

**TIP PROJECT: U-4713A**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

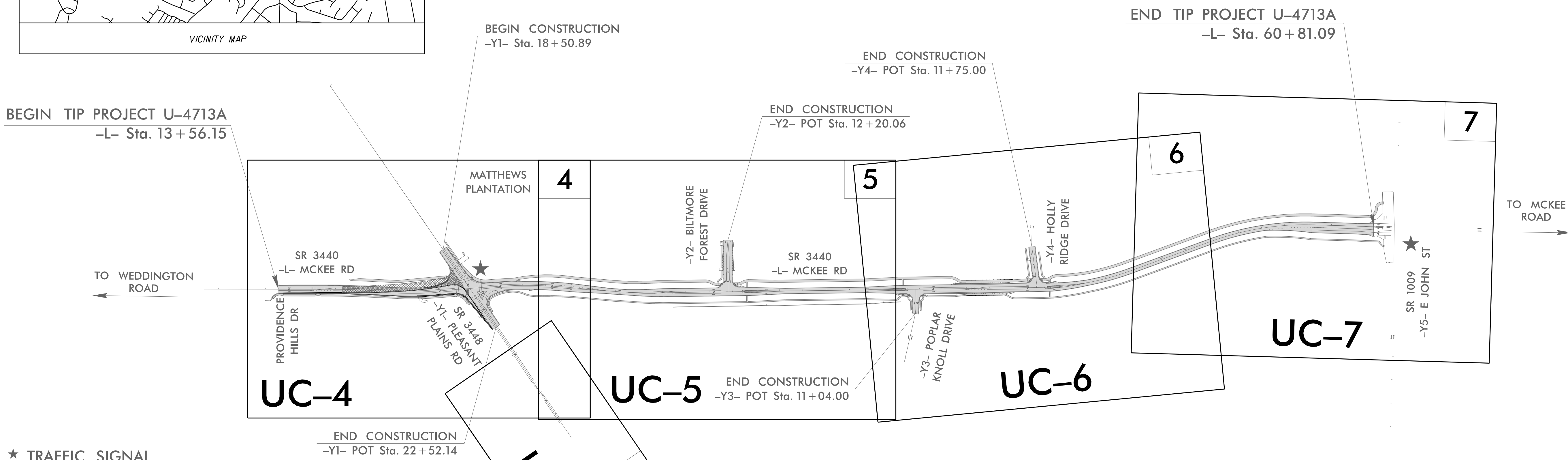
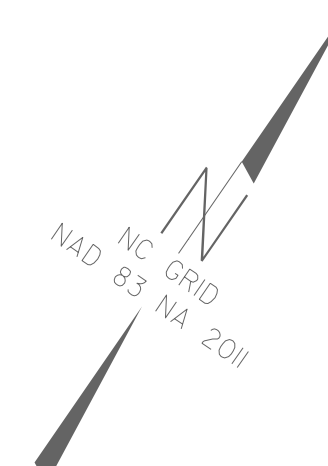
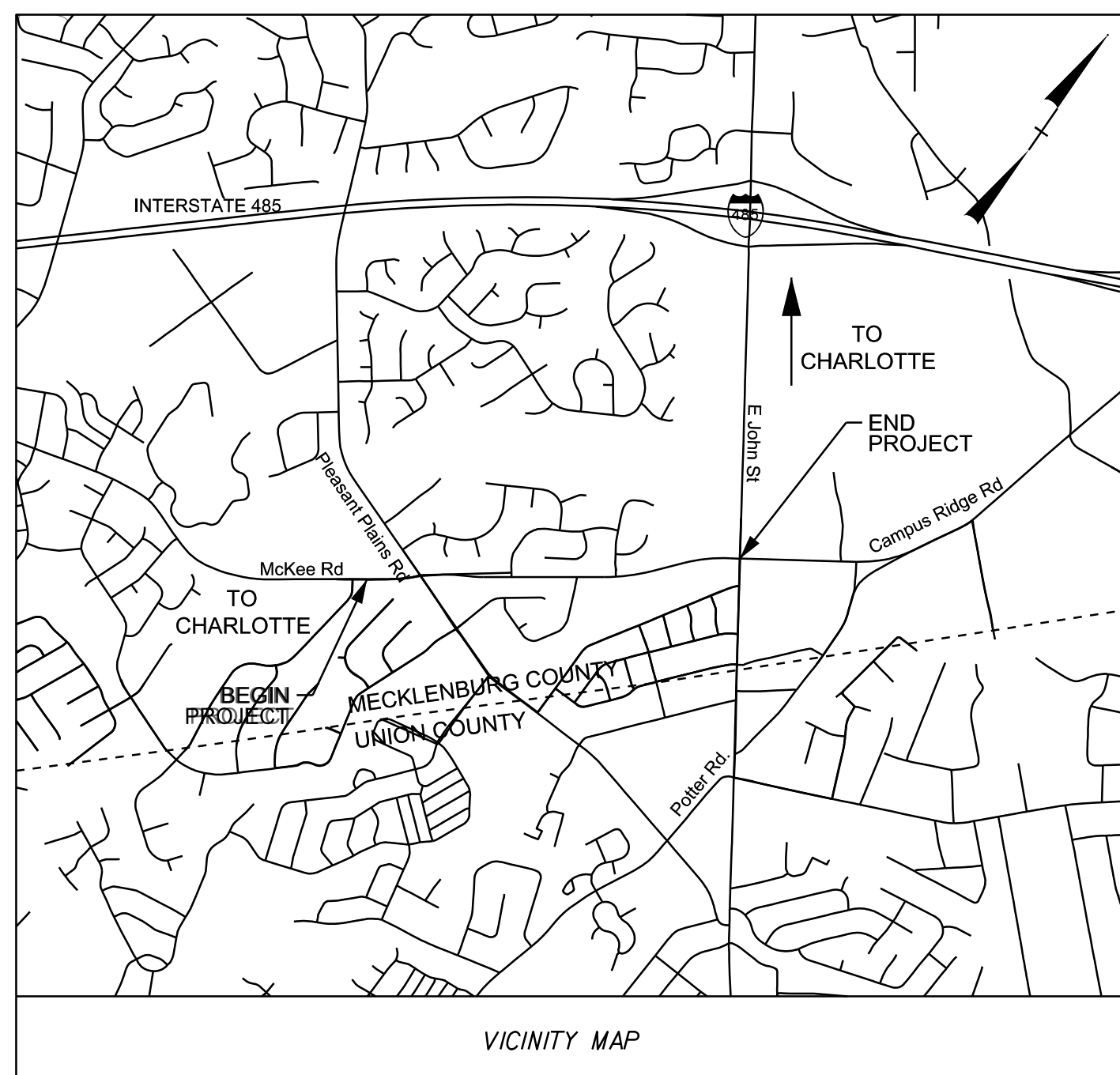
T.I.P. NO.	SHEET NO.
U-4713A	UC-1

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**UTILITY CONSTRUCTION PLANS  
MECKLENBURG COUNTY**

**LOCATION: SR 3440 (McKEE ROAD) FROM SR 3448  
(PLEASANT PLAINS RD) TO SR 1009 (EAST JOHN STREET)**

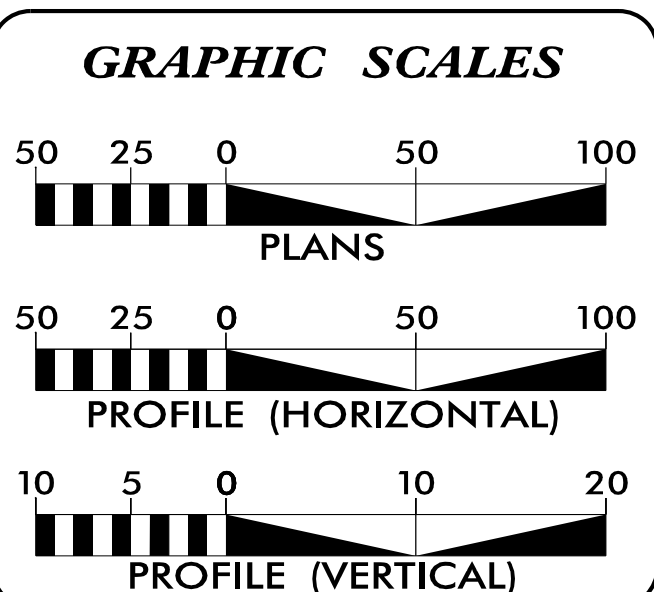
**TYPE OF WORK: WATER & SEWER RELOCATIONS**



★ TRAFFIC SIGNAL  
 NCDOT CONTACT:  
 TRAVIS J PRESLAR, P.E.  
 NCDOT - DIVISION 10  
 716 W. MAIN STREET  
 ALBEMARLE, NC 28001

SUPERELEVATION FOR CURVES LOCATED BETWEEN  
 PLEASANT PLAINS AND EAST JOHN STREET TO MEET  
 A 35 MPH DESIGN SPEED

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**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A	DETAILS
UC-4 THRU UC-8	UTILITY CONSTRUCTION SHEETS
UC-9 THRU UC-13	PROFILE SHEETS

**WATER AND SEWER  
OWNER ON PROJECT**

(A) WATER - CHARLOTTE WATER  
 (B) SEWER - CHARLOTTE WATER

PREPARED IN THE OFFICE OF:

**HINDE ENGINEERING**  
 License No. C-2639  
 10020 Monroe Rd., Suite 280 Matthews, NC 28105  
 Ph. (919) 653-0001

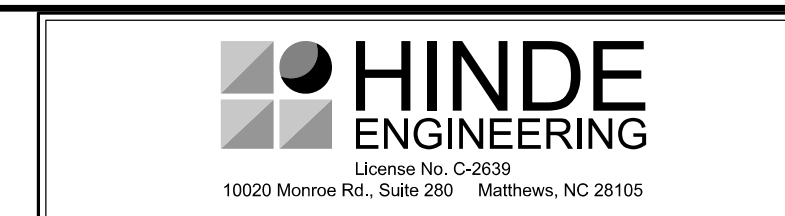
Clint L. Stevens, P.E. UTILITIES PROJECT MANAGER  
 Jordan K. Chapman, EI UTILITIES PROJECT ENGINEER  
 Jame N. Arnold UTILITIES PROJECT DESIGNER



**DIVISION OF HIGHWAYS  
DIVISION 10**  
 716 W. Main St.  
 Albemarle, NC 28001  
 PHONE (704) 983-4400  
 FAX (704) 982-3146

Brett D. Canipe, P.E. DIVISION ENGINEER  
 Rick W. Baucom, P.E. DIVISION CONSTRUCTION ENGR  
 Lynn Basinger DIVISION UTILITY ENGINEER  
 Terry Burleson DM-STIP PROJECT ENGINEER

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS



## UTILITIES PLAN SHEET SYMBOLS

### PROPOSED WATER SYMBOLS

Water Line (Sized as Shown) .....	12" WL
11¼ Degree Bend .....	
22½ Degree Bend .....	
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) .....	12" SS
Force Main Sewer Line (Sized as Shown) .....	12" FSS
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) .....	PROP O/H POW LINES
Trenchless Installation .....	12" TL INSTALL
Encasement by Open Cut .....	24" ENCAS BY OC
Encasement .....	24" ENCASEMENT

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

### EXISTING UTILITIES SYMBOLS

Power Pole .....	
Telephone Pole .....	
Joint Use Pole .....	
Utility Pole .....	
Utility Pole with Base .....	
H-Frame Pole .....	
Power Transmission Line Tower .....	
Water Manhole .....	
Power Manhole .....	
Telephone Manhole .....	
Sanitary Sewer Manhole .....	
Hand Hole for Cable .....	
Power Transformer .....	
Telephone Pedestal .....	
CATV Pedestal .....	
Gas Valve .....	
Gas Meter .....	
Located Miscellaneous Utility Object .....	
Abandoned According to Utility Records .....	AATUR
End of Information .....	E.O.I.

*Underground Power Line .....	
*Underground Telephone Cable .....	
*Underground Telephone Conduit .....	
*Underground Fiber Optics Telephone Cable .....	
*Underground TV Cable .....	
*Underground Fiber Optics TV Cable .....	
*Underground Gas Pipeline .....	
Aboveground Gas Pipeline .....	
*Underground Water Line .....	
Aboveground Water Line .....	
*Underground Gravity Sanitary Sewer Line .....	
Aboveground Gravity Sanitary Sewer Line .....	
*Underground SS Forced Main Line .....	
Underground Unknown Utility Line .....	
SUE Test Hole .....	
Water Meter .....	
Water Valve .....	
Fire Hydrant .....	
Sanitary Sewer Cleanout .....	

\*For Existing Utilities

Utility Line Drawn from Record (Type as Shown) .....

Designated Utility Line (Type as Shown) .....

