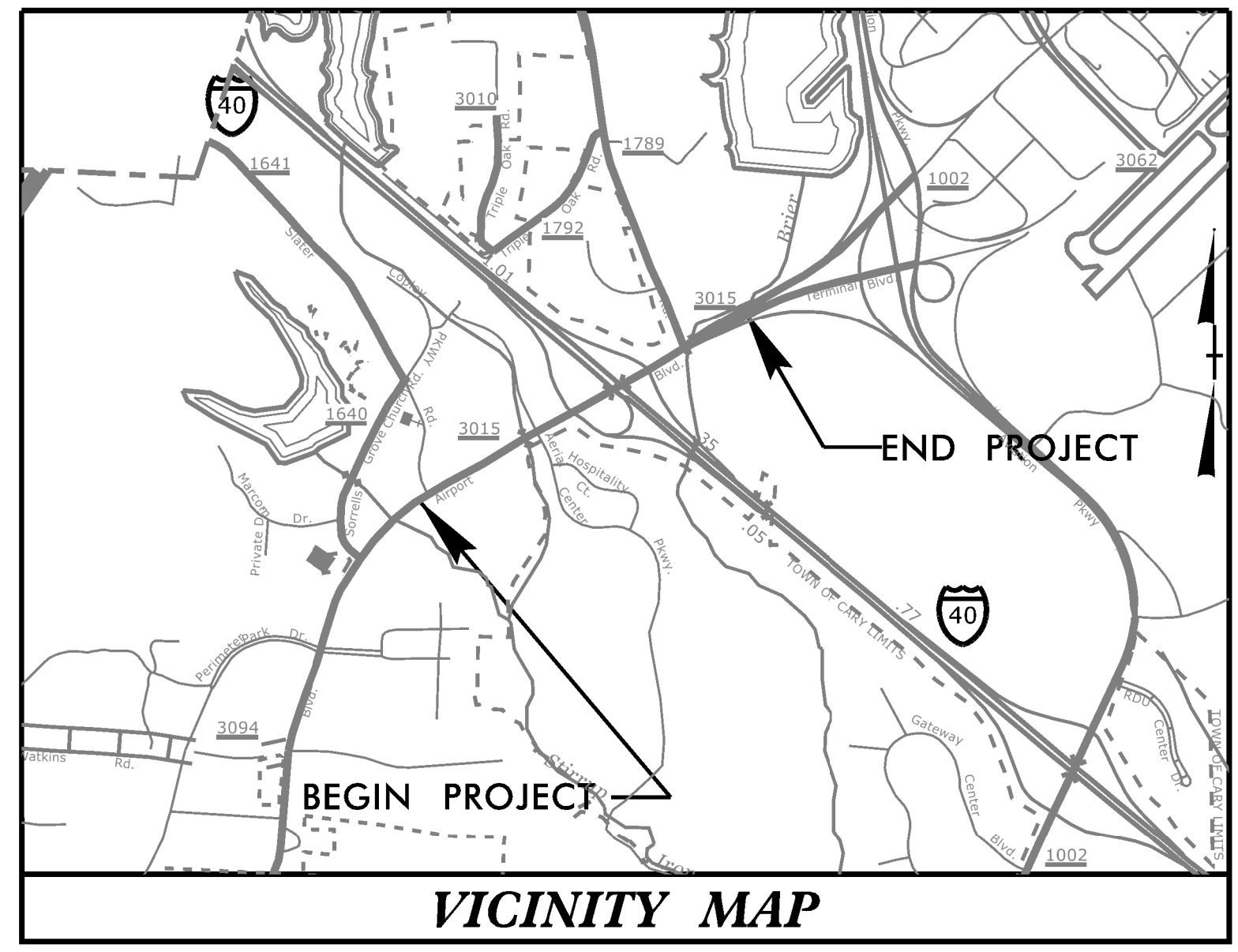


T.I.P. NO.	SHEET NO.
I-5700	UC-1

TIP PROJECT: I-5700

