

TIP PROJECT: R-2307B / I-5717

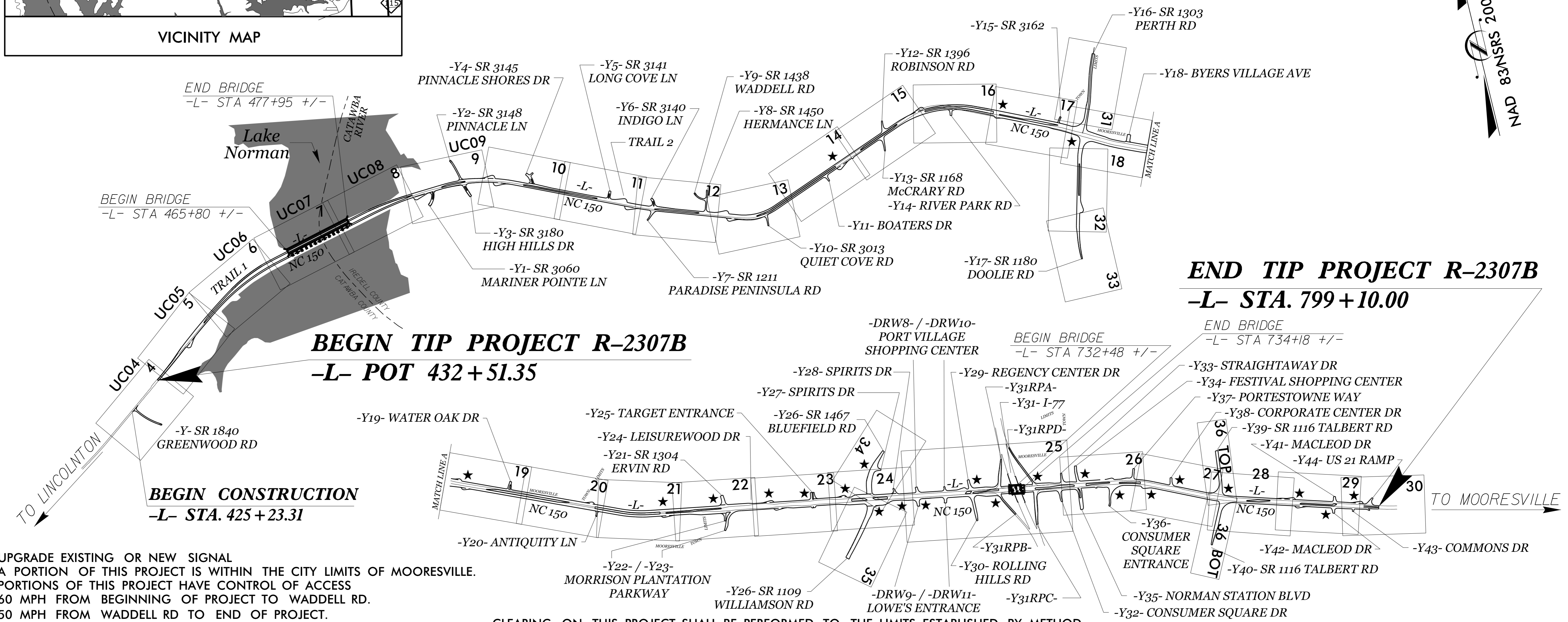
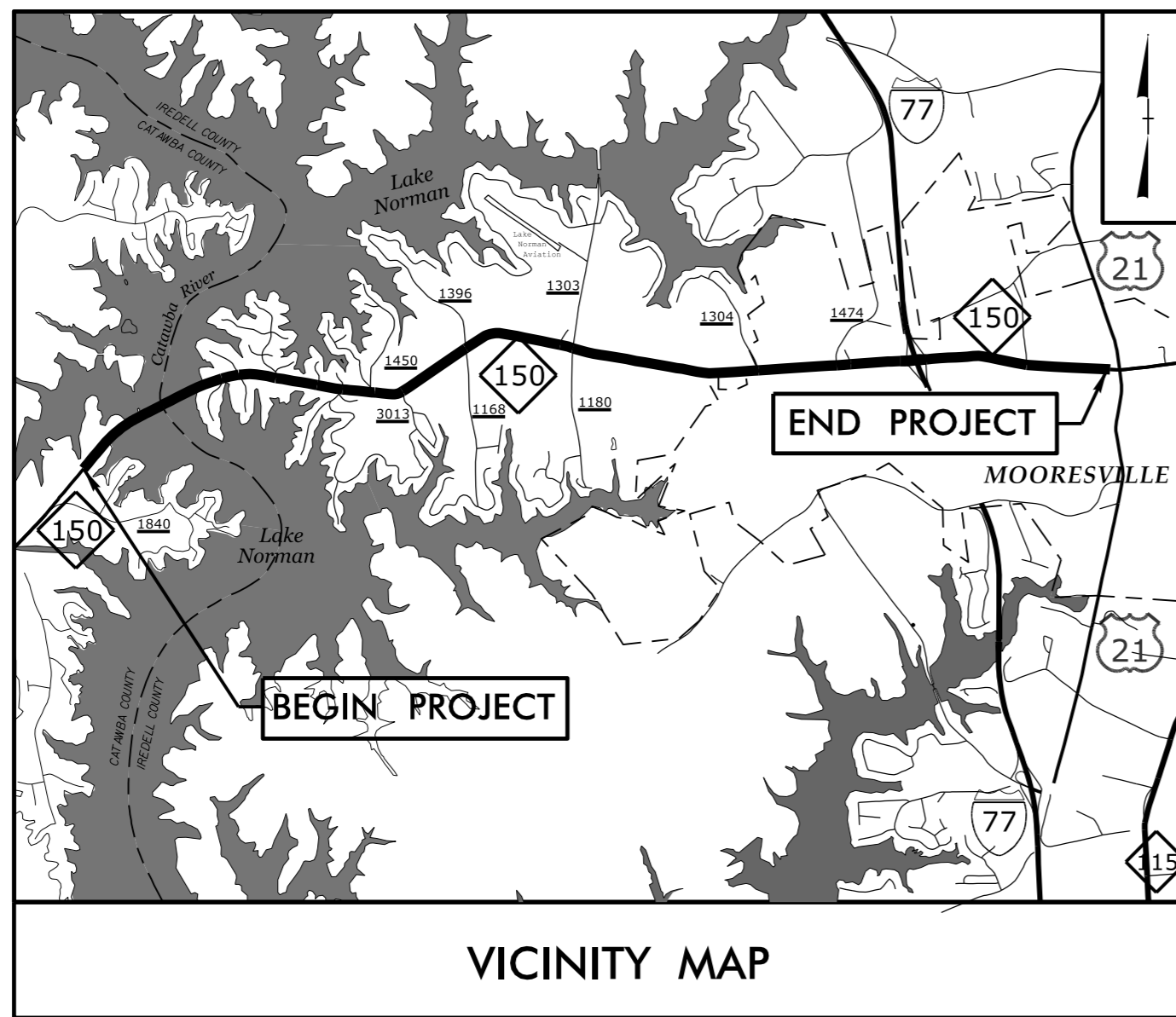
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
R-2307B / I-5717	UC-1

CATAWBA & IREDELL COUNTIES

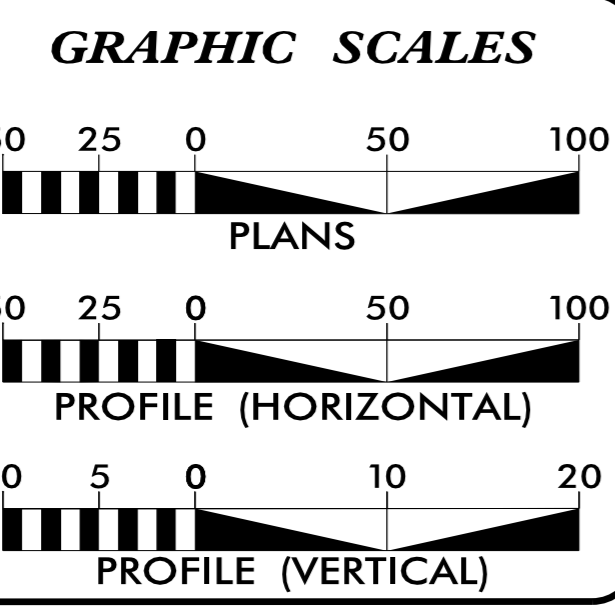
LOCATION: NC 150 FROM SR 1840 (GREENWOOD RD) IN CATAWBA COUNTY TO US 21 IN IREDELL COUNTY

TYPE OF WORK: WATER LINE RELOCATION



★ UPGRADE EXISTING OR NEW SIGNAL
A PORTION OF THIS PROJECT IS WITHIN THE CITY LIMITS OF MOOREVILLE.
PORTIONS OF THIS PROJECT HAVE CONTROL OF ACCESS
** 60 MPH FROM BEGINNING OF PROJECT TO WADDELL RD.
50 MPH FROM WADDELL RD TO END OF PROJECT.

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____.



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC1	TITLE SHEET
UC2	UTILITY SYMBOLOGY
UC3A	NOTES
UC3B THRU 3E	DETAILS
UC4 THRU UC9	UTILITY CONSTRUCTION PLAN & PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) CATAWBA COUNTY

PREPARED IN THE OFFICE OF

Dewberry 2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
919.881.9939
NCBELS: NO. F-0929

JOHN AKERS, PE CONSULTANT CONTACT #1
PARROTT HOOD, PE CONSULTANT CONTACT #2
JEFF WING, PE CONSULTANT CONTACT #3

SEAL

8/21/2024

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





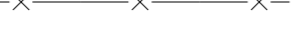









DONALD E. HAMPTON UTILITIES REGIONAL ENGINEER
JONG-TAE YOON, PE UTILITIES ENGINEER
AMY DUPLEE YORK UTILITIES AREA COORDINATOR
STEVEN G. SEALY UTILITIES COORDINATOR

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$






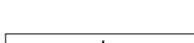


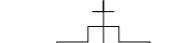


STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering



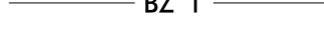




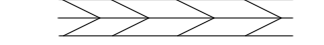
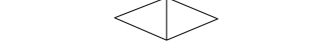

BOUNDARIES AND PROPERTY:

State Line	_____
County Line	_____
Township Line	_____
City Line	_____
Reservation Line	_____
Property Line	_____
Existing Iron Pin	
Property Corner	
Property Monument	
Parcel/Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	_____
Potential Contamination Area: Soil	_____
Known Contamination Area: Water	_____
Potential Contamination Area: Water	_____
Contaminated Site: Known or Potential	

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	
Sign	
Well	
Small Mine	
Foundation	
Area Outline	
Cemetery	
Building	
School	
Church	
Dam	






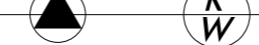



HYDROLOGY:

Stream or Body of Water	_____
Hydro, Pool or Reservoir	
Jurisdictional Stream	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	




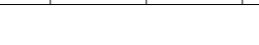





RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	_____
RR Dismantled	_____


RIGHT OF WAY:


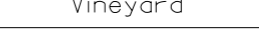
Baseline Control Point	
Existing Right of Way Marker	
Existing Right of Way Line	_____
Proposed Right of Way Line	
Proposed Right of Way Line with Iron Pin and Cap Marker	
Proposed Right of Way Line with Concrete or Granite R/W Marker	
Proposed Control of Access Line with Concrete CA Marker	
Existing Control of Access	
Proposed Control of Access	
Existing Easement Line	_____
Proposed Temporary Construction Easement	_____
Proposed Temporary Drainage Easement	_____
Proposed Permanent Drainage Easement	_____
Proposed Permanent Drainage / Utility Easement	_____
Proposed Permanent Utility Easement	_____
Proposed Temporary Utility Easement	_____
Proposed Aerial Utility Easement	_____
Proposed Permanent Easement with Iron Pin and Cap Marker	

ROADS AND RELATED FEATURES:




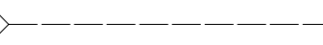


Existing Edge of Pavement	_____
Existing Curb	_____
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	

VEGETATION:














Single Tree	
Single Shrub	
Hedge	
Woods Line	

Orchard	
Vineyard	






EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	
Bridge Wing Wall, Head Wall and End Wall	
MINOR:	
Head and End Wall	
Pipe Culvert	_____
Footbridge	
Drainage Box: Catch Basin, DI or JB	
Paved Ditch Gutter	_____
Storm Sewer Manhole	
Storm Sewer	_____




UTILITIES:

POWER:	
Existing Power Pole	
Proposed Power Pole	
Existing Joint Use Pole	
Proposed Joint Use Pole	
Power Manhole	
Power Line Tower	
Power Transformer	
U/G Power Cable Hand Hole	_____
H-Frame Pole	
U/G Power Line LOS B (S.U.E.*)	_____
U/G Power Line LOS C (S.U.E.*)	_____
U/G Power Line LOS D (S.U.E.*)	_____
TELEPHONE:	
Existing Telephone Pole	
Proposed Telephone Pole	
Telephone Manhole	
Telephone Pedestal	
Telephone Cell Tower	
U/G Telephone Cable Hand Hole	_____
U/G Telephone Cable LOS B (S.U.E.*)	_____
U/G Telephone Cable LOS C (S.U.E.*)	_____
U/G Telephone Cable LOS D (S.U.E.*)	_____
U/G Telephone Conduit LOS B (S.U.E.*)	_____
U/G Telephone Conduit LOS C (S.U.E.*)	_____
U/G Telephone Conduit LOS D (S.U.E.*)	_____
U/G Fiber Optics Cable LOS B (S.U.E.*)	_____
U/G Fiber Optics Cable LOS C (S.U.E.*)	_____
U/G Fiber Optics Cable LOS D (S.U.E.*)	_____




WATER:

Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
U/G Water Line LOS B (S.U.E.*)	_____
U/G Water Line LOS C (S.U.E.*)	_____
U/G Water Line LOS D (S.U.E.*)	_____
Above Ground Water Line	




TV:

TV Pedestal	
TV Tower	
U/G TV Cable Hand Hole	
U/G TV Cable LOS B (S.U.E.*)	_____
U/G TV Cable LOS C (S.U.E.*)	_____
U/G TV Cable LOS D (S.U.E.*)	_____
U/G Fiber Optic Cable LOS B (S.U.E.*)	_____
U/G Fiber Optic Cable LOS C (S.U.E.*)	_____
U/G Fiber Optic Cable LOS D (S.U.E.*)	_____












GAS:

Gas Valve	
Gas Meter	
U/G Gas Line LOS B (S.U.E.*)	_____
U/G Gas Line LOS C (S.U.E.*)	_____
U/G Gas Line LOS D (S.U.E.*)	_____
Above Ground Gas Line	

SANITARY SEWER:

Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	_____
Above Ground Sanitary Sewer	
SS Forced Main Line LOS B (S.U.E.*)	_____
SS Forced Main Line LOS C (S.U.E.*)	_____
SS Forced Main Line LOS D (S.U.E.*)	_____

MISCELLANEOUS:

Utility Pole	
Utility Pole with Base	
Utility Located Object	
Utility Traffic Signal Box	
Utility Unknown U/G Line LOS B (S.U.E.*)	_____
U/G Tank; Water, Gas, Oil	
Underground Storage Tank, Approx. Loc.	
A/G Tank; Water, Gas, Oil	
Geoenvironmental Boring	
U/G Test Hole LOS A (S.U.E.*)	
Abandoned According to Utility Records	
End of Information	

5/14/24

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 UTILITIES BELONG TO THE CITY OF HICKORY / CATAWBA COUNTY.