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 REV: 2/1/2012





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PROJECT REFERENCE NO.	SHEET NO.
U-4713A	UC-2A
DESIGNED BY: JKC	
DRAWN BY: JNA	
CHECKED BY: JKC	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

### UTILITY CONSTRUCTION

**APPLICATION FOR NON-DISCHARGE PERMIT  
GRAVITY SEWER MAIN EXTENSION  
CHARLOTTE WATER**

PROJECT NAME PROPOSED 8" SANITARY GRAVITY SEWER CREEK BASIN Four Mile  
TO SERVE NCDOT TIP U-4713A

CLTWater PROJECT NO.: CPM-60-25-265

PROJECT TYPE:  NEW CONSTRUCTION  RELOCATION  MODIFICATION OF PERMIT NO. \_\_\_\_\_  
OTHER \_\_\_\_\_

VOLUME OF WASTEWATER GENERATED BY THIS PROJECT: N/A GALLONS PER DAY BASED  
ON 190 GAL/DAY/SINGLE FAMILY HOUSEHOLD X N/A HOUSEHOLDS OR

135 GAL/DAY/MULTI-FAMILY UNIT X N/A UNITS OR IS BASED ON: \_\_\_\_\_

WASTEWATER TREATMENT PLANT RECEIVING WASTEWATER:  
 McALPINE CR. (NC0024970)  IRWIN CR. (NC0024945)  McDOWELL CR. (NC0036277)  
 SUGAR CR. (NC0024937)  MALLARD CR. (NC0030210)

NATURE OF WASTEWATER 60 % DOMESTIC \_\_\_\_\_ % INDUSTRIAL  
40 % COMMERCIAL \_\_\_\_\_ % OTHER \_\_\_\_\_

ORIGIN OF WASTEWATER  SUBDIVISION  COMMERCIAL  
 SCHOOL  INDUSTRIAL  
 APARTMENTS/CONDO'S  OTHER \_\_\_\_\_

LIST ANY PARAMETER AND ITS CONCENTRATION THAT WILL BE GREATER THAN NORMAL DOMESTIC LEVELS:  
NONE

IF WASTEWATER IS NON-DOMESTIC, DESCRIBE LEVEL OF PRETREATMENT:  
N/A

IF A PRETREATMENT PERMIT IS REQUIRED, HAS ONE BEEN ISSUED?  YES  NO

HAS ENGINEER DETERMINED THAT DOWNSTREAM SEWERS ARE CAPABLE TO HANDLE THIS FLOW?  YES  NO  
PERMIT NO. FOR SEWERS IMMEDIATELY DOWNSTREAM \_\_\_\_\_  
PIPE DIAMETER OF SEWERS IMMEDIATELY DOWNSTREAM 8-INCH

HAS ENGINEER DETERMINED THAT NC DEM AND CLTWater MINIMUM DESIGN STANDARDS ARE MET BY THIS PROJECT?  YES  NO

COMPLETE NAME AND ADDRESS OF ENGINEERING DESIGN FIRM:  
HINDE ENGINEERING, INC.  
10020 MONROE RD., SUITE 280  
MATTHEWS, NC 28105

TELEPHONE 704 - 814 - 4407

PROFESSIONAL ENGINEER'S CERTIFICATION:  
I, CLINT L. STEVENS, PE, ATTEST THAT THIS APPLICATION FOR 8-INCH SANITARY GRAVITY SEWER  
TO SERVE NCDOT TIP U-4713A HAS BEEN REVIEWED BY ME AND IS ACCURATE AND COMPLETE TO THE  
BEST OF MY KNOWLEDGE. I FURTHER ATTEST THAT TO THE BEST OF MY KNOWLEDGE THE PROPOSED DESIGN HAS BEEN  
PREPARED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS. ALTHOUGH CERTAIN PORTIONS OF THIS SUBMITTAL  
PACKAGE MAY HAVE BEEN DEVELOPED BY OTHER PROFESSIONALS, INCLUSION OF THESE MATERIALS UNDER MY  
SIGNATURE AND SEAL SIGNIFIES THAT I HAVE REVIEWED THIS MATERIAL AND HAVE JUDGED IT TO BE CONSISTENT WITH  
THE PROPOSED DESIGN.

NORTH CAROLINA PROFESSIONAL ENGINEER'S SEAL, SIGNATURE, AND DATE:  
  
\_\_\_\_\_

CLTWater PERMIT NO. \_\_\_\_\_ ISSUED \_\_\_\_\_

PLANT FLOW ALLOCATION RECORDED BY: \_\_\_\_\_

PERMIT APPROVED BY: JOSEPH C WILSON, P.E., CHIEF ENGINEER

**APPLICATION FOR PERMIT FOR WATER MAIN EXTENSION**

PROJECT NAME: NCDOT TIP U-4713A

CLTWater PROJECT NO.: CPM-60-25-265

PROJECT DESCRIPTION: PROPOSED 185 L.F. OF 8" WATER MAIN WITH IT'S ASSOCIATED FITTINGS  
PROPOSED 1,069 L.F. OF 12" WATER MAIN WITH IT'S ASSOCIATED FITTINGS  
PROPOSED 5,082 L.F. OF 16" WATER MAIN WITH IT'S ASSOCIATED FITTINGS  
ALONG THE MCKEE ROAD EXTENSION TO E JOHN STREET

DESIGNED BY: FIRM: HINDE ENGINEERING, INC.  
ENGINEER: CLINT L. STEVENS, PE  
ADDRESS: 10020 MONROE RD., SUITE 280  
MATTHEWS, NC 28105  
PHONE: (704) 814-4407

THIS APPLICATION IS MADE UNDER AND IN FULL ACCORD WITH THE PROVISIONS OF CHAPTER 130A-317 OF THE  
NORTH CAROLINA GENERAL STATUTES, AND SUCH OTHER STATUTES AS RELATED TO PUBLIC WATER SYSTEMS.  
CLTWater HAS BEEN GRANTED AUTHORITY TO ISSUE PERMITS FOR EXTENSION OF WATER MAINS PURSUANT TO  
15A NCAC 18C.1801. THE APPLICANT AGREES THAT NO SIGNIFICANT CHANGE OR DEVIATION FROM THE PLANS  
AND SPECIFICATIONS APPROVED BY CLTWater WILL BE MADE WITHOUT THE WRITTEN CONSENT AND APPROVAL  
OF CLTWater OR ITS AUTHORIZED REPRESENTATIVE. A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE  
STATE OF NORTH CAROLINA SHALL SUBMIT A STATEMENT REFLECTING THAT ADEQUATE OBSERVATIONS DURING  
AND UPON COMPLETION OF CONSTRUCTION INDICATES THAT CONSTRUCTION WAS COMPLETED IN ACCORDANCE  
WITH APPROVED PLANS AND SPECIFICATIONS.


PERMIT NO. \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: \_\_\_\_\_

JOSEPH C WILSON, PE, CHIEF ENGINEER  
CHARLOTTE WATER  
5100 BROOKSHIRE BLVD.  
CHARLOTTE, NORTH CAROLINA 28216

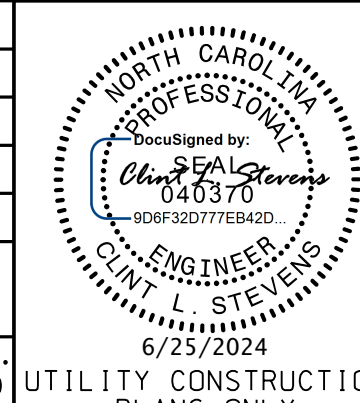
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# UTILITY CONSTRUCTION



**HINDE ENGINEERING**  
 License No. C-2639  
 10020 Monroe Rd., Suite 280 Matthews, NC 28105

**DOCUMENT NOT CONSIDERED FINAL  
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PROJECT REFERENCE NO. <b>U-4713A</b>	SHEET NO. <b>UC-3</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JNA</b>	
CHECKED BY: <b>JKC</b>	
APPROVED BY: <b>CLS</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

## 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 AND SEWER FACILITIES BELONG TO CHARLOTTE WATER.
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. ALL 12-INCH AND SMALLER DIAMETER PIPE SHALL BE DUCTILE IRON RESTRAINED JOINT PRESSURE CLASS 350, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
2. ALL 16-INCH AND LARGER DIAMETER PIPE SHALL BE DUCTILE IRON RESTRAINED JOINT PRESSURE CLASS 250, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
3. ALL VALVES ON WATER MAINS SHALL BE DIRECT BURY GATE VALVES, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
4. DUCTILE IRON RESTRAINED JOINT PIPE SHALL BE USED IN LIEU OF THRUST BLOCKING ON PROPOSED WATER LINE RELOCATIONS.
5. CONCRETE THRUST BLOCKING (WALL BLOCKING) SHALL BE USED ON EXISTING WATER LINES AT THE PROPOSED RELOCATION TIE-IN POINTS.
6. CONTRACTOR SHALL CONNECT ALL WATER LINES AND SERVICE CONNECTIONS USING NECESSARY FITTINGS.
7. ALL BACKFLOW PREVENTORS ARE THE RESPONSIBILITY OF THE PROPERTY OWNER.
8. THE CHARLOTTE WATER (CLTWATER) STANDARD DETAILS LOCATED ON THEIR WEBSITE AT:  
<http://charlottenc.gov/Water/Pages/DesignManual.aspx>  
 SHALL SUPERCEDE ANY CLTWATER DETAILS SHOWN IN THIS PLAN SET.
9. FOR FIRE HYDRANTS TO BE REMOVED, THE CONTRACTOR SHALL CONTACT CLTWATER TO DETERMINE A SUITABLE LOCATION TO STOCKPILE THE FIRE HYDRANT AND ASSOCIATED ITEMS.
10. CONTRACTOR IS REQUIRED TO CONTACT LOGAN HEDRICK, CLTWATER ENGINEERING PROJECT MANAGER, AT (980)253-4390 AT LEAST 2 WEEKS PRIOR TO ANY WATER AND SEWER CONSTRUCTION.

## UTILITY CONSTRUCTION

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**HINDE ENGINEERING**  
 License No. C-2639  
 10020 Monroe Rd., Suite 280 Matthews, NC 28105

