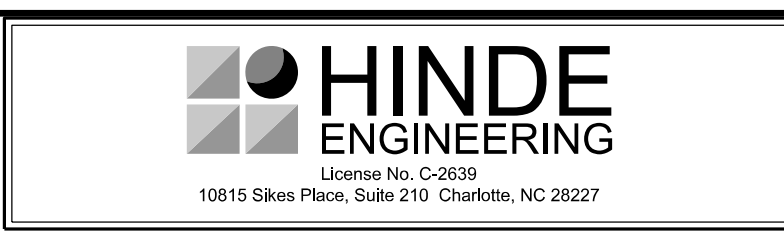


STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS



UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	12" WL
11¼ Degree Bend	++
22½ Degree Bend	+X
45 Degree Bend	+X
90 Degree Bend	+†
Plug	⊥
Tee	⊥
Cross	⊥
Reducer	▶
Gate Valve	GV
Butterfly Valve	BV
Tapping Valve	TGV
Line Stop	LS
Line Stop with Bypass	LS/BP
Blow Off	BO
Fire Hydrant	PFH
Relocate Fire Hydrant	RFH
Remove Fire Hydrant	REM FH
Water Meter	PWM
Relocate Water Meter	RWM
Remove Water Meter	REM WM
Water Pump Station	PS(W)
RPZ Backflow Preventer	PRPZ
DCV Backflow Preventer	PBFP
Relocate RPZ Backflow Preventer	RRPZ
Relocate DCV Backflow Preventer	RBFP

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	12" SS
Force Main Sewer Line (Sized as Shown)	12" FSS
Manhole (Sized per Note)	•
Sewer Pump Station	PS(SS)

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	o
Telephone Pole	o
Joint Use Pole	o
Telephone Pedestal	TE PED
Utility Line by Others (Type as Shown)	PROP O/H POW LINES
Trenchless Installation	12" TL INSTALL
Encasement by Open Cut	24" ENCAS BY OC
Encasement	24" ENCASUREMENT

Thrust Block	I
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	NOTE
Pay Item Note	PAY ITEM


EXISTING UTILITIES SYMBOLS

Power Pole	•	*Underground Power Line	P
Telephone Pole	•	*Underground Telephone Cable	T
Joint Use Pole	•	*Underground Telephone Conduit	TC
Utility Pole	•	*Underground Fiber Optics Telephone Cable	F FO
Utility Pole with Base	□	*Underground TV Cable	TV
H-Frame Pole	•—•	*Underground Fiber Optics TV Cable	TV FO
Power Transmission Line Tower	⊠	*Underground Gas Pipeline	G
Water Manhole	⊙	Aboveground Gas Pipeline	A/G Gas
Power Manhole	⊙	*Underground Water Line	W
Telephone Manhole	⊙	Aboveground Water Line	A/G Water
Sanitary Sewer Manhole	⊙	*Underground Gravity Sanitary Sewer Line	SS
Hand Hole for Cable	⊠	Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
Power Transformer	⊠	*Underground SS Forced Main Line	FSS
Telephone Pedestal	⊠	Underground Unknown Utility Line	UTL
CATV Pedestal	⊠	SUE Test Hole	•
Gas Valve	◇	Water Meter	⊙
Gas Meter	◇	Water Valve	⊙
Located Miscellaneous Utility Object	⊙	Fire Hydrant	◇
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	⊙
End of Information	E.O.I.		

*For Existing Utilities
 Utility Line Drawn from Record (Type as Shown) ————
 Designated Utility Line (Type as Shown) - - - - -

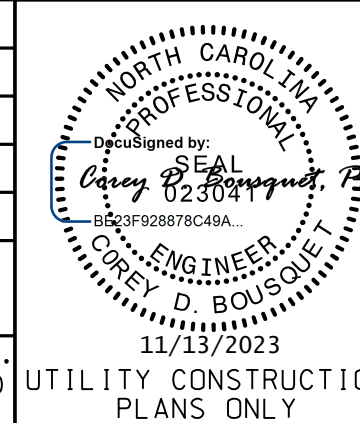
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UTILITY CONSTRUCTION



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 License No. C-2639
 401 Harrison Oaks Blvd., Suite 220 Cary, NC 27513

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I-2513 AA/AB	UC-3
DESIGNED BY: JKC	
DRAWN BY:	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
UTILITY CONSTRUCTION PLANS ONLY	

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2024.

2. THE EXISTING UTILITIES BELONG TO CITY OF ASHEVILLE AND METROPOLITAN SEWERAGE DISTRICT.

CONTACT PERSON FOR THE CITY OF ASHEVILLE IS:

CHAD PIERCE, PE
 ENGINEERING SERVICES MANAGER
 PH: 828-646-1281

CONTACT PERSON FOR THE METROPOLITAN SEWERAGE DISTRICT IS:

KEVIN F. JOHNSON, PE
 PLANNING & DEVELOPMENT MANAGER
 PH: 828-225-8289

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

10. CONTRACTOR SHALL FIELD VERIFY THE VERTICAL AND HORIZONTAL ALIGNMENTS OF THE PROPOSED UTILITY TIE-IN POINTS SHOWN ON THE PLANS. ONCE THE TIE-IN POINTS AND GRADE OF PROPOSED UTILITY LINES ARE VERIFIED AS CORRECT, THE CONTRACTOR CAN BEGIN CONSTRUCTION ON THE PROPOSED UTILITY LINES.

11. ALL BYPASS PUMPING NECESSARY TO MAINTAIN EXISTING SEWER FLOW DURING THE INSTALLATION OF THE PROPOSED SEWER LINES WILL BE INCIDENTAL TO THE COST OF THE PROPOSED SEWER LINES. THE CONTRACTOR MAY NEED TO INSTALL TEMPORARY MANHOLES ALONG THE EXISTING SEWER LINES FOR BYPASS PUMPING.

12. ALL REQUIRED SHEET PILING WILL BE INCIDENTAL TO THE COST OF THE WATER AND SEWER LINE. ALL SHEET PILING SHALL MEET NCDOT SPECIFICATIONS. THERE MAY BE AREAS WHERE DEWATERING MAY BE REQUIRED.

UTILITY CONSTRUCTION

PROJECT SPECIFIC NOTES:

1. PROPOSED WATER LINE FROM -L- LINE STATION 22+00 TO -L- LINE STATION 25+00 SHALL BE DUCTILE IRON RESTRAINED JOINT PIPE. SEE THE PLANS FOR THE DUCTILE IRON RESTRAINED JOINT SEWER PIPE LOCATIONS.

2. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES. IT'S

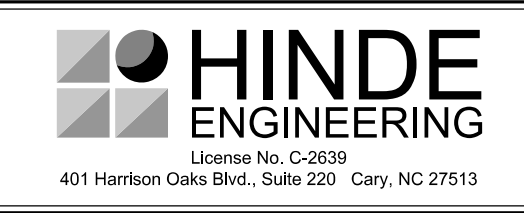
3. THE CONTRACTOR IS RESPONSIBLE TO DESIGN THE SHEET PILING NECESSARY FOR SHORING TRENCHES, BORE PITS, AND RECEIVING PITS, ALL SHEET PILING DESIGN SHALL BE SEALED BY A NORTH CAROLINA PROFESSIONAL ENGINEER.

4. WATER AND SEWER LINE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ASHEVILLE, METROPOLITAN SEWER DISTRICT STANDARD DETAILS/SPECIAL PROVISIONS AND NCDOT 2018 STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. THE BEDDING DETAILS WILL BE IN ACCORDANCE WITH THE NCDOT DETAILS AND SPECIFICATIONS. ALL PAY ITEMS WILL BE IN ACCORDANCE WITH NCDOT 2018 STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES AND THE PROJECT SPECIAL PROVISION.

5. THE THRUST BLOCKING REQUIRED FOR THE 18" WATER LINE TIE-IN SHOWN ON SHEET UC-8 SHALL BE DESIGNED AND SEALED BY A NC PROFESSIONAL ENGINEER. THE CITY OF ASHEVILLE WILL NEED TO APPROVE THE THRUST BLOCKING BEFORE BEING INSTALLED.

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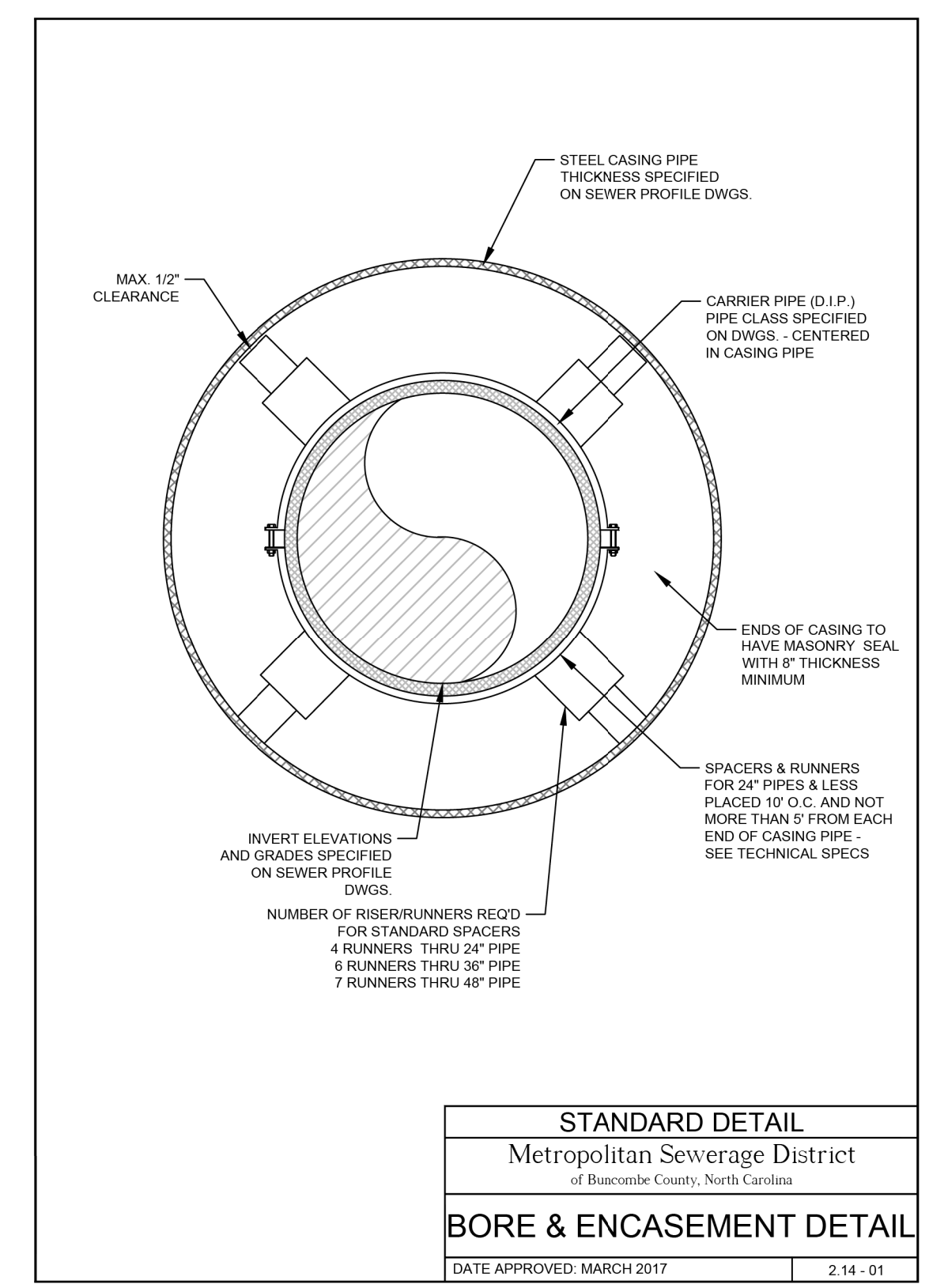
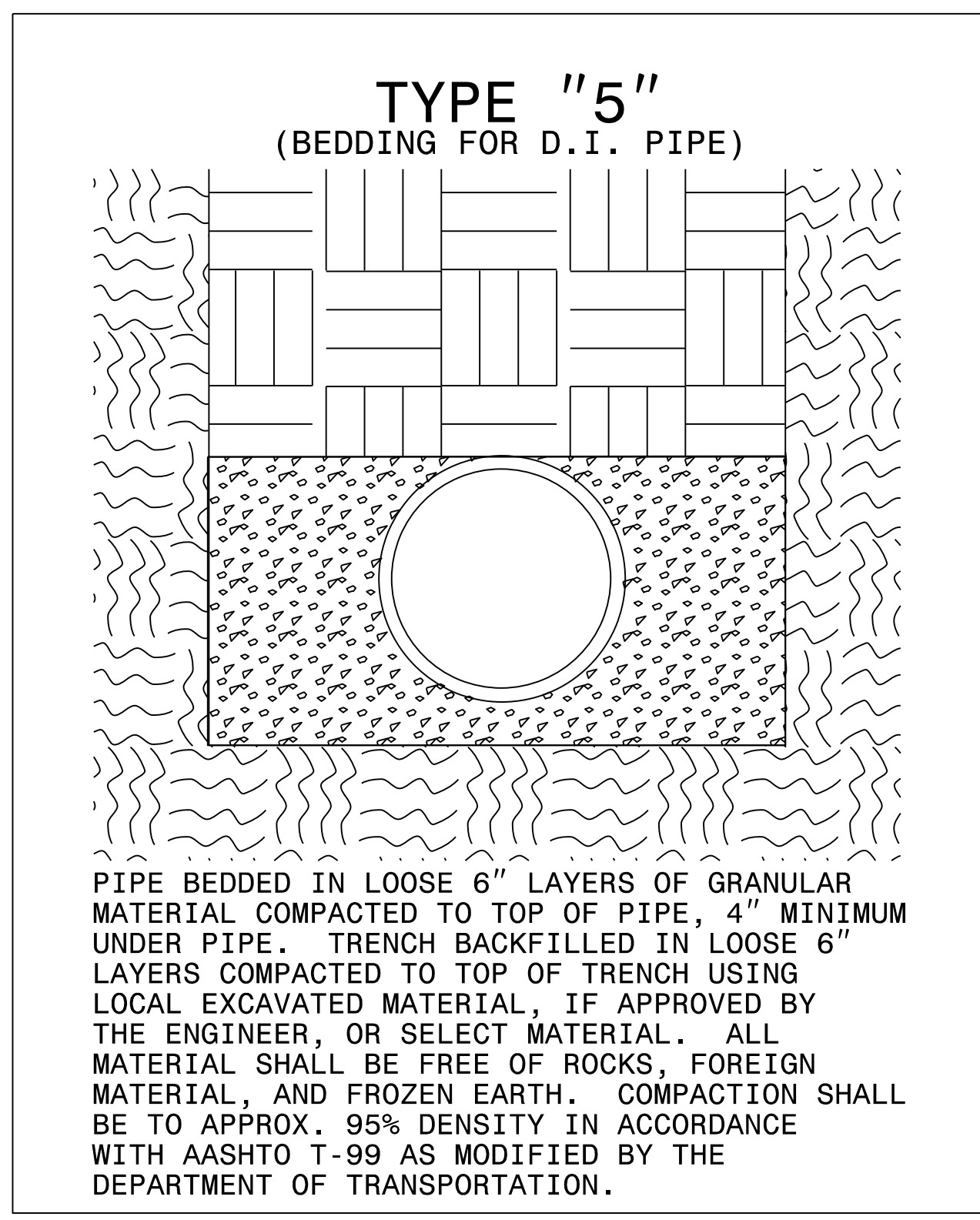
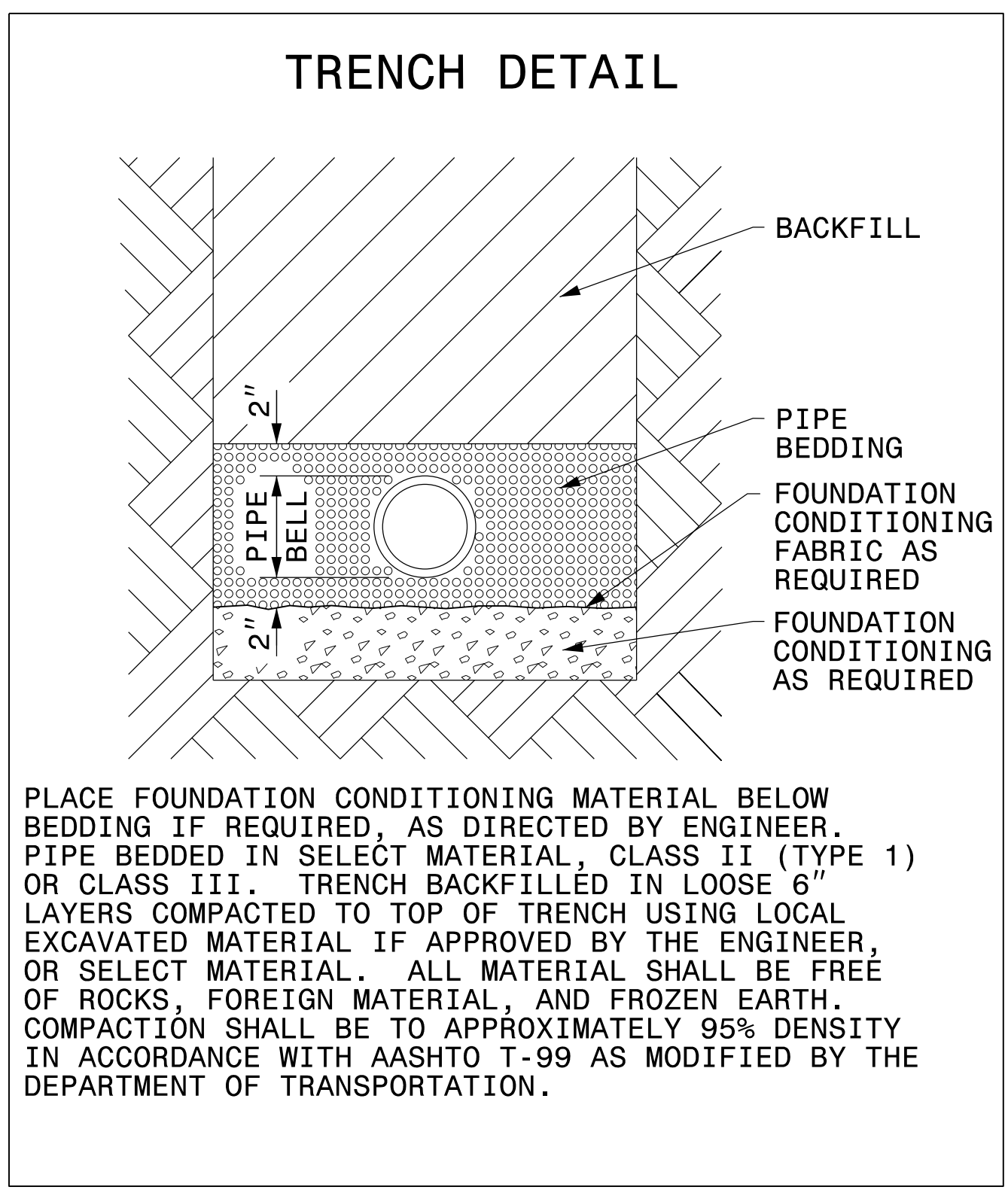
METROPOLITIAN SEWERAGE DISTRICT DETAILS



