

09_08/99

TIP PROJECT: B-5662

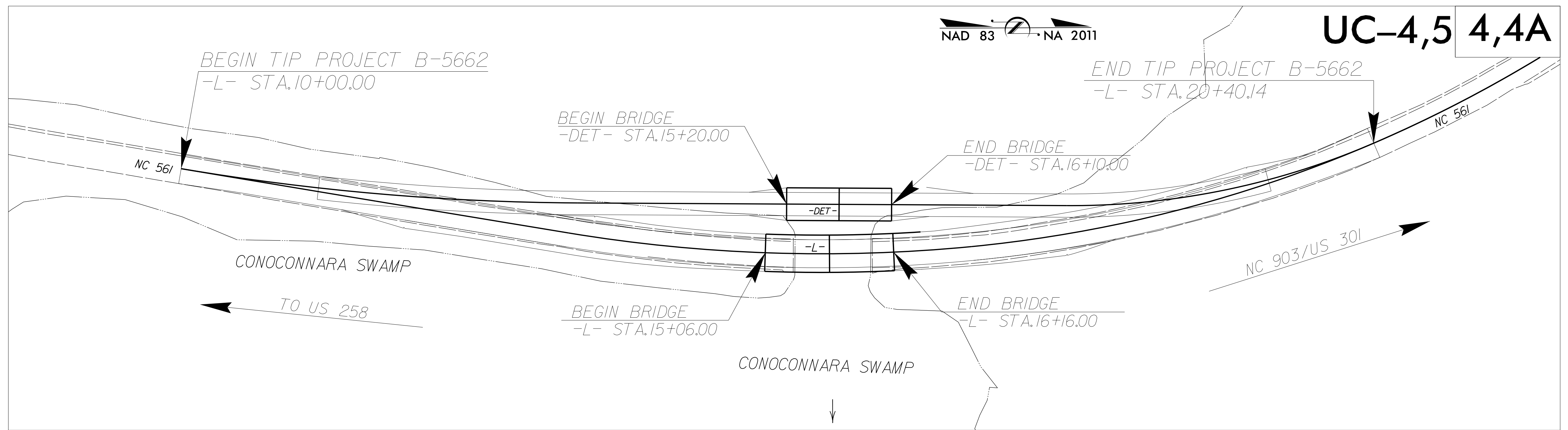
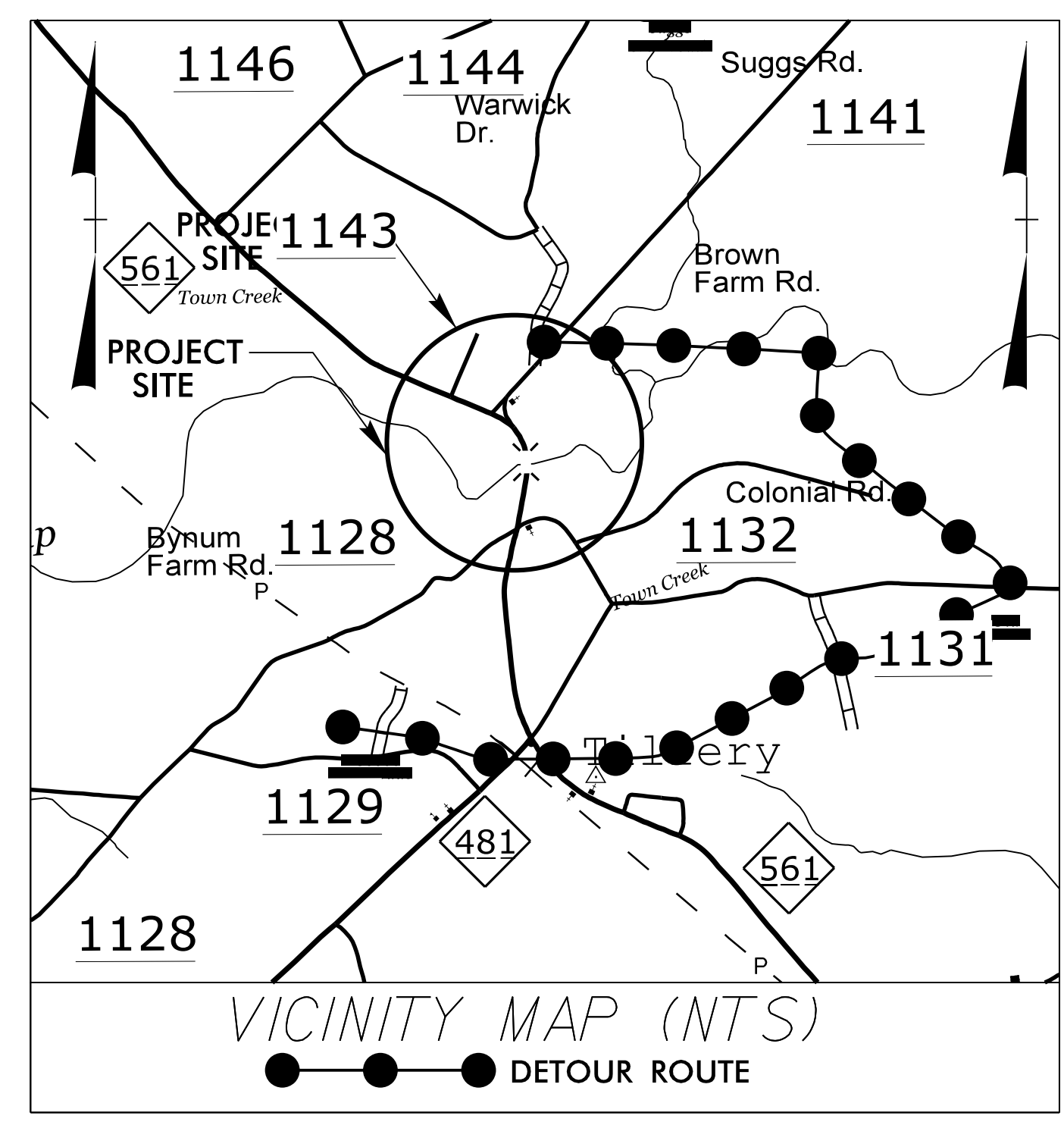
T.I.P. NO.	SHEET NO.
B-5662	UC-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

