

**LEGEND**

- PROPOSED SEWER LINE
- PROP STEEL CASING
- EXISTING 8" SANITARY SEWER
- PARCEL BOUNDARY LINE
- PERMANENT SAN SEWER ESMT
- TEMPORARY CONSTRUCTION ESMT
- LIMITS OF 100 YEAR FEMA FLOODPLAIN
- LIMITS OF 5 YEAR FEMA FLOODPLAIN
- EXISTING CONTOUR
- EXISTING HERITAGE TREE TO REMAIN
- EXISTING HERITAGE TREE TO BE REMOVED

SCALE: 1" = 200'

0' 200' 400' 600'

NO.	REVISION	DATE

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**PAPE-PAWSON ENGINEERS**  
 SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TYPE FIRM REGISTRATION #070 | TBPUS FIRM REGISTRATION #10028800

**SAWS E-54 SANITARY SEWER PROJECT**  
 SEGMENT A & FORCE MAIN  
 BEXAR COUNTY, TEXAS  
 OVERALL SHEET  
 STA 1+00 TO STA 96+00

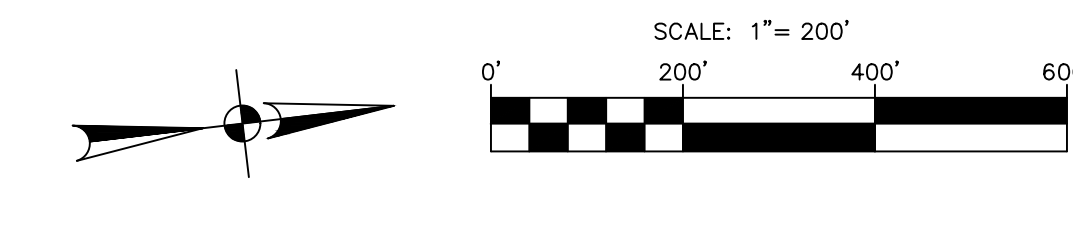
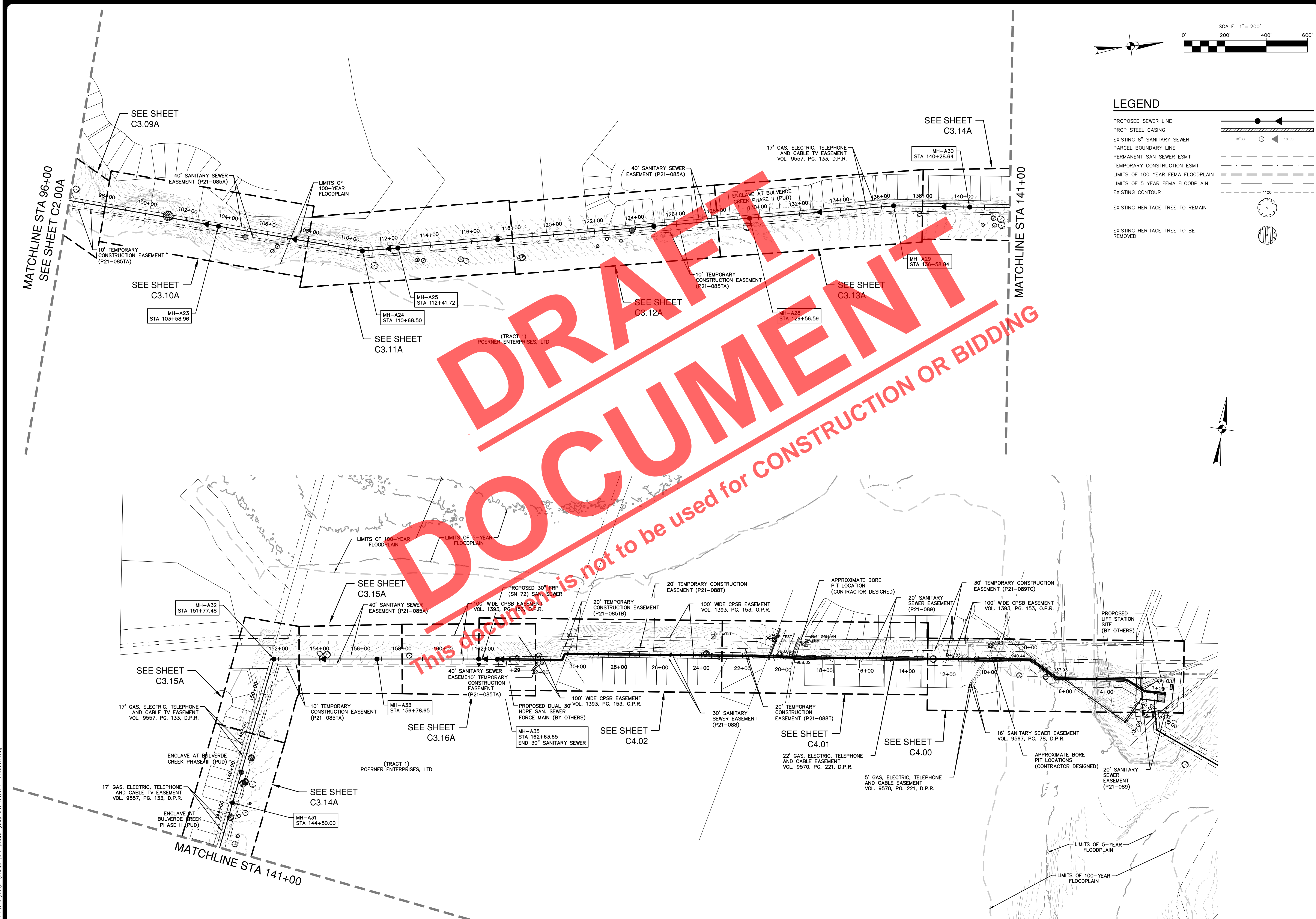
SEWER: EAST WATERSHED - DOS RIOS W.R.C.  
 SAWS E-54 SANITARY SEWER PROJECT

Developer's Name: D.R. HORTON	FAX# N/A
Address: 211 NORTH LOOP 1604, SUITE 130	
City: SAN ANTONIO State: TEXAS ZIP: 78232	
Phone# (210) 496-2668	
SAWS Block Map# 186650, 186652, 186654, 186656, 186658, 186660, 186662, 186664, 186666	Total Acreage 22.74
Total Linear Footage of Pipe 5,263 LF ~ 30" FRP 16,052 LF ~ 30" FRP	Plot No. N/A
Number of Lots N/A TOTAL EDU'S N/A	SAWS JOB NO. 21-4404

SAWS JOB NO. 21-4404
JOB NO. 11500-51
DATE OCTOBER 2021
DESIGNER CD
CHECKED MP DRAWN BS
SHEET C2.00A

Note: Oct 27, 2021, 10:48am User: ID: cally  
 File: P:\15\0051\Design\CD\Sewer\Segment A\04A1-1150051.dwg  
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Notes: Oct 29, 2021, 11:06am User: ID: callyi  
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NO.	REVISION

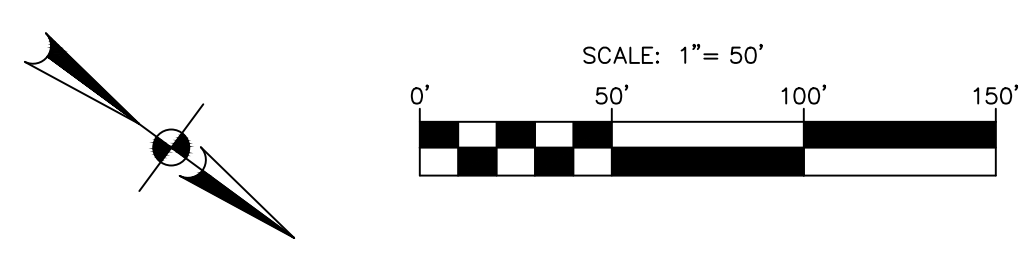
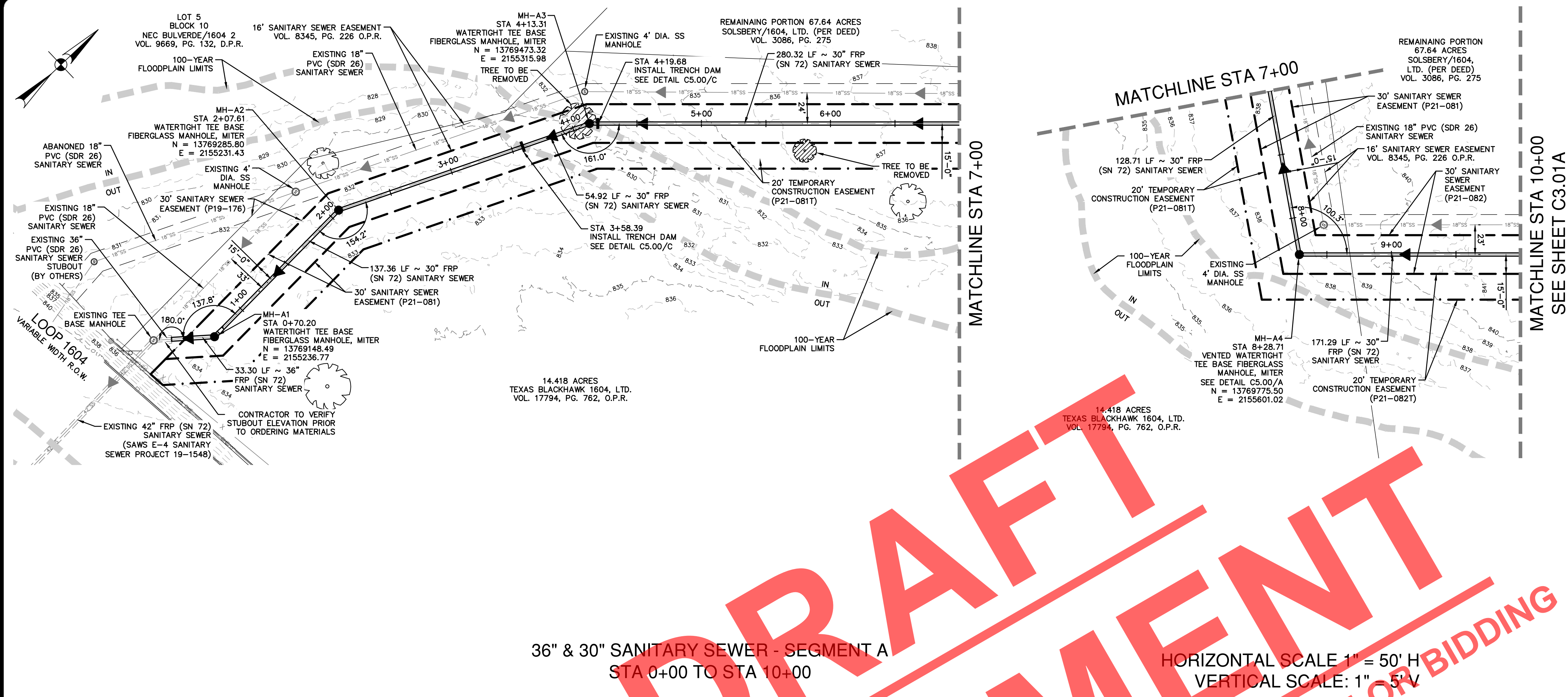
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SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TYPE FIRM REGISTRATION #070 | TPPLUS FIRM REGISTRATION #1008890

**SAWS E-54 SANITARY SEWER PROJECT**  
 SEGMENT A & FORCE MAIN  
 BEXAR COUNTY, TEXAS  
 OVERALL SHEET  
 STA 96+00 TO STA 162+40

**DRAFT DOCUMENT**  
 This document is not to be used for CONSTRUCTION OR BIDDING



**LEGEND**

PROPOSED SEWER LINE	
PERMANENT SAN SEWER ESMT	
TEMPORARY CONSTRUCTION ESMT	
EXISTING 42" SANITARY SEWER	
EXISTING 8" SANITARY SEWER	
PARCEL BOUNDARY LINE	
EXISTING ESMT	
LIMITS OF 100 YEAR FEMA FLOODPLAIN	
LIMITS OF 10 YEAR FEMA FLOODPLAIN	
EXISTING OVERHEAD ELECTRIC	
EXIST UNDERGROUND FIBER OPTIC	
EXISTING MAJOR CONTOUR	
EXISTING MINOR CONTOUR	
EXISTING BARR WIRE FENCE	
EXISTING GUARD RAIL	
EXISTING HERITAGE TREE TO REMAIN	
EXISTING HERITAGE TREE TO BE REMOVED	

36" & 30" SANITARY SEWER - SEGMENT A  
STA 0+00 TO STA 10+00

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

DRAFT DOCUMENT

This document is not to be used for CONSTRUCTION OR BIDDING

**QUANTITY TABLE**

ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY
550	TRENCH EXCAVATION PROTECTION	LF	964
852A	TEE BASE FIBERGLASS MANHOLE, MITER	EA	3
852A	VENTED TEE BASE FIBERGLASS MANHOLE	EA	1
852A	EXTRA DEPTH TEE BASE MANHOLE	VF	46
857	36" FRP (ASTM D-3262)(SN 72) (OPEN CUT 20'-25')	LF	34
857	30" FRP (ASTM D-3262)(SN 72) (OPEN CUT 10'-15')	LF	150
857	30" FRP (ASTM D-3262)(SN 72) (OPEN CUT 15'-20')	LF	755
857	30" FRP (ASTM D-3262)(SN 72) (OPEN CUT 20'-25')	LF	25
866	SEWER MAIN TV INSPECTION, POST (ALL SIZES)	LF	964

**CAUTION UNDERGROUND UTILITIES**

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE, AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. THE CONTRACTOR MUST CONTACT 1-800-DIG-TESS AND CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION AND/OR START OF CONSTRUCTION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO 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.

**COMPACTION NOTE**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TEST WILL BE DONE AT A LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR/ TEST ADMINISTRATOR. PER EACH 12-INCH LOOSE LIFT PER 400 FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THE REQUIREMENT BEING MET AND VERIFIED BY PROVING ALL NECESSARY DOCUMENTED TEST RESULTS.

**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.

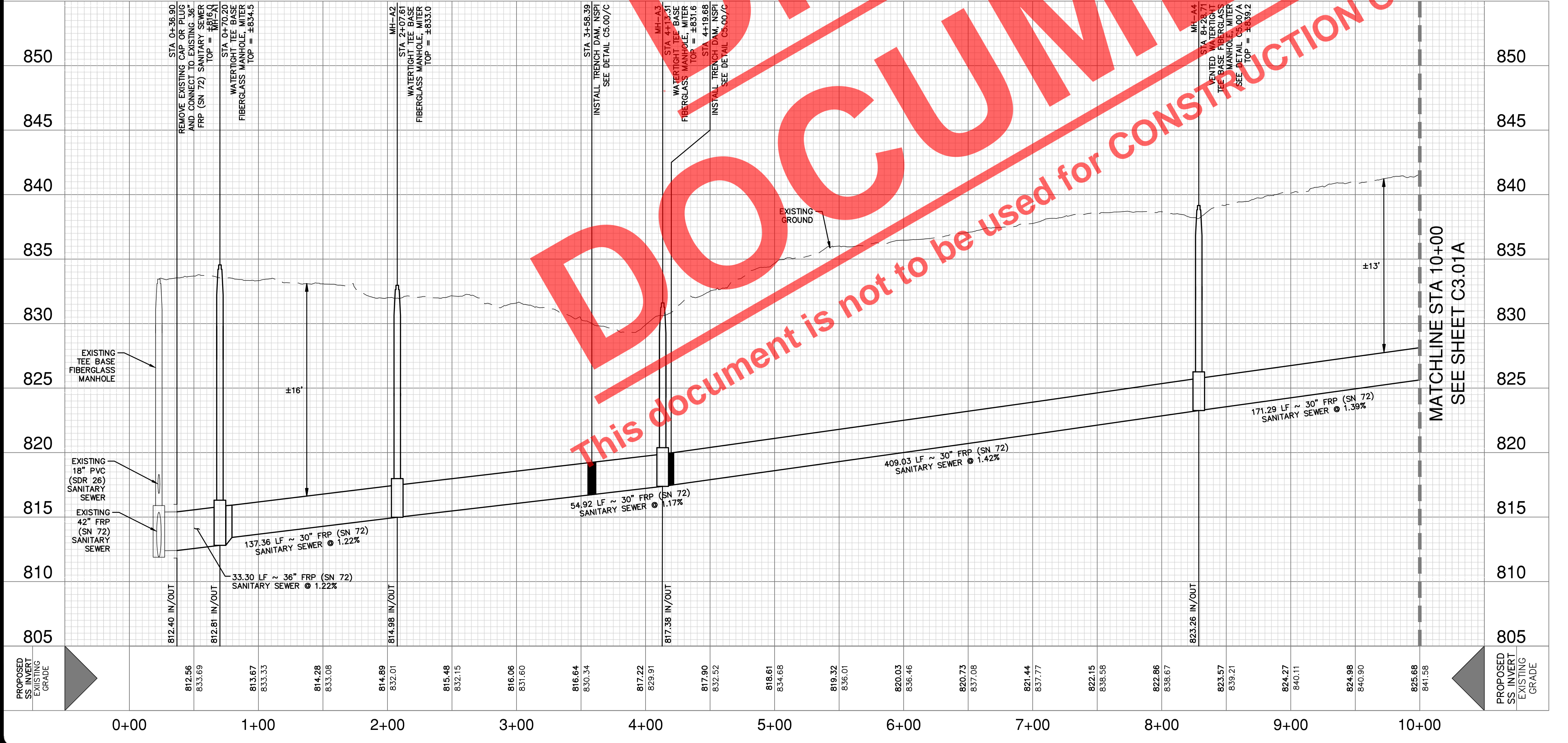
**SEWER: EAST WATERSHED - DOS RIOS W.R.C.**

SAWS E-54 SANITARY SEWER PROJECT

Developer's Name: D.R. HORTON  
Address: 211 NORTH LOOP 1604, SUITE 130  
City: SAN ANTONIO State: TEXAS ZIP: 78232

Phone# (210) 496-2668 FAX# N/A  
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Total Linear Footage of Pipe 5,263 LF ~ 20" HOPE Plot No./N/A  
Number of Lots N/A TOTAL EDU'S N/A SAWS JOB NO. 21-4404



Notes: Oct. 29, 2021, 11:13am, User ID: cally, File Path: \\NAS001\Design\City\SanAntonio\Segment A\SSA1-1150051.dwg

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

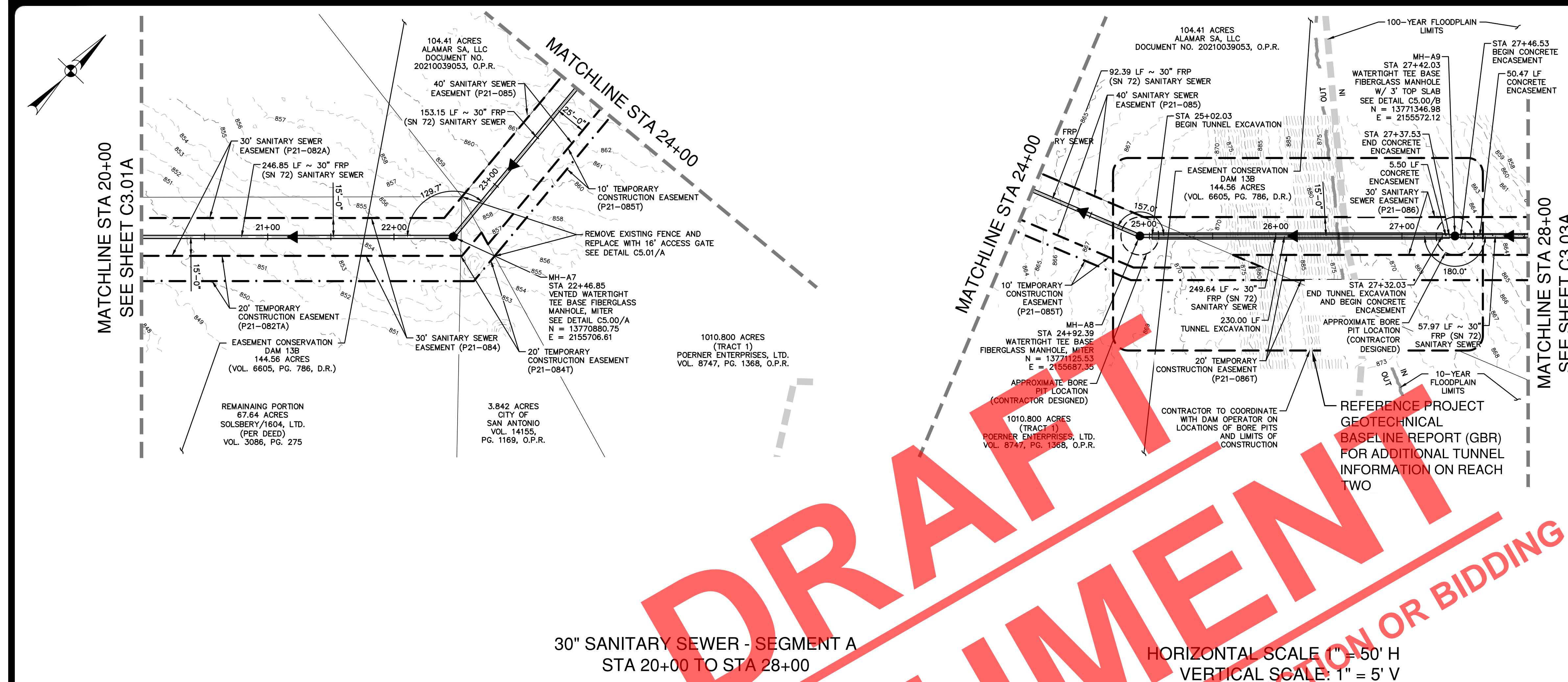
NO. REVISION: \_\_\_\_\_

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**PAPE-DAWSON ENGINEERS**  
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TYPE FIRM REGISTRATION #270 | TPBUS FIRM REGISTRATION #1008890

**SAWS E-54 SANITARY SEWER PROJECT**  
SEGMENT A & FORCE MAIN  
BEXAR COUNTY, TEXAS  
SEGMENT A PLAN AND PROFILE SHEET  
STA 0+00 TO STA 10+00

SAWS JOB NO. 21-4404  
JOB NO. 11500-51  
DATE: OCTOBER 2021  
DESIGNER: CD  
CHECKED: MP DRAWN: BS  
SHEET: C3.00A



SCALE: 1" = 50'