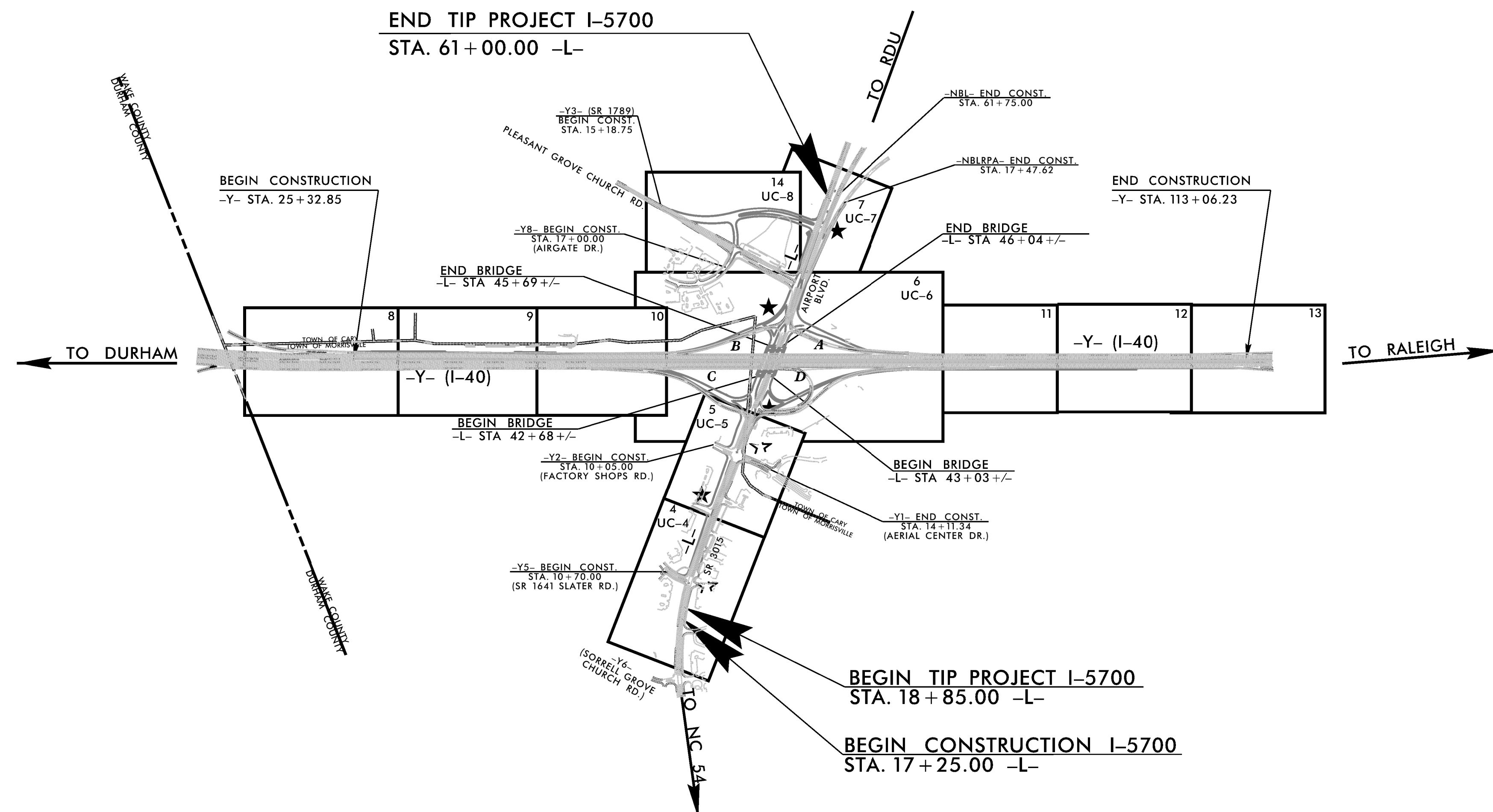
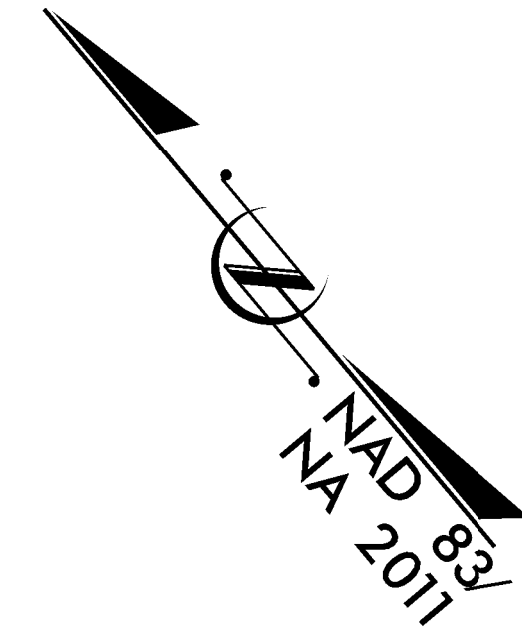


