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PROJECT LOCATION ● ● ● ● OFFSITE DETOUR

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

T.I.P. NO. B-4598

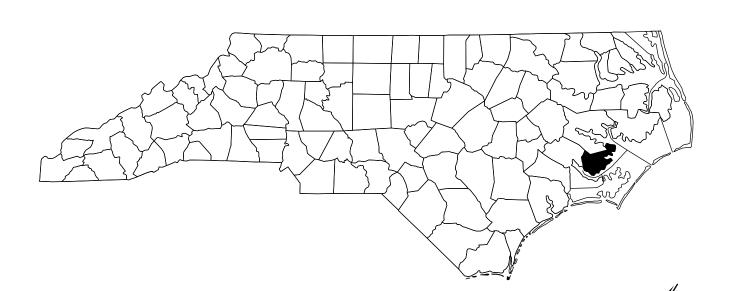
SHEET NO.

UC-1

UTILITY CONSTRUCTION PLANS PAMLICO COUNTY

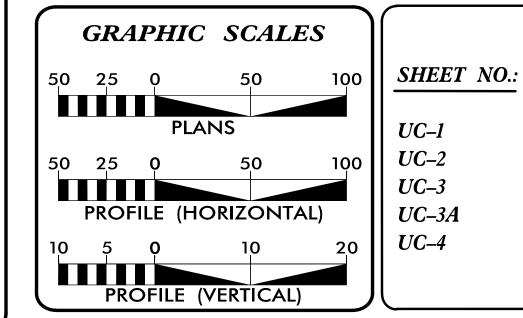
LOCATION: REPLACE BRIDGE 16 OVER MASON CREEK ON SR 1324 (FLORENCE RD.)

TYPE OF WORK: WATERLINE RELOCATION



BEGIN BRIDGE -L- POC STA. 15 + 86.81 END BRIDGE -L- POC STA. 16 + 99.19 TO FLORENCE -L-POC STA. 13 + 75.00-L-POC STA. 19+50.00BEGIN TIP PROJECT B-4598 END TIP PROJECT B-4598

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INDEX OF SHEETS

DESCRIPTION:

TITLE SHEET UTILITY SYMBOLOGY **NOTES DETAILS** UTILITY CONSTRUCTION

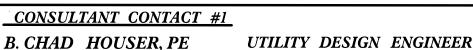
WATER AND SEWER OWNERS ON PROJECT

(A) WATER: PAMLICO COUNTY WATER SYSTEM

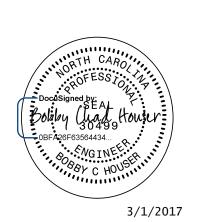
PREPARED IN THE OFFICE OF



TGS ENGINEERS 804-C N. LAFAYETTE ST CORP. LICENSE NO.: SHELBY, NC 28150



CONSULTANT CONTACT #2 JIMMY TERRY, PE PROJECT MANAGER





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 NABIL HAMDAN UTILITIES ENGINEER

AMY DUPREE UTILITIES AREA COORDINATOR

PH (704) 476–0003

SEAL

DAYTON MARTIN UTILITIES COORDINATOR

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown) 22½ Degree Bend 90 Degree Bend ······ Gate Valve Butterfly Valve Tapping Valve Line Stop Line Stop with Bypass -----Blow Off Fire Hydrant Relocate Fire Hydrant Remove Fire Hydrant Water Meter Relocate Water Meter Remove Water Meter Water Pump Station PS(W) 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) (Sized per Note)

Sewer Pump Station ·····PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

ower Pole ····································	Thrust Block ······
elephone Pole ····································	Air Release Valve
oint Use Pole ····································	Utility Vault
elephone Pedestal ····································	Concrete Pier ······
tility Line by Others Type as Shown)	Steel Pier ·····
renchless Installation ····································	Plan Note
ncasement by Open Cut	Pay Item Note
ncasement	

EXISTING UTILITIES SYMBOLS

Power Pole	•
Telephone Pole	-
Joint Use Pole	-
Utility Pole	•
Utility Pole with Base	⊡
H-Frame Pole	••
Power Transmission Line Tower	\boxtimes
Water Manhole	®
Power Manhole	P
Telephone Manhole	Ф
Sanitary Sewer Manhole	⊕
Hand Hole for Cable	HH
Power Transformer	M
Telephone Pedestal	T
CATV Pedestal	C
Gas Valve	\Diamond
Gas Meter	♦
Located Miscellaneous Utility Object	0
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