3. ALL WATER LINES SHALL BE INSTALLED IN COMPLIANCE WITH THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, 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.

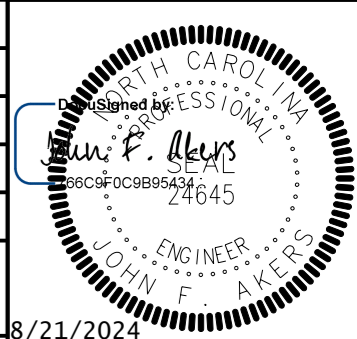
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK 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 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 REFERENCE NO.	SHEET NO.
R-2307B/I-5717	UC-3A
DESIGNED BY: JFA	
DRAWN BY: ACB	
CHECKED BY: EPH	
APPROVED BY: JJW	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

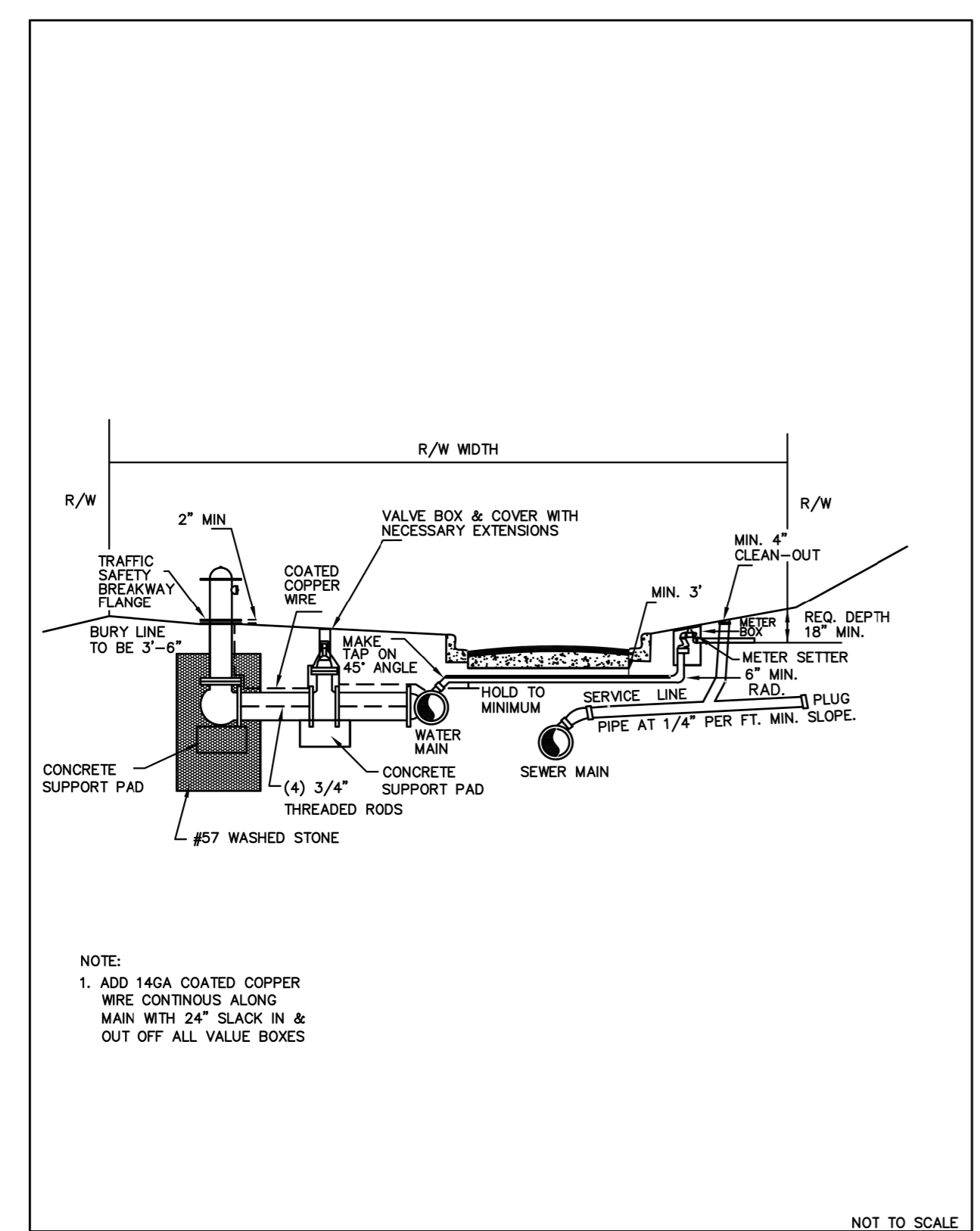
UTILITY CONSTRUCTION

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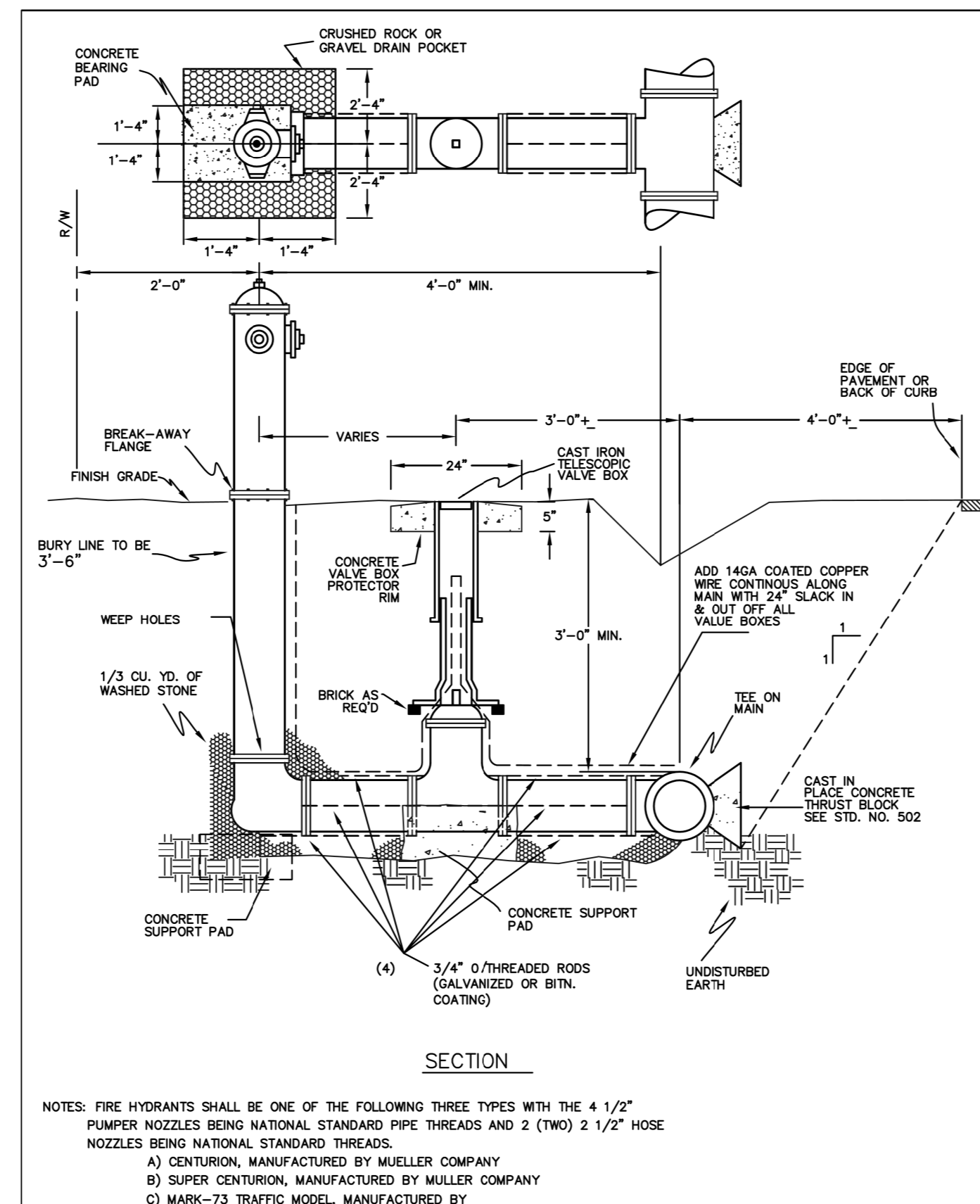
5/14/24

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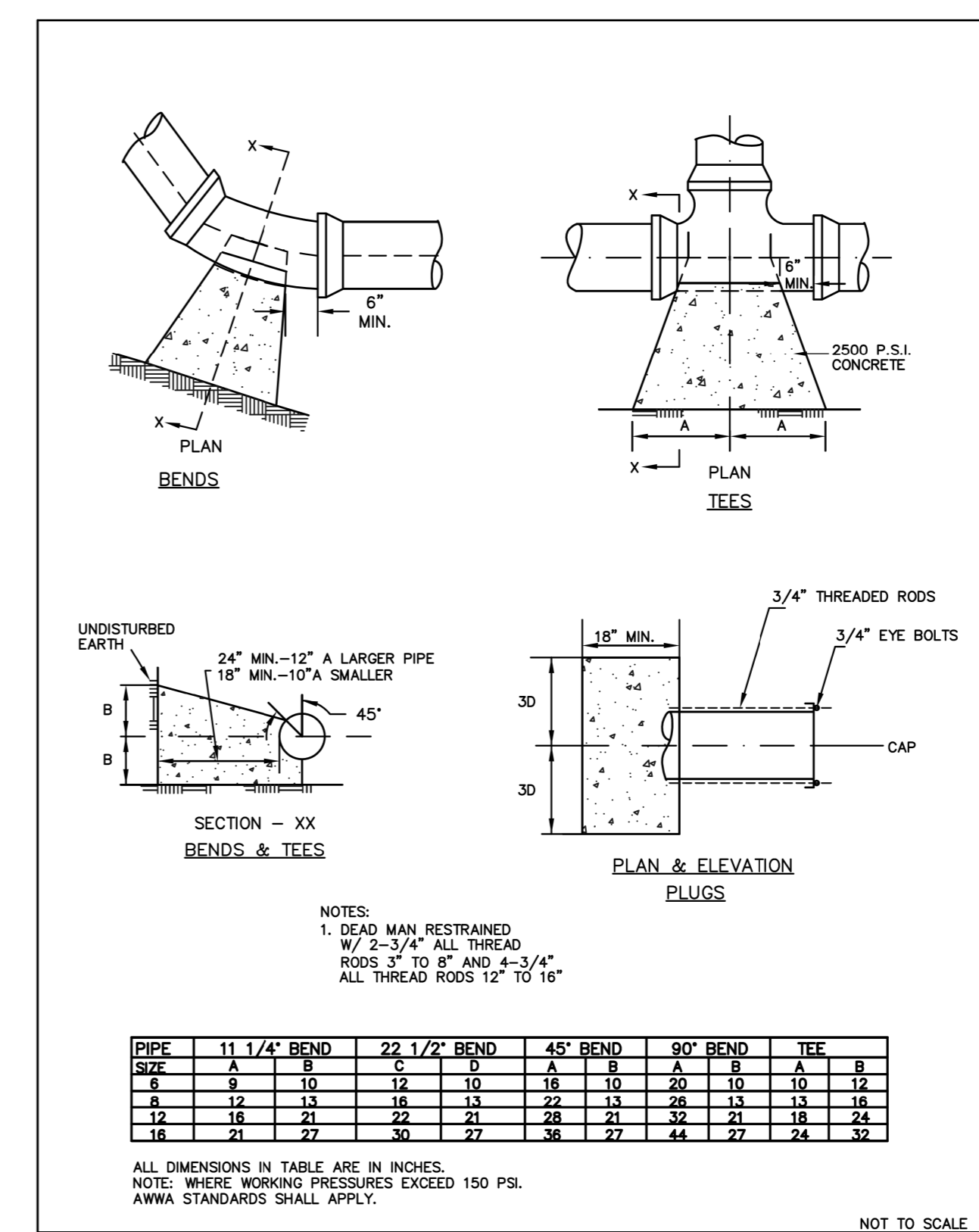
UTILITY CONSTRUCTION



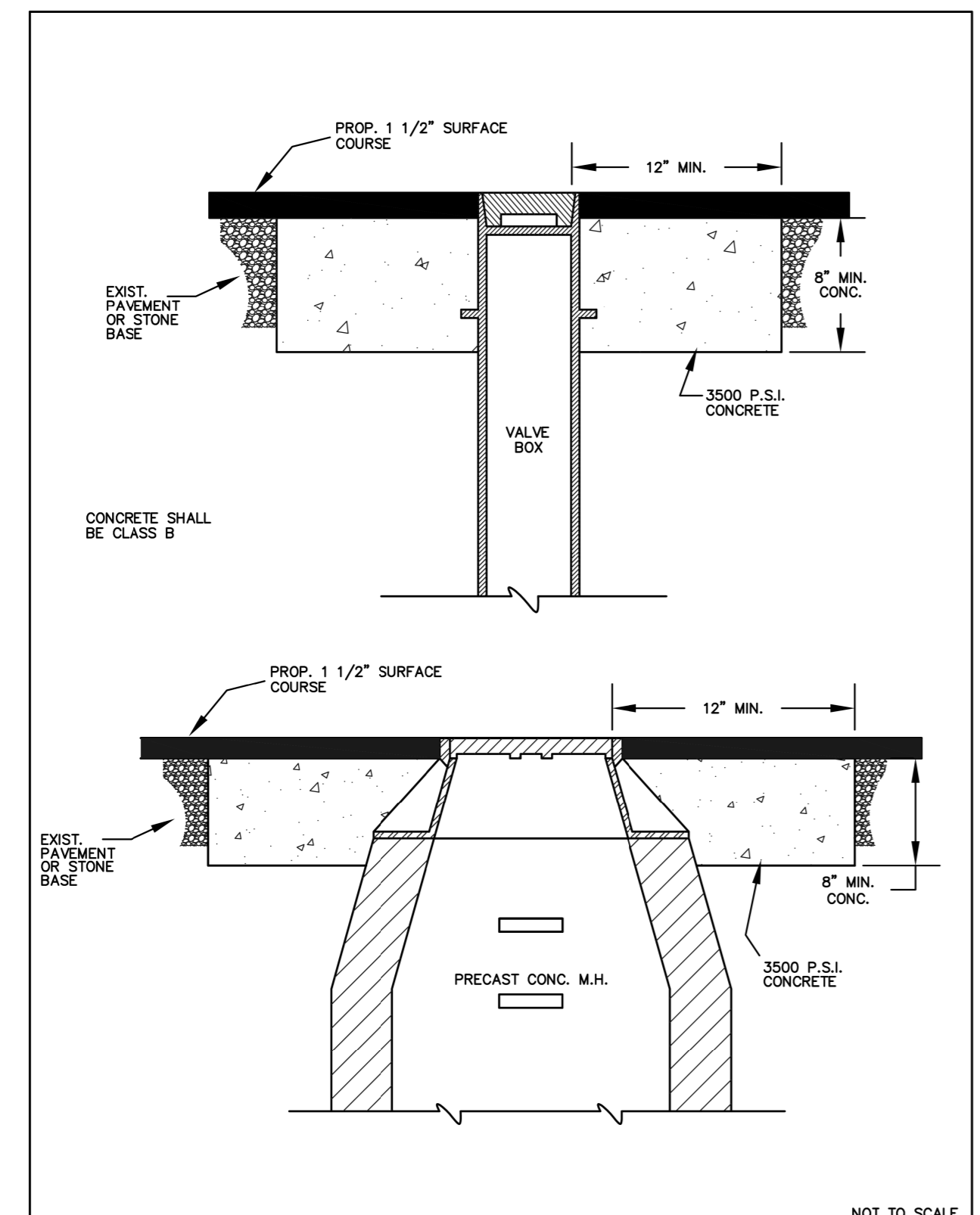
CITY OF HICKORY		DATE: 2-1-07
TYPICAL RESIDENTIAL CONNECTION AND HYDRANT SETTING DETAIL		SHEET 1 OF 1
STANDARD NO. 502		



