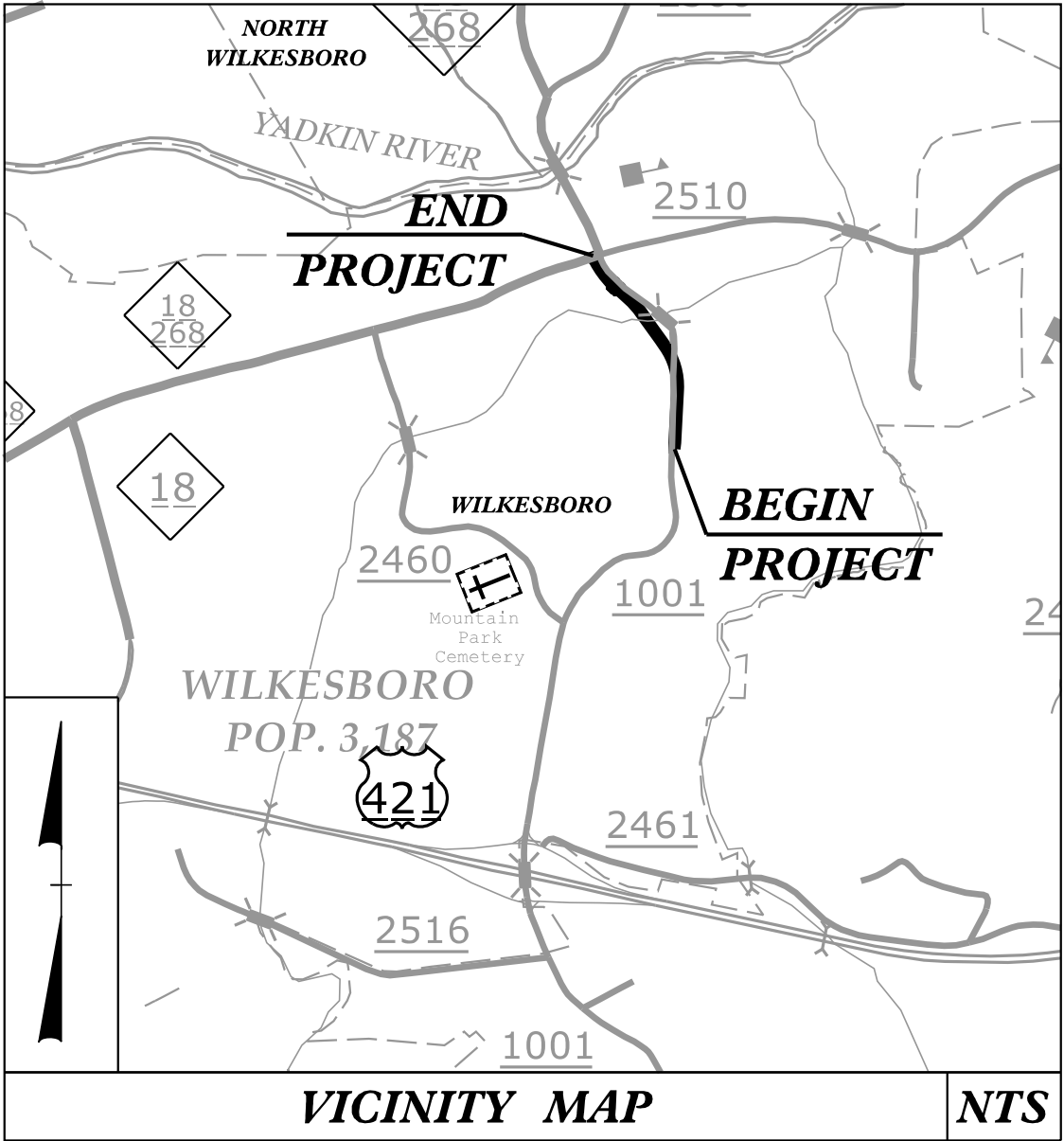


TIP PROJECT: B-4676A

CONTRACT: C205214



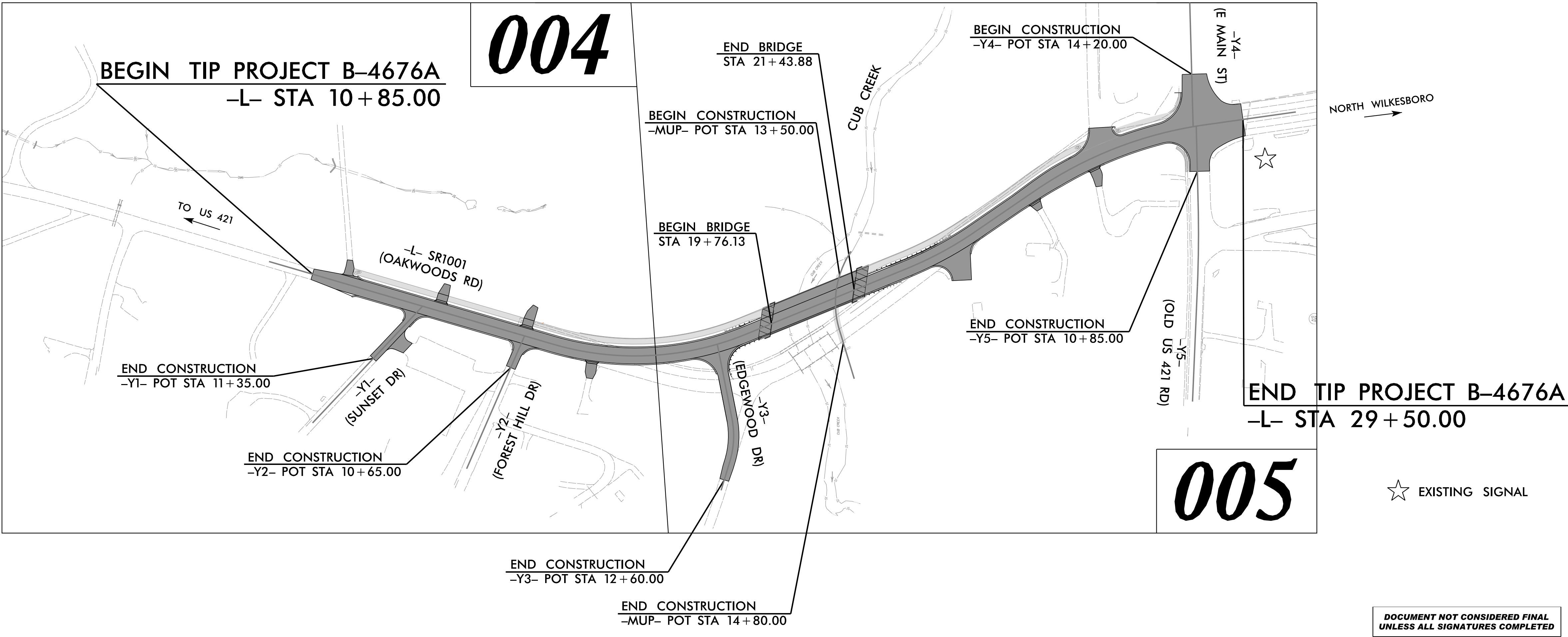
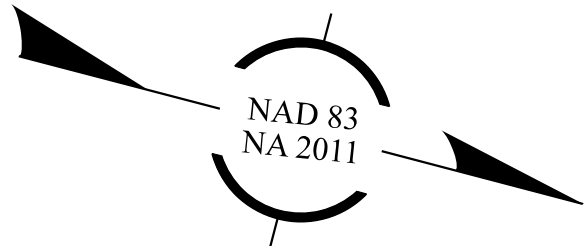
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
WILKES COUNTY

