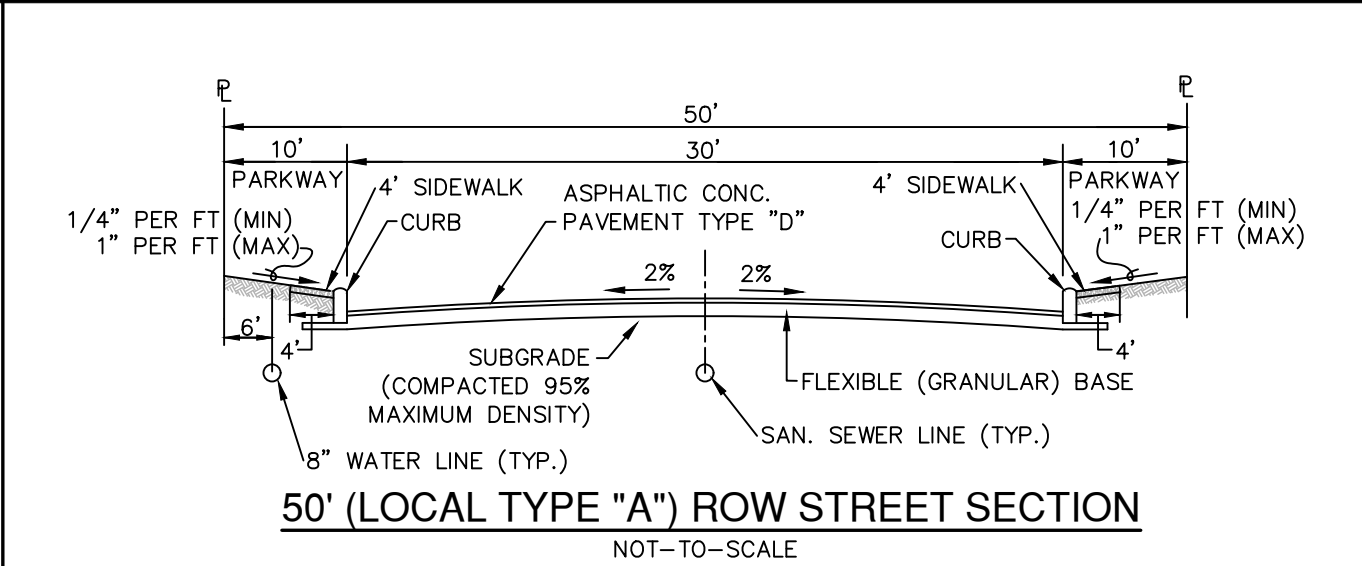
- CONTRACTOR SHALL REFERENCE THE PROJECT PAVEMENT DESIGN REPORT PREPARED BY **Intec OF SAN ANTONIO, L.P.** DATED FEBRUARY **18, 2024**.
- CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEER TO VERIFY THE SUB GRADE CONDITION PRIOR TO PLACING ANY BASE MATERIAL. GEOTECHNICAL ENGINEER SHALL DETERMINE THE SUB GRADE CONDITION AND IF LIME STABILIZATION IS REQUIRED.
- GEOTECHNICAL ENGINEER SHOULD VERIFY THE STREET SUBGRADE AT THE TIME OF CONSTRUCTION PRIOR TO PLACEMENT OF AGGREGATE BASE.
- THE FLEXIBLE BASE COURSE SHOULD BE CRUSHED LIMESTONE CONFORMING TO TXDOT STANDARD SPECIFICATIONS, ITEM 247, TYPE A, GRADES 1 OR 2.
- THE MOISTURE CONTENT OF THE FILL SHOULD BE MAINTAINED WITHIN THE RANGE OF OPTIMUM WATER CONTENT TO 3 PERCENTAGE POINTS ABOVE THE OPTIMUM WATER CONTENT UNTIL PERMANENTLY COVERED.
- IN THE EVENT THAT THE CLAY FILL USED IS DIFFERENT THAN THE EXISTING SUBGRADE, THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT COULD BE INVALIDATED AND THE DESIGN ENGINEER MUST BE CONSULTED TO DETERMINE IF ADDITIONAL CBR TESTING AND THICKER PAVEMENT SECTIONS ARE REQUIRED.
- WHERE PAVEMENT SUBGRADE IS LOCATED WITHIN 2- FEET OF THE EXISTING GROUND SURFACE (STRATUM 1 CLAYS), MOISTURE CONDITIONED SUBGRADE WILL BE REQUIRED. GEOTECHNICAL ENGINEER SHOULD VERIFY THE STREET SUBGRADE AT THE TIME OF CONSTRUCTION PRIOR TO PLACEMENT OF AGGREGATE BASE TO DETERMINE WHERE THE MOISTURE CONDITIONED SUBGRADE IS NEEDED. REFERENCE GEOTECHNICAL ENGINEERING REPORT FOR MORE INFORMATION.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL MATERIAL TESTING WITH THE PROJECT GEOTECHNICAL ENGINEER. TESTING SHALL BE PAID FOR BY THE OWNER.
- FILL MATERIAL SHOULD BE NATIVE ON-SITE MATERIAL, FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 2 AND A PI WITHIN RANGE OF 5 AND 20. THE GRAVEL SIZE SHOULD NOT EXCEED 3 INCHES IN DIAMETER. LIME OR CEMENT APPLICATION RATES SHOULD BE RE-EVALUATED FOR THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES. CONTRACTOR TO VERIFY EXACT SPECIFICATIONS WITH PROJECT GEOTECHNICAL ENGINEERING REPORT.
- A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN THE 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.

STREET SUBGRADE NOTES:

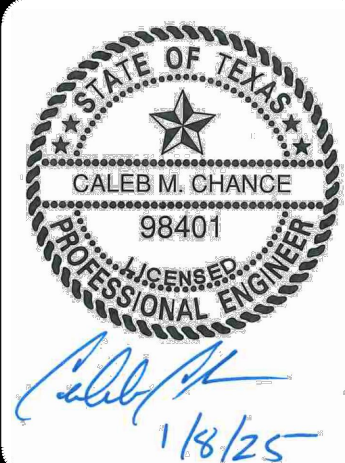
- IF THE STREET SUBGRADE PLASTICITY INDEX VALUE IS GREATER THAN 20, SUBGRADE STABILIZATION IS NEEDED AS PER CITY OF SAN ANTONIO REQUIREMENTS.
- IF THE SUBGRADE PLASTICITY INDEX VALUE IS 20 OR LESS. SUBGRADE STABILIZATION IS NOT NEEDED. THE SUBGRADE SHOULD BE MOISTURE CONDITIONED (COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AT A MINIMUM MOISTURE CONTENT OF OPTIMUM PLUS 2 PERCENT (TEX114E)).
- THE SUBGRADE SHOULD BE STABILIZED USING 6 PERCENT LIME TO A DEPTH OF 6 INCHES AS NOTED ABOVE.
- THE SUBGRADE SOILS SHOULD BE TESTED FOR SOIL SULFATE CONTENT PRIOR TO STABILIZATION. IF THE SOIL SULFATE CONTENT IS HIGH, AN ALTERNATE PROCEDURE / RECOMMENDATION WILL BE NEEDED.
- LIME APPLICATION RATE OF 27.5 LBS PER SQ YARD FOR 6 INCH DEPTH OF STABILIZATION IS RECOMMENDED.
- APPROVED FILL MATERIAL SHOULD BE USED TO RAISE THE GRADE. THE FILL SHOULD BE FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 2.5. LIME APPLICATION RATES SHOULD BE RE-EVALUATED AND TESTED FOR SULFATE CONTENT PRIOR TO USE OF THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.
- THE SUBGRADE SHOULD BE PROOF ROLLED TO IDENTIFY SOFT AREAS BEFORE STABILIZATION.

LIME NOTES:

- FOR LIME STABILIZATION CONSTRUCTION VERIFICATION THE FOLLOWING SHALL BE CONDUCTED ON THE FIELD:
- AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2-3) DAYS. MAINTAIN MOISTURE DURING MELLOWING.
  - AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE 3/8 INCH SIEVE FROM THE SAMPLE):
    - MINIMUM PASSING 1 1/2" SIEVE 100
    - MINIMUM PASSING 3/4" SIEVE 85
    - MINIMUM PASSING NO. 4 SIEVE 60
  - SAMPLE SOIL-LIME MIXTURE FOR DETERMINATION OF MAXIMUM DRY DENSITY (MDD), IN THE LABORATORY, MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN ACCORDANCE WITH PROCEDURE OUTLINED IN THE BEXAR COUNTY FLEXIBLE PAVEMENT DESIGN CRITERIA GUIDE FOR MIXTURE DESIGN.
  - COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED).
  - CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
  - VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN +/- 1.0 INCH.



DATE	
NO.	
REVISION	



**PAPE-DAWSON ENGINEERS**

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

**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS

**STREET DETAILS**  
(1 OF 3)

PLAT NO.	24-11800281
JOB NO.	8802-76
DATE	JANUARY 2025
DESIGNER	
CHECKED	DRAWN
SHEET	C2.10





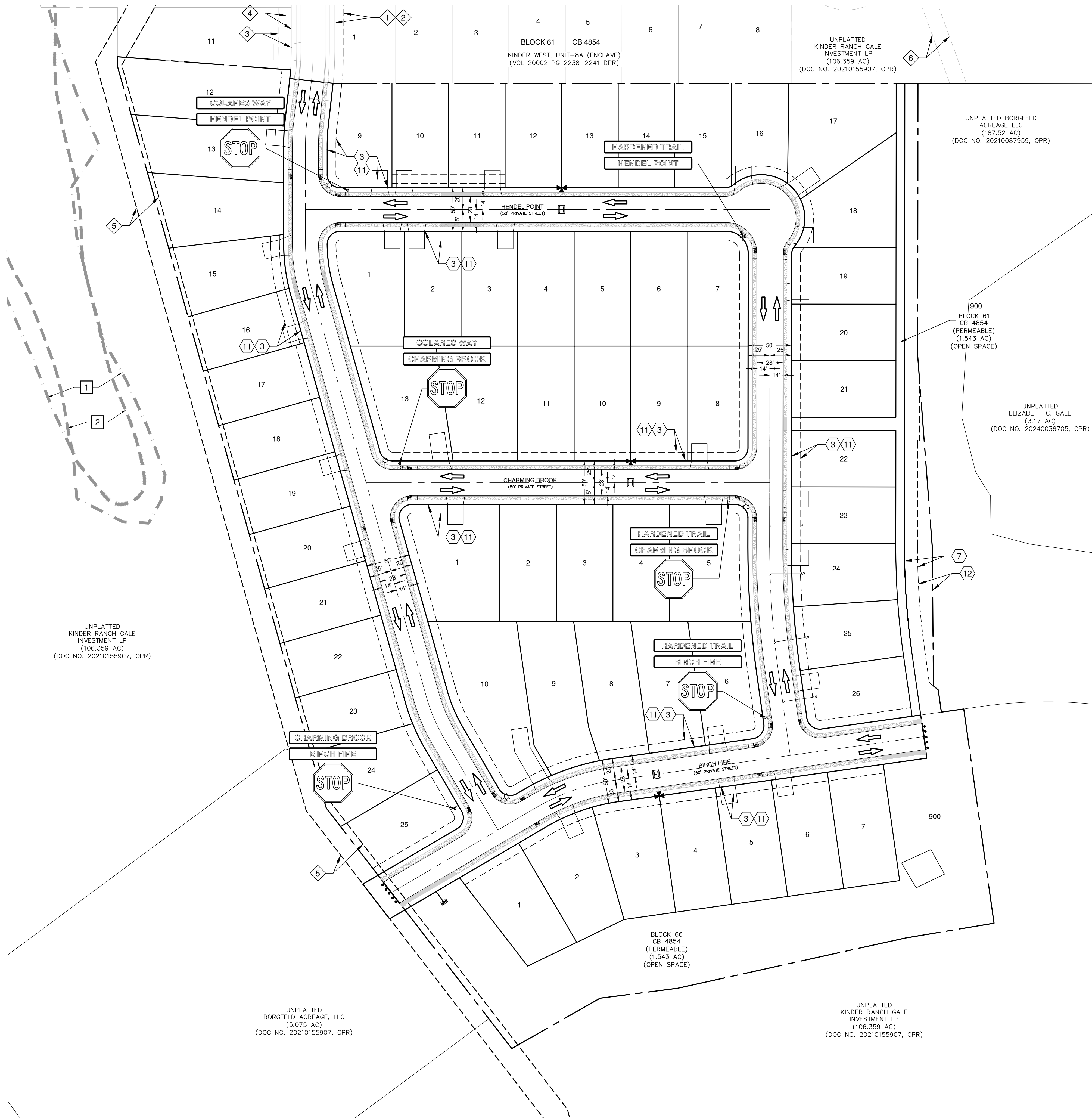






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- LEGEND**
- |        |   |            |   |
|--------|---|------------|---|
| AC     | ACRE(S)   | VOL        | VOLUME  |
| BLK    | BLOCK   | PG         | PAGE(S)   |
| BSL    | BUILDING SETBACK LINE   | ROW        | RIGHT OF WAY  |
| CB     | COUNTY BLK  | L.F.       | LINEAR FEET   |
| DOC    | DOCUMENT NUMBER   | (SURVEYOR) | ● FOUND 1/2" IRON ROD (UNLESS NOTED OTHERWISE)  |
| DPR    | DEED AND PLAT RECORDS OF BEXAR COUNTY, TEXAS  | ○          | SET 1/2" IRON ROD (PD)  |
| GETCTV | GAS, ELECTRIC, TELEPHONE AND CABLE TELEVISION   | ○          | SEAMING POINT OF INTERSECTION   |
| OPR    | OFFICIAL PUBLIC RECORDS OF REAL PROPERTY OF BEXAR COUNTY, TEXAS   |            |   |
| ---    | EXISTING CONTOURS   |            |   |
| ---    | PROPOSED CONTOURS   |            |   |
| ---    | CENTERLINE  |            |   |
| ---    | EFFECTIVE (EXISTING) UD 1% ANNUAL CHANCE (100-YR) FLOODPLAIN  |            |   |
| ---    | ORIGINAL SURVEY/COUNTY LINE   |            |   |
| 1      | 10' ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT KINER WEST, UNIT-8A (ENCLAVE) (VOL. 20002 PGS 2238-2241, PR) | 5          | 28' ELECTRIC EASEMENT (OFF-LOT) (1.899 ACRE/PERMEABLE) KINER WEST, UNIT-8A (ENCLAVE) (VOL. 20002 PGS 2238-2241, PR) |
| 2      | 10' BUILDING SETBACK LINE KINER WEST, UNIT-8A (ENCLAVE) (VOL. 20002 PGS 2238-2241, PR)                        | 6          | 18' DRAINAGE EASEMENT (OFF-LOT) (0.162 ACRE) KINER WEST, UNIT-8A (ENCLAVE) (VOL. 20002 PGS 2238-2241, PR)           |
| 3      | 5' x 50' WATER EASEMENT KINER WEST, UNIT-8A (ENCLAVE) (VOL. 20002 PGS 2238-2241, PR)                          | 7          | 10' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT  |
| 4      | 15' ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT KINER WEST, UNIT-8A (ENCLAVE) (VOL. 20002 PGS 2238-2241, PR) | 12         | 15' DRAINAGE AND ACCESS EASEMENT  |
|        |   | 1          | EXISTING 1% (100 YR) ANNUAL CHANCE FEMA FLOODPLAIN MAP NO. 48029C0130G  |
|        |   | 2          | PROPOSED 100 AC ULTIMATE FLOODPLAIN PER FLOOD STUDY PREPARED BY PAPE-DAWSON ENGINEERS (CASE NO. 16-06-4342R)        |

SYMBOL	ITEM NUMBER
UNIT BOUNDARY	
PROPOSED DRIVEWAY	
EXISTING DRIVEWAY	
TRAFFIC FLOW ARROW	
SIDEWALK (HOMEBUILDER RESPONSIBILITY)	
SIDEWALK (DEVELOPER'S RESPONSIBILITY)	
TYPE II BLUE RAISED PAVEMENT MARKERS - NO SEPARATE PAY ITEM (N.T.S.)	
END OF ROAD MARKER OM4-3	531.56
HEADER CURB W/ BARRICADE POSTS	
5' x 5' ADA PASSING SPACE	
Street Name	531.57
STOP	531.3

#### BEXAR COUNTY ROW NOTES:

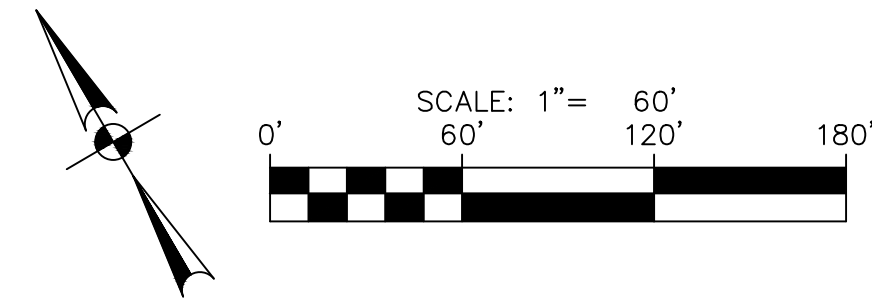
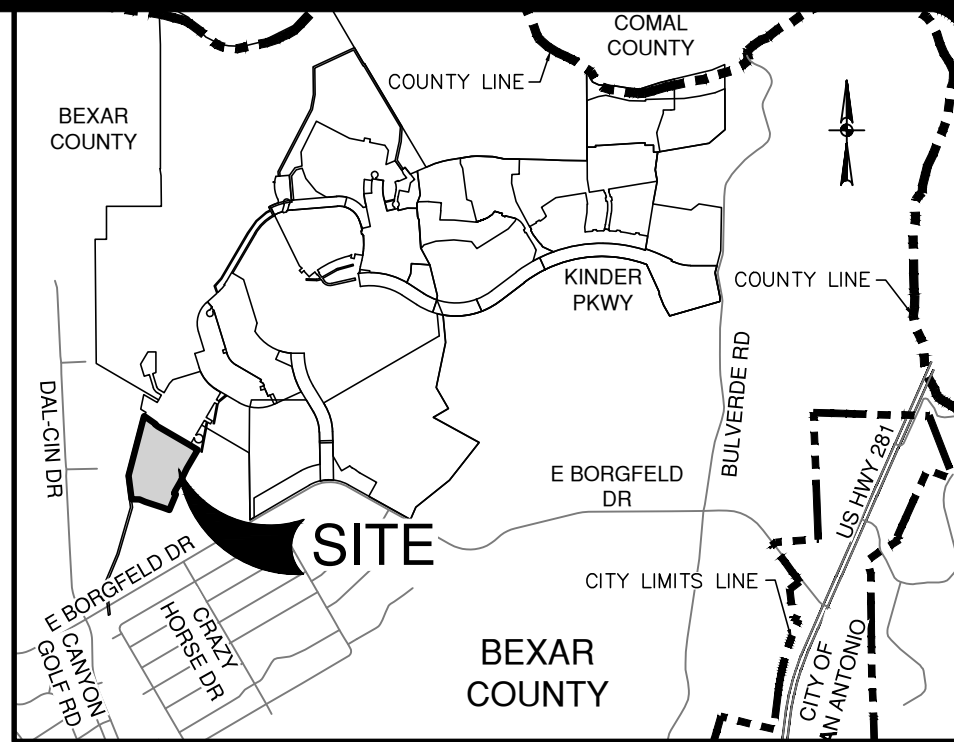
A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.

#### DRIVEWAY NOTE:

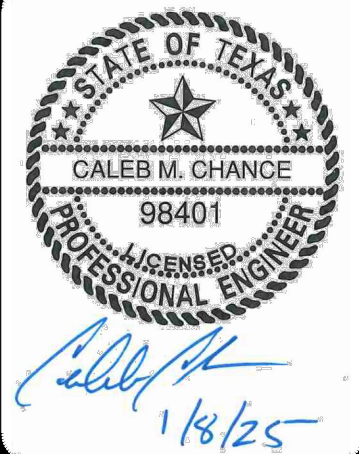
DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

#### 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.



DATE	
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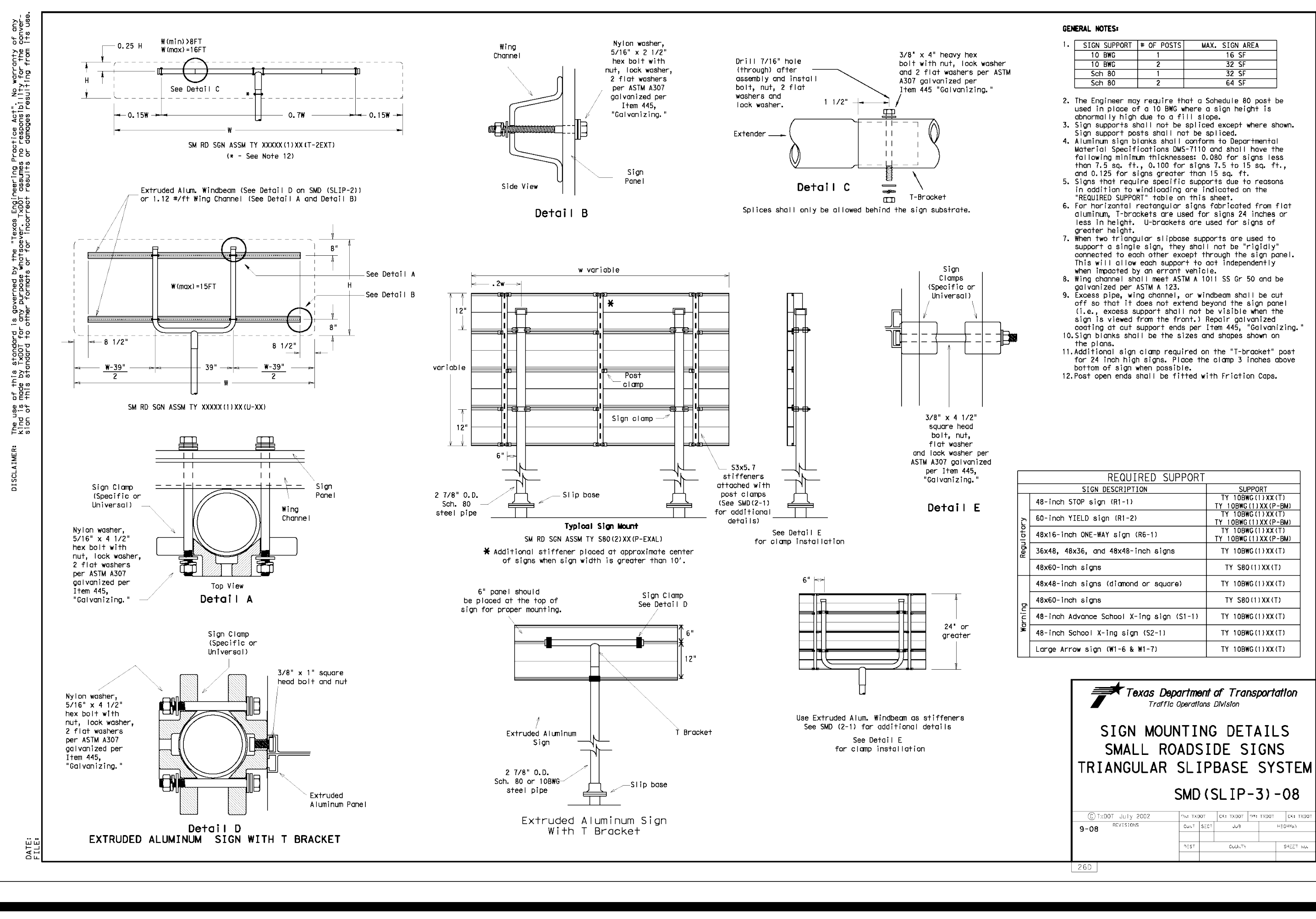
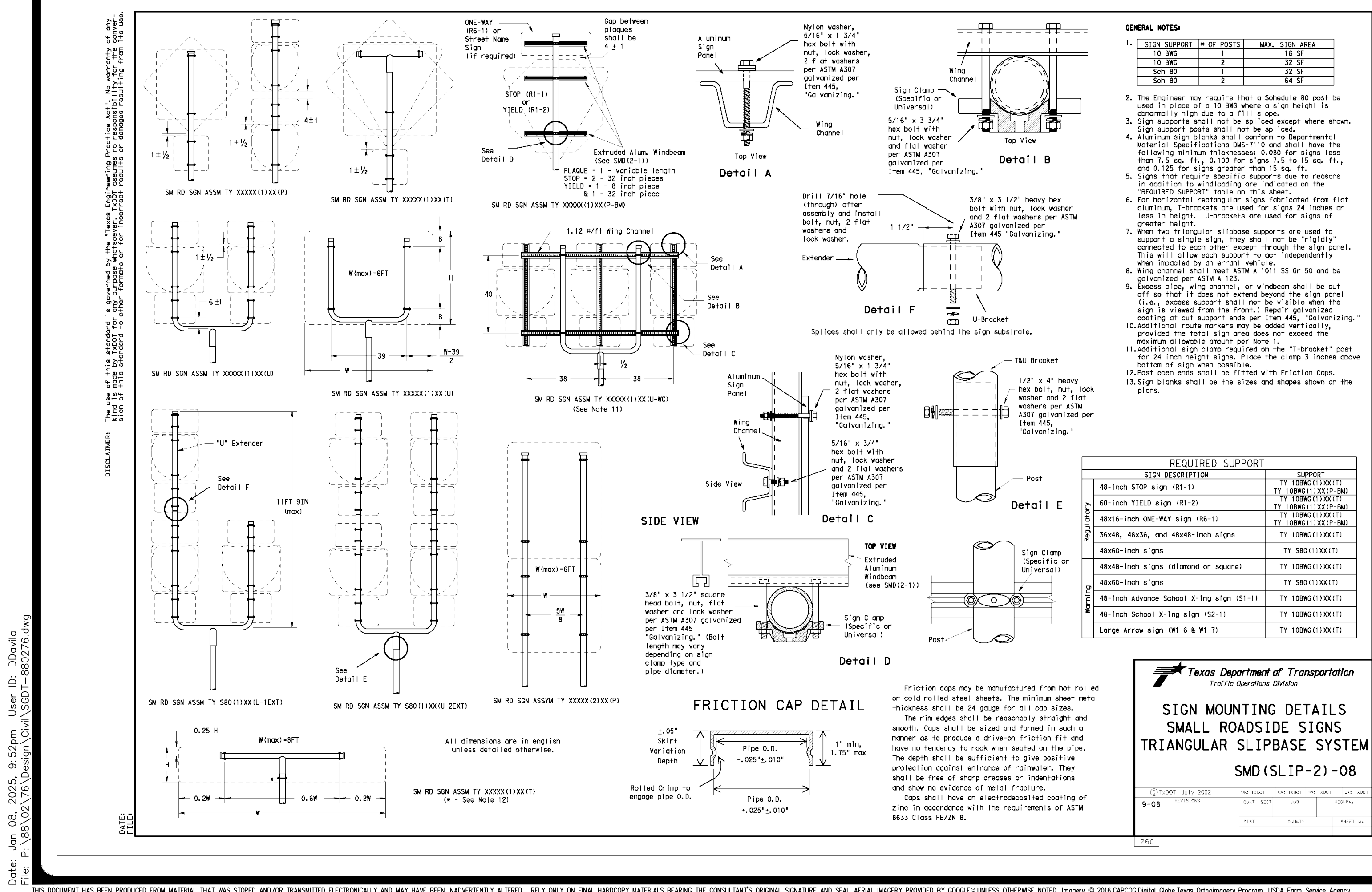
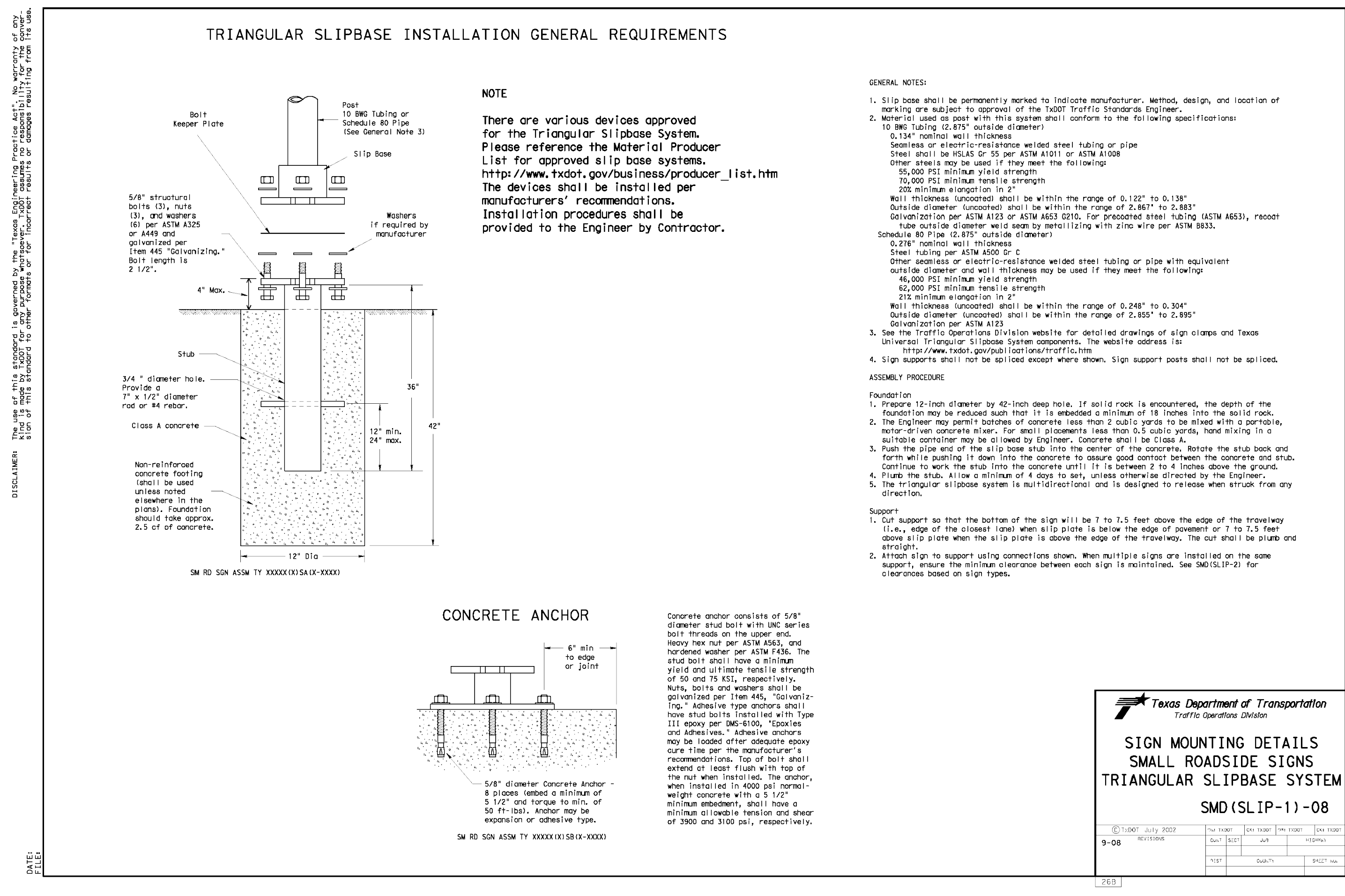
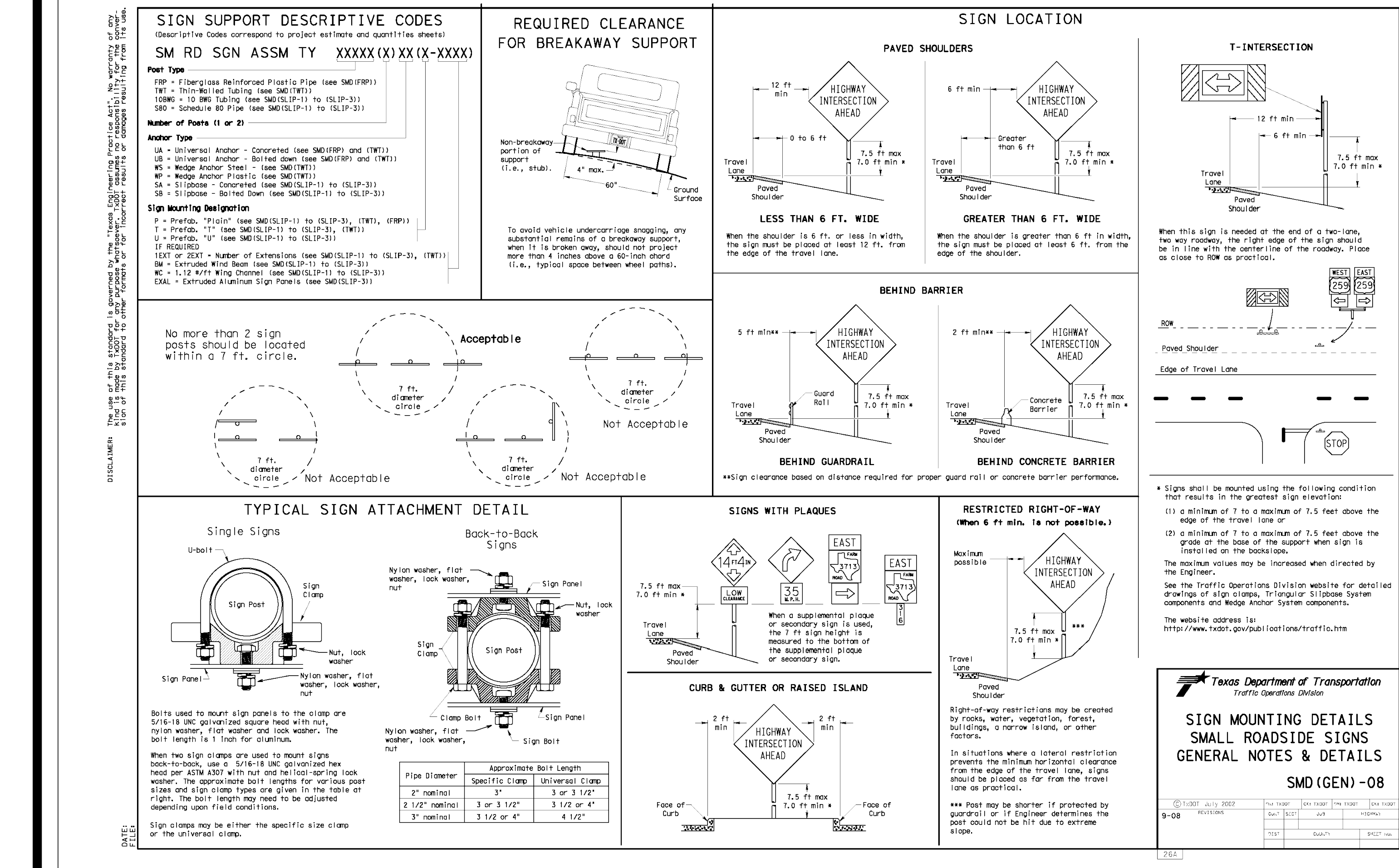