*Underground Power Line	
*Underground Telephone Cabl	le
*Underground Telephone Cond	duit
*Underground Fiber Optics T	Telephone Cable —————
*Underground TV Cable	
*Underground Fiber Optics T	ΓV Cable ······
*Underground Gas Pipeline	
Aboveground Gas Pipeline	A/G Gas
*Underground Water Line	
Aboveground Water Line	A/G Water
*Underground Gravity Sanita	ary Sewer Liness
Aboveground Gravity Sanita	ary Sewer Line A/G Sanitary Sewer
*Underground SS Forced Main	n Line—
Underground Unknown Utilit	ty Line
SUE Test Hole	••••••••••••
Water Meter	······ □
Water Valve ·····	⊗
Fire Hydrant ·····	ф
Sanitary Sewer Cleanout	······ ⊕

For Existing Utilities	
Utility Line Drawn from Record	
Designated Utility Line	

UTILITY CONSTRUCTION

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 2012.
- 2. THE EXISTING WATER LINE BELONGS TO PAMLICO COUNTY.
- 3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY 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 ADDITONAL 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. 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.

PROJECT SPECIFIC NOTES:

- 1. ALL TRENCH INSTALLED 6" WATER LINE SHALL BE C900 DR 14 PVC.
- 2. ALL TRENCHLESS INSTALLED 6" WATER LINE SHALL BE FUSIBLE C900 DR 14 PVC.
- 3. ALL WATER SERVICE LINES SHALL BE $\frac{3}{4}$ -INCH OR 1-INCH TYPE "K" COPPER PIPE UNLESS OTHERWISE NOTED.
- 4. ALL WATER LINE FITTINGS 4-INCHES THROUGH 12- INCHES IN DIAMETER, SHALL BE PRESSURE CLASS 350 DUCTILE IRON RESTRAINED JOINT IN ACCORDANCE WITH ANSI A21.10 / AWWA C110 AND ANSI A21.4 / AWWA C104.
- 5. 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.
- 6. ANY BENDS OF PVC WATER PIPE NOT SPECIFICALLY CALLED OUT WITH A 90, 45, 22.5, OR 11.25 DEGREE BEND FITTING. SHALL BE CONSTRUCTED BY A RADIAL BEND OF THE PIPE AS NOTED ON THE PLANS OR IN ACCORDANCE WITH PIPE MANUFACTURER'S SPECIFICATIONS (WHICHEVER IS MORE STRINGENT) - OR A COMBINATION OF BEND FITTINGS AND A RADIAL BEND OF THE PIPE. DEFLECTION OF THE PIPE JOINTS ON PVC PIPE MATERIAL IS NOT AN ACCEPTABLE METHOD OF PIPE BENDING.
- 7. PROVIDE THRUST RESTRAINT ON THE EXISTING WATER LINE WHERE TIE-INS ARE MADE AS NECESSARY.
- 8. CONTRACTOR SHALL NOT OPERATE ANY VALVES ON THE EXISTING UTILITY SYSTEMS. CONTRACTOR SHALL CONTACT THE UTILITY OWNER TO CONDUCT STRATEGIC OPERATION OF VALVES FOR SERVICE INTERRUPTION IN ORDER TO PERFORM SPECIFIC WORK.
- 9. CONNECTIONS BETWEEN EXISTING AND PROPOSED IMPROVEMENTS ARE TO BE "WET" TAPS WITH NO DISRUPTION TO WATER SERVICE.

