

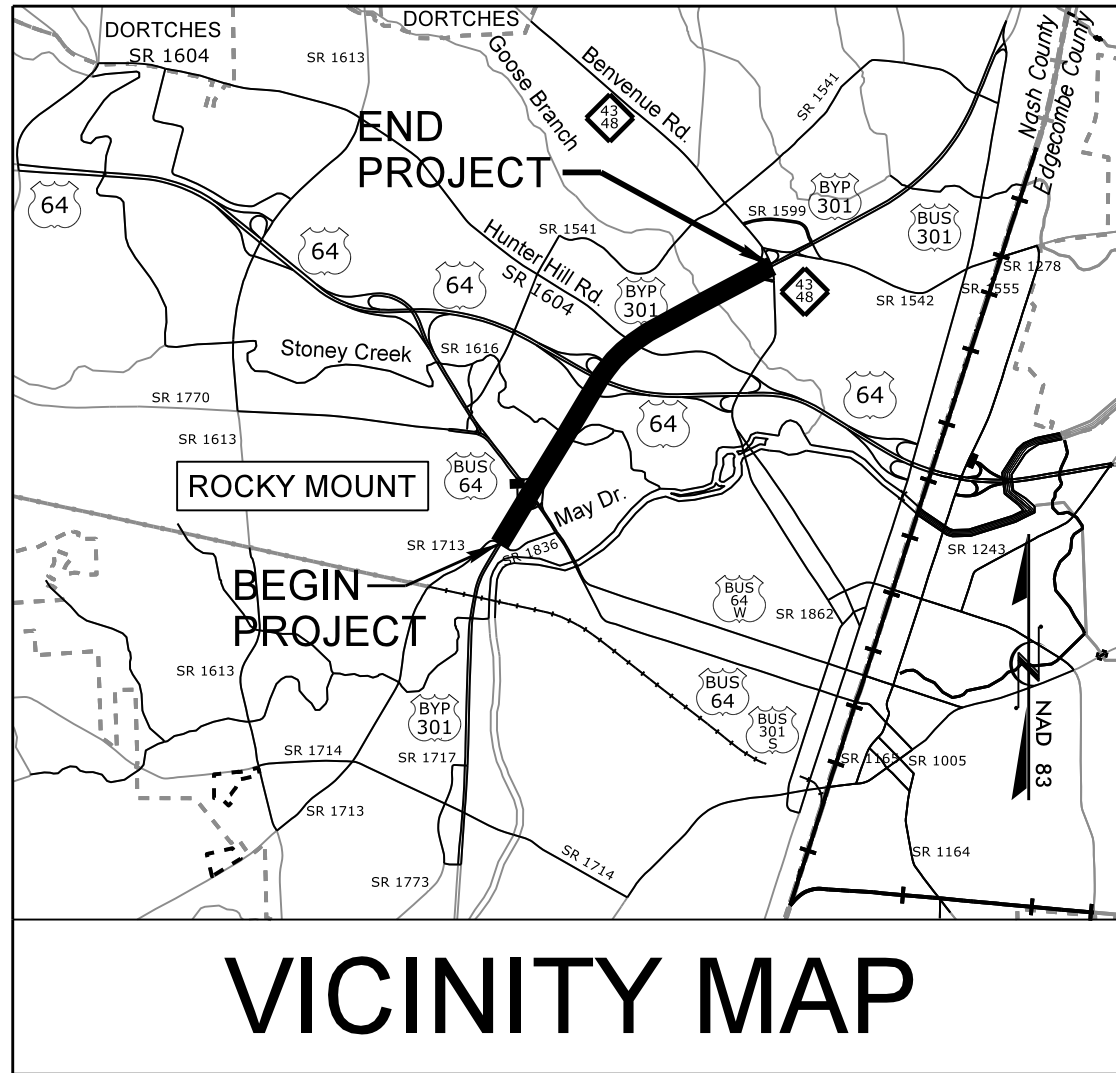
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T.I.P. NO.	SHEET NO.
U-3330	UC-1

TIP PROJECT: U-3330

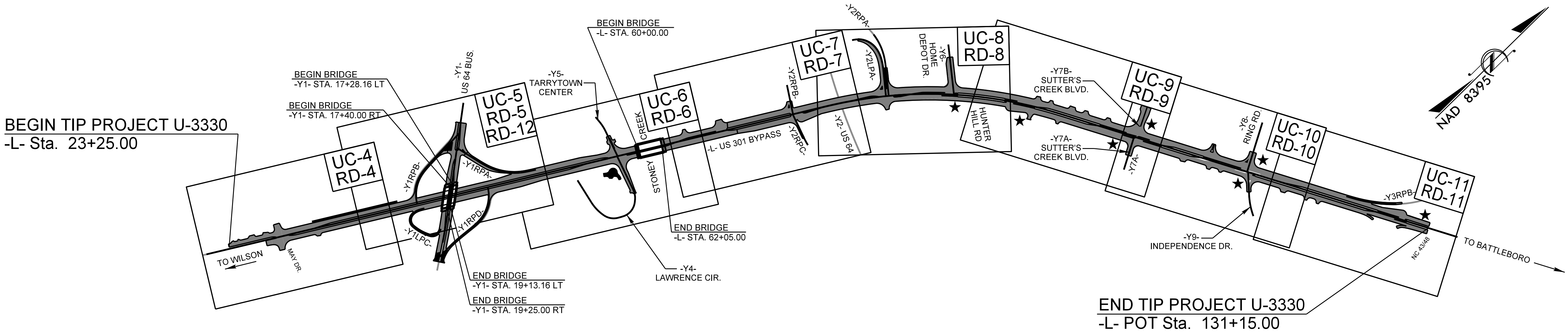


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS
NASH COUNTY**

LOCATION: ROCKY MOUNT - US 301 BYPASS FROM SR 1836 (MAY DRIVE) TO NC 43-48 (BENVENUE ROAD) INTERCHANGE

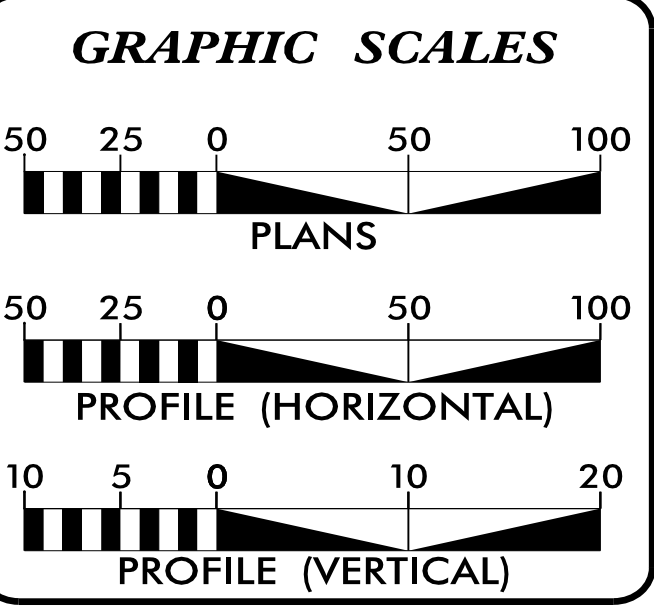
TYPE OF WORK: WATER AND SANITARY SEWER RELOCATION



- NOTES:**
- CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
 - THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
 - THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF ROCKY MOUNT.

★ TRAFFIC SIGNAL

DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOLOGY
UC-3 THRU UC-3A	UTILITY NOTES
UC-3B THRU UC-3K	UTILITY DETAILS
UC-4 THRU UC-11	UTILITY PLAN SHEETS
UC-12 THRU UC-14	UTILITY PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) WATER - CITY OF ROCKY MOUNT
(B) SANITARY SEWER - CITY OF ROCKY MOUNT

PREPARED IN THE OFFICE OF

M A Engineering Consultants, Inc. NC License: F-0160
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 Fax: 919.297.0220

KEVIN ZDEB, PE PROJECT ENGINEER
GARY BLUE PROJECT DESIGNER

SEAL

3/6/2017

DIVISION OF HIGHWAYS UTILITIES UNIT
1555 MAIL SERVICES CENTER
RALEIGH, NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

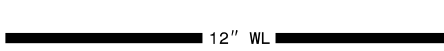























BO HEMPHILL, PE UTILITIES REGIONAL ENGINEER
KIFAH KAMIL UTILITIES ENGINEER
KYLE PLEASANT AREA UTILITY AGENT
LARRY M. JAMES UTILITY AGENT

\$\$\$\$\$ SYSTEM TIME\$\$\$\$\$
\$\$\$\$\$ DGN\$\$\$\$\$
\$\$\$\$\$ USERNAME\$\$\$\$\$





STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS





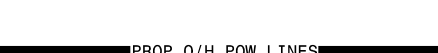

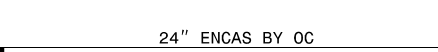
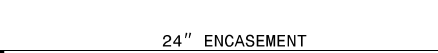
PROPOSED WATER SYMBOLS








Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

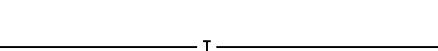







Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

EXISTING UTILITIES SYMBOLS

Power Pole		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
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) 

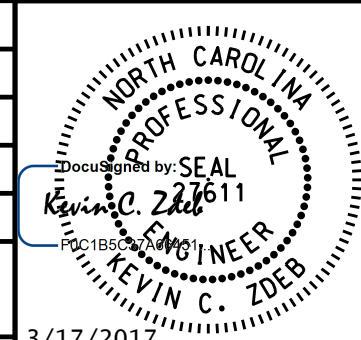

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UTILITY CONSTRUCTION

PROJECT SPECIFIC NOTES (CONTINUED):

- 16. ALL HYDRANTS, PROPOSED OR RELOCATED, SHALL BE INSTALLED 2 FEET BEHIND THE SIDEWALK, OR AS NOTED PER THE HYDRANT DETAIL, OR AS DIRECTED BY THE RESIDENT ENGINEER.
- 17. EXISTING WATER SERVICE LINES BETWEEN THE EXISTING WATER LINE AND THE REMOVED WATER METER SHALL BE ABANDONED IN PLACE OR REMOVED AS NEEDED AS PER SECTION 1530 OF THE NCDOT SPECIFICATIONS OR AS DIRECTED BY THE RESIDENT ENGINEER.
- 18. WATER SERVICE PIPE SHALL BE TYPE K SOFT COPPER CONFORMING TO ASTM B-88 OR CLASS 200 SP WATER SERVICE TUBING (C.T.S. - O.D.) MEETING THE REQUIREMENTS OF TYPE III, GRADE 3, CLASS C MATERIAL FOR POLYETHYLENE (PE) PLASTIC PIPE (SDR-PR), ASTM D-2239.
- 19. ALL WATER SERVICE FITTINGS, COMPRESSION JOINTS, END CONNECTORS, AND COUPLINGS SHALL BE IN ACCORDANCE WITH AWWA C800.
- 20. ALL WATER METER BOXES SHALL BE CAST IRON BODY WITH BITUMINOUS COATED, CAST IRON BASE, INNER BARREL, AND OUTER BARREL WITH 1-7/8" TOUCH-READ HOLE IN LID.
- 21. WATER METER BOXES SHALL NOT BE INSTALLED WITHIN PAVED OR SIDEWALK AREA UNLESS APPROVED BY UTILITY OWNER.
- 22. SANITARY GRAVITY SEWER PIPE SHALL BE EITHER PVC OR DUCTILE IRON PIPE.
- 23. ALL PVC SANITARY GRAVITY SEWER PIPE SHALL BE INSTALLED WITH A MINIMUM COVER OF FOUR (4) FEET. WHERE COVER IS LESS THAN FOUR (4) FEET, CONTRACTOR SHALL USE DUCTILE IRON PIPE UNLESS OTHERWISE DIRECTED BY THE UTILITY OWNER AND/OR THE RESIDENT ENGINEER.

- 24. PVC SANITARY GRAVITY SEWER PIPE 4-INCH TO 24-INCH SHALL ONLY BE USED ON DEPTHS OF COVER NOT TO EXCEED 22 FEET.
- 25. PVC PIPE SHALL HAVE PUSH-ON TYPE JOINTS CONFORMING TO ASTM D3212 OR D3139 WITH ELASTOMERIC GASKETS CONFORMING TO ASTM F477.
- 26. DUCTILE IRON PIPE FOR GRAVITY SEWER SHALL CONFORM TO AWWA C150 AND C151 WITH A MINIMUM PRESSURE CLASS OF 350 AND THICKNESS CLASS 50. PIPE SHALL BE BITUMINOUS COATED OUTSIDE AND CEMENT MORTAR LINED CONFORMING TO ANSI / AWWA STANDARD C104 / A21.4.
- 27. ALL SANITARY GRAVITY SEWER PIPE SHALL BE CONSTRUCTED IN A STRAIGHT LINE BETWEEN MANHOLES.
- 28. CONTRACTOR SHALL EMPLOY A PUMP AND HAUL METHOD TO BYPASS SECTIONS OF GRAVITY SEWER MAIN UNDER CONSTRUCTION. CONTRACOTR SHALL PUMP WASTE FROM A MANHOLE UPSTREAM OF THE CONSTRUCTION INTO A TANKER TRUCK AND REINTRODUCE THE WASTE BACK INTO THE SAME SYSTEM AT A MANHOLE DOWNSTREAM OF THE CONSTRUCTION. CONTRACTOR SHALL COORDINATE ALL ASPECTS OF THIS OPERATION WITH THE UTILITY OWNER PRIOR TO BEGINNING ANY SAID WORK. ALL TRANSPORTING OF WASTEWATER SHALL BE IN ACCORDANCE WITH THE RULES AND REGULATIONS OF NCDOT, THE LOCAL MUNICIPALITY, AND OTHER AGENCIES WITH JURISDICTION. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS ASSOCIATED WITH PROPOSED PUMP AND HAUL OPERATIONS.

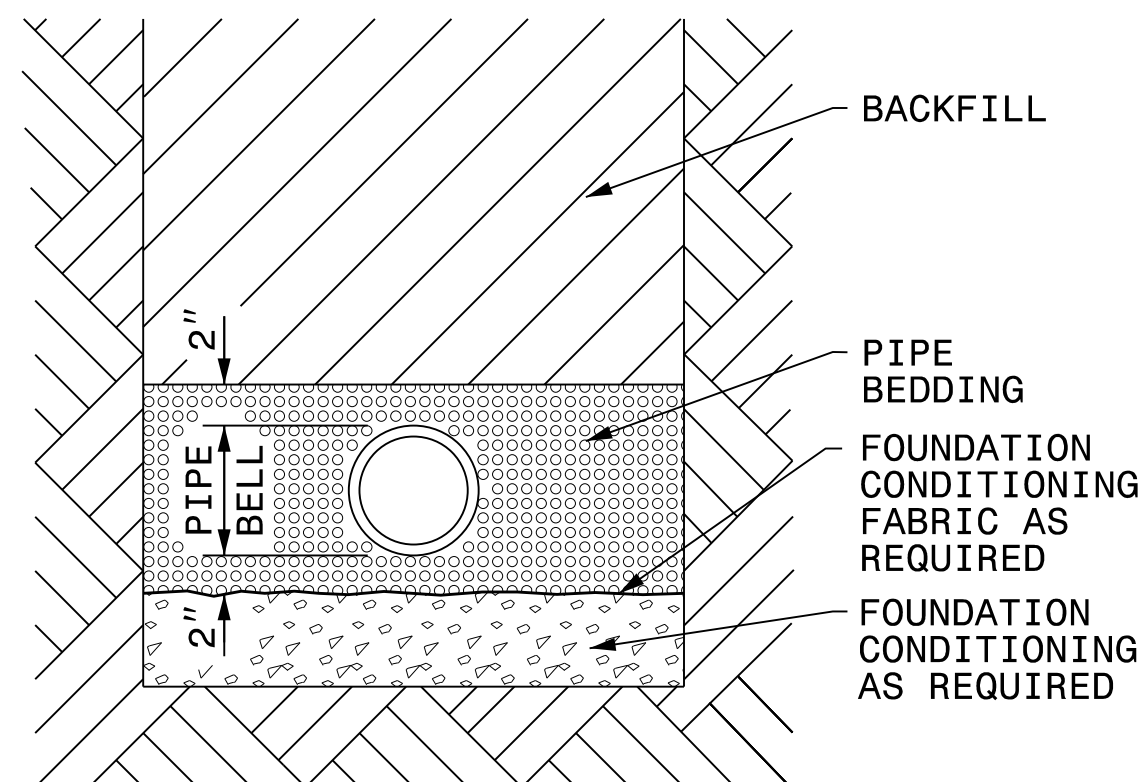
PROJECT REFERENCE NO. U-3330	SHEET NO. UC-3A
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. 3/17/2017 PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 M A Engineering Consultants, Inc. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	

PROJECT QUANTITIES

ITEM NUMBER	DESCRIPTION	QUANTITY	
5319000000-E	CLASS B CONCRETE FOR ENCASING UTILITY LINES	2	CY
5325600000-E	6" WATER LINE	429	LF
5325800000-E	8" WATER LINE	302	LF
5326600000-E	16" WATER LINE	178	LF
5327000000-E	20" WATER LINE	1079	LF
5327400000-E	24" WATER LINE	1502	LF
5329000000-E	DUCTILE IRON WATER PIPE FITTINGS	25175	LBS
5540000000-E	6" VALVE	2	EA
5546000000-E	8" VALVE	1	EA
5559000000-E	20" VALVE	2	EA
5606000000-N	2" BLOW OFF	2	EA
5648000000-N	RELOCATE WATER METER	9	EA
5649000000-N	RECONNECT WATER METER	14	EA
5666000000-N	FIRE HYDRANT	2	EA
5672000000-N	RELOCATE FIRE HYDRANT	4	EA
5691300000-E	8" SANITARY GRAVITY SEWER	380	LF
5691400000-E	10" SANITARY GRAVITY SEWER	175	LF
5691900000-E	24" SANITARY GRAVITY SEWER	260	LF
5775000000-E	4' DIA UTILITY MANHOLE	3	EA
5776000000-E	5' DIA UTILITY MANHOLE	4	EA
5781000000-E	UTILITY MANHOLE WALL, 4' DIA	12.3	LF
5782000000-E	UTILITY MANHOLE WALL, 5' DIA	22.2	LF
5800000000-E	ABANDON 6" UTILITY PIPE	502	LF
5801000000-E	ABANDON 8" UTILITY PIPE	712	LF
5804000000-E	ABANDON 12" UTILITY PIPE	490	LF
5810000000-E	ABANDON 16" UTILITY PIPE	162	LF
5812000000-E	ABANDON 20" UTILITY PIPE	1063	LF
5813000000-E	ABANDON 24" UTILITY PIPE	1715	LF
5815500000-N	REMOVE FIRE HYDRANT	2	EA
5828000000-N	REMOVE UTILITY MANHOLE	1	EA
5835700000-E	16" ENCASEMENT PIPE	155	LF
5835800000-E	18" ENCASEMENT PIPE	65	LF
5836400000-E	36" ENCASEMENT PIPE	497	LF
5871900000-E	TRENCHLESS INSTALLATION OF 16" IN SOIL	78	LF
5871910000-E	TRENCHLESS INSTALLATION OF 16" NOT IN SOIL	77	LF
5872000000-E	TRENCHLESS INSTALLATION OF 18" IN SOIL	33	LF
5872010000-E	TRENCHLESS INSTALLATION OF 18" NOT IN SOIL	32	LF
5872100000-E	TRENCHLESS INSTALLATION OF 20" IN SOIL	323	LF
5872110000-E	TRENCHLESS INSTALLATION OF 20" NOT IN SOIL	323	LF
5872400000-E	TRENCHLESS INSTALLATION OF 36" IN SOIL	93	LF
5872410000-E	TRENCHLESS INSTALLATION OF 36" NOT IN SOIL	92	LF

5/14/99

BEDDING DETAIL FOR DUCTILE IRON PIPE

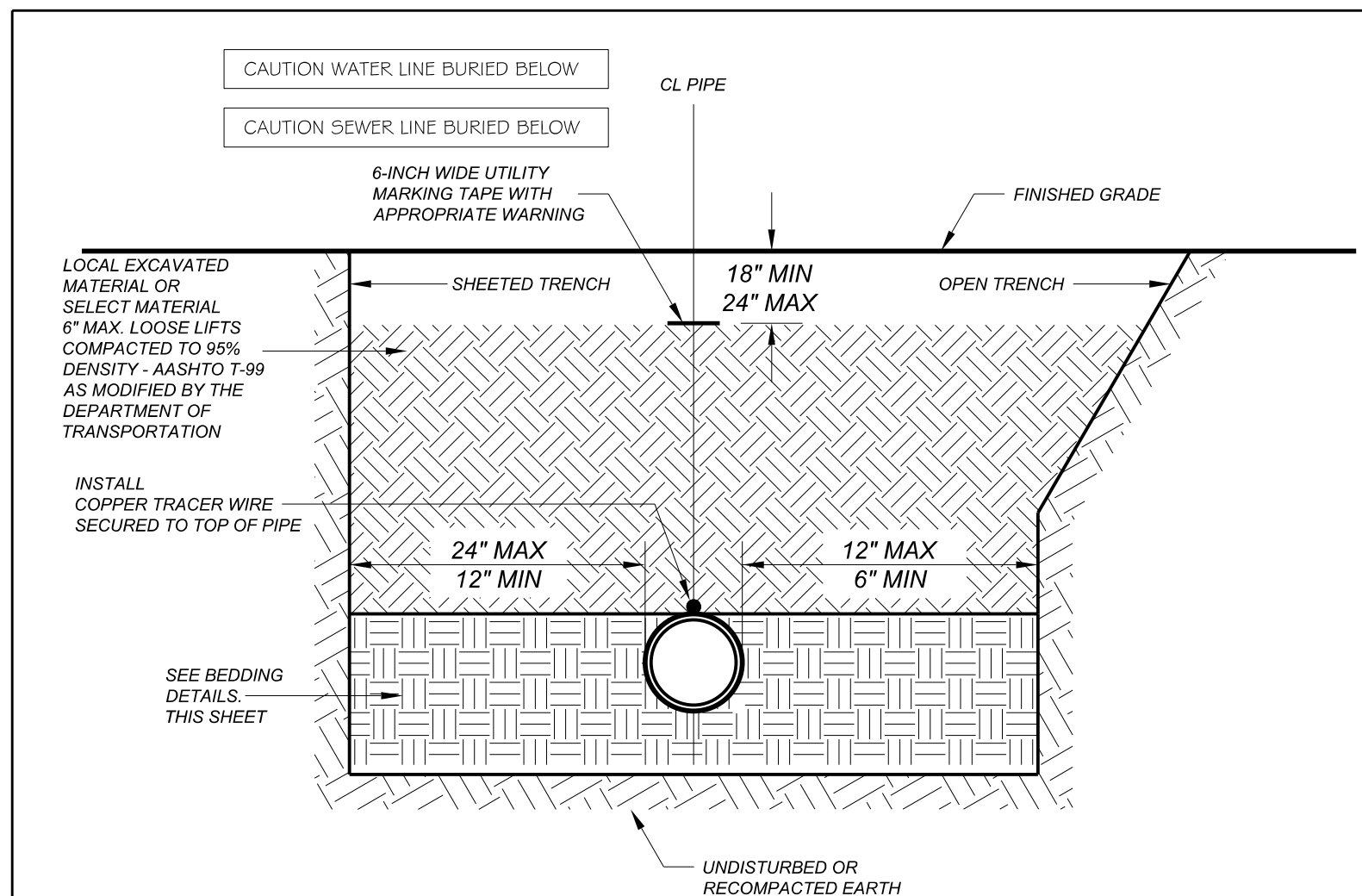


PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER.

PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III.

TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.

COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.



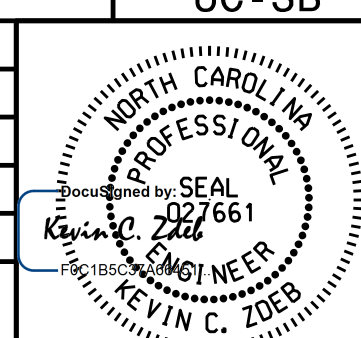
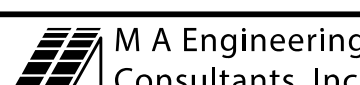
NOTES:

1. ALL SHORING & TRENCHING SHALL COMPLY WITH OSHA SAFETY STANDARDS FOR THE CONSTRUCTION INDUSTRY.
2. BELL HOLES NOT SHOWN.
3. ALL BACKFILL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.

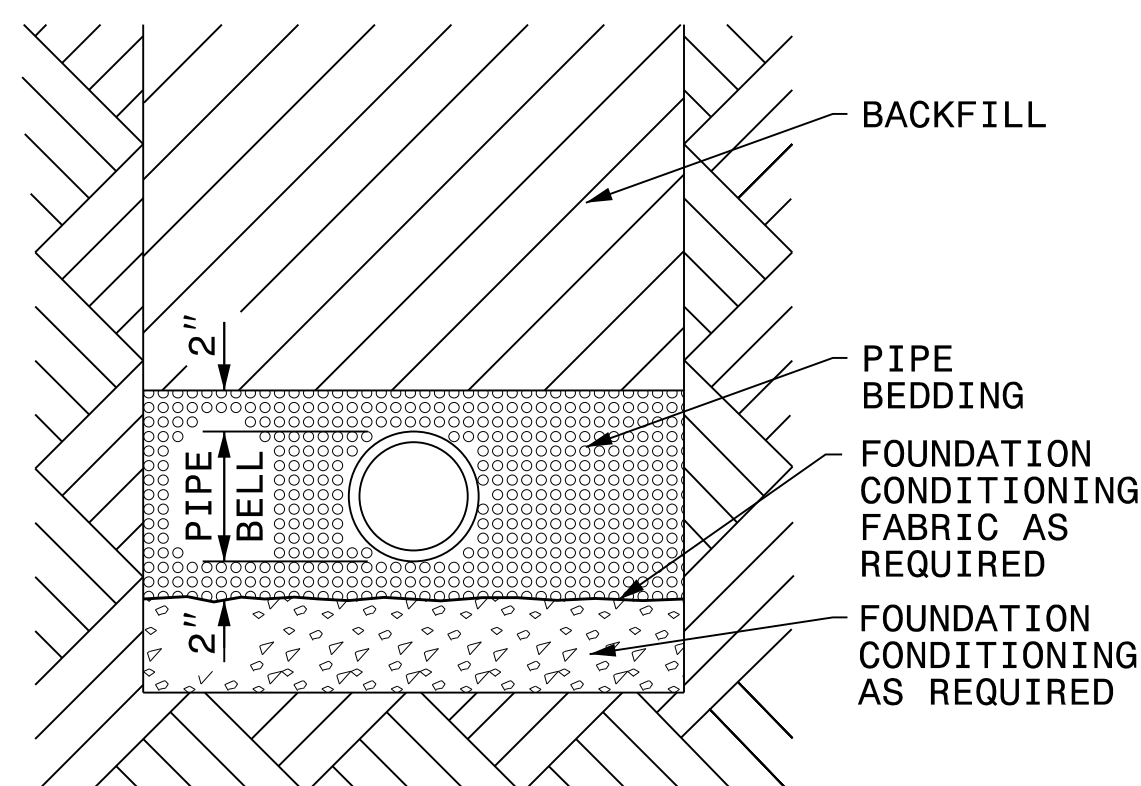
GENERAL TRENCH DETAIL

MAXIMUM TRENCH WIDTH AT TOP OF PIPE

NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
2	26	18	42
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78

PROJECT REFERENCE NO. U-3330	SHEET NO. UC-3B
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	2/22/2017 KEVIN C. ZICK UTILITY CONSTRUCTION PLANS ONLY
UTILITY CONSTRUCTION	
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 M A Engineering Consultants, Inc.	

BEDDING DETAIL FOR POLYVINYL CHLORIDE (PVC) PIPE

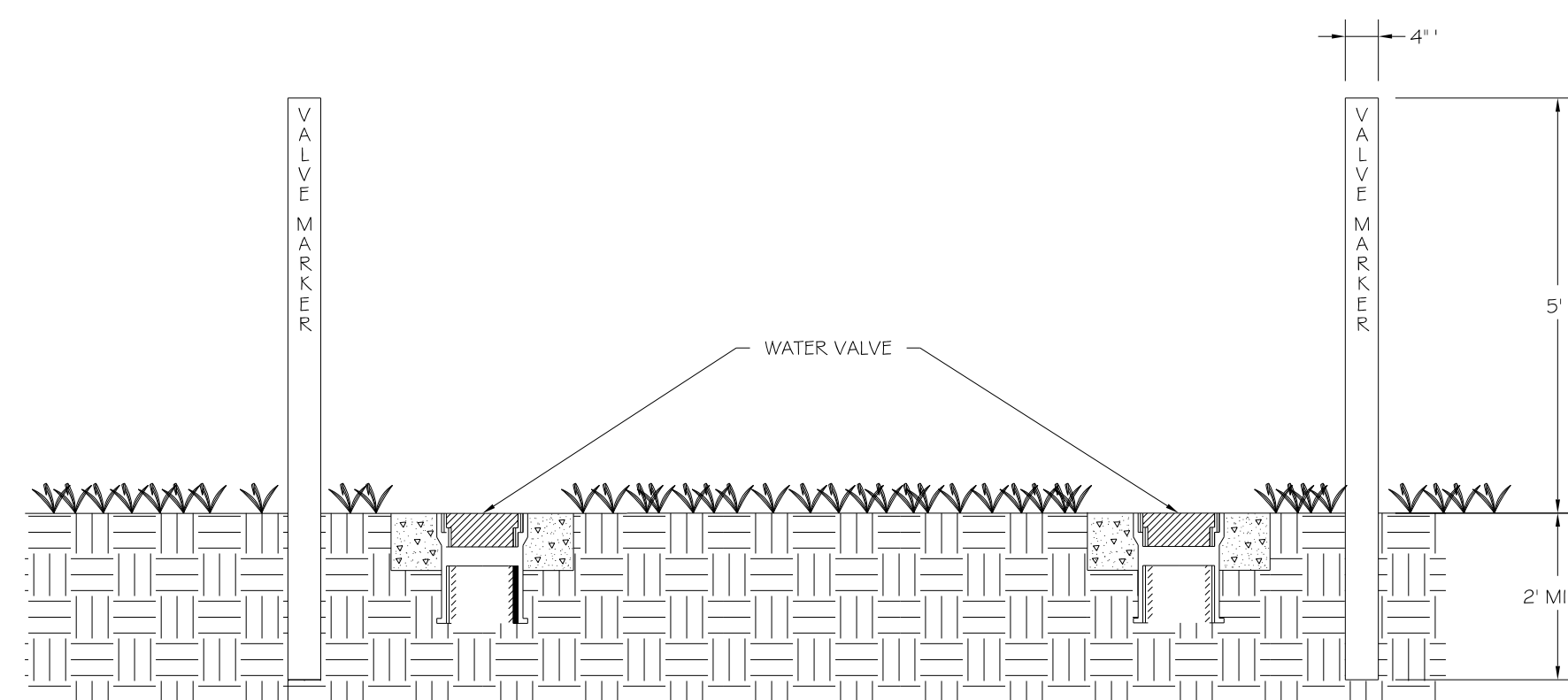


PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER.

PIPE BEDDED IN NCDOT #57 STONE.

TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.

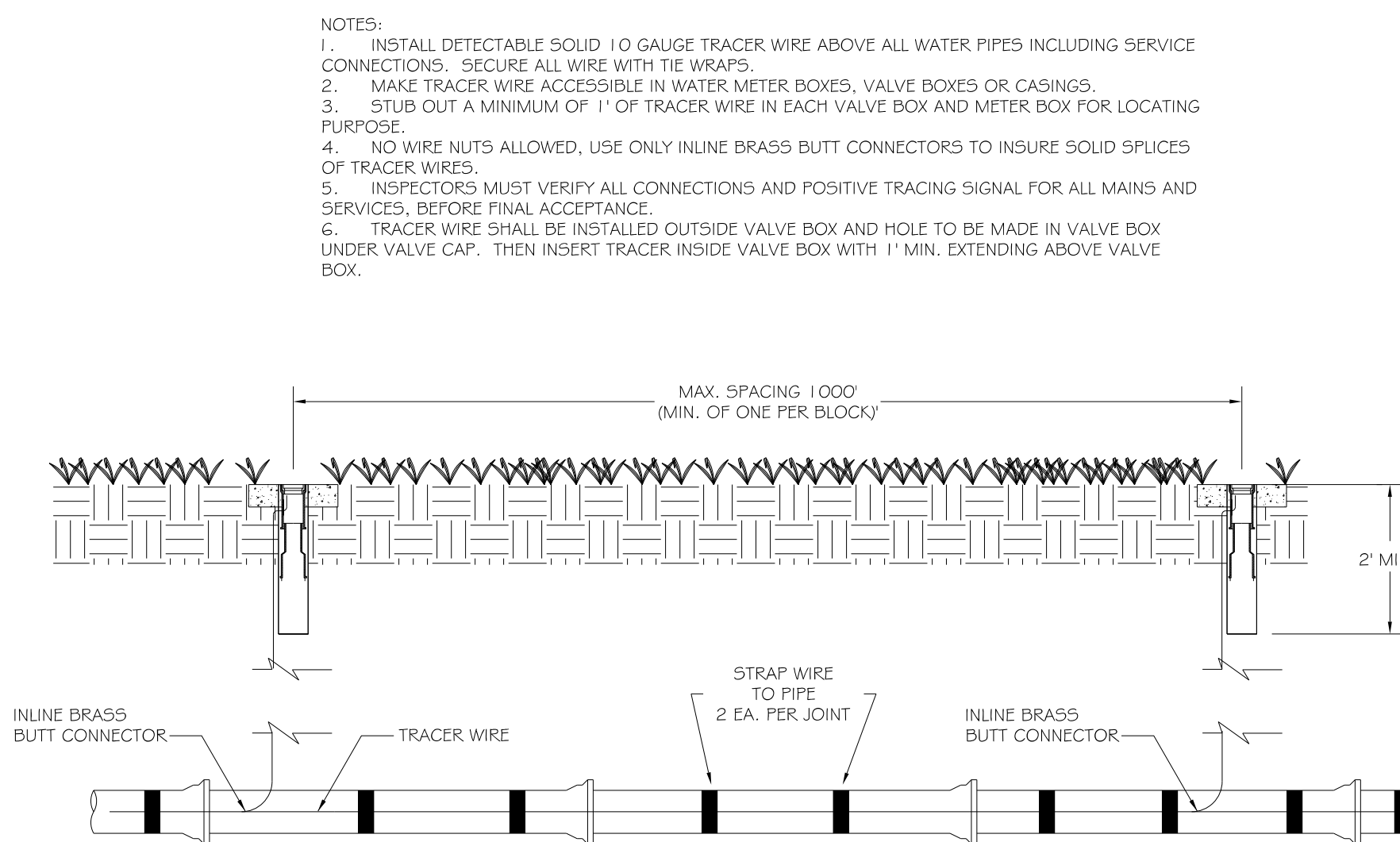
COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.



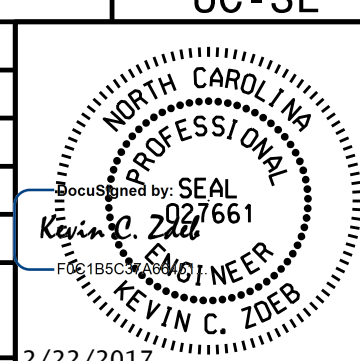
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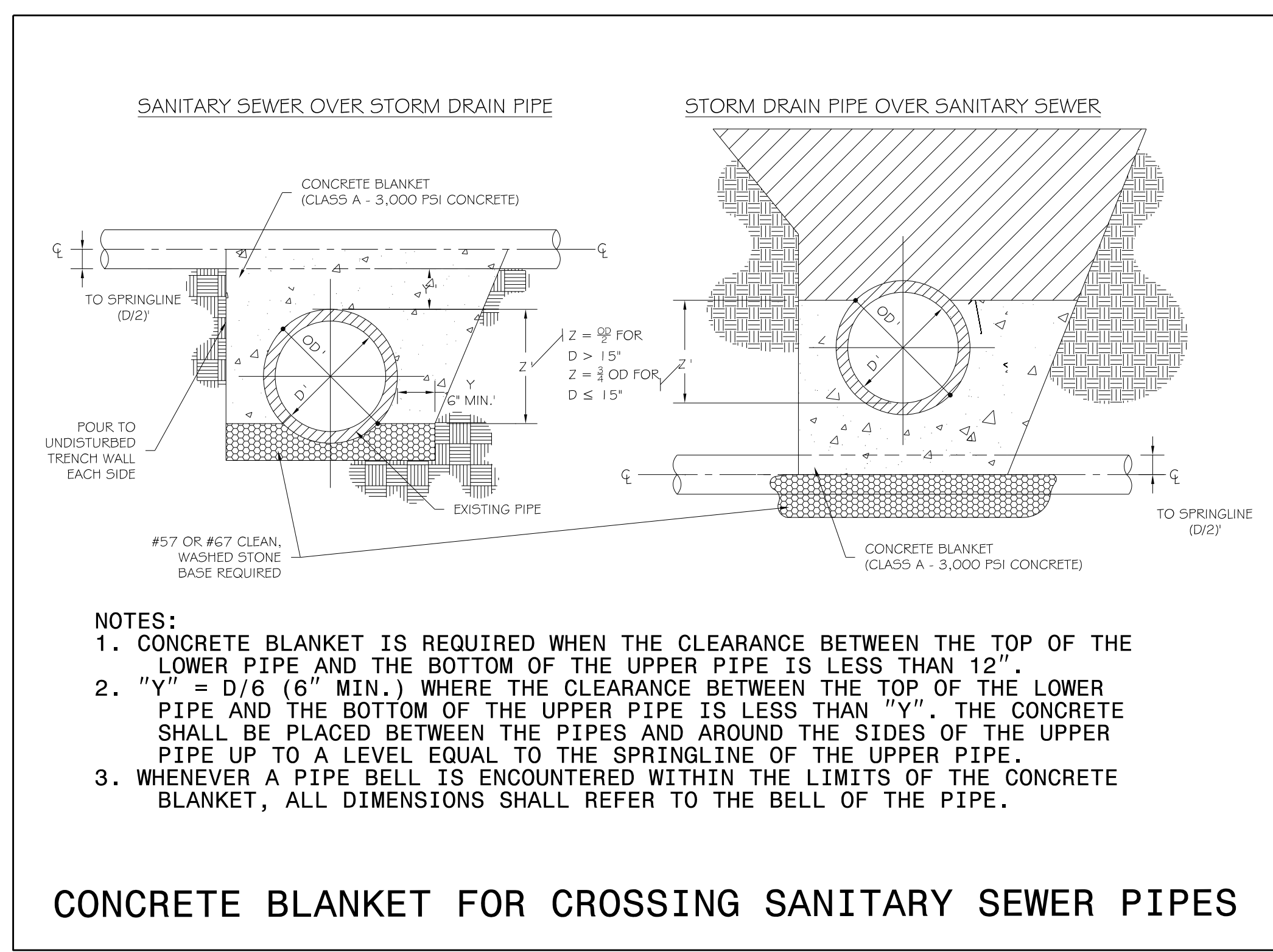
1. MARKER HAS HIGH IMPACT RESISTANCE DUE TO HIGH FLEXIBILITY.
2. TWO (2) FLAT SURFACES ARE PROVIDED FOR ANY DECAL APPLICATION NEEDED.
3. MAY REQUIRE A SMALL PILOT HOLE IN CERTAIN SOIL CONDITIONS BEFORE INSTALLATION.