**PAPE-DAWSON ENGINEERS**  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS  
OVERALL SIGNAGE PLAN

PLAT NO.	24-11800281
JOB NO.	8802-76
DATE	JANUARY 2025
DRAWN	
CHECKED	
SHEET	C3.00

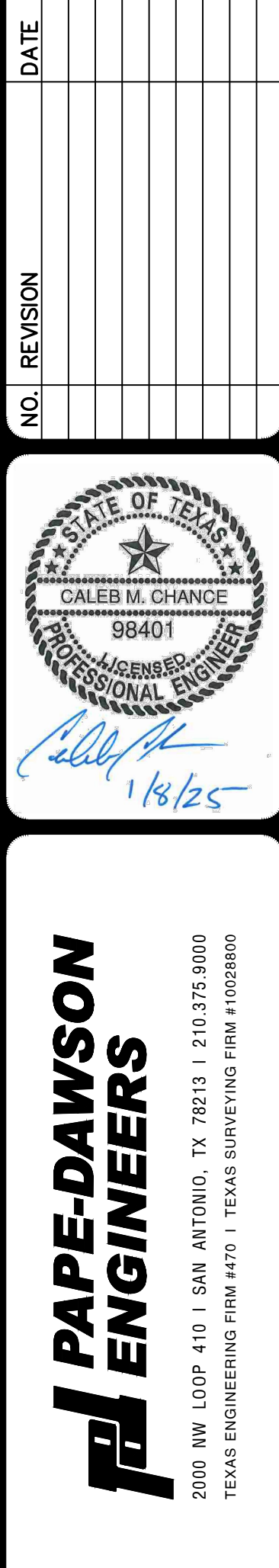




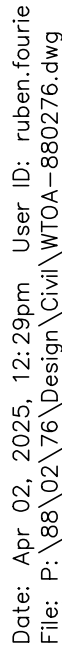










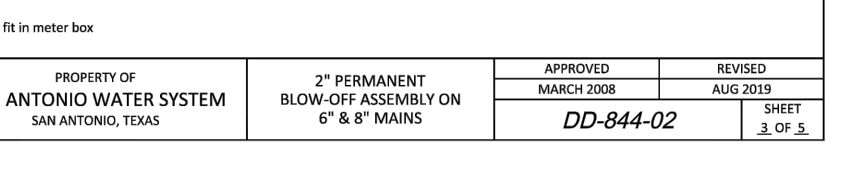
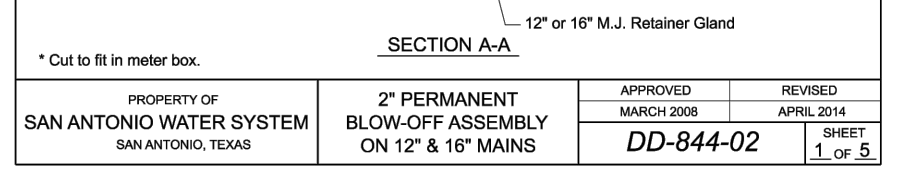
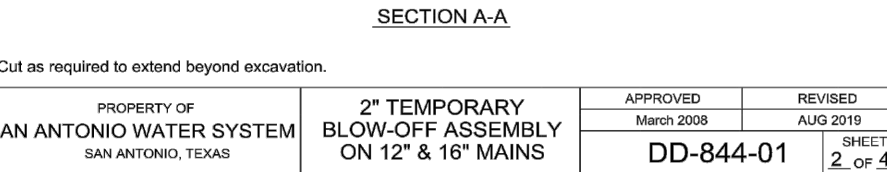
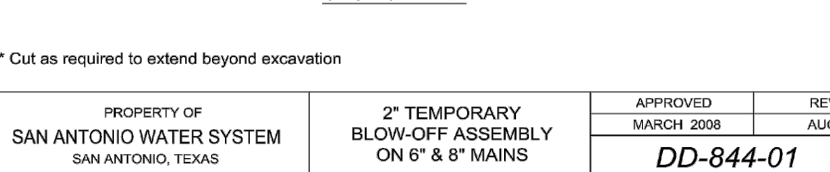
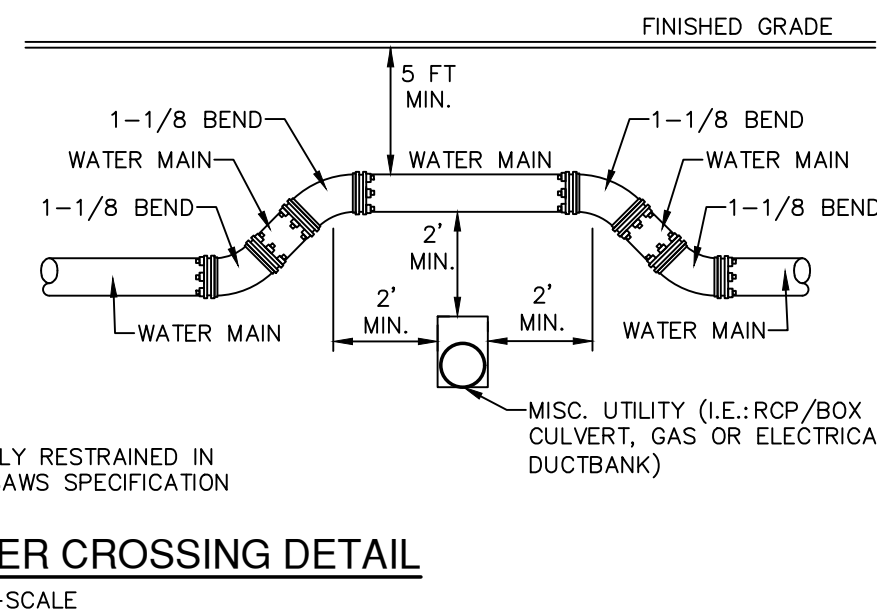
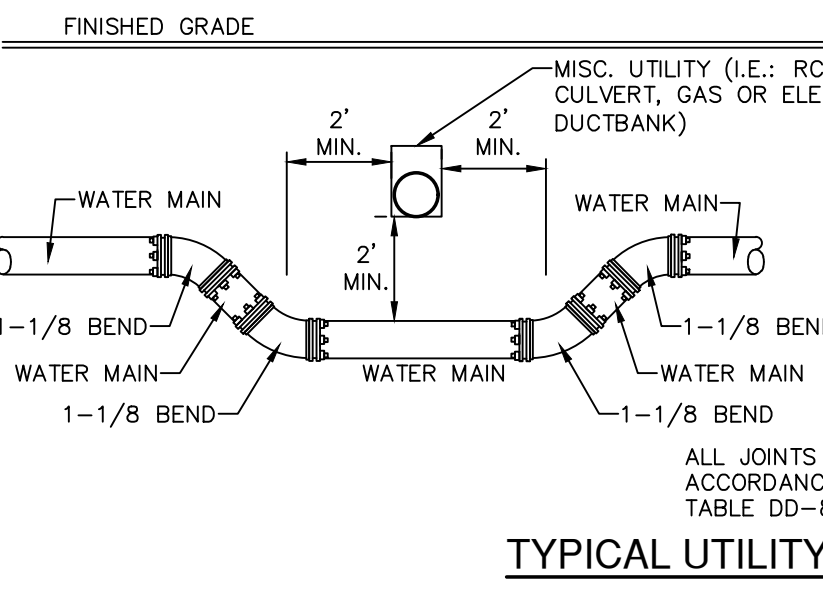
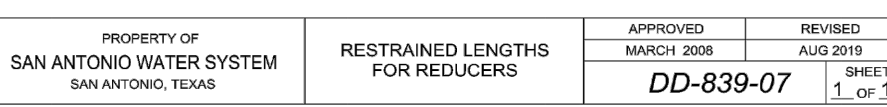
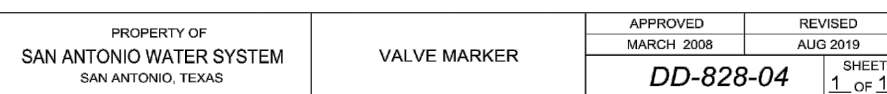
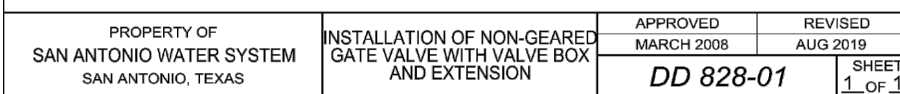
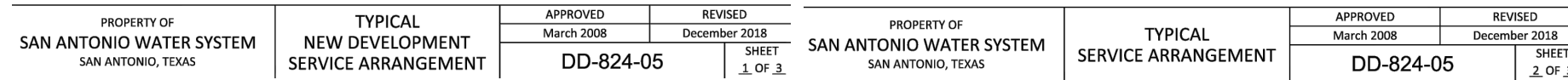


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# OVERALL WATER DISTRIBUTION PLAN

PLAT NO. 25-11800016  
JOB NO. 8802-76  
DATE JANUARY 2025  
DESIGNER \_\_\_\_\_  
CHECKED \_\_\_\_\_ DRAWN \_\_\_\_\_  
SHEET **C4.00**







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:
  - A.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.
  - B.CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
  - C.CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
  - D.CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
  - E.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 MARKERS 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 WATER NOTES

- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION 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.
  - FOR WATER MAINS 12" OR HIGHER: SAWS EMERGENCY OPERATIONS CENTER (210) 233-2014
- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS- CONTAINING MATERIAL (ACM), MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
- VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSP)
- SUITABLE ANCHORAGE/THRUST BLOCKING OR JOINT RESTRAINT SHALL BE PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS, PLUGS, CAPS, TEES, CROSSES, VALVES, AND BENDS. IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- ALL VALVES SHALL READ "OPEN RIGHT".
- PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF            FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW            FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IF \*PRV IS/ARE REQUIRED FOR SUCH LOT(S), ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. \*NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).
- PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM NO. 847.3): MAINS SHALL BE DISINFECTED WITH DRY HTH WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FEET. THIS METHOD OF DISINFECTION WILL ALSO BE FOLLOWED FOR MAIN REPAIRS. THE CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURE TO PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.
- BACKFLOW PREVENTION DEVICES:
  - ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACKFLOW PREVENTION DEVICES.
  - ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY SAWS PRIOR TO INSTALLATION.
- FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
- DIVISION VALVES: DIVISION VALVES SHOWN ON PLANS OR NOT SHOWN ON PLANS BUT FOUND IN THE FIELD SHALL ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF AND ONLY WITH PRIOR WRITTEN APPROVAL OF THE SAWS DIRECTOR OF PRODUCTION AND OPERATIONS AND PROPER COORDINATION WITH ALL SAWS DEPARTMENTS. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE INSPECTOR A MINIMUM OF TWO WEEKS IN ADVANCE TO START THE COORDINATION PROCESS AND WILL BE INFORMED BY THE INSPECTOR WHEN THE DIVISION VALVE WILL BE OPERATED BY THE SAWS DISTRIBUTION AND COLLECTION STAFF. THE DIVISION VALVE CAN ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF MEMBER NOT THE INSPECTOR OR THE CONTRACTOR. OPERATION OF A DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE SAWS DISTRIBUTION AND COLLECTION STAFF WILL CONSTITUTE A MATERIAL BREACH OF ANY WRITTEN SAWS CONTRACT OR PERMIT IN ADDITION TO SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINES, FEES, OR OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, THAT MAY ARISE FROM OR BE CAUSED BY THE OPERATION OF THE VALVE WITHOUT PRIOR WRITTEN PERMISSION. PLEASE BE INFORMED THAT THE APPROVAL OF THE OPERATION OR OPENING OR CLOSING OF A DIVISION VALVE CAN TAKE SEVERAL WEEKS FOR APPROVAL. DIVISION VALVES WILL ALSO HAVE A VALVE LID LABELED DIVISION VALVE AND A LOCKING MECHANISM INSTALLED WITH A KEY. THE LOCK AND KEY MECHANISM WILL BE PAID FOR BY THE CONTRACTOR BUT WILL BE INSTALLED BY SAWS DISTRIBUTION AND COLLECTION STAFF.

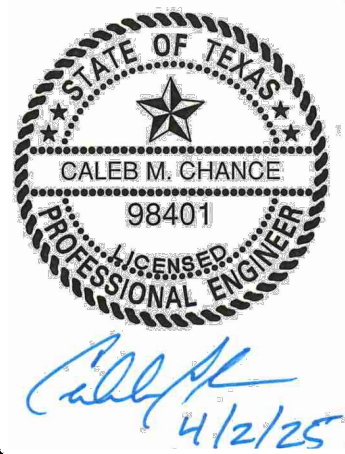
PROJECT WATER NOTES

- MACHINE CHLORINATION BY THE S.A.W.S.
- ALL 8", 12" AND 16" PIPE SHALL BE P.V.C. C-900 CLASS 235 DR 18.
- ALL MAINS SHALL BE HYDROSTATICALLY TESTED BY THE CONTRACTOR, AS PROVIDED FOR IN THE SPECIAL CONDITIONS.
- THE WATER LINES WILL BE SET FROM THE STREET HUBS BEFORE THIS CONTRACT BEGINS. STREET CUT SHEETS WILL BE SUPPLIED TO THE CONTRACTOR. THERE SHOULD BE NO ADDITIONAL STAKES REQUIRED, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE SITE AND VERIFY THAT ALL STAKES REQUIRED FOR HIS WORK ARE IN PLACE AT THE TIME THE CONSTRUCTION BEGINS. IF ANY STAKES ARE MISSING THE ENGINEER SHOULD BE NOTIFIED IMMEDIATELY. AFTER CONSTRUCTION BEGINS, ALL CONSTRUCTION STAKES, MARKS, ETC., SHALL BE CAREFULLY PRESERVED BY THE CONTRACTOR, AND IN CASE OF DESTRUCTION OR REMOVAL BY THE CONTRACTOR, HIS EMPLOYEE OR ANY OTHER MEANS, SUCH STAKES, MARKS, ETC., SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH ALL THE FINAL MEASUREMENTS, TAPS AND LENGTH OF SERVICE CONNECTIONS.
- THE LOT CORNERS WILL BE SET BY THE ENGINEER FOR INSTALLATION OF ALL WATER SERVICES. THESE LOT CORNERS SHALL BE CAREFULLY PRESERVED BY THE CONTRACTOR SO THE METER BOXES CAN BE SET IN PHASE II. ANY LOT CORNER DESTROYED OR REMOVED BY THE CONTRACTOR, HIS EMPLOYEES, OR BY ANY OTHER MEANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- STREETS WILL HAVE BEEN EXCAVATED DOWN TO SUBGRADE AND THE PARKWAY WILL BE CUT DOWN TO TOP OF CURB BY THE STREET CONTRACTOR, PRIOR TO CONSTRUCTION OF THE WATER MAINS. IT WILL BE THE UTILITY CONTRACTOR'S RESPONSIBILITY TO PROVIDE A PAD FOR HIS EQUIPMENT.
- WATER METER BOXES IF APPLICABLE SHALL BE INSTALLED NINE FEET FROM FACE OF CURB TO CENTER OF THE METER BOX.
- ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
- FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED AND THE S.A.W.S. RELEASES THE MAIN FOR TIE-IN AND USE.
- UNIT PRICE BID FOR "STANDARD FIRE HYDRANT ASSEMBLY" SHALL INCLUDE FIRE HYDRANT, 6-INCH GATE VALVE AND 6-INCH VALVE BOX COMPLETE, ANCHOR BEND, AND ALL 6-INCH DI PIPE REQUIRED (DI PIPE REQUIRED SHALL INCLUDE ALL PIPE FROM THE TEE ON THE MAIN LINE TO THE FIRE HYDRANT).
- WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS" (1988 OR ANY REVISIONS THERETO).
- A CLEAR SPACE SHALL BE PROVIDED AROUND ALL FIRE HYDRANTS. THIS AREA SHOULD HAVE A MINIMUM DIAMETER OF 3.0' AND BE CLEAN OF VERTICAL OBSTRUCTIONS, VALVES, AND METER BOXES.
- SAWS REQUIRES LEAD FREE (< 0.25%) FIRE HYDRANTS.
- UNLESS OTHERWISE NOTED ALL SERVICES SHALL BE 3/4" WITH 5/8" METER.

WATER (SAWS PRESSURE ZONE 11A)

DEVELOPER'S NAME: <b>KINDER RANCH GALE INVESTMENT</b>			
ADDRESS: <b>11 LYNN BATTS LANE, SUITE 100</b>			
CITY: <b>SAN ANTONIO</b>	STATE: <b>TEXAS</b>	ZIP: <b>78218</b>	
PHONE# <b>(210) 828-6131</b>	FAX# <b>(210) 828-6137</b>		
SAWS BLOCK MAP# <b>184-684</b> TOTAL EDU'S <b>.62</b> TOTAL ACREAGE <b>18.704</b>			
TOTAL LINEAR FOOTAGE OF PIPE: <b>8" ~ 3,376 LF</b> PLAT NO. <b>25-11800016</b>			
NUMBER OF LOTS <b>64</b>		SAWS JOB NO. <b>25-1021</b>	

NO.	REVISION	DATE



**PAPE-DAWSON**  
**ENGINEERS**

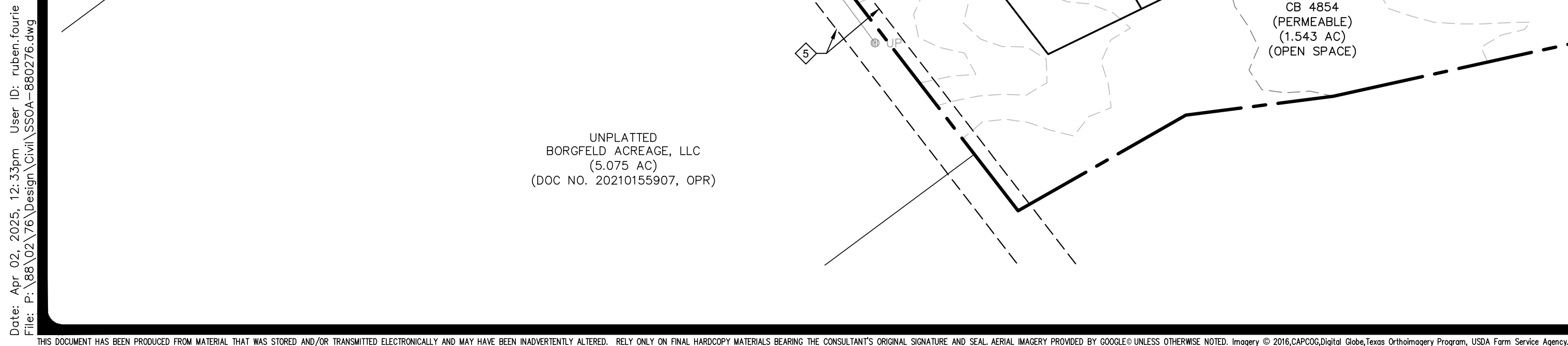
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008800

KINDER GALE UNIT 2  
 SAN ANTONIO, TEXAS

WATER NOTES

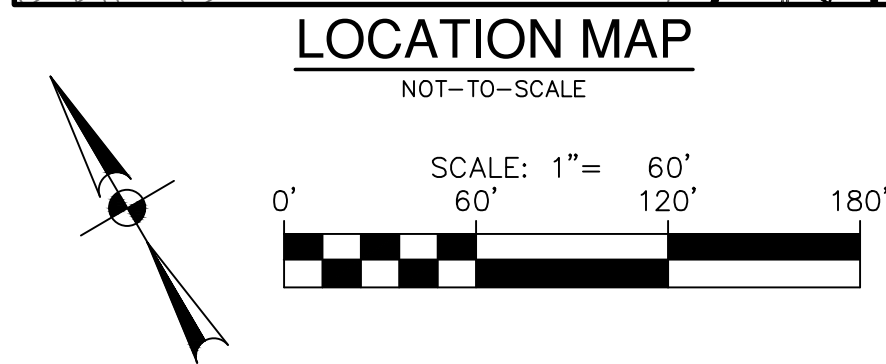
PLAT NO.	25-11800016
JOB NO.	8802-76
DATE	JANUARY 2025
DESIGNER	
CHECKED	DRAWN
SHEET	C4.11





13	10' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT
14	15' DRAINAGE AND ACCESS EASEMENT (0.025 AC)
15	15' BUILDING SETBACK LINE
16	VARIABLE WIDTH GRADING EASEMENT (0.009 AC)
17	5' WATER EASEMENT
18	50/50' DRAINAGE, SEWER AND WATER EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED PUBLIC-STREET RIGHT-OF-WAY (PERMEABLE) (OFF-LOT) (0.057 AC)
19	VARIABLE WIDTH DRAINAGE AND UTILITY EASEMENT TO EXPIRE UPON INCORPORATION INTO PLATTED PUBLIC STREET RIGHT-OF-WAY (PERMEABLE) (OFF-LOT) (0.023 AC)
20	15' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT
21	EXISTING 1% (100 YR) ANNUAL CHANCE FEMA FLOODPLAIN AREA 48050021018
22	PROPOSED 100 AC U/LTIMATE FLOODPLAIN PER FCA STUDY PREPARED BY J. DAWSON ENGINEERS (CASE NO. 18-06 43425R)

- 1 10' ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL 20002 PGS 2238-2241, PR)
- 2 10' BUILDING SETBACK LINE  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL 20002 PGS 2238-2241, PR)
- 3 5' x 50' WATER EASEMENT  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL 20002 PGS 2238-2241, PR)
- 4 15' ELECTRIC, GAS, TELEPHONE & CABLE TV EASEMENT  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL 20002 PGS 2238-2241, PR)
- 5 28' ELECTRIC EASEMENT (OFF-LOT: 1.899 ACRE) (PERMEABLE)  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL 20002 PGS 2238-2241, PR)
- 6 16' DRAINAGE EASEMENT  
(OFF-LOT: 0.182 ACRE)  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL 20002 PGS 2238-2241, PR)



PROJECT LIMITS

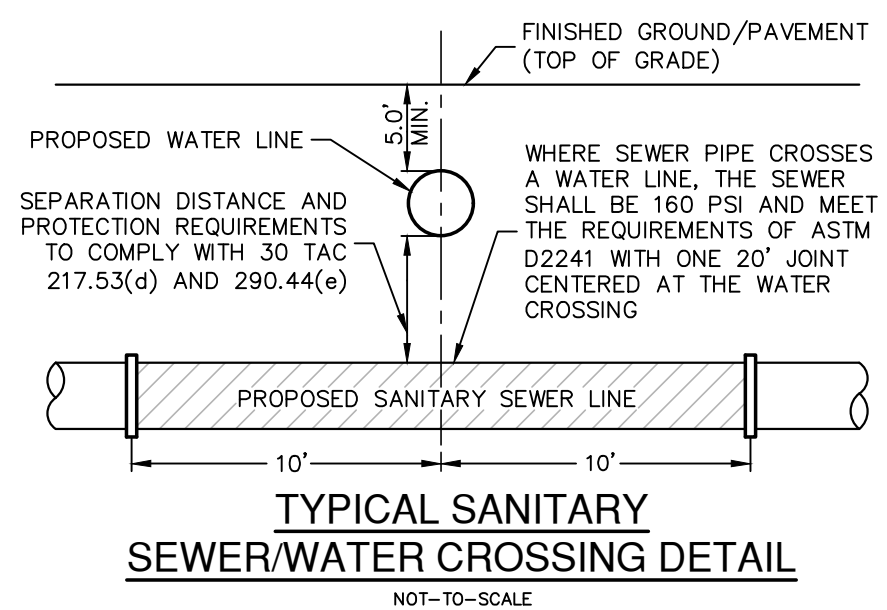
EXISTING WATER

EXISTING SEWER

PROPOSED SEWER

MANHOLE

- PROPOSED WATER
- PROPOSED SEWER LATERAL
- FINISHED FLOOR ELEVATION  
FOR SEWER
- FF = XXXX.XX



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 BE REQUIRED TO DIG TEST A MINIMUM OF 4 FEET 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.