LOCATION: BRIDGE #960029 OVER CUB CREEK
ON SR 1001 (OAKWOODS RD)

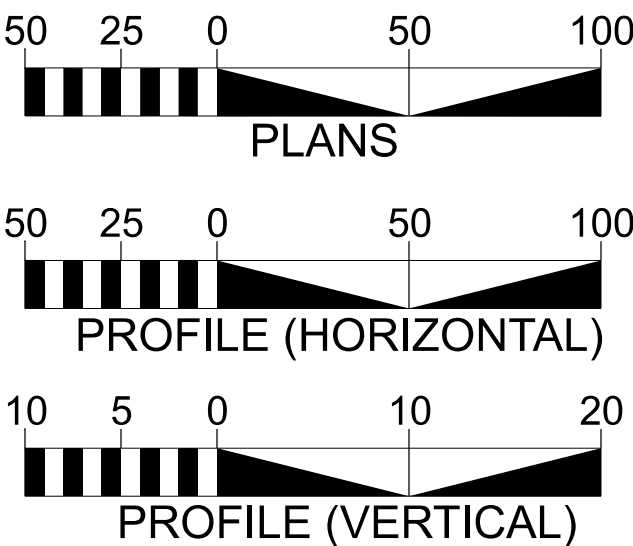
TYPE OF WORK: WATER AND SEWER RELOCATION

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4676A	UC-001	9
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
33831.3.3	3383101	CONSTRUCTION	



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UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-001	TITLE SHEET
UC-002	UTILITY SYMBOLOGY
UC-003 — UC-003A	NOTES
UC-003B — UC-003C	DETAILS
UC-004 — UC-005	UTILITY CONSTRUCTION SHEETS
UC-006	PROFILE SHEET

WATER AND SEWER
OWNERS ON PROJECT

- (A) WATER - TOWN OF WILKESBORO
(B) SANITARY SEWER - TOWN OF WILKESBORO

SEAL



PREPARED IN THE OFFICE OF
Weston & Sampson
WSE of North Carolina, PC
2052 Energy Drive
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HNTB
HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St.,
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Raleigh, North Carolina 27609
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KEVIN HUTCHENS, PE PROJECT ENGINEER
KATERINA DOMINGUEZ PROJECT DESIGN ENGINEER
JIM FORBES PROJECT UTILITY MANAGER



DIVISION OF HIGHWAYS
DIVISION II
801 STATESVILLE ROAD
NORTH WILKESBORO NC 28659
PHONE (336) 903-9101
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J. HEATH SLAUGHTER DIVISION PROJECT MANAGER
BRANDON GREER DIVISION UTILITY ENGINEER

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	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
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		Thrust Block	
Telephone Pole		Air Release Valve	
Joint Use Pole		Utility Vault	
Telephone Pedestal		Concrete Pier	
Utility Line by Others (Type as Shown)		Steel Pier	
Trenchless Installation		Plan Note	
Encasement Method		Pay Item Note	
Encasement			

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		Sanitary Sewer Cleanout	
End of Information			

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

B-4676A

UC

002

NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

WILKES COUNTY

UTILITY DESIGN UNIT

DESIGNED BY: -

DRAWN BY: -

CHECKED BY: -

APPROVED BY: -

REVISED:

PHONE:(919)707-6690

PREPARED BY

Weston&Sampson

10260 Emerald Drive, Suite 100, Raleigh, NC 27617

Phone: 919.237.0233

NC License C-44877

www.westonsampson.com

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 2024.
2.

THE EXISTING WATER LINE AND SANITARY SEWER UTILITIES BELONG TO THE TOWN OF WILKESBORO.

CONTACT: AARON WHITE
PHONE: 336-984-7556
EMAIL: AWHITE@WILKESBORONC.ORG
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 ENVIRONMENTAL 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 OF 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 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1.

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, STREAM, CREEK, WETLANDS, OR BUFFER ZONES.
2.

PROPOSED WATER LINE FOR OPEN TRENCH CONSTRUCTION SHALL BE 12" DUCTILE IRON PIPE CLASS 350, OR PVC C-900 DR-18 PIPE. PIPE JOINTS REQUIRING JOINT RESTRAINT SHALL BE DONE SO USING RESTRAINED JOINT CONSTRUCTION OR GRIP RINGS THAT PROVIDE FULL CIRCUMSTANTIAL PIPE RESTRAINT.
3.

PROPOSED WATER LINE FOR DIRECTIONAL DRILLING SHALL BE FUSIBLE PVC C-900 DR-18 PRESSURE CLASS 235 PIPE THAT CONFORMS TO NSF-61.
4.