**LEGEND**

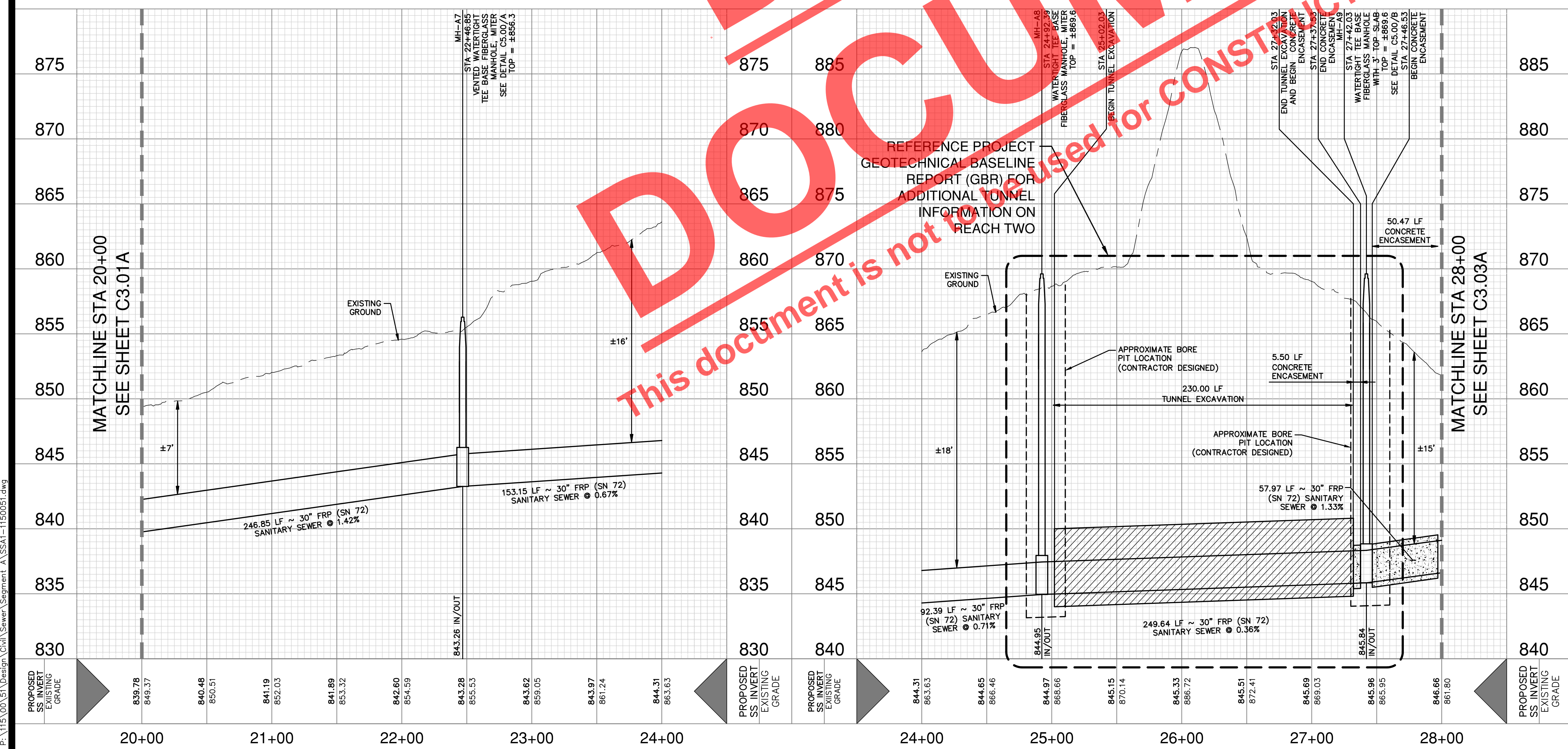
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- LIMITS OF 100 YEAR FEMA FLOODPLAIN
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- EXISTING MINOR CONTOUR
- EXISTING HERITAGE TREE TO REMAIN
- EXISTING HERITAGE TREE TO BE REMOVED

**QUANTITY TABLE**

ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY
507	FENCE GATE 16" TYPE 1	EA	1
508	REMOVE AND REPLACE EXISTING FENCING	LF	50
550	TRENCH EXCAVATION PROTECTION	LF	570
852	TEE BASE FIBERGLASS MANHOLE, MITER	EA	2
852A	VENTED TEE BASE FIBERGLASS MANHOLE	EA	1
852A	EXTRA DEPTH TEE BASE MANHOLE	VF	44
857	30" FRP (ASTM D-3262)(SN 72) (OPEN CUT 10'-15')	LF	290
857	30" FRP (ASTM D-3262)(SN 72) (OPEN CUT 15'-20')	LF	180
857	30" FRP (ASTM D-3262)(SN 72) (OPEN CUT 20'-25')	LF	100
858	CLASS B - 2,000 PSI CONCRETE ENCASUREMENT	CY	37
02300-B	TUNNEL EXCAVATION AND PRIMARY LINER REACH 2	LF	230
02420-B	INSTALLATION OF 72" STEEL CARRIER PIPE IN REACH 2	LF	230
02360-D	REACH 2 ACCESS SHAFT	LS	1
02360-E	REACH 2 RECOVERY SHAFT	LS	1
02420-D	FINAL QA/QC SURVEY	LS	1
866	SEWER MAIN TV INSPECTION, POST (ALL SIZES)	LF	800

30" SANITARY SEWER - SEGMENT A  
STA 20+00 TO STA 28+00

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



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**SEWER: EAST WATERSHED - DOS RIOS W.R.C.**

SAWS E-54 SANITARY SEWER PROJECT

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Total Linear Footage of Pipe 5,263 LF ~ 20" HOPE Plot No./N/A  
Number of Lots /N/A TOTAL EDU'S /N/A SAWS JOB NO. 21-4404

**PAPE-PAWSON ENGINEERS**

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TYPE FIRM REGISTRATION #270 | TYPE FIRM REGISTRATION #10088800

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SEGMENT A PLAN AND PROFILE SHEET  
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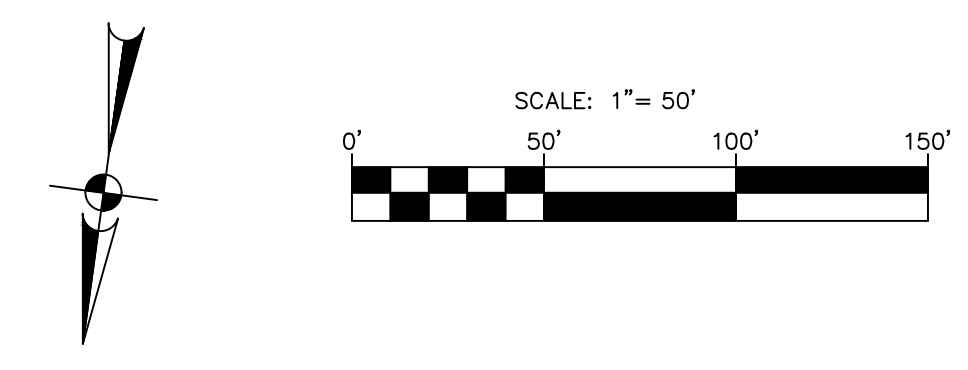
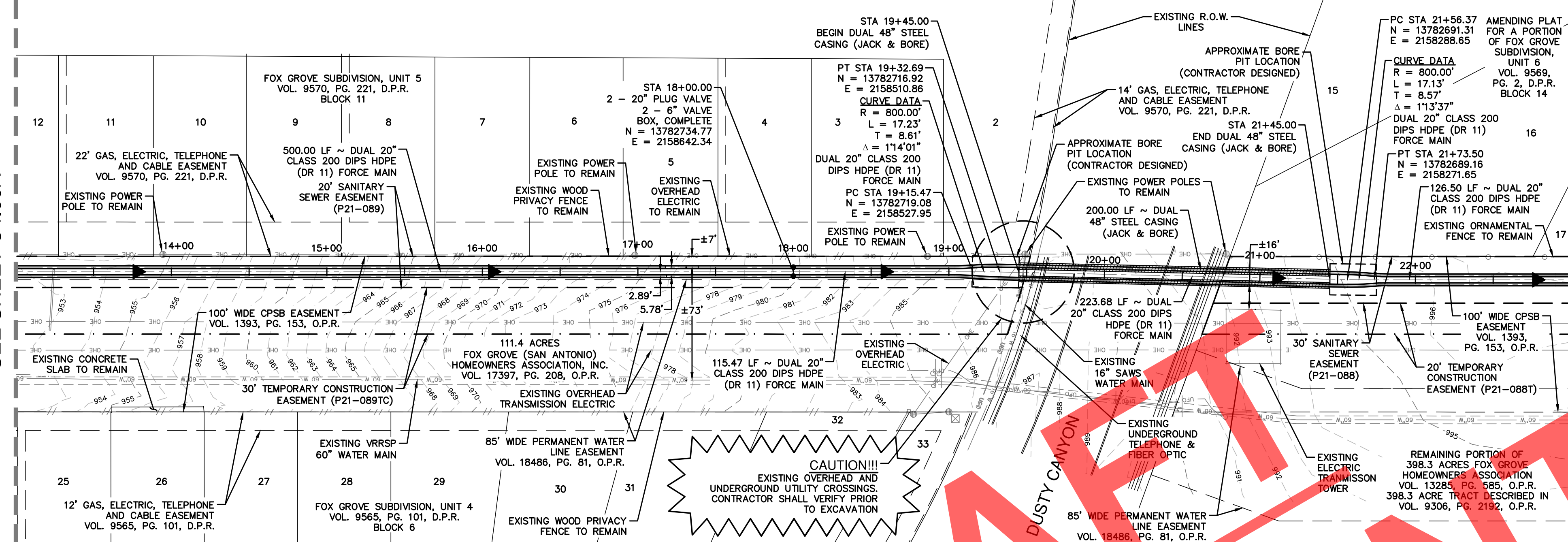
SAWS JOB NO. 21-4404  
JOB NO. 11500-51  
DATE: OCTOBER 2021  
DESIGNER: CD  
CHECKED: MP DRAWN: BS  
SHEET: C3.02A

Notes: Oct. 26, 2021, 11:17am, User: ID: ccolly, File: P:\15\150051\Design\Civil\Sanitary\Segment A\SSA1-1150051.dwg

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MATCHLINE STA 13+00  
SEE SHEET C4.00A

MATCHLINE STA 23+00  
SEE SHEET C4.02A



**LEGEND**

PROPOSED FORCE MAIN	→
PERMANENT SAN SEWER ESMT	—
TEMPORARY CONSTRUCTION ESMT	- - -
EXISTING 60" WATER MAIN	—
EXISTING 16" WATER MAIN	—
PARCEL BOUNDARY LINE	—
EXISTING ESMT	—
LIMITS OF 100 YEAR FEMA FLOODPLAIN	—
LIMITS OF 5 YEAR FEMA FLOODPLAIN	—
EXISTING OVERHEAD ELECTRIC	—
EXISTING UNDERGROUND TELEPHONE	—
EXISTING UNDERGROUND FIBER OPTIC	—
EXISTING MAJOR CONTOUR	—
EXISTING MINOR CONTOUR	—
EXISTING WOOD PRIVACY FENCE	—
EXISTING ORNAMENTAL FENCE	—

DATE	
NO.	
REVISION	

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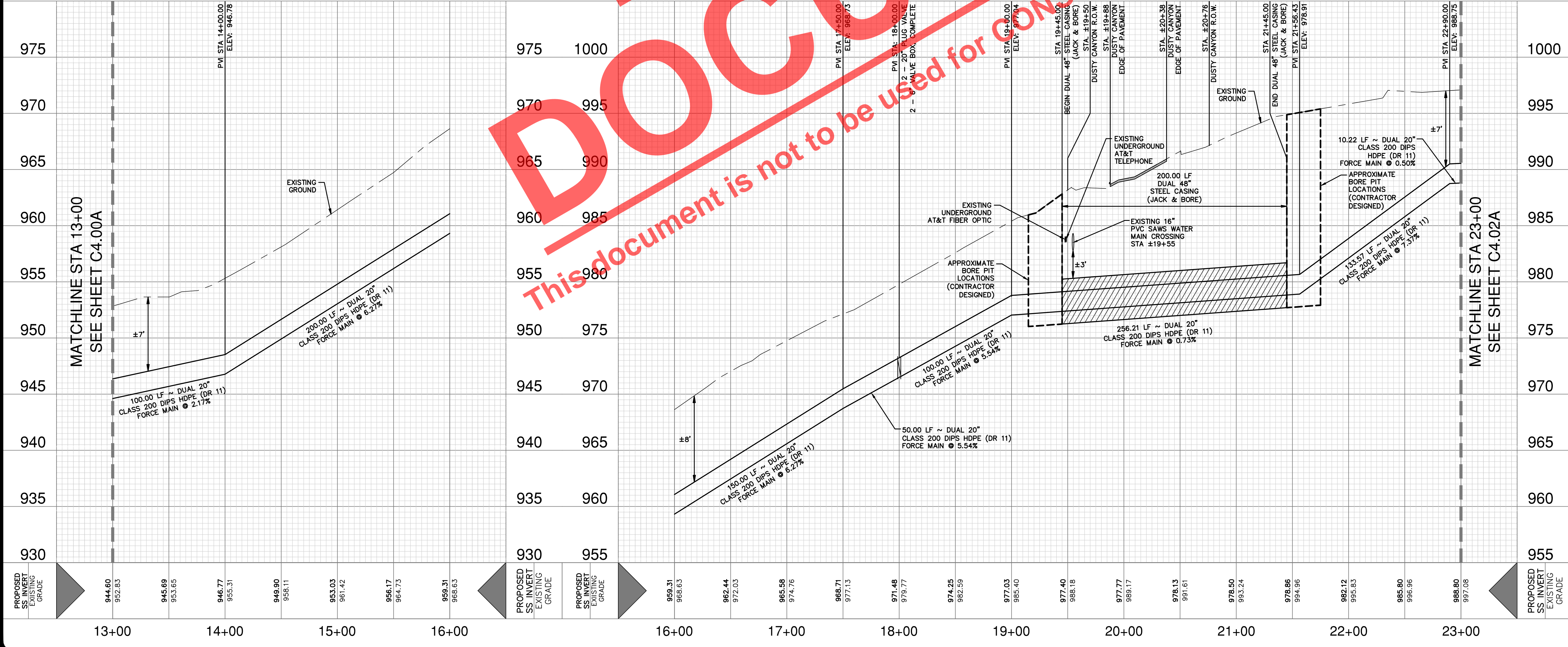
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 2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TYPE FIRM REGISTRATION #270 | TBPUS FIRM REGISTRATION #10028890

**QUANTITY TABLE**

ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY
550	TRENCH EXCAVATION PROTECTION	LF	1,600
848A	20" CLASS 200 DIPS HDPE (DR 11)	LF	1,600
DD 2610	48" STEEL CASING PIPE (MIN. 0.625" MIN. THICKNESS)	LF	400
	20" PLUG VALVE	EA	2
	6" VALVE BOX, COMPLETE	EA	2
02300-G	DUSTY CANYON DRIVE (JB-3A, SEG A)	LF	200
02300-H	DUSTY CANYON DRIVE (JB-3B, SEG A)	LF	200
02360-G	JACK AND BORE PITS FOR JB-3 (INCLUDES 4 EA)	LS	1
02420-G	INSTALLATION OF CARRIER PIPE IN JB-3A	LF	200
02420-H	INSTALLATION OF CARRIER PIPE IN JB-3B	LF	200

DUAL 20" FORCE MAIN  
STA 13+00 TO STA 23+00

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



**CAUTION OVERHEAD UTILITIES**

CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING UNDER "HIGH VOLTAGE TRANSMISSION LINES". A WORKING HEIGHT OF 30' FROM GROUND ELEVATION WILL BE OBSERVED WHEN WORKING UNDER THE HIGH VOLTAGE LINE. COORDINATE ALL WORK WITH THE LOCAL UTILITY PROVIDER.

**CAUTION UNDERGROUND UTILITIES**

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE, AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. THE CONTRACTOR MUST CONTACT 1-800-DIG-TESS AND CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION AND/OR START OF CONSTRUCTION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTORS SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

**COMPACTION NOTE**

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**TRENCH EXCAVATION SAFETY PROTECTION**

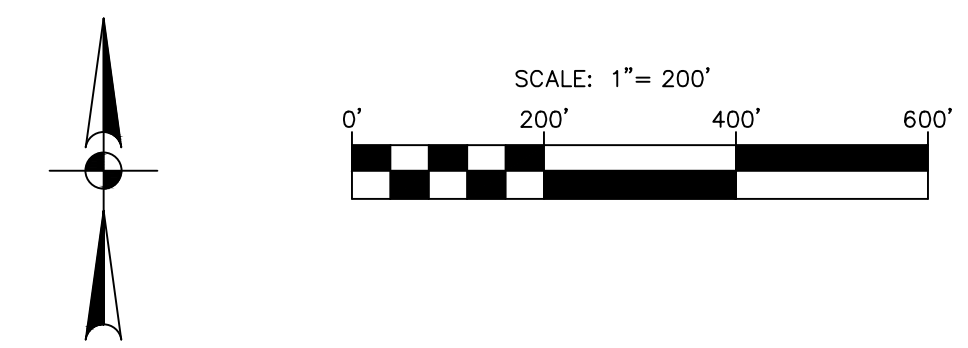
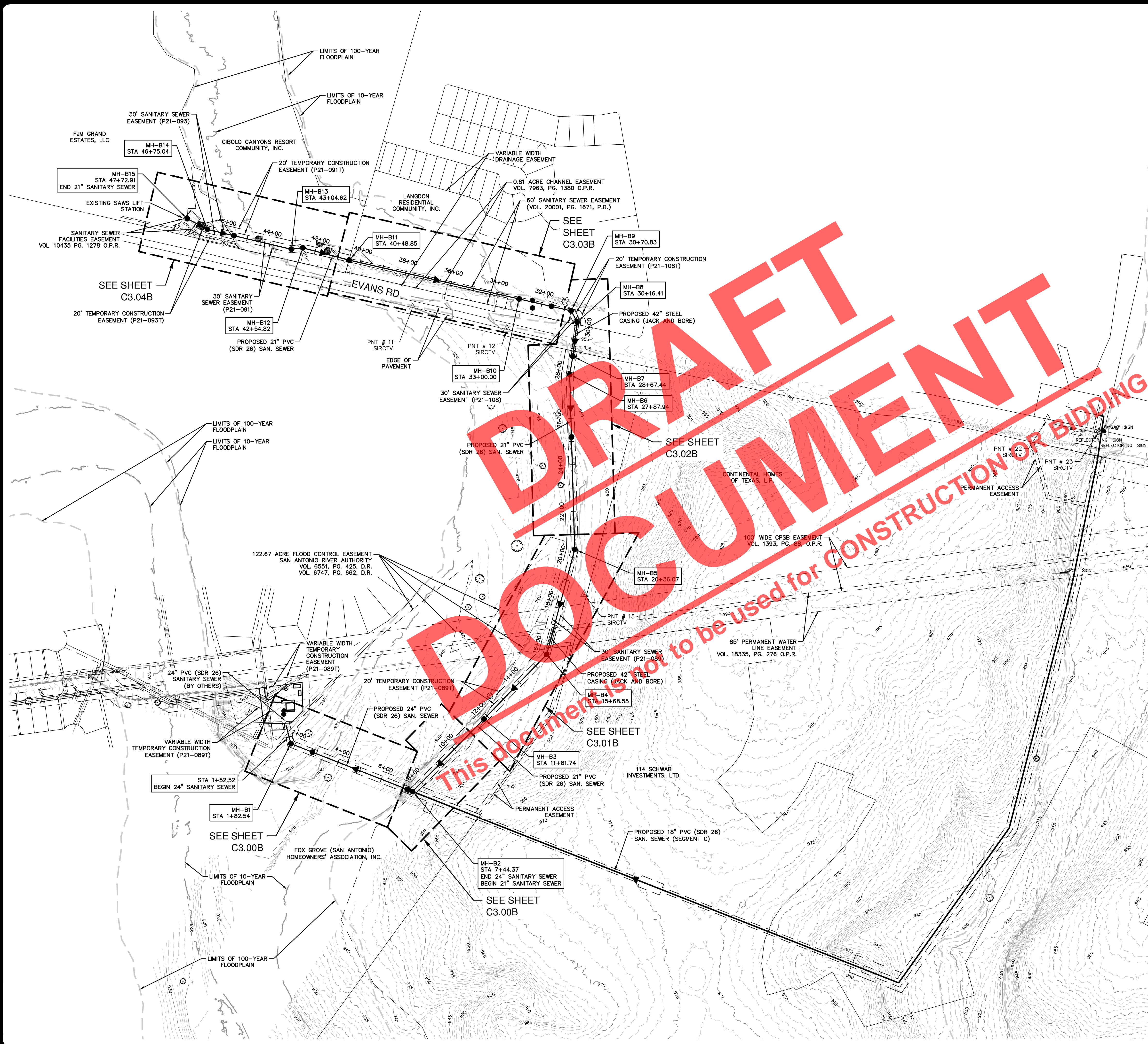
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**SAWS E-54 SANITARY SEWER PROJECT**  
 SEGMENT A & FORCE MAIN  
 BEXAR COUNTY, TEXAS  
 FORCE MAIN PLAN AND PROFILE SHEET  
 STA 13+00 TO STA 23+00

SAWS JOB NO. 21-4404  
 JOB NO. 11500-51  
 DATE: OCTOBER 2021  
 DESIGNER: RM  
 CHECKED: MP DRAWN: BS  
 SHEET: C4.01A

Note: Oct 27, 2021, 10:51 am, User: ID: cally, File: P:\15\0051\Design\Sanitary Sewer\Force Main\SSM-1150051.dwg

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**LEGEND**

- PROPOSED SEWER LINE
- PROP STEEL CASING
- EXISTING SEWER LINE
- PARCEL BOUNDARY LINE
- PERMANENT SAN SEWER ESMT
- TEMPORARY CONSTRUCTION ESMT
- LIMITS OF 100 YEAR FEMA FLOODPLAIN
- LIMITS OF 5 YEAR FEMA FLOODPLAIN
- EXISTING CONTOUR
- EXISTING HERITAGE TREE TO REMAIN
- EXISTING HERITAGE TREE TO BE REMOVED

**OVERALL QUANTITY TABLE**

ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY
505	RIP RAP 24-INCHES THICK	CY	22
507	FENCE GATE 16' TYPE 1	EA	1
508	REMOVE AND REPLACE EXISTING FENCING	LF	50
540	TRENCH EXCAVATION PROTECTION	LF	4,451
550	DOGHOUSE MANHOLE STRUCTURE	EA	1
852	4" DIA. FRP SANITARY SEWER MANHOLE	EA	10
852A	EXTRA DEPTH MANHOLE	VF	140
852A	VENTED 4" DIA. FRP SANITARY SEWER MANHOLE	EA	4
852	TESTING AND ACCEPTANCE OF SANITARY SEWER MANHOLES (ALL TYPES)	LS	1
848A	24" PVC SDR 26 (OPEN CUT 5'-10')	LF	33
848A	24" PVC SDR 26 (OPEN CUT 10'-15')	LF	340
848A	24" PVC SDR 26 (OPEN CUT 15'-20')	LF	154
848A	24" PVC SDR 26 (OPEN CUT 20'-25')	LF	118
848A	21" PVC SDR 26 (OPEN CUT 5'-10')	LF	677
848A	21" PVC SDR 26 (OPEN CUT 10'-15')	LF	2,196
848A	21" PVC SDR 26 (OPEN CUT 15'-20')	LF	832
848A	21" PVC SDR 26 (OPEN CUT 20'-25')	LF	101
DD 2610	42" STEEL CASING PIPE (MIN. 0.625" MIN. THICKNESS)	LF	222
857	TESTING AND ACCEPTANCE OF FRP GRAVITY SEWER (ALL SIZES AND DEPTHS)	LS	1
858	CLASS B - 2,000 PSI CONCRETE ENCASUREMENT	CY	871
866	SEWER MAIN TV INSPECTION, POST (ALL SIZES)	LF	4,451
02300-I	VISTA RIDGE PIPELINE (JB-4, SEG B)	LF	93
02300-J	EVANS ROAD (JB-5, SEG B)	LF	129
02360-H	JACK AND BORE PITS FOR JB-4 (INCLUDES 2 EA)	LS	1
02360-I	JACK AND BORE PITS FOR JB-5 (INCLUDES 2 EA)	LS	1
02420-I	INSTALLATION OF CARRIER PIPE IN JB-4	LF	93
02420-J	INSTALLATION OF CARRIER PIPE IN JB-5	LF	129