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DESIGNED BY: JKC	
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CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
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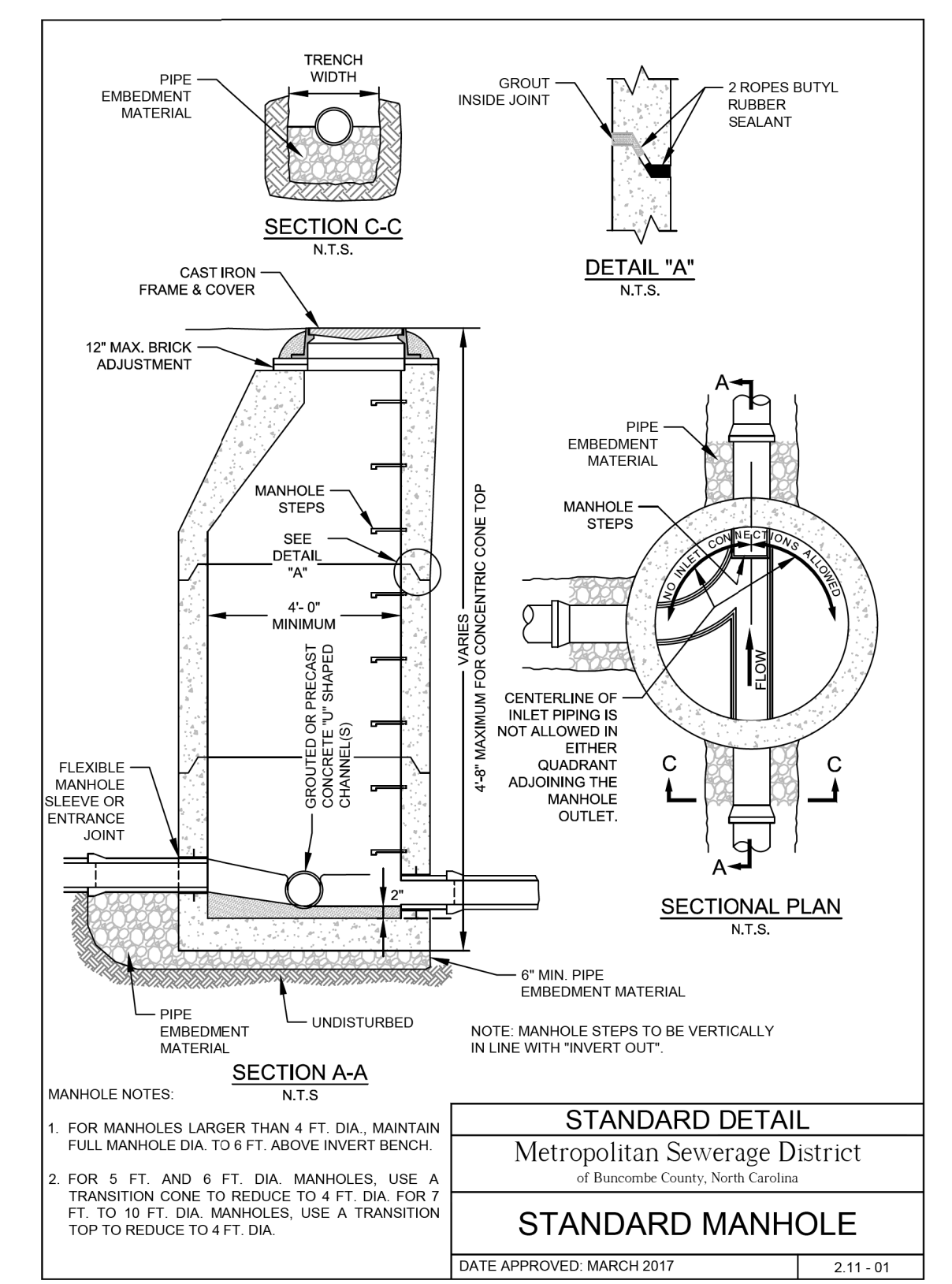
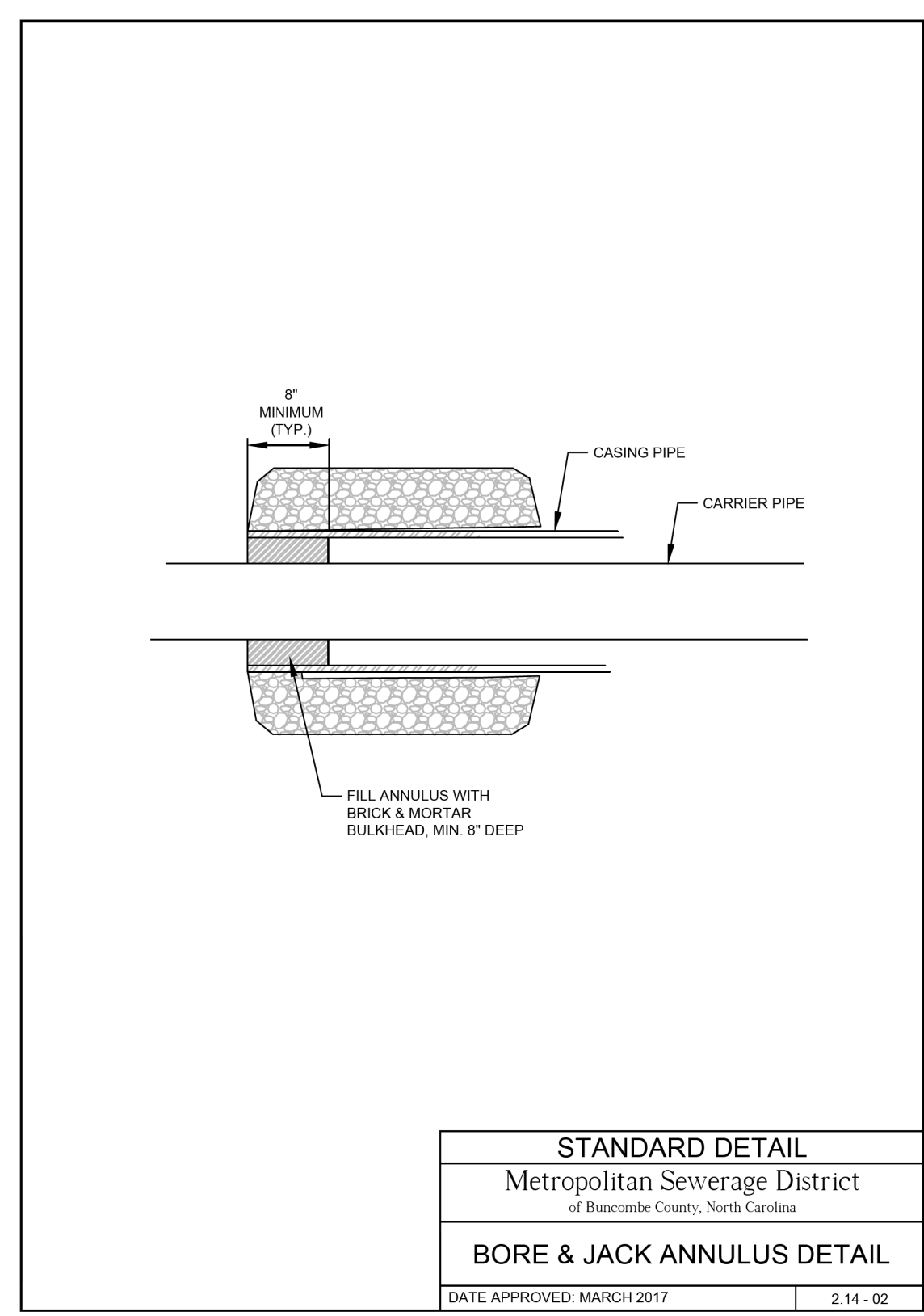
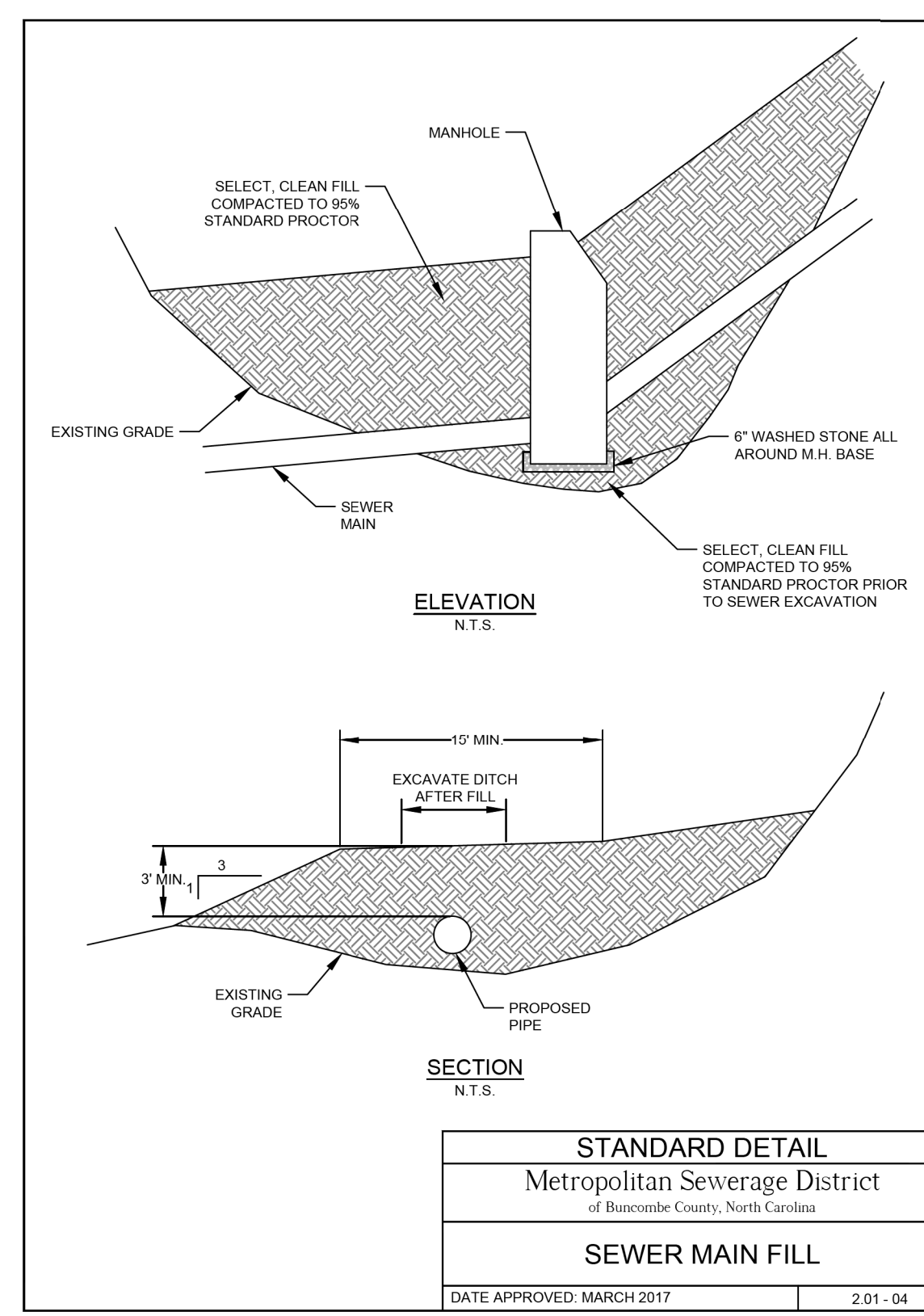
UTILITY CONSTRUCTION