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PROJECT REFERENCE NO. <b>U-4713A</b>	SHEET NO. <b>UC-3A</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JNA</b>	
CHECKED BY: <b>JKC</b>	
APPROVED BY: <b>CLS</b>	
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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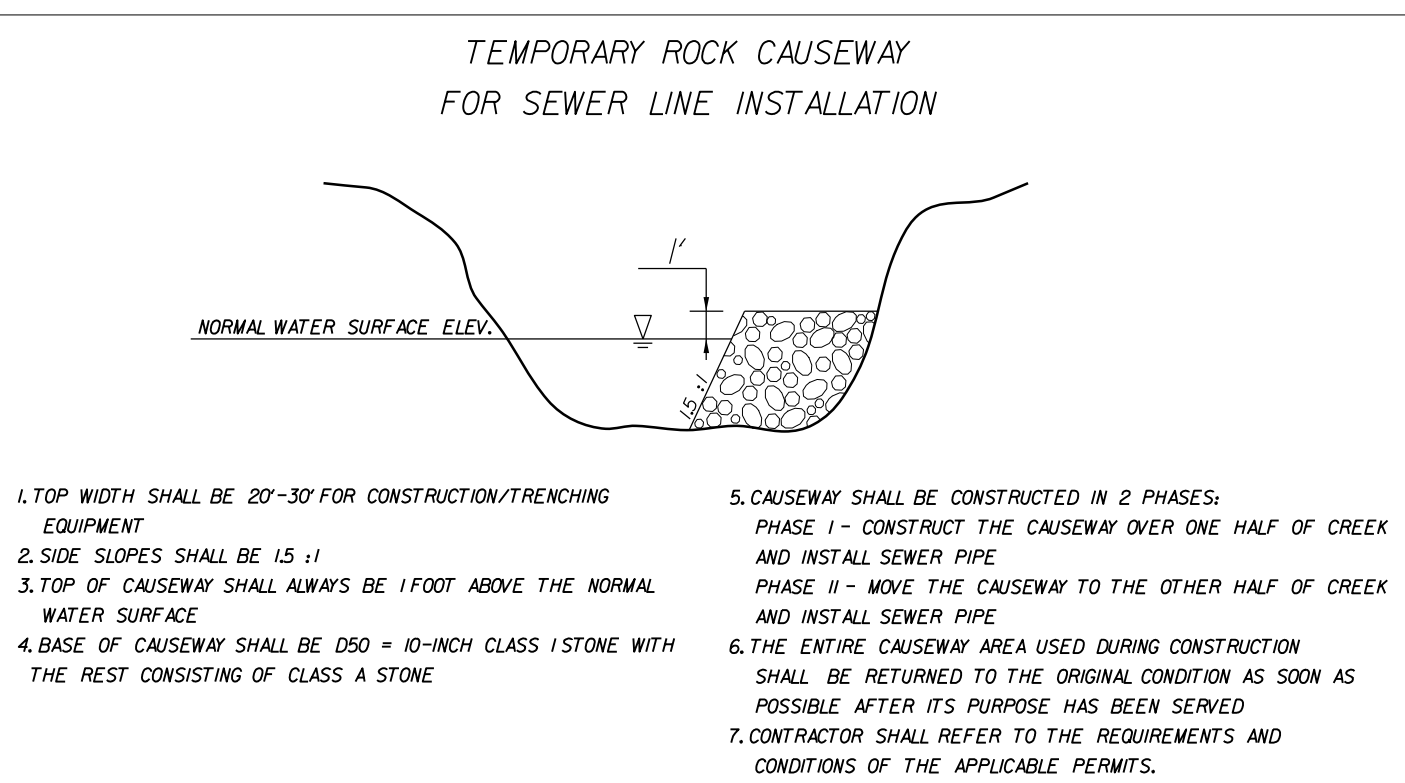
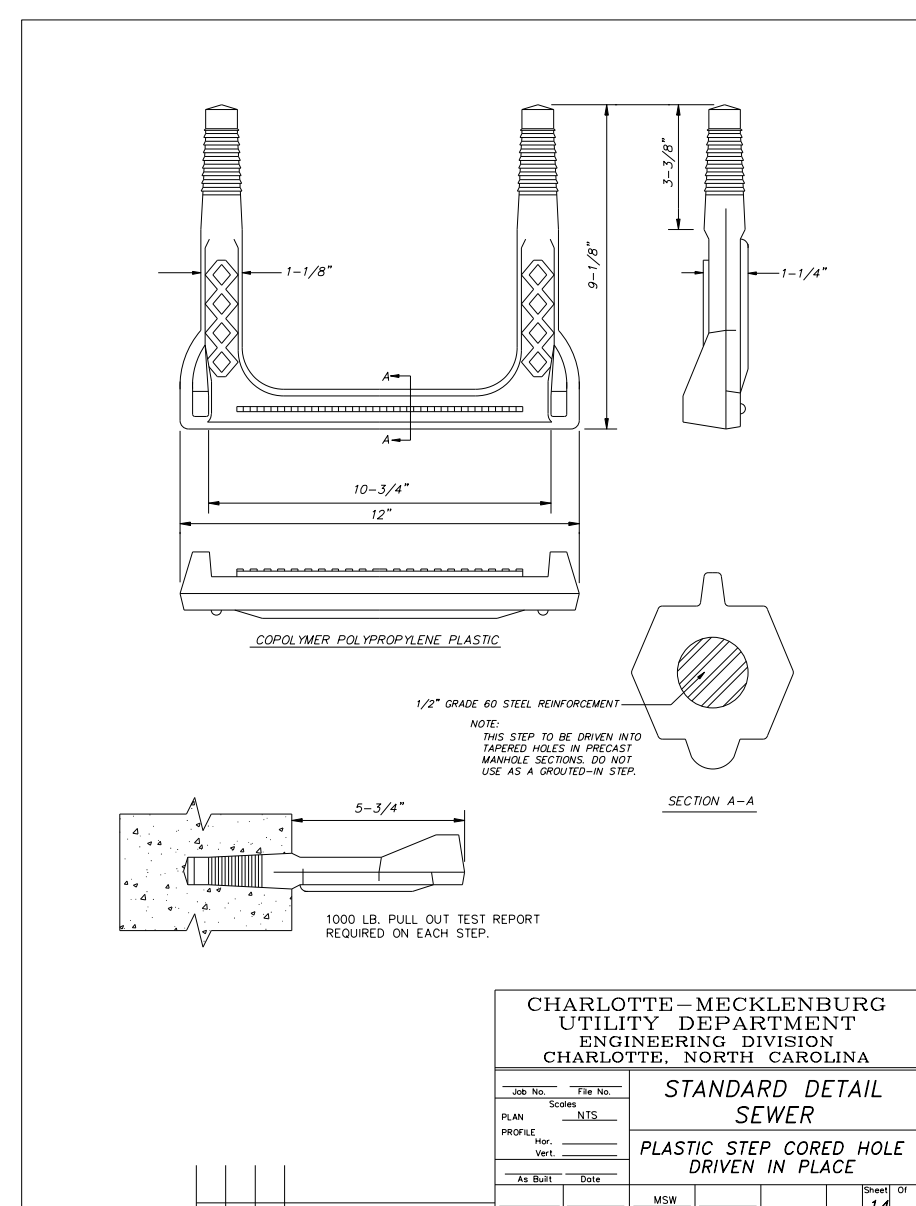
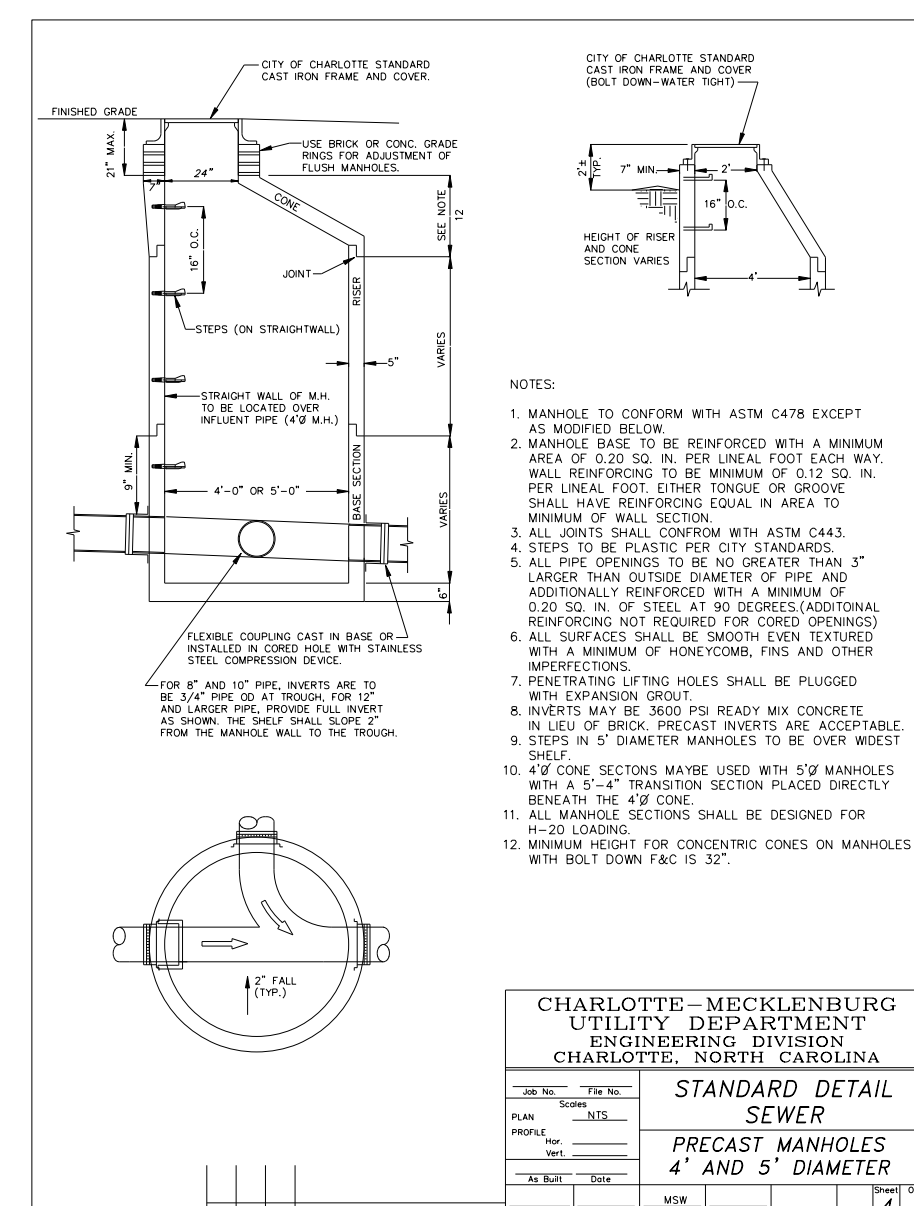
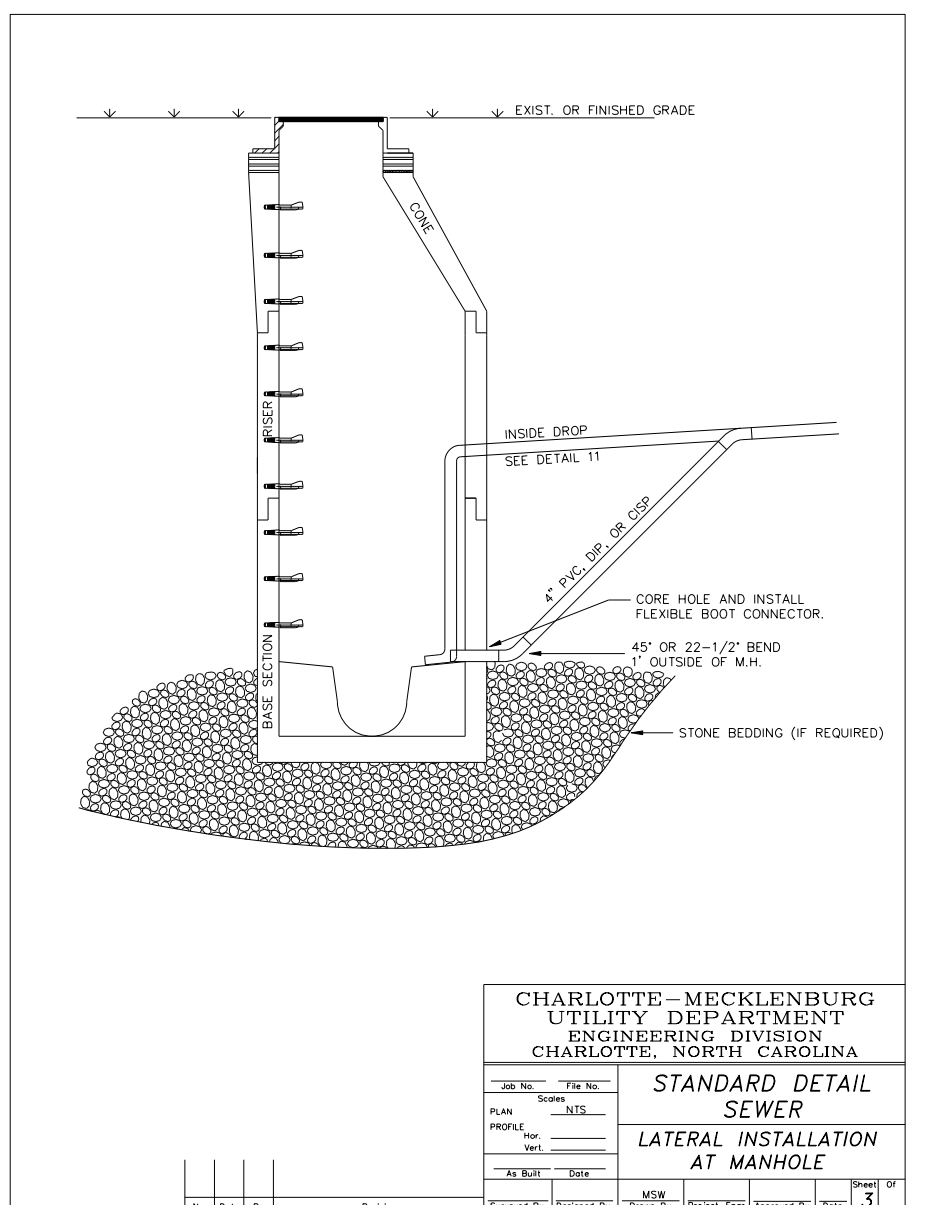
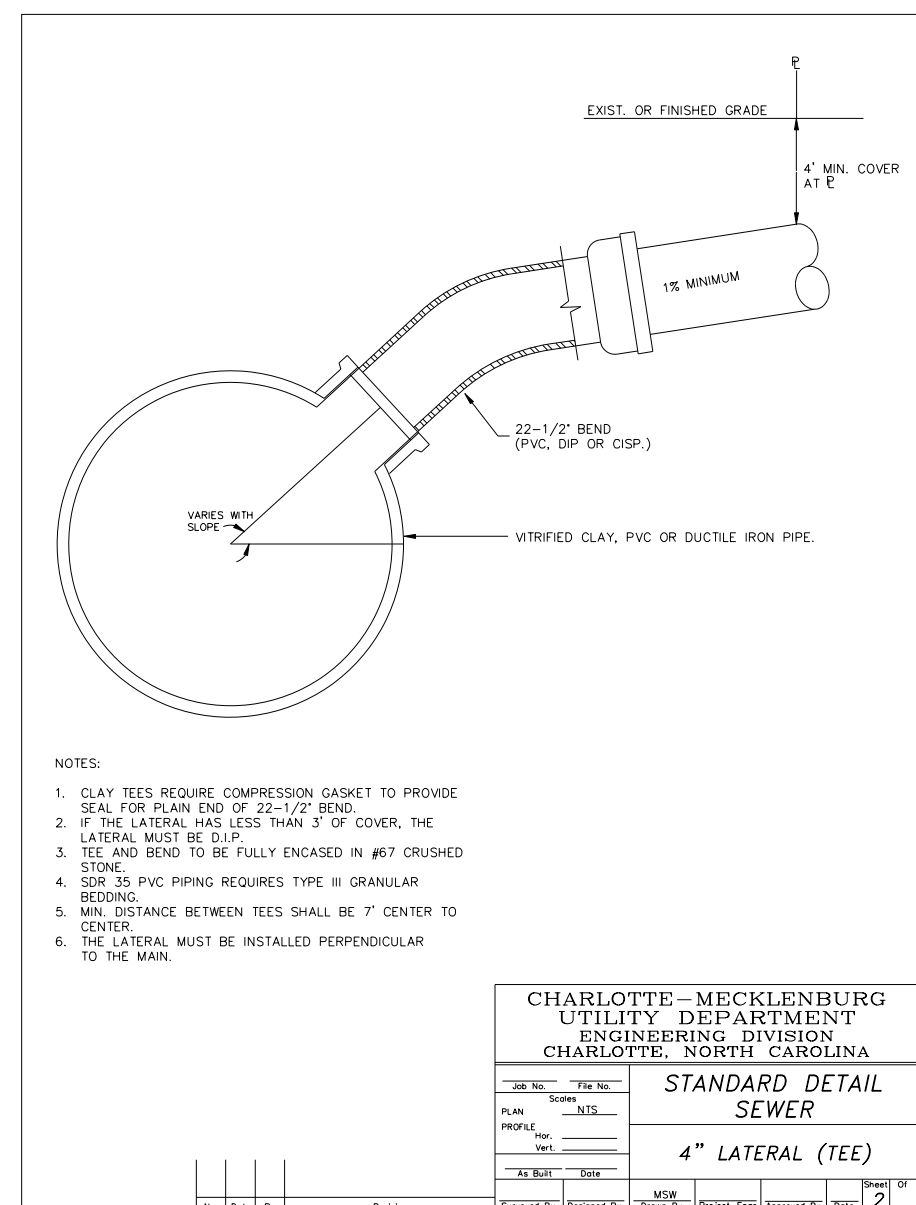
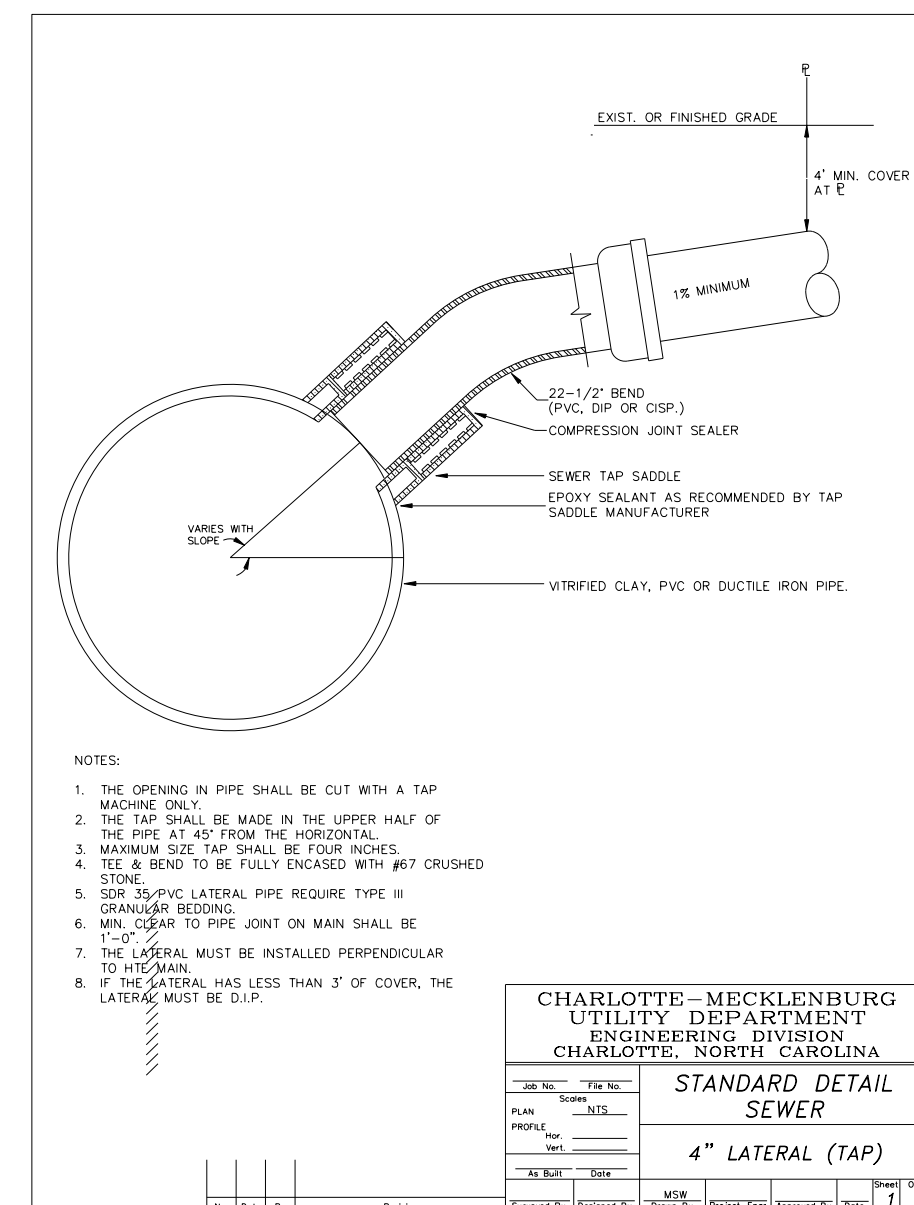
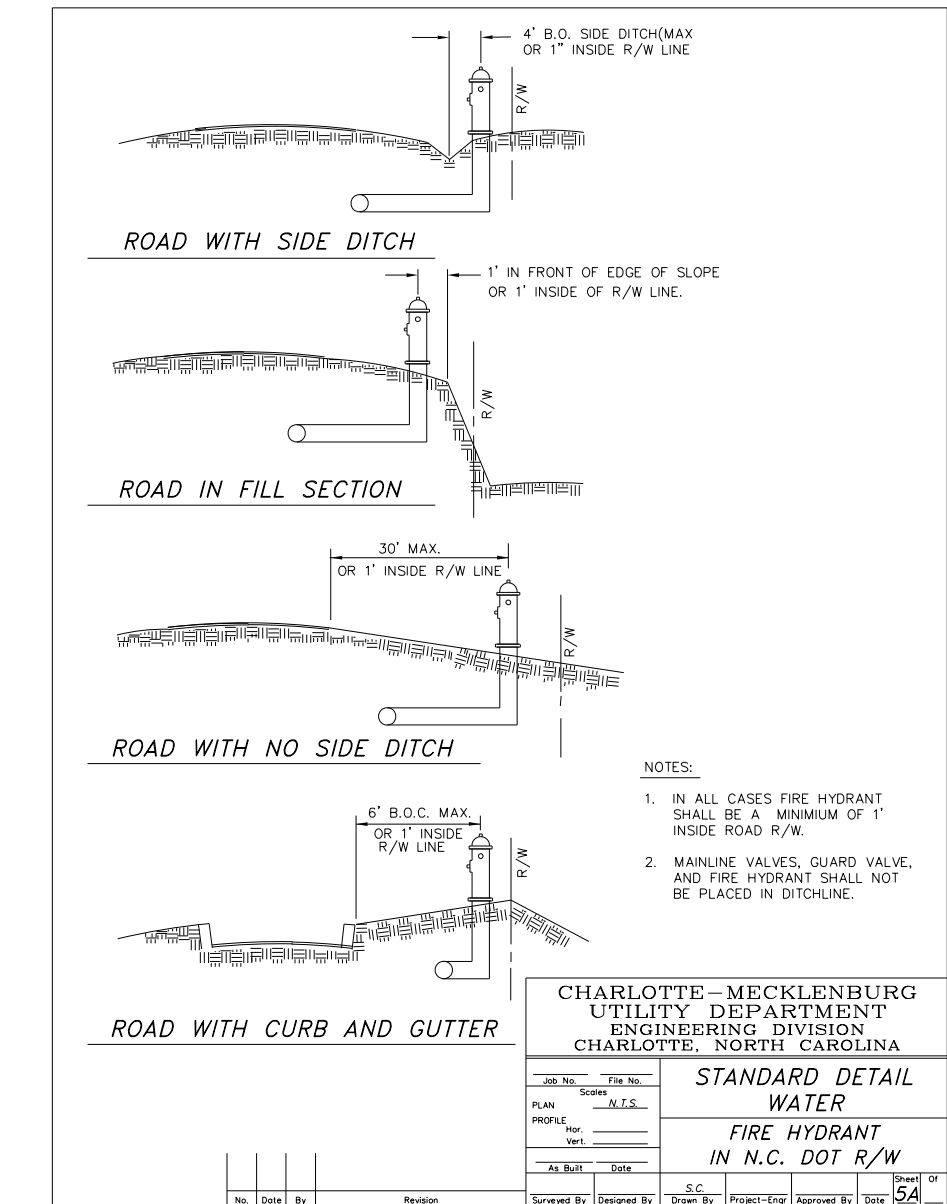
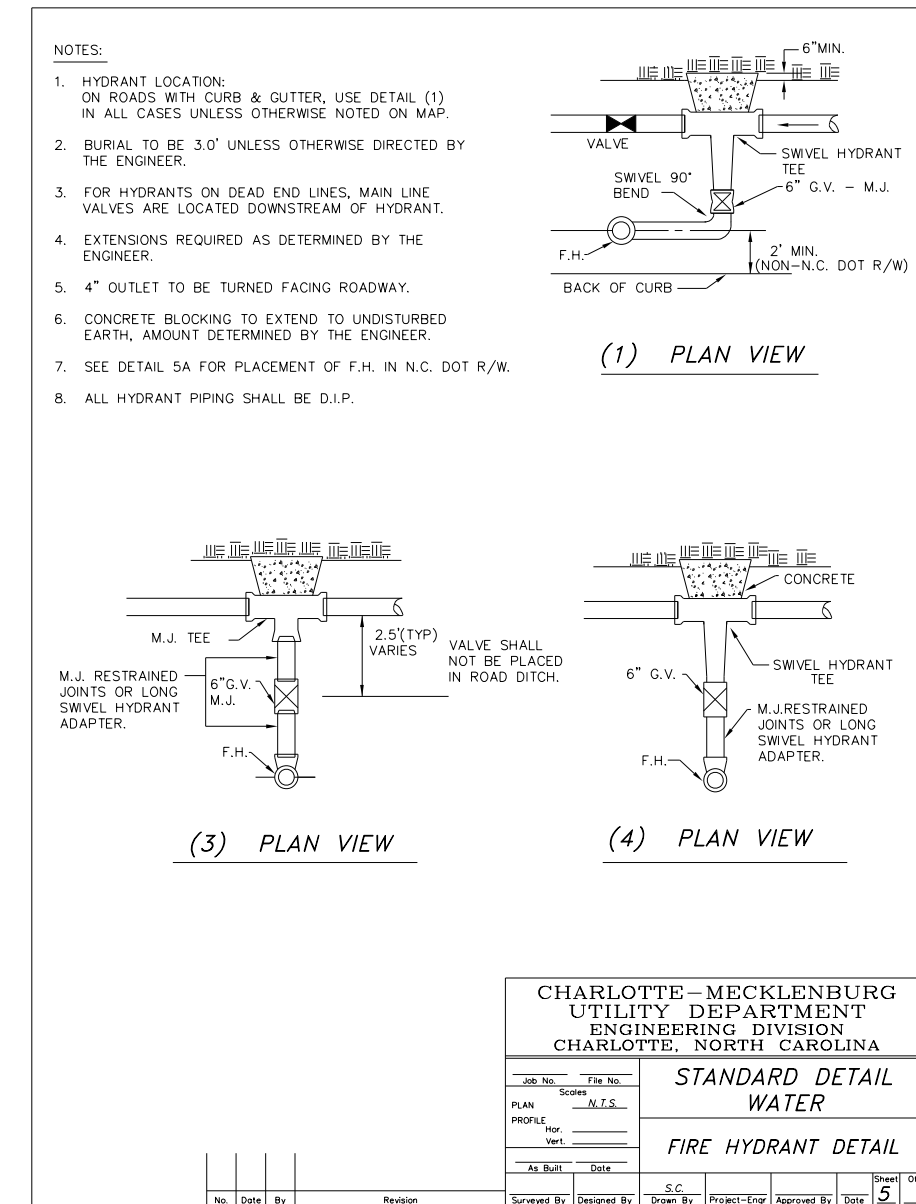
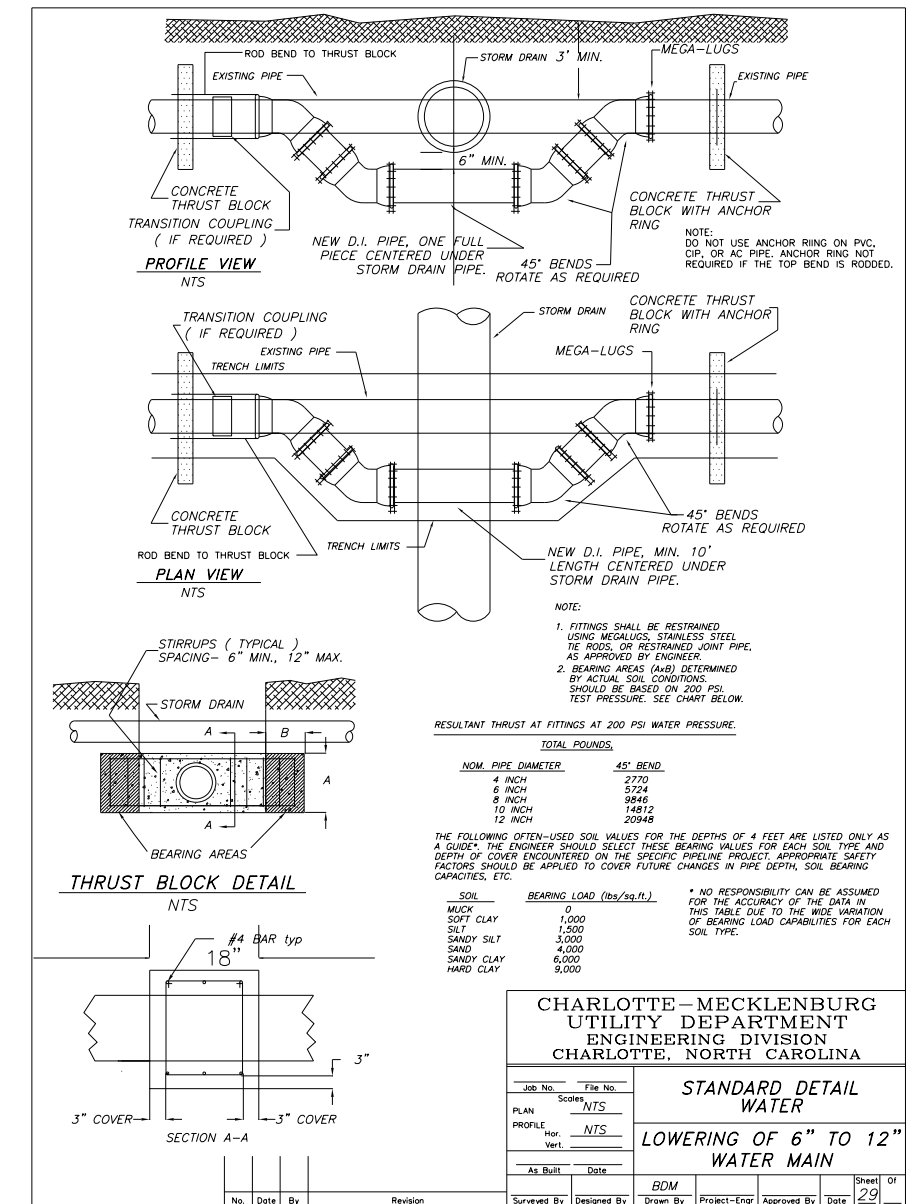
## LIST OF STANDARD DETAILS