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

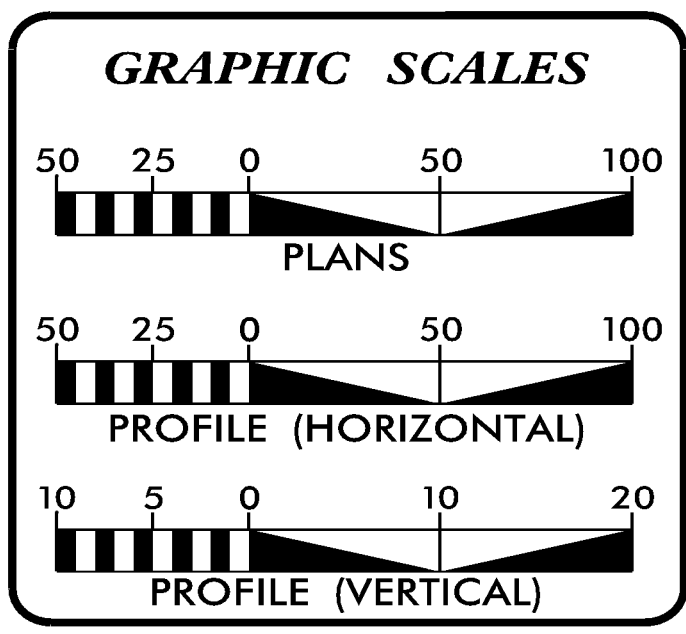
**UTILITY CONSTRUCTION PLANS  
WAKE COUNTY**

**LOCATION:** I-40 AND SR 3015 (AIRPORT BLVD.), REVISE INTERCHANGE AND CONSTRUCT AUXILIARY LANE ON I-40 WESTBOUND FROM SR 3015 (AIRPORT BLVD.) TO I-540.

**TYPE OF WORK:** WATER AND SEWER UTILITY CONSTRUCTION



DOCUMENT NOT CONSIDERED FINAL  
UNTIL ALL SIGNATURES ARE COMPLETED



**INDEX OF SHEETS**

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3D	DETAILS
UC-4 THRU UC-8	UTILITY CONSTRUCTION SHEETS
UC-9 THRU UC-10	PROFILE SHEETS

**WATER AND SEWER OWNERS ON PROJECT**

(A) WATER: TOWN OF CARY  
(B) SANITARY SEWER(GRAVITY): TOWN OF CARY  
(C) SANITARY SEWER(FM): RDU

PREPARED IN THE OFFICE OF

320 S. ACADEMY STREET  
CARY, NC 27511  
NC LICENSE #P-1611  
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<u>STEPHEN LEITCH, PE</u>	CONSULTANT CONTACT #2
<u>JOEY BAILEY</u>	CONSULTANT CONTACT #3

SEAL

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

<u>TUCKER MARTIN, P.E.</u>	UTILITIES REGIONAL ENGINEER
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<u>DAYTON MARTIN, III</u>	UTILITIES AREA COORDINATOR
<u>O'HARA PARKER</u>	UTILITIES COORDINATOR