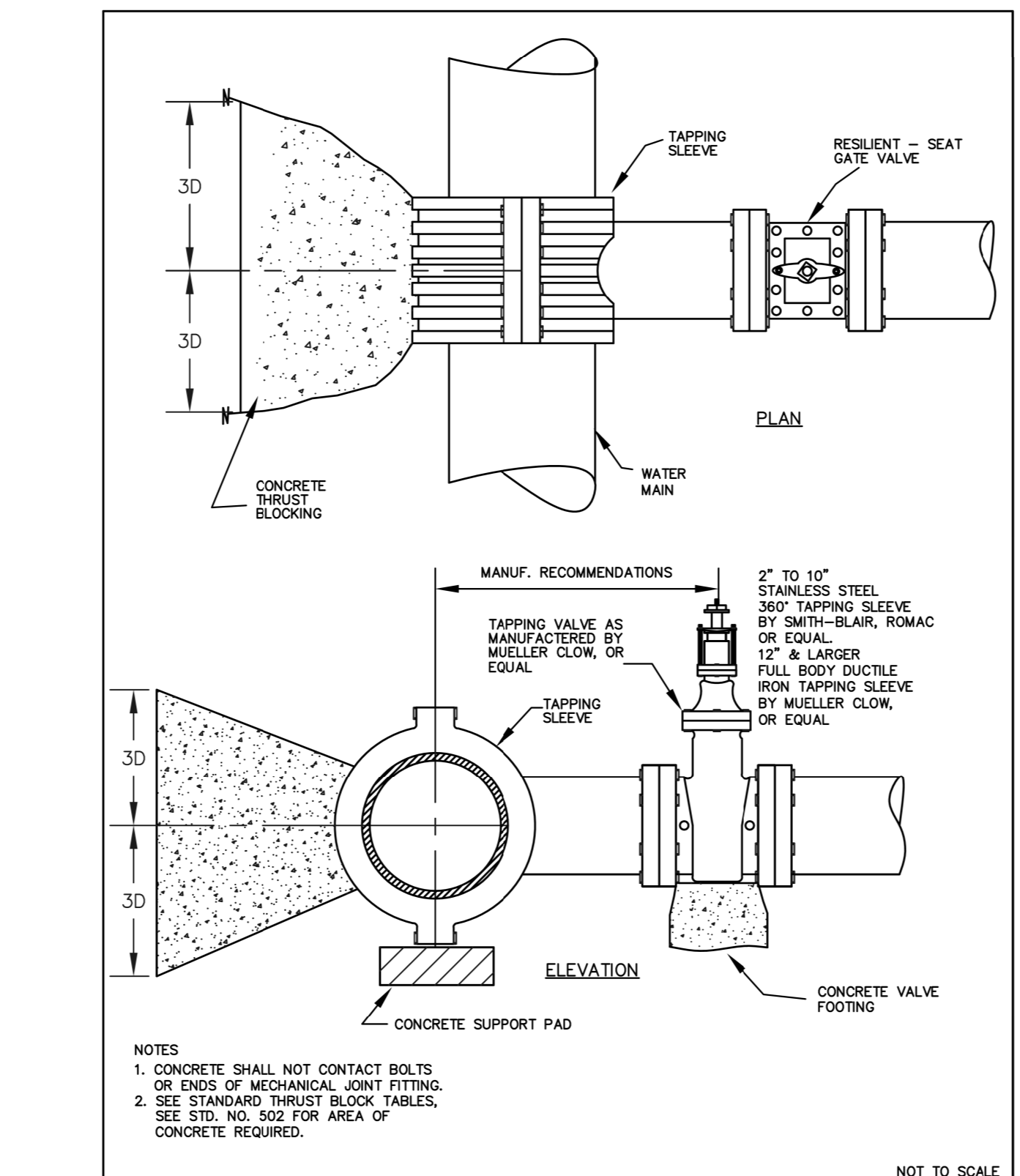
CITY OF HICKORY		DATE: 2-1-07
FIRE HYDRANT INSTALLATION DETAIL		SHEET 1 OF 1
STANDARD NO. 503		



CITY OF HICKORY		DATE: 2-1-07
THRUST BLOCK FOR WATER MAINS (150 PSI WORKING PRESSURE)		SHEET 1 OF 1
STANDARD NO. 504		



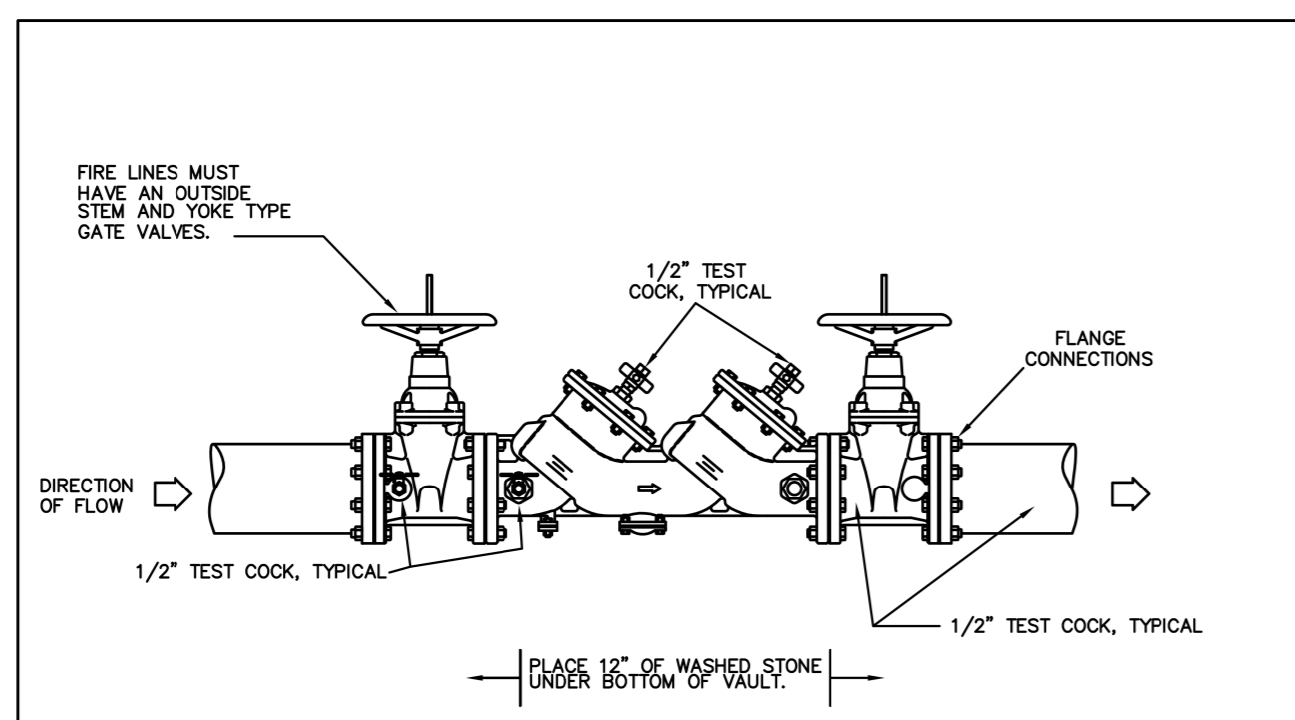
CITY OF HICKORY		DATE: 2-1-07
CONCRETE ENCASEMENT FOR MANHOLE & CASTINGS IN PAVEMENT		SHEET 1 OF 1
STANDARD NO. 505		



CITY OF HICKORY		DATE: 2-1-07
TAPPING SLEEVE & VALVE ASSEMBLY		SHEET 1 OF 1
STANDARD NO. 506		

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

5/14/99



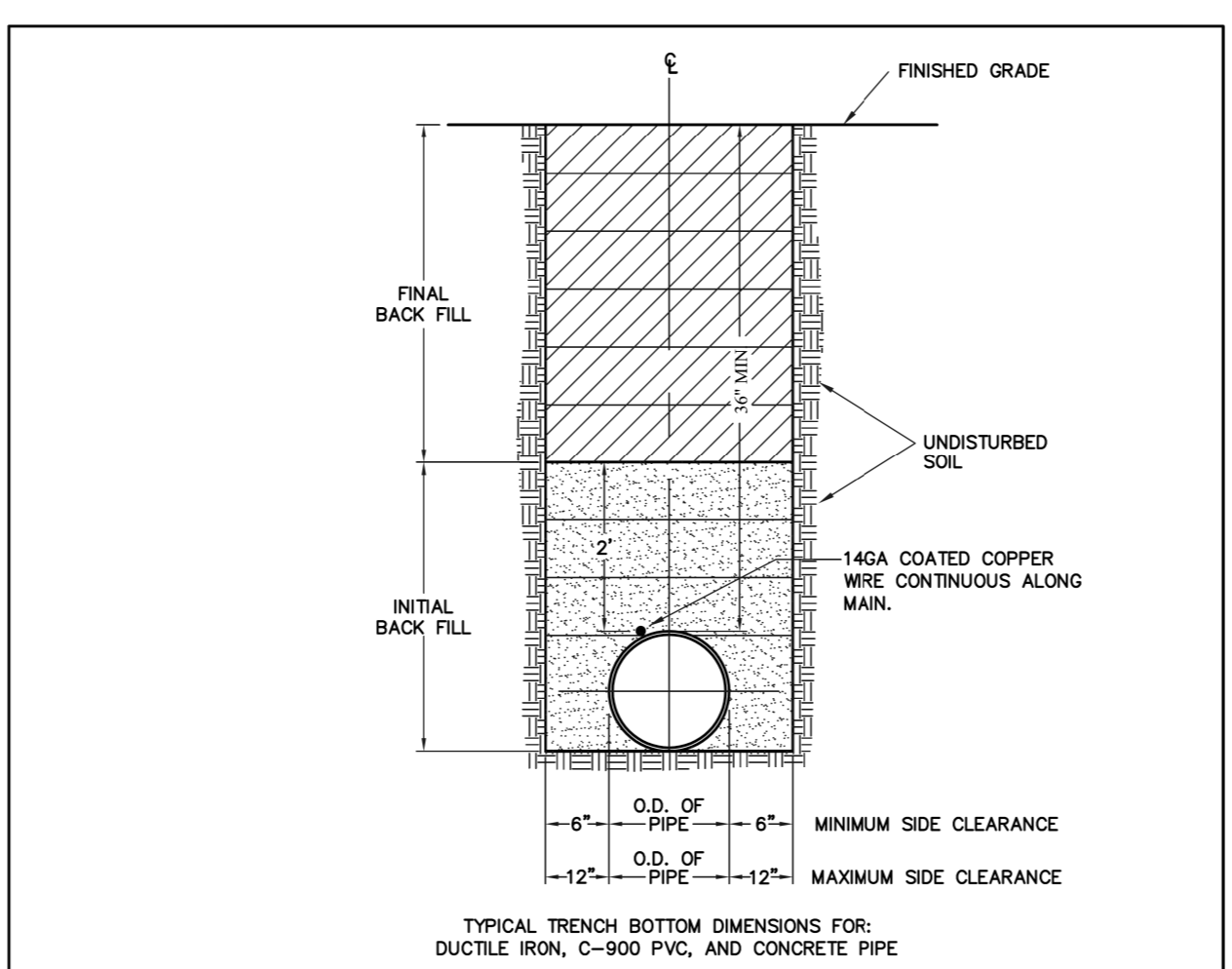
- NOTES:
- 4" AND LARGER PVC PIPE APPLICATIONS SHALL REQUIRE GATE AND CHECK VALVE ASSEMBLY TO BE SUPPORTED BY A CRADLE.
 - 6" AND LARGER DUCTILE IRON PIPE APPLICATIONS SHALL REQUIRE GATE AND CHECK VALVE ASSEMBLY TO BE SUPPORTED BY A CRADLE.
 - VAULTS FOR GATE AND CHECK VALVE ASSEMBLY SHALL PROVIDE ADEQUATE INSIDE CLEARANCE TO FACILITATE INSTALLATION, REMOVAL, AND MAINTANCE W/ MINIMUM OF 18" CLEAR IN ALL DIRECTIONS. SUBTITLS TO CITY OF HICKORY ARE REQUIRED.
 - TYPICALLY VAULTS SHALL BE CONSTRUCTED IN NON-TRAFFIC AREAS, ADJACENT TO RIGHT OF WAY LINE.
 - RPZ SHALL BE SUBSTITUTED W/ IDENTICAL LAYOUT WHERE REQUIRED. VAULT DRAIN SHALL BE PLUMBED TO STORM DRAIN WHERE AVAILABLE.

CITY OF HICKORY

REVISIONS		DATE:
NO.	DESCRIPTION	2-1-07

DOUBLE DETECTOR CHECK VALVE ASSEMBLY W/ METER

DATE: 2-1-07
SHEET 1 OF 1
STD. NO. 507



TRENCH DETAIL CLASS D FLAT SUBGRADE

DEPTH OF BEDDING MATERIAL BELOW PIPE

D	d (MIN.)
27" & SMALLER	6"
30" - 60"	12"
66" & LARGER	18"

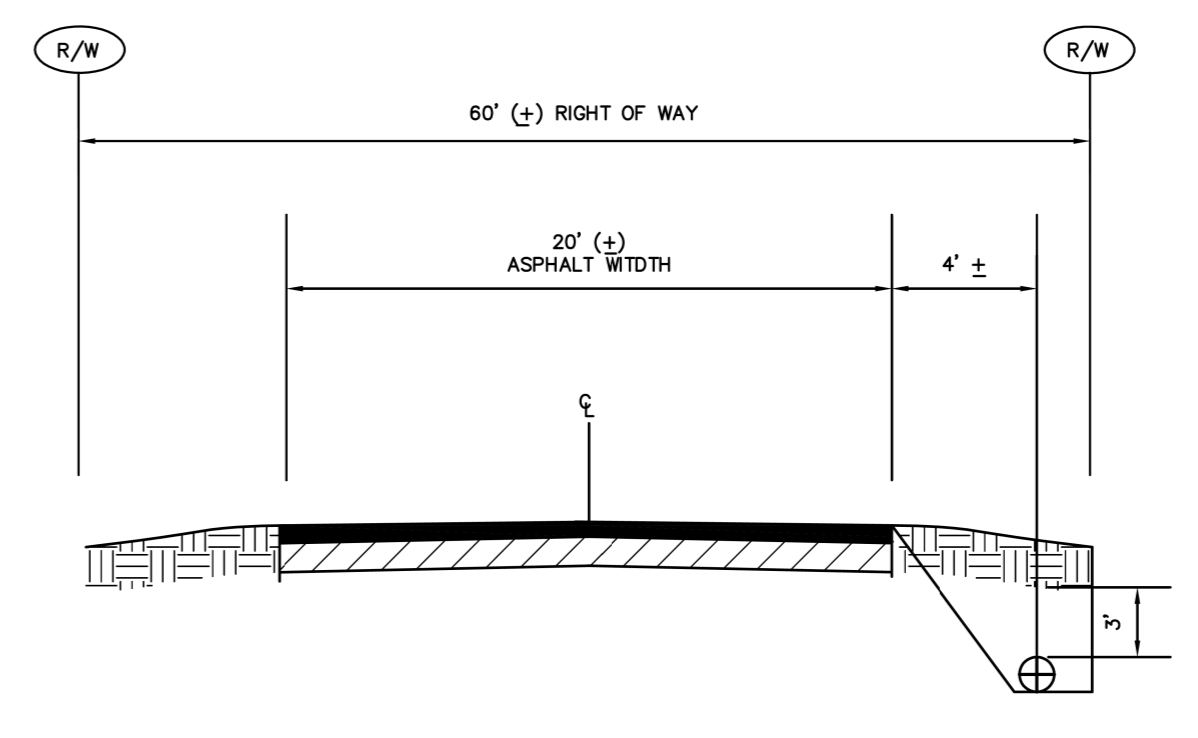
- NOTES:
- TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
 - NO ROCKS OR BOULDERS 2" OR LARGER TO BE USED IN INITIAL BACKFILL.
 - ALL BACKFIELD MATERIAL SHALL BE SUITABLE MATERIAL.
 - BACK FILL SHALL BE COMPACTED IN 6" LAYERS IN TRAFFIC AREAS, 12" LAYERS IN NON-TRAFFIC AREAS USING VIBRATORY EQUIPMENT.

