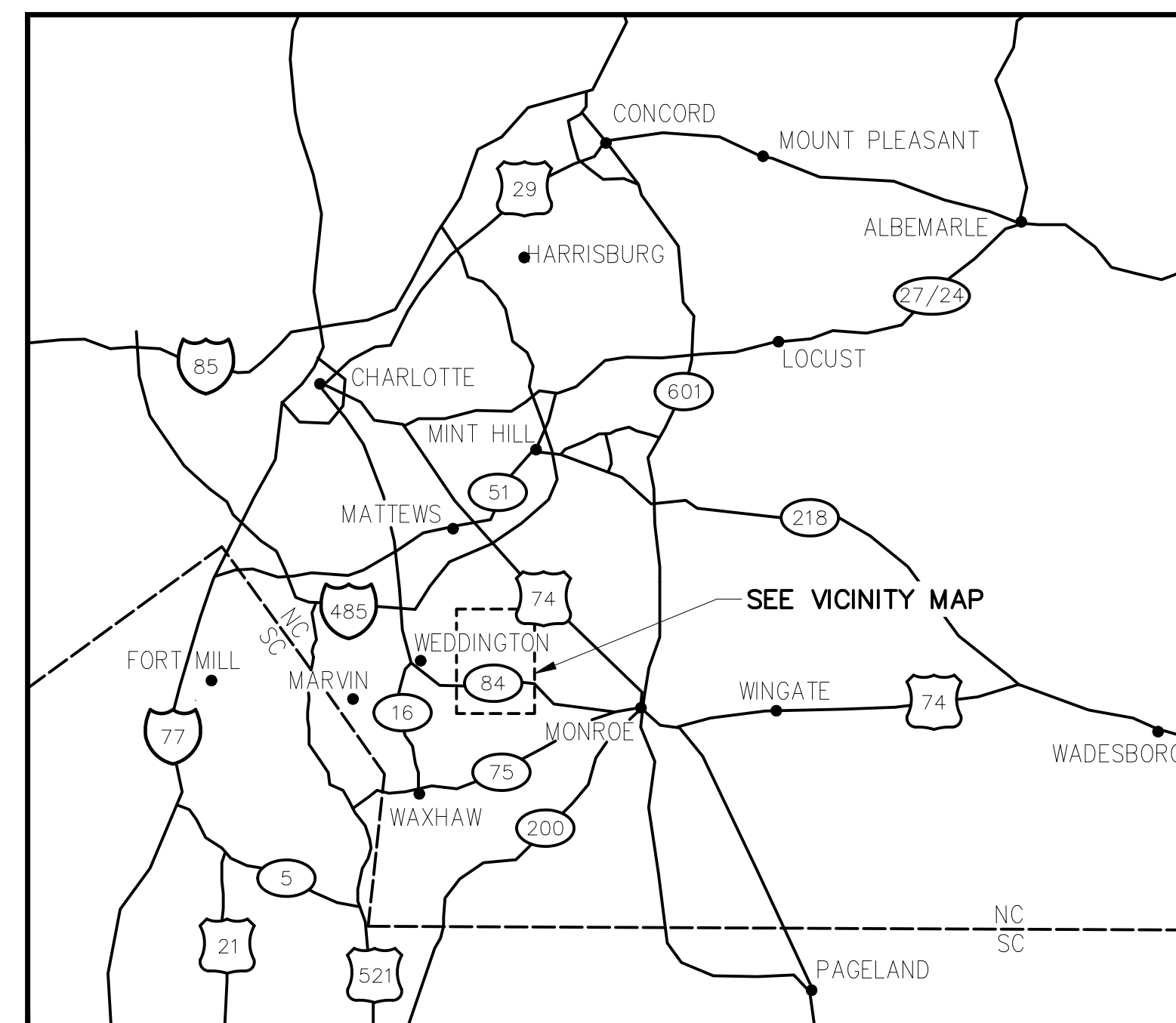


UNION COUNTY NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK INTERCEPTOR

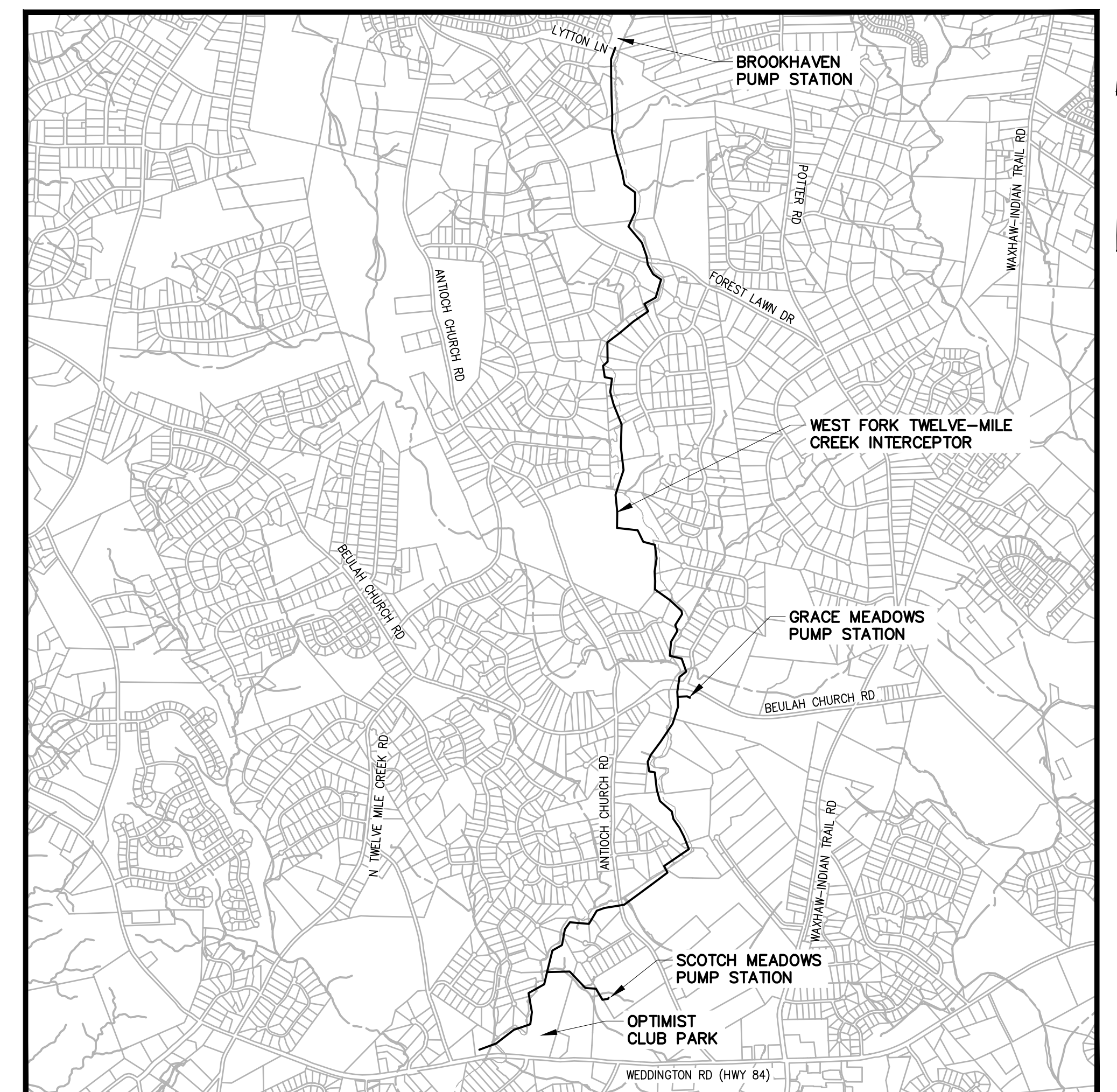
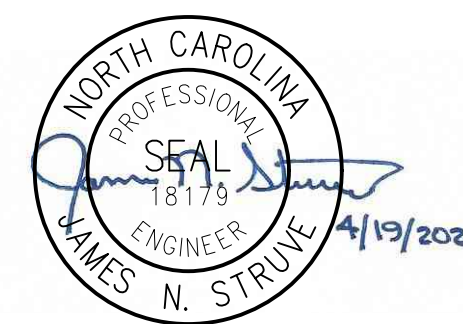
**INVITATION FOR BID NO. 2021-078
UNION COUNTY PROJECT NO. SW037**



LOCATION MAP
SCALE : N.T.S.



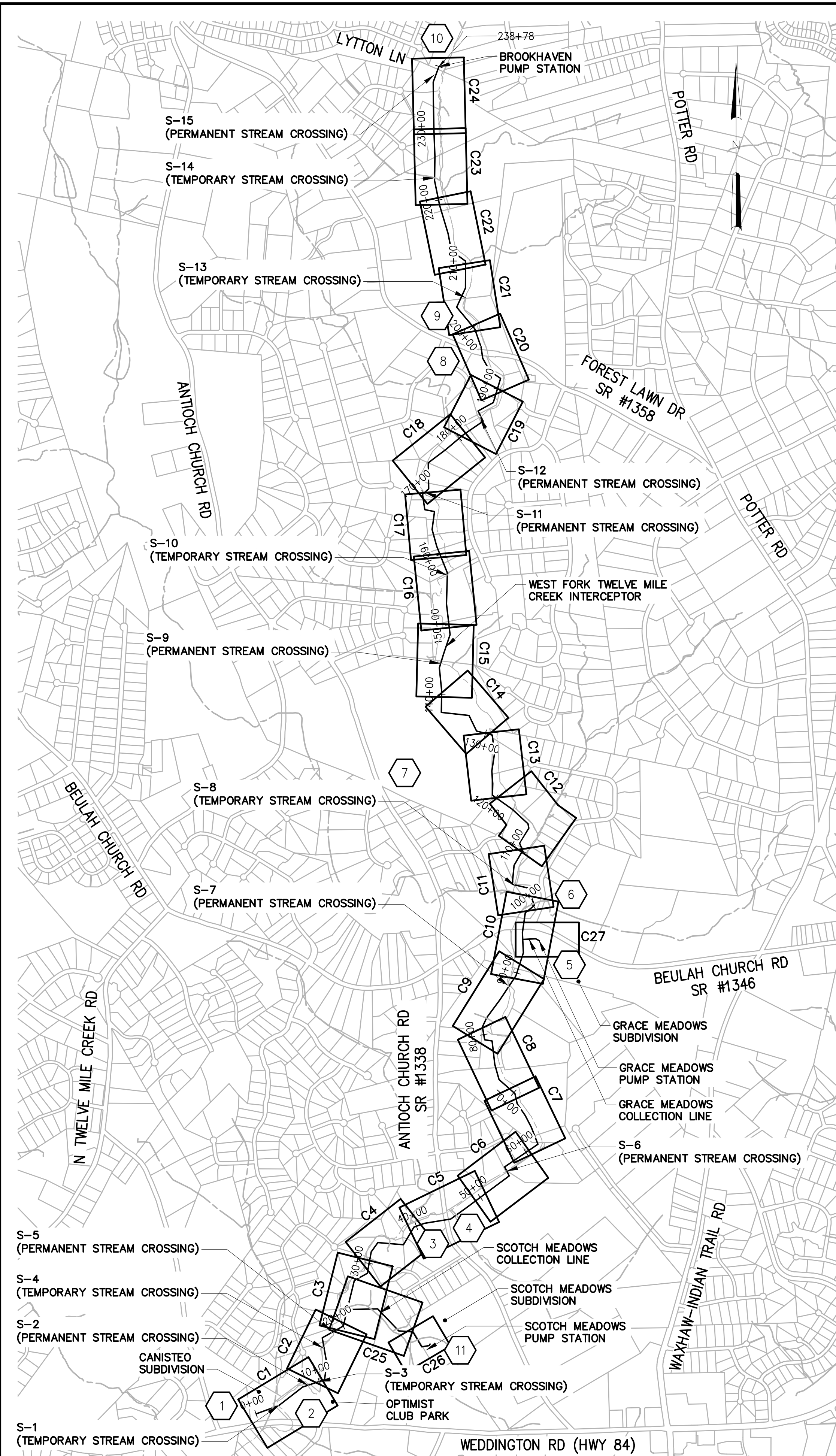
APRIL 2021



VICINITY MAP
SCALE : N.T.S.

Hazen

HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381



PERMANENT/TEMPORARY CONSTRUCTION EASEMENT (PCE/TCE) PROPERTY OWNER INFORMATION								
R/W #	PID	OWNER(S)	LOCATION ADDRESS	MAILING ADDRESS	CITY	STATE	ZIP CODE	DB & PG
1	06072003E	DEAL ROAD VENTURES LLC (R DEAN HARRELL)	5800 DEAL ROAD	5615 POTTER RD	MATTHEWS	NC	28104	DB 6909 PG 606
2	6069242	WESLEY CHAPEL WEDDINGTON ATHLETIC ASSOCIATION	HWY 84	PO BOX 79252	CHARLOTTE	NC	28271	DB 1648 PG 084
3	6069147	PAUL SCHNEIDER	4049 WHISPERWOOD CT	4049 WHISPERWOOD CT	MATTHEWS	NC	28104	DB 818 PG 672
4	6069146	PAUL SCHNEIDER & WIFE DEBORAH R SCHNEIDER	WHISPERWOOD CT	4049 WHISPERWOOD CT	MATTHEWS	NC	28104	DB 1299 PG 060
5	6069145	MICHAEL L PARHAM & LEAH ERIN MOSS-PARHAM	4033 WHISPERWOOD CT	4033 WHISPERWOOD CT	MATTHEWS	NC	28104	DB 4882 PG 681
6	6069236	WILLIAM E HARVEY & WF SUSAN	2027 MEADOW RUN DR	2027 MEADOW RUN DR	MATTHEWS	NC	28104	DB 1833 PG 209
7	6069210	JAMES P SCANLON & MARNI SCANLON	2056 MEADOW RUN DR	2056 MEADOW RUN DR	MATTHEWS	NC	28104	DB 6873 PG 378
8	6069237	ENDO JEZEK & GENEVIEVE JEZEK	2028 MEADOW RD DR	2028 MEADOW RD DR	MATTHEWS	NC	28104	DB 6806 PG 703
9	06069237A	A WAYNE GRIFFIN & WIFE ANNA H GRIFFIN	ANTIOCH CHURCH RD	7000 HIGH MEADOW DR	MATTHEWS	NC	28104	DB 0880 PG 0554
10	06069009C	PETER J COUCHELL (COUCHELL INVESTMENT COMPANY)	ANTIOCH CHURCH RD	3362 SMITH FARM RD	MATTHEWS	NC	28104	DB 3102 PG 362
11	6069006	PETER J COUCHELL	ANTIOCH CHURCH RD	3363 SMITH FARM RD	MATTHEWS	NC	28104	DB 1803 PG 160
12	06069006A	PETER J COUCHELL AND FAYE P COUCHELL	3362 SMITH FARM RD	5724 WAXHAW INDIAN TRAIL RD	MATTHEWS	NC	28104	DB 363 PG 064
13	6069273	HUNTER TABONY & CIERRA TABONY	106 ANTIOCH PLANTATION DR	106 ANTIOCH PLANTATION DR	MATTHEWS	NC	28105	DB 6008 PG 244
14	6069272	STEPHANIE V JOHNSON	108 ANTIOCH PLANTATION DR	108 ANTIOCH PLANTATION DR	MATTHEWS	NC	28104	DB 5506 PG 757
15	6069271	JACKIE L ISHAM & WIFE EVELYN C	110 ANTIOCH PLANTATION DR	110 ANTIOCH PLANTATION DR	MATTHEWS	NC	28104	DB 1491 PG 064
16	06069006D	PETER J COUCHELL & FAYE P	WAXHAW INDIAN TRAIL RD	3362 SMITH FARM RD	MATTHEWS	NC	28104	DB 1491 PG 064
17	06069003C	FRANK C OSBORNE	4816 ANTIOCH CHURCH RD	4816 ANTIOCH CHURCH RD	MATTHEWS	NC	28104	DB 4322 PG 287
18	06069003A	FLOYD C OSBORNE & WIFE SUSAN M OSBORNE	4724 ANTIOCH CHURCH RD	4724 ANTIOCH CHURCH RD	MATTHEWS	NC	28104	DB 1017 PG 770
19	06069003K	ANTHONY G BUTLER & KAROLYN J	WAXHAW INDIAN TRAIL RD	230 CHALCER LN	MATTHEWS	NC	28104	DB 4605 PG 001
20	6042001	BEL AIR ACQUISITION SUB LLC	4994 WAXHAW INDIAN TRAIL RD	8601 N SCOTTSDALE RD STE 225	SCOTTSDALE	AZ	85253	DB 6480 PG 048
21	6066076	COBBLECREEK DRIVE HOMEOWNERS ASSOC I	COBBLECREEK DR	7324 COBBLECREEK DR	MATTHEWS	NC	28104	DB 0947 PG 0550
22	6066260	MICHAEL M KAYES & RANDI OWSELY KAYES	240 PEBBLESTONE LN	240 PEBBLESTONE LN	MATTHEWS	NC	28104	DB 6674 PG 711
23	6066261	DAVID A DRUMMOND & WIFE NANCY B	248 PEBBLESTONE LN	248 PEBBLESTONE LN	MATTHEWS	NC	28104	DB 1512 PG 803
24	6066262	GERALD A WEBER JR & WIFE KELLY L	256 PEBBLESTONE LN	256 PEBBLESTONE LN	MATTHEWS	NC	28104	DB 1335 PG 398
25	6066667	JEFFREY W GALLAHAN & WENDY D GALLAHAN	7331 COBBLECREEK DR	7331 COBBLECREEK DR	MATTHEWS	NC	28104	DB 6123 PG 514
26	6066056	NICOLE L WALLS & WIFE CYNTHIA	7335 COBBLECREEK DR	7335 COBBLECREEK DR	MATTHEWS	NC	28104	DB 0887 PG 0766
27	6066053	EARL DEBERRY JR & WIFE CONNIE	7351 COBBLECREEK DR	7351 COBBLECREEK DR	MATTHEWS	NC	28105	-
28	6066052	DANIEL WRIGHT & LAUREN WRIGHT	7354 COBBLECREEK DR	7354 COBBLECREEK DR	WEDDINGTON	NC	28104	DB 6475 PG 747
29	6066051	STEVE H PHIFER	7352 COBBLECREEK DR	7352 COBBLECREEK DR	MATTHEWS	NC	28105	DB 1085 PG 710
30	06066002	PCM HOLDINGS LLC	ANTIOCH CHURCH RD	188 N TRADE ST	MATTHEWS	NC	28105	DB 5881 PG 498
31	6066003	PHILLIP L COHN & WIFE BARBARA B	7240 FOREST RIDGE DR	7240 FOREST RIDGE DR	MATTHEWS	NC	28104	-
32	6063187	RICHARD L COBB & VIRGINIA	FOREST RIDGE DR	7200 FOREST RIDGE DR	MATTHEWS	NC	28104	DB 5156 PG 852
33	6063186	JEFFERY S TERRY & WIFE NICOLE C	7166 FOREST RIDGE DR	7166 FOREST RIDGE DR	MATTHEWS	NC	28104	DB 1171 PG 177
34	6063185	DONALD SMITH & WIFE LINDA SMITH	7162 FOREST RIDGE DR	7162 FOREST RIDGE DR	MATTHEWS	NC	28105	DB 1005 PG 306
35	6063184	REBECCA V SHERIDAN	7158 FOREST RIDGE DR	7158 FOREST RIDGE DR	MATTHEWS	NC	28105	DB 5802 PG 281
36	6063183	KATHERINE J BANKS	7154 FOREST RIDGE DR	7154 FOREST RIDGE DR	MATTHEWS	NC	28104	DB 4375 PG 787
37	6063181	RICHARD D SIMMONS & WF PHYLLIS I	7150 FOREST RIDGE DR	7150 FOREST RIDGE DR	MATTHEWS	NC	28105	-
38	6063180	THOMAS E GAYE & WIFE LINDA J	7146 FOREST RIDGE DR	7142 FOREST RIDGE DR	MATTHEWS	NC	28105	-
39	6063179	DAVID W CLOUD & WIFE CAROLYN V	7138 FOREST RIDGE DR	7138 FOREST RIDGE DR	MATTHEWS	NC	28104	DB 701 PG 517
40	6063178	JAMES A LLOYD & WIFE JENNY D	7134 FOREST RIDGE DR	7134 FOREST RIDGE DR	WEDDINGTON	NC	28104	DB 1983 PG 209
41	6063177	ALAN J CAMMI & LYNDA A SCORDO	7130 FOREST RIDGE DR	7130 FOREST RIDGE DR	MATTHEWS	NC	28104	DB 4765 PG 225
42	6063176	VADIM MOSHKOVSKY & YELENA MOCHKOVSKY	7126 FOREST RIDGE DR	7126 FOREST RIDGE DR	WEDDINGTON	NC	28104	DB 5548 PG 192
43	6063175	JEAN DANIEL CAUSSE & DIONNE R CAUSSE	7122 FOREST RIDGE DR	7122 FOREST RIDGE DR	WEDDINGTON	NC	28104	DB 6572 PG 611
44	6063174	PETER M ROLFE & WIFE ANNE T	7118 FOREST RIDGE DR	7118 FOREST RIDGE DR	MATTHEWS	NC	28104	DB 424 PG 305
45	06063039A	VERONICA THOMAS HELMS	CEDAR BEND	3516 CEDAR BEND	MATTHEWS	NC	28104	DB 6494 PG 342
46	6063038	RICHARD GERALD KELLER III & JESSECA NICHOLE KELLER	3514 FOREST LAWN DR	3514 FOREST LAWN DR	WEDDINGTON	NC	28104	DB 5938 PG 756
47	06063001A	J & J PARTNERS LIMITED PARTNERSHIP (FOREST LAWN)	SR 1358	3700 FOREST LAWN DR	MATTHEWS	NC	28104	DB 1259 PG 230
48	7150017	J & J PARTNERS LIMITED PARTNERSHIP (FOREST LAWN)	FOREST LAWN DR	3700 FOREST LAWN DR	MATTHEWS	NC	28104	DB 1259 PG 230
49	7150015	BRENDA P HELMS & RICHARD WAYNE HELMS	3009 FOREST LAWN DR	3009 FOREST LAWN DR	MATTHEWS	NC	28104	DB 5740 PG 122
50	07150014A	GREYLYN HOMEOWNERS ASSOCIATION INC	GREYLYN DR	1248 GREYLYN DR	WEDDINGTON	NC	28104	DB 409 PG 801
51	7150101	JEFFREY A LANDON & WIFE VICTORIA L	1248 GREYLYN DR	1248 GREYLYN DR	WEDDINGTON	NC	28104	DB 1229 PG 135
52	7150102	THOMAS E VAN SISTINE & WIFE MARY	1251 GREYLYN DR	1251 GREYLYN DR	MATTHEWS	NC	28104	DB 1081 PG 533
53	06069021A	WEDDINGTON OPTIMIST CLUB OF WAXHAW	HWY 84	P O BOX 522	WAXHAW	NC	28173	DB 570 PG 519
54	06069022A	SOUTHBROOK COMMUNITY CHURCH (ATTN: GARY HAIDUC)	5607 HWY 84	5607 MONROE WEDDINGTON RD	MATTHEWS	NC	28104	DB 3264 PG 187
55	6066263	TERRY L JARVIE AND WIFE SHERI M JARVIE	239 PEBBLESTONE LN	239 PEBBLESTONE LN	MATTHEWS	NC	28104	DB 0995 PG 109
56	6069003E	FLOYD C OSBORNE & WIFE SUSAN M OSBORNE	4724 ANTIOCH CHURCH RD	4724 ANTIOCH CHURCH RD	MATTHEWS	NC	28104	DB 5015 PG 808

ACCESS POINT

DRAWING NO. DESCRIPTION
GENERAL

CVR COVER
X1 SHEET LAYOUT AND INDEX OF DRAWINGS
X2 LEGEND AND ABBREVIATIONS
X3 GENERAL AND EROSION CONTROL NOTES AND SEQUENCE
X4 ACCESS ROUTE 7

PLAN AND PROFILE
WEST FORK TWELVE-MILE CREEK INTERCEPTOR

C1 STA 0+00 TO STA 10+00
C2 STA 10+00 TO STA 20+00
C3 STA 20+00 TO STA 30+00
C4 STA 30+00 TO STA 40+00
C5 STA 40+00 TO STA 50+00
C6 STA 50+00 TO STA 60+00
C7 STA 60+00 TO STA 70+00
C8 STA 70+00 TO STA 80+00
C9 STA 80+00 TO STA 90+00
C10 STA 90+00 TO STA 100+00
C11 STA 100+00 TO STA 110+00
C12 STA 110+00 TO STA 120+00
C13 STA 120+00 TO STA 130+00
C14 STA 130+00 TO STA 140+00
C15 STA 140+00 TO STA 150+00
C16 STA 150+00 TO STA 160+00
C17 STA 160+00 TO STA 171+00
C18 STA 171+00 TO STA 181+00
C19 STA 181+00 TO STA 190+00
C20 STA 190+00 TO STA 200+00
C21 STA 200+00 TO STA 210+00
C22 STA 210+00 TO STA 220+00
C23 STA 220+00 TO STA 230+00
C24 STA 230+00 TO STA 238+78

SEWER TO SERVE SCOTCH MEADOWS
C25 STA 0+00 TO STA 10+00
C26 STA 10+00 TO STA 13+91

SEWER TO SERVE GRACE MEADOWS
C27 STA 0+00 TO STA 2+40

DEMOLITION PLANS
C28 SCOTCH MEADOWS PUMP STATION
C29 GRACE MEADOWS PUMP STATION
C30 BROOKHAVEN PUMP STATION

STANDARD DETAILS
D1 MISCELLANEOUS STANDARD DETAILS
D2 MISCELLANEOUS STANDARD DETAILS
D3 MISCELLANEOUS STANDARD DETAILS
D4 MISCELLANEOUS STANDARD DETAILS
D5 UNION COUNTY PUBLIC WORKS STANDARD DETAILS
D6 UNION COUNTY PUBLIC WORKS STANDARD DETAILS AND MISCELLANEOUS DETAILS

REFERENCE DRAWINGS
R1-R9 REFERENCE DRAWING

1"=1000'

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
NO.	ISSUED FOR
DATE	BY
APPROVED	



Hazen
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UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

SHEET LAYOUT AND INDEX OF DRAWINGS

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	HI & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	X1

LEGEND

ABBREVIATIONS

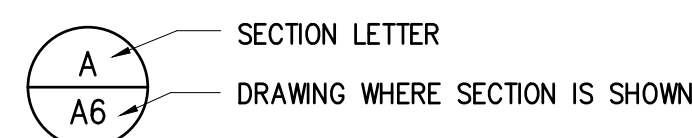
LINETYPES

	PROPOSED ITEMS		WATER MAIN
	EXISTING ITEMS		FIBER OPTIC CABLE
	HIDDEN ITEMS		UNDERGROUND ELECTRIC
	FEMA 100YR FLOODPLAIN		UNDERGROUND COMMUNICATIONS
	FEMA FLOODWAY		GAS MAIN
	CENTER LINE		OVERHEAD ELECTRIC
	MATCH LINE		PROPERTY LINE
	EASEMENT		RIGHT-OF-WAY
	EXIST SANITARY SEWER		DITCH, CREEK OR BRANCH
	EXIST MANHOLE		STORM DRAIN W/CATCH BASIN OR DROP INLET
	NEW MANHOLE		STORM DRAIN CULVERT W/ HEADWALLS
	FENCE		TREE LINE
	BRIDGE		WETLANDS
	GUARDRAIL		TEMPORARY CONSTRUCTION EASEMENT
	CURB & GUTTER		PERMANENT CONSTRUCTION EASEMENT
	STREET SIGN		SILT FENCE
	FIRE HYDRANT		LIGHT POLE
	MAILBOX		WATER VALVE
	SOIL BORING		IRON PIN (LOCATED)
	GROUND ELEVATION		TREE
	POWER POLE		TEMPORARY STREAM CROSSING
	POWER POLE W/GUY WIRE		FIBER FILTRATION TUBE (FFT)
	PLUG		STABILIZED OUTLET FOR SILT FENCE
			PERMANENT STEAM CROSSING
			ACCESS GATE

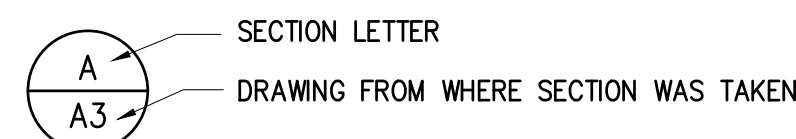
APPROX ASPH	APPROXIMATE ASPHALT	JB	JUNCTION BOX
BLDG BOC	BUILDING BACK OF CURB	LAT LAV LB LF LP LOC	LATERAL LAVATORY POUND/LINE BACK LINEAR FEET LIGHT POLE LIMITS OF CONSTRUCTION
CB CE CI CIP CL CLF CMP CMU CO CONC CONST CONT CONTR	CATCH BASIN CONSTRUCTION EASEMENT CAST IRON/CUBIC INCHES CAST IRON PIPE CENTER LINE CHAIN LINK FENCE CORRUGATED METAL PIPE CONCRETE MASONRY UNIT CLEANOUT CONCRETE CONSTRUCTION CONTINUOUS CONTRACTOR	MH MIN MISC	MANHOLE MINIMUM MISCELLANEOUS
DIA DIM DIP	DIAMETER DIMENSION DUCTILE IRON PIPE	N NTS	NORTH NOT TO SCALE
E EA EIP EL OR ELEV ENGR ENT EOG EOP EQ EX	EAST/EASEMENT EACH EXIST IRON PIPE ELEVATION ELECTRIC/ELECTRICAL ENGINEER ENTRANCE EDGE OF GRAVEL EDGE OF PAVEMENT EQUAL EXISTING	P PP PVMIT	PROPERTY LINE/PLATE POWER POLE PAVEMENT
F&C F&G	FRAME AND COVER FRAME AND GRATE	QTY	QUANTITY
FH FM FT	FIRE HYDRANT FORCE MAIN FEET	RCP REQD REV RJ R/W	REINFORCED CONCRETE PIPE REQUIRED REVISE RESTRAINED JOINT RIGHT OF WAY
G GC GI GR GW	GAS/GAS LINE GENERAL CONTRACTOR GALVANIZED IRON GRADE GUY WIRE	S SAN SCH SD SEW SF SHT SPEC SQ SS ST STA STD	SOUTH/SLOPE SANITARY SCHEDULE STORM/SITE DRAIN SEWER SQUARE FEET SHEET SPECIFICATION SQUARE SANITARY SEWER STREET STATION STANDARD
H HORZ	HEIGHT HORIZONTAL	TEL TYP	TELEPHONE TYPICAL
I IN INV	IRON INCH INVERT	UG UTIL	UNDERGROUND UTILITY
		W W/ WL WV	WEST/WIDTH WITH WATER LINE WATER VALVE

SECTION AND DETAIL KEYING

DRAWINGS ARE CROSS REFERENCED IN THE FOLLOWING METHOD:
 (A) A SECTION CUT ON DRAWING A3 IS IDENTIFIED AS FOLLOWS:

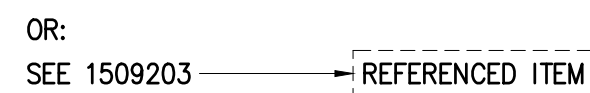


(B) THE SECTION SHOWN ON DRAWING A6 IS IDENTIFIED AS FOLLOWS:



DETAILS ARE CROSS REFERENCED IN A SIMILAR MANNER, EXCEPT DETAILS ARE IDENTIFIED BY A SQUARE WITH A NUMBER IN THE UPPER HALF.

STANDARD DETAILS ARE REFERENCED BY A UNIQUE SEVEN DIGIT NUMBER AND ARE SHOWN ON THE CONTRACT DRAWINGS BY ONE OF TWO METHODS:



STANDARD DETAILS ARE COMPILED IN APPROXIMATE NUMERICAL ORDER IN THE BACK OF THE CONTRACT DRAWINGS ON THE D* DRAWINGS.

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
NO.	ISSUED FOR
DATE	BY
APPROVED	



Hazen
 HAZEN AND SAWYER
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LEGEND AND ABBREVIATIONS

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	X2

GENERAL AND EROSION CONTROL NOTES:

- A MINIMUM OF 5 WORKING DAYS PRIOR TO THE BEGINNING OF ANY WATER AND/OR SANITARY SEWER WORK, CONTACT UNION COUNTY PUBLIC WORKS CONSTRUCTION MANAGER, NEAL GASTON, AT 704-296-4254, AND AN INSPECTOR WILL BE PROVIDED FOR WORK OVERSIGHT.
- WHERE SANITARY SEWERS AND WATER LINES ARE ENCOUNTERED, THE CONTRACTOR SHALL USE CARE IN WORKING AROUND OR NEAR THEM. IF AN EXISTING SEWER OR WATER LINE IS DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY REPORT THE PROBLEM TO UNION COUNTY PUBLIC WORKS AND REPLACE THE SEWER OR WATER LINE WITH CLASS 350 DUCTILE IRON PIPE. THE CONTRACTOR SHALL REPLACE A MINIMUM OF 18 FEET OF SANITARY SEWER AND/OR WATER LINE WITH CLASS 350 DUCTILE IRON PIPE WHEN ANY OF THE MINIMUM SEPARATION DISTANCES OUTLINED IN THE SPECIAL PROVISIONS FOR THIS PROJECT ARE NOT MET.
- WATER AND SEWER MAINS ARE TO REMAIN ACTIVE DURING CONSTRUCTION. IF THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL FOLLOW UNION COUNTY PUBLIC WORKS PROCEDURES AS OUTLINED IN THE DESIGN MANUAL AND SPECIAL PROVISIONS REGARDING OUTAGES, TEMPORARY WATER SERVICE AND BYPASS SEWER PUMPING. SOME WATER, SEWER, AND GAS MAINS WERE VACUUM EXCAVATED TO DETERMINE APPROXIMATE DEPTH. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL CROSSING UTILITIES WELL IN ADVANCE OF HIS WORK.
- ALL WORK SHALL COMPLY WITH CONTRACT DOCUMENTS AND THE SPECIAL PROVISIONS AS DESCRIBED IN THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL CONTACT THE LOCAL PUBLIC UTILITIES LOCATING SERVICE TO LOCATE UTILITIES IN THE AREA PRIOR TO ANY EXCAVATION. ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THE DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES, WHETHER SHOWN OR NOT, AND REPAIRING ALL DAMAGE TO UTILITIES AT HIS OWN EXPENSE. CONTACT NC ONE CALL AT 811 OR 800-632-4949.
- THE TOPOGRAPHIC MAPS WERE PREPARED FROM AN AERIAL SURVEY - CONTOUR INTERVAL OF 1 FOOT. GRID SYSTEM AND COORDINATES ARE NC STATE PLANE COORDINATE SYSTEM (1983 DATUM).
- CONTRACTOR IS RESPONSIBLE FOR PROCURING ALL REQUIRED PERMITS, MOBILIZATION, STORAGE, AND STAGING AREAS AS WELL AS ACCESS TO ANY CONSTRUCTION SITES WITHIN TEMPORARY AND PERMANENT UNION COUNTY PUBLIC WORKS RIGHT-OF-WAY NOT ALREADY ACQUIRED. EROSION CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED AT ALL WORK SITES, STAGING AREAS, AND OFF SITE SPOIL AREAS. CONTRACTOR SHALL FOLLOW ALL LOCAL REGULATIONS REGARDING THE WORK, INCLUDING KEEPING MUD AND DIRT OFF OF PRIVATE ENTRANCES, AND REHABILITATING STAGING, STORAGE OR STOCKPILING AREAS TO EQUAL OR BETTER THAN EXISTING CONDITION. CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO PREVENT TRACKING MUD/SOIL ON ADJACENT ROADWAYS. ANY MUD/SOIL TRACKED ON ROADWAYS SHALL BE CLEANED DAILY. CONTRACTOR IS RESPONSIBLE FOR PROCURING ALL PERMITS FOR THESE ADDITIONAL AREAS.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CLEARING OR PERFORMING EXCAVATION IN ANY AREA. EROSION CONTROL FACILITIES SHALL BE MAINTAINED DURING WORK AND SHALL BE REMOVED WHEN WORK IS COMPLETED AND ENGINEER AUTHORIZES REMOVAL. TEMPORARY SEEDING AND MULCHING SHALL BE PERFORMED AS SPECIFIED IN SECTION 02276 - EROSION AND SEDIMENTATION CONTROL.
- CONTRACTOR SHALL NOTIFY MONROE ENERGY SERVICES OR PIEDMONT NATURAL GAS AT LEAST 48 HOURS PRIOR TO ENCRoACHING ON OR CROSSING ANY GAS PIPELINE. THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE VARIOUS UTILITIES TO PROTECT THE GAS PIPELINES AND THE PUBLIC.
- SOIL EXPLORATION WORK WAS PERFORMED BY S&ME. SOILS EXPLORATION WORK IS SOLELY TO ASSIST BIDDERS IN ASSESSING THE NATURE AND EXTENT OF TESTING PROCEDURES REQUIRED TO MAKE THEIR OWN DETERMINATION OF ACTUAL SUBSURFACE CONDITIONS THAT WILL BE ENCOUNTERED DURING THE COURSE OF THE WORK. NO REPRESENTATION IS MADE OR WILL BE GIVEN BY THE ENGINEER CONCERNING ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED. ALL BIDDERS ARE DIRECTED PRIOR TO BIDDING TO CONDUCT ALL INVESTIGATIONS AND TESTING THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING SUCH CONDITIONS. SOIL BORING PROFILE ELEVATIONS ARE APPROXIMATE.
- ALL AREAS WITH OPEN EXCAVATIONS, OPEN VAULTS OR MANHOLES, OR EQUIPMENT SHALL BE FENCED WITH TEMPORARY SAFETY FENCING AT LEAST 4 FEET HIGH AT END OF EACH WORK DAY.
- WHEN DEWATERING BORE PITS AND TRENCHES, TURBID WATER SHALL BE PUMPED THROUGH A FILTER BAG, PER DETAIL 0227038.

- ANY LAND CORNER, PROPERTY MONUMENTATION, OR BENCHMARK WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY. ANY CORNER MONUMENT DISTURBED OR DESTROYED SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF NC AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO PROTECT OR REPLACE NCDOT RIGHT-OF-WAY MARKERS OR MONUMENTS PER NCDOT 806.01.
- CONTACT THE OWNER IMMEDIATELY REGARDING ANY CONFLICTS THAT ARISE DURING CONSTRUCTION OF WORK SHOWN ON THE DRAWINGS.
- THE CONTRACTOR SHALL ADHERE TO ALL CONDITIONS AND REQUIREMENTS OF ALL PERMITS THAT HAVE BEEN OBTAINED AND ALL AVAILABLE LOCAL, STATE AND FEDERAL REGULATIONS. SEE CONTRACT SPECIFICATIONS.
- ALL VAULTS AND MANHOLES WITHIN ROAD RIGHT-OF-WAY SHALL BE DESIGNED FOR HS20 LOADING.
- FOR ALL CONNECTIONS TO EXISTING FACILITIES, CONTRACTOR SHALL VERIFY ALL EXISTING PIPELINE ELEVATIONS, LOCATIONS, DIAMETERS, AND MATERIALS PRIOR TO SHOP DRAWING SUBMITTALS, NOTIFYING THE ENGINEER OF ANY CONFLICTS.
- ALL DRIVEWAYS, DRAIN PIPES, AND HEADWALLS DISTURBED SHALL BE RESTORED TO EQUAL OR BETTER THAN EXISTING CONDITION, IN BOTH NEW AND EXISTING RIGHTS-OF-WAY AND WITHIN ANY TEMPORARY EASEMENT AREAS. ANY STRUCTURES OR DRIVEWAYS DISTURBED OUTSIDE THE RIGHT-OF-WAY OR EASEMENT SHALL ALSO BE FULLY RESTORED AT NO COST TO THE OWNER.
- CONTRACTOR SHALL PROTECT ALL DRAIN CULVERTS DURING CONSTRUCTION. MAINTAIN PROTECTION UNIL DISTURBED AREAS ARE STABILIZED WITH GROUND COVER SUFFICIENT TO RESTRAIN EROSION.
- PROVIDE TEMPORARY DITCH LINING FOR DISTURBED DITCH LINES OR OTHER AREAS OF CONCENTRATED FLOW WHERE SLOPE IS GREATER THAN 2%.
- WHEN EXCAVATED MATERIALS ARE PLACED ON ROADWAY OR PARKING LOT SURFACES, THE CONTRACTOR SHALL PLACE SAND, STONE SCREENINGS, OR GEOTEXTILE ON THE SURFACE PRIOR TO PLACING THE EXCAVATED MATERIALS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SITE ACCESSIBLE FOR EMERGENCY VEHICLES AT ALL TIMES.
- CONTRACTOR TO EXCAVATE AND DETERMINE ELEVATION OF ALL KNOWN CONFLICTS AT LEAST 1000 FEET AHEAD OF PIPE OR CASING INSTALLATION.
- CLASS B CONCRETE MIX DESIGN SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3600 psi.
- DISTURBANCE SHALL BE LIMITED TO THE TEMPORARY AND PERMANENT RIGHT-OF-WAY, AREAS FOR WHICH ENCRoACHMENT AGREEMENTS HAVE BEEN OBTAINED AND STAGING AREAS PROCURED BY THE CONTRACTOR. CONTRACTOR SHALL REMOVE ALL TREES WITHIN THE LIMITS OF THE PERMANENT UNION COUNTY PUBLIC WORKS RIGHT-OF-WAY, EXCEPT WHERE TREE PROTECTION IS SHOWN ON THE DRAWINGS.
- LIMITS OF CONSTRUCTION (LOC) TO BE EDGE OF TEMPORARY CONSTRUCTION EASEMENT (TCE), EDGE OF PAVEMENT (EOP) OR SILT FENCE LINE (OPEN AREAS) AS INDICATED ON INDIVIDUAL DRAWINGS.
- LIMITS OF DISTURBANCE FOR THIS PROJECT IS APPROXIMATELY 19.6 ACRES.
- ALL MANHOLES WITH RIMS LESS THAN OR EQUAL TO 2- FEET ABOVE THE FEMA 100 YEAR BASE FLOOD ELEVATION ARE TO HAVE SEALED RINGS AND COVERS PER DETAIL 9A.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING ALL UTILITY POLES DURING CONSTRUCTION WITHIN PROJECT LIMITS.
- ALL LAWN AREAS SHALL RECEIVE MIN 6" TOPSOIL PRIOR TO SEEDING AND MULCHING.

EROSION CONTROL SEQUENCE:

- NO DEMOLITION, CONSTRUCTION OR LAND DISTURBANCE ACTIVITIES MAY BEGIN UNTIL ALL PERIMETER EROSION CONTROL MEASURES HAVE BEEN INSTALLED IN LOCATIONS AS SHOWN ON THE CONTRACT DRAWINGS. IF CLEARING IS REQUIRED FOR INSTALLATION OF A PARTICULAR MEASURE, ALL OTHER MEASURES SHOWN SHALL BE INSTALLED FIRST. THE CLEARING OF THE LAND NECESSARY FOR INSTALLATION OF THE PARTICULAR MEASURE MAY THEN PROCEED.
- ONCE ALL MEASURES HAVE BEEN INSTALLED, THE SITE SHALL BE CLEARED AND GRUBBED AS NECESSARY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE CONTRACT DRAWINGS. EFFORTS SHALL BE MADE TO MINIMIZE THE AMOUNT OF CLEARED AREA EXPOSED AT ANY GIVEN TIME.
- ONCE CLEARING AND GRUBBING IS COMPLETE, ANY NECESSARY TOPSOIL STRIPPING MAY BEGIN. TOPSOIL SHALL BE STOCKPILED ON SITE IN THE STOCKPILING AREAS SHOWN ON THE CONTRACT DRAWINGS. STOCKPILE SHALL RECEIVE SUCH TEMPORARY SEEDING MEASURES AS MAY BE REQUIRED. ANY SOIL TAKEN OFFSITE SHALL BE STOCKPILED AT LOCATIONS WITH ALL REQUIRED PERMITS. IF OFFSITE LOCATION DOES NOT HAVE ALL REQUIRED PERMITS, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY REQUIRED PERMITS.
- DEMOLITION, EARTHWORK AND CONSTRUCTION OPERATIONS MAY BEGIN ONCE TOPSOIL HAS BEEN REMOVED AND STOCKPILED.
- EROSION CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED AT ALL WORK SITES, STAGING AREAS, AND OFF SITE SPOIL AREAS.
- EROSION AND SEDIMENTATION CONTROL FACILITIES SHALL BE INSTALLED PRIOR TO CLEARING OR PERFORMING EXCAVATION IN ANY AREA. EROSION CONTROL FACILITIES SHALL BE MAINTAINED DURING WORK AND SHALL BE REMOVED WHEN WORK IS COMPLETED, SUFFICIENT GROUND COVER IS ESTABLISHED AND ENGINEER AUTHORIZES REMOVAL. TEMPORARY SEEDING AND MULCHING SHALL BE PERFORMED AS SPECIFIED IN SECTION 02276 - EROSION AND SEDIMENTATION CONTROL.
- INLET PROTECTION IS REQUIRED FOR ALL INLETS LOCATED IN THE WORKING AREA AND ADJACENT AREAS AND REQUIRED UNTIL THE SITE IS FULLY STABILIZED.
- PERMANENT AND TEMPORARY STREAM CROSSINGS SHALL BE INSTALLED AS SHOWN ON THE CONTRACT DRAWINGS FOR CONSTRUCTION ACCESS ACROSS STREAMS.
- PIPELINE INSTALLATION THROUGH EXISTING ASPHALT ROADWAYS SHALL UTILIZE PIPE BORING, JACKING, AND OPEN CUT OF ROADWAYS, AS SHOWN ON THE CONTRACT DRAWINGS.
- ALL PIPES SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD CONSTRUCTION TECHNIQUES. ONLY THE LENGTH OF TRENCH IN WHICH PIPE CAN BE INSTALLED IN ONE DAY'S TIME SHALL BE OPEN AT ANY TIME, WITH SPOIL MATERIAL PLACED ON THE UPHILL SIDE OF THE TRENCH. PIPING SHALL BE CAPPED AT END OF EACH DAY'S WORK TO PREVENT SEDIMENT FROM ENTERING. ALL OPEN CUT PIPELINE TRENCHES SHALL BE BACKFILLED AT END OF WORK WEEK. DISTURBED AREA SHALL BE SEEDED AND MULCHED WITHIN SEVEN (7) DAYS OF BACKFILL.
- ALL PIPING AROUND EXISTING STRUCTURES SHALL HAVE EXCAVATION SUPPORT DURING INSTALLATION TO MAINTAIN THE INTEGRITY OF THE EXISTING STRUCTURES.
- ONCE CONSTRUCTION ACTIVITIES ARE COMPLETE, FINAL GRADING MAY BEGIN.
- CONSTRUCTION ENTRANCES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED OR UNTIL ALL MAJOR GRADING ACTIVITIES HAVE CEASED, AND NEW ROADWAYS ARE PAVED. ANY MUD/SOIL TRACKED ON ROADWAYS SHALL BE CLEANED DAILY.
- UPON COMPLETION OF FINAL GRADING, PERMANENT SEEDING, MULCHING AND FERTILIZING MEASURES SHALL BE EMPLOYED ON ALL DISTURBED AREAS AS PER SECTION 02910 - FINAL GRADING AND LANDSCAPING. PERMANENT SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL ENTIRE SITE HAS BEEN STABILIZED.
- ONCE PERMANENT STABILIZATION HAS OCCURRED, TEMPORARY SEDIMENT CONTROL MEASURES SHALL BE REMOVED. ANY AREAS DISTURBED BY THE REMOVAL OF THESE MEASURES SHALL BE RETURNED AS CLOSELY AS POSSIBLE TO ORIGINAL CONDITION AND SEEDED, MULCHED AND FERTILIZED AS PER SPECIFICATION SECTION 02910.
- ADDITIONAL SILT FENCE AND SILT FENCE STONE OUTLETS MAY BE REQUIRED BASED ON FIELD CONDITIONS AS APPROVED BY ENGINEER.

CONSTRUCTION SEQUENCE:

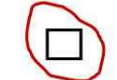

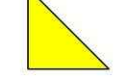
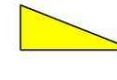
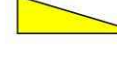
- CONTRACTOR TO HAVE SEDIMENTATION AND EROSION CONTROL MEASURES IN PLACE PRIOR TO ANY LAND DISTURBING ACTIVITY.
- CONTRACTOR TO NOTIFY ALL AFFECTED PROPERTY OWNERS MINIMUM 3 DAYS IN ADVANCE OF WORKING ON THEIR PROPERTY. ACTUAL CONTACT WITH OWNER OR DOOR HANGERS SHOULD BE USED.
- CLEARING WITHIN THE TEMPORARY EASEMENTS (TCE) SHALL BE LIMITED TO CLEARING ONLY WHAT'S ABSOLUTELY NECESSARY FOR CONTRACTOR'S WORK.
- THE CONTRACTOR SHALL KEEP AREA AS CLEAN AND NEAT AS POSSIBLE AT ALL TIMES.
- UPON COMPLETION AND ACCEPTANCE OF PROJECT, CONTRACTOR SHALL REMOVE ALL TEMPORARY SEDIMENTATION AND EROSION CONTROL MEASURES.
- ONCE CONSTRUCTION ACROSS EACH STREAM/CREEK IS COMPLETED, INSTALL SILT FENCE AND/OR ADDITIONAL MEASURES ADJACENT TO THE STREAM/CREEK UNTIL THE AREA IS STABILIZED.

DUKE ENERGY NOTES:

- NO STOCKPILING OF ANY MATERIALS WITHIN THE DUKE ENERGY TRANSMISSION EASEMENT AT ANY TIME.
- DUKE ENERGY SHALL HAVE FREE AND CLEAR INGRESS/EGRESS TO ITS FACILITIES AT ALL TIMES.
- ALL CROSSING MATERIALS SHALL BE ABLE TO WITHSTAND 80K POUNDS.
- ALL CROSSINGS SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO 95% AT END OF EACH DAY.
- DUKE ENERGY SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE TO CONSTRUCTION MATERIALS WITHIN THE TRANSMISSION EASEMENT.
- ALL EROSION CONTROL DEVICES WITHIN DUKE ENERGY'S TRANSMISSION EASEMENT SHALL BE REMOVED UPON COMPLETION AND ACCEPTANCE OF PROJECT. VEGETATION MUST BE RE-ESTABLISHED IN DUKE ENERGY'S TRANSMISSION EASEMENT IF DAMAGED.
- ALL WORK WITHIN DUKE ENERGY'S TRANSMISSION EASEMENT SHALL COMPLY WITH DUKE'S GUIDELINES AND RESTRICTIONS, CLEARANCES AND OSHA REGULATIONS.

NPDES Stormwater Discharge Permit for Construction Activities (NCGO1)

NCDENR/Division of Water Quality

NEW STABILIZATION TIMEFRAMES (Effective Aug. 3, 2011)			
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS	
 Perimeter dikes, swales, ditches, slopes	7 days	None	
 High Quality Water (HQP) Zones	7 days	None	
 Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.	
 Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.	
 All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.	

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
NO.	ISSUED FOR
	DATE
	BY
	APPROVED



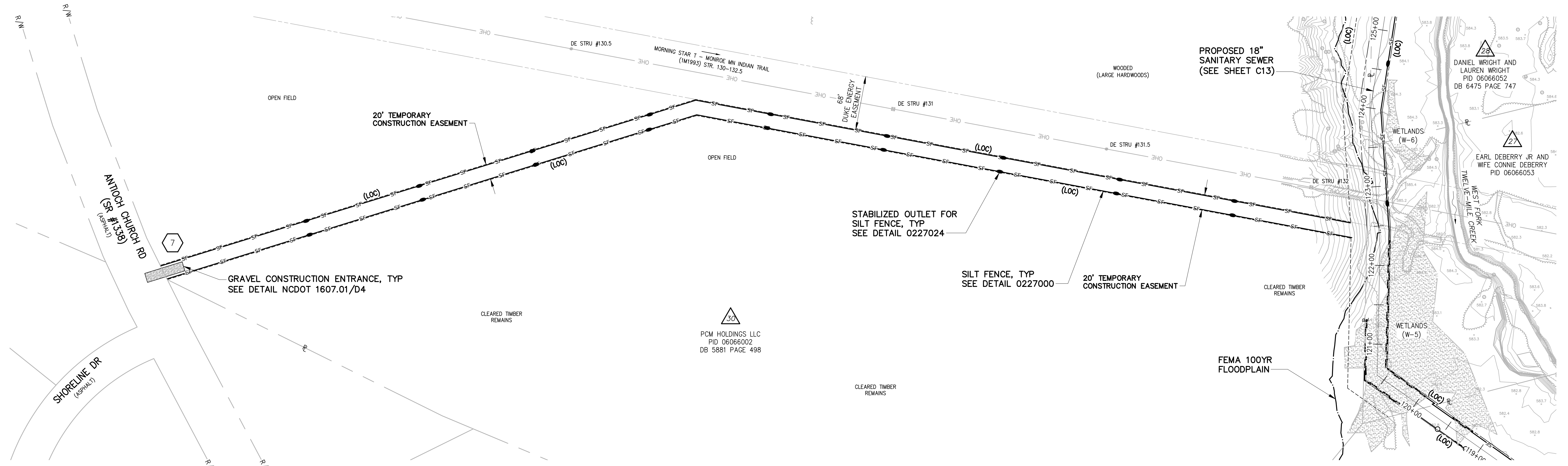
Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

**UNION COUNTY
NORTH CAROLINA**
**WEST FORK TWELVE-MILE CREEK
INTERCEPTOR**

**GENERAL AND EROSION CONTROL
NOTES AND SEQUENCE**

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	HI & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	X3

NOTES:
 1. SEE DUKE ENERGY NOTES ON SHEET X3 FOR WORK WITHIN DUKE ENERGY TRANSMISSION EASEMENT.



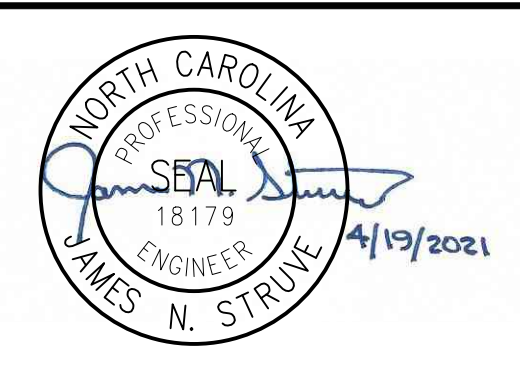
30
 PCM HOLDINGS LLC
 PID 06066002
 DB 5881 PAGE 498

PLAN
 1"=100'



NO.	ISSUED FOR	DATE	BY

DESIGNED JOG
 DRAWN GWF
 CHECKED
 PROJ. ENGR. JNS
 APPROVED



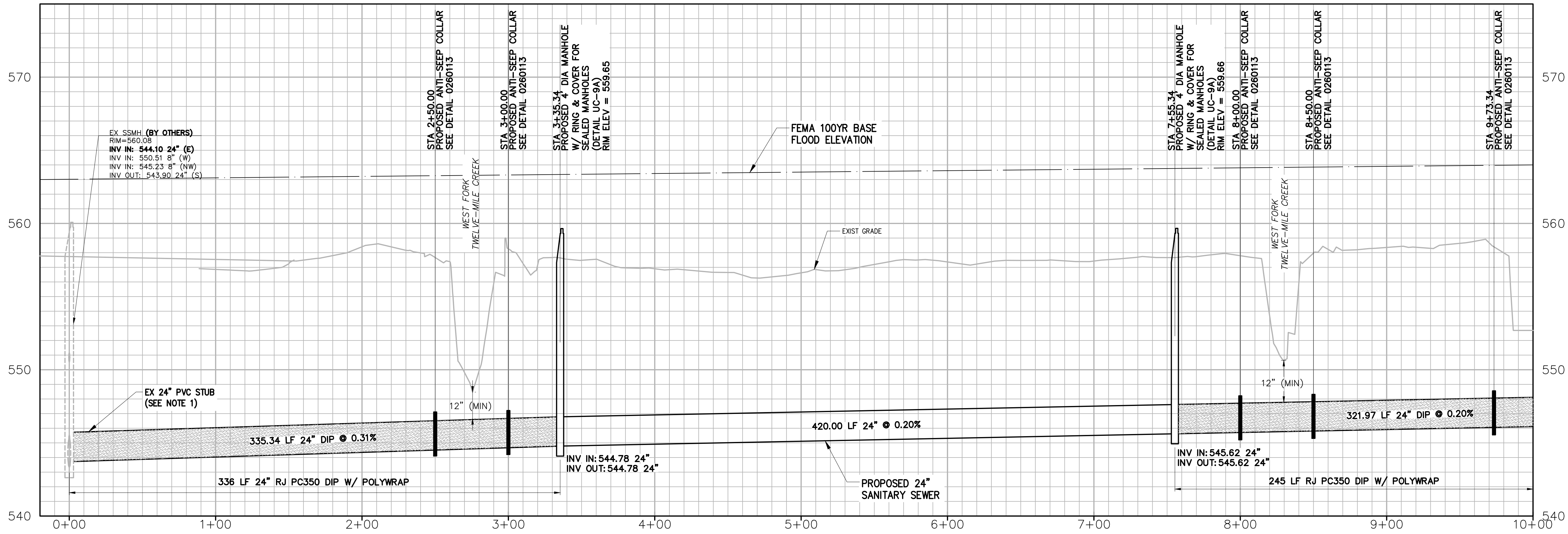
Hazen
 HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

UNION COUNTY
 NORTH CAROLINA
 WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR

GENERAL
 ACCESS ROUTE 7

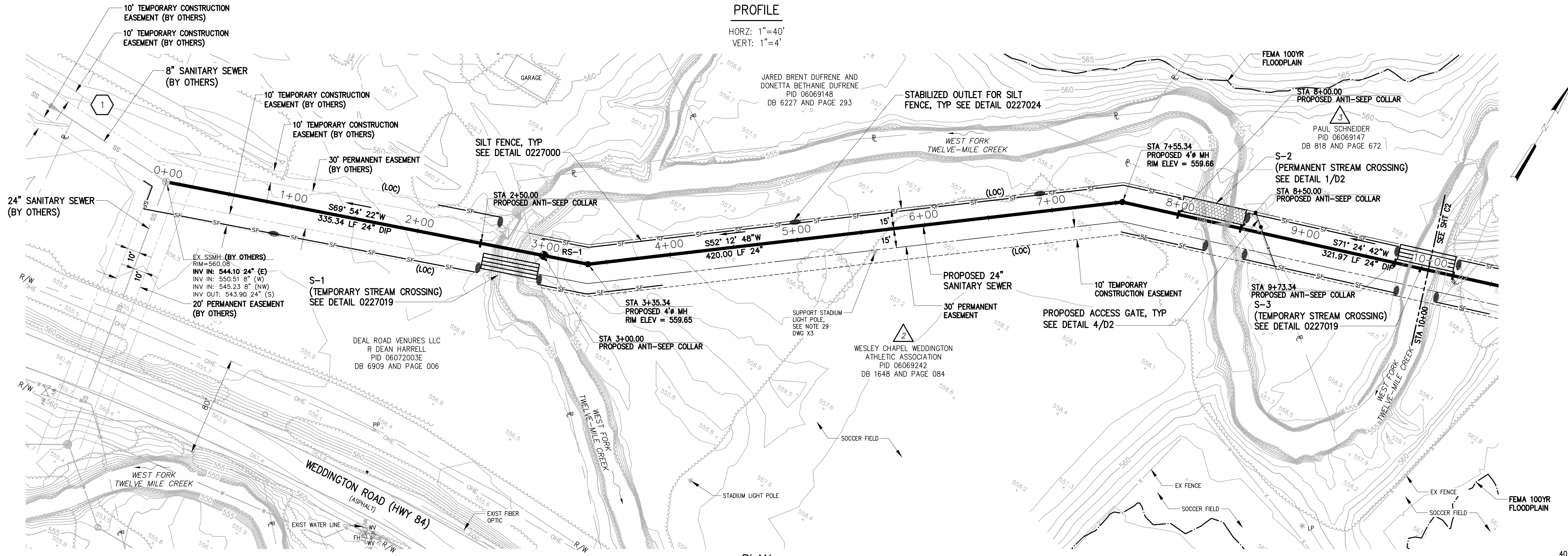
THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE APRIL 2021
	H & S JOB NUMBER 30831-049
	CONTRACT NUMBER
	DRAWING NUMBER X4

- NOTES:
- REMOVE EXISTING 24" PVC STUB AND INSTALL PROPOSED 24" RJ PC350 DIP AND CONNECT TO EXISTING MANHOLE AT 0+00.