Maximum Depth of Cover for Ductile Iron Pipe w/ Cement Lining						
Pipe Size	Class	Type 1	Type 2	Type 3	Type 4	Type 5
4	350	53	61	69	85	100
6	350	26	31	37	47	65
8	350	16	20	25	34	50
10	350	11	15	19	28	45
12	350	10	13	19	28	44
14	250	-	11	15	23	36
14	300	-	13	17	26	42
14	350	-	14	19	27	44
16	250	-	11	15	24	34
16	300	-	13	17	26	39
16	350	-	15	20	28	44
18	250	-	10	14	22	31
18	300	-	13	17	26	36
18	350	-	15	19	28	41
20	250	-	10	14	22	30
20	300	-	13	17	26	35
20	350	-	15	19	28	38
24	200	-	8	12	17	25
24	250	-	11	15	20	29
24	300	-	13	17	24	32
24	350	-	15	19	28	37
30	200	-	8	12	16	24
24	250	-	11	15	19	27
30	300	-	12	16	21	29
30	350	-	15	19	25	33
36	200	-	8	12	15	23
36	250	-	10	14	18	25
36	300	-	13	16	20	28
36	350	-	15	19	24	32
42	200	-	8	12	15	22
42	250	-	10	14	17	25
42	300	-	13	16	20	27
42	350	-	15	19	23	32
48	200	-	8	11	15	22
48	250	-	10	13	17	24
48	300	-	12	15	19	27
48	350	-	15	18	22	30
54	200	-	8	11	14	22
54	250	-	10	13	16	24
54	300	-	13	15	19	26
54	350	-	15	18	22	30
60	200	-	8	11	14	22
60	250	-	10	13	16	24
60	300	-	13	15	19	26
60	350	-	15	18	22	30
64	200	-	8	11	14	21
64	250	-	10	13	16	24
64	300	-	12	15	19	26
64	350	-	15	17	21	29

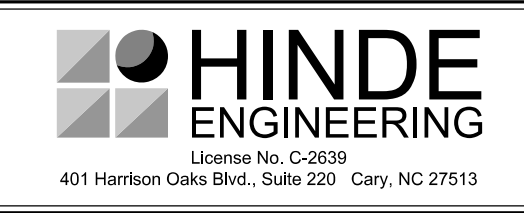
SOURCE: Ductile Iron Pipe for Wastewater Applications, DIPRA 2006

STANDARD DETAIL	
Metropolitan Sewerage District of Buncombe County, North Carolina	
TYPICAL TRENCH DETAIL FOR DUCTILE IRON PIPE - 2	
DATE APPROVED: MARCH 2017	2.05 - 02



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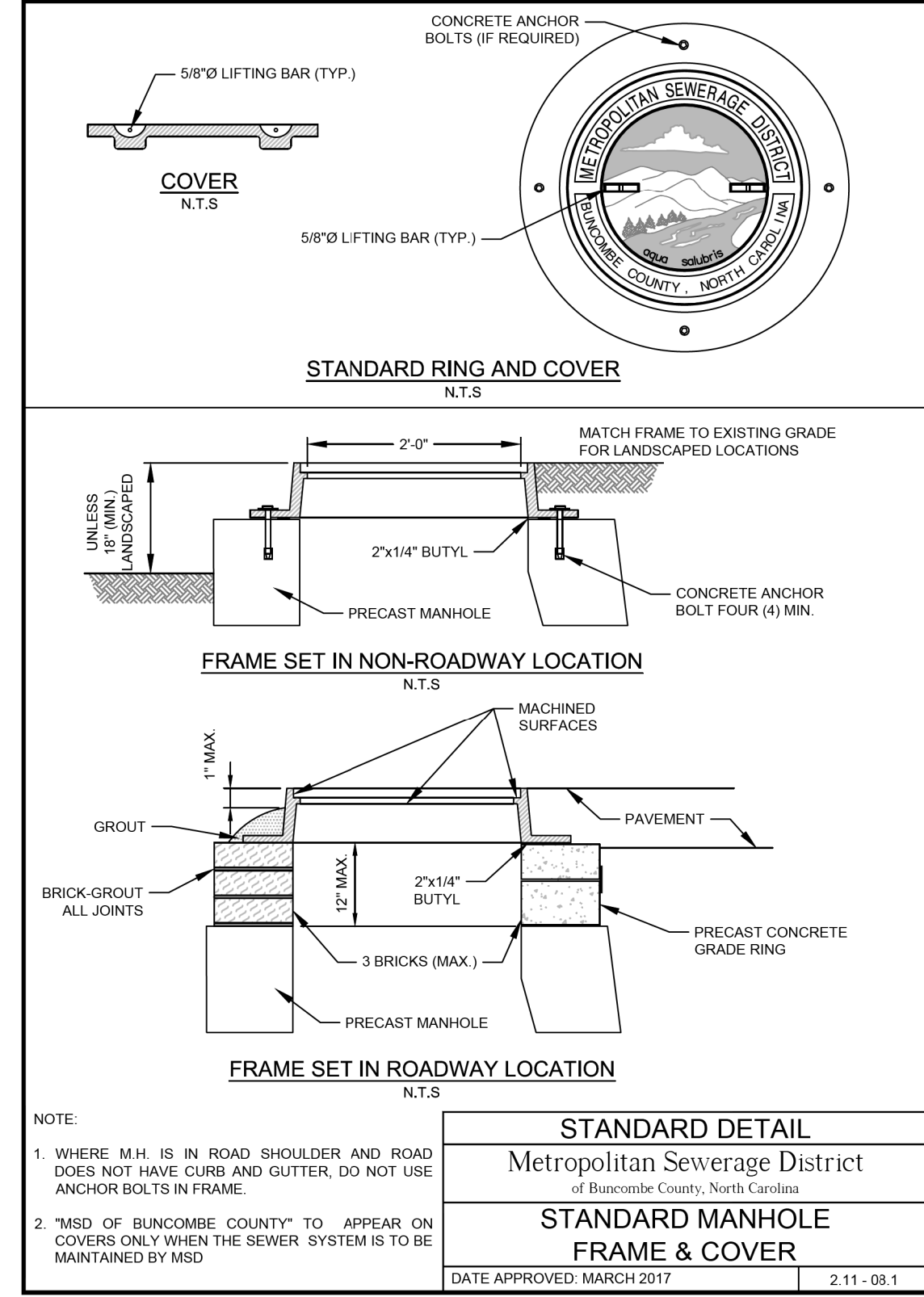
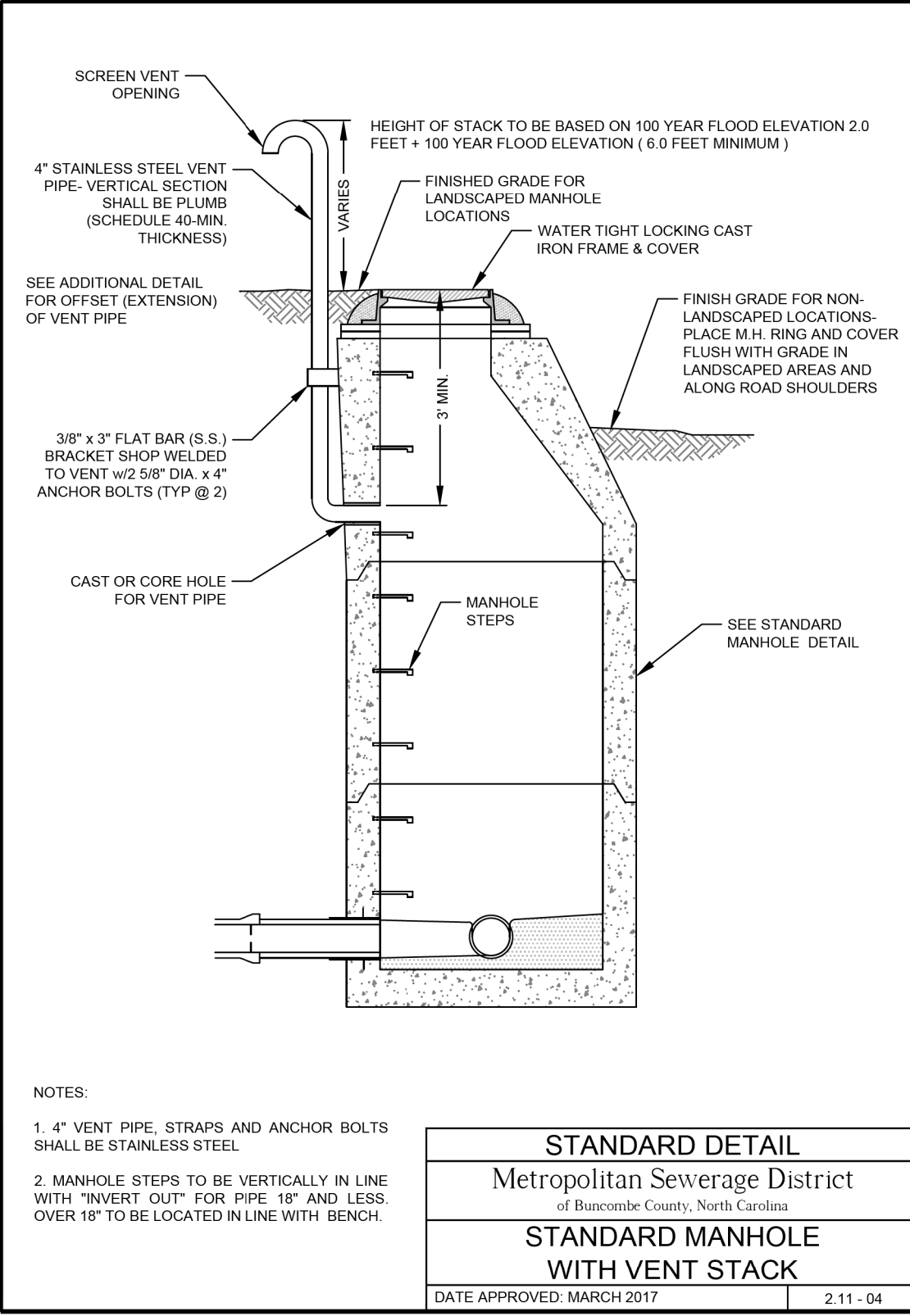
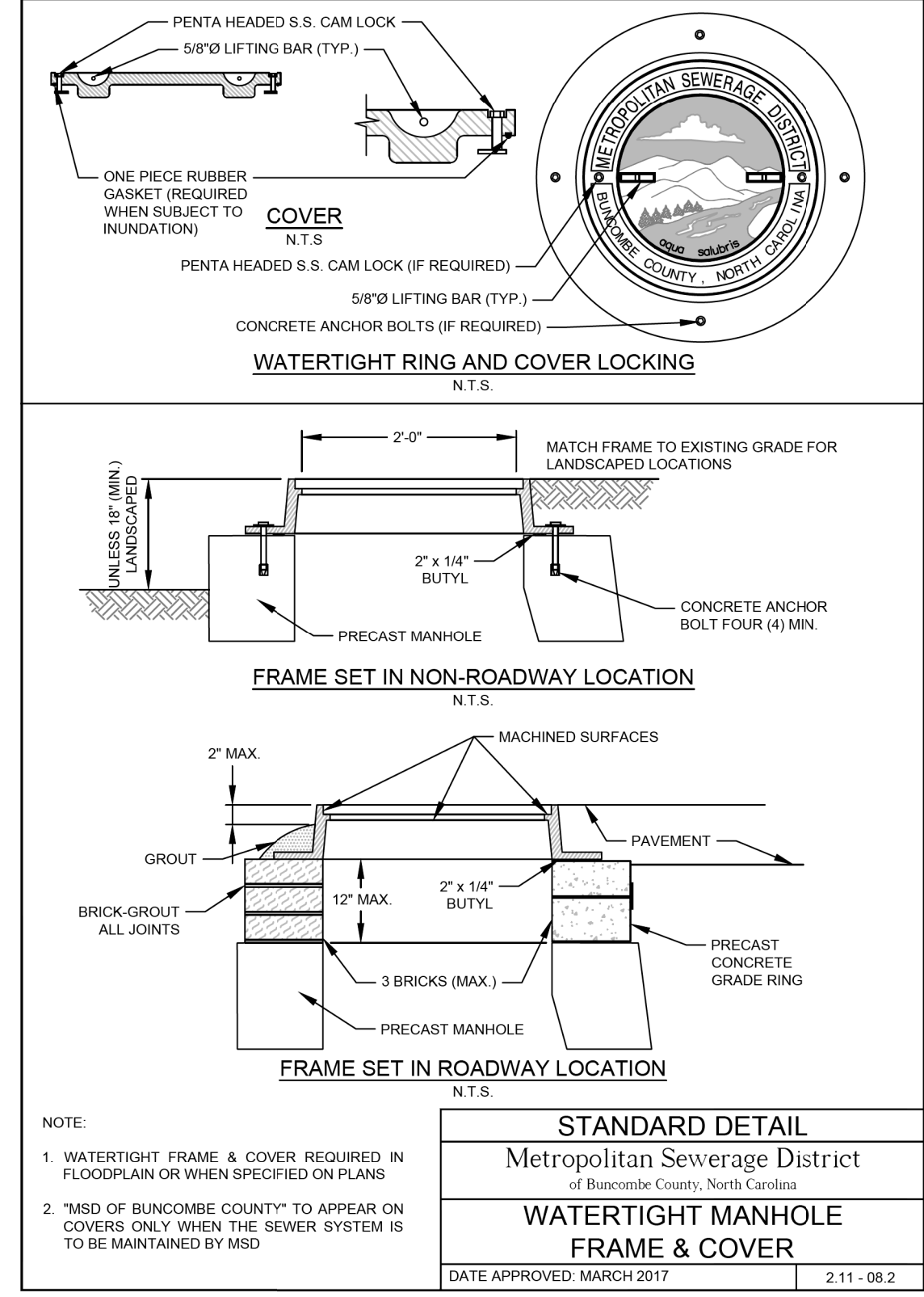
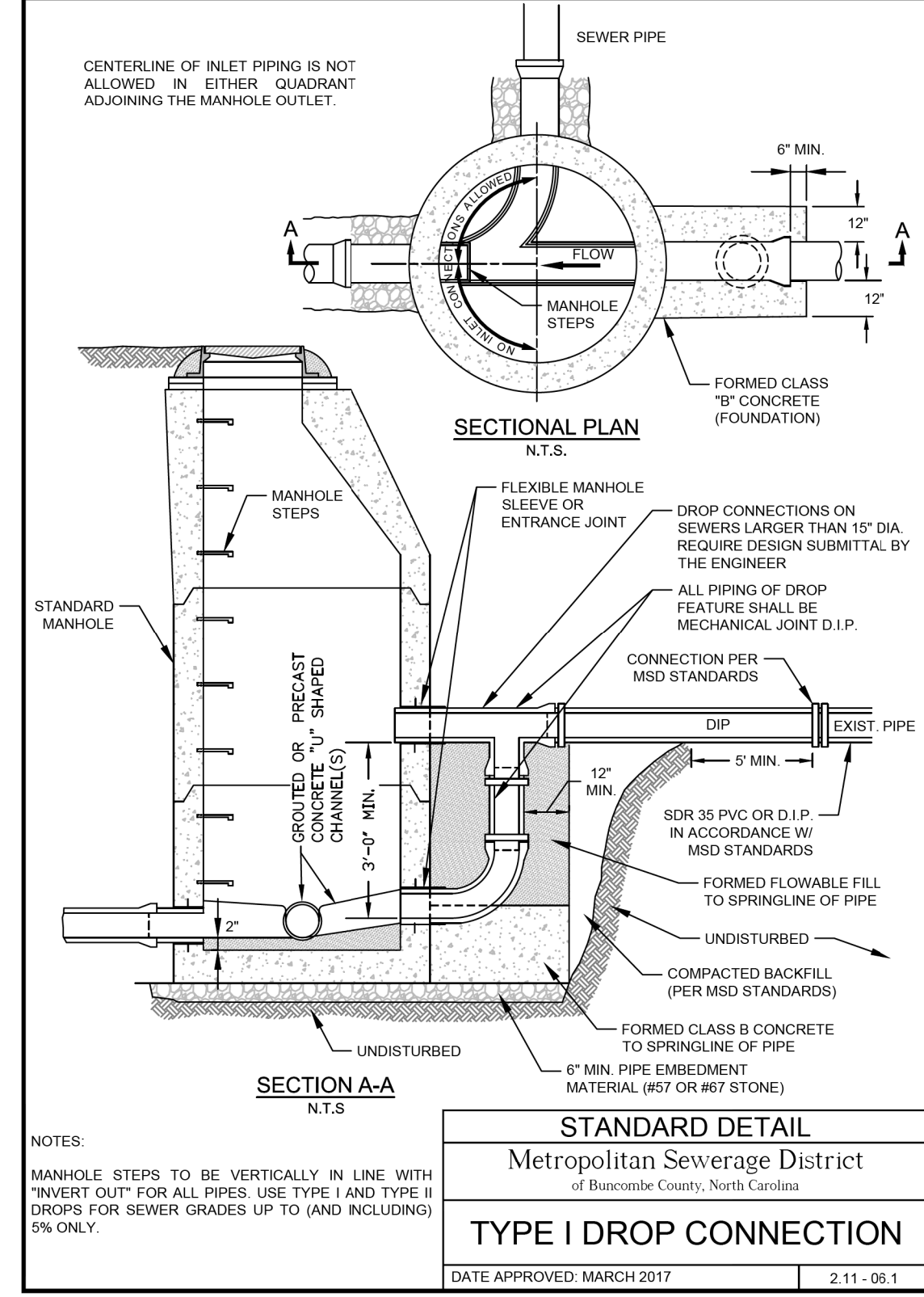
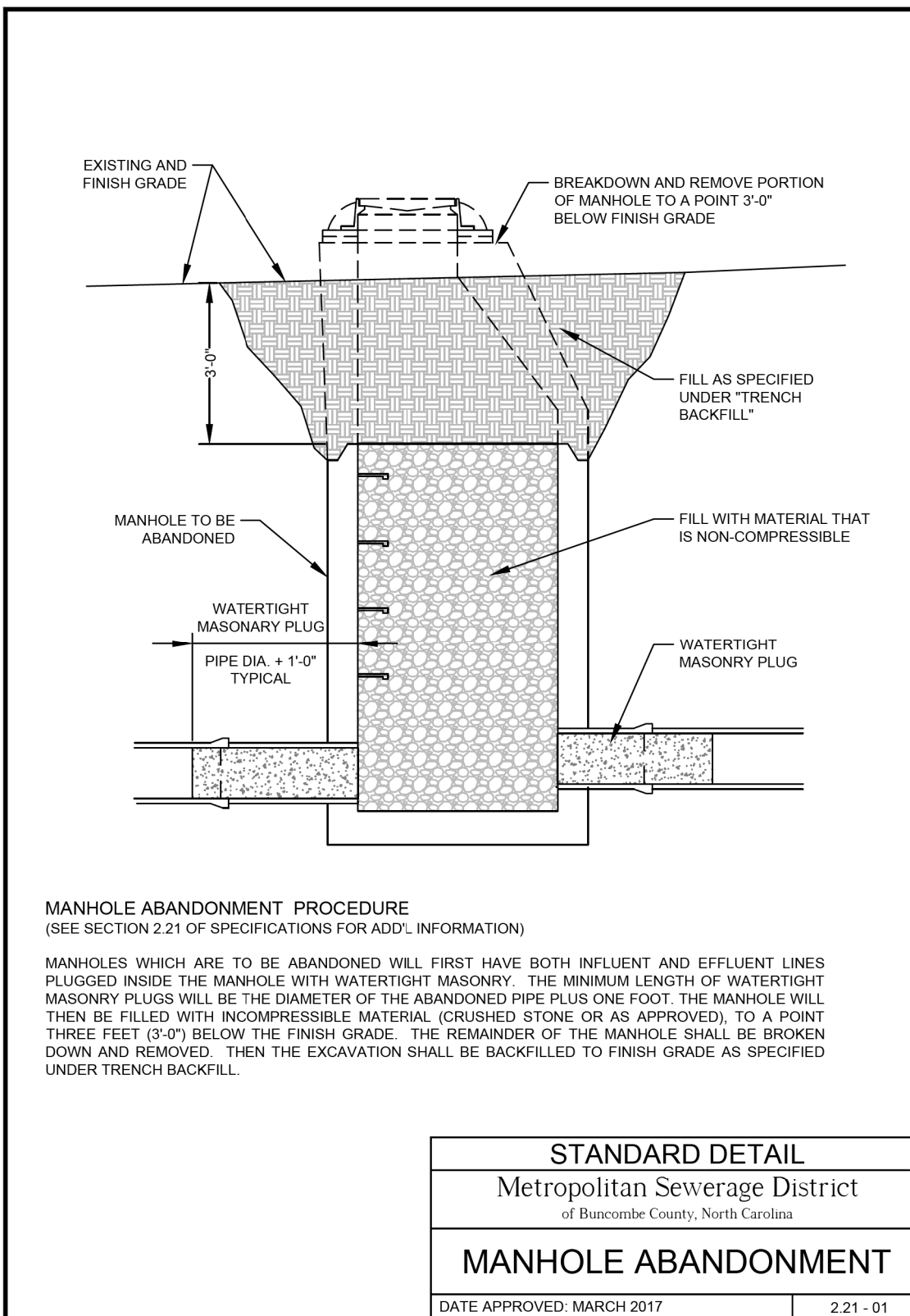
METROPOLITAN SEWERAGE DISTRICT DETAILS