**CONTROL POINTS**

POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION	FULL DESCRIPTION
11	13784497.26	2160813.33	954.14	SIRCTV	SET I.R. REDCAP (TRAV)
12	13784405.79	2161218.55	954.64	SIRCTV	SET I.R. REDCAP (TRAV)
15	13783264.99	2161551.12	946.78	SIRCTV	SET I.R. REDCAP (TRAV)
22	13784019.66	2163542.73	979.15	SIRCTV	SET I.R. REDCAP (TRAV)
23	13783963.48	2163763.62	958.54	SIRCTV	SET I.R. REDCAP (TRAV)

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

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

**PAPE-PAWSON ENGINEERS**

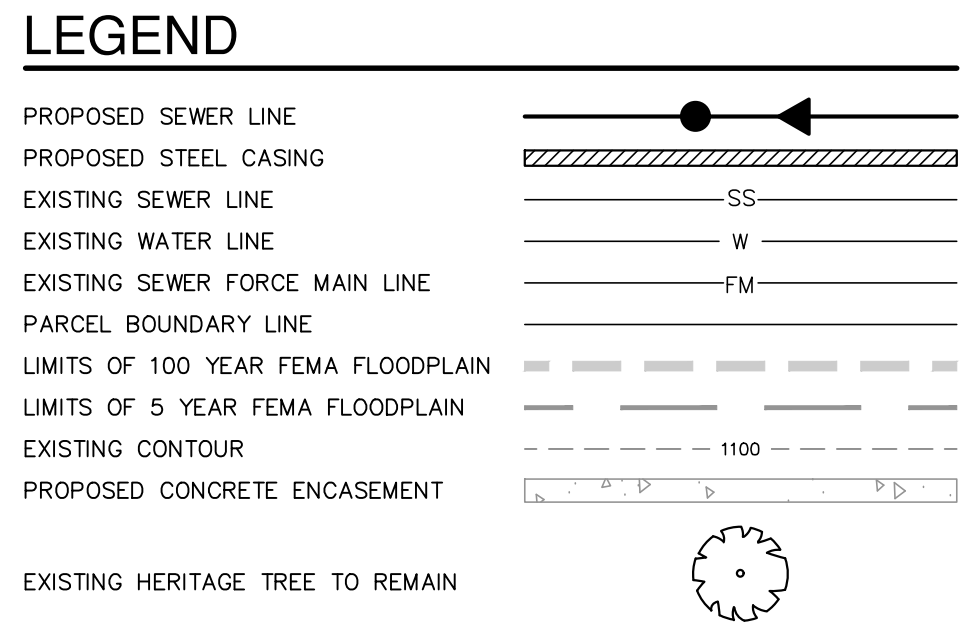
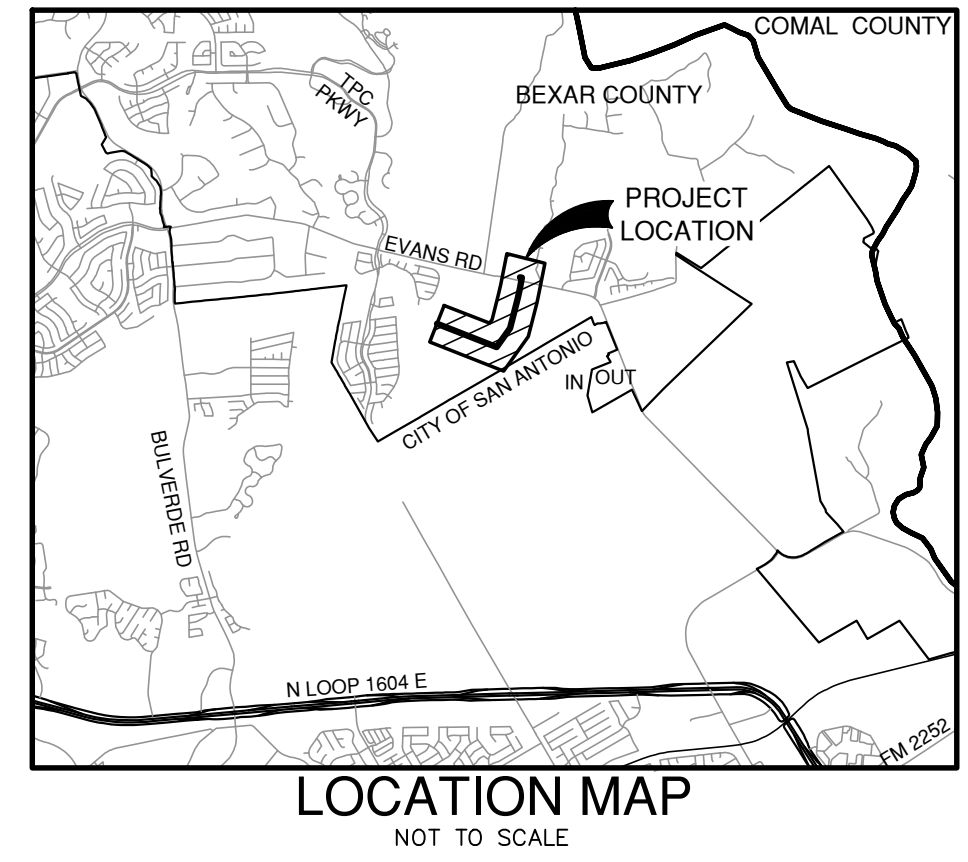
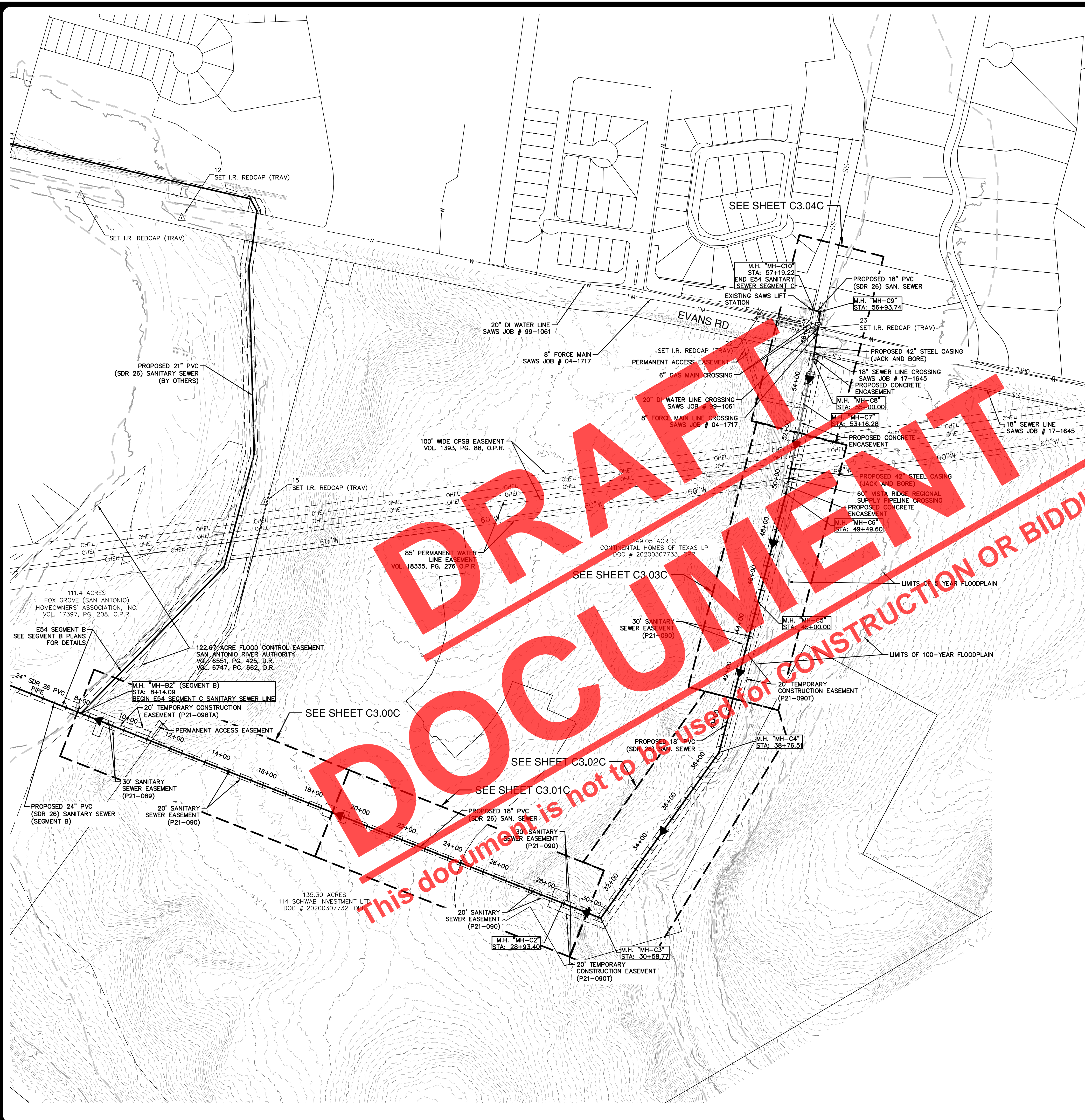
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TYPE FIRM REGISTRATION #270 | TPLS FIRM REGISTRATION #10088890

**SAWS E-54 SANITARY SEWER PROJECT**  
 BEXAR COUNTY, TEXAS  
 SEGMENT B  
 OVERALL SHEET

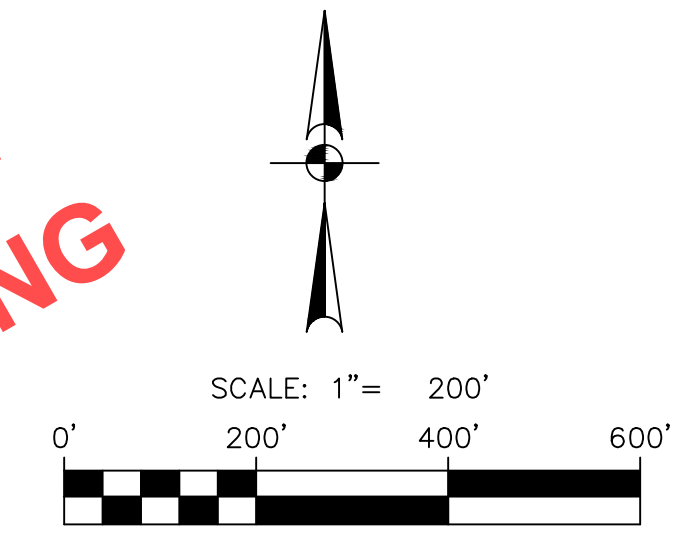
SAWS JOB NO. 21-4404  
 JOB NO. 11500-51  
 DATE OCTOBER 2021  
 DESIGNER MP  
 CHECKED JD DRAWN BS  
 SHEET **C2.00B**

Notes: Oct 27, 2021, 11:09am User ID: cally  
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**SEWER: EAST WATERSHED - DOS RIOS W.R.C.**  
 E-54 SANITARY SEWER SEGMENT C

Developer's Name: D.R. HORTON  
 Address: 211 NORTH LOOP 1604, SUITE 130  
 City: SAN ANTONIO State: TEXAS ZIP: 78232  
 Phone# (210) 496-2668 FAX# N/A  
 184646,184648,184650,186642,186644,186646  
 SAWS Block Map# 186650,186652,186654,186656,186658 Total Acreage 22.74  
 Total Linear Footage of Pipe: 5011 LF ~ 18" PVC Total EDU'S N/A Plat No. N/A  
 Number of Lots N/A SAWS JOB NO. 21-4404

NO.	REVISION

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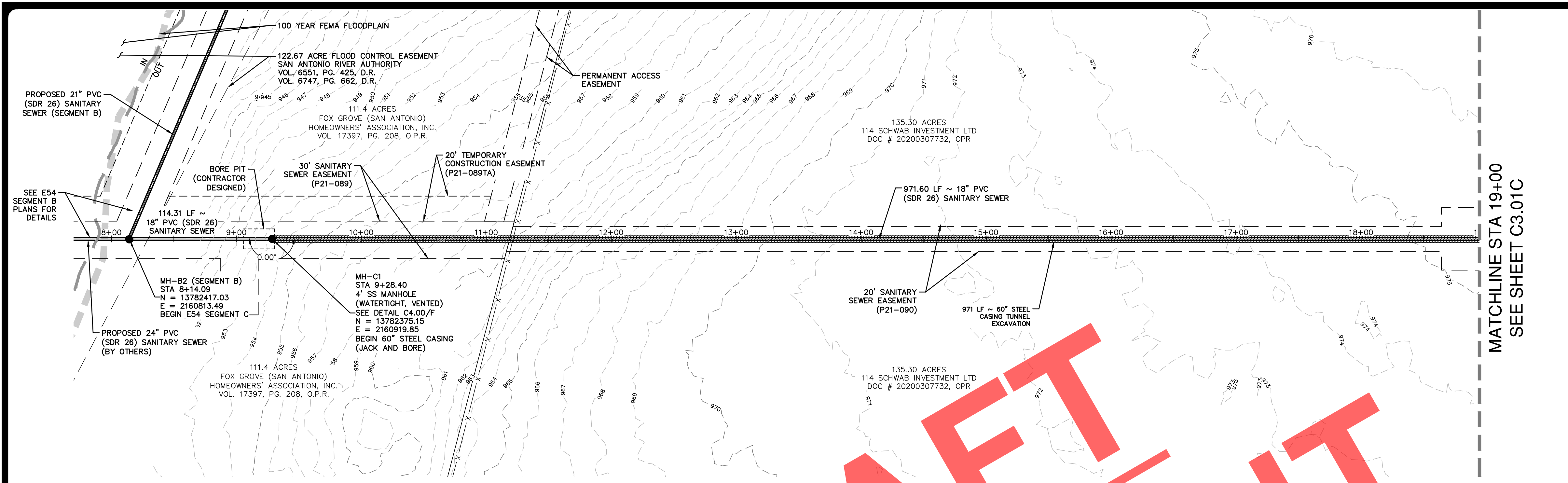
**PAPE-PAWSON ENGINEERS**  
 SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TYPE FIRM REGISTRATION #70 | TBPUS FIRM REGISTRATION #1008890

**SAWS E-54 SANITARY SEWER PROJECT**  
 BEXAR COUNTY, TEXAS  
 SEGMENT C  
 OVERALL SEWER PLAN

SAWS JOB NO.	21-4404
JOB NO.	11500-51
DATE	OCTOBER 2021
DESIGNER	MP
CHECKED	JD DRAWN EP
SHEET	C2.00C

Note: Oct 27, 2021, 11:22am User ID: cally  
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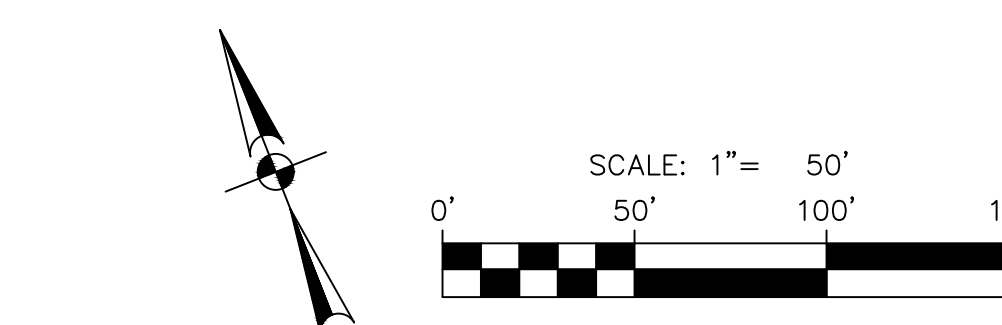


### LEGEND

- PROP SEWER LINE
- EXISTING SEWER LINE
- EXISTING FORCE MAIN
- EXISTING WATER MAIN
- EXISTING CPS GAS LINE
- EXISTING OVERHEAD ELECTRIC
- PROPOSED EASEMENT
- PARCEL BOUNDARY LINE
- EXISTING ESMT
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- LIMITS OF 5 YEAR FEMA FLOODPLAIN
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- EXISTING MINOR CONTOUR
- EXISTING BARB WIRE FENCE
- EXISTING GUARD RAIL
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- EXISTING HERITAGE TREE TO BE REMOVED

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550	TRENCH EXCAVATION PROTECTION	LF	114
852A	VENTED 4' DIA. SANITARY SEWER MANHOLE	EA	1
852A	EXTRA DEPTH MANHOLE	VF	28
848	18" PVC SDR 26 (OPEN CUT 20'-25')	LF	114
866	SEWER MAIN TV INSPECTION, POST	LF	1085
02300-A	TUNNEL EXCAVATION AND PRIMARY REACH 1	LF	971
02420-A	INSTALLATION OF CARRIER PIPE IN REACH 1 (18" PVC SDR 26)	LF	971
02360-A	REACH 1 ACCESS SHAFT	LS	1
02360-B	REACH 1 INTERMEDIATE SHAFT	LS	1
02360-C	REACH 1 RECOVERY SHAFT	LS	1
02420-M	FINAL QA/QC SURVEY	LS	1



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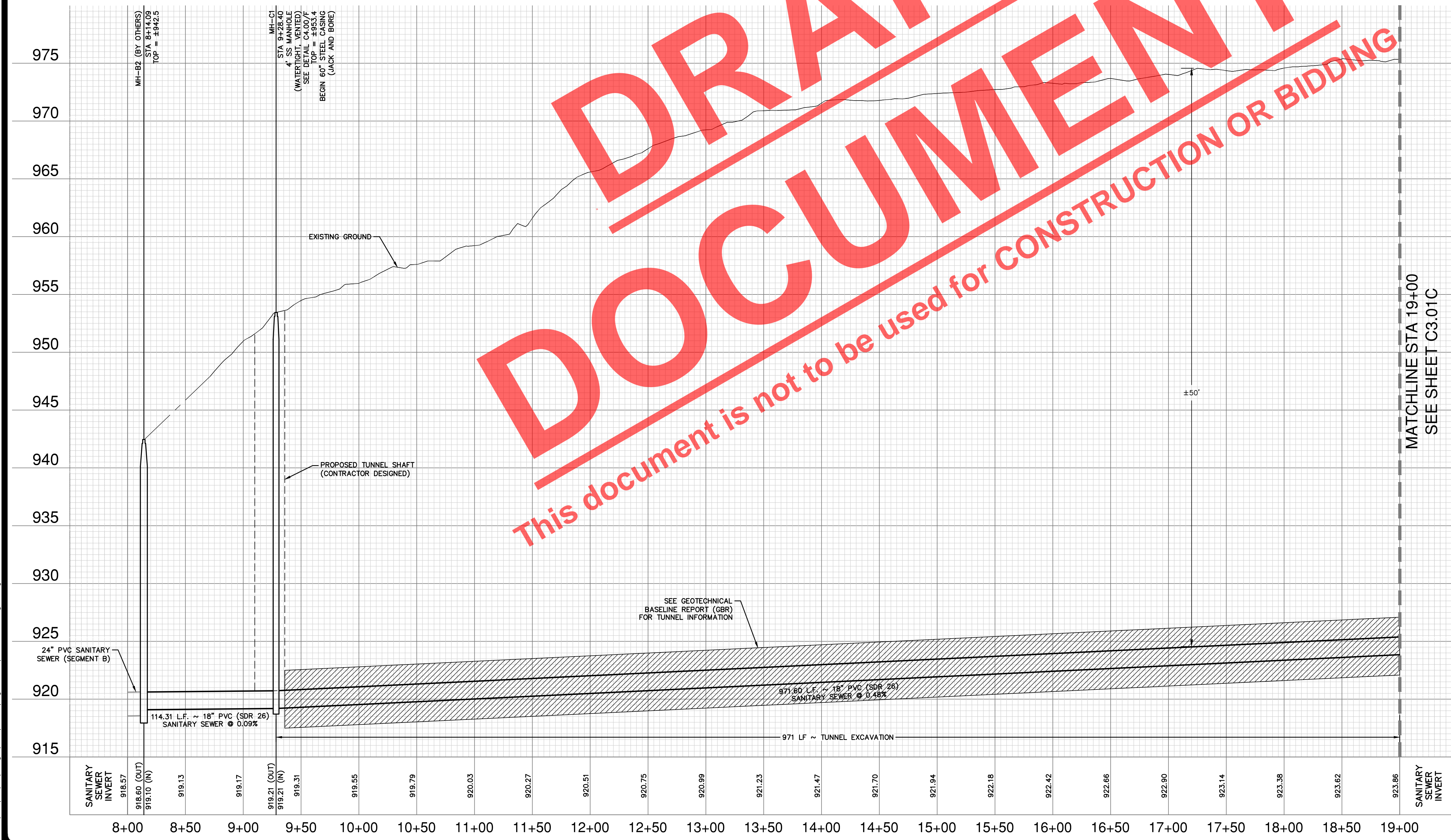
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**SEWER: EAST WATERSHED - DOS RIOS W.R.C. E-54 SANITARY SEWER SEGMENT C**

Developer's Name: D.R. HORTON  
 Address: 211 NORTH LOOP 1604, SUITE 130  
 City: SAN ANTONIO State: TEXAS ZIP: 78232  
 Phone# (210) 496-2668 FAX# N/A  
 184646,184648,184650,186642,186644,186646  
 SAWS Block Map# 186650,186652,186654,186656,186658 Total Acreage 22.74  
 Total Linear Footage of Pipe: 5011 LF ~ 18" PVC Total EDU'S N/A Plat No. N/A  
 Number of Lots: N/A SAWS JOB NO. 21-4404



DRAFT DOCUMENT

This document is not to be used for CONSTRUCTION OR BIDDING

DATE	NO.	REVISION

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**PAPE-DAWSON ENGINEERS**  
 SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028890

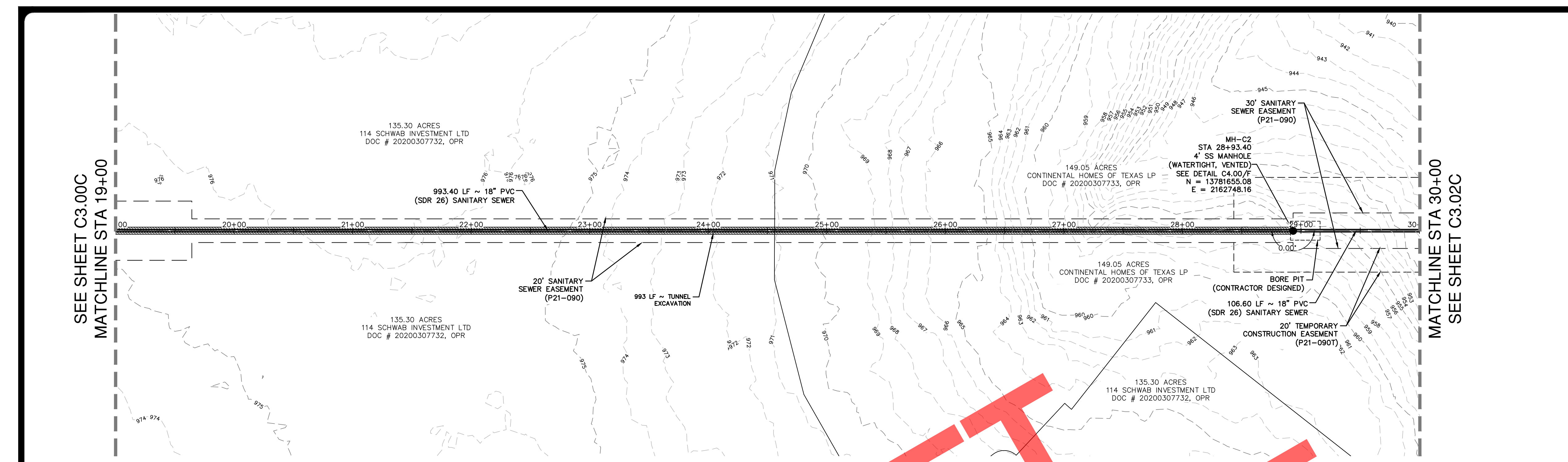
**SAWS E-54 SANITARY SEWER PROJECT**  
 BEXAR COUNTY, TEXAS  
 SEGMENT C  
 PLAN AND PROFILE SHEET  
 STA: 8+00 TO STA: 19+00