CITY OF HICKORY

REVISIONS		DATE:
NO.	DESCRIPTION	2-1-07

WATER LINE TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS

DATE: 2-1-07
SHEET 1 OF 1
STD. NO. 508



TYPICAL PAVED SECTION

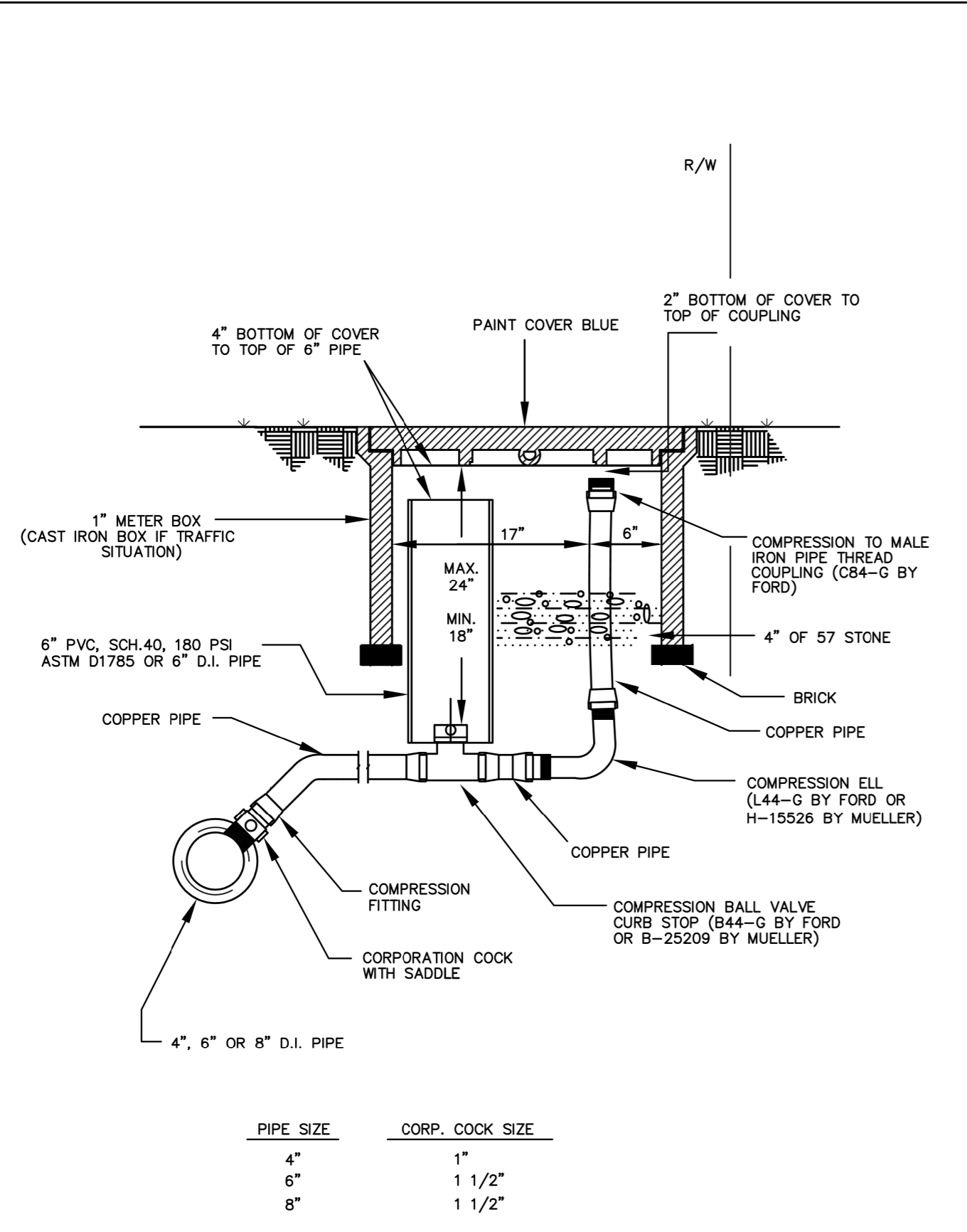
- NOTES:
- BACKFILL TO BE PLACED IN 4" TO 6" LAYERS WITH PNEUMATIC TAMP AND THE SHOULDERS TO BE PLACED BACK IN ORIGINAL CONDITIONS.
 - SEED AND STRAW TO BE PLACED
 - CONCRETE DRIVEWAY ARE TO BE SMOOTH CUT AND PLACED BACK IN ORIGINAL CONDITION AT COMPLETION OF PROJECT.
 - POUR CONCRETE FOR ALL WATER LINE FITTINGS, INCLUDING PLUGS, FIRE HYDRANTS, BENDS, ETC. UNLESS OTHERWISE NOTED IN PLANS.

CITY OF HICKORY

REVISIONS		DATE:
NO.	DESCRIPTION	2-1-07

WATER LINE INSTALLATION IN ROADWAY SHOULDER

DATE: 2-1-07
SHEET 1 OF 1
STD. NO. 509



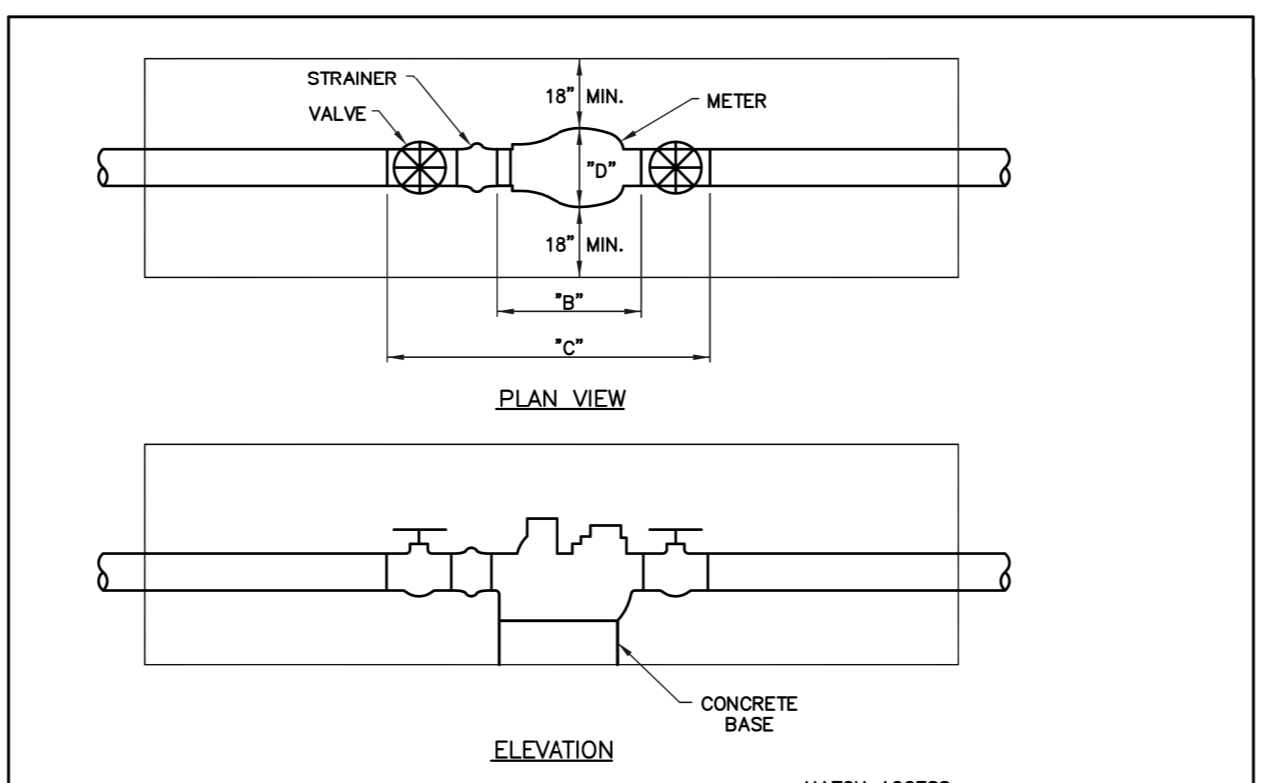
PIPE SIZE	CORP. COCK SIZE
4"	1"
6"	1 1/2"
8"	1 1/2"

CITY OF HICKORY

REVISIONS		DATE:
NO.	DESCRIPTION	2-1-07

AIR BLOW-OFF ASSEMBLY

DATE: 2-1-07
SHEET 1 OF 1
STD. NO. 510



DIMENSIONS

METER SIZE	"b"	"c"	"d"
1 1/2" - 2"	17"	42"	8 1/2"
3"	17"	42"	8 1/2"
4"	20"	48"	9 1/8"
6"	24"	56"	12 3/4"
8"	20"	52"	13 1/2"

HATCH ACCESS

METER SIZE	BILCO TYPE
1 1/2" - 2"	K-4 (3'x3')
3"	K-4 (3'x3')
4"	K-4 (3'x3')
6"	K-4 (3'x3')
8"	KD-2 (4'x4')

INTERIOR VAULT DIMENSIONS

METER SIZE	W (ft)	L (ft)	H (ft)	PIPE OPENING
1 1/2" - 2"	4	5	3	12"x12"
3"	4	5	3	12"x12"
4"	4	6	4	14"x14"
6"	4	6	4	14"x14"
8"	5	6	4	14"x16"

- NOTES:
- CONCRETE TO BE 4000 PSI @ 28 DAY STRENGTH.
 - REINFORCING TO BE #4 BARS @ 6" CTS EACH WAY.
 - A BACKFLOW PREVENTION DEVICE IS REQUIRED AND SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER. THIS SHALL BE IN A SEPERATE STRUCTURE FROM THE METER.

CITY OF HICKORY

REVISIONS		DATE:
NO.	DESCRIPTION	2-1-07

METER VAULT WITHOUT BYPASS

DATE: 2-1-07
SHEET 1 OF 1
STD. NO. 511

PROJECT REFERENCE NO. R-2307B/I-5717 SHEET NO. UC-3C

DESIGNED BY: JFA
DRAWN BY: ACB
CHECKED BY: EPH
APPROVED BY: JJW
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
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8/21/2024
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

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5/14/99

UTILITY CONSTRUCTION

PLAN VIEW

ELEVATION

ADJUSTABLE SCREW CRADLES FOR SUPPORT

ADJUSTABLE SCREW CRADLES FOR SUPPORT UNDER ALL FITTINGS & DEVICES AND MAXIMUM OF 1/2" OFF ENTRY & EXIT WALL PENETRATIONS.

NOT TO SCALE

CITY OF HICKORY		DATE:
NO.	REVISIONS DESCRIPTION	2-1-07
		SHEET 1 OF 2
		STD. NO. 512.1

HATCH ACCESS

METER SIZE	BILCO TYPE
1 1/2" - 2"	K-4 (3x3)
3"	K-4 (3x3)
4"	K-4 (3x3)
6"	KD-3 (4x6)
8"	KD-3 (4x6)

DIMENSIONS

METER SIZE	"A"	"B"	"C"	"D"
1 1/2" - 2"	23"	17"	53"	8 1/2"
3"	23"	17"	53"	8 1/2"
4"	25"	20"	63 1/2"	9 1/8"
6"	28"	24"	81"	12 3/4"
8"	29"	20"	82"	13 1/2"

* NEPTUNE METERS

INTERIOR VAULT DIMENSIONS

METER SIZE	W (ft)	L (ft)	H (ft)	* PIPE OPENING
1 1/2" - 2"	5	6	3	12" x 12"
3"	5	6	3	12" x 12"
4"	5	7	4	14" x 14"
6"	6	9	4	14" x 14"
8"	6	9	4	14" x 16"

* OPENING DIMENSIONS ARE WIDTH x HEIGHT WITH OPENING CENTERED ON WIDTH OF VAULT.

NOTES:

- CONCRETE TO BE 4000 PSI @ 28 DAY STRENGTH.
- REINFORCING TO BE #4 BARS @ 6" CTS EACH WAY.
- A BACKFLOW PREVENTION DEVICE IS REQUIRED AND SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER. THIS SHALL BE IN A SEPARATE STRUCTURE FROM THE METER.

NOT TO SCALE

CITY OF HICKORY		DATE:
NO.	REVISIONS DESCRIPTION	2-1-07
		SHEET 2 OF 2
		STD. NO. 512.2

VERTICAL GATE VALVE ASSEMBLY

FINISH GRADE

WORD "WATER" CAST IN TOP

18" X 18" X 4" CONCRETE PAD (UNLESS OTHERWISE SPECIFIED)

COPPER TRACING WIRE WITHIN 1" OF VALVE BOX TOP (PVC PIPE ONLY)

ADJUSTABLE CAST IRON VALVE BOX (SCREW TYPE)

#14 COATED COPPER TRACING WIRE (PVC PIPE ONLY)

COMPACTED BACKFILL

CONCRETE BRICK SUPPORT

3" MINIMUM COVER

INSTALL EXTENSION AS REQUIRED

GATE VALVE

WATER MAIN

CONCRETE SUPPORT PAD 8" LARGER THAN VALVE (REQUIRED ON GATE VALVES 10" AND LARGER ONLY)

NOT TO SCALE

CITY OF HICKORY		DATE:
NO.	REVISIONS DESCRIPTION	2-1-07
		SHEET 1 OF 1
		STD. NO. 513

BLOW-OFF DETAIL

CAST IRON STD. METER BOX AND LID

14 GA. COATED COPPER TRACING WIRE WITHIN 1" OF TOP (PVC ONLY)

3" MINIMUM COVER

3/4" ROD

2'-0"

NO. 14 COATED COPPER TRACING WIRE (PVC ONLY)

2" PVC SDR-13.5

WASHED STONE

BRASS ELBOW AND NIPPLE FOR VERTICAL BLOW-OFF SIZE ACCORDING TO PLANS

CONCRETE THRUST BLOCK WIDTH: 1 FOOT OUTSIDE DITCH LINE, EACH SIDE.