### WATER:

- AA PRECAST CONCRETE METER BOX - 0.75-INCH DOMESTIC WATER SERVICE
- BB PRECAST CONCRETE METER BOX 1-INCH DOMESTIC AND IRRIGATION WATER SERVICE
- FF CAST IRON VALVE BOX 12-INCH AND SMALLER VALVES
- GG VALVE BOX ADJUSTMENT FOR PAVEMENT RESURFACING
- HH VALVE BOX ASSEMBLY INSTALLATION 12-INCH AND SMALLER VALVES
- II VALVE BOX ASSEMBLY INSTALLATION 16-INCH AND LARGER BUTTERFLY VALVES
- K-1 3-4THS AND 1-INCH DOMESTIC WATER SERVICE CONNECTION - PART ONE
- K-2 3-4THS AND 1-INCH DOMESTIC WATER SERVICE CONNECTION - PART TWO
- LL DEAD END THRUST - WALL BLOCKING WITH 2-INCH BLOW-OFF 14 TO 30-INCH MAINS
- MM VALVE BOX CONCRETE GRADE RINGS AND FOOTINGS
- OO PLASTIC WATER METER BOX AND LID - 0.75-INCH DOMESTIC WATER SERVICE
- PP WATER METER BOX - PLASTIC LID - 0.75 AND 1-INCH DOMESTIC WATER SERVICES
- SS TYPE 6 20.5-INCH MANHOLE COVER - USE WITH 16-INCH AND LARGER VALVES
- TT TYPE F 20.5-INCH MANHOLE FRAME 7-INCH TALL
- TW1-3 WATER TRACER DETAILS
- VV FIRE HYDRANT PAINT COLOR SCHEMES - CMUD-CFD STANDARDS - PUBLIC AND PRIVATE HYDRANTS