\$\$\$\$\$ SYSTEMS\$\$\$\$\$  
\$\$\$\$\$ DGN\$\$\$\$\$  
\$\$\$\$\$ USERNAME\$\$\$\$\$

# 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	----- + x -----
45 Degree Bend	----- + x -----
90 Degree Bend	----- + -----
Plug	-----   -----
Tee	----- + -----
Cross	----- + + -----
Reducer	----- ▶ -----
Gate Valve	----- GV -----
Butterfly Valve	----- BV -----
Tapping Valve	----- TGV -----
Line Stop	----- LS -----
Line Stop with Bypass	----- LS/BP -----
Blow Off	----- BO -----
Fire Hydrant	----- FEH -----
Relocate Fire Hydrant	----- REH -----
Remove Fire Hydrant	----- REM FH -----
Water Meter	----- PWM -----
Relocate Water Meter	----- RWM -----
Remove Water Meter	----- REM WM -----
Water Pump Station	----- PS(W) -----
RPZ Backflow Preventer	----- PRPZ -----
DCV Backflow Preventer	----- DBFP -----
Relocate RPZ Backflow Preventer	----- RRPZ -----
Relocate DCV Backflow Preventer	----- RDBFP -----

### 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	----- PS(SS) -----

### PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	----- ⚡ -----
Telephone Pole	----- ☎ -----
Joint Use Pole	----- ⚡☎ -----
Telephone Pedestal	----- TEL PED -----
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	----- AR -----
Utility Vault	----- UV -----
Concrete Pier	----- CP -----
Steel Pier	----- SP -----
Plan Note	----- NOTE -----
Pay Item Note	----- PAY ITEM -----

### EXISTING UTILITIES SYMBOLS

Power Pole	----- ⚡ -----	*Underground Power Line	----- P -----
Telephone Pole	----- ☎ -----	*Underground Telephone Cable	----- T -----
Joint Use Pole	----- ⚡☎ -----	*Underground Telephone Conduit	----- TC -----
Utility Pole	----- • -----	*Underground Fiber Optics Telephone Cable	----- T FO -----
Utility Pole with Base	----- □ -----	*Underground TV Cable	----- TV -----
H-Frame Pole	----- ⚡ -----	*Underground Fiber Optics TV Cable	----- TV FO -----
Power Transmission Line Tower	----- ☒ -----	*Underground Gas Pipeline	----- G -----
Water Manhole	----- ⊗ -----	Aboveground Gas Pipeline	----- A/G Gas -----
Power Manhole	----- ⊙ -----	*Underground Water Line	----- W -----
Telephone Manhole	----- ⊗ -----	Aboveground Water Line	----- A/G Water -----
Sanitary Sewer Manhole	----- ⊙ -----	*Underground Gravity Sanitary Sewer Line	----- SS -----
Hand Hole for Cable	----- ☒ -----	Aboveground Gravity Sanitary Sewer Line	----- A/G Sanitary Sewer -----
Power Transformer	----- ☒ -----	*Underground SS Forced Main Line	----- FSS -----
Telephone Pedestal	----- ☒ -----	Underground Unknown Utility Line	----- ? -----
CATV Pedestal	----- ☒ -----	SUE Test Hole	----- • -----
Gas Valve	----- ◇ -----	Water Meter	----- ⊙ -----
Gas Meter	----- ◇ -----	Water Valve	----- ⊙ -----
Located Miscellaneous Utility Object	----- ⊙ -----	Fire Hydrant	----- ◇ -----
Abandoned According to Utility Records	----- AATUR -----	Sanitary Sewer Cleanout	----- ⊙ -----
End of Information	----- E.O.I. -----		

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

5/14/99

REV: 2/1/2012

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PROJECT REFERENCE NO.	SHEET NO.
I-5700	UC-3
DESIGNED BY: JGB	
DRAWN BY: JGB	
CHECKED BY: JAR	
APPROVED BY: JAR	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	

