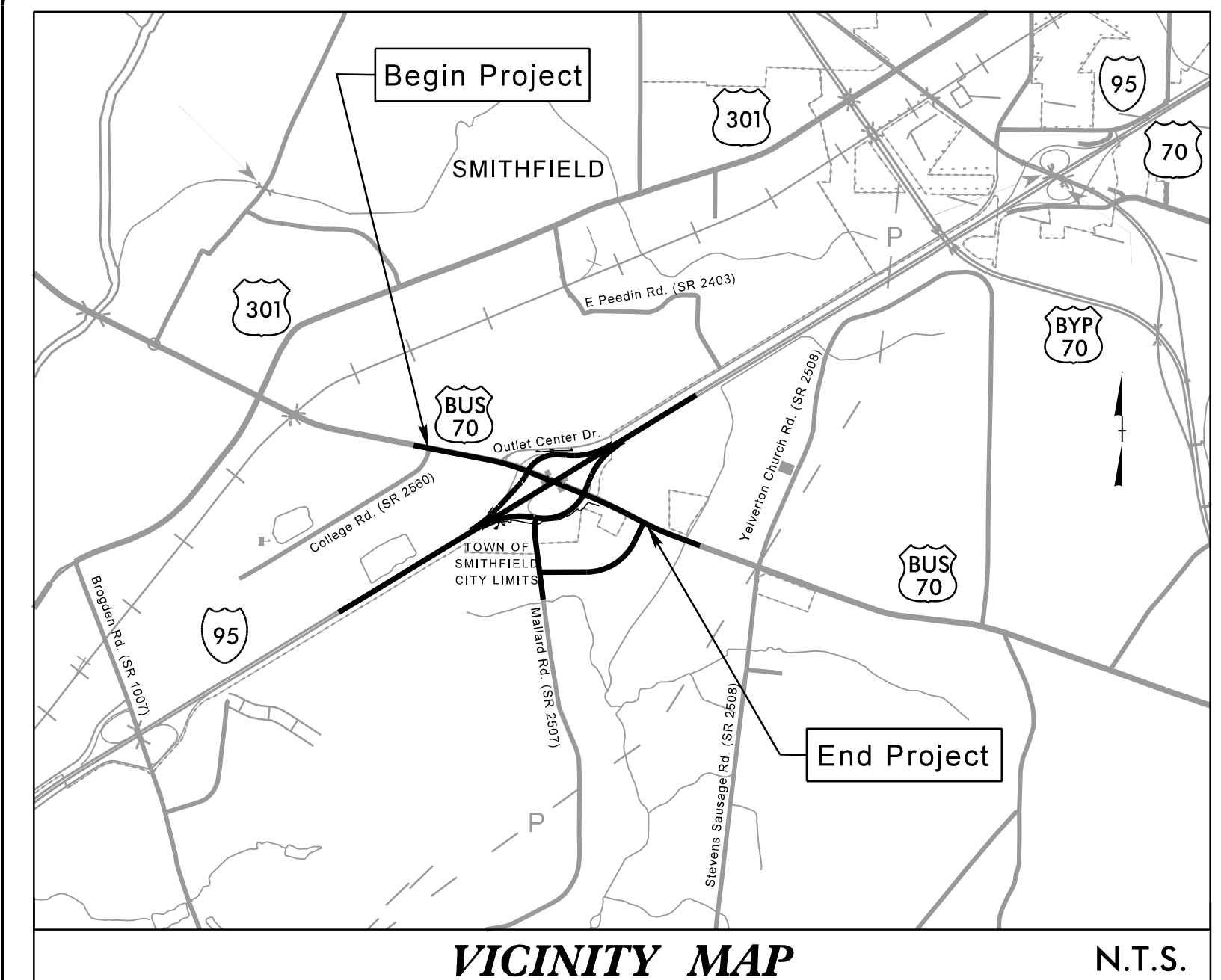


09/08/2023

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TIP PROJECT: I-5972

CONTRACT: C203991



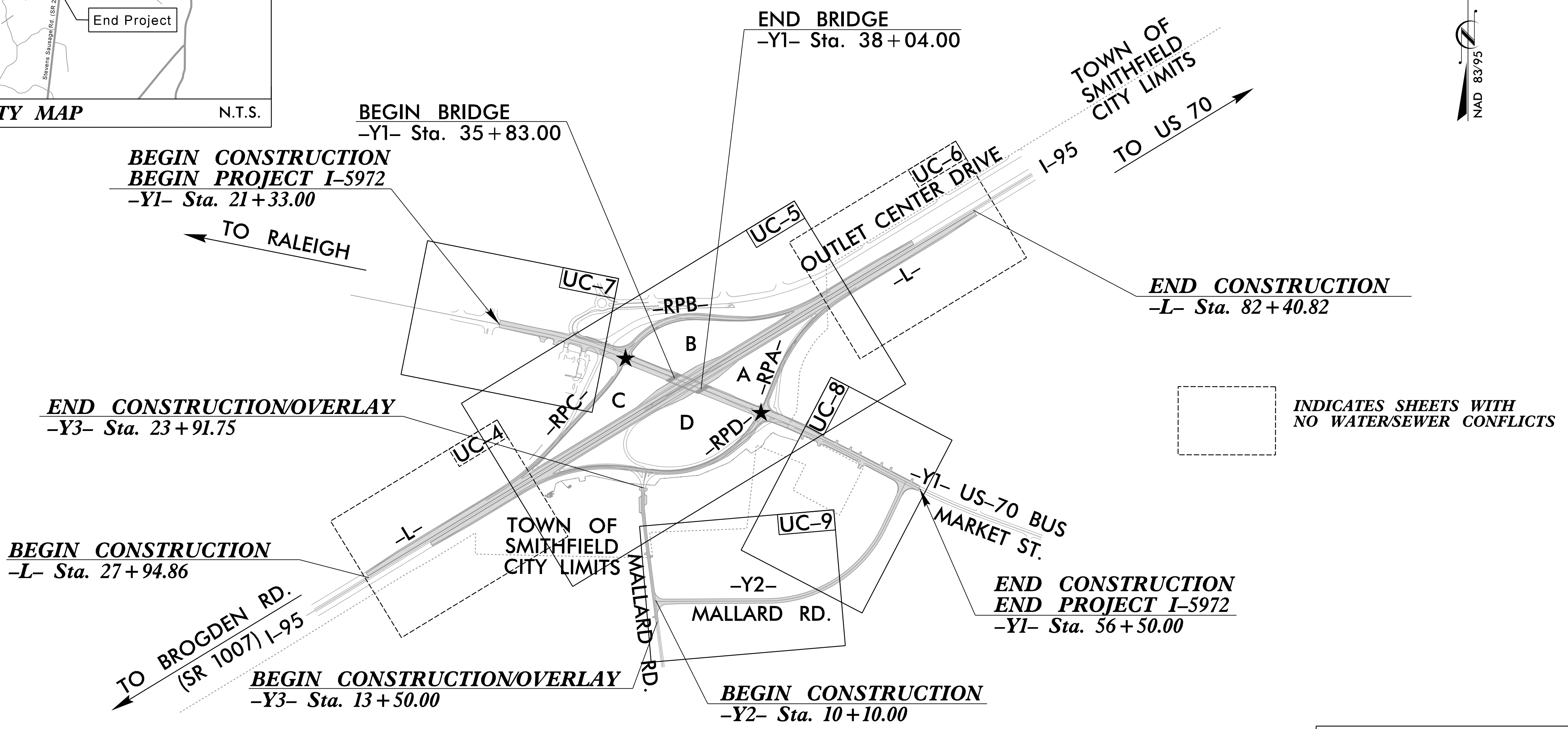
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JOHNSTON COUNTY

LOCATION: I-95 AND US-70 BUSINESS, (E. MARKET STREET), EXIT 95 INTERCHANGE FROM OUTLET CENTER DR. TO WEST OF YELVERTON GROVE RD.

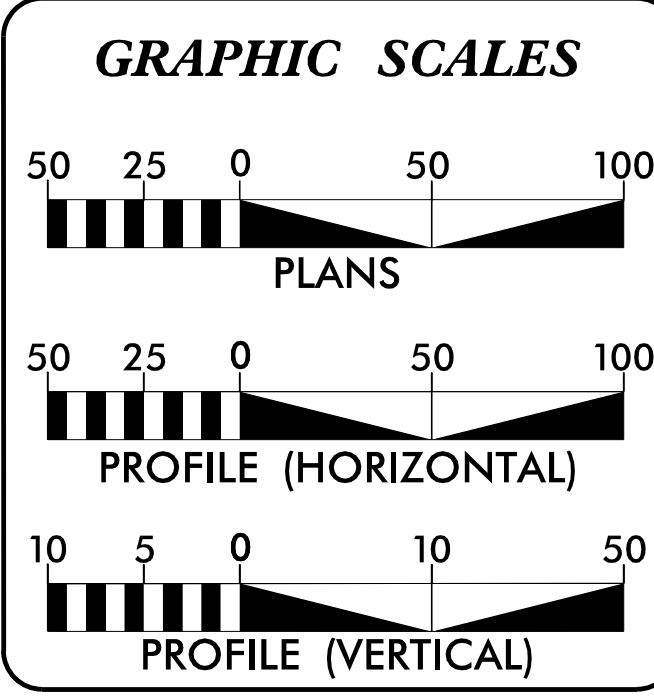
TYPE OF WORK: WATER AND SEWER LINE RELOCATION

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5972	1	14
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44989.1.1	NHP-0095(045)	PE	
44989.2.1	NHP-0095(045)	R/W, UTILITIES	
44989.3.1	NHP-0095(045)	CONST.	



INDICATES SHEETS WITH NO WATER/SEWER CONFLICTS

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



UTILITY OWNER
TOWN OF SMITHFIELD
WATER AND SEWER

INDEX OF SHEETS

INDEX OF SHEETS	INDEX OF SHEETS
TITLE SHEET	UC-1
SYMBOLS	UC-2
NOTES AND DETAILS	UC-3 THRU UC-3B
UTILITY PLAN SHEETS	UC-4 THRU UC-9
UTILITY PROFILE SHEETS	UC-10 THRU UC-12

PREPARED IN THE OFFICE OF:
RK&K RUMMEL, KLEPPER & KAHL, LLP
8601 SIX FORKS ROAD, FORUM 1, SUITE 700
RALEIGH, NORTH CAROLINA 27615
NC LICENSE NO. E-0112

FOR NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE: May 16, 2019
LETTING DATE: November 21, 2023
NCDOT CONTACT: RUSSELL BROADWELL, P.E.
DIVISION 4 PROJECT ENGINEER

B. KEITH SKINNER, P.E.
PROJECT ENGINEER

MICHAEL T. MERRITT, P.E.
PROJECT DESIGN ENGINEER

UTILITY ENGINEER

Bryan M. Badley
P.E.

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

KYLE PLEASANT DIVISION UTILITIES ENGINEER
ADDISON GAINES DIVISION PROJECT 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	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	

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

NOTE
PAY ITEM

EXISTING UTILITIES SYMBOLS

Utility Pole with Base		*Underground Power Line	
Power Transmission Line Tower		*Underground Telephone Cable	
Sanitary Sewer Manhole		*Underground Telephone Conduit	
Located Miscellaneous Utility Object		*Underground Fiber Optics Telephone Cable	
Abandoned According to Utility Records	AATUR	*Underground TV Cable	
End of Information	E.O.I.	*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)

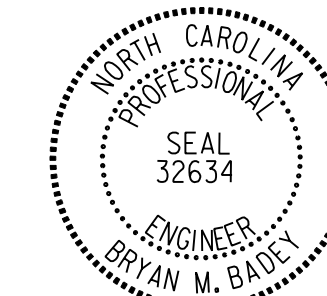
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8/11/2023 UC-Proj\15972-ut-sym-UC2.psh (2).dgn
REV: 2/1/2012

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NCDEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2018 AND THE STANDARD TECHNICAL SPECIFICATIONS FOR THE TOWN OF SMITHFIELD DATED JANUARY, 2001
2. THE EXISTING WATER AND SANITARY SEWER LINES BELONGS TO THE TOWN OF SMITHFIELD.
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, ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIROMENTAL QUALITY, DIVISION OF WATER RESOURCES. 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.

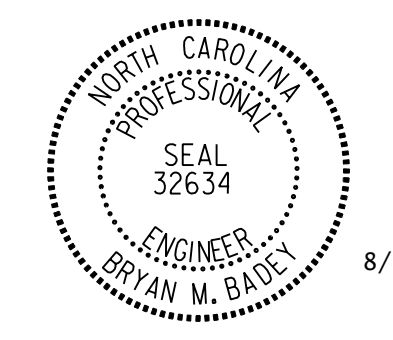
6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING 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.