1. THE FINISHED FLOOR ELEVATIONS (FF) REPRESENT THE MINIMUM POSSIBLE FLOOR ELEVATIONS TO PROVIDE SANITARY SEWER SERVICE TO EACH LOT. ACTUAL FINISHED FLOOR ELEVATIONS FOR EACH LOT ARE TO BE DETERMINED BY THE BUILDER AND SHALL TAKE INTO CONSIDERATION AS-BUILT CONDITIONS FOR FOUND SEWER SERVICES AND ACTUAL LATERAL PLACEMENT. IT IS THE BUILDER'S SOLE RESPONSIBILITY TO DETERMINE ACTUAL FINISHED FLOOR ELEVATIONS FOR EACH LOT PRIOR TO THE START OF HOME FOUNDATION CONSTRUCTION TAKING INTO CONSIDERATION SITE DRAINAGE, STREET ACCESS AND SANITARY SEWER SERVICE ELEVATIONS.

2. THE MINIMUM SANITARY SEWER LATERAL GRADES WERE BASED UPON THE MINIMUM FINISHED FLOOR ELEVATIONS FOR THE LOTS LOCATED ON THE DOWNHILL SIDES OF THE PROPOSED ROADWAYS.

A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHTS-OF-WAY.

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 TO DETERMINE THAT THE PROPOSED 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 SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH THE MINIMUM TRENCH SAFETY AND SHIELDING ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

DEVELOPER'S NAME: KINDER RANCH GALE INVESTMENT  
ADDRESS: 11 LYNN BATTS LANE, SUITE 100  
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78218  
PHONE# (210) 828-6131 FAX# (210) 828-6137  
SAWS BLOCK MAP# 164-684 TOTAL EDU'S 62 TOTAL ACREAGE 18.704  
TOTAL LINEAR FOOTAGE OF PIPE: 8" 1.093 LF PLAT NO 25-11800016  
NUMBER OF LOTS 64 SAWS JOB NO 25-1511



**PAPE-DAWSON  
ENGINEERS**

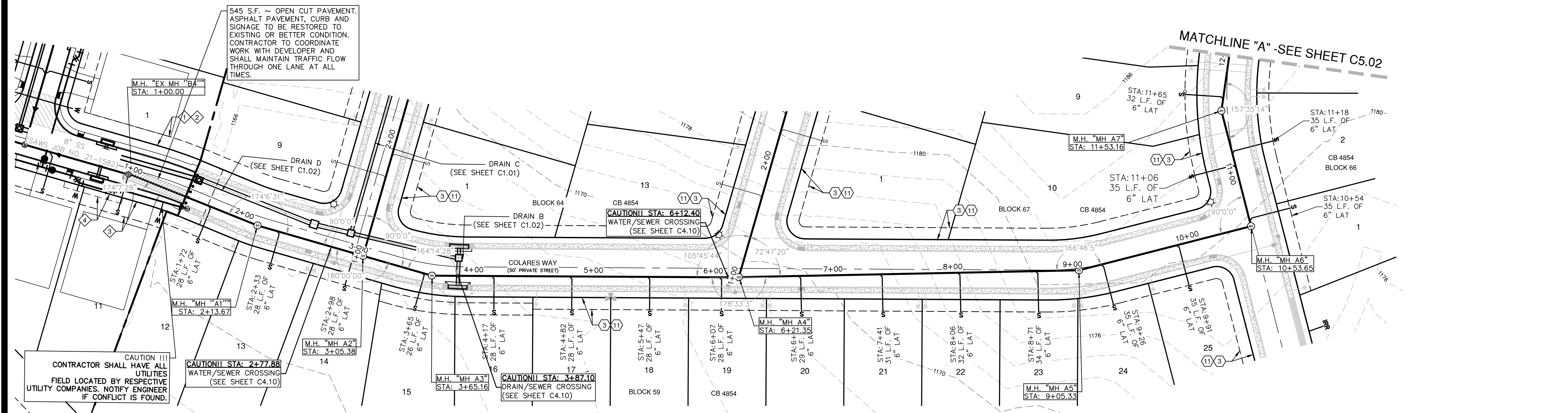
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

**KINDER GALE UNIT 2**  
**SAN ANTONIO, TEXAS**

# OVERALL SANITARY SEWER PLAN

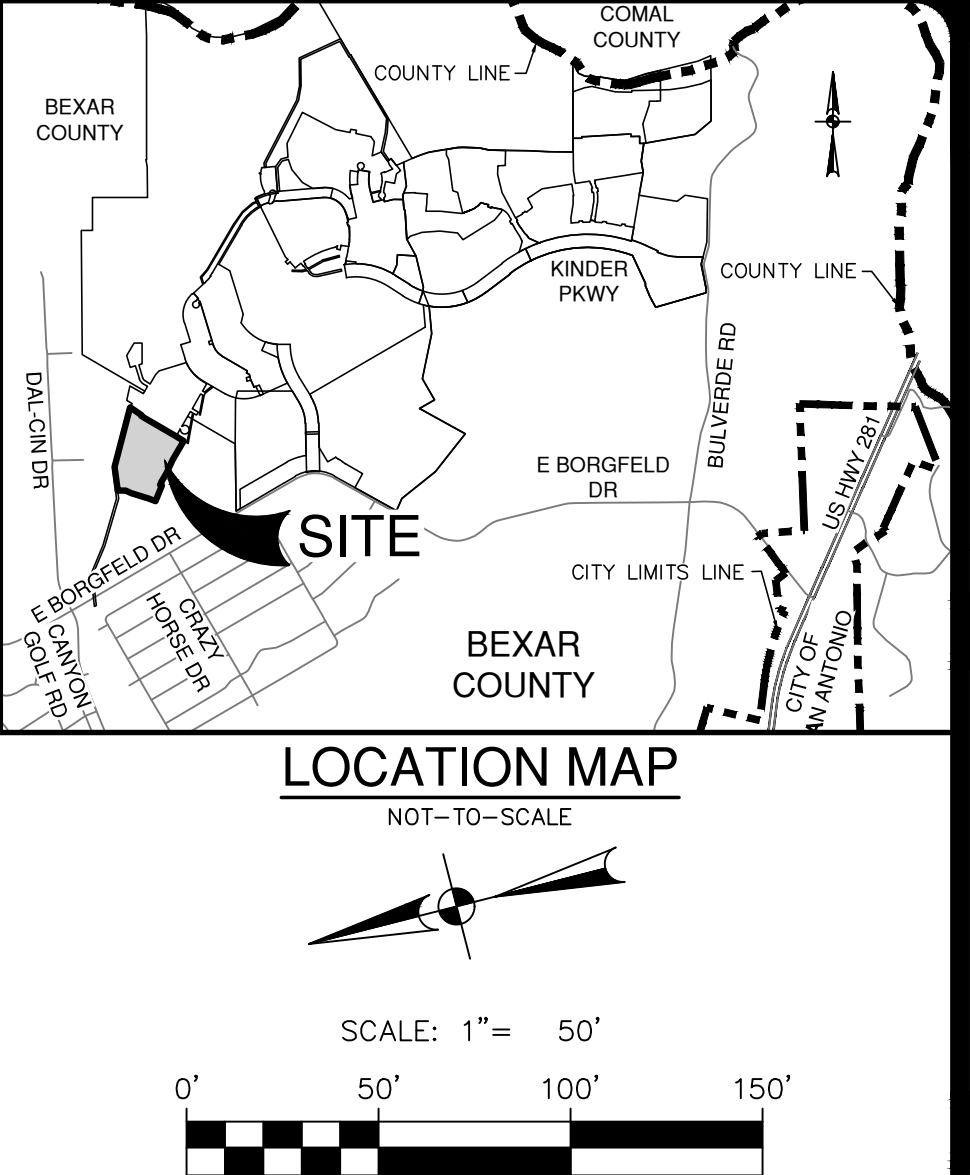
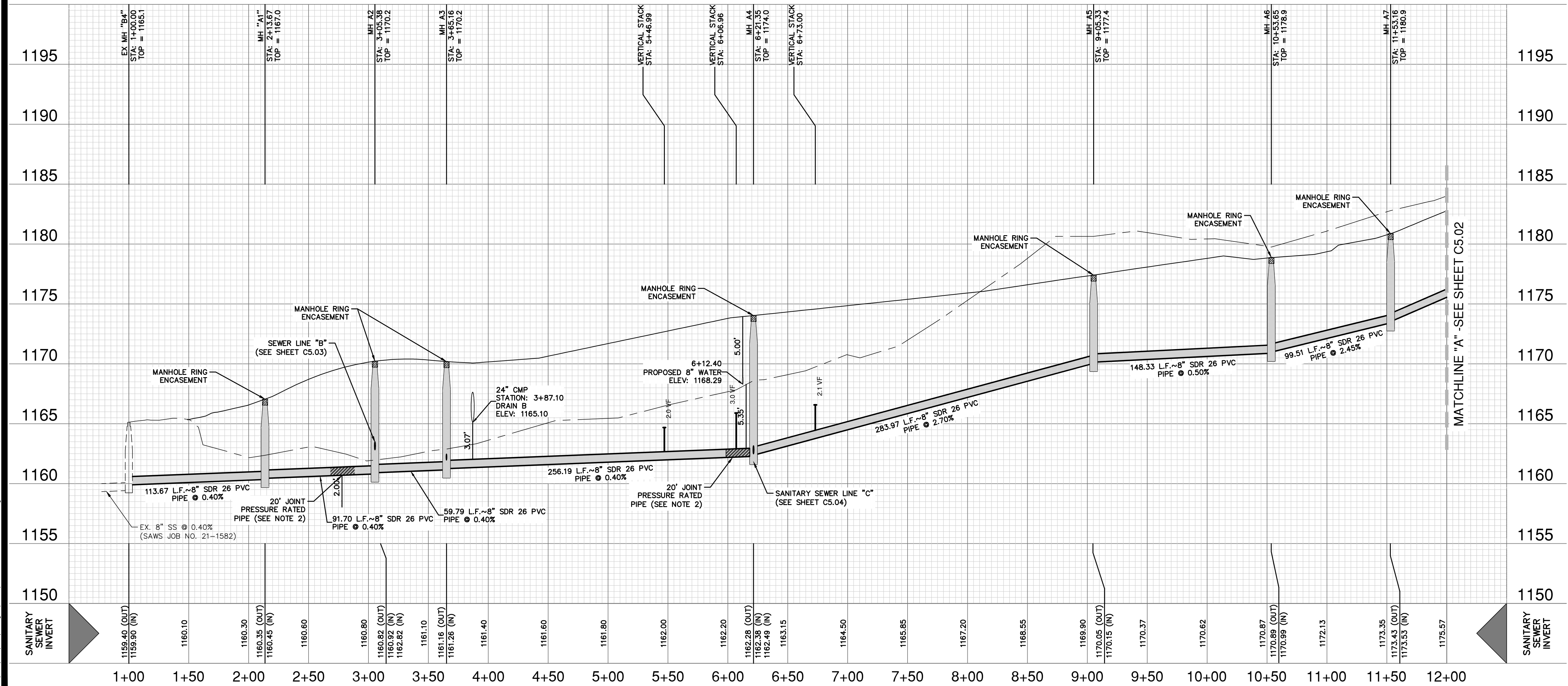
PLAT NO. 25-11800016  
JOB NO. 8802-76  
DATE JANUARY 2025  
DESIGNER \_\_\_\_\_  
CHECKED \_\_\_\_\_ DRAWN \_\_\_\_\_  
SHEET **C5.00**





SANITARY SEWER LINE "A"  
STA. 1+00.00 TO STA. 12+00.00

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



DATE: \_\_\_\_\_

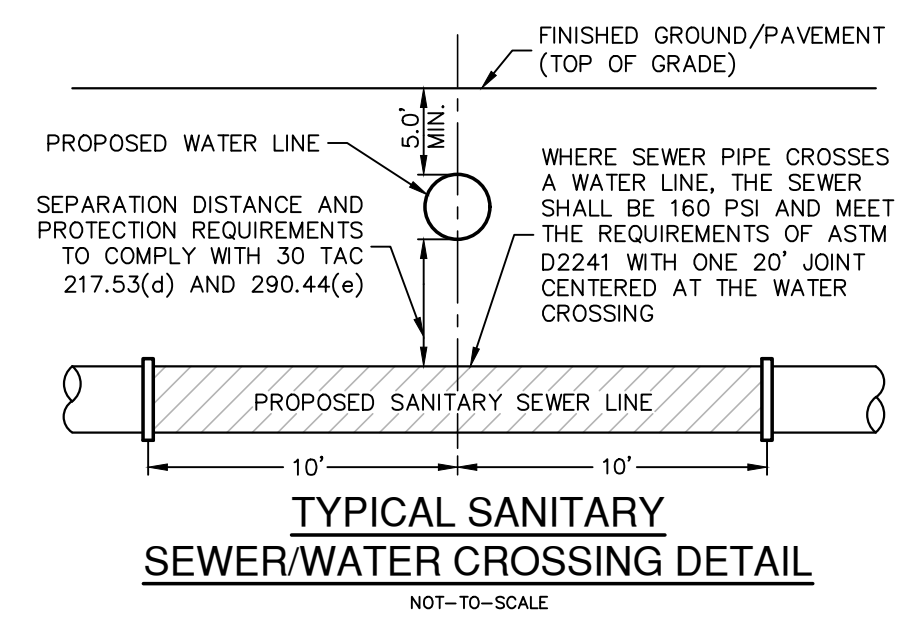
NO. REVISION: \_\_\_\_\_

STATE OF TEXAS  
CALEB M. CHANGE  
98401  
PROFESSIONAL ENGINEER

*Cole*  
4/12/25

**PAPE-DAWSON**  
**ENGINEERS**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10038800



**CAUTION!!**  
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**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: (DOS RIOS SEWERSHED)**

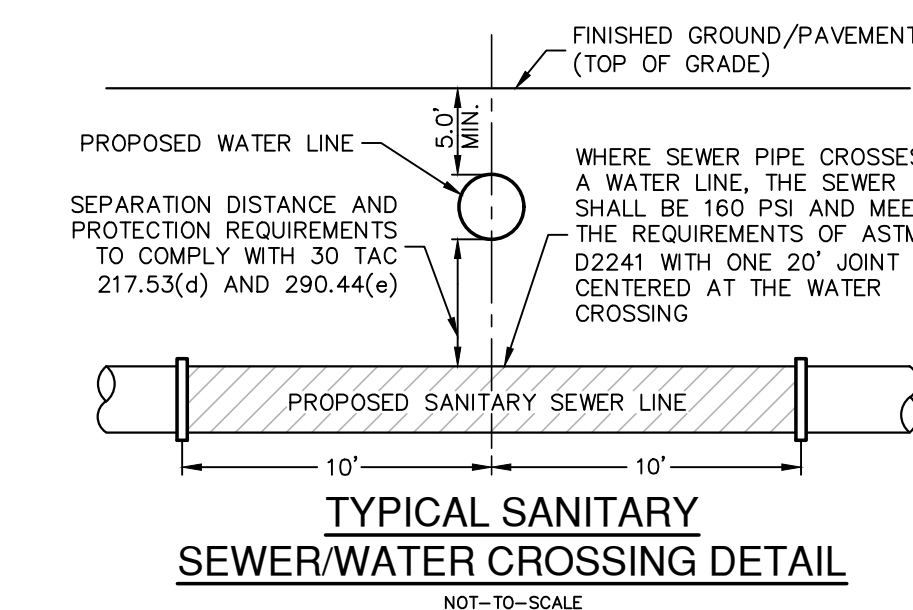
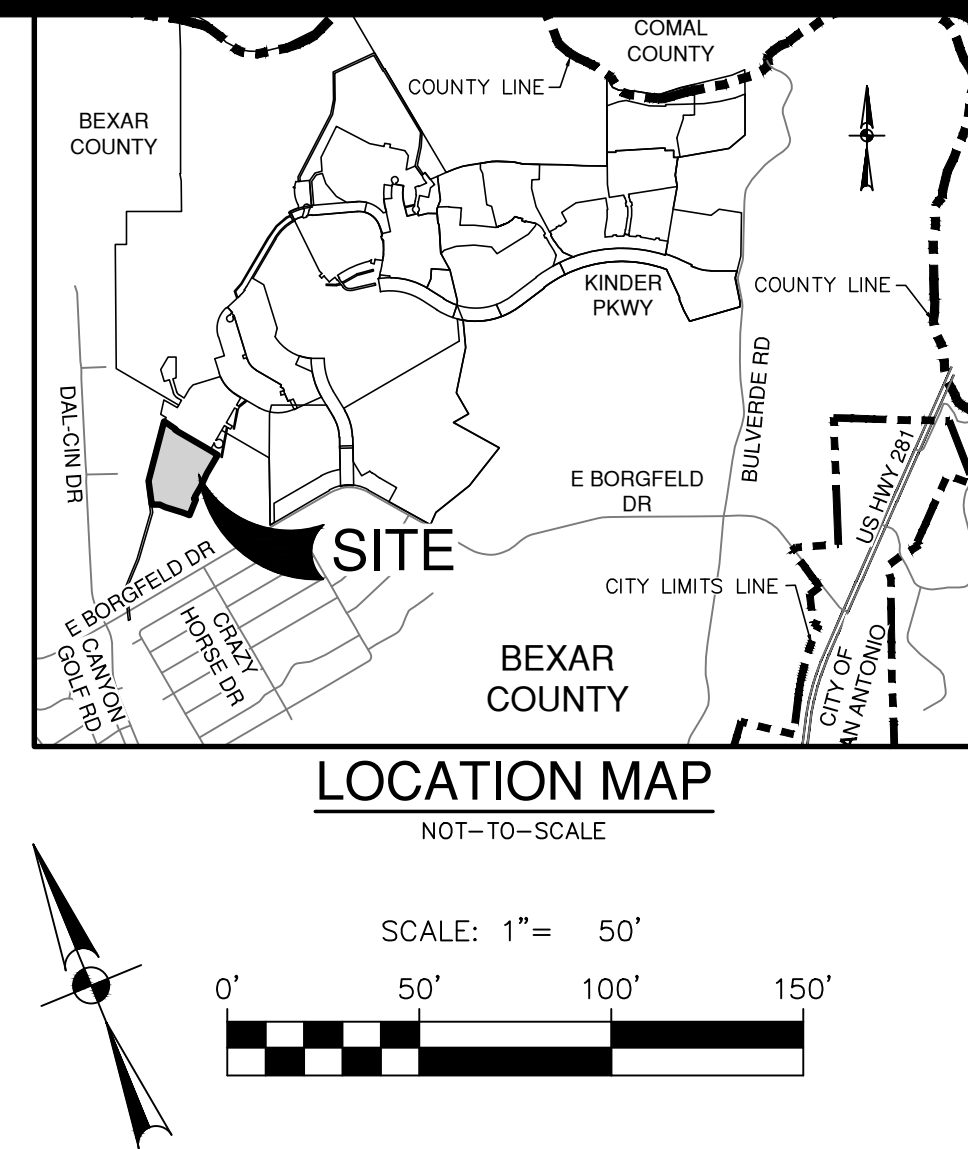
DEVELOPER'S NAME: KINDER RANCH GALE INVESTMENT			
ADDRESS: 11 LYNN BATTS LANE, SUITE 100			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78218	
PHONE# (210) 828-6131	FAX# (210) 828-6137		
SAWS BLOCK MAP# 164-684 TOTAL EDU'S .62 TOTAL ACREAGE 18.204			
TOTAL LINEAR FOOTAGE OF PIPE: 8" 1,093 LF PLAT NO. 25-11800016			
NUMBER OF LOTS 64 SAWS JOB NO. 25-1511			

**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS

**SANITARY SEWER LINE "A" PLAN & PROFILE**  
STA. 1+00.00 TO STA. 12+00.00

PLAT NO.	25-11800016
JOB NO.	8802-76
DATE	JANUARY 2025
DESIGNER	
CHECKED	DRAWN
SHEET	C5.01





**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 AND LOCATE ANY CONFLICTS PRIOR TO CONSTRUCTION. 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 OF 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 PRIOR TO ANY ATTEMPT TO IMPLEMENT THE 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 BE SUBJECT TO INSPECTION AND VERIFICATION BY 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 COMPLY WITH ALL TRENCH EXCAVATION STANDARDS IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ANCHORS OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

**SEWER: DOS RIOS SEWERSHED**

DEVELOPER'S NAME: KINDER RANCH GALE INVESTMENT  
ADDRESS: 11 LYNN BATTS LANE, SUITE 100  
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78218  
PHONE# (210) 828-6131 FAX# (210) 828-6137  
SAWS BLOCK MAP# 164-684 TOTAL EDU'S 62 TOTAL ACREAGE 18.70  
TOTAL LINEAR FOOTAGE OF PIPE: 8" 1,093 LF PLAT NO. 25-1180001  
NUMBER OF LOTS 64 SAWS JOB NO. 25-1511

[illegible]

**PAPE-DAWSON  
PE ENGINEERS**  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

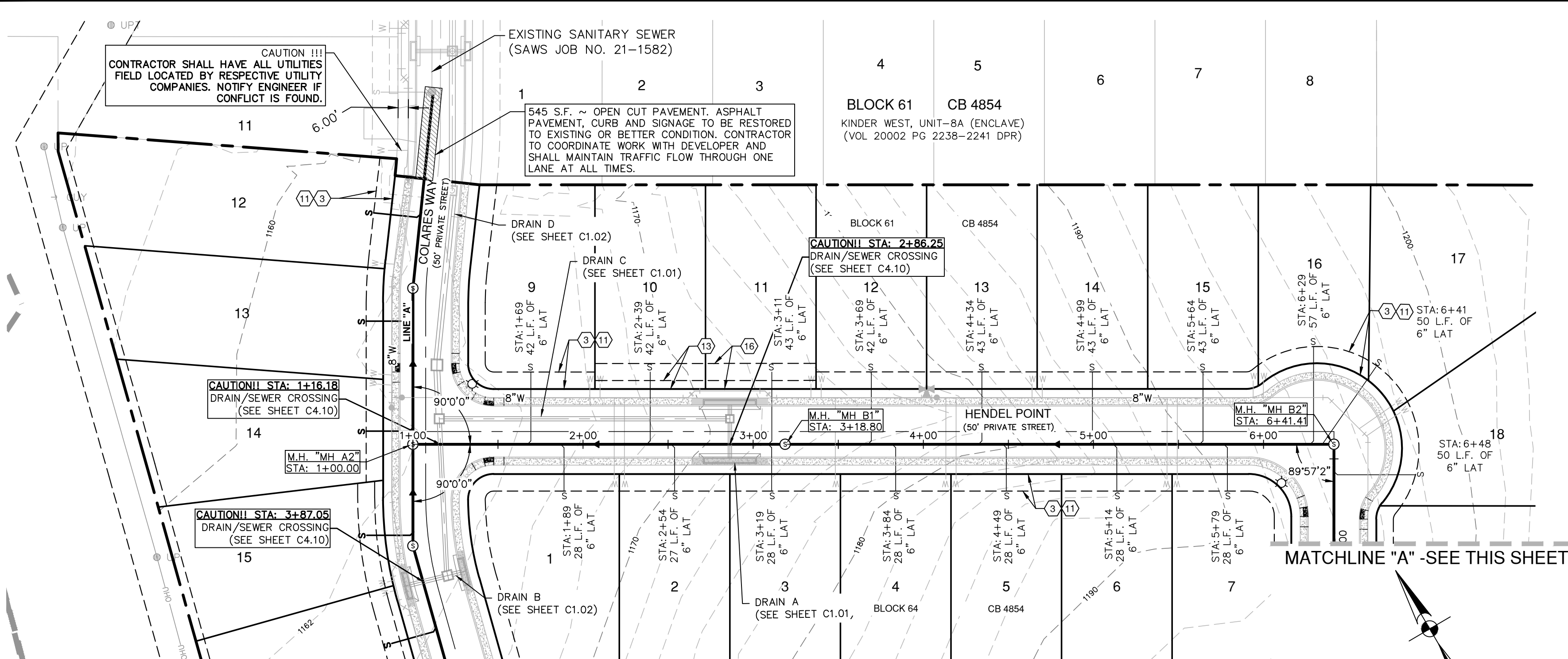
KINDER GALE UNIT 2  
SAN ANTONIO, TEXAS  
SANITARY SEWER LINE "A" PLAN & PROFILE  
STA. 12+00.00 TO END

PLAT NO. 25-11800016  
JOB NO. 8802-76  
DATE JANUARY 2025  
DESIGNER \_\_\_\_\_  
CHECKED \_\_\_\_\_ DRAWN \_\_\_\_\_  
SHEET **C5.02**