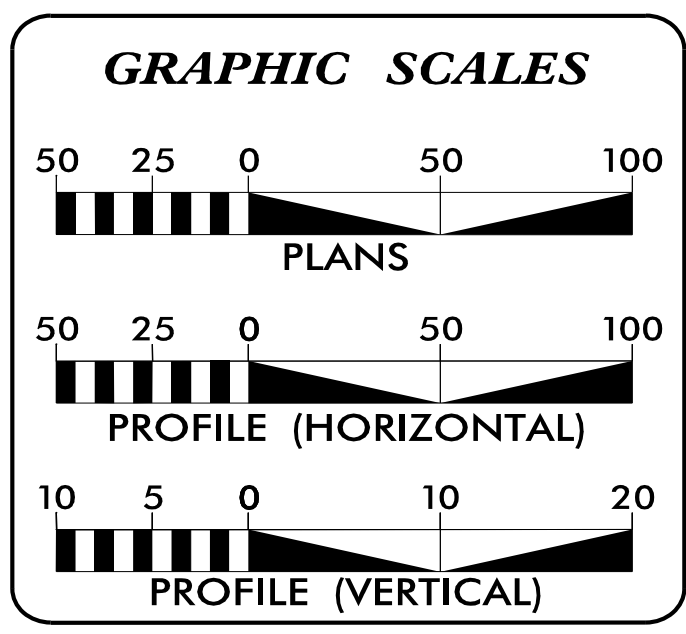
HALIFAX COUNTY

LOCATION: REPLACE BRIDGE NO. 93 OVER
CONOCONNARA SWAMP ON NC 561

TYPE OF WORK: WATERLINE RELOCATION



DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A, 3B	DETAILS
UC-4, 5	UTILITY PLAN SHEETS
UC-6, 7	UTILITY PROFILE SHEETS

**WATER AND SEWER OWNER
ON PROJECT**

A) WATER - HALIFAX COUNTY
PUBLIC UTILITIES

PREPARED IN THE OFFICE OF

Engineers • Planners • Scientists • Construction Managers
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214 • Fax (919) 783-9266
License No. C-764

DINKISSA KEREYU, PE PROJECT ENGINEER
MARCO MENENDEZ, PE PROJECT MANAGER
CHARLES SHEARON PROJECT DESIGNER

SEAL

3/20/2020

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

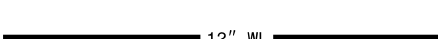























NABIL HAMDAN UTILITIES REGIONAL ENGINEER
KIFAH KAMIL UTILITIES ENGINEER
KYLE PLEASANT UTILITIES AREA COORDINATOR
LARRY JAMES UTILITIES COORDINATOR

16-MAR-2020 16:05
M:\2018\1251501945\21B-5662\Water-Wastewater\B-5662-sew_tsh_UC01_psh.dgn
\$\$\$\$\$SERVNAME\$\$\$\$\$





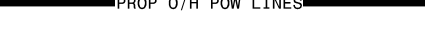



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS








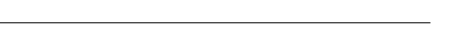

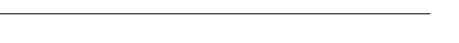



























Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate 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 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

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 2018.
2. THE EXISTING UTILITIES BELONG TO HALIFAX COUNTY PUBLIC UTILITIES.
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.

PROJECT SPECIFIC NOTES:

1. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCH LESS 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.
2. THE PROPOSED WATER LINE INSTALLED USING DIRECTIONAL DRILLING SHALL BE DR-9 HDPE AND WITH BUTT-FUSED JOINTS OR DR 18 FUSIBLE PVC PIPES.
3. THE INTERNAL DIAMETER OF HDD PIPES SHALL BE EQUAL OR GREATER THAT THE INTERNAL DIAMETER OF THE EXISTING WATER LINE.
4. ALL OTHER PROPOSED WATER LINE SHALL BE SDR-21 PVC.
5. ALL PIPES AND FITTINGS JOINTS SHALL BE RESTRAINED WITH RESTRAINED JOINTS.
6. CONTRACTOR SHALL COORDINATE WITH HALIFAX COUNTY PUBLIC UTILITIES FOR SHUTDOWN OF EXISTING WATER LINE.
7. THE CONTRACTOR SHALL ALLOW SUFFICIENT LENGTHS OF PIPE TO EXTEND PAST THE TERMINATION POINT TO ALLOW FOR CONTRACTION. PULLED HDD PIPES SHALL BE ALLOWED TO RELAX FOR A MINIMUM OF 48 HOURS OR THE AMOUNT OF TIME RECOMMENDED BY THE MANUFACTURER WHICHEVER IS GREATER PRIOR TO INITIAL PRESSURE TESTING AND MAKING CONNECTIONS.