DocuSigned by:
Bryan Bady
 UTILITY CONSTRUCTION PLANS

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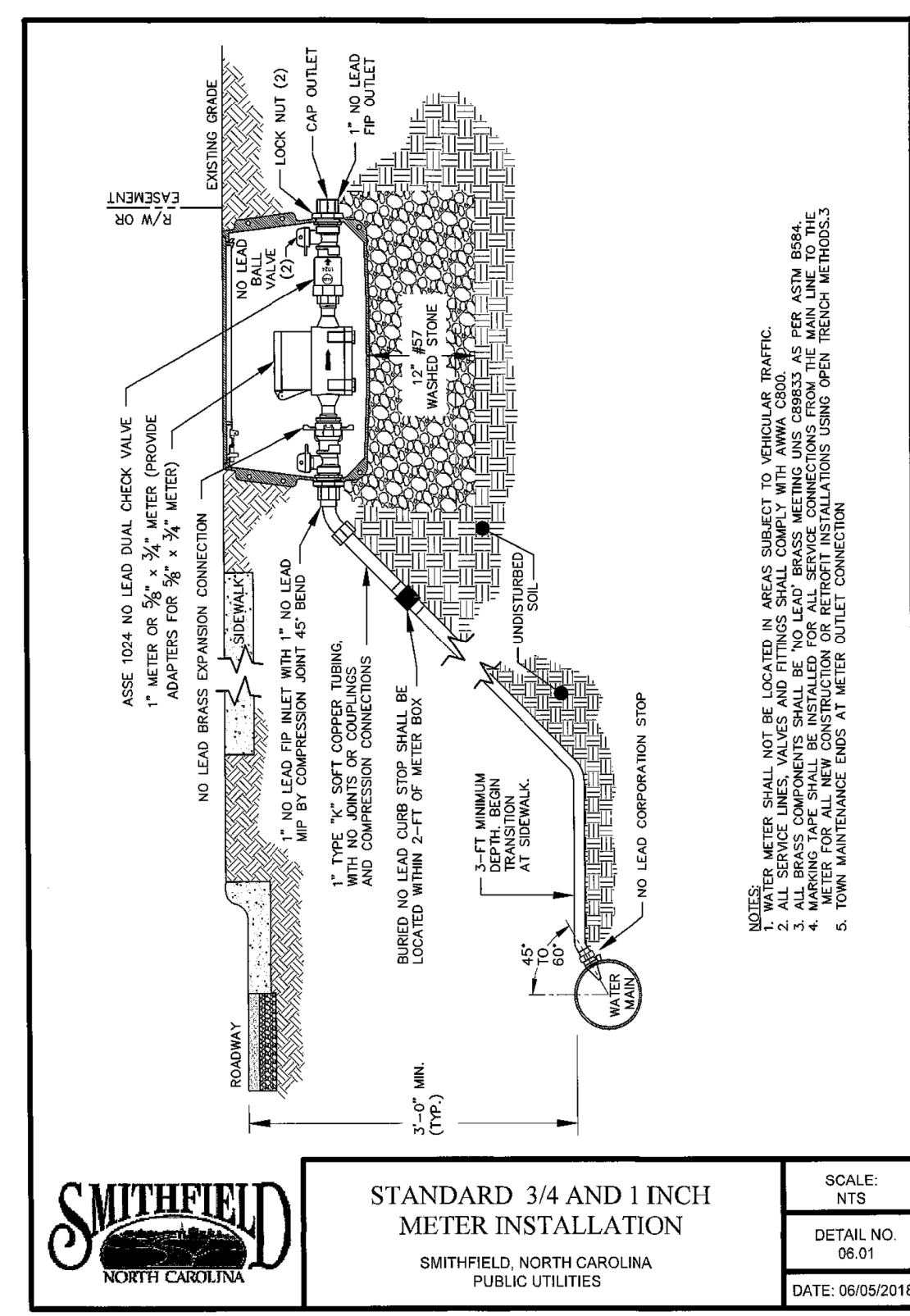
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 8/11/2023
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8/11/2023

DocuSigned by:
Bryan Badley
SMITHFIELD UTILITIES
UTILITY CONSTRUCTION PLANS

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SMITHFIELD
NORTH CAROLINA

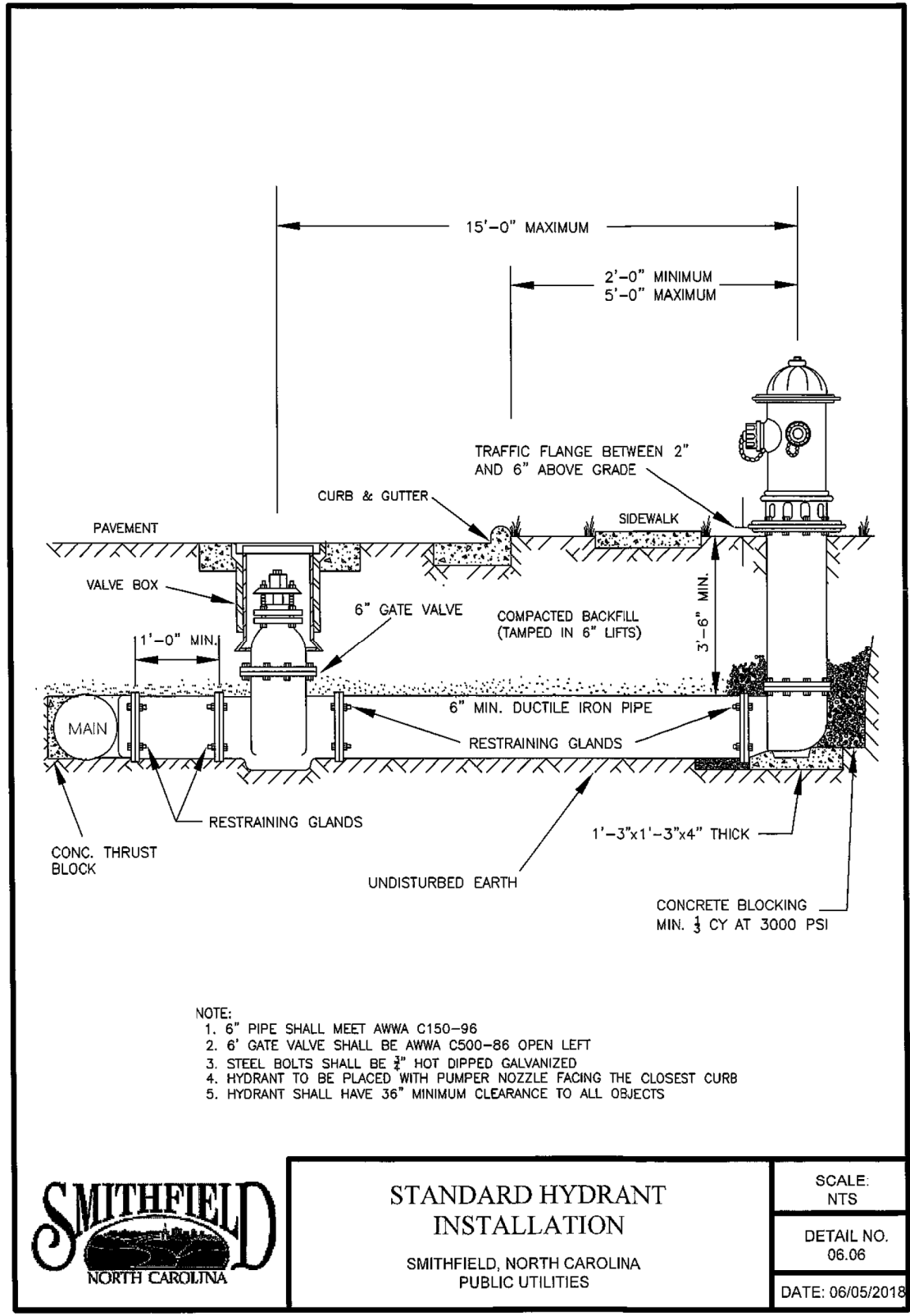
**STANDARD 3/4 AND 1 INCH
METER INSTALLATION**