VALVE MARKER DETAIL

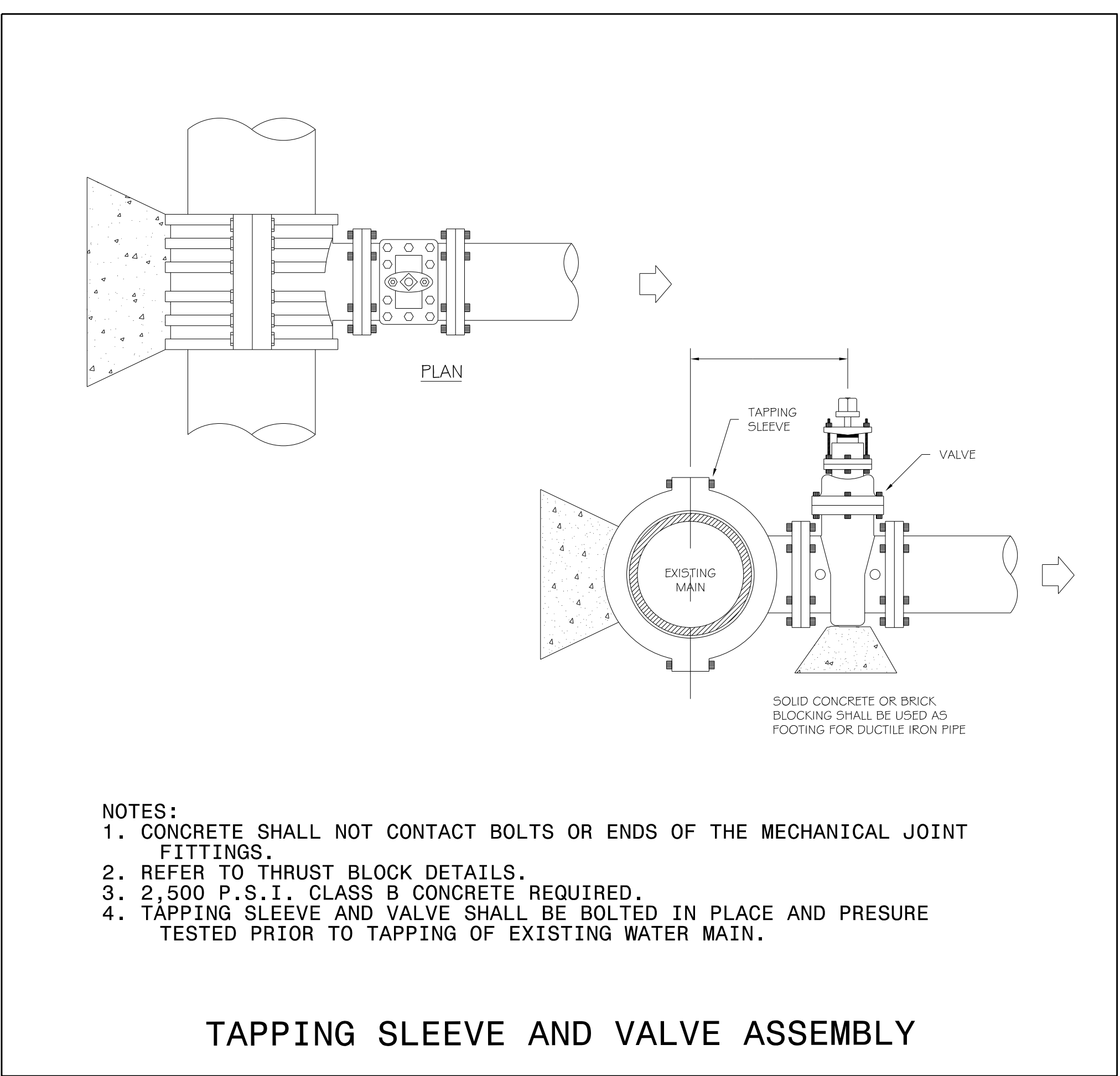


TEST STATION MARKERS WITH TRACER WIRE FOR UTILITY INSTALLATIONS

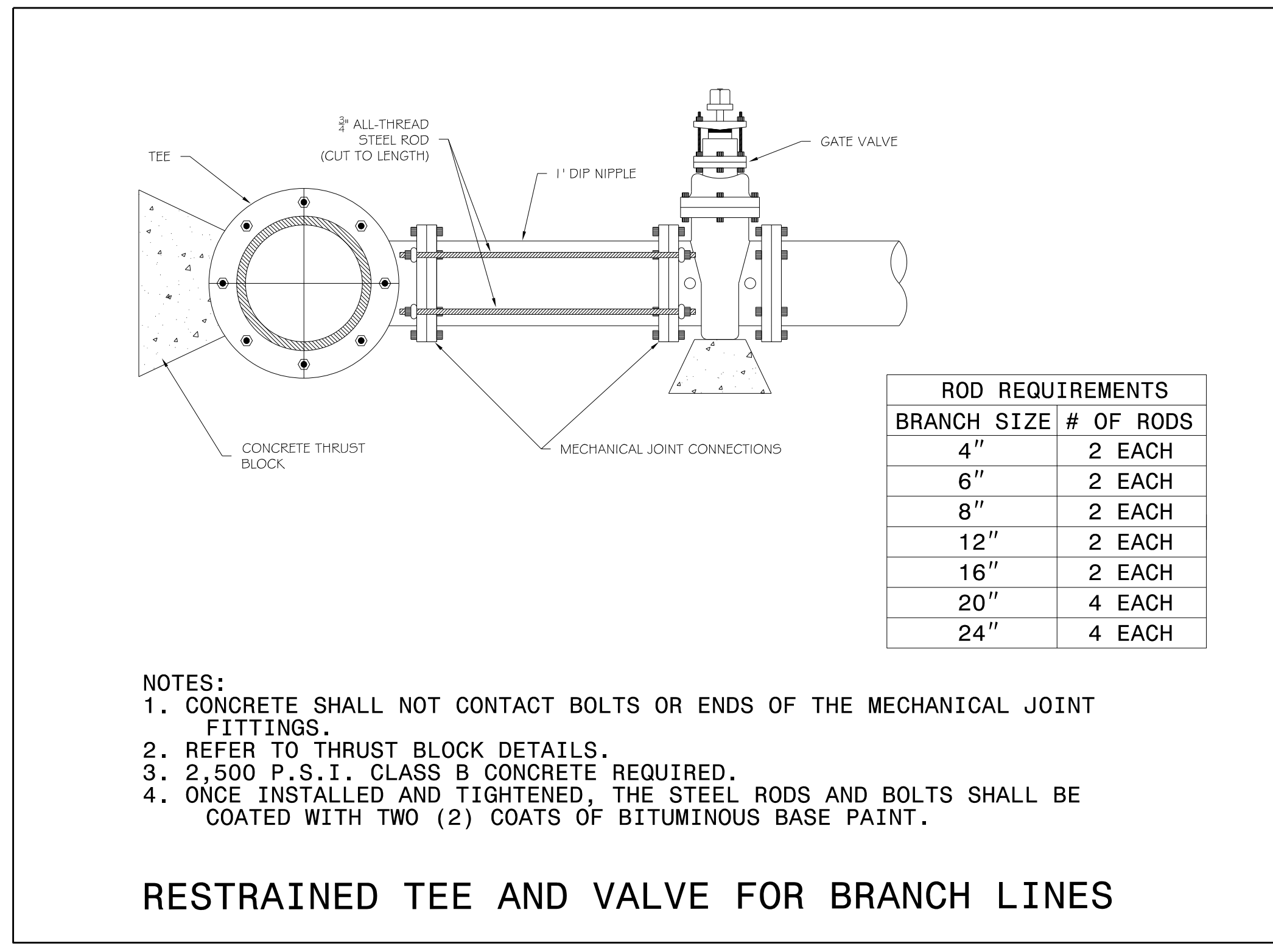
PROJECT REFERENCE NO.	SHEET NO.
U-3330	UC-3E
DESIGNED BY: GJB	
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REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
2/22/2017 KEVIN C. ZICK ENGINEER UTILITY CONSTRUCTION PLANS ONLY	
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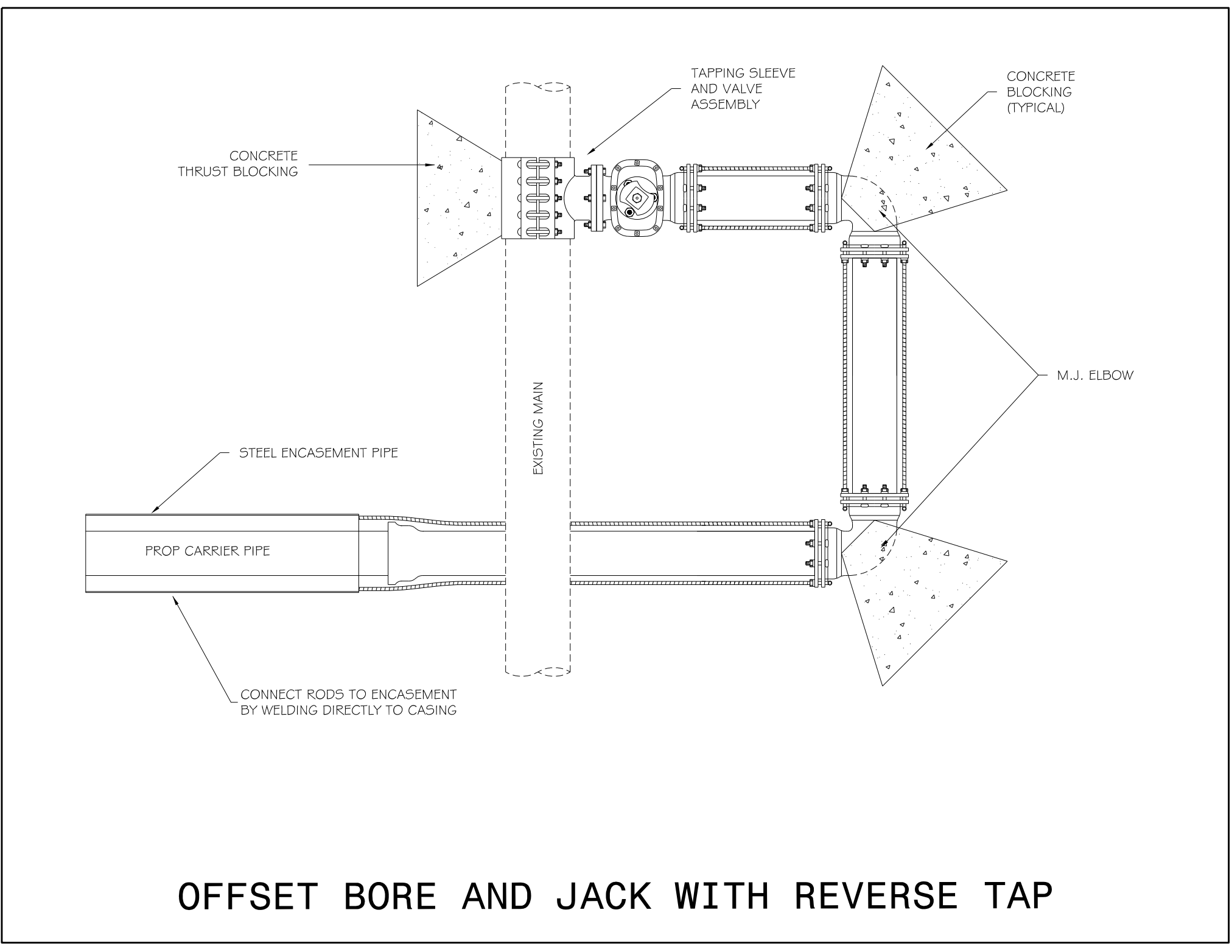
- NOTES:**
1. CONCRETE BLANKET IS REQUIRED WHEN THE CLEARANCE BETWEEN THE TOP OF THE LOWER PIPE AND THE BOTTOM OF THE UPPER PIPE IS LESS THAN 12".
 2. "Y" = D/6 (6" MIN.) WHERE THE CLEARANCE BETWEEN THE TOP OF THE LOWER PIPE AND THE BOTTOM OF THE UPPER PIPE IS LESS THAN "Y". THE CONCRETE SHALL BE PLACED BETWEEN THE PIPES AND AROUND THE SIDES OF THE UPPER PIPE UP TO A LEVEL EQUAL TO THE SPRINGLINE OF THE UPPER PIPE.
 3. WHENEVER A PIPE BELL IS ENCOUNTERED WITHIN THE LIMITS OF THE CONCRETE BLANKET, ALL DIMENSIONS SHALL REFER TO THE BELL OF THE PIPE.



- NOTES:**
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF THE MECHANICAL JOINT FITTINGS.
 2. REFER TO THRUST BLOCK DETAILS.
 3. 2,500 P.S.I. CLASS B CONCRETE REQUIRED.
 4. TAPPING SLEEVE AND VALVE SHALL BE BOLTED IN PLACE AND PRESURE TESTED PRIOR TO TAPPING OF EXISTING WATER MAIN.



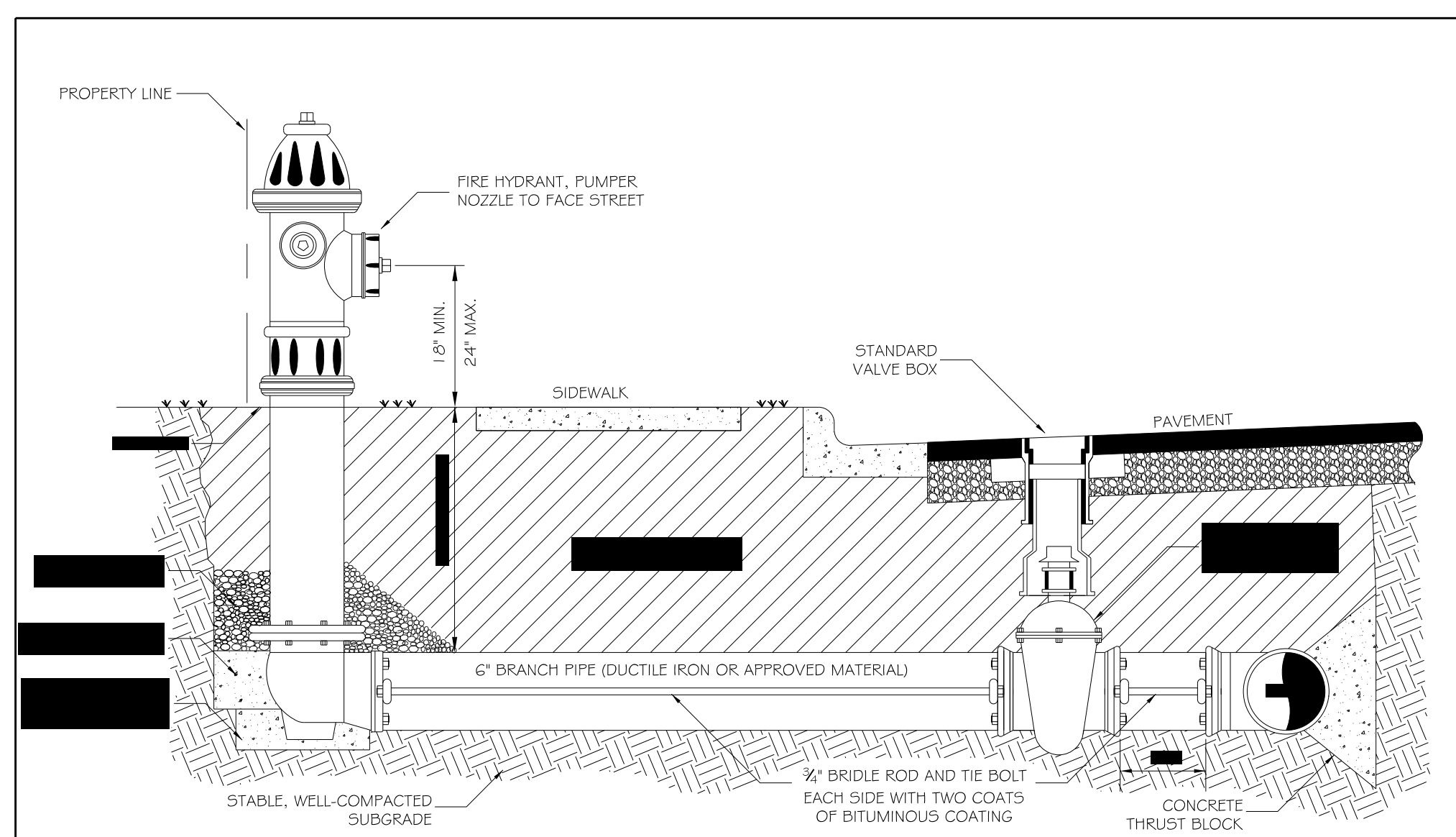
- NOTES:**
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF THE MECHANICAL JOINT FITTINGS.
 2. REFER TO THRUST BLOCK DETAILS.
 3. 2,500 P.S.I. CLASS B CONCRETE REQUIRED.
 4. ONCE INSTALLED AND TIGHTENED, THE STEEL RODS AND BOLTS SHALL BE COATED WITH TWO (2) COATS OF BITUMINOUS BASE PAINT.



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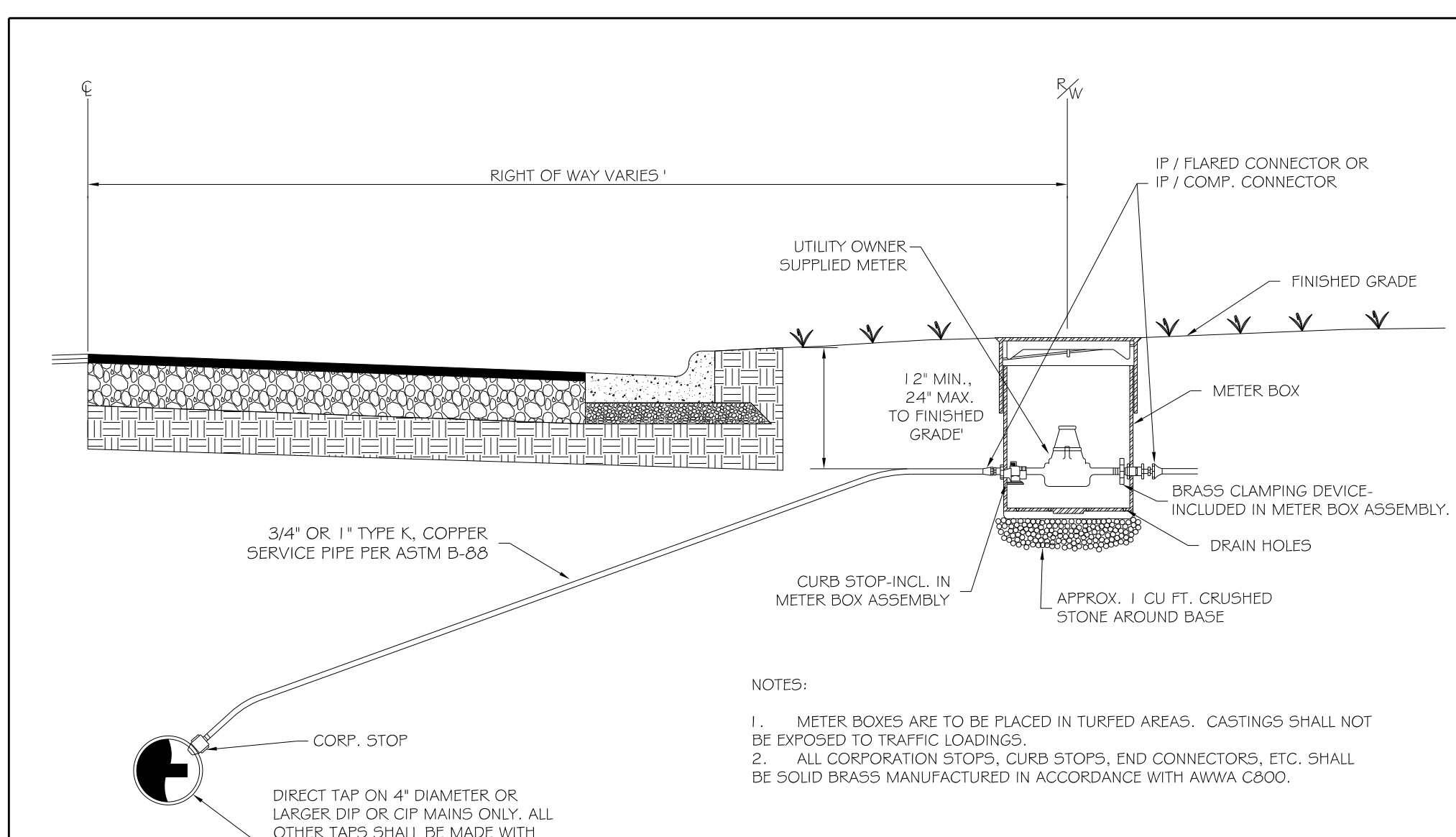
5/14/19

PROJECT REFERENCE NO.	SHEET NO.
U-3330	UC-3G
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	
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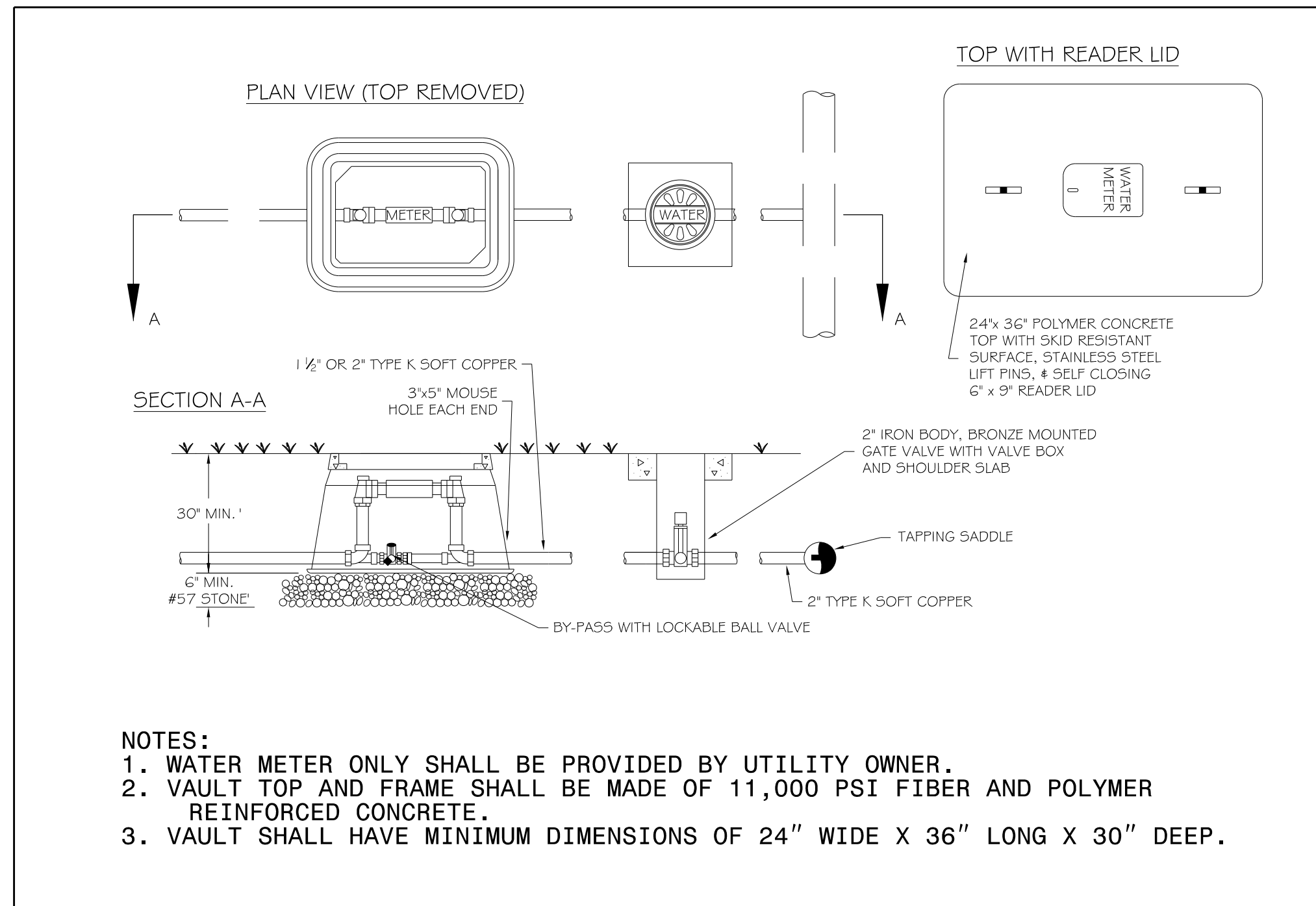
- NOTES:**
- FOR HYDRANT INSTALLATION ON EXISTING MAIN, USE TAPPING SLEEVE AND VALVE ASSEMBLY.
 - HYDRANT SHALL HAVE REPLACEABLE BRONZE NOZZLES WITH NATIONAL STANDARD THREADS, BREAK-AWAY TRAFFIC FEATURE, AND BRONZE ON BRONZE SEAT RINGS.
 - HYDRANT SHALL HAVE PENTAGON SHAPED (5 SIDED) OPERATING NUT.
 - HYDRANT SHALL BE PAINTED WITH RUSTOLEUM #964 FEDERAL SAFETY RED.
 - NOZZLE CAPS AND BONNET SHALL BE PAINTED ALERT SERIES 1440 SILVER WHITE.
 - HYDRANT SHALL BE OILED OR GREASED AS RECOMMENDED BY MANUFACTURER AFTER INSTALLATION.
 - CLASS A CONCRETE BLOCKING SHALL BE PLACED BEHIND BOTH THE TEE AND HYDRANT.
 - IN LIEU OF THREADED BRIDLE RODS, APPROVED GRIP RING OR LOCKING FLANGE CONNECTIONS MAY BE USED. BOTH GRIP RINGS AND LOCKING FLANGES SHALL BE UL LISTED AND F.M. APPROVED WITH A WORKING PRESSURE OF NOT LESS THAN 350 PSI WITH A MINIMUM SAFETY FACTOR OF 2:1. LOCKING FLANGE CONNECTIONS SHALL ONLY BE PERMITTED WHERE PROPER PLACEMENT AND GRADE ADJUSTMENT CAN BE PROVIDED, AS APPROVED BY UTILITY OWNER.

FIRE HYDRANT DETAIL



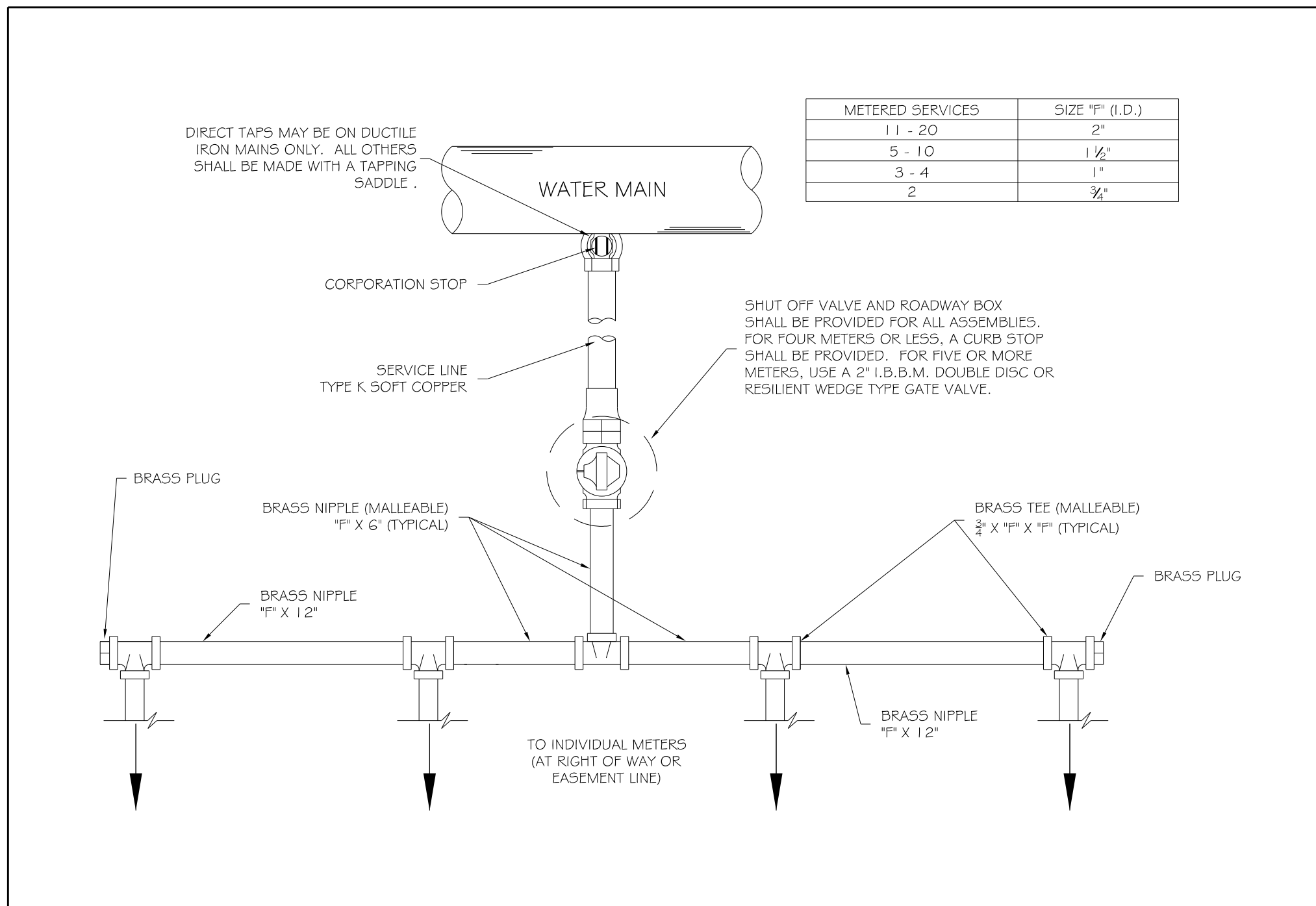
- NOTES:**
- METER BOXES ARE TO BE PLACED IN TURF AREAS. CASTINGS SHALL NOT BE EXPOSED TO TRAFFIC LOADINGS.
 - ALL CORPORATION STOPS, CURB STOPS, END CONNECTORS, ETC. SHALL BE SOLID BRASS MANUFACTURED IN ACCORDANCE WITH AWWA C800.