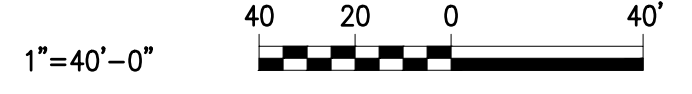
PROFILE

HORZ: 1"=40'
VERT: 1"=4'



PLAN

1"=40'



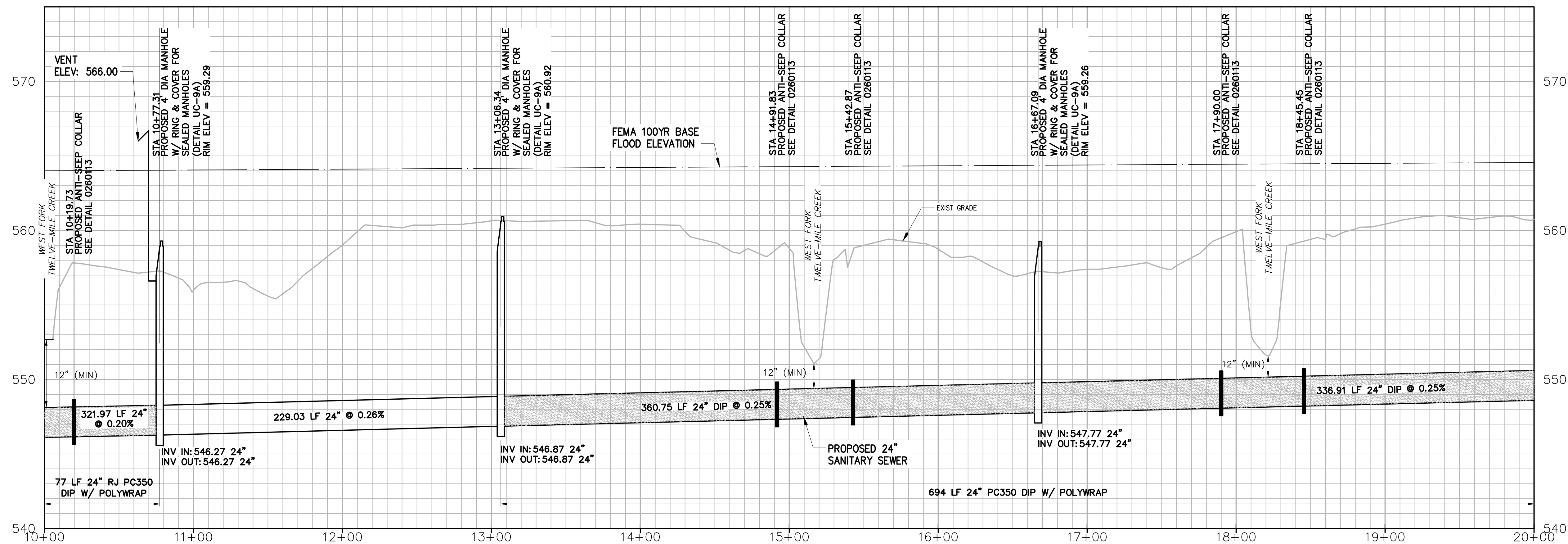
DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

UNION COUNTY
 NORTH CAROLINA
 WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR

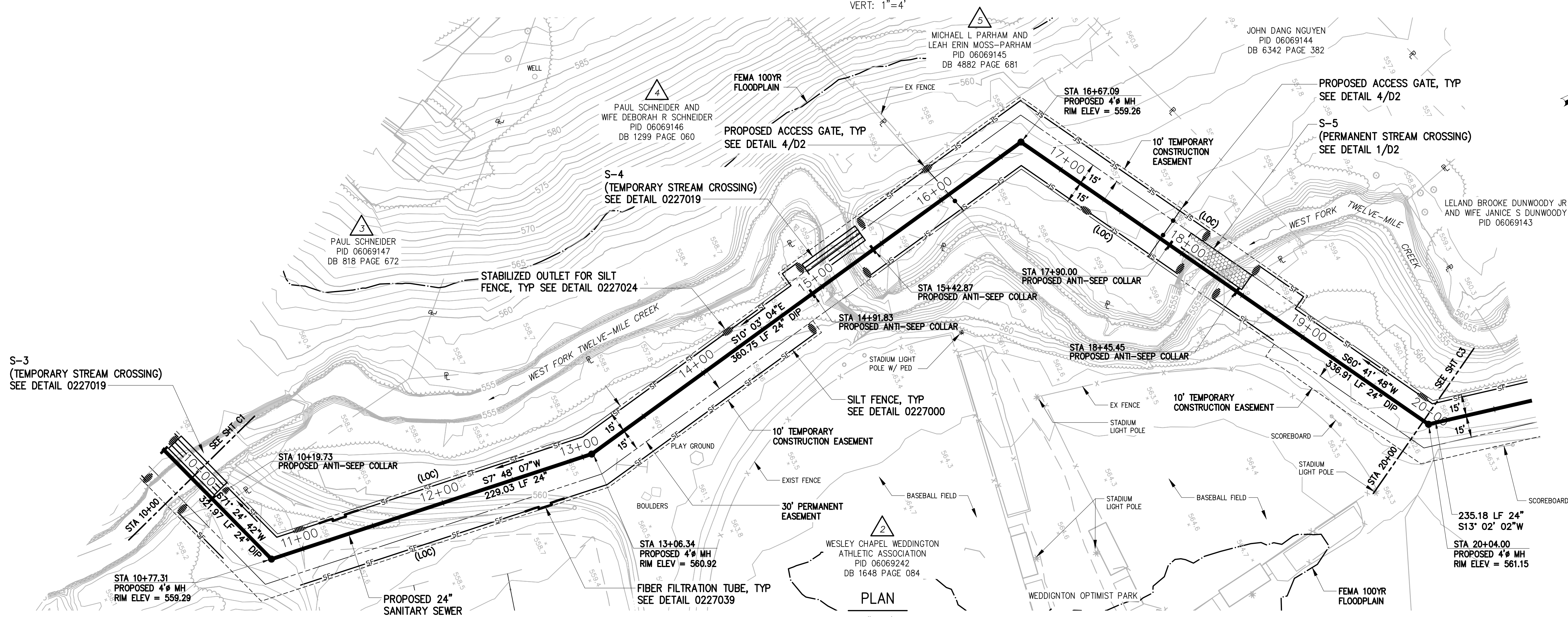
WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR
 STA 0+00 TO STA 10+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C1



PROFILE

HORZ: 1"=40'
VERT: 1"=4'



PLAN

1"=40'

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	



Hazen

HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

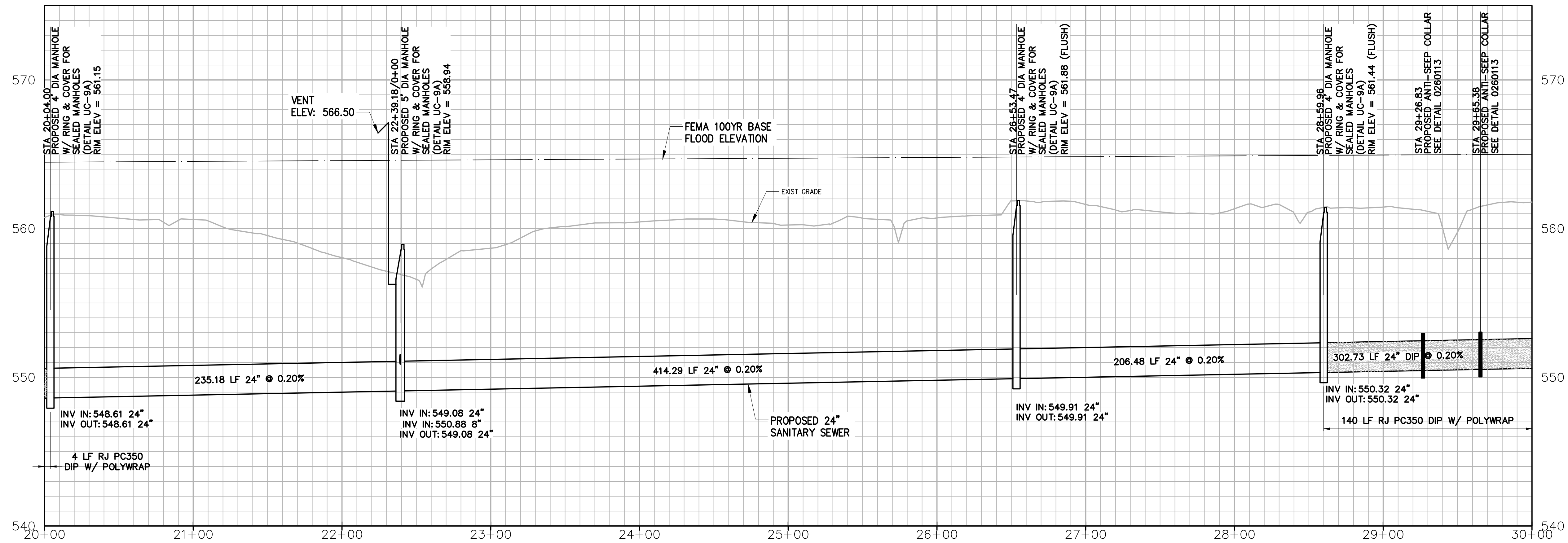
UNION COUNTY
NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

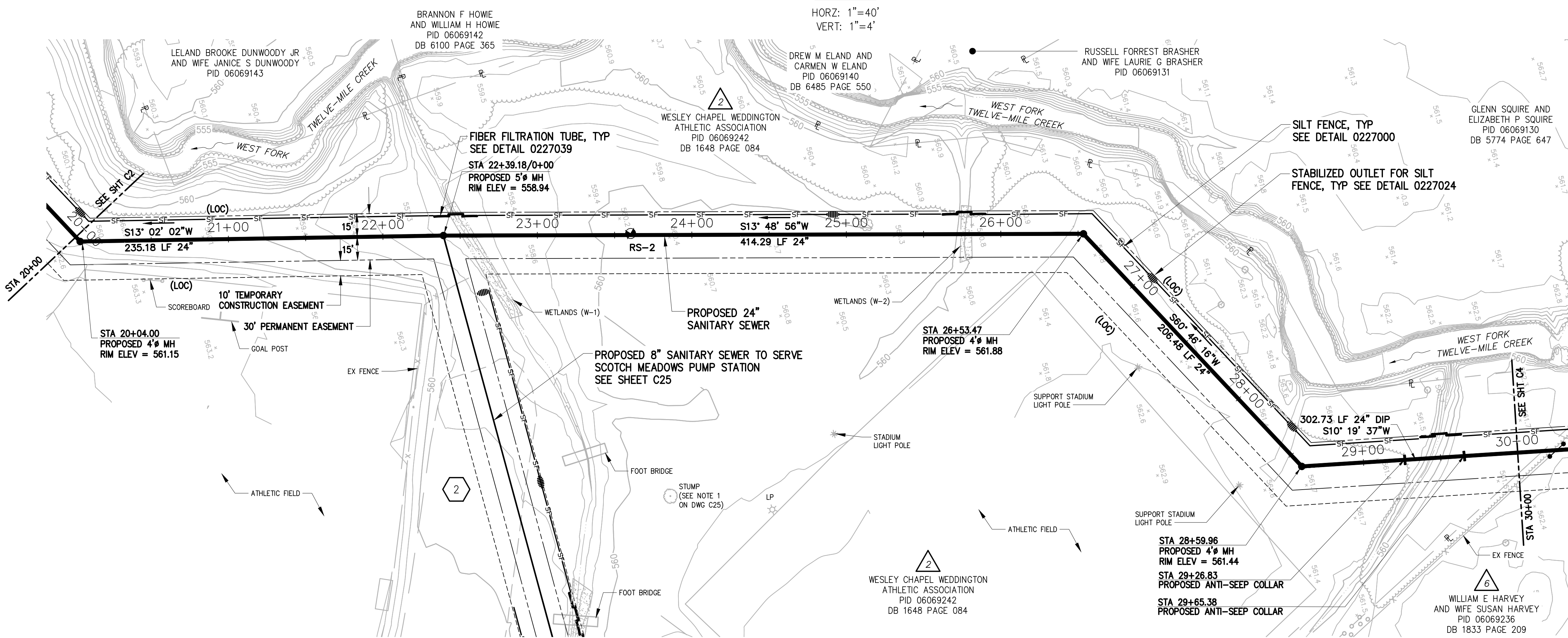
STA 10+00 TO STA 20+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C2

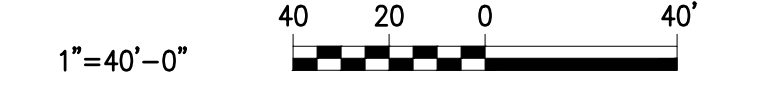


NOTES:
 1. CONTACT GEORGE SELLA AT 704-309-7642 OR VIA EMAIL AT GREENVIEWWINDSTREAM.NET PRIOR TO ANY WORK IN AND ADJACENT TO THE WESLEY CHAPEL WEDDINGTON ATHLETIC ASSOCIATION AND WEDDINGTON OPTIMIST CLUB OF WAXHAW PARCELS.

PROFILE
 HORZ: 1"=40'
 VERT: 1"=4'



PLAN
 1"=40'



DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

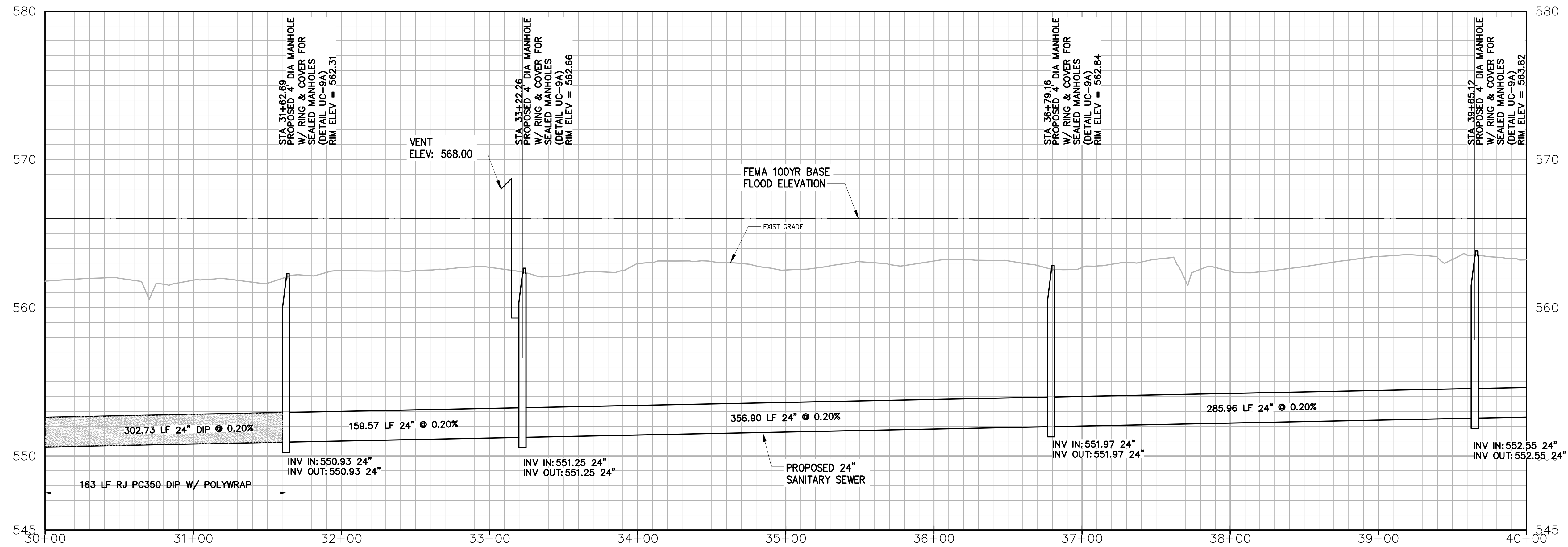
NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL
 18179
 JAMES N. STRUVE
 4/19/2021

Hazen
 HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

UNION COUNTY NORTH CAROLINA
 WEST FORK TWELVE-MILE CREEK INTERCEPTOR

WEST FORK TWELVE-MILE CREEK INTERCEPTOR
 STA 20+00 TO STA 30+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C3

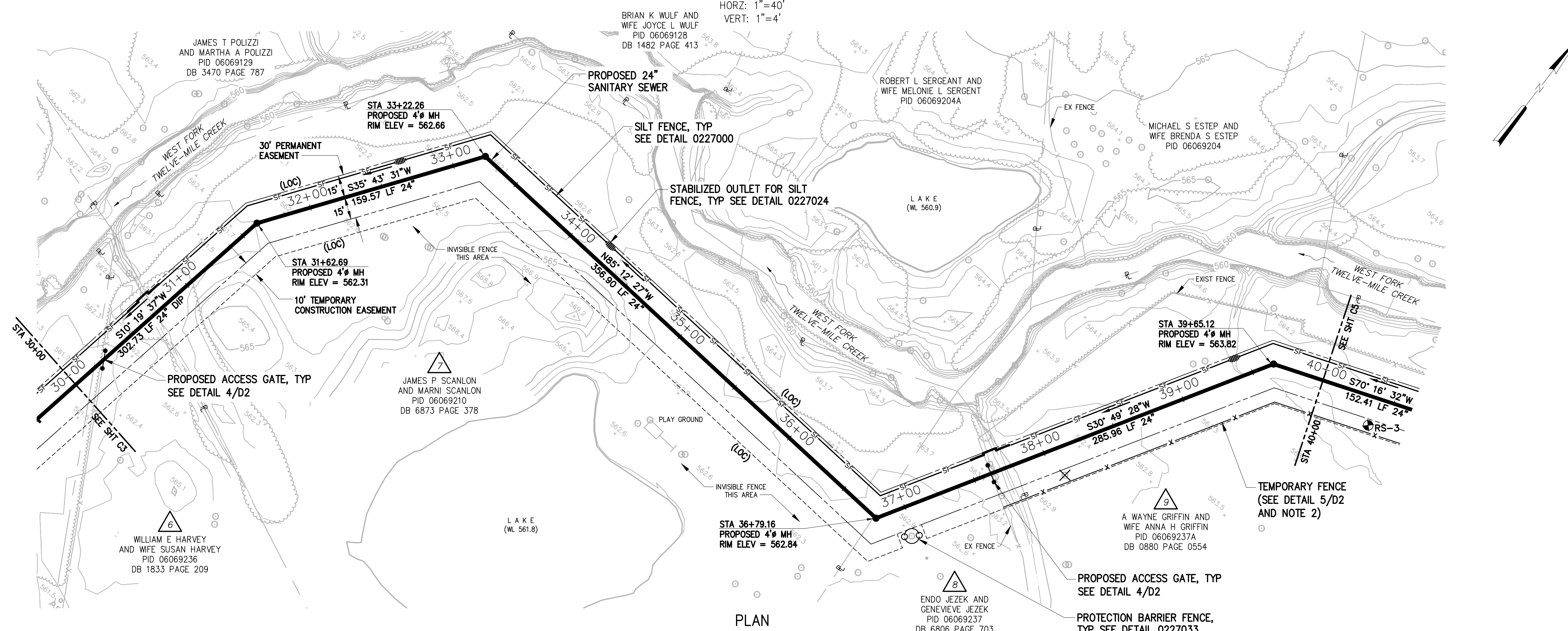


PROFILE

HORZ: 1"=40'
VERT: 1"=4'

NOTES:

1. CONTRACTOR SHALL REMOVE EXISTING FENCE AND/OR GATE FOR INSTALLATION OF UTILITY. CONTRACTOR SHALL REPLACE WITH NEW MATERIALS OF THE SAME OR PER ACCESS GATE DETAIL 4/D2
2. CONTRACTOR SHALL CONTACT PROPERTY OWNER, WAYNE AND ANNA GRIFFIN, PARCEL 9, AT 704-201-0587 PRIOR TO BEGINNING ANY CLEARING OR CONSTRUCTION ON THIS PROPERTY. CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY FENCING TO RESTRICT HORSES/CATTLE/LIVESTOCK FROM CONSTRUCTION AREA. CONTRACTOR SHALL REMOVE ANY TEMPORARY FENCING ONCE CONSTRUCTION IS COMPLETE UNLESS DIRECTED BY THE PROPERTY OWNER.
3. CONTRACTOR SHALL CONTACT PROPERTY OWNER, ENDO AND GENEVIEVE JEZEK, PARCEL 8, AT 704-576-6940 PRIOR TO BEGINNING ANY CLEARING OR CONSTRUCTION ON THIS PROPERTY.
4. CONTRACTOR SHALL CONTACT PROPERTY OWNER, JAMES AND MARNI SCANLON, PARCEL 7, AT 201-788-4439 PRIOR TO BEGINNING ANY CLEARING OR CONSTRUCTION ON THIS PROPERTY. INVISIBLE FENCE FOR PET CONTAINMENT IN USE ON THIS PROPERTY, PLEASE COORDINATE WITH OWNER.



PLAN

1"=40'



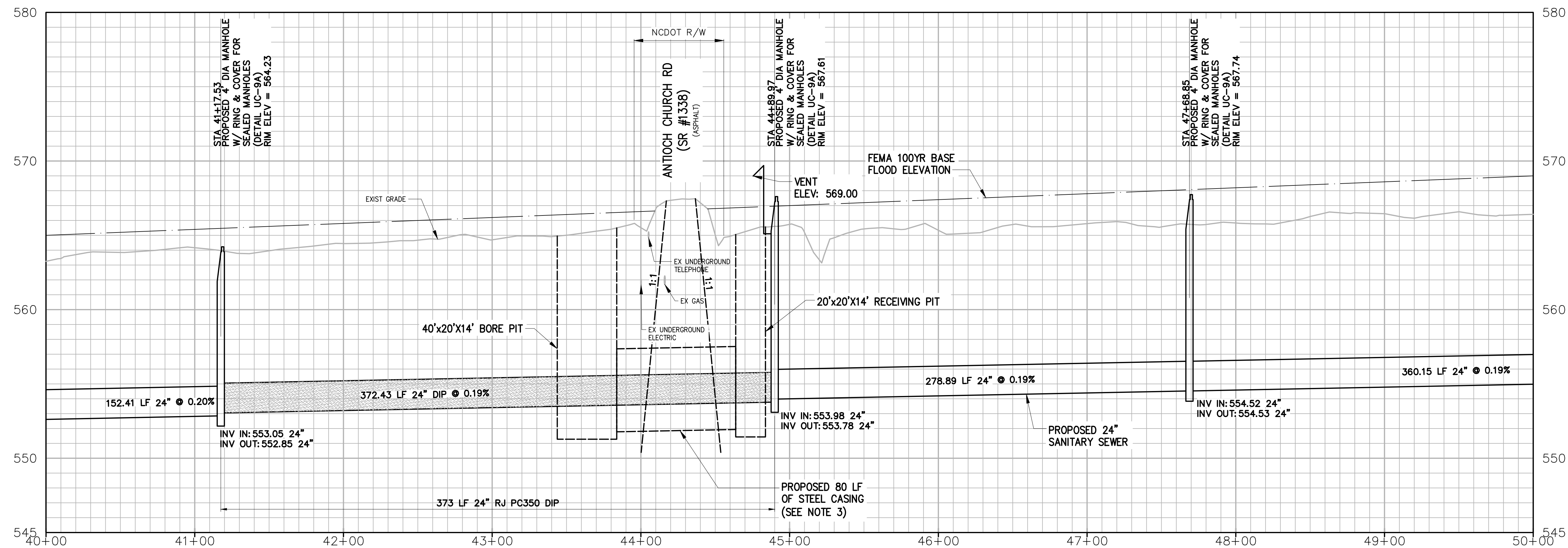
DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK INTERCEPTOR

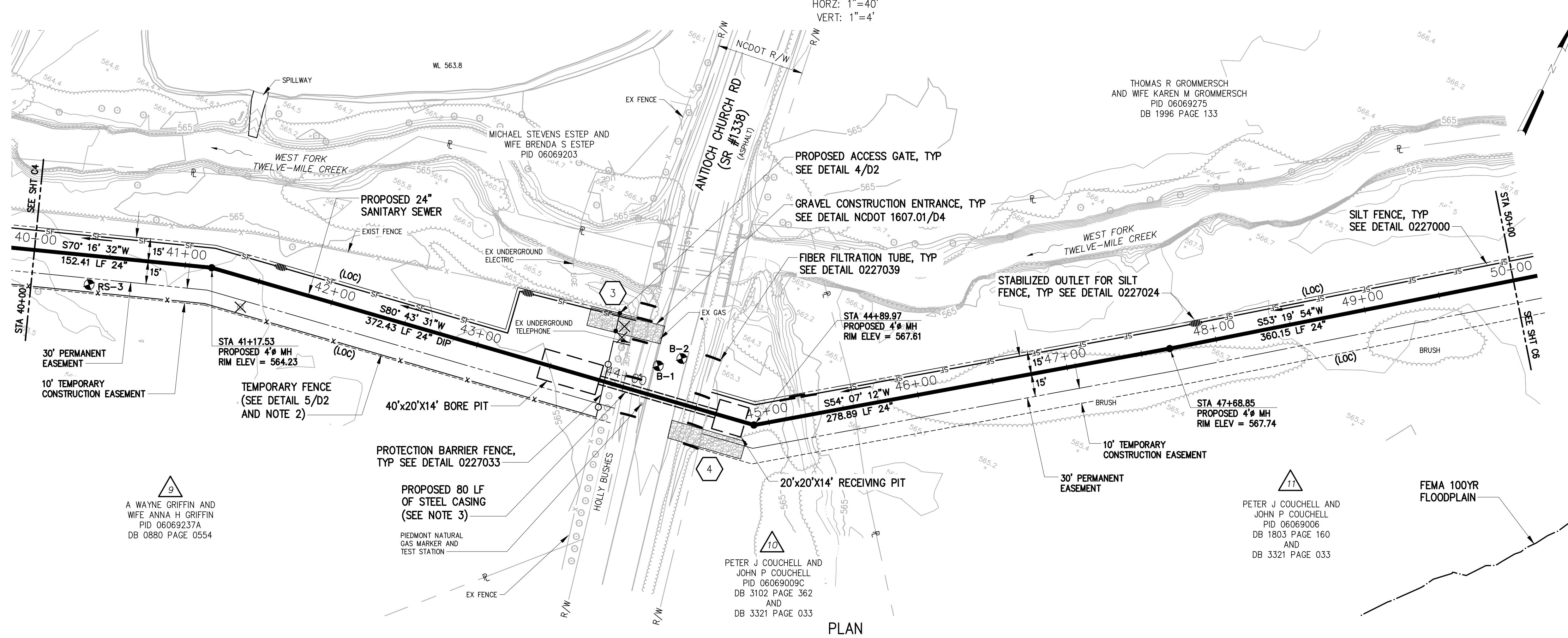
WEST FORK TWELVE-MILE CREEK INTERCEPTOR
STA 30+00 TO STA 40+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C4



PROFILE

HORZ: 1"=40'
VERT: 1"=4'



PLAN

1"=40'

NOTES:

- CONTRACTOR SHALL REMOVE EXISTING FENCE AND/OR GATE FOR INSTALLATION OF UTILITY. CONTRACTOR SHALL REPLACE WITH NEW MATERIALS OF THE SAME OR PER ACCESS GATE DETAIL 4/D2
- CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY FENCING TO RESTRICT HORSES/CATTLE/LIVESTOCK FROM CONSTRUCTION AREA. CONTRACTOR SHALL REMOVE ANY TEMPORARY FENCING ONCE CONSTRUCTION IS COMPLETE UNLESS DIRECTED BY THE PROPERTY OWNER.
- CONTRACTOR SHALL HAVE THE OPTION OF SELECTING CASING SIZE BASED UPON HIS AVAILABLE BORING/TUNNELING EQUIPMENT PER THE THREE (3) CASING DIAMETER AND ASSOCIATED CASING THICKNESS INDICATED IN THE TABLE BELOW. THE PRICE FOR THE SELECTED CASING DIAMETER/THICKNESS AND INSTALLATION OF THE ASSOCIATED GUARANTEED BORE/TUNNEL SHALL BE INDICATED IN PAY ITEM C.

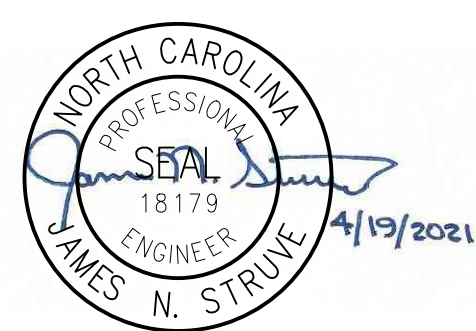
CASING SIZE (INCHES)	CASING THICKNESS (INCHES)
48	0.688
54	0.781
60	0.875

1"=40'-0"



NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED: JOG
DRAWN: GWF
CHECKED:
PROJ. ENGR.: JNS



Hazen

HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

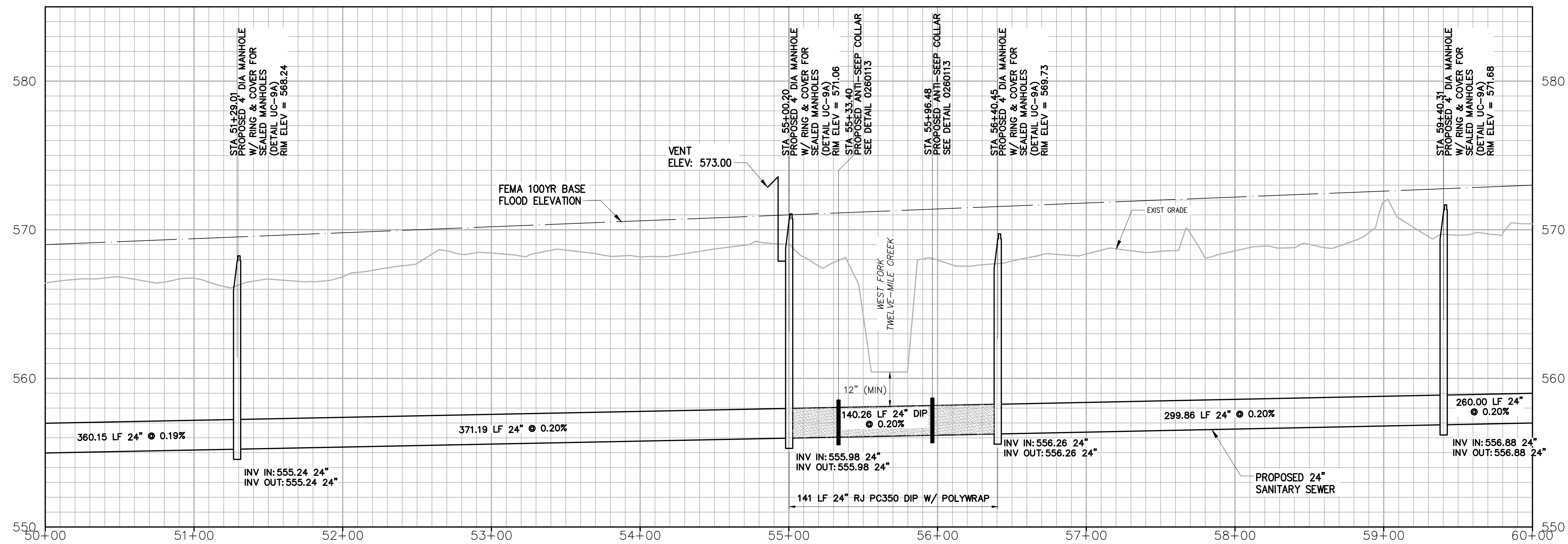
**UNION COUNTY
NORTH CAROLINA**

**WEST FORK TWELVE-MILE CREEK
INTERCEPTOR**

**WEST FORK TWELVE-MILE CREEK
INTERCEPTOR**

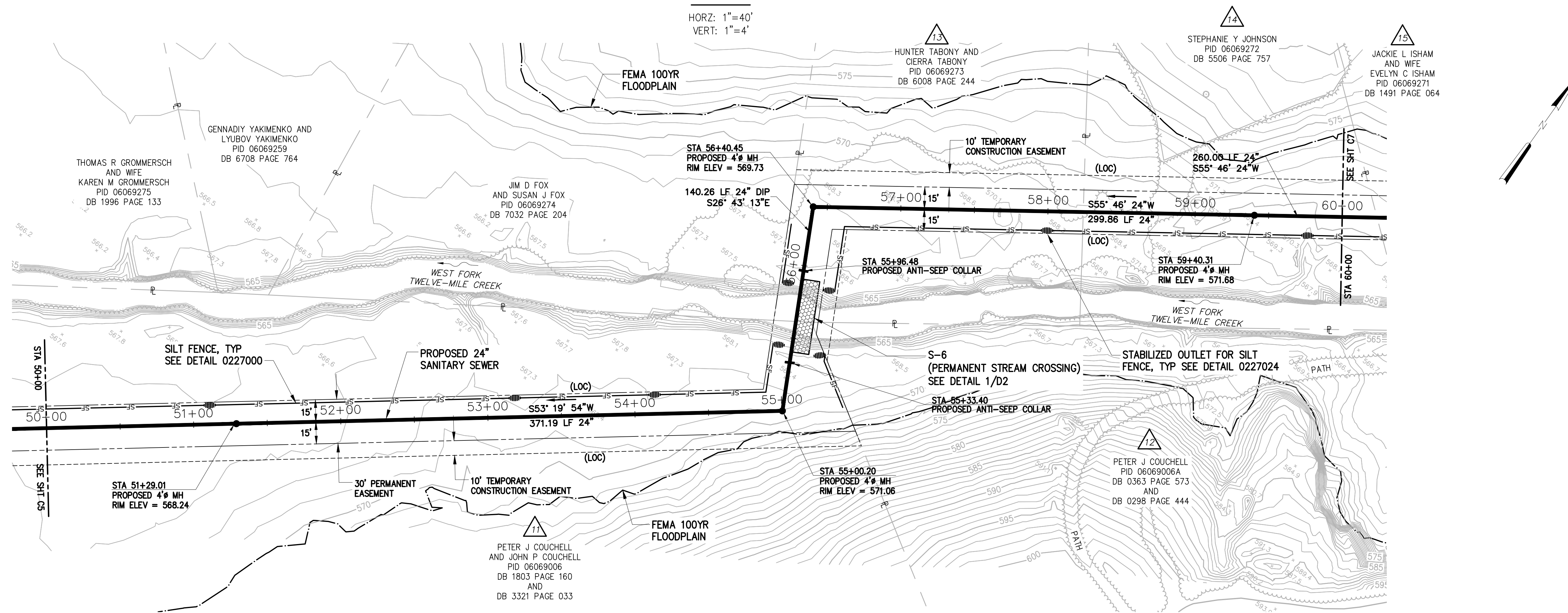
STA 40+00 TO STA 50+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE: APRIL 2021
	H & S JOB NUMBER: 30831-049
	CONTRACT NUMBER:
	DRAWING NUMBER: C5



PROFILE

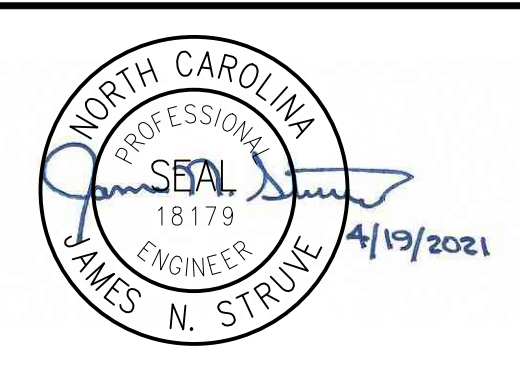
HORZ: 1"=40'
VERT: 1"=4'



PLAN

1"=40'

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

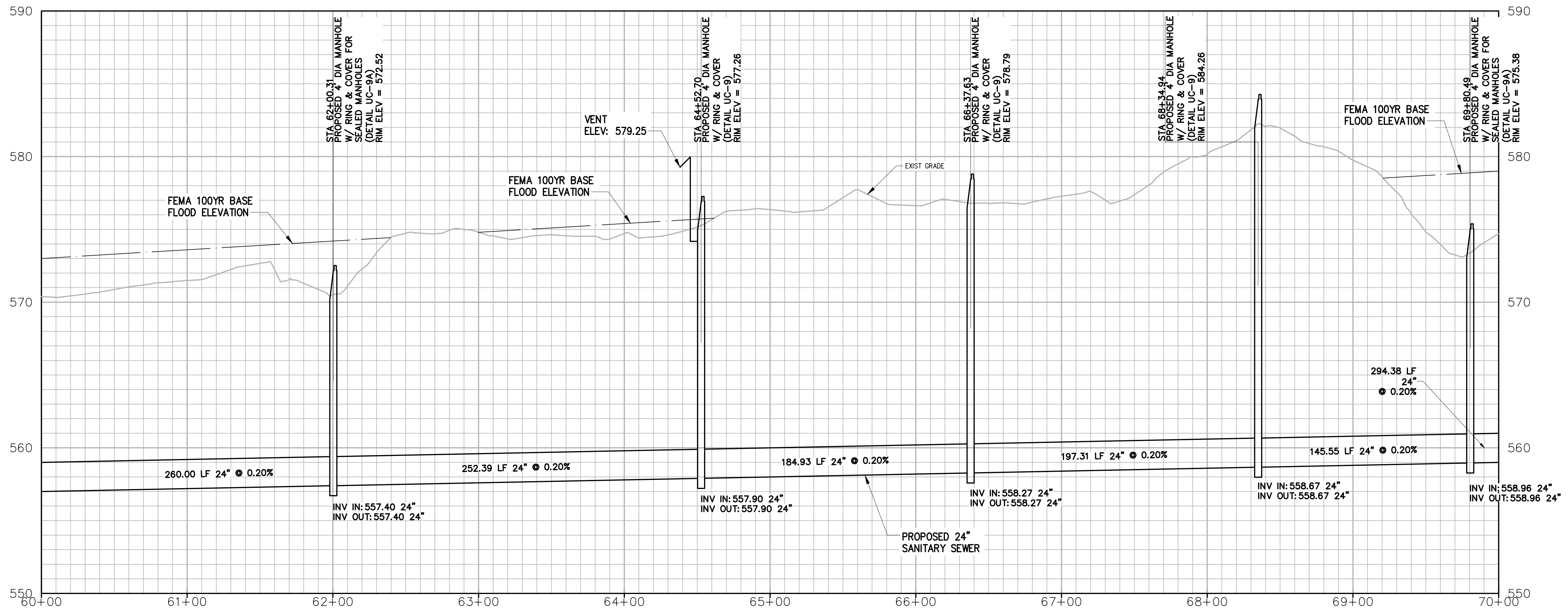


Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

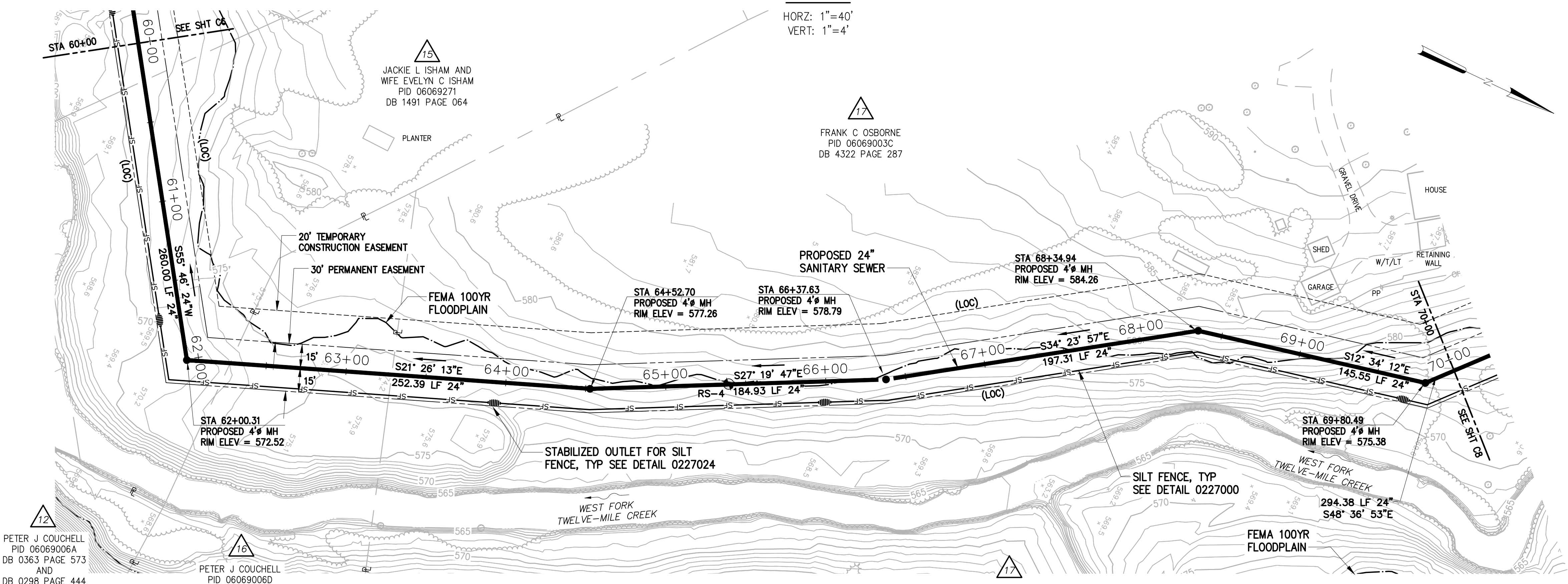
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR
STA 50+00 TO STA 60+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C6



PROFILE

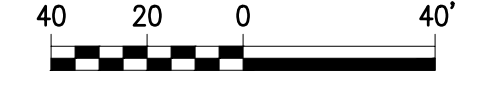
HORZ: 1"=40'
VERT: 1"=4'



PLAN

1"=40'

1"=40'-0"



DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

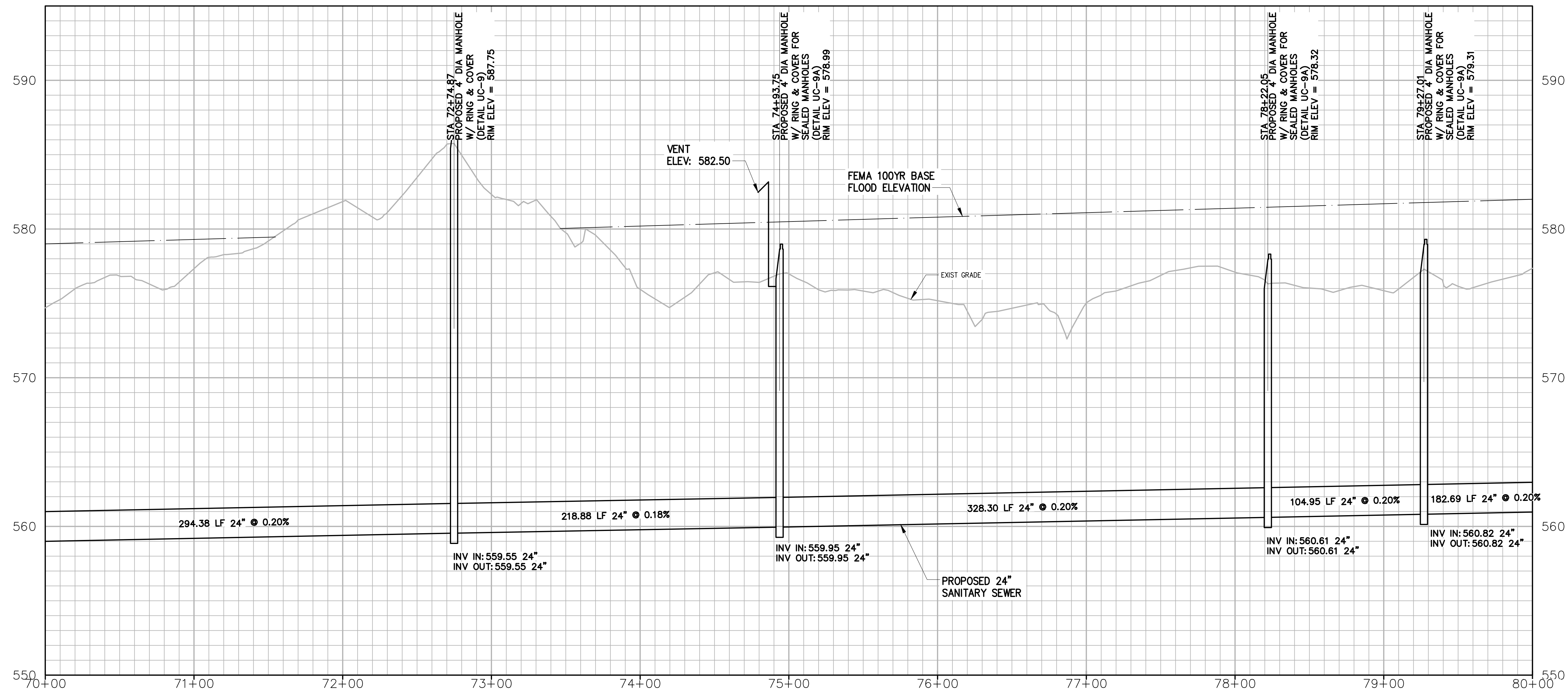


Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

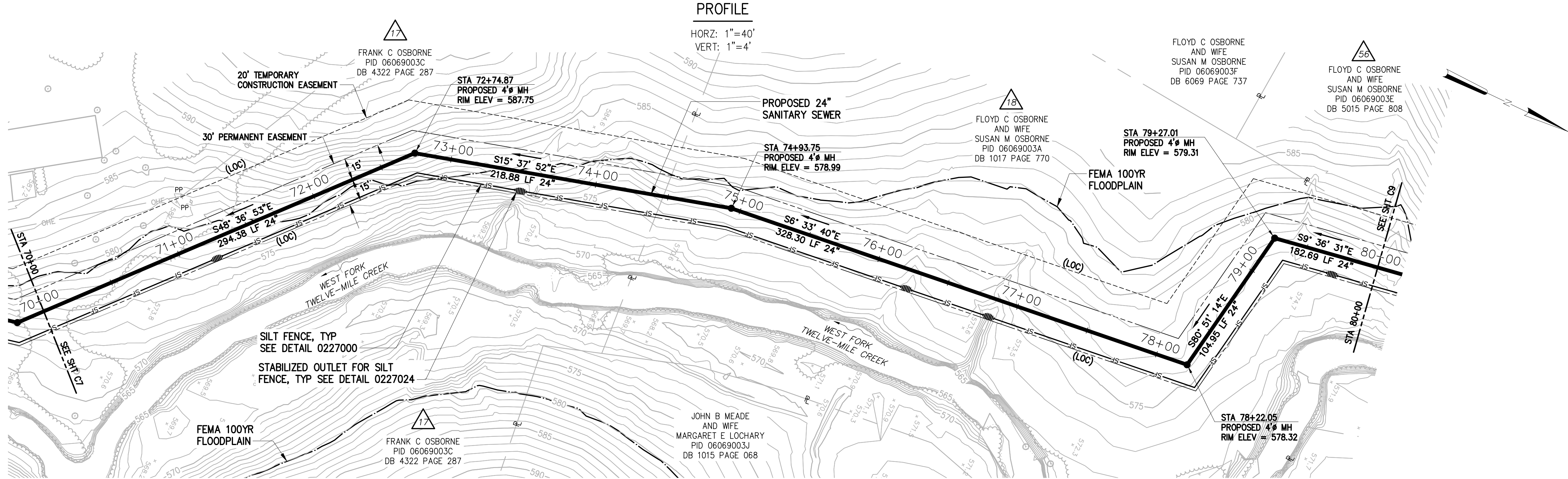
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR
STA 60+00 TO STA 70+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C7



PROFILE

HORZ: 1"=40'
VERT: 1"=4'



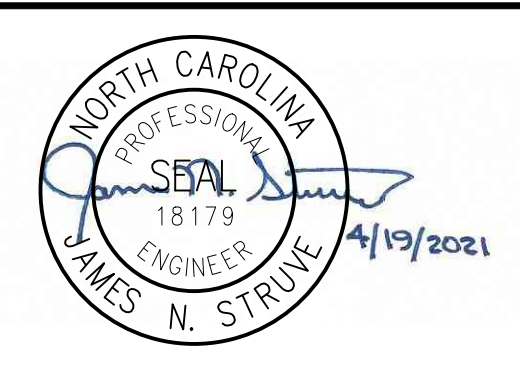
PLAN

1"=40'



NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS

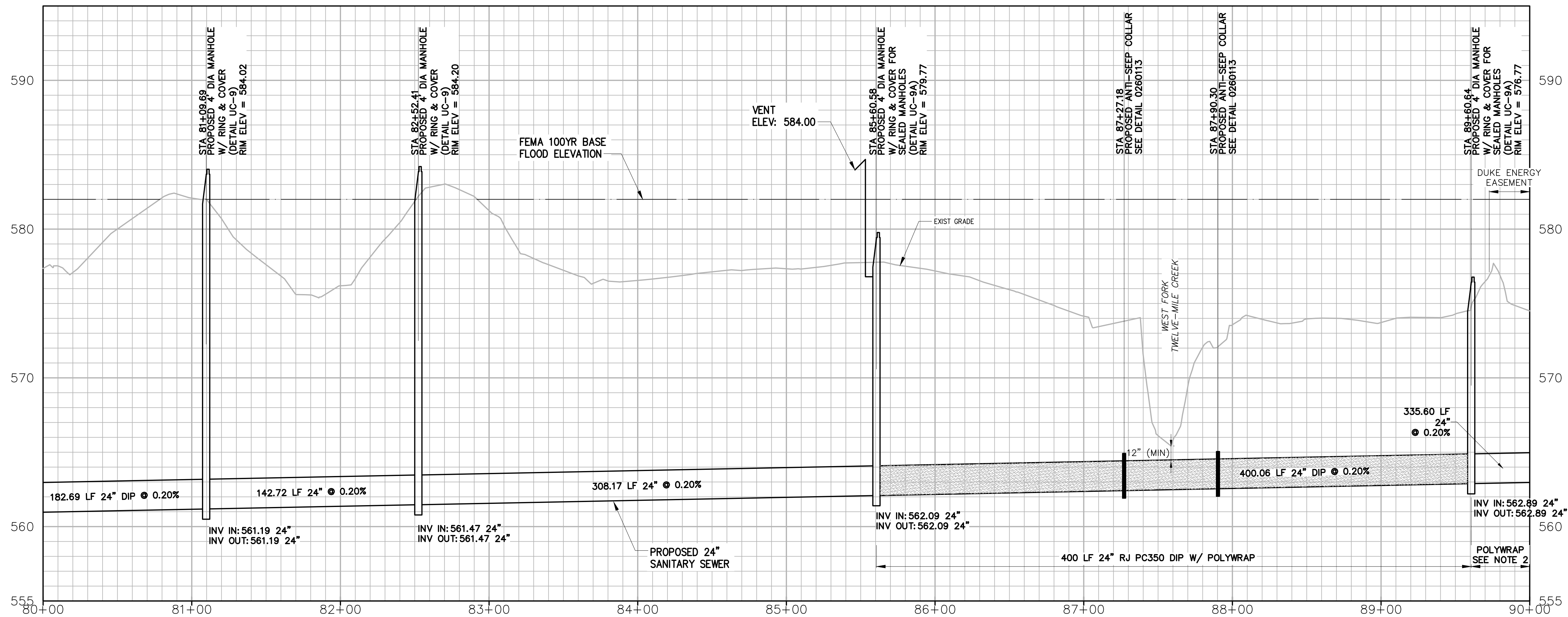


Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

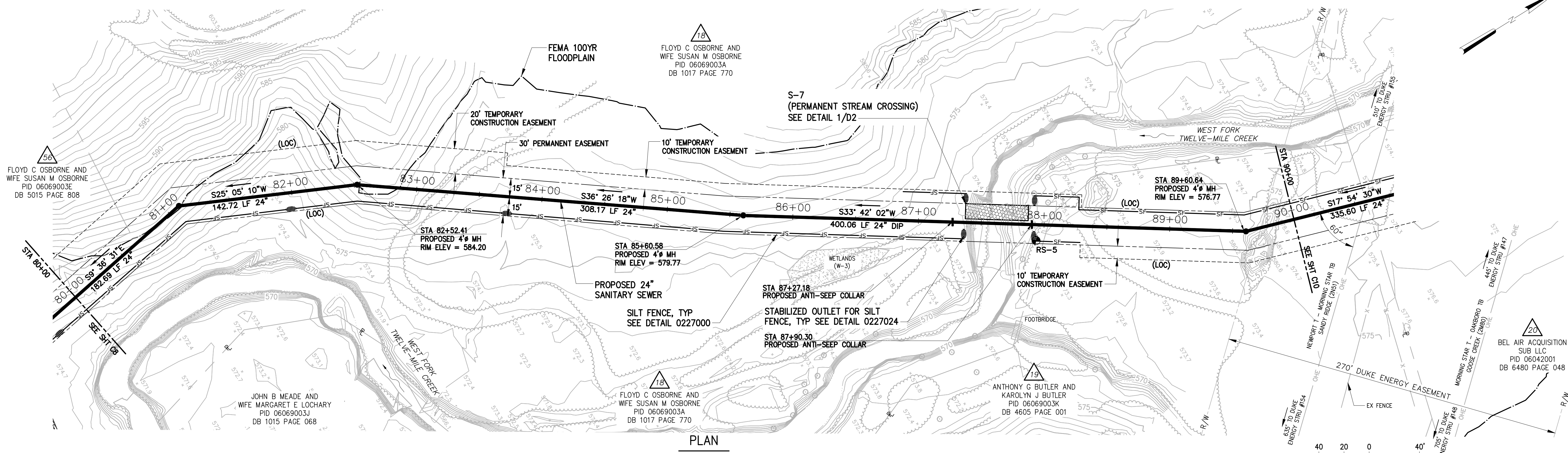
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR
STA 70+00 TO STA 80+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C8



PROFILE
 HORZ: 1"=40'
 VERT: 1"=4'

- NOTES:
- SEE DUKE ENERGY NOTES ON SHEET X3 FOR WORK WITHIN DUKE ENERGY TRANSMISSION EASEMENT.
 - POLYWRAP PIPE WITHIN DUKE ENERGY EASEMENT IF PIPE MATERIAL IS FERROUS.



PLAN
 1"=40'

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

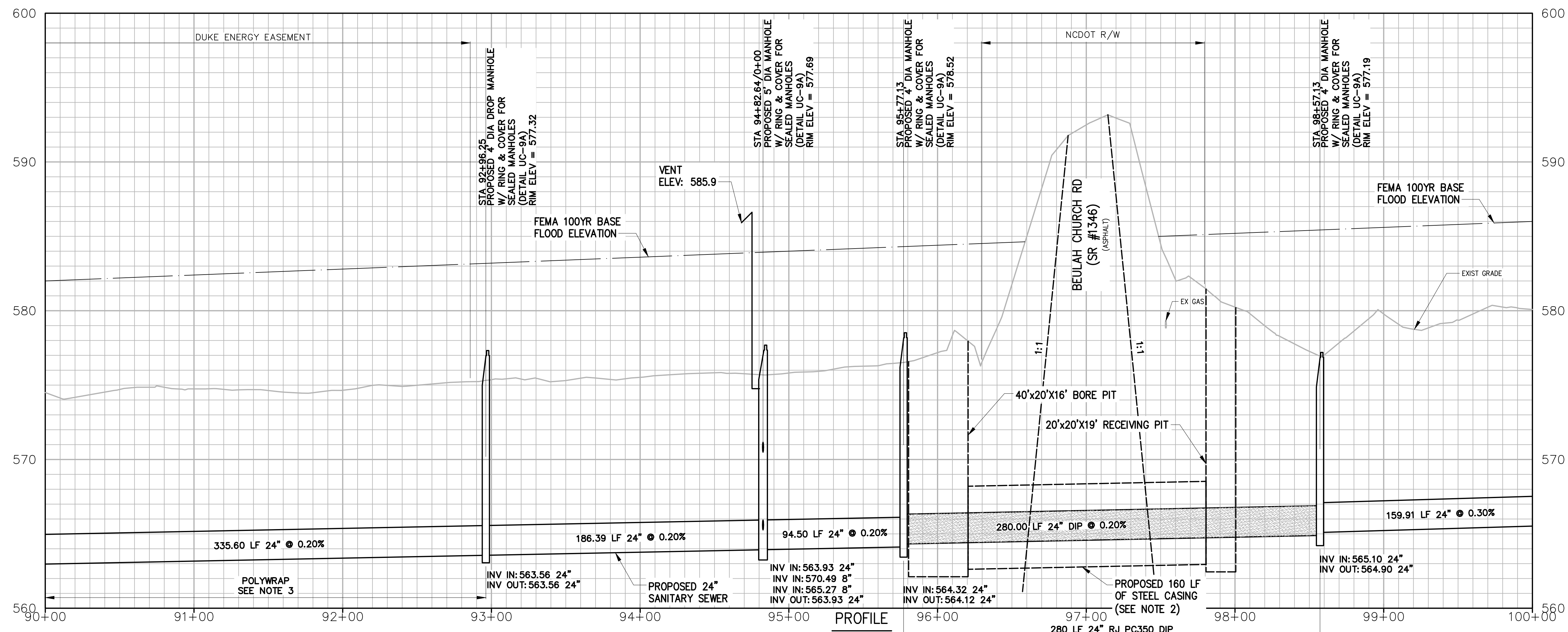


Hazen
 HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

UNION COUNTY
 NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR

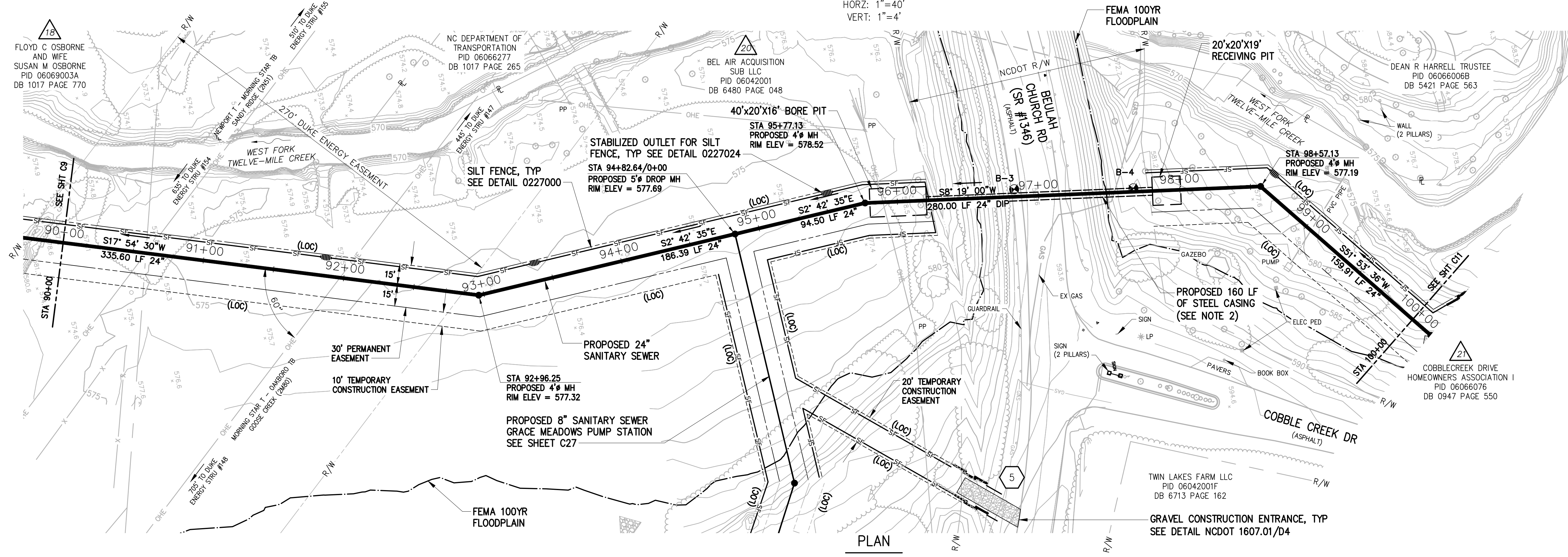
WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR
 STA 80+00 TO STA 90+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C9



- NOTES:
- SEE DUKE ENERGY NOTES ON SHEET X3 FOR WORK WITHIN DUKE ENERGY TRANSMISSION EASEMENT.
 - CONTRACTOR SHALL HAVE THE OPTION OF SELECTING CASING SIZE BASED UPON HIS AVAILABLE BORING/TUNNELING EQUIPMENT PER THE THREE (3) CASING DIAMETER AND ASSOCIATED CASING THICKNESS INDICATED IN THE TABLE BELOW. THE PRICE FOR THE SELECTED CASING DIAMETER/THICKNESS AND INSTALLATION OF THE ASSOCIATED GUARANTEED BORE/TUNNEL SHALL BE INDICATED IN PAY ITEM C.
 - POLYWRAP PIPE WITHIN DUKE ENERGY EASEMENT IF PIPE MATERIAL IS FERROUS.

CASING SIZE (INCHES)	CASING THICKNESS (INCHES)
48	0.750
54	0.875
60	0.875



NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED: JOG
 DRAWN: GWF
 CHECKED: [Signature]
 PROJ. ENGR.: JNS

APPROVED: [Signature]
 4/19/2021

Hazen

HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

UNION COUNTY
 NORTH CAROLINA

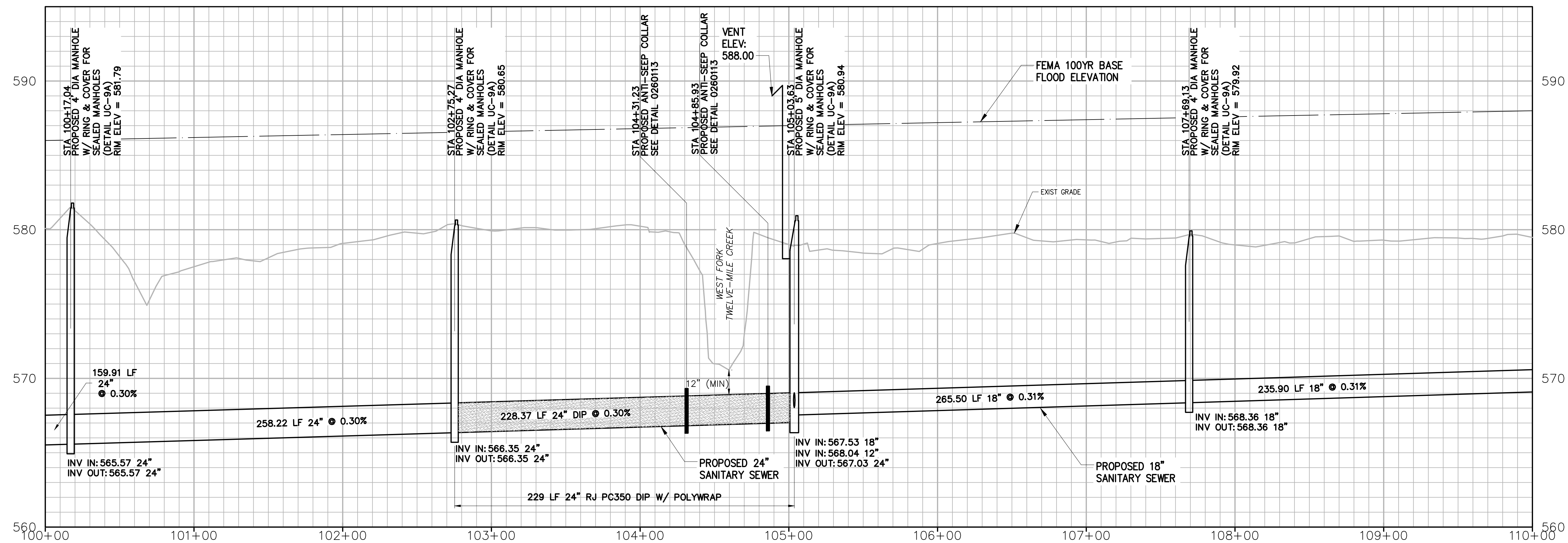
WEST FORK TWELVE-MILE CREEK INTERCEPTOR

WEST FORK TWELVE-MILE CREEK INTERCEPTOR

STA 90+00 TO STA 100+00

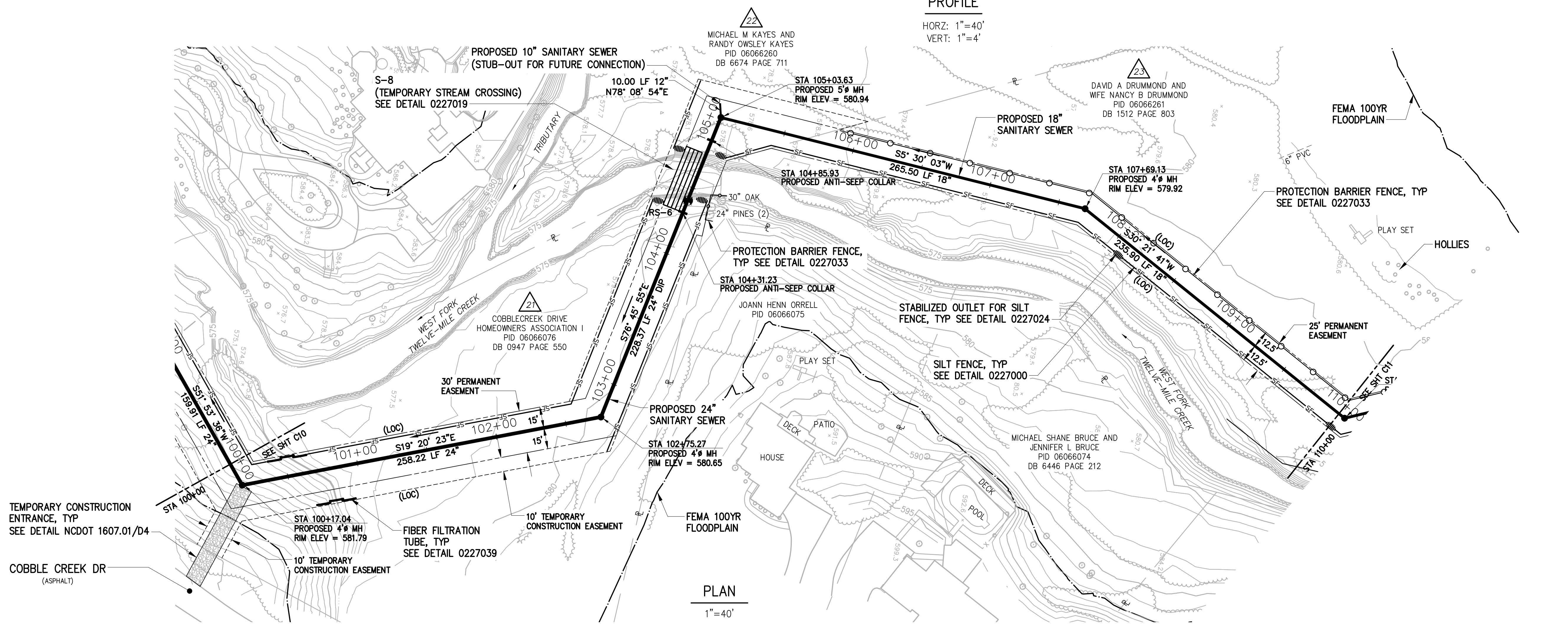
THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.