ALL WATER LINE FITTINGS, 4-INCHES THROUGH 12-INCHES IN DIAMETER, SHALL BE DUCTILE IRON. WATER LINE FITTINGS SHALL BE OF THE SAME MANUFACTURER AS THE DUCTILE IRON PIPE. DUCTILE IRON FITTINGS SHALL BE PRESSURE CLASS 350.
5.

ALL PROPOSED FITTINGS (BENDS, TEES, CROSSES, REDUCERS, PLUGS, ETC.) SHALL BE ADEQUATELY RESTRAINED BY THE USE OF RESTRAINED JOINT CONSTRUCTION, GRIP RINGS THAT PROVIDE FULL CIRCUMFERENTIAL PIPE RESTRAINT, AND/OR CAST IN PLACE CONCRETE THRUST RESTRAINTS AS DETAILED ON THESE DRAWINGS, OR AS DIRECTED BY THE RESIDENT ENGINEER.
6.

ALL VALVES ON THE WATER LINE SHALL BE GATE VALVES WITH MECHANICAL JOINT ENDS.
7.

PVC PIPE MANUFACTURED MORE THAN 12 MONTHS BEFORE INSTALLATION DATE WILL NOT BE ACCEPTED.
8.

IN THE EVENT THAT EXCESSIVE GROUND WATER OR SPRINGS ARE ENCOUNTERED DURING PIPE CONSTRUCTION, THE CONTRACTOR SHALL EMPLOY ALL METHODS NECESSARY TO KEEP THE TRENCH DRY AS DIRECTED BY ENGINEER.
9.

DOCUMENTS THAT MUST BE RECEIVED PRIOR TO UTILITY OWNER SIGNING THE NCDEQ-PWSS APPLICANT CERTIFICATION INCLUDE THE FOLLOWING: BACTERIOLOGICAL TEST, PRESSURE TESTS, WARRANTY, AND AS-BUILT PLANS PROVIDED AS PDF FILES AND AS AUTOCAD (.DGN) FILES, LATEST VERSION OF AUTOCAD.

10.

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.
11.

WORK SHALL BE PERFORMED BY THE HORIZONTAL DIRECTIONAL DRILL (HDD) TECHNIQUE. INSTALLATION TECHNIQUES AND DETAILS ARE CONTRACTOR'S RESPONSIBILITY AND MUST FULLY COMPLY WITH THE PIPE MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
12.

THE CONTRACTOR IS RESPONSIBLE FOR HORIZONTAL AND VERTICAL ALIGNMENT OF THE PILOT DRILL AND FINAL INSTALLED PIPE. THE UTILITY CONTRACTOR SHALL SUBMIT ALL PROPOSED CHANGES TO THE VERTICAL ALIGNMENT SHOWN ON DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING WORK.
13.

CONTRACTOR SHALL DELIVER THE DRILLING LOG TO THE ENGINEER AS A PART OF THE FINAL AS-BUILT DRAWINGS.
14.

THE UTILITY OWNER WILL COLLECT ALL BACTERIOLOGICAL SAMPLES FOR RELOCATION PROJECTS. THE UTILITY OWNER REPRESENTATIVE SHALL BE PRESENT FOR ALL PRESSURE TESTS, CHLORINATION, AND FLUSHING OF ALL NEW WATER LINES.
15.

THE UTILITY OWNER SHALL BE PROVIDED WITH TWO (2) COPIES OF SURVEYED AS-BUILTS OF THE INSTALLED UTILITY - (1) PAPER COPY AND (1) ELECTRONIC COPY. THE AS-BUILTS SHALL INCLUDE NOTATIONS OF THE SIZE AND TYPE OF MATERIAL INSTALLED; GPS COORDINATES FOR ALL FITTINGS, UTILITY CONTROLS, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE PIPING. PROVIDE BORING LOGS FROM TRENCHLESS INSTALLATIONS.
16.

CONTRACTOR SHALL ADHERE TO SECTION 1530 "ABANDON OR REMOVE UTILITIES" FOR ABANDONMENT OF PIPE, UNLESS OTHERWISE SPECIFIED.
17.

THE UTILITY OWNER SHALL OPEN AND CLOSE ALL VALVES.
18.

A TRACER WIRE MUST BE ATTACHED TO ALL NEWLY INSTALLED PIPES AS REQUIRED BY NC GENERAL STATUTES CHAPTER 87-121G. USE #12 AWG SOLID-COPPER WIRE WITH BLUE INSTALLATION FOR TRACER WIRE. THE UTILITY OWNER WILL CONDUCT A CONTINUITY TEST ON ALL TRACER WIRE AFTER INSTALLATION.

19.

SANITARY GRAVITY SEWER PIPE SHALL BE 8" PVC SDR-35, OR DUCTILE IRON PIPE CLASS 350 WITH A TRACER WIRE AND LOCATION TAPE.
20.

MANHOLES SHALL BE PRECAST AND HAVE A MONOLYTHIC BOTTOM SECTION, UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER.
21.

MANHOLES WITH A DEPTH GREATER THAN SIX (6) FEET SHALL HAVE ECCENTRIC CONES, MANHOLES WITH A DEPTH OF SIX (6) FEET OR LESS SHALL HAVE A CONCENTRIC CONE.
22.

ALL FIRE HYDRANTS TO BE RELOCATED, SHALL BE FULLY INSPECTED BY THE UTILITY OWNER FOR ANY DEFECTS AND TO CONFORM TO ALL REQUIREMENTS PRIOR TO RELOCATION, INSTALLATION, CONNECTION AND TESTING.
23.

ALL PROPOSED WATER LINES AND SANITARY SEWER LINE PIPES SHALL BE DUCTILE IRON PIPE WHERE INSTALLED WITH LESS THAN THREE (3) FEET COVER OR WITH LESS THAN TWO (2) FEET OF SEPARATION.
24.

CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND ALL PROPERTY OWNERS TO DETERMINE THE LOCATION OF ALL EXISTING WATER SERVICE LINES AND SEWER SERVICE LINES BEFORE STARTING CONSTRUCTION.
25.