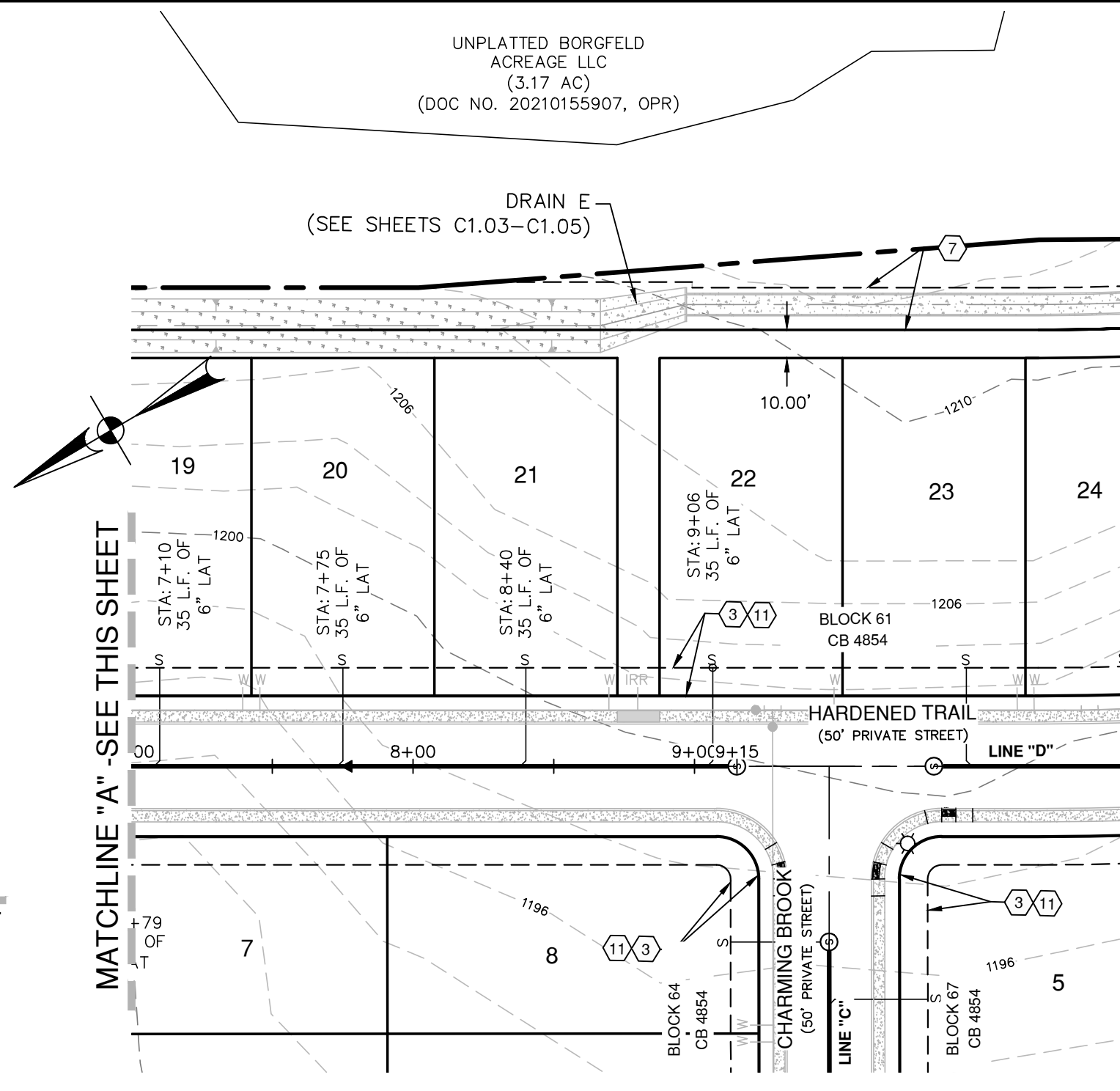


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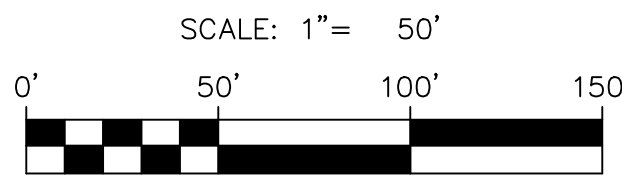
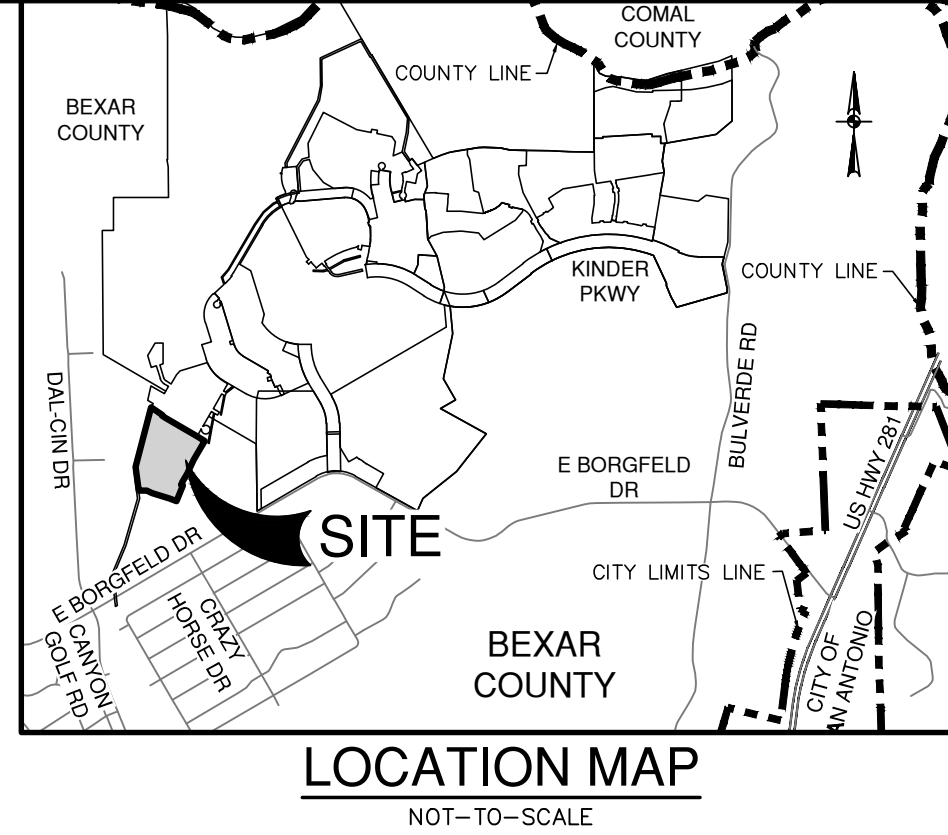
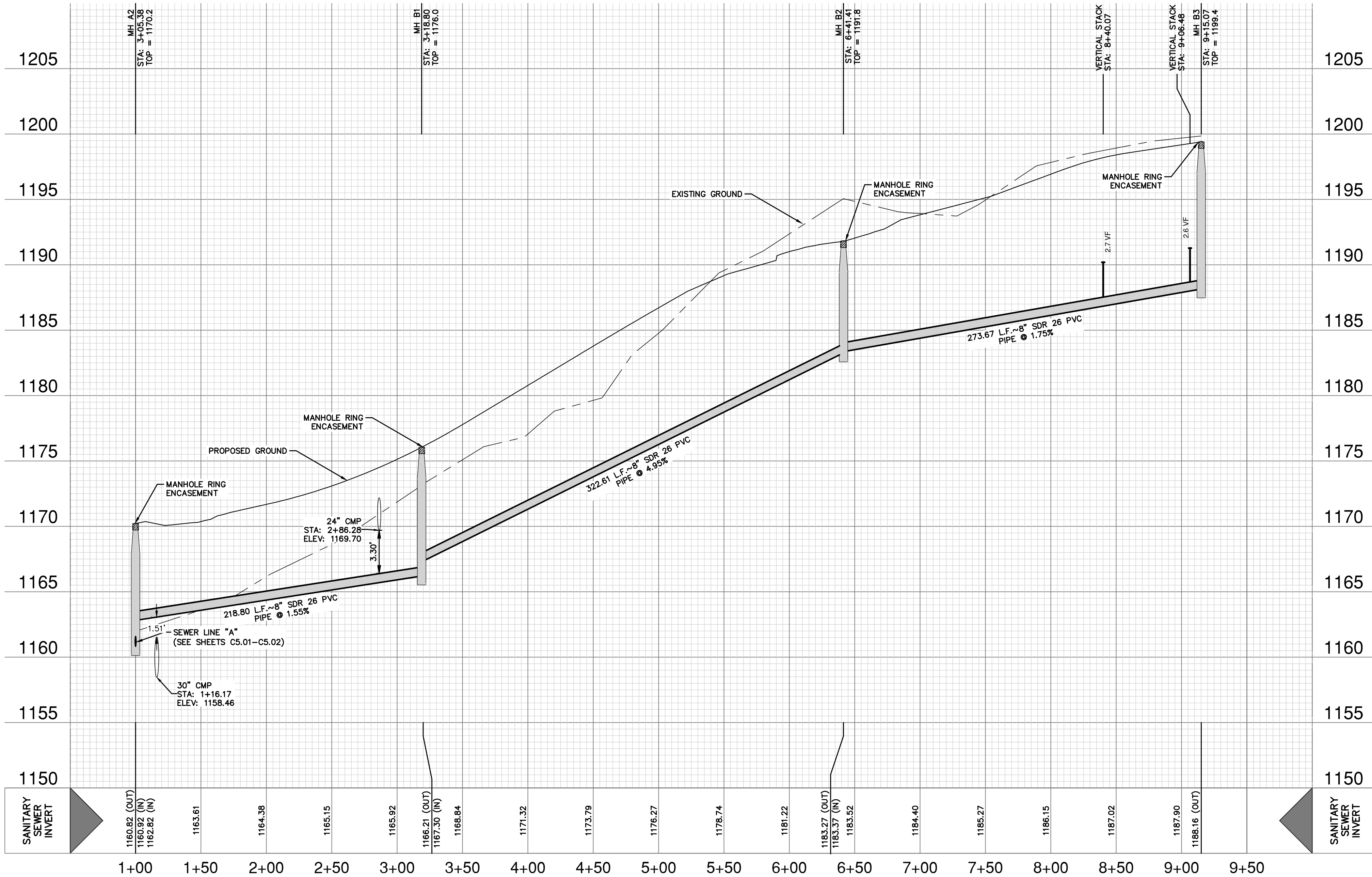
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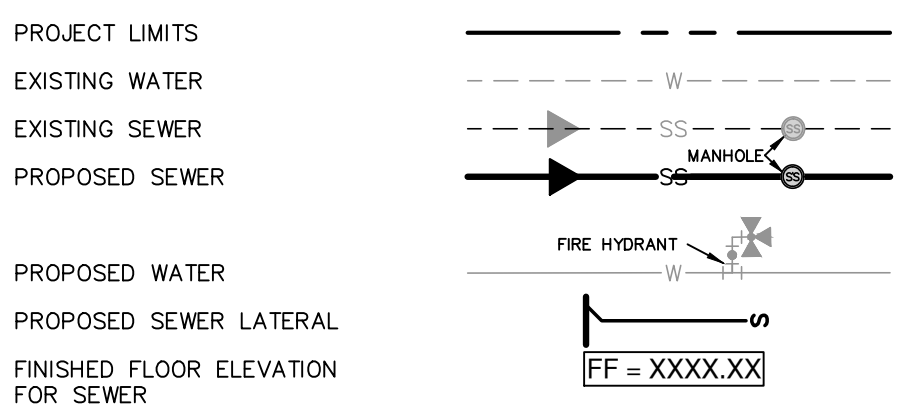
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STA. 1+00.00 TO END



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

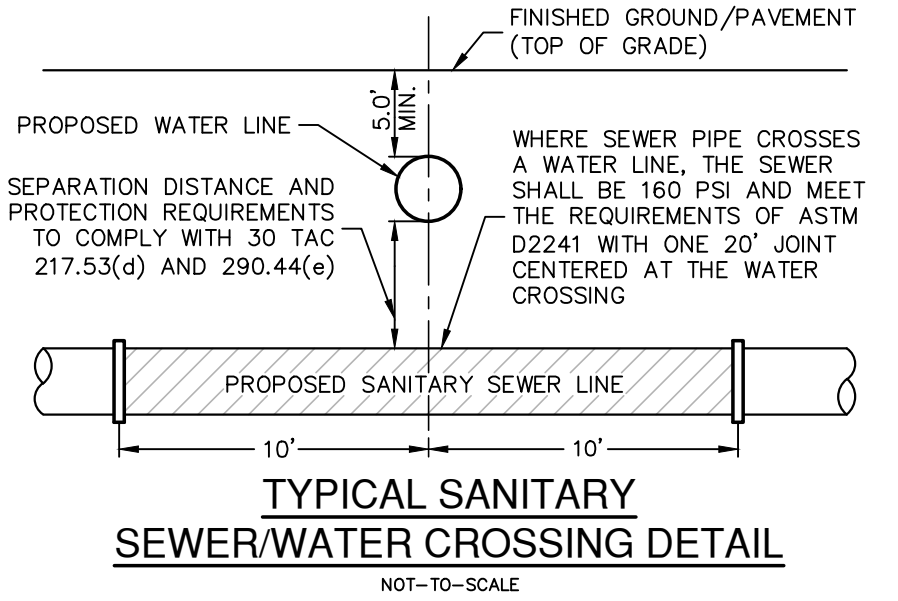


### SEWER LEGEND



### KEYED NOTES:

- 10' GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT
- 15' DRAINAGE AND ACCESS EASEMENT (0.250 AC)
- 10' BUILDING SETBACK LINE



### CAUTION!!

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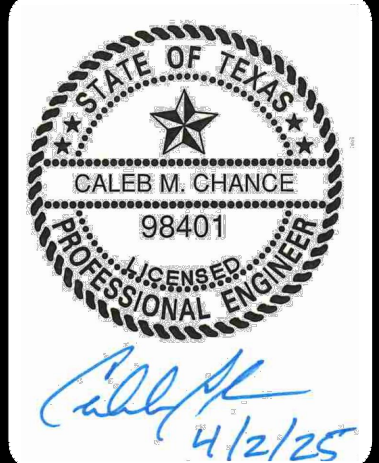
### TRENCH EXCAVATION SAFETY PROTECTION:

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### SEWER: (DOS RIOS SEWERSHED)

DEVELOPER'S NAME: KINDER RANCH GALE INVESTMENT			
ADDRESS: 11 LYNN BATTS LANE, SUITE 100			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78218	
PHONE# (210) 828-6131	FAX# (210) 828-6137		
SAWS BLOCK MAP# 164-684 TOTAL EDU'S .62 TOTAL ACREAGE 18.204			
TOTAL LINEAR FOOTAGE OF PIPE: 8" 1,093 LF PLAT NO. 25-11800016			
NUMBER OF LOTS 64 SAWS JOB NO. 25-1511			

DATE
NO. REVISION

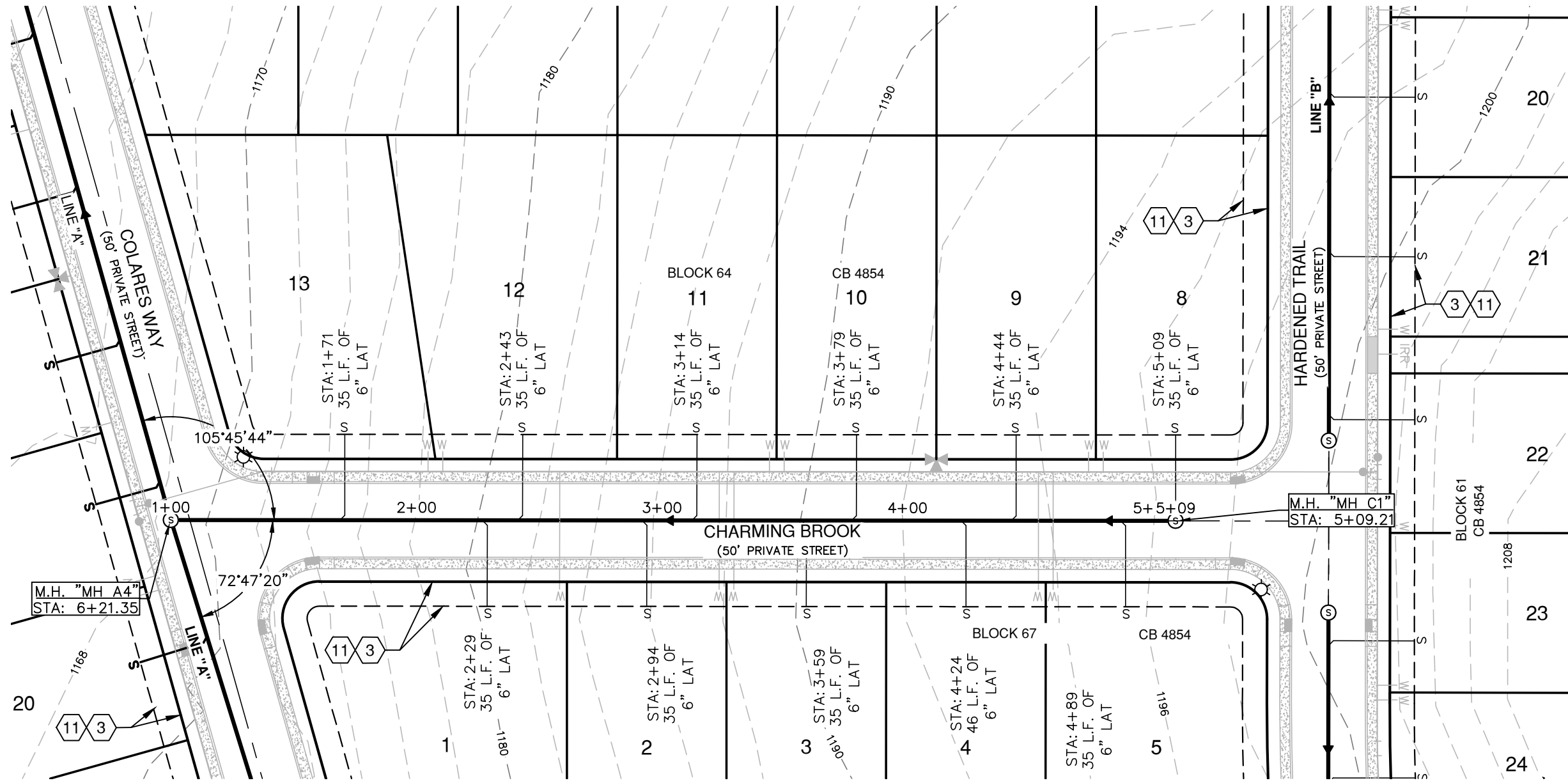


**PAPE-DAWSON ENGINEERS**  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008800

**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS  
SANITARY SEWER LINE "B" PLAN & PROFILE  
STA. 1+00.00 TO END

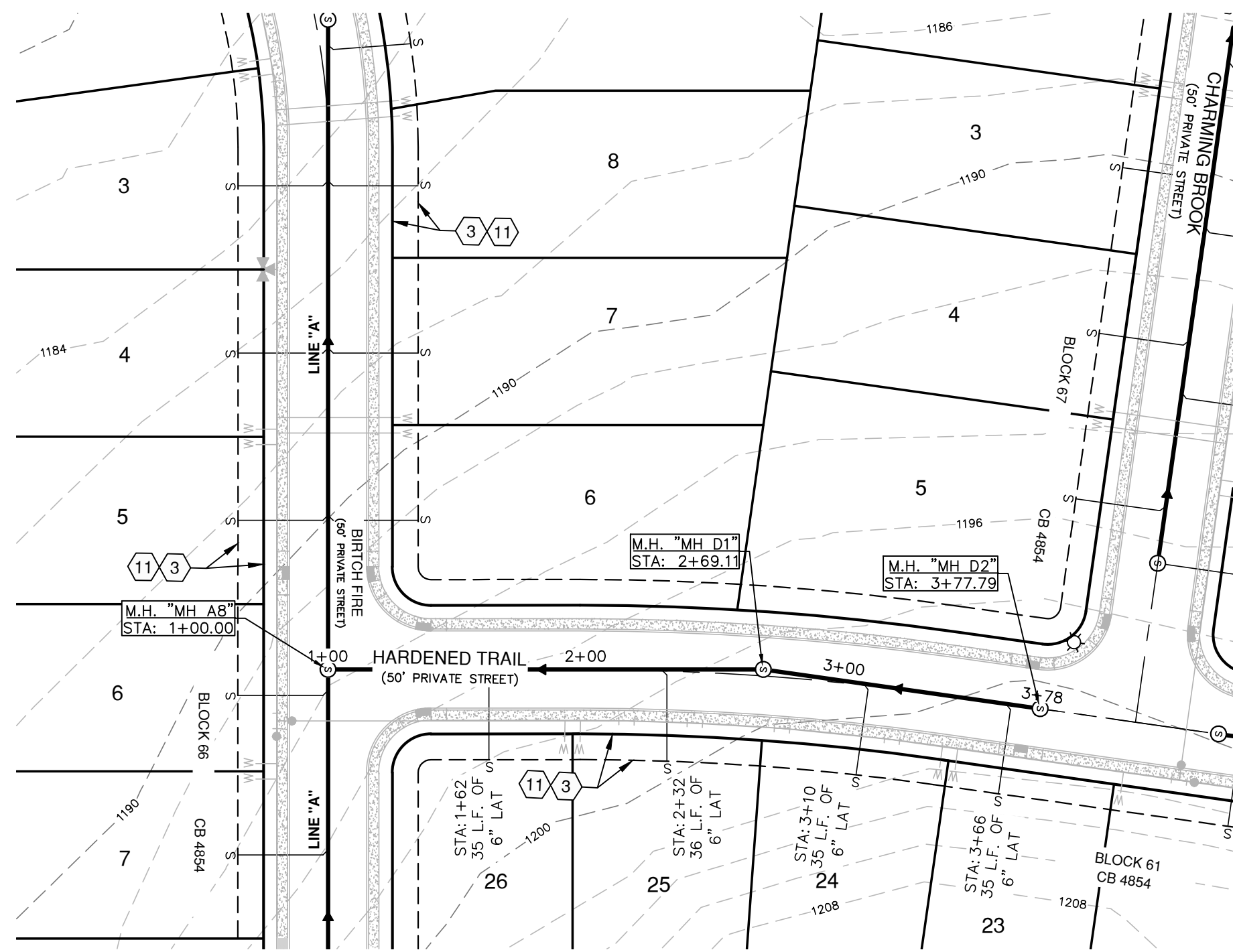
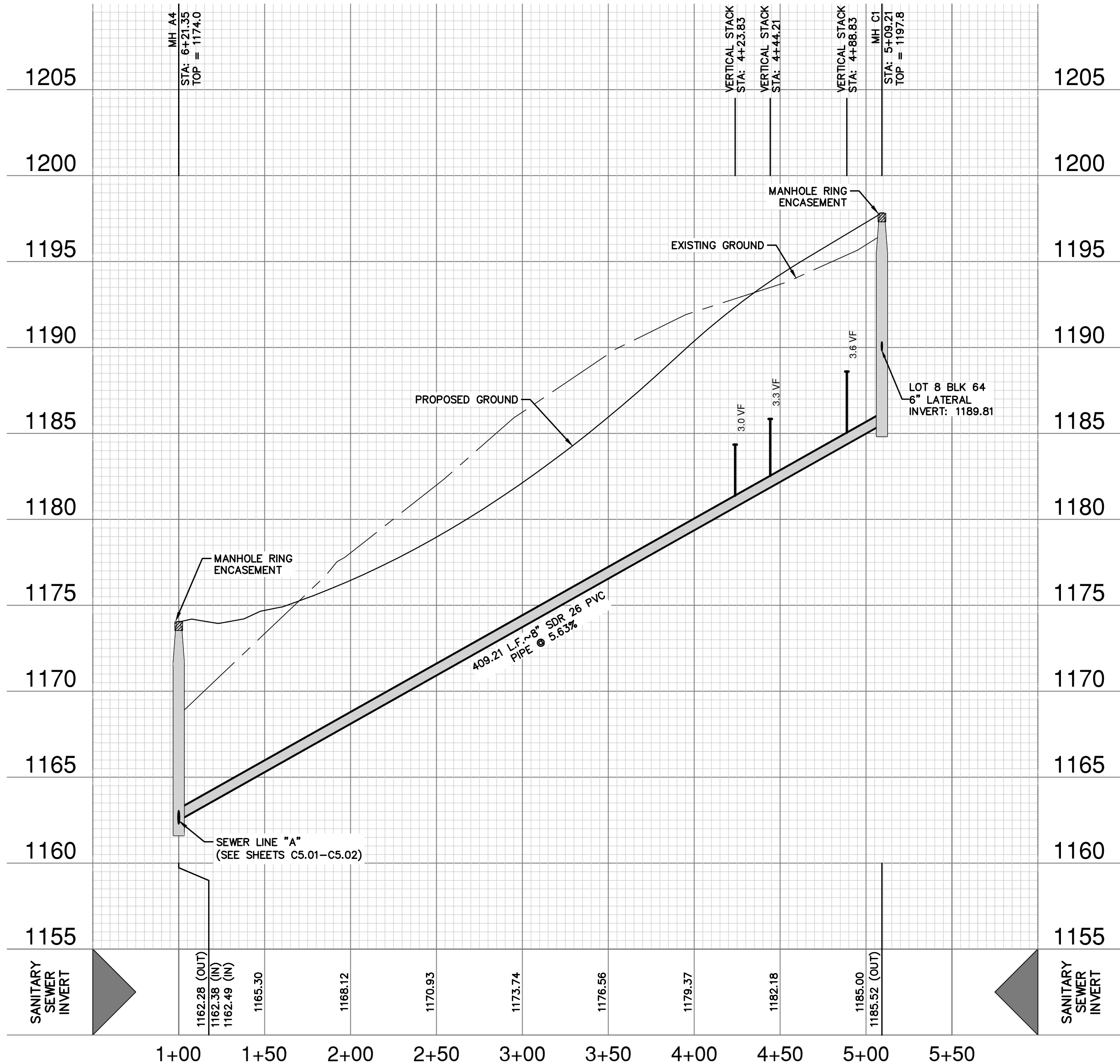
PLAT NO. 25-11800016
JOB NO. 8802-76
DATE JANUARY 2025
DESIGNER
CHECKED DRAWN
SHEET C5.03





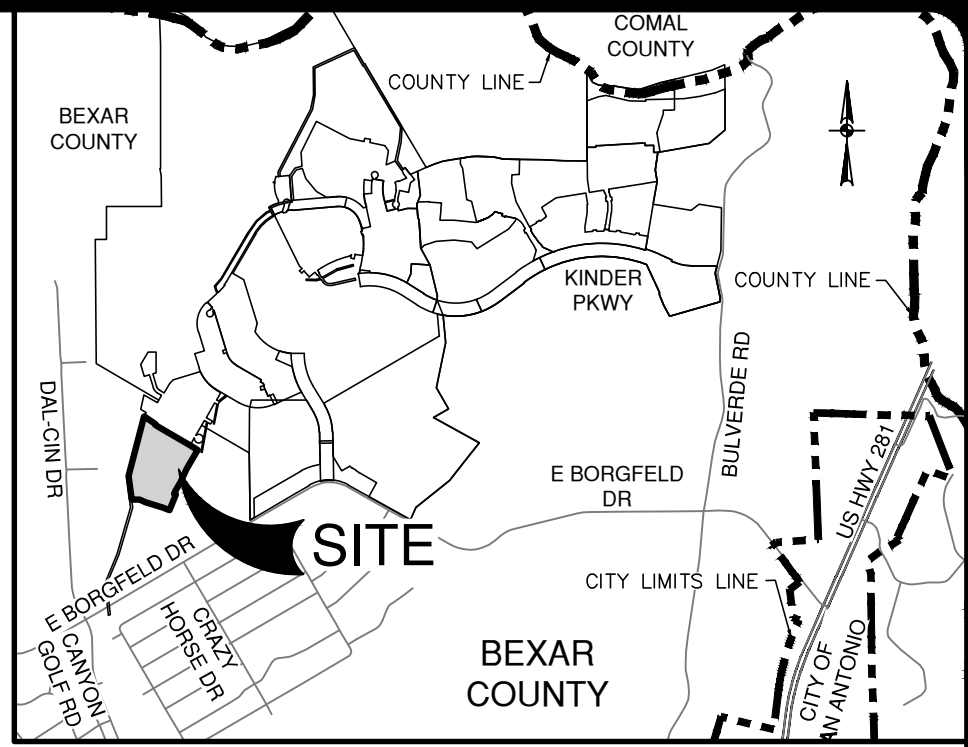
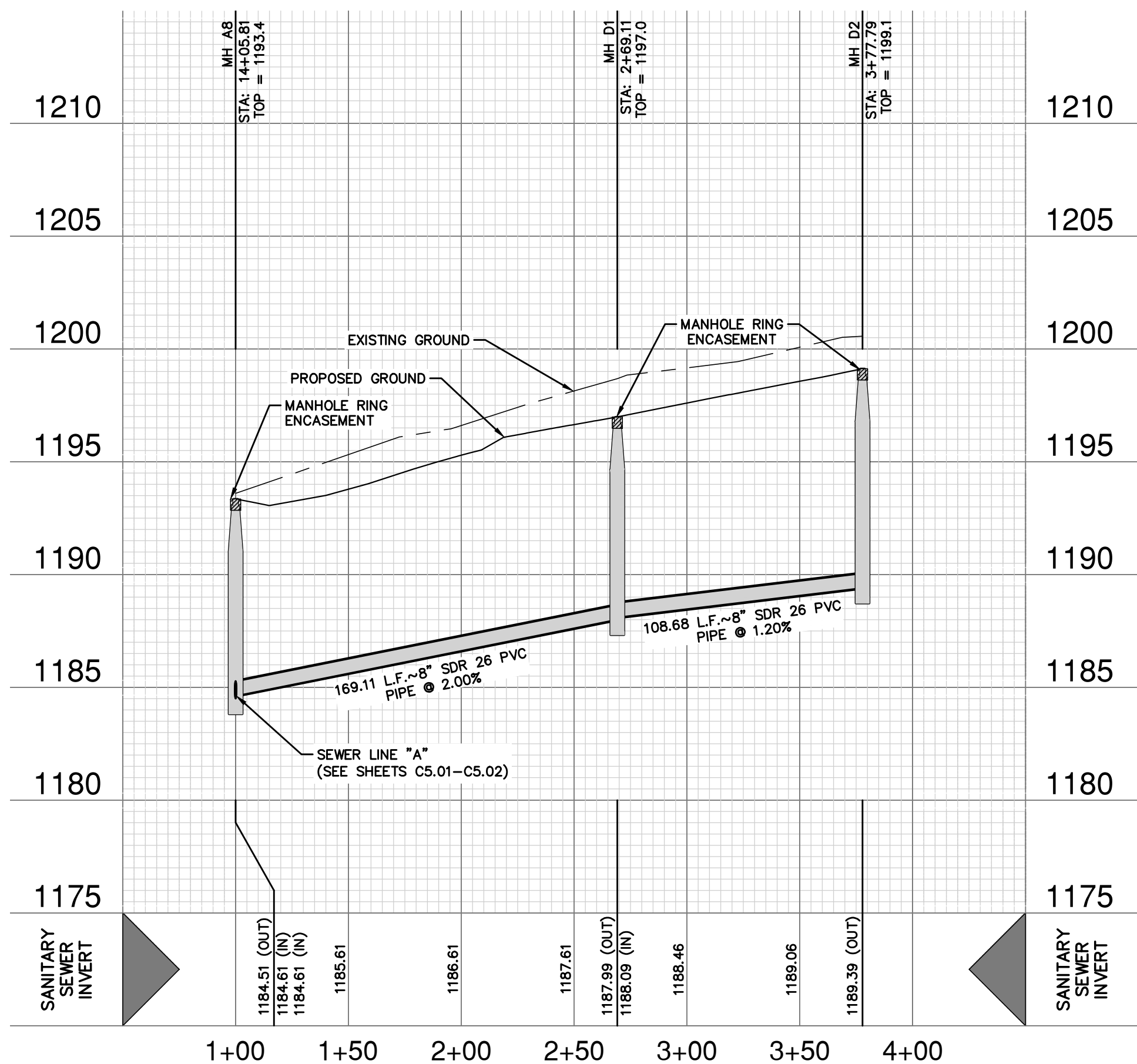
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STA. 1+00.00 TO END

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

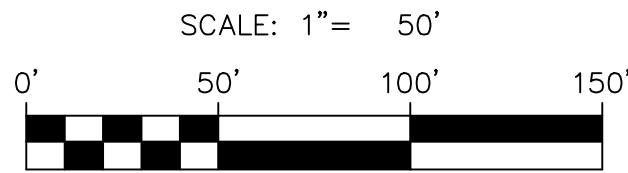


SANITARY SEWER LINE "D"  
STA. 1+00.00 TO END

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

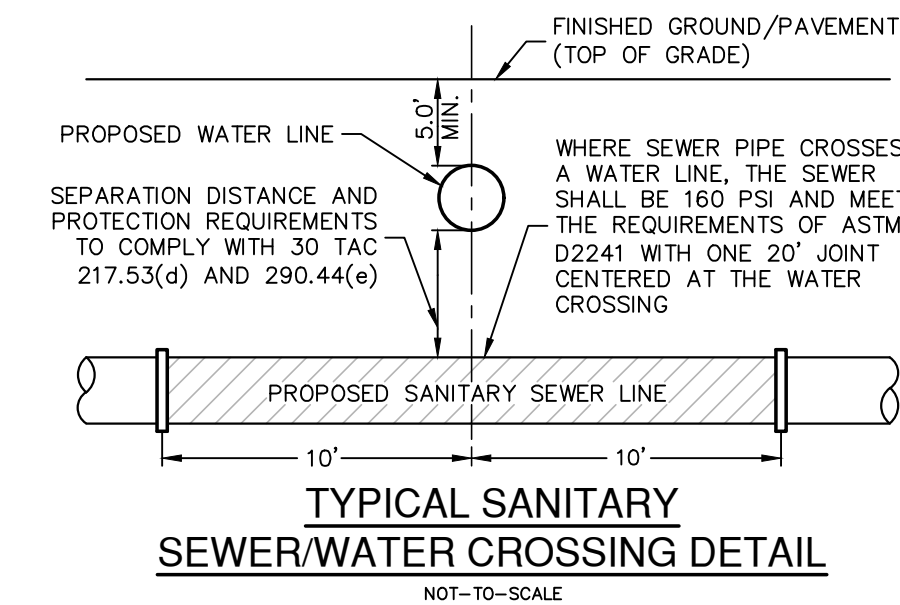


LOCATION MAP  
NOT-TO-SCALE



KEYED NOTES:

- 10" GAS, ELECTRIC, TELEPHONE AND CABLE TV EASEMENT
- 10" BUILDING SETBACK LINE



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.