DATE: APRIL 2021
 H & S JOB NUMBER: 30831-049
 CONTRACT NUMBER: [Blank]
 DRAWING NUMBER: C10



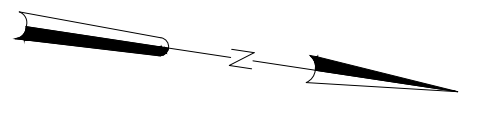
PROFILE

HORZ: 1"=40'
VERT: 1"=4'



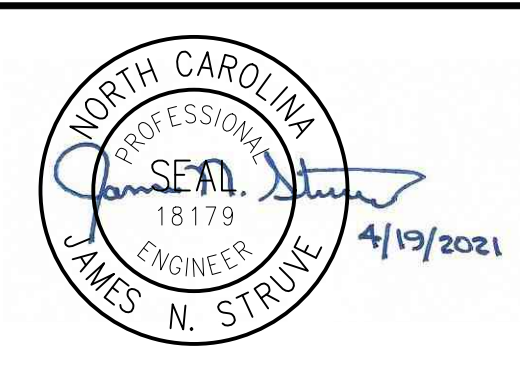
PLAN

1"=40'



NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED JOG
DRAWN GWF
CHECKED
PROJ. ENGR. JNS

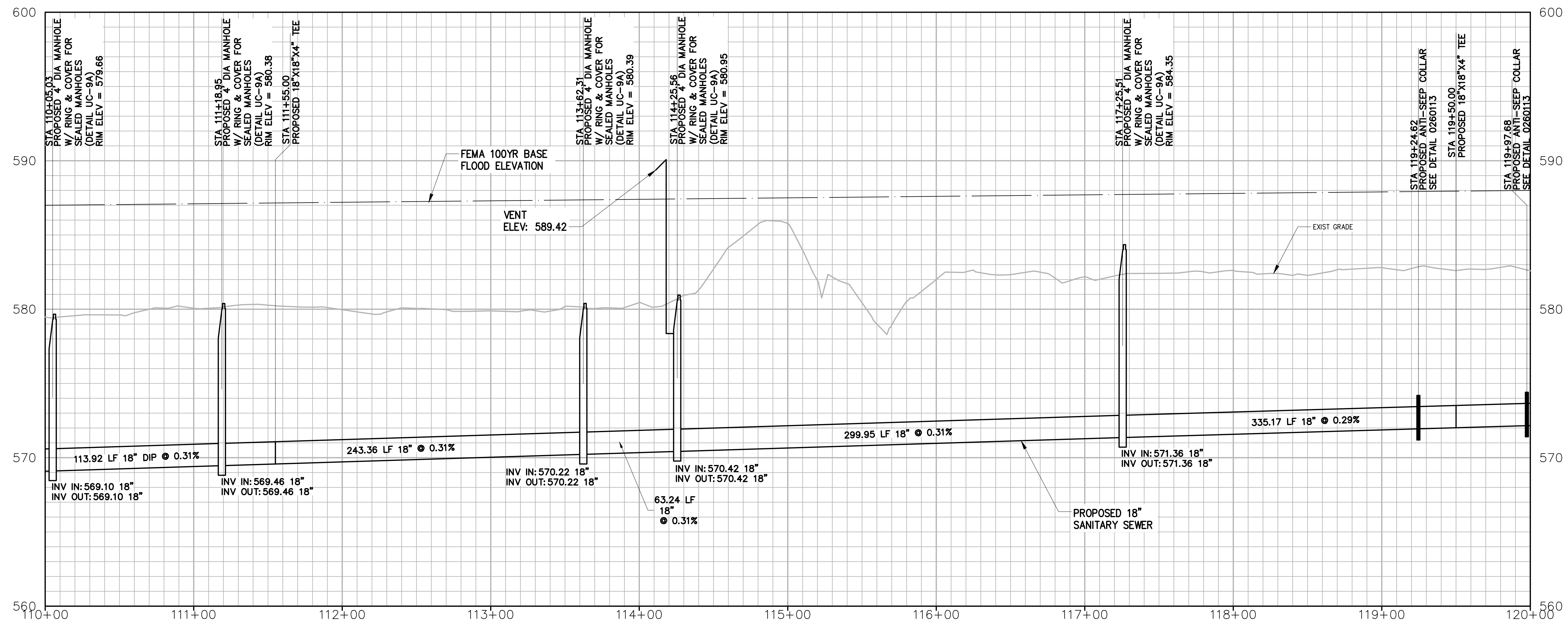


Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

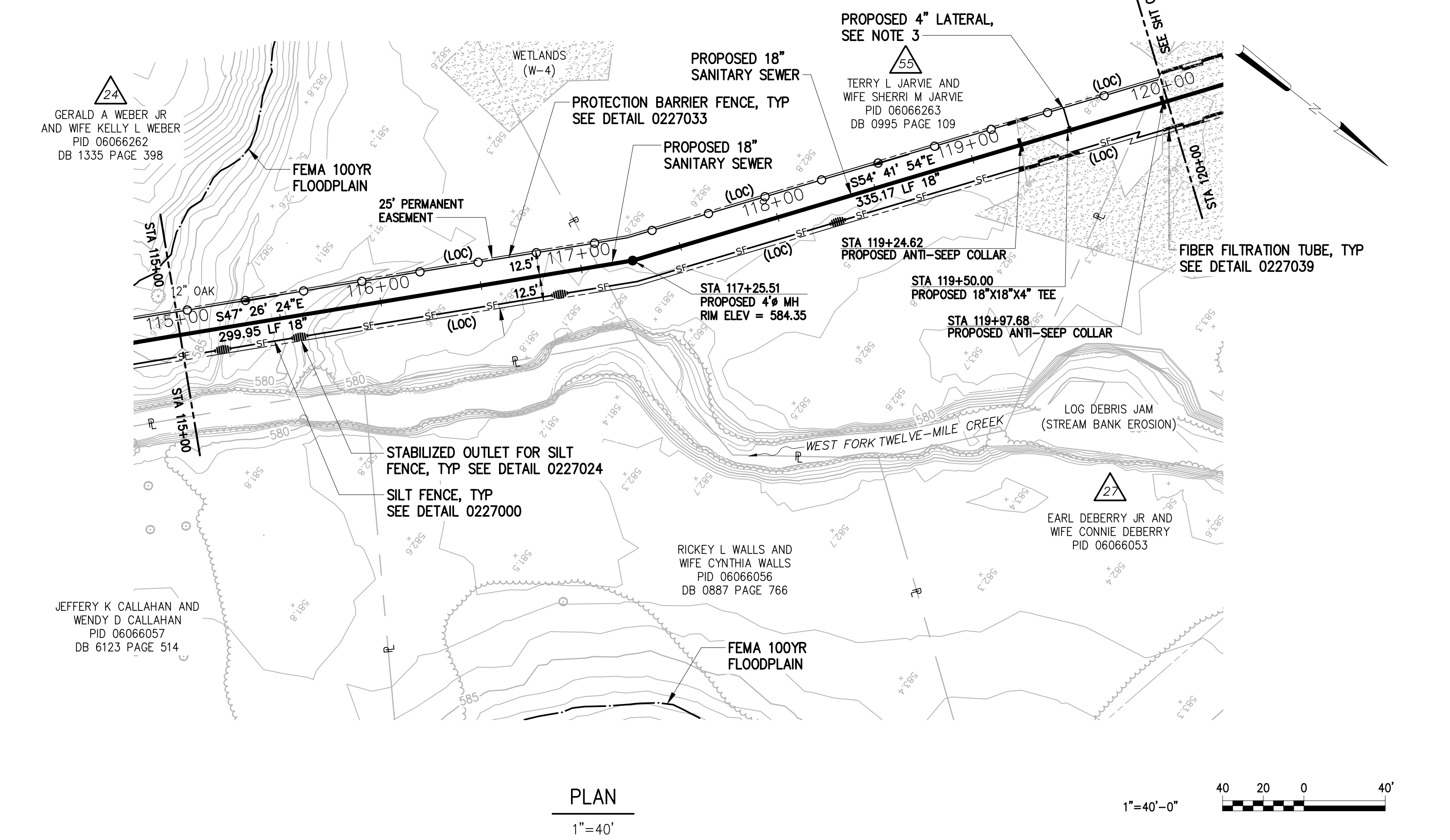
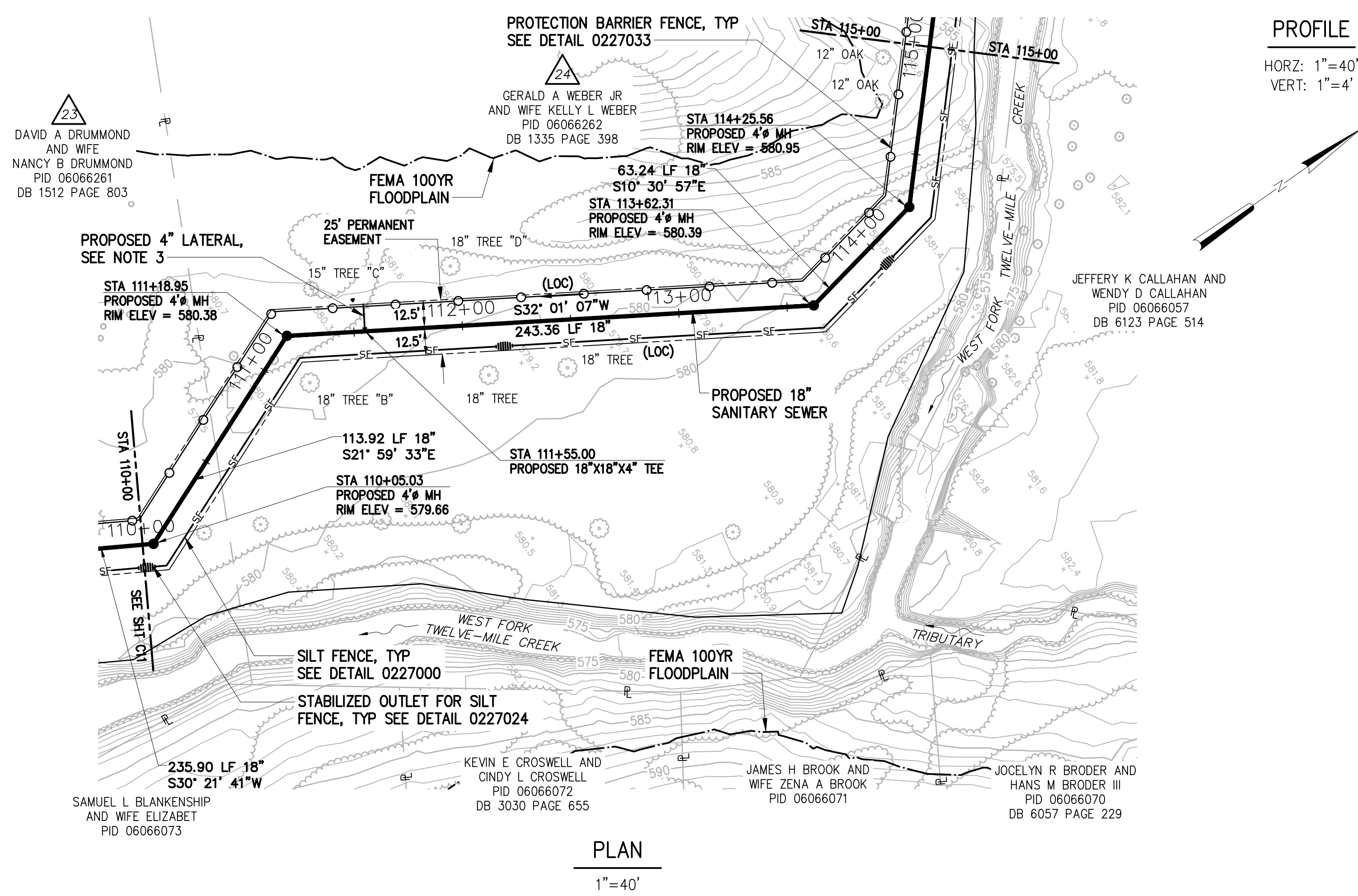
UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR
STA 100+00 TO STA 110+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE APRIL 2021
	H & S JOB NUMBER 30831-049
	CONTRACT NUMBER
	DRAWING NUMBER C11



- NOTES:
- SEE DUKE ENERGY NOTES ON SHEET X3 FOR WORK WITHIN DUKE ENERGY TRANSMISSION EASEMENT.
 - CONTRACTOR SHALL CONTACT PROPERTY OWNER, GERALD "JERRY" WEBER, PARCEL 24, AT 704-771-9255 OR 704-831-8074 PRIOR TO BEGINNING ANY CLEARING, TREE REMOVAL, OR CONSTRUCTION ON THIS PROPERTY.
 - CONTRACTOR SHALL INSTALL 4" LATERAL PER UNION COUNTY PUBLIC WORKS "SEWER LATERAL" DETAIL 11 ON DWG D6 AT APPROXIMATELY STA 111+60 AND APPROXIMATELY STA 119+50. FINAL LOCATION OF THE LATERAL WILL BE DETERMINED BY THE PROPERTY OWNER AND APPROVED BY THE OWNER.
 - CONTRACTOR SHALL PROVIDE AND DELIVER TO PARCEL 24, GERALD "JERRY" WEBER, 25 SPRUCE TREES, BLUE OR NORWAY SPECIES (MINIMUM 5 GALLON CONTAINER).
 - CONTRACTOR SHALL CUT/REMOVE ALL TREES IN A MANNER THAT THEY FALL WITHIN THE PERMANENT EASEMENT TO MITIGATE DAMAGE TO TREES OUTSIDE OF THE EASEMENT WHILE PERFORMING WORK ON PARCEL 24.
 - CONTRACTOR SHALL PROVIDE AND DELIVER TO PARCEL 55, TERRY L. JARVIE, 15 SPRUCE TREES, BLUE OR NORWAY SPECIES (MINIMUM 5 GALLON CONTAINER).



NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED: JOG
 DRAWN: GWF
 CHECKED: [Signature]
 PROJ. ENGR.: JNS

APPROVED: [Signature] 4/19/2021

Hazen

HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO.: C-0381

UNION COUNTY
 NORTH CAROLINA

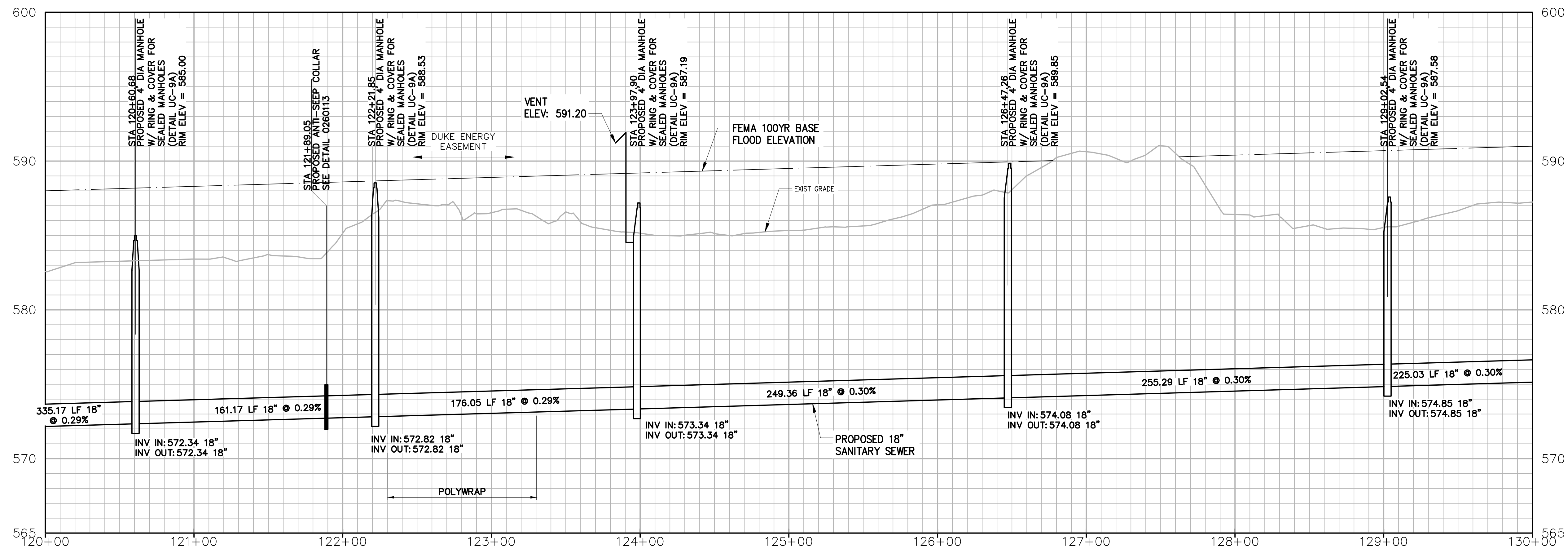
WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR

WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR

STA 110+00 TO STA 120+00

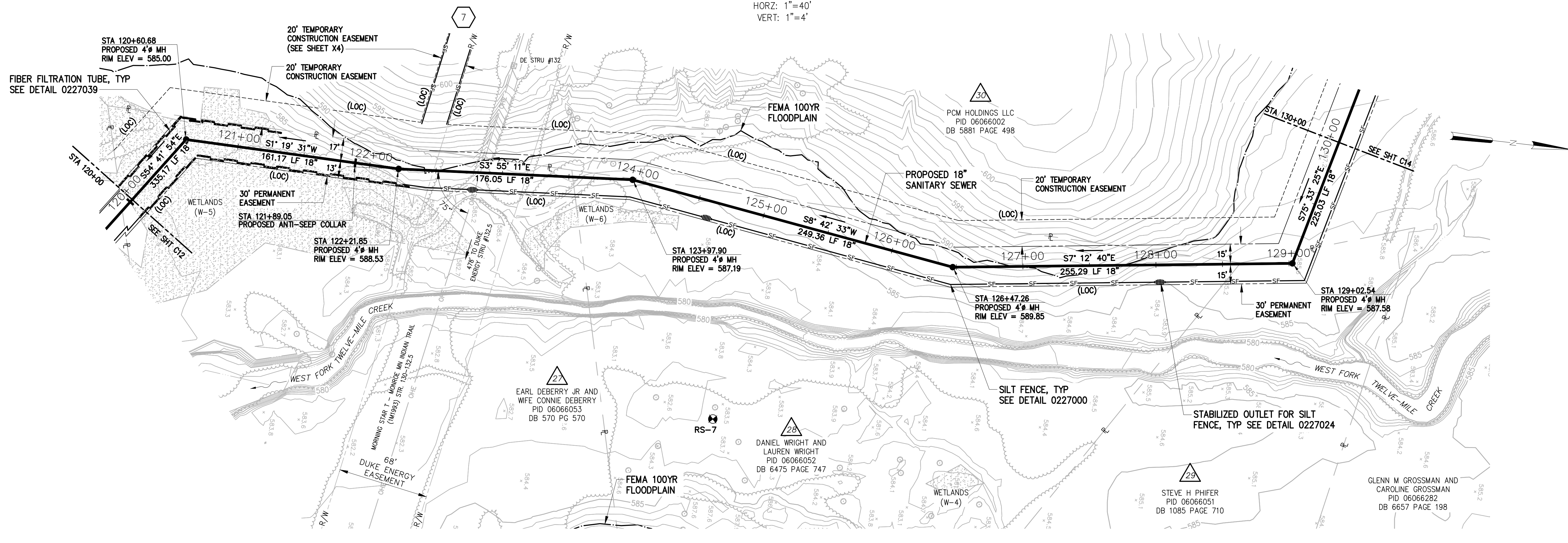
THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.

DATE: APRIL 2021
 H & S JOB NUMBER: 30831-049
 CONTRACT NUMBER: [Blank]
 DRAWING NUMBER: C12



PROFILE

HORZ: 1"=40'
VERT: 1"=4'



PLAN

1"=40'

NOTES:
1. SEE DUKE ENERGY NOTES ON SHEET X3 FOR WORK WITHIN DUKE ENERGY TRANSMISSION EASEMENT.

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
NO.	ISSUED FOR
	DATE
	BY
	APPROVED

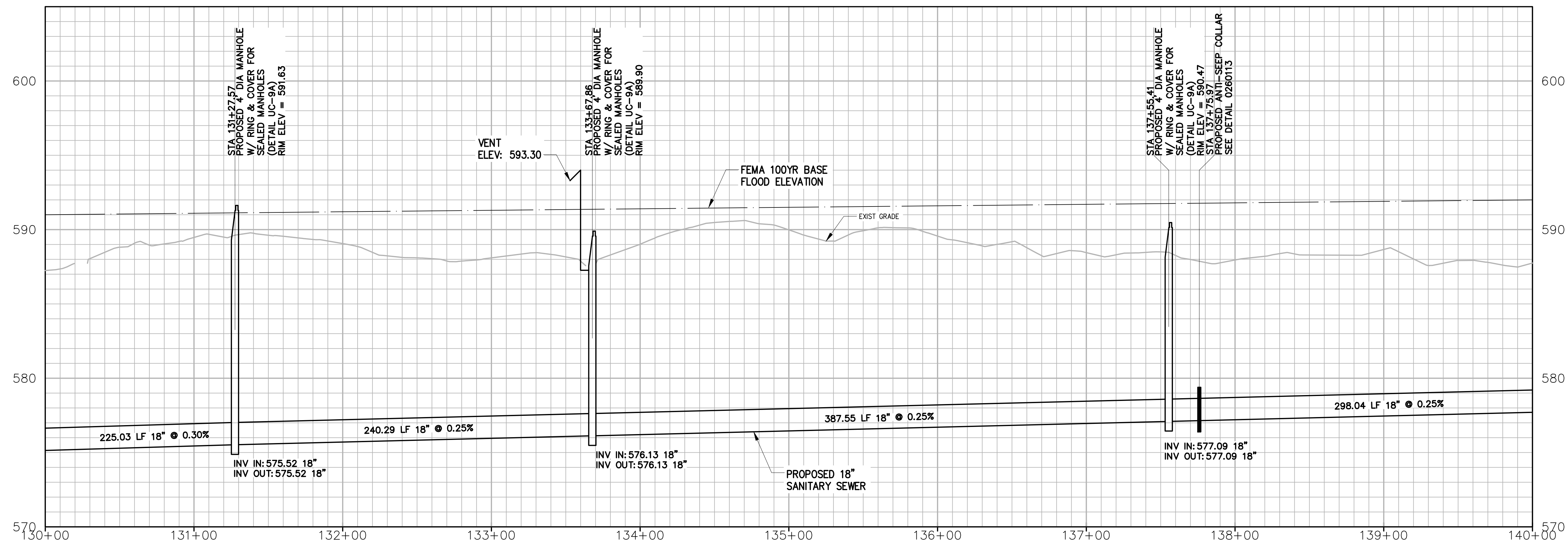


Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

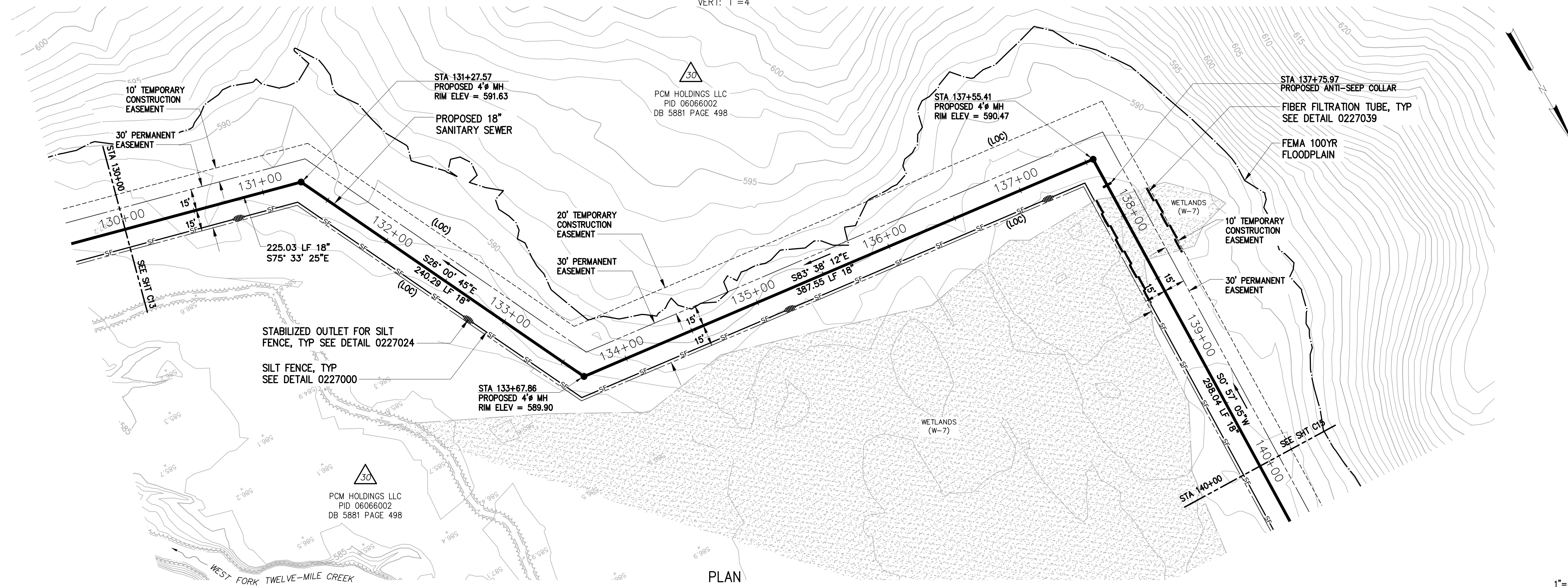
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR
STA 120+00 TO STA 130+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C13



PROFILE

HORZ: 1"=40'
VERT: 1"=4'

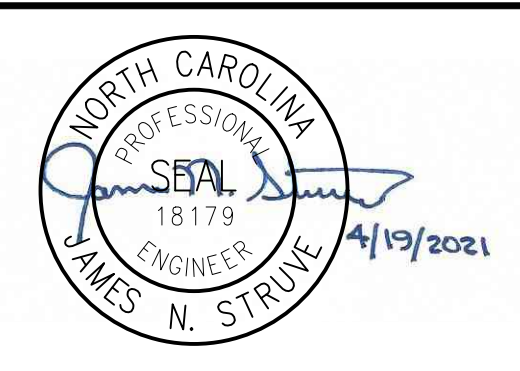


PLAN

1"=40'

NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED JOG
DRAWN GWF
CHECKED
PROJ. ENGR. JNS

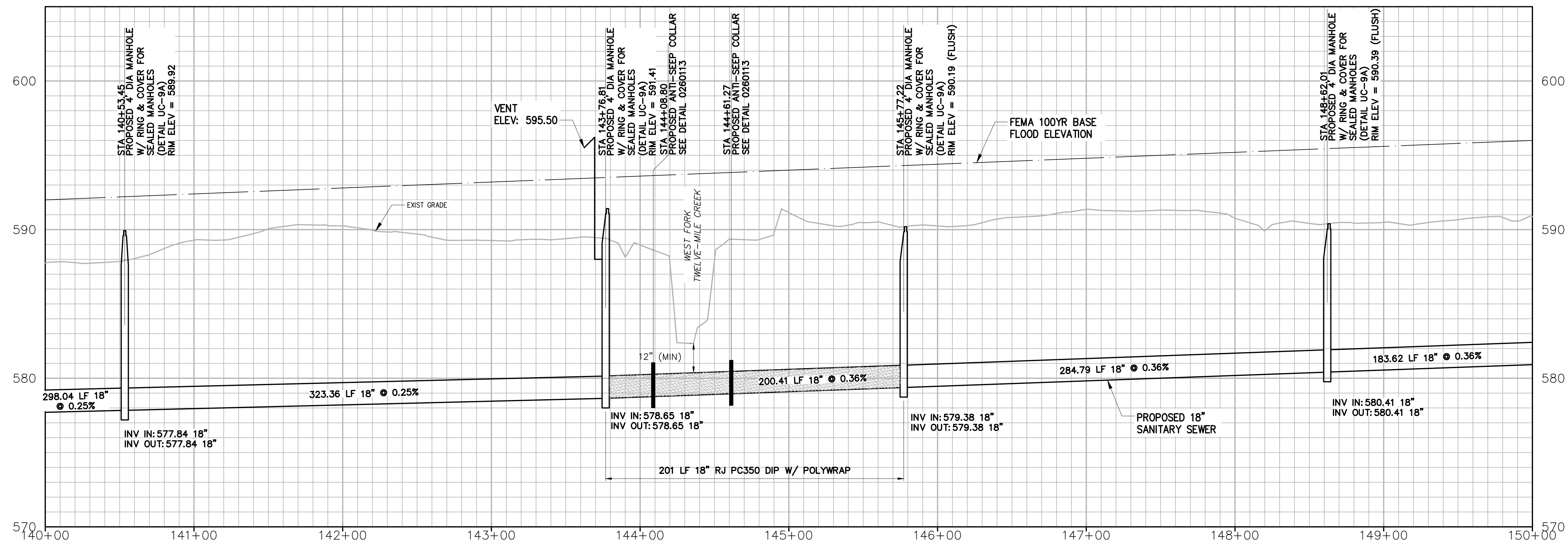


Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

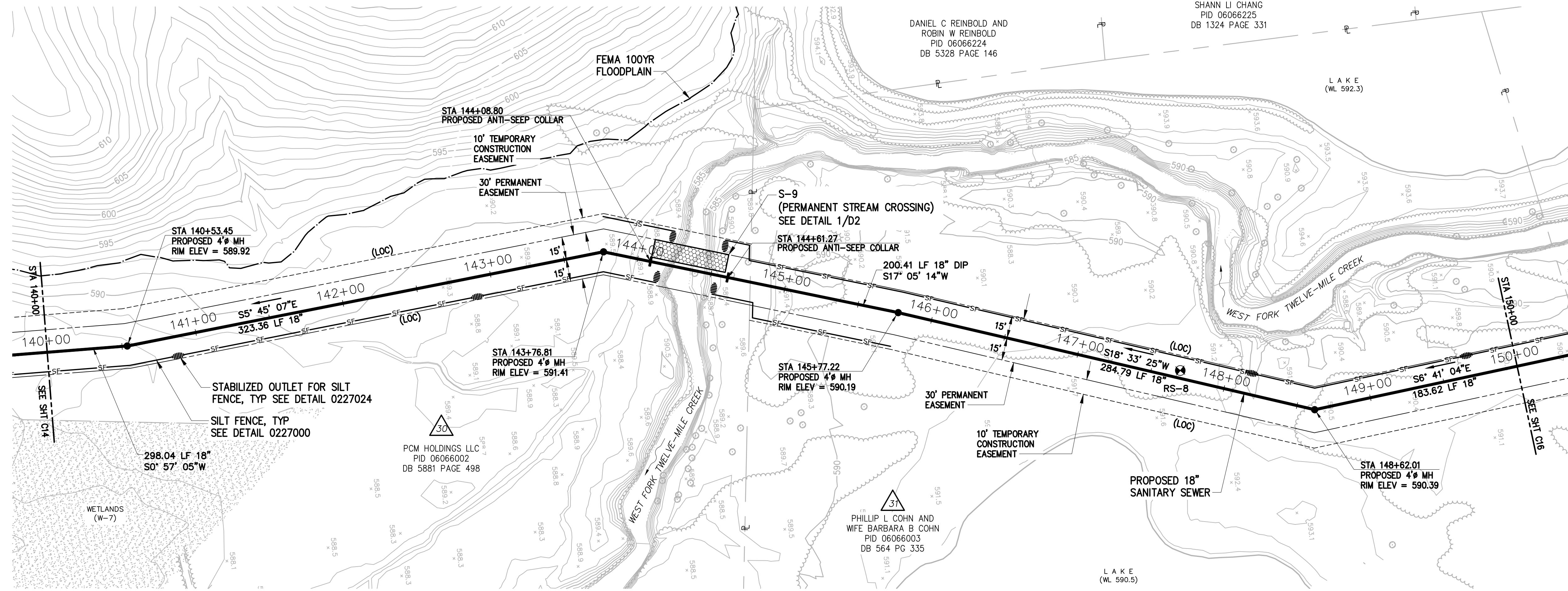
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR
STA 130+00 TO STA 140+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C14



PROFILE

HORZ: 1"=40'
VERT: 1"=4'



PLAN

1"=40'

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
NO.	ISSUED FOR
	DATE
	BY
	APPROVED



Hazen

HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

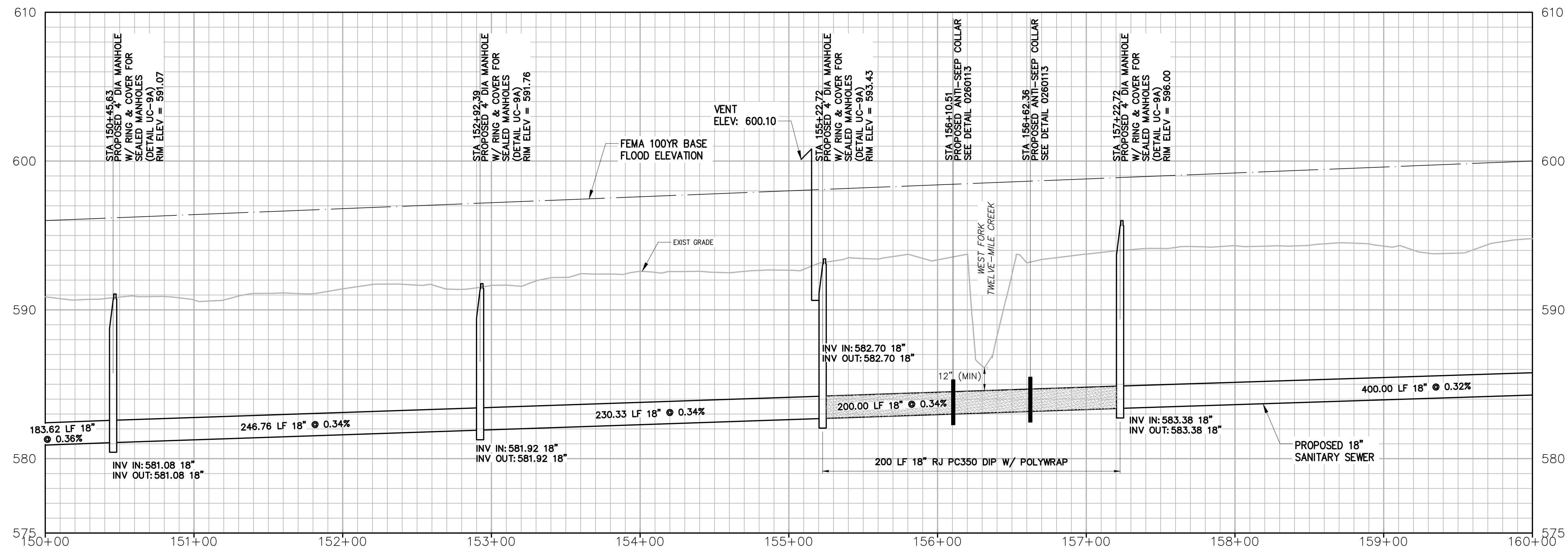
UNION COUNTY
NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

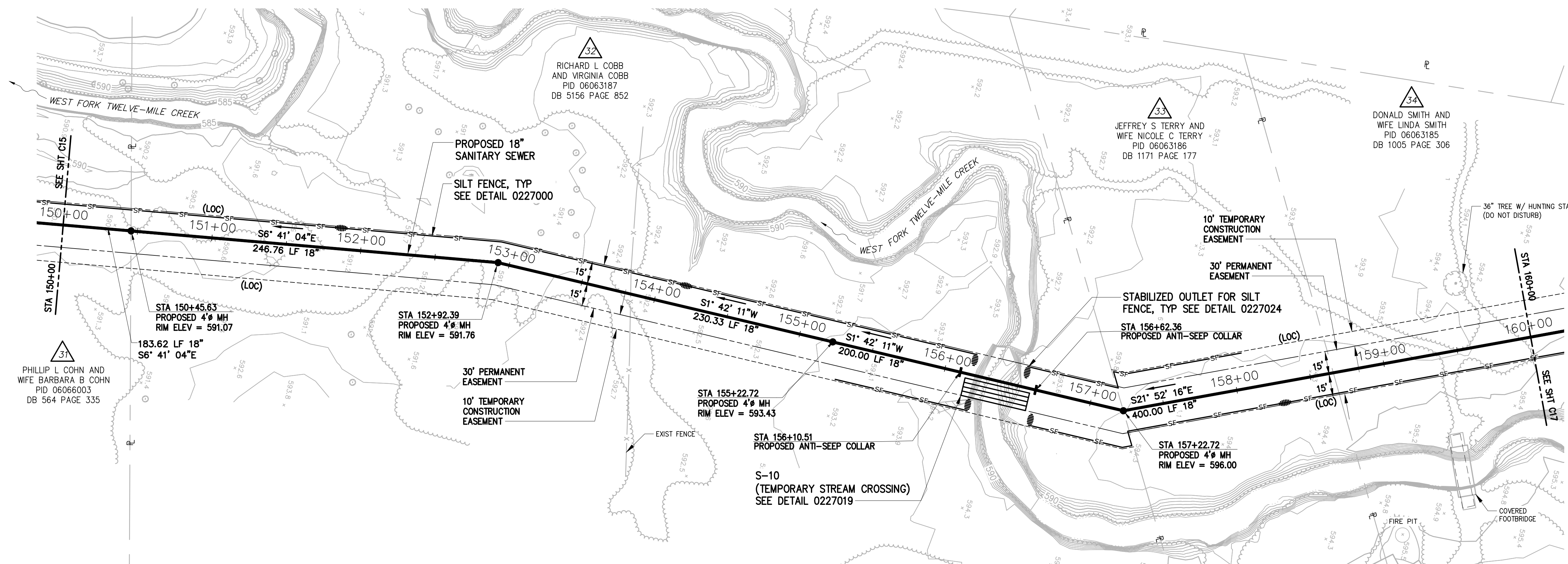
STA 140+00 TO STA 150+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C15



PROFILE

HORZ: 1"=40'
VERT: 1"=4'

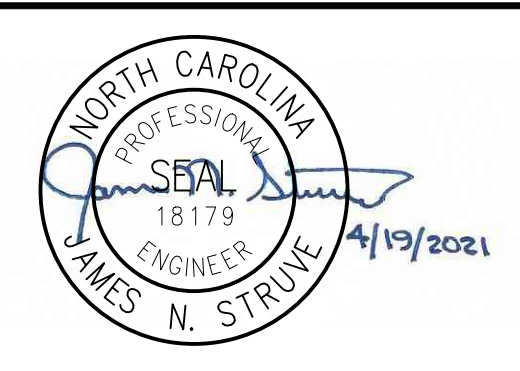


PLAN
1"=40'

1"=40'-0"

NOTES:
1. CONTRACTOR SHALL CONTACT RICHARD L COBB (704-968-8600), PARCEL 32, PRIOR TO BEGINNING ANY WORK ON THIS PARCEL. CONTRACTOR SHALL FELL AND LIMB ALL TREES HAVING A DBH (DIAMETER BREAST HEIGHT) 6 INCHES OR GREATER LOCATED WITHIN THE PERMANENT AND TEMPORARY CONSTRUCTION EASEMENTS. FELLED TREES SHALL BE CUT TO A LENGTH RANGING FROM 10-12 FEET. ALL BRANCHES SHALL BE CHIPPED/MULCHED. FELLED TREES AND MULCH SHALL BE PLACED OFF THE EASEMENT AT A LOCATION DETERMINED BY THE PROPERTY OWNER.

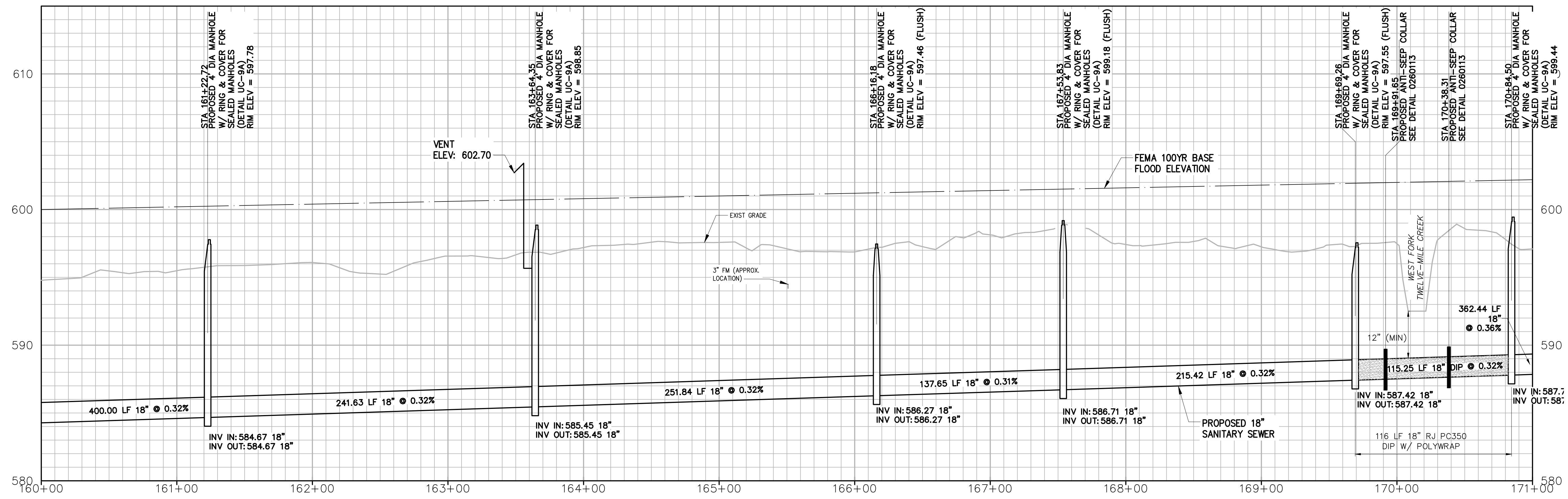
DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
NO.	ISSUED FOR
DATE	BY
APPROVED	



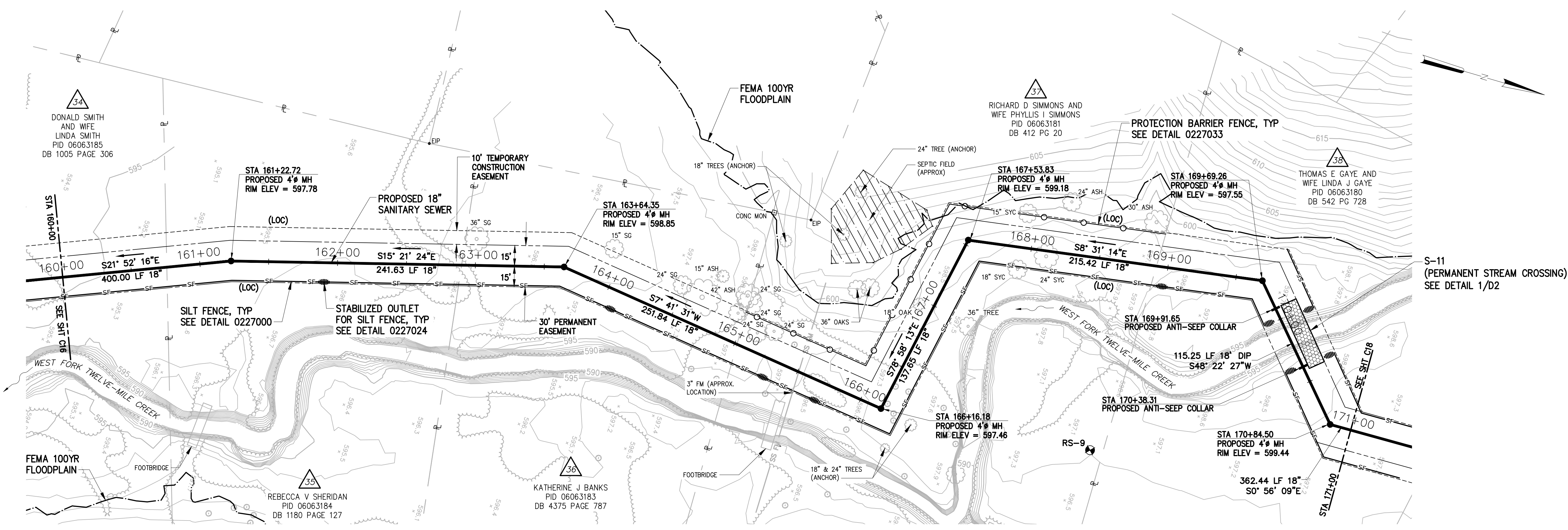
UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR
STA 150+00 TO STA 160+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C16



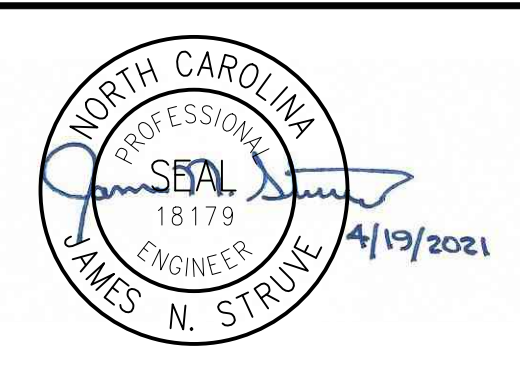
PROFILE
 HORZ: 1"=40'
 VERT: 1"=4'



PLAN
 1"=40'



DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

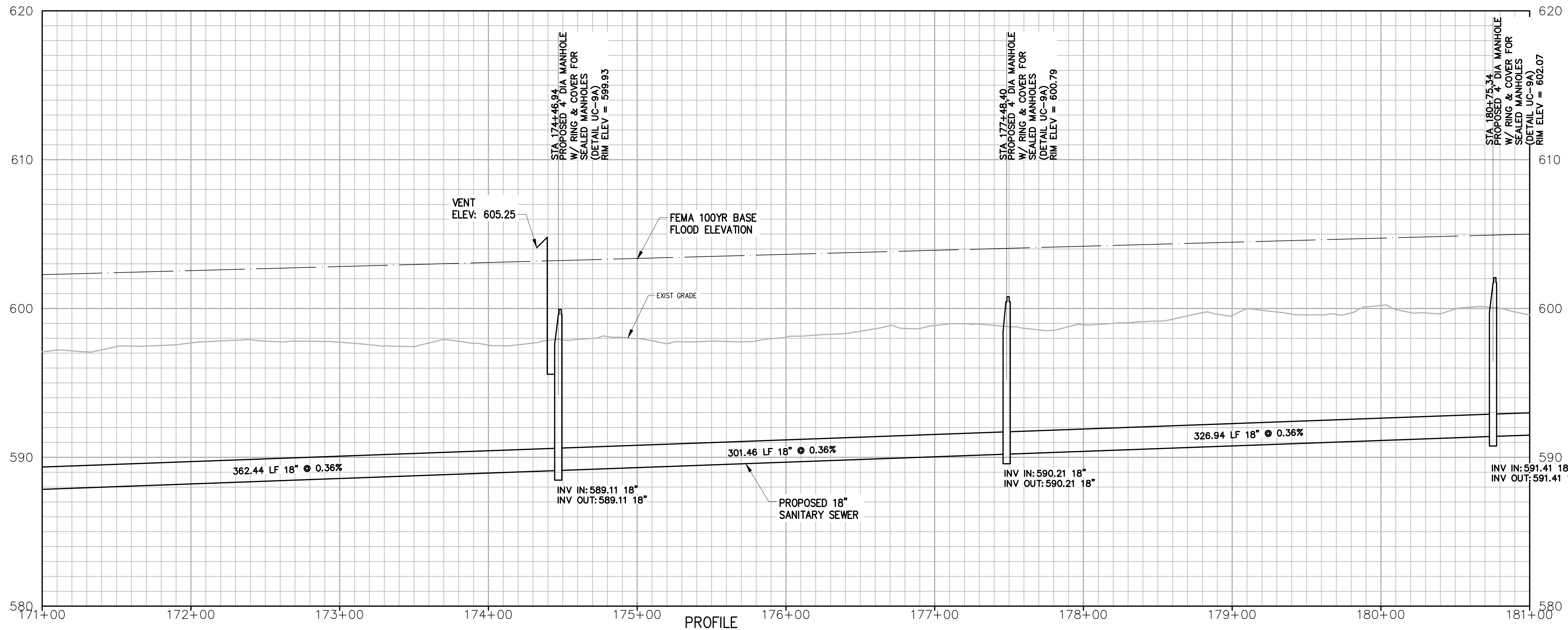


Hazen
 HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

UNION COUNTY
 NORTH CAROLINA
 WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR

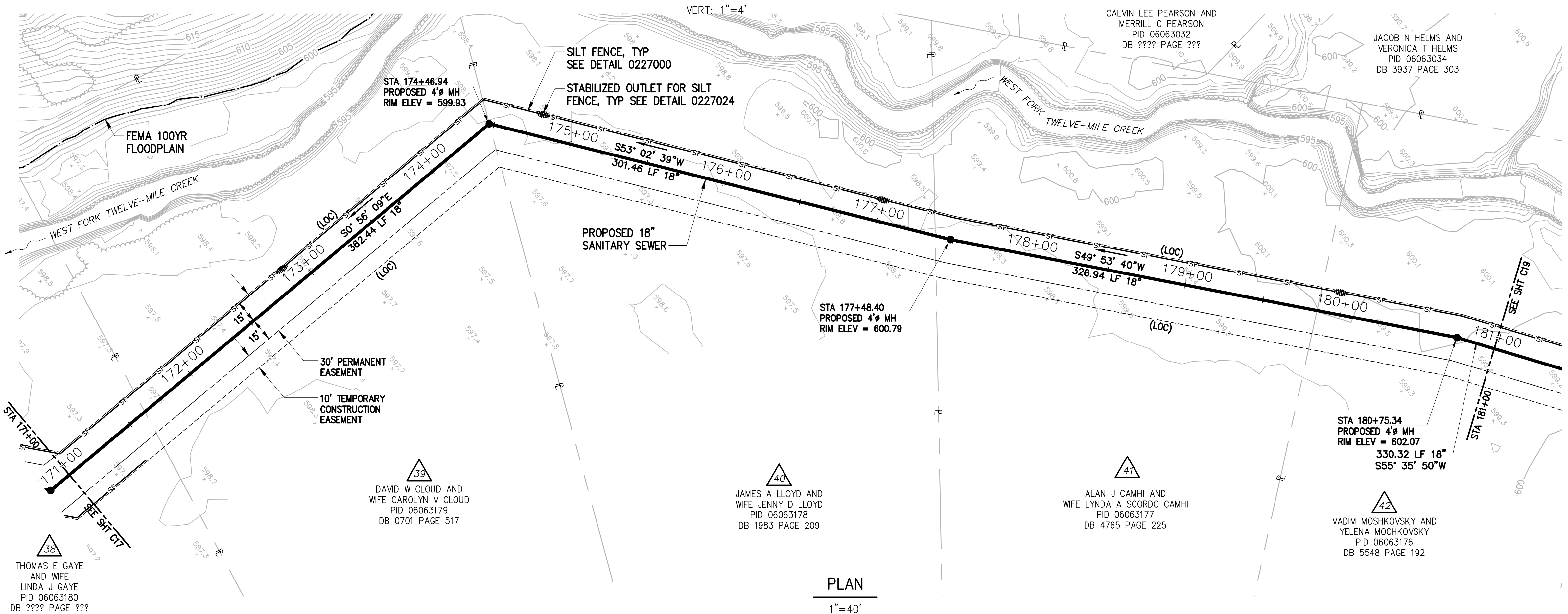
WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR
 STA 160+00 TO STA 171+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C17



NOTES:

- CONTRACTOR SHALL CONTACT PROPERTY OWNER, ALAN AND LYNDA CAMHI, PARCEL 41, AT 516-673-6150 (ALAN) OR 516-673-6156 (LYNDA) PRIOR TO BEGINNING ANY CLEARING OR CONSTRUCTION ON THIS PROPERTY.



JAMES WILLIAM BROKAW TRUSTEE
PID 06063026
DB 5408 PAGE 207

38
THOMAS E GAYE AND WIFE
LINDA J GAYE
PID 06063180
DB ???? PAGE ???

39
DAVID W CLOUD AND WIFE
CAROLYN V CLOUD
PID 06063179
DB 0701 PAGE 517

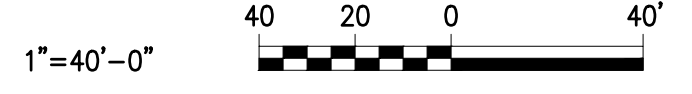
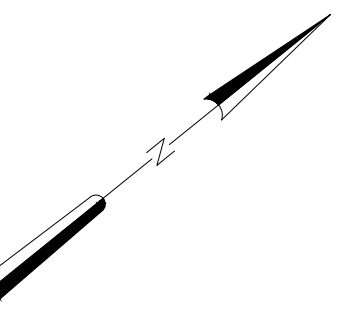
40
JAMES A LLOYD AND WIFE
JENNY D LLOYD
PID 06063178
DB 1983 PAGE 209

41
ALAN J CAMHI AND WIFE
LYNDA A SCORDO CAMHI
PID 06063177
DB 4765 PAGE 225

42
VADIM MOSHKOVSKY AND YELENA MOSHKOVSKY
PID 06063176
DB 5548 PAGE 192

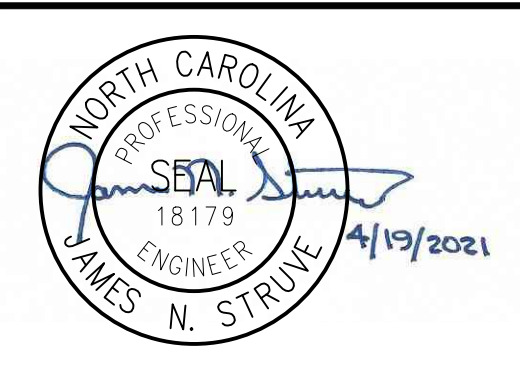
PROFILE
HORZ: 1"=40'
VERT: 1"=4'

PLAN
1"=40'



NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED JOG
DRAWN GWF
CHECKED
PROJ. ENGR. JNS

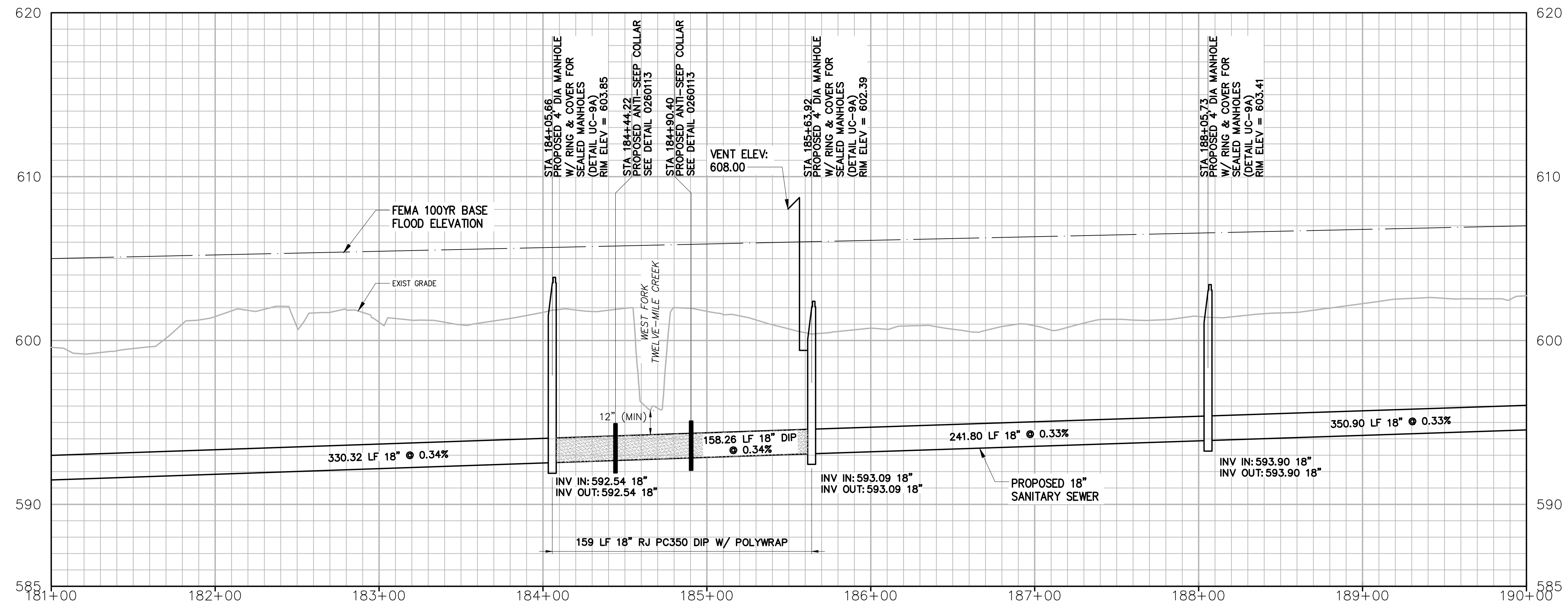


Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

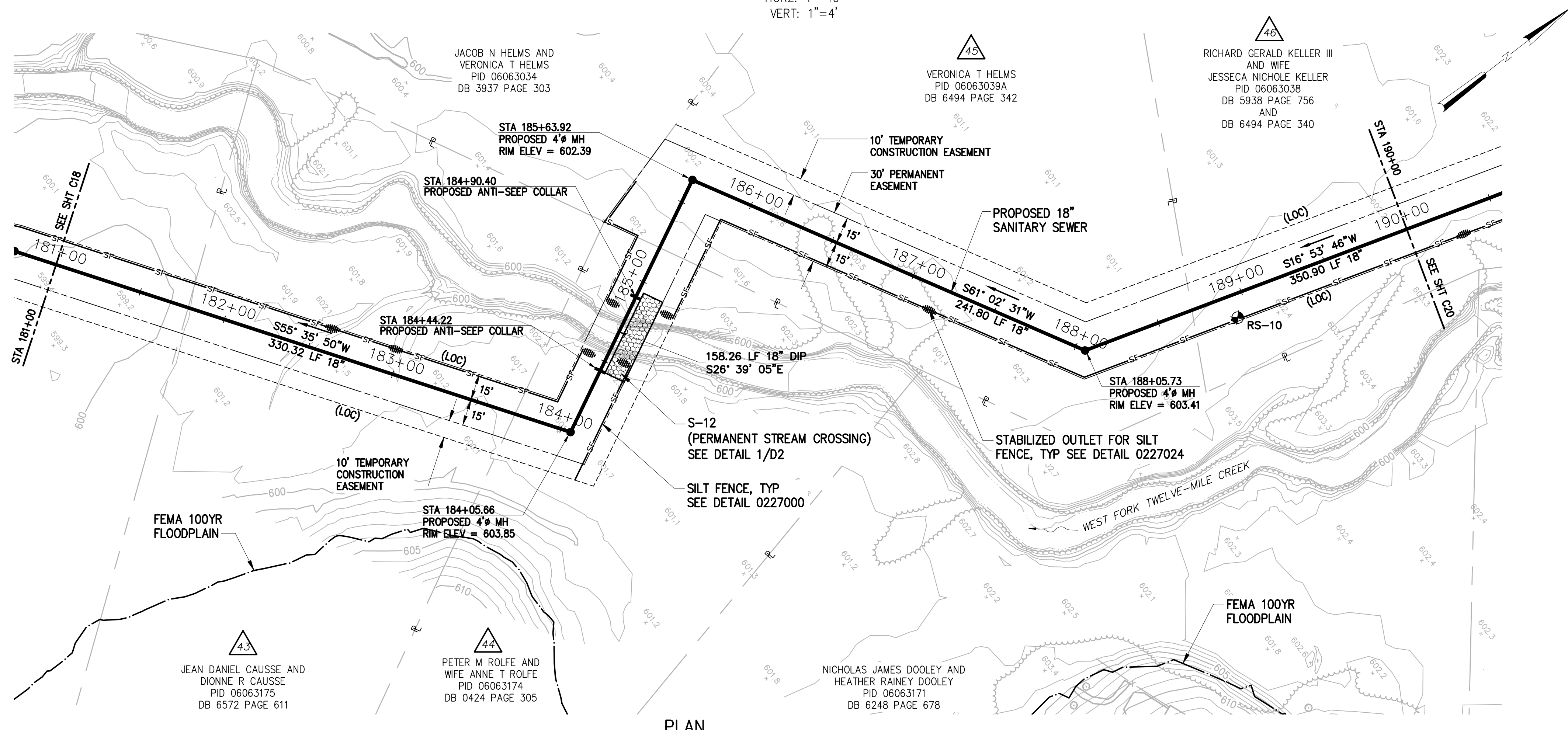
UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR
STA 171+00 TO STA 181+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C18



PROFILE
 HORZ: 1"=40'
 VERT: 1"=4'



PLAN
 1"=40'

- NOTES:**
1. CONTRACTOR SHALL CONTACT PROPERTY OWNER, JEAN AND DIONNE CAUSSE, PARCEL 43, AT 980-262-3681 OR 719-373-5444 PRIOR TO BEGINNING ANY CLEARING OR CONSTRUCTION ON THIS PROPERTY AND TO DISCUSS THE AVAILABILITY OF WOOD CHIPS FROM CLEARING.
 2. CONTRACTOR SHALL CONTACT PROPERTY OWNER, PETER AND ANNE ROLFE, PARCEL 44, AT 704-846-4910, PRIOR TO BEGINNING ANY CLEARING OR CONSTRUCTION ON THIS PROPERTY.

NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED: JOG
 DRAWN: GWF
 CHECKED: _____
 PROJ. ENGR.: JNS

APPROVED: _____

Professional Engineer Seal:
 NORTH CAROLINA PROFESSIONAL ENGINEER
 18179
 JAMES N. STRUVE
 4/19/2021

Hazen

HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO.: C-0381

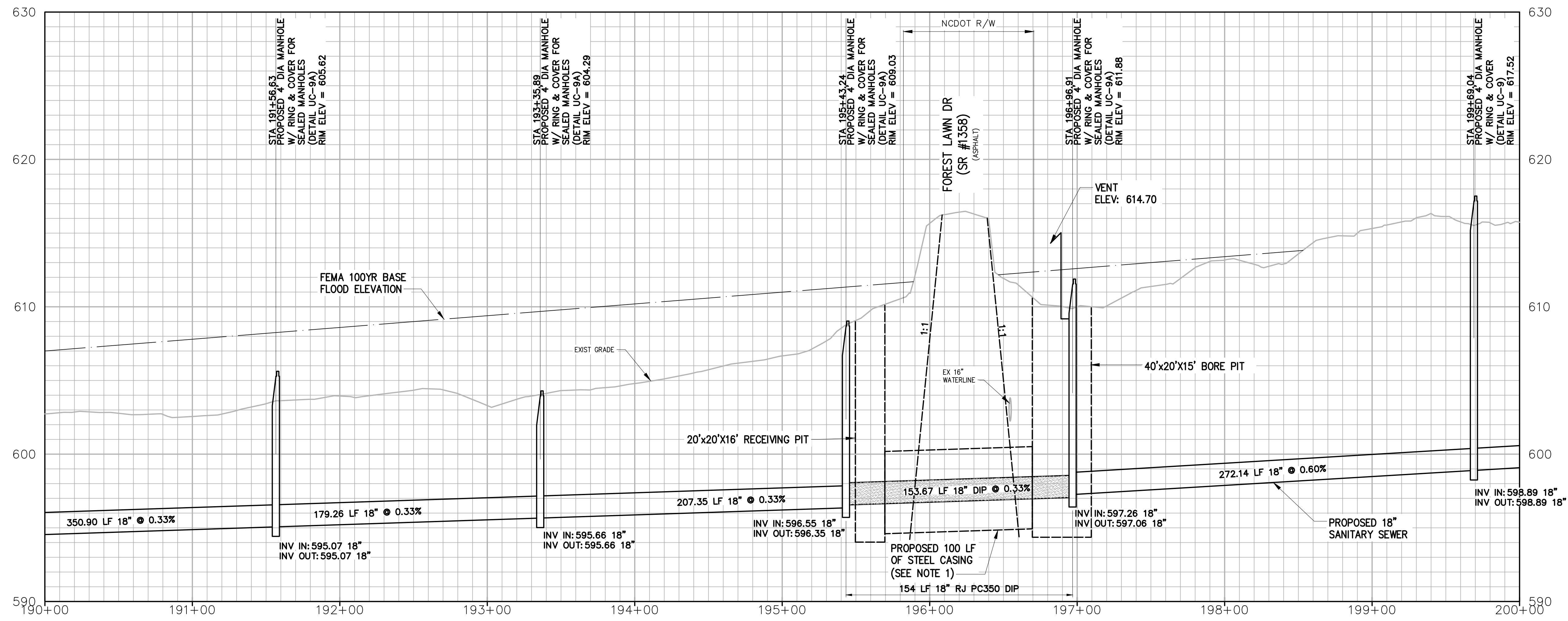
UNION COUNTY
 NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK INTERCEPTOR

WEST FORK TWELVE-MILE CREEK INTERCEPTOR

STA 181+00 TO STA 190+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE: APRIL 2021
CONTRACT NUMBER	H & S JOB NUMBER: 30831-049
DRAWING NUMBER: C19	



PROFILE

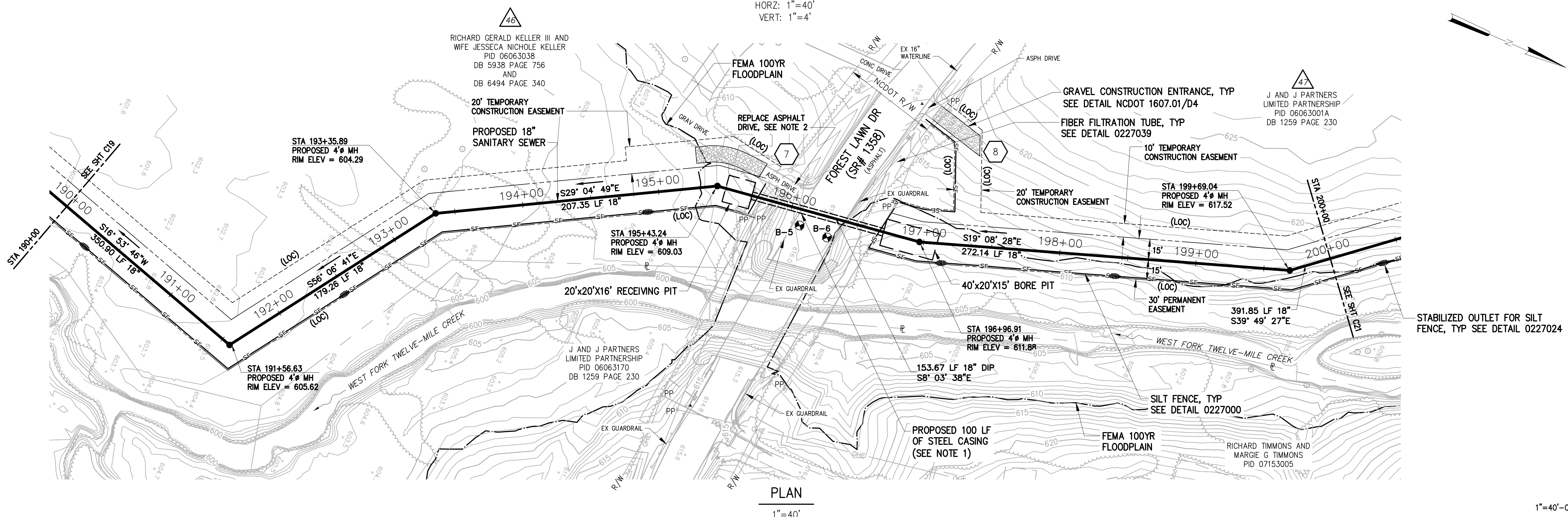
HORZ: 1"=40'
VERT: 1"=4'

NOTES:

- CONTRACTOR SHALL HAVE THE OPTION OF SELECTING CASING SIZE BASED UPON HIS AVAILABLE BORING/TUNNELING EQUIPMENT PER THE THREE (3) CASING DIAMETER AND ASSOCIATED CASING THICKNESS INDICATED IN THE TABLE BELOW. THE PRICE FOR THE SELECTED CASING DIAMETER/THICKNESS AND INSTALLATION OF THE ASSOCIATED GUARANTEED BORE/TUNNEL SHALL BE INDICATED IN PAY ITEM C.