SAWS JOB NO. 21-4404  
 JOB NO. 11500-51  
 DATE OCTOBER 2021  
 DESIGNER MP  
 CHECKED JD DRAWN EP  
 SHEET C3.00C

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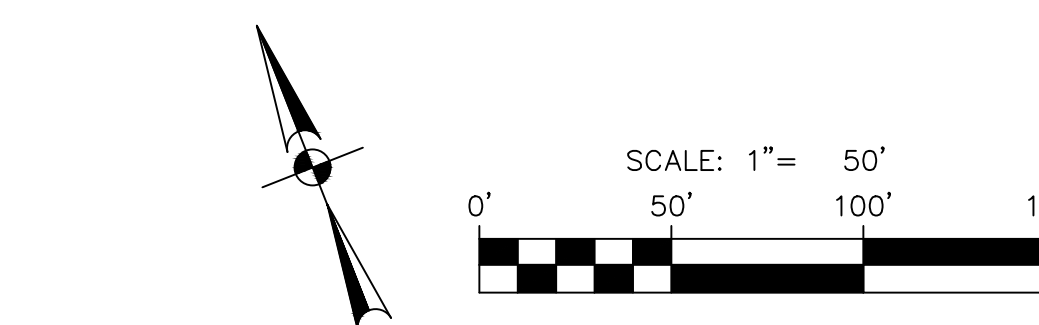
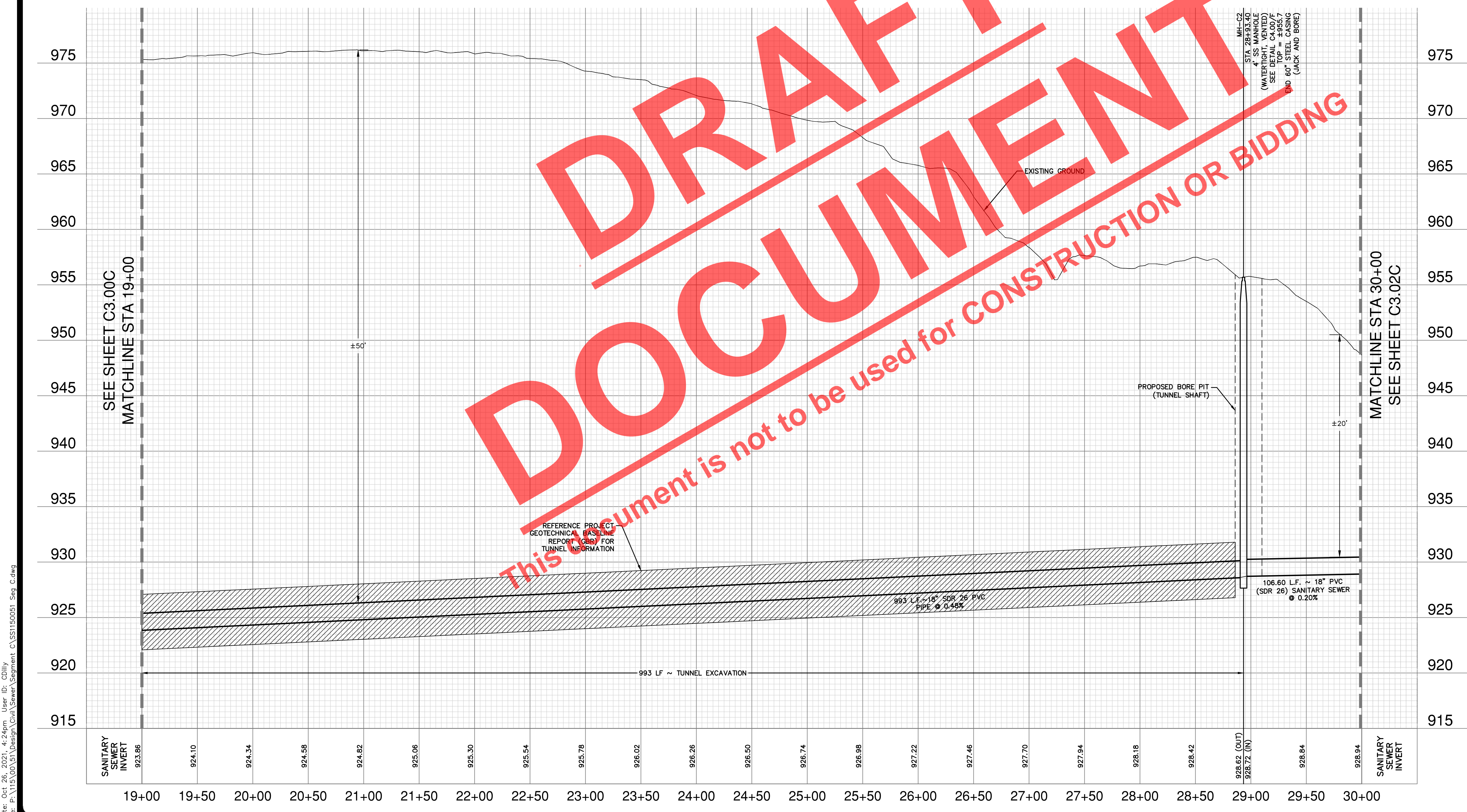


### LEGEND

- PROP SEWER LINE
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- EXISTING FORCE MAIN
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02420-M	FINAL QA/QC SURVEY	LS	1



**CAUTION OVERHEAD UTILITIES**

CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING UNDER "HIGH VOLTAGE TRANSMISSION LINES". A WORKING HEIGHT OF 30' FROM GROUND ELEVATION WILL BE OBSERVED WHEN WORKING UNDER THE HIGH VOLTAGE LINE. COORDINATE ALL WORK WITH THE LOCAL UTILITY PROVIDER.

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THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD, THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE, AND FIBER OPTIC LINES, SITE LIGHTING, ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCT BANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. THE CONTRACTOR MUST CONTACT 1-800-DIG-TESS AND CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION AND/OR START OF CONSTRUCTION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO 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.

**COMPACTION NOTE**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TEST WILL BE DONE AT A LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS INSPECTOR / TEST ADMINISTRATOR PER EACH 12-INCH LOOSE LIFT PER 400 FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THE REQUIREMENT BEING MET AND VERIFIED BY PROVING ALL NECESSARY DOCUMENTED TEST RESULTS.

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**SEWER: EAST WATERSHED - DOS RIOS W.R.C.**  
E-54 SANITARY SEWER SEGMENT C

Developer's Name: D.R. HORTON  
Address: 211 NORTH LOOP 1604, SUITE 130  
City: SAN ANTONIO State: TEXAS ZIP: 78232  
Phone# (210) 498-2668 FAX# N/A  
184646,184648,184650,186642,186644,186646  
SAWS Block Map# 186650,186652,186654,186656,186658 Total Acreage 22.74  
Total Linear Footage of Pipe: 5011 LF ~ 18" PVC Total EDU'S N/A. Plat No. N/A  
Number of Lots N/A SAWS JOB NO. 21-4404

Note: Oct. 26, 2021, at 2:46pm, User ID: c0llylly  
 File: P:\15\1500\151\Design\Civil\Sanitary\Segment C\SS15150051.dwg, C.dwg  
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**DRAFT DOCUMENT**  
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DATE	NO.	REVISION

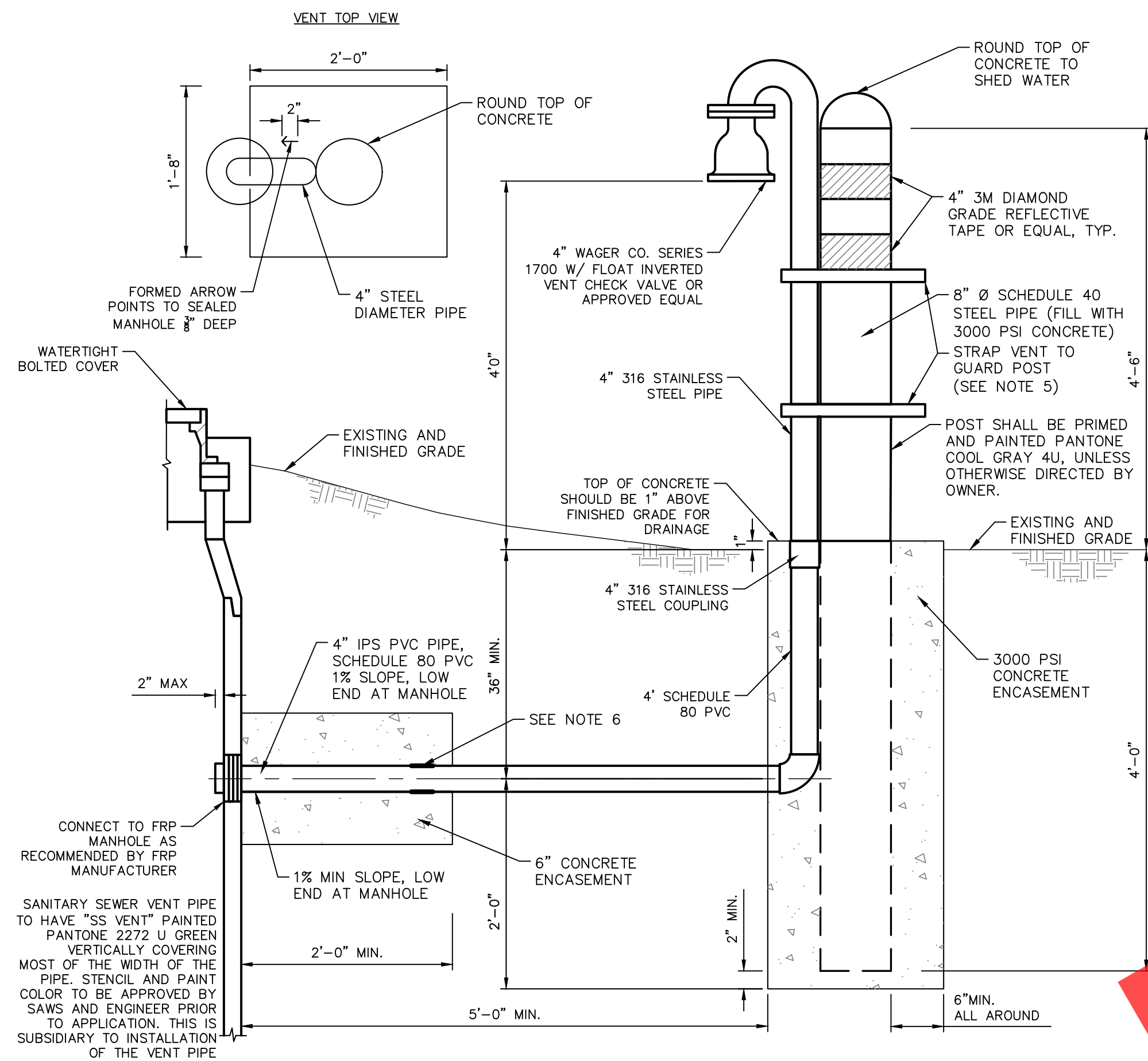
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**PAPE-PAWSON ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028890

**SAWS E-54 SANITARY SEWER PROJECT**  
 BEXAR COUNTY, TEXAS  
 SEGMENT C  
 PLAN AND PROFILE SHEET  
 STA: 19+00 TO STA: 30+00

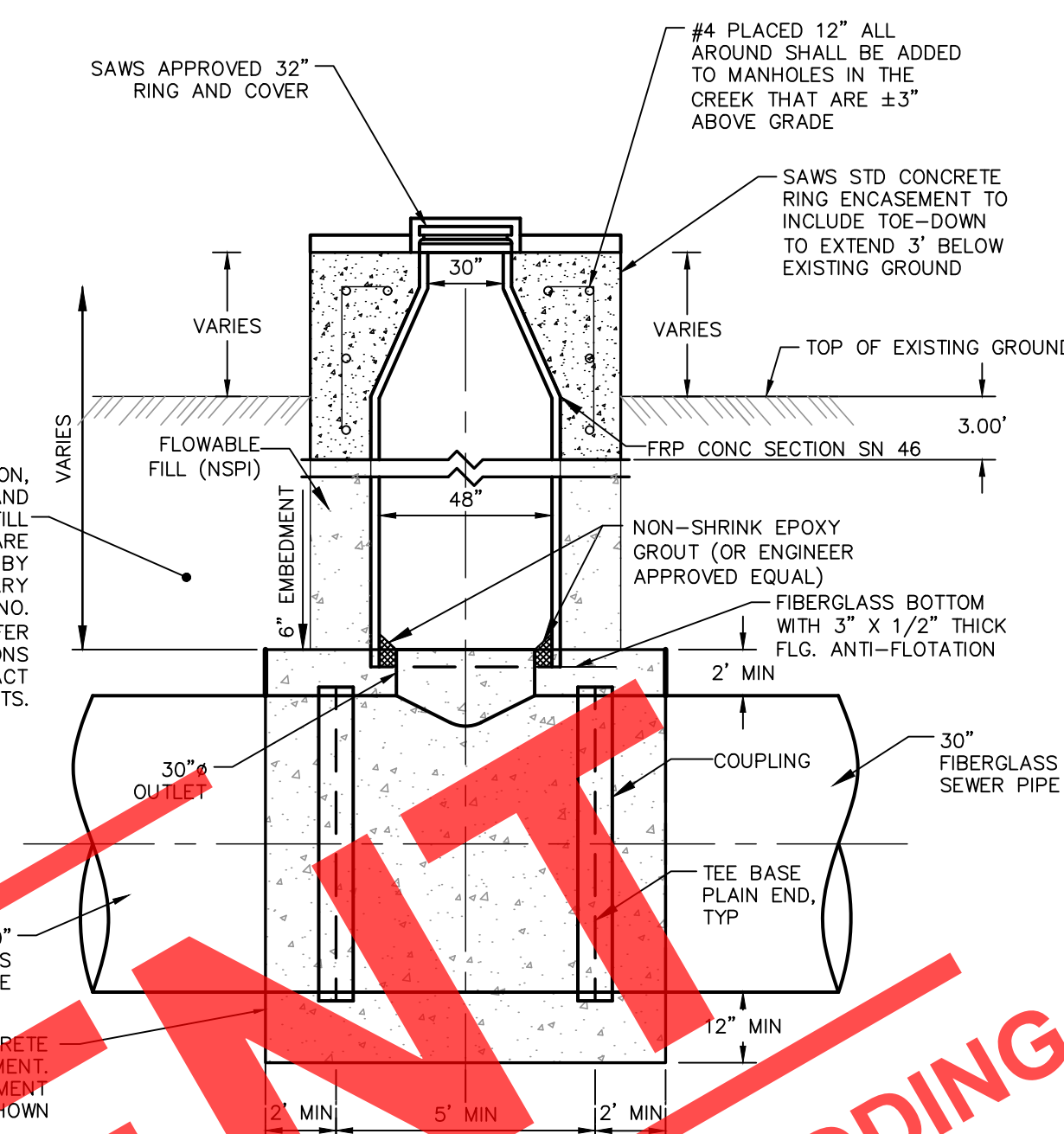
SAWS JOB NO. 21-4404  
 JOB NO. 11500-51  
 DATE: OCTOBER 2021  
 DESIGNER: MP  
 CHECKED: JD DRAWN: EP  
 SHEET: C3.01C



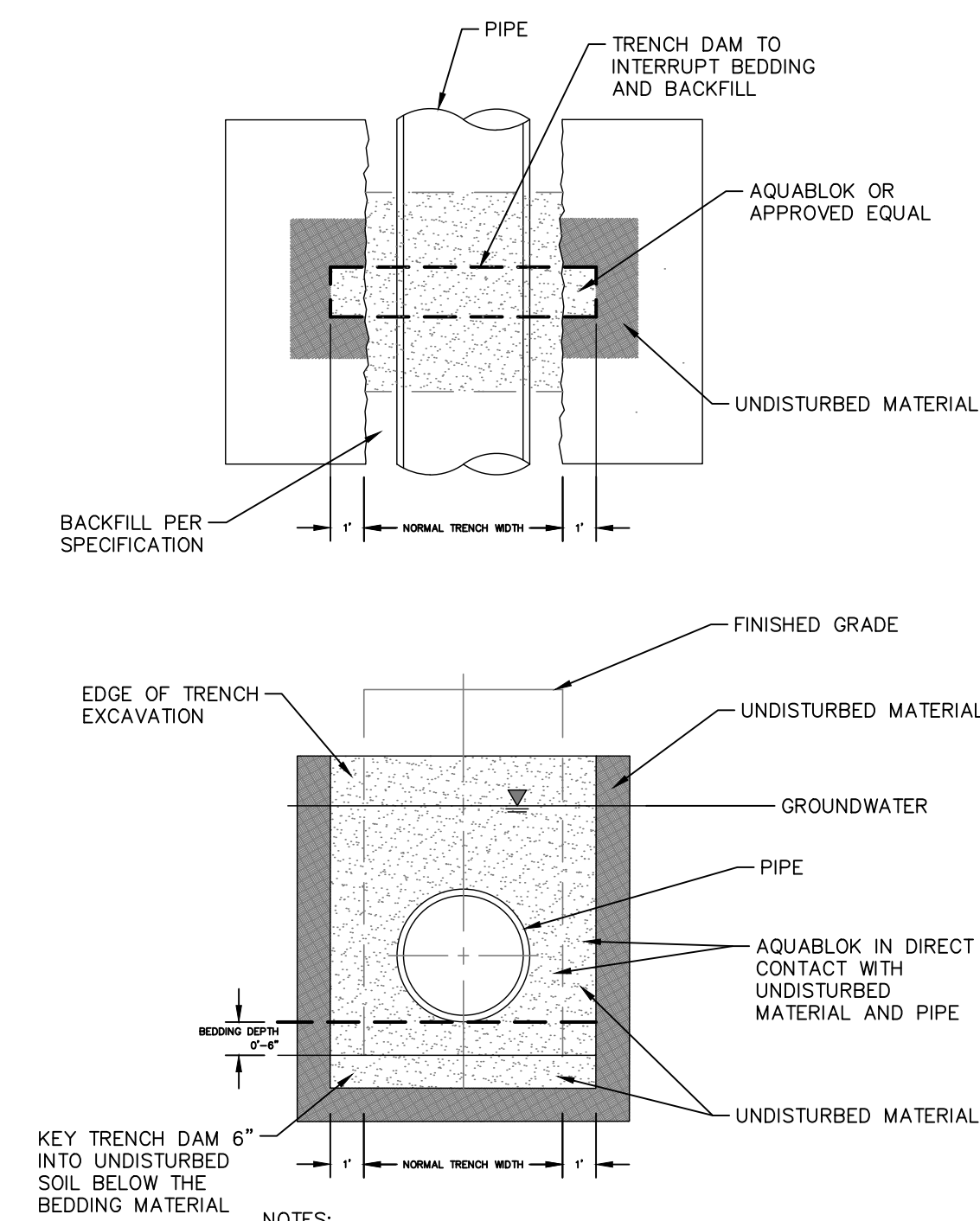
C5.00A  
A  
48" VENTED TEE BASE MANHOLE DETAIL  
N.T.S.

MANHOLE FLOODPLAIN ELEVATIONS							
STA	MANHOLE	VENT	FLOODPLAIN ELEV. AT VENT	VENT ELEVATION	INCLUDES VENT CHECK VALVE	LENGTH OF PIPE FROM MANHOLE TO VENT (FT.)	VENT LOCATION (LT/RT OF BL)
08+28.71	MH-A4	Y	837	842.5	N	5	LT
22+46.85	MH-A7	Y	842	859.8	N	5	LT
34+16.48	MH-A10	Y	877	876.1	Y	5	RT
42+64.86	MH-A12	Y	876	881.2	N	5	LT
57+53.07	MH-A14	Y	879	883.6	N	5	LT
67+42.34	MH-A16	Y	889	897.9	N	5	RT
78+75.41	MH-A21	Y	888	904.2	N	5	LT
91+30.04	MH-A23	Y	915	925.8	N	5	RT
103+58.96	MH-A25	Y	932	936.2	N	5	RT
117+28.65	MH-A28	Y	N/A	968.7	N	5	LT
129+56.59	MH-A30	Y	N/A	986.2	N	5	LT
144+50.00	MH-A33	Y	N/A	1009.8	N	5	RT
156+78.65	MH-A35	Y	N/A	1011.4	N	5	LT

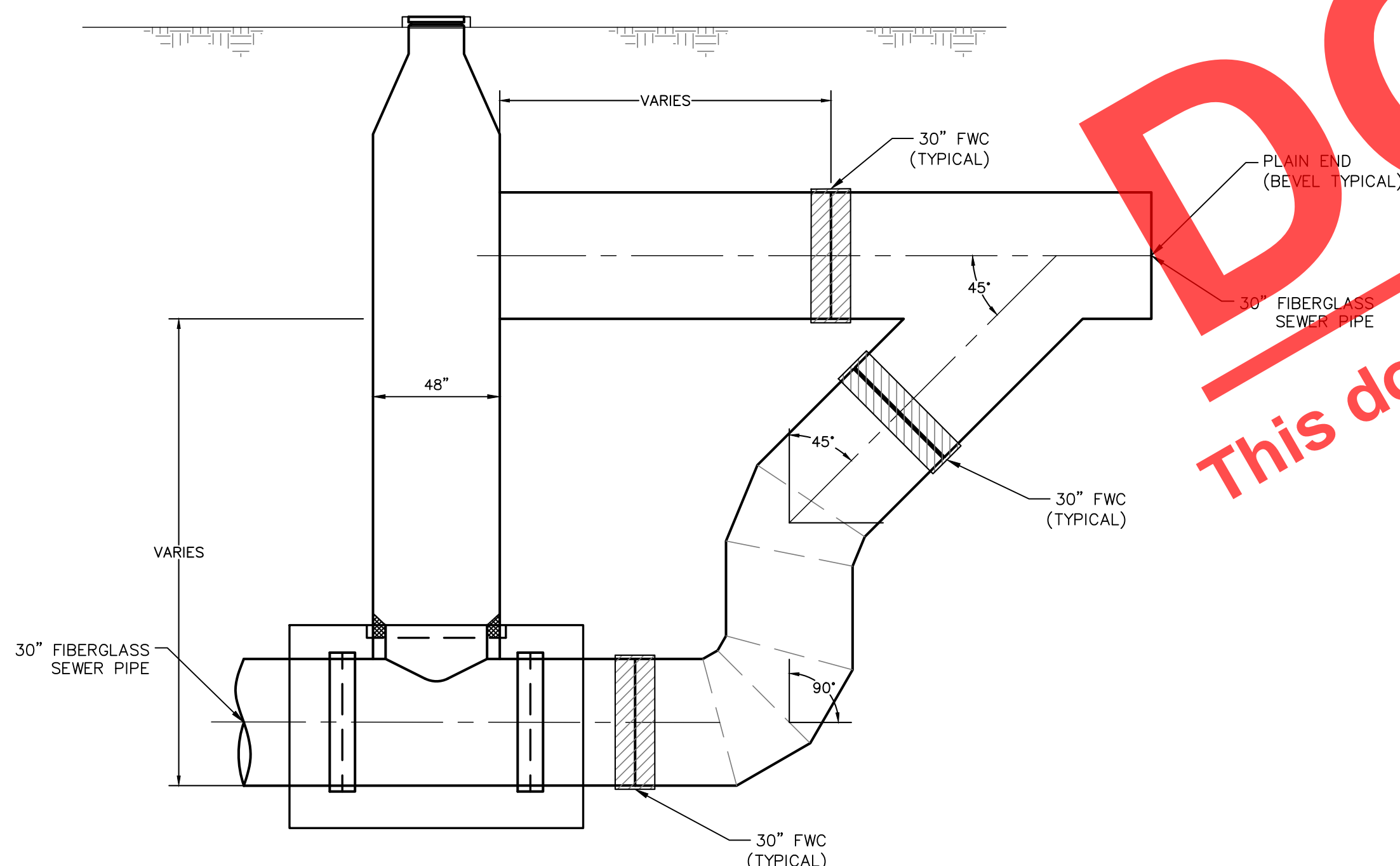
- NOTES:
- REFER TO TABLE FOR MINIMUM ELEVATIONS OF BENT OPENING
  - ALL PIPING BETWEEN MANHOLE AND GUARD POST MUST BE UNDERGROUND
  - BACKFILL AROUND 4" IPS PVC PIPE, SCH80, SHALL BE FLOWABLE FILL WITH A MINIMUM THICKNESS OF 18 INCHES AT NO SEPARATE PAY ITEM
  - MANHOLE VENTS SHALL BE SUBSIDIARY TO THE COST OF THE MANHOLE (NSPI)
  - MINIMUM OF 2 VENT STRAPS, VENT STRAPS TO BE 316 STAINLESS STEEL
  - WRAP PVC PIPE W/ 1" THICK CLOSED CELL FOAM AND TAPE IN PLACE PRIOR TO PLACING CONCRETE.