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.01

DATE: 06/05/2018



SMITHFIELD
NORTH CAROLINA

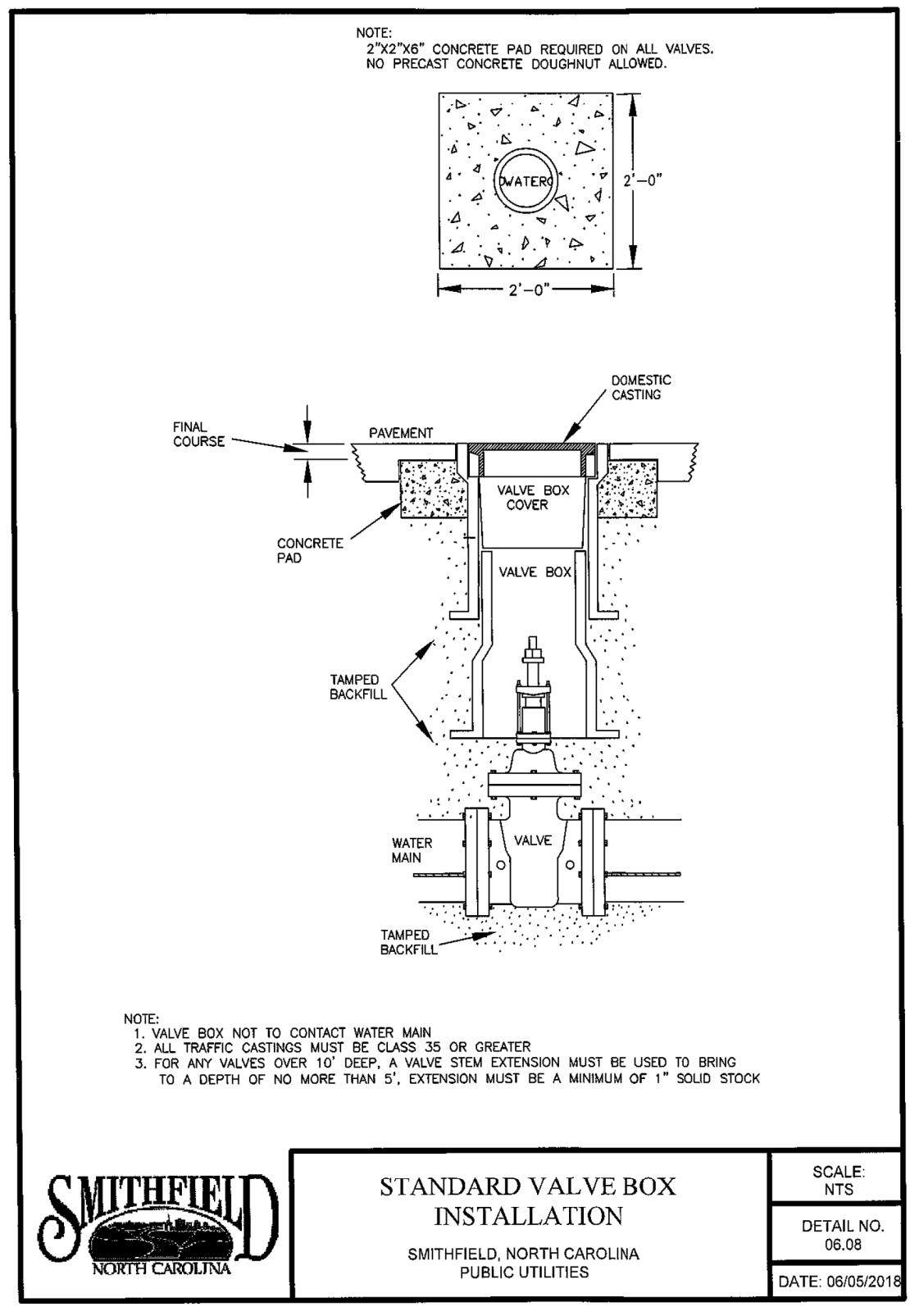
**STANDARD HYDRANT
INSTALLATION**

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.06

DATE: 06/05/2018



SMITHFIELD
NORTH CAROLINA

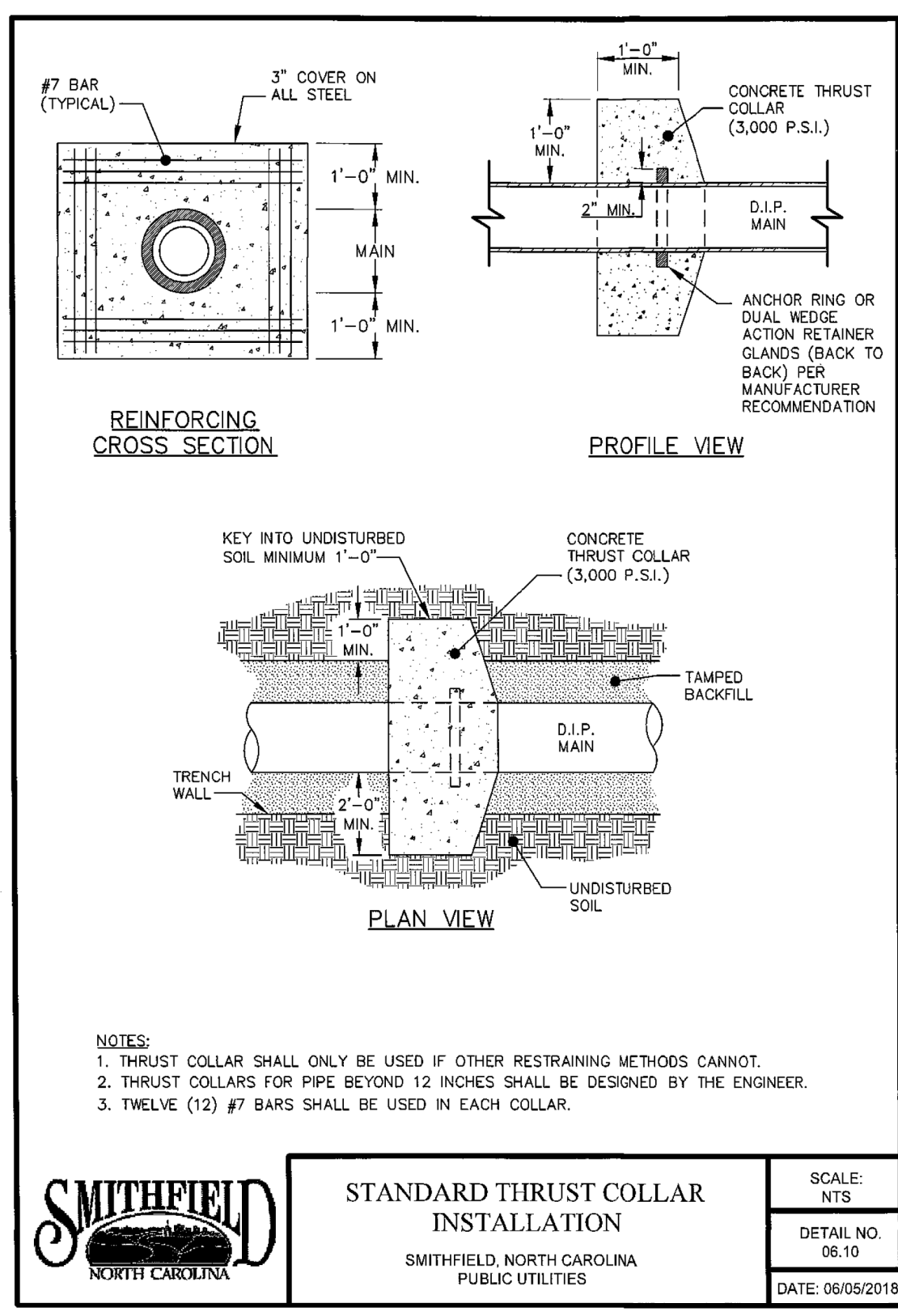
**STANDARD VALVE BOX
INSTALLATION**

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.08

DATE: 06/05/2018



SMITHFIELD
NORTH CAROLINA

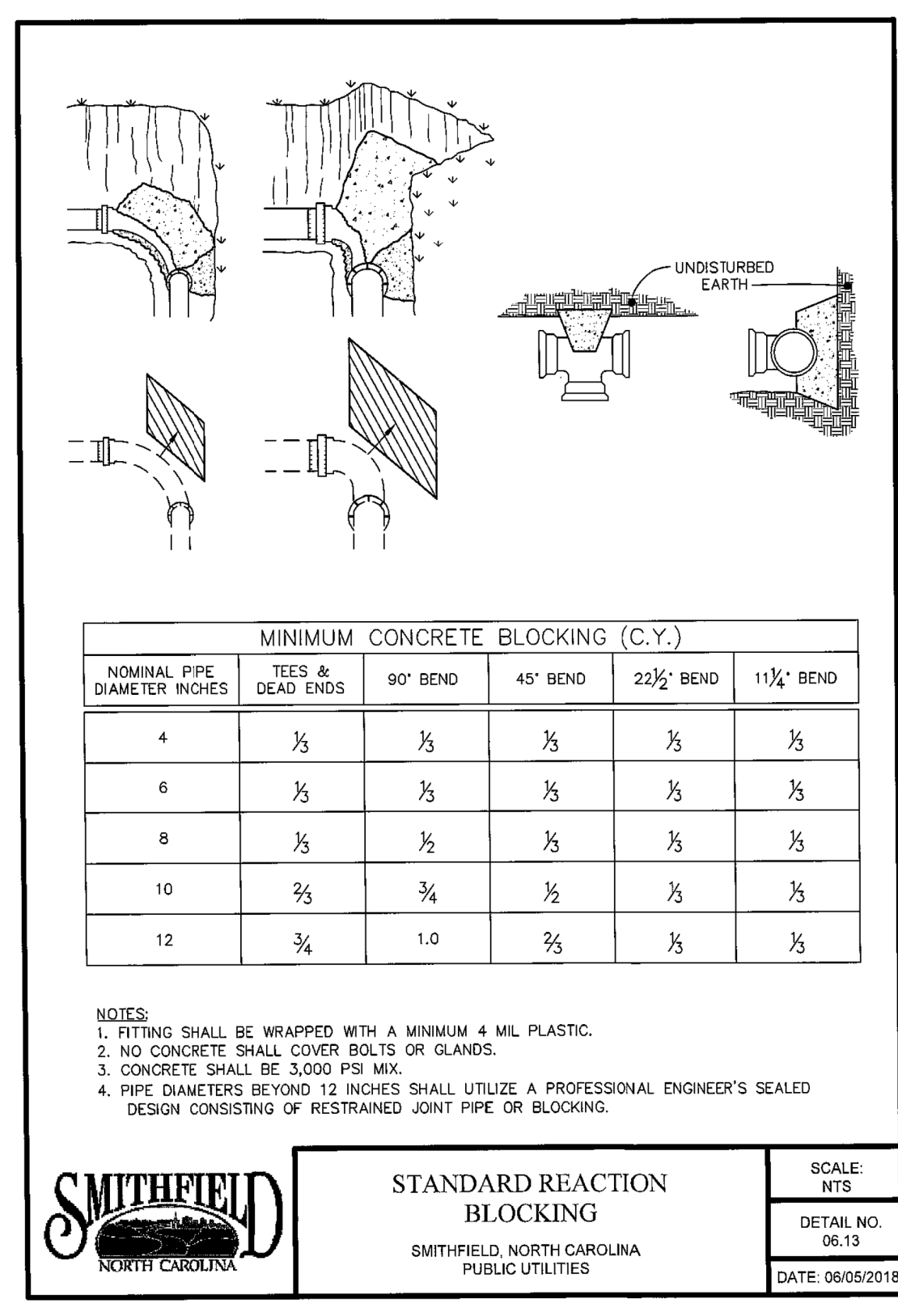
**STANDARD THRUST COLLAR
INSTALLATION**

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.10

DATE: 06/05/2018



SMITHFIELD
NORTH CAROLINA

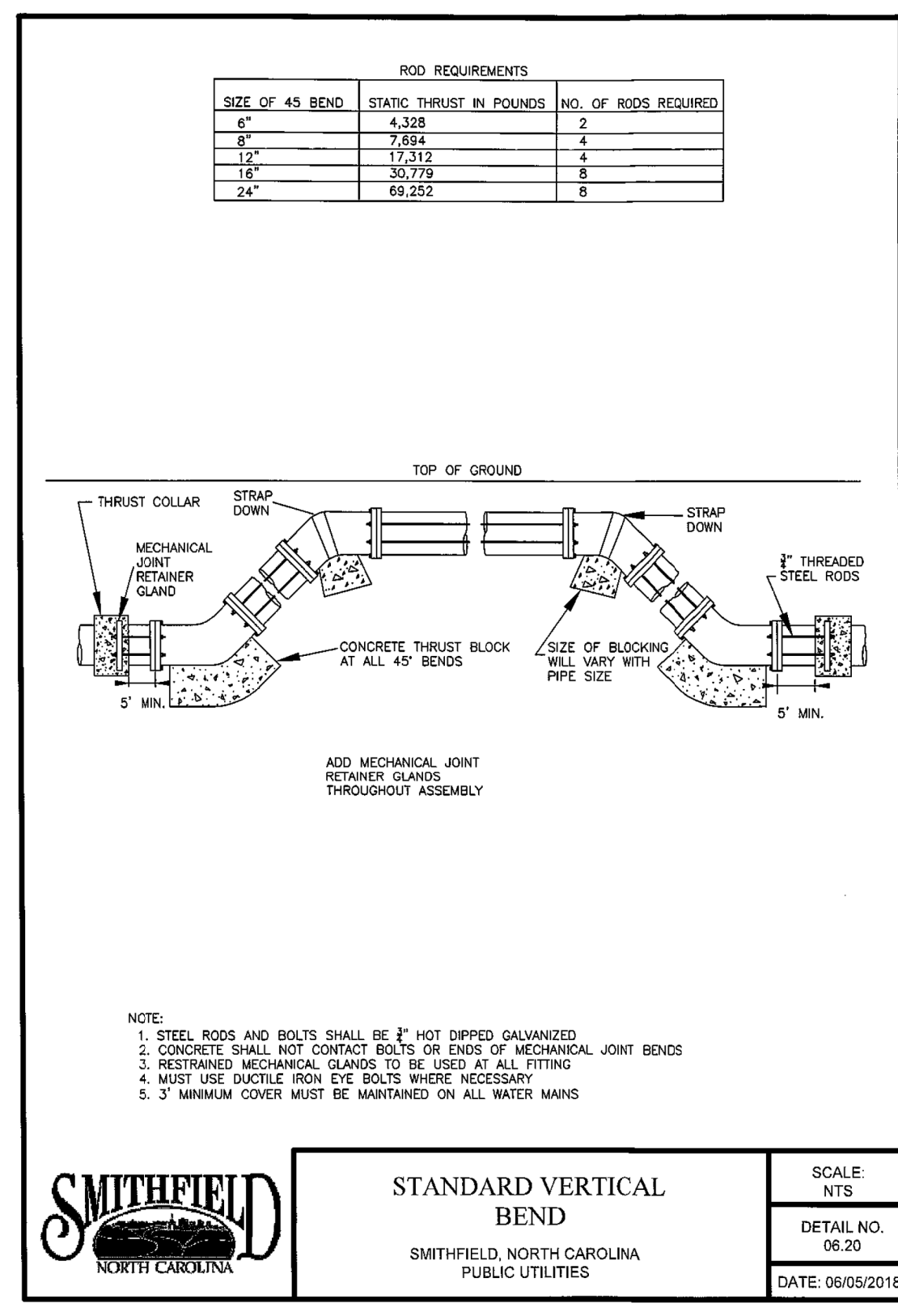
**STANDARD REACTION
BLOCKING**

SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

DETAIL NO.
06.13

DATE: 06/05/2018



SMITHFIELD
NORTH CAROLINA

**STANDARD VERTICAL
BEND**

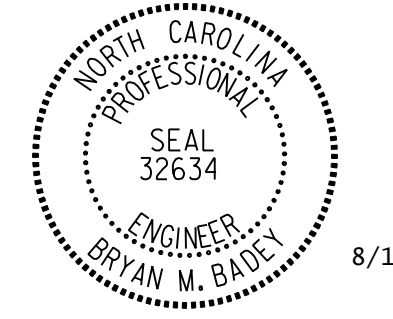
SMITHFIELD, NORTH CAROLINA
PUBLIC UTILITIES