CASING SIZE (INCHES)	CASING THICKNESS (INCHES)
48	0.688
54	0.781
60	0.875

- CONTRACTOR SHALL REPLACE ASPHALT DRIVE WITH ASPHALT PER DETAIL 0251300.



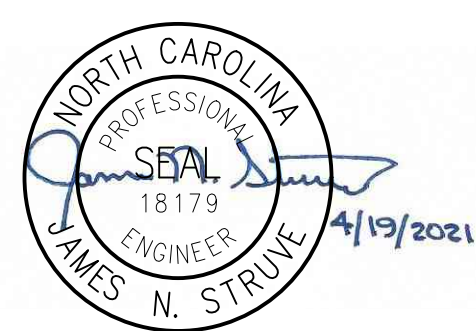
PLAN

1"=40'

1"=40'-0"

NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED JOG
DRAWN GWF
CHECKED
PROJ. ENGR. JNS



HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

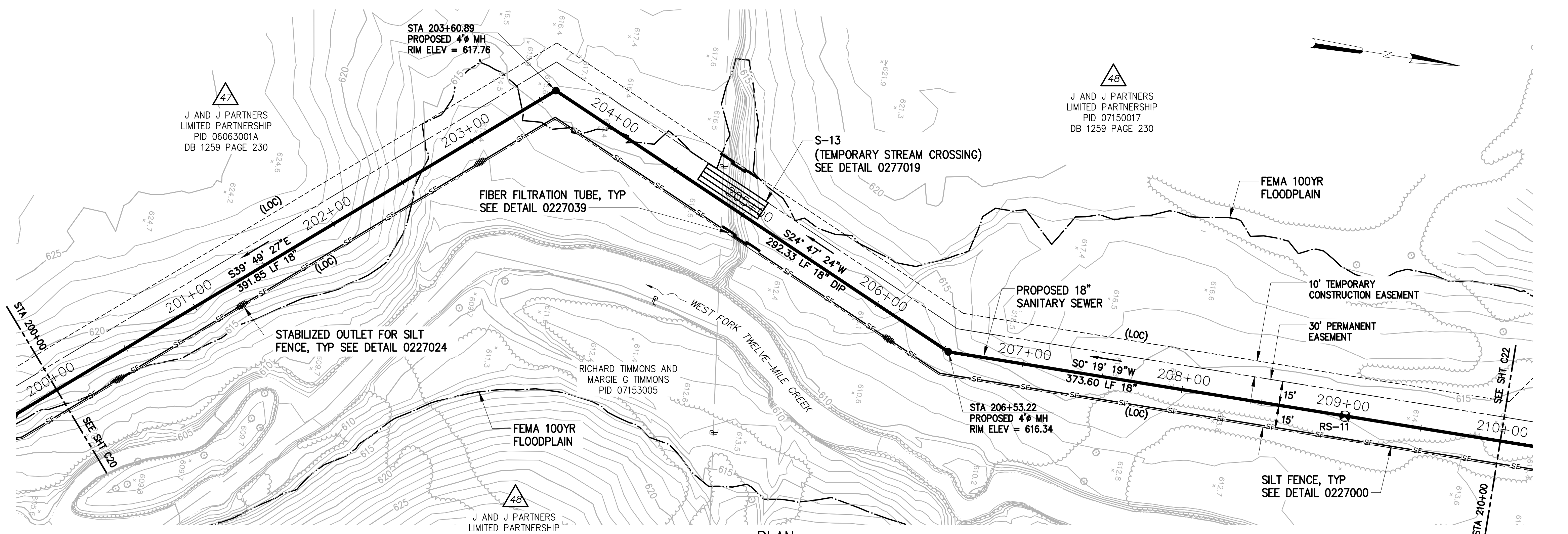
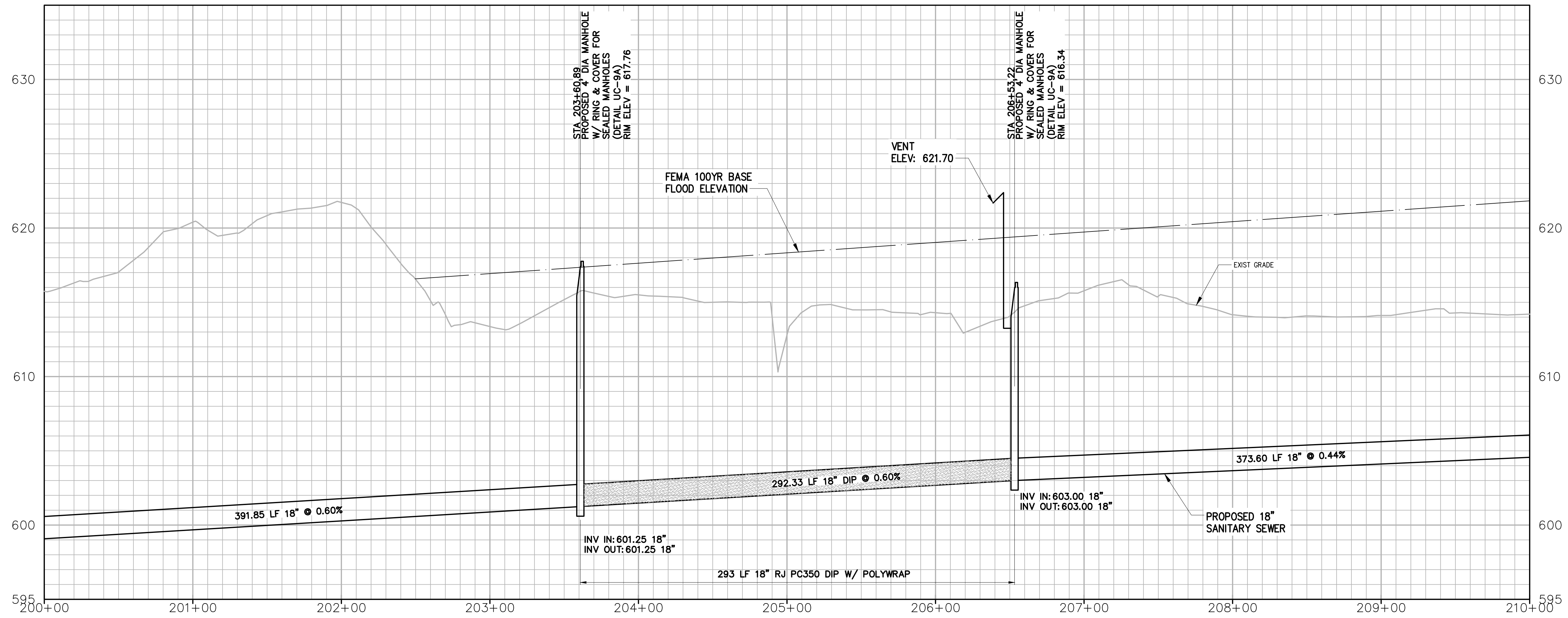
UNION COUNTY
NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

STA 190+00 TO STA 200+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE APRIL 2021
	H & S JOB NUMBER 30831-049
	CONTRACT NUMBER
	DRAWING NUMBER C20



DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

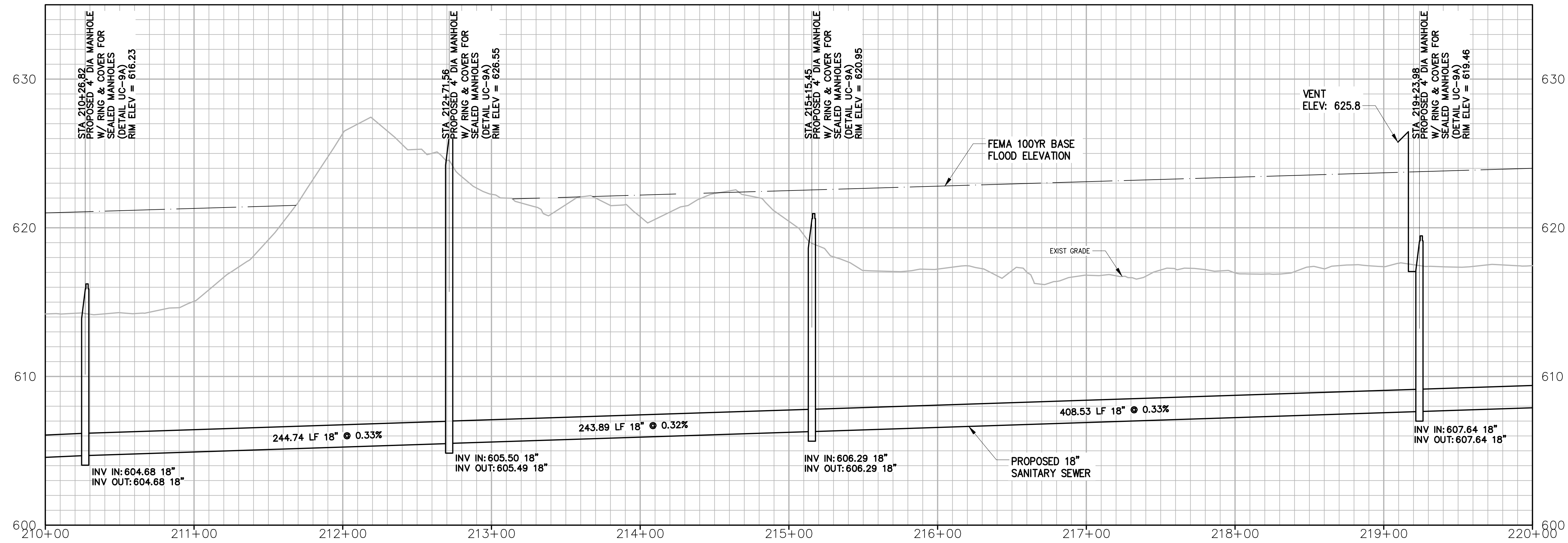


Hazen
 HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

UNION COUNTY
 NORTH CAROLINA
 WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR

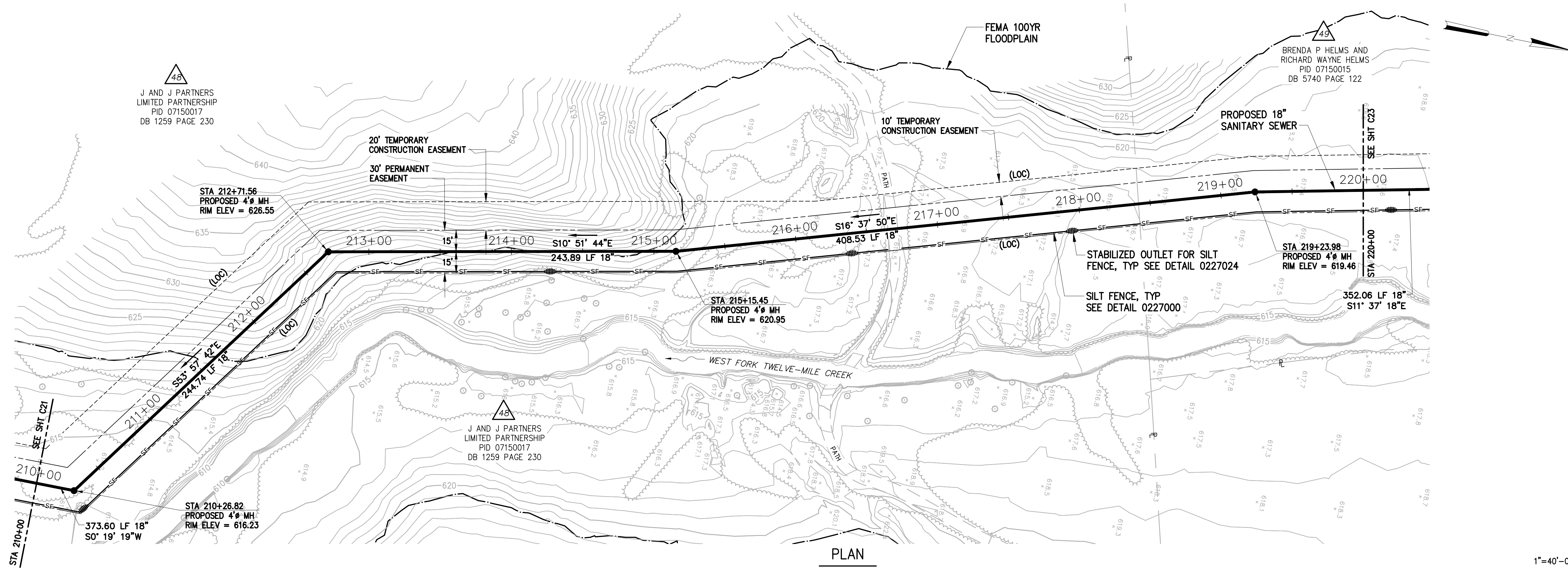
WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR
 STA 200+00 TO STA 210+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C21



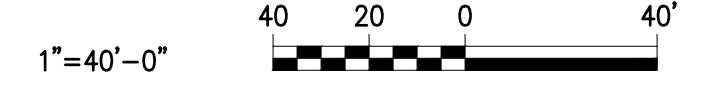
PROFILE

HORZ: 1"=40'
VERT: 1"=4'



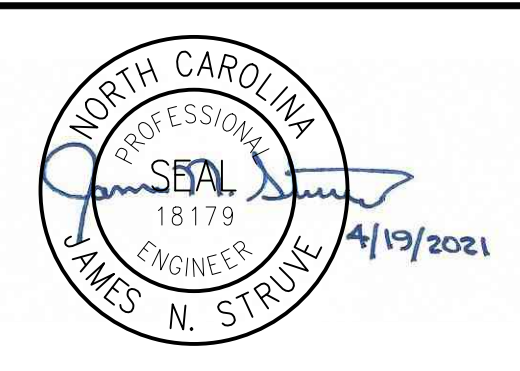
PLAN

1"=40'



NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED JOG
DRAWN GWF
CHECKED
PROJ. ENGR. JNS

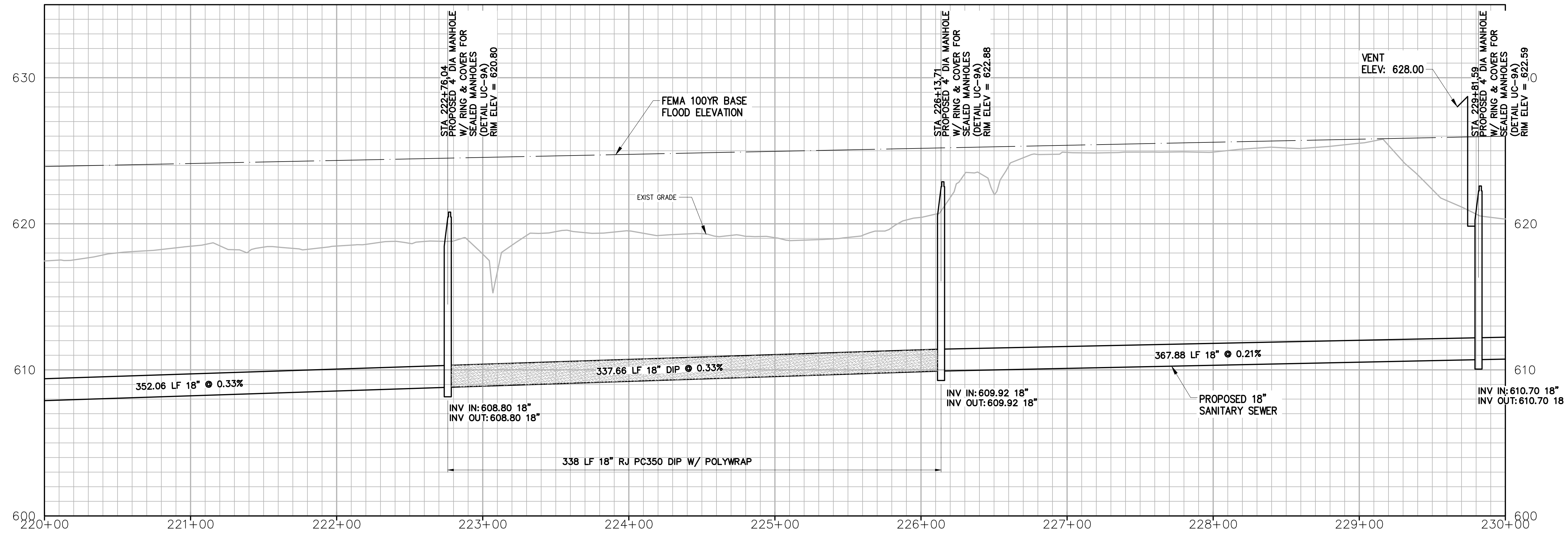


Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

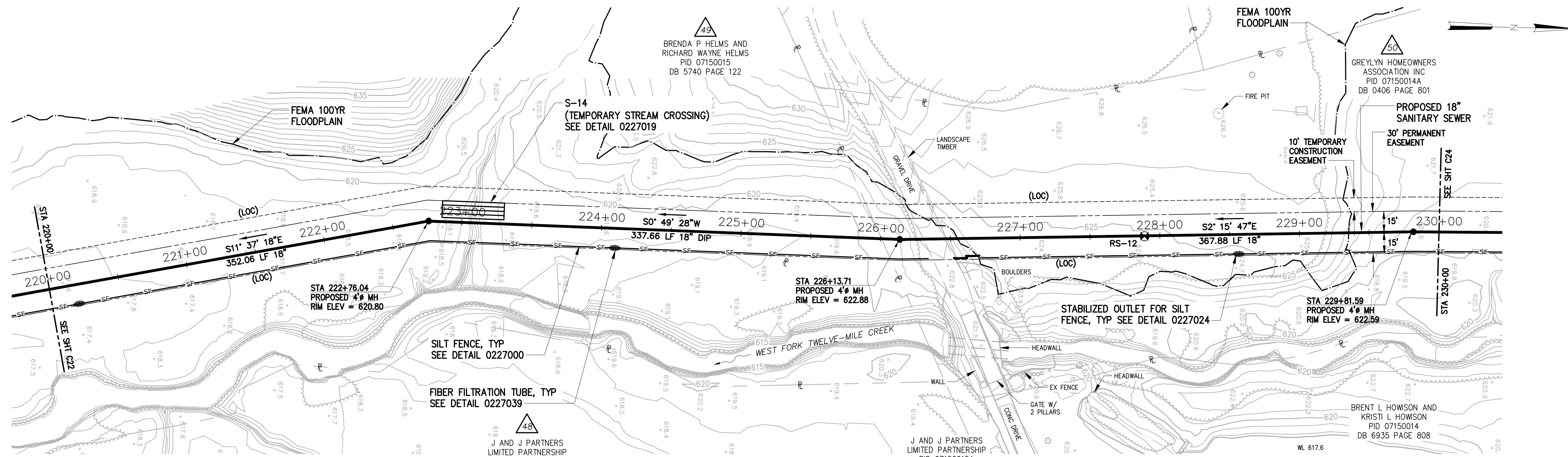
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR
STA 210+00 TO STA 220+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE APRIL 2021
	H & S JOB NUMBER 30831-049
	CONTRACT NUMBER
	DRAWING NUMBER C22



PROFILE

HORZ: 1"=40'
VERT: 1"=4'



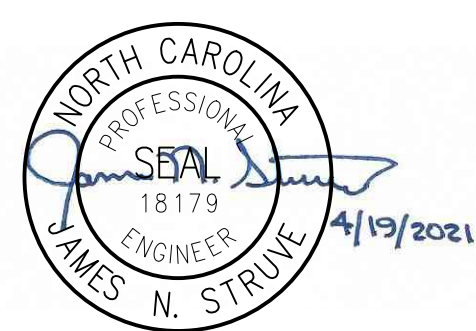
PLAN

1"=40'



NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS



Hazen

HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

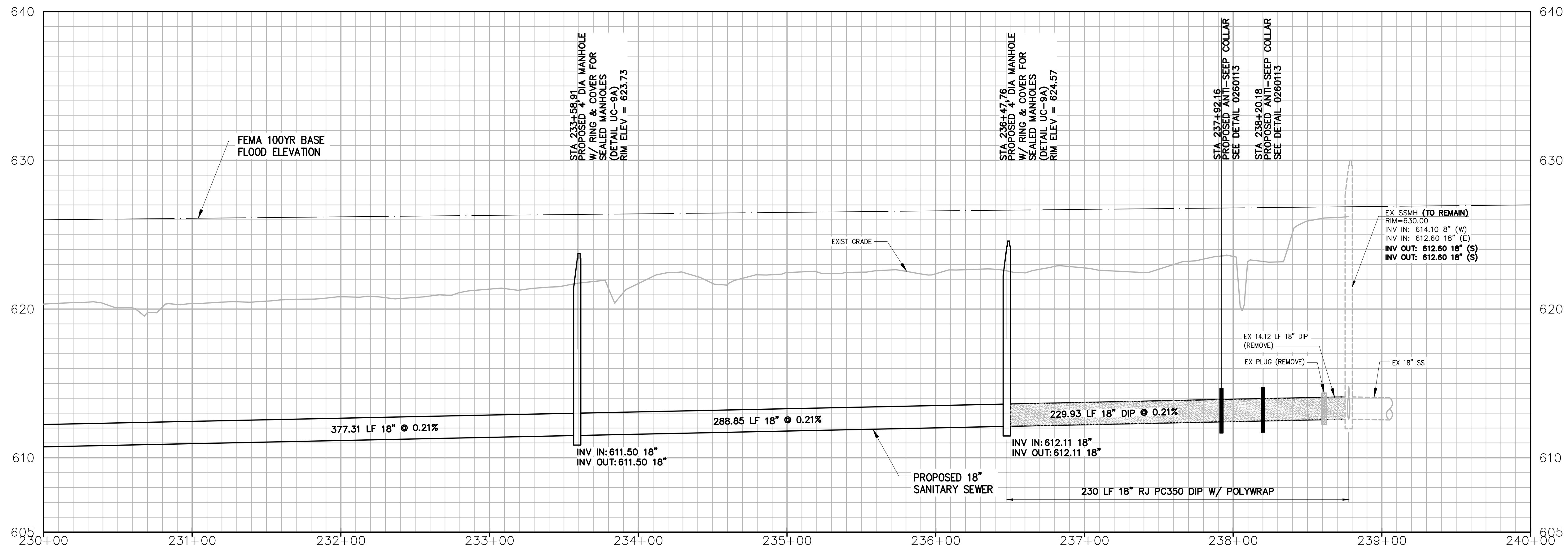
UNION COUNTY
NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

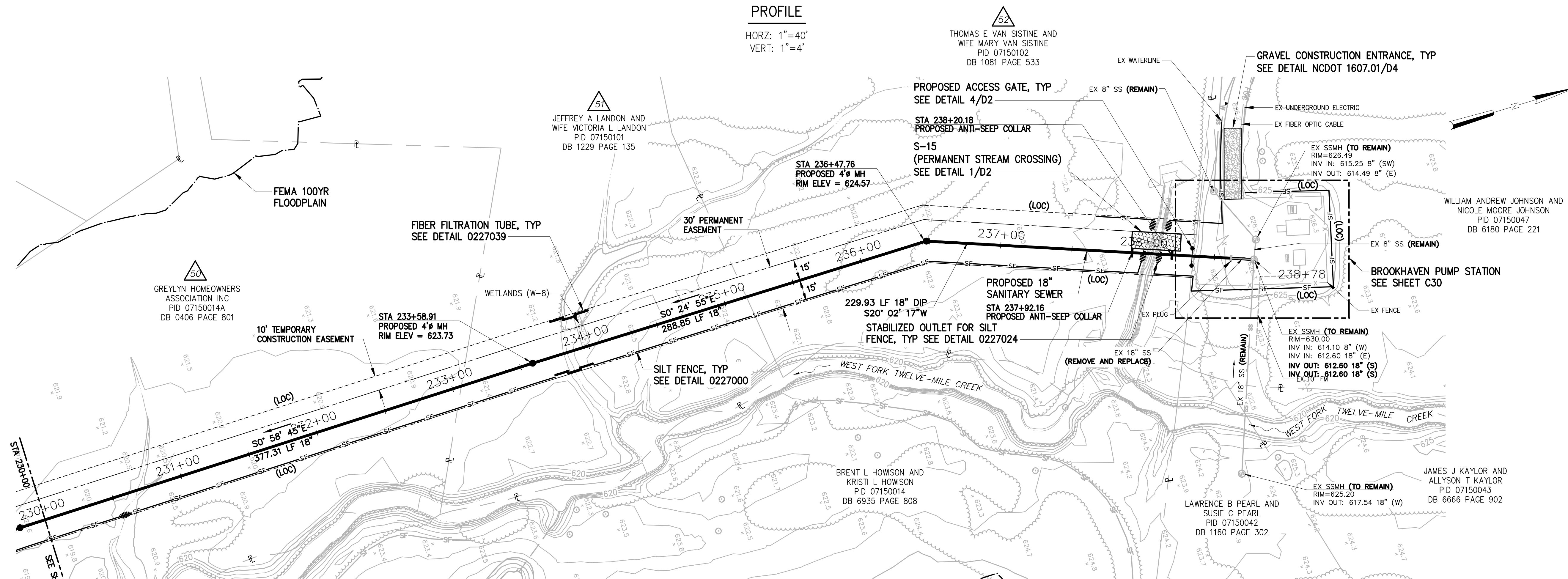
STA 220+00 TO STA 230+00

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C23



PROFILE

HORIZ: 1"=40'
VERT: 1"=4'



PLAN

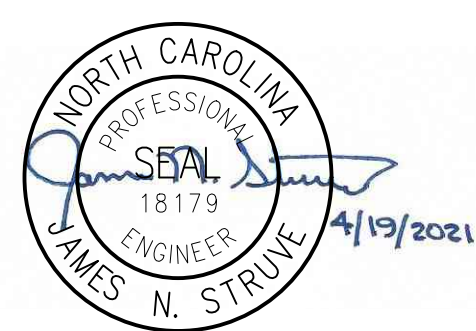
1"=40'

NOTES:

- CONTRACTOR SHALL CONTACT PROPERTY OWNER, JEFFREY AND VICTORIA LONDON, PARCEL 51, AT 704-770-6276, PRIOR TO BEGINNING ANY CLEARING OR CONSTRUCTION ON THIS PROPERTY. PROPERTY OWNER WOULD LIKE TO DISCUSS A DRAINAGE DITCH WITH THE CONTRACTOR.
- CONTRACTOR SHALL CONTACT PROPERTY OWNER, THOMAS AND MARY VAN SISTINE, PARCEL 52, AT 704-844-8526 OR 704-293-2346, PRIOR TO BEGINNING ANY CLEARING OR CONSTRUCTION ON THIS PROPERTY. PROPERTY OWNER WOULD LIKE TO DISCUSS LEASING A PORTION OF THEIR PROPERTY AS A STAGING AREA TO THE CONTRACTOR.

NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS



Hazen

HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA

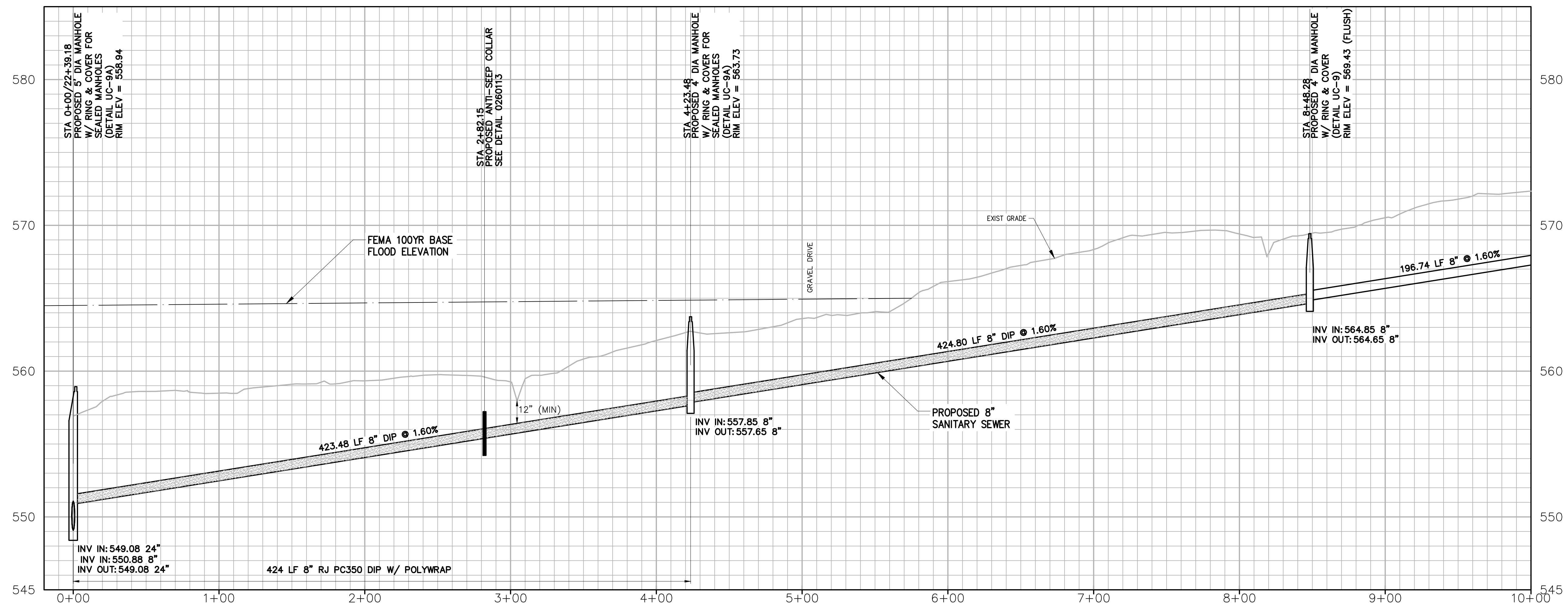
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

STA 230+00 TO STA 238+78

THE SCALE BAR
SHOWN BELOW
MEASURES ONE
INCH LONG ON
THE ORIGINAL
DRAWING.

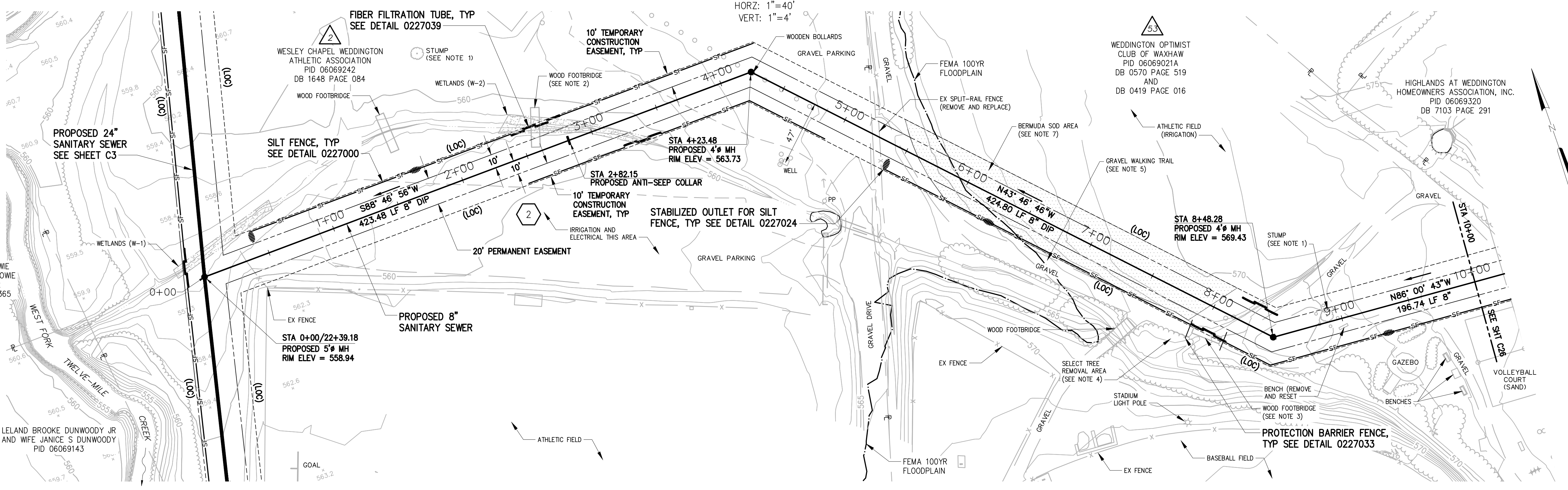
DATE	APRIL 2021
H & S JOB NUMBER	30831-049
CONTRACT NUMBER	
DRAWING NUMBER	C24



- NOTES:
- CONTRACTOR SHALL REMOVE EXISTING STUMP(S) AS DIRECTED BY THE OWNER AND ENGINEER.
 - CONTRACTOR SHALL REMOVE EXISTING WOODEN BRIDGE AND RESET AT LOCATION OUTSIDE OF EASEMENT DETERMINED BY THE OWNER AND ENGINEER.
 - CONTRACTOR SHALL REMOVE EXISTING WOODEN BRIDGE AND CONCRETE APPROACH ON EACH SIDE AND DISPOSE OF. PROTECTION BARRIER FENCING SHALL BE INSTALLED ACROSS GRAVEL TRAIL ON BOTH SIDES OF THE DITCH. CONTACT GEORGE SELLA AT 704-309-7642 OR VIA EMAIL AT GREENVIEW@WINDSTREAM.NET PRIOR TO REMOVAL OF BRIDGE.
 - CONTRACTOR SHALL REMOVE APPROXIMATELY 3-4 PERSIMMON TREES, CONTACT GEORGE SELLA AT 704-309-7642 OR VIA EMAIL AT GREENVIEW@WINDSTREAM.NET TO VERIFY WHICH TREES ARE TO BE REMOVED.
 - CONTRACTOR SHALL RESTORE EXISTING GRAVEL WALKING TRAIL BACK TO EXISTING CONDITION.
 - CONTACT GEORGE SELLA AT 704-309-7642 OR VIA EMAIL AT GREENVIEW@WINDSTREAM.NET AND DALE AUBERTINE AT 704-201-1361 PRIOR TO BEGINNING CONSTRUCTION ON PARCEL 53 (WEDDINGTON OPTIMIST CLUB OF WAXHAW) TO DISCUSS THE EXISTING IRRIGATION SYSTEM AND UNDERGROUND ELECTRICAL LINES WITHIN THE CLUB'S SITE.
 - CONTRACTOR SHALL RESTORE SODDED FIELD APPROXIMATELY BETWEEN STA 5+50 TO STA 8+00 AND ANY OTHER AREA WITH SOD TO EXISTING CONDITION USING 419 BERMUDA SOD (INSTALLATION AND COST OF BERMUDA 419 SOD SHALL BE INCLUDED IN THE PIPE COST).

PROFILE

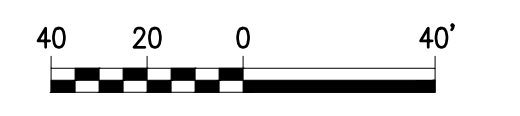
HORZ: 1"=40'
VERT: 1"=4'



PLAN

1"=40'

1"=40'-0"



DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	



HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA

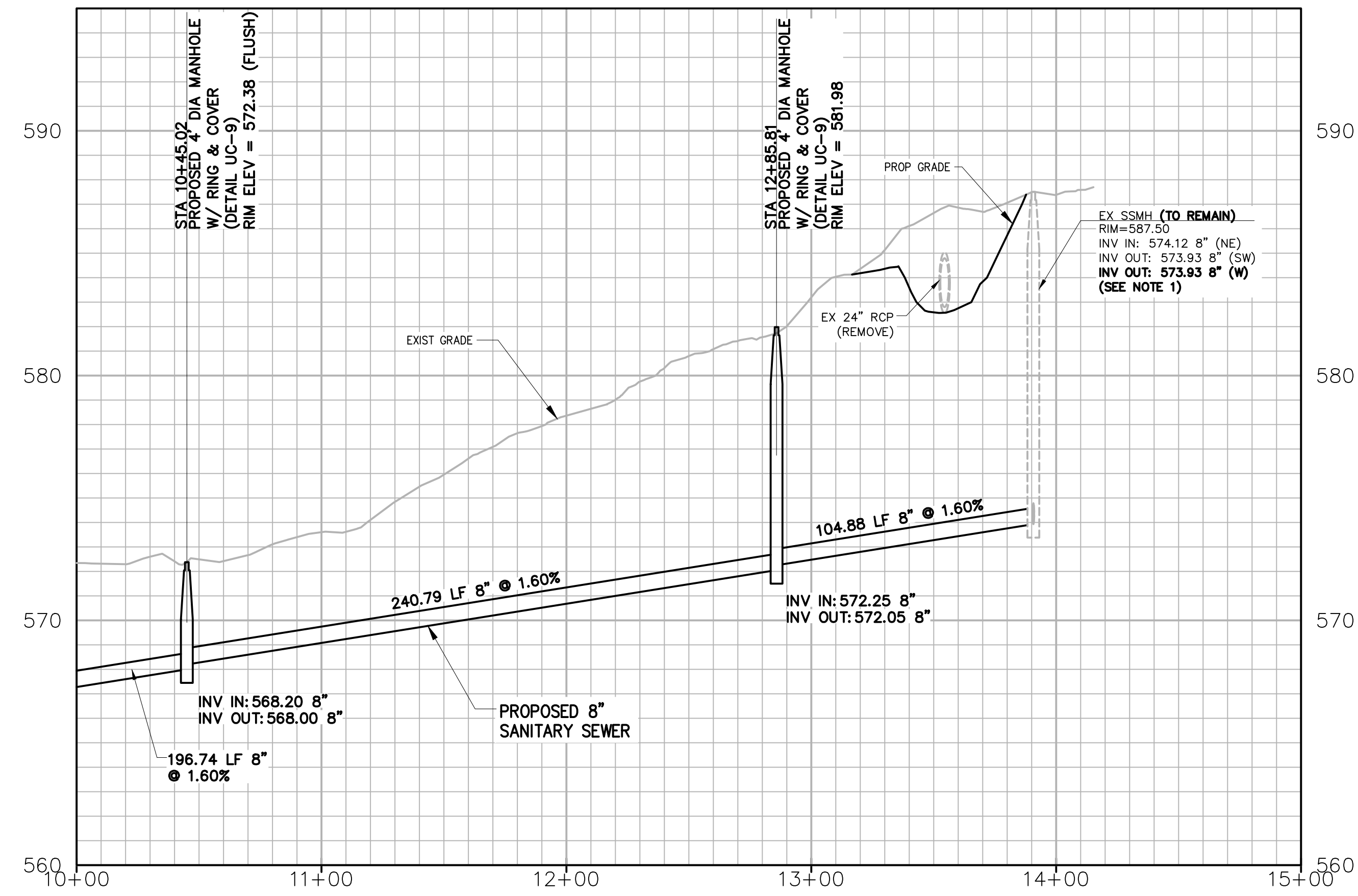
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

SEWER TO SERVE SCOTCH MEADOWS

PLAN AND PROFILE

STA 0+00 TO STA 10+00

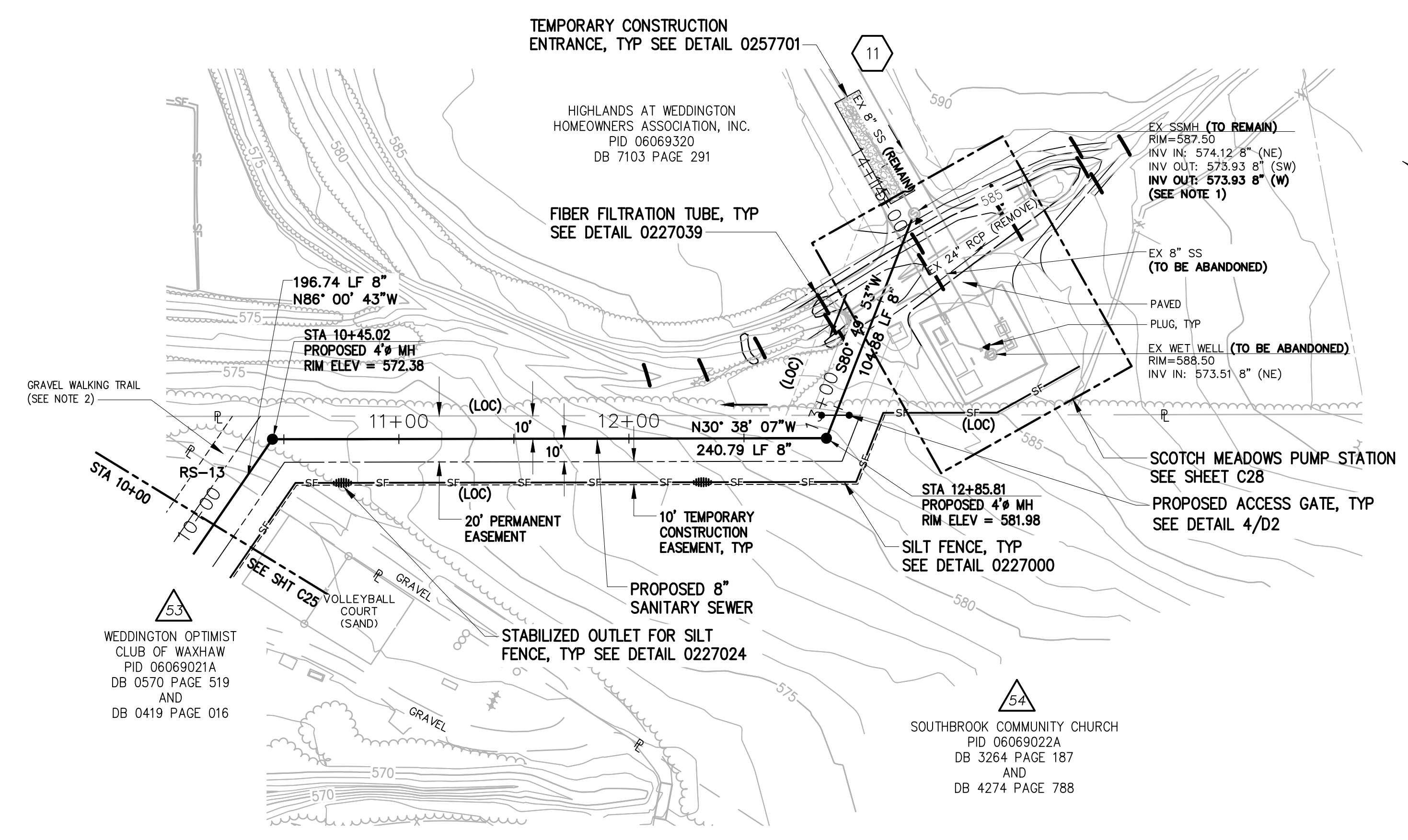
DATE	APRIL 2021
H & S JOB NUMBER	30831-049
CONTRACT NUMBER	
DRAWING NUMBER	C25



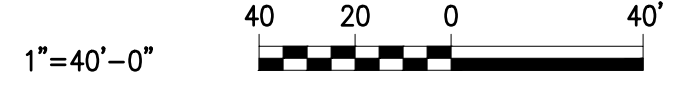
PROFILE
 HORZ: 1"=40'
 VERT: 1"=4'

NOTES:

- CONTRACTOR SHALL REWORK INVERT OF EXISTING MANHOLE FOR PROPOSED 8" PIPE OUT AND PLUGGING OF THE EXISTING 8" PIPE OUT.
- CONTRACTOR SHALL RESTORE EXISTING GRAVEL WALKING TRAIL BACK TO EXISTING CONDITION.
- CONTACT GEORGE SELLA AT 704-309-7642 OR VIA EMAIL AT GREENVIEW@WINDSTREAM.NET PRIOR TO ANY WORK IN AND ADJACENT TO THE WESLEY CHAPEL WEDDINGTON ATHLETIC ASSOCIATION AND WEDDINGTON OPTIMIST CLUB OF WAXHAW PARCELS.

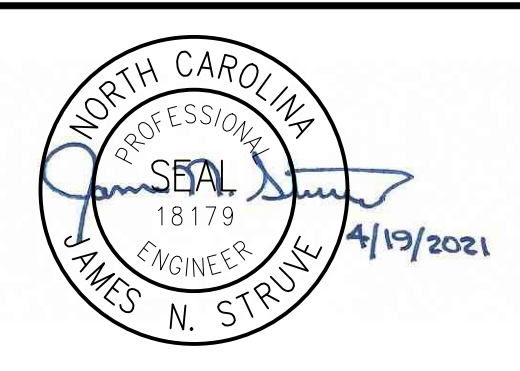


PLAN
 1"=40'



NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED JOG
 DRAWN GWF
 CHECKED
 PROJ. ENGR. JNS



UNION COUNTY
 NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR

SEWER TO SERVE SCOTCH MEADOWS

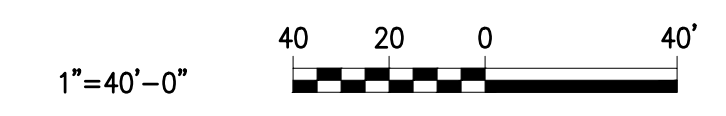
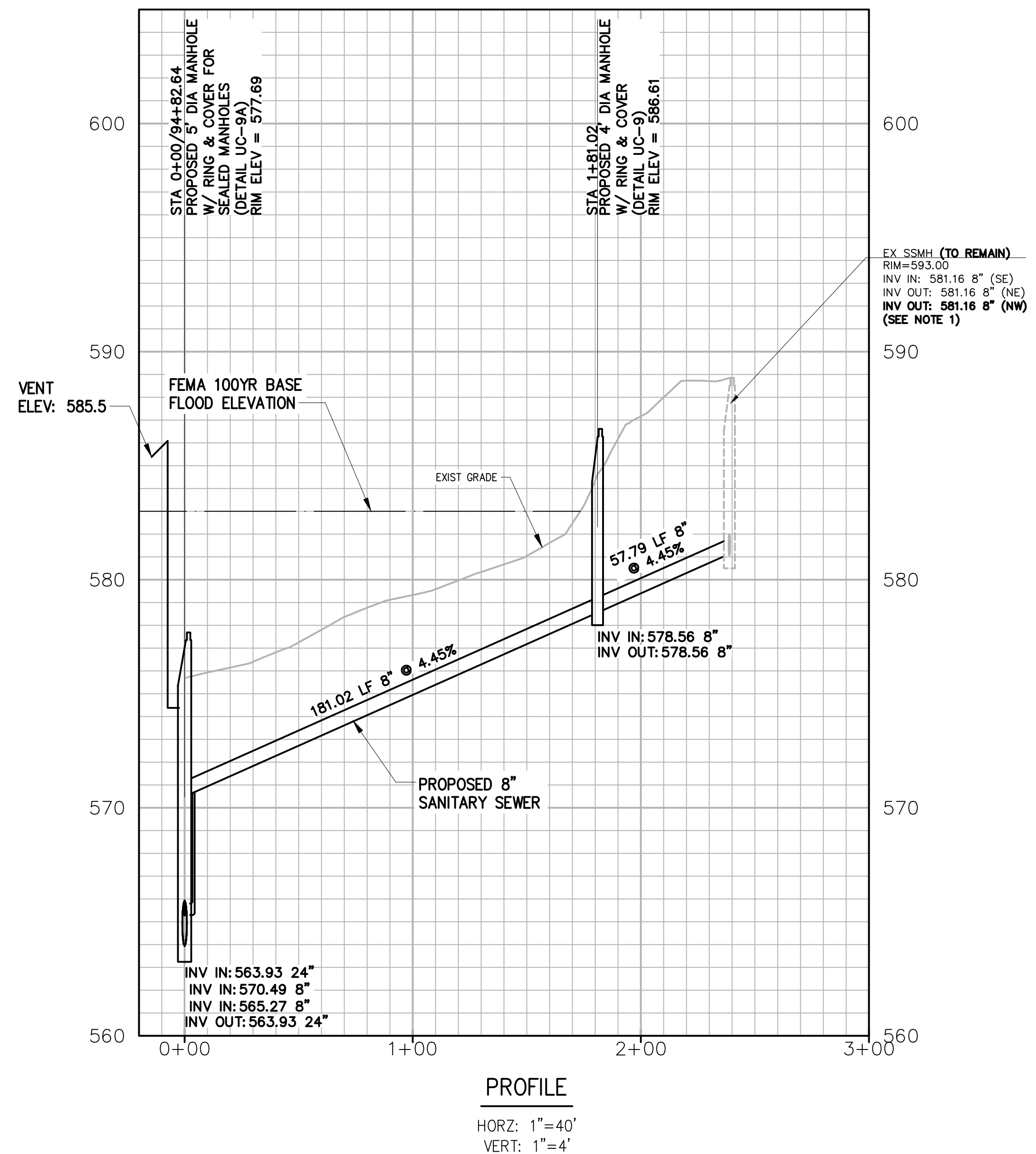
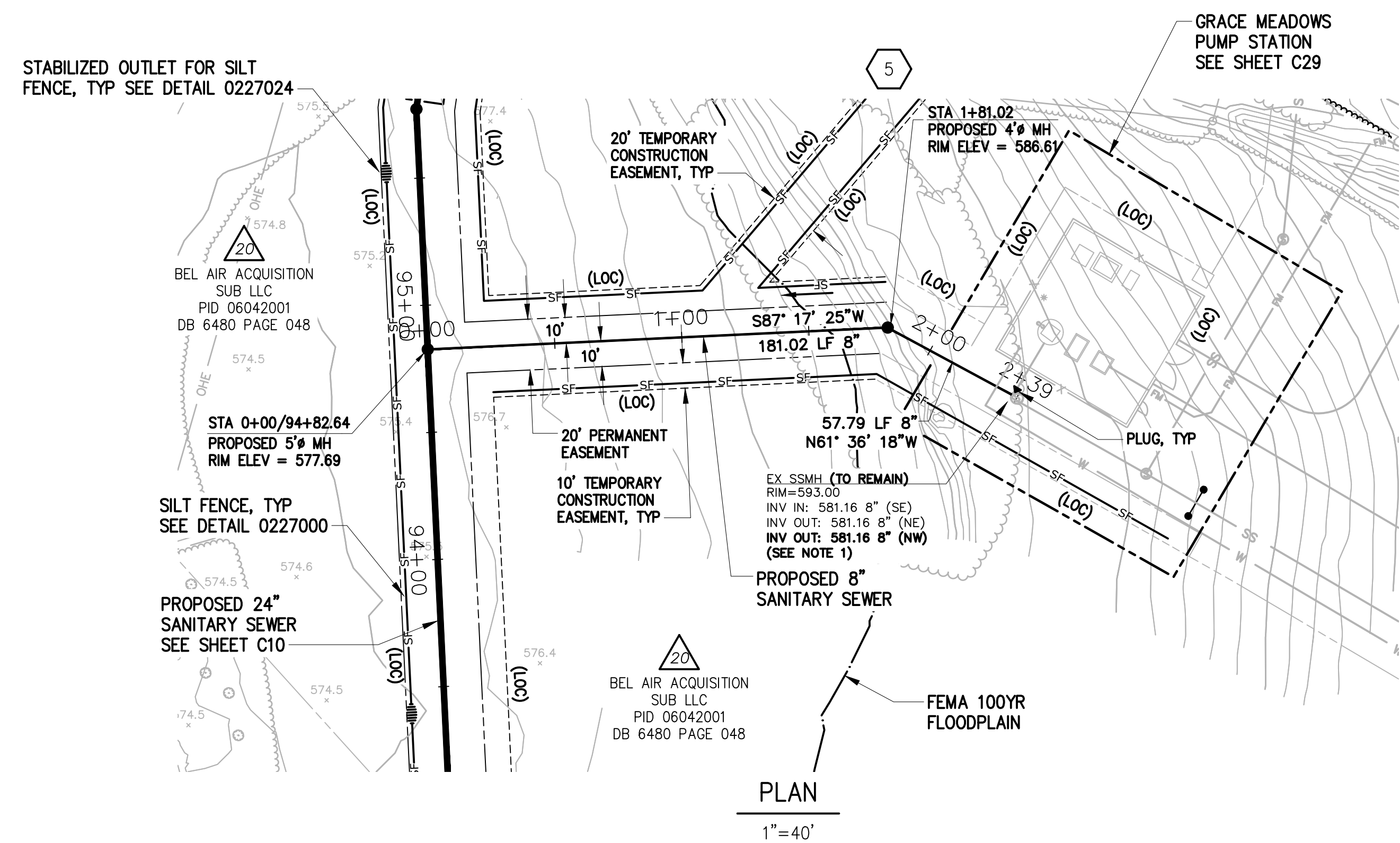
PLAN AND PROFILE

STA 10+00 TO STA 13+91

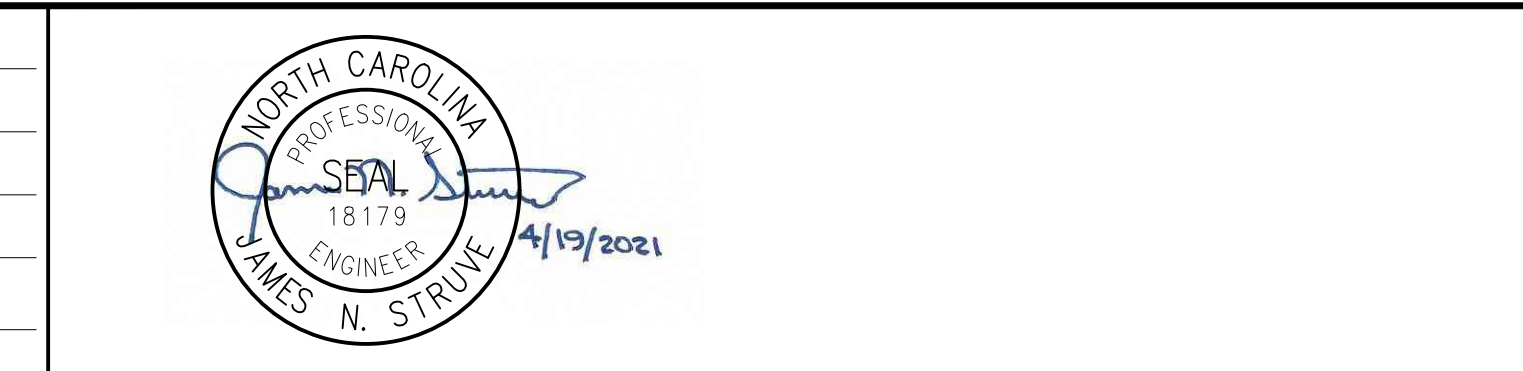
THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE APRIL 2021
	H & S JOB NUMBER 30831-049
	CONTRACT NUMBER
	DRAWING NUMBER C26

NOTES:

- CONTRACTOR SHALL REWORK INVERT OF EXISTING MANHOLE FOR PROPOSED 8" PIPE OUT AND PLUGGING OF THE EXISTING 8" PIPE OUT.



DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	



UNION COUNTY
NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

SEWER TO SERVE GRACE MEADOWS

PLAN AND PROFILE

STA 0+00 TO STA 2+40

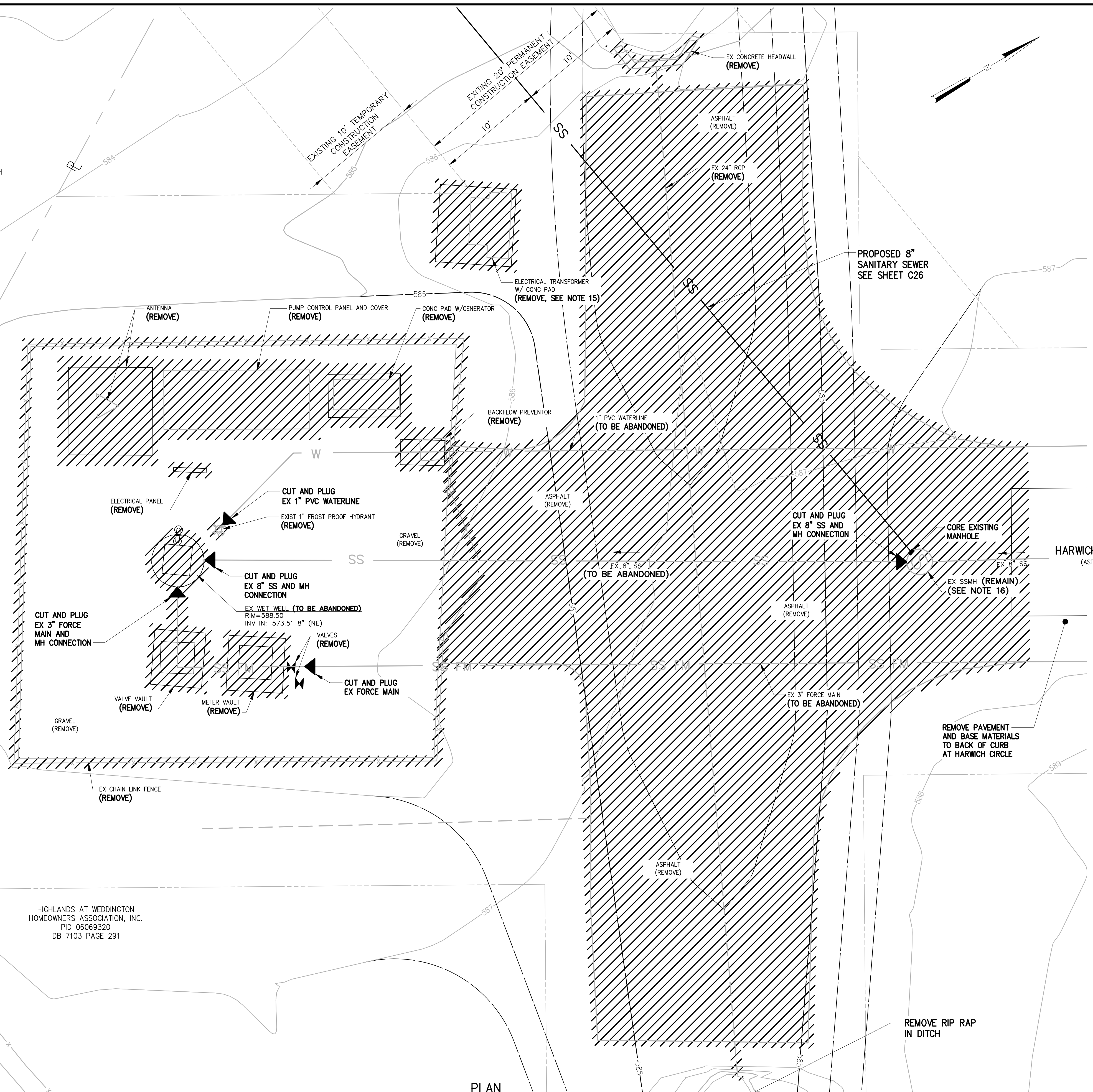
THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C27

**ABANDONMENT OF EXISTING SCOTCH MEADOWS
SANITARY SEWER PUMP STATION**

THE EXISTING SCOTCH MEADOWS SANITARY SEWER PUMP STATION SHALL BE ABANDONED ACCORDING TO THE FOLLOWING DEMOLITION PROCEDURE:

1. CONTACT LIFT STATION SUPERVISOR MIKE COATS OF UCPW AT 704-560-0965 PRIOR TO ANY PUMP STATION DEMOLITION ACTIVITY.
2. CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH ELECTRICAL UTILITY PROVIDER.
3. THE FOLLOWING EXISTING MATERIALS AND EQUIPMENT SHALL BE REMOVED AND TURNED OVER TO UNION COUNTY:
 - BOTH T.O.'S, DATA FLOW RESISTORS, BREAKERS, FUSE HOLDERS, TRANSDUCERS, POWER FILTERS, PUMPS, TRANSFER SWITCHES AND MAG METERS.
 - ALL NEMA 1 MOTOR STARTERS.
 - GENERATOR CONNECTIONS FROM BOTH PANELS.
4. ALL MATERIALS AND EQUIPMENT TURNED OVER TO UNION COUNTY SHALL BE DELIVERED TO THE SEWER MAINTENANCE YARD LOCATED AT 4600 GOLDMINE ROAD. SCHEDULE DELIVERY TIME WITH LIFT STATION SUPERVISOR.
5. ALL MATERIALS REMOVED AND NOT TURNED OVER TO UNION COUNTY SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
6. ALL PIPING, WIRING AND CONDUIT THAT IS LOCATED LESS THAN 3- FEET BELOW EXISTING GRADE AND/OR FINISH GRADE CONTOURS SHALL BE EXCAVATED, BROKEN DOWN, AND REMOVED. PIPING, WIRING AND CONDUIT LOCATED 3- FEET OR MORE BELOW EXISTING GROUND AND/OR FINISH GRADE CONTOURS SHALL BE ABANDONED IN PLACE. THE ENDS OF ALL ABANDONED IN PLACE PIPING AND CONDUIT SHALL BE PLUGGED AND SEALED ACCORDING TO SPECIFICATIONS.
7. ALL WIRING SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
8. EXISTING CHAIN LINK FENCING AND POSTS TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF FENCING AND POST IN A LEGAL MANNER.
9. ABANDONMENT OF EXISTING FORCE MAIN
 - A. PUMP WET WELL DRY.
 - B. FILL WITH CHLORINATED WATER AND PUMP UNTIL ENTIRE FM IS CHLORINATED. ALLOW TO SIT UNTIL DISINFECTED.
 - C. DRAIN EXISTING FORCE MAIN BY GRAVITY FLOW TO WET WELL.
 - D. CUT AND PLUG ABANDONED FORCE MAIN PIPES.
 - E. EXISTING FORCE MAIN PIPE TO BE ABANDONED IN PLACE.
 - F. ALL PIPES SHALL BE PLUGGED WITH WATERTIGHT PLUG.
 - G. REMOVE ASPHALT DRIVEWAY, BASE MATERIAL, GRAVEL AND REPLACE WITH 6- INCH TOP SOIL.
 - H. REMOVE STORM DRAIN PIPING AND HEADWALL.
 - I. SEED WITH GRASS.
10. WET WELL
 - REMOVE ALL EQUIPMENT, CONTROLS, WIRING, SEWAGE, PIPING AND ACCESSORY ITEMS FROM INSIDE THE EXISTING WET WELL AND TURN OVER MATERIALS AS INDICATED ABOVE.
 - EXCAVATE, REMOVE, AND PROPERLY DISPOSE OF THE EXISTING CONCRETE WET WELL TO WITHIN A MINIMUM OF FIVE FEET BELOW EXISTING GROUND.
 - ALL INFLUENT AND EFFLUENT PIPES SHALL BE PLUGGED WITH WATERTIGHT PLUG.
 - PUMP/VACUUM WETWELL PRIOR TO BACKFILLING, HAUL, AND DISPOSE OF SEWAGE IN AN APPROVED MANNER.
 - THE WET WELL WILL BE FILLED WITH NON-COMPRESSIBLE MATERIAL (#67 STONE OR AS APPROVED BY THE ENGINEER)
 - BACKFILL AND COMPACT EXCAVATION ACCORDING TO SECTION 02220.
11. VALVE VAULT & EMERGENCY PUMP CONNECTION:
 - REMOVE PIPING AND VALVES. TURN OVER ITEMS SPECIFIED ABOVE TO UNION COUNTY.
 - EXCAVATE AND REMOVE PRECAST VAULTS IN ACCORDANCE WITH SPECIFICATIONS.
 - BACKFILL AND COMPACT EXCAVATION ACCORDING TO SPECIFICATIONS.
12. BACKFLOW PREVENTER AND YARD HYDRANT:
 - REMOVE YARD HYDRANT, BACKFLOW PREVENTER, VALVES, PIPING AND ENCLOSURE. TURN OVER ITEMS SPECIFIED ABOVE TO UNION COUNTY.
 - REMOVE CONCRETE PADS.
 - REMOVE RISER PIPING TO DEPTH AS SPECIFIED ABOVE AND CAP PIPE TO BE ABANDONED IN PLACE.
 - DISMANTLE EXISTING WATER SERVICE AT WATER MAIN ALONG HARMWICH CIRCLE. CLOSE CORPORATION.
 - RETURN WATER METER TO UNION COUNTY PUBLIC WORKS DEPARTMENT.
13. REMOVE ALL ELECTRICAL SWITCHGEAR, PANELS CONTROL CABINET, CABLE TRAYS, WIRING DEVICES, METER AND ABOVE GROUND WIRING. TURN OVER ITEMS SPECIFIED ABOVE TO UNION COUNTY.
14. UPON ABANDONMENT BACK FILL AND COMPACT EXCAVATION ACCORDING TO SPECIFICATIONS. PLUG FORCE MAIN WITHIN MANHOLE LOCATED AT LESTER DAVIS ROAD.
15. CONTRACTOR SHALL REWORK INVERT OF EXISTING MANHOLE FOR PROPOSED 8" PIPE OUT AND PLUGGING OF THE EXISTING 8" PIPE OUT.
16. SEE SHT C26 FOR EROSION AND SEDIMENT CONTROL MEASURES.