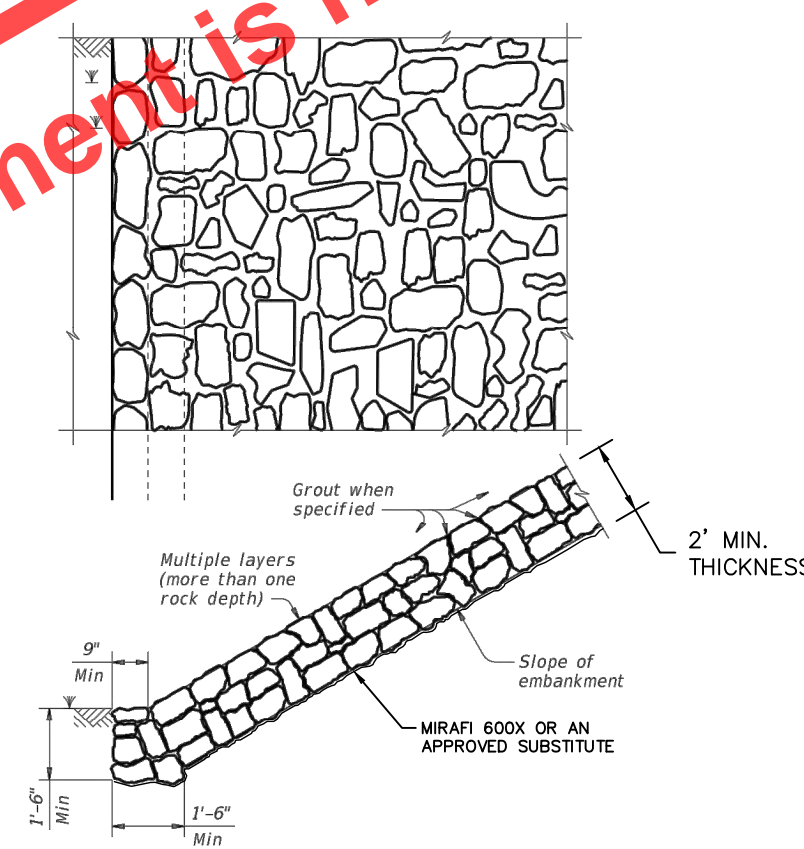
C5.00A  
B  
MANHOLE RAISED ±3' ABOVE EXISTING GRADE SECTION  
N.T.S.



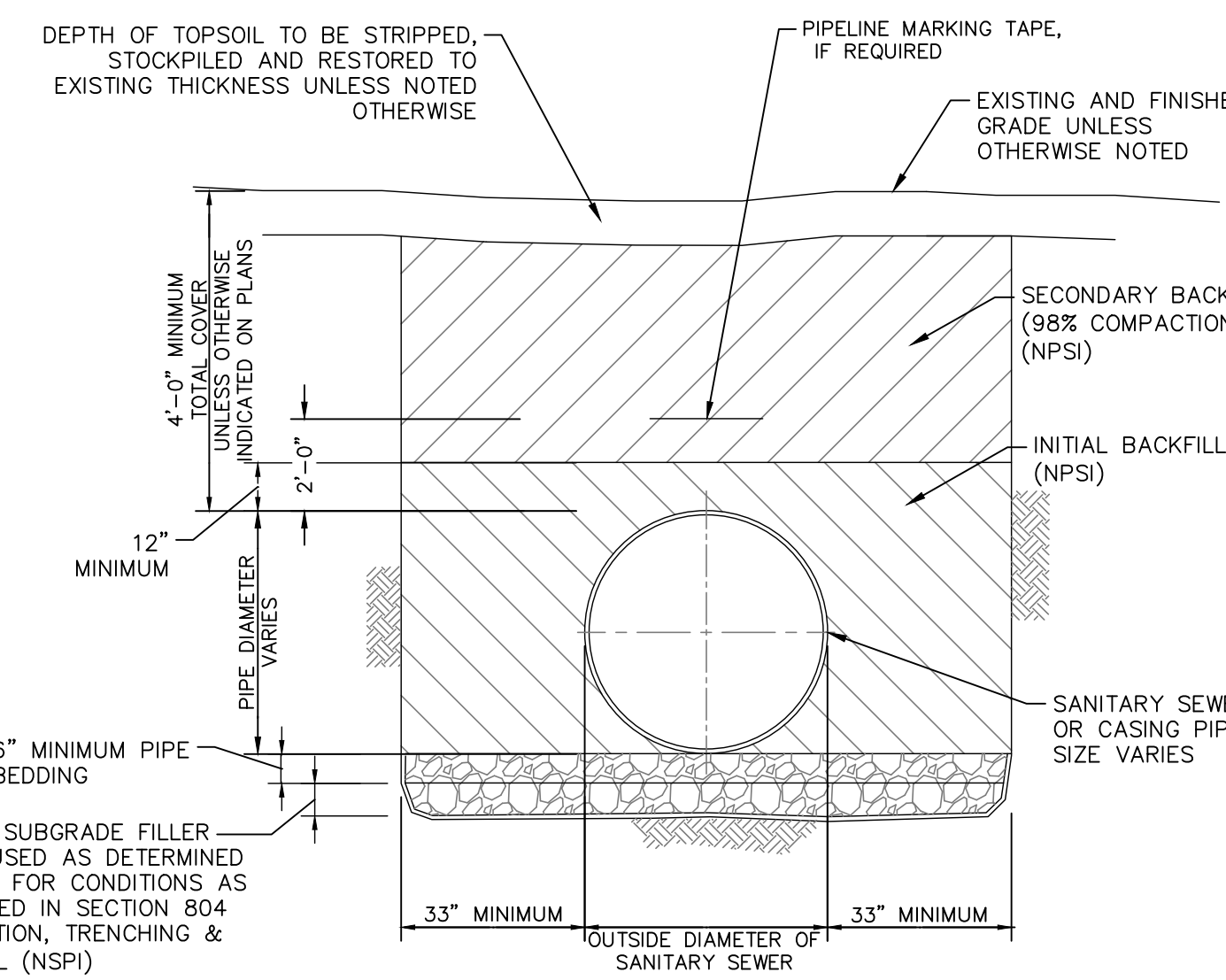
C5.00A  
C  
TRENCH DAM DETAIL  
N.T.S.



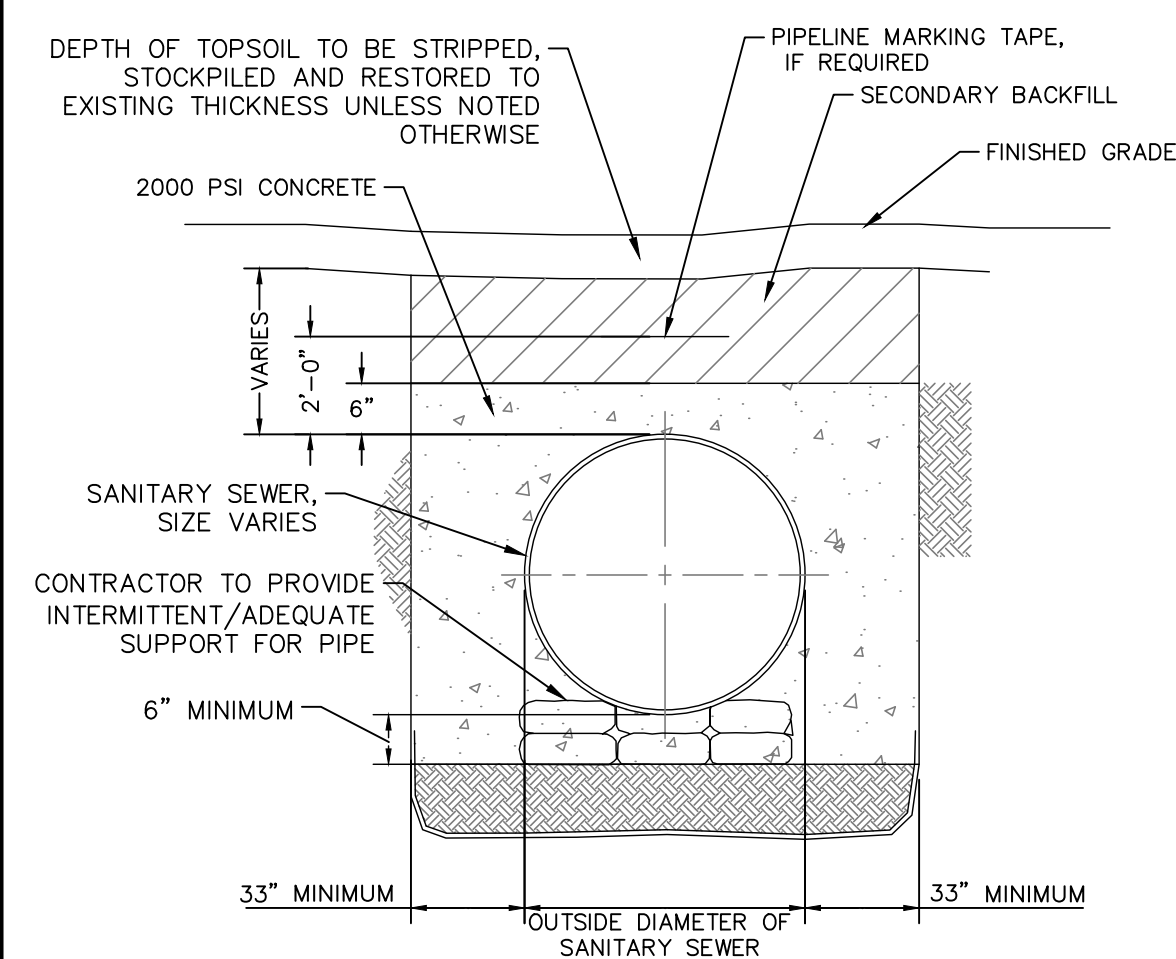
C5.00A  
D  
TEE BASE DROP MANHOLE DETAIL (30" FIBERGLASS SEWER PIPE)  
N.T.S.



C5.00A  
E  
STONE RIPRAP DETAIL  
N.T.S.



C5.00A  
F  
GRAVITY SEWER MAIN 8' WIDE PIPE TRENCH DETAIL  
N.T.S.



C5.00A  
G  
CONCRETE ENCASEMENT DETAIL  
N.T.S.

SEWER: EAST WATERSHED - DOS RIOS W.R.C.  
SAWS E-54 SANITARY SEWER PROJECT

Developer's Name: D.B. HORTON
Address: 211 NORTH LOOP 1604, SUITE 130
City: SAN ANTONIO State: TEXAS ZIP: 78232
Phone# (210) 486-2668 FAX# N/A
184646,184648,184650,186642,186644,186646
SAWS Block Map# 186650,186652,186654,186656,186658,186659,190656
Total Acreage .2274
33 LF ~ 30" FRP 16,052 LF ~ 30" FRP
Total Linear Footage of Pipe 5,263 LF ~ 20" HDPE
Number of Lots N/A TOTAL EDU'S N/A SAWS JOB NO. 21-4404

SAWS E-54 SANITARY SEWER PROJECT  
SEGMENT A & FORCE MAIN  
BEXAR COUNTY, TEXAS  
DETAIL SHEET 1

SAWS JOB NO. 21-4404  
JOB NO. 11500-51  
DATE OCTOBER 2021  
DESIGNER CD  
CHECKED MP DRAWN BS  
SHEET C5.00A

**PAPE-PAWSON ENGINEERS**  
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TYPE FIRM REGISTRATION #1008880

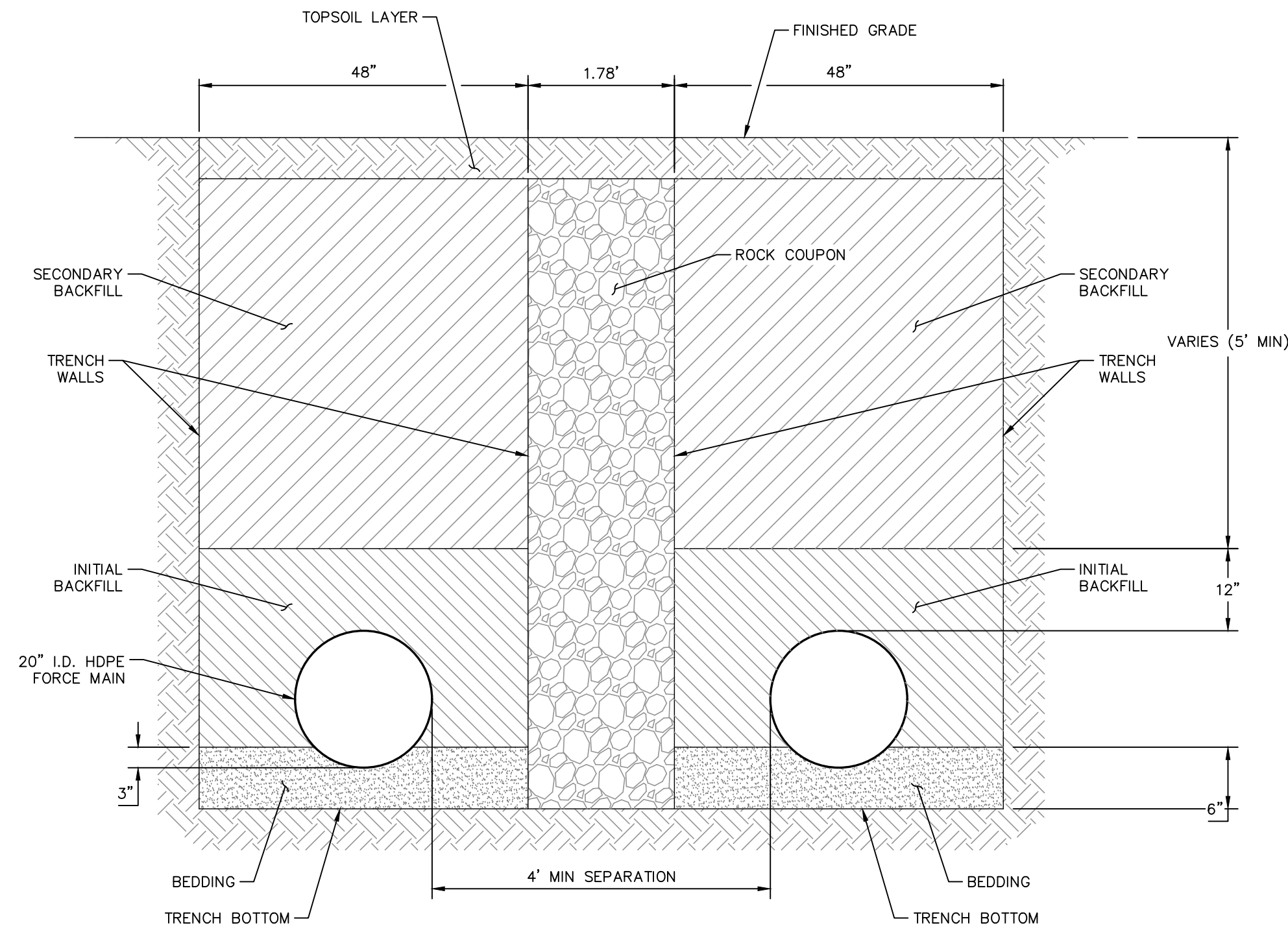
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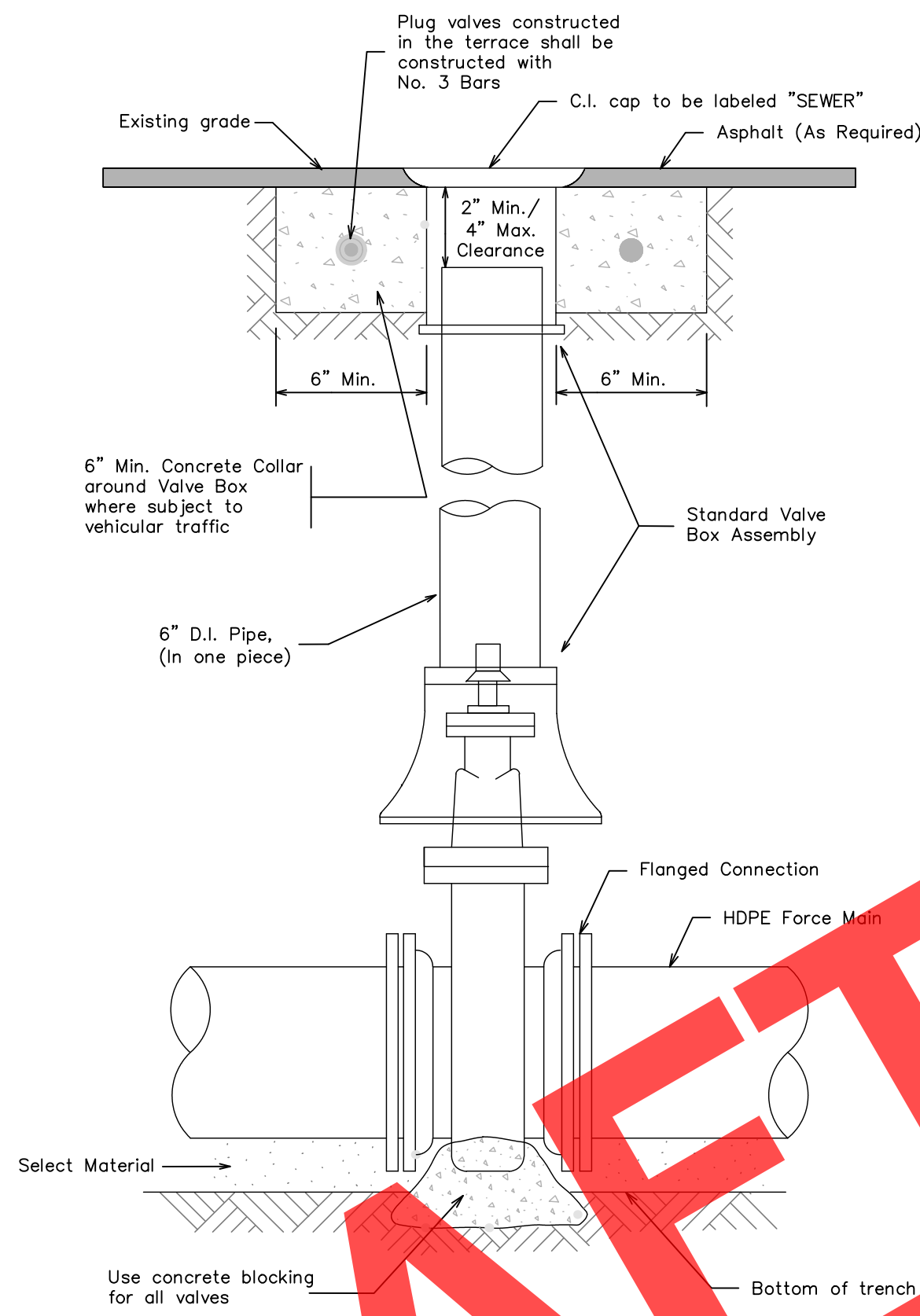
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**GENERAL NOTES**

1. BEDDING LAYER: VARIABLE DEPTH OF BEDDING SHALL BE SEWER GRAVEL MATERIAL PER SAWS SPECIFICATION 804.4.2.a(3).
2. INITIAL BACKFILL: VARIABLE DEPTH OF SEWER GRAVEL MATERIAL PLACED IN ACCORDANCE WITH SAWS SPECIFICATION 804.4.2.a(3).
3. SECONDARY BACKFILL: MATERIALS, AND PLACEMENT SHALL BE IN ACCORDANCE WITH SPECIFICATION 804.
4. ALL SECONDARY BACKFILL SHALL BE COMPACTED IN 12" LOOSE LIFTS (MAX) TO 98% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY TxDOT TEST METHOD TEX-113-E AT A MOISTURE CONTENT RANGE OF -2% TO +2% OF THE OPTIMUM DRY DENSITY MOISTURE CONTENT.
5. TOPSOIL LAYER (FOR AREAS THAT WILL NOT BE PAVED): ADD 4" OF TOP SOIL, WATER AND FERTILIZE AS REQUIRED TO REVEGETATE AND ESTABLISH GRASS.



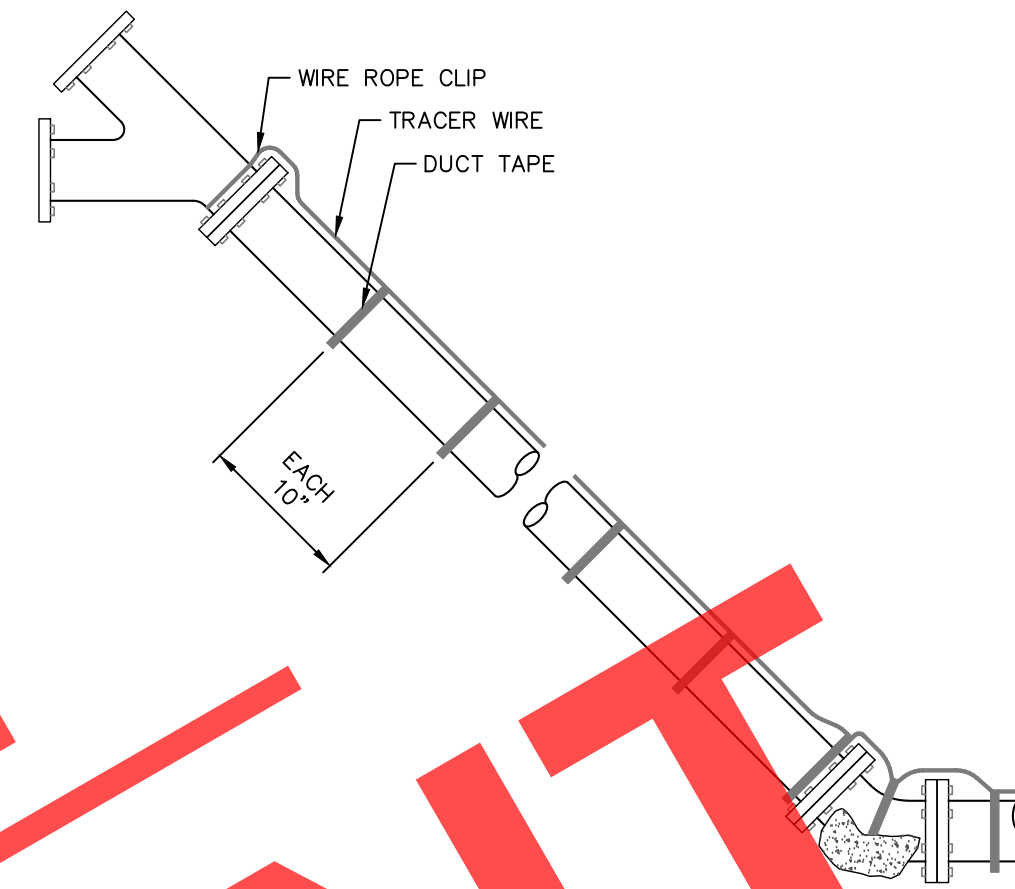
C5.01  
A  
TRENCH EXCAVATION AND BACKFILL FOR DUAL 20" HDPE FORCE MAINS  
N.T.S.