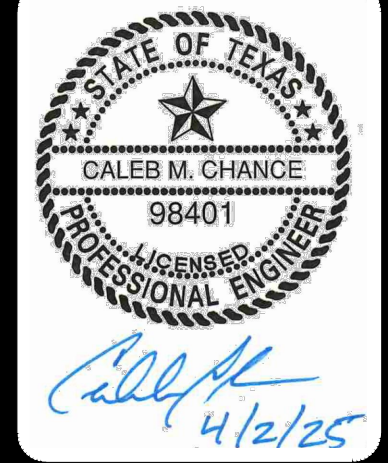
TRENCH EXCAVATION SAFETY PROTECTION:

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: (DOS RIOS SEWERSHED)

DEVELOPER'S NAME: KINDER RANCH GALE INVESTMENT			
ADDRESS: 11 LYNN BATTS LANE, SUITE 100			
CITY: SAN ANTONIO	STATE: TEXAS	ZIP: 78218	
PHONE# (210) 828-6131	FAX# (210) 828-6137		
SAWS BLOCK MAP# 164-684 TOTAL EDU'S .62 TOTAL ACREAGE 18.204			
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**PAPE-DAWSON ENGINEERS**  
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TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

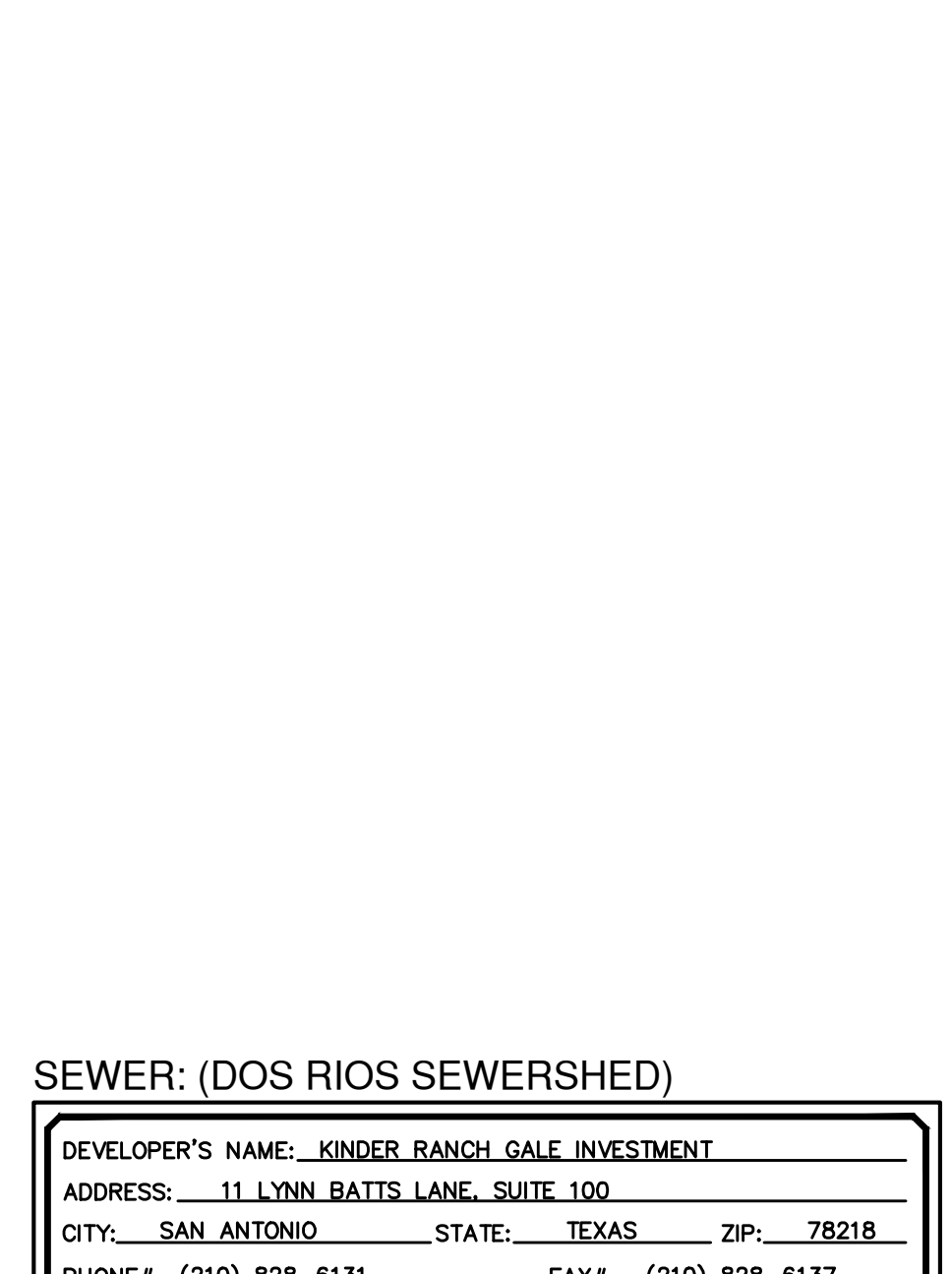
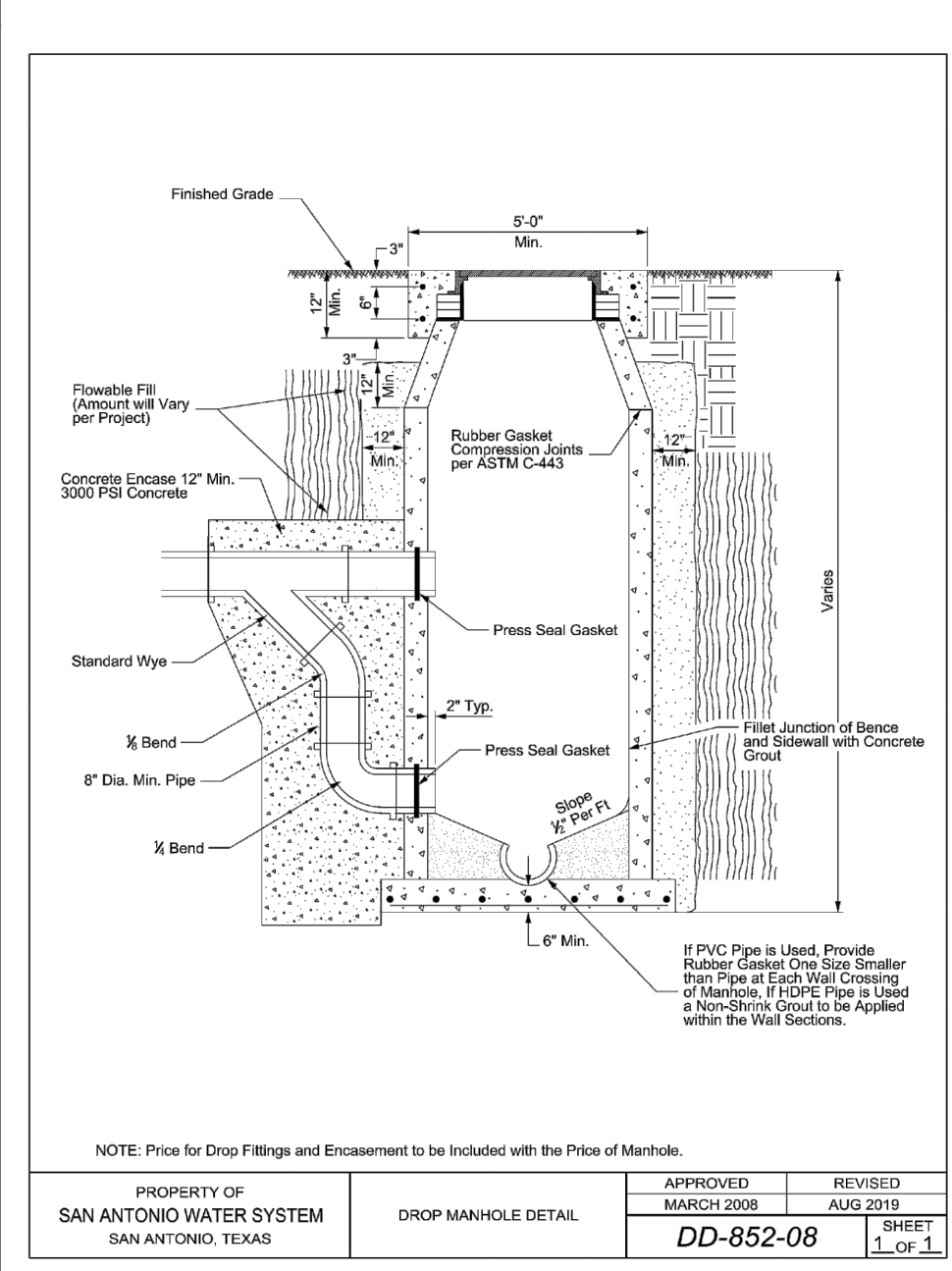
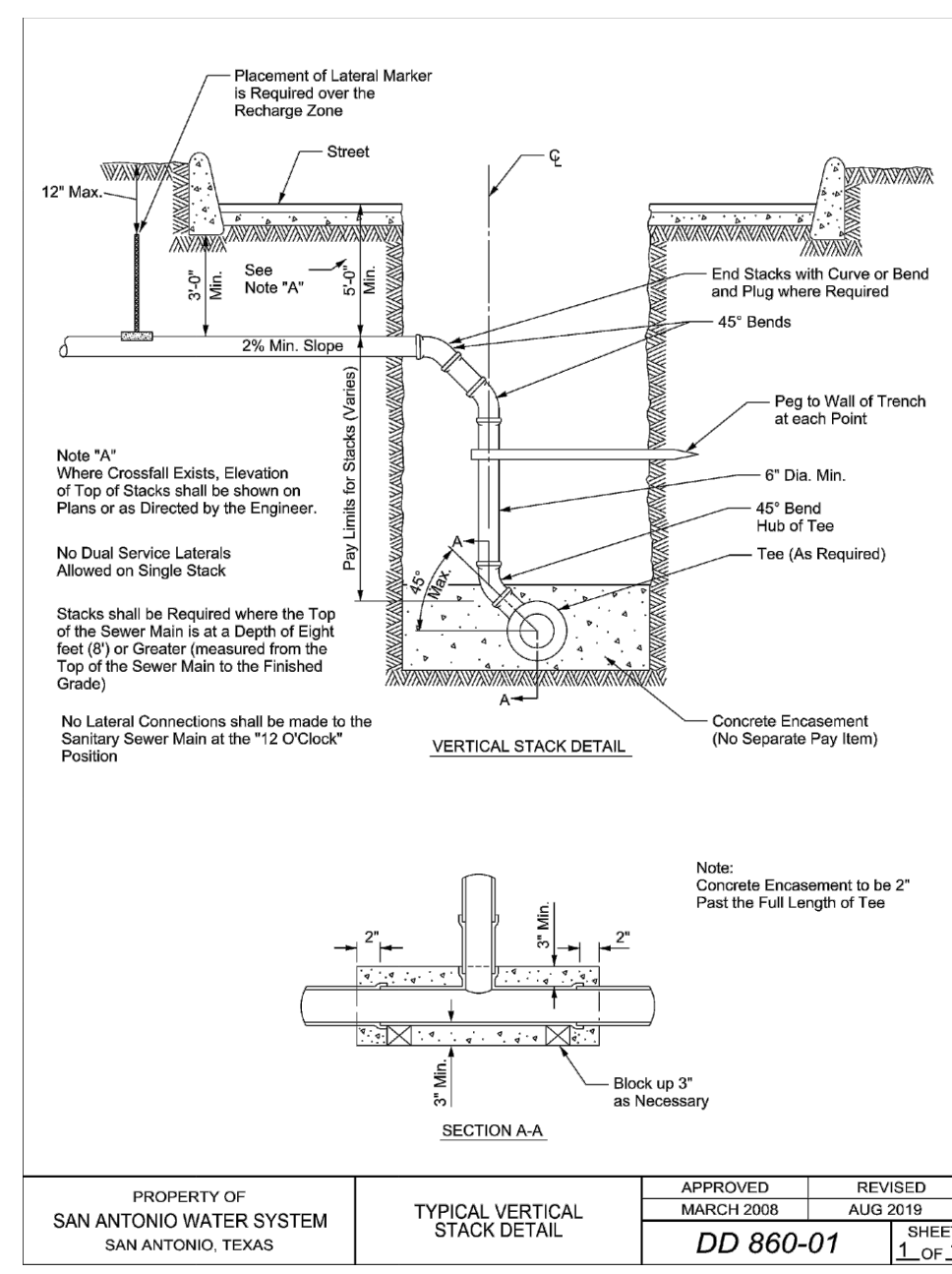