SCALE:
NTS

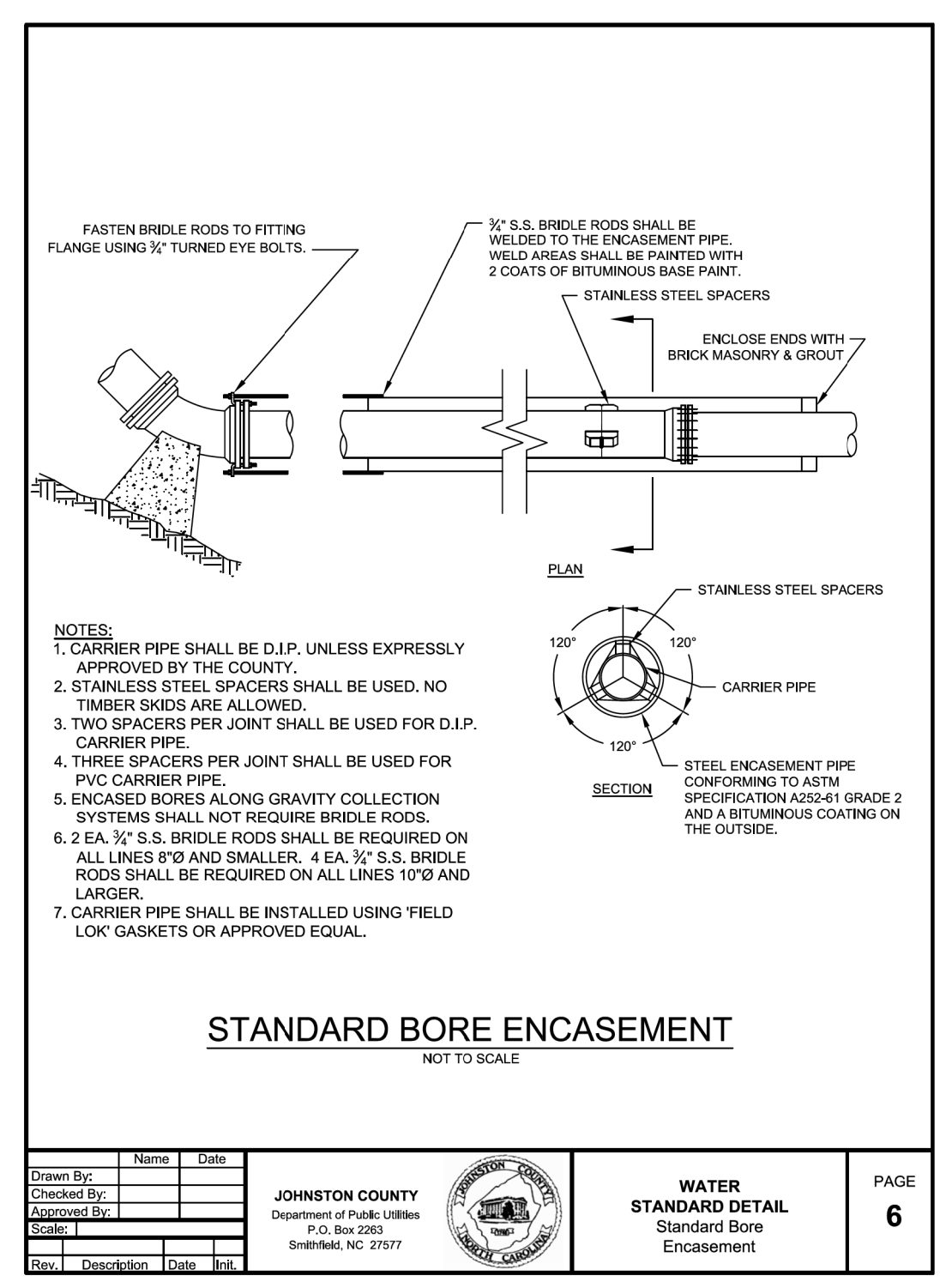
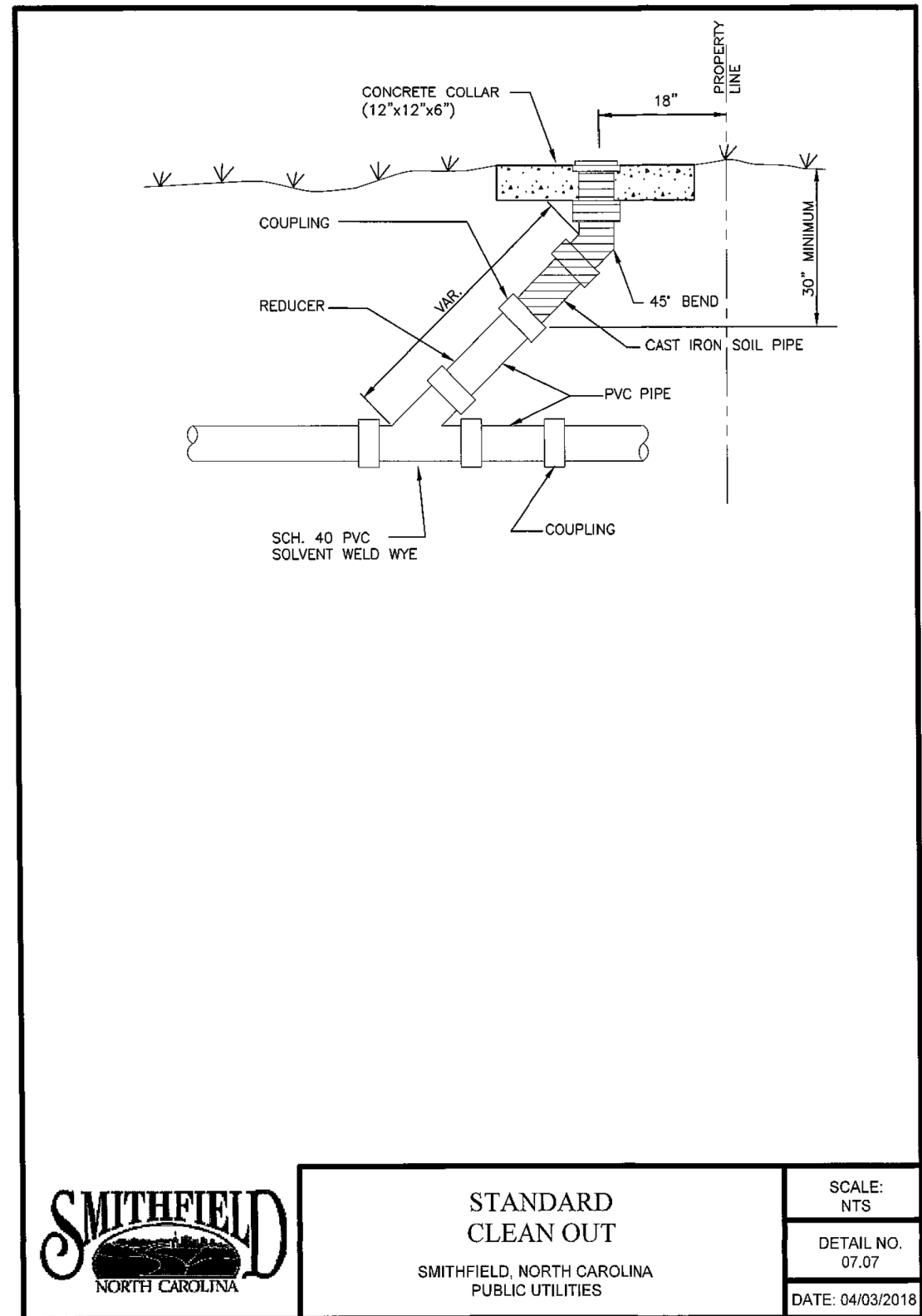
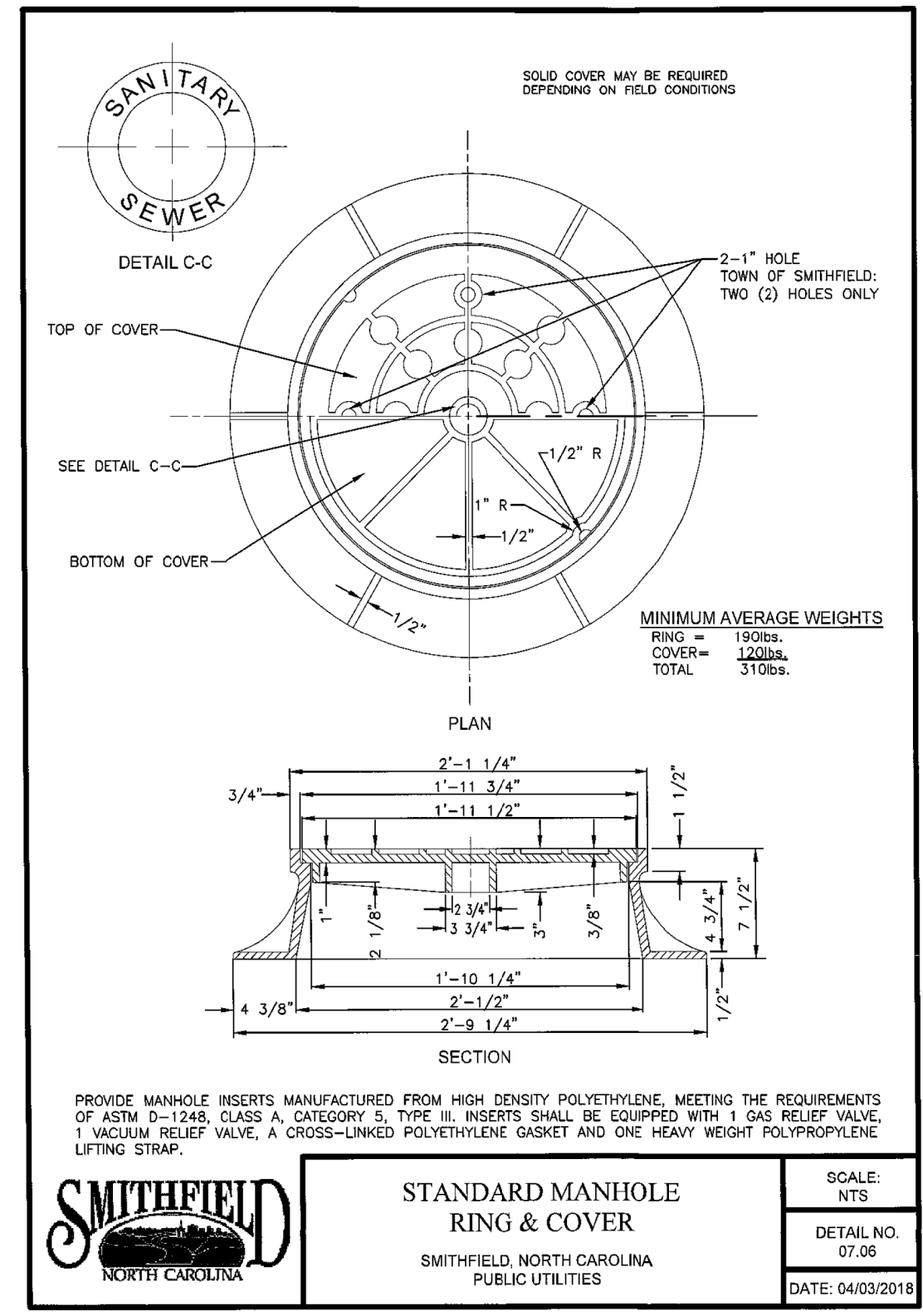
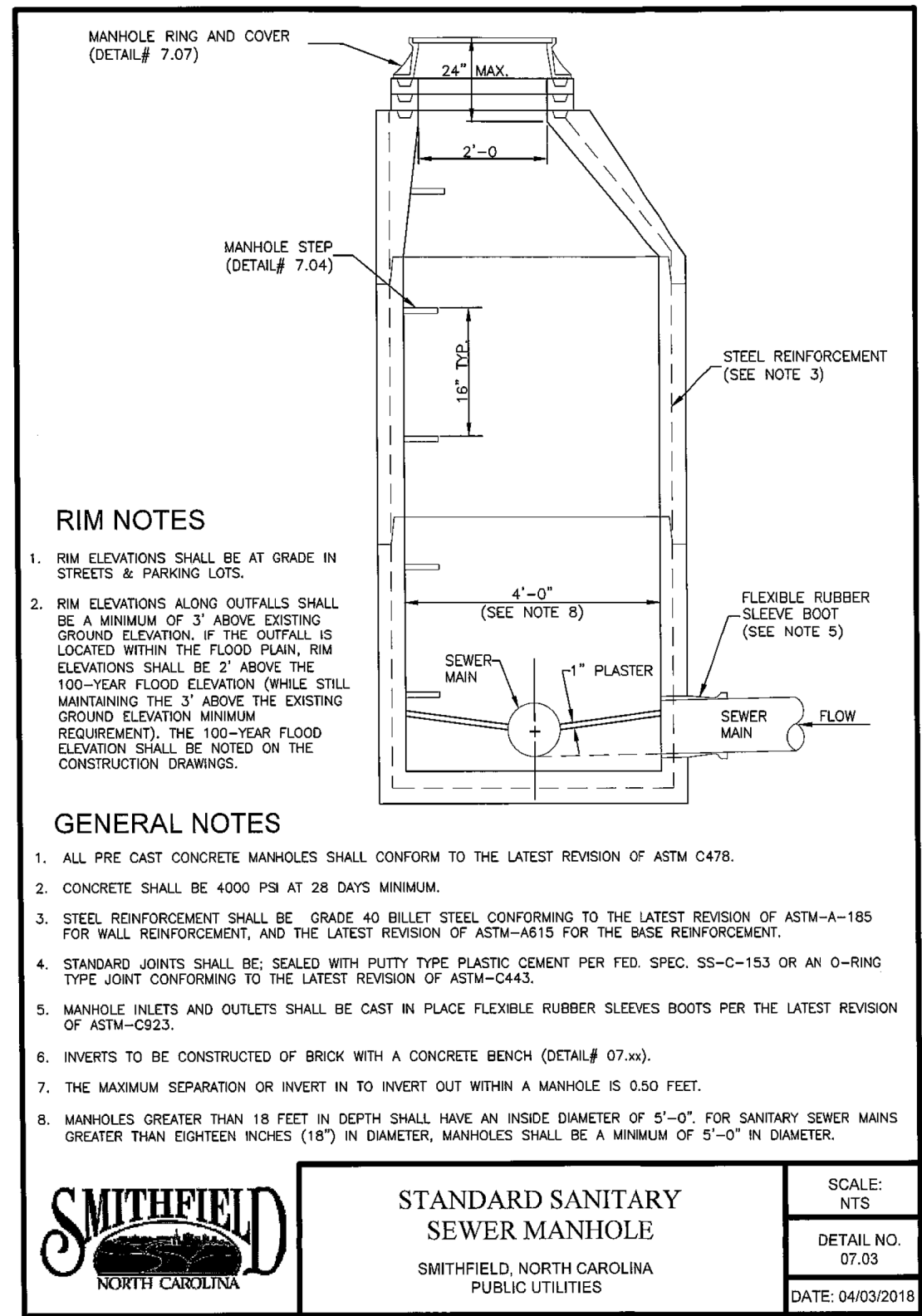
DETAIL NO.
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DATE: 06/05/2018