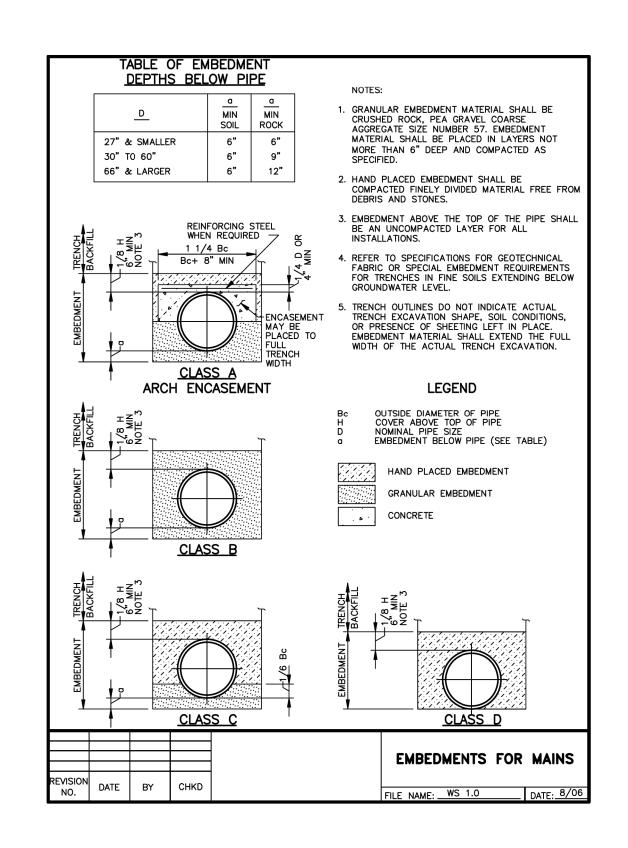
PROJECT REFERENCE	NO.	SHEET NO.
B-4598		UC-3
DESIGNED BY: AHC		
DRAWN BY: AHC		NORTH CARO
CHECKED BY: BCH	1.	DocuSigned by:
APPROVED BY: BH	E	iobby That House
REVISED:		08FA26F63564434
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	100	3/1/2017
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151		TY CONSTRUCTION PLANS ONLY

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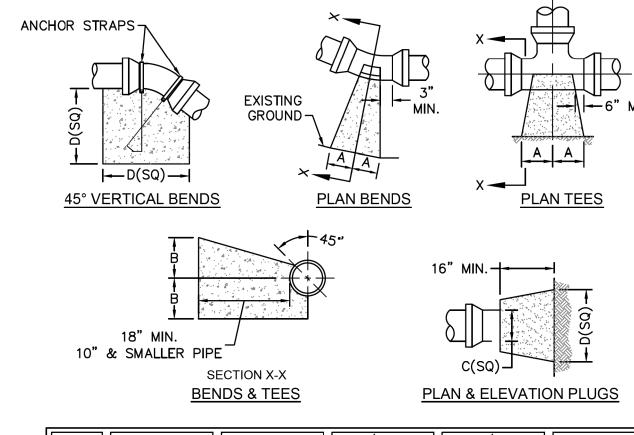


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UTILITY DETAILS



GATE / TAPPING VALVE



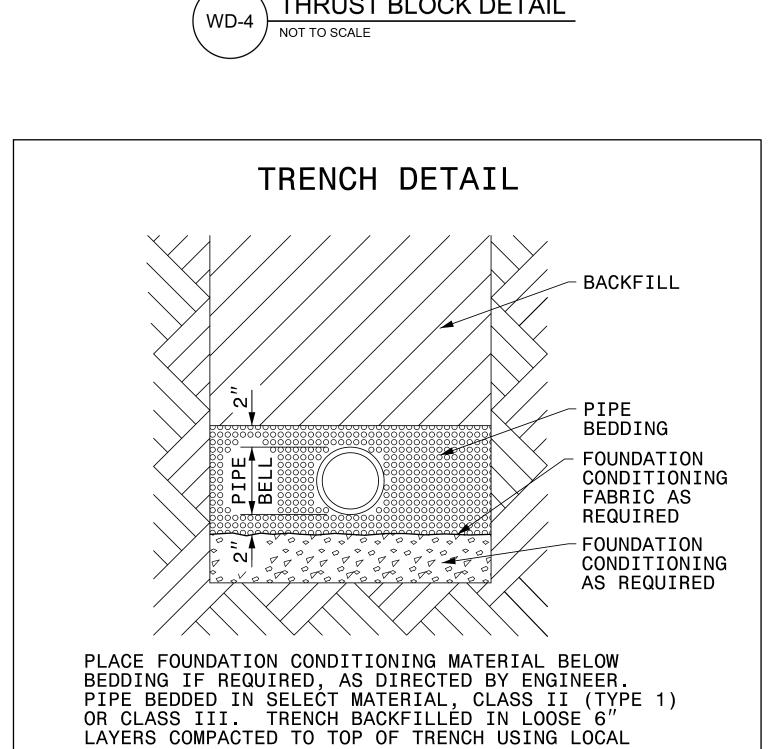
SIZE	90 BENDS A B	45 I	BENDS B	22-1/2 A	BENDS B	TEES/	PLUGS B	45 VERT. BENDS
3" 4" 6" 8" 10"	8" 6" 8" 9" 14" 11" 16" 16" 18" 22"	5" 5" 9" 12" 15"	6" 8" 9" 12" 14"	3" 3" 8" 10" 14"	7" 11" 8" 13" 16"	6" 6" 12" 14" 18"	8" 9" 9" 13" 15"	27" 28" 36" 42" 50"
12" 14" 16"	20" 28" 26" 29" 33" 29"	21" 25"	17" 19" 21"	16" 18" 20"	16" 18" 21"	22" 26" 32"	18" 20" 21"	62" 72" 83"
18"	40" 30"	28"	24"	22"	23"	36"	24"	88"