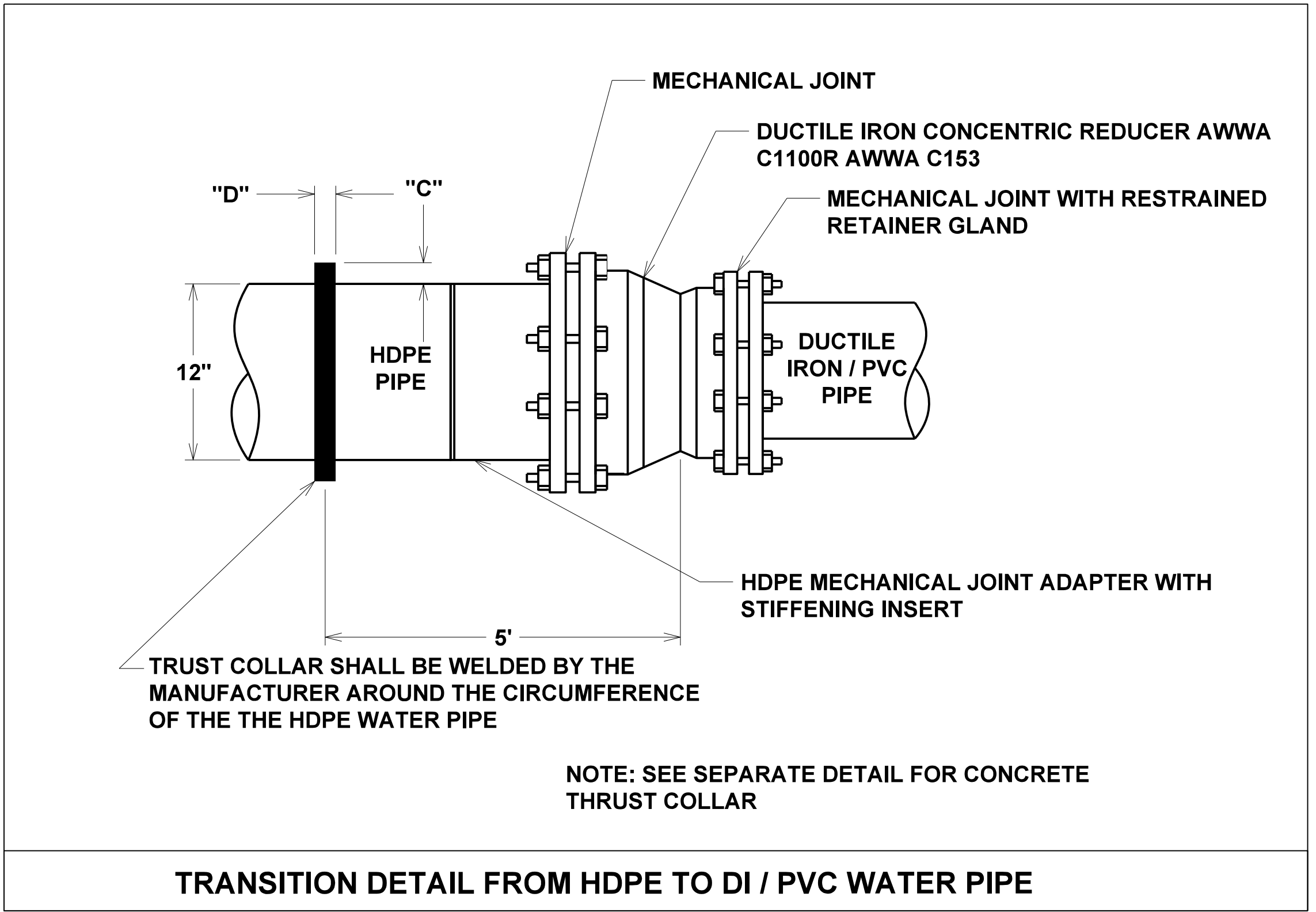
PROJECT REFERENCE NO. B-5662	SHEET NO. UC-3
DESIGNED BY: DK	
DRAWN BY: CS	
CHECKED BY: MM	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
Engineers • Planners • Scientists • Construction Managers 4509 Falls of Neuse Road, Suite 400 Raleigh, NC 27609 Phone (919) 783-9214 • Fax (919) 783-9266 License No. C-764	

UTILITY CONSTRUCTION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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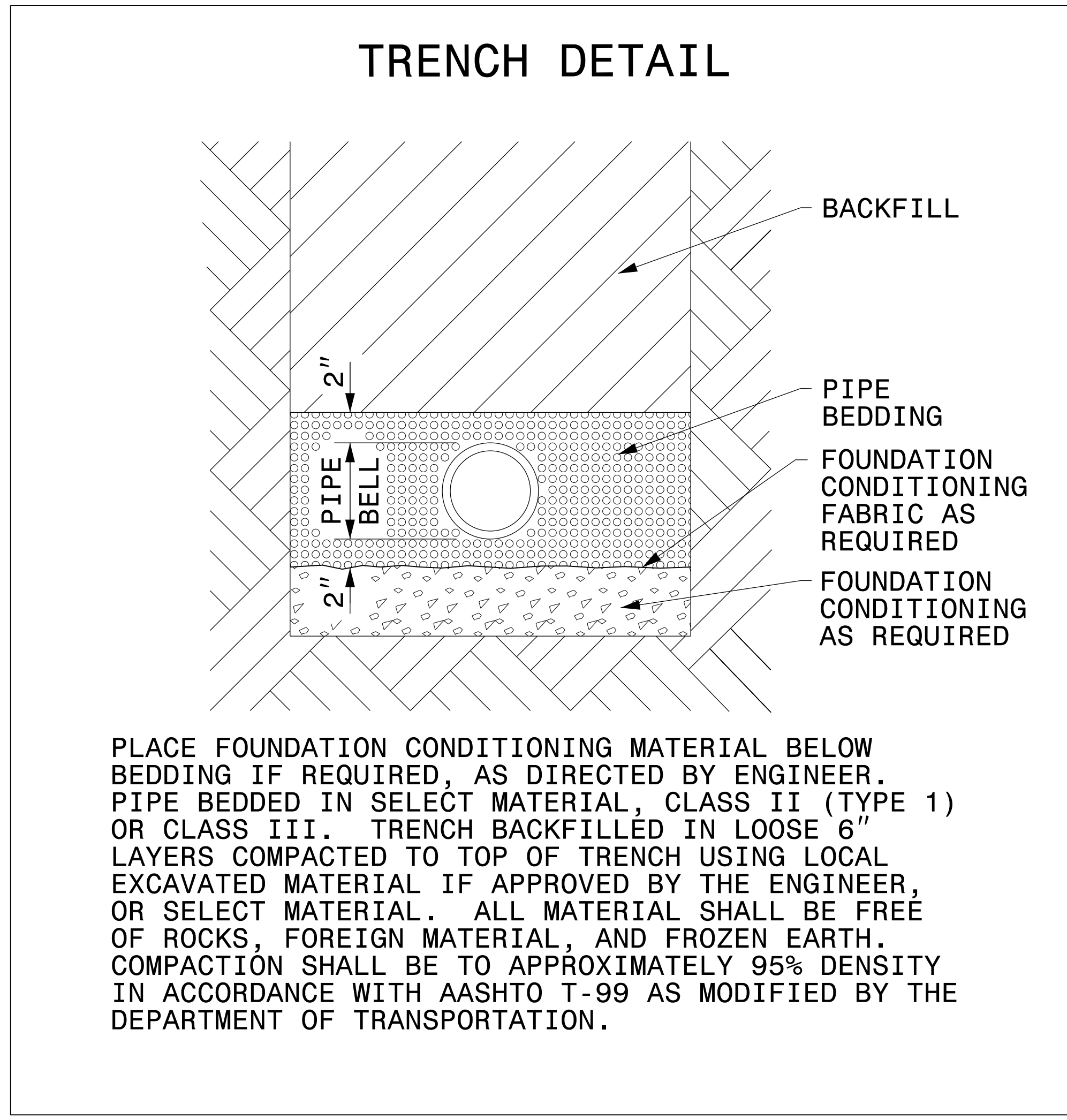
PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO. B-5662	SHEET NO. UC-3A
DESIGNED BY: DK	
DRAWN BY: CS	
CHECKED BY: MM	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