5/8" X 3/4" AND 1" WATER SERVICE DETAIL



- NOTES:**
- WATER METER ONLY SHALL BE PROVIDED BY UTILITY OWNER.
 - VAULT TOP AND FRAME SHALL BE MADE OF 11,000 PSI FIBER AND POLYMER REINFORCED CONCRETE.
 - VAULT SHALL HAVE MINIMUM DIMENSIONS OF 24" WIDE X 36" LONG X 30" DEEP.

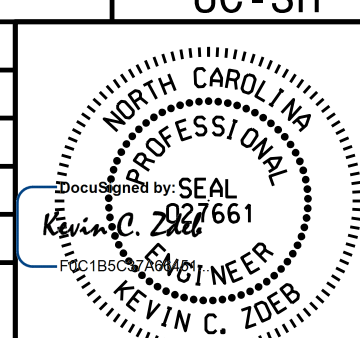
1-1/2" AND 2" STANDARD WATER METER VAULT DETAIL

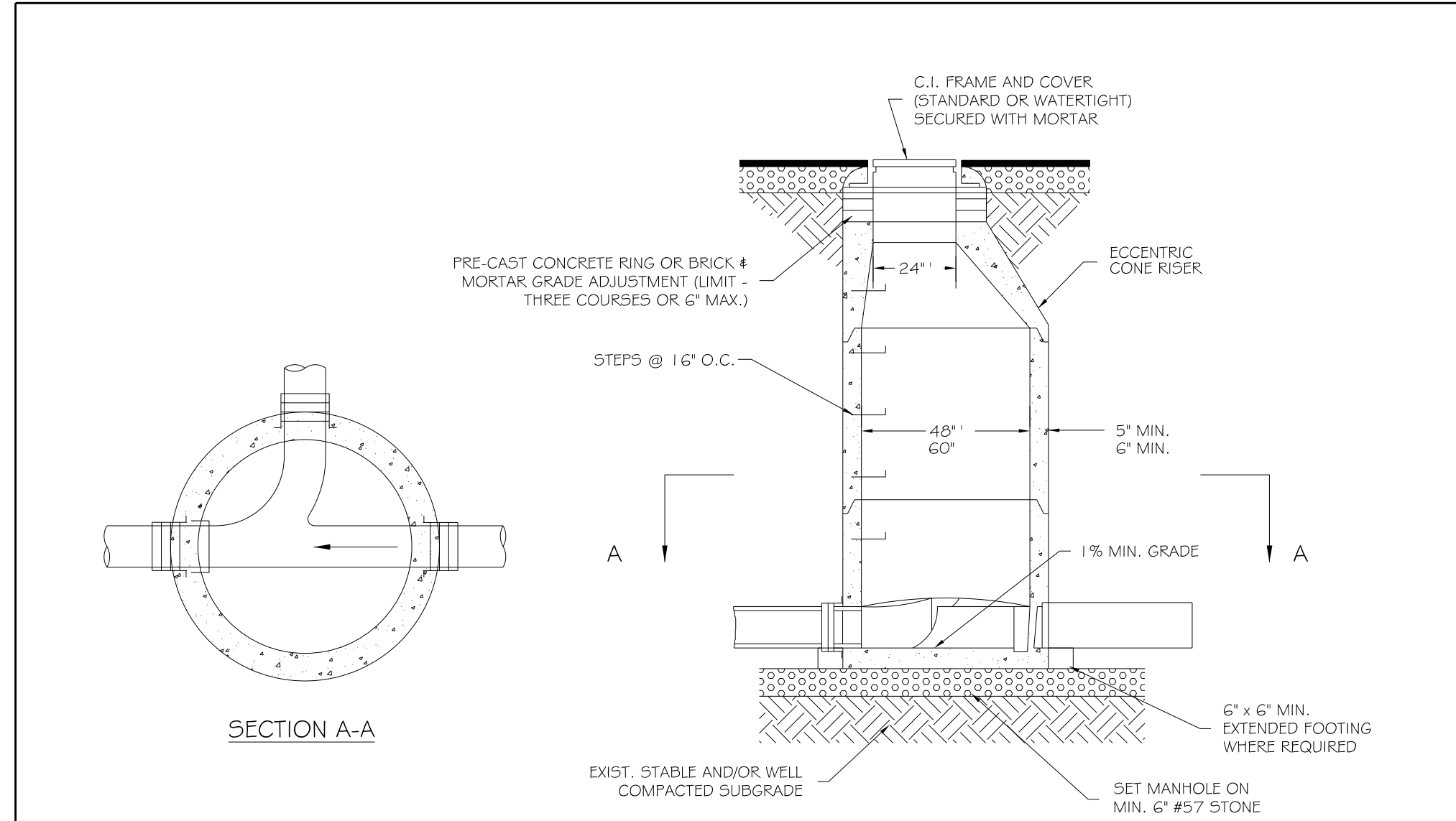


STANDARD GANG METER ASSEMBLY DETAIL

5/14/19

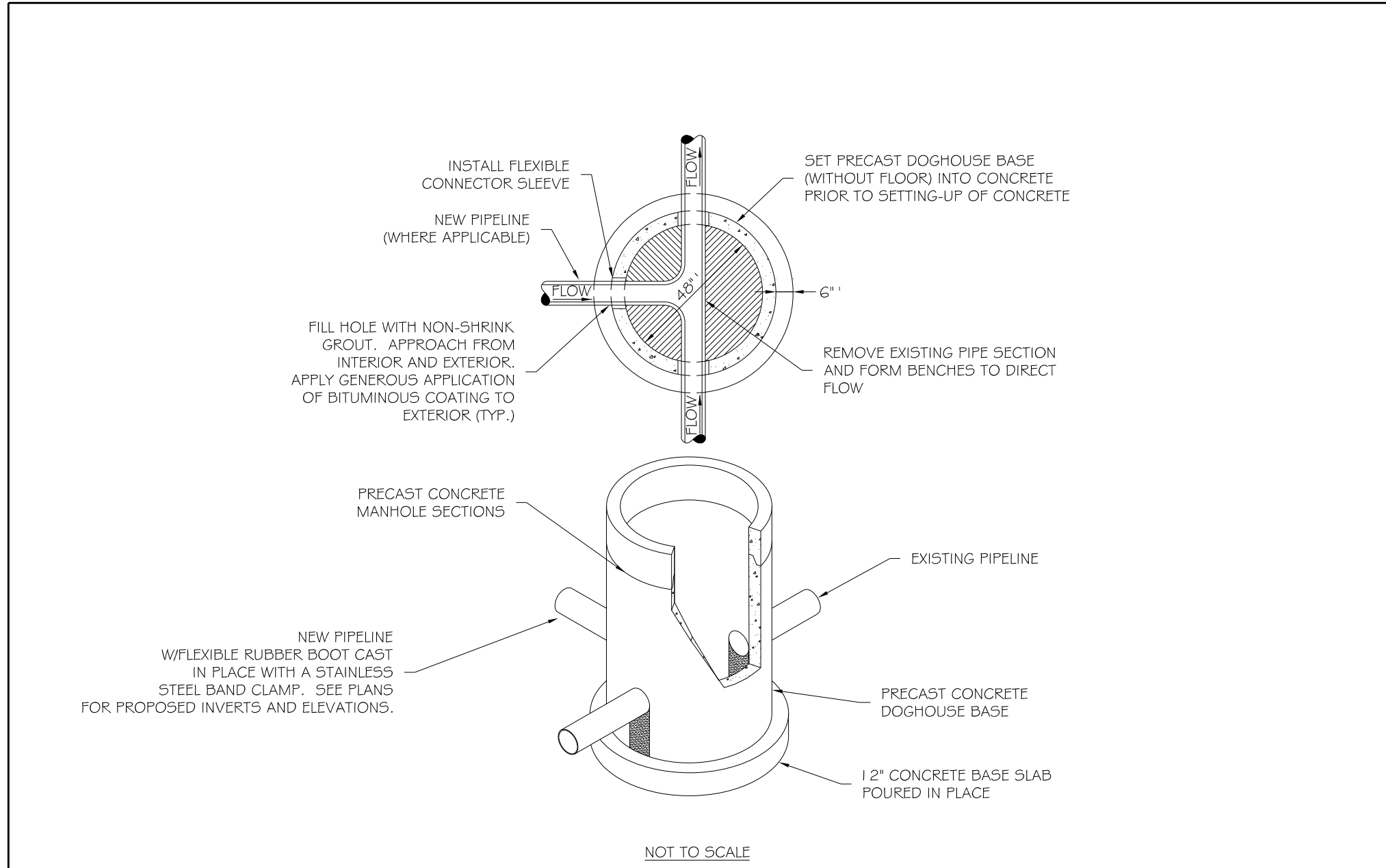
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	UC-3H
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	2/22/2017
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY
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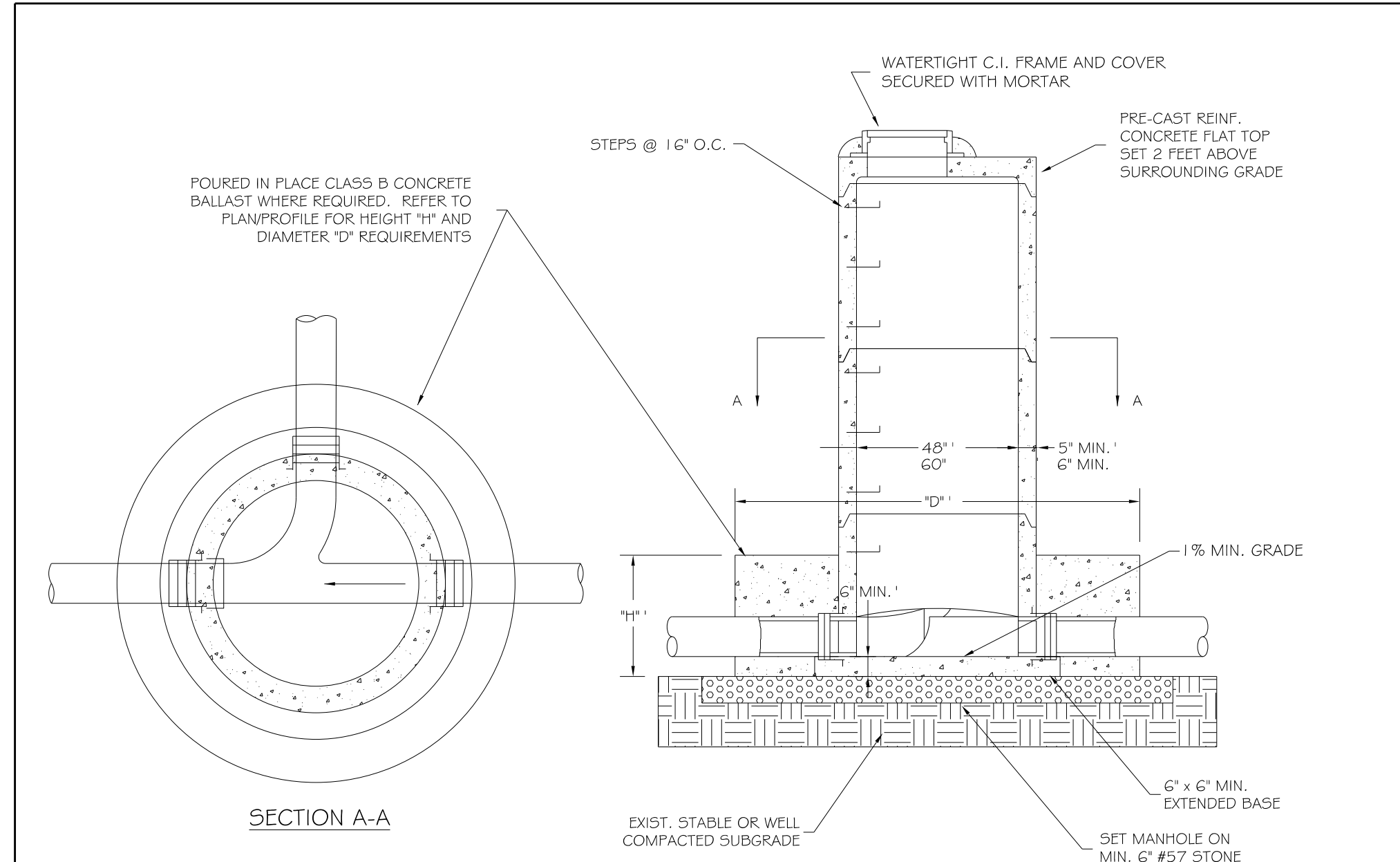
- NOTES:**
1. PRECAST CONCRETE MANHOLES SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM C748. ALL SURFACES SHALL BE SMOOTH AND EVEN TEXTURED WITH A MINIMUM OF HONEYCOMB, FIN, AND OTHER IMPERFECTIONS.
 2. JOINTS BETWEEN MANHOLE SECTIONS SHALL BE SEALED WATERTIGHT USING EITHER: O-RING GASKETS CONFORMING TO ASTM C-443; OR BUTYL RESIN CONFORMING TO AASHTO M-198.
 3. HOLES FOR CONNECTION OF PIPE TO MANHOLE SHALL BE PRECAST OR CORED. DIAMETER OF HOLE SHALL NOT EXCEED OUTSIDE DIAMETER OF PIPE BY MORE THAN 3 INCHES.
 4. CONNECTIONS OF PIPE TO MANHOLE SHALL BE MADE WATERTIGHT USING RESILIENT CONNECTORS CONFORMING TO ASTM C-923 OR NEOPRENE BOOTS EMBEDDED IN PRECAST BASE WITH STAINLESS STEEL COMPRESSION BANDS.
 5. MANHOLE INVERTS SHALL BE INSTALLED USING BRICK MORTAR, OR MANHOLES MAY BE PRECAST, MONOLITHIC SECTIONS WITH FORMED INVERTS.
 6. LIFT HOLES SHALL BE PLUGGED AND FILLED FLUSH WITH MORTAR.
 7. ALL BRICK AND MORTAR SHALL RECEIVE A ONE-HALF (1/2) INCH MORTAR PARGE COAT ON THE INSIDE AND OUTSIDE.

PRECAST CONCRETE SANITARY MANHOLE



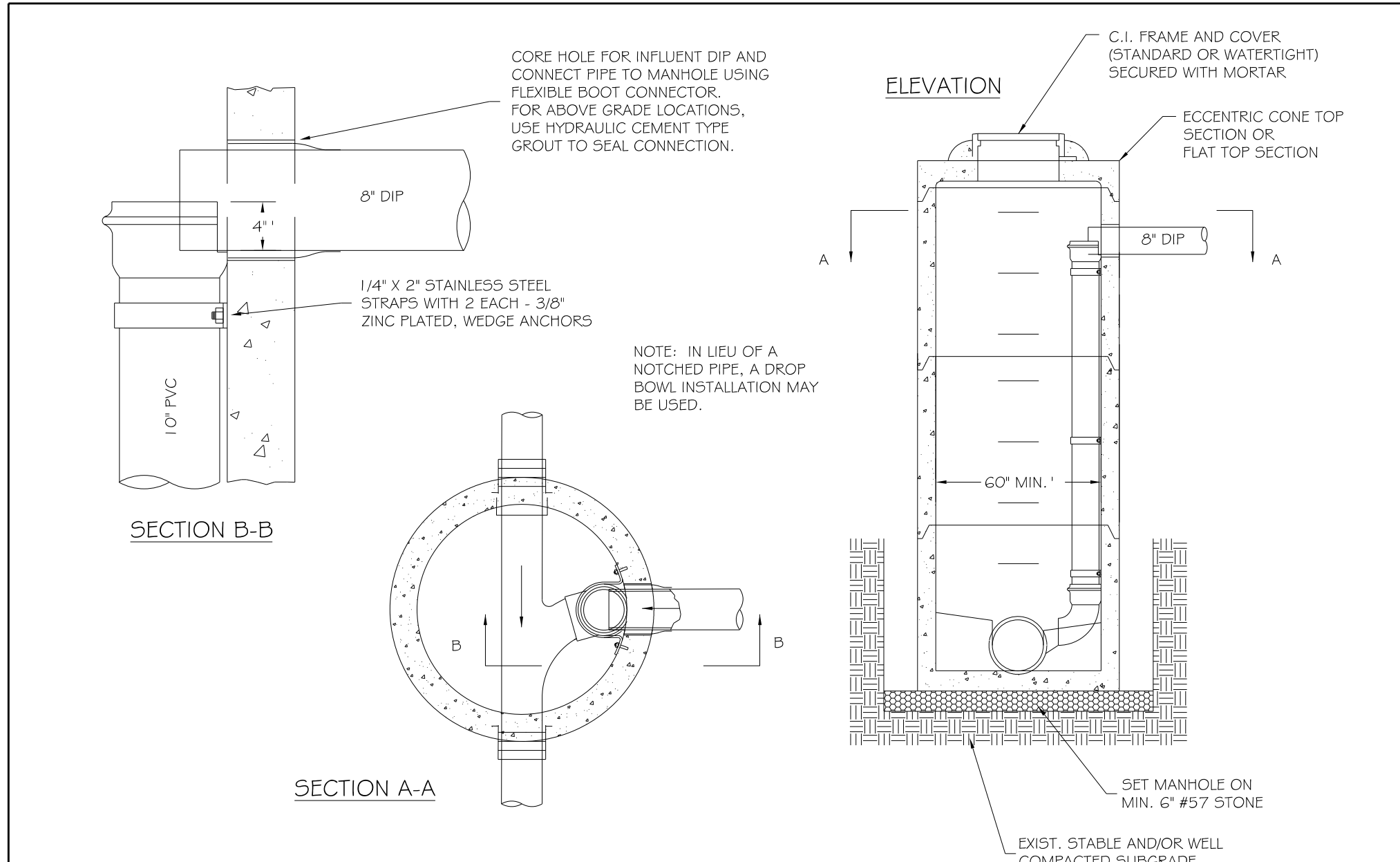
- NOTES:**
1. REFER TO NOTES ON PRECAST CONCRETE SANITARY MANHOLE DETAIL.

DOGHOUSE SANITARY MANHOLE DETAIL



- NOTES:**
1. REFER TO NOTES ON PRECAST CONCRETE SANITARY MANHOLE DETAIL.

SANITARY MANHOLE IN FLOOD PRONE AREA

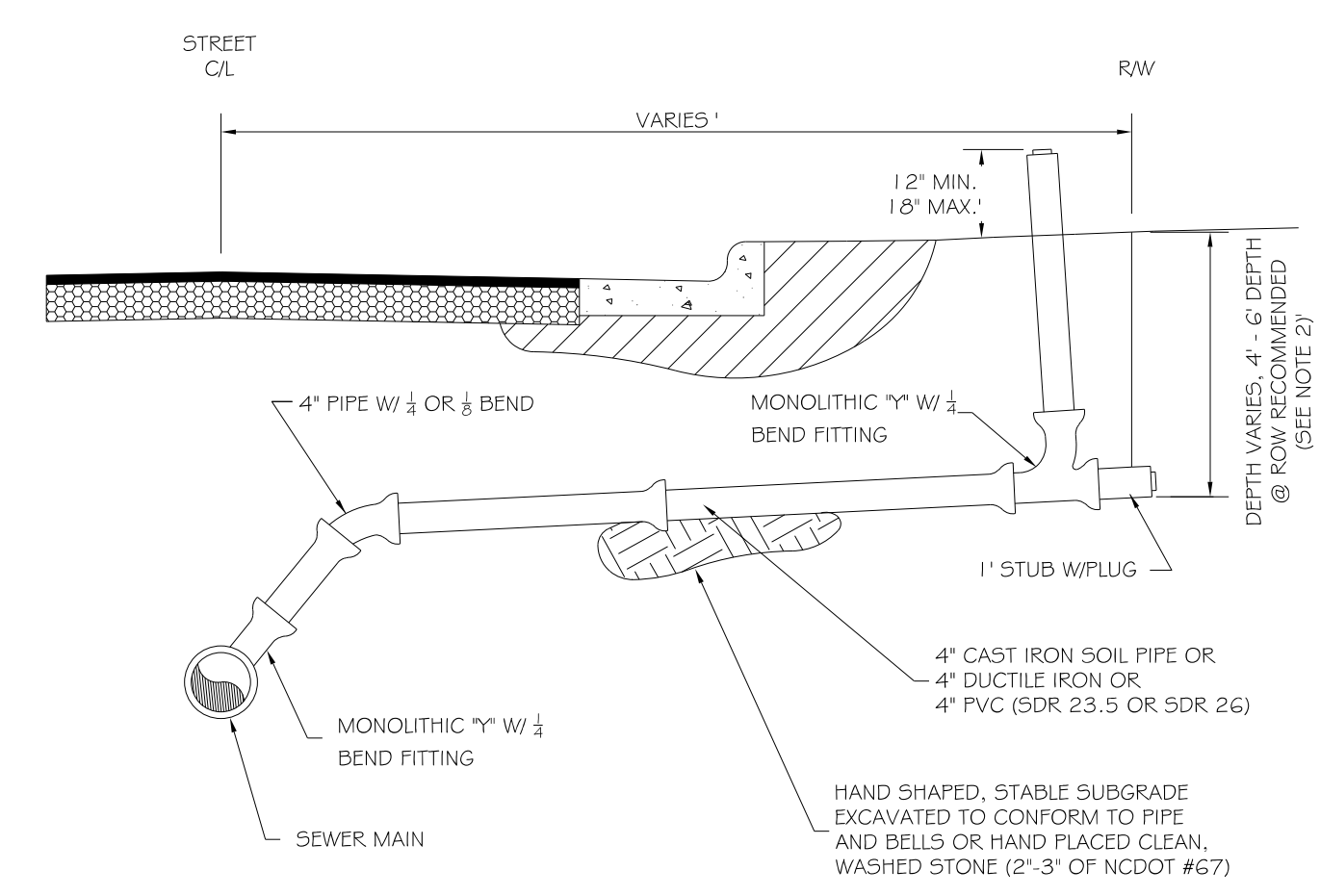


- NOTES:**
1. REFER TO NOTES ON PRECAST CONCRETE SANITARY MANHOLE DETAIL.