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DESIGNED BY:	JKC		
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CHECKED BY:	CLS		
APPROVED BY:	CDB		
REVISED:		9/30/2023	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
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METROPOLITAN SEWERAGE DISTRICT DETAILS

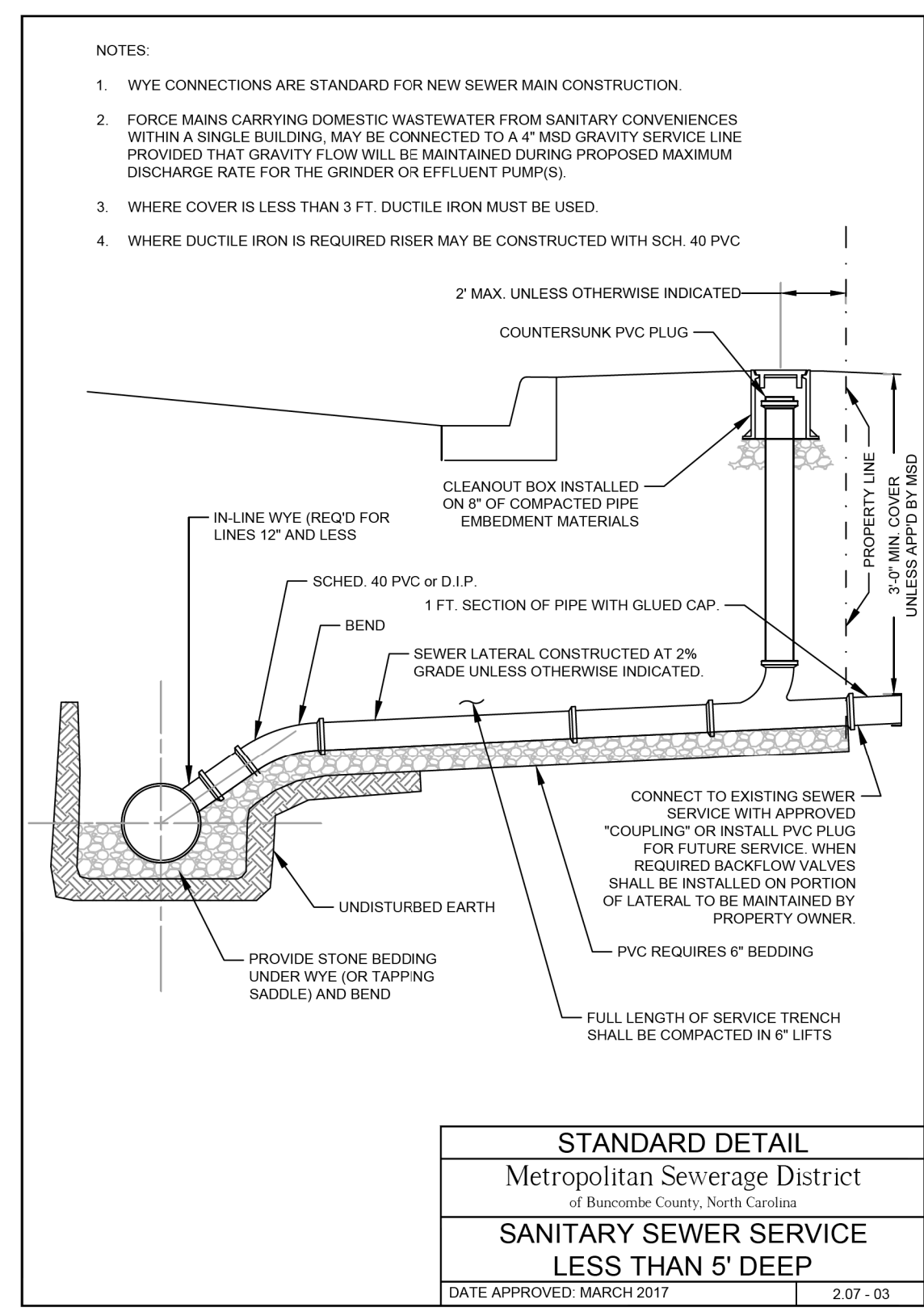
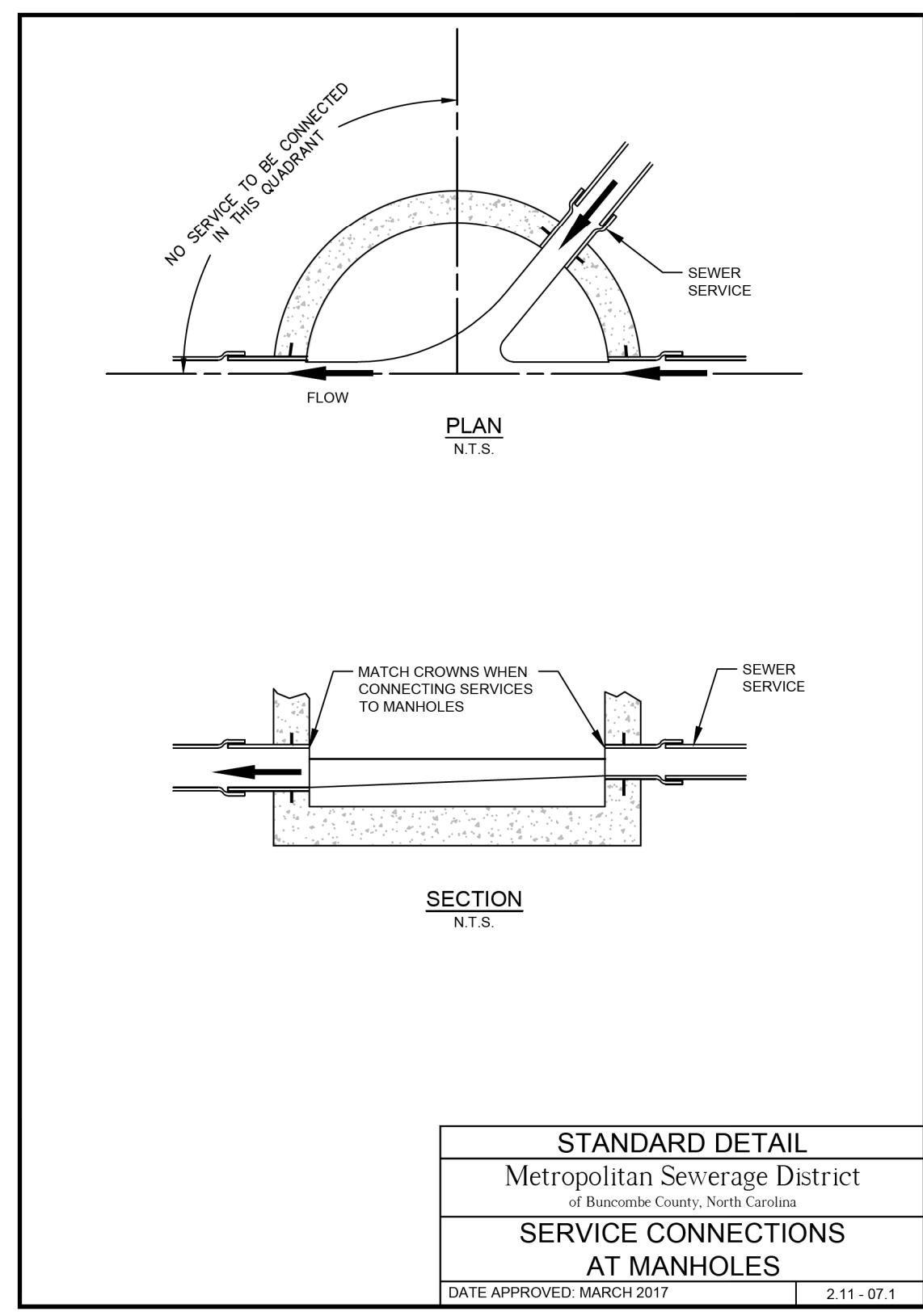
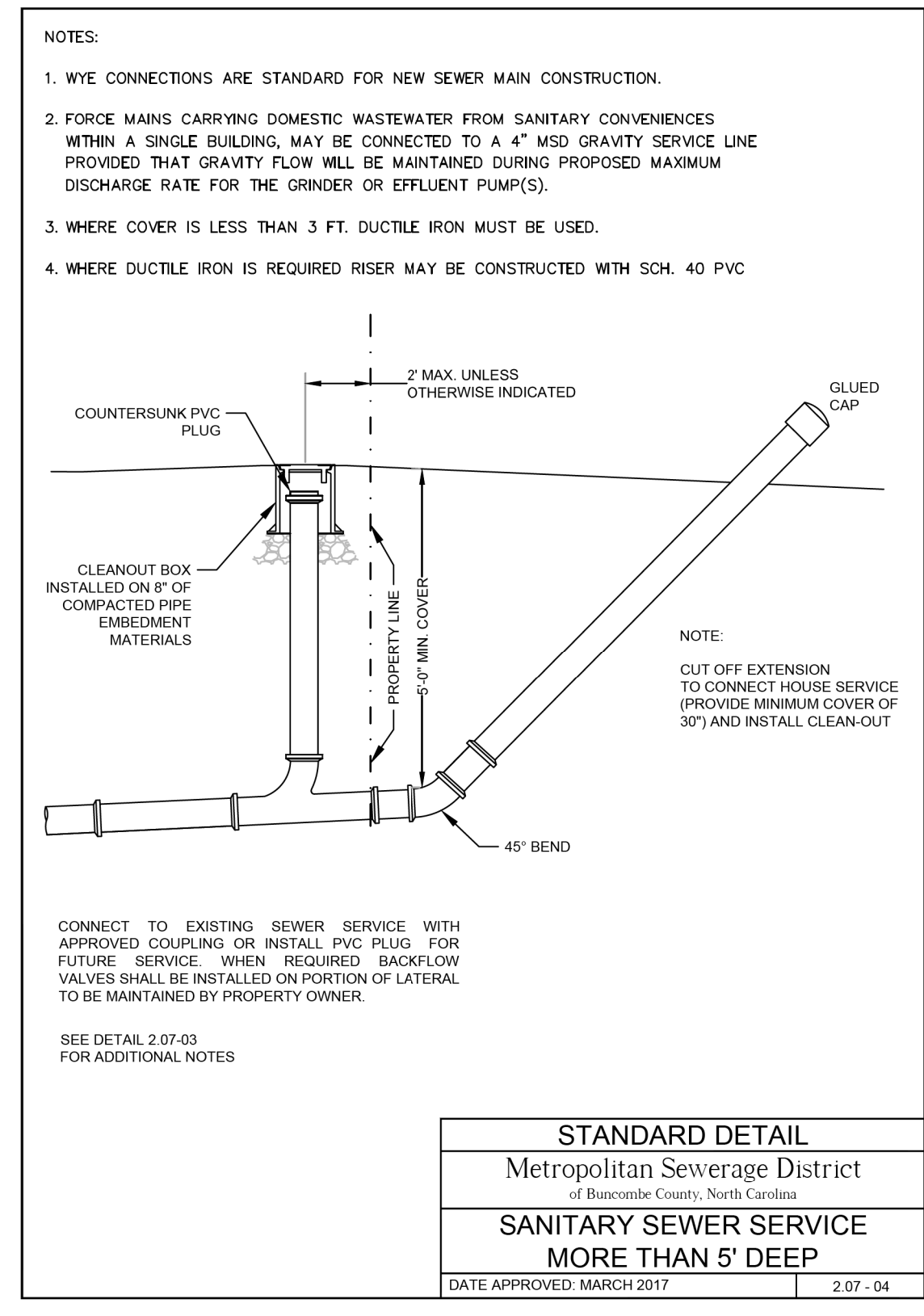
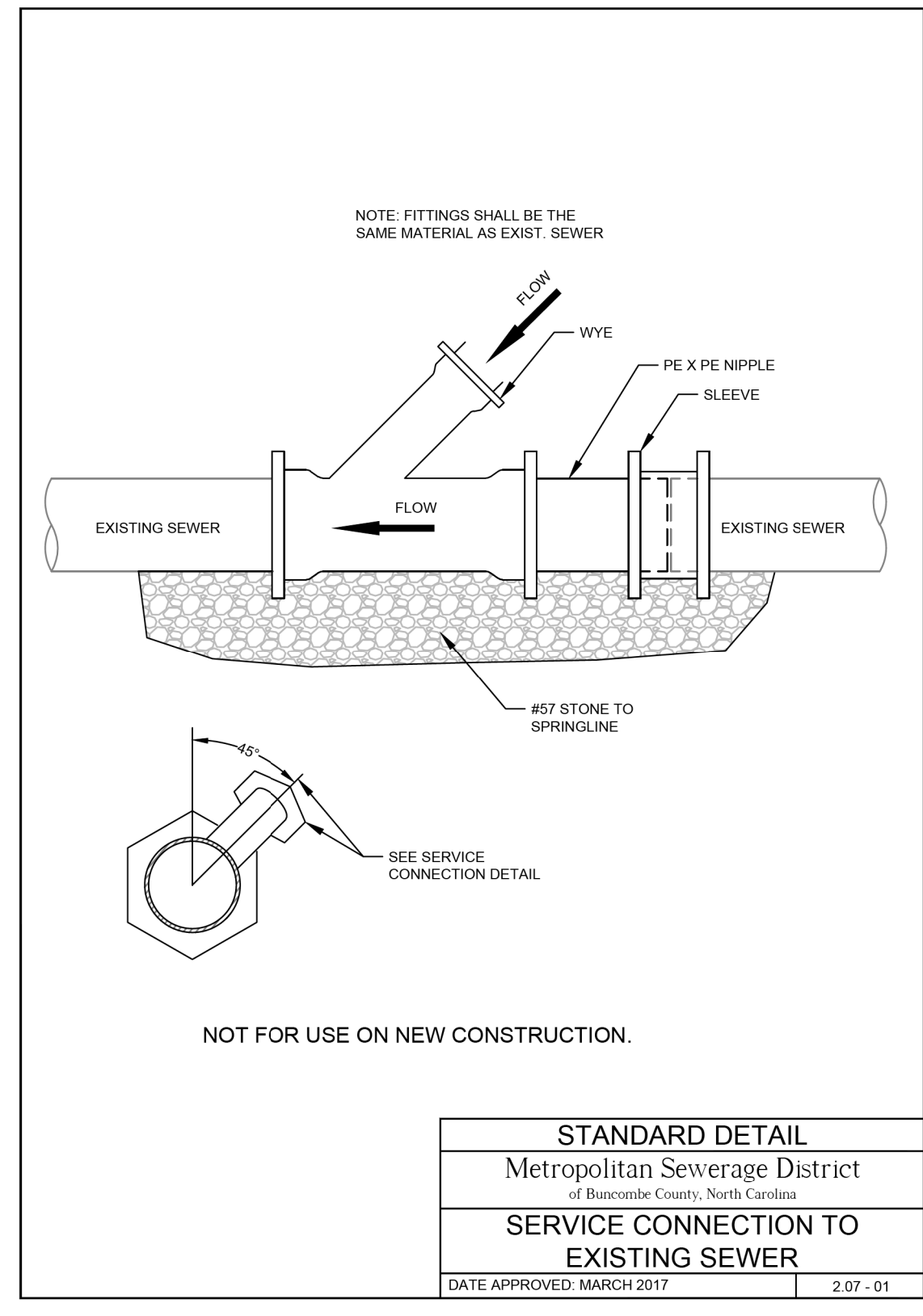