### GRAVITY SANITARY SEWER:

- A TYPE 1 24-INCH MANHOLE COVER VENTED
- F TYPE A 24-INCH MANHOLE FRAME 7 AND HALF - INCH TALL
- G TYPE B 24-INCH MANHOLE FRAME 4-INCH TALL
- TS1 TRACER WIRE - GRAVITY SEWER
- TS2 TRACER WIRE - GRAVITY SEWER DETAILS



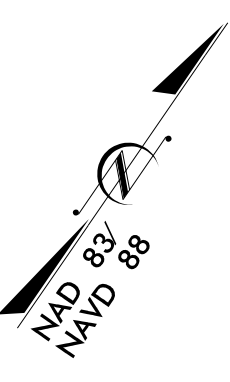
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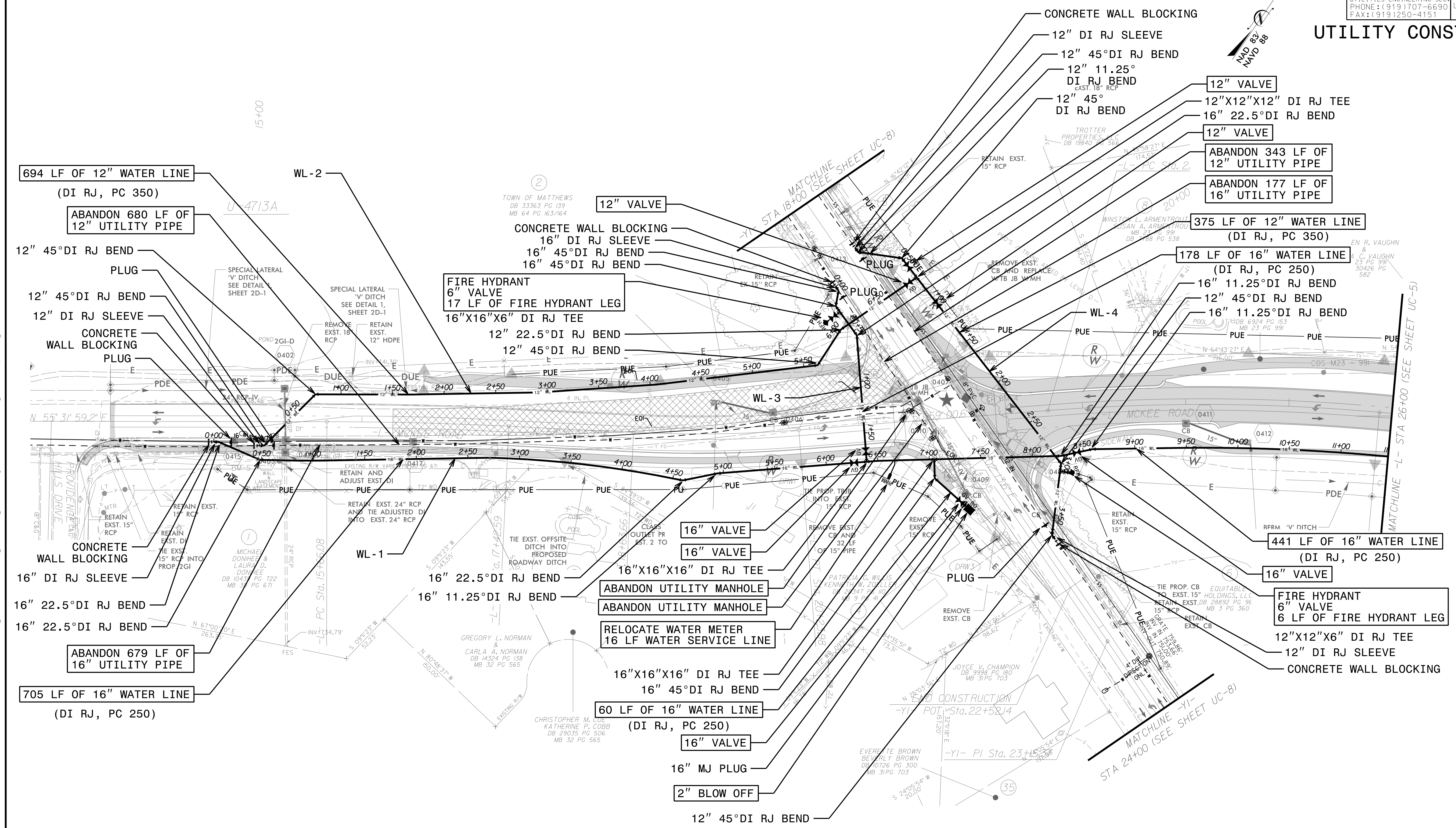
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U-4713A	UC-4
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: JNA	
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REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
6/23/2024	
UTILITY CONSTRUCTION PLANS ONLY	



**UTILITY CONSTRUCTION**



**NOTE:**  
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 8,405 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

24 JUN 2024 10:50 C:\S\PROJECTS\2018\A2018504\00.CH2M-CL\Water-U-4713A\Design\Utilities\Engineering\UC-Proj\U-4713A-Ut\_rdy4\_UC04\_psh.dgn  
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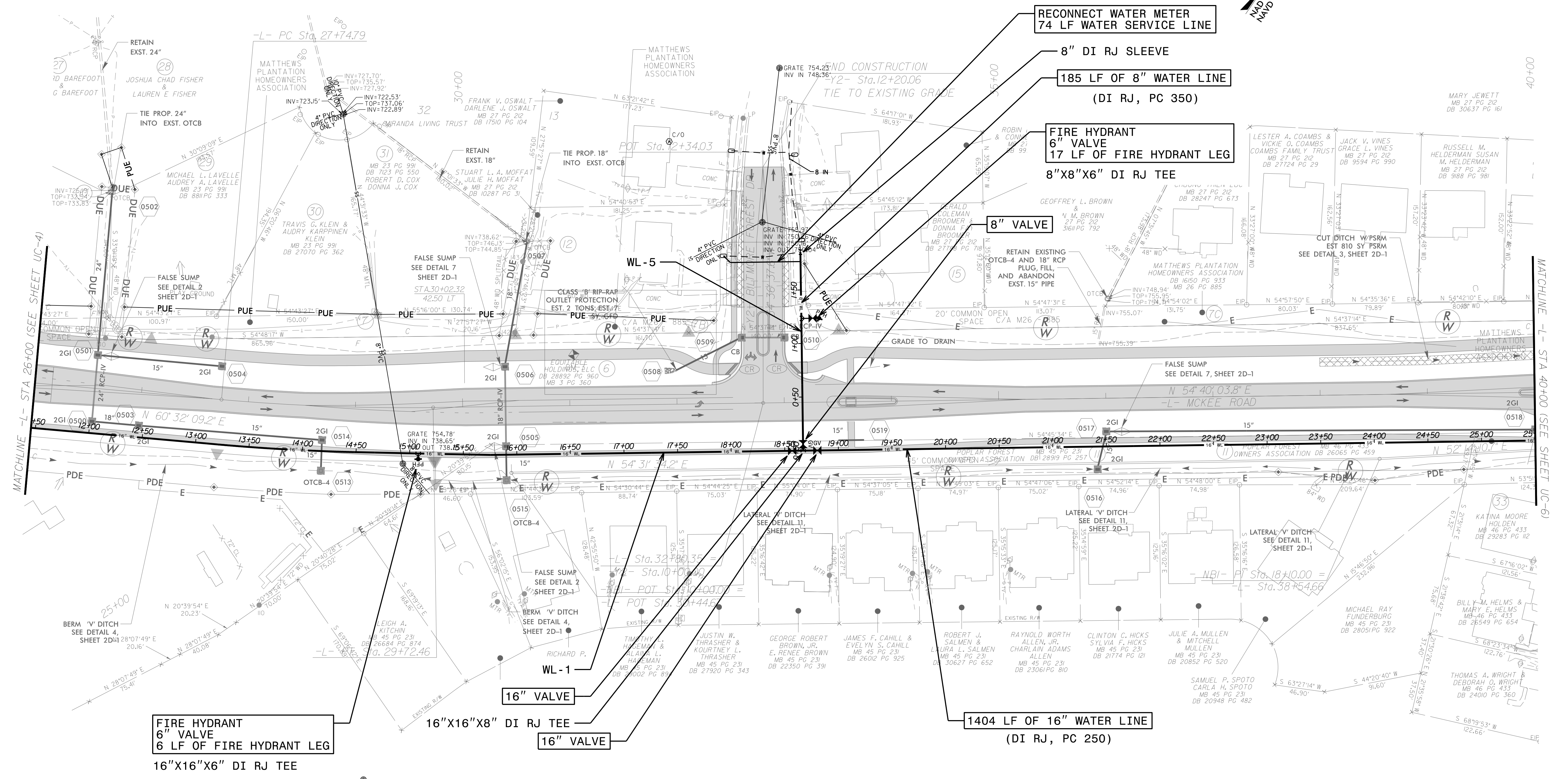
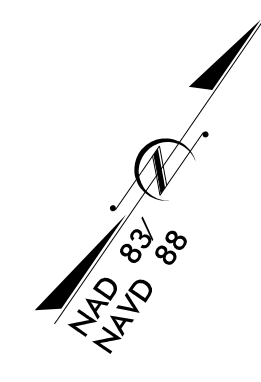


**HINDE ENGINEERING**  
 License No. C-2639  
 10020 Monroe Rd., Suite 280 Matthews, NC 28105

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

PROJECT REFERENCE NO. <b>U-4713A</b>	SHEET NO. <b>UC-5</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JKC</b>	
CHECKED BY: <b>JNA</b>	
APPROVED BY: <b>CLS</b>	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
UTILITY CONSTRUCTION PLANS ONLY	

# UTILITY CONSTRUCTION



**FIRE HYDRANT  
 6" VALVE  
 6 LF OF FIRE HYDRANT LEG  
 16"X16"X6" DI RJ TEE**

**16"X16"X8" DI RJ TEE**

**16" VALVE**

**1404 LF OF 16" WATER LINE  
 (DI RJ, PC 250)**

**FIRE HYDRANT  
 17" VALVE  
 17 LF OF FIRE HYDRANT LEG  
 8"X8"X6" DI RJ TEE**

**8" VALVE**

**8" DI RJ SLEEVE  
 185 LF OF 8" WATER LINE  
 (DI RJ, PC 350)**

**NOTE:  
 THE ESTIMATED QUANTITY OF DUCTILE IRON  
 WATER PIPE FITTINGS ON THIS PLAN SHEET  
 IS 1,715 POUNDS. THE ACTUAL QUANTITY  
 AND TYPE OF FITTINGS WILL VARY BASED ON  
 FIELD CONDITIONS.**