EXISTING WATER METERS TO REMAIN SHALL BE RECONNECTED TO THE EXISTING / PROPOSED WATER LINE WITH NEW WATER SERVICE LINES.
26.

NEW AND RELOCATED WATER METERS SHALL BE CONNECTED TO THE EXISTING / PROPOSED WATER LINE WITH NEW WATER SERVICE LINES.
27.

NEW AND RELOCATED WATER METER BOXES SHALL BE SET FLUSH WITH THE FINISHED GRADE AND LOCATED AT THE RIGHT-OF-WAY LINE, UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER.

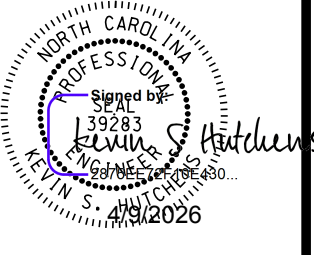
B-4676A

UC003

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



UTILITY DESIGN UNIT
UTILITY CONSTRUCTION
PLANS ONLY



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DESIGNED BY: KD

DRAWN BY: EM

CHECKED BY: JAF

APPROVED BY: KSH

REVISED:

PHONE: (919) 707-6690

PREPARED BY

Weston Sampson
State of North Carolina, P.C.
10/26/2024
Phone: (919) 371-7833

INC. License
C-4097
Apex, NC 27024
westonsampson.com

REVISIONS

UTILITY CONSTRUCTION

PROJECT SPECIFIC NOTES CONT'D:

28. WATER METER BOXES SHALL NOT BE INSTALLED WITHIN DRIVEWAYS, SIDEWALKS, OR OTHER PAVED AREAS SUBJECT TO VEHICULAR TRAFFIC UNLESS APPROVED OTHERWISE BY THE UTILITY OWNER. WATER METER BOX SHALL NOT BE INSTALLED WITHIN A DITCH SLOPE AND SHALL BE INSTALLED A MINIMUM OF 2.5 FEET BEHIND THE TOP OF THE DITCH BANK.
29. ALL FIRE HYDRANTS SHALL BE INSTALLED ON A 6-INCH LEG WITH A SIX-INCH HYDRANT BRANCH VALVE. SHALL BE ACCOMPLISHED BY UTILIZING A LOCKED HYDRANT TEE.
30. THE CONTRACTOR SHALL RETURN ALL REMOVED FIRE HYDRANTS TO THE UTILITY OWNER AT A MUTUALLY AGREED UPON LOCAITON.
31. SEWER SERVICE PIPE SHALL BE SCHEDULE 40 PVC DRAIN, WASTE, AND VENT (DWV) PIPE IN ACCORDANCE WITH ASTM D2665 AND ASTM D1785.
32. SEWER CLEANOUTS SHALL BE SCHEDULE 40 PVC DRAIN, WASTE, AND VENT (DWV) PIPE IN ACCORDANCE WITH ASTM D2665 AND ASTM D1785.
33. SEWER CLEANOUTS LOCATED IN PAVED AREAS SHALL BE INSTALLED WITH A TRAFFIC BEARING SEWER CLEANOUT BOX SET TO FINISHED GRADE.
34. MANHOLES CONSTRUCTED IN AREAS SUBJECT TO FLOODING SHALL HAVE THE MANHOLE TOP SET TO TWO FEET (2') ABOVE THE ELEVATION OF THE ONE HUNDRED (100) YEAR FLOOD ELEVATION, OR THE MANHOLE RING AND COVER SHALL BE WATERTIGHT AND A VENT INSTALLED THAT EXTENDS A MINIMUM OF TWO FEET (2') ABOVE THE ELEVATION OF THE ONE HUNDRED (100) YEAR FLOOD ELEVATION.
35. CONTRACTOR SHALL ADHERE TO SECTION 1530 "ABANDON OR REMOVE UTILITIES" FOR ABANDONMENT OF PIPE, UNLESS OTHERWISE SPECIFIED.