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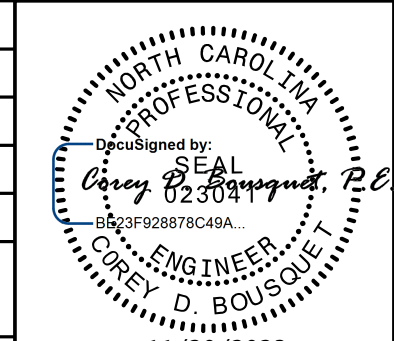
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RAILROAD SHORING DETAIL

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	I-2513 AA/AB	UC-3F
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UTILITY CONSTRUCTION

1-5-104

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AREMA Manual for Railway Engineering

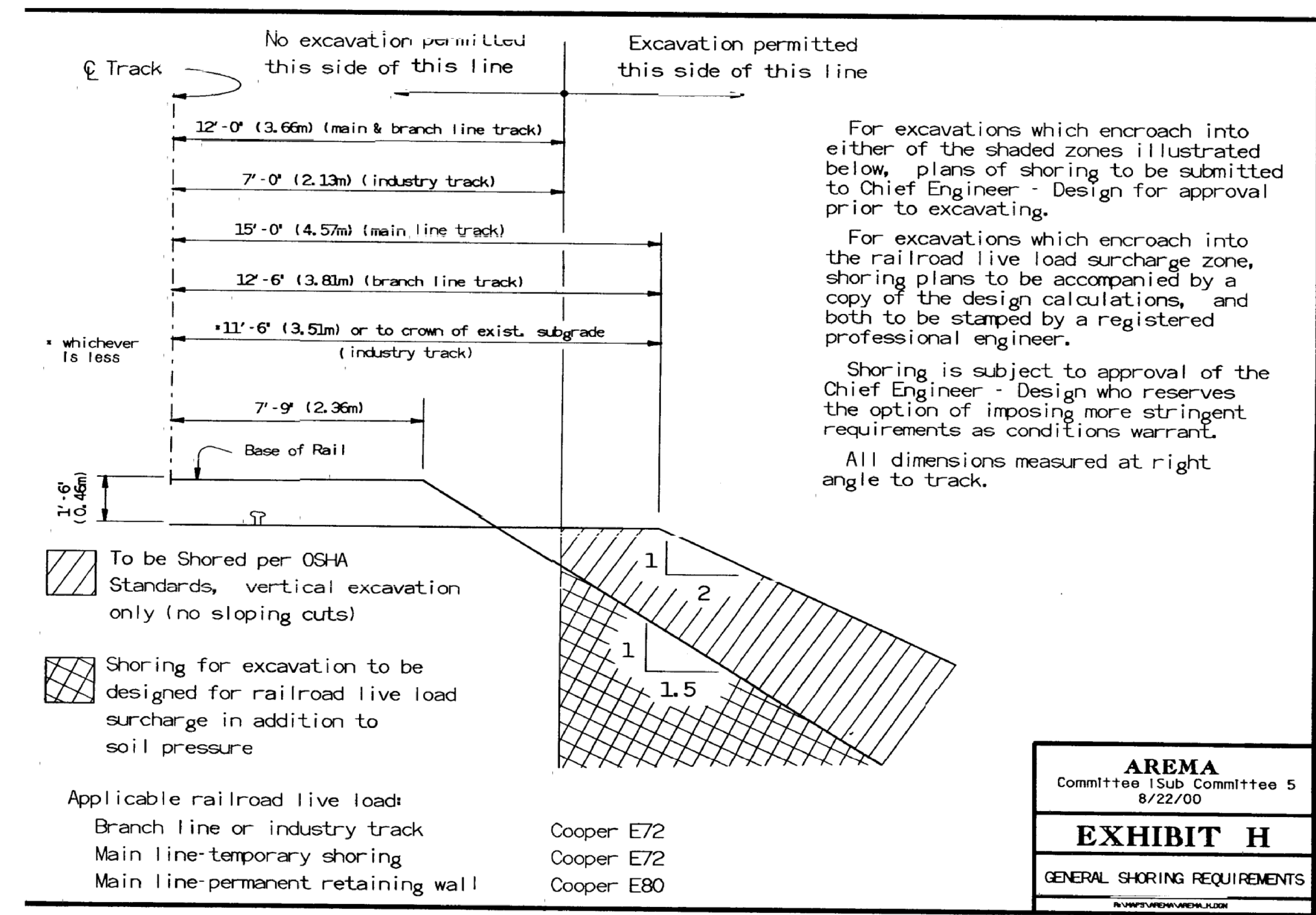


Figure 1-5-22. General Shoring Requirements

Roadway and Ballast

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 COREY D. BOUSSALIS
 0230878049A

SEE SHEET UC-09
FOR SEWER LINE 1 PROFILE

NAD 83

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UTILITY CONSTRUCTION

**5' DIA. UTILITY MANHOLE B1
STA. 7+02.82, LINE 1
171.29' LT OF LINE -Y5RPB-,
STA. 16+01.35
8' OF UTILITY MANHOLE WALL
4' DIA
REMOVE 1 MANHOLE**

**93' OF ABANDON 12"
UTILITY PIPE**
MH MISSION HOSPITAL LLLP
DB 6253 PG 124
PB 227 PG 143

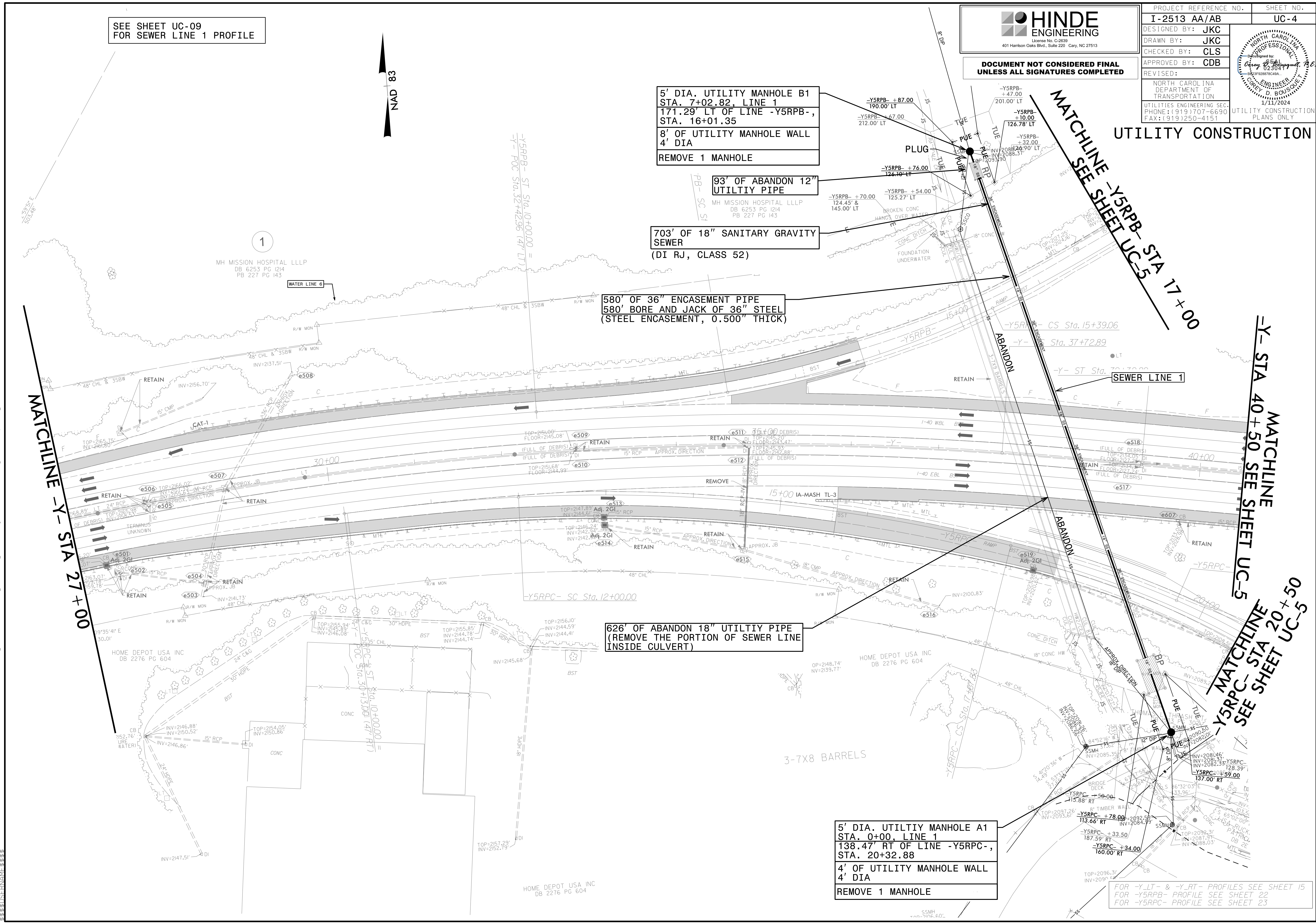
**703' OF 18" SANITARY GRAVITY
SEWER
(DI RJ, CLASS 52)**

**580' OF 36" ENCASEMENT PIPE
580' BORE AND JACK OF 36" STEEL
(STEEL ENCASEMENT, 0.500" THICK)**

**626' OF ABANDON 18" UTILITY PIPE
(REMOVE THE PORTION OF SEWER LINE
INSIDE CULVERT)**

**5' DIA. UTILITY MANHOLE A1
STA. 0+00, LINE 1
138.47' RT OF LINE -Y5RPC-,
STA. 20+32.88
4' OF UTILITY MANHOLE WALL
4' DIA
REMOVE 1 MANHOLE**

FOR -Y-LT- & -Y-RT- PROFILES SEE SHEET 15
FOR -Y5RPB- PROFILE SEE SHEET 22
FOR -Y5RPC- PROFILE SEE SHEET 23



MATCHLINE -Y- STA 27+00

MATCHLINE -Y5RPB- STA 17+00
SEE SHEET UC-5

MATCHLINE -Y- STA 40+50 SEE SHEET UC-5

MATCHLINE -Y5RPC- STA 20+50
SEE SHEET UC-5

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SEE SHEET UC-10
FOR SEWER LINE 2 PROFILE
SEE SHEET UC-11
FOR SEWER LINE 3 PROFILE



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I-2513 AA/AB	UC-5
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UTILITIES ENGINEERING SECTION	
PHONE: (919) 707-6690	UTILITY CONSTRUCTION PLANS ONLY
FAX: (919) 250-4151	

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140' OF 24" ENCASEMENT PIPE
140' BORE AND JACK OF 24" STEEL
(STEEL ENCASEMENT, 0.375" THICK)

163' OF 8" SANITARY GRAVITY
SEWER
(DI RJ, PC 350)