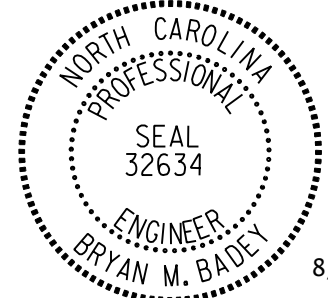
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DocuSigned by:
Bryan Bailey
 ENGINEER
 BRYAN M. BAILEY
 UTILITY CONSTRUCTION PLANS
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 8/11/2023
 bbailey



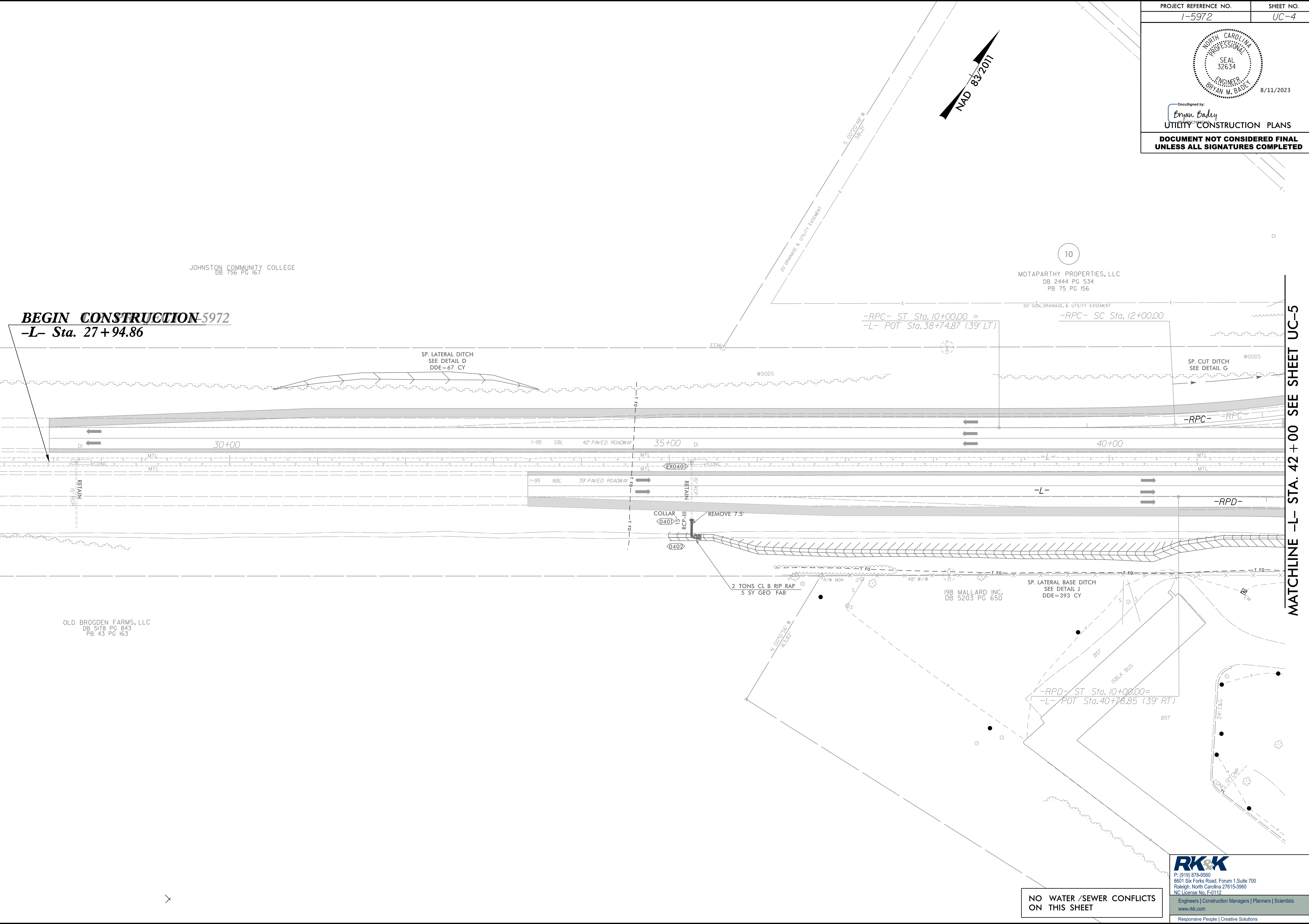
8/11/2023

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Bryan Badley
UTILITY CONSTRUCTION PLANS

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UNLESS ALL SIGNATURES COMPLETED**

8/17/23

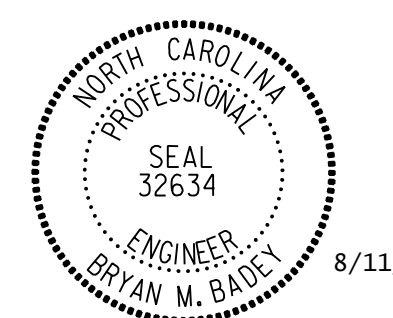
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 bbadley



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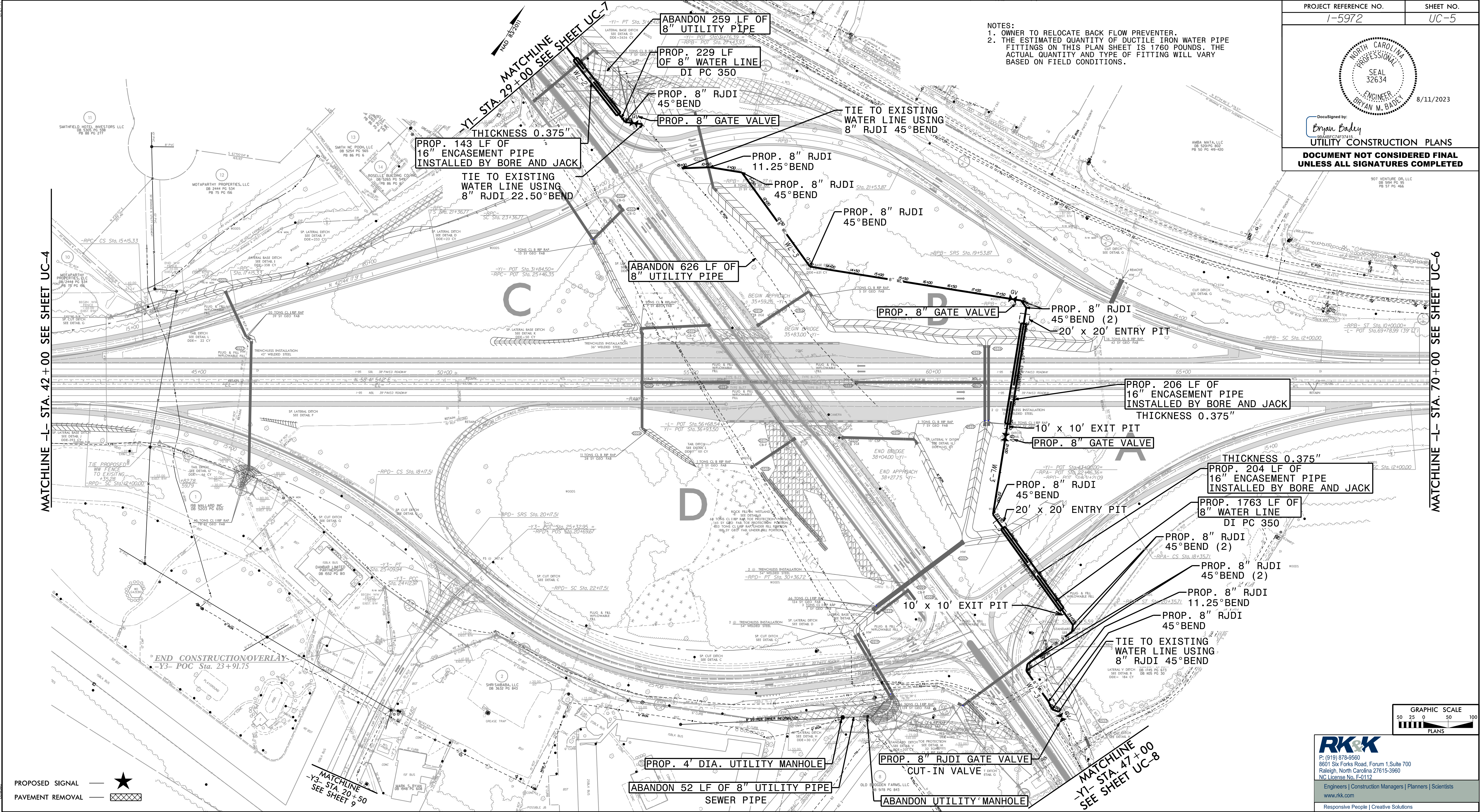
**NO WATER /SEWER CONFLICTS
ON THIS SHEET**

RK&K
 P: (919) 378-9550
 8601 Six Forks Road, Forum 1, Suite 700
 Raleigh, North Carolina 27615-3960
 NC License No. F-0112
 Engineers | Construction Managers | Planners | Scientists
 www.rk.com
 Responsive People | Creative Solutions

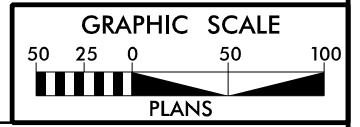


DocuSigned by:
Bryan Bader
 UTILITY CONSTRUCTION PLANS
**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

NOTES:
 1. OWNER TO RELOCATE BACK FLOW PREVENTER.
 2. THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1760 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTING WILL VARY BASED ON FIELD CONDITIONS.