SOUTHBROOK COMMUNITY CHURCH
PID 06069022A
DB 3264 PAGE 187
AND
DB 4274 PAGE 788



HIGHLANDS AT WEDDINGTON
HOMEOWNERS ASSOCIATION, INC.
PID 06069320
DB 7103 PAGE 291

PLAN
1"=5'

SCALE: 1" = 5'
5 2.5 0 5'

NO.	ISSUED FOR	DATE	BY	APPROVED

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS



Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

SCOTCH MEADOWS PUMP STATION
DEMOLITION PLANS

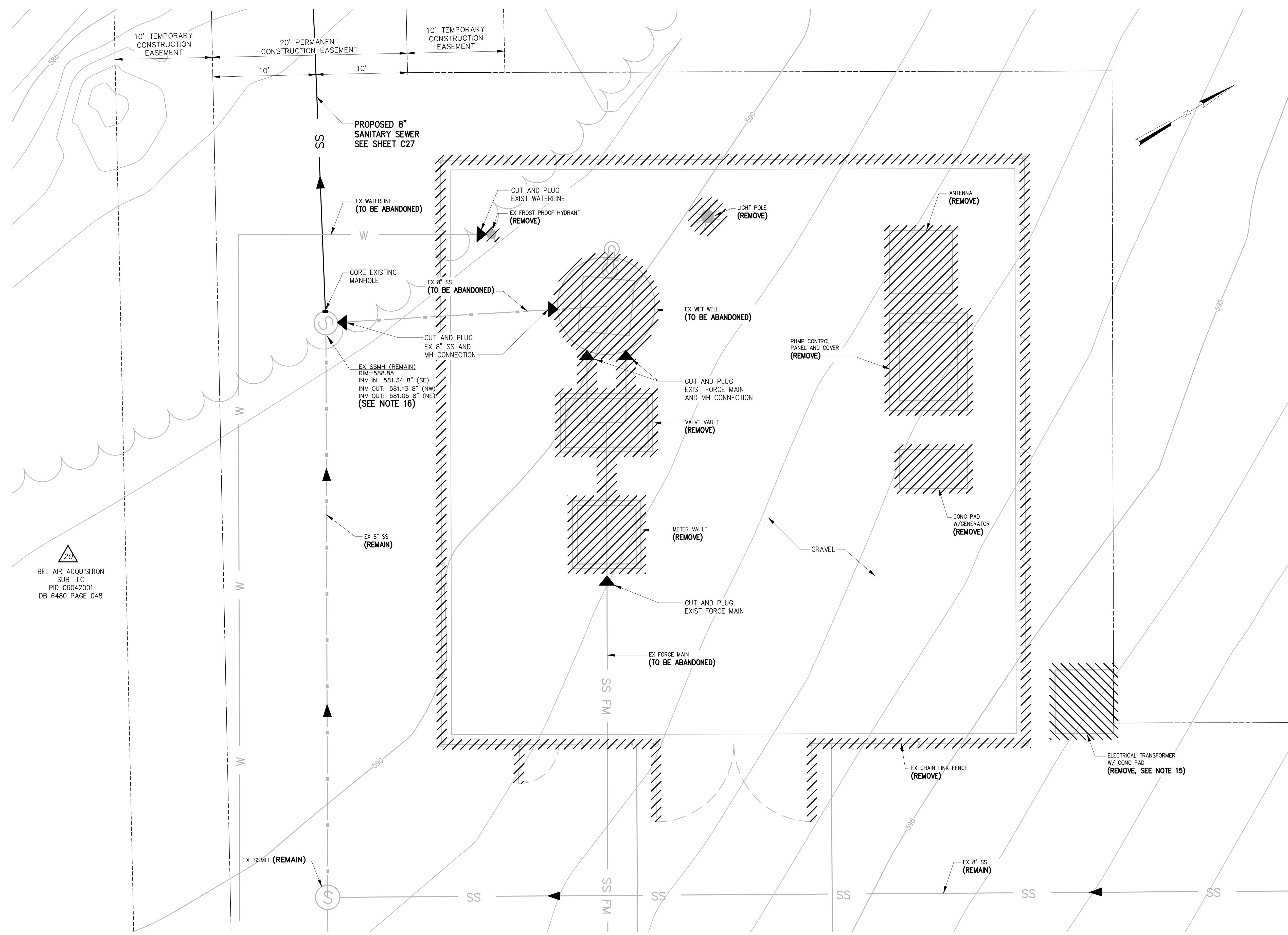
THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	DRAWING NUMBER
		C28

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**ABANDONMENT OF EXISTING GRACE MEADOWS
SANITARY SEWER PUMP STATION**

THE EXISTING SCOTCH MEADOWS SANITARY SEWER PUMP STATION SHALL BE ABANDONED ACCORDING TO THE FOLLOWING DEMOLITION PROCEDURE:

- CONTACT LIFT STATION SUPERVISOR MIKE COATS OF UCPW AT 704-560-0965 PRIOR TO ANY PUMP STATION DEMOLITION ACTIVITY.
- CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH ELECTRICAL UTILITY PROVIDER.
- THE FOLLOWING EXISTING MATERIALS AND EQUIPMENT SHALL BE REMOVED AND TURNED OVER TO UNION COUNTY:
 - BOTH TCU'S, DATA FLOW RESISTORS, BREAKERS, FUSE HOLDERS, TRANSDUCERS, POWER FILTERS, PUMPS, TRANSFER SWITCHES AND MAG METERS.
 - ALL NEMA 1 MOTOR STARTERS.
 - GENERATOR CONNECTIONS FROM BOTH PANELS.
- ALL MATERIALS AND EQUIPMENT TURNED OVER TO UNION COUNTY SHALL BE DELIVERED TO THE SEWER MAINTENANCE YARD LOCATED AT 4600 GOLDMINE ROAD. SCHEDULE DELIVERY TIME WITH LIFT STATION SUPERVISOR.
- ALL MATERIALS REMOVED AND NOT TURNED OVER TO UNION COUNTY SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
- ALL PIPING, WIRING AND CONDUIT THAT IS LOCATED LESS THAN 3- FEET BELOW EXISTING GRADE AND/OR FINISH GRADE CONTOURS SHALL BE EXCAVATED, BROKEN DOWN, AND REMOVED. PIPING, WIRING AND CONDUIT LOCATED 3- FEET OR MORE BELOW EXISTING GROUND AND/OR FINISH GRADE CONTOURS SHALL BE ABANDONED IN PLACE. THE ENDS OF ALL ABANDONED IN PLACE PIPING AND CONDUIT SHALL BE PLUGGED AND SEALED ACCORDING TO SPECIFICATIONS.
- ALL WIRING SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
- EXISTING CHAIN LINK FENCING AND POSTS TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF FENCING AND POSTS IN A LEGAL MANNER.
- ABANDONMENT OF EXISTING FORCE MAIN
 - PUMP WET WELL DRY.
 - FILL WITH CHLORINATED WATER AND PUMP UNTIL ENTIRE FM IS CHLORINATED. ALLOW TO SIT UNTIL DISINFECTED.
 - DRAIN EXISTING FORCE MAIN BY GRAVITY FLOW TO WET WELL.
 - CUT AND PLUG ABANDONED FORCE MAIN PIPES.
 - EXISTING FORCE MAIN PIPE TO BE ABANDONED IN PLACE.
 - ALL PIPES SHALL BE PLUGGED WITH WATERTIGHT PLUG.
 - REMOVE ASPHALT DRIVEWAY, BASE MATERIAL, GRAVEL AND REPLACE WITH 6-INCH TOP SOIL.
 - REMOVE STORM DRAIN PIPING AND HEADWALL.
 - SEED WITH GRASS.
- WET WELL
 - REMOVE ALL EQUIPMENT, CONTROLS, WIRING, SEWAGE, PIPING AND ACCESSORY ITEMS FROM INSIDE THE EXISTING WET WELL AND TURN OVER MATERIALS AS INDICATED ABOVE.
 - EXCAVATE, REMOVE, AND PROPERLY DISPOSE OF THE EXISTING CONCRETE WET WELL TO WITHIN A MINIMUM OF FIVE FEET BELOW EXISTING GROUND.
 - ALL INFLUENT AND EFFLUENT PIPES SHALL BE PLUGGED WITH WATERTIGHT PLUG.
 - PUMP/VACUUM WET WELL PRIOR TO BACKFILLING, HAUL, AND DISPOSE OF SEWAGE IN AN APPROVED MANNER.
 - THE WET WELL WILL BE FILLED WITH NON-COMPRESSIBLE MATERIAL (#67 STONE OR AS APPROVED BY THE ENGINEER)
 - BACKFILL AND COMPACT EXCAVATION ACCORDING TO SECTION 02220.
- VALVE VAULT & EMERGENCY PUMP CONNECTION:
 - REMOVE PIPING AND VALVES. TURN OVER ITEMS SPECIFIED ABOVE TO UNION COUNTY.
 - EXCAVATE AND REMOVE PRECAST VAULTS IN ACCORDANCE WITH SPECIFICATIONS.
 - BACKFILL AND COMPACT EXCAVATION ACCORDING TO SPECIFICATIONS.
- BACKFLOW PREVENTER AND YARD HYDRANT:
 - REMOVE YARD HYDRANT, BACKFLOW PREVENTER, VALVES, PIPING AND ENCLOSURE. TURN OVER ITEMS SPECIFIED ABOVE TO UNION COUNTY.
 - REMOVE CONCRETE PADS.
 - REMOVE RISER PIPING TO DEPTH AS SPECIFIED ABOVE AND CAP PIPE TO BE ABANDONED IN PLACE.
 - DISMANTLE EXISTING WATER SERVICE AT WATER MAIN ALONG HOLLYHOCK DRIVE. CLOSE CORPORATION.
 - RETURN WATER METER TO UNION COUNTY PUBLIC WORKS DEPARTMENT.
- REMOVE ALL ELECTRICAL SWITCHGEAR, PANELS CONTROL CABINET, CABLE TRAYS, WIRING DEVICES, METER AND ABOVE GROUND WIRING. TURN OVER ITEMS SPECIFIED ABOVE TO UNION COUNTY.
- UPON ABANDONMENT BACK FILL AND COMPACT EXCAVATION ACCORDING TO SPECIFICATIONS. PLUG FORCE MAIN WITHIN MANHOLE LOCATED AT LESTER DAVIS ROAD.
- CONTRACTOR SHALL REWORK INVERT OF EXISTING MANHOLE FOR PROPOSED 8" PIPE OUT AND PLUGGING OF THE EXISTING 8" PIPE OUT.
- SEE SHT C27 FOR EROSION AND SEDIMENT CONTROL MEASURES.

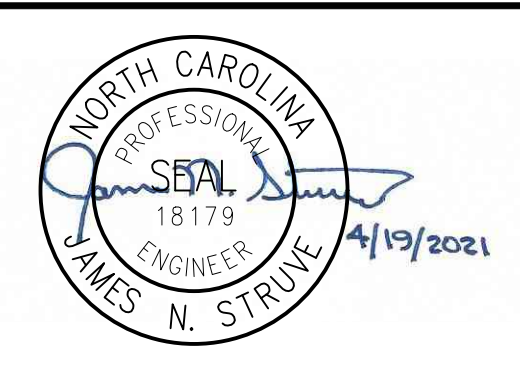


PLAN
1"=5'

SCALE: 1" = 5'

20
BEL AIR ACQUISITION
SUB LLC
PID 06042001
DB 6480 PAGE 048

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	



Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

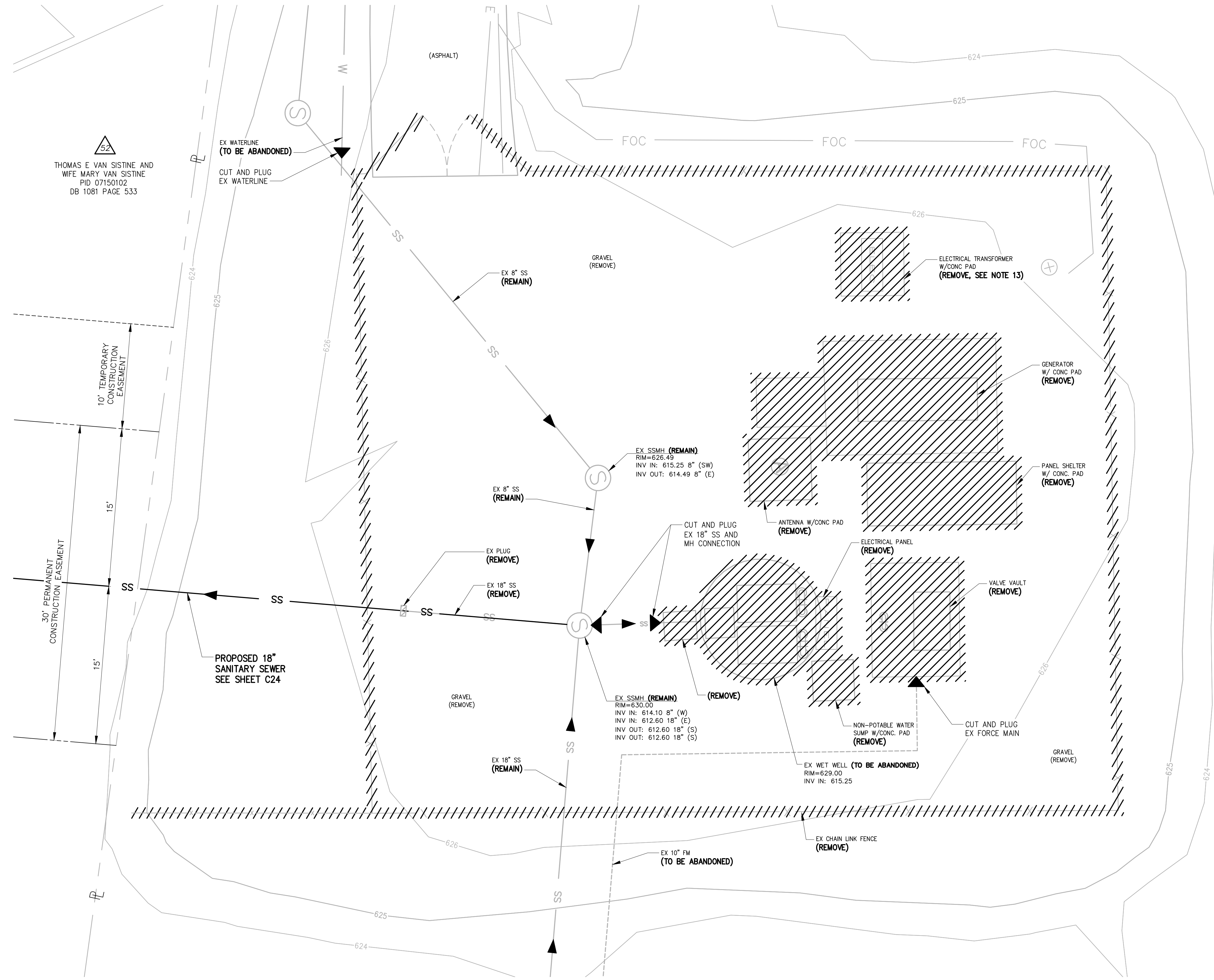
GRACE MEADOWS PUMP STATION
DEMOLITION PLANS

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	C29

**ABANDONMENT OF EXISTING BROOKHAVEN
SANITARY SEWER PUMP STATION**

THE EXISTING SCOTCH MEADOWS SANITARY SEWER PUMP STATION SHALL BE ABANDONED ACCORDING TO THE FOLLOWING DEMOLITION PROCEDURE:

1. CONTACT LIFT STATION SUPERVISOR MIKE COATS OF UCPW AT 704-560-0965 PRIOR TO ANY PUMP STATION DEMOLITION ACTIVITY.
2. CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH ELECTRICAL UTILITY PROVIDER.
3. THE FOLLOWING EXISTING MATERIALS AND EQUIPMENT SHALL BE REMOVED AND TURNED OVER TO UNION COUNTY:
 - BOTH TCU'S, DATA FLOW RESISTORS, BREAKERS, FUSE HOLDERS, TRANSDUCERS, POWER FILTERS, PUMPS, TRANSFER SWITCHES AND MAG METERS.
 - ALL NEMA 1 MOTOR STARTERS.
 - GENERATOR CONNECTIONS FROM BOTH PANELS.
4. ALL MATERIALS AND EQUIPMENT TURNED OVER TO UNION COUNTY SHALL BE DELIVERED TO THE SEWER MAINTENANCE YARD LOCATED AT 4600 GOLDMINE ROAD. SCHEDULE DELIVERY TIME WITH LIFT STATION SUPERVISOR.
5. ALL MATERIALS REMOVED AND NOT TURNED OVER TO UNION COUNTY SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
6. ALL PIPING, WIRING AND CONDUIT THAT IS LOCATED LESS THAN 3- FEET BELOW EXISTING GRADE AND/OR FINISH GRADE CONTOURS SHALL BE EXCAVATED, BROKEN DOWN, AND REMOVED. PIPING, WIRING AND CONDUIT LOCATED 3- FEET OR MORE BELOW EXISTING GRADE AND/OR FINISH GRADE CONTOURS SHALL BE ABANDONED IN PLACE. THE ENDS OF ALL ABANDONED IN PLACE PIPING AND CONDUIT SHALL BE PLUGGED AND SEALED ACCORDING TO SPECIFICATIONS.
7. ALL WIRING SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
8. EXISTING CHAIN LINK FENCING AND POSTS TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF FENCING AND POST IN A LEGAL MANNER.
9. ABANDONMENT OF EXISTING FORCE MAIN
 - A. PUMP WET WELL DRY.
 - B. FILL WITH CHLORINATED WATER AND PUMP UNTIL ENTIRE FM IS CHLORINATED. ALLOW TO SIT UNTIL DISINFECTED.
 - C. DRAIN EXISTING FORCE MAIN BY GRAVITY FLOW TO WET WELL.
 - D. CUT AND PLUG ABANDONED FORCE MAIN PIPES.
 - E. EXISTING FORCE MAIN PIPE TO BE ABANDONED IN PLACE.
 - F. ALL PIPES SHALL BE PLUGGED WITH WATERTIGHT PLUG.
 - G. REMOVE ASPHALT DRIVEWAY, BASE MATERIAL, GRAVEL AND REPLACE WITH 6-INCH TOP SOIL.
 - H. REMOVE STORM DRAIN PIPING AND HEADWALL.
 - I. SEED WITH GRASS.
10. WET WELL
 - REMOVE ALL EQUIPMENT, CONTROLS, WIRING, SEWAGE, PIPING AND ACCESSORY ITEMS FROM INSIDE THE EXISTING WET WELL AND TURN OVER MATERIALS AS INDICATED ABOVE.
 - EXCAVATE, REMOVE, AND PROPERLY DISPOSE OF THE EXISTING CONCRETE WET WELL TO WITHIN A MINIMUM OF FIVE FEET BELOW EXISTING GROUND.
 - ALL INFLUENT AND EFFLUENT PIPES SHALL BE PLUGGED WITH WATERTIGHT PLUG.
 - PUMP/VACUUM WET WELL PRIOR TO BACKFILLING, HAUL, AND DISPOSE OF SEWAGE IN AN APPROVED MANNER.
 - THE WET WELL WILL BE FILLED WITH NON-COMPRESSIBLE MATERIAL (#67 STONE OR AS APPROVED BY THE ENGINEER)
 - BACKFILL AND COMPACT EXCAVATION ACCORDING TO SECTION 02220.
11. -VALVE VAULT & EMERGENCY PUMP CONNECTION:
 - REMOVE PIPING AND VALVES. TURN OVER ITEMS SPECIFIED ABOVE TO UNION COUNTY.
 - EXCAVATE AND REMOVE PRECAST VAULTS IN ACCORDANCE WITH SPECIFICATIONS.
 - BACKFILL AND COMPACT EXCAVATION ACCORDING TO SPECIFICATIONS.
12. BACKFLOW PREVENTER AND YARD HYDRANT:
 - REMOVE YARD HYDRANT, BACKFLOW PREVENTER, VALVES, PIPING AND ENCLOSURE. TURN OVER ITEMS SPECIFIED ABOVE TO UNION COUNTY.
 - REMOVE CONCRETE PADS.
 - REMOVE RISER PIPING TO DEPTH AS SPECIFIED ABOVE AND CAP PIPE TO BE ABANDONED IN PLACE.
 - DISMANTLE EXISTING WATER SERVICE AT WATER MAIN ALONG HOLLYHOCK DRIVE. CLOSE CORPORATION.
 - RETURN WATER METER TO UNION COUNTY PUBLIC WORKS DEPARTMENT.
13. REMOVE ALL ELECTRICAL SWITCHGEAR, PANELS CONTROL CABINET, CABLE TRAYS, WIRING DEVICES, METER AND ABOVE GROUND WIRING. TURN OVER ITEMS SPECIFIED ABOVE TO UNION COUNTY.
14. UPON ABANDONMENT BACK FILL AND COMPACT EXCAVATION ACCORDING TO SPECIFICATIONS. PLUG FORCE MAIN WITHIN MANHOLE LOCATED AT LESTER DAVIS ROAD.
15. CONTRACTOR SHALL REWORK INVERT OF EXISTING MANHOLE FOR PROPOSED 8" PIPE OUT AND PLUGGING OF THE EXISTING 8" PIPE OUT.
16. SEE SHT C24 FOR EROSION AND SEDIMENT CONTROL MEASURES.

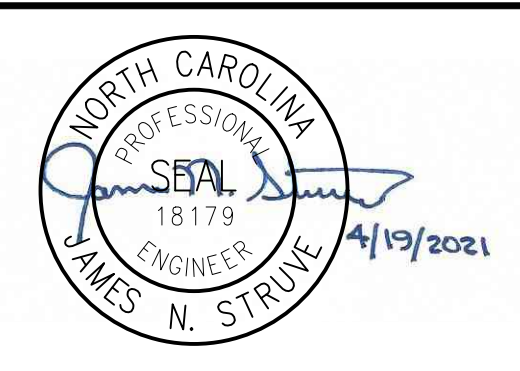


PLAN
1"=5'

WILLIAM ANDREW JOHNSON AND
NICOLE MOORE JOHNSON
PID 07150047
DB 6180 PAGE 221

SCALE: 1" = 5'

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

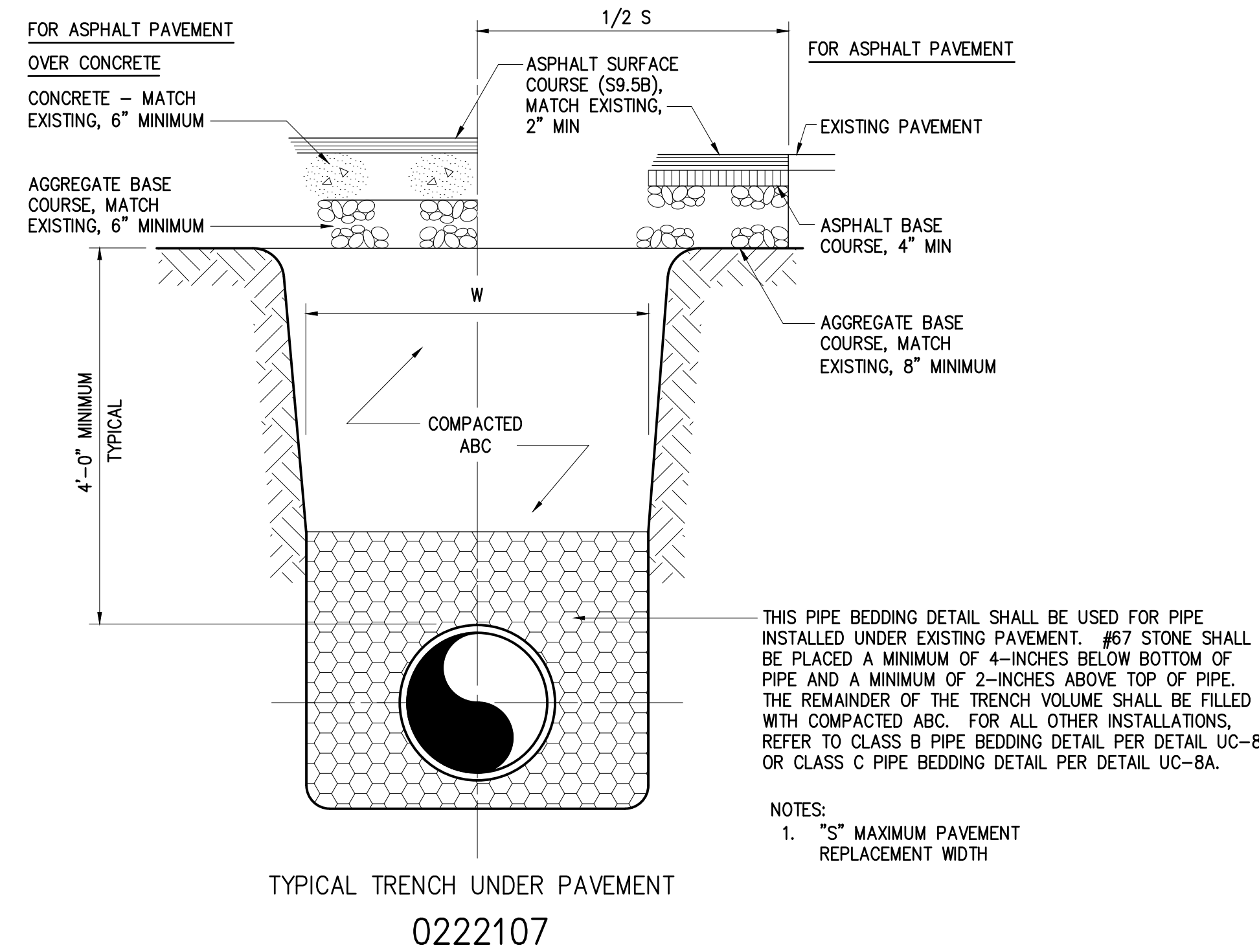


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**WEST FORK TWELVE-MILE CREEK
INTERCEPTOR**

BROOKHAVEN PUMP STATION
DEMOLITION PLANS

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	CONTRACT NUMBER	
	DRAWING NUMBER	C30

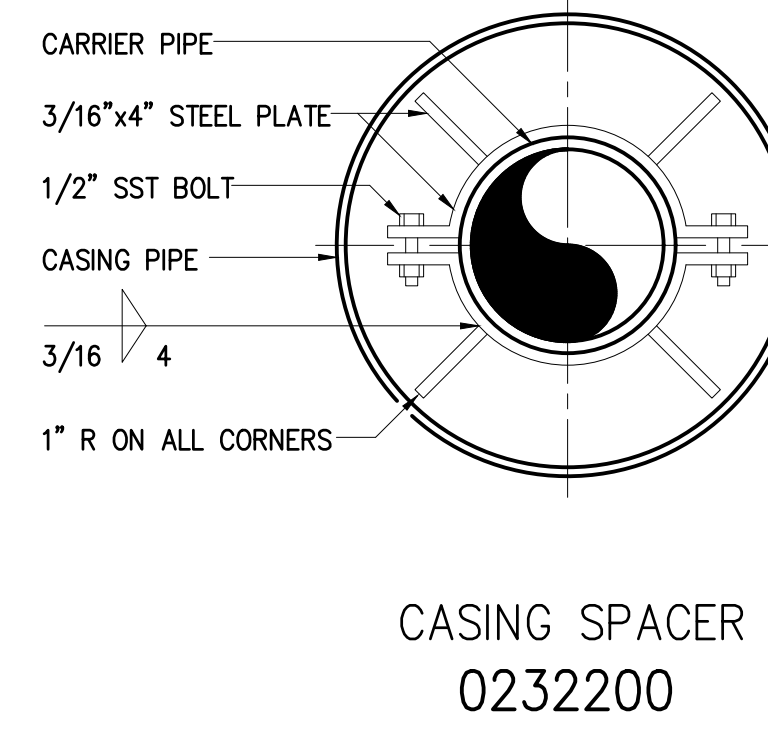


TYPICAL TRENCH UNDER PAVEMENT
0222107

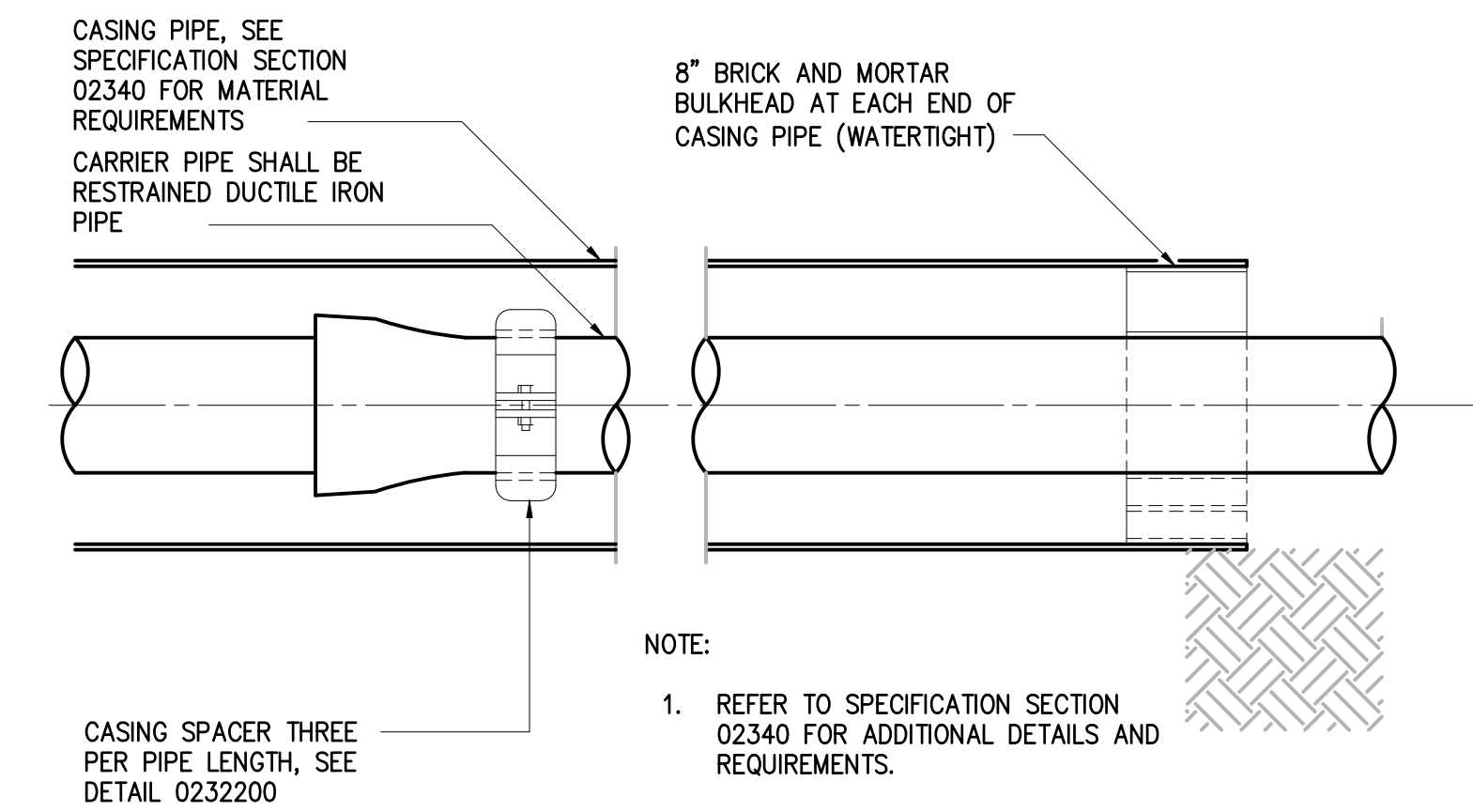
TRENCH EXCAVATION LIMITS		
INTERNAL DIAMETER OF PIPE	W	
	MAX	W-MIN
4"-6"	3'-9"	2'-0"
8"-10"	3'-9"	2'-2"
12"	3'-9"	O.D.+2'
14"-16"	4'-2"	O.D.+2'
18"	4'-4"	O.D.+2'
20", 21"	4'-8"	O.D.+2'
24"	4'-11"	O.D.+2'
27"	5'-9"	O.D.+2'
30"	6'-7"	O.D.+2'
36"	7'-4"	O.D.+2'
42"	8'-2"	O.D.+2'
48"	8'-9"	O.D.+2'
54"	9'-4"	O.D.+2'
60"	9'-10"	O.D.+2'
72"	11'-0"	O.D.+2'
78"	11'-8"	O.D.+2'
84"	12'-0"	O.D.+2'
90"	12'-6"	O.D.+2'
96"	13'-0"	O.D.+2'
108"	14'-0"	O.D.+2'
DEPTH OF CUT	S	
	MAXIMUM PAVEMENT REPLACEMENT WIDTH	
0-6'	S=W+4'	
>6-8'	S=W+8'	
>8-10'	S=W+12'	
>10-12'	S=W+16'	
>12-14'	S=W+20'	
>14-16'	S=W+24'	
>16-18'	S=W+28'	
>18'	S=W+32'	

W = TRENCH WIDTH AT BOTTOM OF PIPE. TRENCH SIDE SLOPES SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.

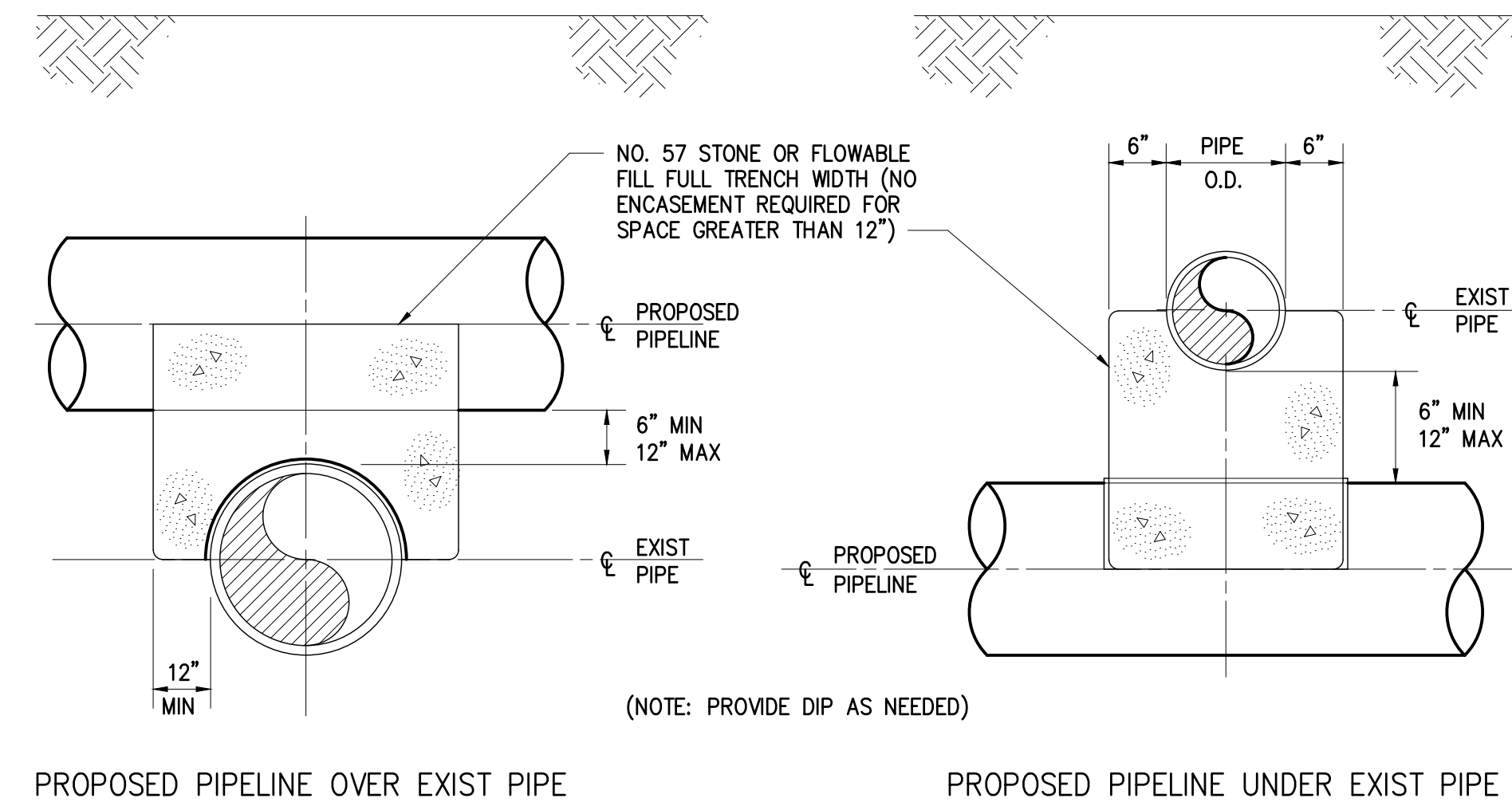
0222109



CASING SPACER
0232200



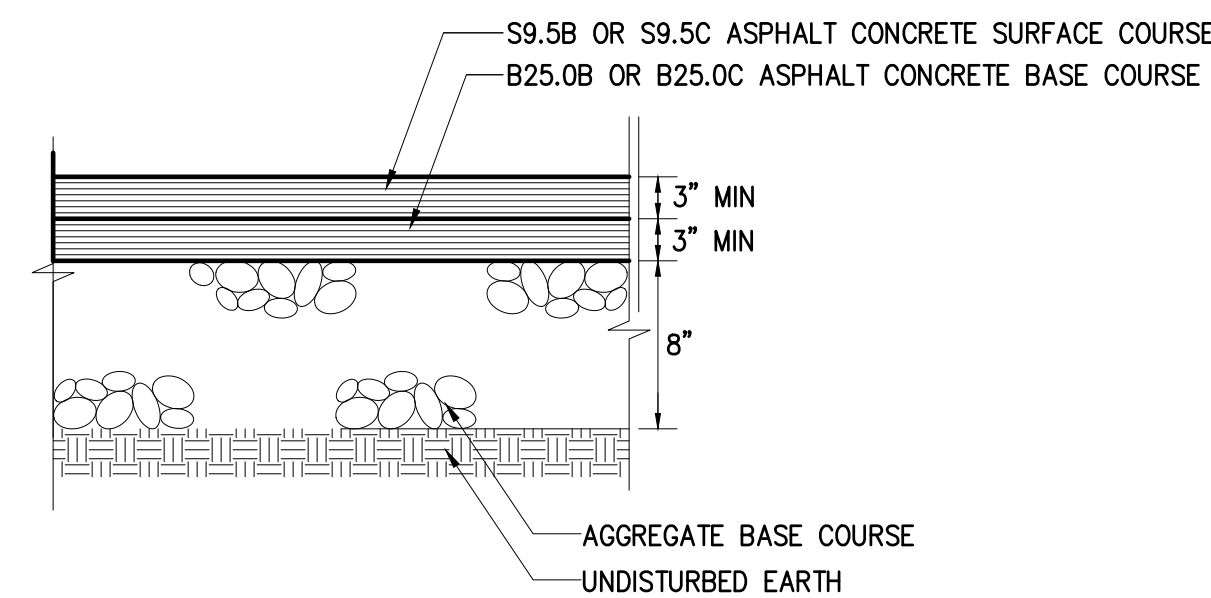
TYPICAL CASING FOR BORE/TUNNEL FOR NCDOT ROADWAYS
0232201



PROPOSED PIPELINE OVER EXIST PIPE

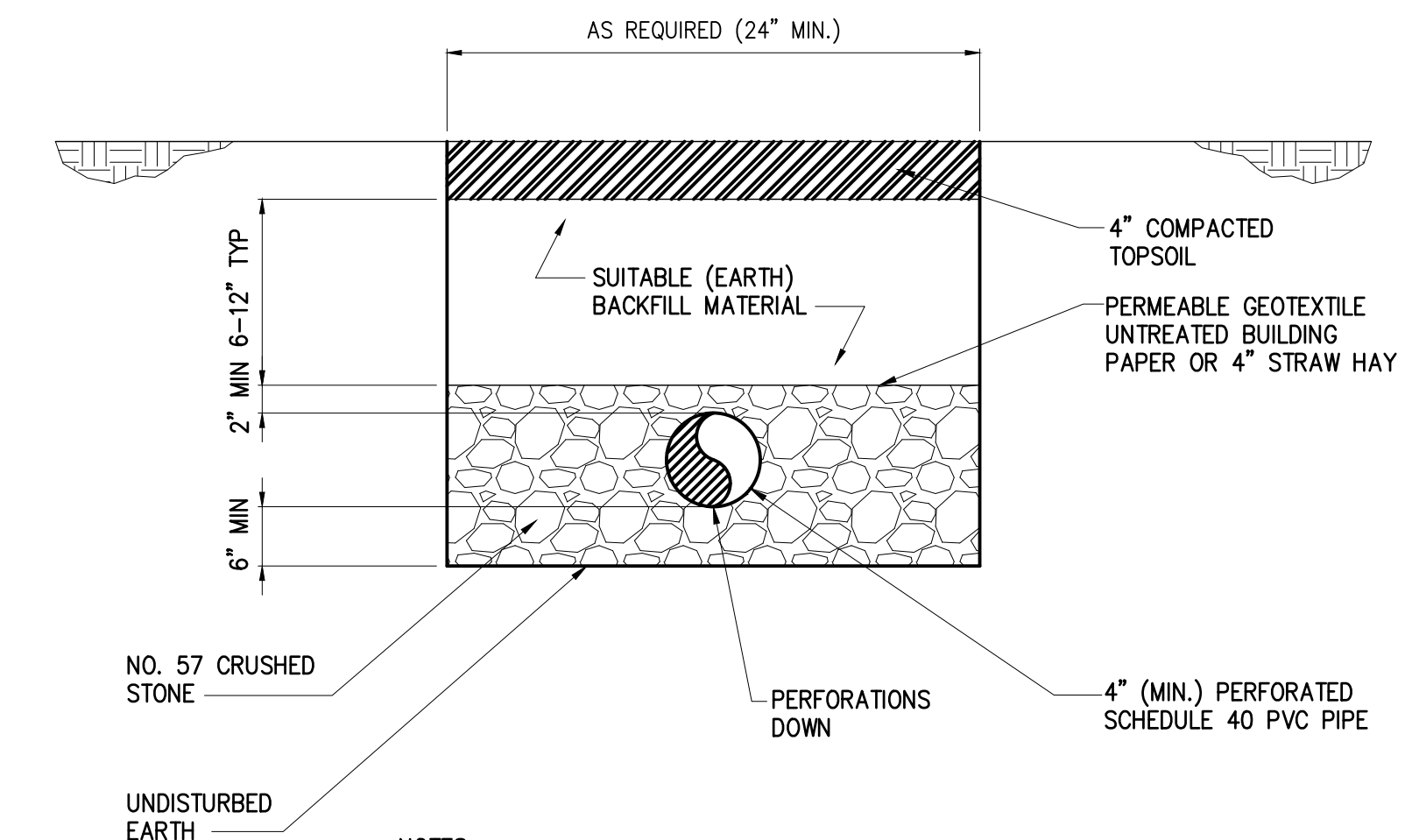
PROPOSED PIPELINE UNDER EXIST PIPE

0222118



DRIVEWAY PAVEMENT DETAIL

0251300

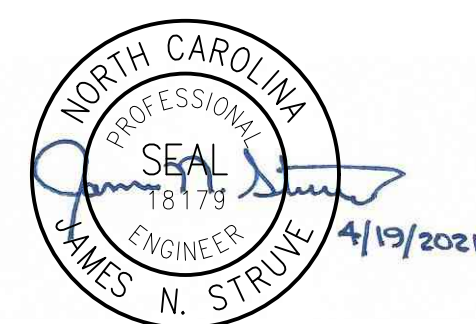


- NOTES:
1. ENDS OF ALL DISTRIBUTOR PIPE(S) MUST BE CAPPED.
 2. SLOPE DISTRIBUTOR PIPE AT 1/16" - 1/32" PER FOOT.
 3. RESIDENT SHALL BE NOTIFIED PRIOR TO REMOVAL AND REPLACEMENT WORK. INTERRUPTION OF SERVICE SHALL BE MINIMIZED, NO LONGER THAN 8 HOURS.
 4. CONNECT TO EXISTING DISTRIBUTOR PIPE WITH APPROVED FERROU COUPLING WITH SS BANDS.
 5. DISPOSE OF EXISTING PIPE AT LICENSED WASTE DISPOSAL FACILITY.

SEPTIC SYSTEM TRENCH DETAIL
(DISTRIBUTOR PIPE ONLY)

DETAIL	1
NTS	D1

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
NO.	ISSUED FOR
	DATE
	BY
	APPROVED



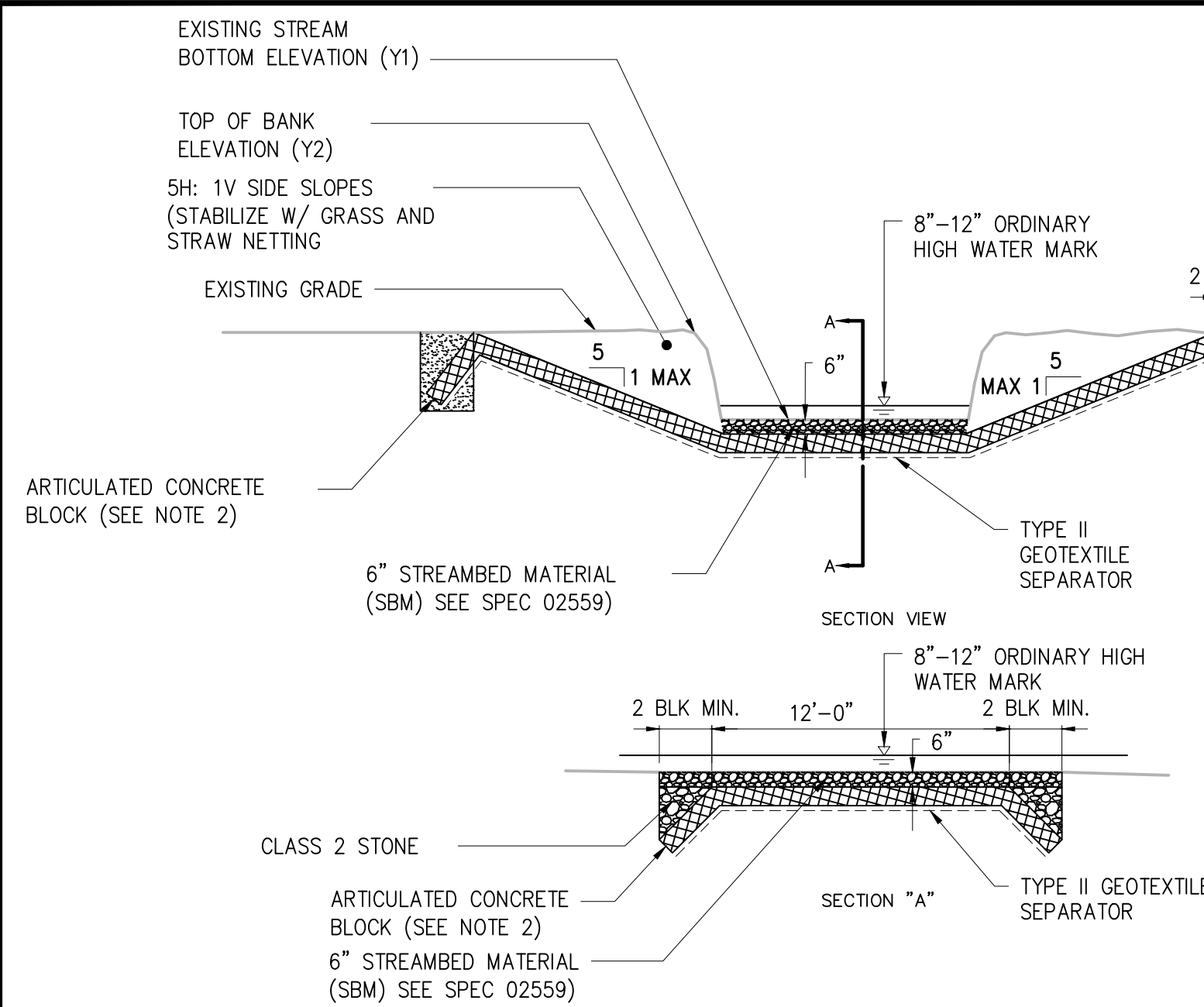
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MISCELLANEOUS STANDARD DETAILS

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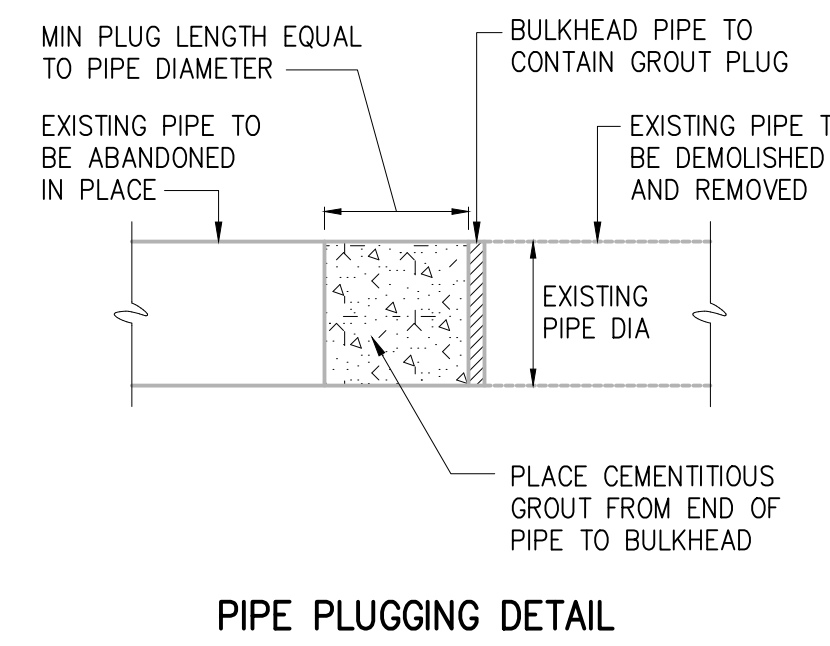


- NOTES:
- LENGTHS OF CROSSINGS WILL VARY BASED ON STREAM WIDTH.
 - CONTRACTOR TO USE ARTICULATED OPEN CELL CONCRETE BLOCK WITH A MINIMUM 20% OPEN AREA, MINIMUM UNIT WEIGHT OF 70LBS/SF, AND APPROXIMATE DIMENSIONS OF 17"L X 23"W WITH A MINIMUM HEIGHT OF 8.5". ARTICULATED CONCRETE BLOCK SHALL BE SHORETEC CLASS BD-900-OC, ARMORFLEX CLASS 70L, OR EQUAL PRODUCT FROM BETHLEHEM PRECAST, AND SHALL BE INSTALLED AT ALL PERMANENT STREAM CROSSINGS. ARTICULATED CONCRETE BLOCK SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL SUBMIT SHOP DRAWING INFORMATION FOR ENGINEERS REVIEW AND APPROVAL. CONTRACTOR MAY USE CLASS "B" RIP-RAP IN LIEU OF ARTICULATED CONCRETE BLOCK.
 - CONTRACTOR SHALL INSTALL TEMPORARY STREAM CROSSINGS PER DETAIL 0227019 PRIOR TO INSTALLING PERMANENT STREAM CROSSINGS FOR CONSTRUCTION ACCESS. PERMANENT STREAM CROSSINGS SHALL BE INSTALLED AFTER MAJORITY OF WORK HAS BEEN PERFORMED AND CONTRACTOR WILL NOT BE USING STREAM CROSSING FOR ACCESS TO CONTINUE WORK ON THE PROJECT. CONTRACTOR SHALL CONFIRM LENGTH OF TEMPORARY BRIDGE CROSSINGS AND PROVIDE CALCULATIONS SEALED BY AN ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA PRIOR TO INSTALLATION OF BRIDGES.
 - INSPECT WEEKLY AND AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2 INCH OR MORE OF RAIN.
 - CHECK FOR CHANNEL BLOCKAGE, EROSION OF ABUTMENTS, CHANNEL DEGRADATION, RIP-RAP DISPLACEMENT, SLOPE FAILURE, AND PIPING.
 - MAKE ALL NEEDED REPAIRS IMMEDIATELY.

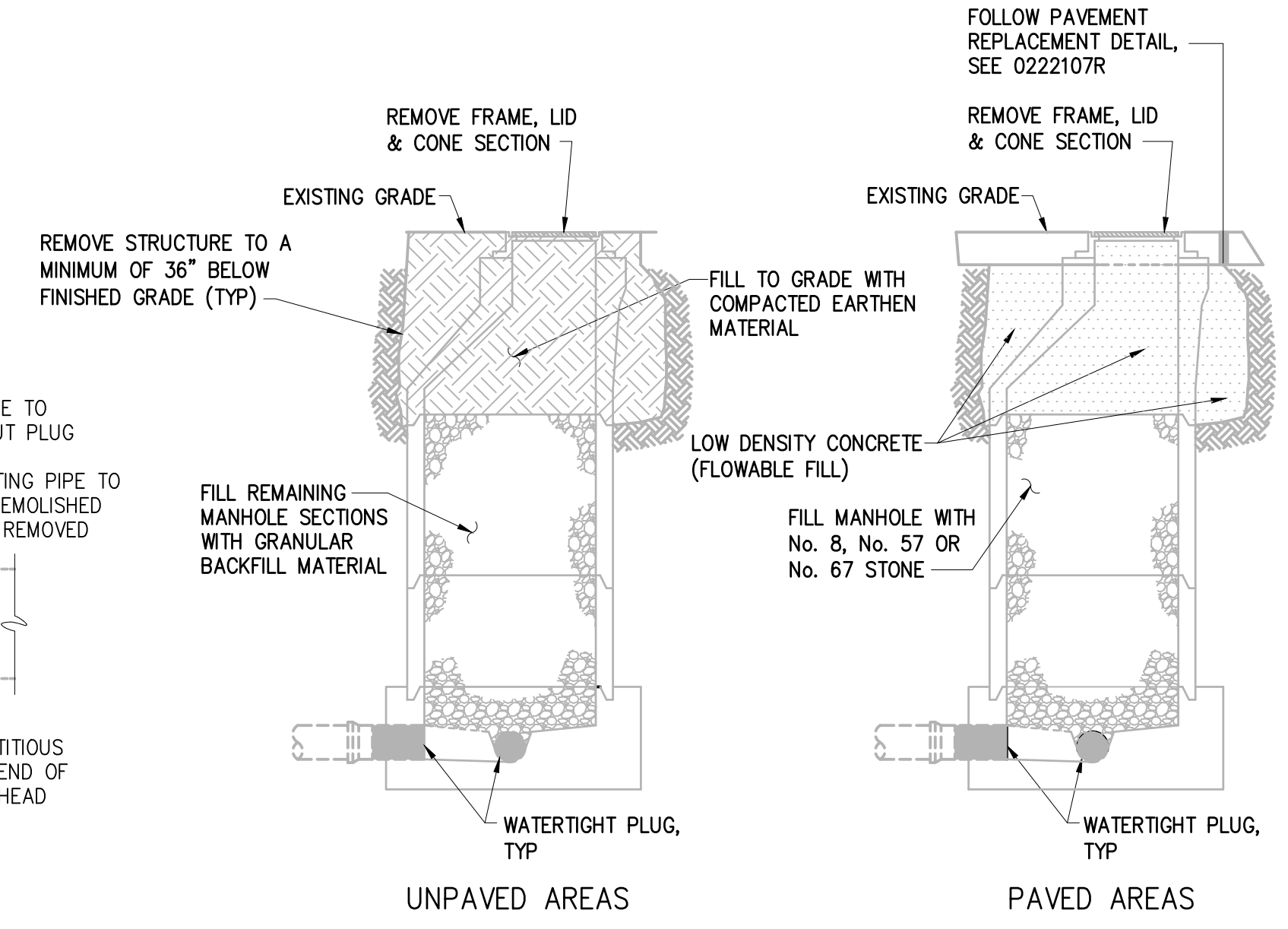
PERMANENT STREAM CROSSINGS			
STREAM CROSSING NO.	SHEET NO.	Y1(EL) APPROX	Y2(EL) APPROX
S-2	C1	551	557
S-5	C2	552	559
S-6	C6	561	567
S-7	C9	566	574
S-9	C15	583	589
S-11	C17	593	598
S-12	C19	596	602
S-15	C24	620	623

* SEE TABLE 1042-1 IN NCDOT 2012 STANDARD SPECIFICATIONS FOR STONE CLASS CRITERIA

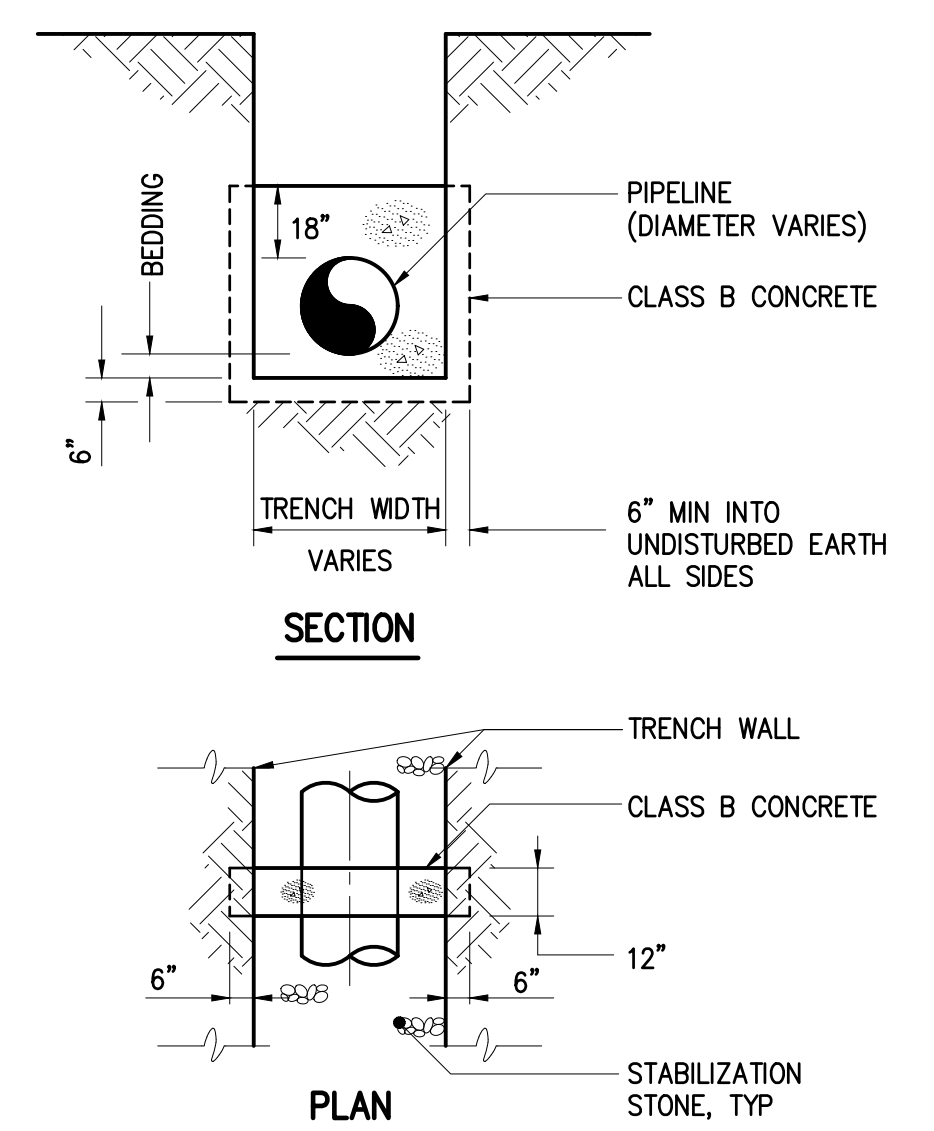
PERMANENT STREAM CROSSING
DETAIL 1
NO SCALE D2



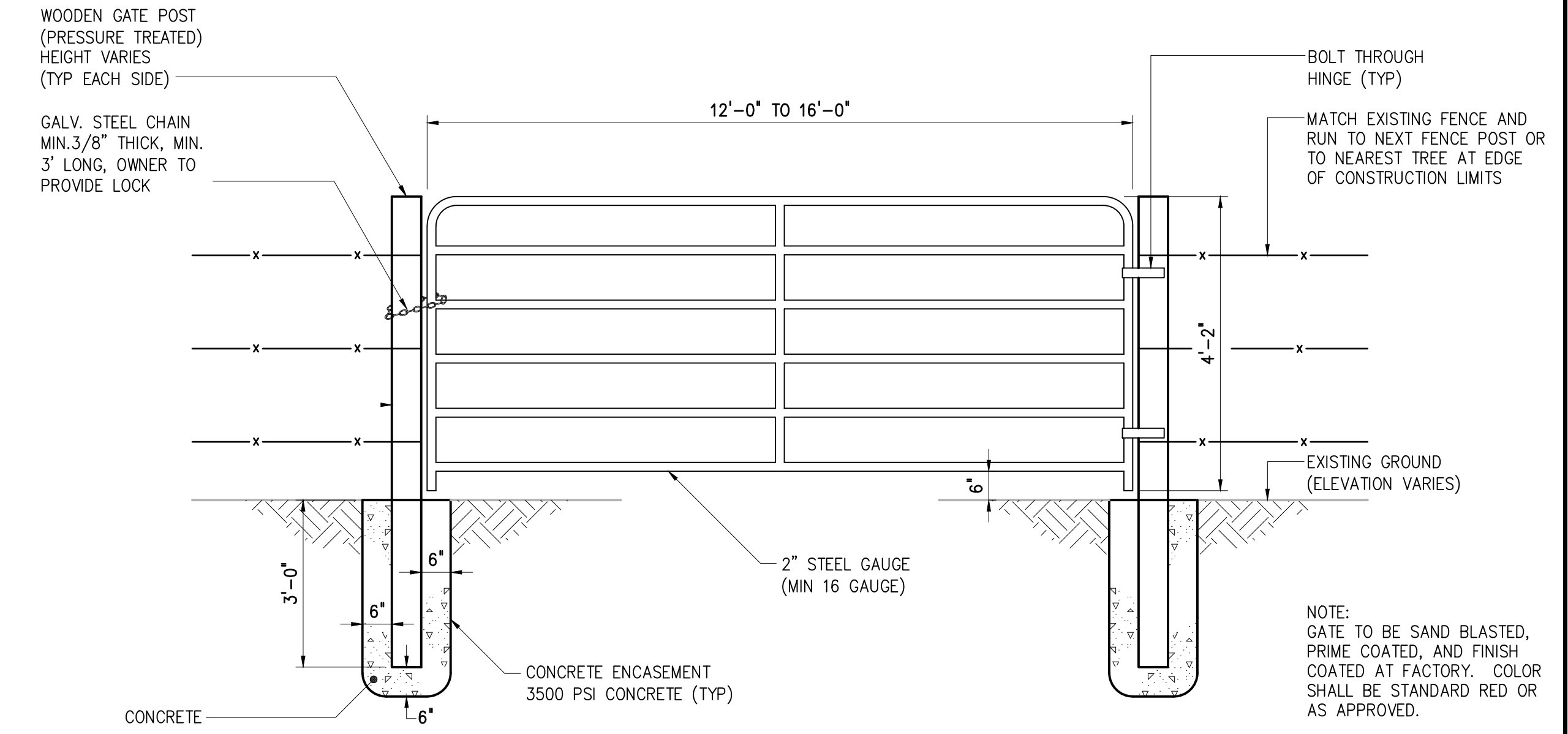
PIPE PLUGGING DETAIL
DETAIL 2
NTS D2



ABANDONED MANHOLE
DETAIL 3
NTS D2



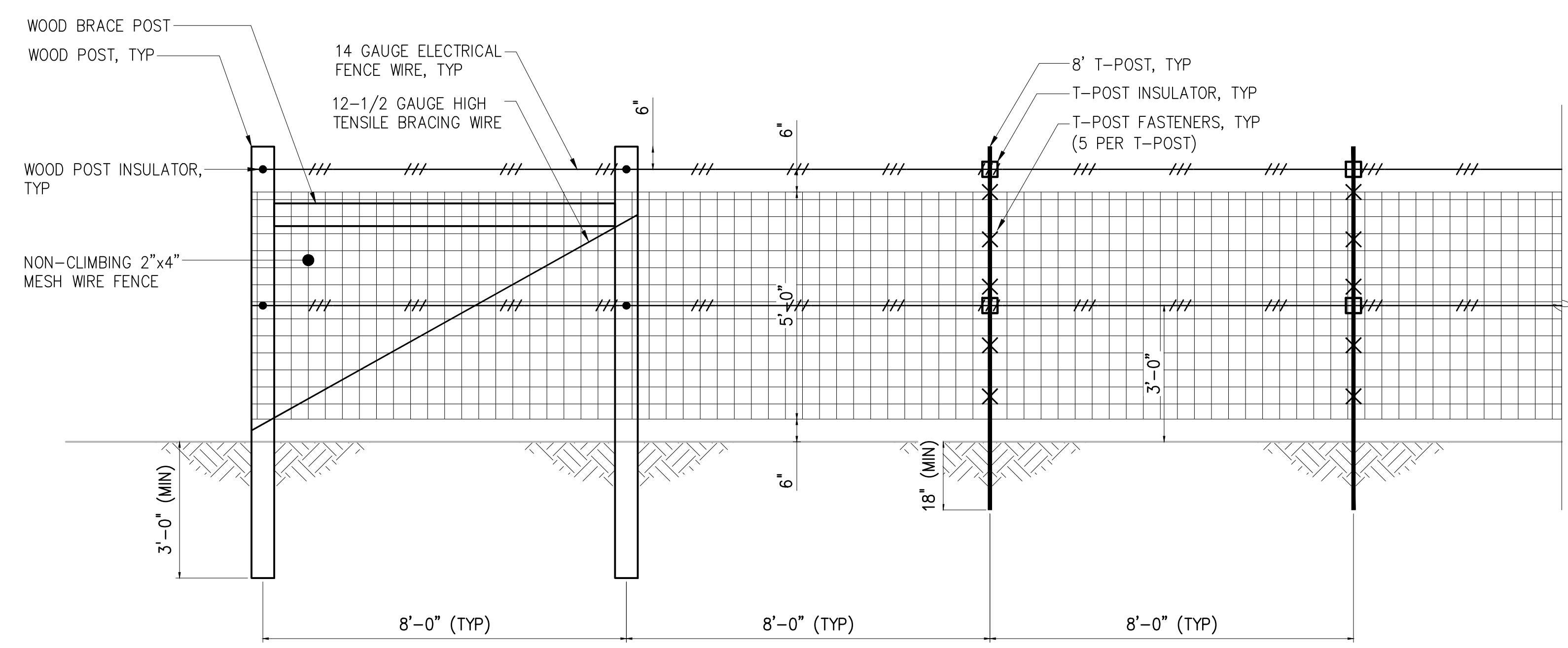
NOTE: ANTI-SEEP COLLAR TO BE INSTALLED INTO UNDISTURBED EARTH. ADDITIONAL CONCRETE MAY BE NECESSARY BASED ON ACTUAL TRENCHWORK AT NO ADDITIONAL COST TO THE OWNER.
ANTI-SEEPAGE COLLAR
0260113



ACCESS GATE NOTES:

- CONTRACTOR TO FURNISH AND INSTALL ACCESS GATES PER THIS DETAIL IN LOCATIONS INDICATED.
- GATES WILL BE REQUIRED UNDER A VARIETY OF CIRCUMSTANCES AND SITUATIONS TO PROVIDE ACCESS TO SEWERS AND TO PREVENT UNAUTHORIZED PERSONNEL FROM ACCESSING THE SEWERS AND RIGHTS-OF-WAY. ALL GATE LOCATIONS SHALL BE APPROVED BY OWNER. GATES MAY BE INSTALLED IN AN EXISTING FENCE OR OVER A NEW SEWER EASEMENT WHERE NO FENCE CURRENTLY EXISTS. WHEN INSTALLING GATES IN AN EXISTING FENCE, THE CONTRACTOR SHALL NEATLY CUT THE EXISTING FENCE AND CONNECT THE FENCE TO THE NEW GATE POSTS IN A MANNER APPROVED BY OWNER. THE CONNECTION SHALL BE SECURE AND PERMANENT. EXISTING FENCES MAY BE WIRE, BARBED WIRE, WOOD, OR A COMBINATION OF SUCH. WHEN INSTALLING A GATE OVER A NEW SEWER EASEMENT, THE GATE WILL BE TYPICALLY CENTERED OVER THE EASEMENT. THE CONTRACTOR WILL BE REQUIRED TO INSTALL NEW FENCE ON EACH SIDE OF THE GATE TO THE EDGE OF EASEMENT OR CLEARED AREA. NEW FENCE SHALL BE TIED TO NEAREST TREE AT THIS POINT, AS INDICATED TO BLOCK USE OF THE EASEMENT BY UNAUTHORIZED VEHICLES. THE EXTENT OF THE NEW FENCE WILL VARY WITH EACH INSTALLATION. THE NEW FENCE MATERIAL WILL BE DETERMINED BY OWNER BASED ON EACH INSTALLATION AND/OR DESIRES OF PROPERTY OWNERS. FENCES MAY BE WIRE, BARBED WIRE, WOOD OR A COMBINATION OF SUCH.
- GROUND ELEVATIONS WILL VARY AND WILL TYPICALLY NOT BE LEVEL. CONTRACTOR TO ADJUST GATE ELEVATION AND HINGE LOCATIONS TO ACCOMMODATE THE EXISTING GROUND ELEVATIONS TO PROVIDE 6" OF CLEARANCE.
- WOODEN GATE POSTS TO BE 6" NOM X 6" NOM PRESSURE TREATED POSTS OR APPROVED EQUAL. THE HEIGHT OF THE POSTS WILL VARY WITH EACH INSTALLATION BUT SHOULD BE AT LEAST EQUAL TO THE TOP OF THE GATE UNLESS OTHERWISE APPROVED BY THE ENGINEER. WHEN DETERMINING THE HEIGHT OF THE GATE POSTS, CONSIDERATION MUST BE GIVEN TO THE EXISTING GROUND ELEVATIONS, THE LOCATIONS AND ELEVATIONS OF EXISTING OR NEW FENCES THAT WILL CONNECT TO THE GATE POSTS, AND PROPERTY OWNER CONCERNS. THE HEIGHT OF THE POSTS SHALL BE APPROVED BY THE ENGINEER.
- PROVIDE FENCING FOR MIN 20' ON EACH SIDE TO TIE INTO EXISTING FENCING. POSTS AT 10' O.C.