134' OF 8" SANITARY GRAVITY
SEWER
(DI, PC 350)

4' DIA. UTILITY MANHOLE D3
STA. 4+17.28, LINE 3
200.62' RT OF LINE -Y5RPA-,
STA. 18+75.65
8' OF UTILITY MANHOLE WALL
4' DIA

140' OF 8" SANITARY GRAVITY
SEWER
(DI RJ, PC 350)

67' OF SEWER SERVICE
LINE, 2 SEWER CLEANOUTS
(4" DI RJ, CLASS 51)

4' DIA. UTILITY MANHOLE B3
STA. 1+20, LINE 3
151.10' RT OF LINE -Y5RPA-,
STA. 16+58.82
3' OF UTILITY MANHOLE WALL
4' DIA

4' DIA. UTILITY MANHOLE E3
STA. 5+57.77, LINE 3
125.89' RT OF LINE -Y5RPA-,
STA. 19+91.88
2' OF UTILITY MANHOLE WALL
4' DIA

72' OF SEWER SERVICE
LINE, 1 SEWER CLEANOUT
(4" DI RJ, CLASS 51)

120' OF 8" SANITARY GRAVITY
SEWER
(DI, PC 350)

MATCHLINE -Y5RPA- STA 17+00
SEE SHEET UC-4

MATCHLINE -Y- STA 40+50
SEE SHEET UC-4

MATCHLINE -Y5RPA- STA 20+50
SEE SHEET UC-4

MATCHLINE -Y- STA 63+00 - SEE SHEET UC-6

SEWER LINE 3

SEWER LINE 2

4' DIA. UTILITY MANHOLE C3
STA. 2+54, LINE 3
77.97' RT OF LINE -Y5RPA-,
STA. 17+69.61
7' OF UTILITY MANHOLE WALL
4' DIA

455' OF ABANDON 18" UTILITY PIPE
(REMOVE THE PORTION OF SEWER LINE
INSIDE CULVERT)
ABANDON 1 UTILITY MANHOLE

5' DIA. UTILITY MANHOLE C2
STA. 4+49.01, LINE 2
259.01' RT OF LINE -Y-,
STA. 59+14.72
5' OF UTILITY MANHOLE WALL
4' DIA
REMOVE 1 MANHOLE

5' DIA. UTILITY MANHOLE EQ1
STA. 0+00, SEWER LINE 2
STA. 0+00, SEWER LINE 3
79.01' RT OF LINE -Y5RPA-,
STA. 15+64.16
11' OF UTILITY MANHOLE WALL
4' DIA

594' OF ABANDON 8" UTILITY PIPE
142' OF ABANDON 4" UTILITY PIPE
ABANDON 3 UTILITY MANHOLES
87' OF ABANDON 16" UTILITY PIPE

46' OF 18" SANITARY GRAVITY
SEWER
(DI, PC 250)

300' OF 36" ENCASEMENT PIPE
300' BORE AND JACK OF 36" STEEL
(STEEL ENCASEMENT, 0.500" THICK)

16" UTILITY PIPE IS THE PAY ITEM
USED TO FILL THE EXISTING 16" STEEL
ENCASMENT UNDER THE RAILROAD

5' DIA. UTILITY MANHOLE B2
STA. 4+03.00, LINE 2
230.21' RT OF LINE -Y-,
STA. 59+50.59
5' OF UTILITY MANHOLE WALL
4' DIA

23 CY CLASS B CONCRETE FOR
ENCASING UTILITY LINES

403' OF 18" SANITARY GRAVITY
SEWER
(DI RJ, CLASS 52)

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PROJECT REFERENCE NO.	I-2513 AA/AB	SHEET NO.	UC-6
DESIGNED BY:	JKC		
DRAWN BY:	JKC		
CHECKED BY:	CLS		
APPROVED BY:	CDB		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC. DB 118 PG 116 PB 19 PG 87		PHONE: (919) 707-6690 FAX: (919) 250-4151	

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SEE SHEET UC-12 FOR SEWER LINE 4 PROFILE
SEE SHEET UC-13 FOR SEWER LINE 5 PROFILE

NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 400 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

4' DIA. UTILITY MANHOLE A4
STA. 0+00, LINE 4
238.74' LT OF LINE -Y-,
STA. 71+51.93
4' OF UTILITY MANHOLE WALL
4' DIA
REMOVE 1 MANHOLE

728' OF ABANDON 8" UTILITY PIPE
ABANDON 2 UTILITY MANHOLES

87' OF 6" WATER LINE (DI RJ, PC 350) USE CONCRETE BLOCKING AT TIE-IN POINTS. SEE DETAIL SHEET UC-3D MAINTAIN 2' BELOW PROPOSED DRAINAGE PIPE

116' OF 8" SEWER (DI, PC 350)

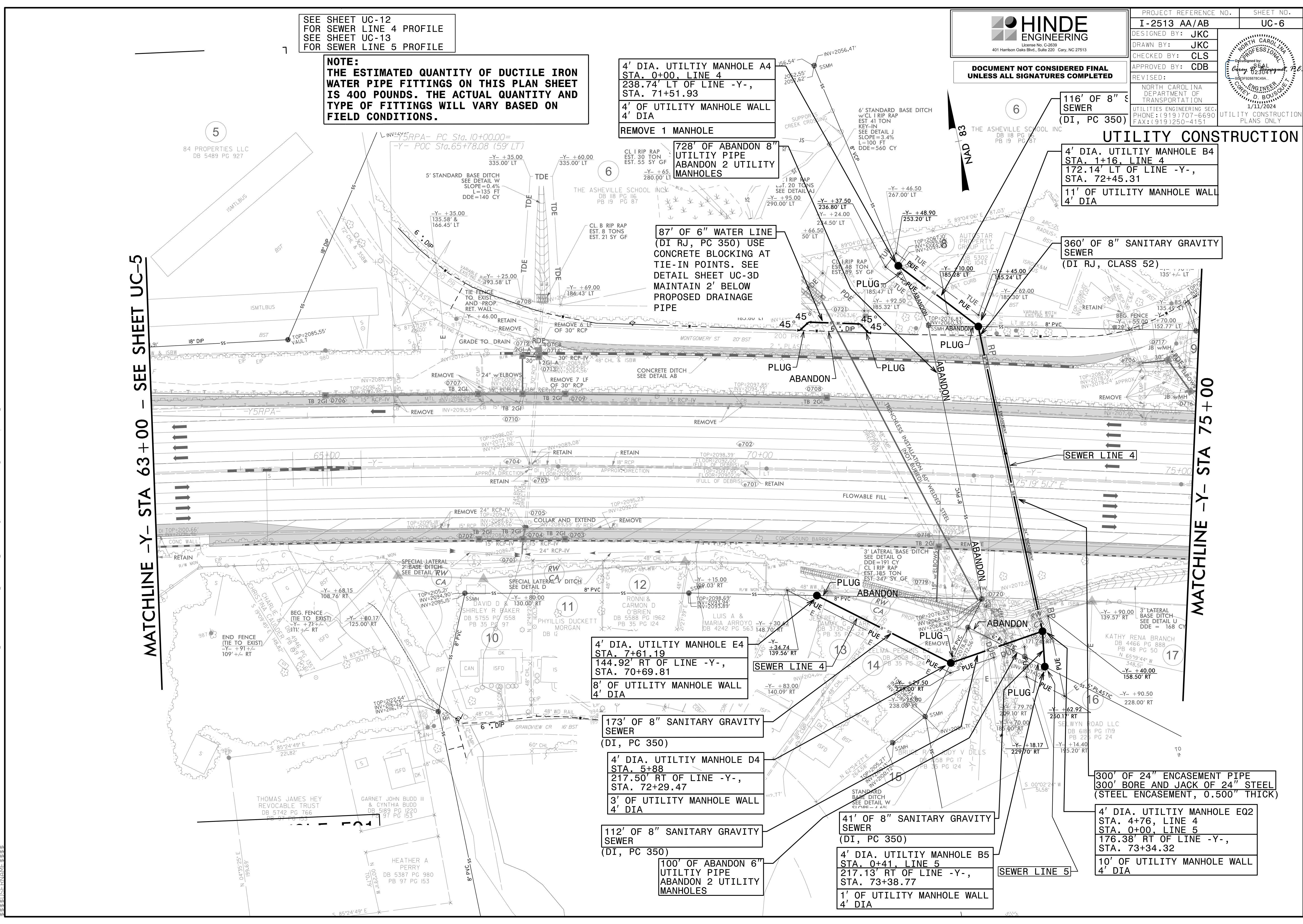
4' DIA. UTILITY MANHOLE B4
STA. 1+16, LINE 4
172.14' LT OF LINE -Y-,
STA. 72+45.31
11' OF UTILITY MANHOLE WALL
4' DIA

360' OF 8" SANITARY GRAVITY SEWER (DI RJ, CLASS 52)

MATCHLINE -Y- STA 63+00 - SEE SHEET UC-5

MATCHLINE -Y- STA 75+00

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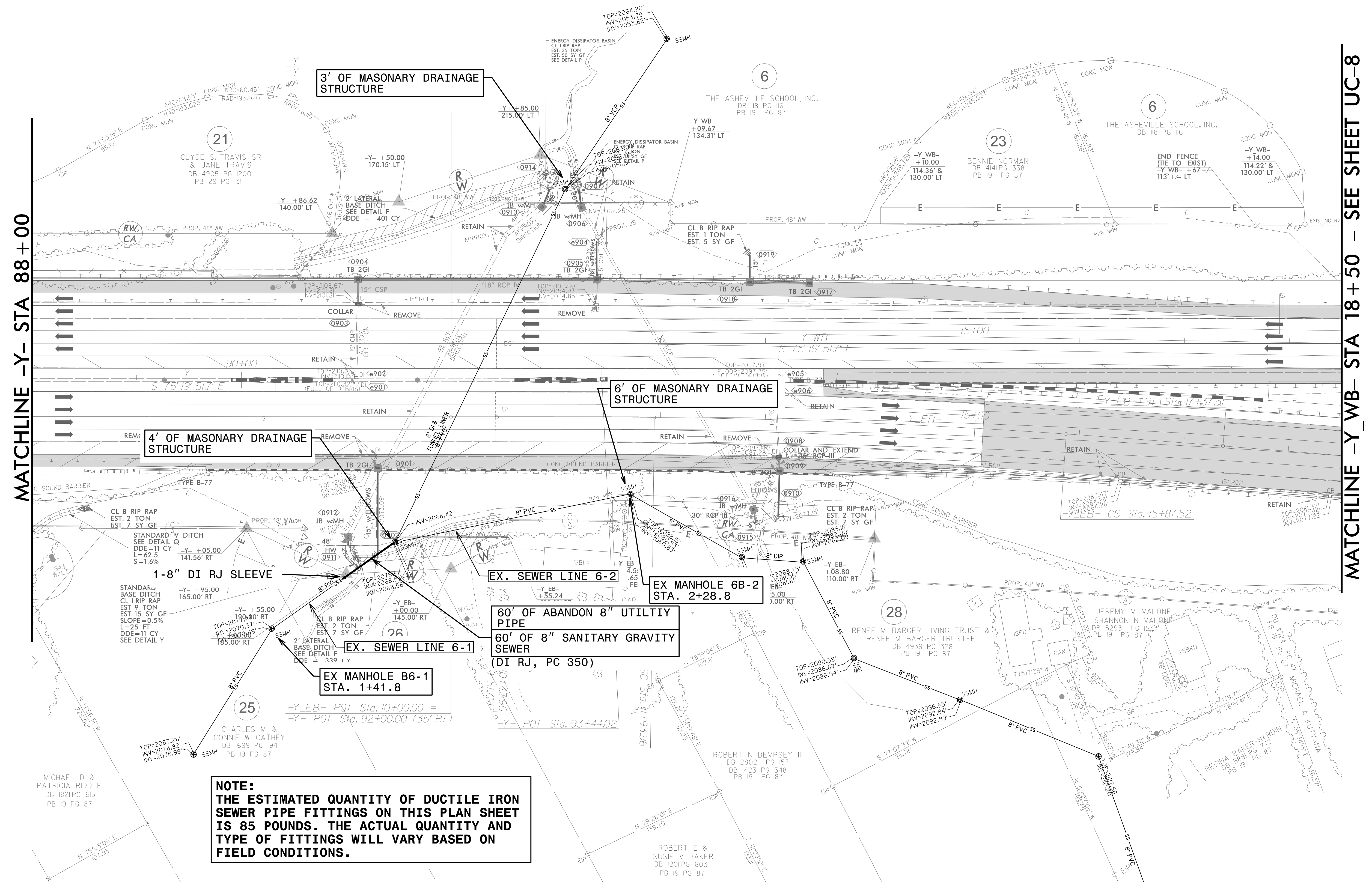
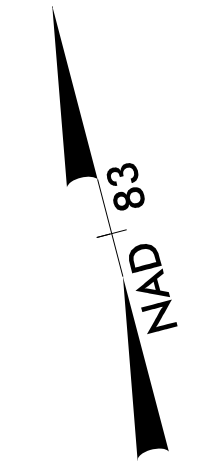
SEE SHEET UC-13
FOR SEWER LINE 6

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PROJECT REFERENCE NO.	I-2513 AA/AB	SHEET NO.	UC-7
DESIGNED BY:	JKC		
DRAWN BY:	JKC		
CHECKED BY:	CLS		
APPROVED BY:	CDB		
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	1/11/2024
UTILITIES ENGINEERING SEC.		UTILITY CONSTRUCTION PLANS ONLY	
PHONE: (919) 707-6690		FAX: (919) 250-4151	

UTILITY CONSTRUCTION



MATCHLINE -Y- STA 88+00

MATCHLINE -Y_WB- STA 18+50 - SEE SHEET UC-8

NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 85 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

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SEE SHEET UC-14
FOR WATER LINE 1 PROFILE

5' OF 18" WATER LINE
(DI RJ, PC 250)

703' OF 24" WATER LINE
(DI RJ, PC 250)

347' OF 48" ENCASEMENT PIPE
347' BORE AND JACK OF 48" STEEL
(STEEL ENCASEMENT, 0.625" THICK)

MATCHLINE -Y WB- STA 18+50 - SEE SHEET UC-7

4' OF 18" WATER LINE
(DI RJ, PC 250)

NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON
WATER PIPE FITTINGS ON THIS PLAN SHEET
IS 9000 POUNDS. THE ACTUAL QUANTITY AND
TYPE OF FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

24" X 18" REDUCER

1-24" VALVE
(BV, 250# WP)

765' OF ABANDON 18" UTILITY PIPE

1-2" VALVE

36" OF 2" WATER LINE
(PVC RJ, SDR 21)

1-24" VALVE
(BV, 250# WP)