Note: Contractor shall provide a valve stem riser that elevates the valve to within 3" to 4" of the surface (NSP).  
5.01  
B  
INSTALLATION OF BURIED PLUG VALVE WITH VALVE BOX AND EXTENSION DETAIL  
N.T.S.

**TRACER WIRE NOTE**

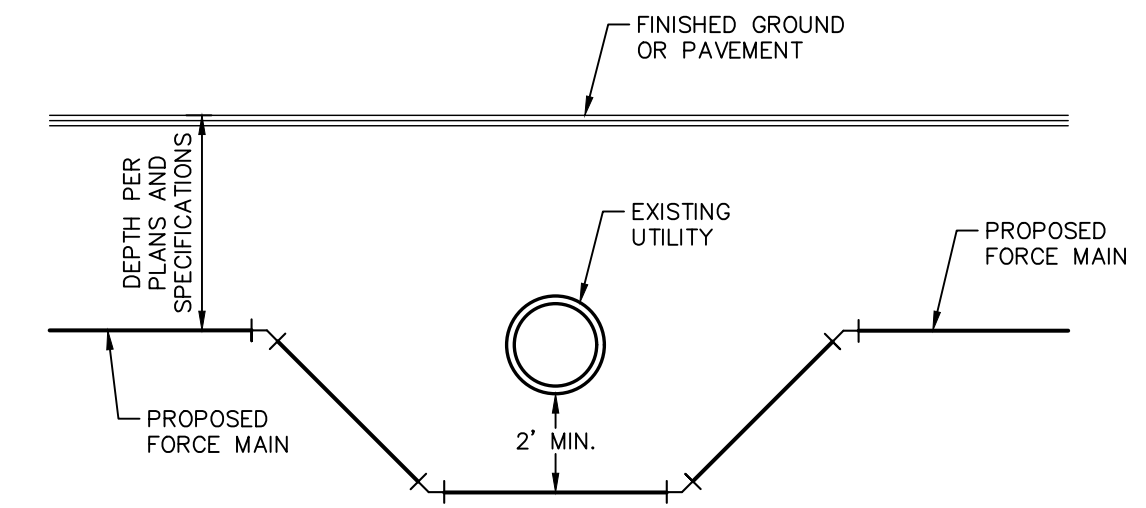
TRACER WIRE SHALL BE UTILIZED FOR LOCATION PURPOSES. TRACER WIRE SHALL BE OF SOLID CORE (14 GAUGE INSULATED) AND SHALL BE TAPED TO THE MAIN A MINIMUM OF 10" INCREMENTS. WIRE SHALL ALSO COME UP TO THE TOP OF AIR RELEASE, VACUUM VALVES, TOP OF GROUND AT LIFT STATION, AND AT THE MAIN DISCHARGE POINT.



C5.01  
D  
TRACER WIRE DETAIL  
N.T.S.

**FORCE MAIN NOTES**

1. ALL FORCE MAIN PIPE MATERIAL SHALL CONSIST OF HDPE UNLESS OTHERWISE SHOWN ON THE PLANS. PIPE SHALL CONSIST OF HDPE SOLID WALL REFERRED TO AS DRISCO 1000, DRISCO 8000, QUALI PIPE, POLY PIPE, AND FLEKO PIPE THAT IS IN COMPLIANCE WITH ASTM F714. ALL PIPE FITTINGS SHALL BE HIGH DENSITY POLYETHYLENE PIPE AND MADE OF VIRGIN MATERIAL, AND SHALL HAVE A MINIMUM WORKING PRESSURE RATING 200 PSI. THE PIPE MATERIAL SHALL BE MANUFACTURED FROM A HIGH DENSITY HIGH MOLECULAR WEIGHT POLYETHYLENE COMPOUND WHICH CONFORMS TO ASTM D 1248 AND MEETS THE REQUIREMENTS FOR TYPE III, CLASS C, GRADE P-34, CATEGORY 5, AND HAS A PPI RATING OF PE 3408. SOLID WALL PIPE SHALL BE PRODUCED WITH A PLAIN END CONSTRUCTION FOR HEAT-JOINING (BUTT FUSION) CONFORMING TO ASTM D 2857. NO FLANGED OR SLIP-ON JOINTS WILL BE ACCEPTED. SEE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION, ITEM NO. 900: "RECONSTRUCTION OF SANITARY SEWER BY PIPE BURSTING/CRUSHING REPLACEMENT PROCESS", SECTION 900.2.1.
2. COLOR CODING OF FORCE MAIN PIPING METALLIC TAPE (6" WIDE MINIMUM) SHALL BE APPLIED TO ALL FORCE MAIN PIPE. THE METALLIC TAPE SHALL BE LABELED "SEWER PIPE". PIPE SHALL HAVE A MINIMUM OF THREE GREEN STRIPES POSITIONED IN SUCH A MANNER THAT THE STRIPE(S) ARE VISIBLE REGARDLESS OF THE ROTATION OF THE PIPE IN THE TRENCH.
3. ALL FORCE MAINS SHALL BE TESTED IN ACCORDANCE WITH 30 TAC 217.68 AT 50 PSI ABOVE THE NORMAL OPERATING PRESSURE OF THE FORCE MAIN.
4. MINIMIZE THE NUMBER OF PEAKS/VALLEYS ALONG THE FORCE MAIN PROFILE TO LIMIT THE ACCUMULATION OF GASES. ALL HIGH POINTS SHALL HAVE A 2" AIR AND VACUUM RELEASE VALVE RATED FOR RAW SEWAGE.



\* ALL FITTINGS SHALL BE FUSIBLE HDPE FITTINGS. PRESSURE RATINGS OF ALL FITTINGS SHALL BE EQUAL TO OR GREATER THAN THE FORCE MAIN PIPING. THE CONTRACTOR MAY ELECT TO BEND THE PIPE.

C5.01  
H  
TYPICAL UTILITY CROSSING DETAIL  
N.T.S.

DRAFT DOCUMENT

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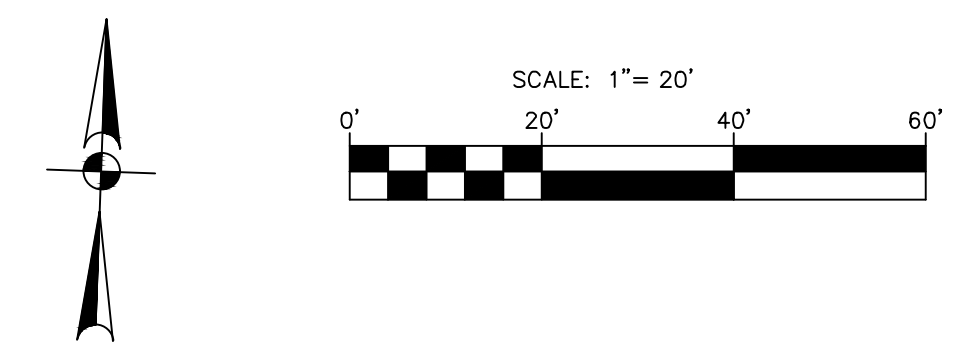
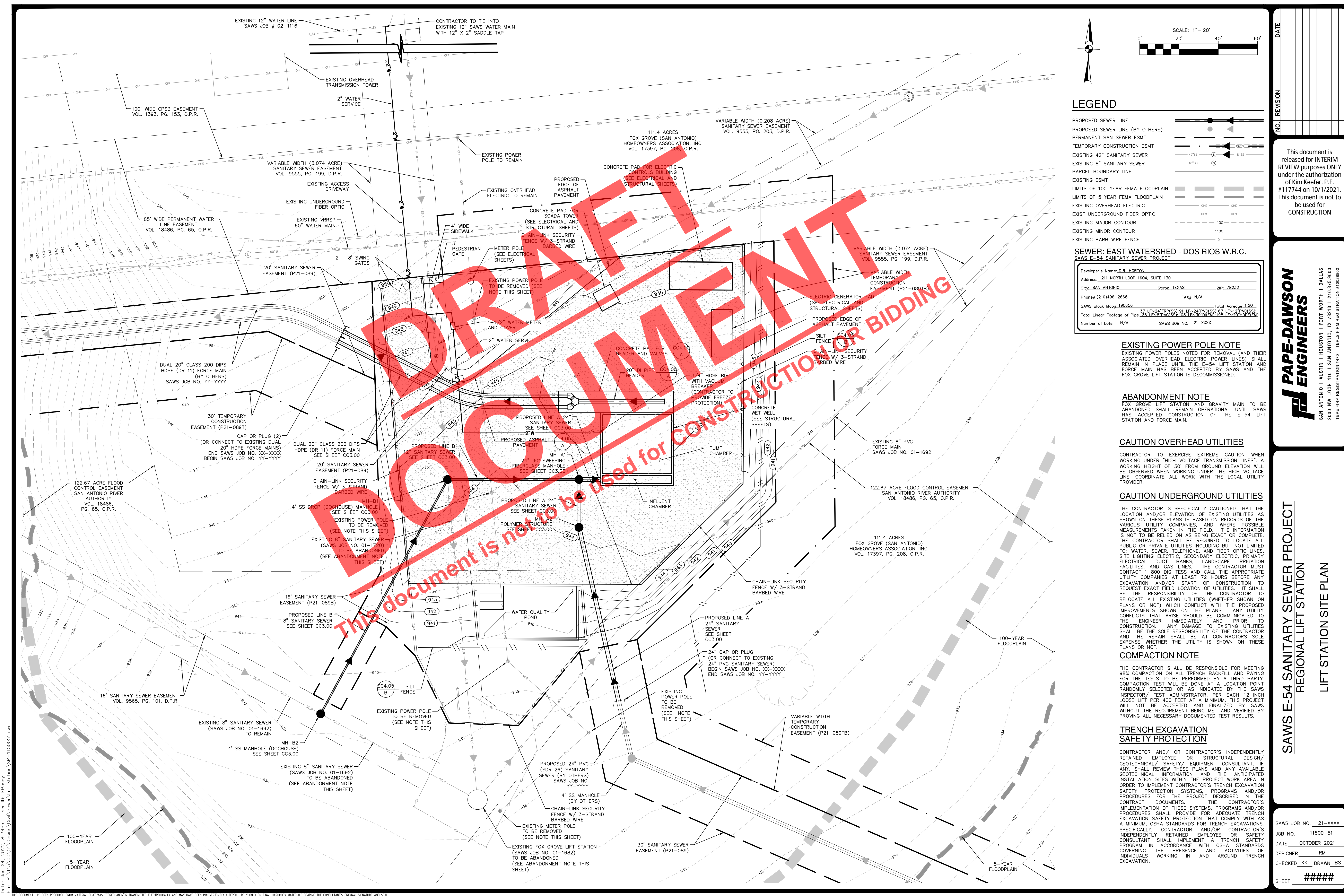
**PAPE-PAWSON ENGINEERS**  
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TYPE FIRM REGISTRATION #070 | TBPUS FIRM REGISTRATION #1008890

**SAWS E-54 SANITARY SEWER PROJECT**  
SEGMENT A & FORCE MAIN  
BEXAR COUNTY, TEXAS  
DETAIL SHEET 2

SEWER: EAST WATERSHED - DOS RIOS W.R.C.  
SAWS E-54 SANITARY SEWER PROJECT

Developer's Name: D.R. HORTON
Address: 211 NORTH LOOP 1604, SUITE 130
City: SAN ANTONIO State: TEXAS ZIP: 78232
Phone# (210) 498-2668 FAX# N/A
184646,184648,184650,186642,186644,186646
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Total Linear Footage of Pipe 5,263 LF ~ 20" HDPE 16,052 LF ~ 30" FRP Plat No. N/A
Number of Lots N/A TOTAL EDU'S N/A SAWS JOB NO. 21-4404

SAWS JOB NO. 21-4404  
JOB NO. 11500-51  
DATE OCTOBER 2021  
DESIGNER CD  
CHECKED MP DRAWN BS  
SHEET C5.01A



**LEGEND**

PROPOSED SEWER LINE	
PROPOSED SEWER LINE (BY OTHERS)	
PERMANENT SAN SEWER ESMT	
TEMPORARY CONSTRUCTION ESMT	
EXISTING 42" SANITARY SEWER	
EXISTING 8" SANITARY SEWER	
PARCEL BOUNDARY LINE	
EXISTING ESMT	
LIMITS OF 100 YEAR FEMA FLOODPLAIN	
LIMITS OF 5 YEAR FEMA FLOODPLAIN	
EXISTING OVERHEAD ELECTRIC	
EXIST UNDERGROUND FIBER OPTIC	
EXISTING MAJOR CONTOUR	
EXISTING MINOR CONTOUR	
EXISTING BARB WIRE FENCE	

**SEWER: EAST WATERSHED - DOS RIOS W.R.C.**  
SAWS E-54 SANITARY SEWER PROJECT

Developer's Name: D.B. HORTON  
Address: 211 NORTH LOOP 1604, SUITE 130  
City: SAN ANTONIO State: TEXAS ZIP: 78232  
Phone# (210)496-2668 FAX# N/A

SAWS Block Map# 190656 Total Acreage 1.20  
37 LF=24"FRP(SS); 91 LF=24"PV(S); 67 LF=12"PV(S);  
Total Linear Footage of Pipe 139 LF=24"FRP(SS); 158 LF=24"PV(S);  
Number of Lots: N/A SAWS JOB NO. 21-XXXX

**EXISTING POWER POLE NOTE**  
EXISTING POWER POLES NOTED FOR REMOVAL (AND THEIR ASSOCIATED OVERHEAD ELECTRIC POWER LINES) SHALL REMAIN IN PLACE UNTIL THE E-54 LIFT STATION AND FORCE MAIN HAS BEEN ACCEPTED BY SAWS AND THE FOX GROVE LIFT STATION IS DECOMMISSIONED.

**ABANDONMENT NOTE**  
FOX GROVE LIFT STATION AND GRAVITY MAIN TO BE ABANDONED SHALL REMAIN OPERATIONAL UNTIL SAWS HAS ACCEPTED CONSTRUCTION OF THE E-54 LIFT STATION AND FORCE MAIN.

**CAUTION OVERHEAD UTILITIES**  
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DATE	
NO.	REVISION

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**PAPE-DAWSON ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
TYPE FIRM REGISTRATION #470 | TYPE FIRM REGISTRATION #1088800

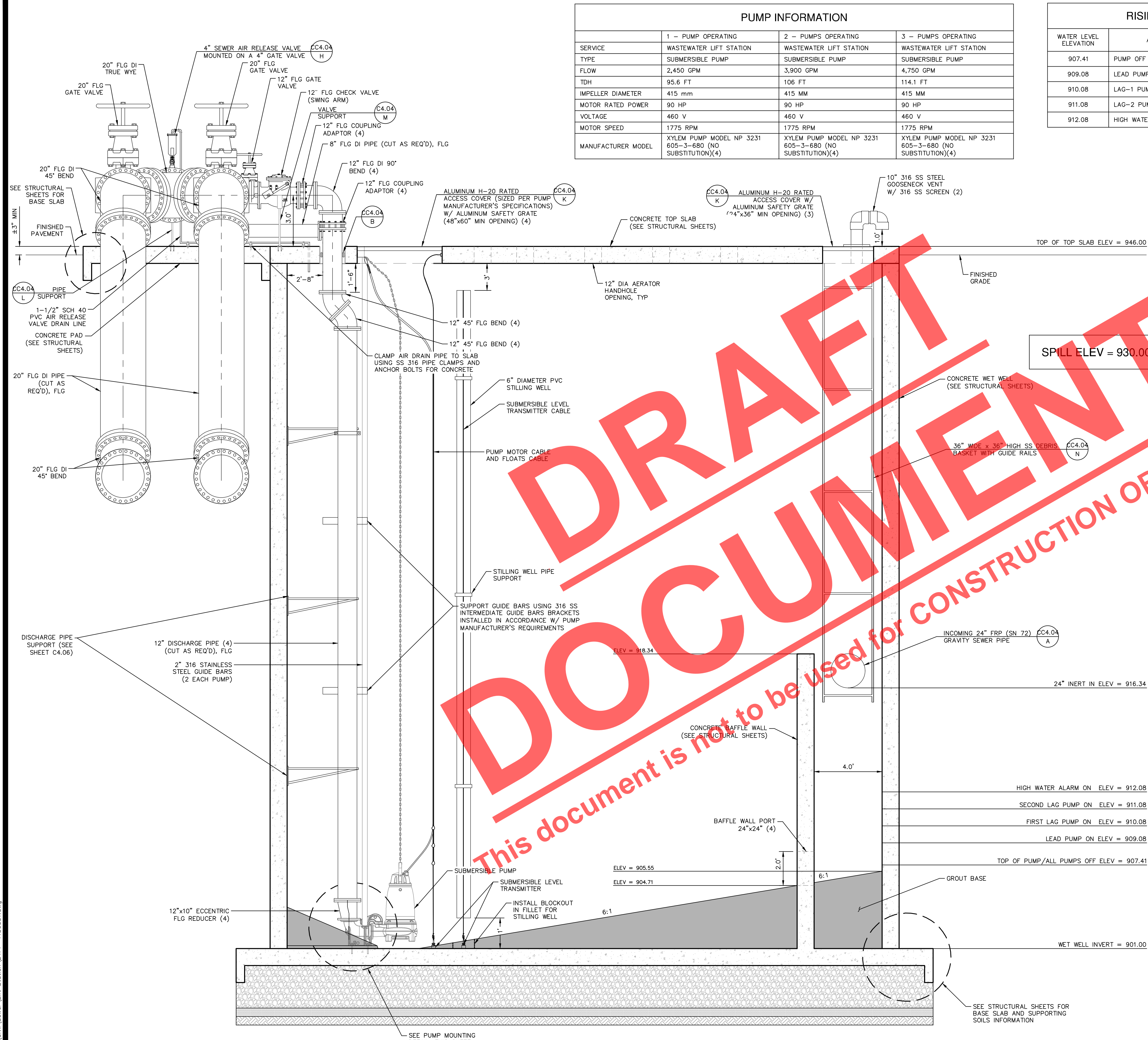
**SAWS E-54 SANITARY SEWER PROJECT**  
REGIONAL LIFT STATION  
LIFT STATION SITE PLAN

SAWS JOB NO.	21-XXXX
JOB NO.	11500-51
DATE	OCTOBER 2021
DESIGNER	RM
CHECKED	KK DRAWN BS
SHEET	#####

Date: 10/24/2023 8:34am User: J.E. Eberly File: P:\145\100\31\Drawings\SanAntonio\SanAntonio\SP-1150051.dwg

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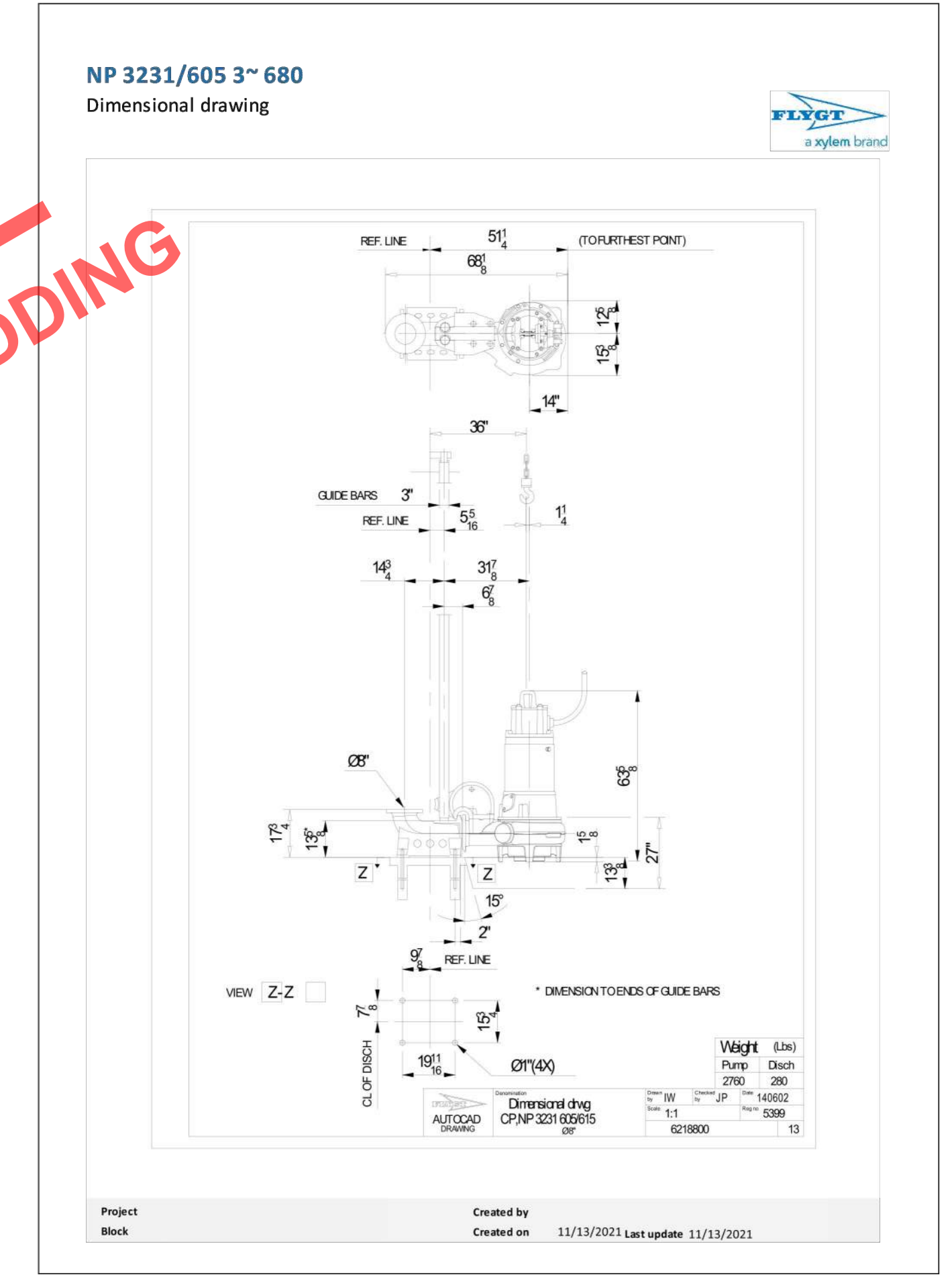


PUMP INFORMATION			
	1 - PUMP OPERATING	2 - PUMPS OPERATING	3 - PUMPS OPERATING
SERVICE	WASTEWATER LIFT STATION	WASTEWATER LIFT STATION	WASTEWATER LIFT STATION
TYPE	SUBMERSIBLE PUMP	SUBMERSIBLE PUMP	SUBMERSIBLE PUMP
FLOW	2,450 GPM	3,900 GPM	4,750 GPM
TDH	95.6 FT	106 FT	114.1 FT
IMPELLER DIAMETER	415 mm	415 mm	415 mm
MOTOR RATED POWER	90 HP	90 HP	90 HP
VOLTAGE	460 V	460 V	460 V
MOTOR SPEED	1775 RPM	1775 RPM	1775 RPM
MANUFACTURER MODEL	XYLEM PUMP MODEL NP 3231 605-3-680 (NO SUBSTITUTION)(4)	XYLEM PUMP MODEL NP 3231 605-3-680 (NO SUBSTITUTION)(4)	XYLEM PUMP MODEL NP 3231 605-3-680 (NO SUBSTITUTION)(4)

RISING LEVEL CYCLE		
WATER LEVEL ELEVATION	ACTION	PUMP(S) IN OPERATION
907.41	PUMP OFF LEVEL	ALL PUMPS OFF
909.08	LEAD PUMP LEVEL	LEAD PUMP ON
910.08	LAG-1 PUMP LEVEL	LEAD & LAG-1 PUMPS ON
911.08	LAG-2 PUMP LEVEL	LEAD & LAG PUMPS ON
912.08	HIGH WATER ALARM LEVEL	HIGH WATER ALARM SOUND

FALLING LEVEL CYCLE		
WATER LEVEL ELEVATION	ACTION	PUMP(S) IN OPERATION
912.00	HIGH WATER ALARM LEVEL	LEAD & LAG PUMPS ON HIGH LEVEL ALARM RESETS
910.08	LAG-1 PUMP LEVEL	LEAD & LAG-1 PUMPS ON
909.08	LEAD PUMP LEVEL	LEAD PUMP ON
907.41	ALL PUMPS OFF LEVEL	ALL PUMPS STOPPED - LAG PUMP SWITCHES TO LEAD PUMP

**AERATOR/EJECTOR NOTE:**  
 TOP OF EJECTORS SHALL BE SET AT ELEVATION = 906.71



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##### FRONT PROFILE  
 A N.T.S.