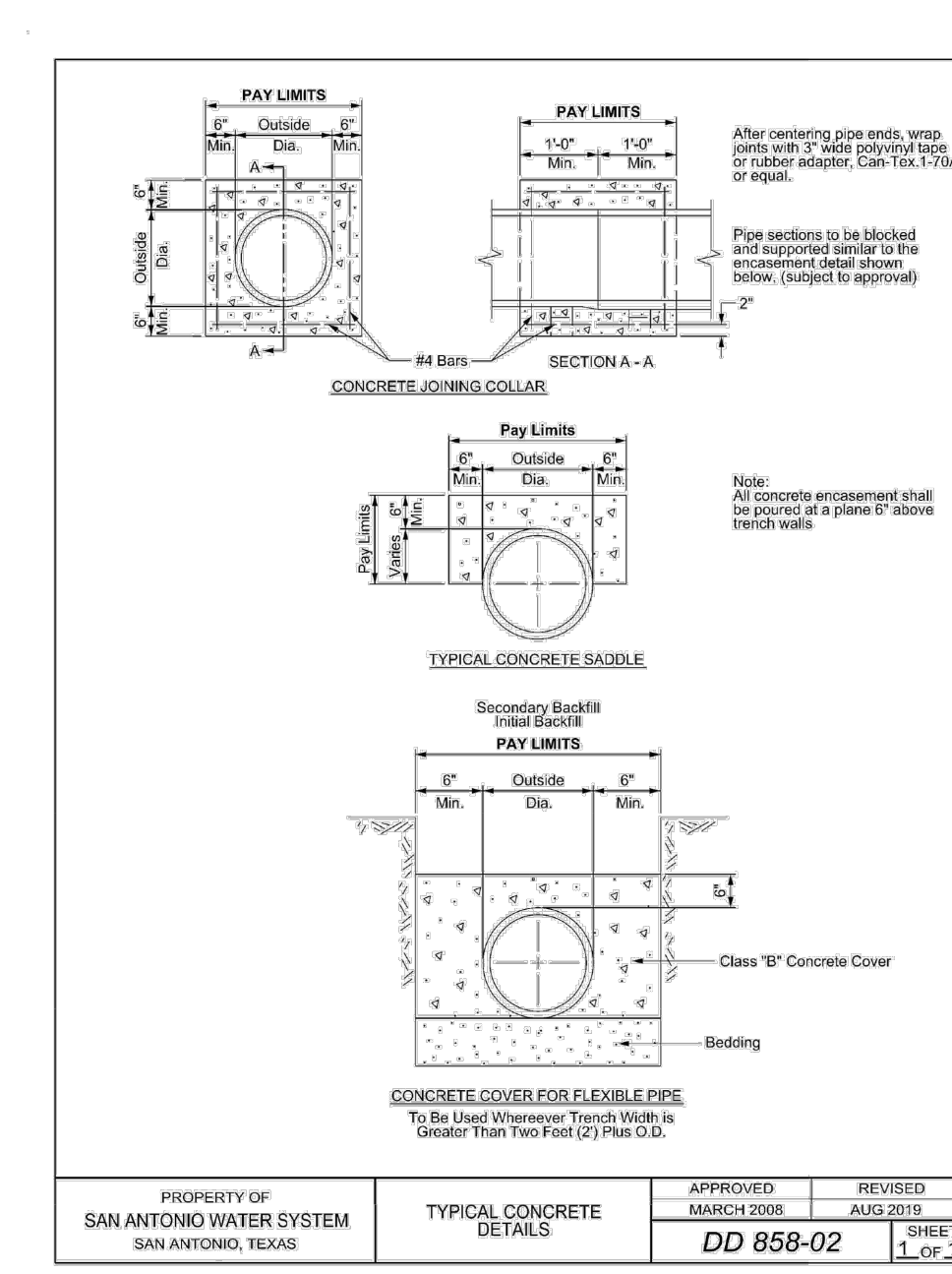
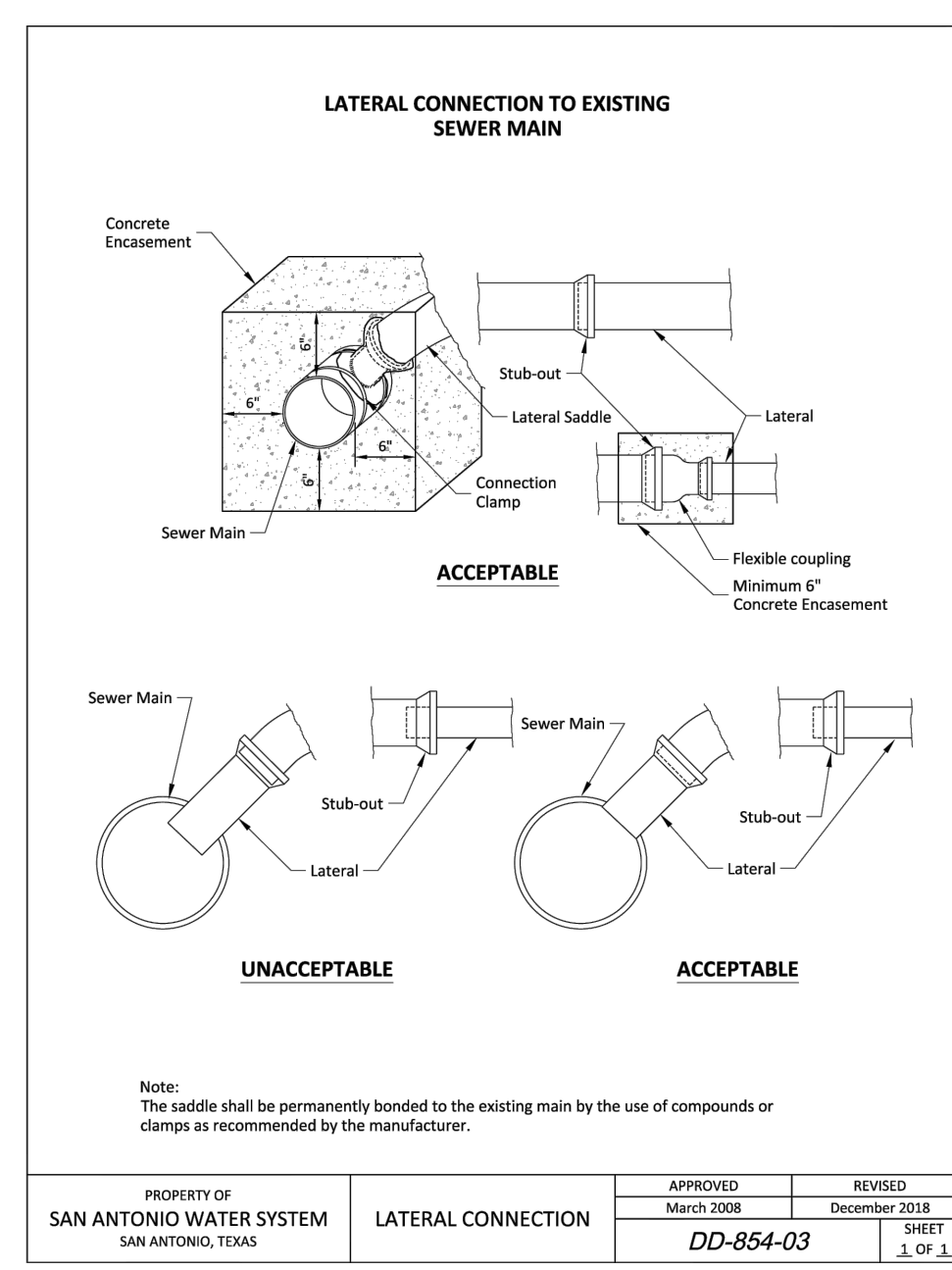
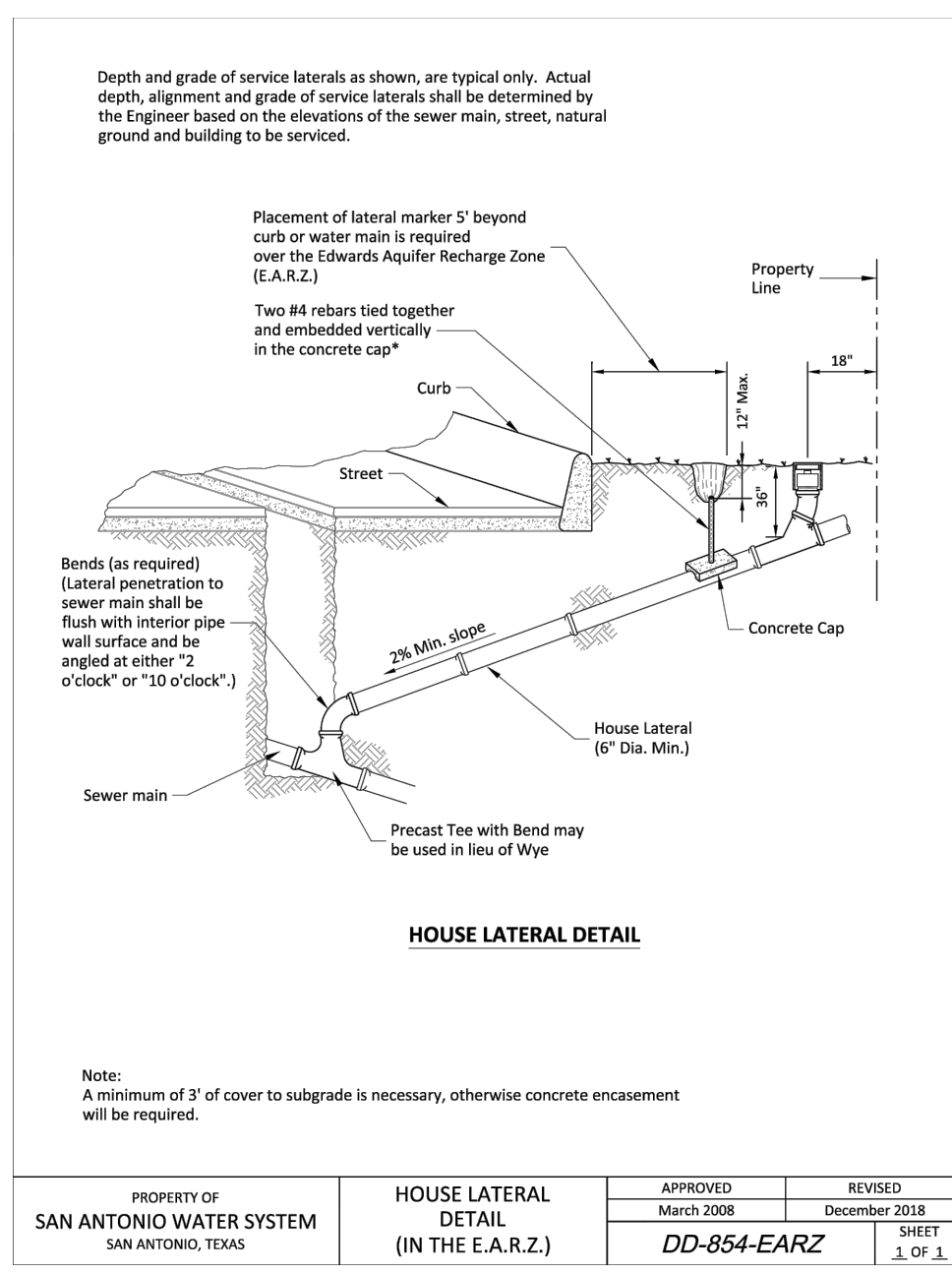
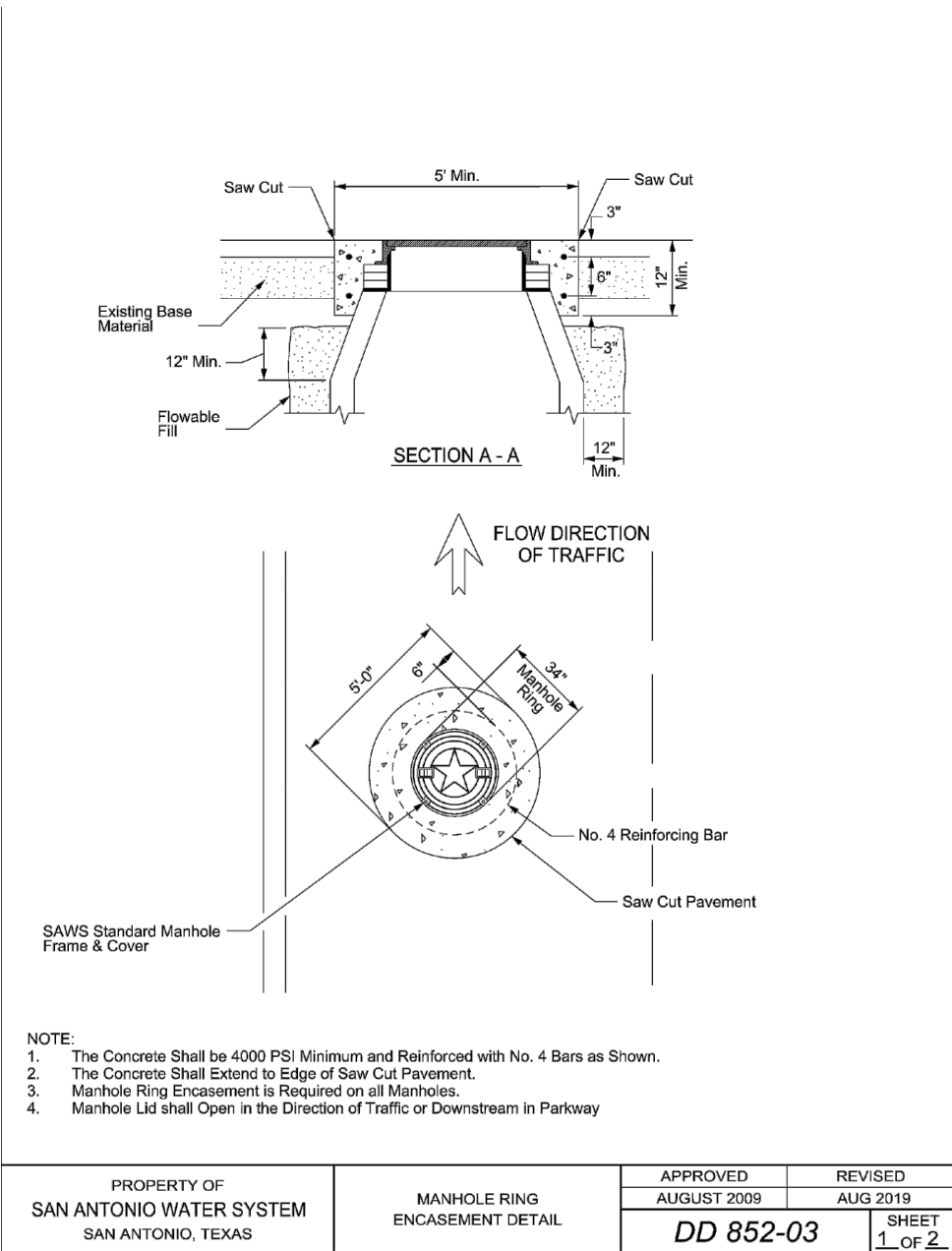
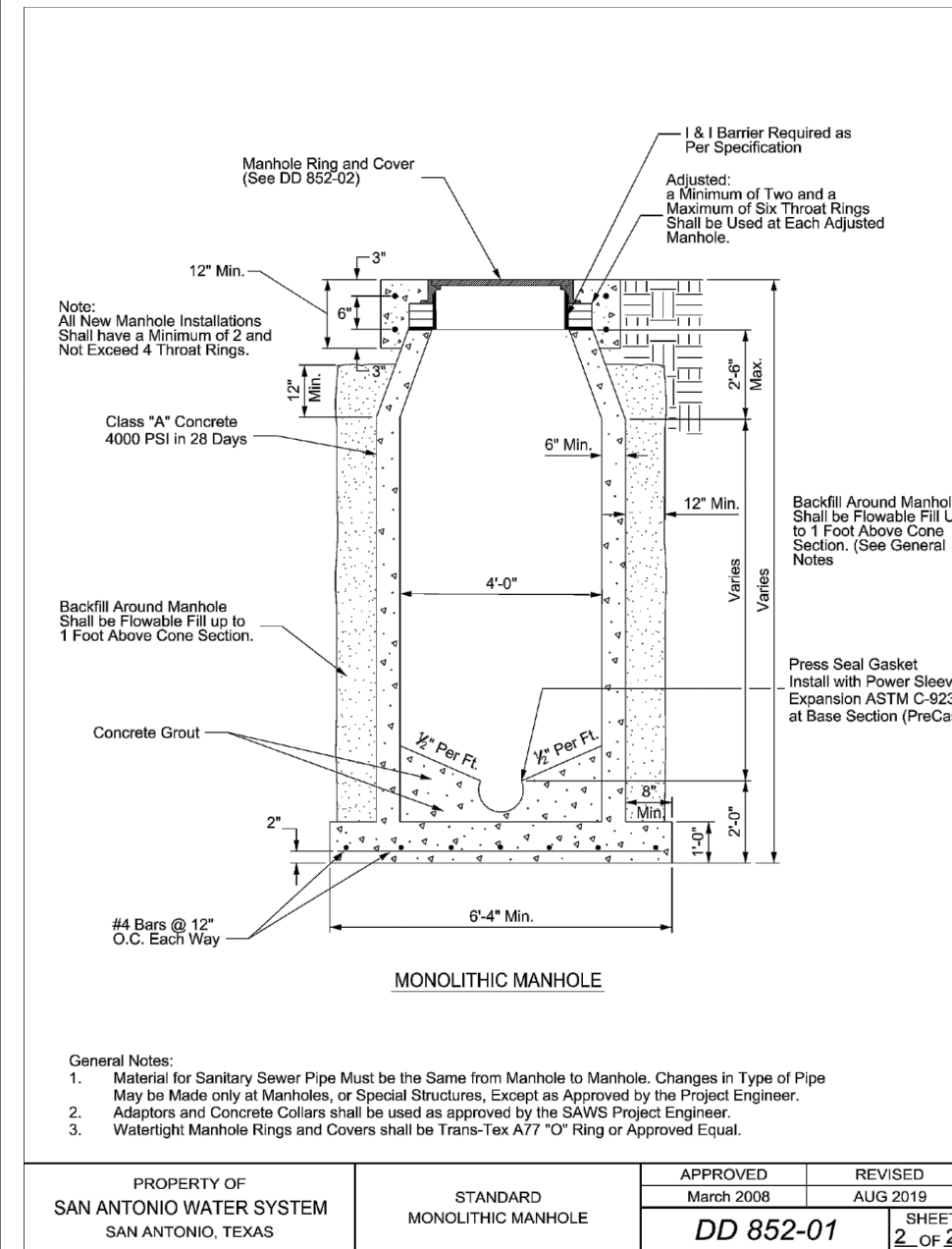
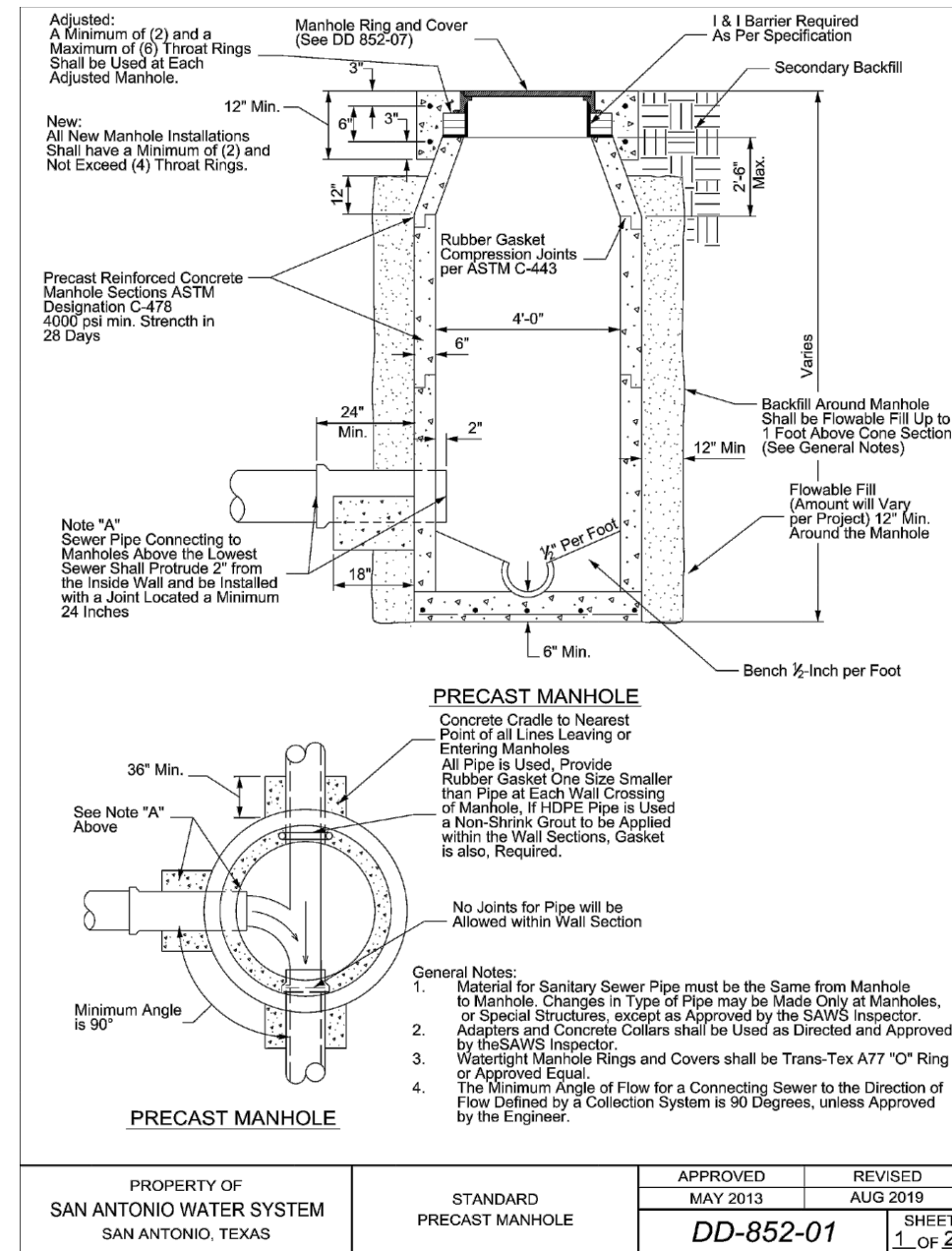
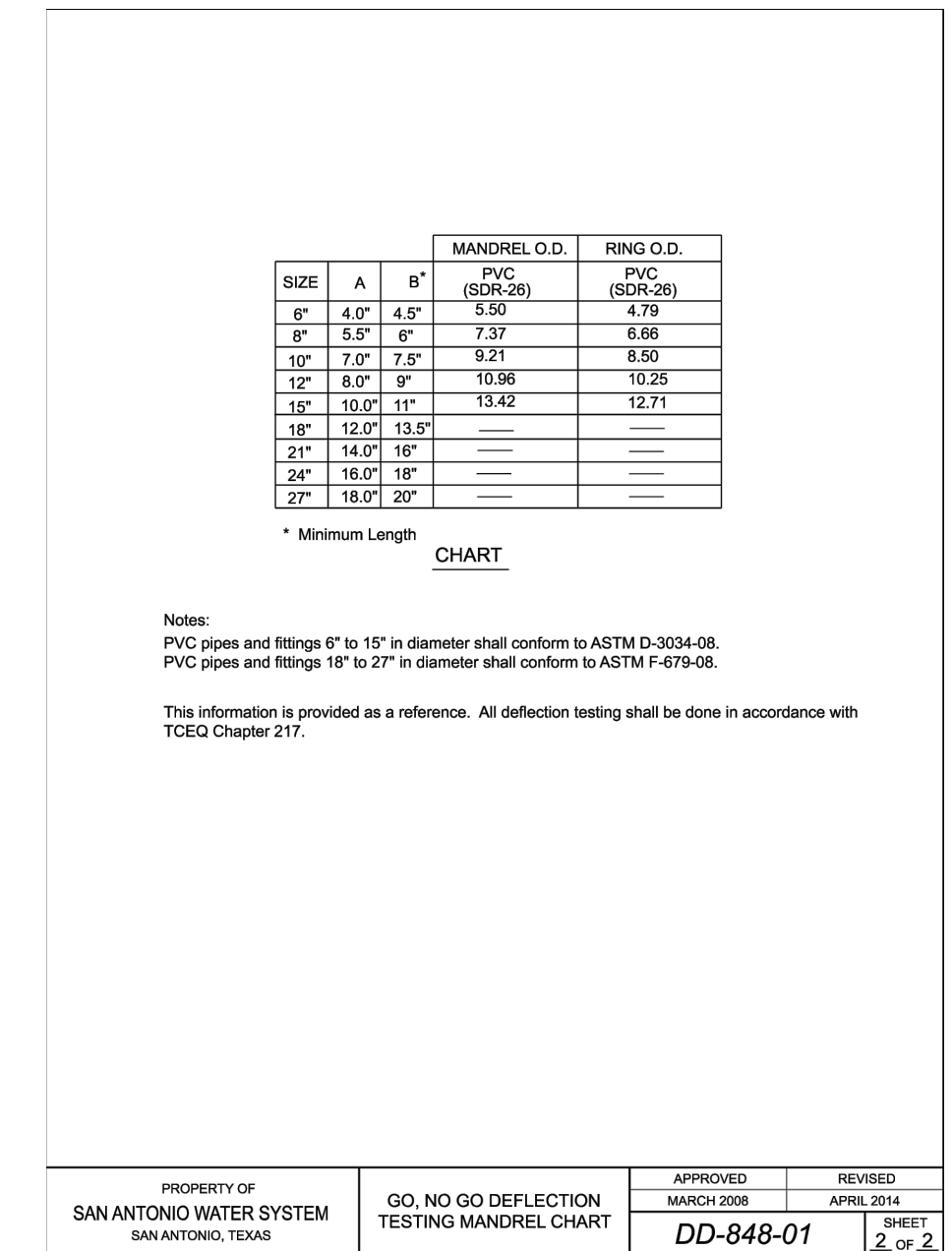
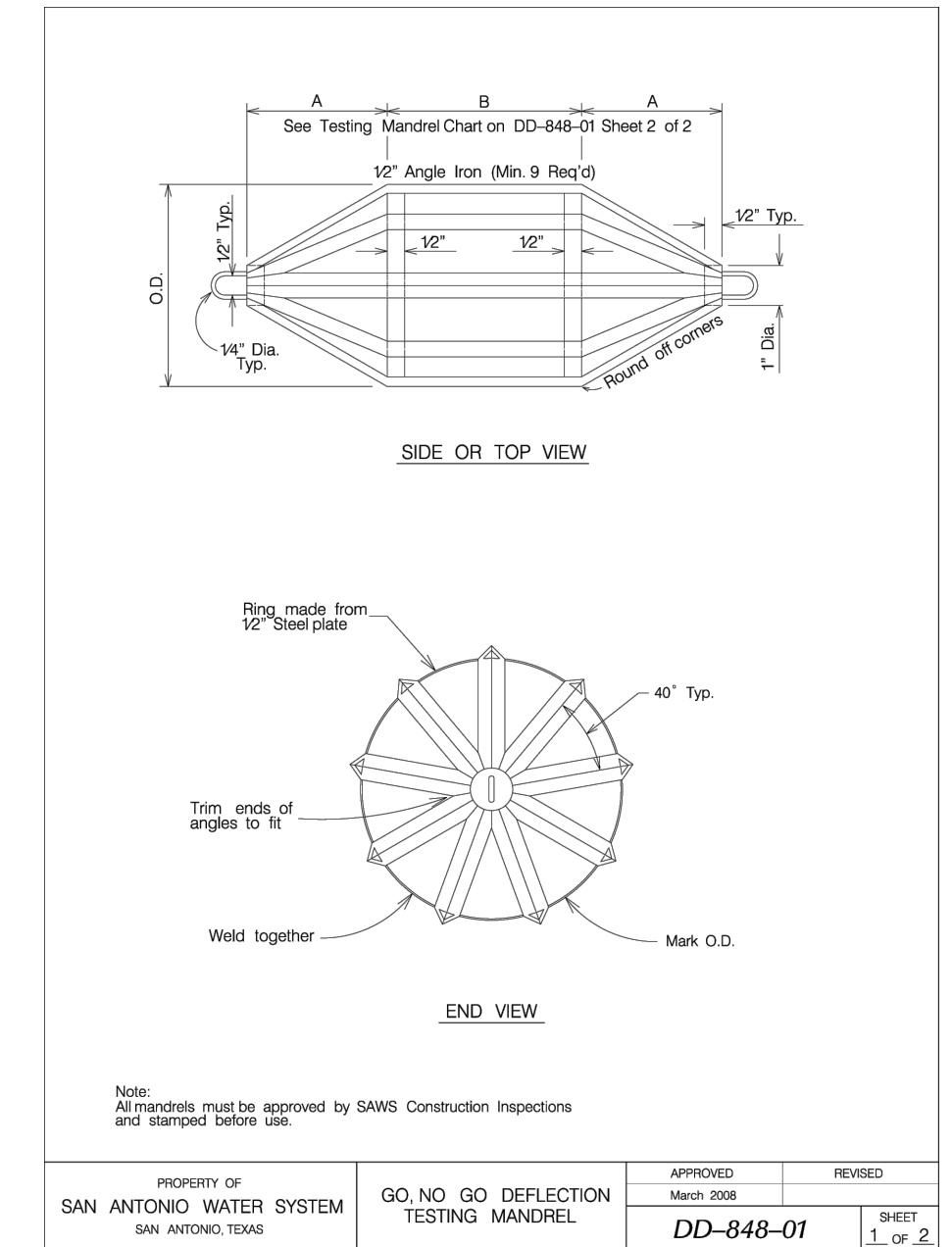
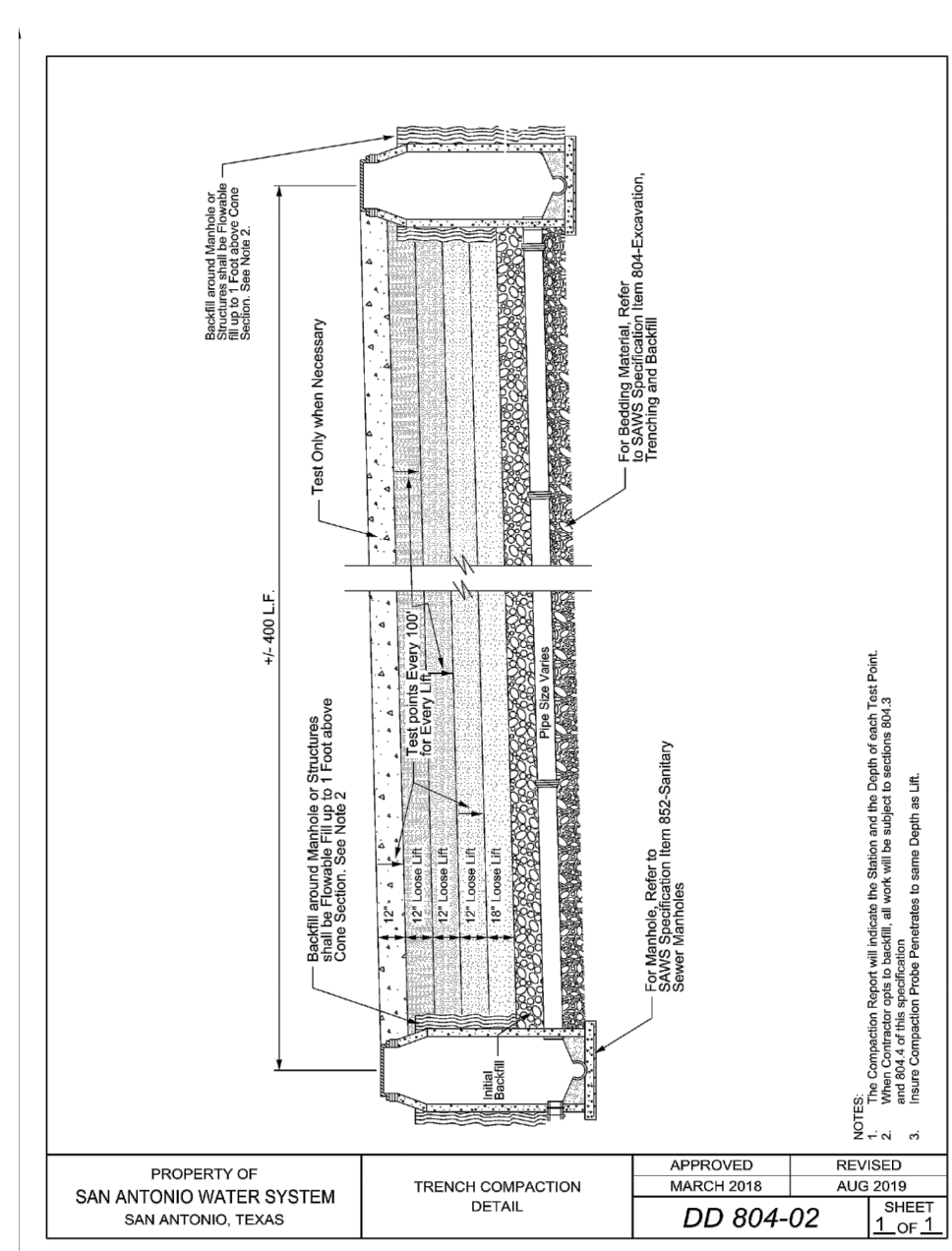
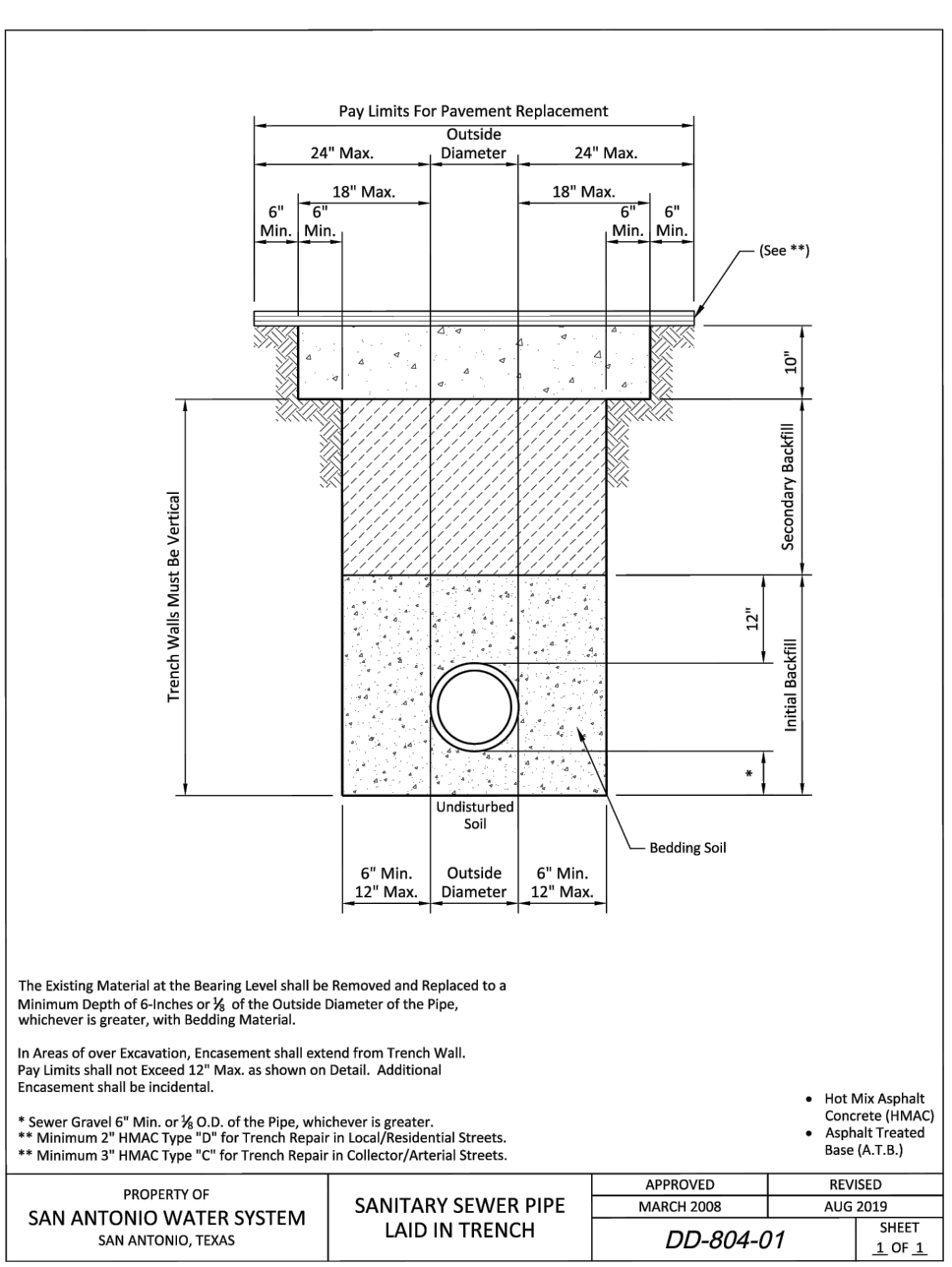
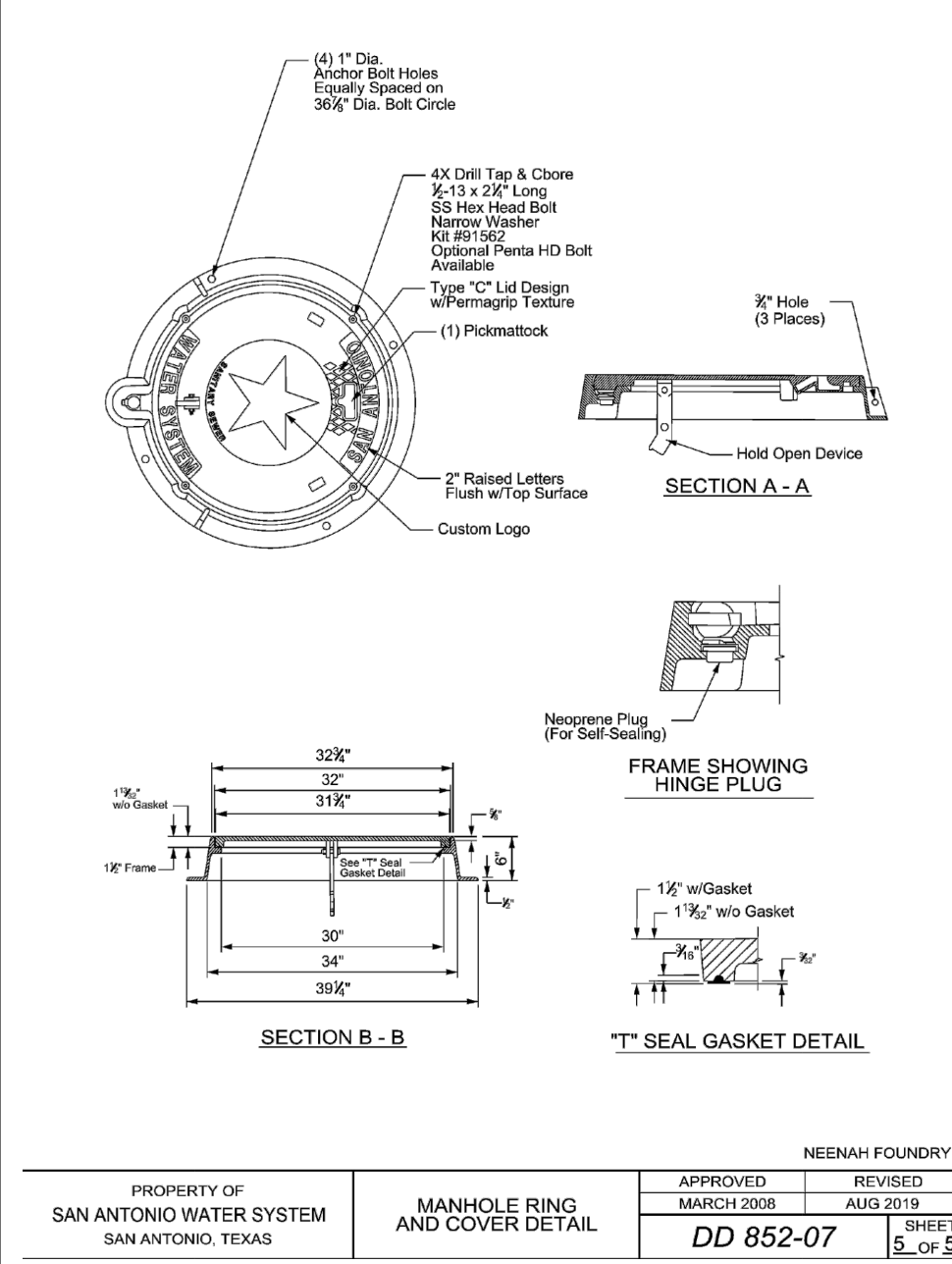
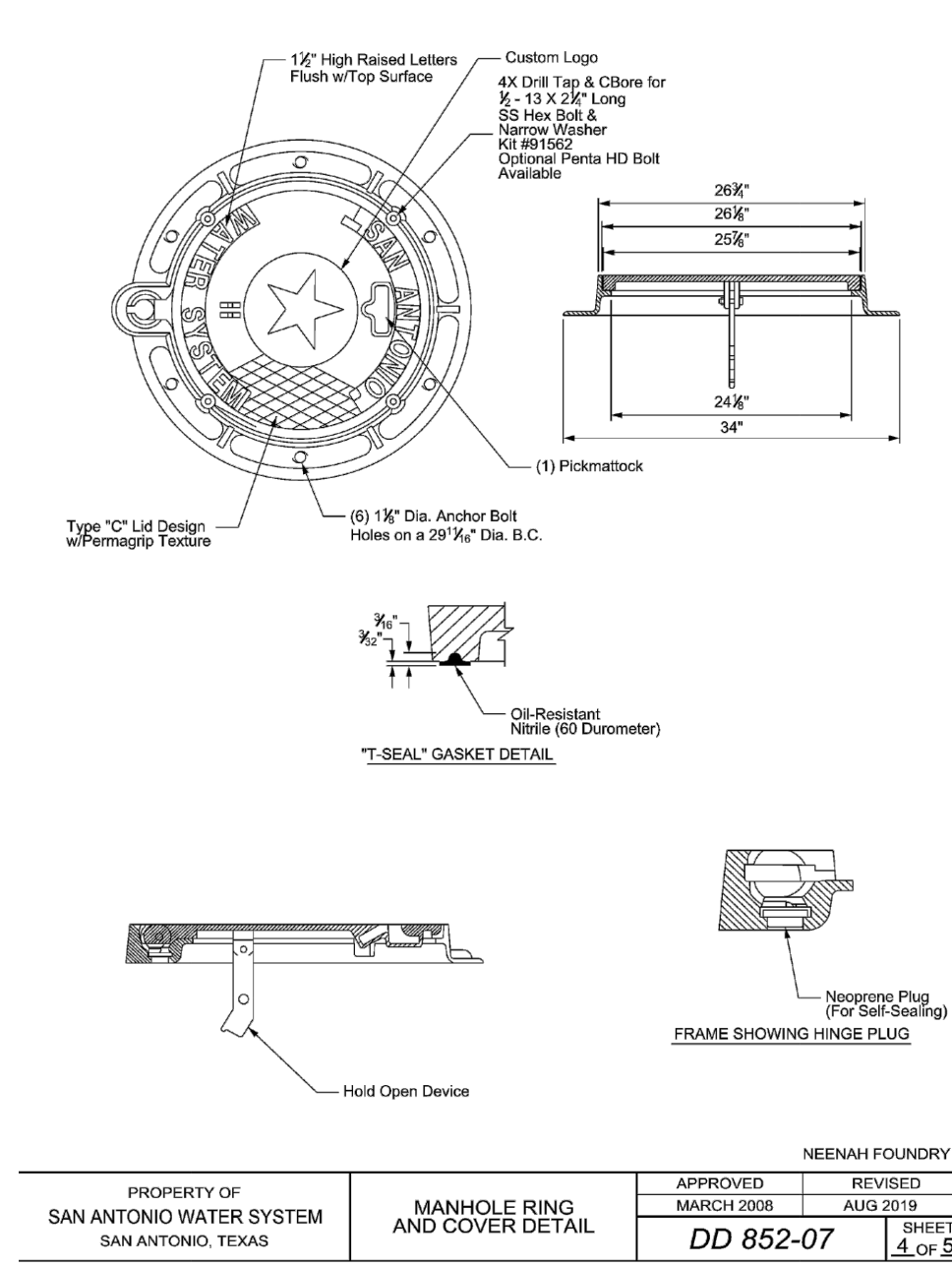
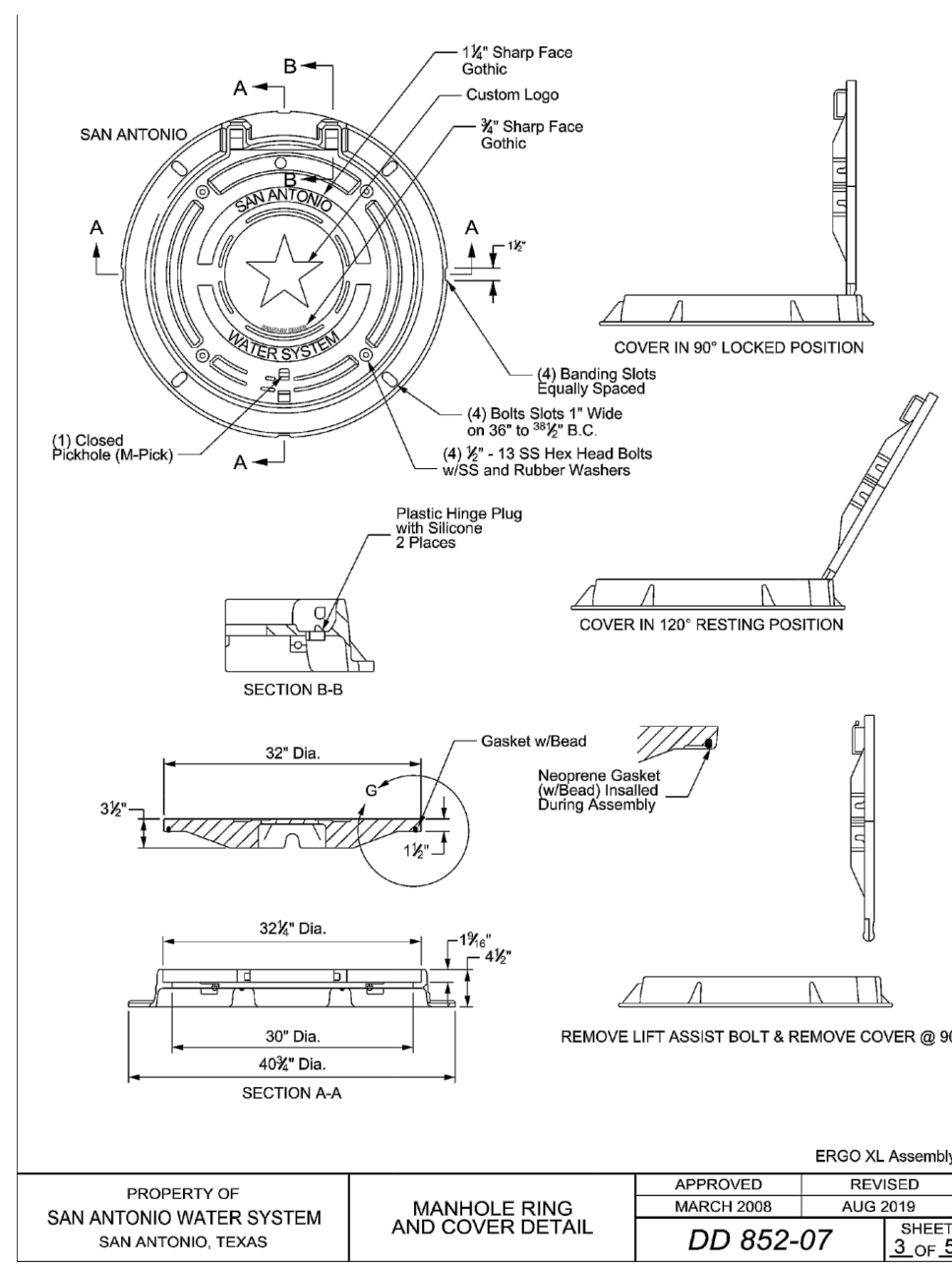
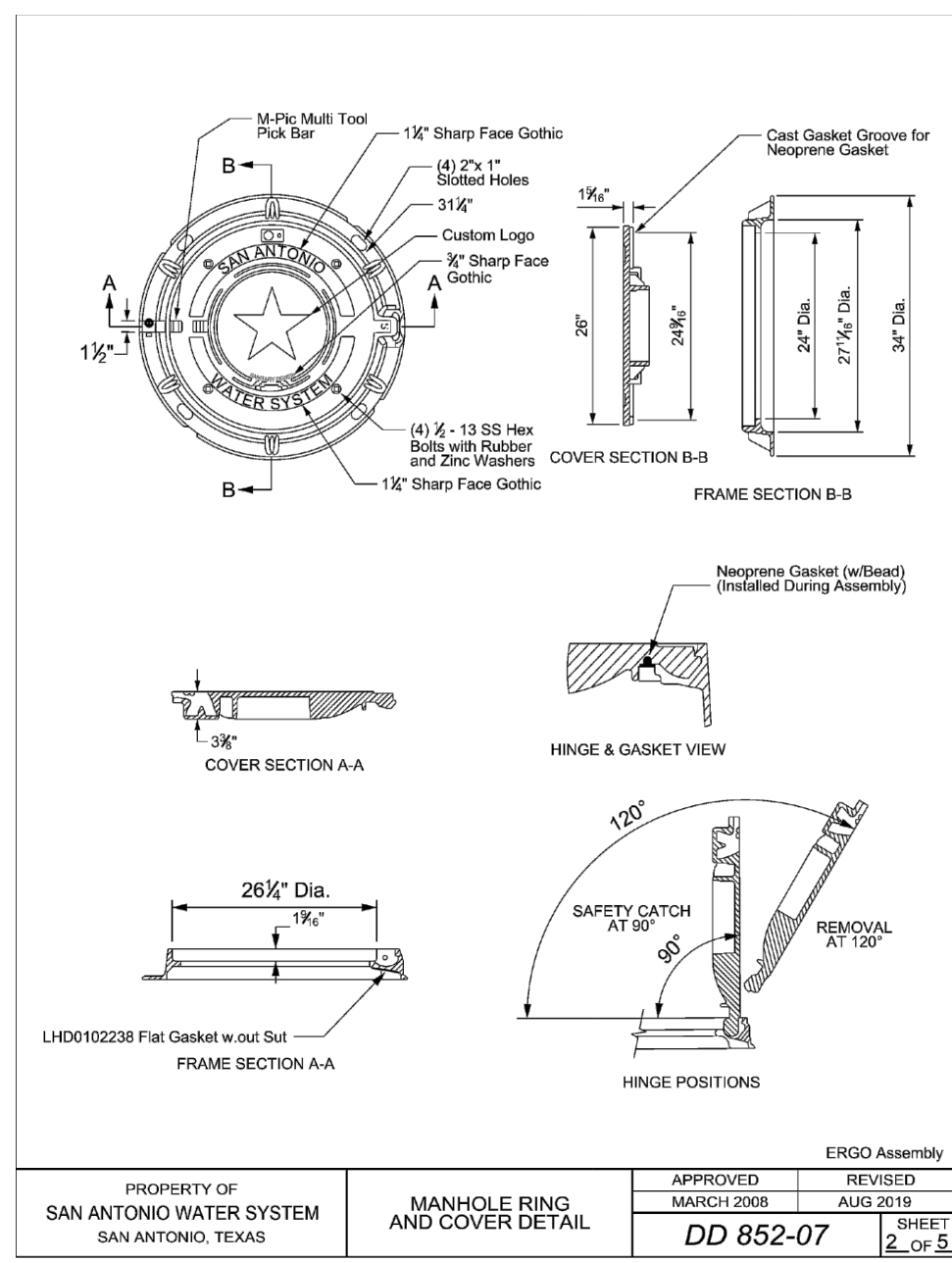
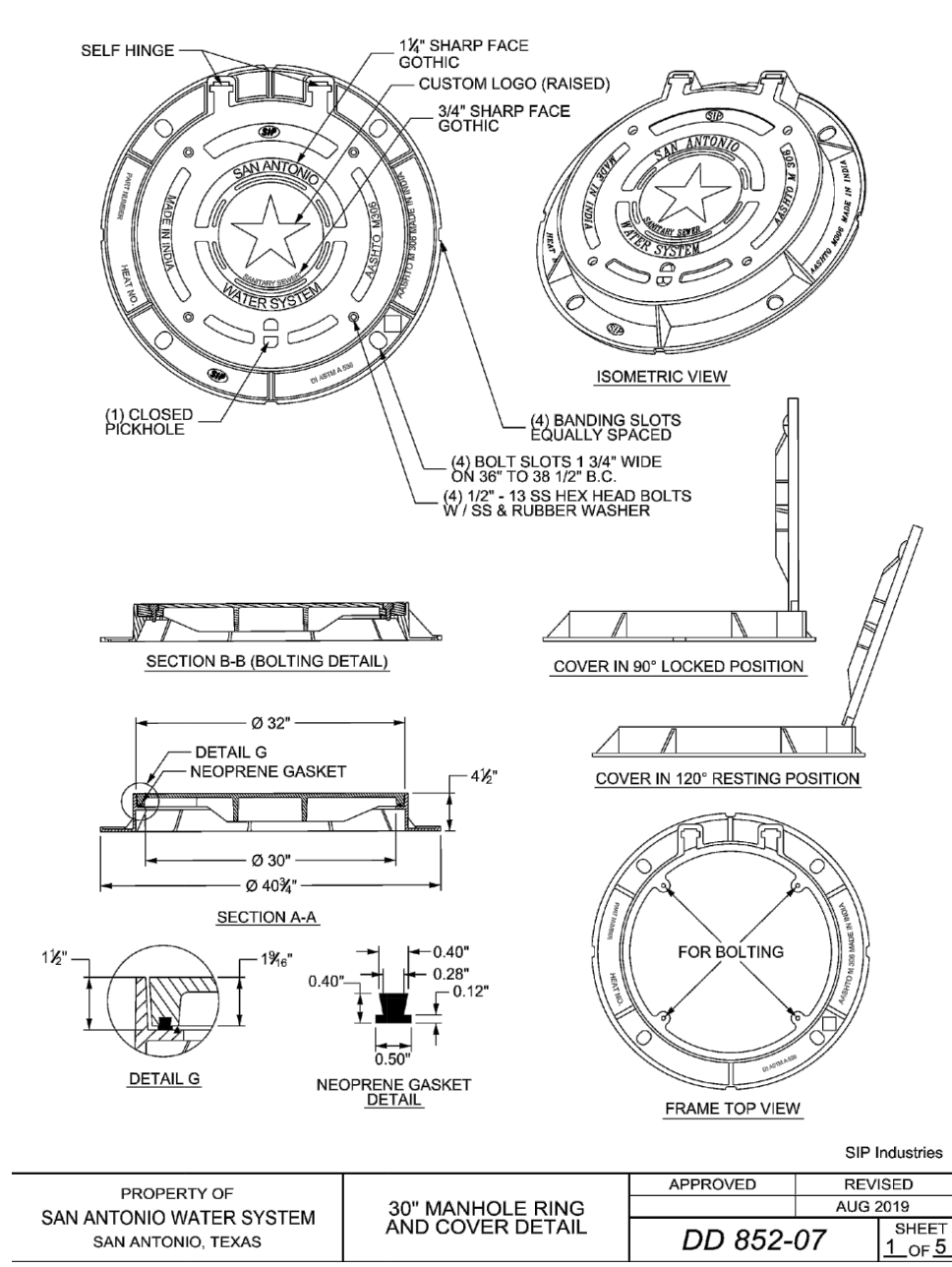
**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS  
SANITARY SEWER LINE "C" & "D"  
STA. 1+00.00 TO END