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NORTH CAROLINA

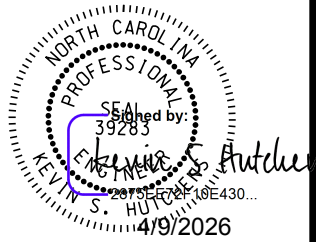
DEPARTMENT OF TRANSPORTATION

WILKES COUNTY



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PREPARED BY

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10260 Emerald Drive

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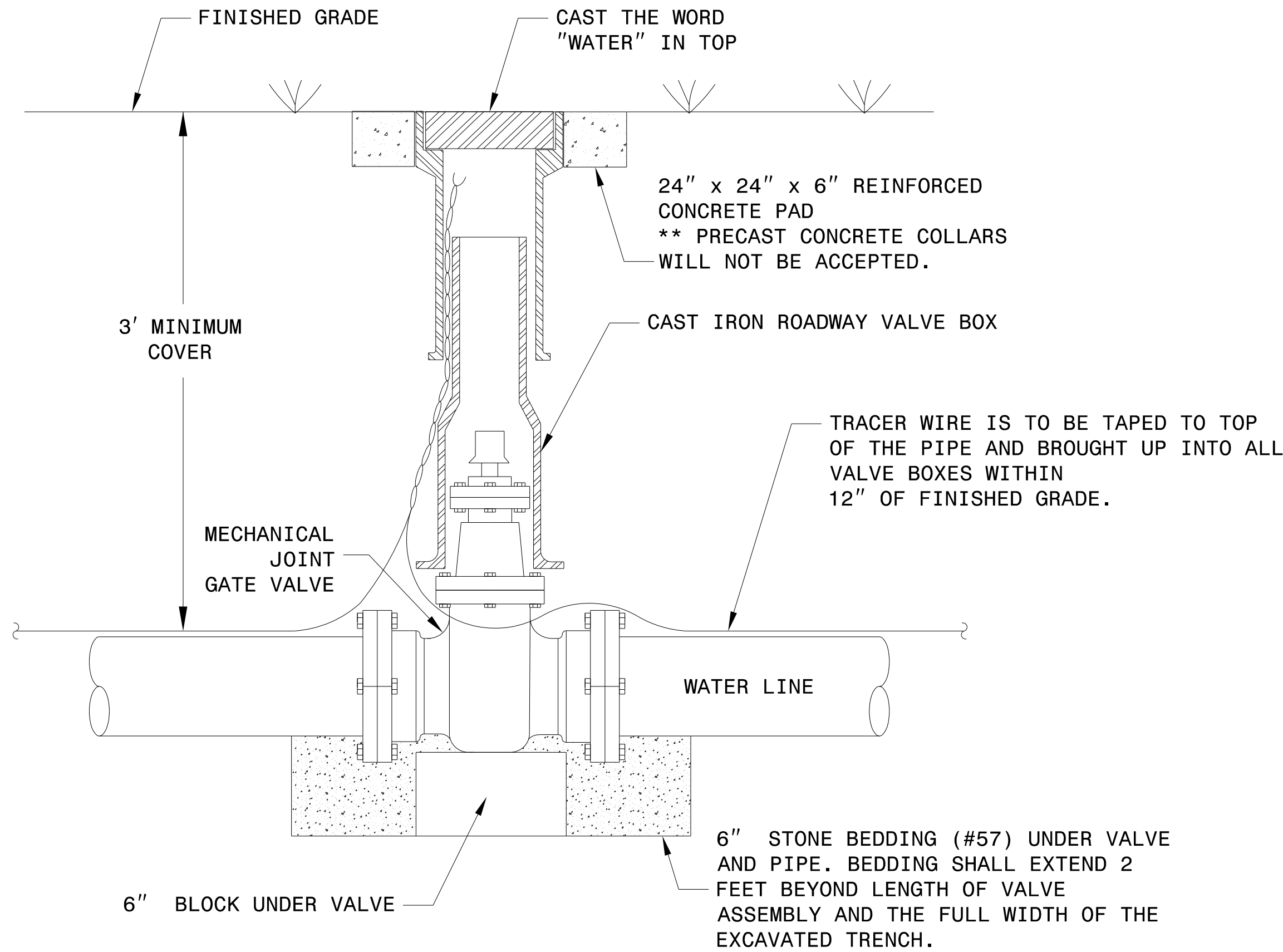
NC License