DUCTILE IRON TRANSITION SLEEVE FOR 2" PVC TO 2" THREADED WITH LUGS FOR RODDING TO DEADMAN

RESILIENT SEAT GATE W/ 2" SQUARE OPERATING NUT

NOTE:

- GLUED JOINTS WILL NOT BE PERMITTED.

NOT TO SCALE

CITY OF HICKORY		DATE:
NO.	REVISIONS DESCRIPTION	2-1-07
		SHEET 1 OF 1
		STD. NO. 514

TYPICAL WATER SERVICE CONNECTION

5'-0" 1" BEYOND SIDEWALK

CAST IRON MEX - 2 BOX

APPROVED COPPER METER SETTER AND NIPPLE FOR ANGLE VALVE AND ASS. APPROVED DOUBLE CHECK VALVE BACKFLOW PREVENTER

HOUSE SERVICE

MUELLER H-1422

BRICK

MUELLER H-1427

#67 WASHED STONE

12"

CITY SET W/ STANDARD CURB

PAVEMENT

3/4" MUELLER CORPORATION STOP

3/4" TYPE "K" SOFT COPPER SERVICE PIPE

WATER MAIN

3/4" DUCTILE IRON SABLE W/ DOUBLE HIGH TENSION LOW ALLOY STEEL STRAPS, ROMAL 202 OR SMITH BLAIR STYLE 313

3/4" CONN. SHOWN

FOR 1" CONNECTION

- 1" CORPORATION COCK
- 1" TYPE "K" SOFT COPPER
- 1" STANDARD METER

NOT TO SCALE

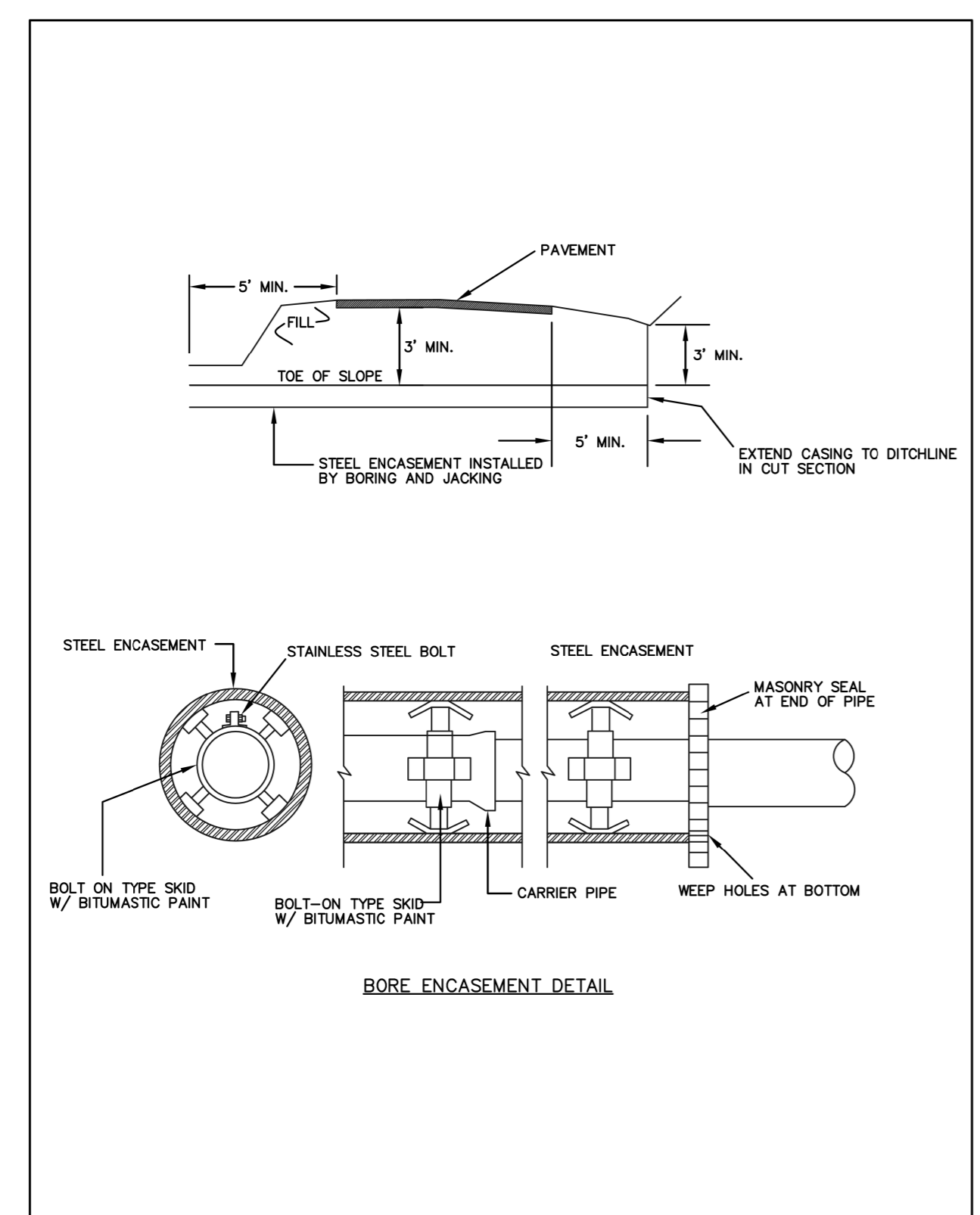
CITY OF HICKORY		DATE:
NO.	REVISIONS DESCRIPTION	2-1-07
		SHEET 1 OF 1
		STD. NO. 515

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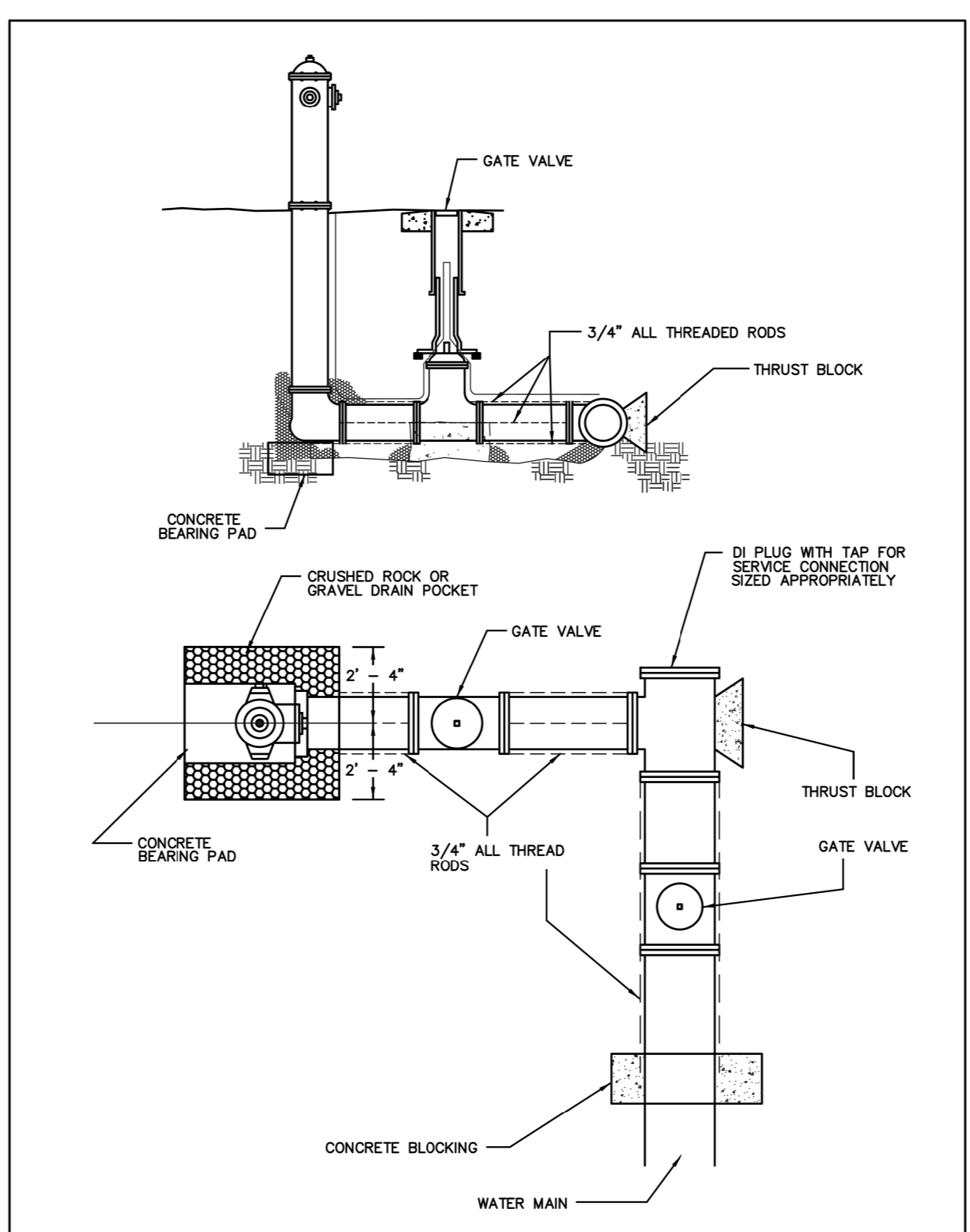
5/14/09

UTILITY CONSTRUCTION



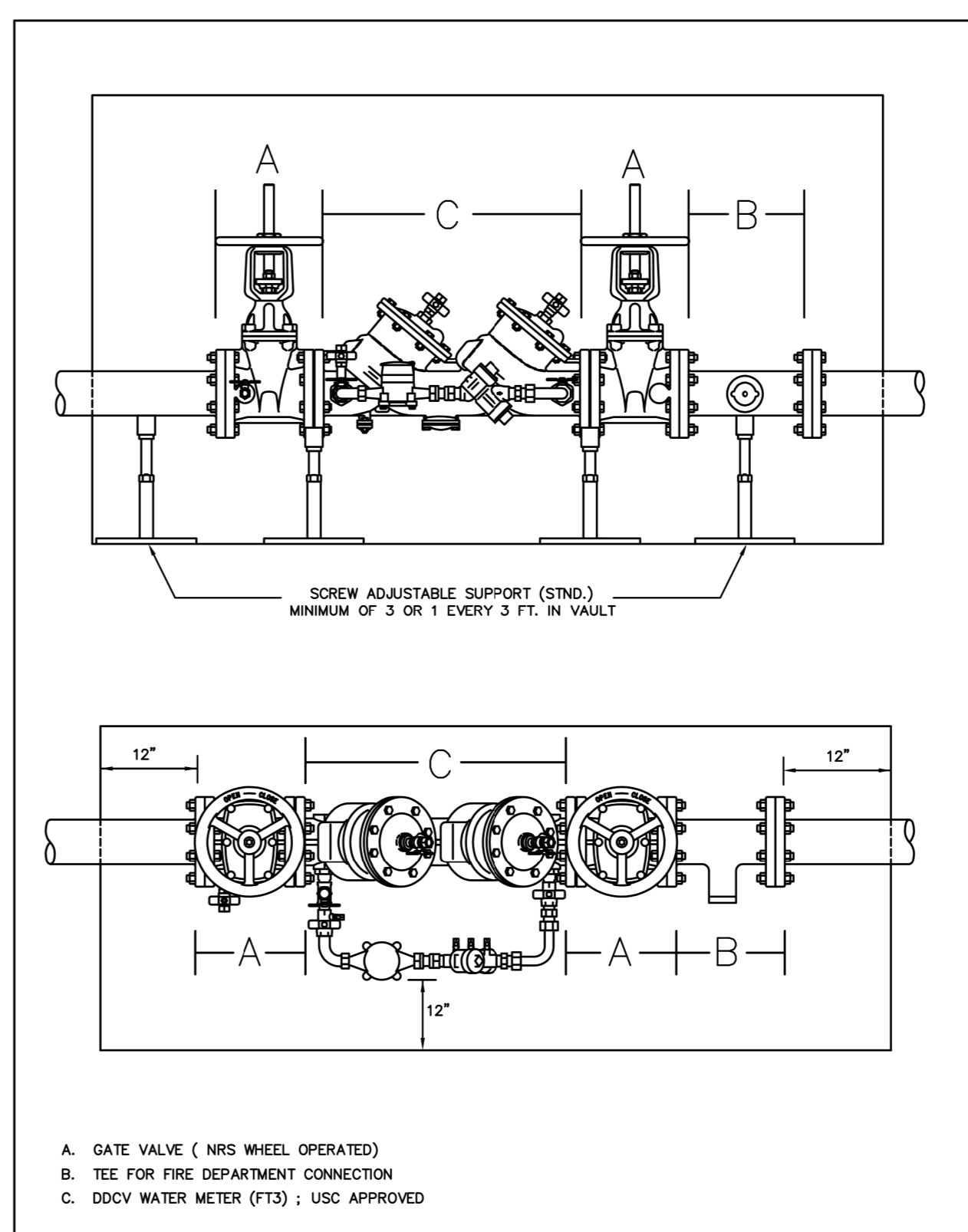
NOT TO SCALE

CITY OF HICKORY		DATE: 2-1-07
NO.	REVISIONS DESCRIPTION	SHEET 1 OF 1
		STD. NO. 516



NOT TO SCALE

CITY OF HICKORY		DATE: 2-1-07
NO.	REVISIONS DESCRIPTION	SHEET 1 OF 1
		STD. NO. 517



NOT TO SCALE

CITY OF HICKORY		DATE: 2-1-07
NO.	REVISIONS DESCRIPTION	SHEET 1 OF 2
		STD. NO. 518.1

DOUBLE DETECTOR CHECK VALVE WITH METER VAULT DIMENSIONS

SIZE	LENGTH (FT)	WIDTH (FT)	HEIGHT (FT)	HATCH
2"	6	4	4	2 x 2
2 1/2"	8	4	4	2 x 2
3"	8	4	4	2 x 2
4"	10	4	4	2.5 x 4
6"	12	4	4	2.5 x 4
8"	12	4	4	2.5 x 4
10"	12	4	4	2.5 x 4

REDUCED PRESSURE ZONE ASSEMBLY VAULT DIMENSIONS

SIZE	LENGTH (FT)	WIDTH (FT)	HEIGHT (FT)	HATCH
2"	8	4	4	2 x 2
2 1/2"	8	4	4	2 x 2
3"	8	4	4	2 x 2
4"	10	4	4	2.5 x 4
6"	10	4	4	2.5 x 4
8"	12	4	4	2.5 x 4
10"	13	4	4	2.5 x 4

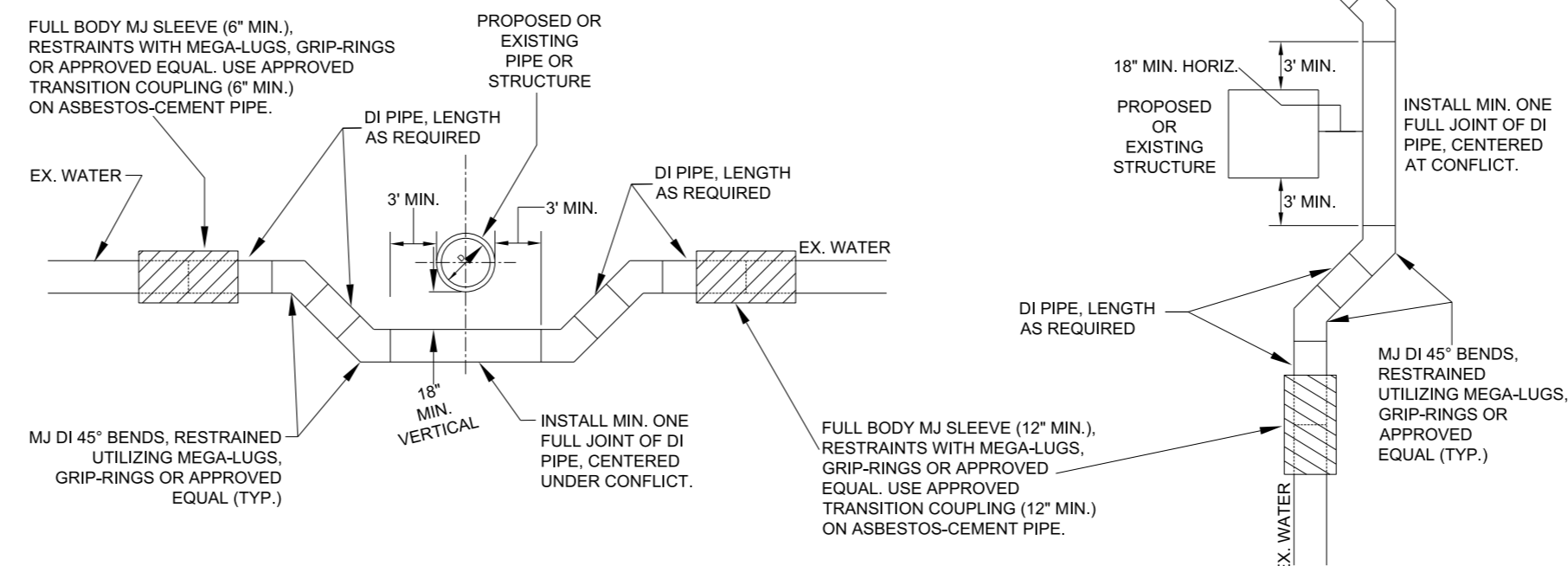
NOTES:

- DOUBLE DETECTOR CHECK VALVE TO BE USC APPROVED FEBCO MODEL 856, AMES MODEL 3000 SS WITH DETECTOR OR EQUAL.
- REDUCED PRESSURE ZONE APPLICATION TO COMPLY WITH NCDENER GREEN BOOK.
- REDUCED PRESSURE ZONES USC APPROVED FEBCO MODEL 826 YD OR APPROVED EQUAL. VAULT AS PRODUCED BY PRECAST OR EQUAL.