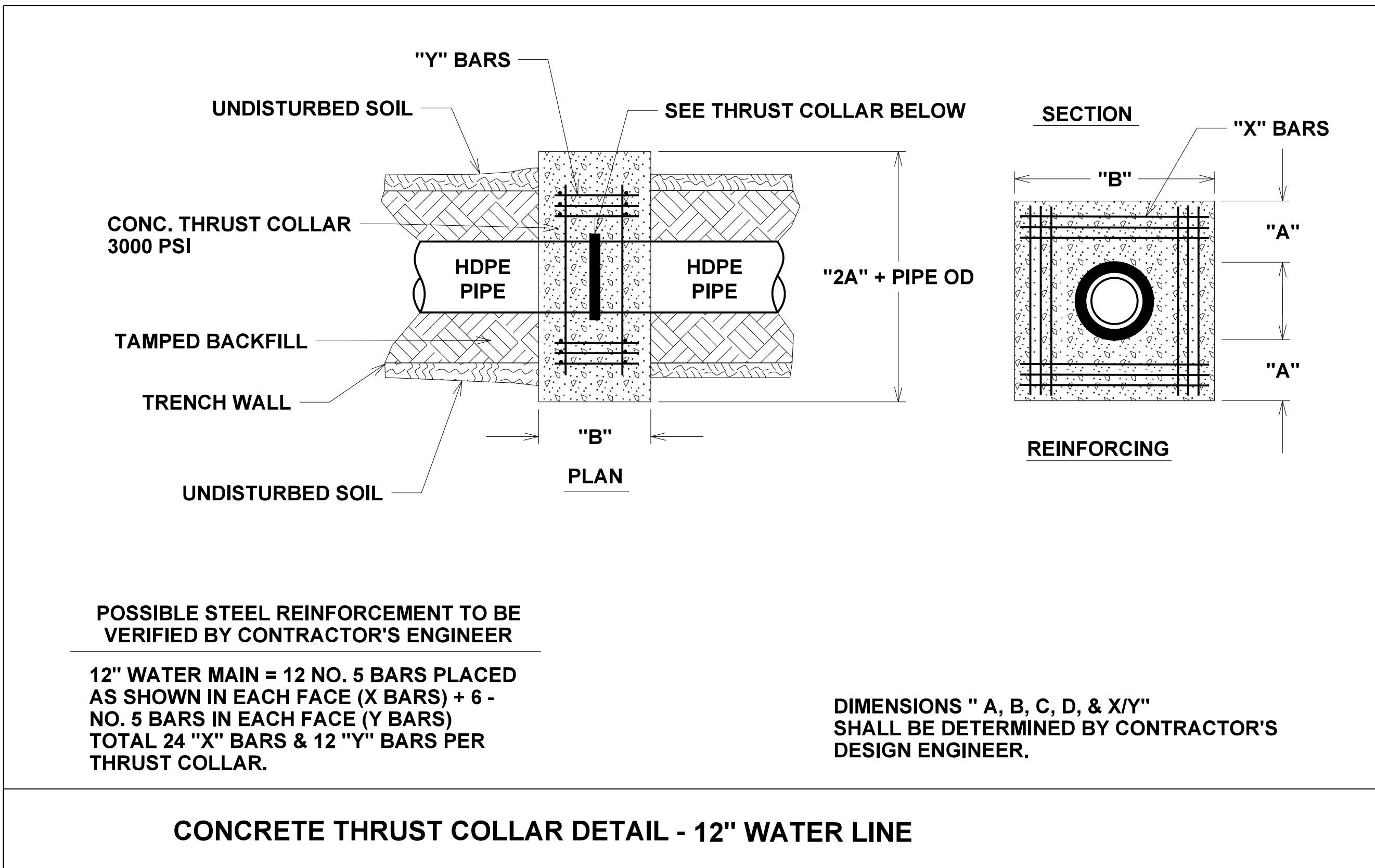


NOTE:
 CONTRACTOR TO PROVIDE P. E. SEALED
 DESIGNED SHOP DRAWINGS FOR THRUST
 COLLARS BASED UPON THE ACTUAL ON-SITE
 EXISTING SOILS IN ACCORDANCE WITH THE
 LATEST NCDOT STANDARDS AND
 SPECIFICATIONS.

UTILITY CONSTRUCTION
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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.