NOTES:

1. BASED ON 160 PSI TEST PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.

2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND. 3. USE MEG-A-LUG (PREFERRED) IN LIEU OF BLOCKING AND RODDING

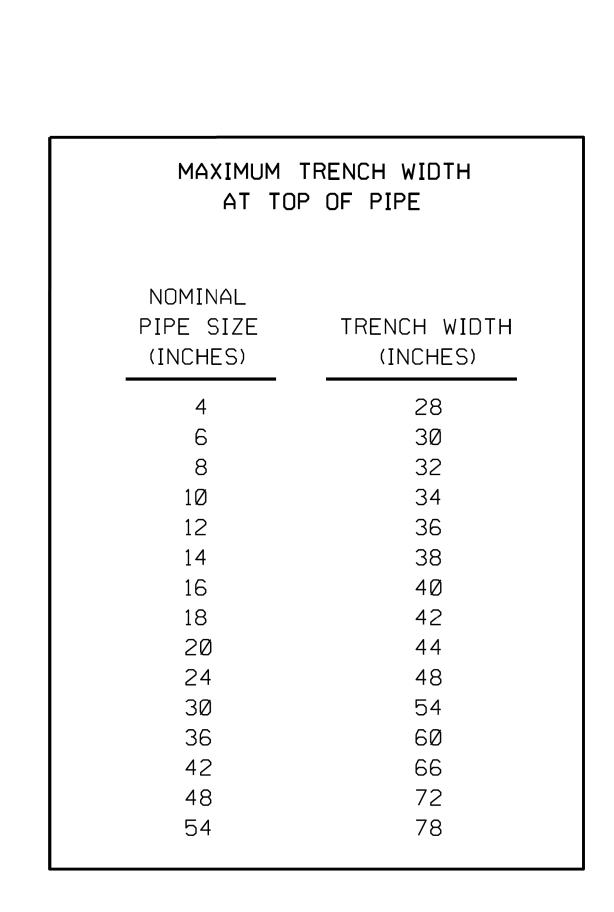




EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER

DEPARTMENT OF TRANSPORTATION.

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



-PUMPING AND HOSE FIRE HYDRANT CONNECTION EQUAL TO CFPUA STANDARD WITH 5" STORZ 1' MIN OR AS DIRECTED BY CONNECTION FACING ROADWAY THE ENGINEER BREAK RING -- 24"x24"x4" THICK CONCRETE COLLAR ✓ VALVE BOX W/LID, LID MARKED "WATER" COMPACTED ←6" M.J. GATE VALVE 2' MINIMUM BURY BACK FILL -(OPEN LEFT) (SEE NOTE 4) -SEE NOTE 3 #57 STONE FILL (7 CF MIN.)—

NOTES:

1. JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI PIPE AS MANUFACTURED BY EBAA IRON, SIGMA, STAR PIPE PRODUCTS OR APPROVED EQUAL. 2. WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM

FIELD APPLIED JOINT RESTRAINT —— (SEE NOTE 1)

SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS. 3. CONTINUOUS 316 STAINLESS STEEL RODS (TEE TO VALVE AND VALVE TO HYDRANT) MAY BE USED WITH COR-BLUE MJ T-BOLT AND GASKET KITS, AS AN ALTERNATIVE.

4. HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS. 5. WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.

> FIRE HYDRANT ASSEMBLY NOT TO SCALE

TOP VIEW 3000 PSI SOLID CONCRETE SHALL BE USED AS FOOTING FOR DUCTILE IRON PIPE. ___ VALVE M.J. FITTING TAPPING SLEEVE SIDE VIEW NOTES:
I. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT 2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED. 4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

UC-3A B-4598 DESIGNED BY: AHC DRAWN BY: AHC CHECKED BY: BCH APPROVED BY: BH Bobby Stad Houser REVISED: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION JTILITIES ENGINEERING SEC PHONE:(919)707-6690 UTILITY CONSTRUCTION FAX:(919)250-4151 PLANS ONLY

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