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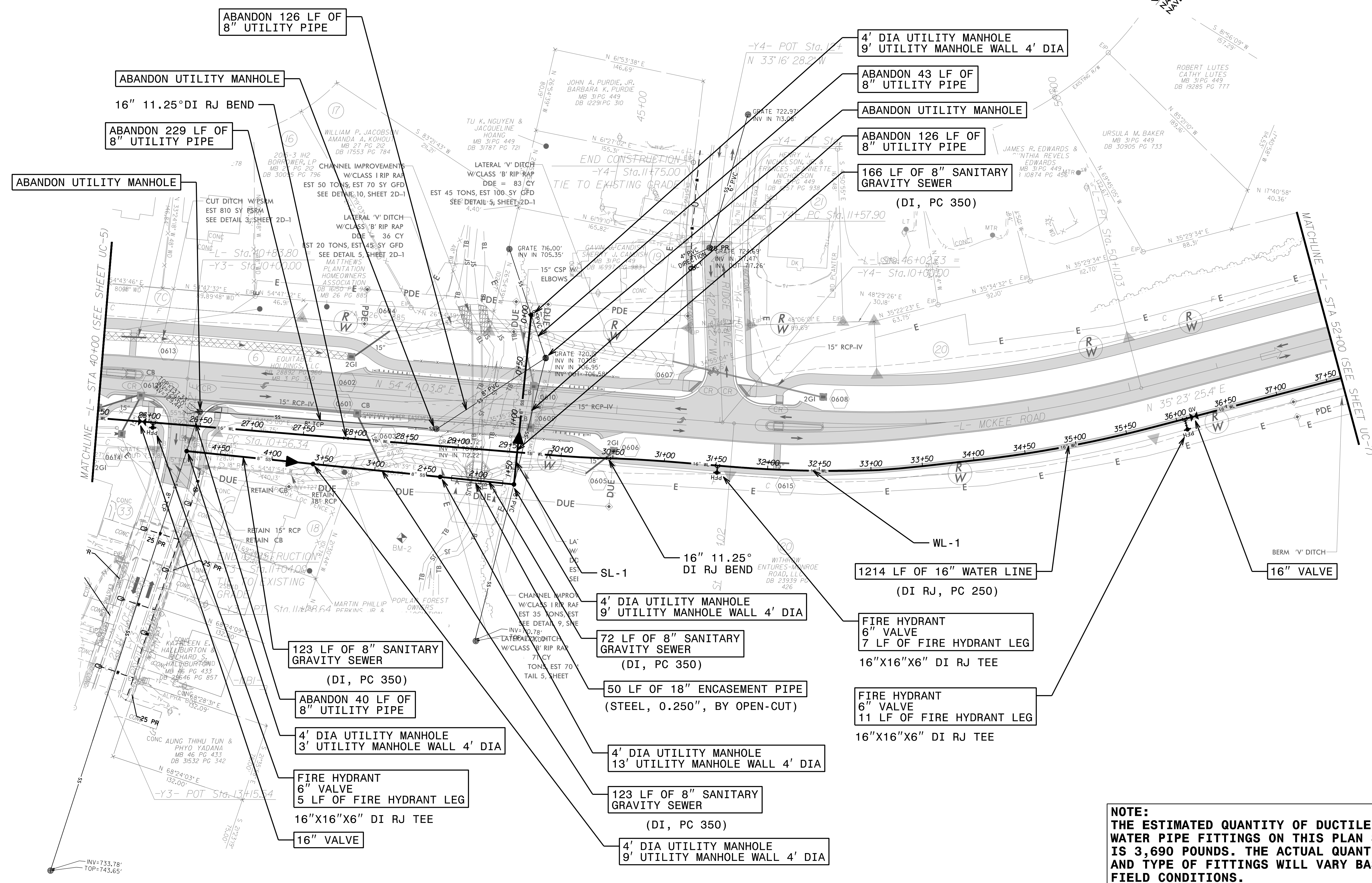


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PROJECT REFERENCE NO.	SHEET NO.
U-4713A	UC-6
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: JNA	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**UTILITY CONSTRUCTION**



**NOTE:**  
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 3,690 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

24 JUN 2024 10:50 S:\PROJECTS\2018\A2018504-00.CH2M-CL\Water-U-4713A\Design\Utilities\Engineering\U-4713A-Ut\_rdy6\_UC06\_psh.dgn  
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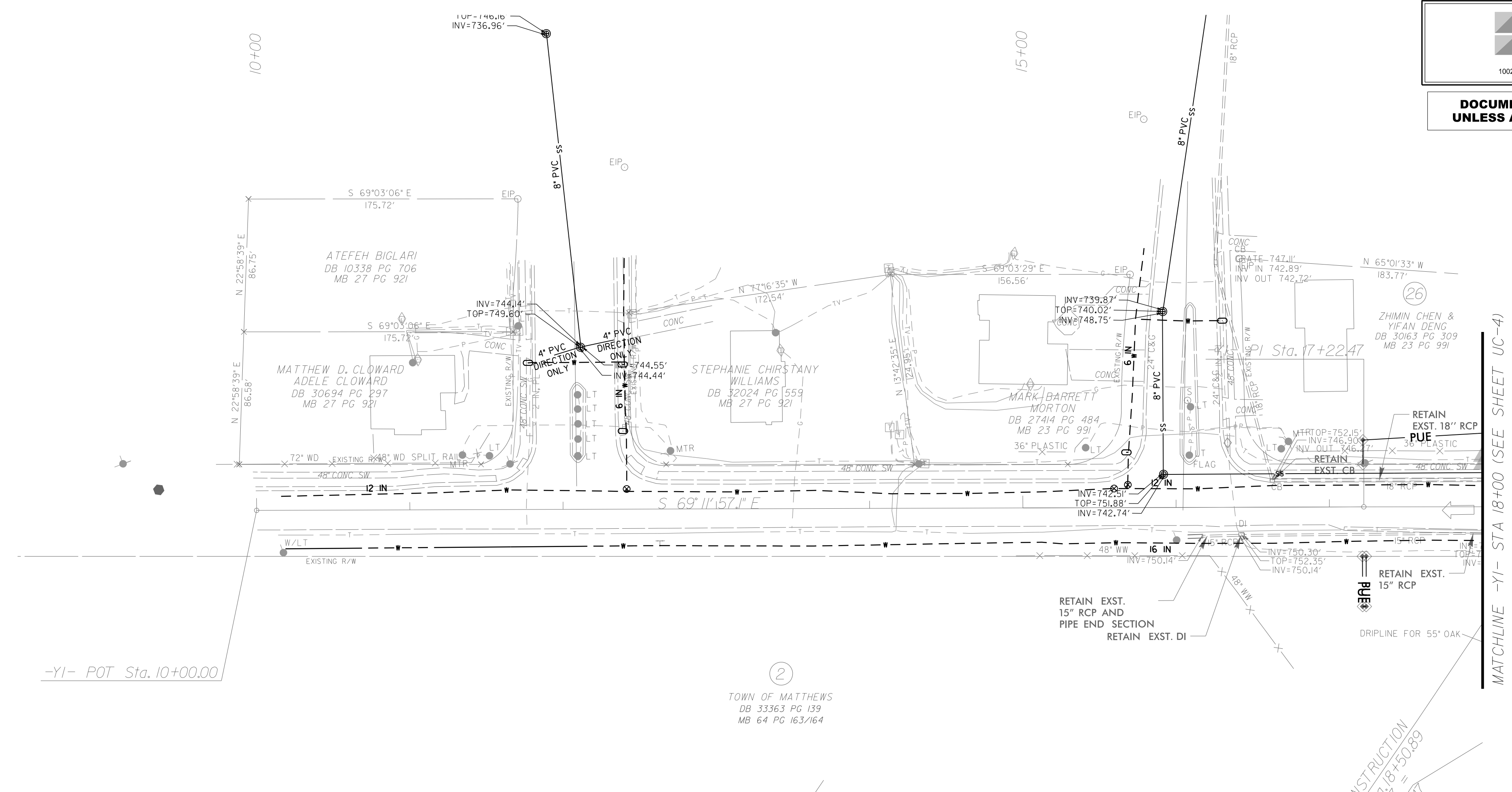


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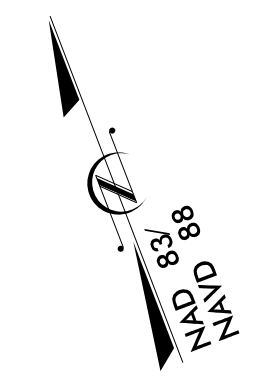
**DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO.	SHEET NO.
U-4713A	UC-8
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: JNA	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
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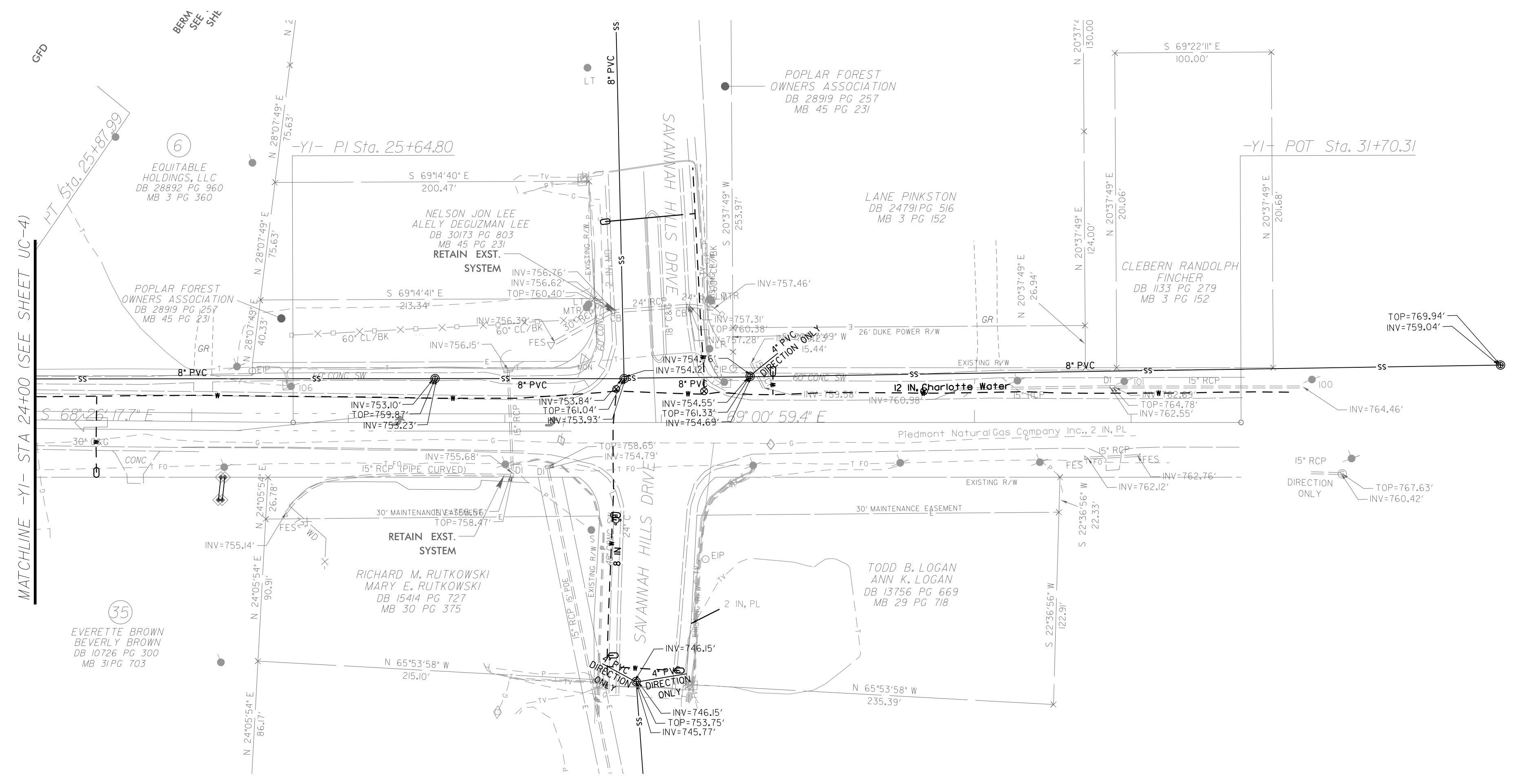
# UTILITY CONSTRUCTION



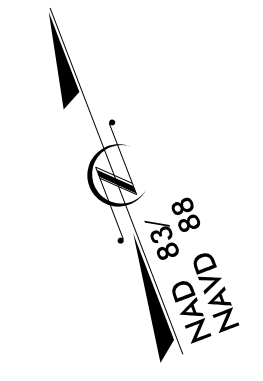
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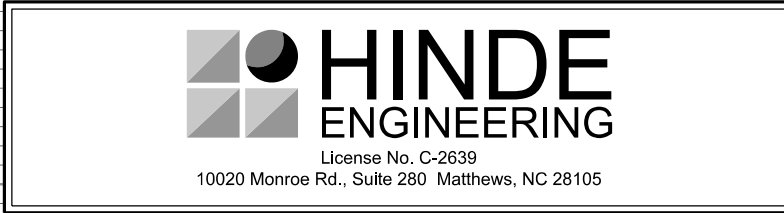
NO UTILITY CONSTRUCTION EXPECTED ON THIS SHEET