CONCRETE THRUST COLLAR DETAIL - 12" WATER LINE

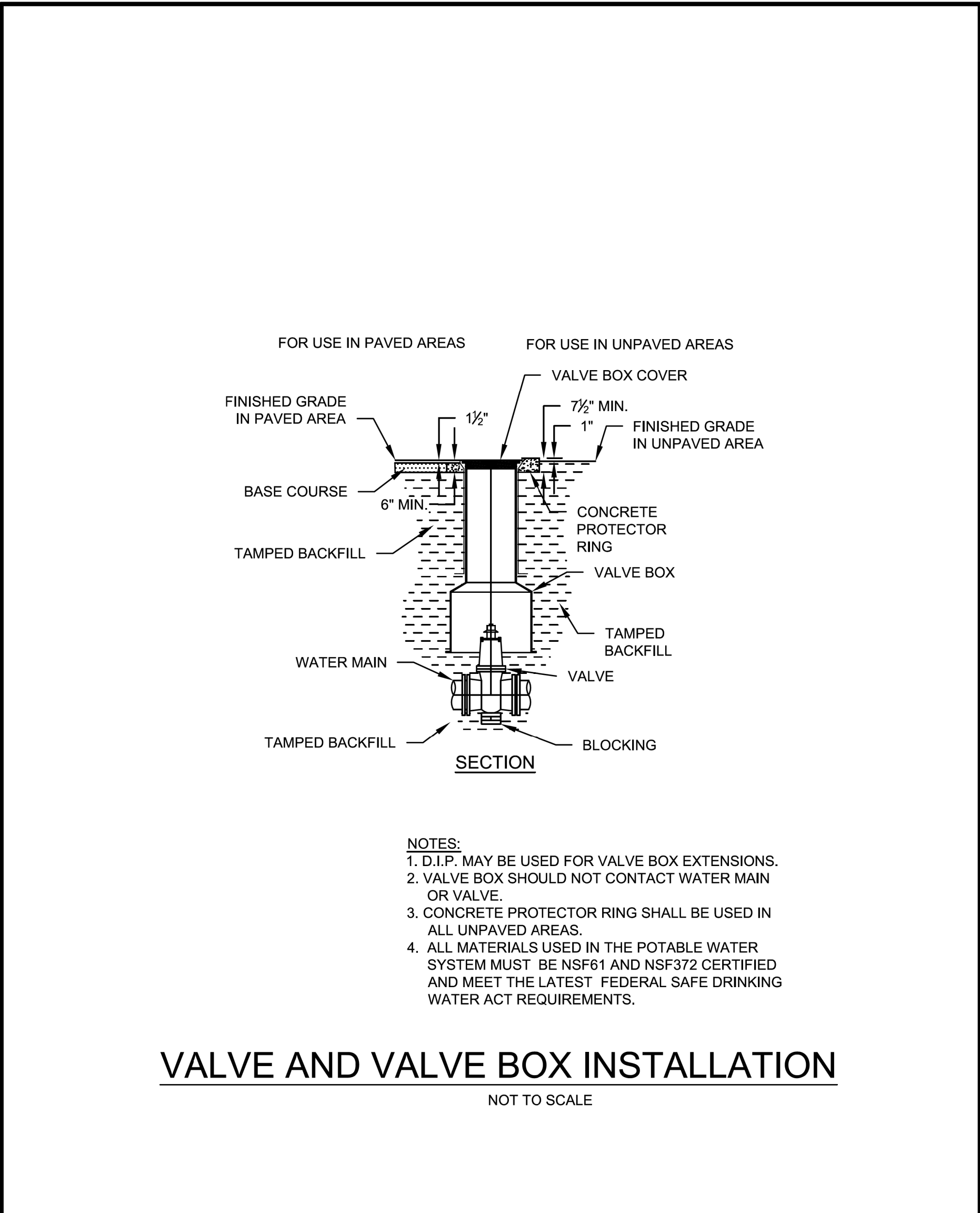
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PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO. B-5662	SHEET NO. UC-3B
DESIGNED BY: DK	
DRAWN BY: CS	
CHECKED BY: MM	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
Engineers • Planners • Scientists • Construction Managers 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609 Phone (919) 783-9214 • Fax (919) 783-9266 License No. C-764	

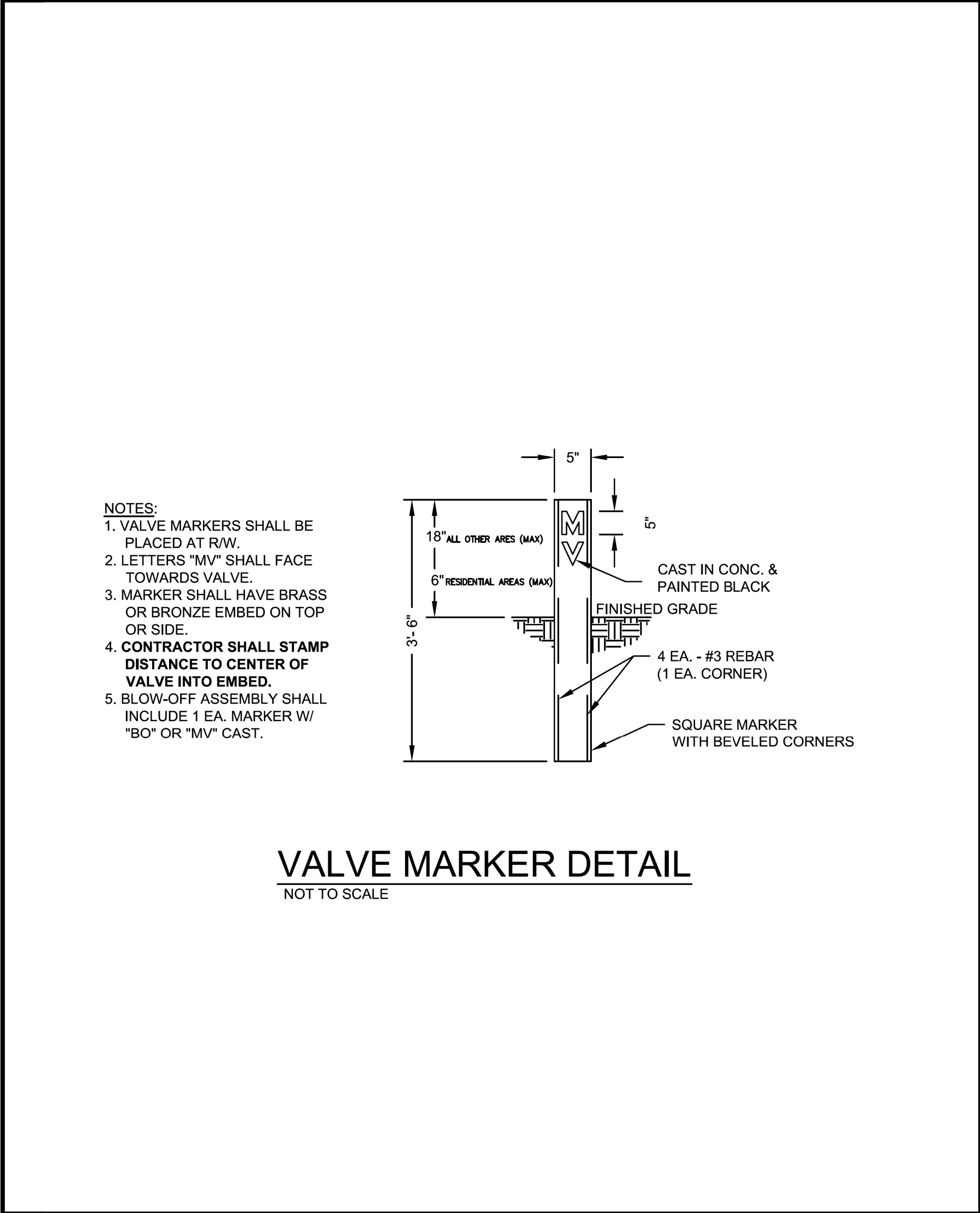
UTILITY CONSTRUCTION
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- NOTES:**
1. D.I.P. MAY BE USED FOR VALVE BOX EXTENSIONS.
 2. VALVE BOX SHOULD NOT CONTACT WATER MAIN OR VALVE.
 3. CONCRETE PROTECTOR RING SHALL BE USED IN ALL UNPAVED AREAS.
 4. ALL MATERIALS USED IN THE POTABLE WATER SYSTEM MUST BE NSF61 AND NSF372 CERTIFIED AND MEET THE LATEST FEDERAL SAFE DRINKING WATER ACT REQUIREMENTS.