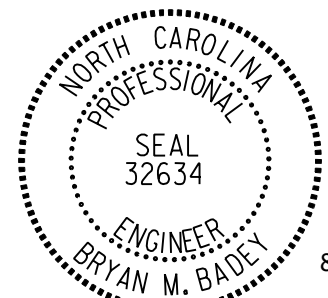


PROPOSED SIGNAL ★
 PAVEMENT REMOVAL ▨



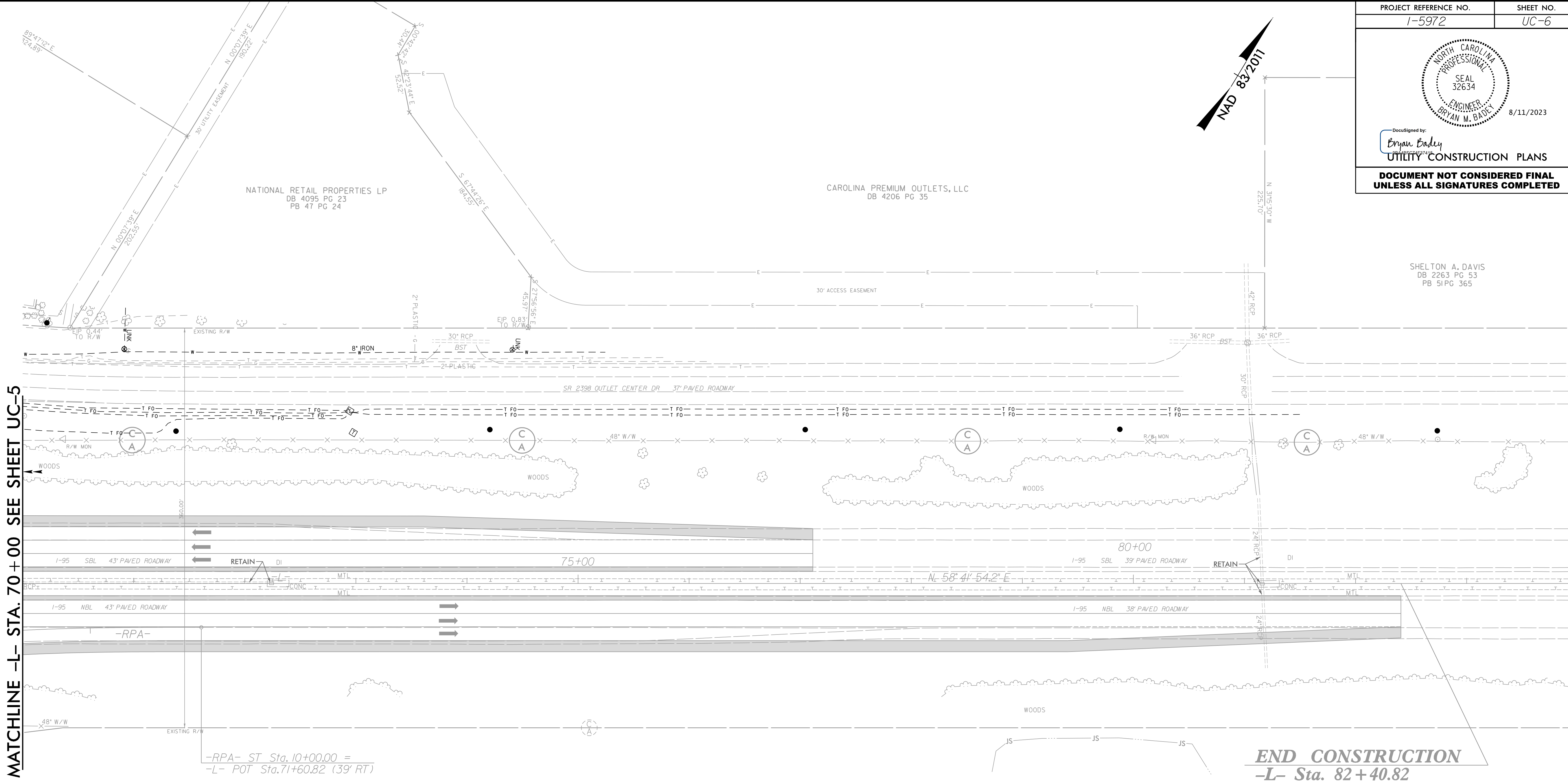
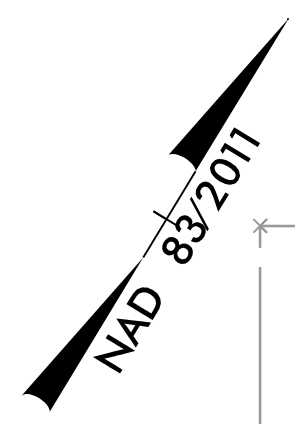
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MATCHLINE -L- STA. 42+00 SEE SHEET UC-4
 MATCHLINE -Y1- STA. 29+00 SEE SHEET UC-7
 MATCHLINE -Y3- STA. 23+91.75
 MATCHLINE -Y3- STA. 20+50 SEE SHEET 9
 MATCHLINE -L- STA. 70+00 SEE SHEET UC-6
 MATCHLINE -Y1- STA. 47+00 SEE SHEET UC-8



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Bryan Bailey
 ENGINEER
 UTILITY CONSTRUCTION PLANS
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SHELTON A. DAVIS
 DB 2263 PG 53
 PB 51 PG 365



MATCHLINE -L- STA. 70 + 00 SEE SHEET UC-5

-RPA- ST Sta. 10+00.00 =
 -L- POT Sta. 71+60.82 (39' RT)

END CONSTRUCTION
 -L- Sta. 82 + 40.82

JOHN TIMOTHY HUGHES
 JAMES WILLIAM HUGHES
 DB 1293 PG 564

**NO WATER /SEWER
 CONFLICTS ON THIS SHEET**

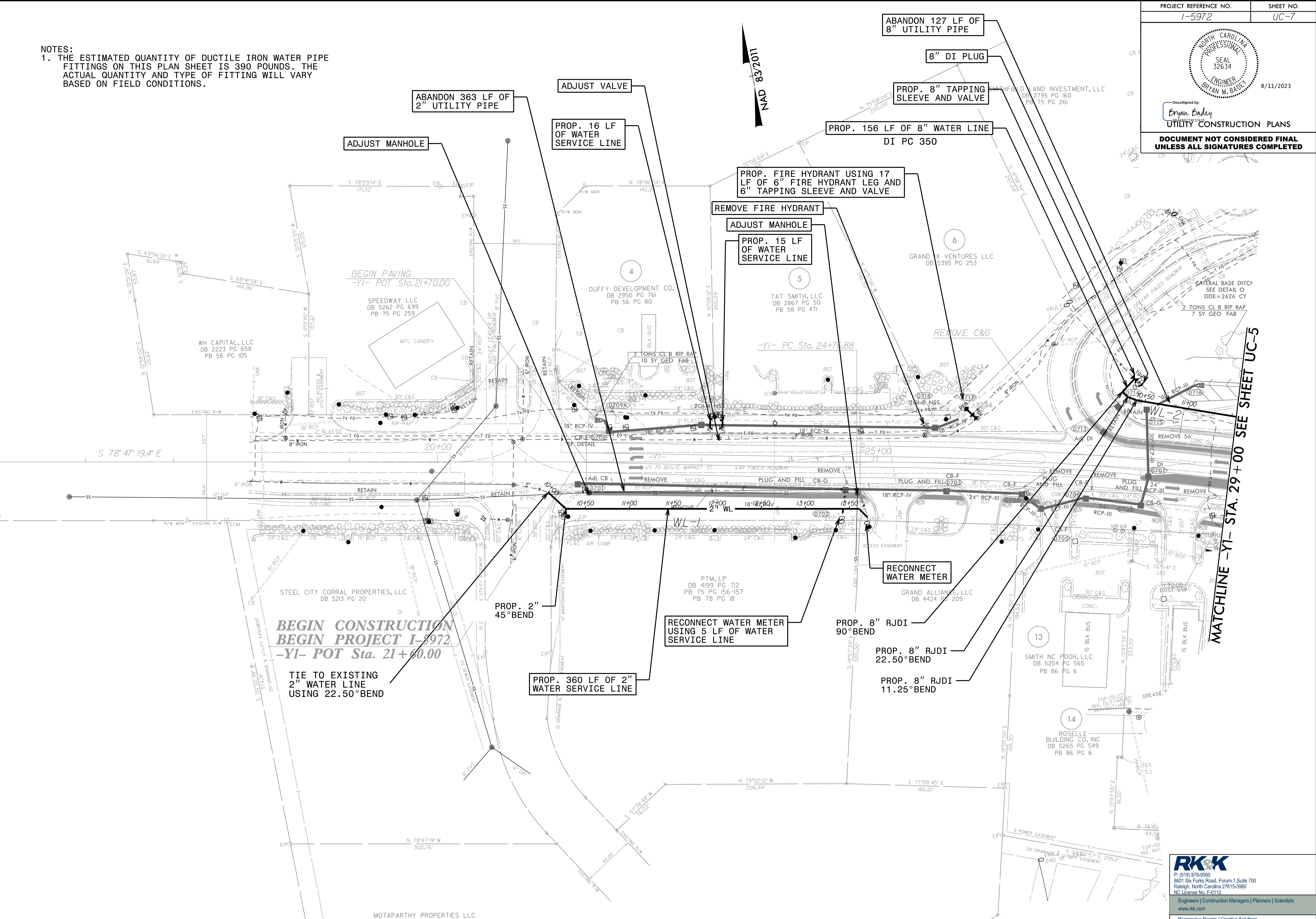
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8/17/99

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 8/17/2023
 J. Bailey

8/11/2023
 Documented by: *Bryan Bailey*
 UTILITY CONSTRUCTION PLANS
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NOTES:
 1. THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 390 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTING WILL VARY BASED ON FIELD CONDITIONS.



MATCHLINE -YI- STA. 29+00 SEE SHEET UC-5

BEGIN CONSTRUCTION
BEGIN PROJECT 1-5972
-YI- POT Sta. 21+60.00

TIE TO EXISTING
 2" WATER LINE
 USING 22.50° BEND

PROP. 360 LF OF 2"
 WATER SERVICE LINE

RECONNECT WATER METER
 USING 5 LF OF WATER
 SERVICE LINE

PROP. 8" RJDI
 90° BEND

PROP. 8" RJDI
 22.50° BEND

PROP. 8" RJDI
 11.25° BEND

RECONNECT
 WATER METER

PROP. 15 LF
 OF WATER
 SERVICE LINE

REMOVE FIRE HYDRANT
 ADJUST MANHOLE

PROP. FIRE HYDRANT USING 17
 LF OF 6" FIRE HYDRANT LEG AND
 6" TAPPING SLEEVE AND VALVE

PROP. 156 LF OF 8" WATER LINE
 DI PC 350

PROP. 8" TAPPING
 SLEEVE AND VALVE

8" DI PLUG

ABANDON 127 LF OF
 8" UTILITY PIPE

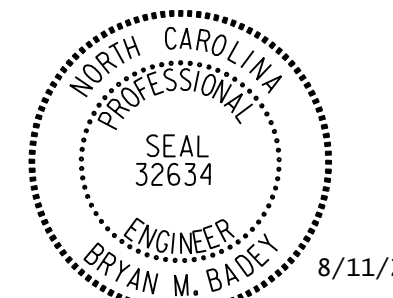
PROP. 16 LF
 OF WATER
 SERVICE LINE

ADJUST VALVE

ABANDON 363 LF OF
 2" UTILITY PIPE

ADJUST MANHOLE

8/17/2023
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 8/17/2023



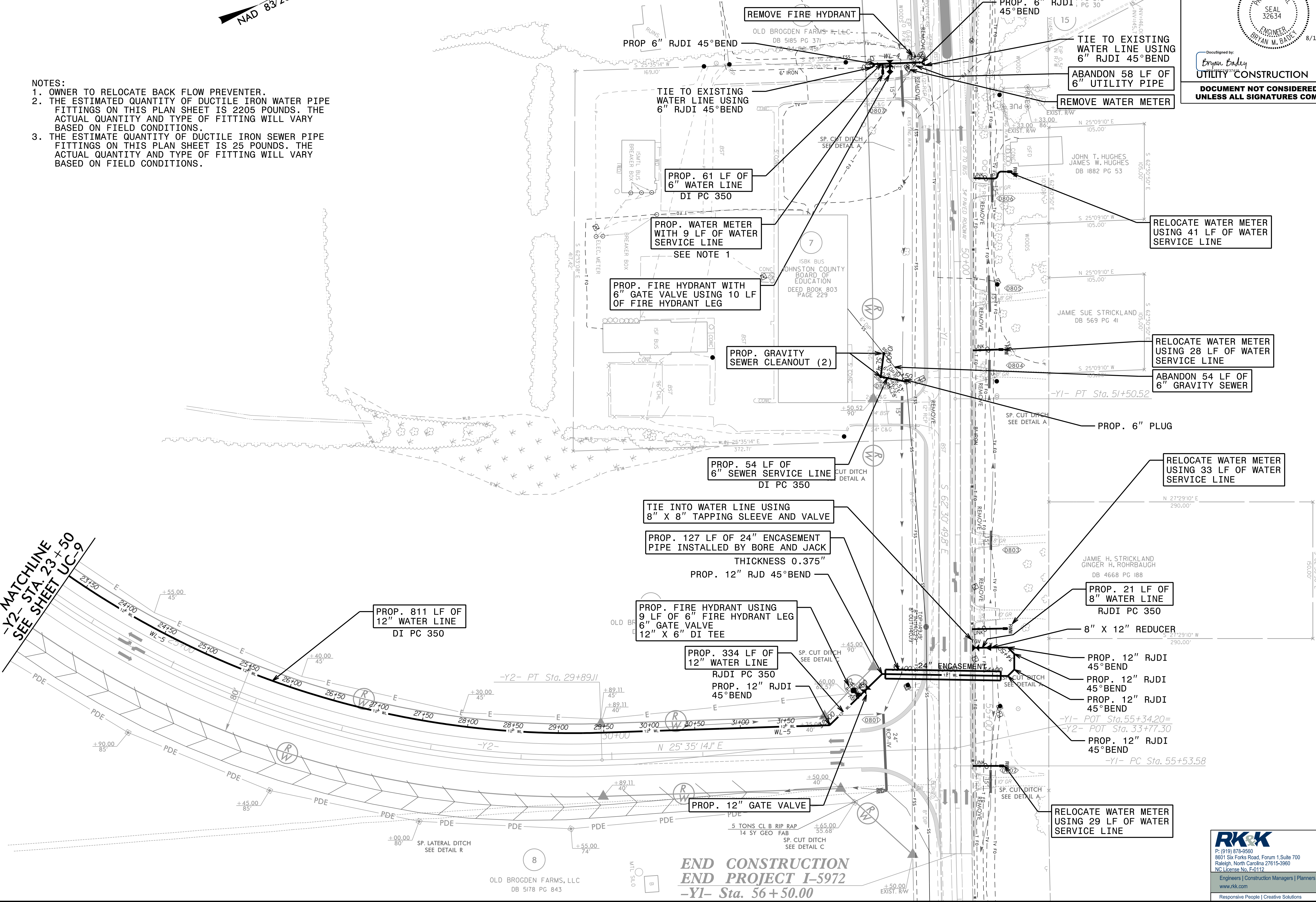
DocuSigned by:
Bryan Bailey
 ENGINEER
 UTILITY CONSTRUCTION PLANS
 DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