PRECAST CONCRETE SANITARY MANHOLE WITH INSIDE DROP

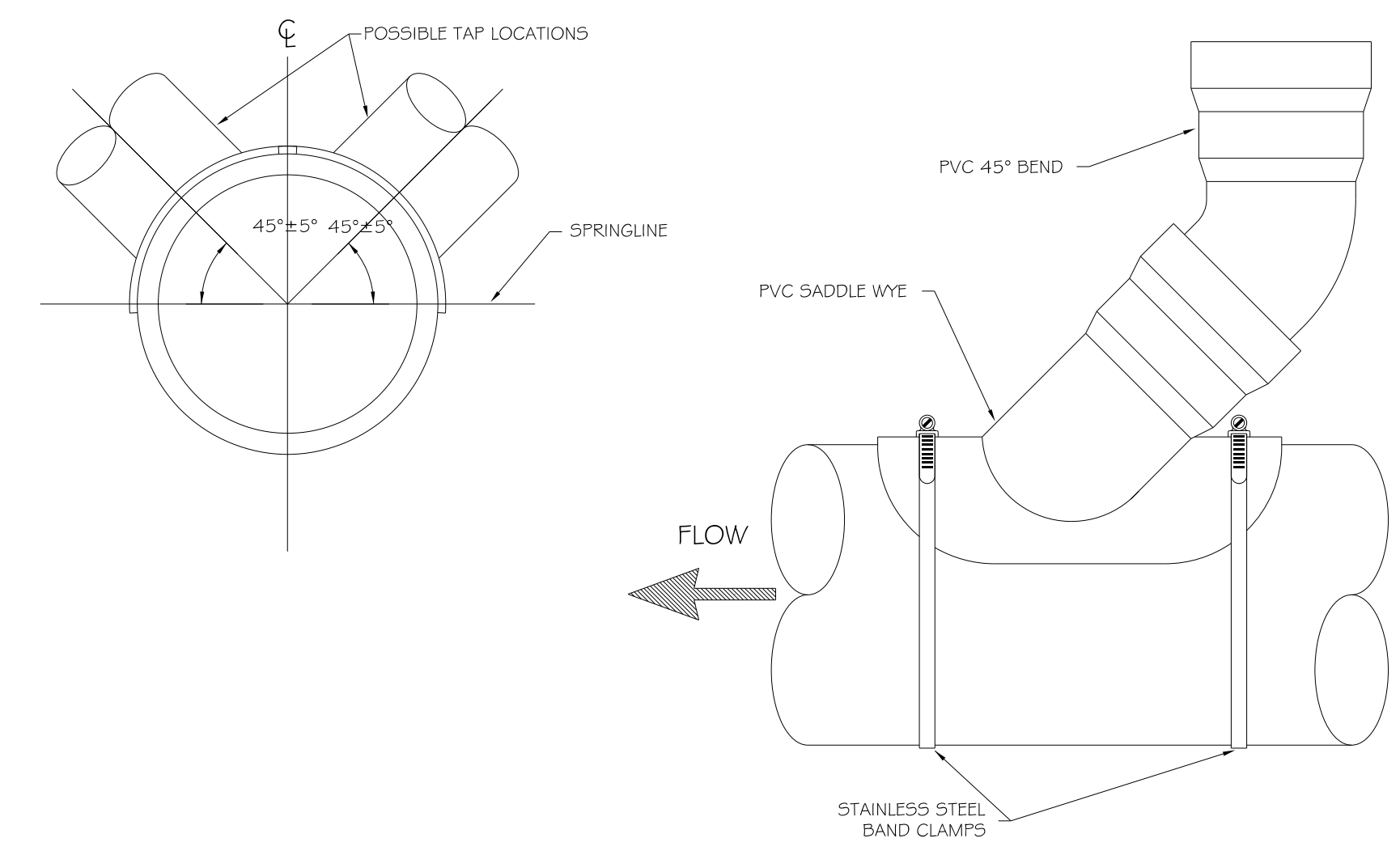
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5/14/99



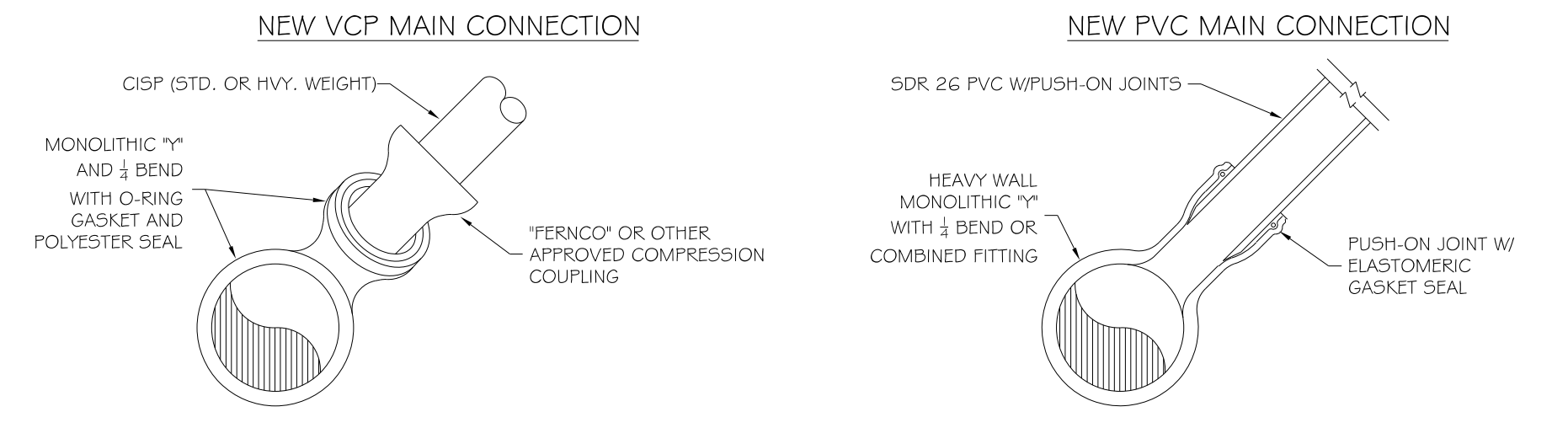
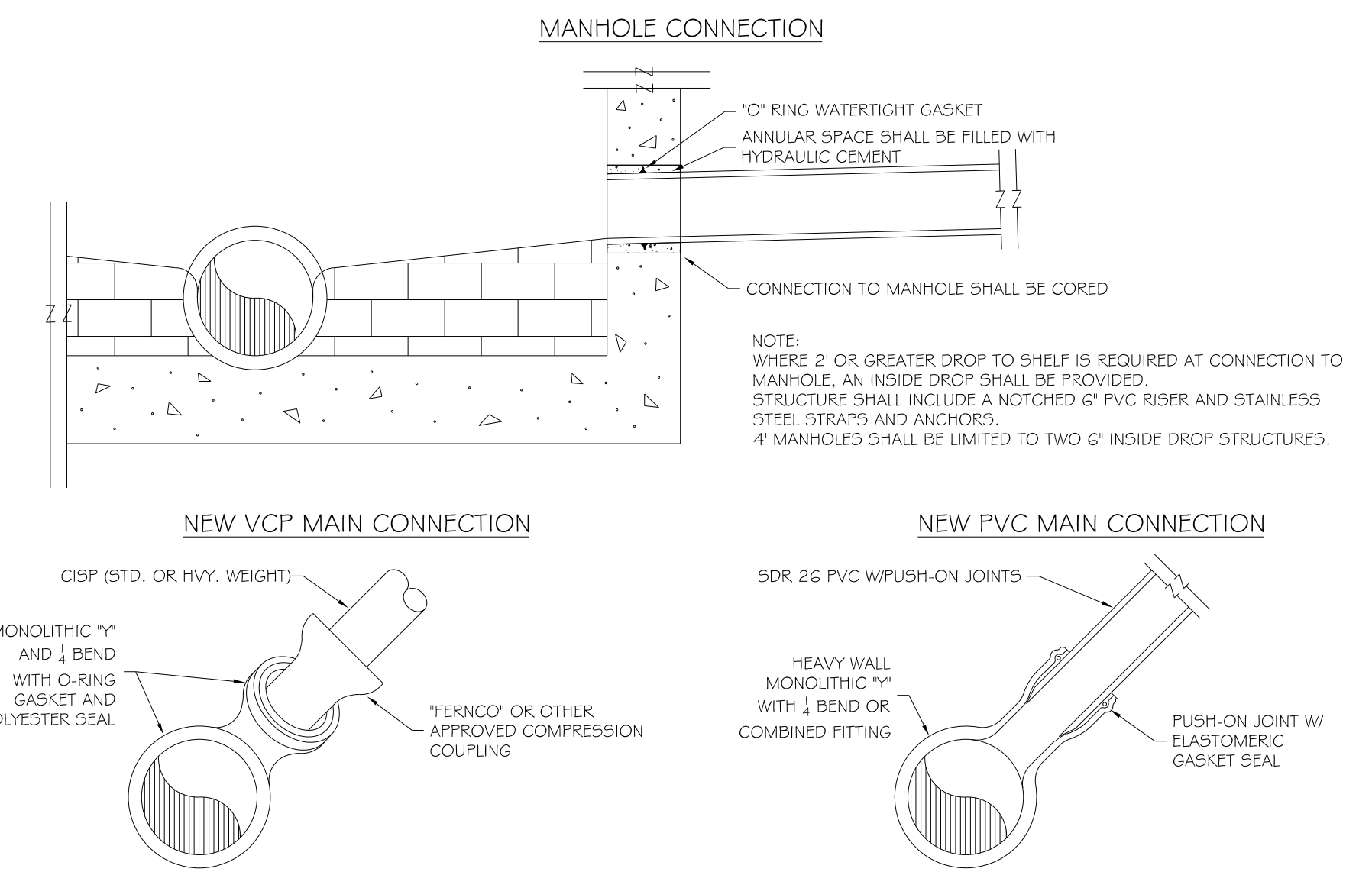
- NOTES:**
1. MINIMUM GRADE FOR 4" SANITARY SEWER SERVICE SHALL BE 1% (1/8" PER FT).
 2. DEPTH OF SERVICE AT PROPERTY LINE MUST BE SUFFICIENT TO PROVIDE AT LEAST MINIMUM GRADE TO BUSINESS OR DWELLING AND 12" MINIMUM COVER OVER SERVICE.
 3. ALL SANITARY SEWER SERVICES SHALL HAVE A CLEANOUT PLACED AT THE EASEMENT OR RIGHT-OF-WAY LINE. ALL CLEANOUTS.
 4. ALL CLEANOUTS SHALL BE CAST IRON WITH BRASS PLUGS. CAST IRON DOUBLE HUB CONNECTORS (30" MINIMUM) MAY BE USED TO TRANSITION FROM PVC SERVICE PIPE.
 5. ALL PVC FITTINGS SHALL BE OF HEAVY WALL CONSTRUCTION (115 PSI MINIMUM PIPE STIFFNESS).
 6. ALL PIPE WITHIN RIGHT-OF-WAY SHALL HAVE PUSH-ON JOINTS WITH ELASTOMERIC GASKET SEALS.
 7. SIX INCH (6") AND LARGER SANITARY SEWER SERVICES SHALL CONNECT AT MANHOLES.

STANDARD 4" SANITARY SEWER SERVICE LATERAL

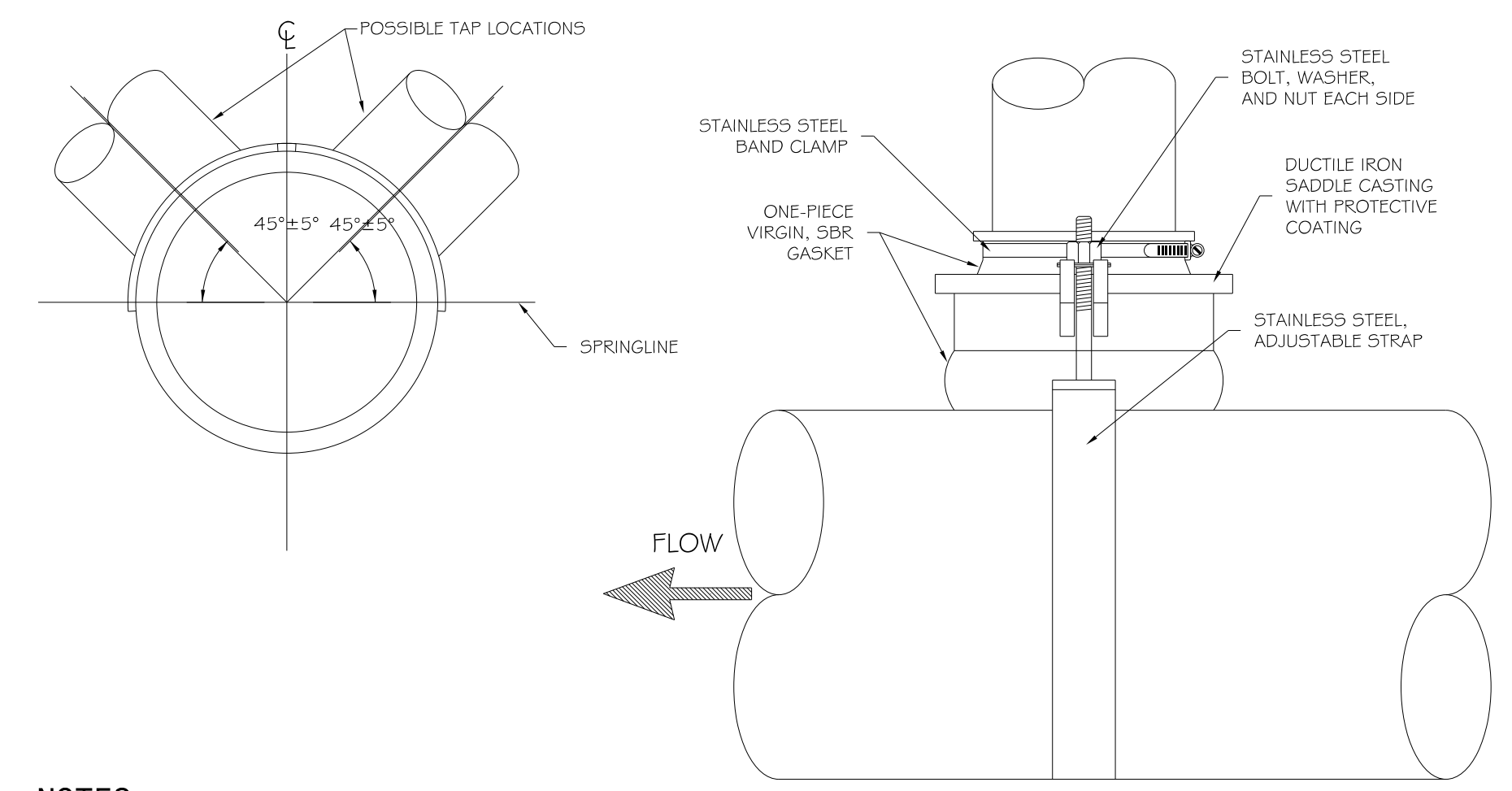


- NOTES:**
1. TAPS FOR SADDLES SHALL BE SAWCUT USING A KEYHOLE OR SABRE SAW AND MANUFACTURER'S TEMPLATE.
 2. TAPS SHALL BE SMOOTH AND CLEANED OF ALL FILINGS, BURRS, DIRT, DEBRIS, ETC.
 3. TAP AND SADDLE SHALL BE SOLVENT WELDED USING MANUFACTURER'S RECOMMENDED PRIMER AND SOLVENT CEMENT.
 4. SADDLE CONNECTION SHALL BE REINFORCED WITH TWO (2) STAINLESS STEEL BAND CLAMPS.

4" SANITARY SEWER SERVICE CONNECTION ON EXISTING PVC SEWER MAIN



4" SANITARY SEWER SERVICE CONNECTION



- NOTES:**
1. TAPS ON EXISTING SANITARY SEWER MAIN SHALL BE CUT USING AN APPROPRIATELY SIZED TAPPING MACHINE.
 2. TAPS SHALL BE SMOOTH AND CLEANED OF ALL FILINGS, BURRS, DIRT, DEBRIS, ETC.

4" SANITARY SEWER SERVICE CONNECTION ON EXISTING VCP, CIP, OR DIP SEWER MAIN

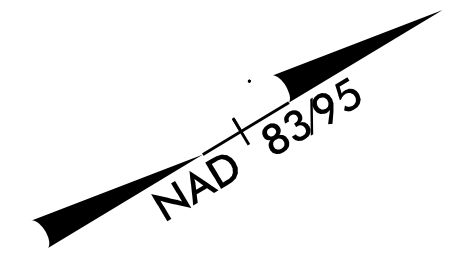
PROJECT REFERENCE NO. U-3330	SHEET NO. UC-3K
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	2/22/2017 UTILITY CONSTRUCTION PLANS ONLY
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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-3330	UC-4
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISER:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
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THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 4395 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

UTILITY OWNERS ON THIS PROJECT:
 CITY OF ROCKY MOUNT
 WATER LINES: 2", 6", 8", 24"
 SANITARY SEWER: 12", 18"
 CONTACT: DONALD M. PERRY, PE
 PHONE: (252) 972-1122



- NOTES:
- CONTRACTOR SHALL LOCATE CUSTOMER SERVICE LINE AND PROVIDE EXTENSION TO RELOCATED WATER METER.
 - SEE SHEET UC-12 FOR 24" WATER LINE PROFILE (WL-1).

UTILITY CONSTRUCTION

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RELOCATE WATER METER - 1 EA
 SEE NOTE 1, THIS SHEET.

404 LF OF 24" WATER LINE

ABANDON 400 LF OF 24" UTILITY PIPE

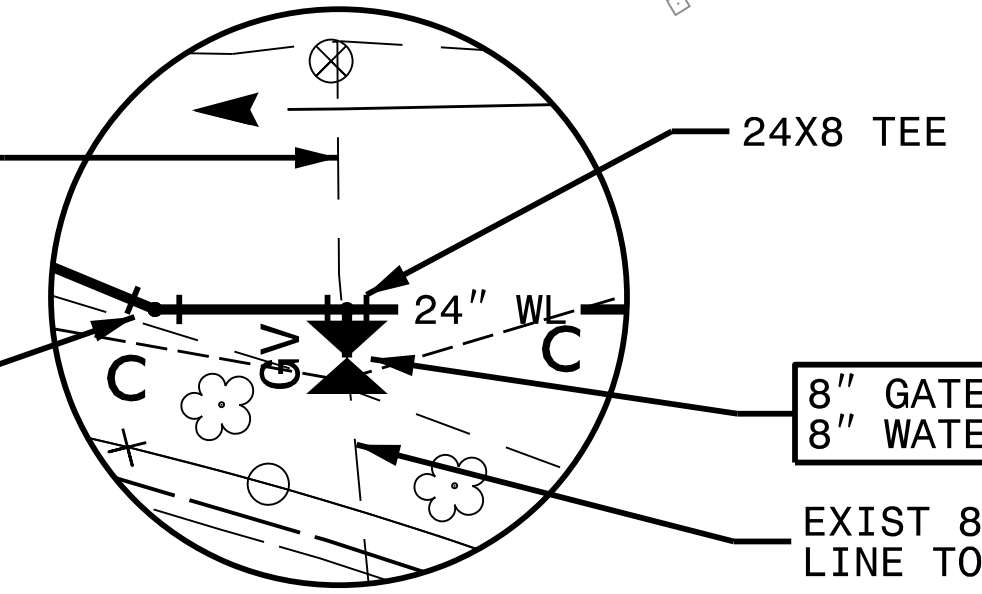
ABANDON 139 LF OF 6" UTILITY PIPE

INSTALL DUCTILE IRON PLUG FITTING ON ABANDONED LINE

5 LF OF 6" WATER LINE
 6" GATE VALVE - 1 EA

RELOCATE FIRE HYDRANT - 1 EA

ABANDON 33 LF OF 8" UTILITY PIPE



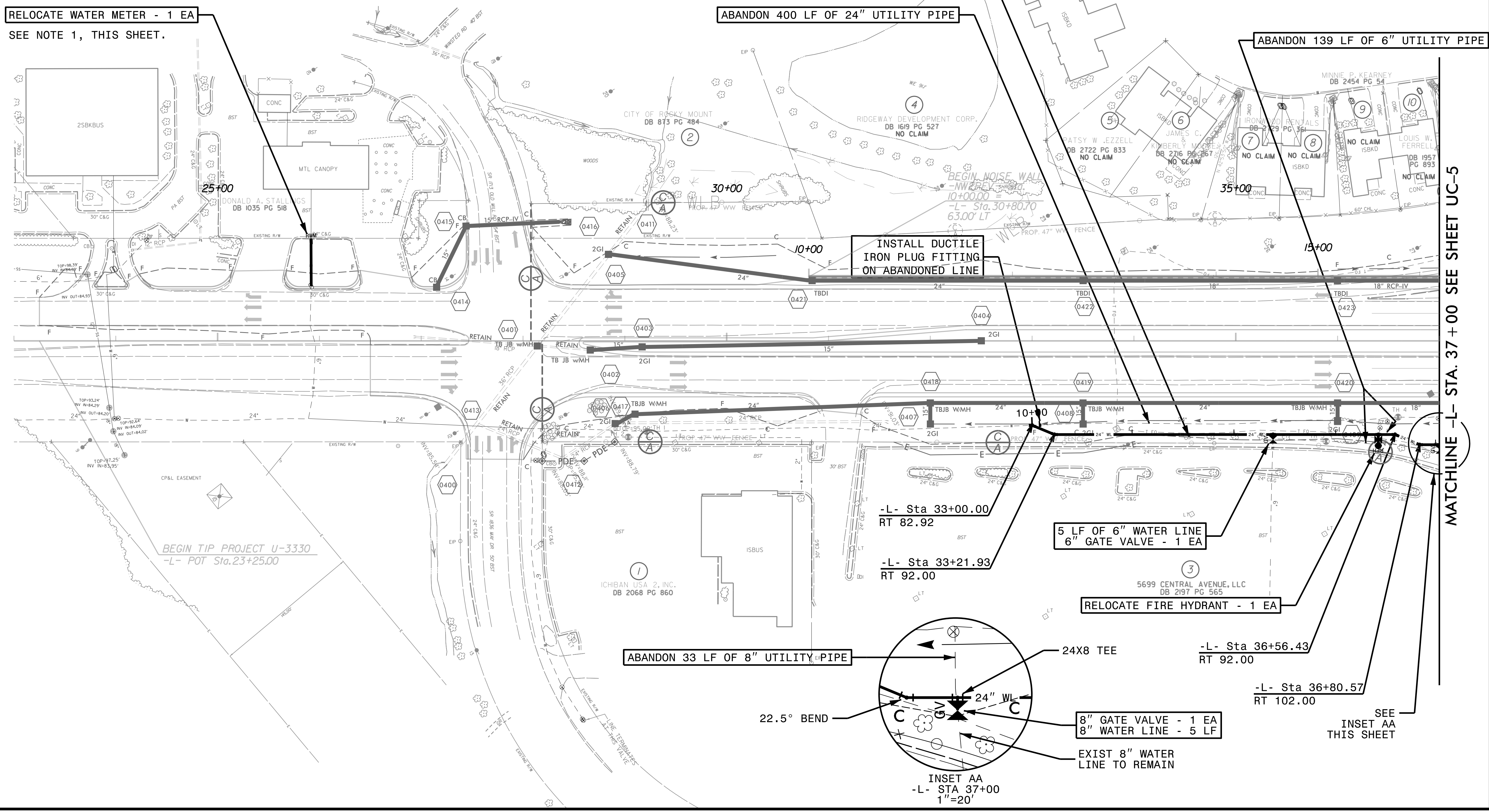
-L- Sta 33+00.00
 RT 82.92

-L- Sta 33+21.93
 RT 92.00

-L- Sta 36+56.43
 RT 92.00

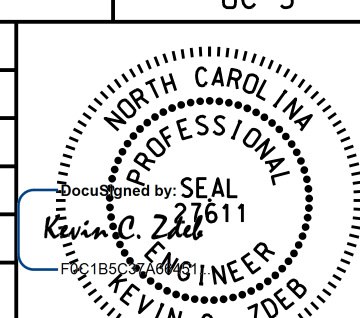
-L- Sta 36+80.57
 RT 102.00

SEE INSET AA THIS SHEET



MATCHLINE -L- STA. 37 + 00 SEE SHEET UC-5

5/14/19

PROJECT REFERENCE NO.	SHEET NO.
U-3330	UC-5
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISER:	DATE: 3/2/2017
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
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UTILITY OWNERS ON THIS PROJECT:

CITY OF ROCKY MOUNT
 WATER LINES: 12", 16", 24"
 SANITARY SEWER: 8"
 CONTACT: DONALD M. PERRY, PE
 PHONE: (252) 972-1122

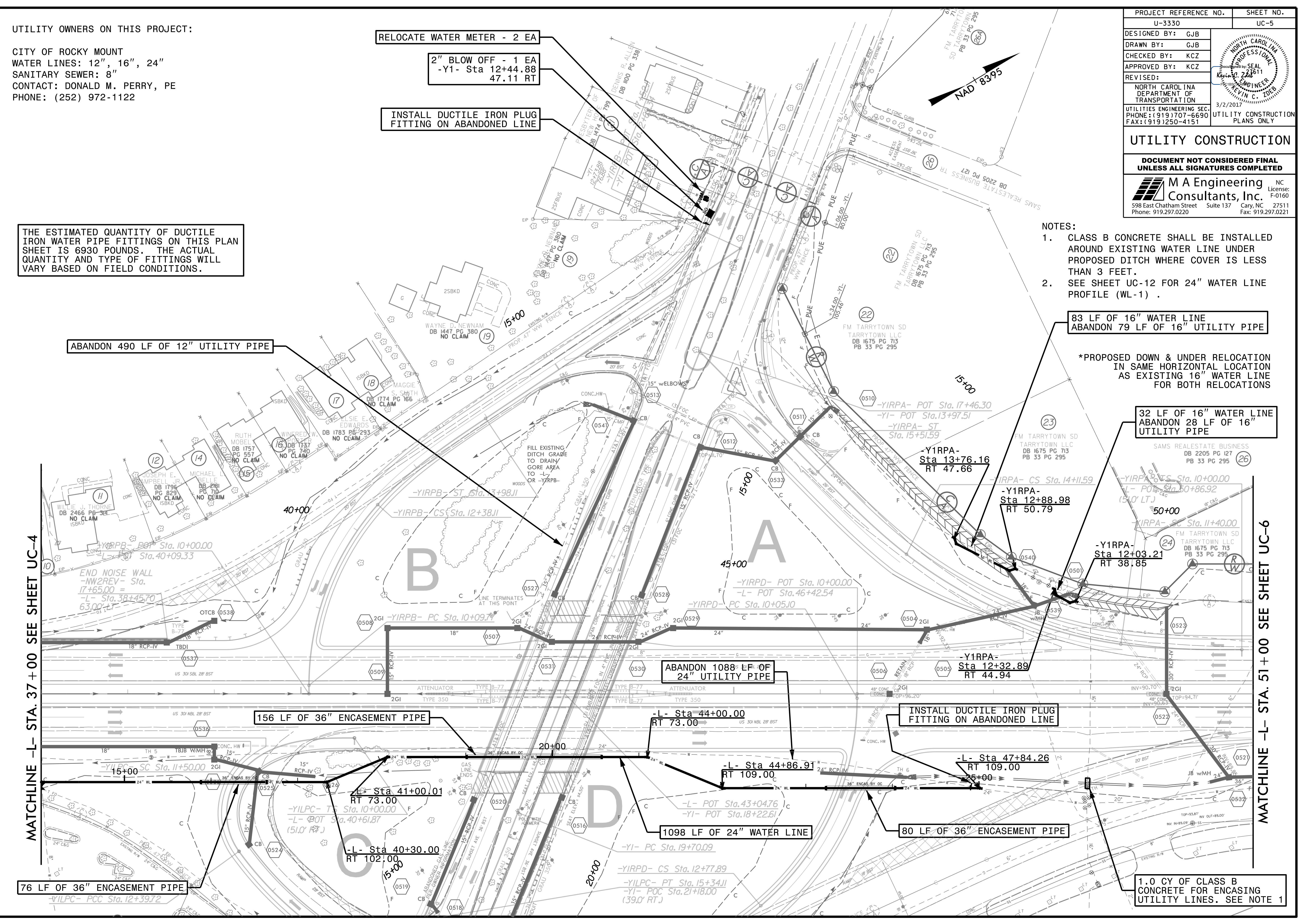
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 6930 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

UTILITY CONSTRUCTION

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- NOTES:
- CLASS B CONCRETE SHALL BE INSTALLED AROUND EXISTING WATER LINE UNDER PROPOSED DITCH WHERE COVER IS LESS THAN 3 FEET.
 - SEE SHEET UC-12 FOR 24" WATER LINE PROFILE (WL-1).



ABANDON 490 LF OF 12" UTILITY PIPE

RELOCATE WATER METER - 2 EA

2" BLOW OFF - 1 EA
 -Y1- Sta 12+44.88
 47.11 RT

INSTALL DUCTILE IRON PLUG FITTING ON ABANDONED LINE

83 LF OF 16" WATER LINE
 ABANDON 79 LF OF 16" UTILITY PIPE

*PROPOSED DOWN & UNDER RELOCATION IN SAME HORIZONTAL LOCATION AS EXISTING 16" WATER LINE FOR BOTH RELOCATIONS

32 LF OF 16" WATER LINE
 ABANDON 28 LF OF 16" UTILITY PIPE

ABANDON 1088 LF OF 24" UTILITY PIPE

INSTALL DUCTILE IRON PLUG FITTING ON ABANDONED LINE

156 LF OF 36" ENCASEMENT PIPE

-L- Sta 44+00.00
 RT 73.00

-L- Sta 44+86.91
 RT 109.00

-L- Sta 47+84.26
 RT 109.00

1098 LF OF 24" WATER LINE

80 LF OF 36" ENCASEMENT PIPE

76 LF OF 36" ENCASEMENT PIPE

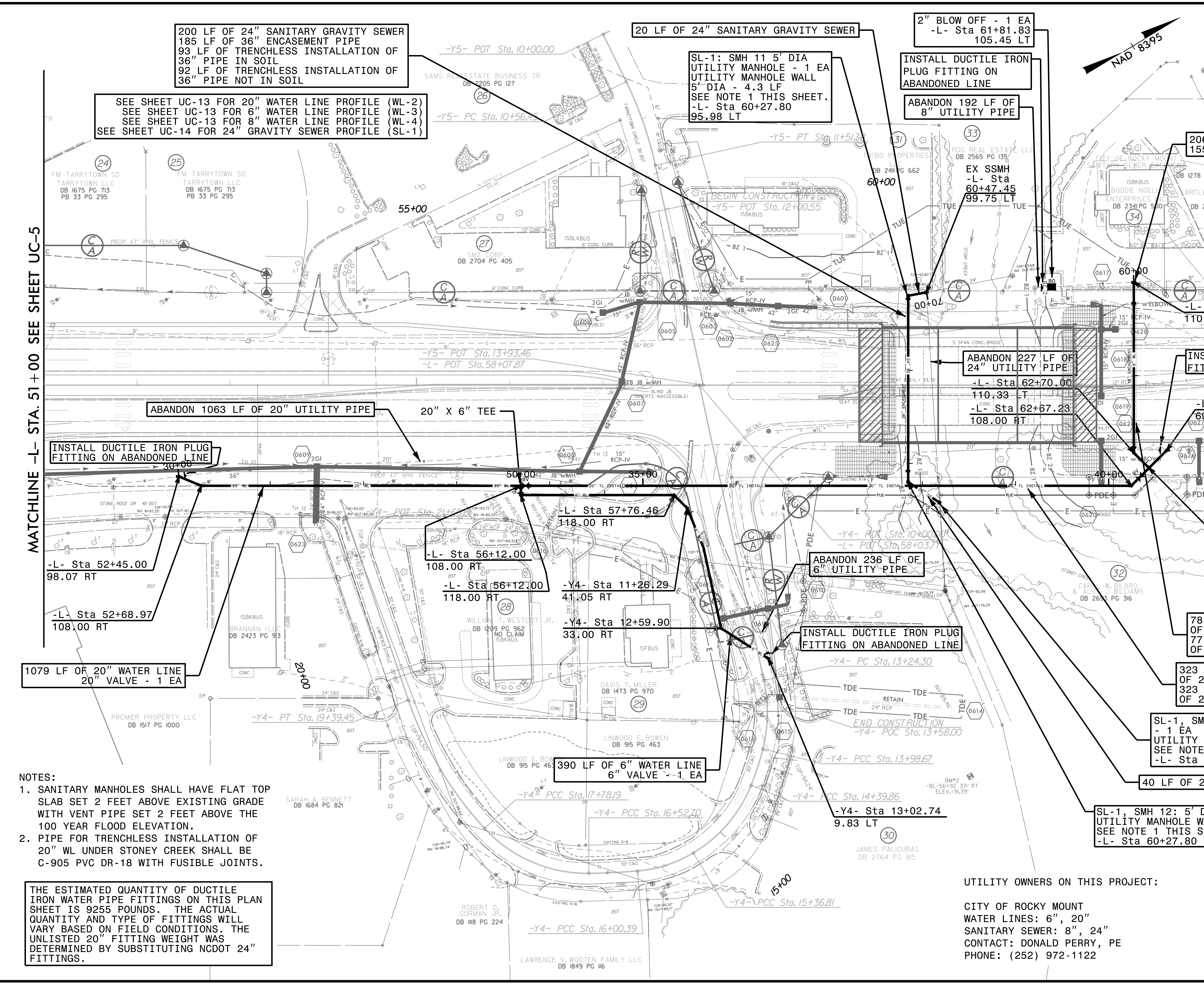
1.0 CY OF CLASS B CONCRETE FOR ENCASING UTILITY LINES. SEE NOTE 1

MATCHLINE -L- STA. 37 + 00 SEE SHEET UC-4

MATCHLINE -L- STA. 51 + 00 SEE SHEET UC-6

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PROJECT REFERENCE NO. U-3330	SHEET NO. UC-6
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISER:	DATE:
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SEE SHEET UC-13 FOR 20" WATER LINE PROFILE (WL-2)
 SEE SHEET UC-13 FOR 6" WATER LINE PROFILE (WL-3)
 SEE SHEET UC-13 FOR 8" WATER LINE PROFILE (WL-4)
 SEE SHEET UC-14 FOR 24" GRAVITY SEWER PROFILE (SL-1)

MATCHLINE -L- STA. 51+00 SEE SHEET UC-5

MATCHLINE -L- STA. 65+00 SEE SHEET UC-7

- NOTES:
- SANITARY MANHOLES SHALL HAVE FLAT TOP SLAB SET 2 FEET ABOVE EXISTING GRADE WITH VENT PIPE SET 2 FEET ABOVE THE 100 YEAR FLOOD ELEVATION.
 - PIPE FOR TRENCHLESS INSTALLATION OF 20" WL UNDER STONEY CREEK SHALL BE C-905 PVC DR-18 WITH FUSIBLE JOINTS.

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 9255 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS. THE UNLISTED 20" FITTING WEIGHT WAS DETERMINED BY SUBSTITUTING NCDOT 24" FITTINGS.

UTILITY OWNERS ON THIS PROJECT:

CITY OF ROCKY MOUNT
 WATER LINES: 6", 20"
 SANITARY SEWER: 8", 24"
 CONTACT: DONALD PERRY, PE
 PHONE: (252) 972-1122

UTILITY CONSTRUCTION

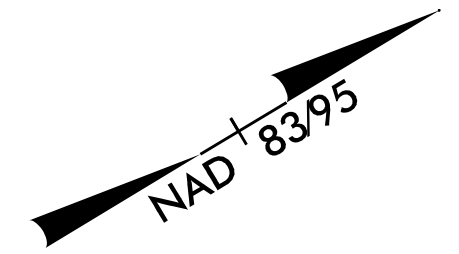
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PROJECT REFERENCE NO. U-3330	SHEET NO. UC-7
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	2/22/2017
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

UTILITY OWNERS ON THIS PROJECT:

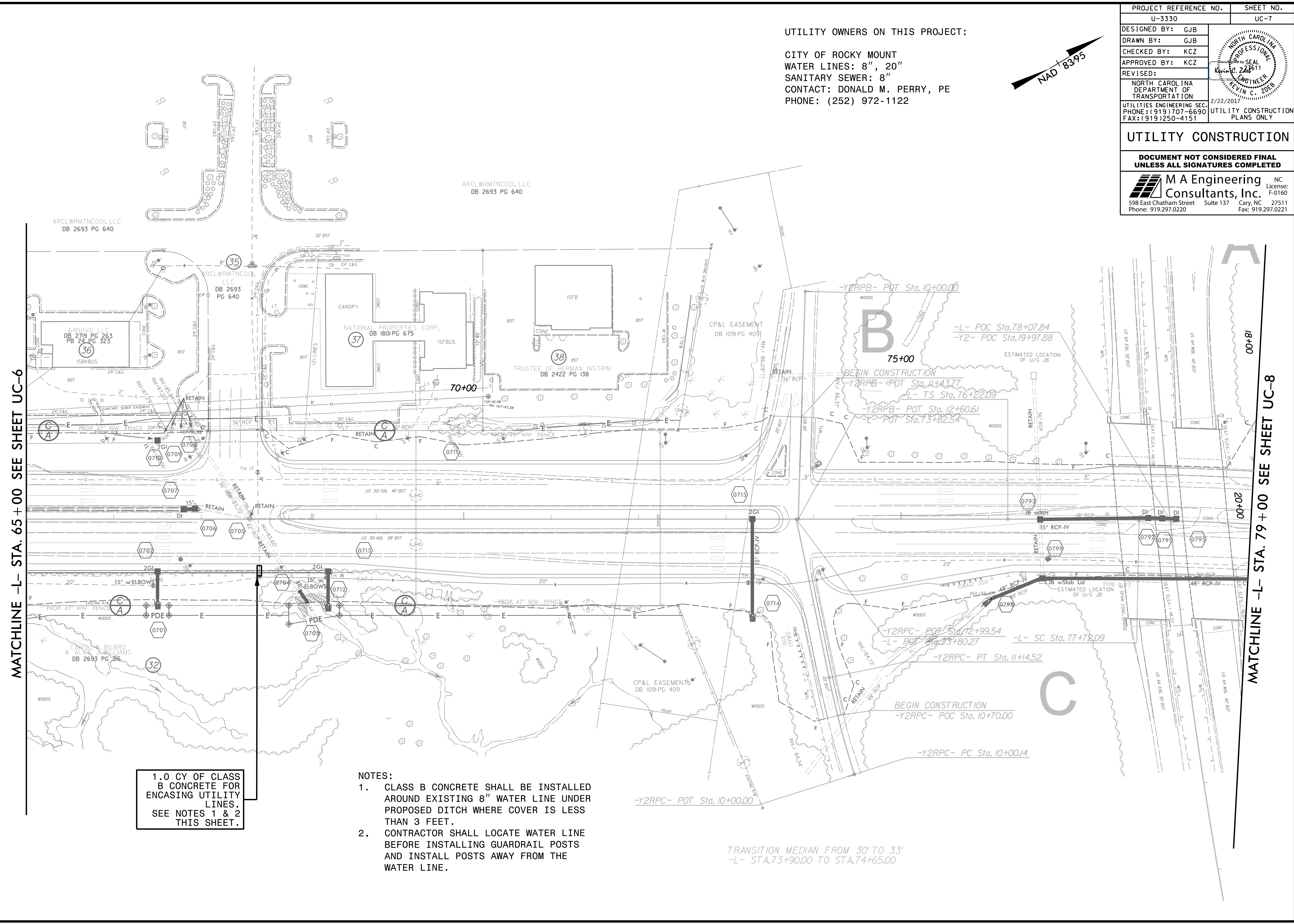
CITY OF ROCKY MOUNT
 WATER LINES: 8", 20"
 SANITARY SEWER: 8"
 CONTACT: DONALD M. PERRY, PE
 PHONE: (252) 972-1122



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MATCHLINE -L- STA. 65 + 00 SEE SHEET UC-6

MATCHLINE -L- STA. 79 + 00 SEE SHEET UC-8

1.0 CY OF CLASS B CONCRETE FOR ENCASING UTILITY LINES. SEE NOTES 1 & 2 THIS SHEET.

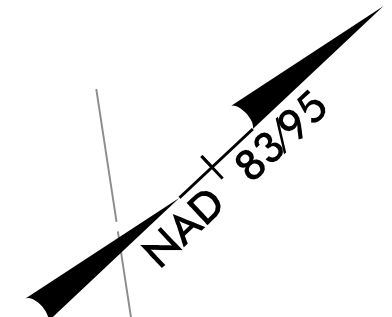
- NOTES:**
1. CLASS B CONCRETE SHALL BE INSTALLED AROUND EXISTING 8" WATER LINE UNDER PROPOSED DITCH WHERE COVER IS LESS THAN 3 FEET.
 2. CONTRACTOR SHALL LOCATE WATER LINE BEFORE INSTALLING GUARDRAIL POSTS AND INSTALL POSTS AWAY FROM THE WATER LINE.

TRANSITION MEDIAN FROM 30' TO 33'
 -L- STA.73+90.00 TO STA.74+65.00

5/14/19

PROJECT REFERENCE NO.	SHEET NO.
U-3330	UC-8
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISER:	3/2/2017
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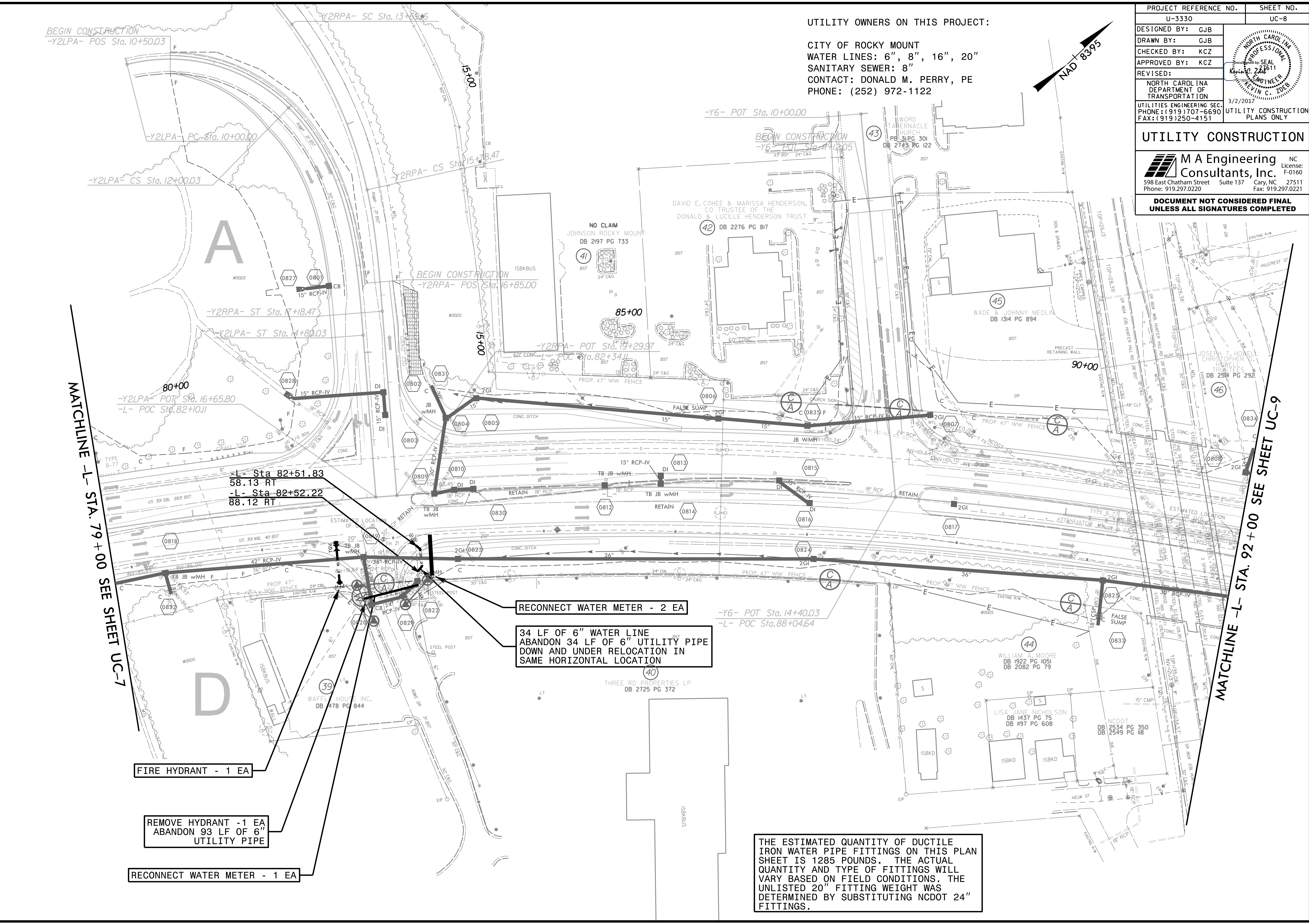
UTILITY OWNERS ON THIS PROJECT:
 CITY OF ROCKY MOUNT
 WATER LINES: 6", 8", 16", 20"
 SANITARY SEWER: 8"
 CONTACT: DONALD M. PERRY, PE
 PHONE: (252) 972-1122



UTILITY CONSTRUCTION

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MATCHLINE -L- STA. 79+00 SEE SHEET UC-7

MATCHLINE -L- STA. 92+00 SEE SHEET UC-9

-L- Sta 82+51.83
 58.13 RT
 -L- Sta 82+52.22
 88.12 RT

RECONNECT WATER METER - 2 EA

34 LF OF 6" WATER LINE
 ABANDON 34 LF OF 6" UTILITY PIPE
 DOWN AND UNDER RELOCATION IN
 SAME HORIZONTAL LOCATION

FIRE HYDRANT - 1 EA

REMOVE HYDRANT - 1 EA
 ABANDON 93 LF OF 6"
 UTILITY PIPE

RECONNECT WATER METER - 1 EA

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1285 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS. THE UNLISTED 20" FITTING WEIGHT WAS DETERMINED BY SUBSTITUTING NCDOT 24" FITTINGS.