NOT TO SCALE

CITY OF HICKORY		DATE: 2-1-07
NO.	REVISIONS DESCRIPTION	SHEET 2 OF 2
		STD. NO. 518.2

- NOTES:**
- ALL PIPE AND FITTINGS SHALL BE APPROVED BY CITY OF HICKORY.
 - CONTRACTOR TO COORDINATE NECESSARY OUTAGES WITH CITY OF HICKORY AND AFFECTED CUSTOMERS. MINIMUM 48 HOUR NOTICE REQUIRED.
 - NEW WATER MAIN TO BE SWABBED WITH A CHLORINE SOLUTION AND FLUSHED PRIOR TO PLACING INTO SERVICE.
 - ALL NEW FITTINGS AND PIPE TO BE RESTRAINED UTILIZING MEGA-LUGS, GRIP-RINGS OR APPROVED EQUAL.
 - ALL PIPE AND FITTINGS TO BE DUCTILE IRON.
 - CITY OF HICKORY PROJECT COORDINATOR TO BE PRESENT DURING WORK.
 - BACKFILL AND COMPACT TO CITY OF HICKORY OR N.C.D.O.T. REQUIREMENTS.
 - PROVIDE STONE BEDDING (NO. 5 OR NO. 57 STONE) TO SUPPORT RELOCATED WATER MAIN AND/OR NEW STORM DRAIN, AS APPROVED BY CITY OF HICKORY PROJECT COORDINATOR.
 - MJ RESTRAINTS NOT ALLOWED ON PVC PIPE.
 - DIMENSIONS ARE GIVEN AS GENERAL GUIDANCE. EXACT DIMENSIONS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND AS DIRECTED BY CITY OF HICKORY.



VERTICAL RELOCATION
HORIZONTAL RELOCATION
PIPE RELOCATION DETAIL
N.T.S.

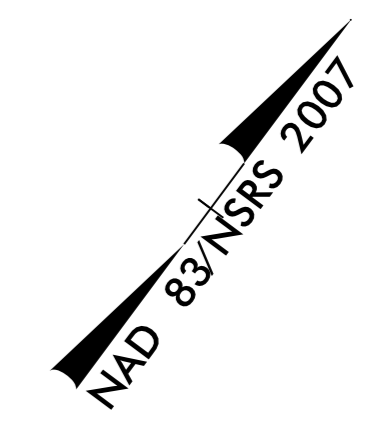
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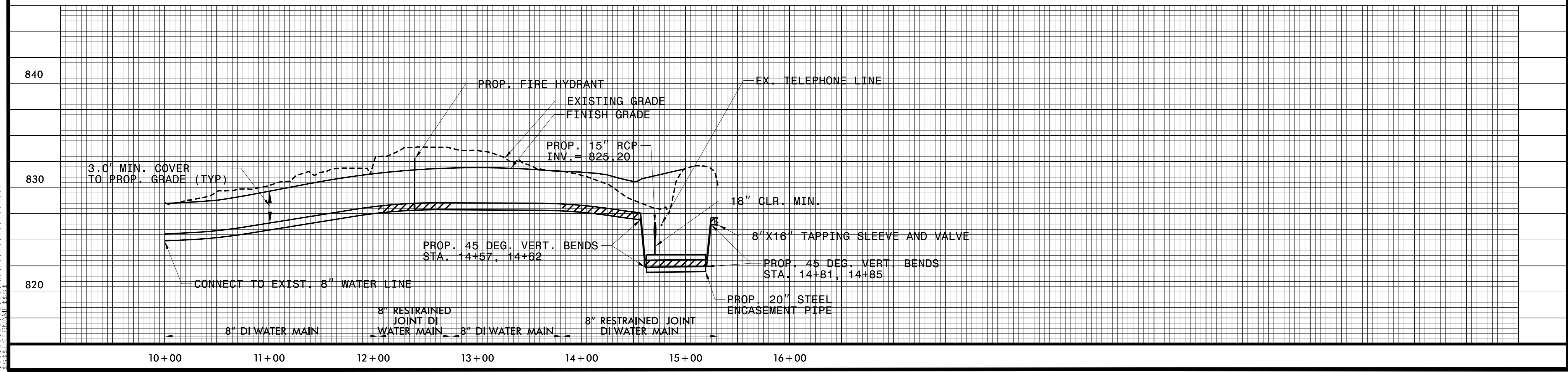
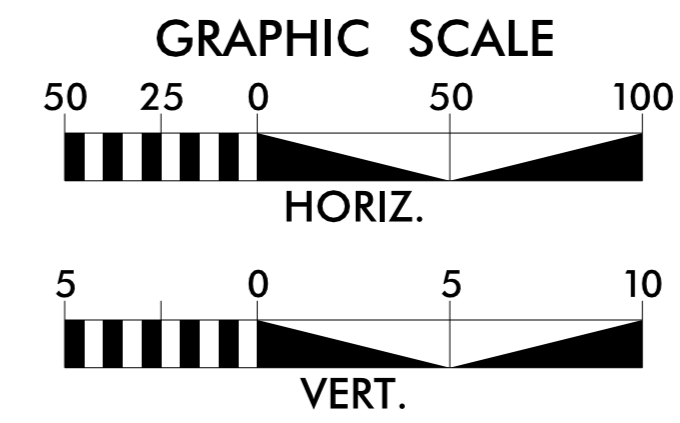
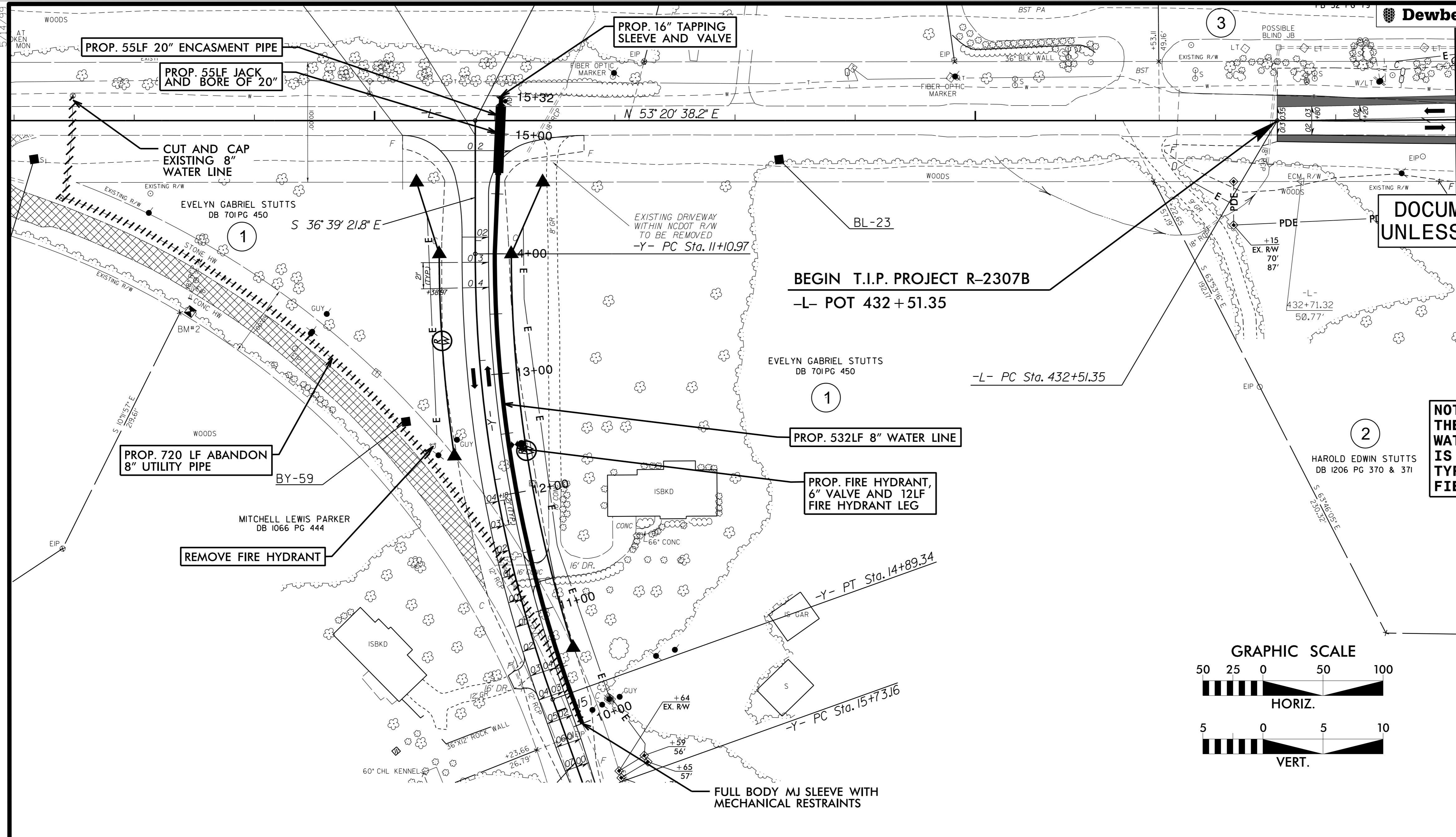
PROJECT REFERENCE NO. R-2307B / 1-5717	SHEET NO. UC04
DESIGNED BY: JFA	
DRAWN BY: ACB	
CHECKED BY: EPH	
APPROVED BY: JJW	
REVISED:	8/21/2024
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

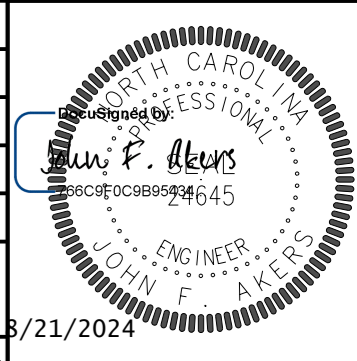
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NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1400 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.