C-46187

Ashe, NC 27502

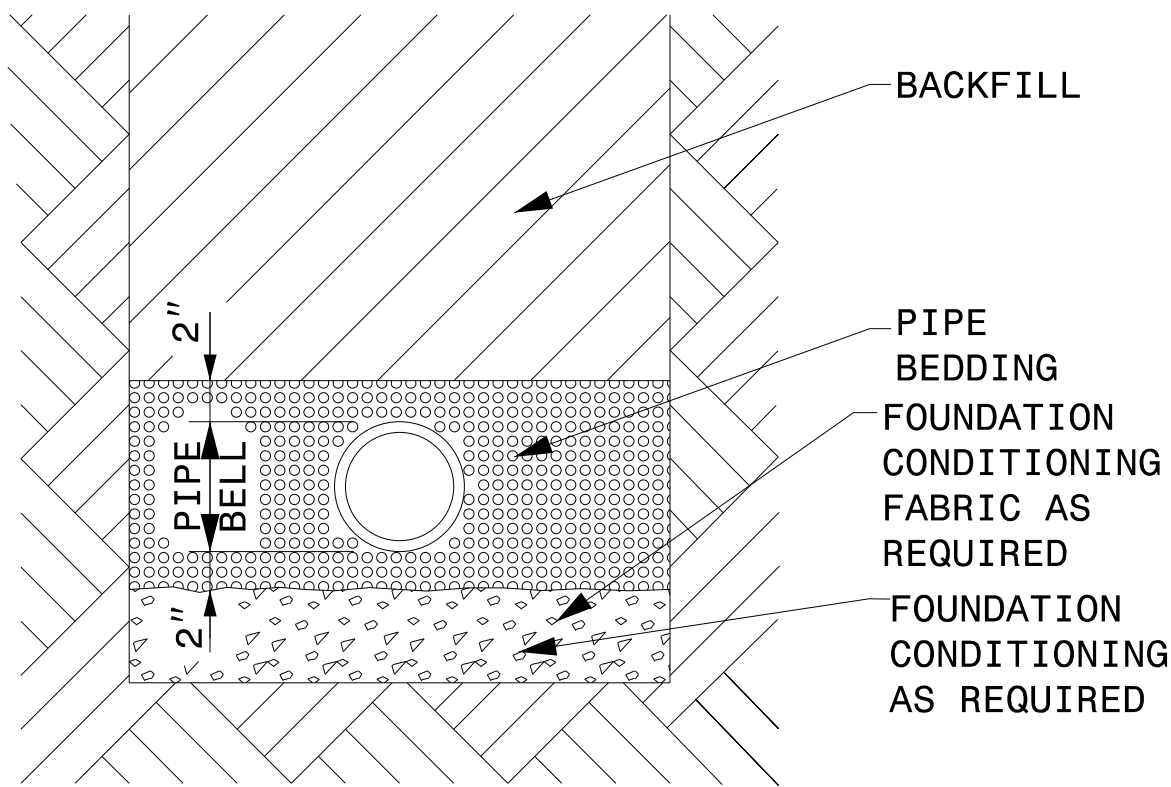
weston@sampson.com

REVISIONS



GATE VALVE DETAIL

NOT TO SCALE

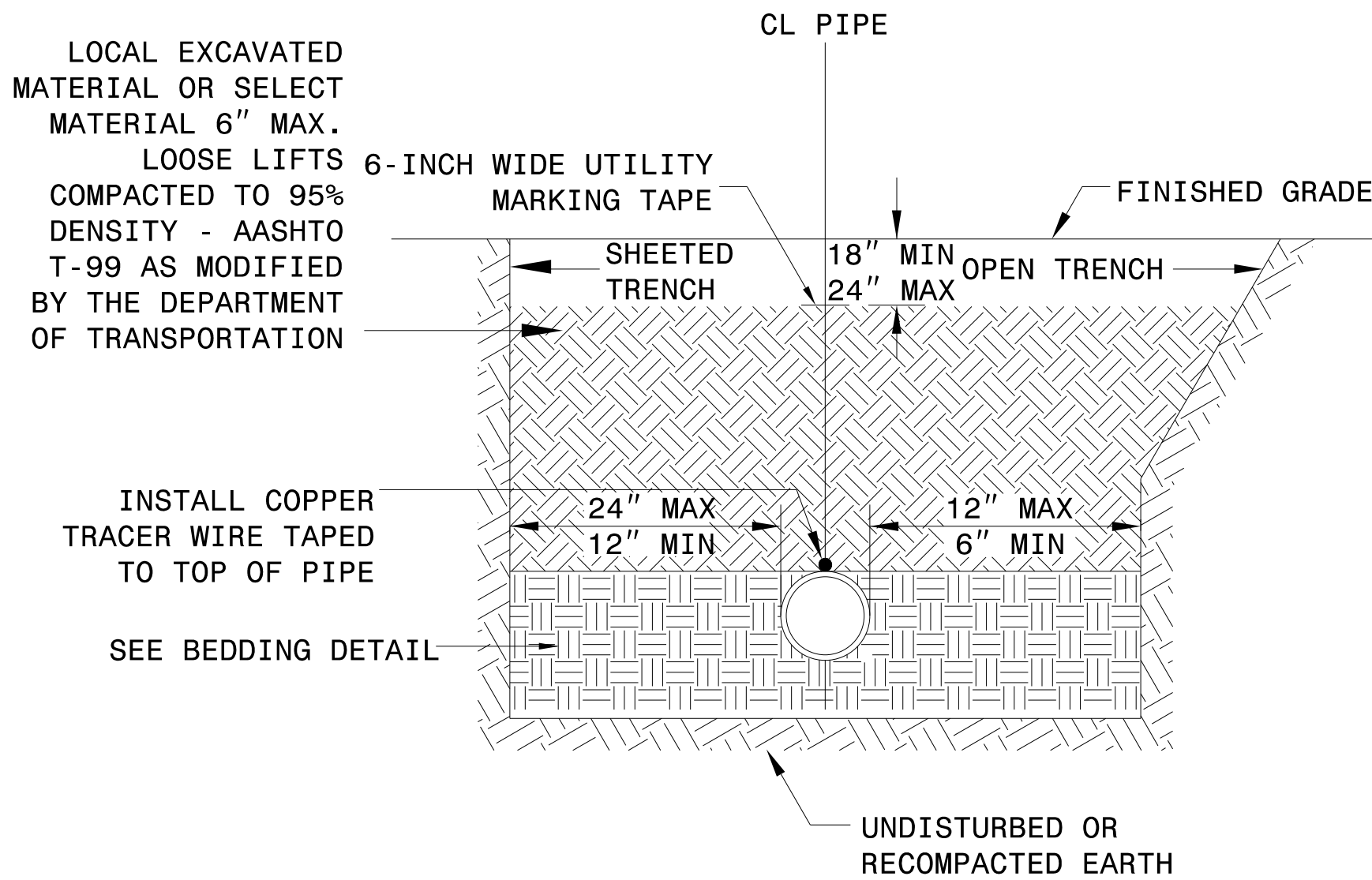


NOTES:

1. PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER.
2. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III.
3. 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.
4. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

PIPE BEDDING DETAIL

NOT TO SCALE



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

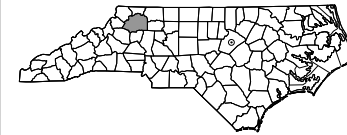
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MAXIMUM OPEN TRENCH WIDTH AT TOP OF PIPE			
NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	NOMINAL PIPE SIZE (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		

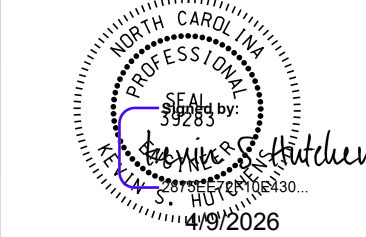
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UC 003B

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



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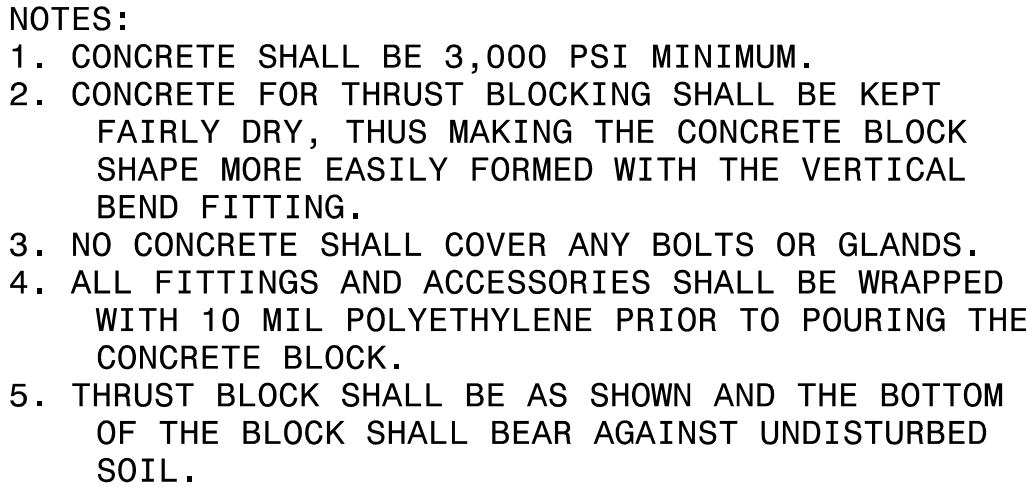
REVISED:

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PREPARED BY

Weston Sampson
State of North Carolina, P.E.
10260 Emerald Drive, Suite 100, Raleigh, NC 27603
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weston@sampson.com

REVISIONS



NOT TO SCALE

*INCLUDES 1.50 SAFETY FACTOR

DESIGN ASSUMPTIONS:

```
PIPE LAYING CONDITION = TYPE 4
SOIL DESIGNATION = GC = COHESIVE GRANULAR
DESIGN PRESSURE = 200 PSI
SAFETY FACTOR = 1.5
```