5/14/2017 11:58:58 AM

PROJECT REFERENCE NO. U-3330	SHEET NO. UC-9
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISER:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
UTILITY CONSTRUCTION PLANS ONLY 3/2/2017	

UTILITY CONSTRUCTION

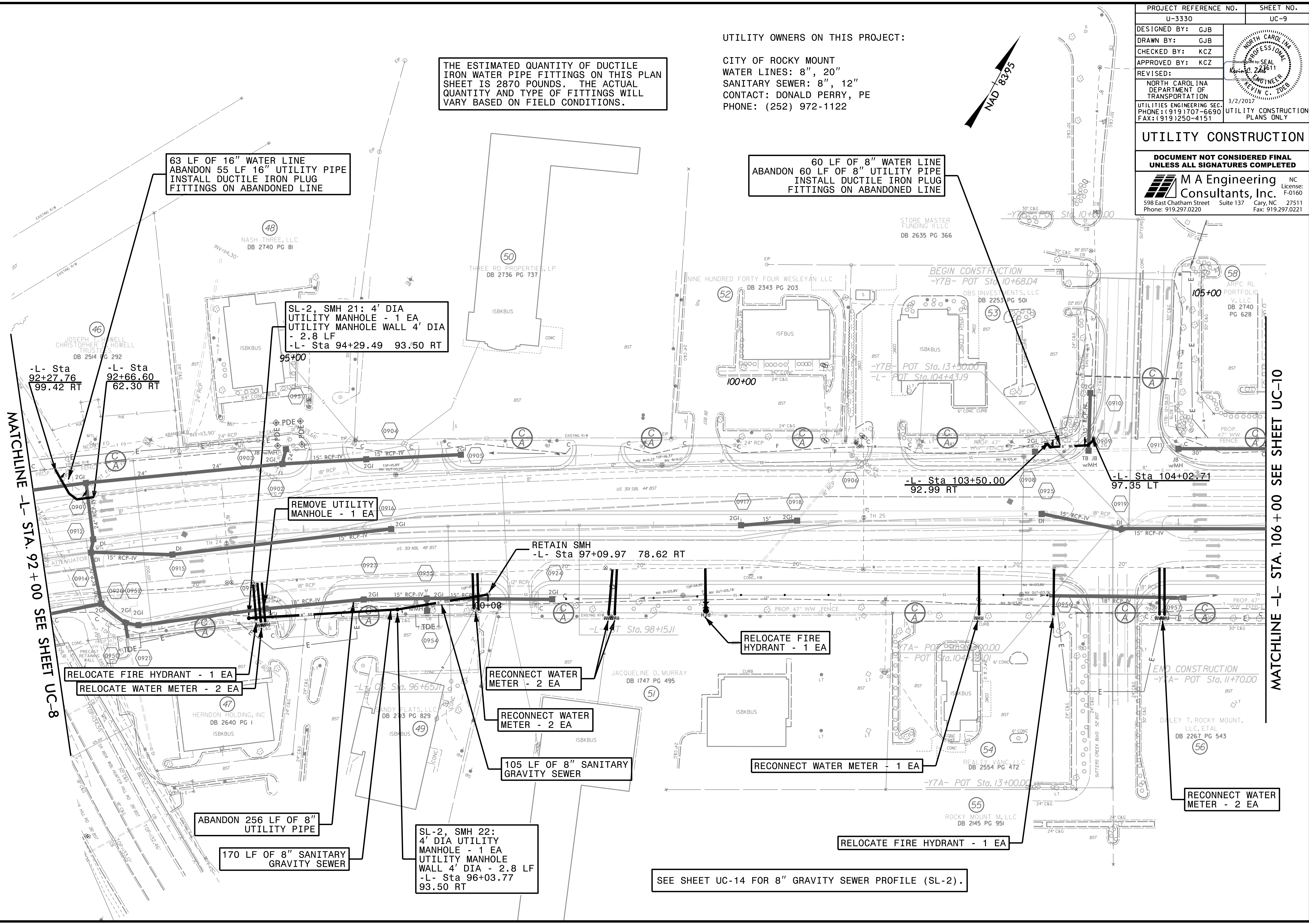
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 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221

UTILITY OWNERS ON THIS PROJECT:

CITY OF ROCKY MOUNT
WATER LINES: 8", 20"
SANITARY SEWER: 8", 12"
CONTACT: DONALD PERRY, PE
PHONE: (252) 972-1122

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2870 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.



MATCHLINE -L- STA. 92+00 SEE SHEET UC-8

MATCHLINE -L- STA. 106+00 SEE SHEET UC-10

63 LF OF 16" WATER LINE
ABANDON 55 LF 16" UTILITY PIPE
INSTALL DUCTILE IRON PLUG
FITTINGS ON ABANDONED LINE

60 LF OF 8" WATER LINE
ABANDON 60 LF OF 8" UTILITY PIPE
INSTALL DUCTILE IRON PLUG
FITTINGS ON ABANDONED LINE

SL-2, SMH 21: 4' DIA
UTILITY MANHOLE - 1 EA
UTILITY MANHOLE WALL 4' DIA
- 2.8 LF
-L- Sta 94+29.49 93.50 RT

REMOVE UTILITY
MANHOLE - 1 EA

RETAIN SMH
-L- Sta 97+09.97 78.62 RT

RELOCATE FIRE HYDRANT - 1 EA
RELOCATE WATER METER - 2 EA

RECONNECT WATER
METER - 2 EA

RECONNECT WATER
METER - 2 EA

105 LF OF 8" SANITARY
GRAVITY SEWER

ABANDON 256 LF OF 8"
UTILITY PIPE

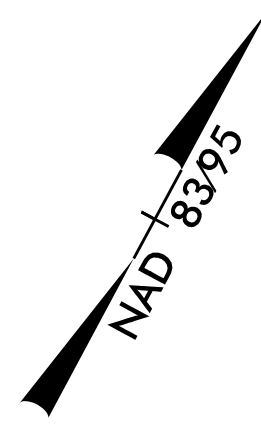
170 LF OF 8" SANITARY
GRAVITY SEWER

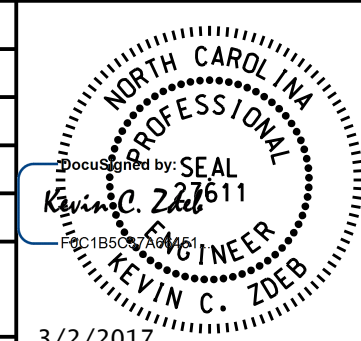
SL-2, SMH 22:
4' DIA UTILITY
MANHOLE - 1 EA
UTILITY MANHOLE
WALL 4' DIA - 2.8 LF
-L- Sta 96+03.77
93.50 RT

RECONNECT WATER METER - 1 EA

RELOCATE FIRE HYDRANT - 1 EA

SEE SHEET UC-14 FOR 8" GRAVITY SEWER PROFILE (SL-2).



PROJECT REFERENCE NO. U-3330	SHEET NO. UC-10
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY OWNERS ON THIS PROJECT:

CITY OF ROCKY MOUNT
 WATER LINES: 8", 20"
 SANITARY SEWER: 8", 12", 18"
 CONTACT: DONALD M. PERRY, PE
 PHONE: (252) 972-1122

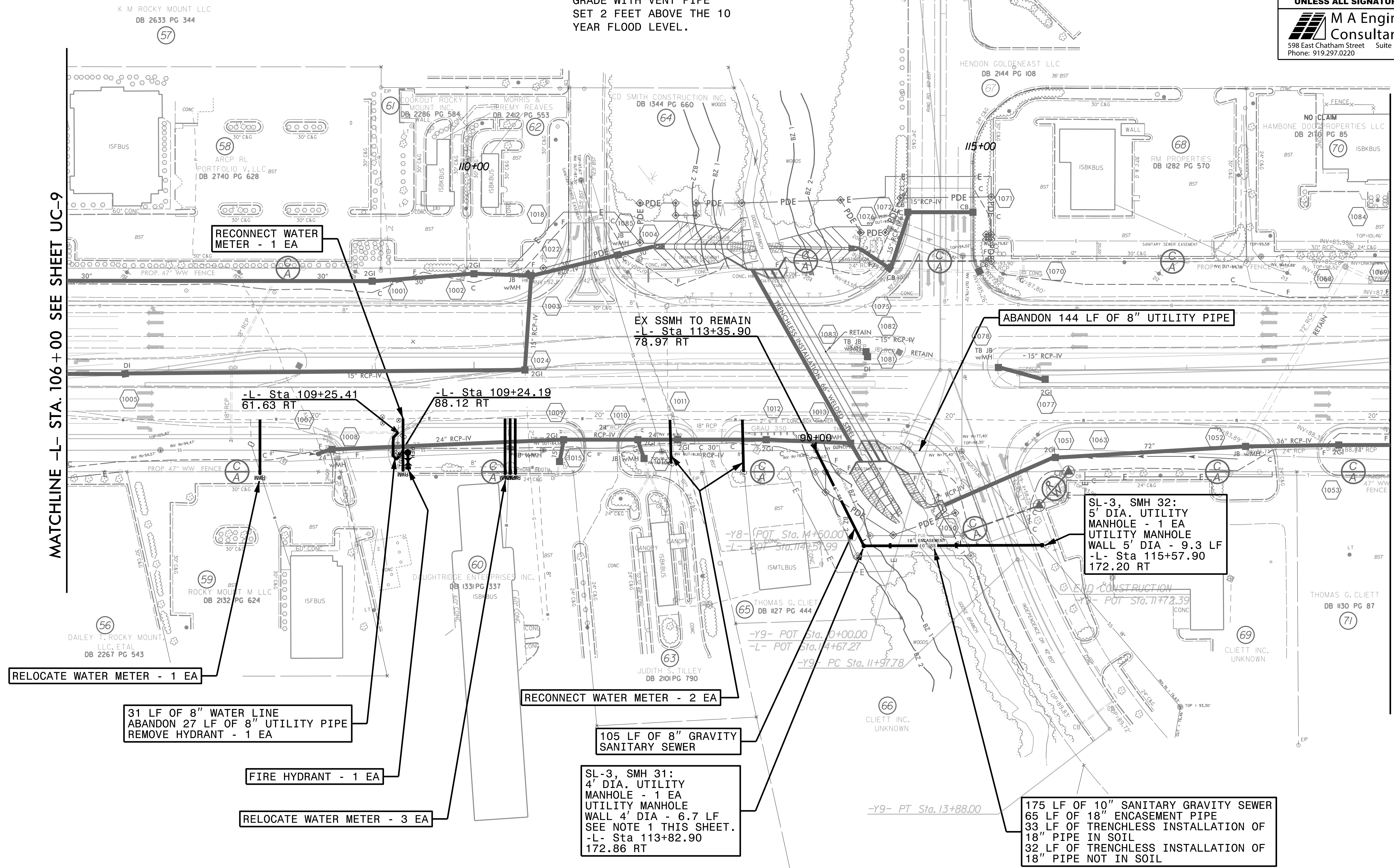
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 440 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

SEE SHEET UC-14 FOR GRAVITY SEWER PROFILE (SL-3).

- NOTE:
 1. SANITARY MANHOLES SHALL HAVE FLAT TOP SLAB SET 2 FEET ABOVE EXISTING GRADE WITH VENT PIPE SET 2 FEET ABOVE THE 10 YEAR FLOOD LEVEL.

MATCHLINE -L- STA. 106+00 SEE SHEET UC-9

MATCHLINE -L- STA. 119+00 SEE SHEET UC-11



RELOCATE WATER METER - 1 EA

31 LF OF 8" WATER LINE
 ABANDON 27 LF OF 8" UTILITY PIPE
 REMOVE HYDRANT - 1 EA

FIRE HYDRANT - 1 EA

RELOCATE WATER METER - 3 EA

RECONNECT WATER METER - 1 EA

RECONNECT WATER METER - 2 EA

105 LF OF 8" GRAVITY SANITARY SEWER

SL-3, SMH 31:
 4' DIA. UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIA - 6.7 LF
 SEE NOTE 1 THIS SHEET.
 -L- Sta 113+82.90
 172.86 RT

EX SSMH TO REMAIN
 -L- Sta 113+35.90
 78.97 RT

-L- Sta 109+25.41
 61.63 RT

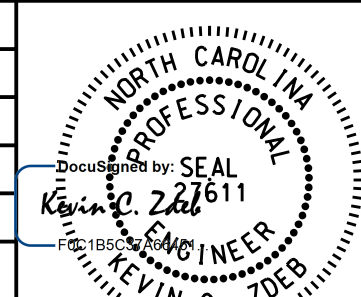
-L- Sta 109+24.19
 88.12 RT

ABANDON 144 LF OF 8" UTILITY PIPE

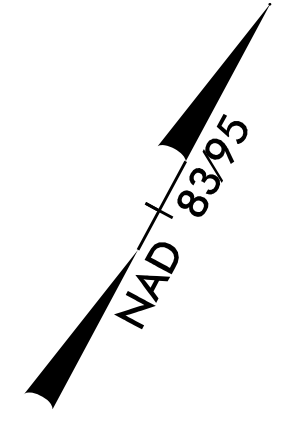
SL-3, SMH 32:
 5' DIA. UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 5' DIA - 9.3 LF
 -L- Sta 115+57.90
 172.20 RT

175 LF OF 10" SANITARY GRAVITY SEWER
 65 LF OF 18" ENCASEMENT PIPE
 33 LF OF TRENCHLESS INSTALLATION OF 18" PIPE IN SOIL
 32 LF OF TRENCHLESS INSTALLATION OF 18" PIPE NOT IN SOIL

5/14/19

PROJECT REFERENCE NO. U-3330	SHEET NO. UC-11
DESIGNED BY: GJB	 KEVIN C. ZOLB PROFESSIONAL ENGINEER NO. 272611 2/22/2017
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY OWNERS ON THIS PROJECT:
 CITY OF ROCKY MOUNT
 WATER LINES: 6", 12", 20"
 SANITARY SEWER: 8"
 CONTACT: DONALD M. PERRY, PE
 PHONE: (252) 972-1122

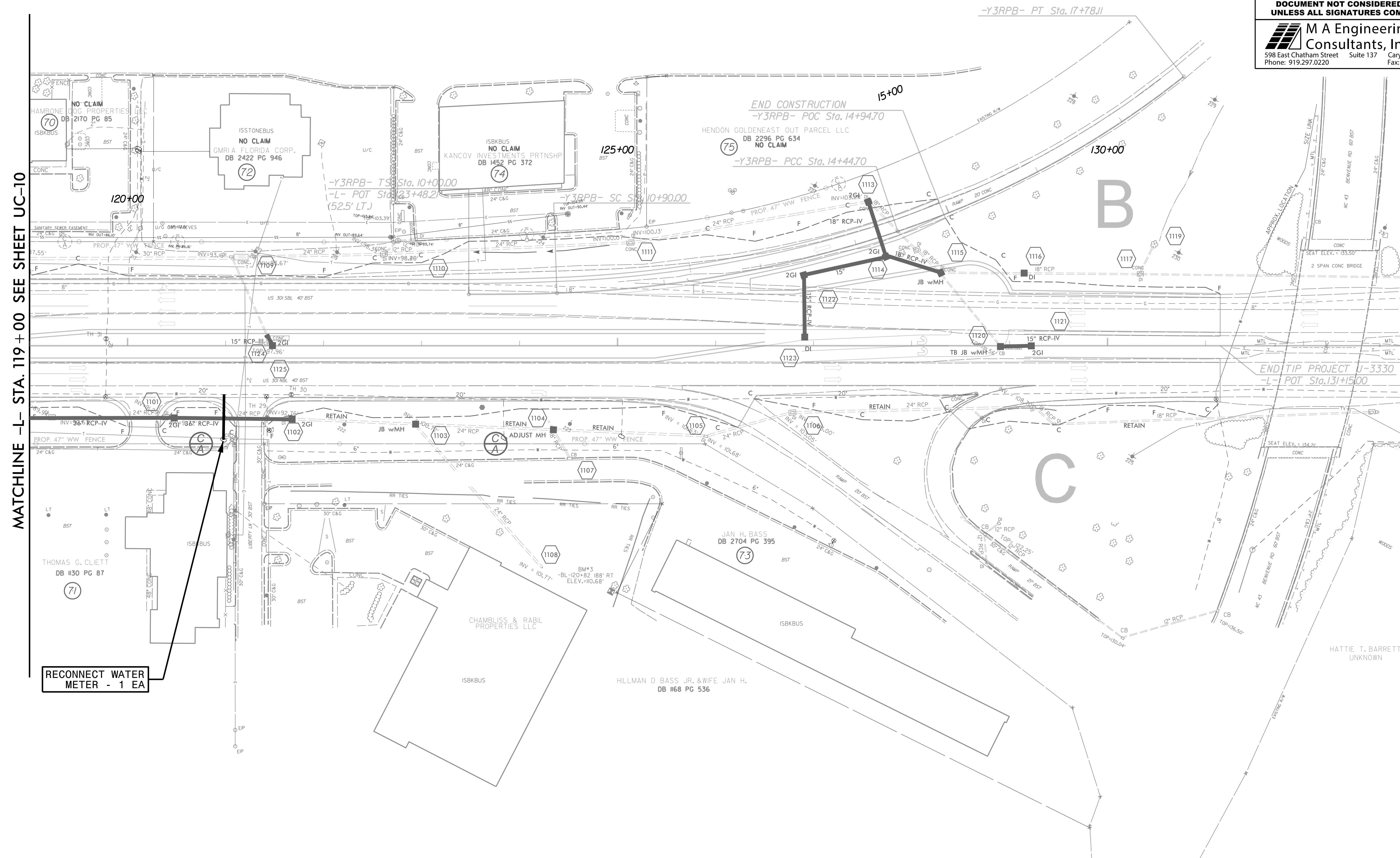


UTILITY CONSTRUCTION

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

M A Engineering Consultants, Inc.
 NC License: F-0160
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221

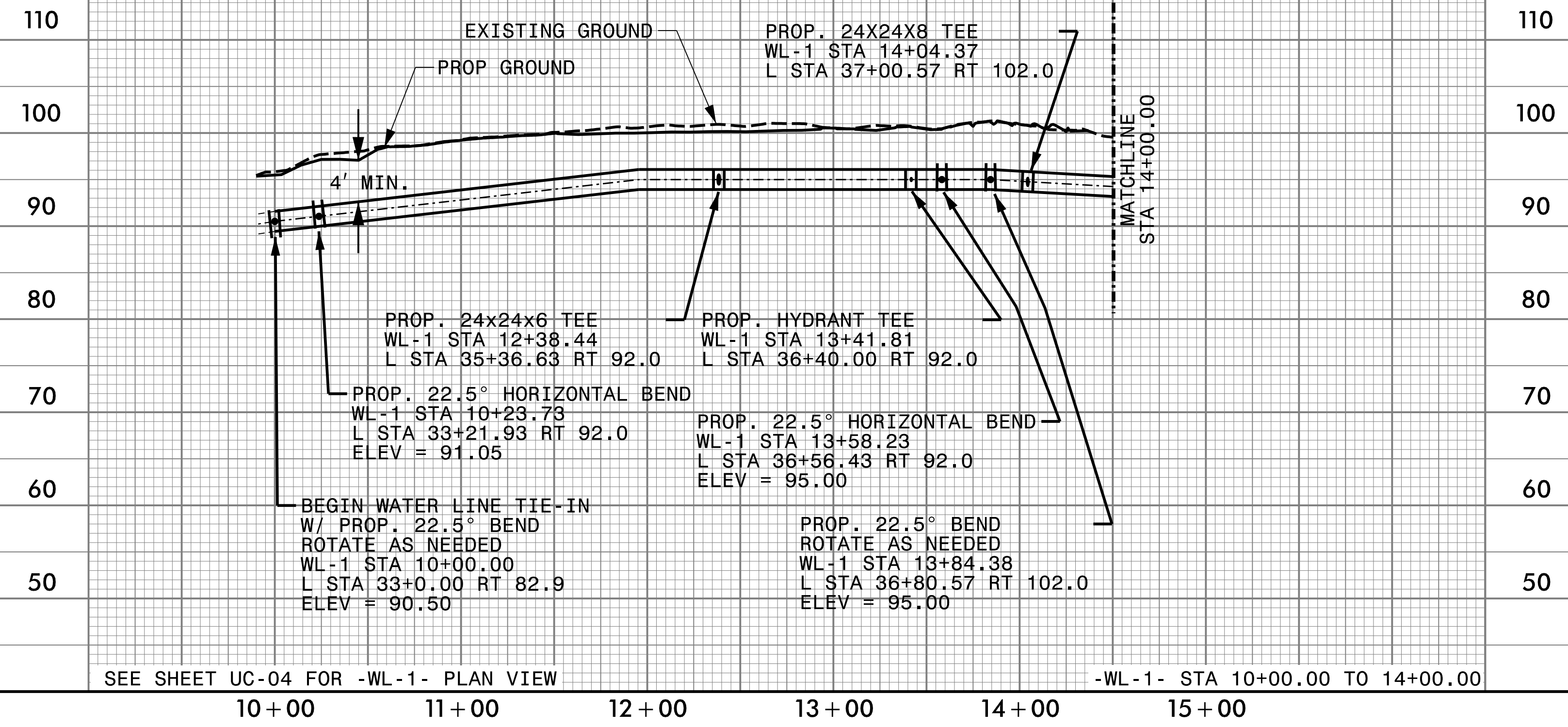
MATCHLINE -L- STA. 119 + 00 SEE SHEET UC-10



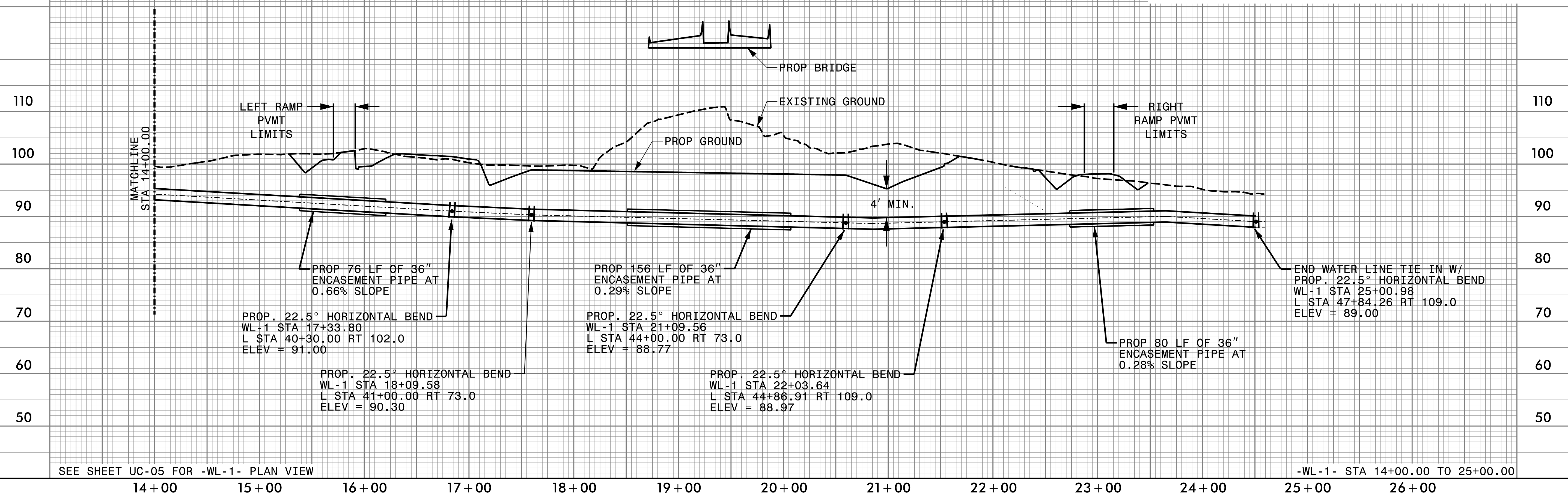
5/14/19

24" WATER LINE -WL-1-

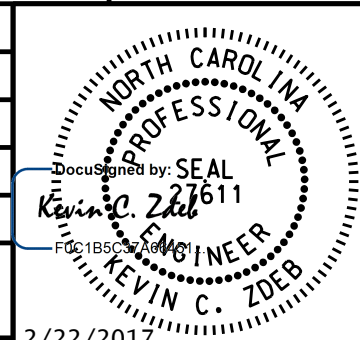
PROJECT REFERENCE NO. U-3330	SHEET NO. UC-12
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
2/22/2017 UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION	
598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	
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24" WATER LINE -WL-1-