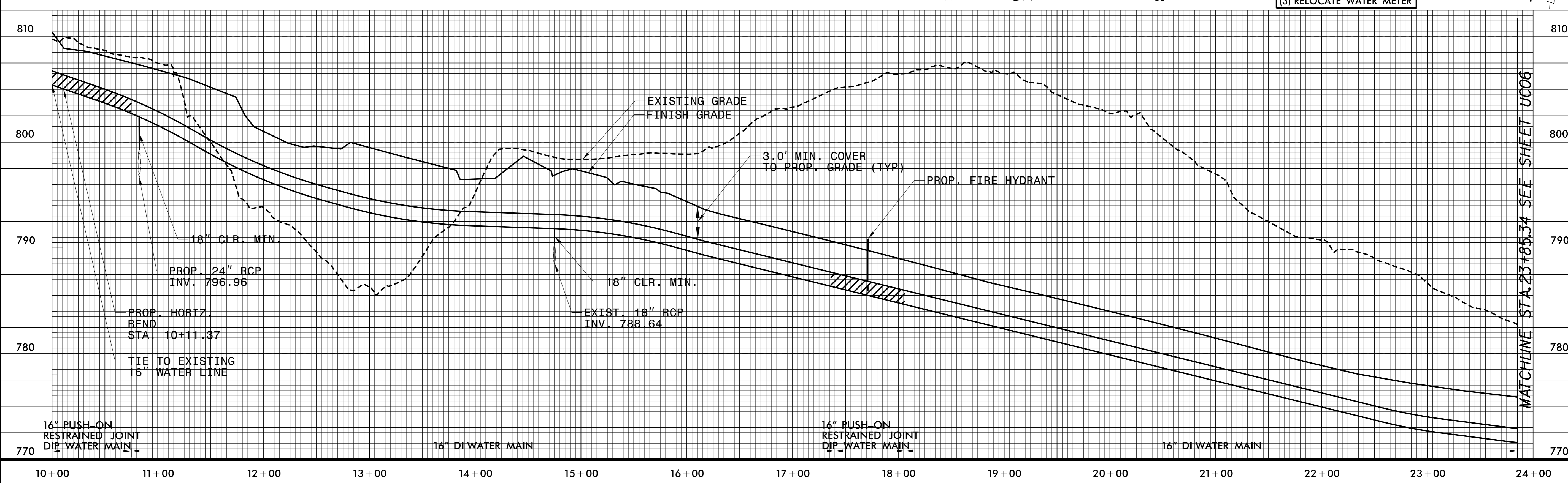
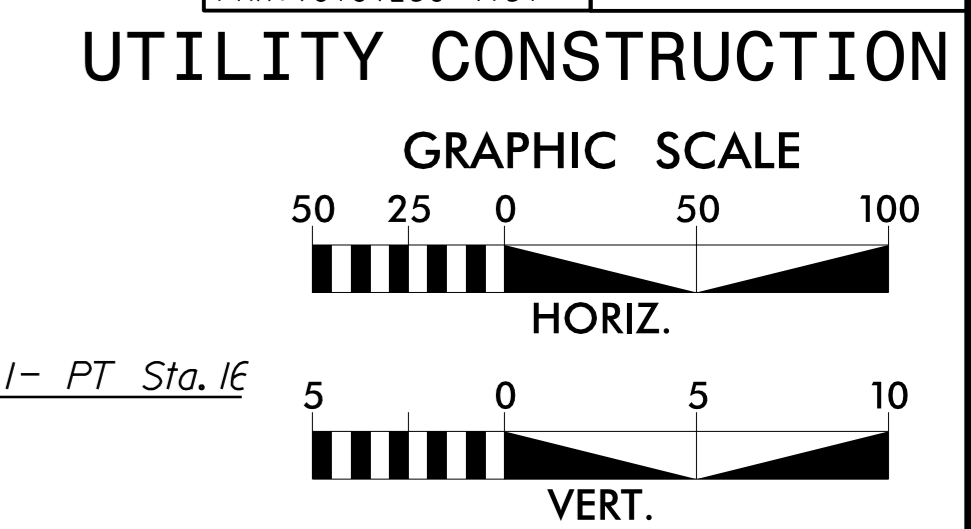
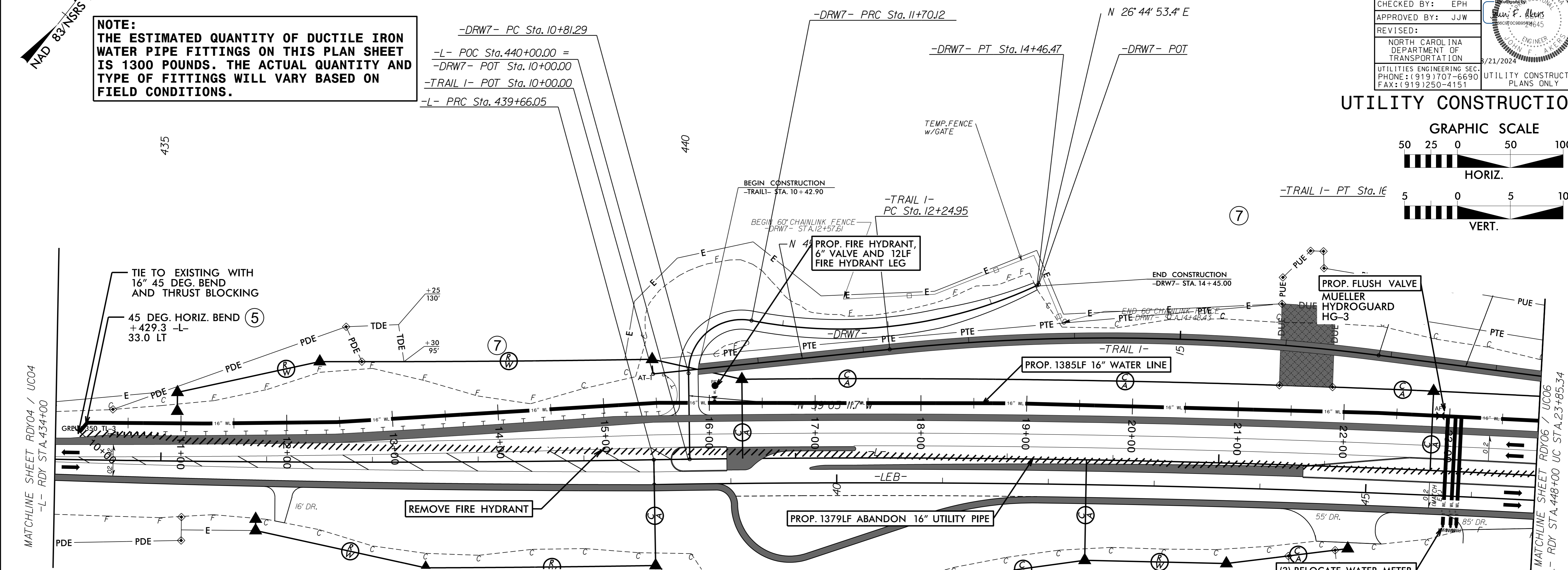


PROJECT REFERENCE NO. R-2307B / 1-5717	SHEET NO. UC05
DESIGNED BY: JFA	
DRAWN BY: ACB	
CHECKED BY: EPH	
APPROVED BY: JJW	
REVISED:	8/21/2024
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
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5/14/24

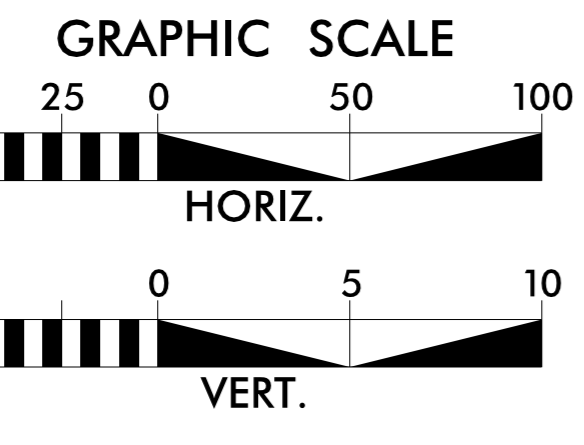
NAD 83 NRS 2007

NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1300 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.



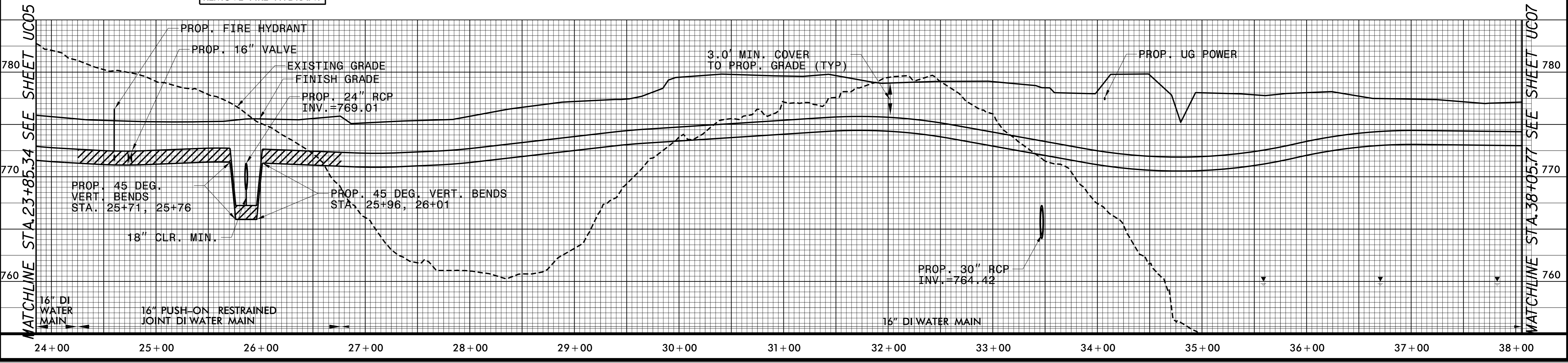
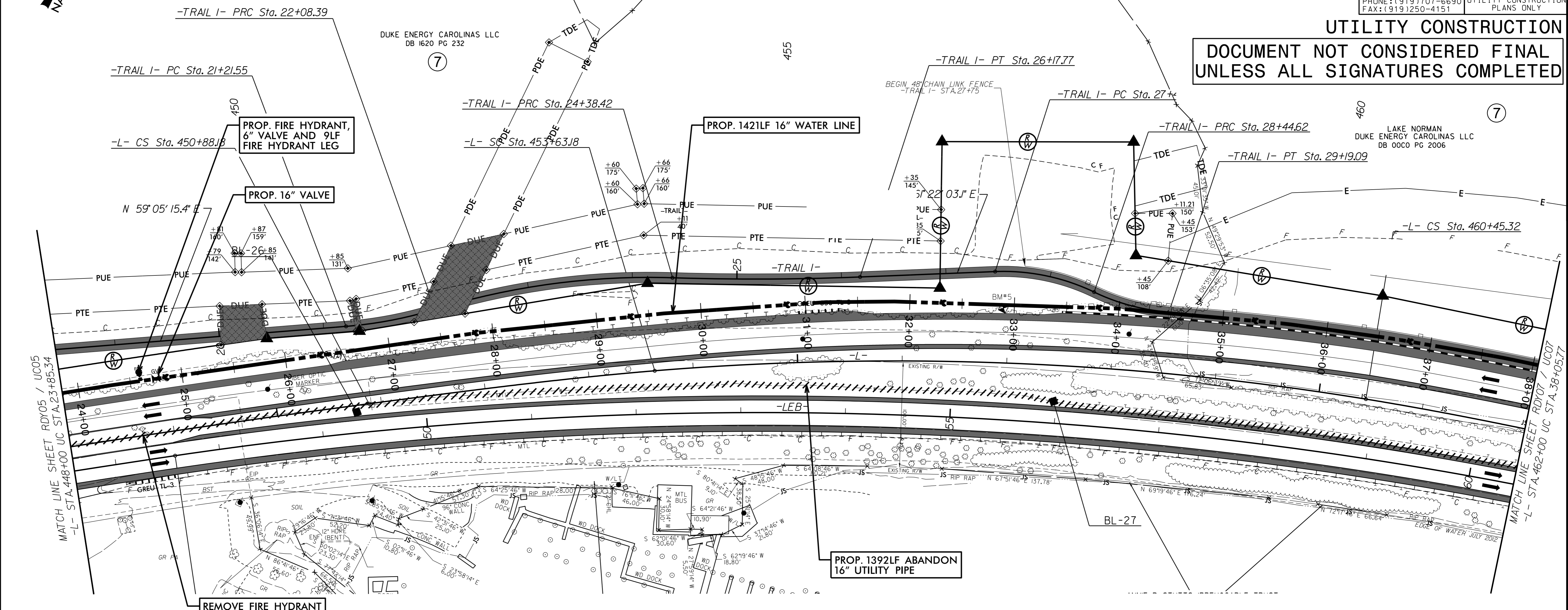


PROJECT REFERENCE NO. R-2307B / I-5717	SHEET NO. UC06
DESIGNED BY: JFA	
DRAWN BY: ACB	
CHECKED BY: EPH	
APPROVED BY: JJW	
REVISED:	8/21/2024
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
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NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2200 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

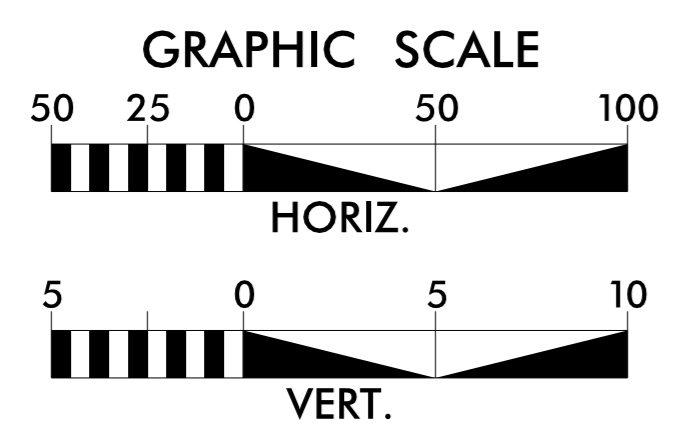
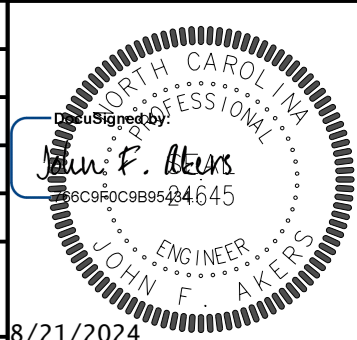
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MATCHLINE STA. 23+85.34 SEE SHEET UC05

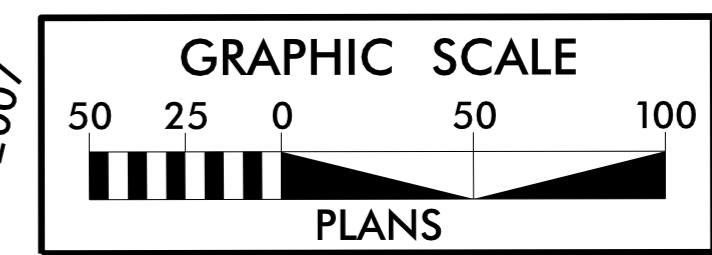
MATCHLINE STA. 38+05.77 SEE SHEET UC07

DESIGNED BY: JFA
DRAWN BY: ACB
CHECKED BY: EPH
APPROVED BY: JJW
REVISED:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
8/21/2024
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NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2000 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

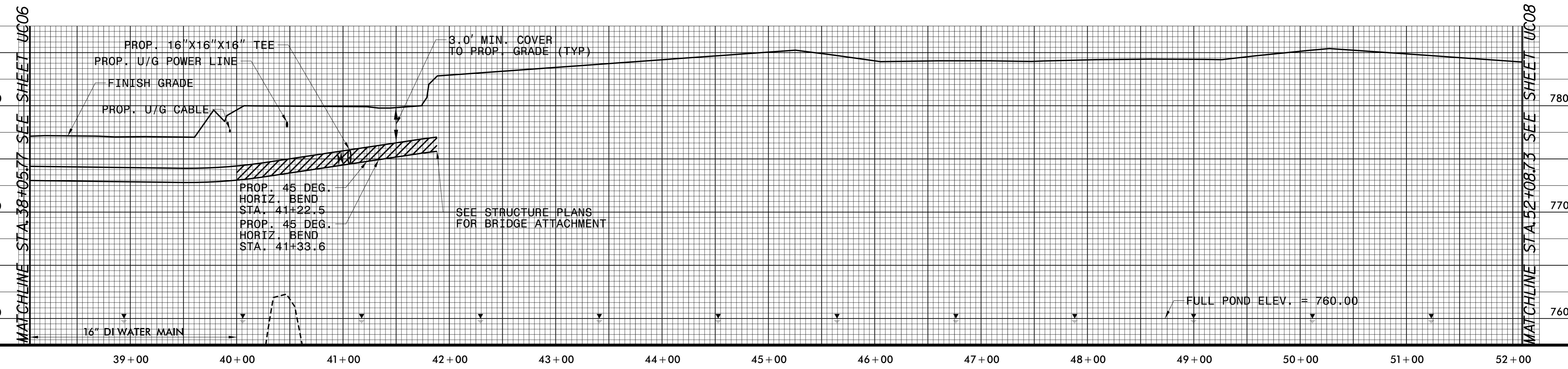
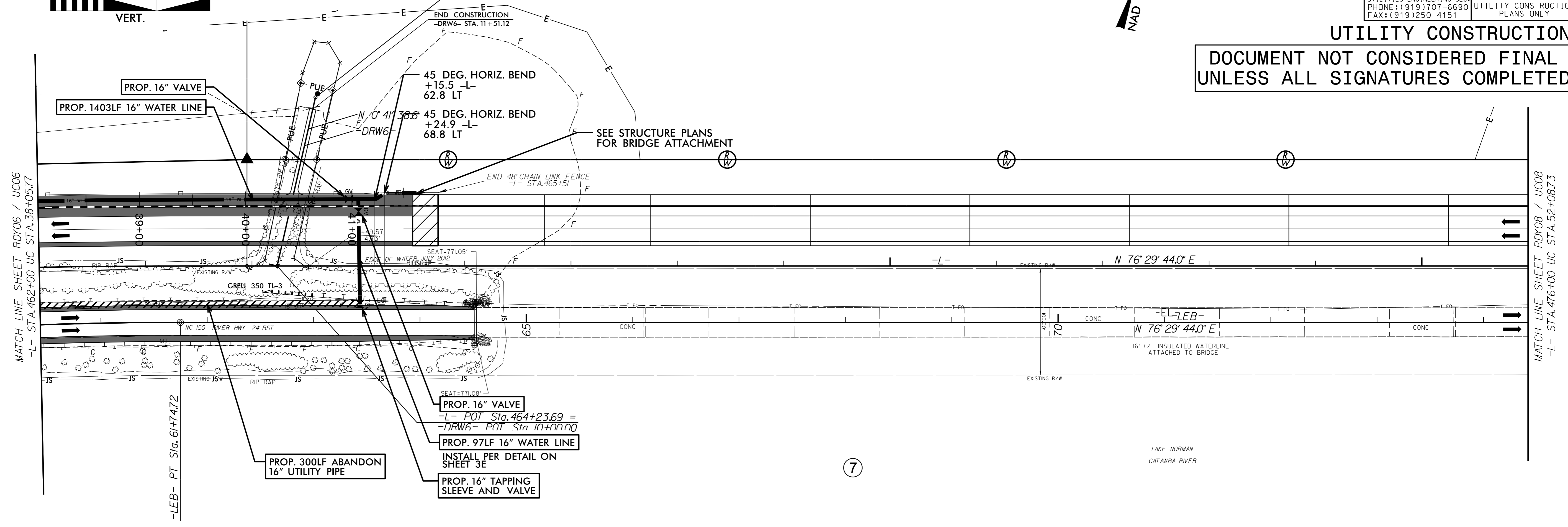
JOINTS SHALL BE EXTENDED AS RECOMMENDED BY THE MANUFACTURER DURING SUBMITTAL PHASE. CONTRACTOR SHALL ASSUME THAT AT LEAST PARTIAL EXTENSION OF ALL EXPOSED RESTRAINED JOINTS WILL BE REQUIRED DURING INSTALLATION