- NOTES:**
1. OWNER TO RELOCATE BACK FLOW PREVENTER.
 2. THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2205 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTING WILL VARY BASED ON FIELD CONDITIONS.
 3. THE ESTIMATE QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 25 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTING WILL VARY BASED ON FIELD CONDITIONS.

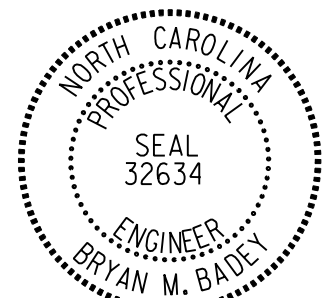
MATCHLINE -Y1- STA. 47+00 SEE SHEET UC-5

MATCHLINE -Y2- STA. 23+50 SEE SHEET UC-9



**END CONSTRUCTION
 END PROJECT I-5972
 -Y1- Sta. 56+50.00**

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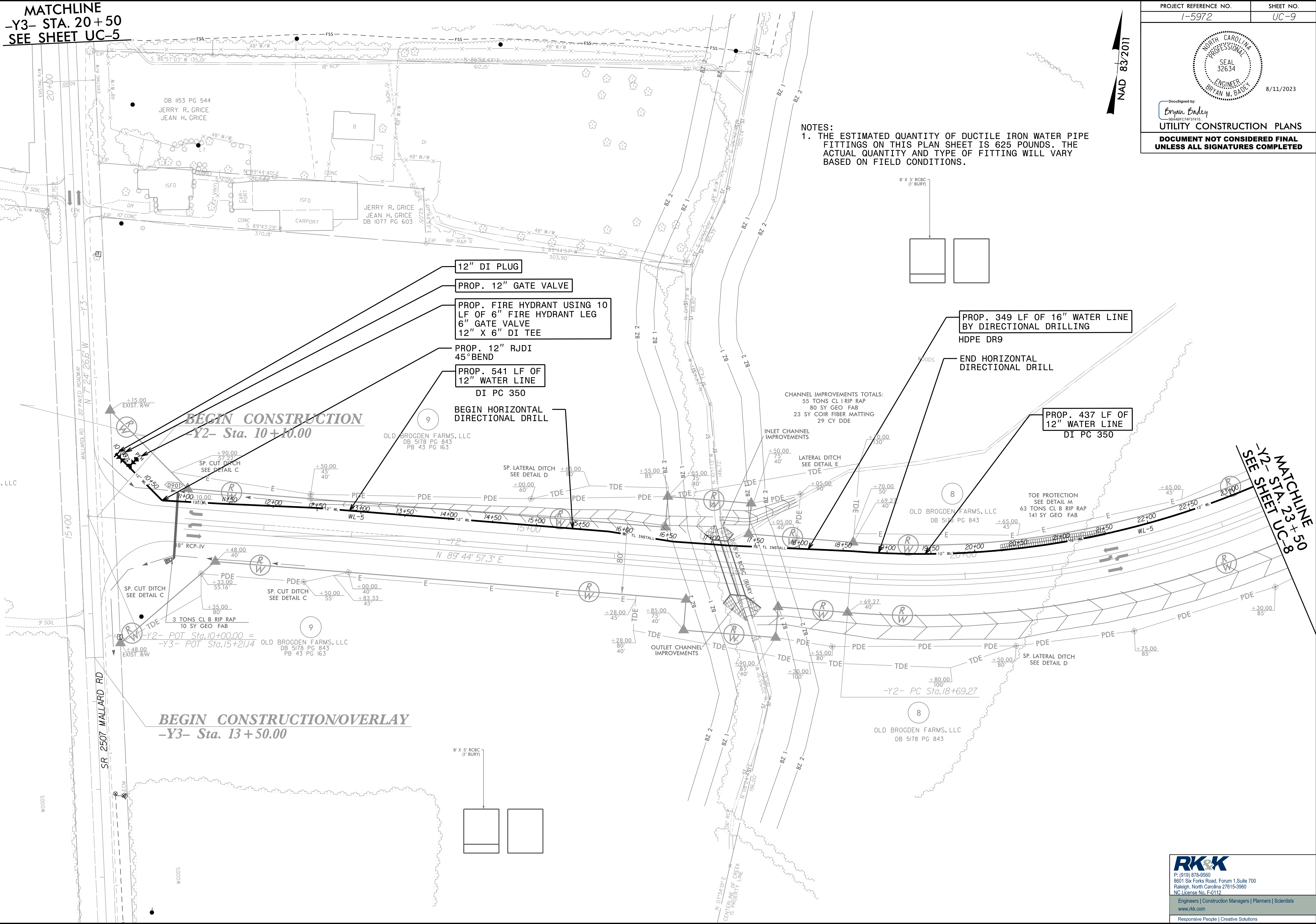
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Bryan Baldy
 90A4BFC74F37415
UTILITY CONSTRUCTION PLANS
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

NOTES:
 1. THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 625 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTING WILL VARY BASED ON FIELD CONDITIONS.

MATCHLINE
 -Y3- STA. 20+50
 SEE SHEET UC-5

MATCHLINE
 -Y2- STA. 23+50
 SEE SHEET UC-8



- 12" DI PLUG
- PROP. 12" GATE VALVE
- PROP. FIRE HYDRANT USING 10 LF OF 6" FIRE HYDRANT LEG 6" GATE VALVE 12" X 6" DI TEE
- PROP. 12" RJDI 45° BEND
- PROP. 541 LF OF 12" WATER LINE DI PC 350
- BEGIN HORIZONTAL DIRECTIONAL DRILL

PROP. 349 LF OF 16" WATER LINE BY DIRECTIONAL DRILLING HDPE DR9
 END HORIZONTAL DIRECTIONAL DRILL

PROP. 437 LF OF 12" WATER LINE DI PC 350

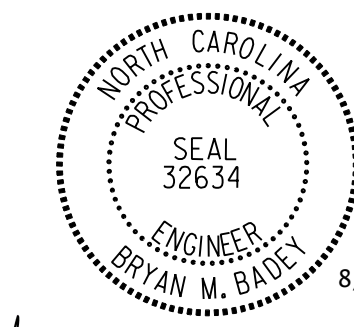
CHANNEL IMPROVEMENTS TOTALS:
 55 TONS CL 1 RIP RAP
 80 SY GEO FAB
 23 SY COIR FIBER MATTING
 29 CY DDE

BEGIN CONSTRUCTION
 -Y2- Sta. 10+10.00

BEGIN CONSTRUCTION/OVERLAY
 -Y3- Sta. 13+50.00

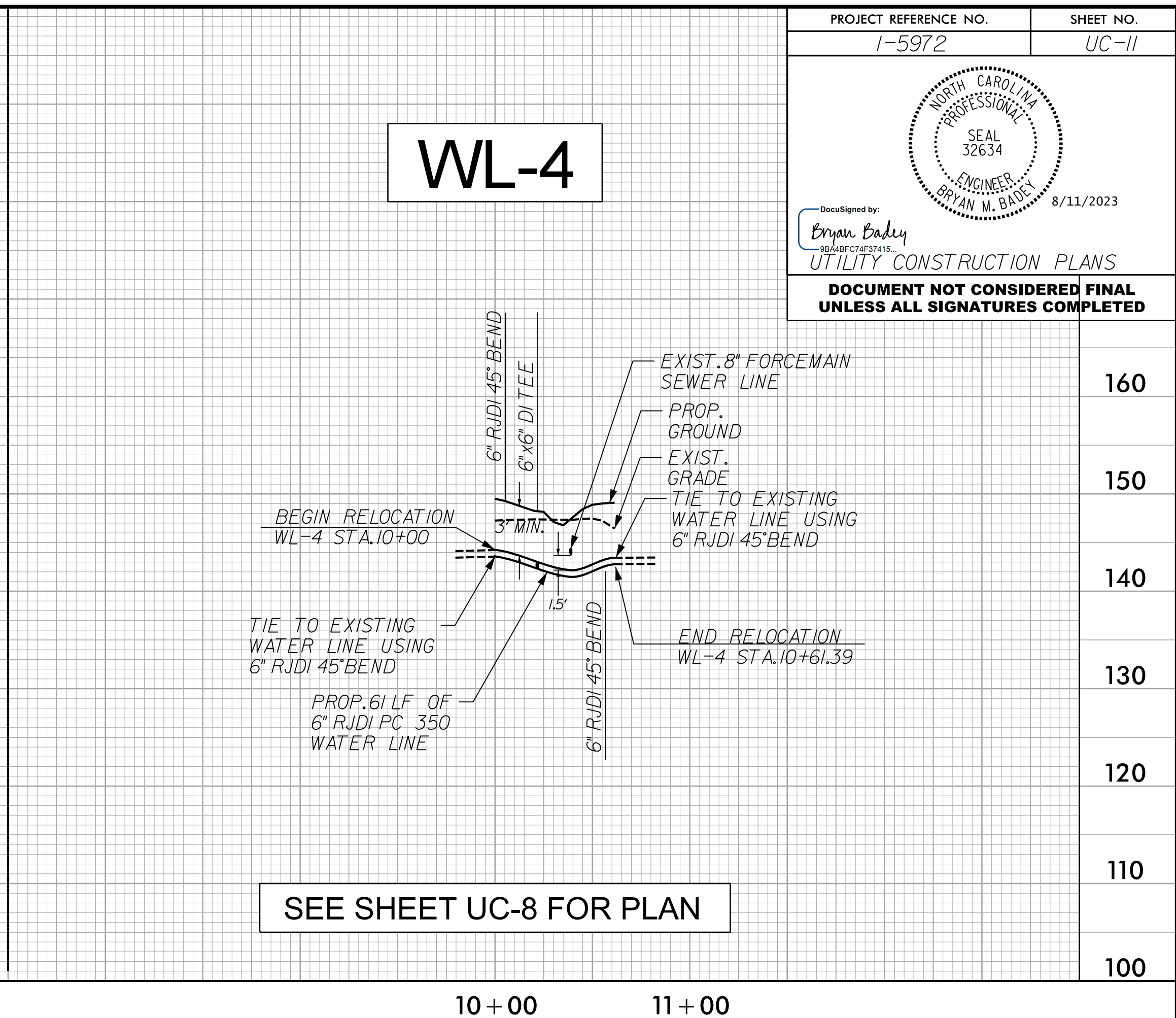
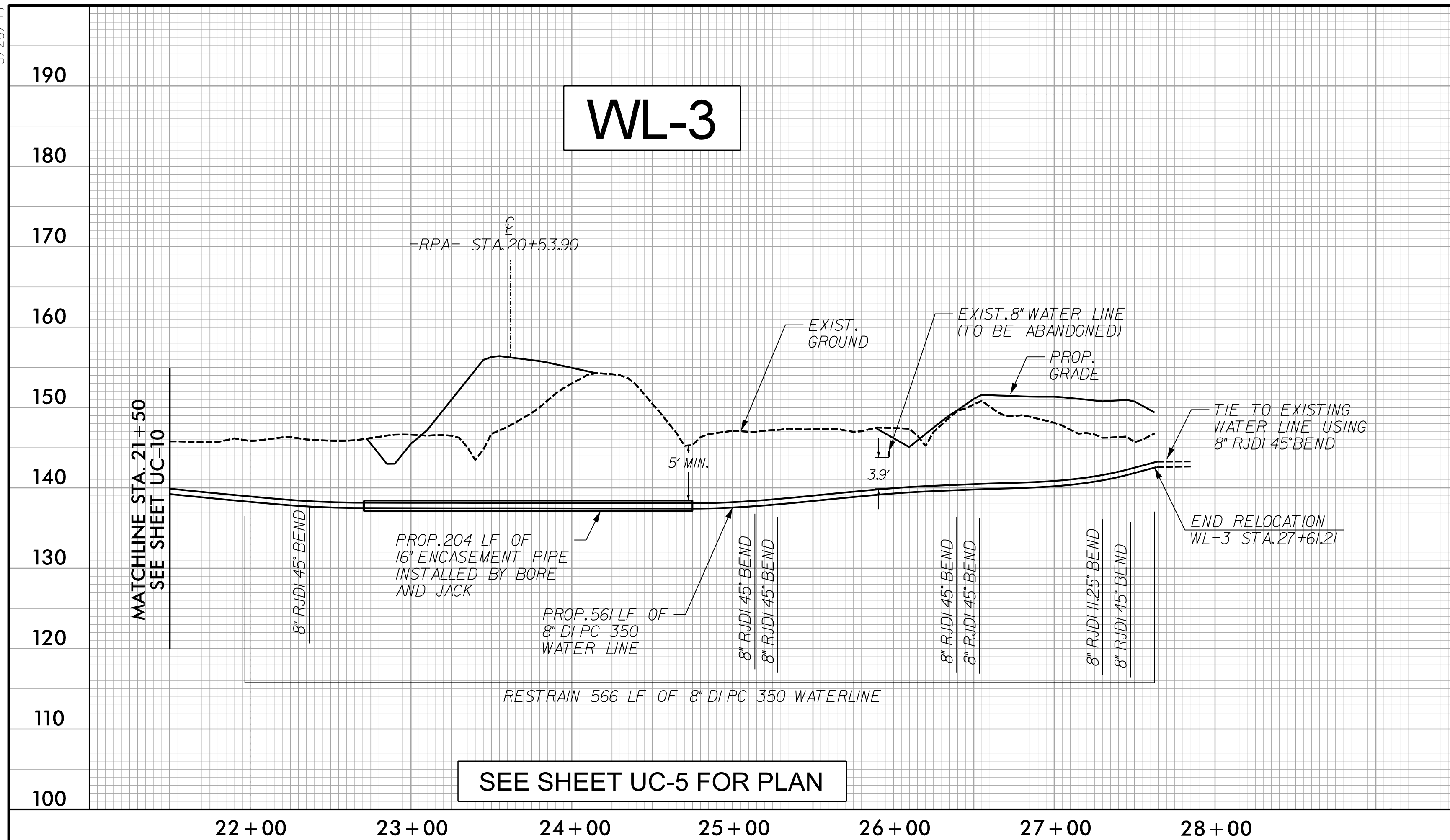
8/17/2023
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 8/17/2023
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5/28/99