ACCESS GATE
DETAIL 4
NTS D2

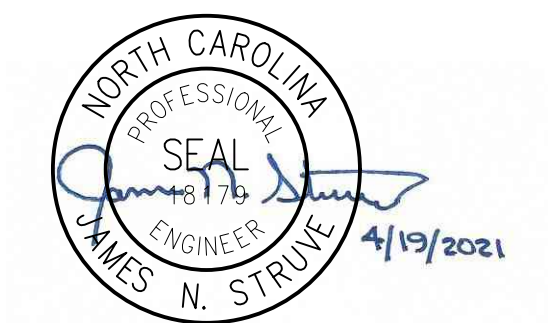


TEMPORARY FENCE DETAIL
DETAIL 5
NO SCALE D2

NOTES:

- NON-CLIMBING 2"x4" MESH WIRE FENCE SHALL BE REDBRAND 60" NON-CLIMBING HORSE FENCE, 10 GAUGE TOP AND BOTTOM, 2" PULLOUT SPACING, 1/2" FILLER GAUGE, NO. 1660-2-12 1/2 OR EQUAL.
- 8' T-POST SHALL BE REDBRAND 8' REDTOP 1.25LB, 8' LENGTH, 10LB WEIGHT, GREY AND RED PAINT OR EQUAL.
- 14 GAUGE ELECTRICAL FENCE WIRE SHALL BE REDBRAND GALVANIZED 14 GAUGE ELECTRICAL SMOOTH WIRE OR EQUAL.
- T-POST FASTENERS SHALL BE REDBRAND T-POST FASTENERS, NO. 71756 OR EQUAL.
- STAPLES TO ATTACH HORSE FENCE TO WOOD POST SHALL BE REDBRAND SINGLE BARB 1 1/4", 8 GAUGE FENCE STAPLE, NO. 72214 OR EQUAL.
- WOOD POST SHALL BE PRESSURE TREATED WOOD POST 6"-7" DIA X 10' LENGTH OR EQUAL.
- T-POST INSULATORS SHALL BE AMERICAN FARM WORKS YELLOW STANDARD SNUG-FITTING T-POST INSULATOR, NO. ITY-AFW OR EQUAL.
- WOOD POST INSULATORS SHALL BE AMERICAN FARM WORKS YELLOW WOOD POST KNOB INSULATORS, NO. IWKNY-AFW OR EQUAL.
- BRACING WIRE SHALL BE REDBRAND 170k PSI, 12 1/2 GAUGE HIGH TENSILE WIRE OR EQUAL.

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
NO.	ISSUED FOR
DATE	BY
APPROVED	

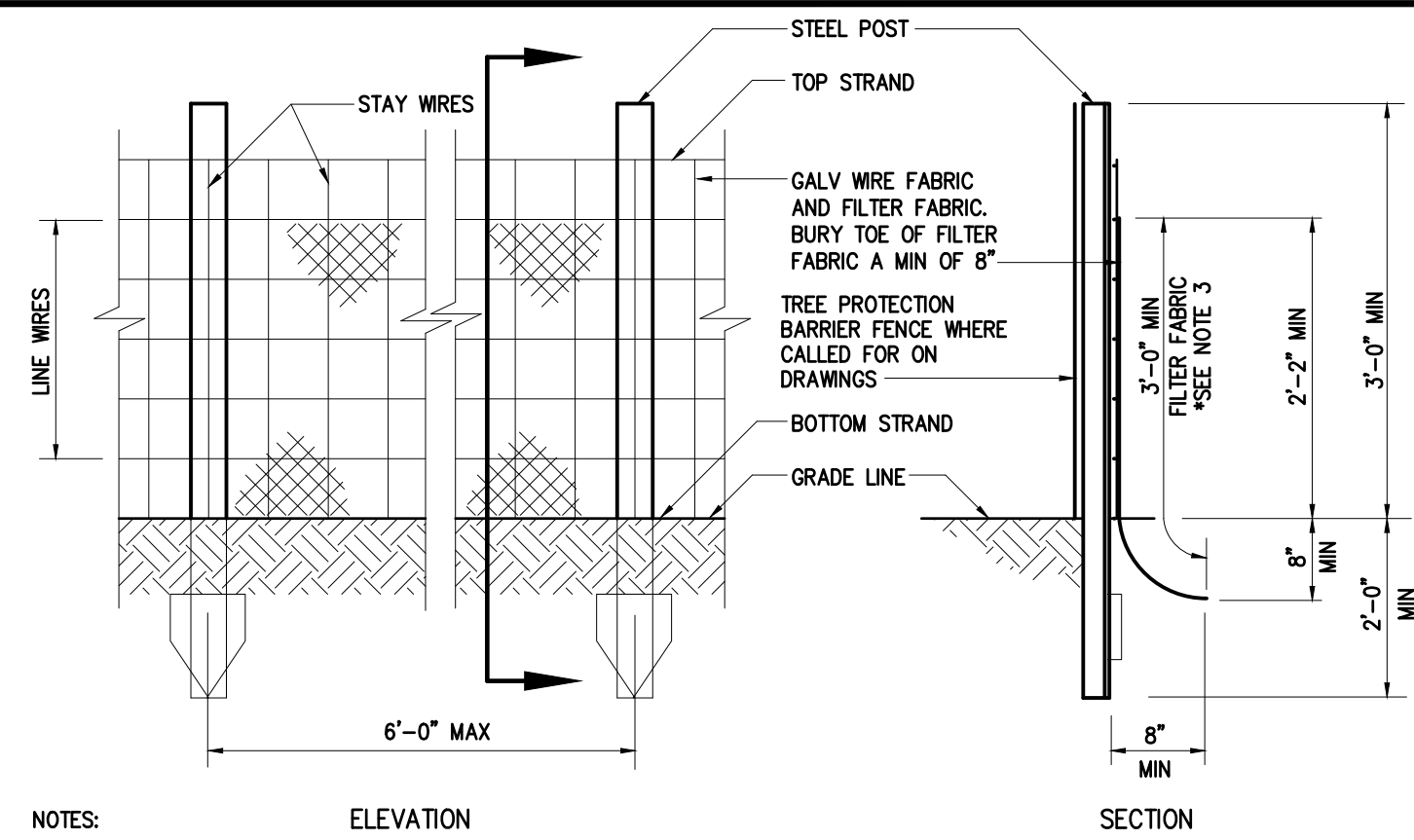


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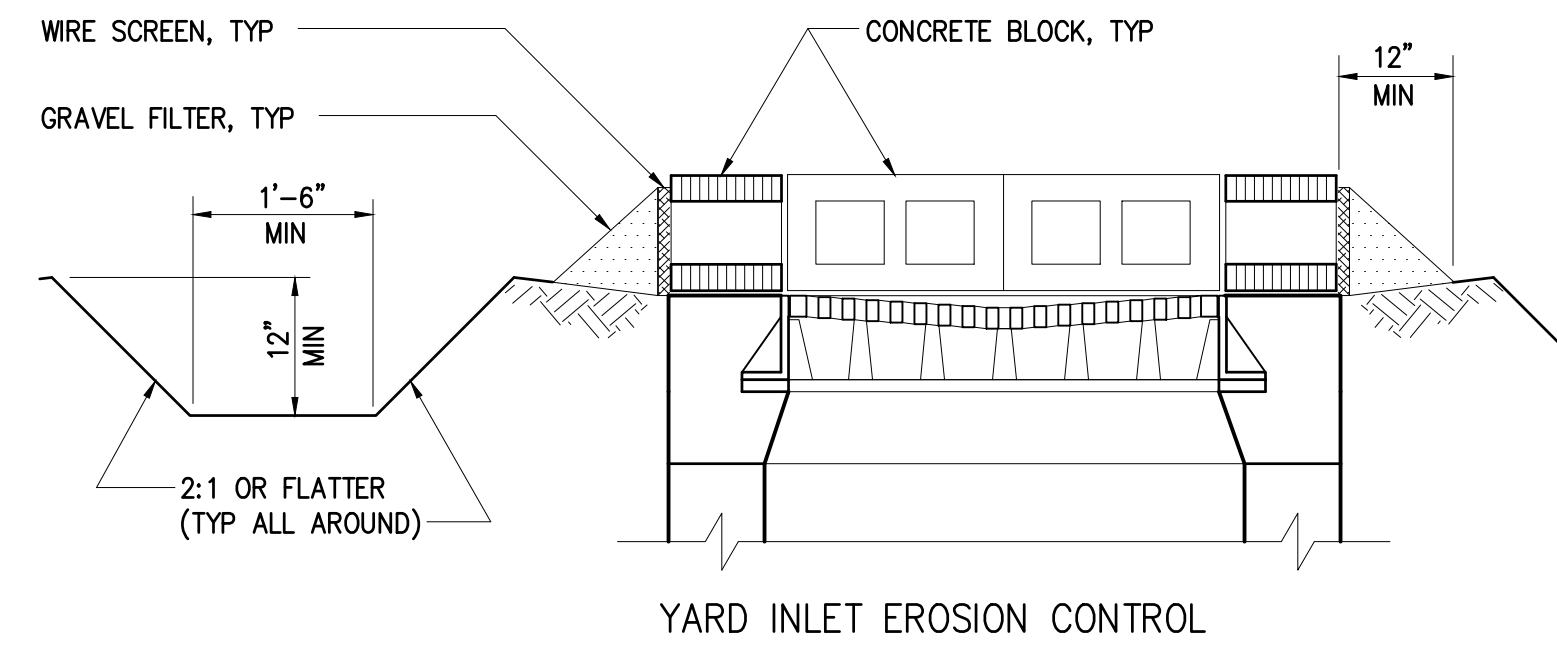
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	CONTRACT NUMBER	
	DRAWING NUMBER	D2



- NOTES:
- EXTRA STRENGTH FILTER FABRIC (AS APPROVED BY ENGINEER) WITH 6'-0" POST SPACING DOES NOT REQUIRE MESH SUPPORT FENCE.
 - FILTER FABRIC SHALL BE WIRED DIRECTLY TO POST.
 - WHERE DOUBLE SILT FENCE IS CALLED FOR ON DRAWINGS ADD SECOND SILT FENCE TO FACE OF FIRST SILT FENCE AND WIRE DIRECTLY TO POST.

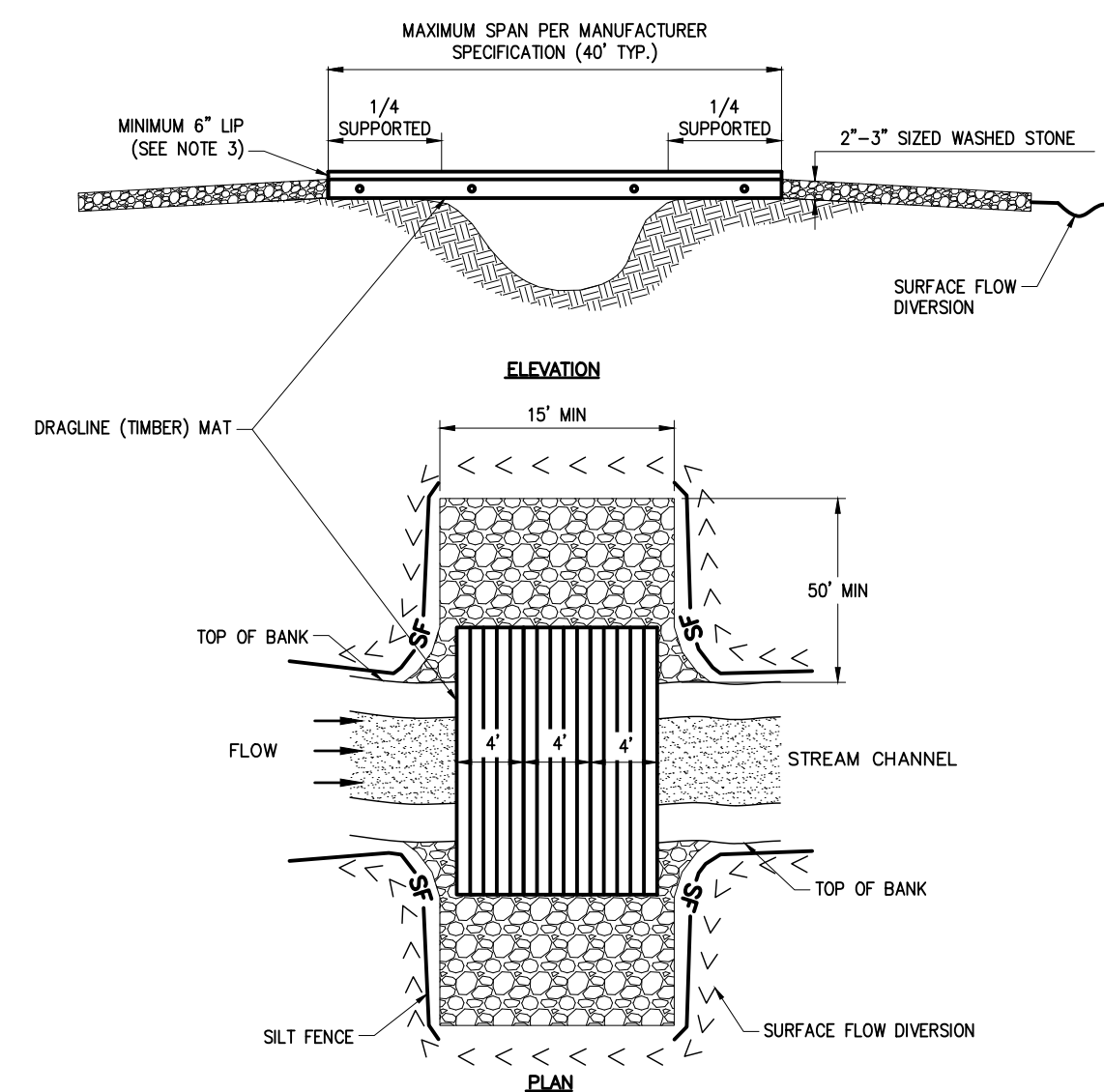
- MAINTENANCE REQUIREMENTS:
- INSPECT WEEKLY AND AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2 INCH OR MORE OF RAIN. REMOVE ANY ACCUMULATED SEDIMENT AND/OR WOODY DEBRIS.
 - FILTER FABRIC THAT HAS COLLAPSED, TORN, OR HAS IN ANY WAY HAS BECOME COMPROMISED SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
 - REMOVE ANY SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND ALSO TO REDUCE PRESSURE ON THE FENCE. AVOID UNDERMINING THE FENCE DURING CLEANOUT.
 - REPLACE FILTER FABRIC THREE (3) MONTHS AFTER INITIAL INSTALLATION AND EVERY THREE (3) MONTHS THEREAFTER UNTIL CONSTRUCTION HAS COMPLETED AND CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.

TEMPORARY SILT FENCE W/TREE PROTECTION BARRIER FENCE
0227000



0227001

TEMPORARY STREAM CROSSING BY DRAGLINE MATS

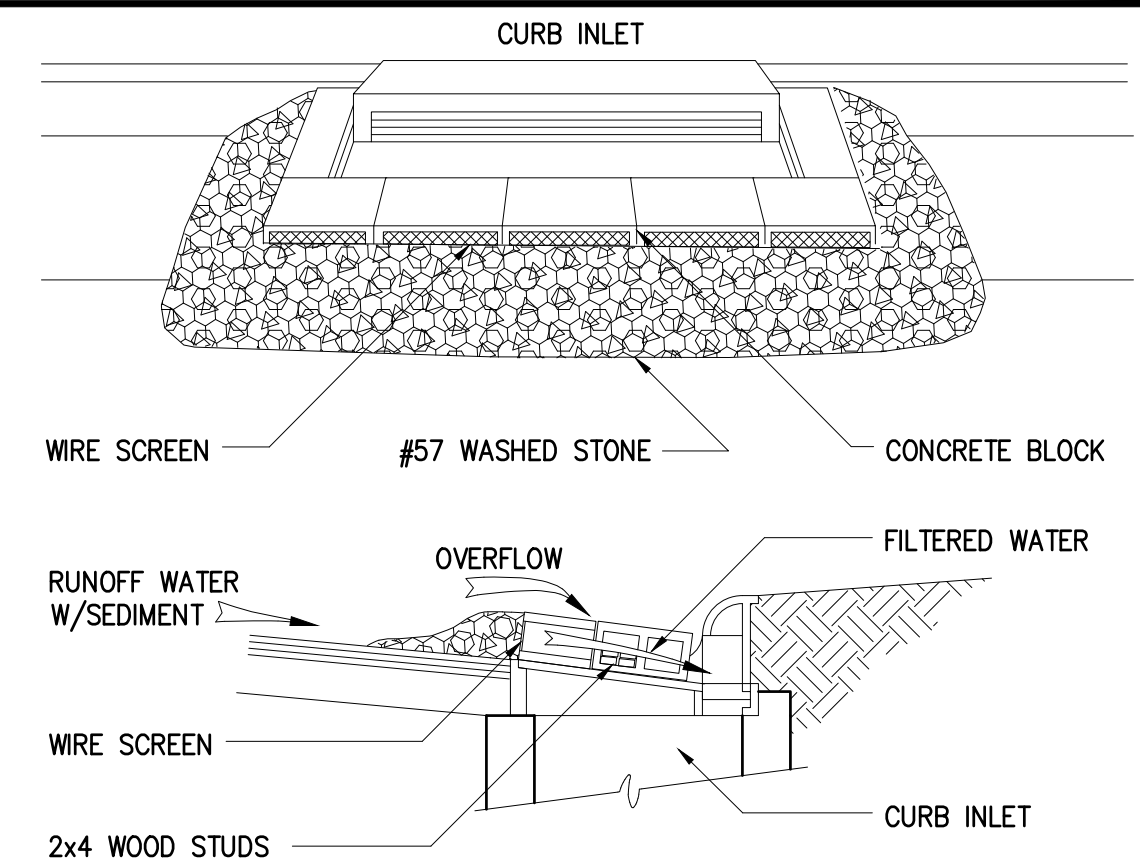


- KEEP CLEARING AND EXCAVATION OF THE STREAM BANKS AND BED AND APPROACH SECTIONS TO A MINIMUM.
- CLEARING SHALL BE DONE BY CUTTING NOT GRUBBING. THE ROOTS AND STUMPS SHALL BE LEFT IN PLACE TO HELP STABILIZE THE BANKS AND ACCELERATE RE-VEGETATION.
- INSTALL A 6 INCH (MINIMUM) 1/4" ALONG THE OUTSIDE OF THE BROWLINE TO PREVENT LOOSE SEDIMENT FROM DEPOSITING IN STREAM DURING CROSSING.
- INSTALL SILT FENCE ALONG TOPS OF BANKS AND TIE TO CROSSING.
- DIVERT ALL SURFACE WATER FROM THE CONSTRUCTION SITE ONTO UNDISTURBED AREAS ADJOINING THE STREAM.
- KEEP STREAM CROSSINGS AT RIGHT ANGLES TO THE STREAM FLOW.
- ALIGN APPROACHES WITH THE CENTER LINE OF THE CROSSING FOR A MINIMUM DISTANCE OF 30 FEET AND STABILIZE WITH 8" THICK LAYER OF 2"-3" WASHED STONE FOR A MINIMUM OF 50 FEET.
- STABILIZE ALL DISTURBED AREAS SUBJECT TO FLOWING WATER, INCLUDING PLANNED OVERFLOW AREAS, WITH PERMANENT OR OTHER SUITABLE MEANS IF DESIGN VELOCITY EXCEEDS THE ALLOWABLE FOR THE IN-PLACE SOIL.
- USE A SKIDDER OR KNUCKLEBOOM TO INSTALL AND REMOVE MATS.
- PLACE MATS BETWEEN "BUMPER TREES" AND ANCHOR ON BOTH BANKS TO TREES OR DEADMAN ANCHORS SUCH THAT MINIMUM BRIDGE WIDTH IS 6 FT.
- ENSURE THAT 1/4 (MINIMUM) OF THE MAT TOTAL LENGTH IS SUPPORTED ON EACH SIDE OF THE BANK.
- INSTALL WATER DIVERSION DEVICES ON BOTH SIDES OF THE CROSSING.
- UPON COMPLETION OF THE CROSSING, FILL, COMPACT, AND STABILIZE THE BYPASS CHANNEL APPROPRIATELY. REMOVE TEMPORARY STREAM CROSSINGS IMMEDIATELY WHEN THEY ARE NO LONGER NEEDED.
- RESTORE THE STREAM CHANNEL TO ITS ORIGINAL CROSS-SECTION, AND SMOOTH AND APPROPRIATELY STABILIZE ALL DISTURBED AREAS.
- ANY IN-STREAM SEDIMENT CONTROL MEASURES MUST BE REMOVED UPON STABILIZATION OF THE AREA.

- NOTES:
- DRAGLINE MATS SHALL REMAIN IN PLACE UNTIL COMPLETION OF CONSTRUCTION UNLESS THE CROSSING CAUSES EROSION DUE TO THE CROSSING OF THE STREAM CHANNEL. WHEREAS THE CHANNEL BANKS SHALL BE PLACED BACK TO PRE CONSTRUCTION CONDITIONS. CHANNEL AND BANKS SHALL BE PROTECTED WITH CLASS 1 RIP-RAP 18" THICK.
 - CONTRACTOR SHALL CONFIRM LENGTH OF TEMPORARY BRIDGE CROSSINGS AS SHOWN ON DRAWINGS AND PROVIDE CALCULATIONS SEALED BY AN ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA PRIOR TO INSTALLATION OF BRIDGES.

GENERAL GUIDELINES FOR SPACING OF TUBE TRENCHES FOR SLOPE INSTALLATIONS	
SLOPE GRADIENT	TUBE INTERVAL
1H:1V	15 FEET
2H:1V	25 FEET
3H:1V	35 FEET
4H:1V	50 FEET

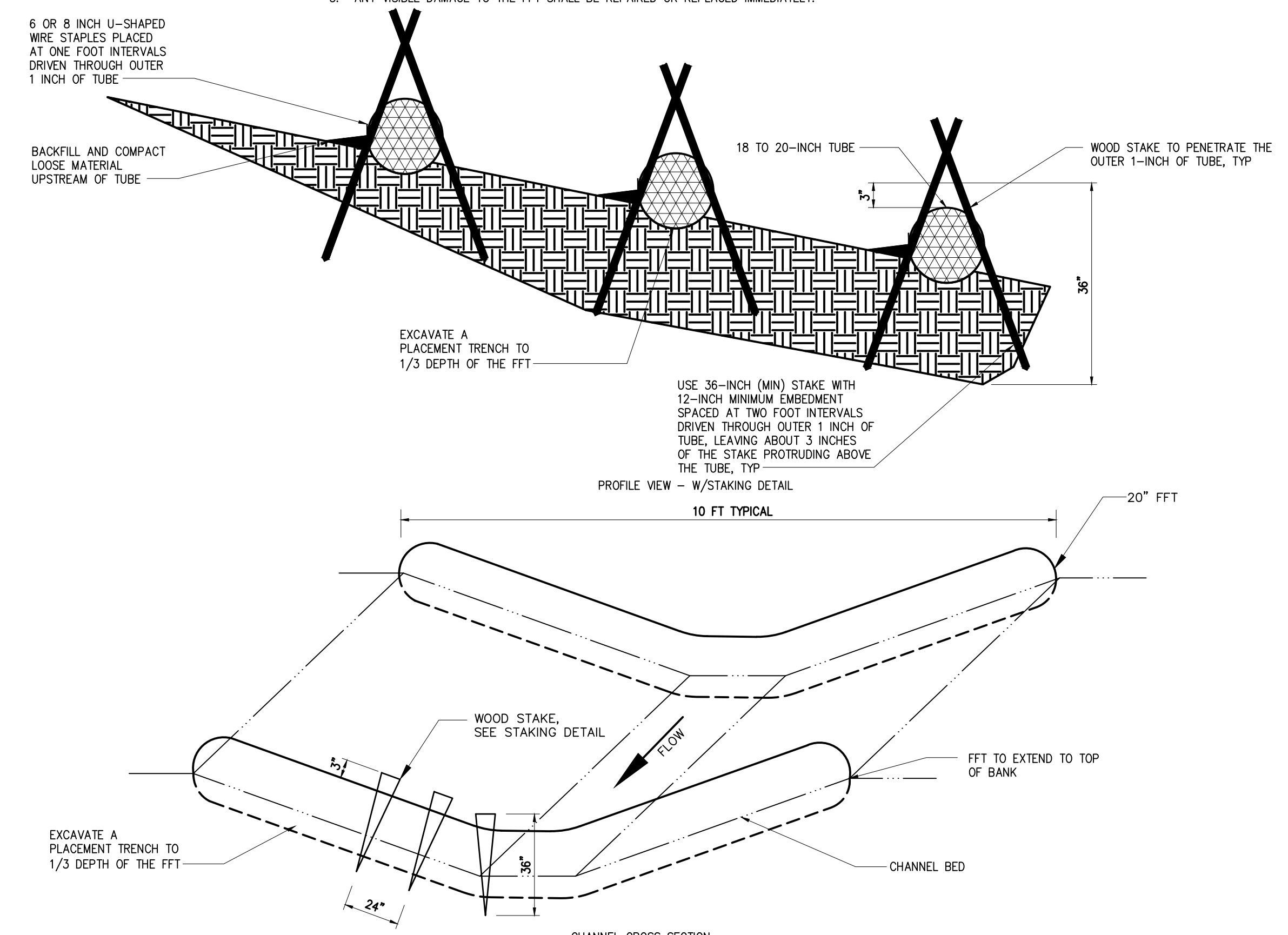
GENERAL GUIDELINES FOR SPACING OF TUBE TRENCHES FOR CHANNEL INSTALLATIONS	
SLOPE GRADIENT	TUBE INTERVAL
2%	25 FEET



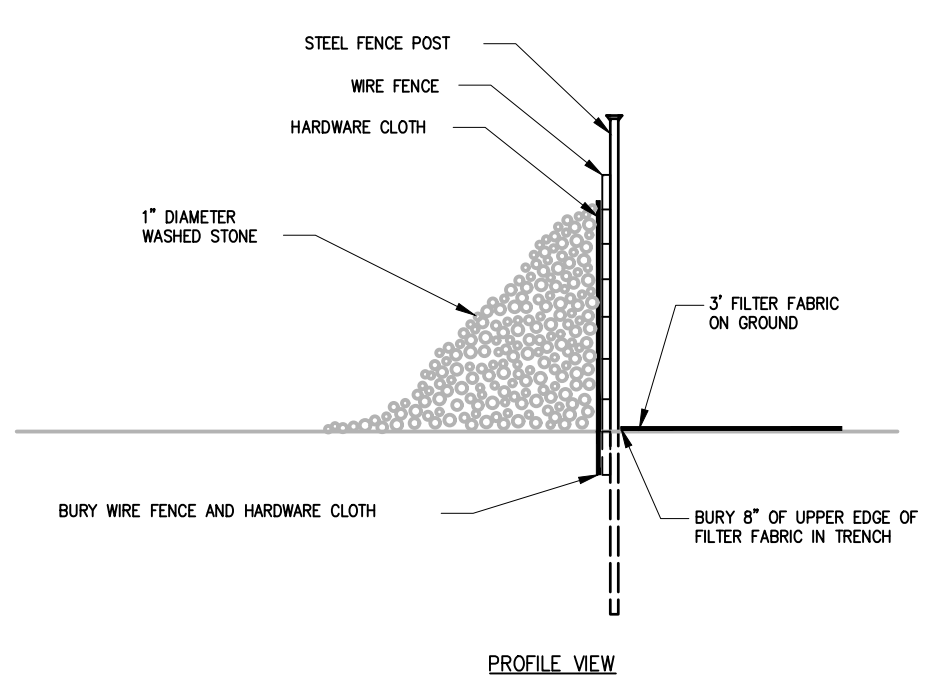
CURB INLET SEDIMENT CONTROL
0227002

- NOTES:
- SLOPE PROTECTION APPLICATIONS:
- OVERLAP OR "HOOK" ADJACENT ROLL ENDS BY A MINIMUM OF ONE FOOT AND REDUCE STAKING INTERVAL TO ONE FOOT WITHIN OVERLAP SECTION.
 - WHEN USED IN CONJUNCTION WITH WATERBARS, OVERLAP OR "HOOK" FFT ROLL END A MINIMUM OF ONE FOOT ALONG DOWNSLOPE SIDE OF WATERBAR AND EMBED A MINIMUM OF 6 INCHES. REDUCE STAKING INTERVAL TO ONE FOOT. THE FFT ROLL MUST HAVE GOOD CONTACT WITH THE WATERBAR IN ORDER TO PREVENT SHORT-CIRCUITING.
 - SMOOTH SOIL SURFACE AND REMOVE ALL OBSTRUCTIONS GREATER THAN 1"-2" IN DIAMETER.
 - WHEN PERFORMANCE-ENHANCING POLYMERS (PAMs) ARE USED, THE MOST DOWNSTREAM FFT SHALL BE A STAND-ALONE PRODUCT (NO PAMs).
- CHANNEL PROTECTION APPLICATIONS:
- FOR CHANNEL APPLICATIONS, BOTH UPSTREAM AND DOWNSTREAM ANCHORING SHOULD BE AT 1 FOOT INTERVALS.
 - FOR CHANNEL APPLICATIONS, FFTs SHALL BE STAND-ALONE PRODUCTS WITHOUT PAMs.
 - FFTs SHALL BE PLACED IN CHANNEL (AS DEMONSTRATED BELOW), IN ORDER TO ALLOW WATER TO POOL SUFFICIENTLY ON THE UPSTREAM SIDE OF THE FFT.
 - FFTs SHALL EXTEND TO THE TOP OF BANK IN ORDER TO PREVENT SHORT CIRCUITING OF FLOW.

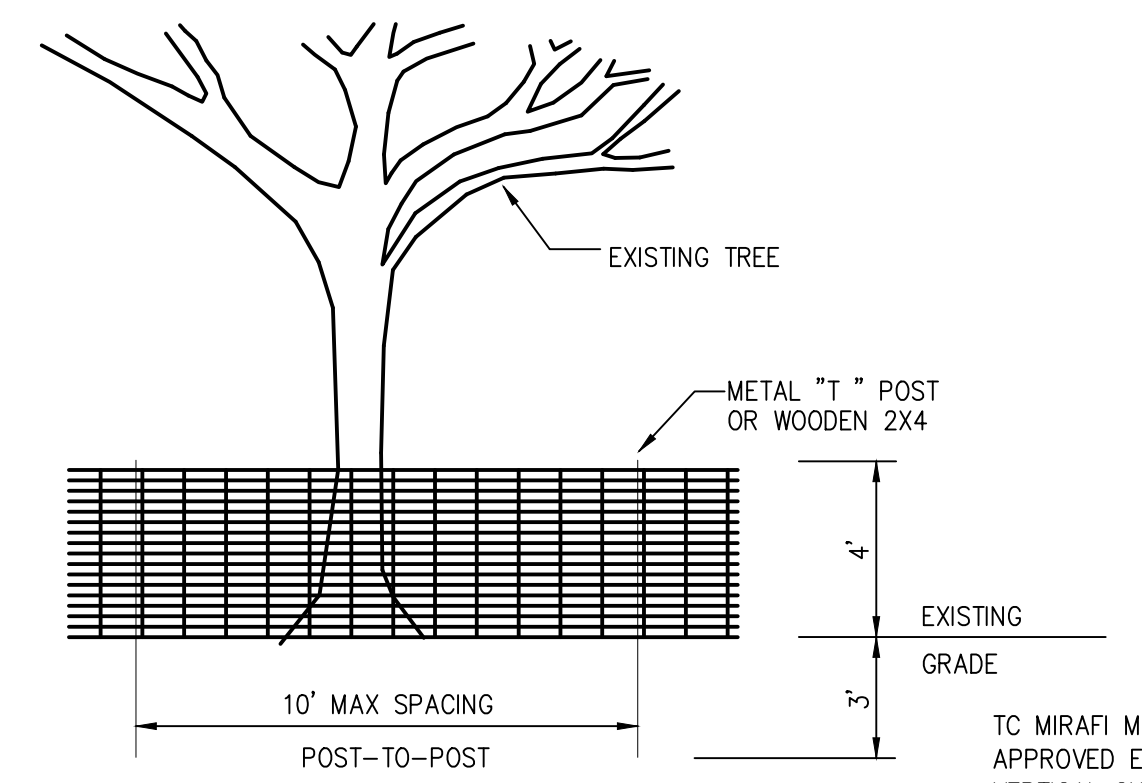
- MAINTENANCE REQUIREMENTS:
- INSPECT WEEKLY AND AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2 INCH OR MORE OF RAIN. REMOVE ANY ACCUMULATED SEDIMENT AND/OR WOODY DEBRIS.
 - FFTs SHALL BE ENTRENCHED AS SHOWN TO PREVENT UNDERCUTTING. ANY EVIDENCE OF UNDERCUTTING AND/OR EROSION SHALL BE REPAIRED IMMEDIATELY.
 - STAKES AND/OR STAPLES THAT HAVE BECOME LOOSE OR DISPLACED SHALL BE REPAIRED IMMEDIATELY.
 - WHEN SEDIMENT ACCUMULATION REACHES 1/2 THE DIAMETER OF THE FFT, IT SHALL BE REMOVED AND DISPOSED OFF-SITE BY THE CONTRACTOR IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS.
 - ANY VISIBLE DAMAGE TO THE FFT SHALL BE REPAIRED OR REPLACED IMMEDIATELY.



FIBER FILTRATION TUBE (FFT) CHANNEL PROTECTION
0227039



STABILIZED OUTLET FOR SILT FENCE
0227024



TEMPORARY STREAM CROSSING
0227019

PROTECTION BARRIER FENCE
0227033

- PLACE CONTINUOUS RUN OF FENCE MATERIAL ON BOTH SIDES OF IMMEDIATE WORK ZONE IN WOODED AREAS AS SHOWN ON THE PLANS. DO NOT ATTACH FENCE MATERIAL TO TREES.
- TREE PROTECTION FENCING FABRIC TO BE PLACED AT THE DRIP LINE OF THE TREES THAT ARE TO BE PROTECTED.
- "MIRASAFE" HIGH STRENGTH POLYMER GEOGRID FABRIC BY MIRAFI CONSTRUCTION PRODUCTS, PENDERGRASS, GEORGIA.
- ONE SIGN PER 300' OF TREE PROTECTION FENCING SHALL READ: "TREE PROTECTION AREA/DO NOT ENTER AREA/PARA PROTECCION DE LOS ARBOLES/PROHIBIDO ENTRAR"

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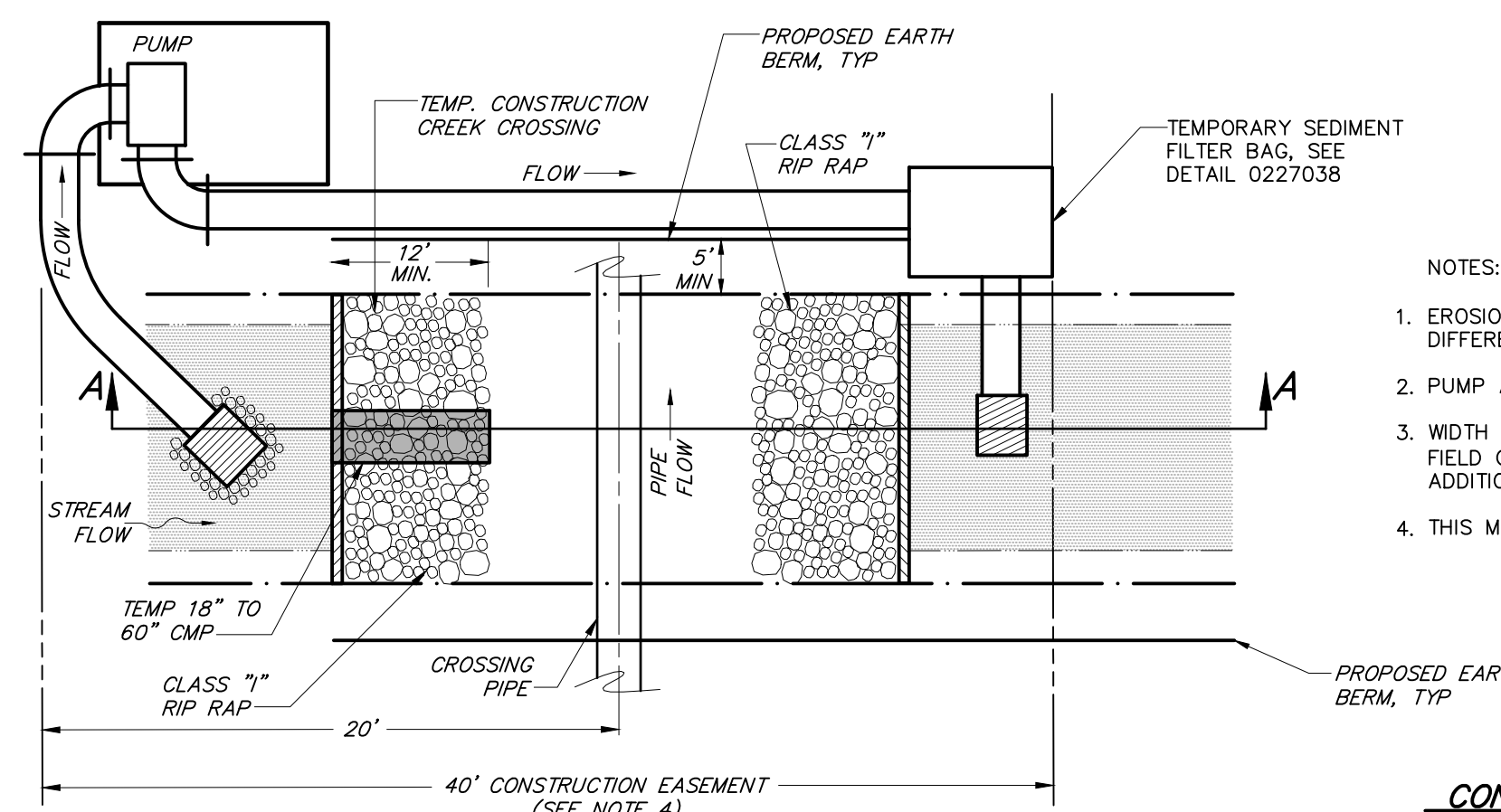


Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

MISCELLANEOUS STANDARD DETAILS

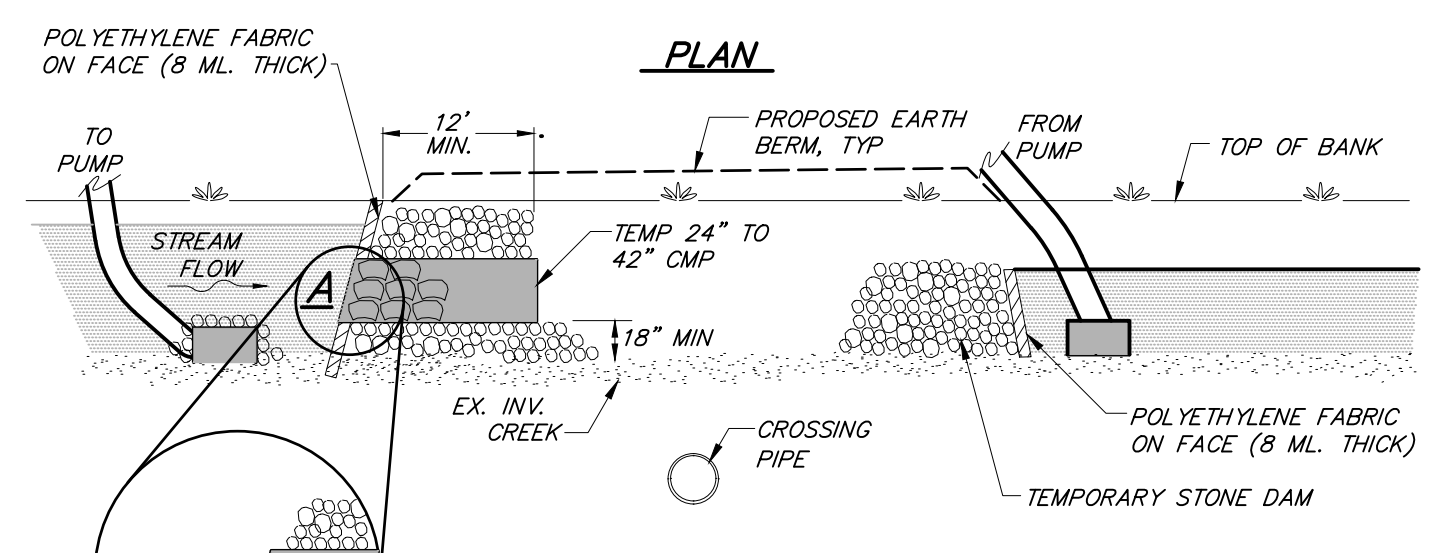
THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	HI & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	D3



- NOTES:
1. EROSION STONE TO BE "CLASS 1" RIP-RAP UNLESS DESIGNATED DIFFERENTLY ON CONSTRUCTION PLAN.
 2. PUMP AND LINE SIZE TO BE DETERMINED BY THE CONTRACTOR.
 3. WIDTH OF CONSTRUCTION EASEMENT SHALL BE MINIMIZED BASED UPON FIELD CONDITIONS. ANY DISTURBANCE(S) EXCEEDING 40' MAY REQUIRE ADDITIONAL WATER QUALITY PERMITTING.
 4. THIS MEASURE MAY NOT BE REQUIRED OF WORK PERFORMED IN THE DRY.

CONSTRUCTION SEQUENCE FOR CREEK CROSSING

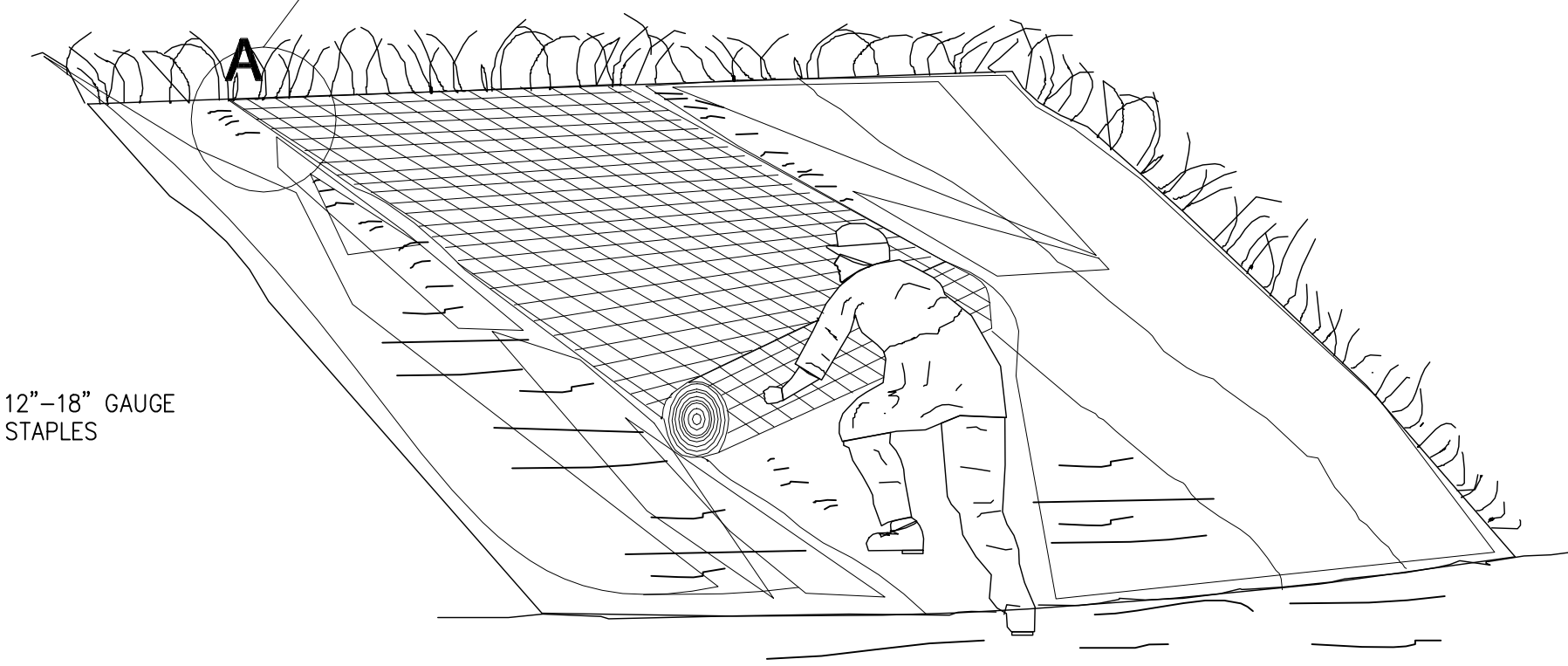
1. INSTALL PUMP AND LINE TO PUMP FLOW AREA UPSTREAM OF TEMPORARY CREEK CROSSING TO AREA DOWNSTREAM OF CONSTRUCTION AREA. BEGIN PUMPING AND CONTINUING PUMPING WHILE WORKING WITHIN THE CREEK.
2. INSTALL UPSTREAM DAM, FILTER FABRIC, AND TEMPORARY CMP, COVER PIPE INLET WITH FABRIC AND SAND BAGS AS SHOWN IN INSET "A" WHILE WORKING IN THE CREEK. ALLOW CREEK FLOW THROUGH CMP AS SHOWN IN INSET "B" WHEN NOT WORKING WITHIN THE CREEK.
3. INSTALL DOWNSTREAM TEMPORARY STONE DAM AND FILTER FABRIC TO PREVENT BACK FLOW INTO CONSTRUCTION AREA.
4. INSTALL PROPOSED EARTH BERMS ALONG TOP OF BANK ON EACH SIDE OF THE CONSTRUCTION AREA.
5. INSTALL TEMPORARY SEDIMENT FILTER BAG AT TOP OF BANK. DEWATER CONSTRUCTION AREA BETWEEN TEMPORARY DAM USING THIS FILTER BAG.
6. UPON CONSTRUCTION COMPLETION, REMOVE TEMPORARY DAMS, FILTER FABRIC, AND TEMPORARY CMP, DEPRESS TEMPORARY DAM BOTTOMS INTO CREEK BED UNTIL TOP OF RIP RAP IS LEVEL WITH CREEK BOTTOM.
7. UPON STABILIZATION OF CLEARED AREAS, REMOVE TEMPORARY EARTH BERM, TEMPORARY SEDIMENT FILTER BAG.
8. THIS CROSSING DETAIL MAY NOT BE NECESSARY IF CONSTRUCTION CAN BE ACCOMPLISHED IN THE DRY.



- SECTION A-A**
- A INSTALL SANDBAGS IN PIPE INVERT & FABRIC WHILE PUMPING AROUND DURING CONSTRUCTION IN CREEK
 - B REMOVE SANDBAGS & FABRIC TO ALLOW FLOW THROUGH PIPE WHEN NOT PUMPING AROUND.

TEMPORARY CREEK BYPASS

DETAIL	1
NTS	D4



CONSTRUCTION SPECIFICATIONS

1. AREA SHALL BE CLEARED AND GRUBBED ACCORDING TO SPECIFICATIONS.
2. SEED BANK ACCORDING TO PLAN SPECIFICATIONS.
3. SECURE MATS AT THE TOP OF THE SLOPE BY TOEING IT IN AND REINFORCING IT WITH A ROW OF AT LEAST FIVE (5) STAPLES, SPACING EACH ONE APPROXIMATELY 8' APART.
4. PLACE STAPLES 6"-8" APART ALONG LENGTH OF MAT BLANKET TO SECURE TO THE SOIL SURFACE. ALL STAPLES MUST BE FLUSH TO THE SURFACE.

MAINTENANCE REQUIREMENTS:

1. INSPECT MATTING WEEKLY AND AFTER EACH RAINFALL EVEN THAT PRODUCES 1/2 INCH OR MORE OF RAIN. REPAIR OR REPLACE IMMEDIATELY AS NECESSARY.
2. GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED, AND EROSION MUST NOT OCCUR BENEATH THE MATTING.
3. ANY AREAS OF THE MATTING THAT ARE DAMAGED OR NOT IN GOOD CONTACT WITH THE GROUND SHALL BE REPAIRED OR REPLACED AND STAPLED IMMEDIATELY.
4. IF EROSION DOES OCCUR, THE PROBLEM SHALL BE FIXED AND ERODED AREA REPAIRED AND PROTECTED FROM FURTHER DAMAGE.
5. CONTINUE MONITORING MATTED AREAS UNTIL PERMANENT GROUND COVER HAS BEEN ESTABLISHED.

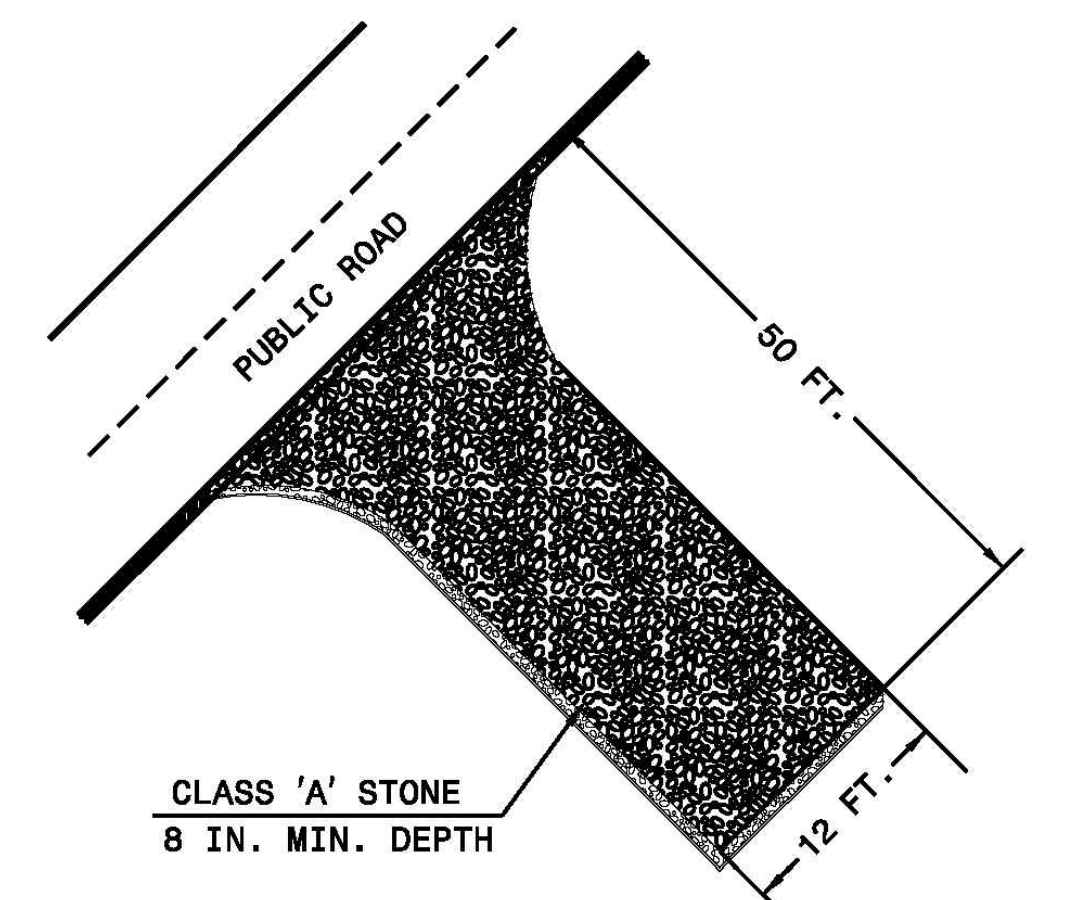
EMBANKMENT STABILIZATION

DETAIL	2
NTS	D4

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE

SHEET 1 OF 1
1607.01

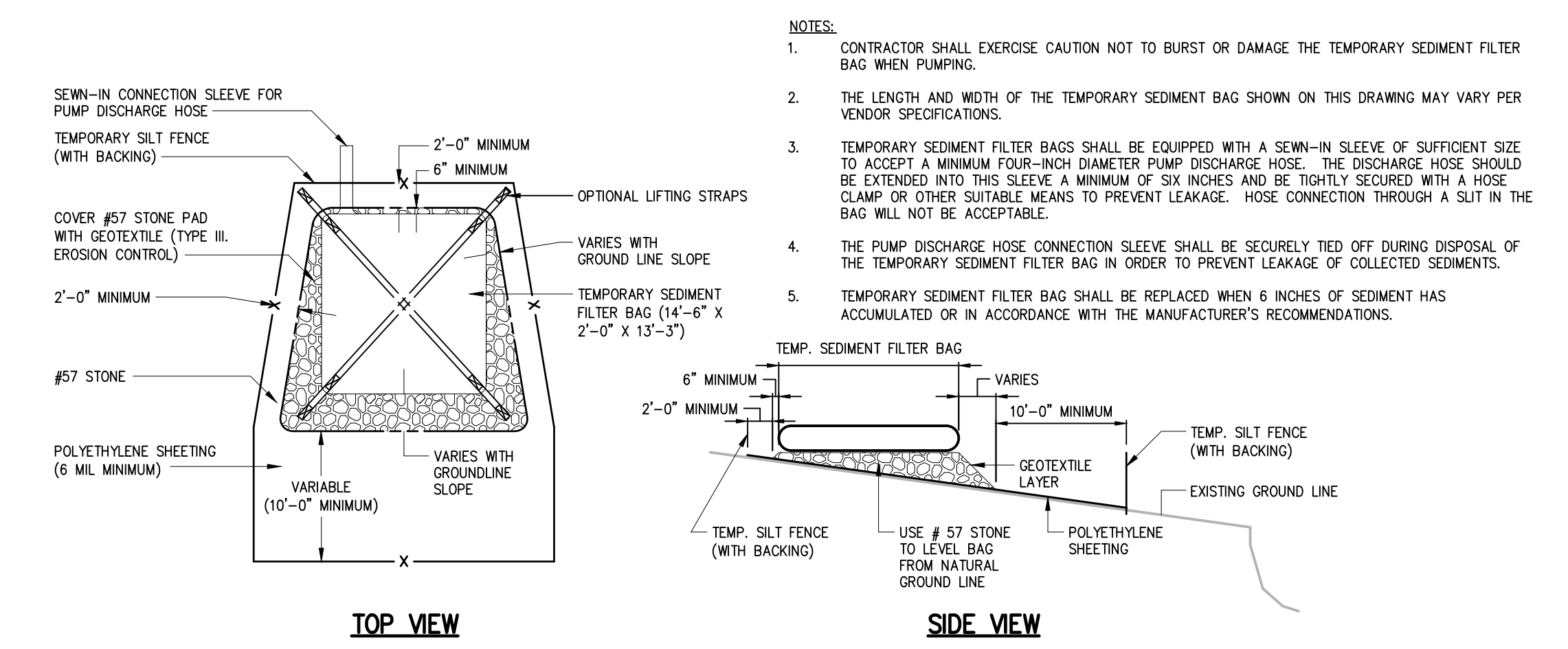


- NOTES:
1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
 2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
 3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD INTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
 4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
 5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
 6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
 7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
 8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.
 9. PLACE GEOTEXTILE FOR DRAINAGE, TYPE 2, BENEATH STONE.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE

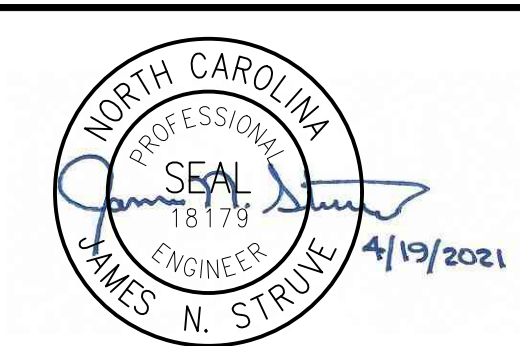
SHEET 1 OF 1
1607.01



- NOTES:
1. CONTRACTOR SHALL EXERCISE CAUTION NOT TO BURST OR DAMAGE THE TEMPORARY SEDIMENT FILTER BAG WHEN PUMPING.
 2. THE LENGTH AND WIDTH OF THE TEMPORARY SEDIMENT BAG SHOWN ON THIS DRAWING MAY VARY PER VENDOR SPECIFICATIONS.
 3. TEMPORARY SEDIMENT FILTER BAGS SHALL BE EQUIPPED WITH A SEW-IN SLEEVE OF SUFFICIENT SIZE TO ACCEPT A MINIMUM FOUR-INCH DIAMETER PUMP DISCHARGE HOSE. THE DISCHARGE HOSE SHOULD BE EXTENDED INTO THIS SLEEVE A MINIMUM OF SIX INCHES AND BE TIGHTLY SECURED WITH A HOSE CLAMP OR OTHER SUITABLE MEANS TO PREVENT LEAKAGE. HOSE CONNECTION THROUGH A SLIT IN THE BAG WILL NOT BE ACCEPTABLE.
 4. THE PUMP DISCHARGE HOSE CONNECTION SLEEVE SHALL BE SECURELY TIED OFF DURING DISPOSAL OF THE TEMPORARY SEDIMENT FILTER BAG IN ORDER TO PREVENT LEAKAGE OF COLLECTED SEDIMENTS.
 5. TEMPORARY SEDIMENT FILTER BAG SHALL BE REPLACED WHEN 6 INCHES OF SEDIMENT HAS ACCUMULATED OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

TEMPORARY SEDIMENT FILTER BAG
0227038

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DRAWN	GWF
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PROJ. ENGR.	JNS
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DATE	BY
APPROVED	