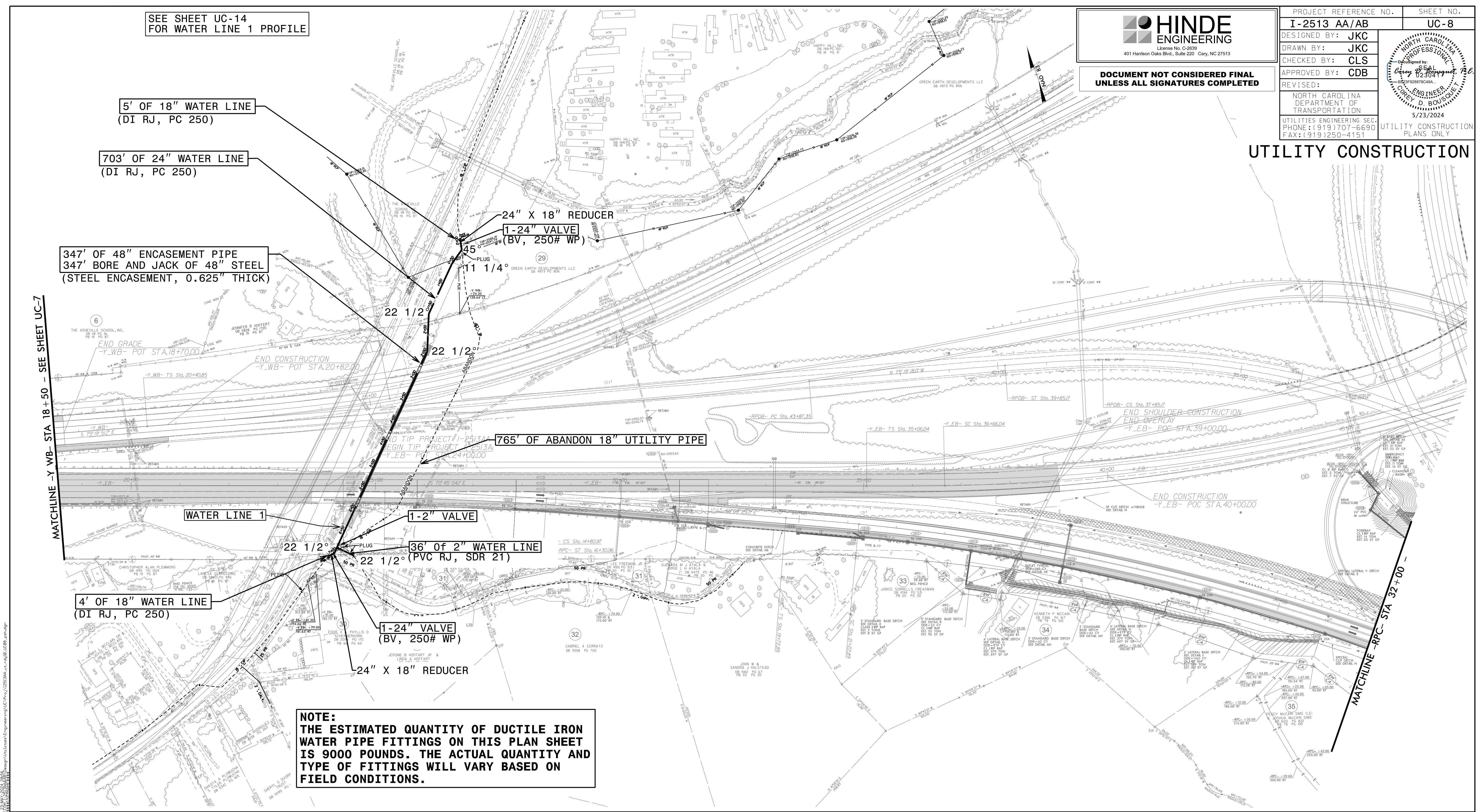
24" X 18" REDUCER

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PROJECT REFERENCE NO. I-2513 AA/AB	SHEET NO. UC-8
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SECTION	
PHONE: (919) 707-6690	UTILITY CONSTRUCTION PLANS ONLY
FAX: (919) 250-4151	


UTILITY CONSTRUCTION



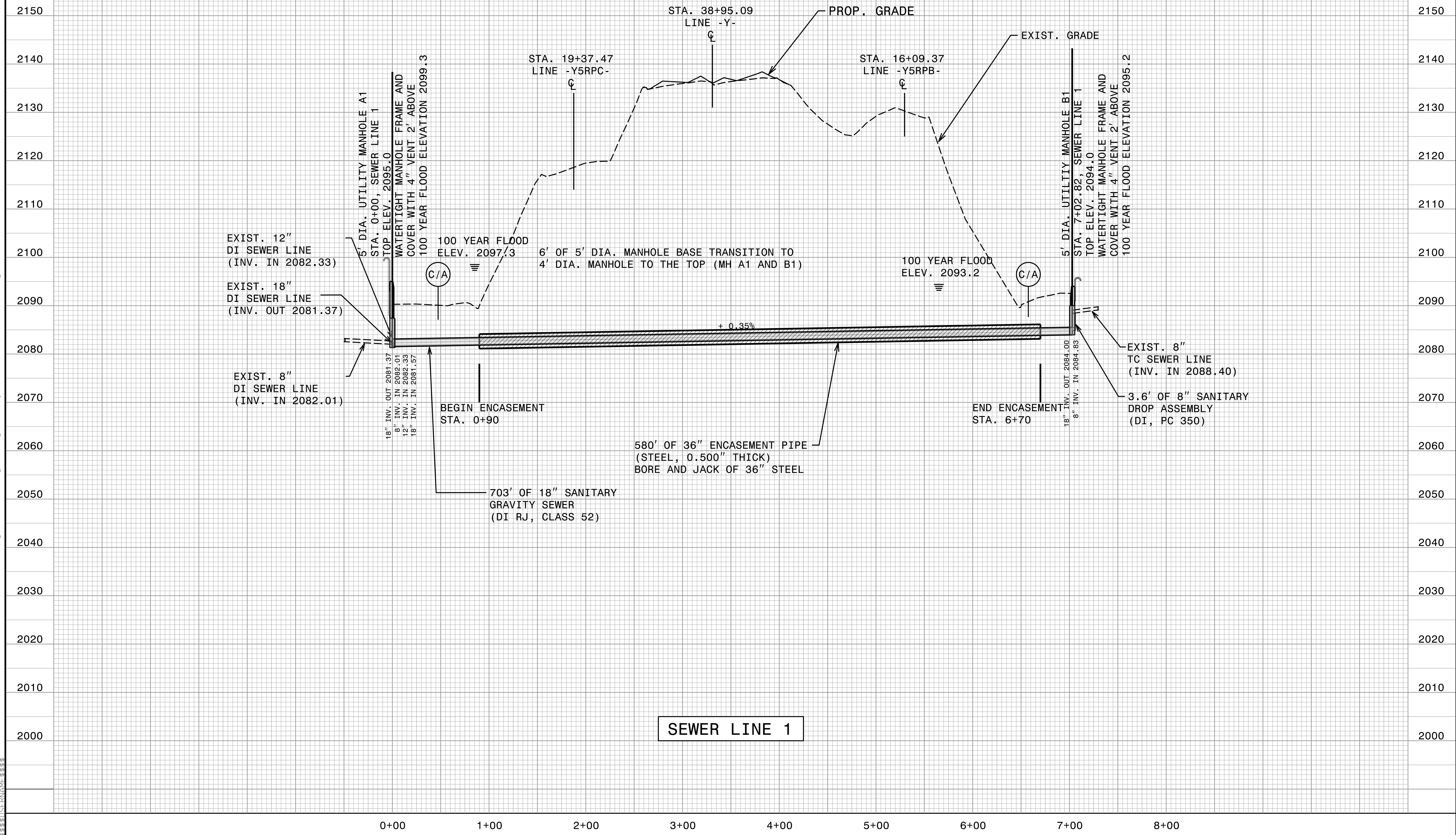
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PROJECT REFERENCE NO. I-2513 AA/AB	SHEET NO. UC-9
DESIGNED BY: JKC	
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APPROVED BY: CDB	
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UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



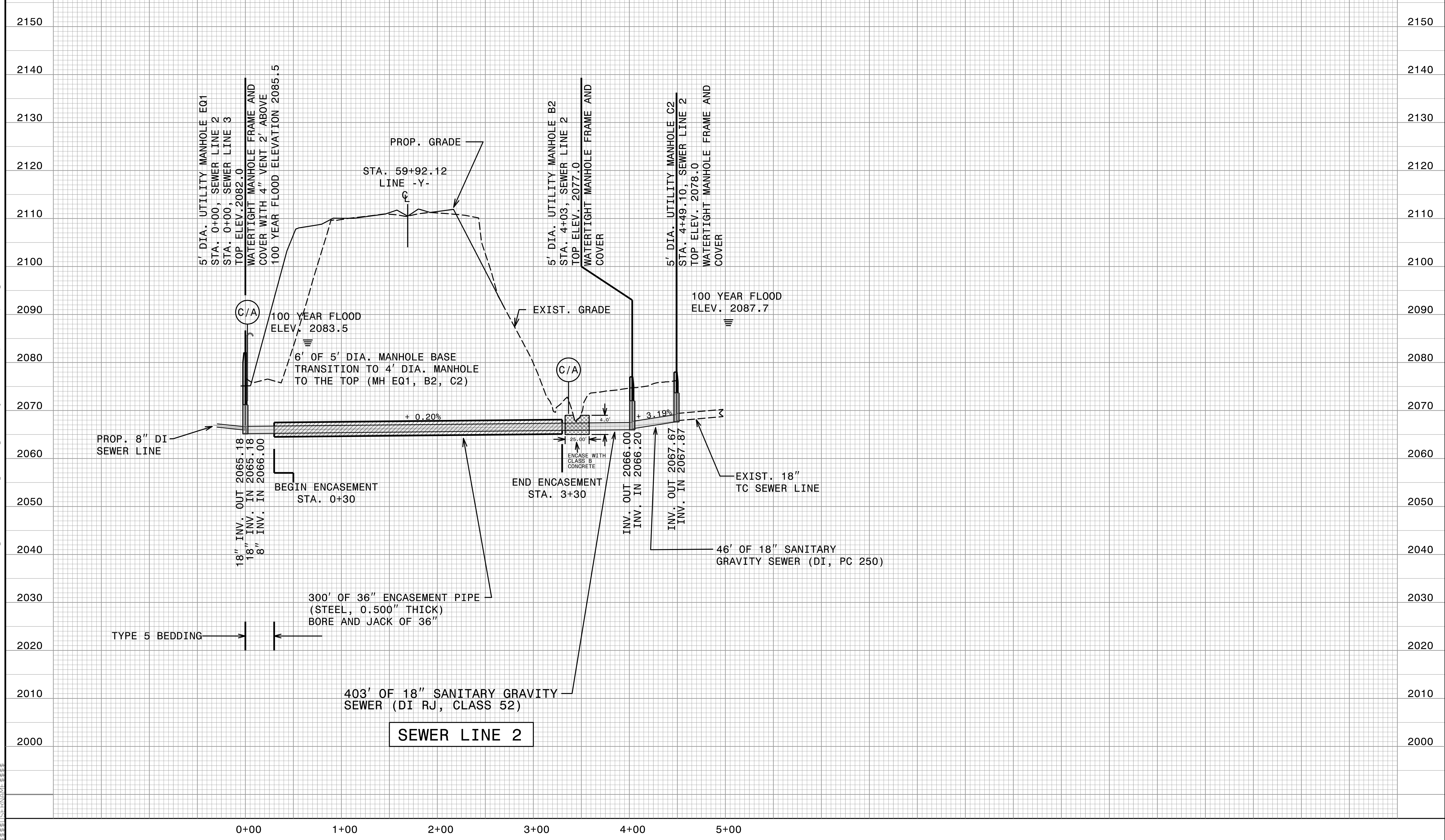
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PROJECT REFERENCE NO. I-2513 AA/AB	SHEET NO. UC-10
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