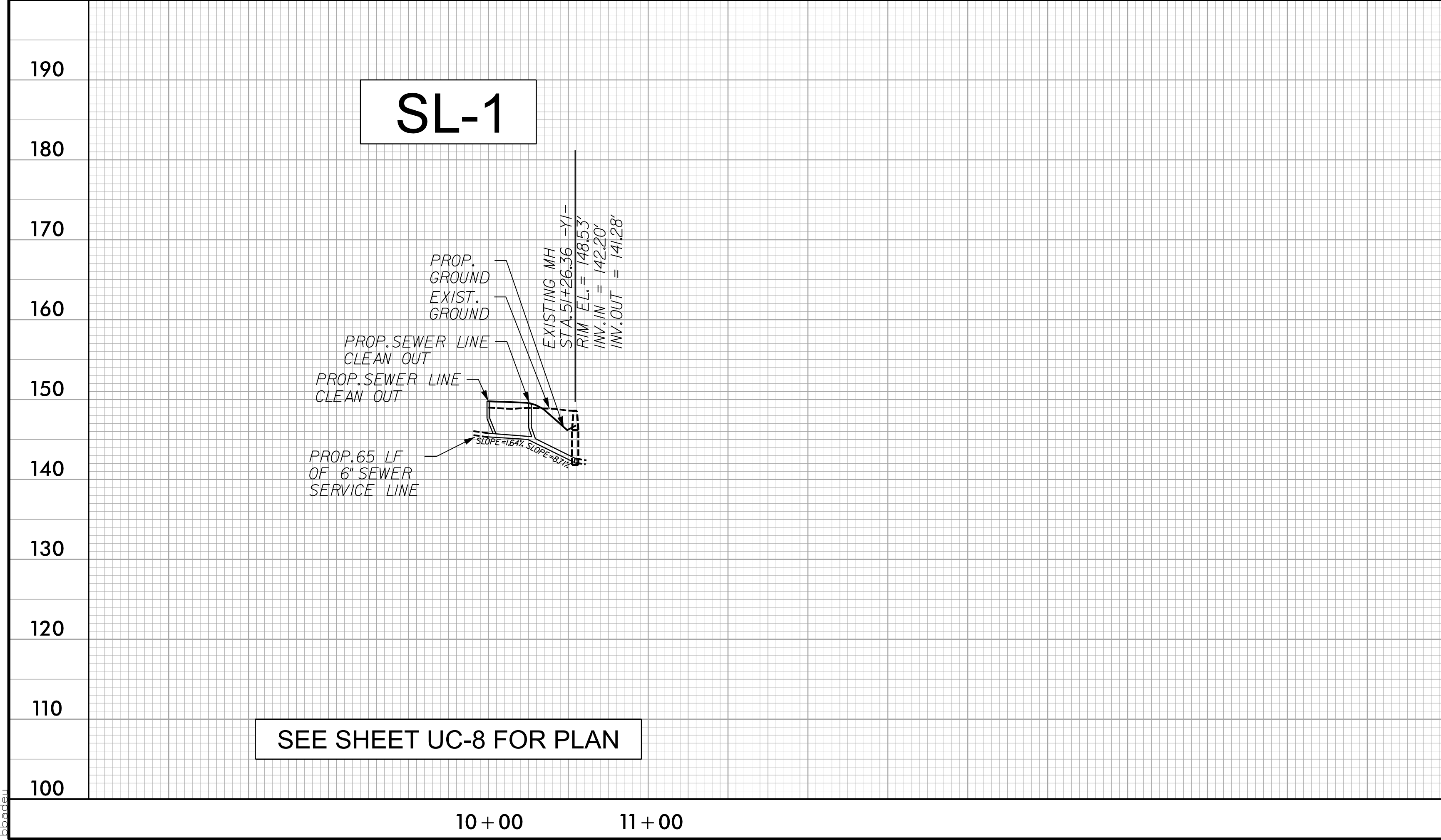


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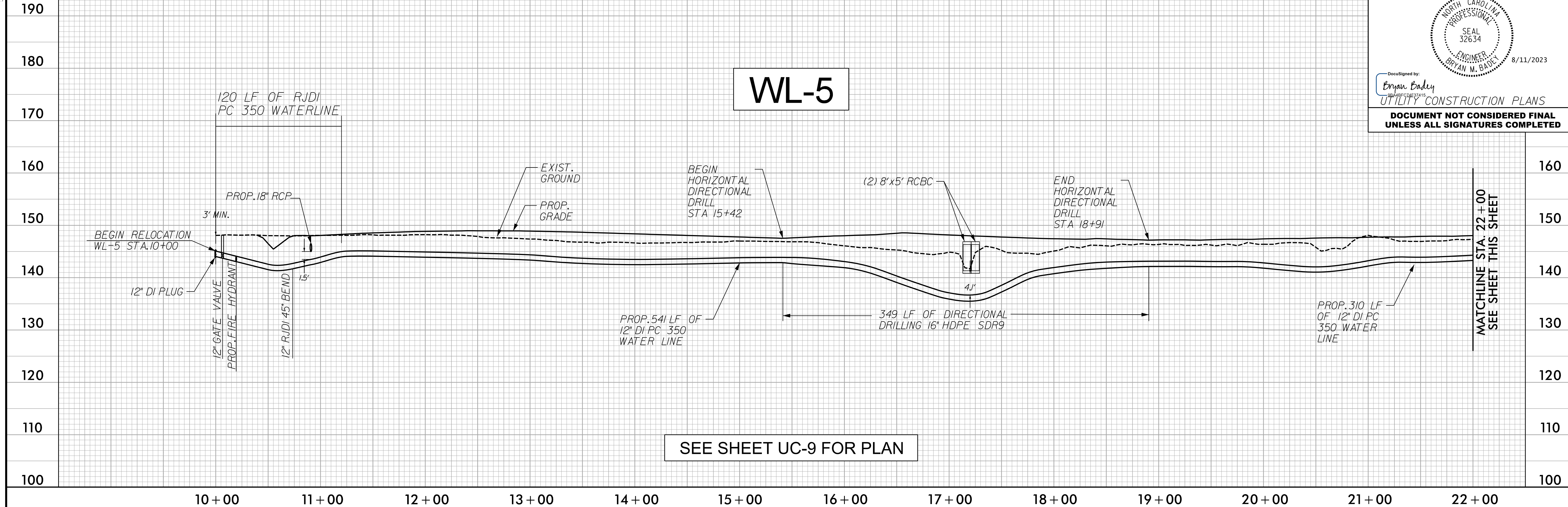


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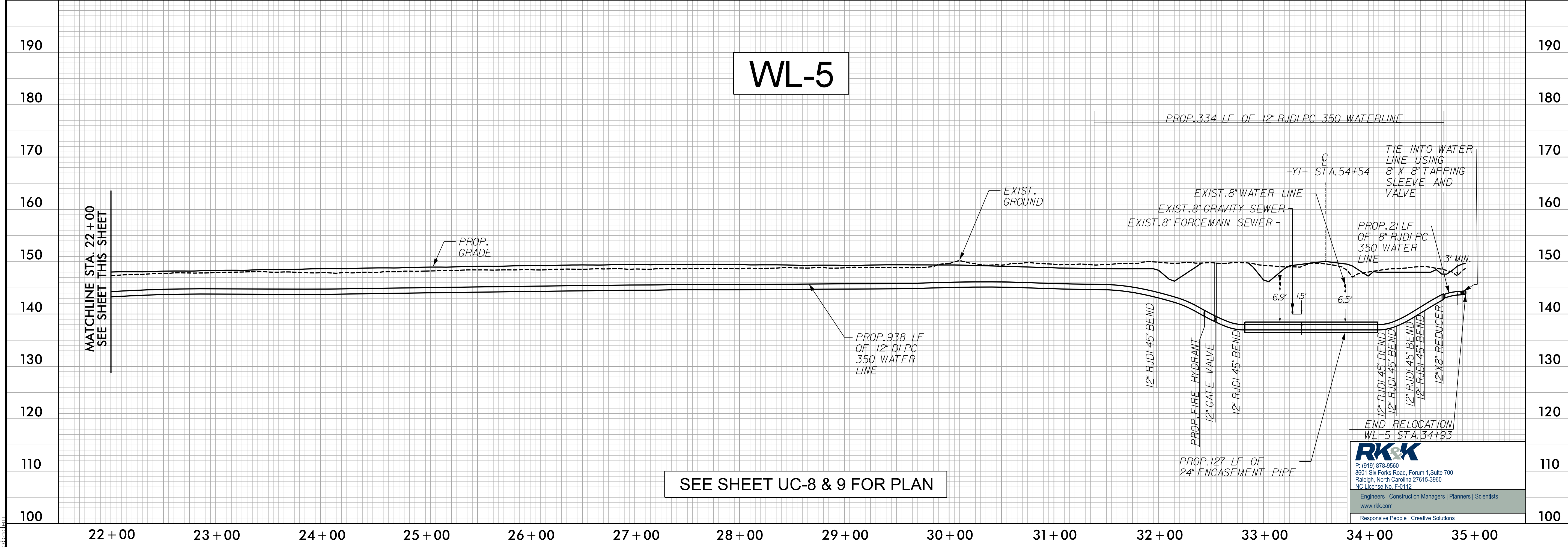
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