PLAT NO.	25-11800016
JOB NO.	8802-76
DATE	JANUARY 2025
DESIGNER	
CHECKED	DRAWN
SHEET	C5.04



Date: Apr. 09, 2025 12:42pm User: ID: cshen.fourie  
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DATE

NO. REVISION

KINDER GALE UNIT 2  
SAN ANTONIO, TEXAS

SAWYER SEWER DETAILS

25-11800016

JOB NO. 8802-76

DATE JANUARY 2025

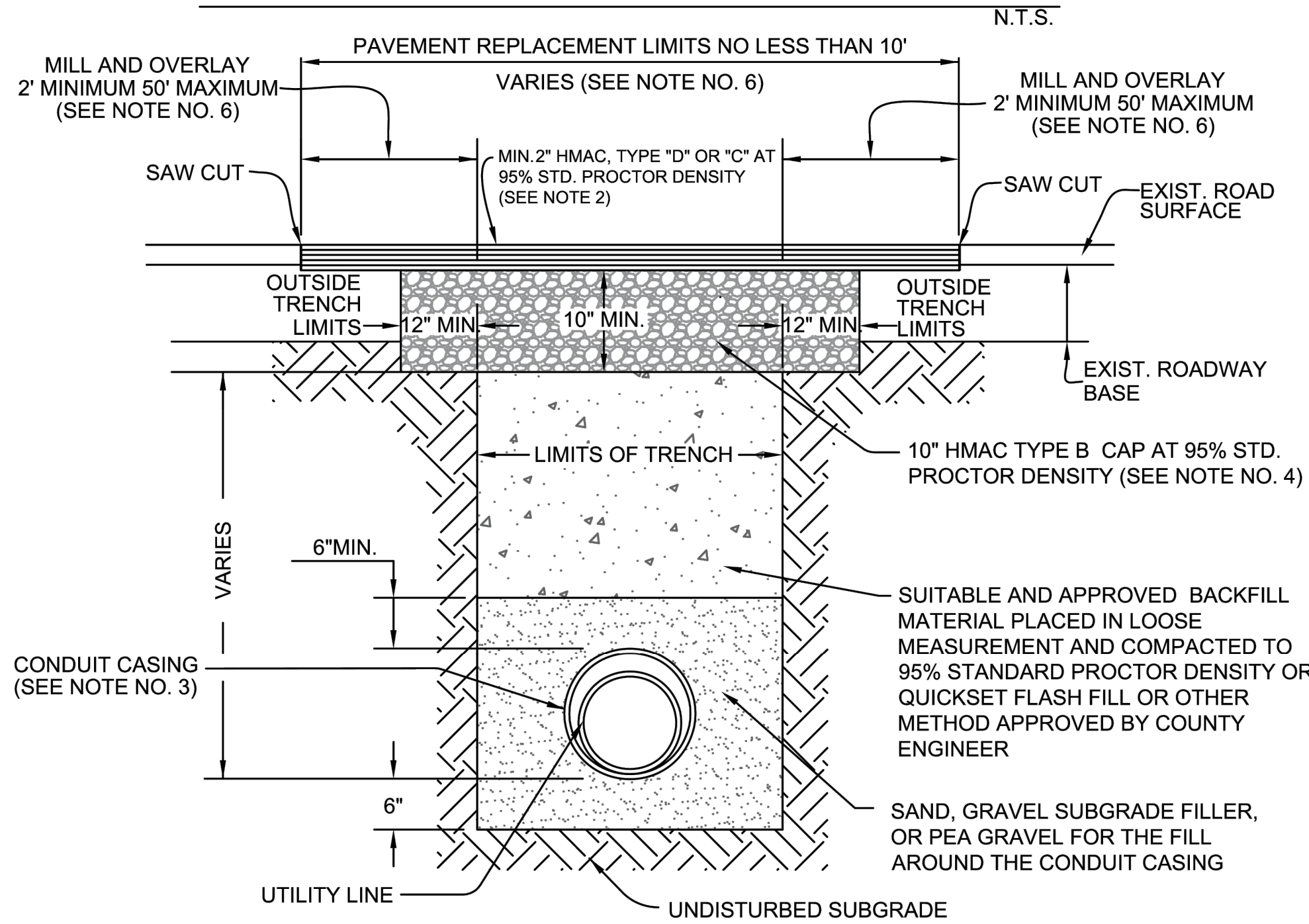
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# STREET CUT REPAIR DETAIL



## NOTES:

1. ALL UTILITIES WILL BE BORED UNDER EXISTING PAVEMENT. ONLY AT THOSE LOCATIONS AT WHICH IT IS PHYSICALLY IMPOSSIBLE TO BORE WILL THE PAVEMENT BE ALLOWED TO BE CUT AND RESTORED ACCORDING TO THIS DETAIL.
2. THE TYPE OF THE PAVEMENT REPLACEMENT WILL BE DETERMINED AT THE TIME A PERMIT IS REVIEWED AND MUST BE SAW CUT STRAIGHT. TACK OIL AT A RATE OF 0.10 GAL/SY SHALL BE PLACED PRIOR TO PLACEMENT OF 2 INCHES HMAc TYPE "C" OR "D" FINISHED SURFACE. LONGITUDINAL ROADWAY CUTS WILL BE PAVED WITH THE CLOSEST LINE EXTENSION OF THE EXISTING PAVEMENT EDGE AS A MINIMUM. IF EXISTING ROAD SURFACE IS CHIP SEAL, 2 INCHES OF HMAc TYPE "C" WILL BE PLACED PRIOR TO APPLICATION OF FINAL CHIP SEAL COURSE.
3. CONDUIT CASING TO BE PROVIDED AND INSTALLED BY UTILITY COMPANY FOR ALL UTILITIES, EXCEPT FOR SANITARY SEWER GRAVITY LINES AND NATURAL GAS SERVICE LINES. MATERIAL TO BE USED SHALL BE DUCTILE IRON (FOR DEPTH LESS THAN OR EQUAL TO 36 INCHES), SCHEDULE 40 PVC PIPE (GREATER THAN 36 INCHES DEEP), OR APPROVED EQUAL BY COUNTY ENGINEER. THE CONDUIT CASING SHALL EXTEND A MINIMUM OF FIVE FEET OUTSIDE THE EDGE OF SHOULDER OR CURBING DEPENDING ON FUTURE EXPANSION OF STREET WIDTH.
4. A 10" THICKNESS OF HMAc TYPE "B", BENCHED NO LESS THAN 1 FOOT EACH SIDE OF TRENCH, WILL BE USED FOR THE FINAL LIFT OF THE TRENCH REPAIR. THE TYPE "B" ASPHALT, PLACED IN 5 INCH LIFTS, SHALL BE BROUGHT UP TO WITHIN 2 INCHES OF THE EXISTING PAVEMENT SURFACE.
5. THE UTILITY COMPANY OR CONTRACTOR WILL BE RESPONSIBLE FOR THE MAINTENANCE OF OF THE STREET CUT THEREAFTER UNTIL AND IF THE COUNTY REMOVES THE STREET CUT THROUGH RECONSTRUCTION.
6. PAVEMENT REPLACEMENT LIMITS WILL BE DETERMINED AT THE TIME OF PERMIT REVIEW OR INSPECTION. WHERE EXISTING SURFACE IS ASPHALT, SURFACE MUST BE MILLED AND REPLACED NO LESS THAN 10 FT OVERALL OR UP TO 50 FT IN EACH DIRECTION BEYOND THE LIMITS OF THE TRENCH UNLESS OTHERWISE DETERMINED BY ON-SITE INSPECTION. IF EXISTING SURFACE IS CHIP SEAL, THE LIMITS OF SURFACE REPLACEMENT WILL BE A MINIMUM OF 5 FT IN EACH DIRECTION BEYOND LIMITS OF THE TRENCH. (SEE NOTE 2 FOR SURFACE REPLACEMENT GUIDELINES)
7. UNLESS OTHERWISE NOTED IN THE ROW STANDARD SPECIFICATIONS, WHEN GEOGRID OR OTHER GEOSYNTHETIC SUBGRADE/BASE REINFORCEMENT IS PRESENT, THE CONTRACTOR SHALL CONDUCT EXCAVATION TO PROVIDE APPROPRIATE OVERLAP (2' MIN.) AND TIE TO EXISTING UNDISTURBED REINFORCEMENT AS REQUIRED BY MANUFACTURER FOR EACH LAYER OF REINFORCEMENT ENCOUNTERED.

PREPARED BY: BEXAR COUNTY PUBLIC WORKS DEPARTMENT

June 4, 2013

## SAWS CONSTRUCTION NOTES

(LAST REVISED JANUARY 2022)

### SAWS GENERAL SECTION

1. 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:
  - A. 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.
  - B. CURRENT TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE.
  - C. CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
  - D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
  - E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
2. 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.
3. THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, [HTTP://WWW.SAWS.ORG/BUSINESS\\_CENTER/SPECS](http://www.saws.org/BUSINESS_CENTER/SPECS). UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.
4. THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (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.
5. 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.
6. 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](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
7. 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.
8. 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.
9. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
10. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO [CONSTWORKREQ@SAWS.ORG](mailto: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](mailto:CONSTWORKREQ@SAWS.ORG).  
  
ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
12. 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.
13. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

### SAWS SEWER NOTES

1. 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:
  - A. 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.
  - B. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
  - C. CONTAIN SEWAGE FROM THE SPILL TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
  - D. CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.
  - E. CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
  - F. MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISIONING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.
2. 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".
3. 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.
4. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241 TAC 217.53 AND TCEQ 290.44C(A)(6). CONTRACTOR SHALL INSTALL A 20" JOINT OF 160 PSI PRESSURE RATED PVC AT THE PROPOSED WATER CROSSING.
5. 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)
6. 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.
7. MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAWS CONSTRUCTION INSPECTION DIVISION, AS PER THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
8. ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

### PROJECT SEWER NOTES

1. 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' STAKE, FOUR (4) FEET LONG, TWO (2) FEET DEEP INTO THE GROUND AT THE END OF EACH SERVICE. NO SEPARATE PAY ITEM.
2. CONTRACTOR TO INSTALL CLEANOUTS AT THE END OF ALL SEWER LATERALS, PER LATERAL DETAIL SHEET **CX.XX**.
3. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
4. ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TO THE PROPERTY LINE.
5. 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.
6. CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 6" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT.
7. ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
8. CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER MAINS AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
9. CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
10. 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.
11. 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.
12. MANHOLE OPENING INCREASED TO 30" AS PER TAC CHAPTER 217.55.
13. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.
14. 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.
15. ALL MANHOLES CONSTRUCTED OVER THE EDWARDS AQUIFER RECHARGE ZONE SHOULD BE WATERTIGHT.

### SEWER: (DOS RIOS SEWERSHED)

DEVELOPER'S NAME: <b>KINDER RANCH GALE INVESTMENT</b>			
ADDRESS: <b>11 LYNN BATTIS LANE, SUITE 100</b>			
CITY: <b>SAN ANTONIO</b>	STATE: <b>TEXAS</b>	ZIP: <b>78218</b>	
PHONE# <b>(210) 828-6131</b>	FAX# <b>(210) 828-6137</b>		
SAWS BLOCK MAP# <b>164-684</b> TOTAL EDU'S <b>62</b> TOTAL ACREAGE <b>18.704</b>			
TOTAL LINEAR FOOTAGE OF PIPE: <b>8" 1,093 LF</b> PLAT NO. <b>25-11800016</b>			
NUMBER OF LOTS <b>64</b> SAWS JOB NO. <b>25-1511</b>			

DATE	
NO.	
REVISION	



*Caleb M. Chance*  
4/2/25

**PAPE-DAWSON**  
**ENGINEERS**

2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1008800

**KINDER GALE UNIT 2**  
**SAN ANTONIO, TEXAS**

**SANITARY SEWER NOTES**

PLAT NO.	<b>25-11800016</b>
JOB NO.	<b>8802-76</b>
DATE	<b>JANUARY 2025</b>
DESIGNER	
CHECKED	<b>DRAWN</b>
SHEET	<b>C5.11</b>



Dates: Jan. 08, 2025 10:01am User: JD\_002466  
File: P:\83\02\76\Drawings\GIS\UTD-180226.dwg

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UNPLATTED  
KINDER RANCH GALE  
INVESTMENT LP  
(106.359 AC)  
(DOC NO. 20210155907, OPR)

UNPLATTED  
BORGFIELD ACREAGE, LLC  
(5.075 AC)  
(DOC NO. 20210155907, OPR)

BLOCK 61  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL 20002 PG 2238-2241 DPR)

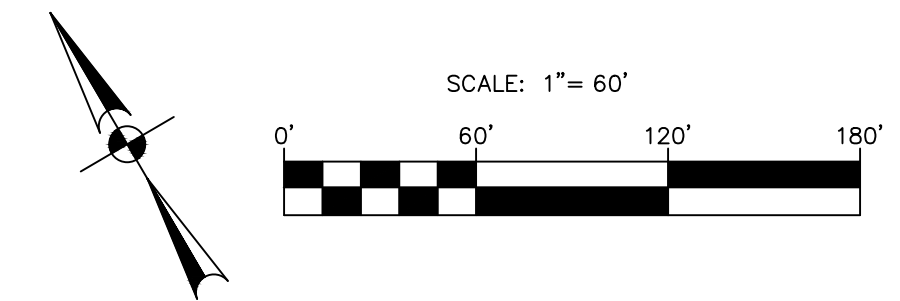
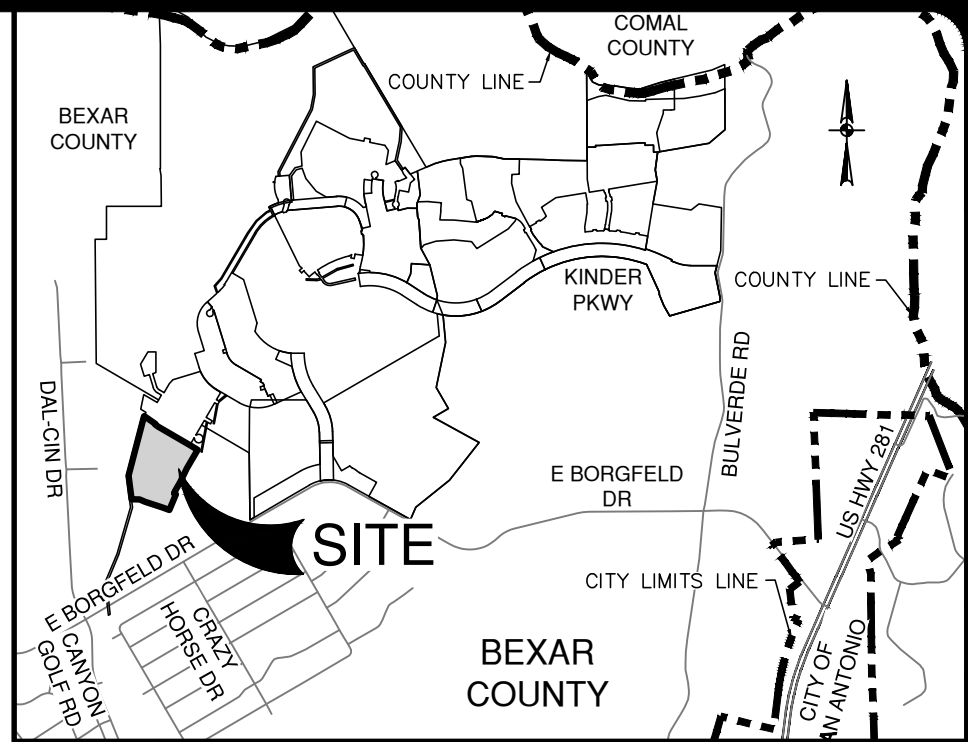
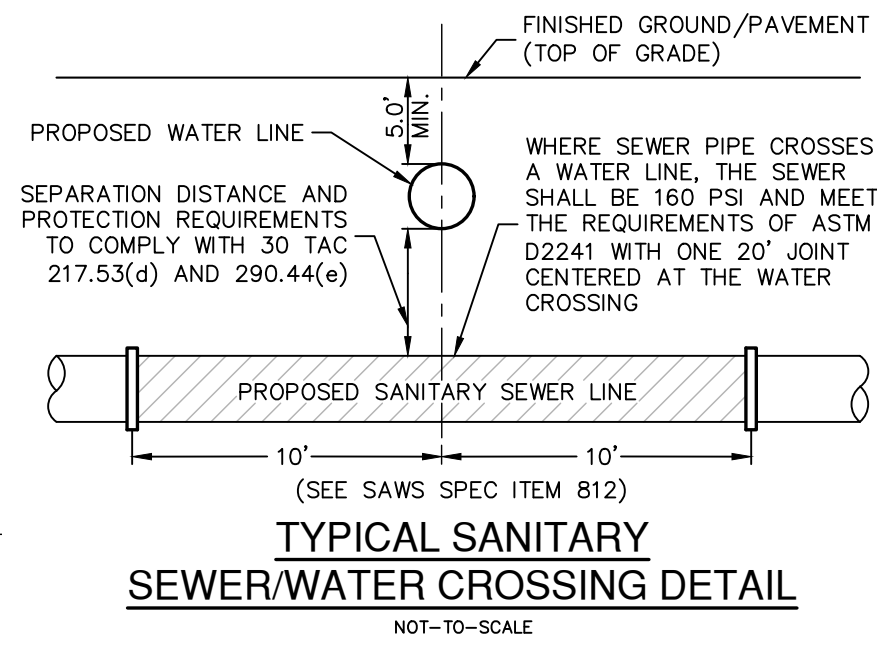
UNPLATTED  
KINDER RANCH GALE  
INVESTMENT LP  
(106.359 AC)  
(DOC NO. 20210155907, OPR)

UNPLATTED BORGFIELD  
ACREAGE, LLC  
(187.52 AC)  
(DOC NO. 20210087959, OPR)

UNPLATTED  
ELIZABETH C. GALE  
(3.17 AC)  
(DOC NO. 20240036705, OPR)

BLOCK 66  
CB 4854  
(PERMEABLE)  
(1.543 AC)  
(OPEN SPACE)

UNPLATTED  
KINDER RANCH GALE  
INVESTMENT LP  
(106.359 AC)  
(DOC NO. 20210155907, OPR)



### 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	---

### KEYED NOTES:

- 10' GAS, ELECTRIC, TELEPHONE  
AND CABLE TV EASEMENT  
(VOL. 20002 PGS 2238-2241, PR)
- 15' DRAINAGE AND ACCESS  
EASEMENT (0.256 AC)
- 10' BUILDING SETBACK LINE  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL. 20002 PGS 2238-2241, PR)
- VARIABLE WIDTH GRADING  
EASEMENT (0.089 AC)
- 5' WATER EASEMENT
- 50x50' DRAINAGE, SEWER AND  
WATER EASEMENT TO EXPIRE  
UPON INCORPORATION INTO  
PLATTED PUBLIC STREET  
RIGHT-OF-WAY  
(PERMEABLE) (OFF-LOT) (0.057 AC.)
- VARIABLE WIDTH DRAINAGE,  
ACCESS AND UTILITY EASEMENT  
TO EXPIRE UPON INCORPORATION  
INTO PLATTED PUBLIC STREET  
RIGHT-OF-WAY  
(PERMEABLE) (OFF-LOT) (0.023 AC.)
- 15' GAS, ELECTRIC, TELEPHONE  
AND CABLE TV EASEMENT
- EXISTING 1% (100 YR) ANNUAL  
CHANCE FEMA FLOODPLAIN  
MAP NO. 48029C0130G
- PROPOSED 100 AC ULTIMATE  
FLOODPLAIN PER FLOOD  
STUDY PREPARED BY  
PAPE-DAWSON ENGINEERS  
(CASE NO. 16-06-4342R)
- 10' ELECTRIC, GAS, TELEPHONE &  
CABLE TV EASEMENT  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL. 20002 PGS 2238-2241, PR)
- 10' BUILDING SETBACK LINE  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL. 20002 PGS 2238-2241, PR)
- 5' x 50' WATER EASEMENT  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL. 20002 PGS 2238-2241, PR)
- 15' ELECTRIC, GAS, TELEPHONE &  
CABLE TV EASEMENT TO EXPIRE  
UPON INCORPORATION INTO  
PLATTED PUBLIC STREET  
RIGHT-OF-WAY  
(PERMEABLE) (OFF-LOT) (1.589 AC) (PERMEABLE)
- 28' ELECTRIC EASEMENT (OFF-LOT)  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL. 20002 PGS 2238-2241, PR)
- 18' DRAINAGE EASEMENT  
(OFF-LOT) (0.182 AC) (ENCLAVE)  
KINDER WEST, UNIT-8A (ENCLAVE)  
(VOL. 20002 PGS 2238-2241, PR)

### 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 GFS 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

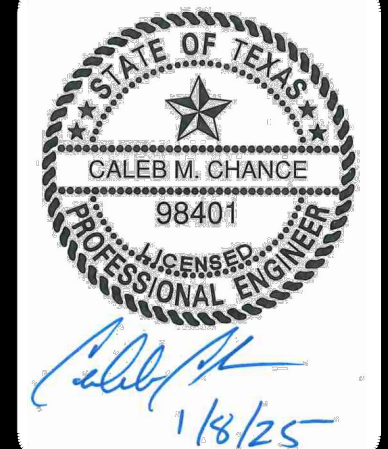
### TRENCH EXCAVATION SAFETY PROTECTION:

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-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.