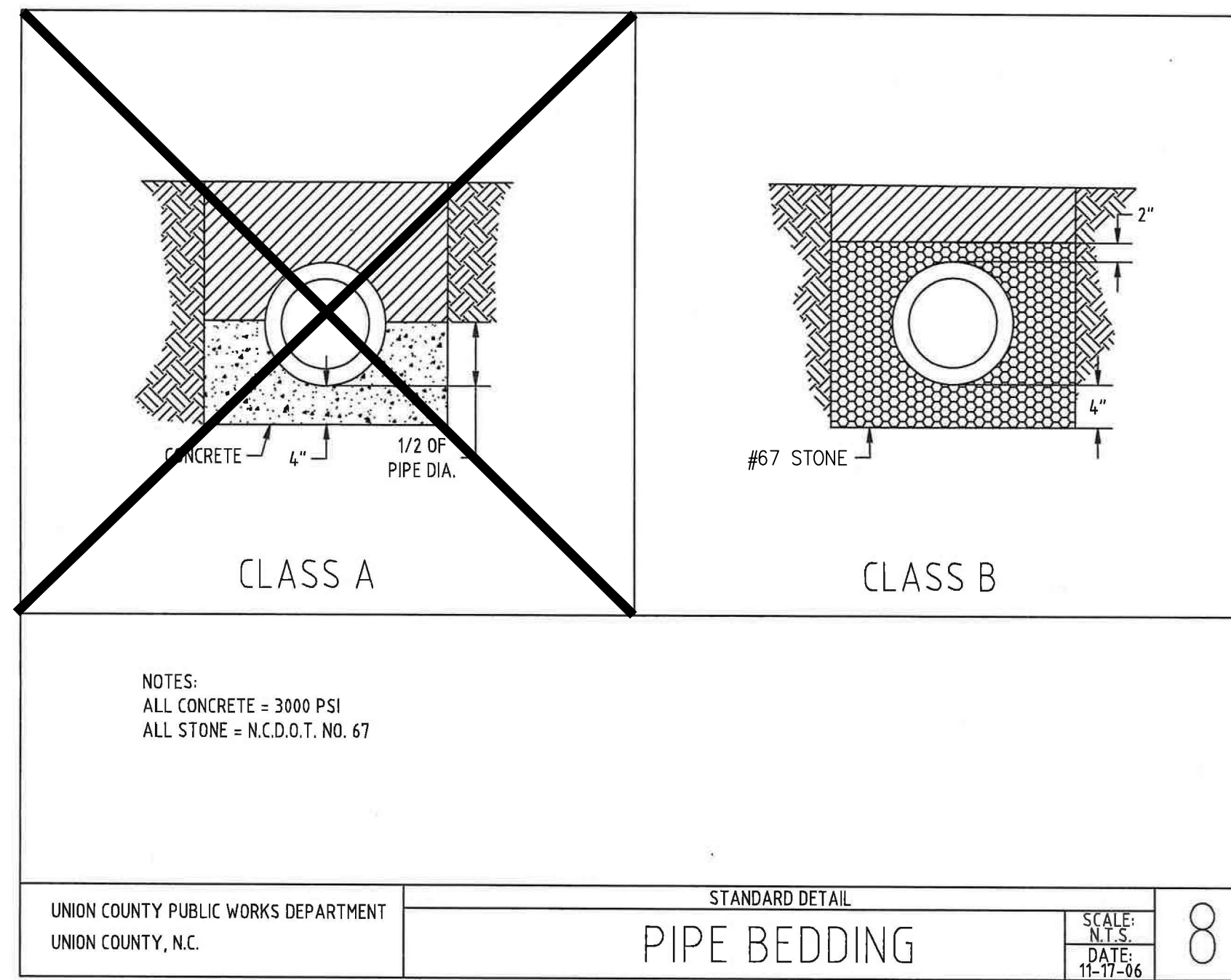


Hazen
HAZEN AND SAWYER
9101 SOUTHERN PINE BLVD, SUITE 250
CHARLOTTE, NORTH CAROLINA 28273
LICENSE NO. : C-0381

UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

MISCELLANEOUS STANDARD DETAILS

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	D4

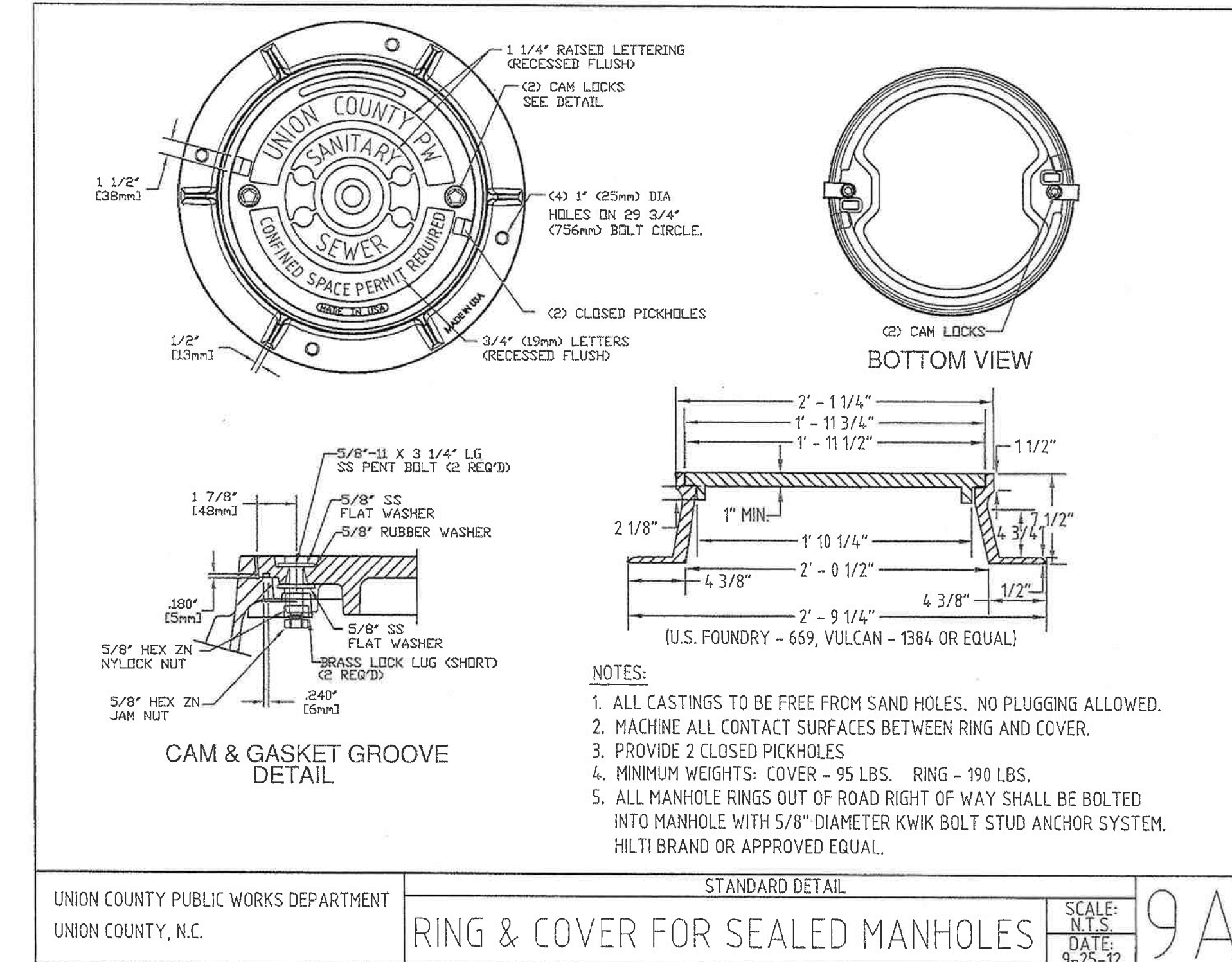
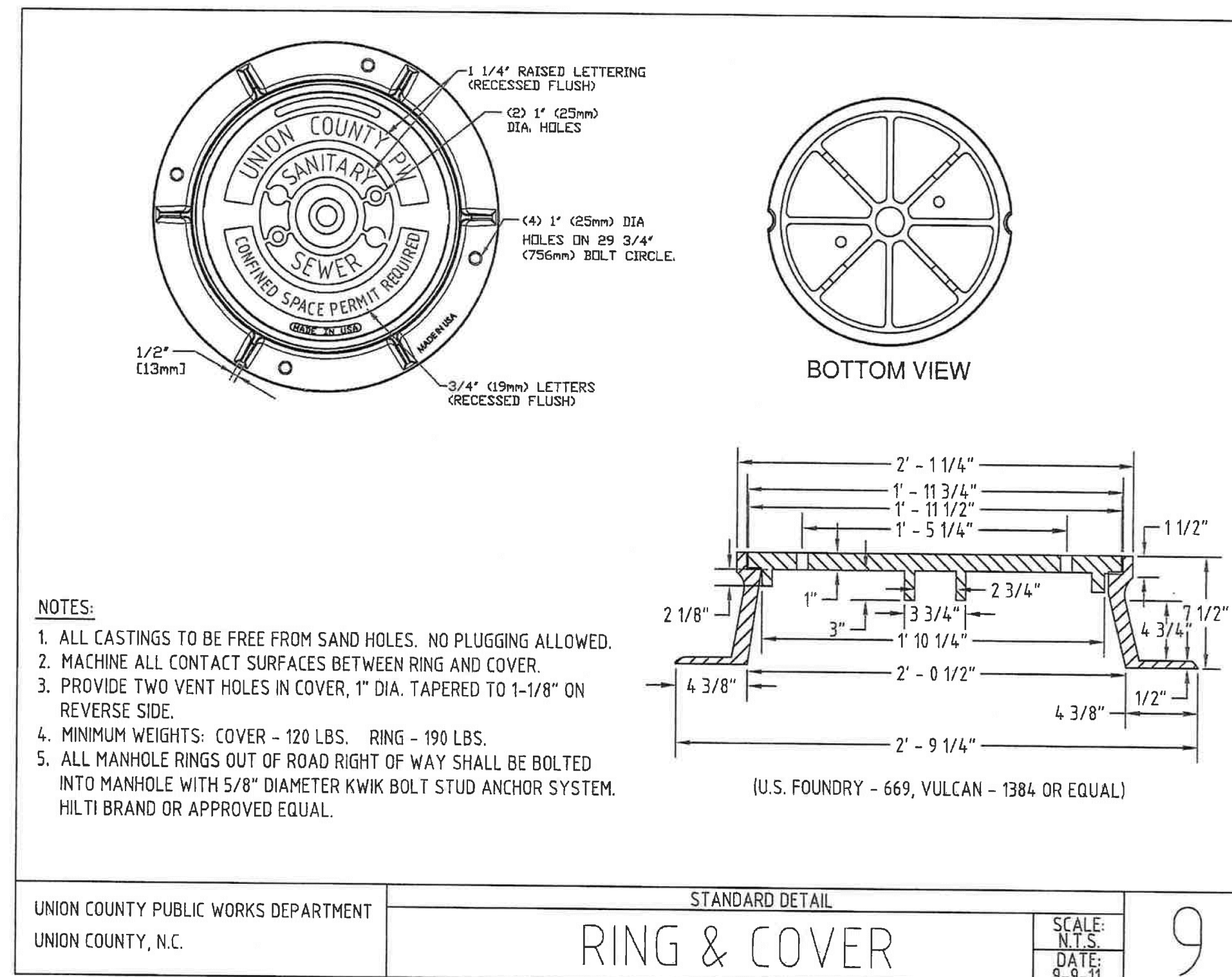
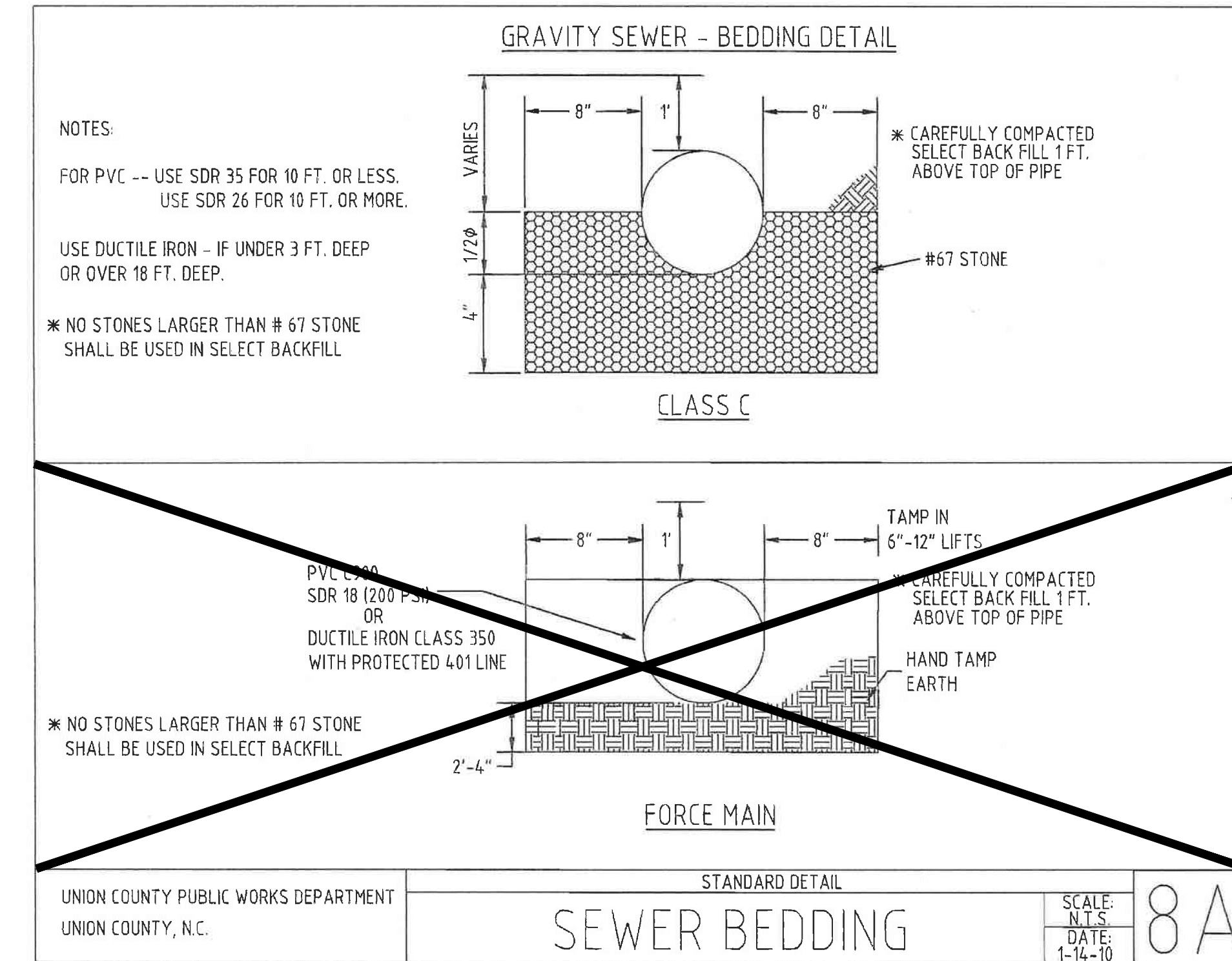


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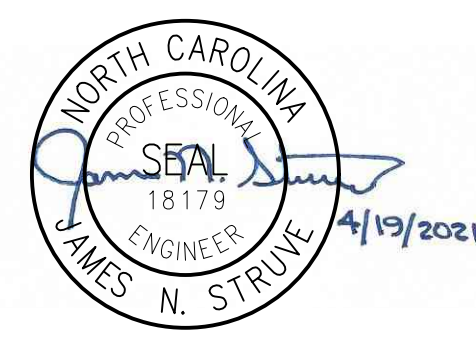
- REFER TO STANDARD DETAIL 0222107R FOR PIPE BEDDING DETAIL FOR PIPE INSTALLED UNDER EXISTING PAVEMENT.
- FOR ALL OTHER PIPE NOT INSTALLED UNDER EXISTING PAVEMENT, THE FOLLOWING NOTES APPLY:

REFER TO UC-8 CLASS B DETAIL FOR ALL PIPE INSTALLED WITHIN THE FEMA 100 YEAR BASE FLOOD ELEVATION (AS SHOWN ON THE DRAWINGS) AND FOR ALL PIPE 12-INCHES IN DIAMETER AND GREATER.

REFER TO UC-8A CLASS DETAIL FOR ALL PIPE LESS THAN 12-INCHES IN DIAMETER INSTALLED OUTSIDE THE FEMA 100 YEAR BASE FLOOD ELEVATION (AS SHOWN ON THE DRAWINGS).



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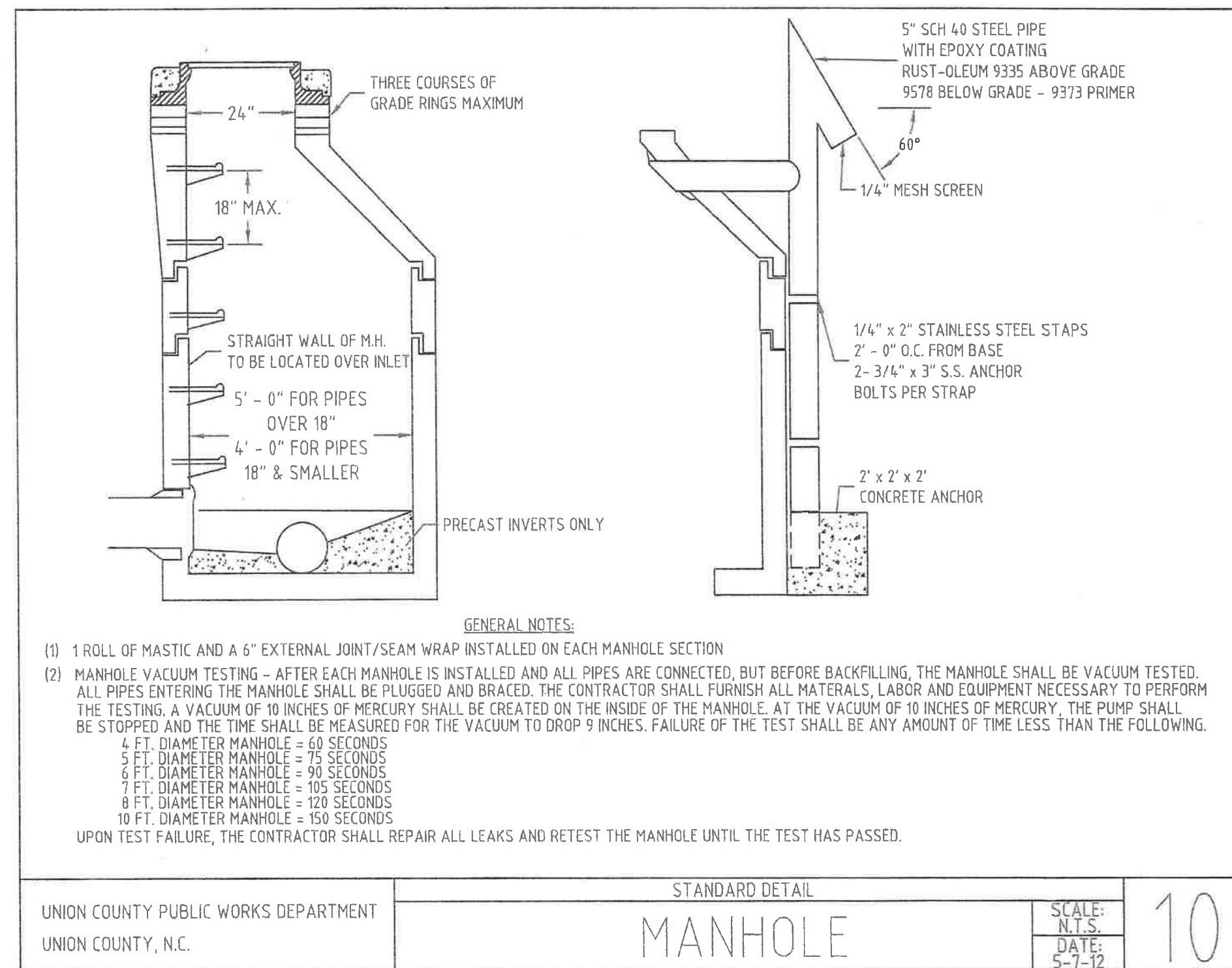


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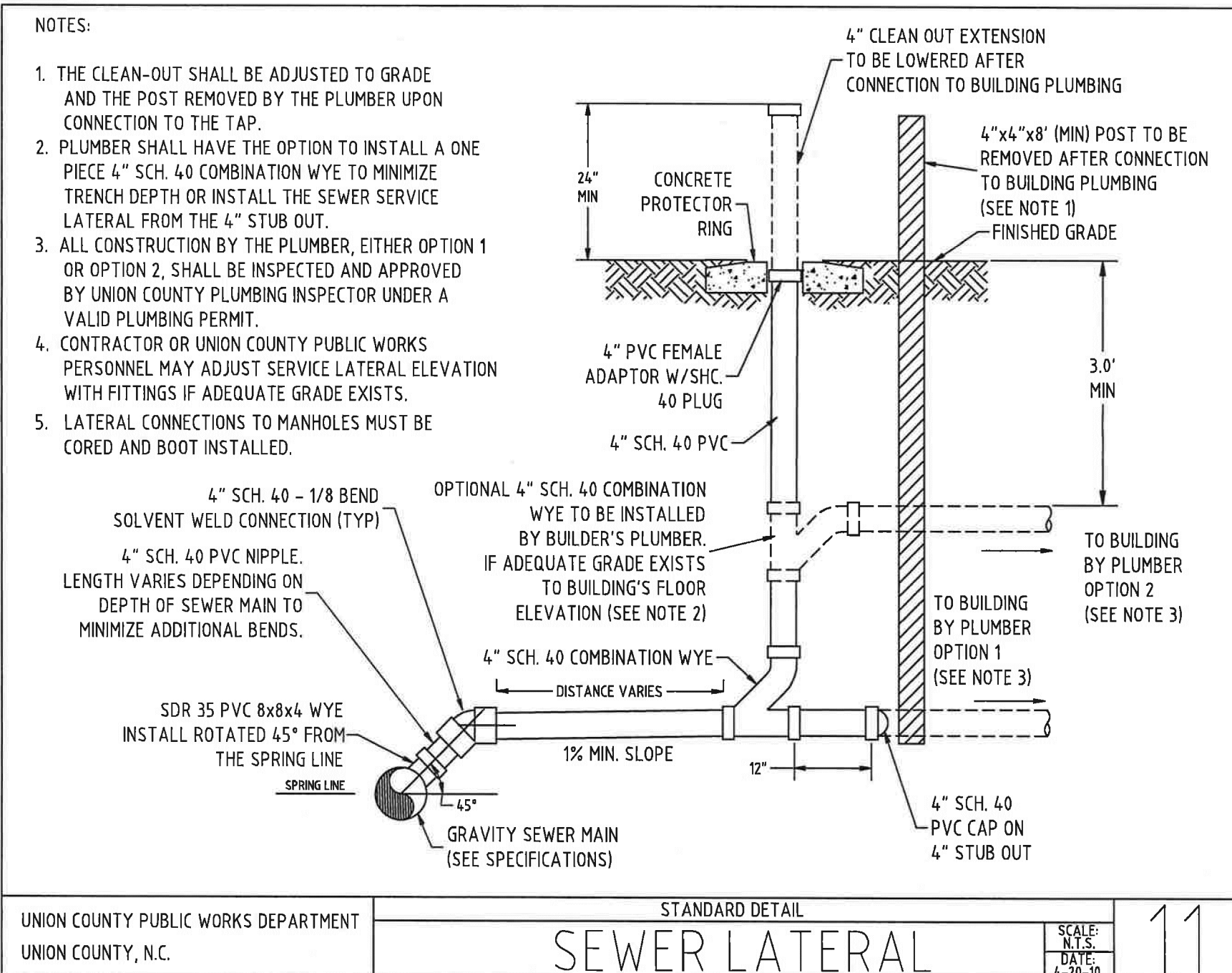
**UNION COUNTY
NORTH CAROLINA**
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

**UNION COUNTY PUBLIC
WORKS STANDARD DETAILS**

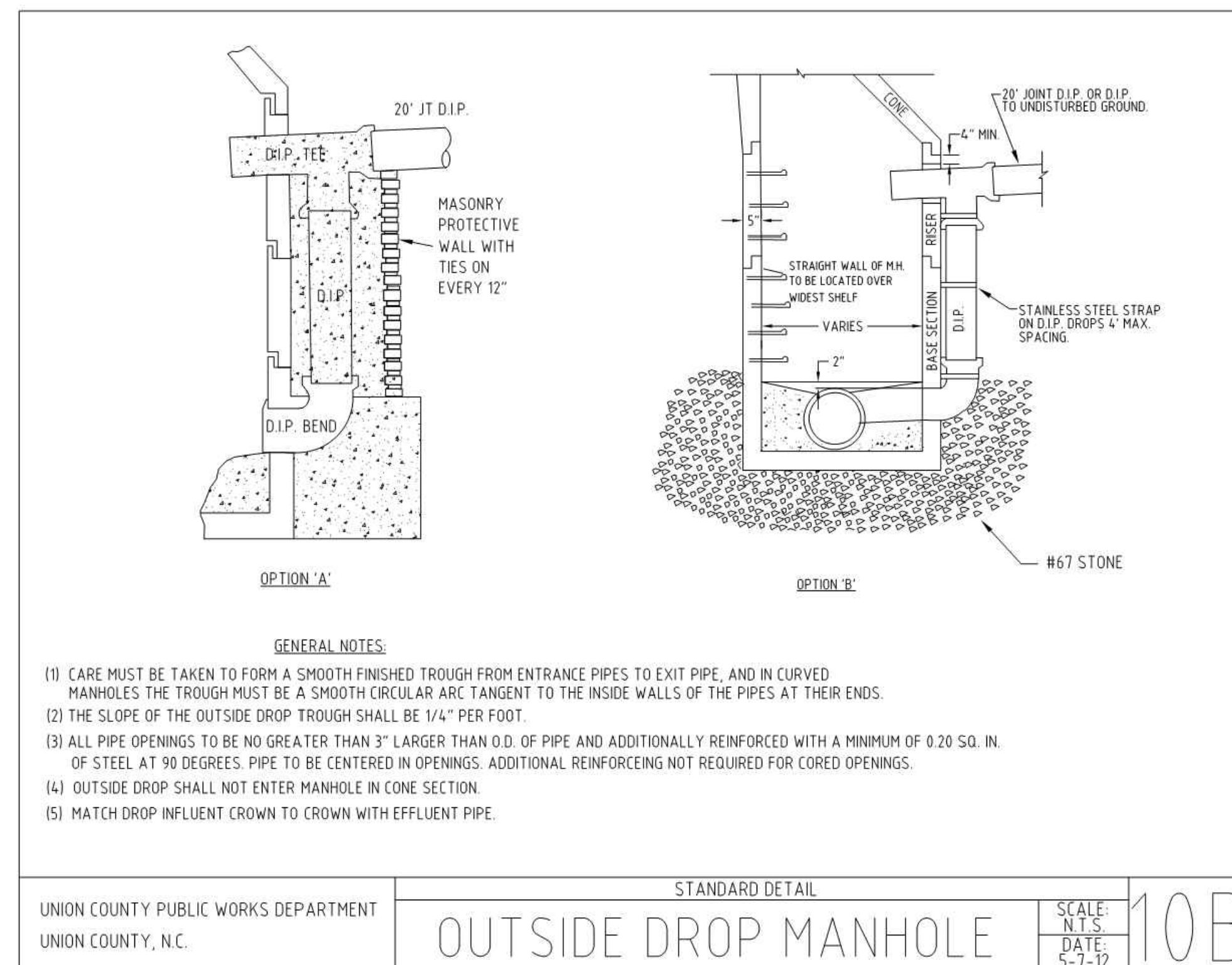
THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE APRIL 2021
CONTRACT NUMBER	H & S JOB NUMBER 30831-049
DRAWING NUMBER	D5



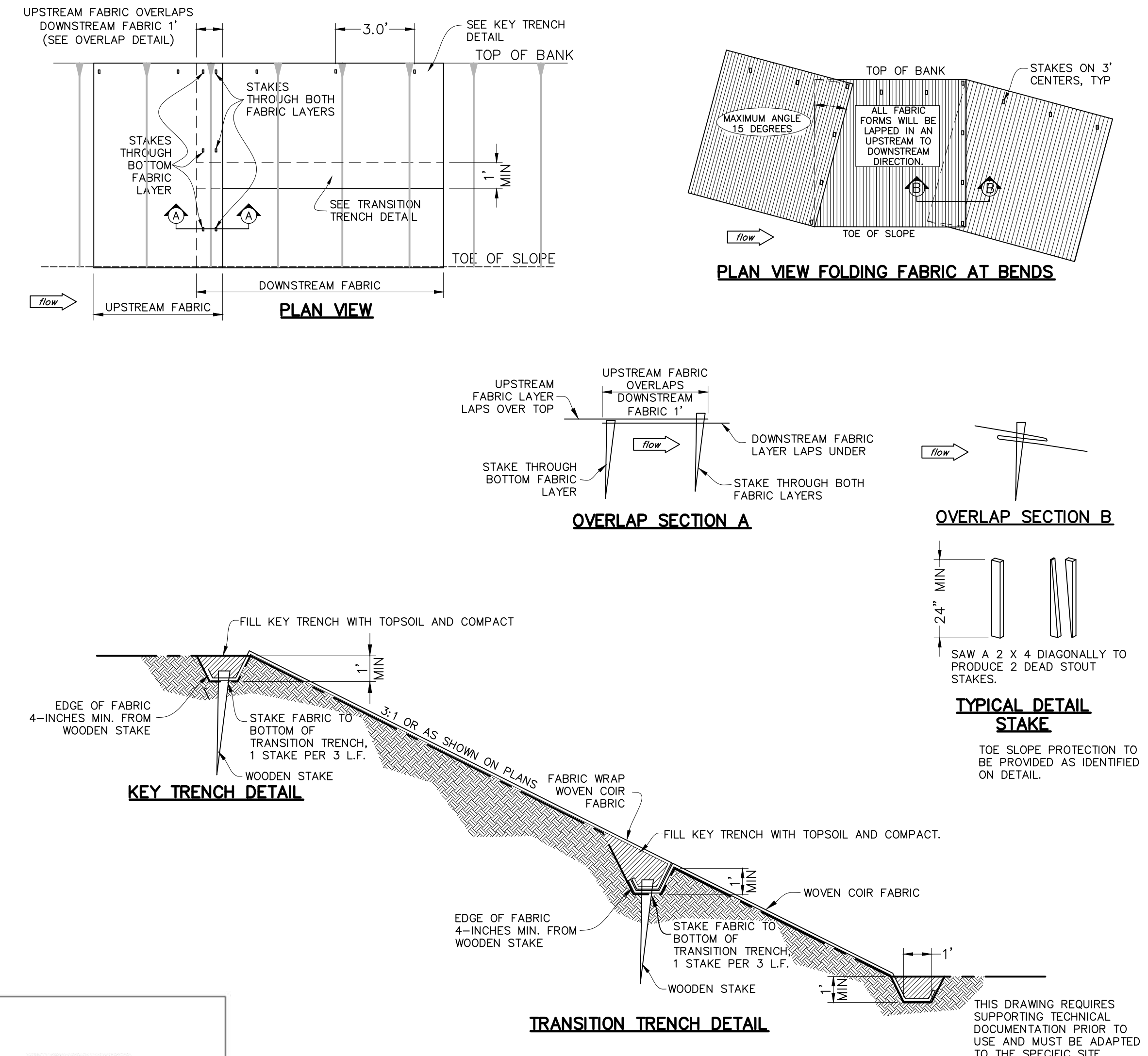
- GENERAL NOTES:**
- 1) 1 ROLL OF MASTIC AND A 6" EXTERNAL JOINT/SEAM WRAP INSTALLED ON EACH MANHOLE SECTION
 - 2) MANHOLE VACUUM TESTING - AFTER EACH MANHOLE IS INSTALLED AND ALL PIPES ARE CONNECTED, BUT BEFORE BACKFILLING, THE MANHOLE SHALL BE VACUUM TESTED. ALL PIPES ENTERING THE MANHOLE SHALL BE PLUGGED AND BRACED. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PERFORM THE TESTING. A VACUUM OF 10 INCHES OF MERCURY SHALL BE CREATED ON THE INSIDE OF THE MANHOLE. AT THE VACUUM OF 10 INCHES OF MERCURY, THE PUMP SHALL BE STOPPED AND THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP 9 INCHES. FAILURE OF THE TEST SHALL BE ANY AMOUNT OF TIME LESS THAN THE FOLLOWING:
 4 FT. DIAMETER MANHOLE = 60 SECONDS
 5 FT. DIAMETER MANHOLE = 75 SECONDS
 6 FT. DIAMETER MANHOLE = 90 SECONDS
 7 FT. DIAMETER MANHOLE = 105 SECONDS
 8 FT. DIAMETER MANHOLE = 120 SECONDS
 10 FT. DIAMETER MANHOLE = 150 SECONDS
 UPON TEST FAILURE, THE CONTRACTOR SHALL REPAIR ALL LEAKS AND RETEST THE MANHOLE UNTIL THE TEST HAS PASSED.



- NOTES:**
1. THE CLEAN-OUT SHALL BE ADJUSTED TO GRADE AND THE POST REMOVED BY THE PLUMBER UPON CONNECTION TO THE TAP.
 2. PLUMBER SHALL HAVE THE OPTION TO INSTALL A ONE PIECE 4" SCH. 40 COMBINATION WYE TO MINIMIZE TRENCH DEPTH OR INSTALL THE SEWER SERVICE LATERAL FROM THE 4" STUB OUT.
 3. ALL CONSTRUCTION BY THE PLUMBER, EITHER OPTION 1 OR OPTION 2, SHALL BE INSPECTED AND APPROVED BY UNION COUNTY PLUMBING INSPECTOR UNDER A VALID PLUMBING PERMIT.
 4. CONTRACTOR OR UNION COUNTY PUBLIC WORKS PERSONNEL MAY ADJUST SERVICE LATERAL ELEVATION WITH FITTINGS IF ADEQUATE GRADE EXISTS.
 5. LATERAL CONNECTIONS TO MANHOLES MUST BE CORED AND BOOT INSTALLED.



- GENERAL NOTES:**
- (1) CARE MUST BE TAKEN TO FORM A SMOOTH FINISHED TROUGH FROM ENTRANCE PIPES TO EXIT PIPE, AND IN CURVED MANHOLES THE TROUGH MUST BE A SMOOTH CIRCULAR ARC TANGENT TO THE INSIDE WALLS OF THE PIPES AT THEIR ENDS.
 - (2) THE SLOPE OF THE OUTSIDE DROP TROUGH SHALL BE 1/4" PER FOOT
 - (3) ALL PIPE OPENINGS TO BE NO GREATER THAN 3" LARGER THAN O.D. OF PIPE AND ADDITIONALLY REINFORCED WITH A MINIMUM OF 0.20 SQ. IN. OF STEEL AT 90 DEGREES. PIPE TO BE CENTERED IN OPENINGS. ADDITIONAL REINFORCING NOT REQUIRED FOR CORED OPENINGS.
 - (4) OUTSIDE DROP SHALL NOT ENTER MANHOLE IN CONE SECTION
 - (5) MATCH DROP INFLUENT CROWN TO CROWN WITH EFFLUENT PIPE.



- GENERAL NOTES:**
1. COCONUT EROSION CONTROL BLANKET SHALL BE "BIO D-70" OR APPROVED EQUAL, ABLE TO WITHSTAND 10 FPS WATER VELOCITIES AND 4.46 PSF SHEAR STRESS. FABRIC EMBEDMENT 3.0 FT.
 2. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
 3. BEGIN AT TOP OF THE SLOPE BY ANCHORING RECP'S IN A 1' DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" EXTENDED BEYOND THE UPSLOPE PORTION OF THE TRENCH. ANCHOR THE RECP WITH A ROW OF STAKES APPROXIMATELY 3" APART IN BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP BACK OVER SEED AND COMPACTED SOIL. SECURE RECP OVER COMPACTED SOIL WITH A ROW OF STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP. THE EDGES OF RECP'S MUST BE OVERLAPPED A MINIMUM OF 1'.

DESIGNED	JOG
DRAWN	GWF
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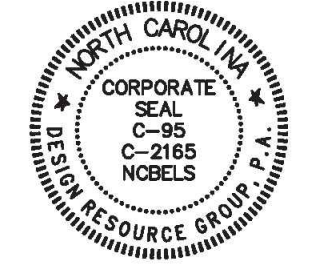
**UNION COUNTY PUBLIC WORKS
STANDARD DETAILS AND
MISCELLANEOUS DETAILS**

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
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	CONTRACT NUMBER	
	DRAWING NUMBER	D6



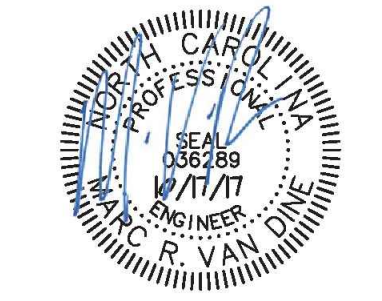
LANDSCAPE ARCHITECTURE
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WATER AND SEWER IMPROVEMENTS
TO SERVE CANISTEO
UNION COUNTY, NORTH CAROLINA
DEAL ROAD VENTURES, LLC
113 INDIAN TRAIL RD #274
INDIAN TRAIL, NC 28079
(704) 400-9837

UNION CO. PUBLIC WORKS



SCALE: 1" = 40'

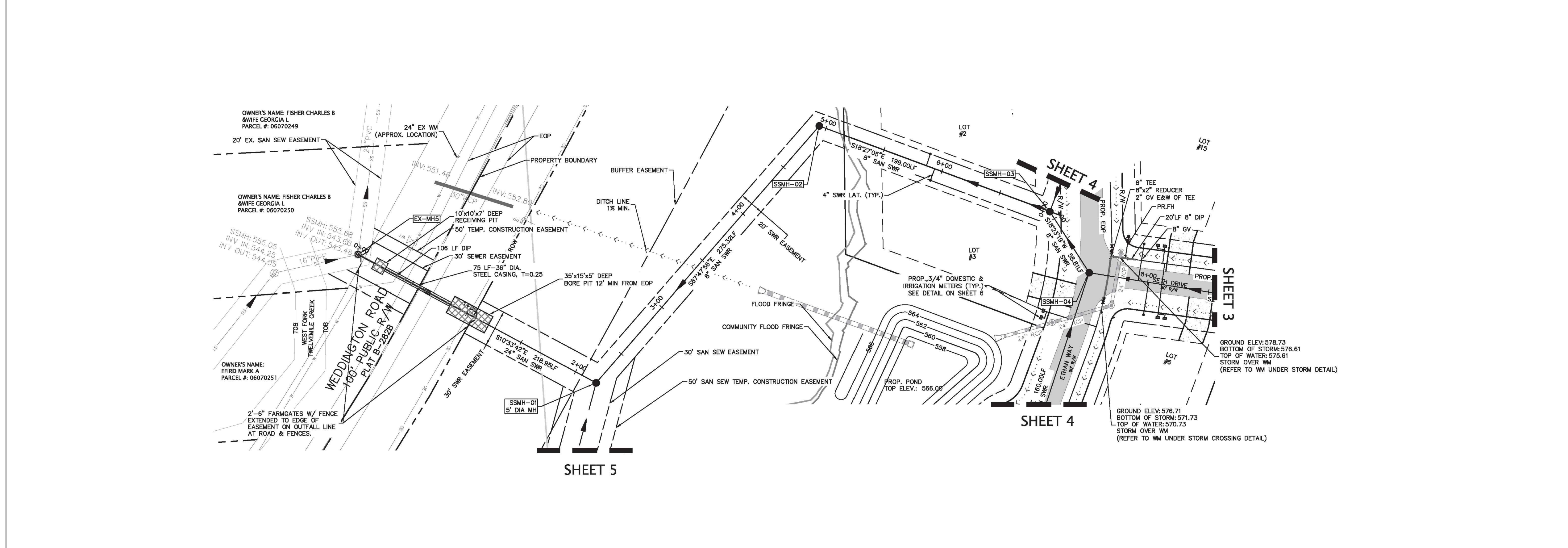
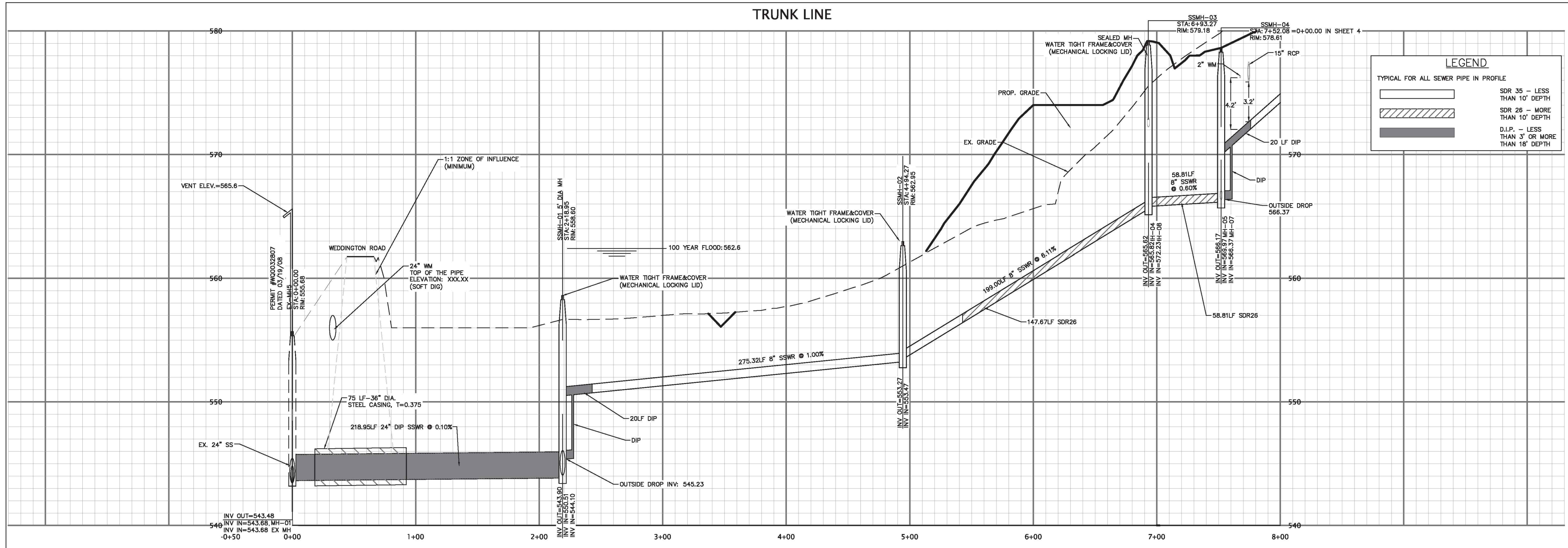
PROJECT #: 635-002
DRAWN BY: EK
CHECKED BY: MVD

SANITARY SEWER AND WATER PLAN & PROFILE

JUNE 23, 2017

REVISIONS:
1. 09/14/17 UCFW 1ST REDLINE
2. 10/04/17 UCFW 2ND REDLINE
3. 10/17/17 UCFW 3RD REDLINE

SHEET 2



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UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

REFERENCE DRAWING

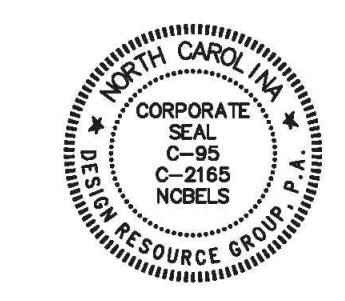
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	DRAWING NUMBER	R1



design resource group

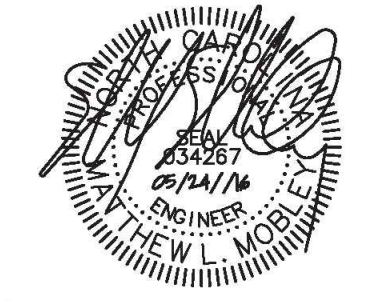
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- civil engineering
- urban design
- land planning
- traffic engineering
- transportation planning

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 UNION COUNTY, NORTH CAROLINA
CAROLINA DEVELOPMENT SERVICES, LLC
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 MONROE, NC 28110
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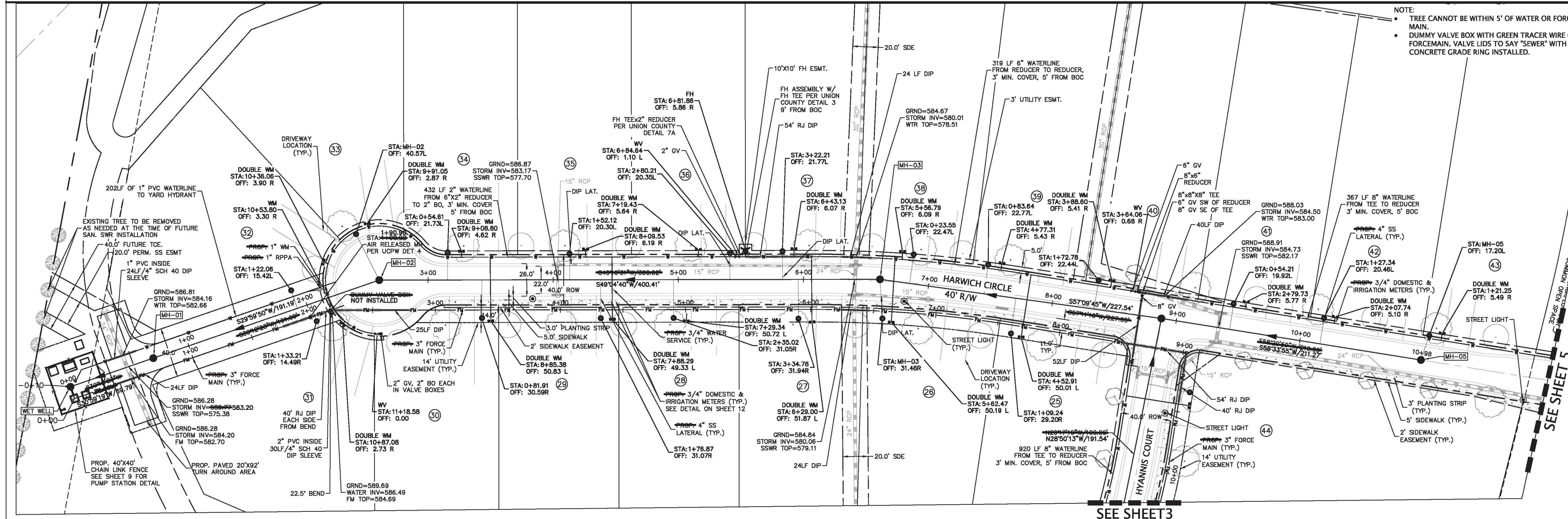
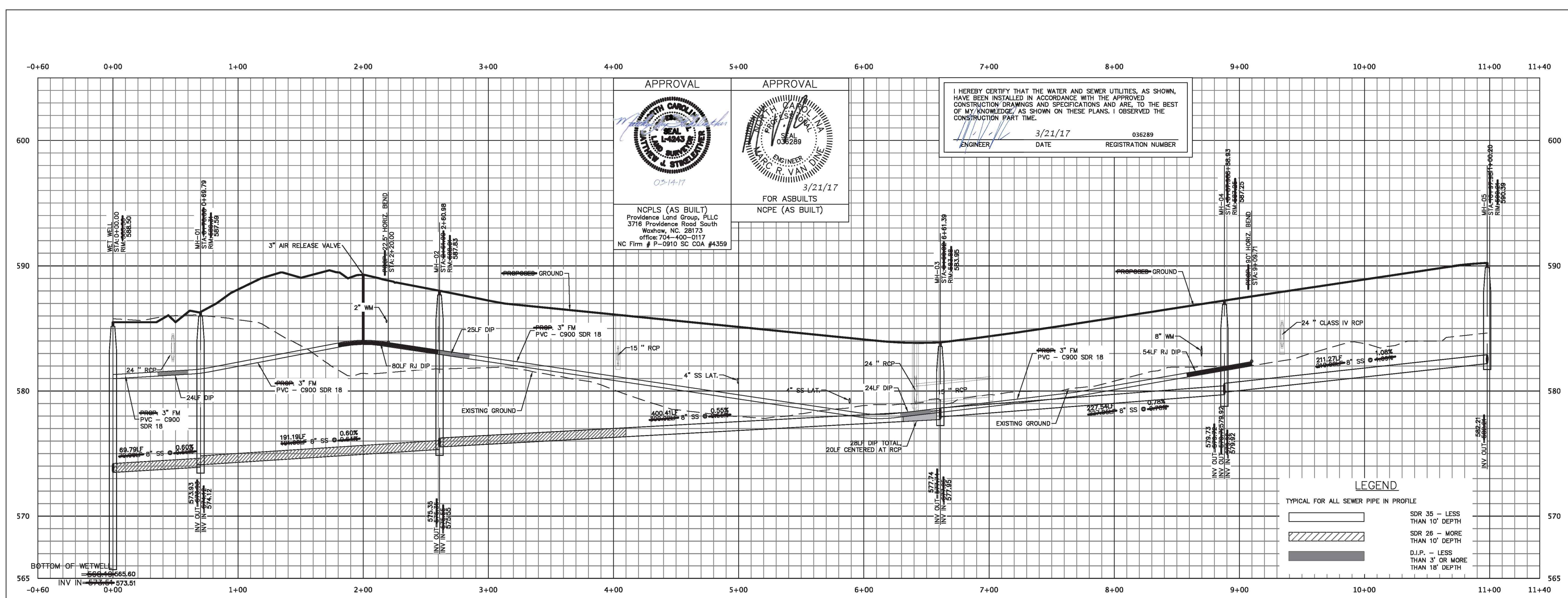


SCALE: 1" = 40'
 PROJECT #: 472-001
 DRAWN BY: TR
 CHECKED BY: MM

SEWER LINE "A"
STA. 0+00 - 10+97.98

- MARCH 27, 2015
- REVISIONS:
1. PER UNION COUNTY CURSORY REVIEW
 2. 06/15/15 - PER UCM REVIEW
 3. 07/09/15 - PER UCM REVIEW
 4. 07/22/15 - PER UCM REVIEW
 5. 07/24/15 - PER UCM REVIEW
 6. 08/24/15 - PER UCM REVIEW
 7. 01/14/16 - PER UCM REVIEW
 8. 02/04/16 - REV IRRIGATION METER SIZE
 9. 03/24/16 - REV AIR RELEASE MH
 10. 02/02/17 - UCM ASBUILT REVISIONS
 11. 02/07/17 - 2ND UCM ASBUILT REVISIONS
 12. 03/16/17 - REVISED SIDEWALK WIDTH

2 OF 12



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DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
NO.	ISSUED FOR
	DATE
	BY
	APPROVED

Hazen

HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

UNION COUNTY
 NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR

REFERENCE DRAWING

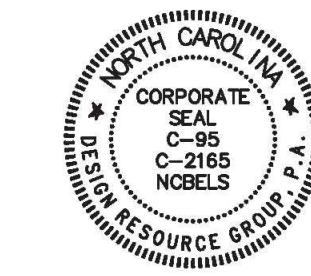
DATE	APRIL 2021
H & S JOB NUMBER	30831-049
CONTRACT NUMBER	
DRAWING NUMBER	R2



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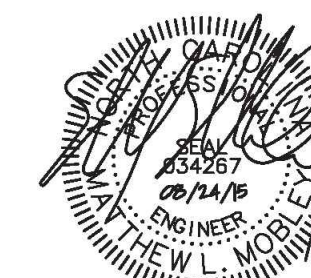
- landscape architecture
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 TO SERVE SCOTCH MEADOWS**
 UNION COUNTY, NORTH CAROLINA
CAROLINA DEVELOPMENT SERVICES, LLC
 2649 BREKONRIDGE CENTRE DR.
 MONROE, NC 28110
 (704) 238-1229

UNION CO. PUBLIC WORKS



15 0 15 30
 SCALE: 1"=30'

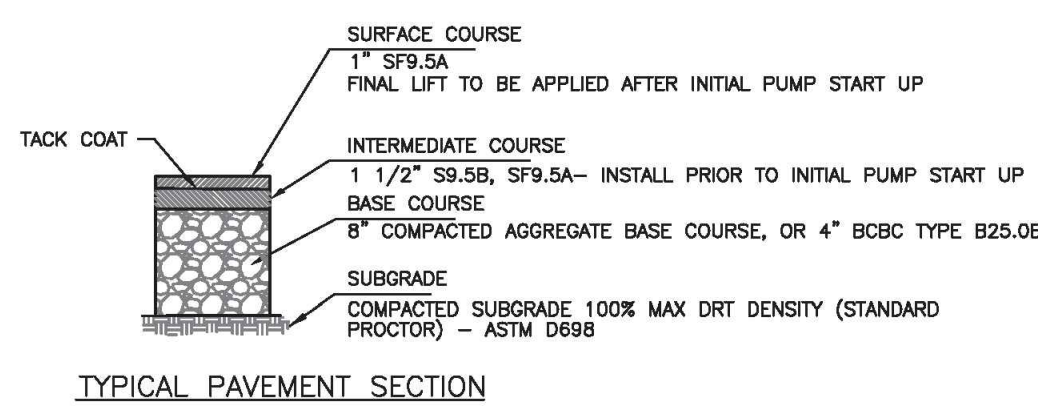
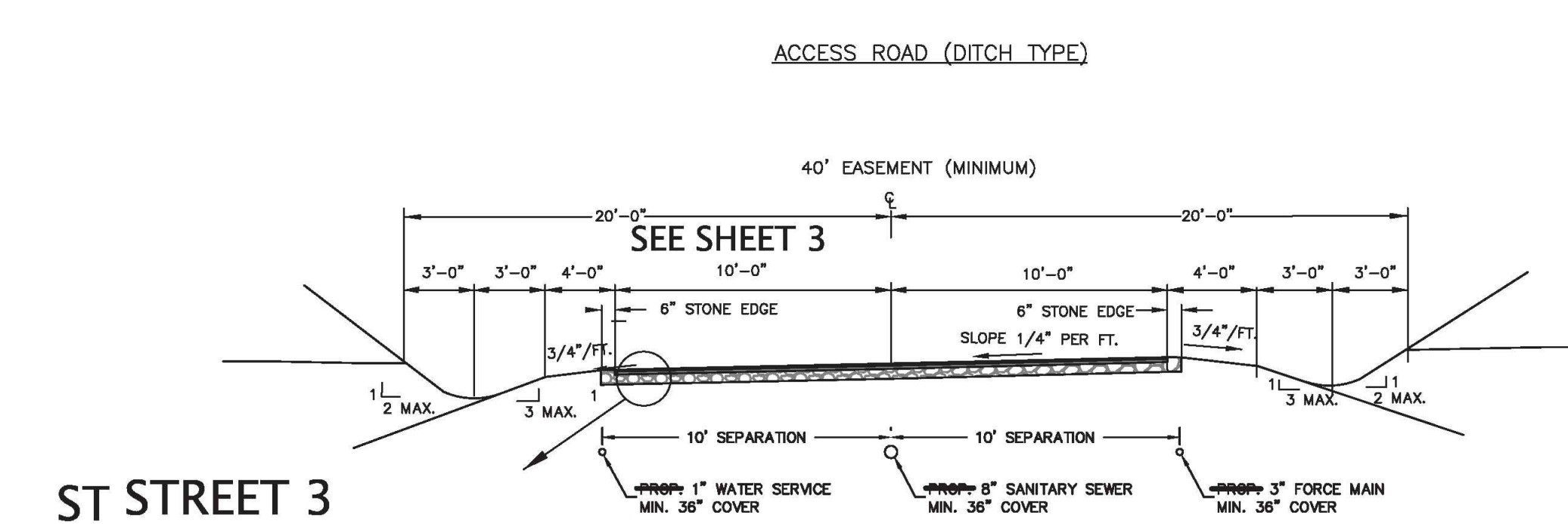
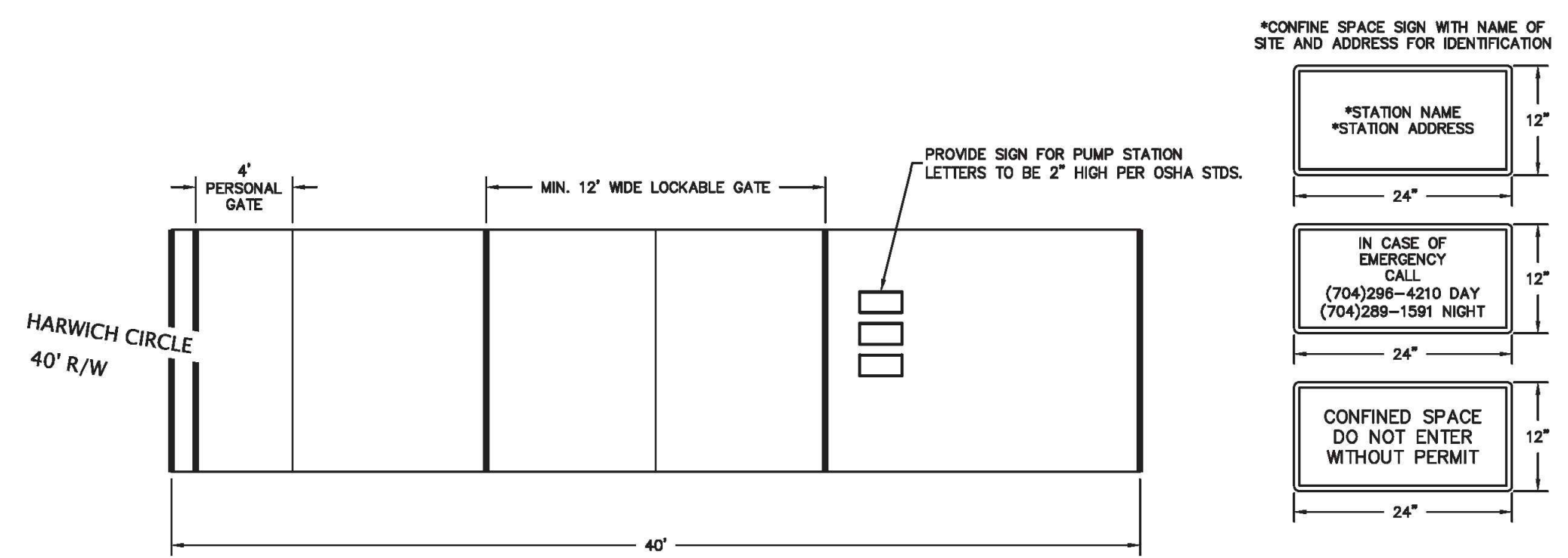
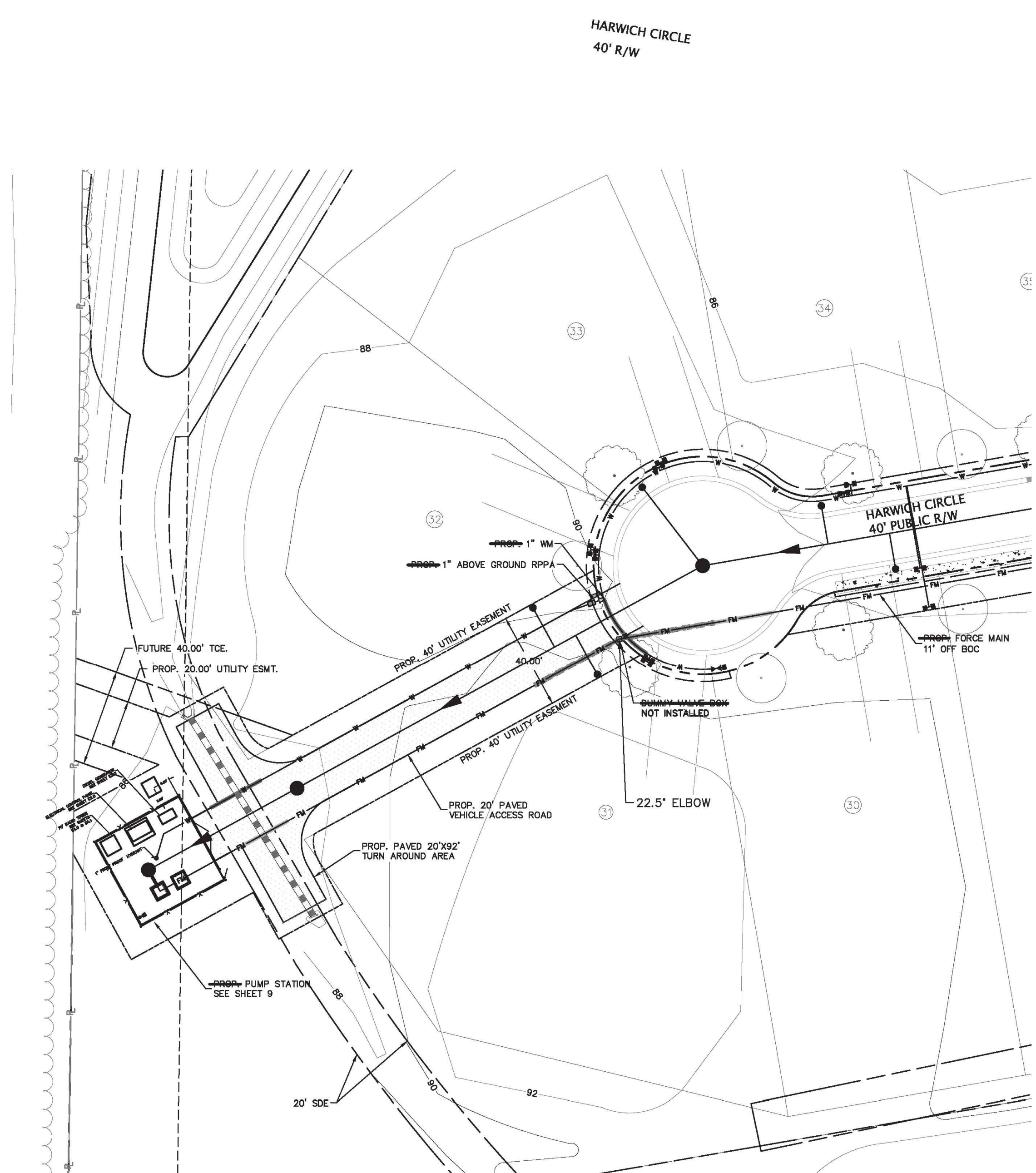
PROJECT #: 472-001
 DRAWN BY: TH
 CHECKED BY: MM

**PUMP STATION
 SITE PLAN &
 GRADING PLAN**

SEPTEMBER 15, 2014

- REVISIONS:
1. PER UNION COUNTY CURSORY REVIEW
 2. 08/16/15 - PER UCPW REVIEW
 3. 07/09/15 - PER UCPW REVIEW
 4. 07/21/15 - PER UCPW REVIEW
 5. 07/24/15 - PER UCPW REVIEW
 6. 08/24/15 - PER UCPW REVIEW
 7. 01/23/17 - UCPW ASSULT RELIQUINS
 8. 03/10/17 - REVISED SIDEWALK WIDTH

6 OF 12



I HEREBY CERTIFY THAT THE WATER AND SEWER UTILITIES, AS SHOWN, HAVE BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND ARE, TO THE BEST OF MY KNOWLEDGE, AS SHOWN ON THESE PLANS, I OBSERVED THE CONSTRUCTION PART TIME.

3/21/17 036289

ENGINEER DATE REGISTRATION NUMBER

APPROVAL	APPROVAL
NCPLS (AS BUILT) Providence Land Group, PLLC 3716 Providence Road South Waxhaw, NC 28173 office: 704-400-0117 NC Firm # P-0910 SC COA #4359	FOR ASBUILTS 3/21/17 NCPE (AS BUILT)

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DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
NO.	ISSUED FOR
DATE	BY
APPROVED	

Hazen

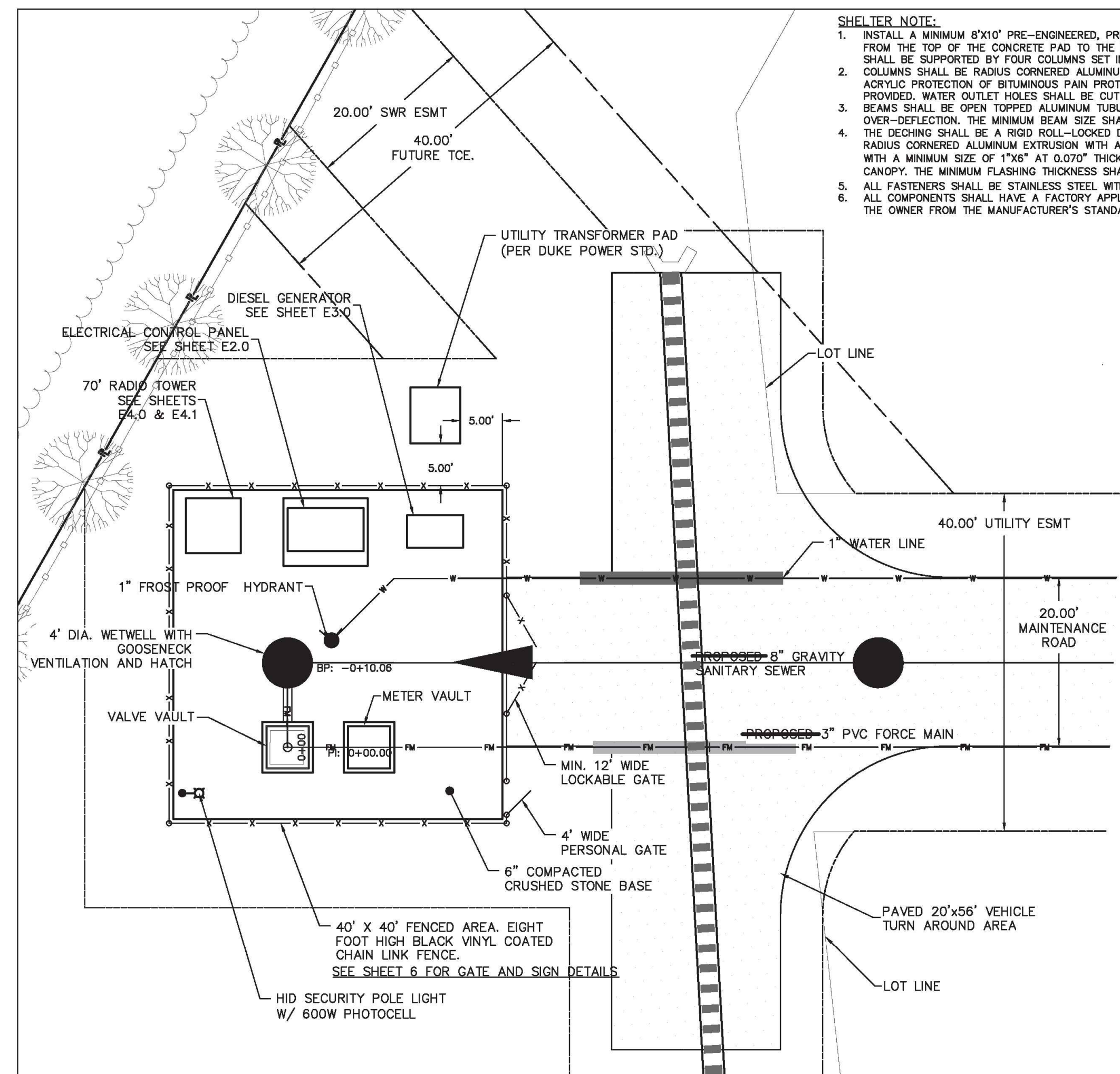
HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

UNION COUNTY
 NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR

REFERENCE DRAWING

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	R3



PUMP STATION BLOW UP PLAN
SCALE: 1" = 10'

SHELTER NOTE:
 1. INSTALL A MINIMUM 8'X10' PRE-ENGINEERED, PRE-FINISHED ALUMINUM CANOPY OVER THE ELECTRICAL CONTROL PANEL. THE CLEARANCE FROM THE TOP OF THE CONCRETE PAD TO THE BOTTOM OF THE CANOPY BEAMS SHALL BE A MINIMUM OF 9 FEET. THE CANOPY SYSTEM SHALL BE SUPPORTED BY FOUR COLUMNS SET IN CONCRETE FOOTINGS.
 2. COLUMNS SHALL BE RADIUS CORNERED ALUMINUM TUBULAR EXTRUSION WITH A MINIMUM SIZE OF 4"x4" AT 0.124" THICK, A CLEAR ACRYLIC PROTECTION OF BITUMINOUS PAINT PROTECTION BETWEEN THE ALUMINUM COLUMN AND THE CONCRETE FOOTER SHALL BE PROVIDED. WATER OUTLET HOLES SHALL BE CUT AT THE BOTTOM OF ALL DRAINING COLUMNS WITH DEFLECTOR PLATES INSTALLED INSIDE. BEAMS SHALL BE OPEN TOPPED ALUMINUM TUBULAR EXTRUSION SIZED TO ACCOMMODATE APPLIED LOADINGS WITHOUT OVER-STRESS OR OVER-DEFLECTION. THE MINIMUM BEAM SIZE SHALL BE 4"x6" AT 0.125" THICK.
 3. THE DESIGN SHALL BE A RIGID ROLL-LOCKED DESIGN THAT IS SELF FLASHING AND UTILIZES INTERLOCKING SECTIONS. GUTTERS SHALL BE RADIUS CORNERED ALUMINUM EXTRUSION WITH A MINIMUM SIZE OF 4"x6" AT 0.093" THICK. FALSE FASCIA SHALL BE ALUMINUM EXTRUSION WITH A MINIMUM SIZE OF 1"x6" AT 0.070" THICK. LASHING SHALL BE MADE OF ALUMINUM SHEET PAINTED TO MATCH THE COLOR OF THE CANOPY. THE MINIMUM FLASHING THICKNESS SHALL BE 0.040" THICK.
 4. ALL FASTENERS SHALL BE STAINLESS STEEL WITH NEOPRENE WASHERS AND 8" ALUMINUM RIVETS.
 5. ALL COMPONENTS SHALL HAVE A FACTORY APPLIED BACKED ENAMEL COMPLYING WITH AAMA 2603. THE COLOR SHALL BE SELECTED BY THE OWNER FROM THE MANUFACTURER'S STANDARD COLOR CHART.