NOTES:

1. RESTRAINED LENGTH IS MEASURED FROM THE CENTER OF THE BEND AS FOLLOWS:
 - A. HORIZONTAL AND VERTICAL BENDS: ALONG EACH SIDE OF BEND.
 - B. HORIZONTAL AND VERTICAL BENDS - OFFSET OR COMBINED: ALONG THE OUTER SIDE OF EACH BEND. ALL PIPE BETWEEN THE TWO BENDS SHALL BE RESTRAINED JOINT WHEN THE DISTANCE BETWEEN THEM IS EQUAL TO OR LESS THAN THE REQUIRED RESTRAINED LENGTH SHALL BE ADDED ON TO THE LENGTH ALONG THE OUTSIDE OF EACH BEND RESPECTIVELY TO MAKE UP FOR THE DEFICIENCY IN THAT DIRECTION.
2. WHEN IT IS NOT POSSIBLE TO INSTALL THE RESTRAINED LENGTHS AS NOTED BY THIS TABLE, THE CONTRACTOR SHALL INSTALL THE APPROPRIATE CONCRETE THRUST RESTRAINT AS PER THE DETAILS HEREIN.

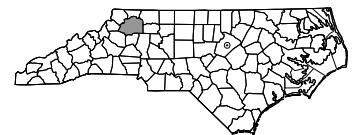
THRUST RESTRAINT LENGTHS

UTILITY CONSTRUCTION

B-4676A

UC 004

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WILKES COUNTY



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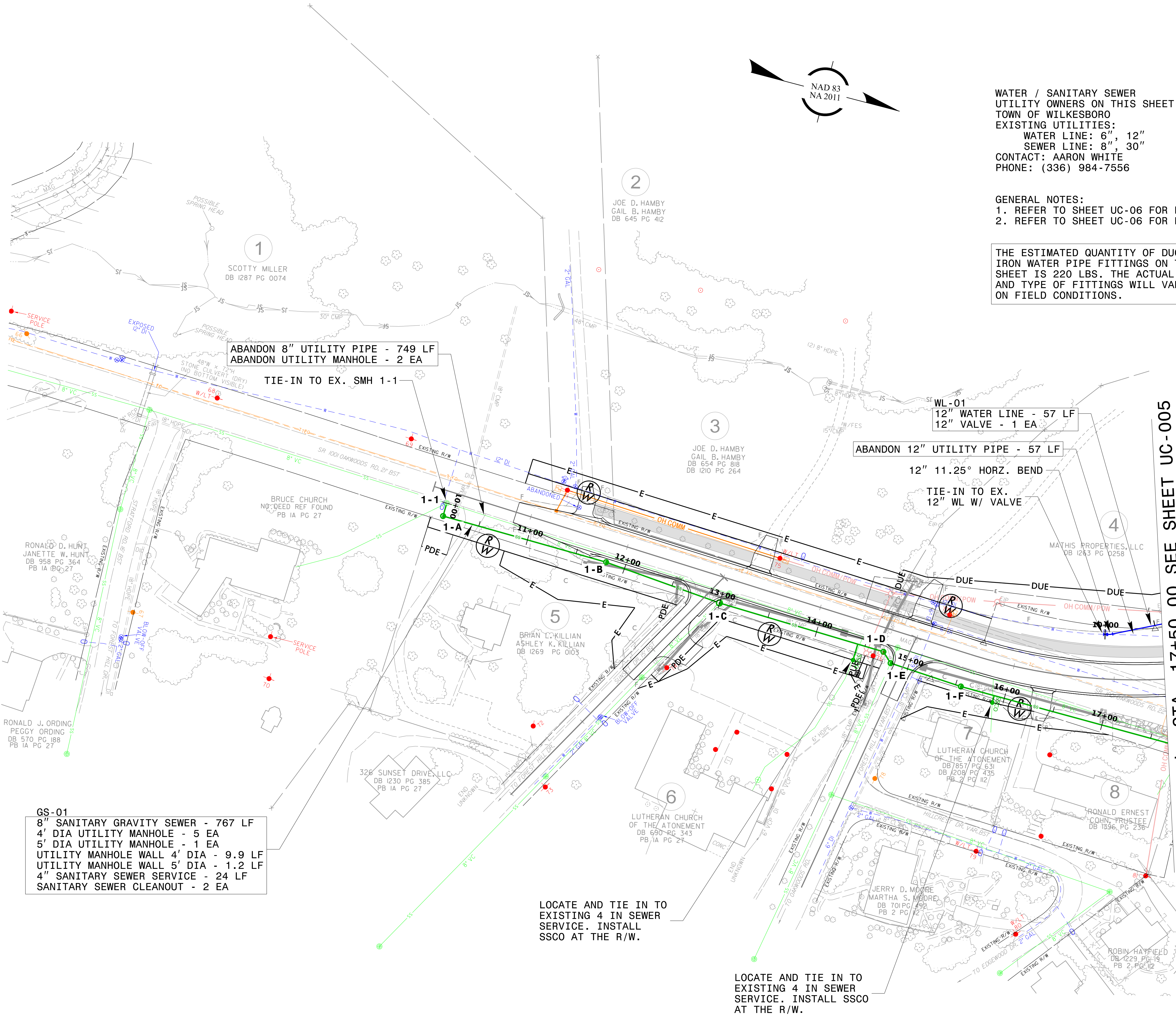
PREPARED BY

Weston Sampson
10000 S. 100th Ave.
Suite 100
Charlotte, NC 28226
Phone: 919.297.0830

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF WILKESBORO
EXISTING UTILITIES:
WATER LINE: 6", 12"
SEWER LINE: 8", 30"
CONTACT: AARON WHITE
PHONE: (336) 984-7556

GENERAL NOTES:
1. REFER TO SHEET UC-06 FOR PROFILE OF WL-01.
2. REFER TO SHEET UC-06 FOR PROFILE OF GS-01.

THE ESTIMATED QUANTITY OF DUCTILE
IRON WATER PIPE FITTINGS ON THIS PLAN
SHEET IS 220 LBS. THE ACTUAL QUANTITY
AND TYPE OF FITTINGS WILL VARY BASED
ON FIELD CONDITIONS.