# UTILITY CONSTRUCTION

## GENERAL NOTES:

- ELEVATIONS SHOWN ARE IN FEET ABOVE MEAN SEA LEVEL.
- TYPICAL DEPTH OF COVER FOR BURIED WATERLINES SHALL BE 4.0 FT UNLESS OTHERWISE SHOWN OR SPECIFIED.
- COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON THE NAD 83 COORDINATE SYSTEM.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.
- UNLESS OTHERWISE INDICATED, ALL EXISTING GRADE ELEVATIONS SHOWN ARE ALONG THE PROPOSED ALIGNMENTS.
- THE CONTRACTOR SHALL REMOVE AND REINSTALL ALL EXISTING FENCE OR GUARD RAIL AS REQUIRED FOR PIPE INSTALLATION. ANY ADDITIONAL FENCE MATERIALS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SHEETING REQUIRED FOR THE INSTALLATION OF THE WATERLINE. ALL EXCAVATIONS SHALL BE KEPT WITHIN THE DESIGNATED EASEMENT WIDTHS. EXCAVATION WITHIN PAVED AREAS SHALL BE KEPT TO A MINIMUM. SHEETING SHALL BE INSTALLED AS REQUIRED TO PROTECT EXISTING UTILITIES.
- ALL REPLACEMENT STORM DRAIN RCP SHALL BE CLASS IV.
- CONTRACTOR SHALL VERIFY EXACT MATERIALS, LOCATION, ELEVATION, DIMENSIONS, AND LAYOUT OF EXISTING PIPING TO BE CONNECTED TO PRIOR TO ORDERING MATERIALS.
- CONTRACTOR SHALL CALL NC ONE CALL AT 1-800-632-4949 TO LOCATE EXISTING BURIED UTILITIES PRIOR TO ANY EXCAVATION.
- CONTRACTOR SHALL PROVIDE A MEANS TO KEEP ALL NEW PIPING ISOLATED FROM EXISTING PIPING UNTIL ALL NEW PIPING HAS BEEN PRESSURE TESTED, FLUSHED, AND ACCEPTED BY THE TOWN OF CARY FOR SERVICE.
- RESTRAINED PIPE JOINTS SHALL BE INSTALLED FOR ALL 16-INCH WATER PIPE AND 8" FORCE MAIN AS INDICATED ON THE DRAWINGS AND ANCHORED WITH THRUST COLLARS AT CONNECTION POINTS TO MAINTAIN LINE INTEGRITY DURING BOTH CONSTRUCTION AND FUNCTIONAL OPERATIONS. IF ADDITIONAL RJ LENGTHS, BENDS OR FITTINGS ARE INSTALLED BY THE CONTRACTOR FOR HIS CONVENIENCE, THEN THE CONTRACTOR SHALL INSTALL THE REQUIRED LENGTH OF RESTRAINING JOINTS AS DETERMINED BY THE ENGINEER, AT NO ADDITIONAL COST TO THE OWNER.
- LOCATIONS AND DEPTHS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BEFORE CONSTRUCTION TO DETERMINE IF CONFLICTS EXIST. THE CONTRACTOR SHALL REPORT CONFLICTS TO THE ENGINEER.
- EXISTING PERMANENT UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. SHOULD ADJUSTMENTS OF PROPOSED IMPROVEMENTS BE NECESSARY TO AVOID EXISTING UTILITIES, THE CONTRACTOR SHALL COORDINATE SUCH ADJUSTMENTS WITH THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE TOWN OF CARY'S "STANDARD SPECIFICATIONS AND DETAILS" AND THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES", UNLESS OTHERWISE STATED BY THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL BE COMPLETELY AND SOLELY RESPONSIBLE FOR ANY ENCROACHMENT ONTO PRIVATE PROPERTY. THE TOWN OF CARY SHALL NOT BE RESPONSIBLE FOR AGREEMENTS BETWEEN THE CONTRACTOR AND PRIVATE PROPERTY OWNERS.
- SHOULD THE CONTRACTOR DAMAGE ANY EXISTING TOWN OF CARY UTILITIES, INCLUDING WATER, SEWER AND STORM DRAINAGE INFRASTRUCTURE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEERING INSPECTOR AND THE TOWN OF CARY PUBLIC WORKS DEPARTMENT.