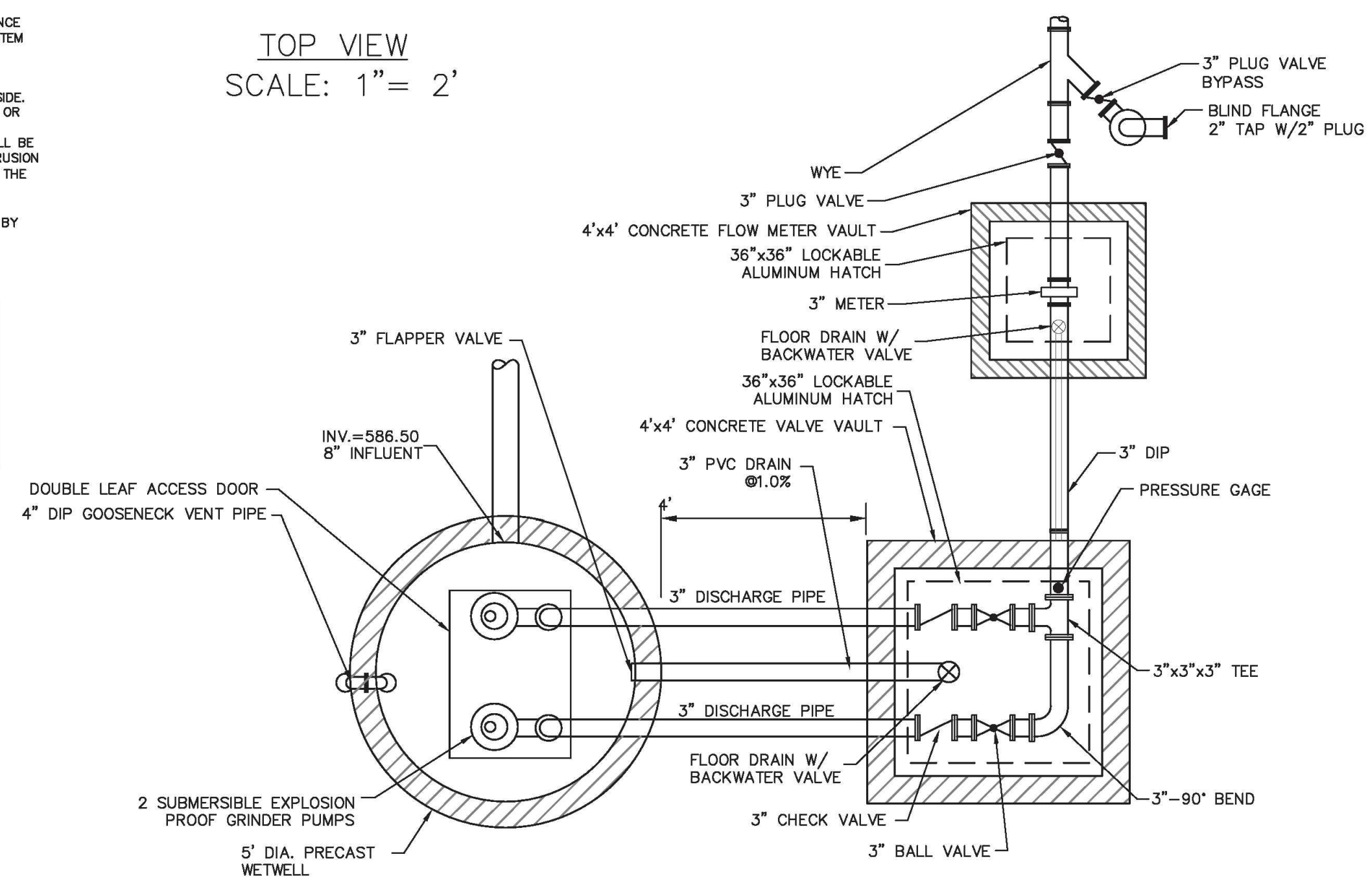
I HEREBY CERTIFY THAT THE WATER AND SEWER UTILITIES, AS SHOWN, HAVE BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND ARE, TO THE BEST OF MY KNOWLEDGE, AS SHOWN ON THESE PLANS, I OBSERVED THE CONSTRUCTION PART TIME.
 ENGINEER 1/23/17 036289
 DATE REGISTRATION NUMBER

APPROVAL

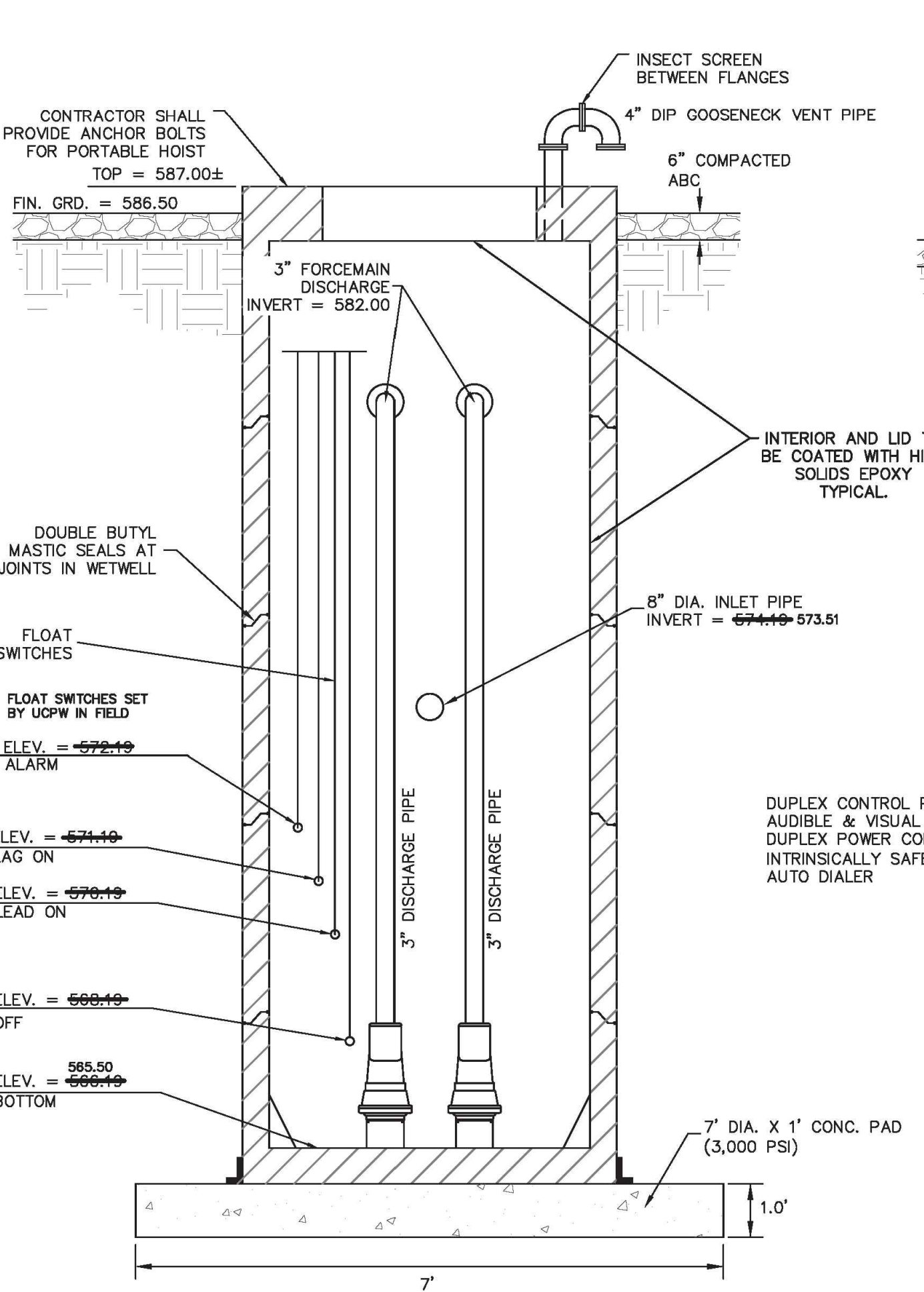
APPROVAL

NCPLS (AS BUILT)
 Providence Land Group, PLLC
 3716 Providence Road South
 Washou, NC 28175
 office: 704-400-0117
 NC Firm # C-0910 Sc. CDA #4359

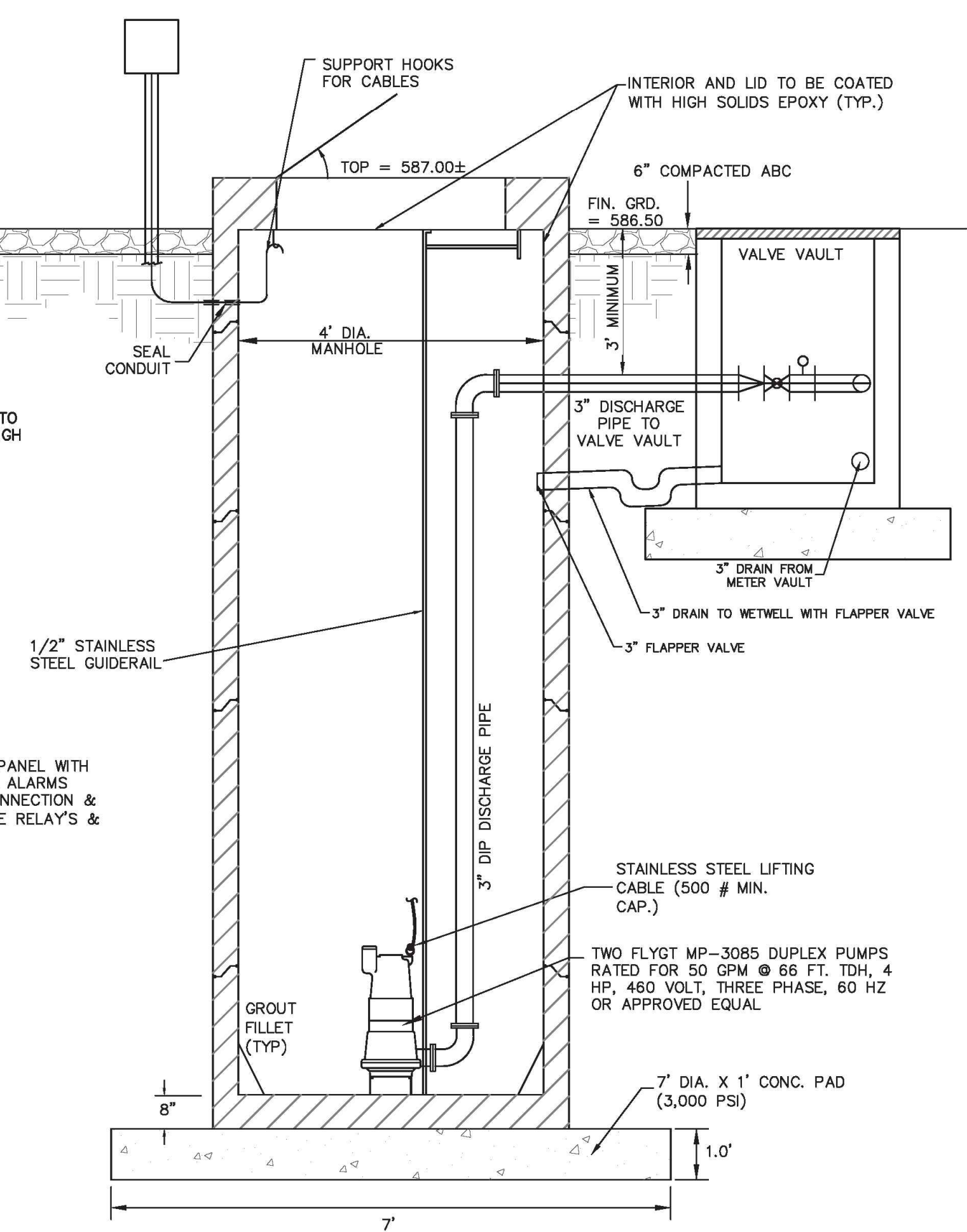
TOP VIEW
SCALE: 1" = 2'



FRONT VIEW
SCALE: 1" = 2'



SIDE VIEW
SCALE: 1" = 2'



PUMP STATION DESIGN CRITERIA:

DESIGN FLOW CALCULATION

44 LOTS X 360 GPD/LOT = 15,840 GPD
 TOTAL AVERAGE DAILY FLOW = 15,840 GPD
 = 11,000 GPM

PF, PEAKING FACTOR = (1.8 + sqrt(P))/(1.4 + sqrt(P)) = 4.23

P. SERVICE POPULATION

44 LOTS X 2.5 PERSONS/LOT = 110
 TOTAL PEAK DAILY FLOW = 67035 GPD
 = 46,55 GPM

FORCE MAIN DESIGN

FORCE MAIN SIZE = 3 INCH
 DESIGN PUMP RATE = 50 GPM
 VELOCITY = 2.41 FPS
 EQUIVALENT FORCE MAIN LENGTH = 4,382 FT
 Hazen-Williams C Factor, PVC = 120

TOTAL DYNAMIC HEAD CALCULATION AT DESIGN CONDITION

SUCTION STATIC HEAD = 2.00 FT
 FORCE MAIN DISCHARGE INVERT = 582 FT
 PUMP BOTTOM INVERT = 568.19 FT
 DISCHARGE STATIC HEAD = (DISCHARGE HEAD - SUCTION HEAD) = 11.81 FT
 FRICTION HEAD LOSS IN FORCE MAIN = 55.96 FT
 TOTAL DYNAMIC HEAD = 65.77 FT

PUMP SELECTION

PUMP MODEL: FLYGT MP-3085 DUPLEX
 MOTOR: 4 HP (EACH)
 IMPELLER: IMPELLER 257 (143mm)
 SUCTION: 1.5"
 DISCHARGE: 1.5"
 DUTY POINT: 50 GPM@66' TDH
 EFFICIENCY:
 POWER REQUIREMENT: 60Hz - 3 PHASE, 460V

PUMP STATION OPERATING CONDITION

WET WELL DIAMETER = 5 FT
 TOP OF SLAB = 587.0
 GROUND ELEVATION = 586.50
 TOP OF FORCE MAIN DISCHARGE = 582
 INFLUENT IN = 573.51
 HIGH LEVEL ALARM = 573.51
 LAG PUMP ON = 573.51
 LEAD PUMP ON = 573.51
 TOP OF PUMP = 568.19
 ALL PUMPS OFF = 568.19
 LOW LEVEL ALARM = 568.19
 PUMP SUCTION = 2.00
 WET WELL FLOOR = 568.19
 WET WELL CYCLE HEIGHT = 2.00

CYCLE TIME @ ADF & PUMP RATE = 50 GPM

VOLUME IN CYCLE = 187.90 GAL
 Q-PUMP = 50 GPM
 Q-ADF = 11.00 GPM
 T = V/(Q-ADF*(1-Q-ADF/Q-PUMP)) = 21.9 MINUTES
 RE-FILL TIME = 17.1 MINUTES
 DRAW-DOWN TIME = 4.82 MINUTES
 CYCLE TIME = 21.90 MINUTES
 CYCLES PER HOUR = 2.74
 CYCLES PER HOUR PER PUMP = 1.37

CYCLE TIME @ PDF & PUMP RATE = 50 GPM

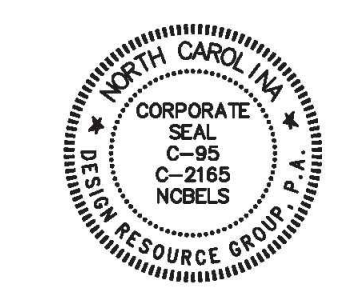
VOLUME IN CYCLE = 187.90 GAL
 Q-PUMP = 50 GPM
 Q-PDF = 46.55 GPM
 T = V/(Q-ADF*(1-Q-ADF/Q-PUMP)) = 58.5 MINUTES
 RE-FILL TIME = 4.04 MINUTES
 DRAW-DOWN TIME = 54.50 MINUTES
 CYCLE TIME = 58.53 MINUTES
 CYCLES PER HOUR = 1.03
 CYCLES PER HOUR PER PUMP = 0.51



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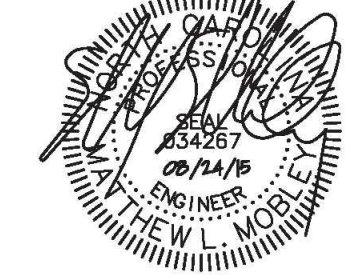
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- traffic engineering
- transportation planning

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 UNION COUNTY, NORTH CAROLINA
CAROLINA DEVELOPMENT SERVICES, LLC
 2649 BREKENRIDGE CENTRE DR.
 MONROE, NC 28110
 (704) 238-1229

UNION CO. PUBLIC WORKS



SCALE: 1" = 10'

PROJECT #: 472-001
 DRAWN BY: TH
 CHECKED BY: MM

PUMP STATION AND DETAIL

SEPTEMBER 15, 2014

REVISIONS:

- PER UNION COUNTY CURSORY REVIEW
- 08/16/15 - PER UCPW REVIEW
- 07/09/15 - PER UCPW REVIEW
- 07/21/15 - PER UCPW REVIEW
- 07/24/15 - PER UCPW REVIEW
- 08/24/15 - PER UCPW REVIEW
- 01/23/17 - UCPW ASBUILT REDLINES

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

NO.	ISSUED FOR	DATE	BY	APPROVED

Hazen

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 LICENSE NO. : C-0381

UNION COUNTY NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK INTERCEPTOR

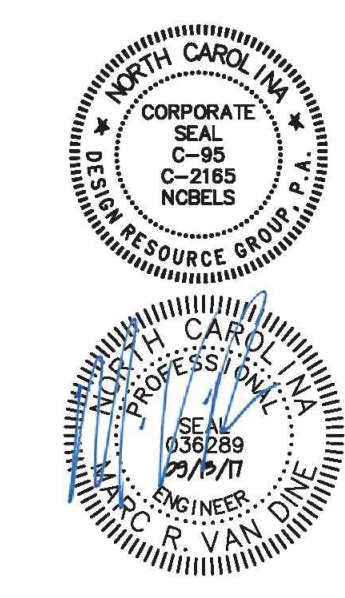
REFERENCE DRAWING

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
H & S JOB NUMBER	30831-049	
CONTRACT NUMBER		DRAWING NUMBER
		R4



LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
TRANSPORTATION PLANNING

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UNION COUNTY, NORTH CAROLINA
BONTERRA BUILDERS
5615 POTTERS ROAD, MATTHEWS, NC 28104
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SANITARY SEWER AND WATER
PLAN & PROFILE

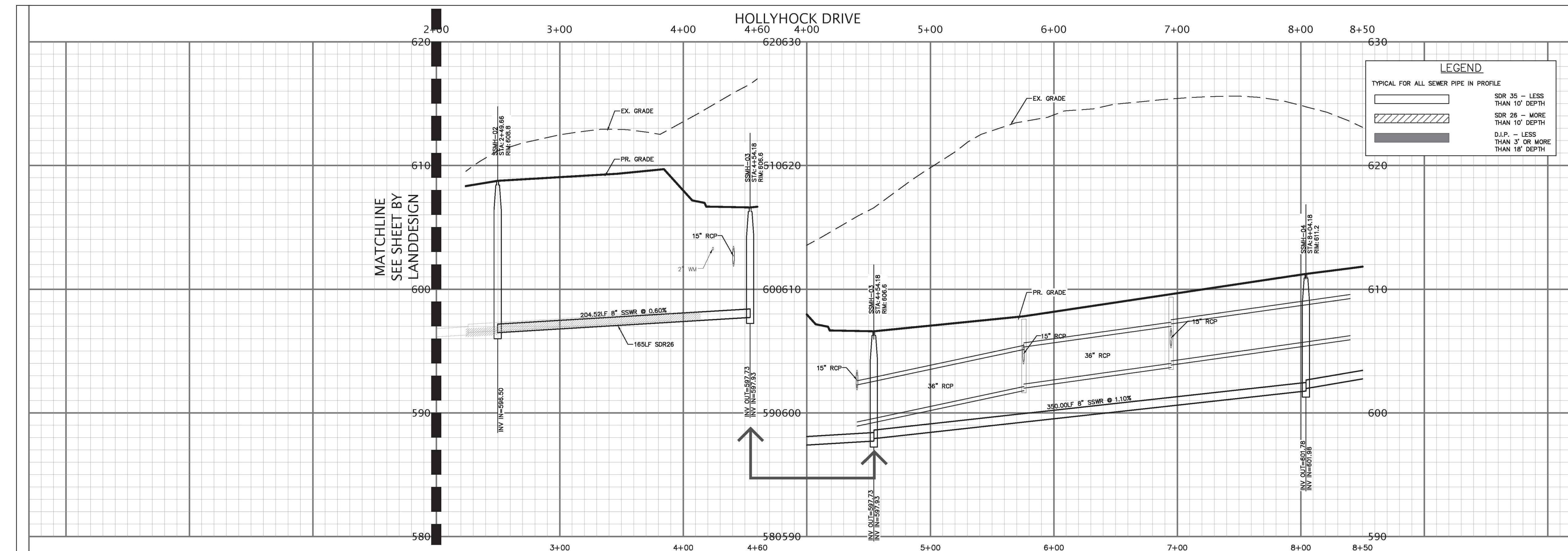
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PROJECT #: 409-008
DRAWN BY: RK
CHECKED BY: MVD

SEPTEMBER 13, 2017

REVISIONS:

SHEET 5

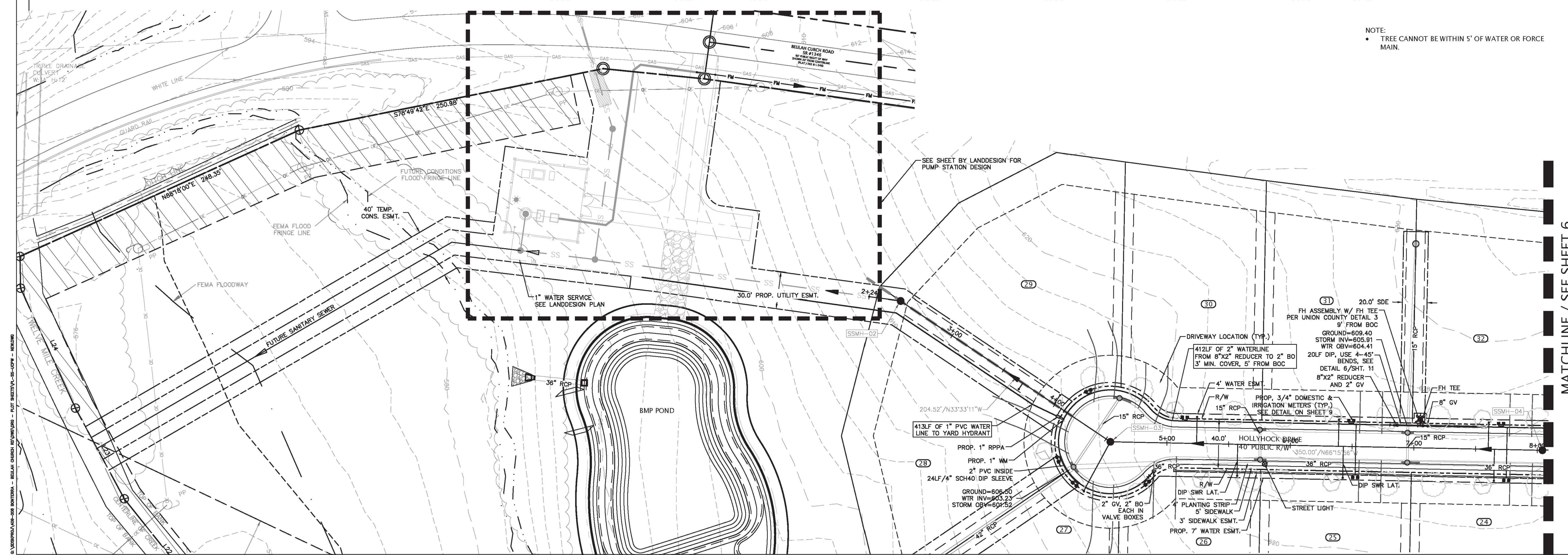


LEGEND

TYPICAL FOR ALL SEWER PIPE IN PROFILE

[Symbol]	SDR 35 - LESS THAN 10' DEPTH
[Symbol]	SDR 26 - MORE THAN 10' DEPTH
[Symbol]	D.I.P. - LESS THAN 3' OR MORE THAN 18' DEPTH

NOTE:
• TREE CANNOT BE WITHIN 5' OF WATER OR FORCE MAIN.



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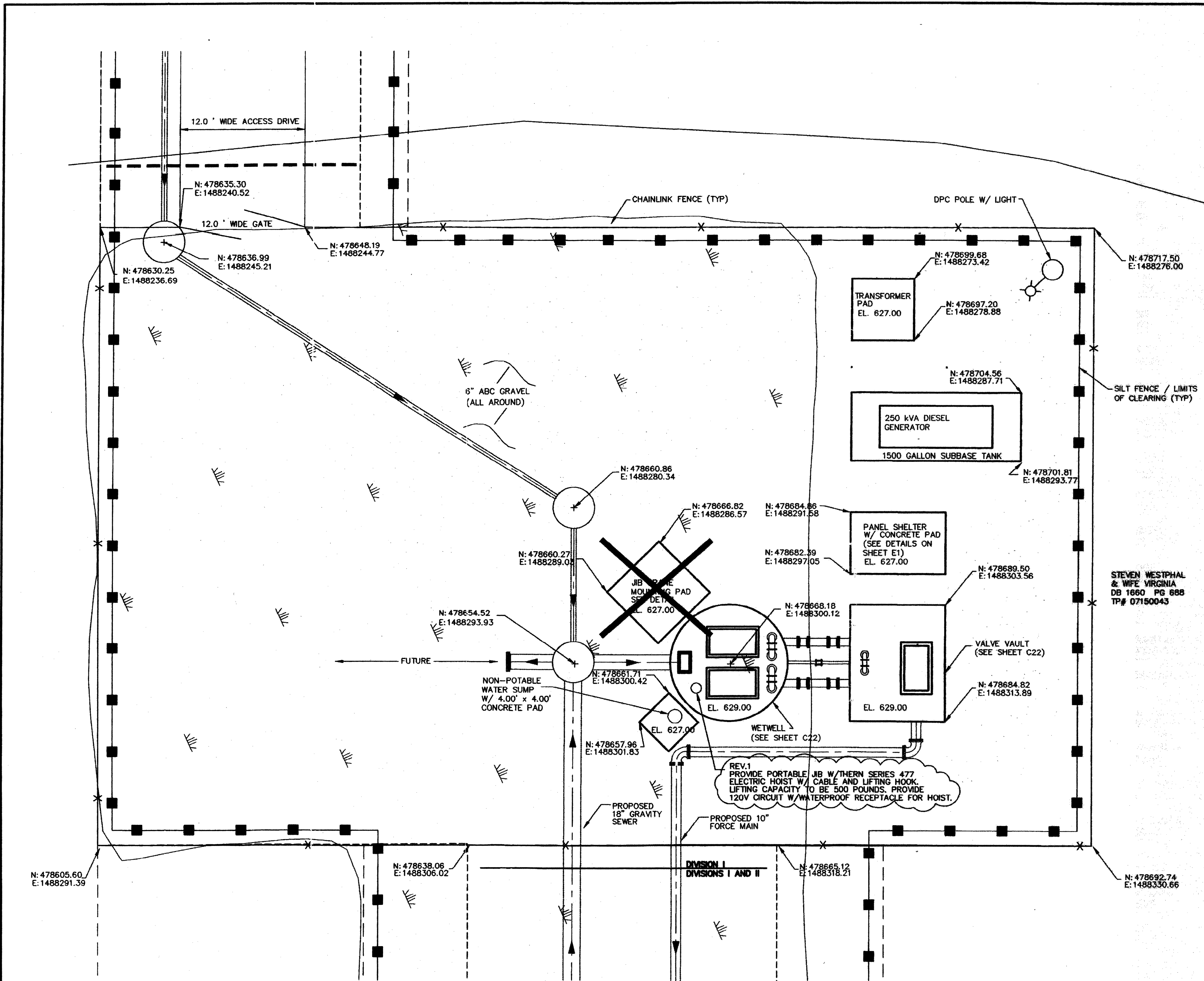
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DRAWN	GWF
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PROJ. ENGR.	JNS
APPROVED	
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	DATE
	BY

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LICENSE NO. : C-0381

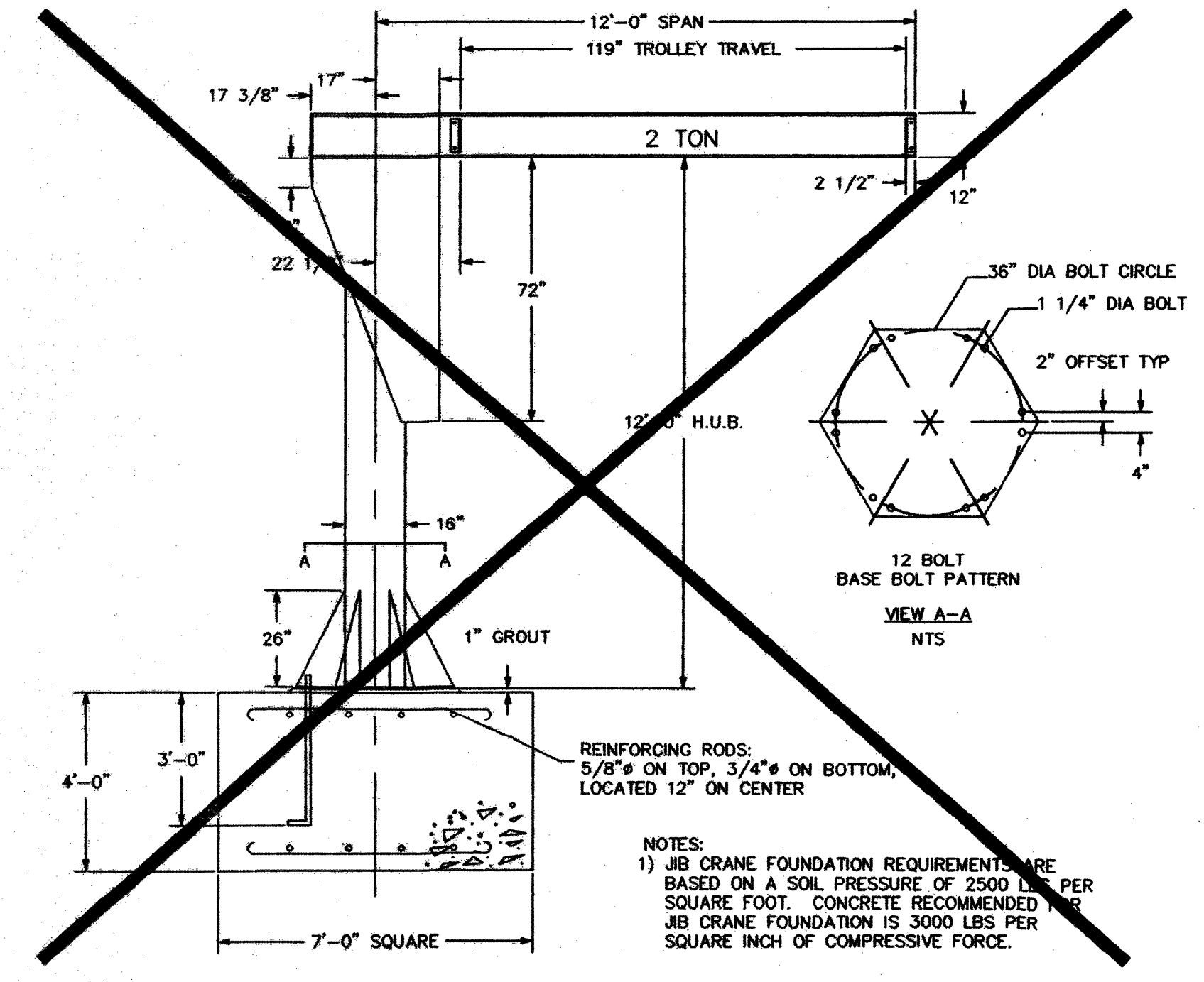
UNION COUNTY
NORTH CAROLINA
WEST FORK TWELVE-MILE CREEK
INTERCEPTOR

REFERENCE DRAWING

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	R5

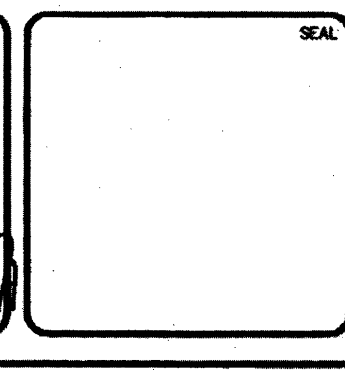
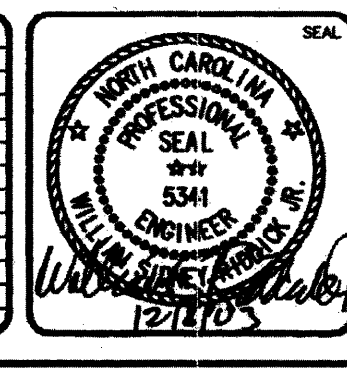


- NOTE:**
1. PROVIDE BASE PLATE MOUNTED 2-TON CAPACITY JIB CRANE (TO INCLUDE MAST-ASSEMBLY, BOOM-ASSEMBLY, HEAD-AND-FIVOT (960) ASSEMBLY, END-STOPS, AND ANCHOR-BOLTS) WITH MANUAL-HOIST-AND-TROLLEY. CRANE-SPAN SHALL BE 12'-0" (MIN.) WITH 12" (MIN.) HEIGHT UNDER-BOOM. JIB CRANE SHALL BE GORDEL MODEL FS-300-16-12 OR EQUAL.
 2. CONTRACTOR SHALL FURNISH AND INSTALL A NON-POTABLE WATER SUMP ADJACENT TO THE WETWELL. THE SUMP SHALL CONSIST OF A 30-FOOT LONG X 16-INCH DIAMETER X 0.25-INCH WALL THICKNESS STEEL CASING PIPE PLACED VERTICALLY ADJACENT TO THE WETWELL. THE CASING SHALL BE COATED INSIDE AND OUTSIDE WITH TWO COATS OF COAL TAR PAINT, KOPPERS "BITUMATIC SUPER SERVICE BLACK" OR EQUAL. THE CASING SHALL EXTEND FROM THE BOTTOM OF THE WETWELL BASE TO THREE FEET ABOVE THE FINISHED GROUND SURFACE. THE LOWER TEN FEET OF CASING SHALL BE SLOTTED. BACKFILL AROUND THE LOWER TEN FEET SHALL BE WELL GRADED CRUSHED STONE (No. 67). PROVIDE A FOUR-INCH THICK CONCRETE PAD TO EXTEND THREE FEET FROM THE CASING.
- THE SUMP SHALL BE EQUIPPED WITH A PORTABLE DEWATERING PUMP. THE PUMP SHALL DELIVER 20 GPM AT 58-FOOT TDH, AND SHALL BE FLYGT MODEL No. READY 16 OR EQUAL. THE PUMP SHALL BE DESIGNED TO OPERATE AT 1.7 HP, 115 V, SINGLE PHASE, 60 HZ. THE PUMP SHALL HAVE A TWO-INCH DISCHARGE HOSE CONNECTION, AND BE SUPPLIED WITH SUFFICIENT LENGTH OF TWO-INCH HOSE TO PROVIDE AN ABOVE GROUND HOSE CONNECTION. CONTROLS FOR THE PUMP SHALL INCLUDE MANUAL MOTOR STARTER, SHORT CIRCUIT AND OVERLOAD PROTECTION.



JIB CRANE DETAIL
NTS

NO.	ISSUED FOR	DATE	BY	APPROVED
1	RECORD DRAWING	12/22/00	JOG	
2	AS-BUILT	04/26/02	GWF	
3	ISSUED FOR PERMIT AND CONSTRUCTION	04/26/02	JNS	
4	ISSUED FOR PERMIT	02/25/03	JNS	
5	ISSUED FOR OWNER REVIEW	10/25/05	JNS	



MCKIM & CREED
2300 Sardis Road North, Suite A
Charlotte, North Carolina 28227
Phone: (704)841-2588, Fax: (704)841-2567
AA0002667 EB0006691
www.mckimcreed.com

John Wieland
**JOHN WIELAND HOMES
AND NEIGHBORHOODS**

**UPPER WEST FORK TWELVE MILE CREEK
PUMP STATION**

SITE PLAN

DATE: 09/12/2000	SCALE: HORIZONTAL: 1"=4'	M&E FILE NUMBER: CQ101
DATE PROJ. # 1524-0013	VERTICAL: n/a	DRAWING NUMBER: C21
DRAWN: GGG		18 OF 31
DESIGNED: GGG		
CHECKED: CES		
PROJ. MGR: CES		
STATUS: RELEASED FOR CONSTRUCTION 1		

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

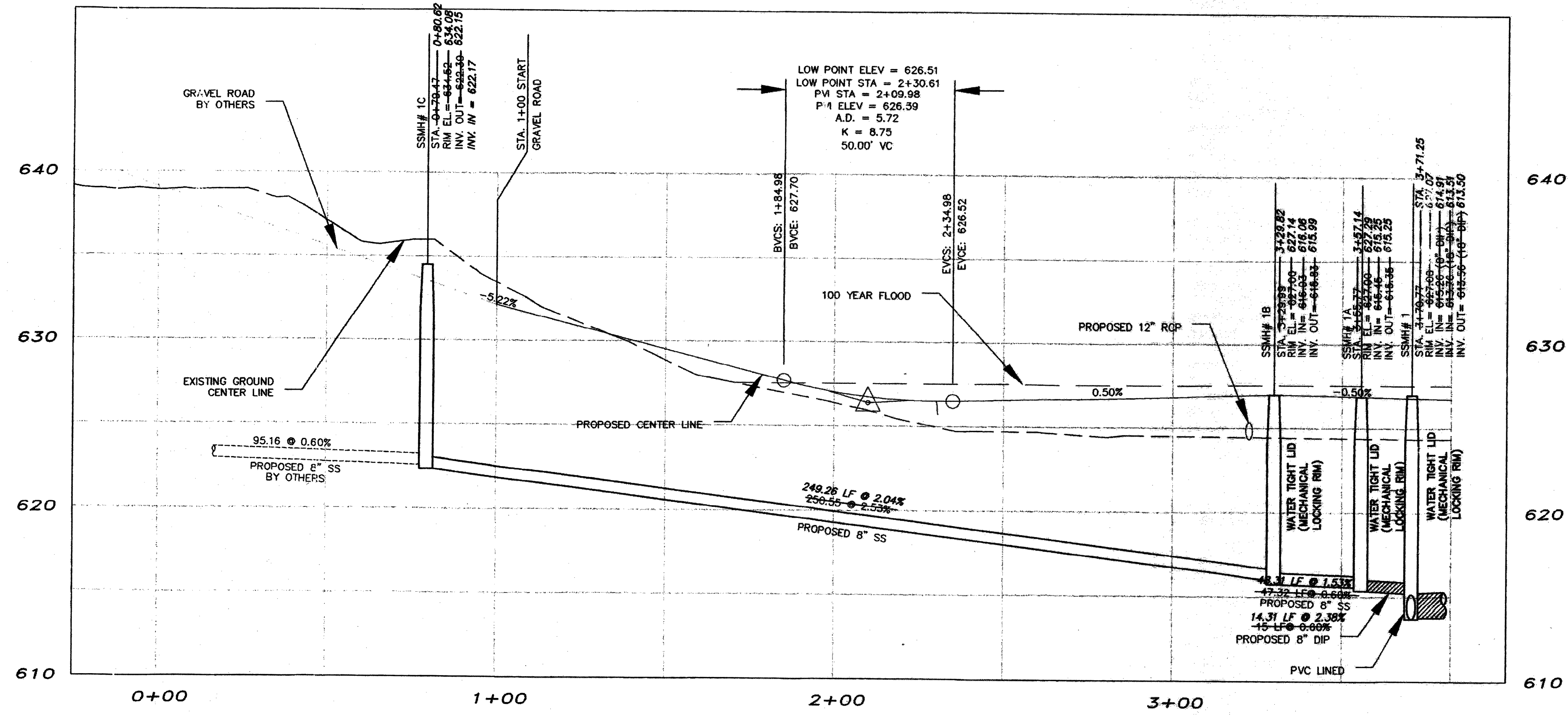
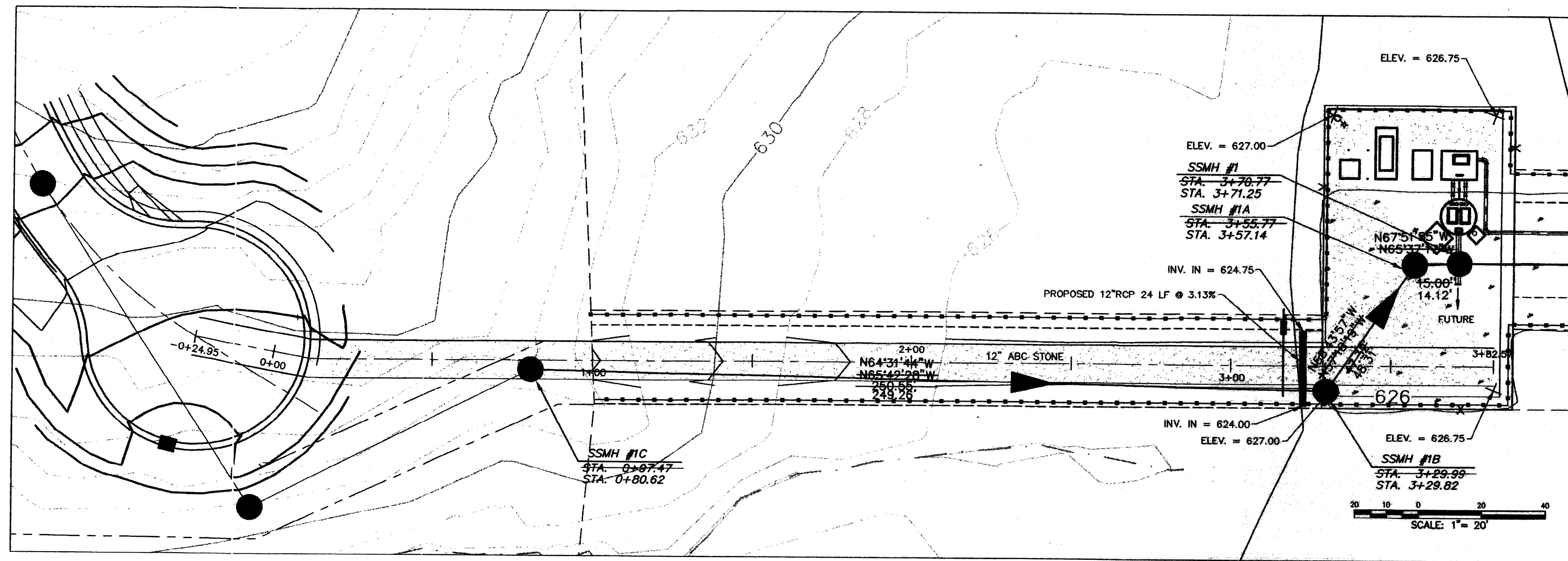
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**UNION COUNTY
NORTH CAROLINA**

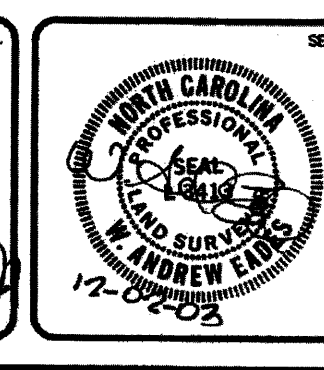
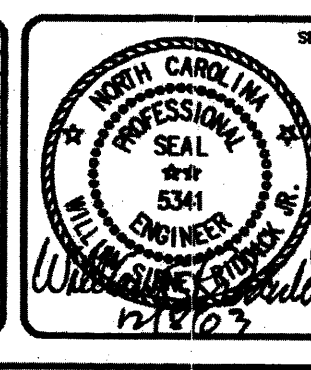
**WEST FORK TWELVE-MILE CREEK
INTERCEPTOR**

REFERENCE DRAWING

DATE	APRIL 2021
H & S JOB NUMBER	30831-049
CONTRACT NUMBER	
DRAWING NUMBER	R6



NO.	ISSUED FOR	DATE	BY	APPROVED
1	RECORD DRAWING			
0	DESIGNED FOR PERMIT AND CONSTRUCTION	12/26/20	JOG	
0	ISSUED FOR PERMIT	01/27/21	GWF	
0	ISSUED FOR PERMIT	02/25/21	JNS	



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 AA0002667 EP0006691
 www.mckimcreed.com

John Wieland
**JOHN WIELAND HOMES
 AND NEIGHBORHOODS**

**UPPER WEST FORK TWELVE MILE CREEK
 PUMP STATION
 PUMP STATION ACCESS ROAD
 AND GRADING PLAN**

DATE:	09/12/2022
MCE PROJ. #	1524-0013
DRAWN:	JEM
DESIGNED:	JEM
CHECKED:	CS
PROJ. MGR.:	CS

SCALE:	CQ101A
HORIZONTAL:	1"=20'
VERTICAL:	1"=4'
20 OF 31	C21A

STATUS: **RELEASED FOR CONSTRUCTION** 1

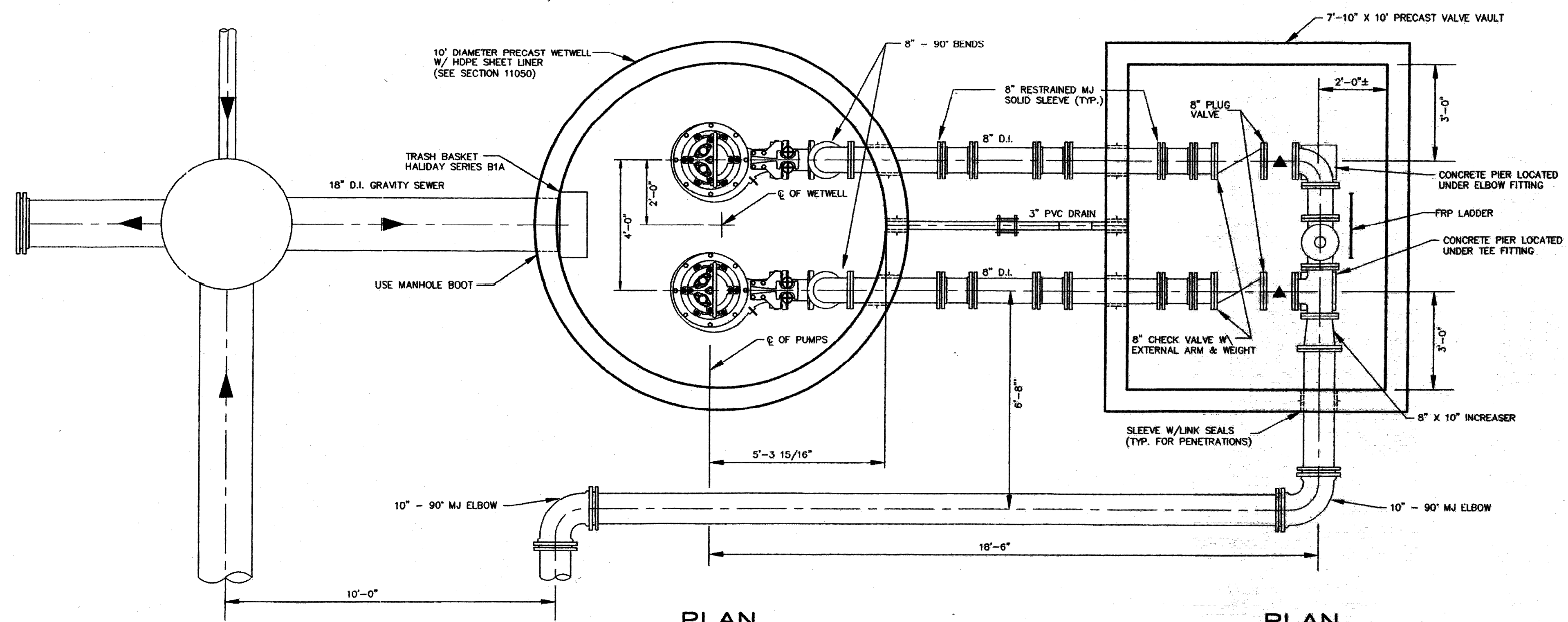
NO.	ISSUED FOR	DATE	BY	APPROVED
	DESIGNED	JOG		
	DRAWN	GWF		
	CHECKED			
	PROJ. ENGR.	JNS		

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**UNION COUNTY
 NORTH CAROLINA**
**WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR**

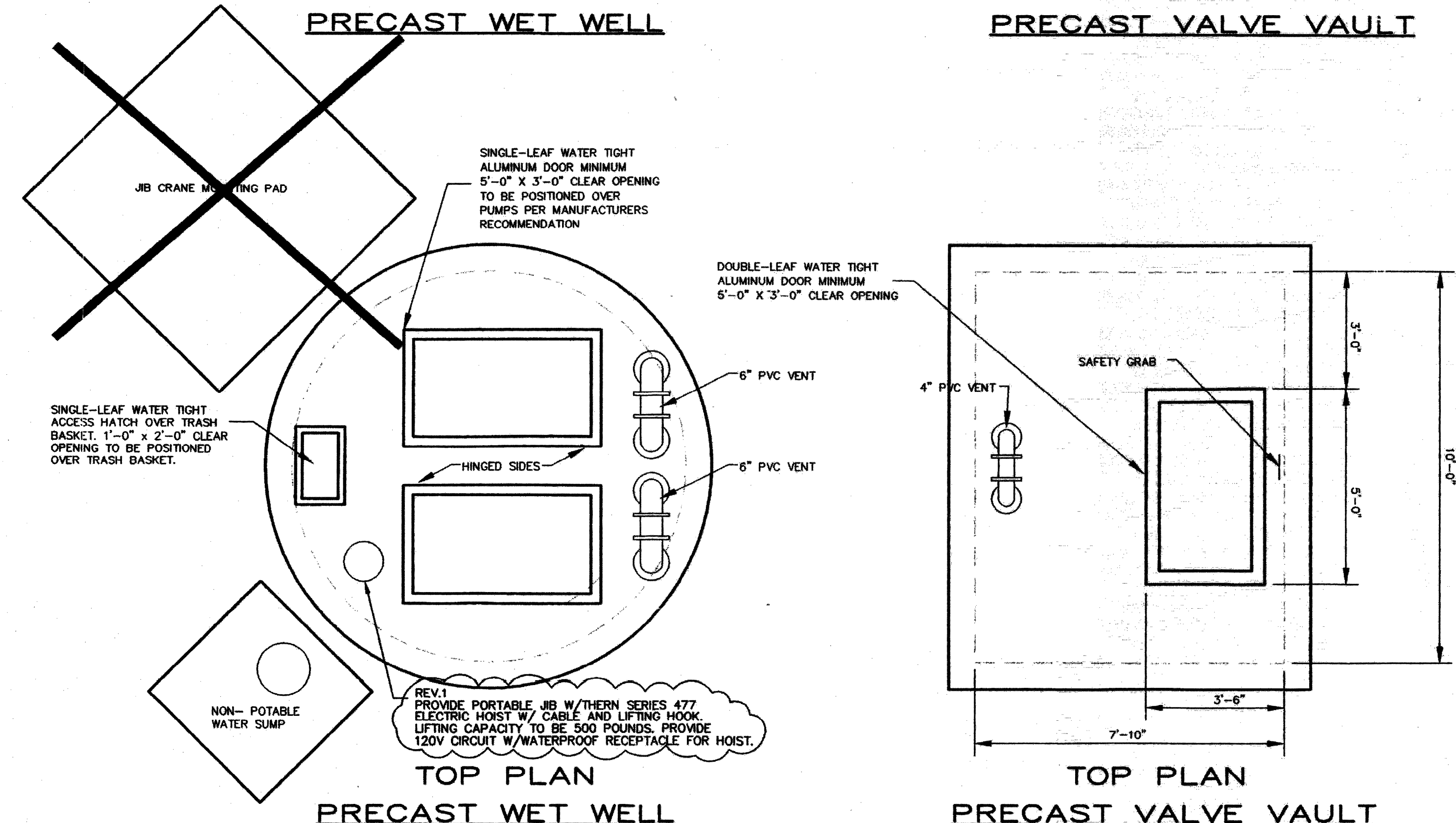
REFERENCE DRAWING

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	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	R7



PLAN
PRECAST WET WELL

PLAN
PRECAST VALVE VAULT

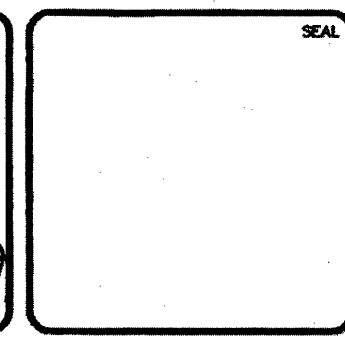
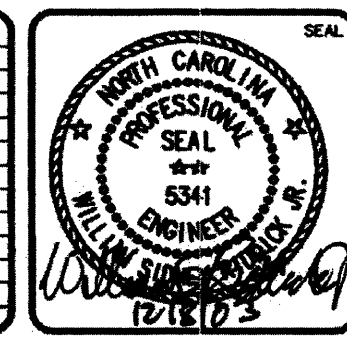


TOP PLAN
PRECAST WET WELL

TOP PLAN
PRECAST VALVE VAULT



NO.	DESCRIPTION	DATE
1	RECORD DRAWING	12/28/20
2	ISSUED FOR PERMIT	04/29/21
3	ISSUED FOR CONSTRUCTION	04/29/21
4	ISSUED FOR PERMIT	02/25/21
5	ISSUED FOR OWNED REVIEW	11/15/20



MCKIM & CREED
 2300 Sardis Road North, Suite A
 Charlotte, North Carolina 28227
 Phone: (704)841-2588, Fax: (704)841-2567
 AA0002667 EB0006691
 www.mckimcreed.com

John Wiland
**JOHN WIELAND HOMES
 AND NEIGHBORHOODS**

**UPPER WEST FORK TWELVE MILE CREEK
 PUMP STATION**

PLAN VIEW

DATE:	09/12/2002
HSE PROJ #:	1524-0003
DRAWN:	GGC
DESIGNED:	GGC
CHECKED:	CES
PROJ. MGR.:	CES

SCALE:	CQ301
HORIZONTAL:	C22
VERTICAL:	n/a
21 OF 31	

STATUS: **RELEASED FOR CONSTRUCTION**

DESIGNED	JOG
DRAWN	GWF
CHECKED	
PROJ. ENGR.	JNS
APPROVED	

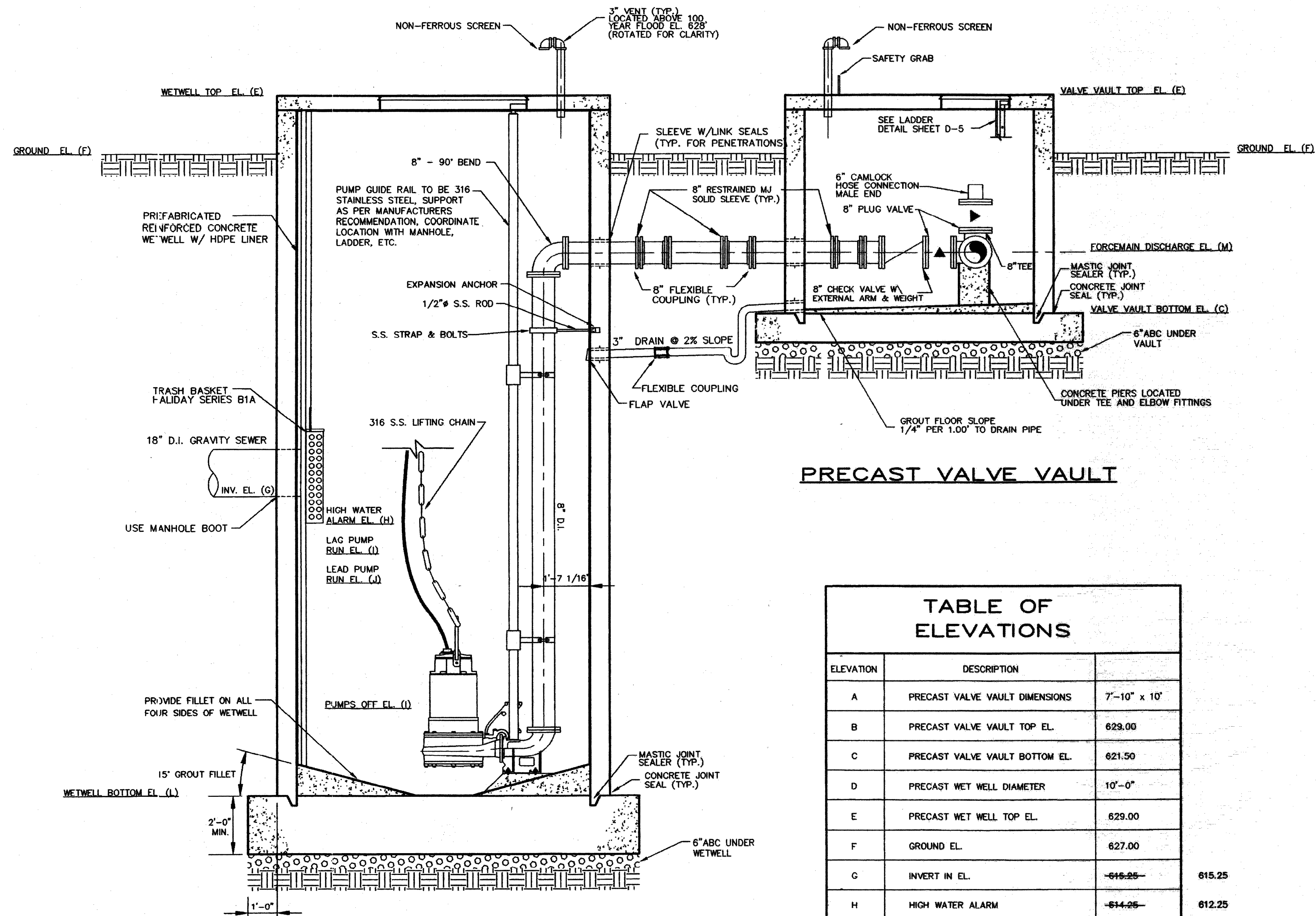
Hazen
 HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

**UNION COUNTY
 NORTH CAROLINA**

**WEST FORK TWELVE-MILE CREEK
 INTERCEPTOR**

REFERENCE DRAWING

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	APRIL 2021
	H & S JOB NUMBER	30831-049
	CONTRACT NUMBER	
	DRAWING NUMBER	R8



PRECAST VALVE VAULT

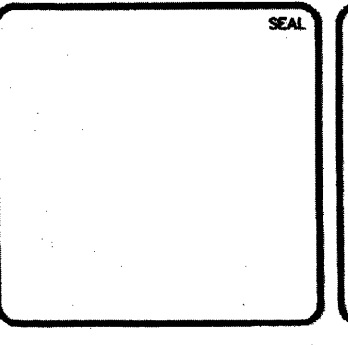
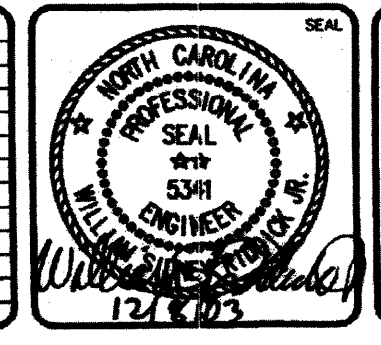
PRECAST WET WELL

TABLE OF ELEVATIONS		
ELEVATION	DESCRIPTION	
A	PRECAST VALVE VAULT DIMENSIONS	7'-10" x 10'
B	PRECAST VALVE VAULT TOP EL.	623.00
C	PRECAST VALVE VAULT BOTTOM EL.	621.50
D	PRECAST WET WELL DIAMETER	10'-0"
E	PRECAST WET WELL TOP EL.	629.00
F	GROUND EL.	627.00
G	INVERT IN EL.	-616.25- 615.25
H	HIGH WATER ALARM	-614.25- 612.25
I	LAG PUMP RUN EL.	-613.25- 611.80
J	LEAD PUMP RUN EL.	-612.25- 611.34
K	PUMPS OFF EL.	-607.01- 607.00
L	PRECAST WET WELL BOTTOM EL.	604.90
M	FORCE MAIN DISCHARGE EL.	623.62

NOTES:

- CONTRACTOR TO FURNISH PRECAST WET WELL & VALVE VAULT W/ PRECAST BOTTOM AND TOP SECTIONS. COMPUTATIONS FOR UPLIFT AND SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.
- PROVIDE SERVICE POLES AND WIRING AS SHOWN ON ELECTRICAL DRAWINGS.
- ALL STAINLESS STEEL SHALL BE NO. 316.

NO.	ISSUED FOR	DATE	BY	APPROVED
1	RECORD DRAWING	12/25/21		
2	DESIGNED FOR PERMIT AND CONSTRUCTION	04/27/21		
3	DESIGNED FOR PERMIT	02/25/21		
4	DESIGNED FOR OWNER REVIEW	11/24/20		



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John Wieland
JOHN WIELAND HOMES AND NEIGHBORHOODS

UPPER WEST FORK TWELVE MILE CREEK PUMP STATION

SECTIONS

DATE: 09/12/2020
 H&S PROJ # 01524-0013
 DRAWN: GGG
 DESIGNED: GGG
 CHECKED: CES
 PROJ. MGR.: CES

SCALE: 1/2" = 1'
 HORIZONTAL: 1/2" = 1'
 VERTICAL: n/a

H&S FILE NUMBER: CQ302
 DRAWING NUMBER: C23
 22 OF 31

STATUS: RELEASED FOR CONSTRUCTION
 REVISION: 1

NO.	ISSUED FOR	DATE	BY	APPROVED
	DESIGNED	JOG		
	DRAWN	GWF		
	CHECKED			
	PROJ. ENGR.	JNS		

Hazen
 HAZEN AND SAWYER
 9101 SOUTHERN PINE BLVD, SUITE 250
 CHARLOTTE, NORTH CAROLINA 28273
 LICENSE NO. : C-0381

UNION COUNTY NORTH CAROLINA

WEST FORK TWELVE-MILE CREEK INTERCEPTOR

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.

DATE: APRIL 2021
 H & S JOB NUMBER: 30831-049
 CONTRACT NUMBER: [blank]
 DRAWING NUMBER: R9