NAD 83 NRS 2007

UTILITY CONSTRUCTION

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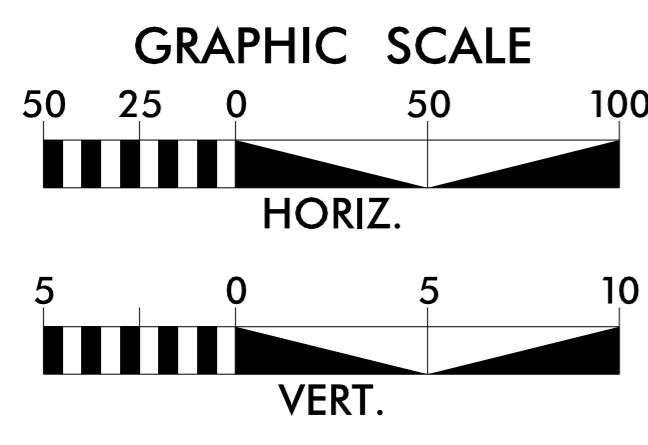
MATCH LINE SHEET RDY06 / UC06
 -L- STA. 462+00 UC STA. 38+05.77

MATCH LINE SHEET RDY08 / UC08
 -L- STA. 476+00 UC STA. 52+08.73

MATCHLINE STA. 38+05.77 SEE SHEET UC06

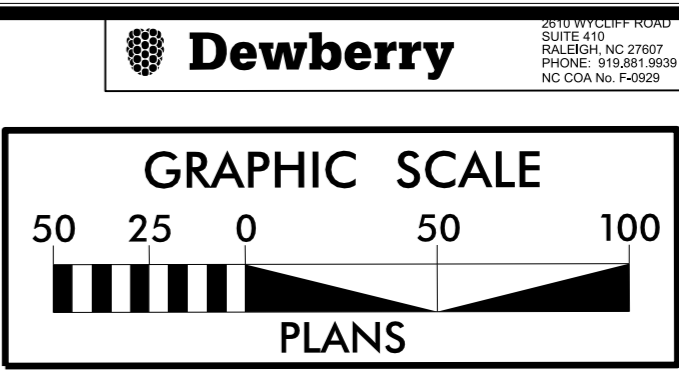
MATCHLINE STA. 52+08.73 SEE SHEET UC08

UTILITY CONSTRUCTION PLANS ONLY



NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2900 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

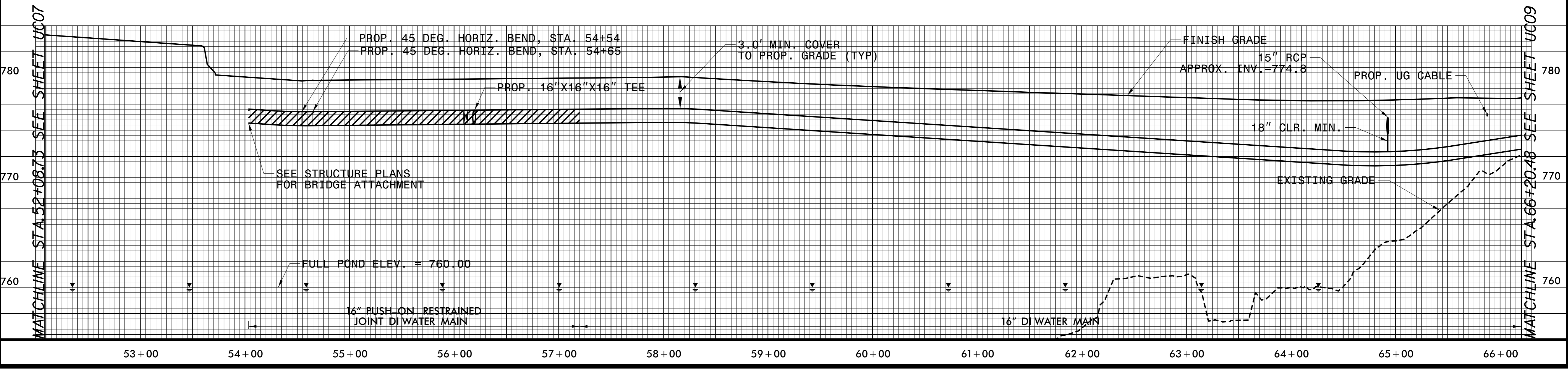
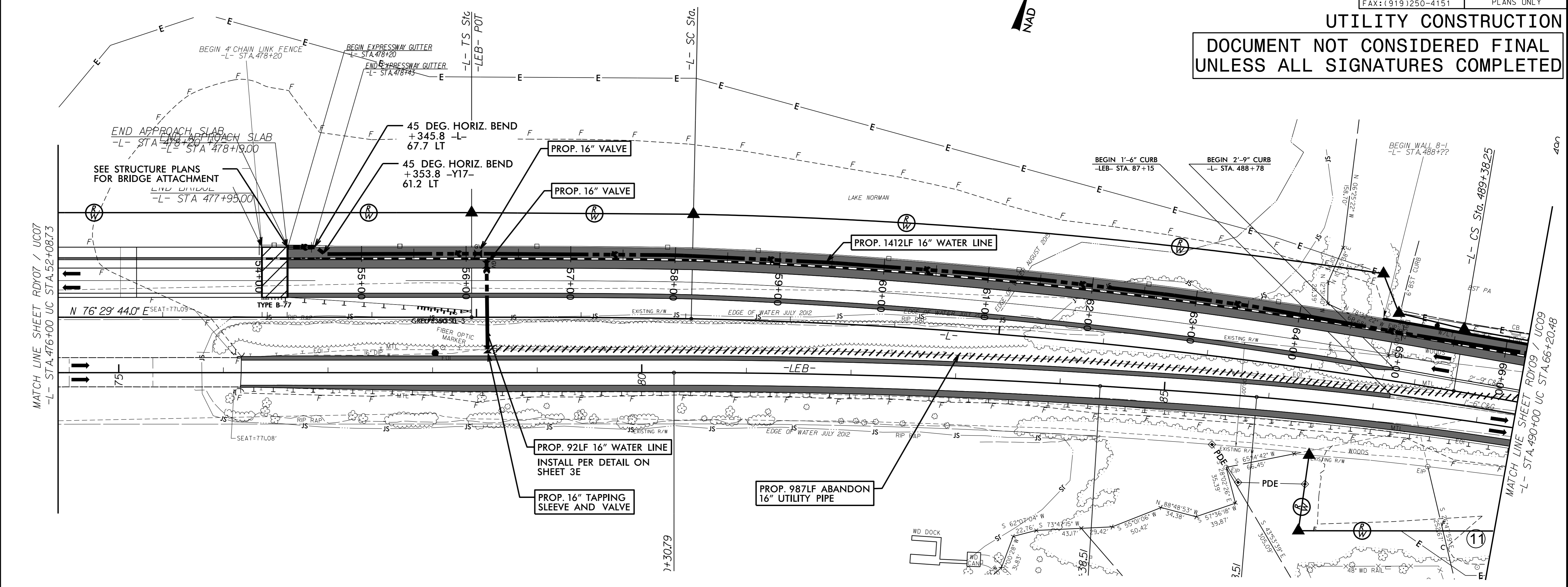
JOINTS SHALL BE EXTENDED AS RECOMMENDED BY THE MANUFACTURER DURING SUBMITTAL PHASE. CONTRACTOR SHALL ASSUME THAT AT LEAST PARTIAL EXTENSION OF ALL EXPOSED RESTRAINED JOINTS WILL BE REQUIRED DURING INSTALLATION



PROJECT REFERENCE NO. R-2307B / 1-5717	SHEET NO. UC08
DESIGNED BY: JFA	
DRAWN BY: ACB	
CHECKED BY: EPH	
APPROVED BY: JJW	
REVISED:	8/21/2014
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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MATCHLINE STA. 52+08.73 SEE SHEET UC07

MATCHLINE STA. 66+20.48 SEE SHEET UC09

Dewberry

PROJECT REFERENCE NO. R-2307B / 1-5717 SHEET NO. UC09

RDY09

DESIGNED BY: JFA
 DRAWN BY: ACB
 CHECKED BY: EPH
 APPROVED BY: JJW

REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151

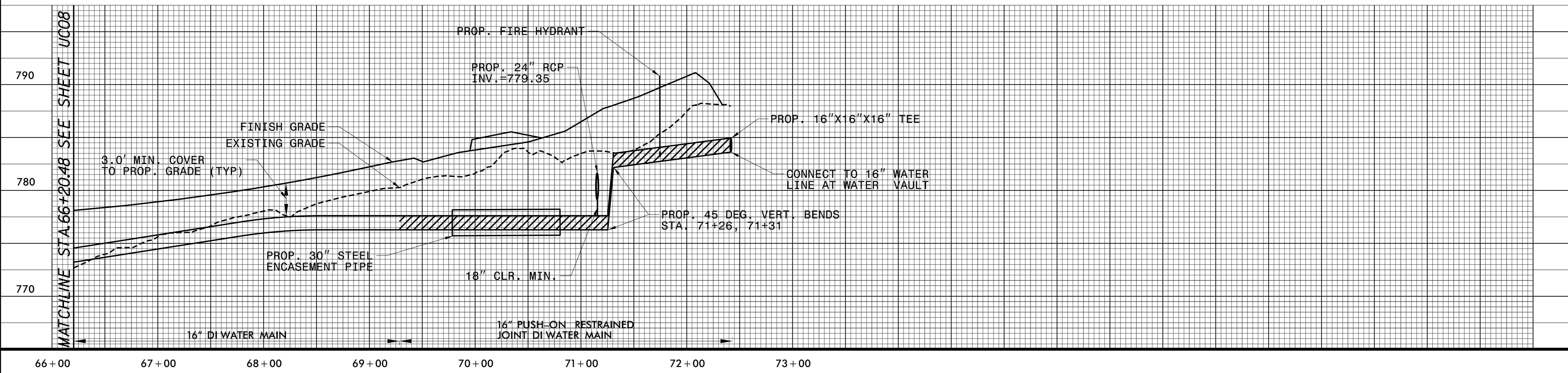
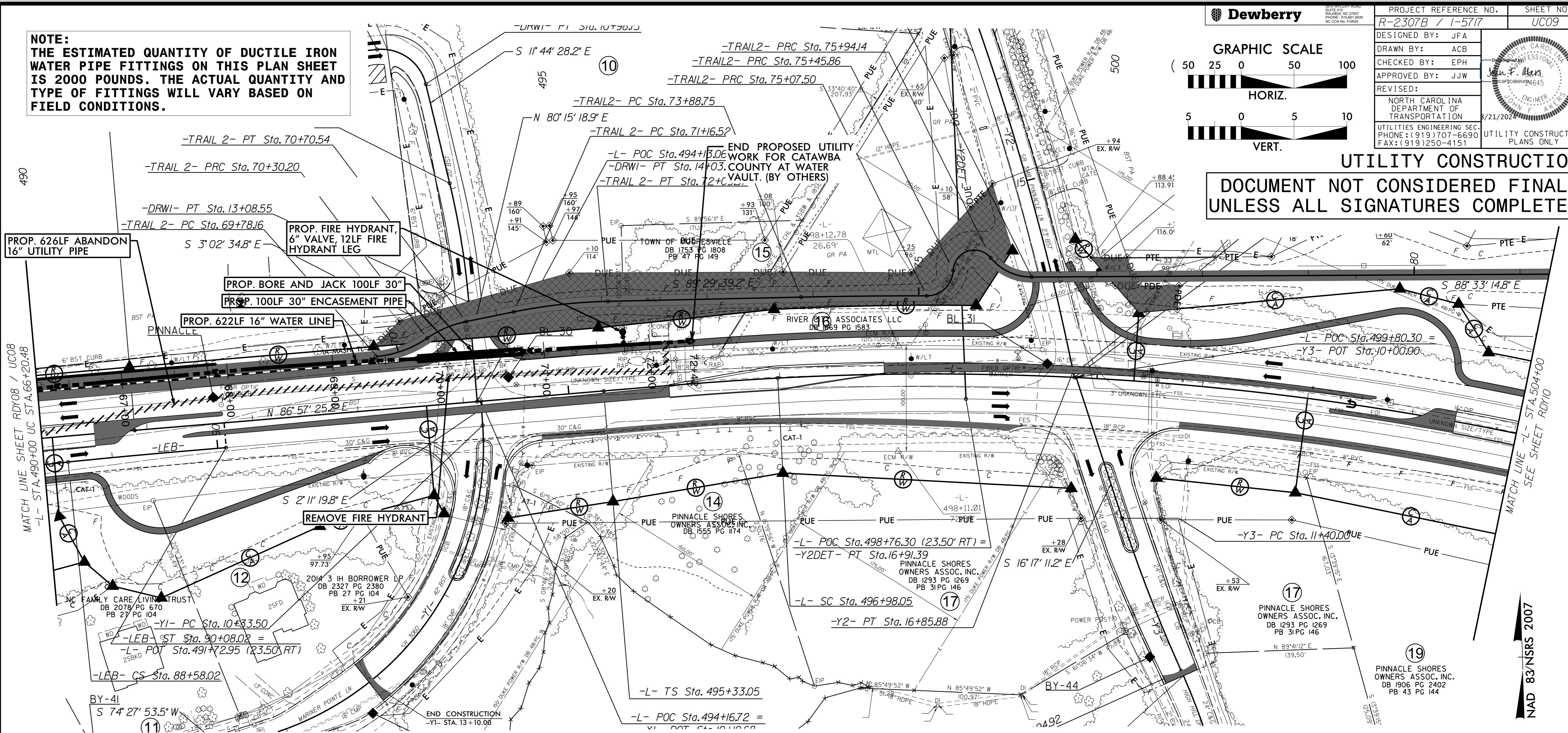
UTILITY CONSTRUCTION PLANS ONLY

8/21/2022

GRAPHIC SCALE
 (50 25 0 50 100)
 HORIZ.
 (5 0 5 10)
 VERT.

NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2000 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

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MATCHLINE STA. 66+20.48 SEE SHEET UC08

66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00