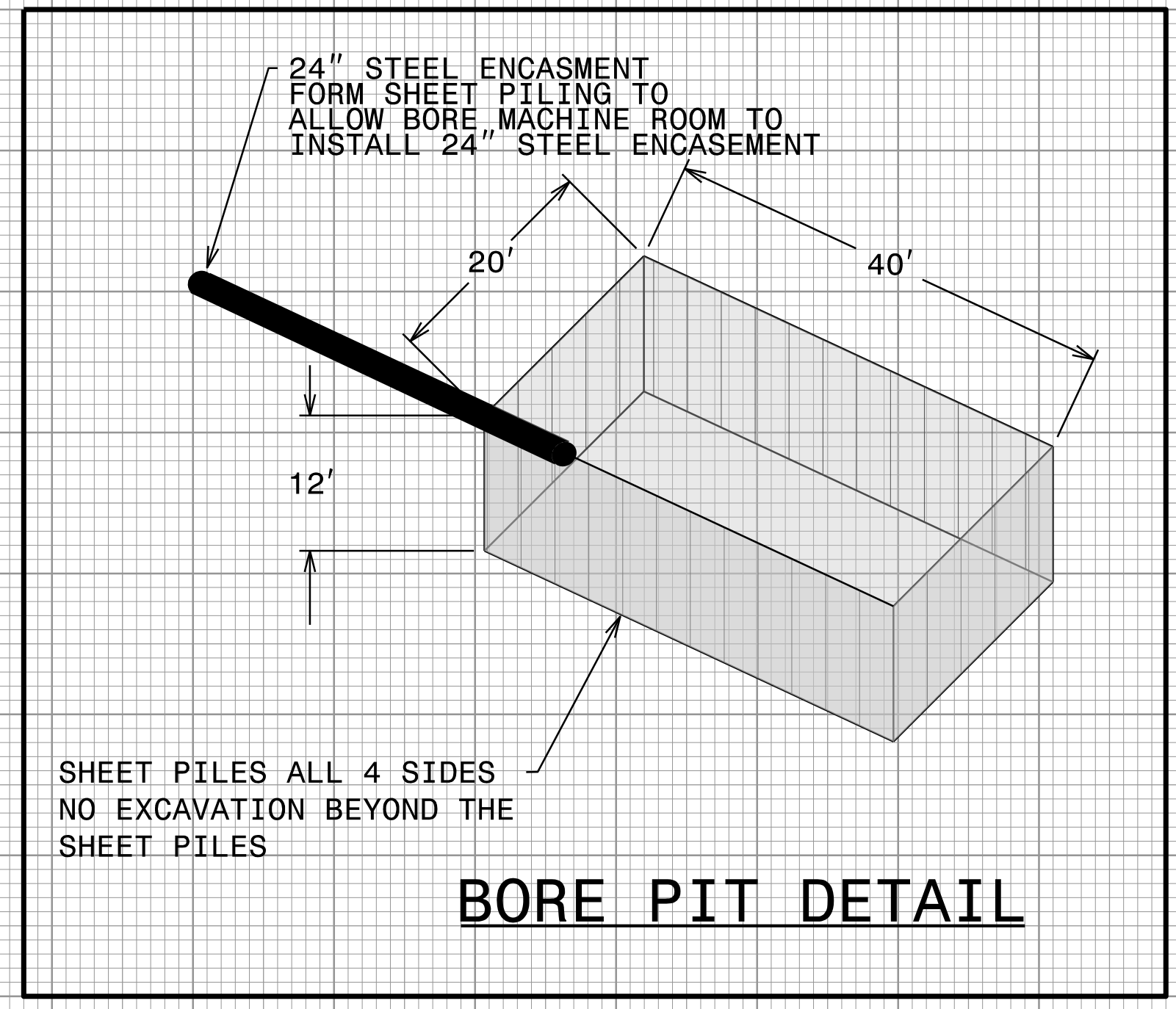
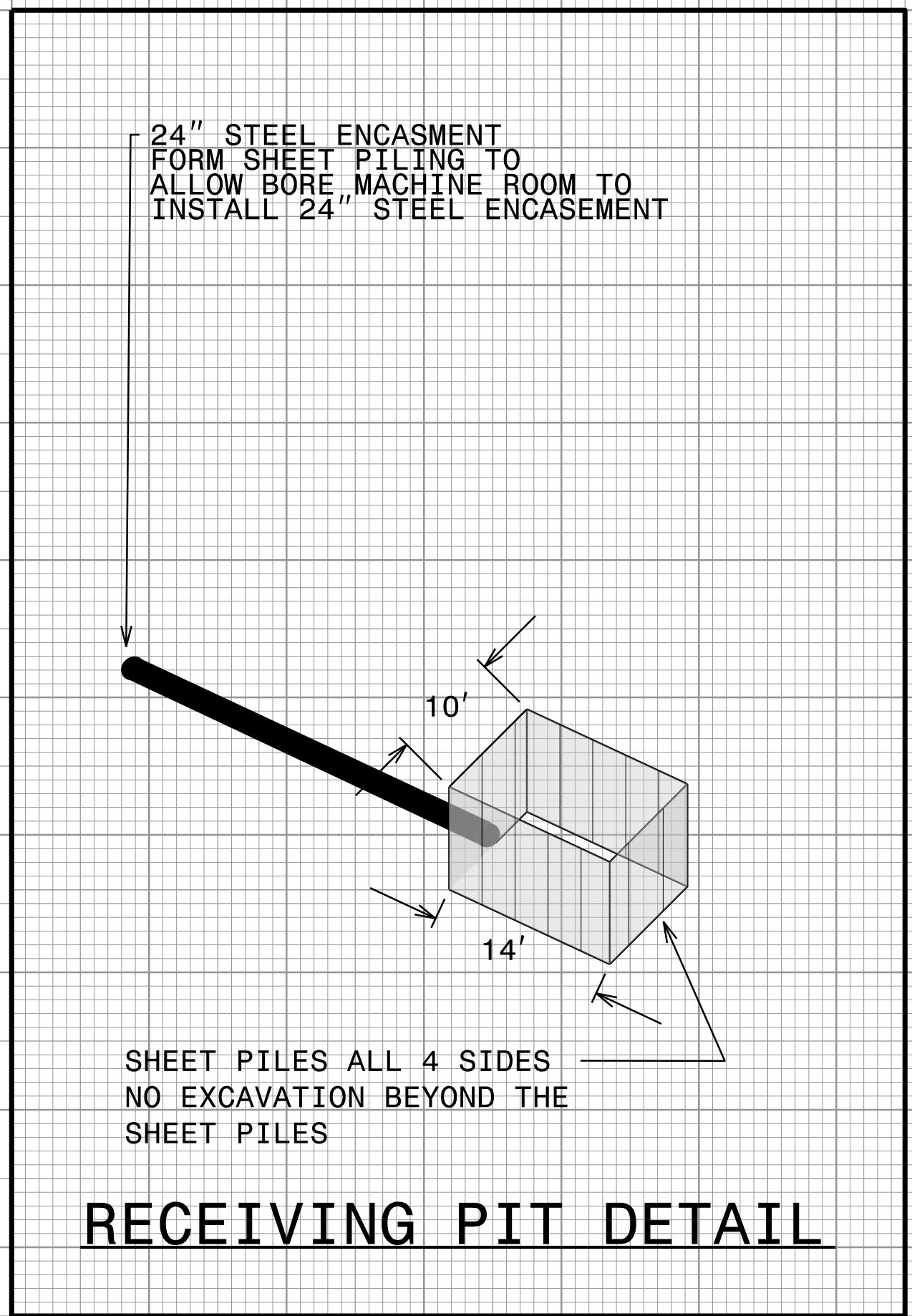
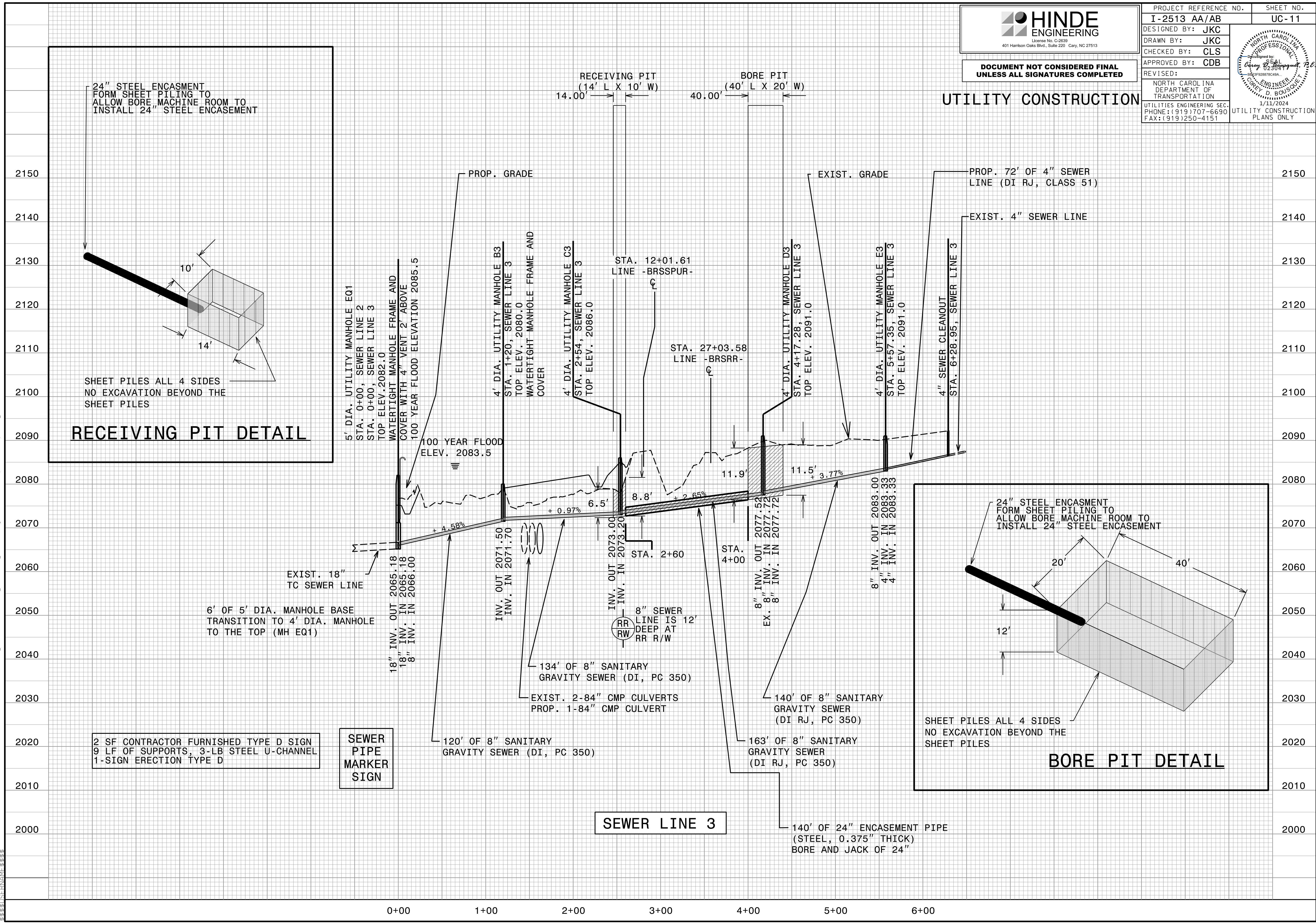
UTILITY CONSTRUCTION



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UTILITY CONSTRUCTION



2 SF CONTRACTOR FURNISHED TYPE D SIGN
 9 LF OF SUPPORTS, 3-LB STEEL U-CHANNEL
 1-SIGN ERECTION TYPE D

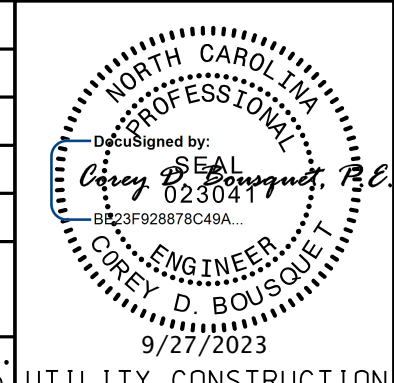
SEWER PIPE MARKER SIGN

SEWER LINE 3

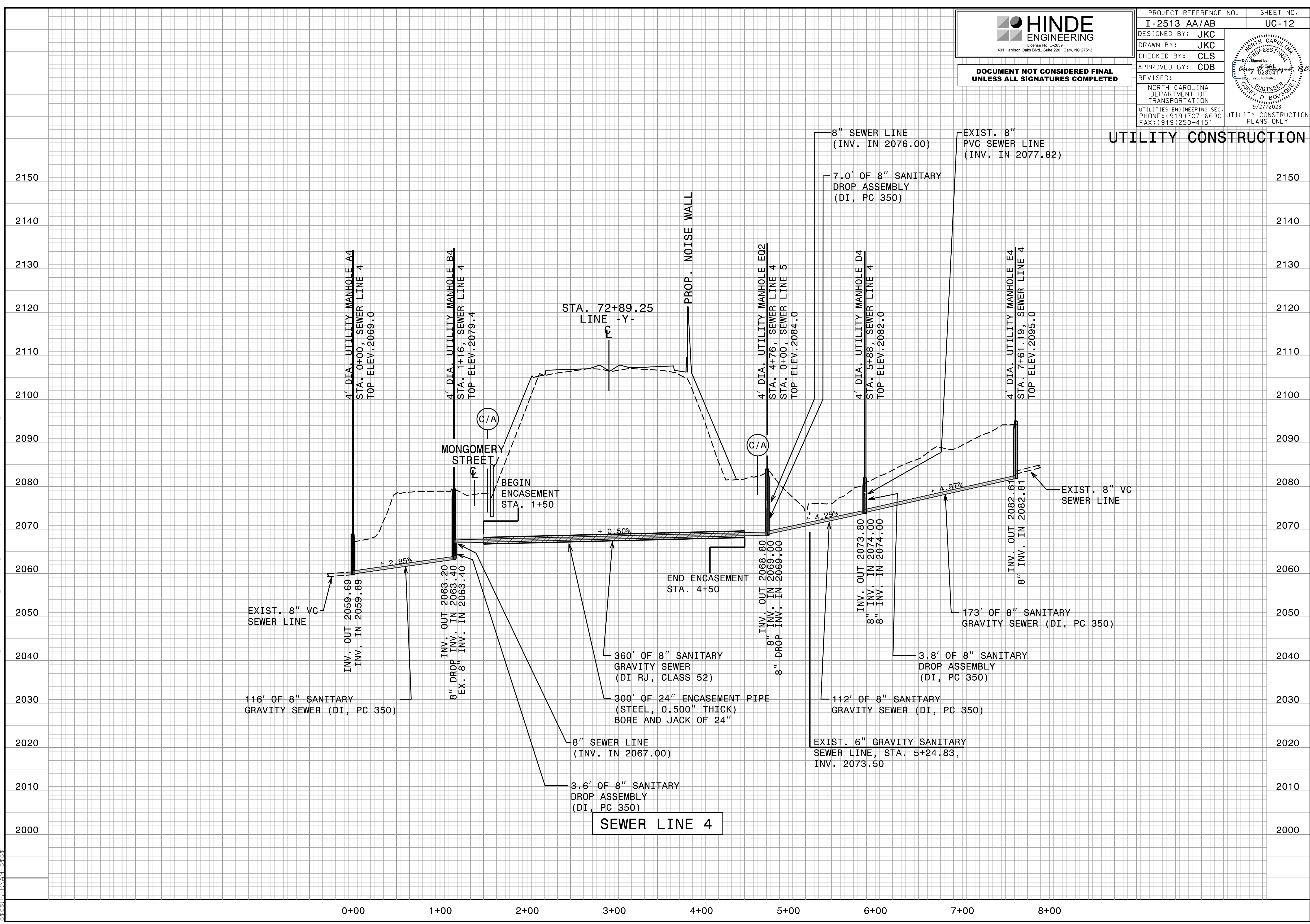
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PROJECT REFERENCE NO. I-2513 AA/AB	SHEET NO. UC-12
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION



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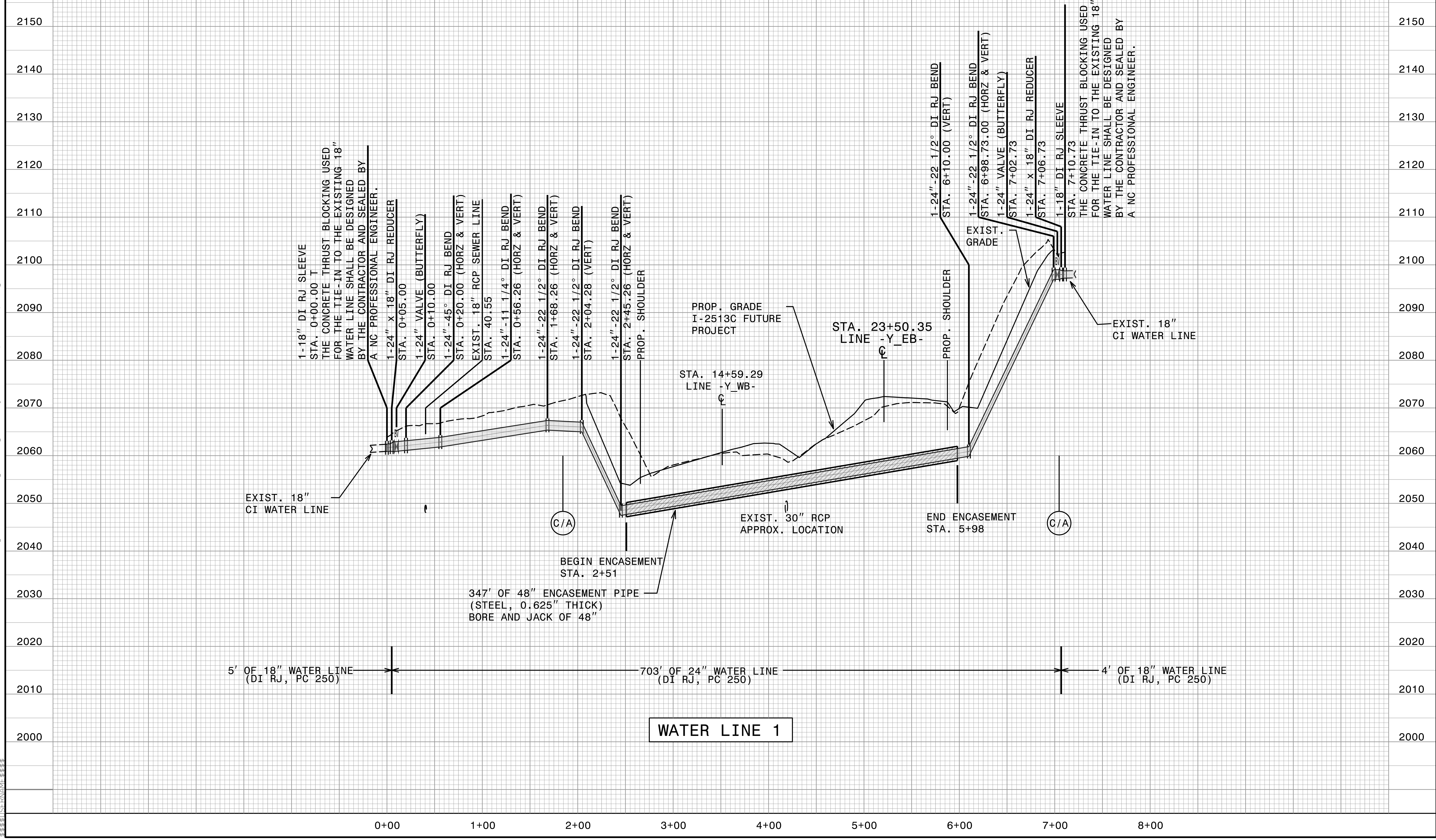
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PROJECT REFERENCE NO. I-2513 AA/AB	SHEET NO. UC-14
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
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ALL DI FITTINGS SHALL HAVE RESTRAINED RETAINER GLANDS AND CONCRETE THRUST BLOCKING. SEE CONCRETE THRUST BLOCKING DETAIL ON SHEET UC-3D

UTILITY CONSTRUCTION

23 MAY 2024 08:55
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5' OF 18" WATER LINE (DI RJ, PC 250) 703' OF 24" WATER LINE (DI RJ, PC 250) 4' OF 18" WATER LINE (DI RJ, PC 250)

WATER LINE 1