VALVE AND VALVE BOX INSTALLATION
NOT TO SCALE

Drawn By:	Name	Date	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2263 Smithfield, NC 27577		WATER STANDARD DETAIL Valve and Valve Box Installation	PAGE 13
Checked By:						
Approved By:						
Scale:						
Rev.	Description	Date	Init.			

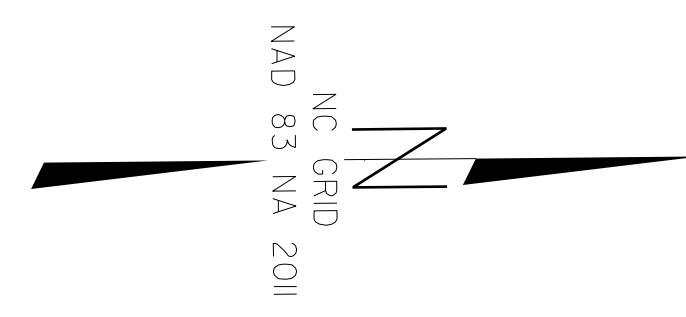


- NOTES:**
1. VALVE MARKERS SHALL BE PLACED AT R/W.
 2. LETTERS "MV" SHALL FACE TOWARDS VALVE.
 3. MARKER SHALL HAVE BRASS OR BRONZE EMBED ON TOP OR SIDE.
 4. CONTRACTOR SHALL STAMP DISTANCE TO CENTER OF VALVE INTO EMBED.
 5. BLOW-OFF ASSEMBLY SHALL INCLUDE 1 EA. MARKER W/ "BO" OR "MV" CAST.

VALVE MARKER DETAIL
NOT TO SCALE

Drawn By:	Name	Date	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2263 Smithfield, NC 27577		WATER STANDARD DETAIL Valve Marker	PAGE 15
Checked By:						
Approved By:						
Scale:						
Rev.	Description	Date	Init.			

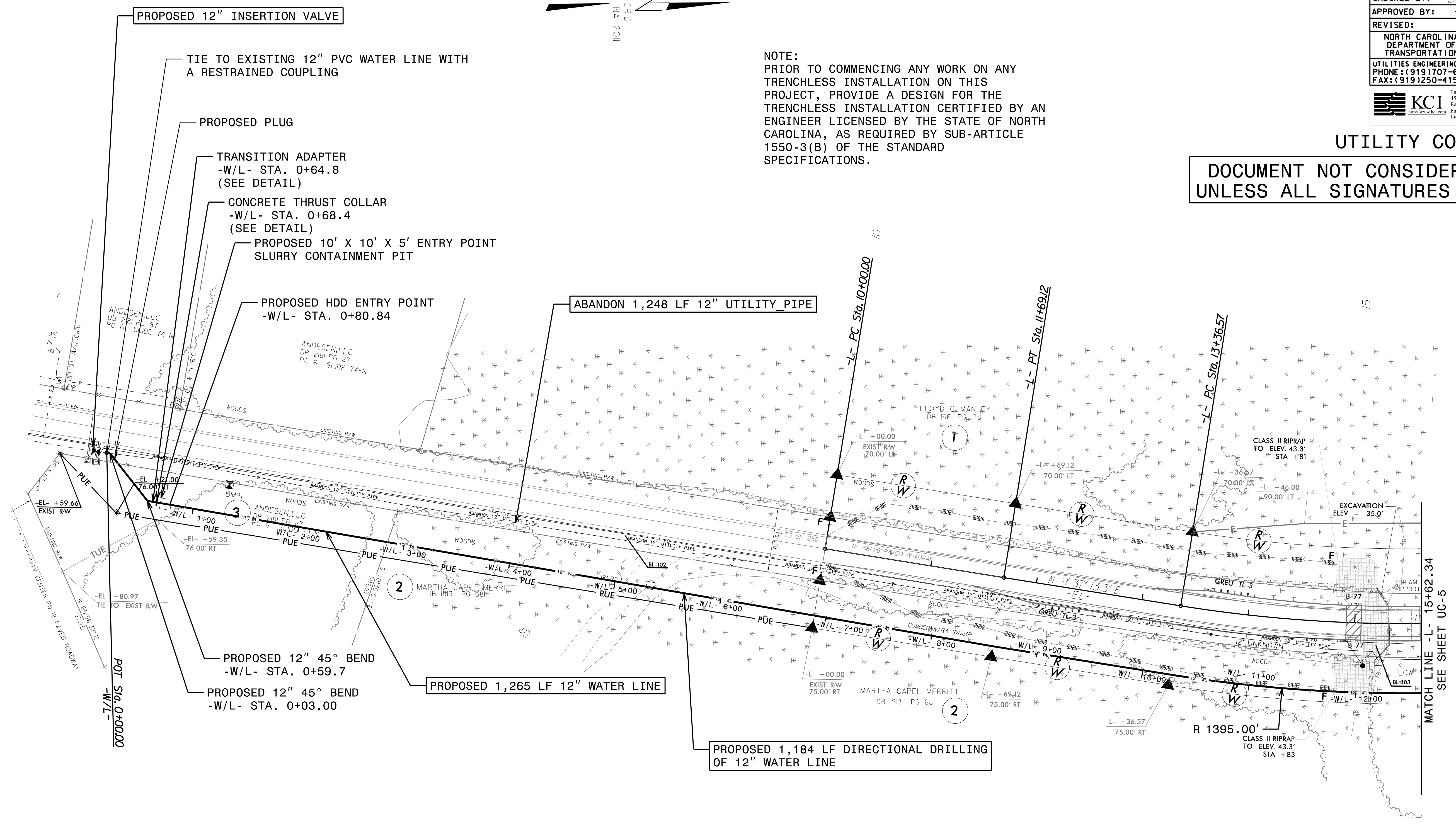
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 CS