##### PUMP MOUNTING DETAIL  
 B N.T.S.

SEWER: EAST WATERSHED - DOS RIOS W.R.C.	
SAWS E-54 SANITARY SEWER PROJECT	
Developer's Name: D.B. HORTON	
Address: 211 NORTH LOOP 1604, SUITE 130	
City: SAN ANTONIO State: TEXAS Zip: 78232	
Phone# (210)496-2888 FAX# N/A	
SAWS Block Map# 190656	Total Acreage: 1.20
37 LF=24"FRP(SS); 91 LF=24"PV(CSS); 57 LF=12"PV(CSS);	
Total Linear Footage of Pipe 136 LF=24"PV(CSS); 103 LF=30"DI(FM); 198 LF=20"DI(FM)	
Number of Lots: N/A	SAWS JOB NO. 21-XXXX

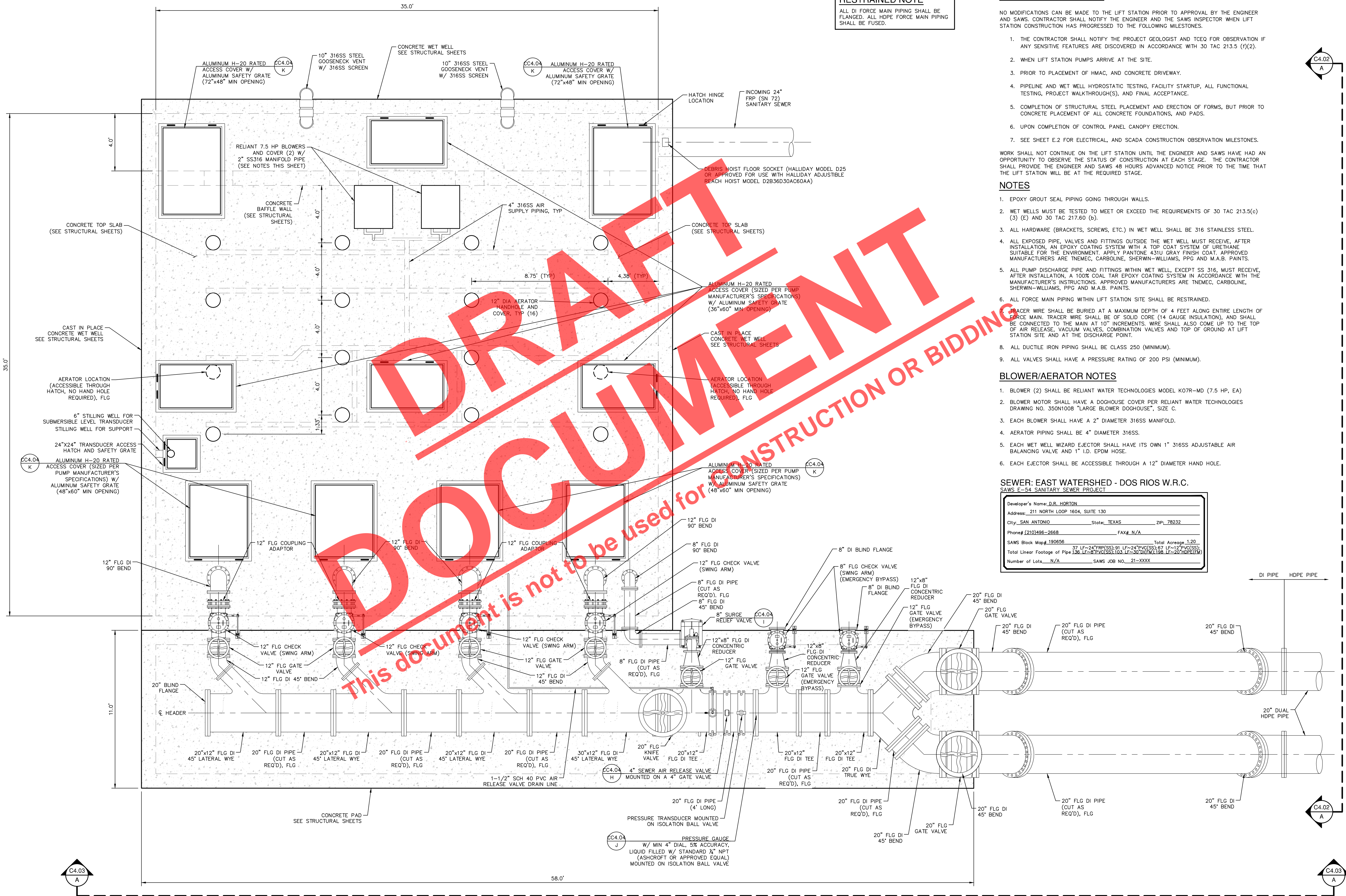
**PAPE-DAWSON ENGINEERS**  
 SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TYPE FIRM REGISTRATION #008880

**SAWS E-54 SANITARY SEWER PROJECT**  
 REGIONAL LIFT STATION  
 WET WELL FRONT PROFILE DETAIL

SAWS JOB NO. 21-XXXX  
 JOB NO. 11500-51  
 DATE OCTOBER 2021  
 DESIGNER RM  
 CHECKED KK DRAWN BS  
 SHEET #####

DATE	
NO.	REVISION

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**RESTRAINED NOTE**  
 ALL DI FORCE MAIN PIPING SHALL BE FLANGED. ALL HDPE FORCE MAIN PIPING SHALL BE FUSED.

**NOTE TO CONTRACTOR**

- NO MODIFICATIONS CAN BE MADE TO THE LIFT STATION PRIOR TO APPROVAL BY THE ENGINEER AND SAWS. CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE SAWS INSPECTOR WHEN LIFT STATION CONSTRUCTION HAS PROGRESSED TO THE FOLLOWING MILESTONES.
1. THE CONTRACTOR SHALL NOTIFY THE PROJECT GEOLOGIST AND TCEQ FOR OBSERVATION IF ANY SENSITIVE FEATURES ARE DISCOVERED IN ACCORDANCE WITH 30 TAC 213.5 (f)(2).
  2. WHEN LIFT STATION PUMPS ARRIVE AT THE SITE.
  3. PRIOR TO PLACEMENT OF HVAC, AND CONCRETE DRIVEWAY.
  4. PIPELINE AND WET WELL HYDROSTATIC TESTING, FACILITY STARTUP, ALL FUNCTIONAL TESTING, PROJECT WALKTHROUGH(S), AND FINAL ACCEPTANCE.
  5. COMPLETION OF STRUCTURAL STEEL PLACEMENT AND ERECTION OF FORMS, BUT PRIOR TO CONCRETE PLACEMENT OF ALL CONCRETE FOUNDATIONS, AND PADS.
  6. UPON COMPLETION OF CONTROL PANEL CANOPY ERECTION.
  7. SEE SHEET E.2 FOR ELECTRICAL, AND SCADA CONSTRUCTION OBSERVATION MILESTONES.

**NOTES**

1. EPOXY GROUT SEAL PIPING GOING THROUGH WALLS.
2. WET WELLS MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC 213.5(c) (3) (E) AND 30 TAC 217.60 (b).
3. ALL HARDWARE (BRACKETS, SCREWS, ETC.) IN WET WELL SHALL BE 316 STAINLESS STEEL.
4. ALL EXPOSED PIPE, VALVES AND FITTINGS OUTSIDE THE WET WELL MUST RECEIVE, AFTER INSTALLATION, AN EPOXY COATING SYSTEM WITH A TOP COAT SYSTEM OF URETHANE SUITABLE FOR THE ENVIRONMENT. APPLY PANTONE 431U GRAY FINISH COAT. APPROVED MANUFACTURERS ARE TNECC, CARBOLINE, SHERWIN-WILLIAMS, PPG AND M.A.B. PAINTS.
5. ALL PUMP DISCHARGE PIPE AND FITTINGS WITHIN WET WELL, EXCEPT SS 316, MUST RECEIVE, AFTER INSTALLATION, A 100% COAL TAR EPOXY COATING SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. APPROVED MANUFACTURERS ARE TNECC, CARBOLINE, SHERWIN-WILLIAMS, PPG AND M.A.B. PAINTS.
6. ALL FORCE MAIN PIPING WITHIN LIFT STATION SITE SHALL BE RESTRAINED.
7. TRACER WIRE SHALL BE BURIED AT A MAXIMUM DEPTH OF 4 FEET ALONG ENTIRE LENGTH OF FORCE MAIN. TRACER WIRE SHALL BE OF SOLID CORE (14 GAUGE INSULATION), AND SHALL BE CONNECTED TO THE MAIN AT 10' INCREMENTS. WIRE SHALL ALSO COME UP TO THE TOP OF AIR RELEASE, VACUUM VALVES, COMBINATION VALVES AND TOP OF GROUND AT LIFT STATION SITE AND AT THE DISCHARGE POINT.
8. ALL DUCTILE IRON PIPING SHALL BE CLASS 250 (MINIMUM).
9. ALL VALVES SHALL HAVE A PRESSURE RATING OF 200 PSI (MINIMUM).

**BLOWER/AERATOR NOTES**

1. BLOWER (2) SHALL BE RELIANT WATER TECHNOLOGIES MODEL K07R-MD (7.5 HP, EA)
2. BLOWER MOTOR SHALL HAVE A DOGHOUSE COVER PER RELIANT WATER TECHNOLOGIES DRAWING NO. 350N1008 "LARGE BLOWER DOGHOUSE", SIZE C.
3. EACH BLOWER SHALL HAVE A 2" DIAMETER 316SS MANIFOLD.
4. AERATOR PIPING SHALL BE 4" DIAMETER 316SS.
5. EACH WET WELL WIZARD EJECTOR SHALL HAVE ITS OWN 1" 316SS ADJUSTABLE AIR BALANCING VALVE AND 1" I.D. EPDM HOSE.
6. EACH EJECTOR SHALL BE ACCESSIBLE THROUGH A 12" DIAMETER HAND HOLE.

**SEWER: EAST WATERSHED - DOS RIOS W.R.C.**  
 SAWS E-54 SANITARY SEWER PROJECT

Developer's Name: D.B. HORTON			
Address: 211 NORTH LOOP 1604, SUITE 130			
City: SAN ANTONIO	State: TEXAS	Zip: 78232	
Phone: (210)498-2668	FAX: N/A		
SAWS Block Map# 190656	37 LF ~ 24" FRP (SS) 91 LF ~ 24" PVC (SS) 17 LF ~ 12" PVC (SS)	Total Acreage: 1.20	
Total Linear Footage of Pipe 136 LF ~ 24" FRP (SS) 103 LF ~ 20" DI (EM) 198 LF ~ 20" DI (PE)			
Number of Lots: N/A	SAWS JOB NO. 21-XXXX		

##### TOP PLAN  
 A N.T.S.

DATE	NO.	REVISION

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 SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TEPIS FIRM REGISTRATION #10028890

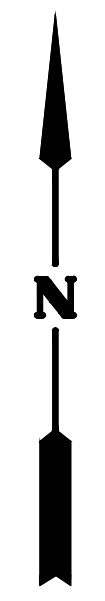
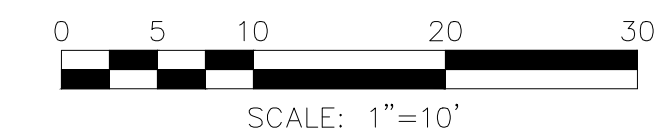
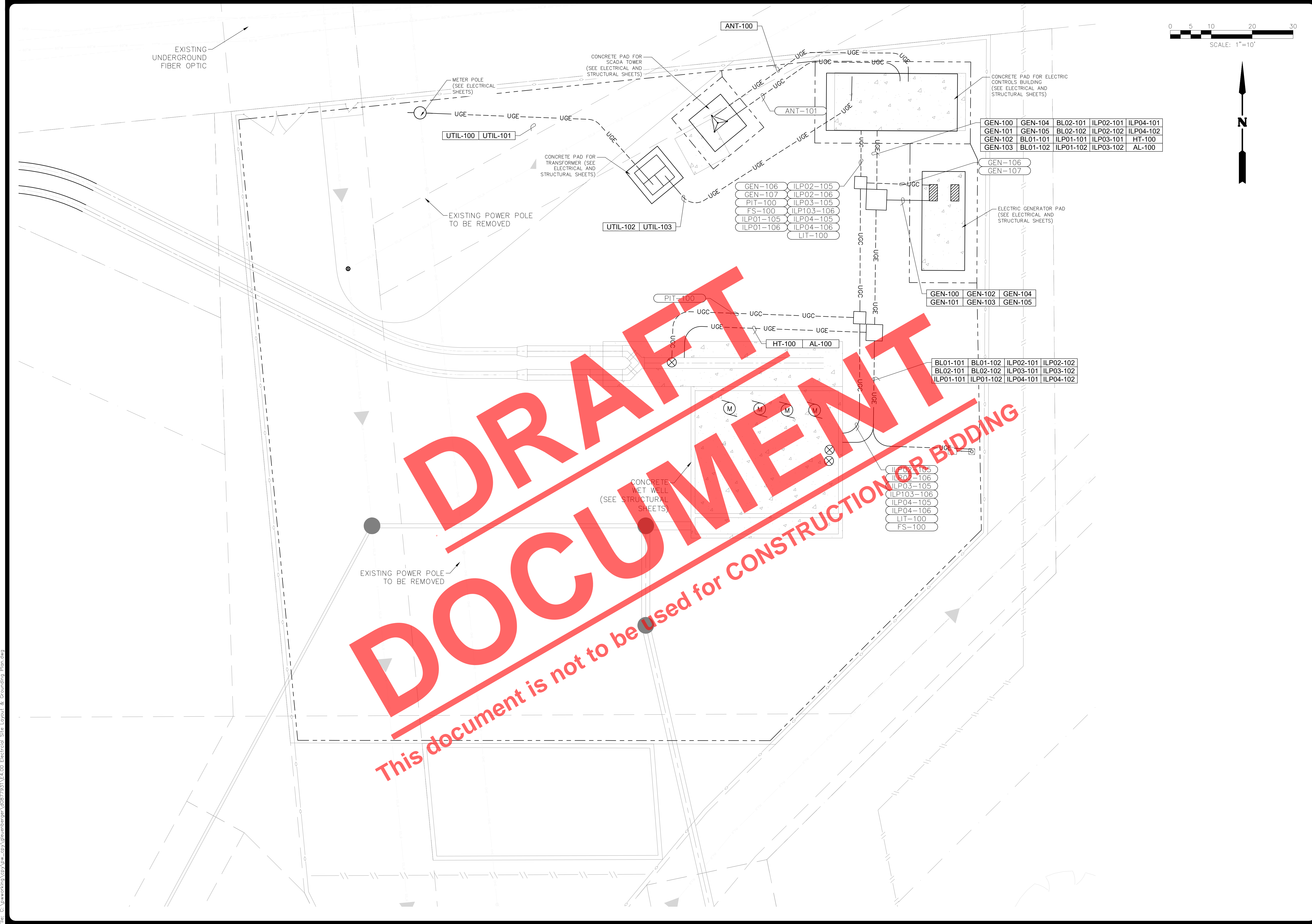
**SAWS E-54 SANITARY SEWER PROJECT**  
 REGIONAL LIFT STATION  
 WET WELL TOP PLAN DETAIL

SAWS JOB NO. 21-XXXX
JOB NO. 11500-51
DATE OCTOBER 2021
DESIGNER RM
CHECKED KK DRAWN BS
SHEET #####

Notes: Rev. 04, 09/23, @ 3:58pm, User: ID: E540001, File: P:\11500\51\Design\Chgs\Sanitary Lift Station\01TPP-1150051.dwg

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DATE: Jan 18, 2022, 2:17pm User ID: gherber@pape-dawson.com  
FILE: C:\pape-dawson\projects\saes\saes\_e-54\_sanitary\_sewer\02\03\04\00\_electrical\Site\_Layout\_&\_Grounding\_Plan.dwg



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GEN-101	GEN-105	BL02-102	ILP02-102	ILP04-102
GEN-102	BL01-101	ILP01-101	ILP03-101	HT-100
GEN-103	BL01-102	ILP01-102	ILP03-102	AL-100

GEN-106	ILP02-105
GEN-107	ILP02-106
PIT-100	ILP03-105
FS-100	ILP03-106
ILP01-105	ILP04-105
ILP01-106	ILP04-106
LIT-100	

GEN-106	GEN-107
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GEN-100	GEN-102	GEN-104
GEN-101	GEN-103	GEN-105

BL01-101	BL01-102	ILP02-101	ILP02-102
BL02-101	BL02-102	ILP03-101	ILP03-102
ILP01-101	ILP01-102	ILP04-101	ILP04-102

ILP01-105
ILP02-106
ILP03-105
ILP03-106
ILP04-105
ILP04-106
LIT-100
FS-100

DATE	
NO.	
REVISION	

**PAPE-DAWSON ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH |  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 |  
PAPER REGISTRATION #476, P. TEMPL #184 REGISTRATION #

**SAWS E-54 SANITARY SEWER PROJECT**  
REGIONAL LIFT STATION

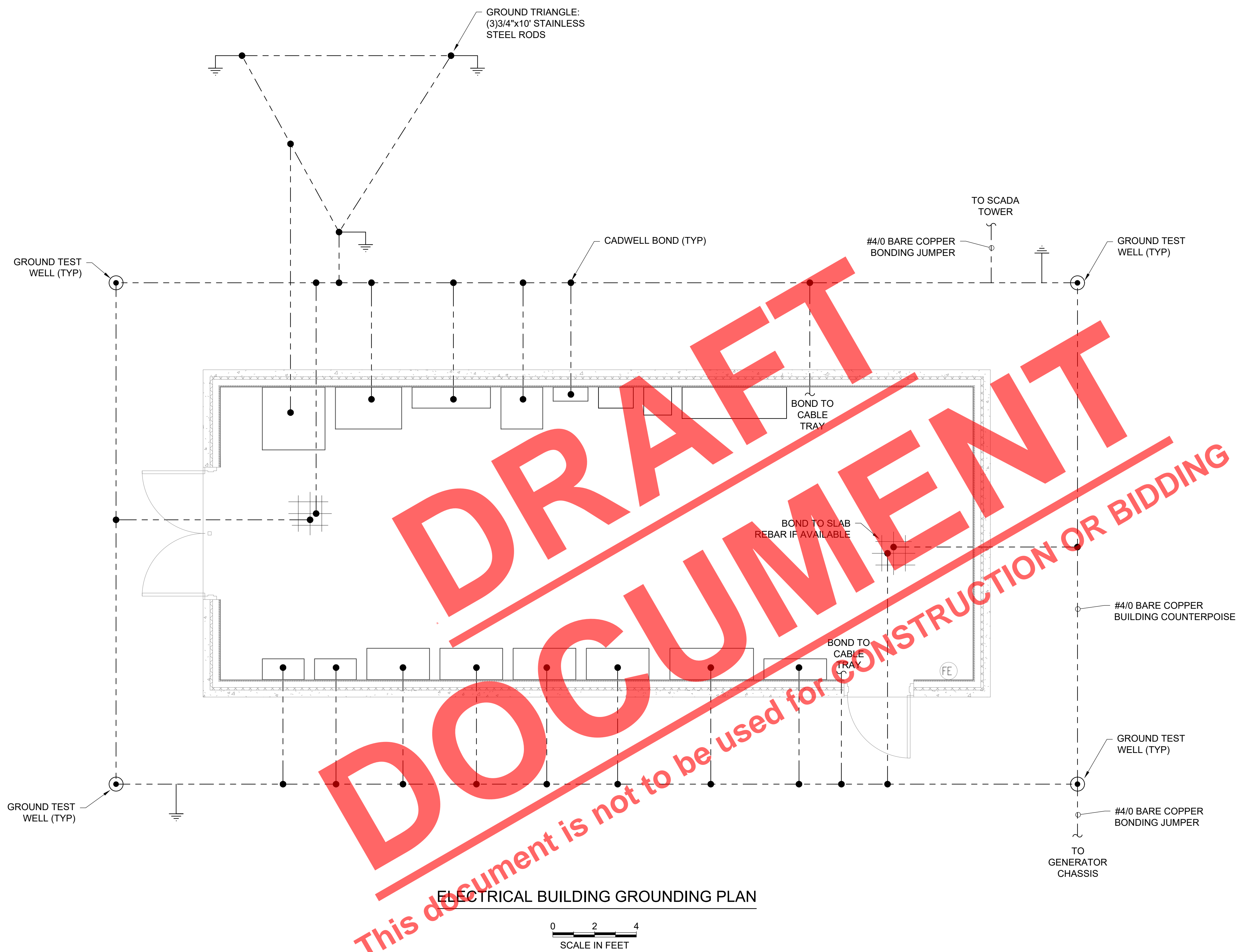
**ELECTRICAL SITE LAYOUT & GROUNDING PLAN**

SAWS JOB NO. 21-XXXX  
JOB NO. 11500-51  
DATE OCTOBER 2021  
DESIGNER KB  
CHECKED GR DRAWN GL

SHEET **E4.00**

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ELECTRICAL BUILDING GROUNDING PLAN

0 2 4  
SCALE IN FEET



DATE	
NO.	
REVISION	

**PAPE-DAWSON ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH |  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 |  
409.719.0555 | [www.pape-dawson.com](http://www.pape-dawson.com)