MATCHLINE - L- STA. 17+50.00 SEE SHEET UC-005

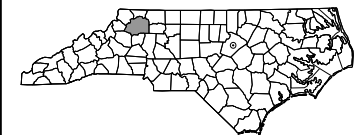
REVISIONS

UTILITY CONSTRUCTION

B-4676A

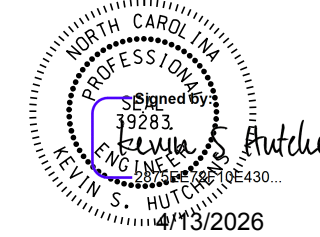
UC 005

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DESIGNED BY: KD

DRAWN BY: EM

CHECKED BY: JAF

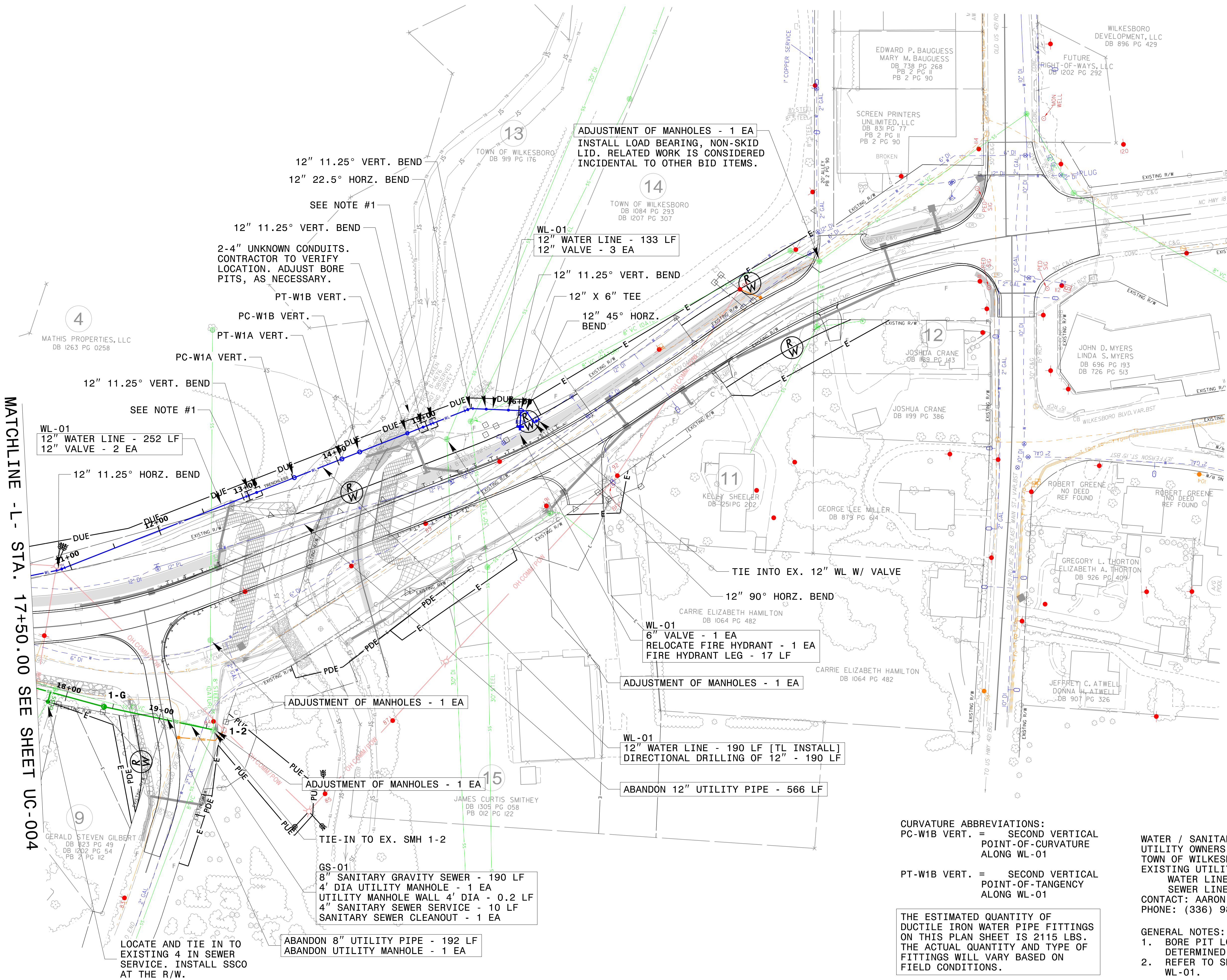
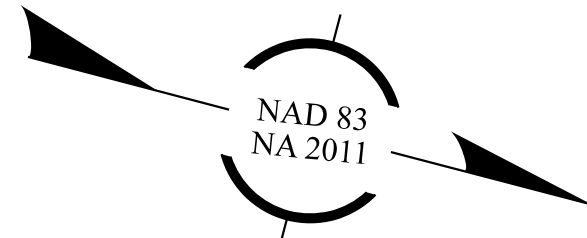
APPROVED BY: KSH

REVISED:

PHONE: (919) 707-6690

PREPARED BY

Weston Sampson
1401 E. North-Carolina, P.O.
Box 1000, Cary, NC 27513
Phone: 919.237.0830



REVISIONS

CURVATURE ABBREVIATIONS:
PC-W1B VERT. = SECOND VERTICAL
POINT-OF-CURVATURE
ALONG WL-01

PT-W1B VERT. = SECOND VERTICAL
POINT-OF-TANGENCY
ALONG WL-01

THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 2115 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF WILKESBORO
EXISTING UTILITIES:
WATER LINE: 6", 12"
SEWER LINE: 8", 30"
CONTACT: AARON WHITE
PHONE: (336) 984-7556

GENERAL NOTES:
1. BORE PIT LOCATION AND SIZE SHALL BE
DETERMINED BY CONTRACTOR.
2. REFER TO SHEET UC-06 FOR PROFILE OF
WL-01.