PROJECT REFERENCE NO. B-5662	SHEET NO. UC-4
DESIGNED BY: MM	
DRAWN BY: AP	
CHECKED BY: DD	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITIES CONSTRUCTION PLANS ONLY	
Engineers • Planners • Scientists • Construction Managers 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609 Phone (919) 783-9214 • Fax (919) 783-9266 License No. C-764	

NOTE:
 PRIOR TO COMMENCING ANY WORK ON ANY TRENCHLESS INSTALLATION ON THIS PROJECT, PROVIDE A DESIGN FOR THE TRENCHLESS INSTALLATION CERTIFIED BY AN ENGINEER LICENSED BY THE STATE OF NORTH CAROLINA, AS REQUIRED BY SUB-ARTICLE 1550-3(B) OF THE STANDARD SPECIFICATIONS.

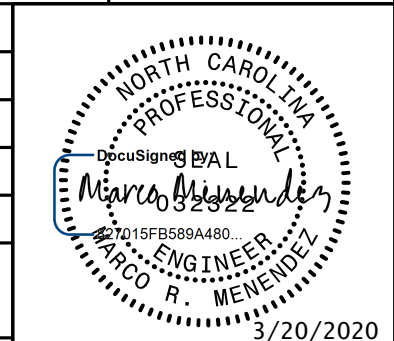

UTILITY CONSTRUCTION
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NOTES:
 1. APPROXIMATE COORDINATES OF HDD PIPE ENTRY ARE N919138.7624, E2446857.5789.
 2. APPROXIMATE COORDINATES OF HDD PIPE EXIT ARE N920679.1170, E2446990.0906.

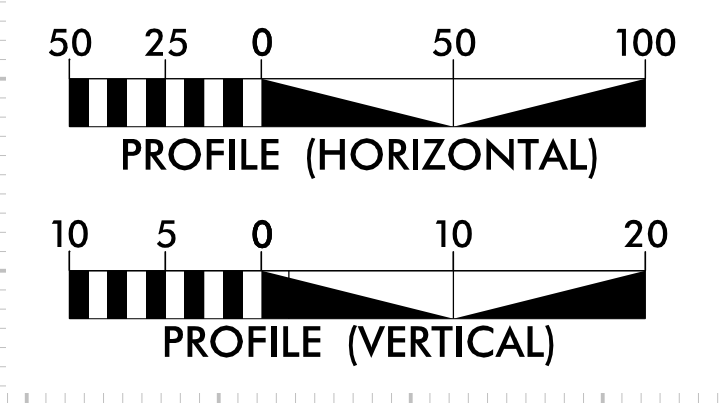
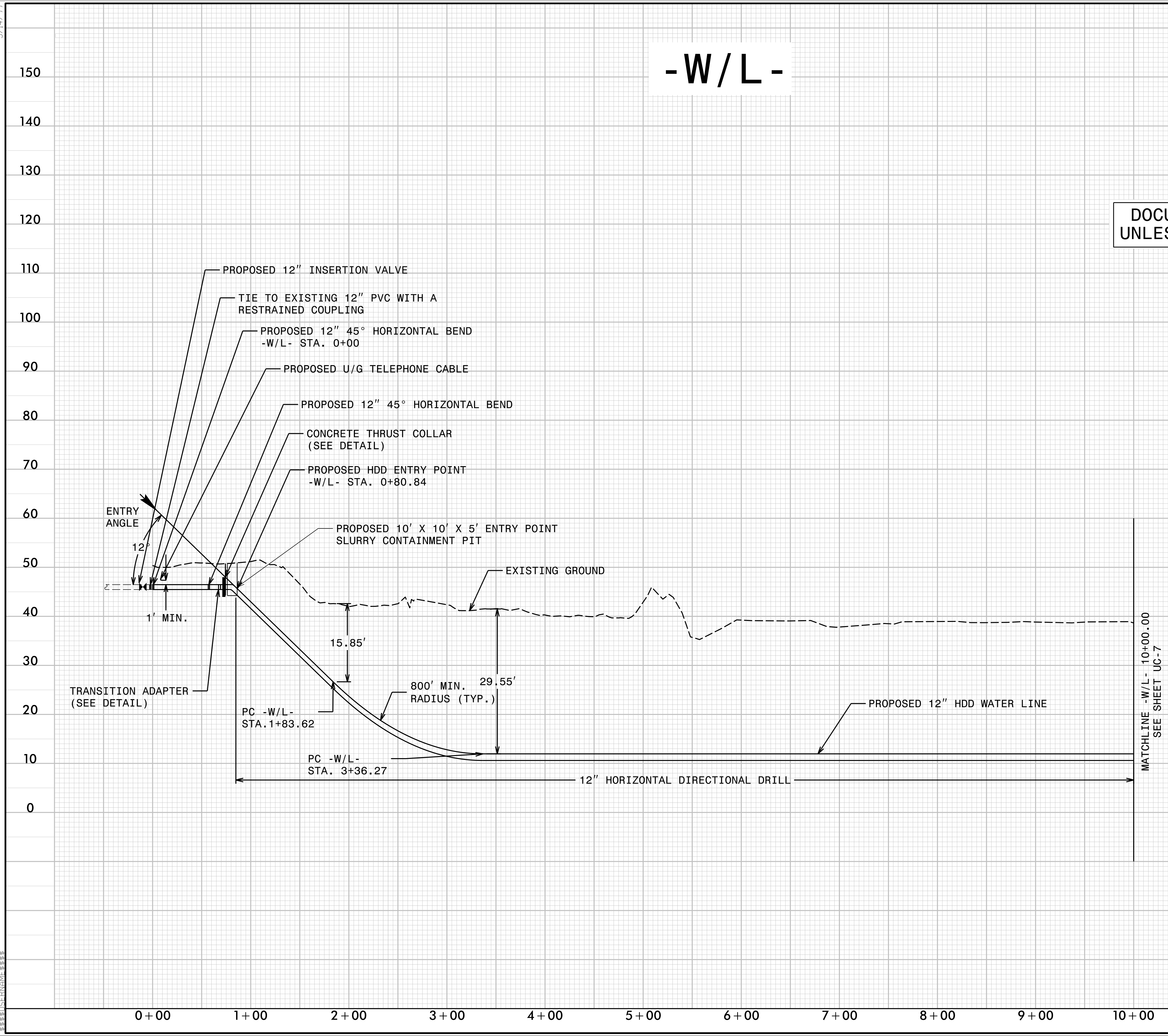
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 SEE SHEET UC-5