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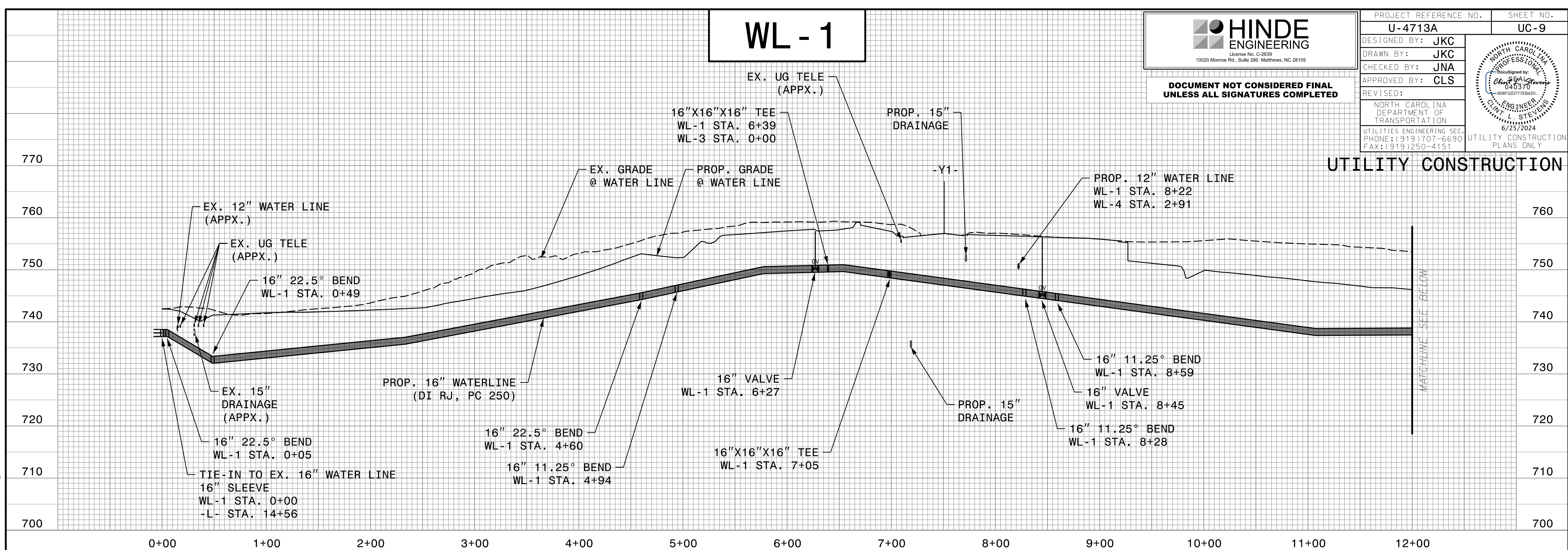
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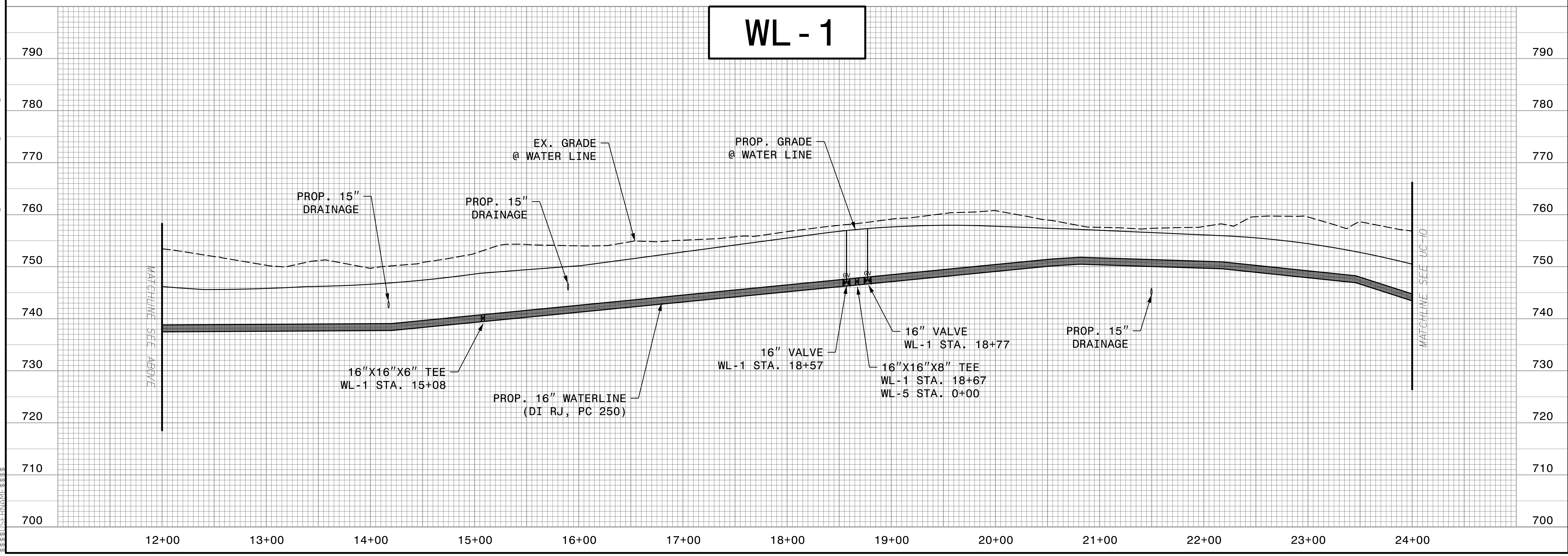
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO. <b>U-4713A</b>	SHEET NO. <b>UC-9</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JKC</b>	
CHECKED BY: <b>JNA</b>	
APPROVED BY: <b>CLS</b>	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151

## UTILITY CONSTRUCTION



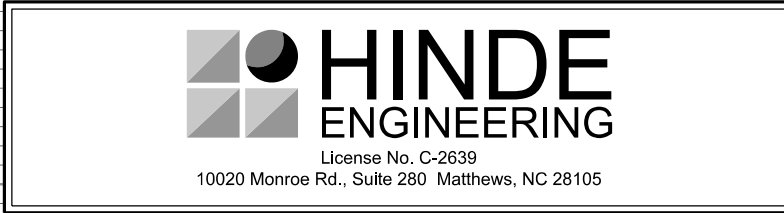
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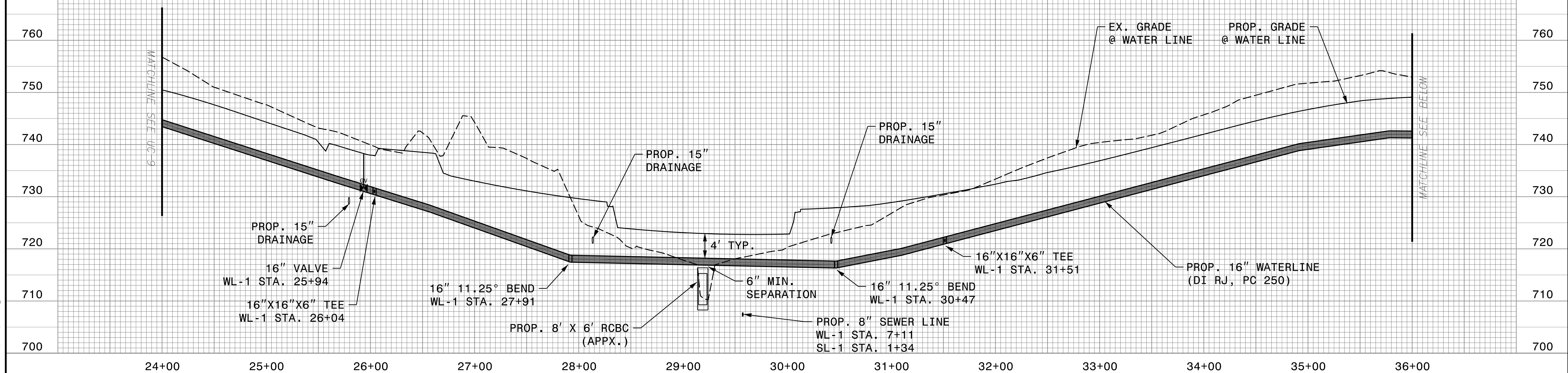
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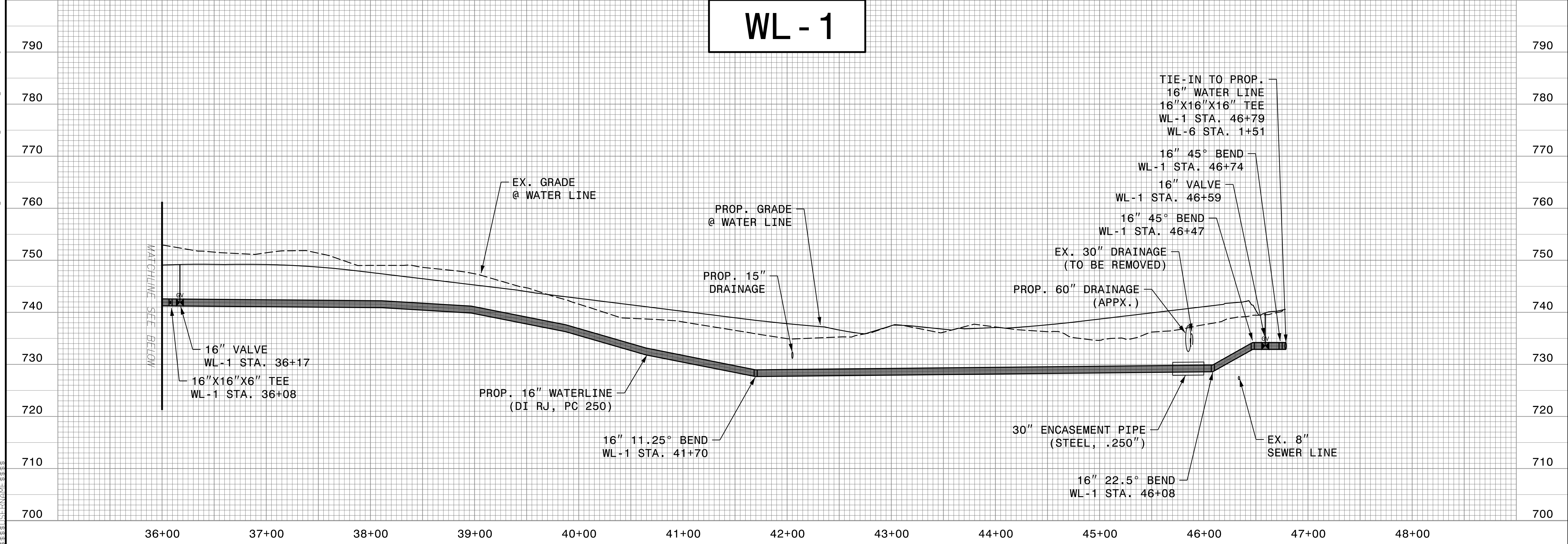
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO. <b>U-4713A</b>	SHEET NO. <b>UC-10</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JKC</b>	
CHECKED BY: <b>JNA</b>	
APPROVED BY: <b>CLS</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

## UTILITY CONSTRUCTION



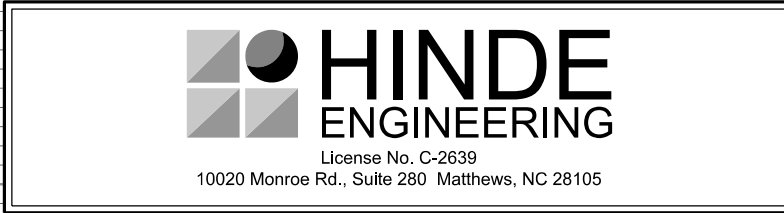
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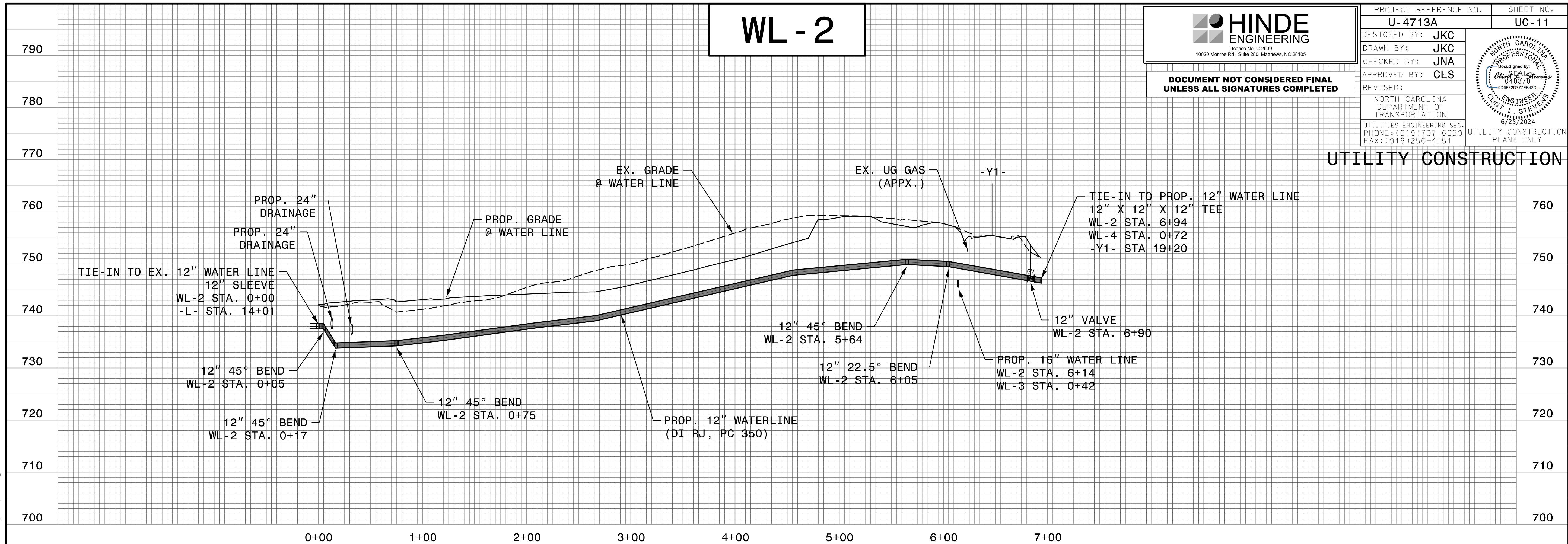
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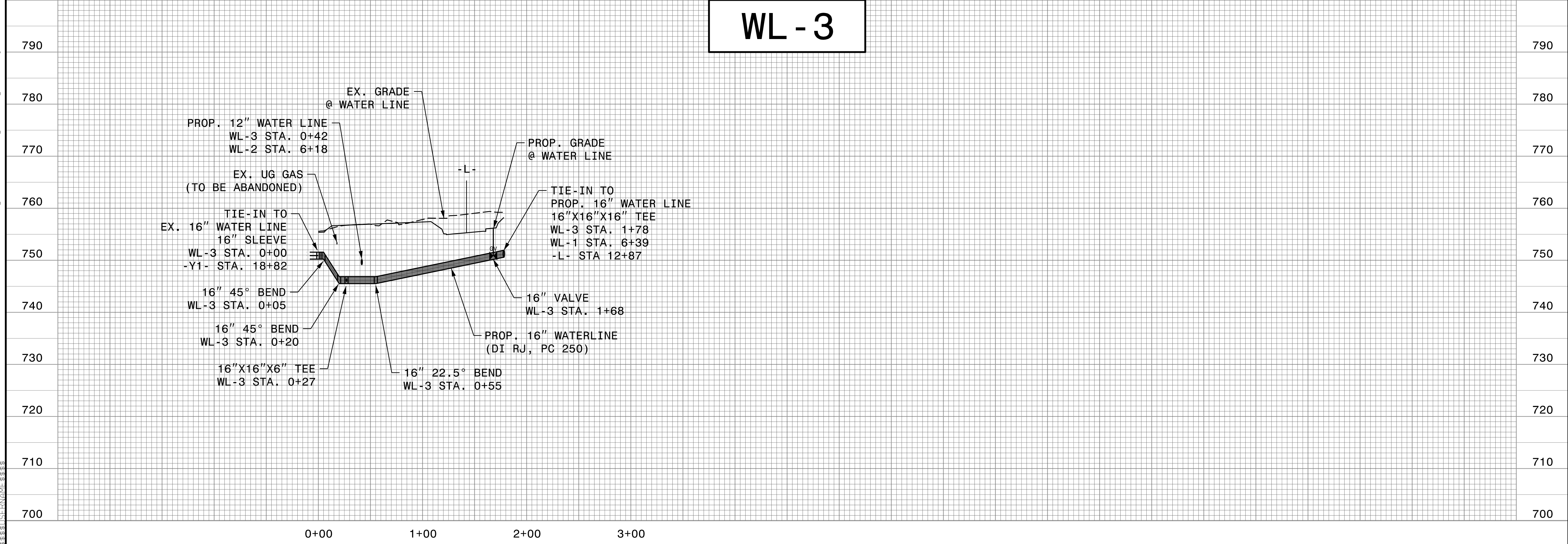
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO. <b>U-4713A</b>	SHEET NO. <b>UC-11</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JKC</b>	
CHECKED BY: <b>JNA</b>	
APPROVED BY: <b>CLS</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