DATE	
NO.	
REVISION	



**PAPE-DAWSON  
ENGINEERS**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10038800

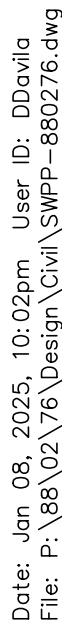
**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS  
OVERALL UTILITY PLAN

PLAT NO.	24-11800281
JOB NO.	8802-76
DATE	JANUARY 2025
DRAWN	
CHECKED	
SHEET	C6.00

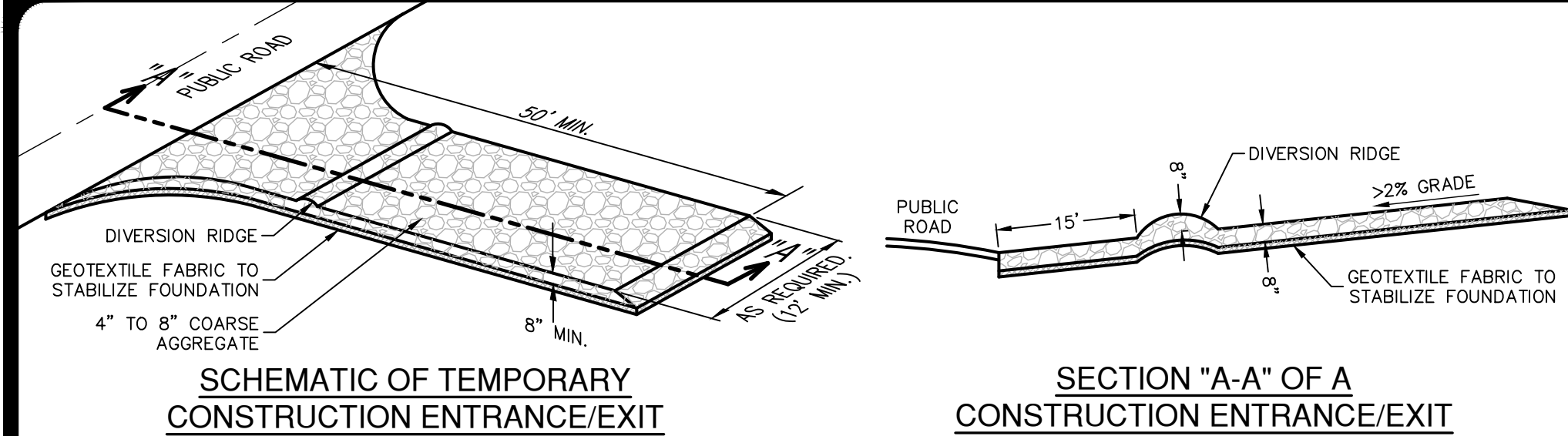










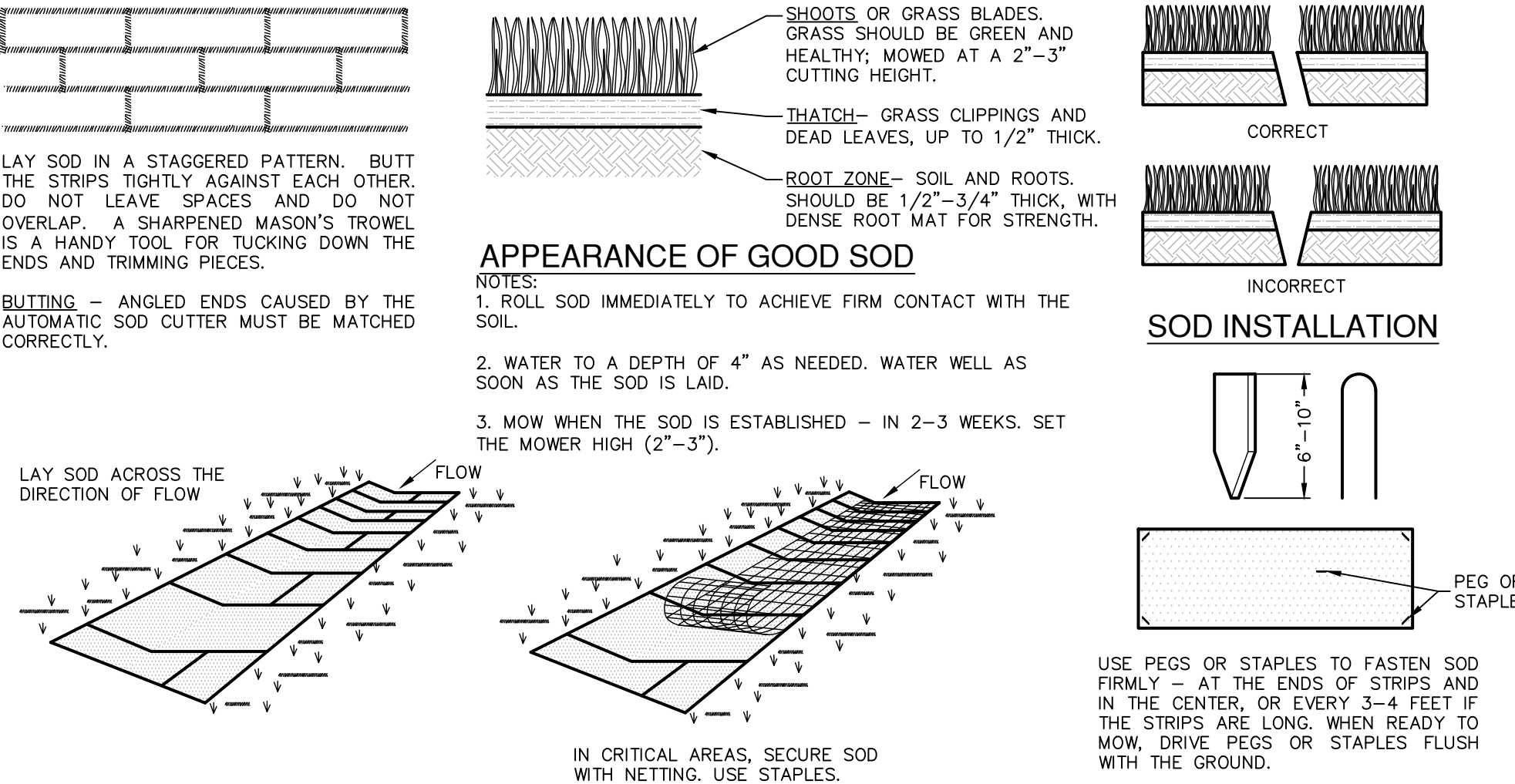


- MATERIALS**
1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
  2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8-INCHES.
  3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD<sup>2</sup>, A MULLEN BURST RATING OF 140 LB/IN<sup>2</sup>, 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, MAINTAIN 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 SOD 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 ROCKS, 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

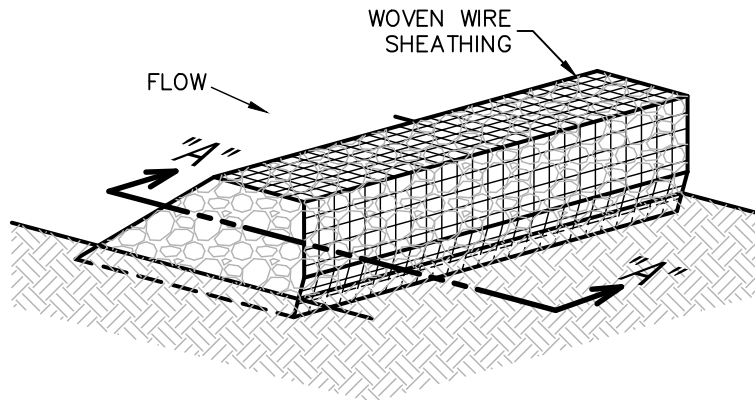
1. INADEQUATE RUNOFF CONTROL-SEDIMENT WASHES ONTO PUBLIC ROAD.
2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.
3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC-EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.
4. PAD NOT FLARED SUFFICIENTLY 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

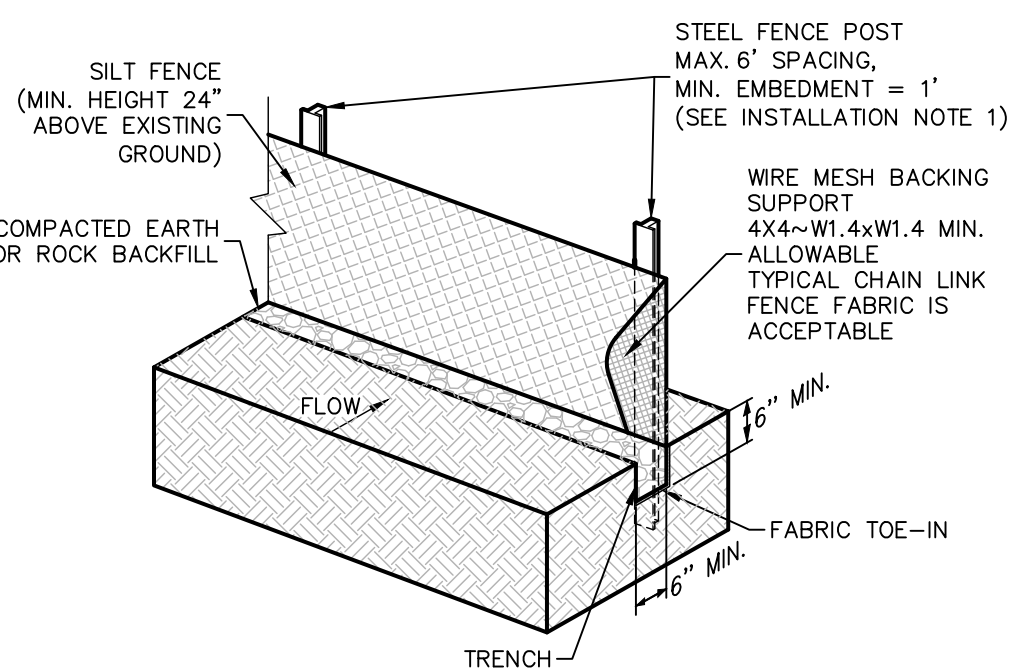
THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT-LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE 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/IN<sup>2</sup>, 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.

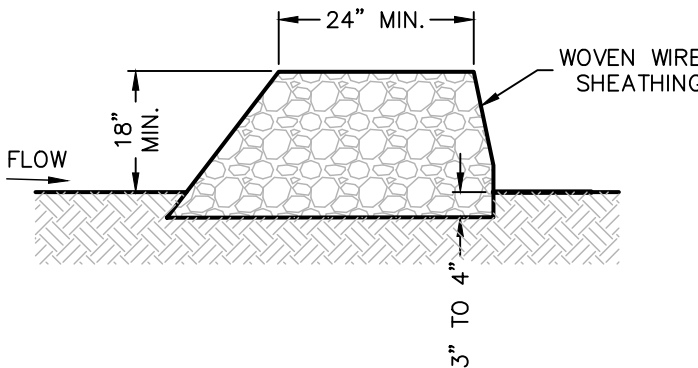
### INSTALLATION

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

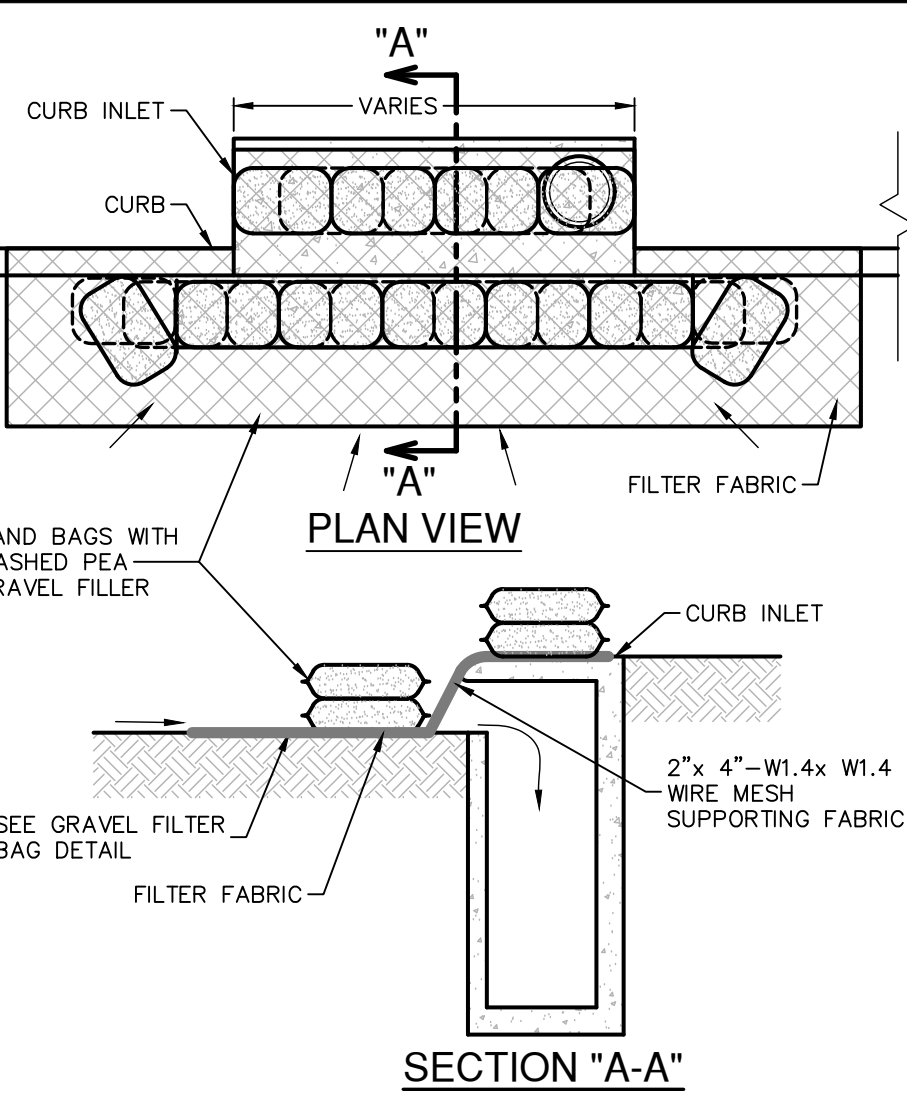
1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR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

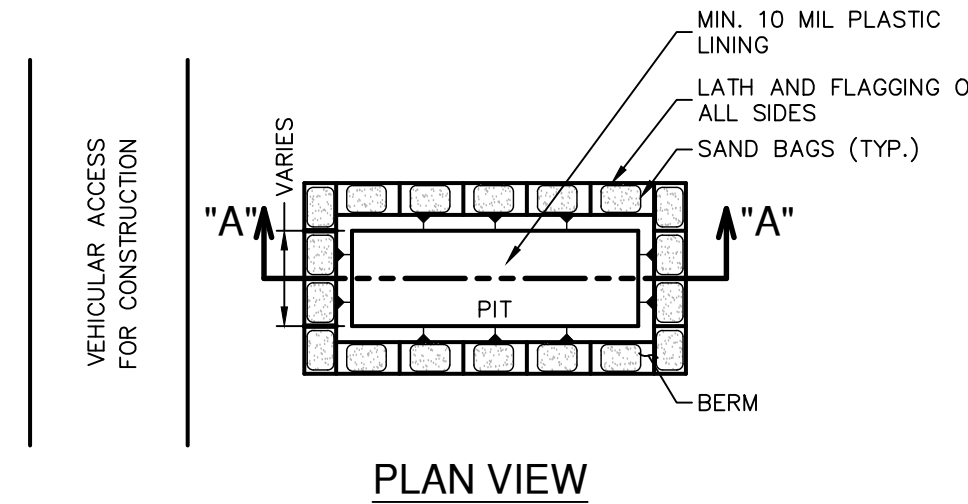


### GENERAL NOTES

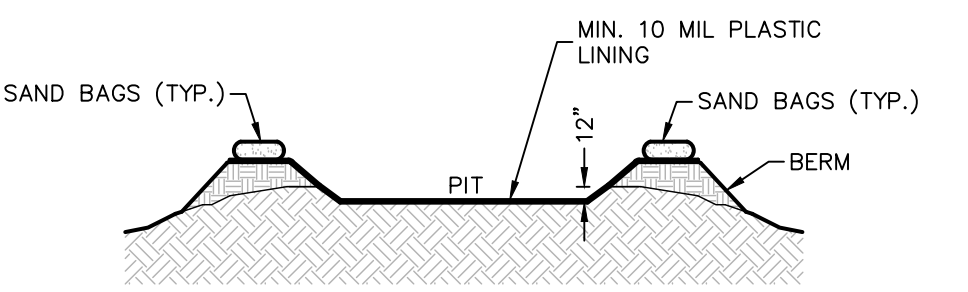
1. CONTRACTOR TO INSTALL 2"x4"-W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WAKE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL 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



### PLAN VIEW



### SECTION "A-A"

### 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.

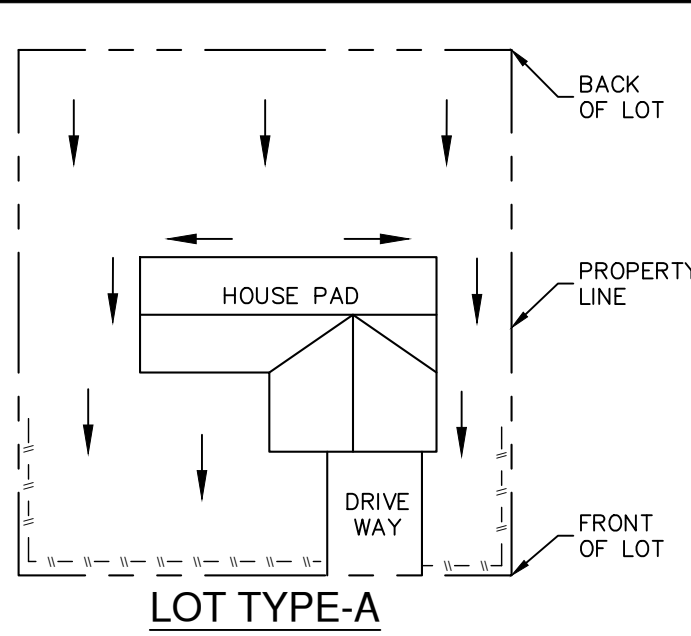
### MAINTENANCE

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.

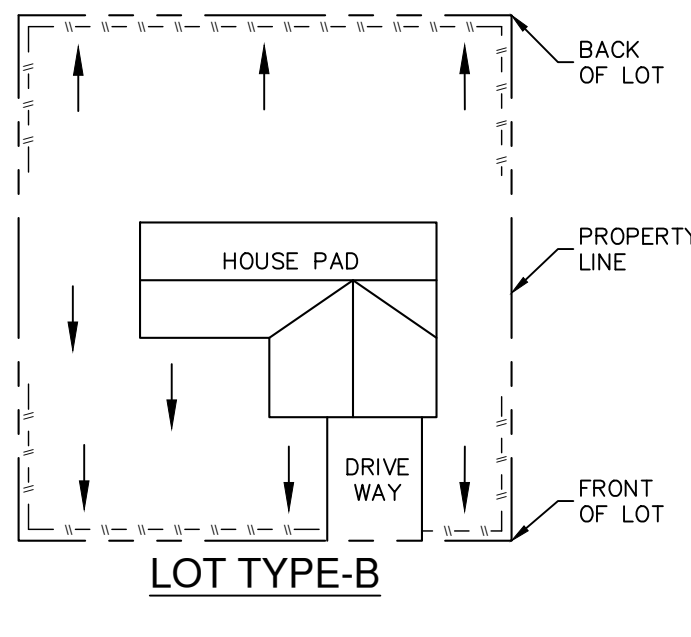
### CONCRETE TRUCK WASHOUT

### PIT DETAIL

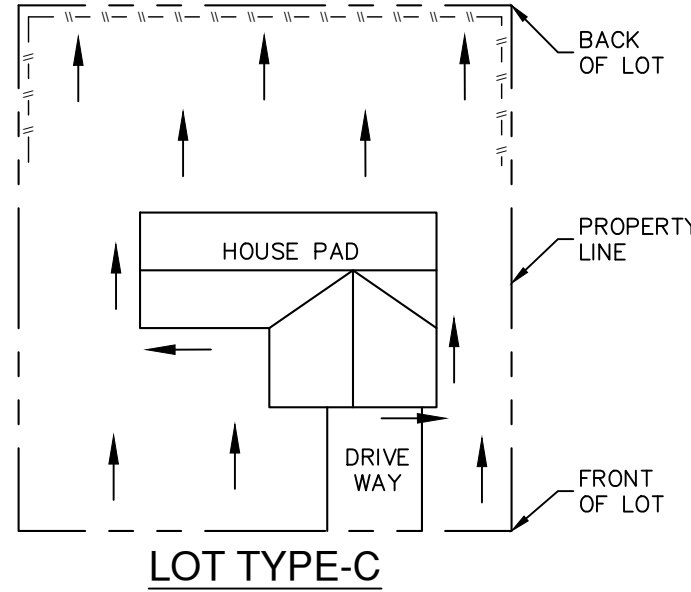
NOT-TO-SCALE



### LOT TYPE-A



### LOT TYPE-B



### LOT TYPE-C

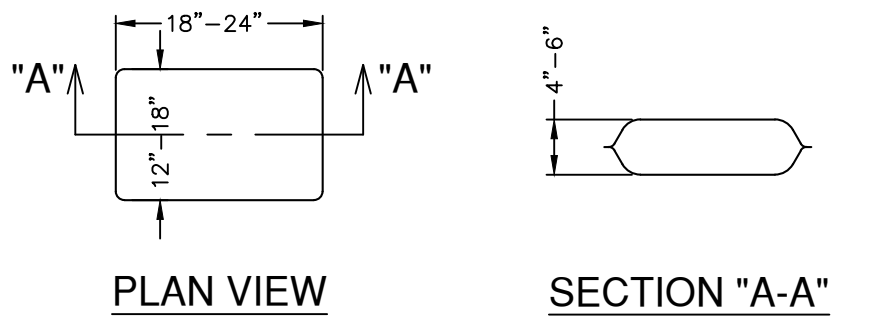
NOTE: SILT FENCE TO BE INSTALLED PER THESE DETAILS AND LOCATED ON THE DOWNGRADED SIDE OF EACH LOT LINE OR LIMITS OF CLEARING AS GENERALLY SHOWN ON THE OVERALL SITE PLAN.

### LEGEND

→ → → → SILT FENCE DRAINAGE FLOW

### TYPICAL HOUSE LOT LAYOUTS

NOT-TO-SCALE



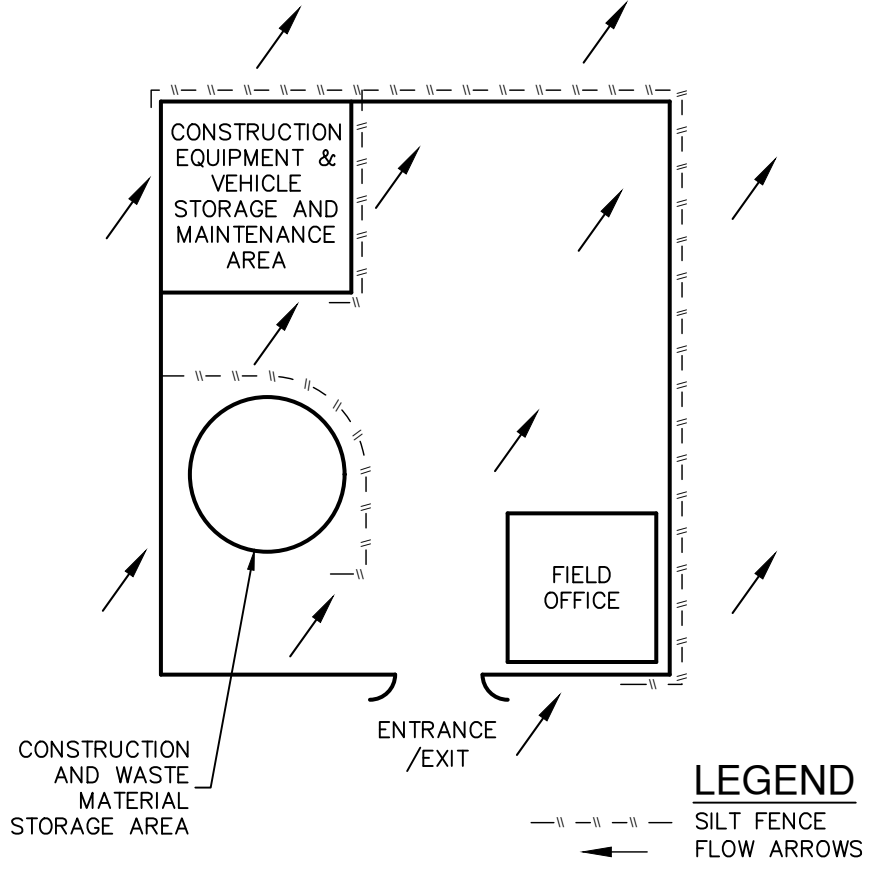
### PLAN VIEW

### 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

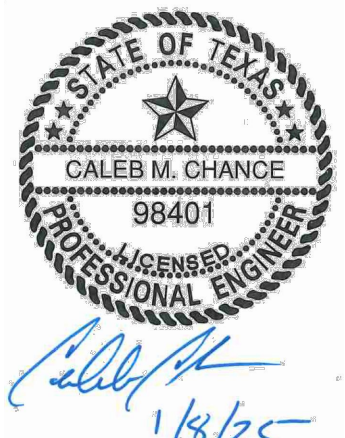
NOT-TO-SCALE

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**  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10038600

**KINDER GALE UNIT 2**  
SAN ANTONIO, TEXAS

### STORMWATER POLLUTION PREVENTION DETAILS

PLAT NO.	24-11800281
JOB NO.	8802-76
DATE	JANUARY 2025
DRAWN	
CHECKED	
SHEET	C8.10