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PROJECT REFERENCE NO. B-5662	SHEET NO. UC-6
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DRAWN BY: CS	
CHECKED BY: MM	
APPROVED BY:	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
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 KCI Engineers • Planners • Scientists • Construction Managers 4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609 Phone (919) 783-9214 • Fax (919) 783-9266 License No. C-764	

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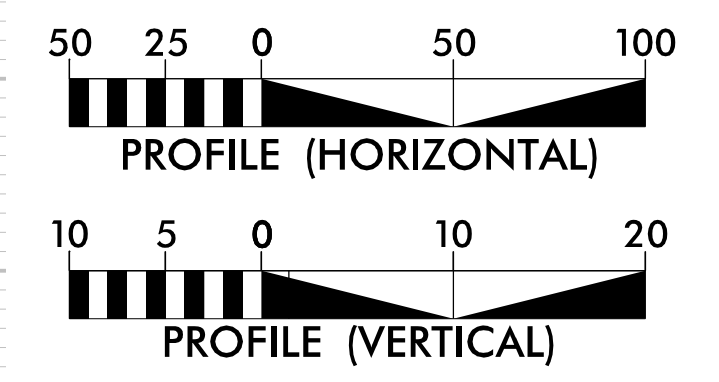
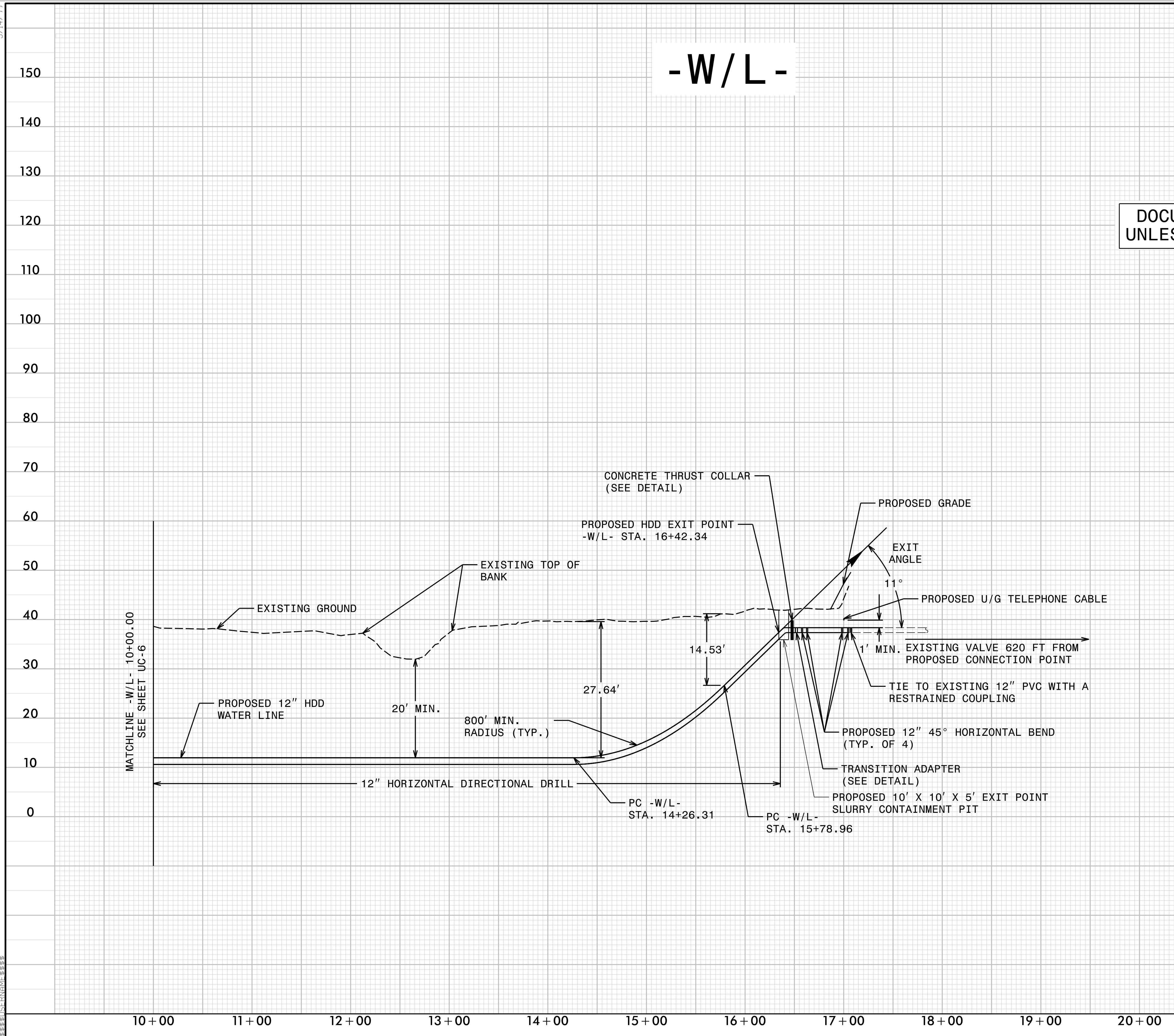
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PROJECT REFERENCE NO. B-5662	SHEET NO. UC-7
DESIGNED BY: DD	
DRAWN BY: CS	
CHECKED BY: MM	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY
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UTILITY CONSTRUCTION

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