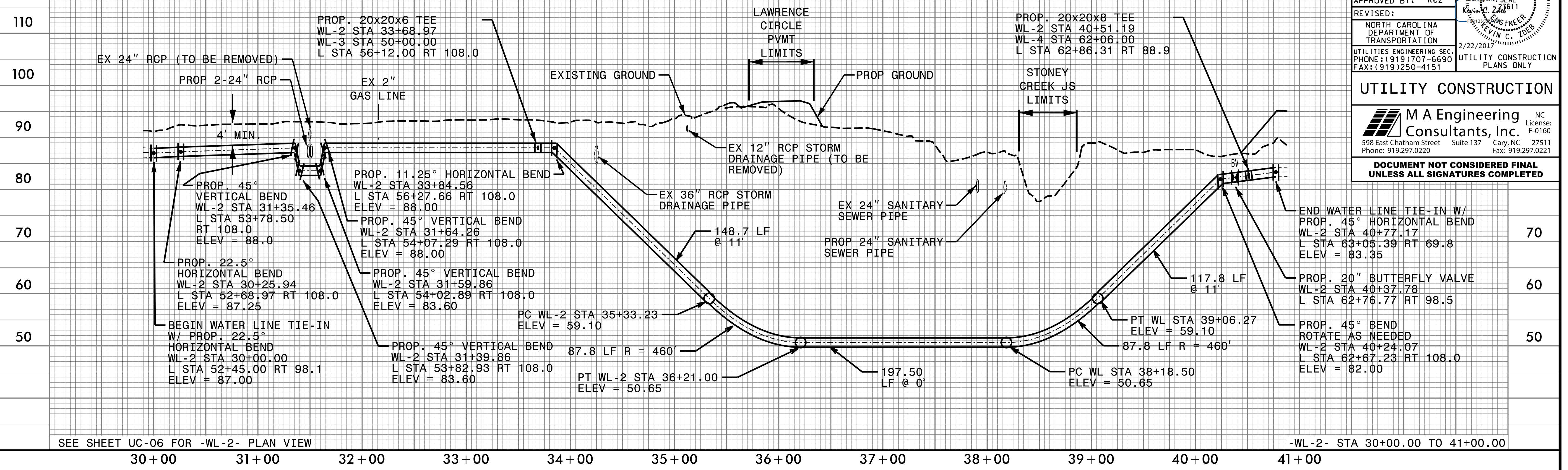
20" WATER LINE -WL-2-

PROJECT REFERENCE NO. U-3330	SHEET NO. UC-13
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	2/22/2017
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

M A Engineering Consultants, Inc.
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221
 NC License: F-0160

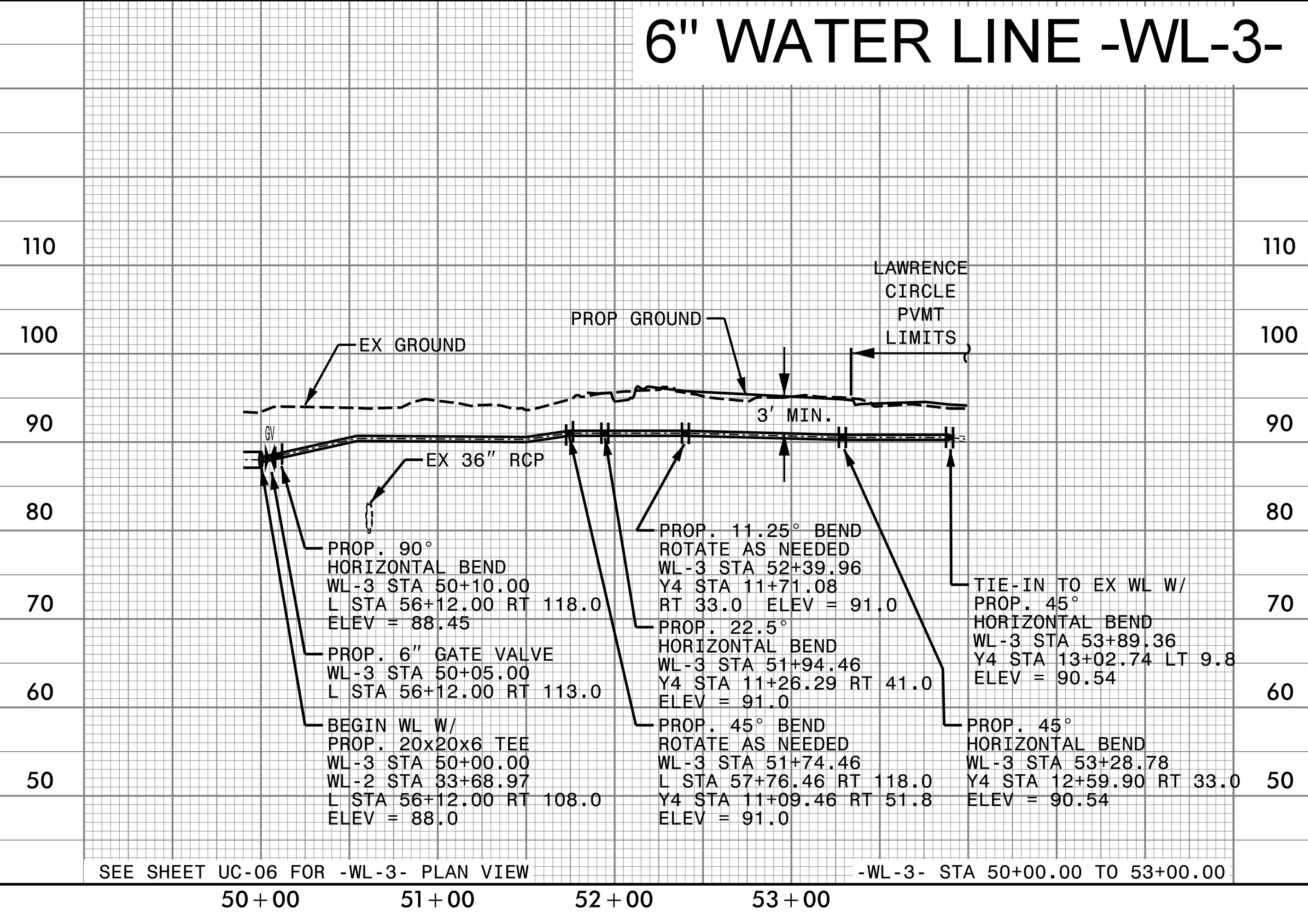
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



SEE SHEET UC-06 FOR -WL-2- PLAN VIEW

-WL-2- STA 30+00.00 TO 41+00.00

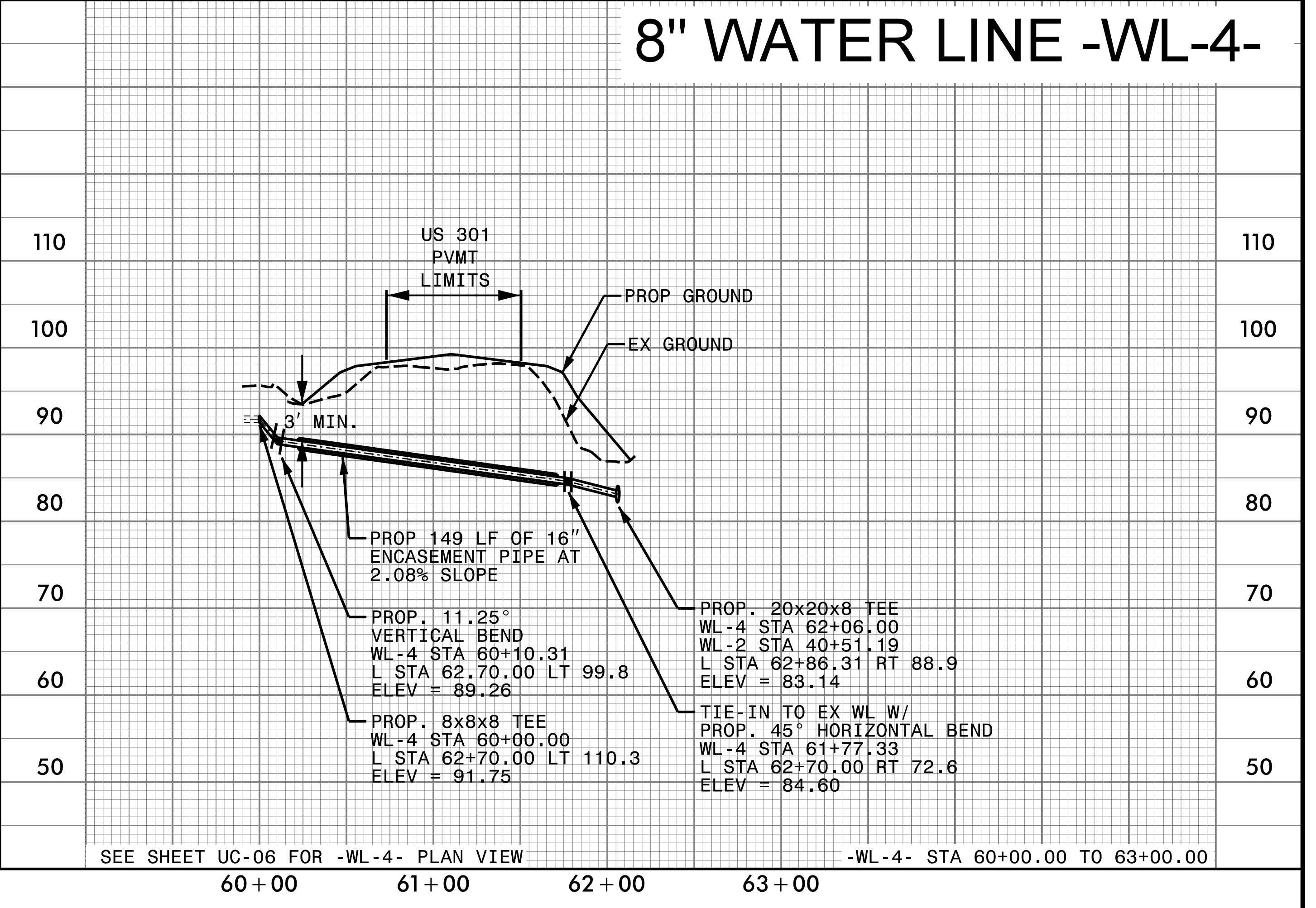
6" WATER LINE -WL-3-



SEE SHEET UC-06 FOR -WL-3- PLAN VIEW

-WL-3- STA 50+00.00 TO 53+00.00

8" WATER LINE -WL-4-



SEE SHEET UC-06 FOR -WL-4- PLAN VIEW

-WL-4- STA 60+00.00 TO 63+00.00

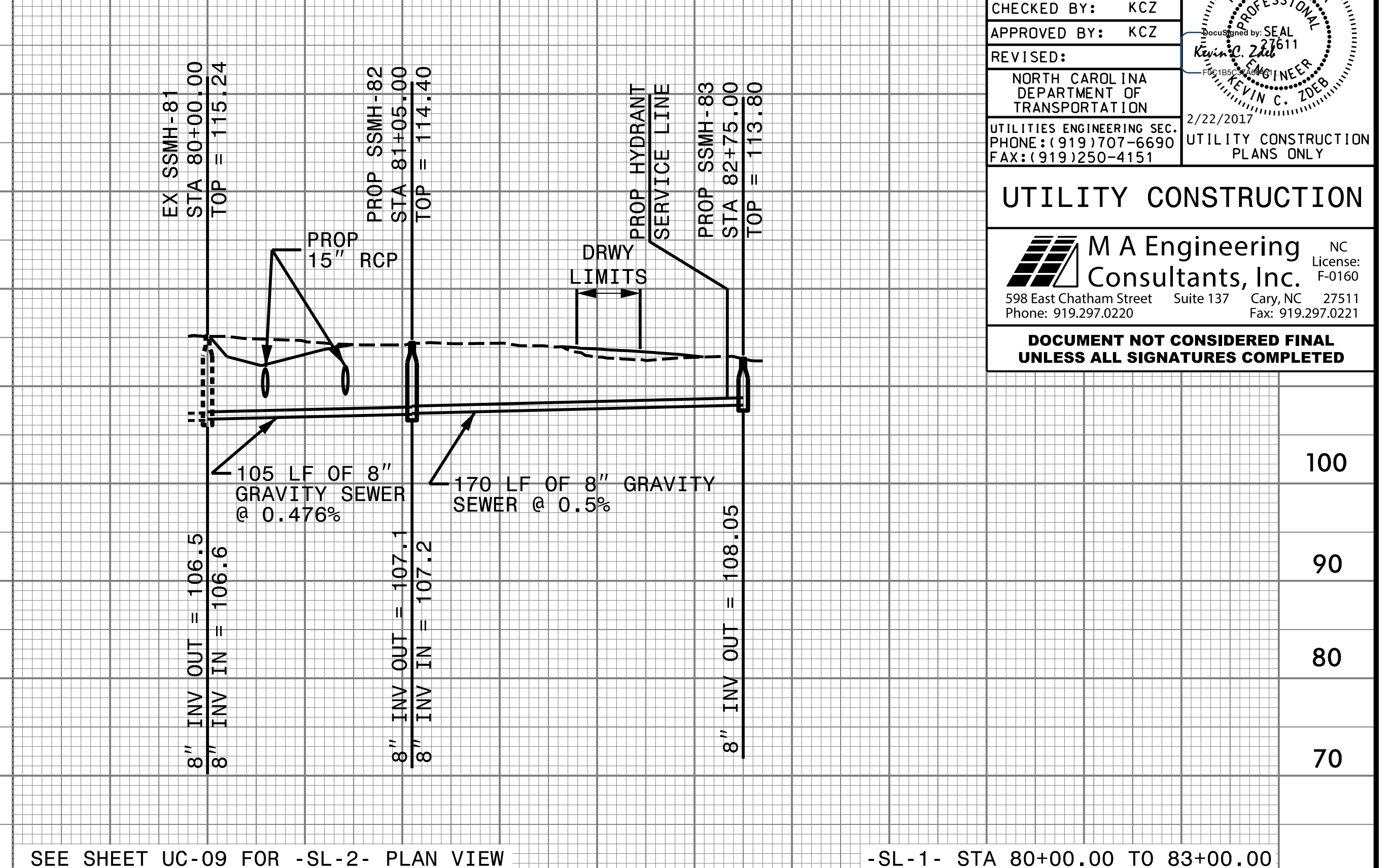
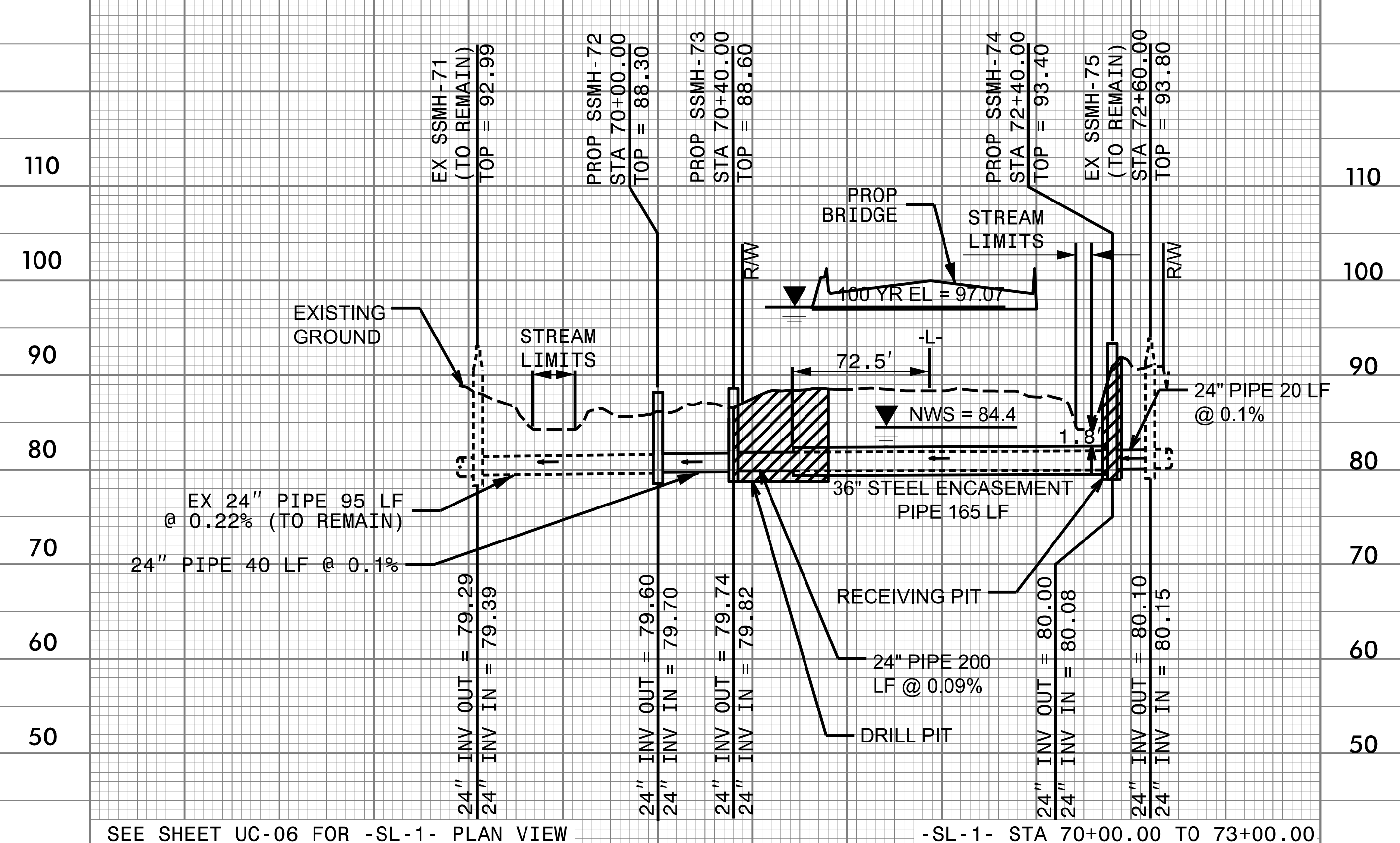
5/28/19

5/28/99

-SL-1-

-SL-2-

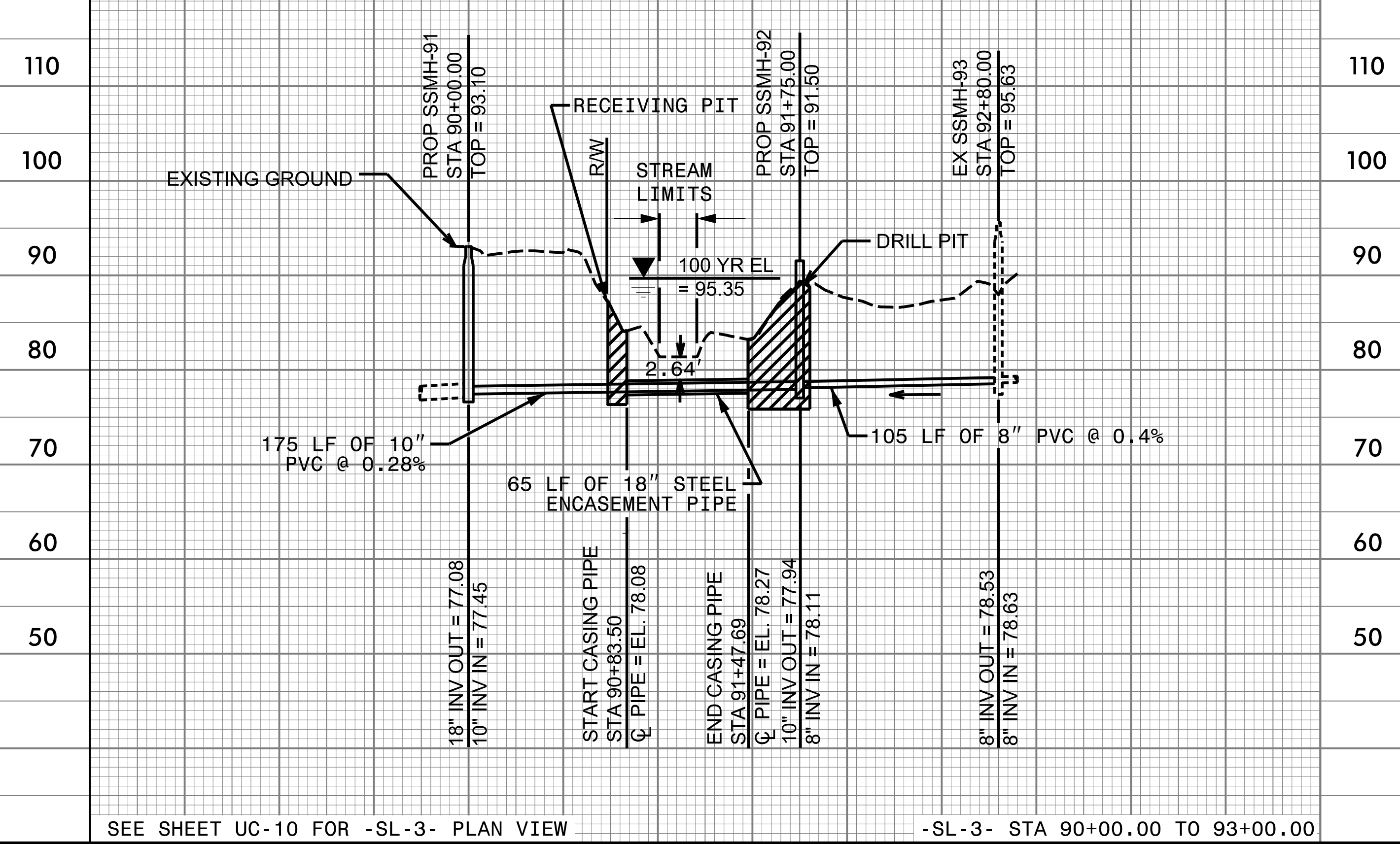
PROJECT REFERENCE NO. U-3330	SHEET NO. UC-14
DESIGNED BY: GJB	
DRAWN BY: GJB	
CHECKED BY: KCZ	
APPROVED BY: KCZ	
REVISED:	2/22/2017
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION	
598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	
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SEE SHEET UC-06 FOR -SL-1- PLAN VIEW
 -SL-1- STA 70+00.00 TO 73+00.00

SEE SHEET UC-09 FOR -SL-2- PLAN VIEW
 -SL-1- STA 80+00.00 TO 83+00.00

-SL-3-



SEE SHEET UC-10 FOR -SL-3- PLAN VIEW
 -SL-3- STA 90+00.00 TO 93+00.00

5/28/99