## UTILITY CONSTRUCTION

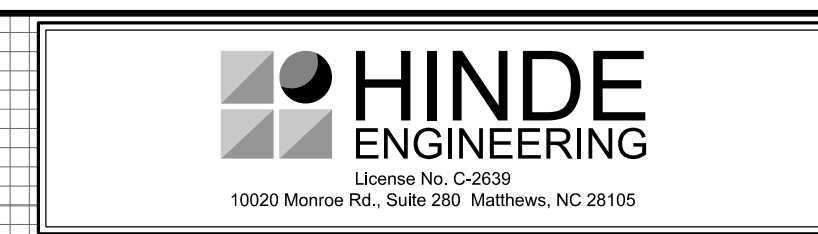


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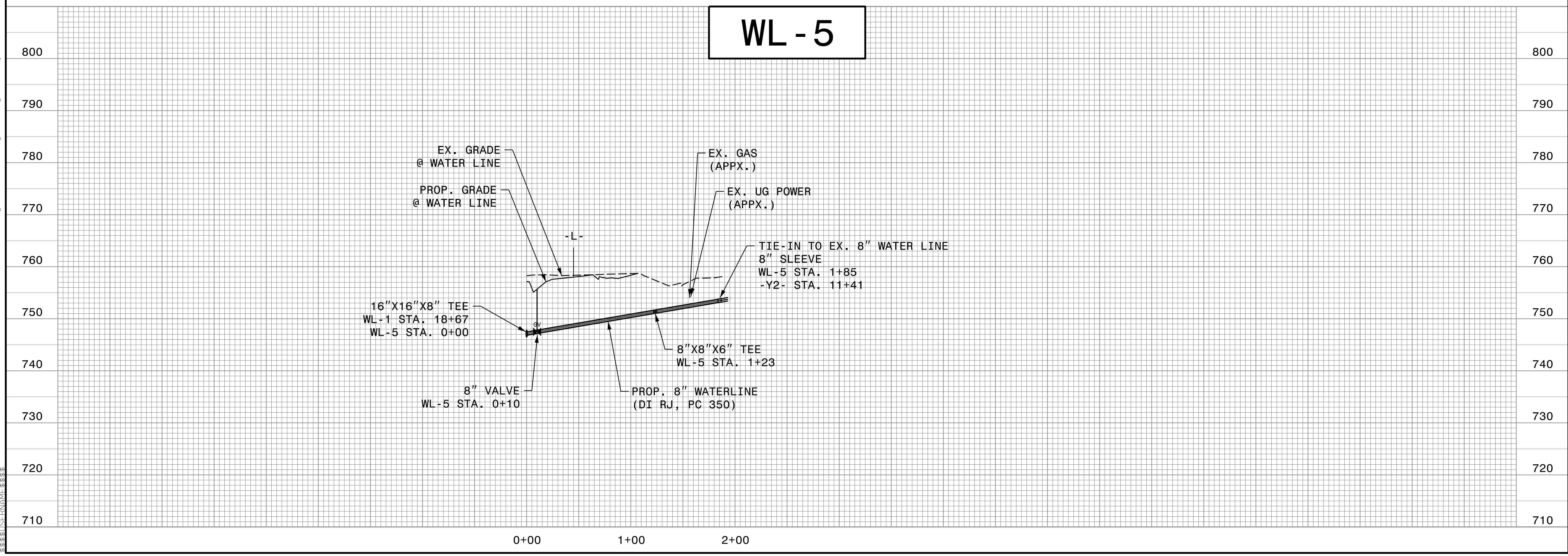
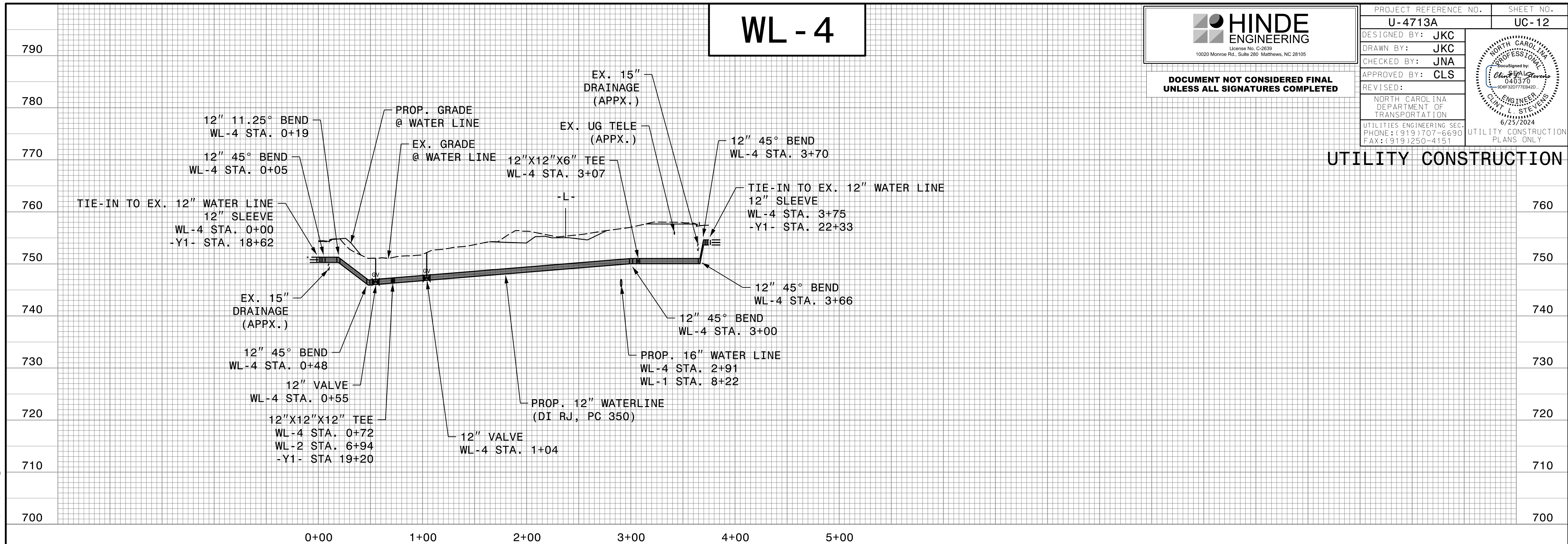




PROJECT REFERENCE NO.	SHEET NO.
U-4713A	UC-12
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: JNA	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

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### UTILITY CONSTRUCTION



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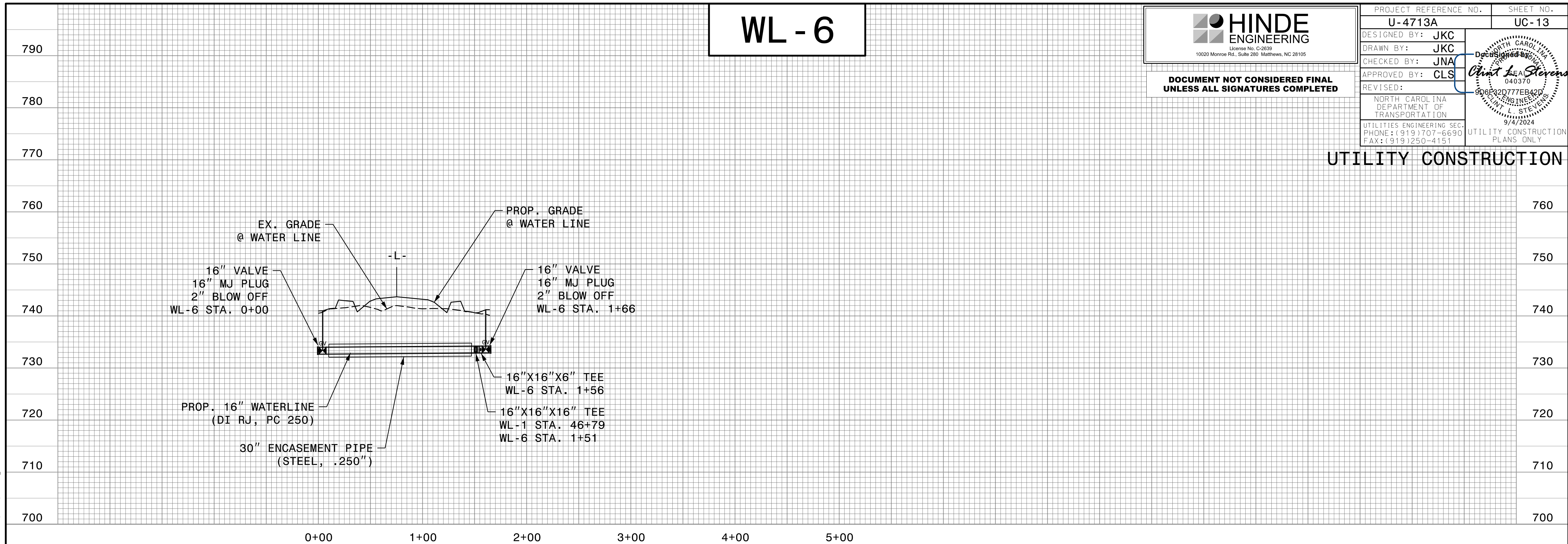
# WL - 6

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 License No. C-2639  
 10020 Monroe Rd., Suite 280 Matthews, NC 28105

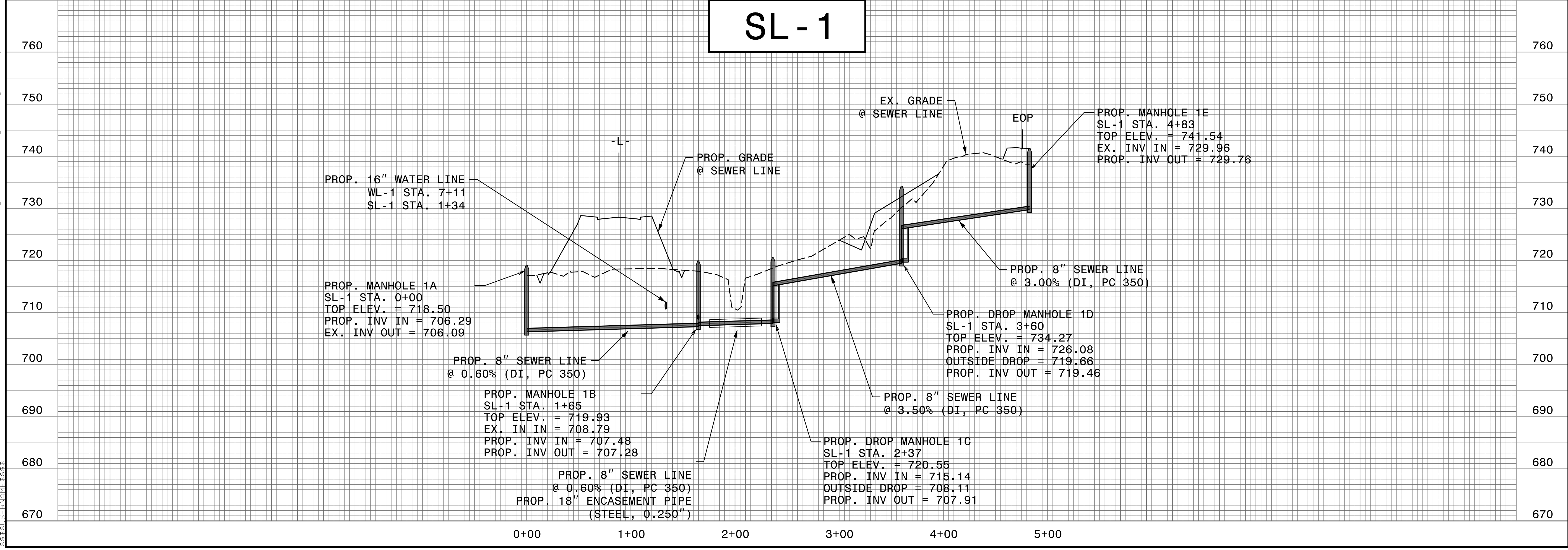
**DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO. <b>U-4713A</b>	SHEET NO. <b>UC-13</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JKC</b>	
CHECKED BY: <b>JNA</b>	
APPROVED BY: <b>CLS</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

## UTILITY CONSTRUCTION



# SL - 1



24-SEP-2024 12:42 P:\PROJECTS\2018\A2018504-00.CH2M-CL\Water-U-4713A\Design\Utilities\Engineering\UC\Proj\U-4713A-Ut-UC13-pf1-psd.dgn