**SAWS E-54 SANITARY SEWER PROJECT**  
REGIONAL LIFT STATION  
**ELECTRICAL BUILDING GROUNDING PLAN**

SAWS JOB NO.	21-XXXX
JOB NO.	11500-51
DATE	OCTOBER 2021
DESIGNER	KB
CHECKED	GR
DRAWN	GL
SHEET	E10.20



NO.	REVISION	DATE

THESE DOCUMENTS ARE ISSUED FOR INTERIM REVIEW ONLY AND ARE NOT INTENDED FOR REGULATORY APPROVAL, PERMITTING, BIDDING OR CONSTRUCTION. ARCHITECT: GERRARD C. NORRGAARD REGISTRATION NUMBER: 188916

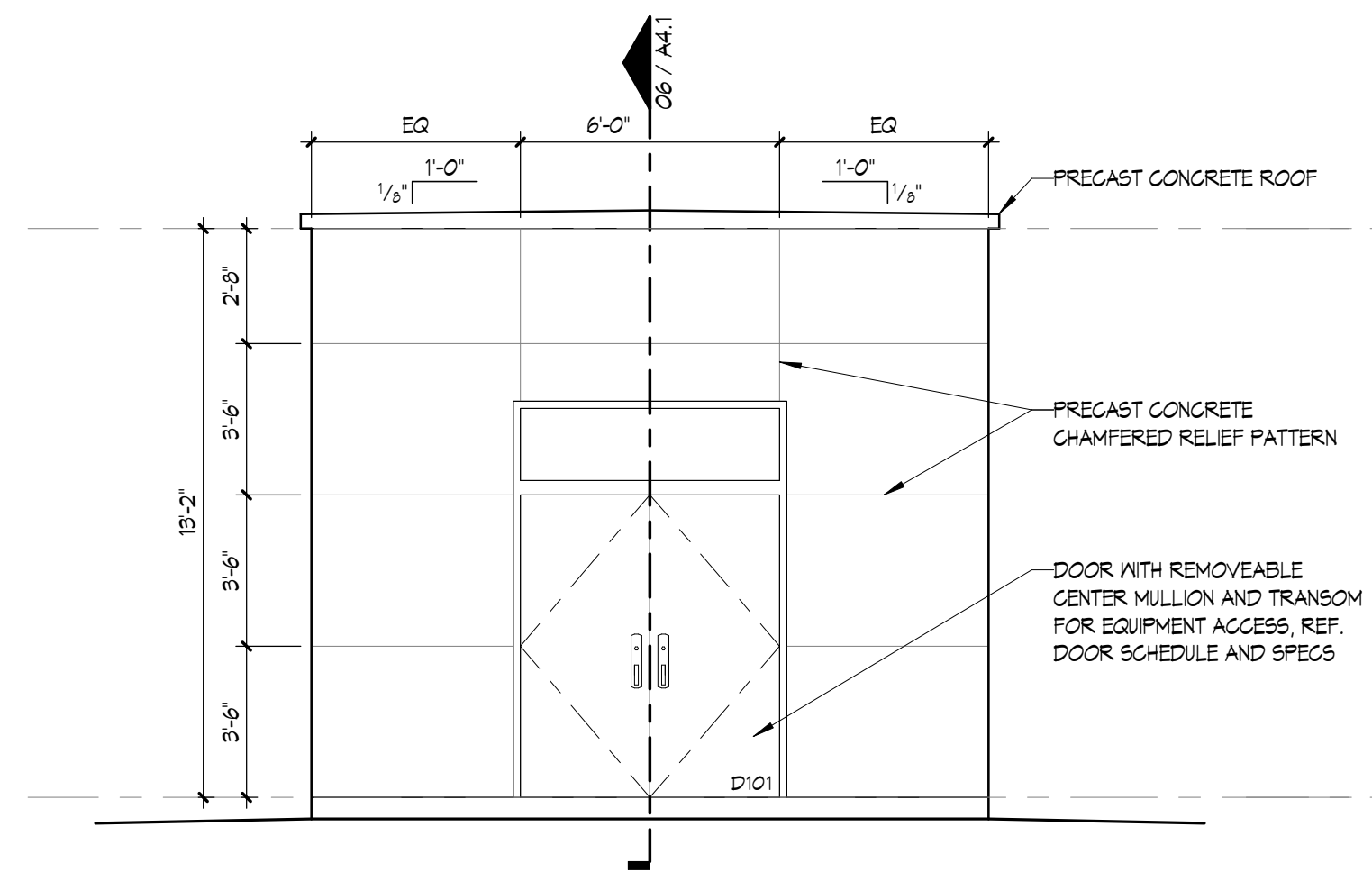
**PAPE-DAWSON ENGINEERS**  
 SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.376.9000  
 TYPE FIRM REGISTRATION #470 | TYPE FIRM REGISTRATION #1028860

**SAWS E-54 SANITARY SEWER PROJECT**  
 REGIONAL LIFT STATION  
**ELECTRICAL BUILDING - EXTERIOR ELEVATIONS & SECTIONS**

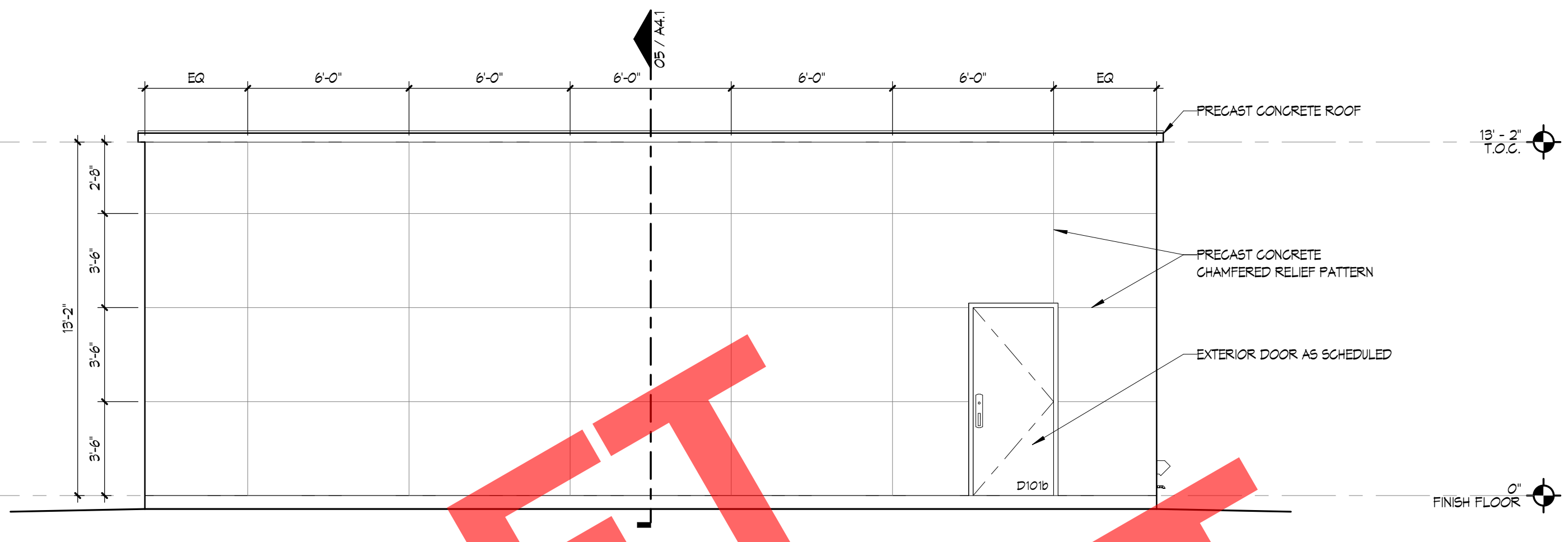
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 DATE -  
 DESIGNER -  
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**GENERAL NOTES**

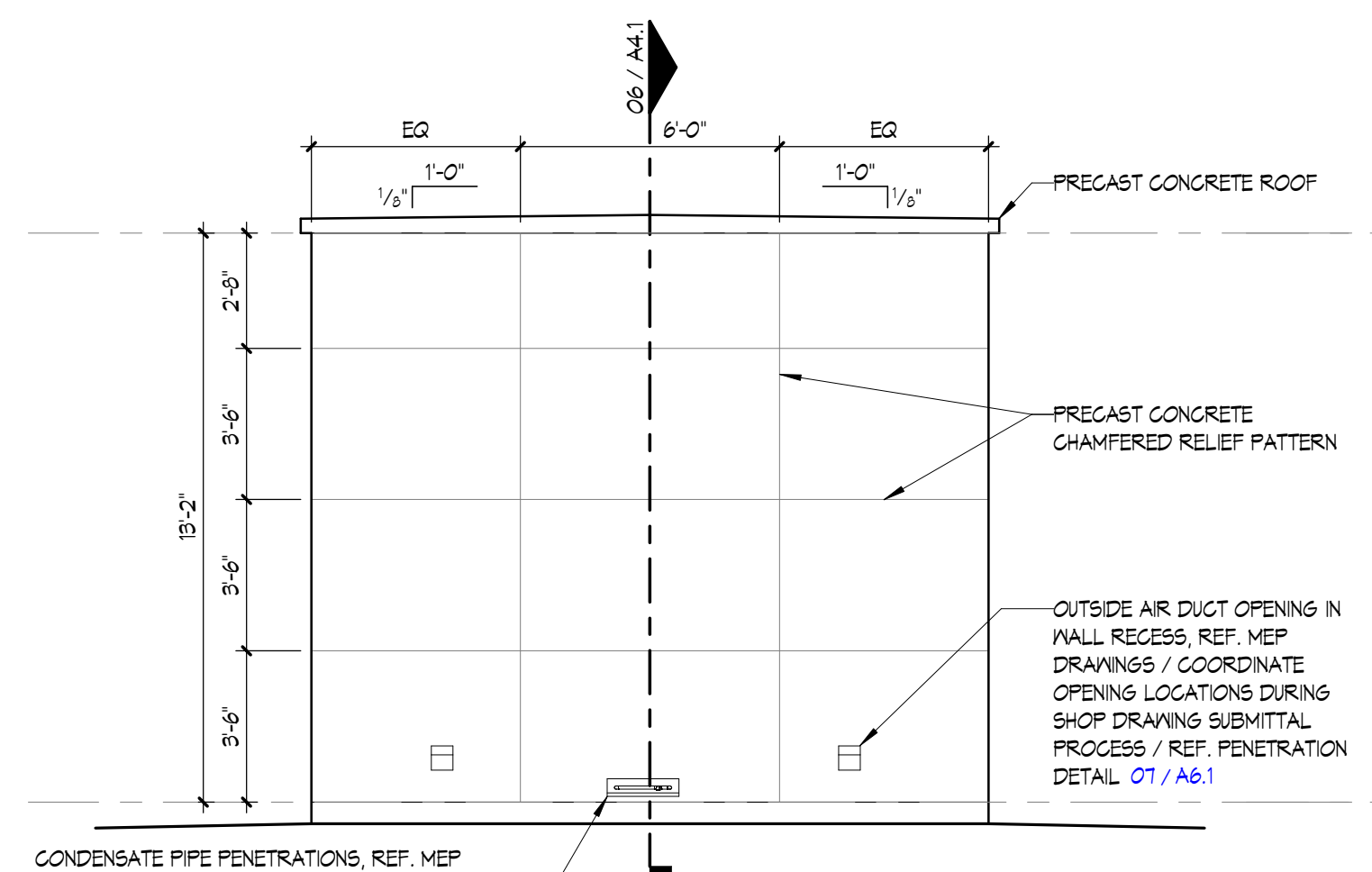
- REFER TO CIVIL DRAWINGS FOR BUILDING LOCATION, ORIENTATION, FINISH FLOOR ELEVATION, UTILITIES, SITE GRADING, PAVING, AND FENCING.
- SLOPE CONCRETE AWAY FROM ENTRY DOORS AT 2% SLOPE.
- REFER TO STRUCTURAL DRAWINGS FOR FOUNDATION DESIGN. COORDINATE EXTENTS OF FOUNDATION, STOOPS, STEPDOWNS, CURBS AND OR PLATFORMS DURING THE SHOP DRAWINGS SUBMITTAL PROCESS.
- PRECAST CONCRETE BUILDING SHALL BEAR FULLY ON A RAISED CONCRETE FOUNDATION THAT IS LARGER THAN THE BUILDING FOOTPRINT. PROVIDE POSITIVE DRAINAGE FROM THE FOUNDATION FLOOR. FOUNDATION SHALL HAVE A 1-1/2" STEP DOWN AROUND ENTIRE PERIMETER TO PREVENT WATER MITIGATION INTO THE BUILDING.
- OVERALL EXTERIOR DIMENSIONS OF THE BUILDING ARE SUBJECT TO CHANGE PER PRECAST CONCRETE BUILDING MANUFACTURERS WALL SIZES. THE INTERIOR CLEAR DIMENSIONS OF THE BUILDING SHALL NOT BE REDUCED TO ACCOMMODATE A CHANGE IN WALL THICKNESS.
- COORDINATE BUILDING SIZE, OPENINGS, AND PENETRATIONS WITH STRUCTURAL DRAWINGS.
- REFER TO MECHANICAL DRAWINGS FOR HVAC DESIGN. COORDINATE SIZE, WEIGHT, AND WALL AND ROOF PENETRATIONS WITH PRECAST CONCRETE BUILDING MANUFACTURER.
- REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL BUILDING EQUIPMENT DESIGN, LAYOUT, AND ALL OTHER ASSOCIATED INFORMATION AND SCHEMATICS.
- REFER TO ELECTRICAL DRAWINGS FOR LIGHT FIXTURE SCHEDULE, LAYOUT, AND EMERGENCY LIGHTING.
- IN THE EVENT THAT A DISCREPANCY IS FOUND IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT / ENGINEER IMMEDIATELY.



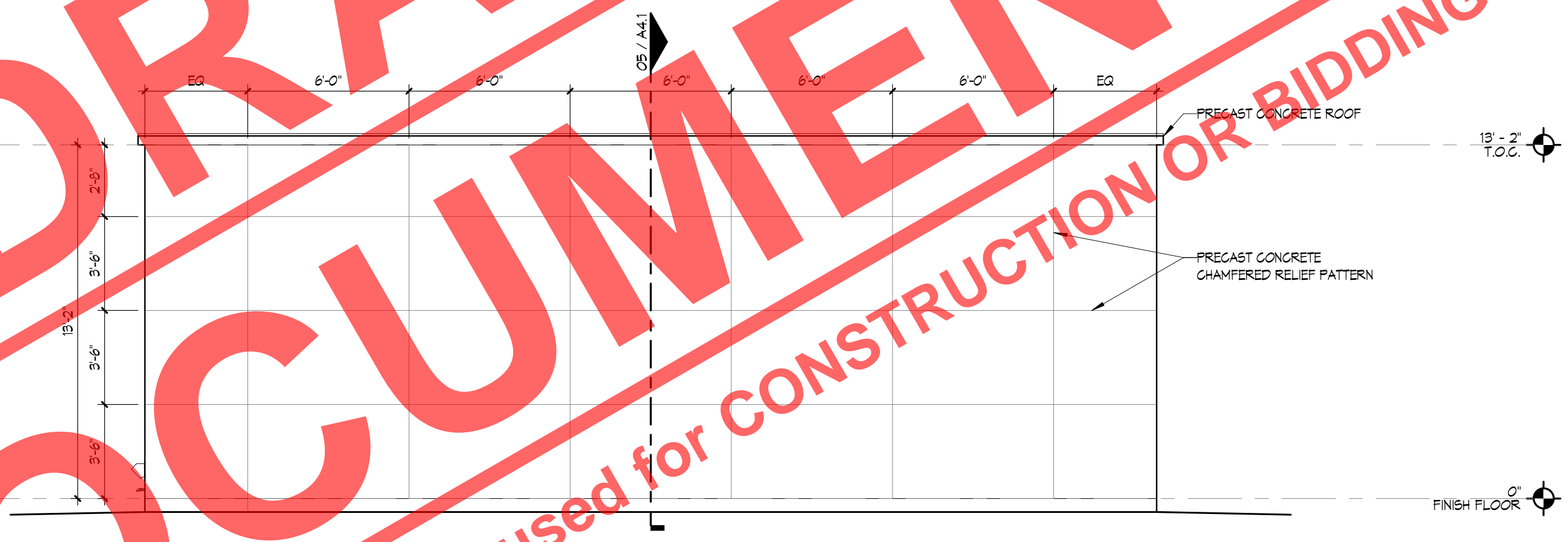
**01 EXTERIOR ELEVATION**  
1/4" = 1'-0"



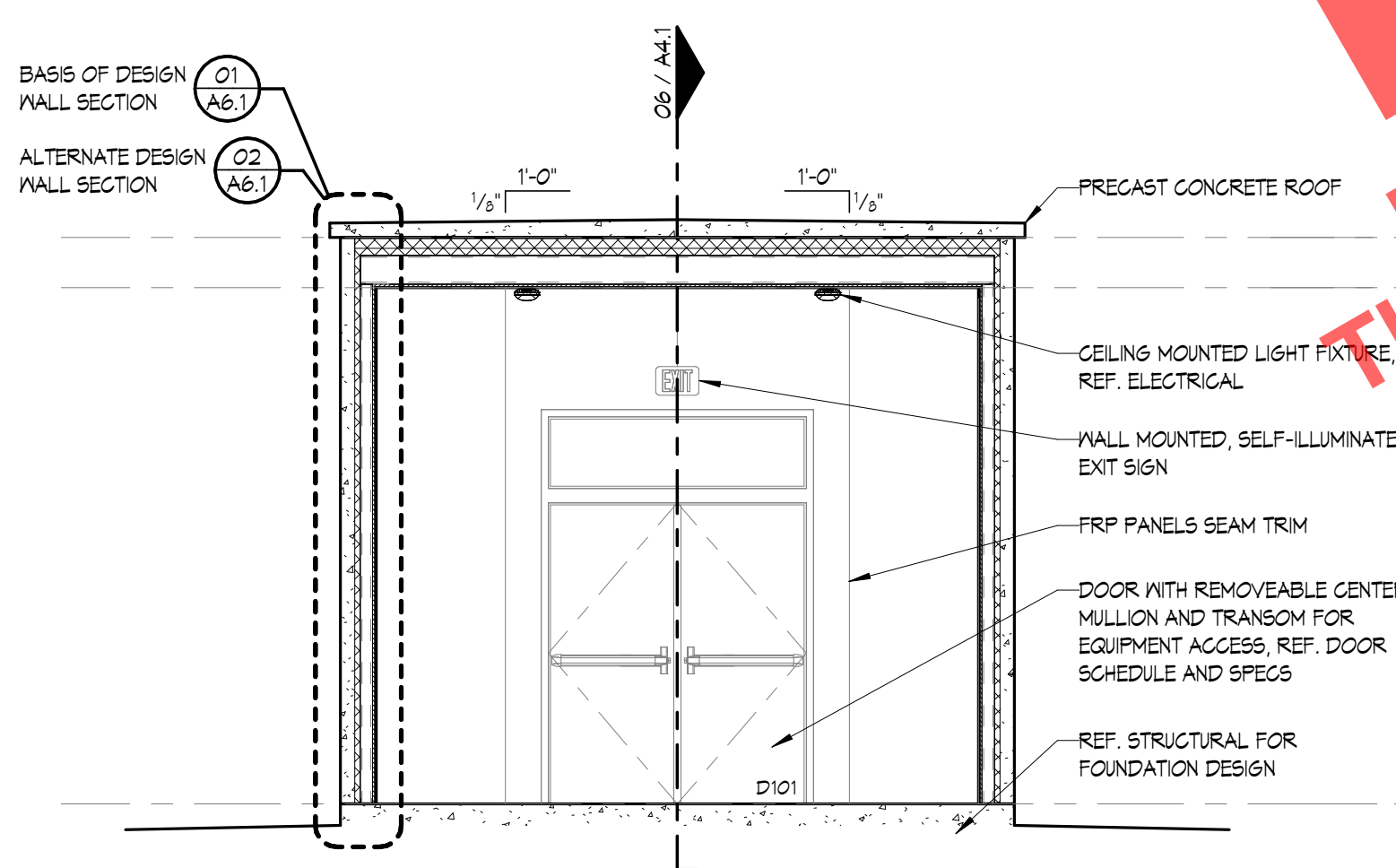
**02 EXTERIOR ELEVATION**  
1/4" = 1'-0"



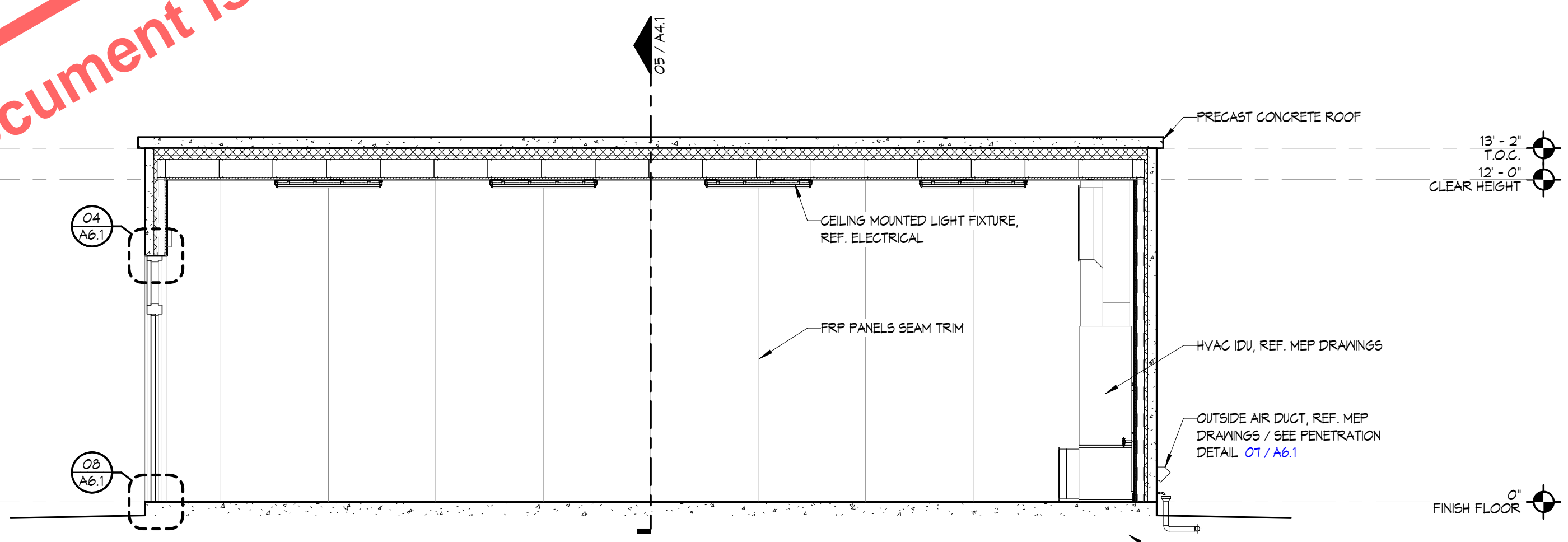
**03 EXTERIOR ELEVATION**  
1/4" = 1'-0"



**04 EXTERIOR ELEVATION**  
1/4" = 1'-0"



**05 BUILDING SECTION**  
1/4" = 1'-0"



**06 BUILDING SECTION**  
1/4" = 1'-0"

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**GNA** ARCHITECTURE  
 1010 S FLORES ST, STE 107  
 SAN ANTONIO, TX 78204  
 210.298.1800  
 gn-architect.com