- SHOULD THE CONTRACTOR DAMAGE ANY EXISTING UTILITIES OWNED BY OUTSIDE UTILITY PROVIDERS, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE UTILITY OWNER AND SCHEDULE REPAIRS. THE TOWN OF CARY SHALL NOT BE RESPONSIBLE FOR UTILITY DAMAGE CAUSED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL CAREFULLY SUPPORT AND PROTECT ANY UTILITIES, STRUCTURES, POWER POLES, PIPE LINES AND CONDUITS WHICH MAY BE ENCOUNTERED DURING COMPLETION OF THE WORK AT NO ADDITIONAL COST TO THE OWNER OTHER THAN WHERE SPECIFICALLY NOTED IN THE CONTRACT DOCUMENTS. AN ALLOWANCE HAS BEEN INCLUDED IN THE BID TO PAY FOR SUPPORT OF SPECIFIC POWER POLES REQUIRING THE UTILITY OWNER'S ASSISTANCE. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR OR UTILITY OWNER (WHERE REQUIRED) TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ACCESS TO EACH RESIDENCE AND BUSINESS SHALL BE MAINTAINED AT ALL TIMES.
- ALL LAND DISTURBANCES SHALL BE MAINTAINED WITHIN THE PERMANENT AND TEMPORARY EASEMENTS AS INDICATED ON THE EROSION CONTROL PLANS. IF CONTRACTOR REQUIRES ADDITIONAL AREA FOR CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL NOTIFY ENGINEER AS SOON AS POSSIBLE AND NOT OCCUPY ADDITIONAL AREA UNTIL THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS REVISED AND APPROVED BY NCDEQ. CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS AND TIME DELAYS ASSOCIATED w/ PERMIT MODIFICATION.
- ALL INGRESS AND EGRESS TO PROJECT AREA OUTSIDE OF PAVED SURFACES MUST BE PERFORMED THROUGH TEMPORARY CONSTRUCTION ENTRANCES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING STORM DRAINAGE DURING UTILITY CONSTRUCTION SUCH THAT PRE-EXISTING DRAINAGE CAPACITY IS CONTINUOUSLY PROVIDED. TEMPORARY STORM BASINS, PIPES, AND PUMPS SHOULD BE USED IF NECESSARY. PERMANENT STORM DRAINAGE STRUCTURES AND PIPES SHALL BE REPLACED AS SOON AS POSSIBLE.
- SEWER SERVICES TO REMAIN ACTIVE AT ALL TIMES EXCEPT DURING CONNECTION OF SERVICE TO NEW SEWER MAIN. COORDINATE ANY SERVICE INTERRUPTION WITH THE TOWN OF CARY AND OWNER/OCCUPANT.
- CONTRACTOR SHALL TAKE STEPS NECESSARY TO PROTECT EXISTING UTILITIES FROM DAMAGE DURING BLASTING. MUCH OF THE CONSTRUCTION WILL OCCUR PARALLEL TO EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL DAMAGED UTILITIES, SPILLS, CONTAMINATIONS, CLEANUP, VIOLATIONS, FINES, ETC. CAUSED BY CONSTRUCTION OF THIS PROJECT (INCLUDING BLASTING). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- ALL VEGETATION REMOVED WITHIN ROAD RIGHT-OF-WAY AND UTILITY EASEMENTS AS REQUIRED FOR WATER AND SEWER MAIN INSTALLATION SHALL NOT BE RE-ESTABLISHED, OTHER THAN SEEDING AS REQUIRED BY THE SPECIFICATIONS. STRUCTURES, SUCH AS FENCES AND MAILBOXES SHALL BE REMOVED AND REINSTALLED AS REQUIRED FOR UTILITY INSTALLATION.
- CONTRACTOR SHALL FIELD VERIFY INVERT OF EXISTING MANHOLES PRIOR TO ANY CONSTRUCTION.
- PROVIDE SANITARY SEWER PROTECTION. SEE STANDARD DETAIL 07000.17.
- CONTRACTOR SHALL MAINTAIN 12" SEPARATION BETWEEN WATER METERS AND SS CLEANOUTS.
- ALL WATER AND SEWER MAINS SHALL HAVE A HORIZONTAL SEPARATION OF 10' OR VERTICAL SEPARATION OF 18" WITH WATER LINE HIGHER THAN SEWER IN ACCORDANCE WITH 2T RULES OF THE NCAC. CONTRACTOR SHALL NOTIFY ENGINEER AND OWNER IF ADJUSTMENTS NEED TO BE MADE IN THE FIELD TO MEET REQUIREMENTS.
- CONTRACTOR SHALL ADJUST MANHOLE RIM ELEVATIONS TO FINAL PAVEMENT GRADE AS REQUIRED.
- CONTRACTOR SHALL FIELD VERIFY ALL S.U.E. DATA PRIOR TO CONSTRUCTION.

## UTILITY CONSTRUCTION

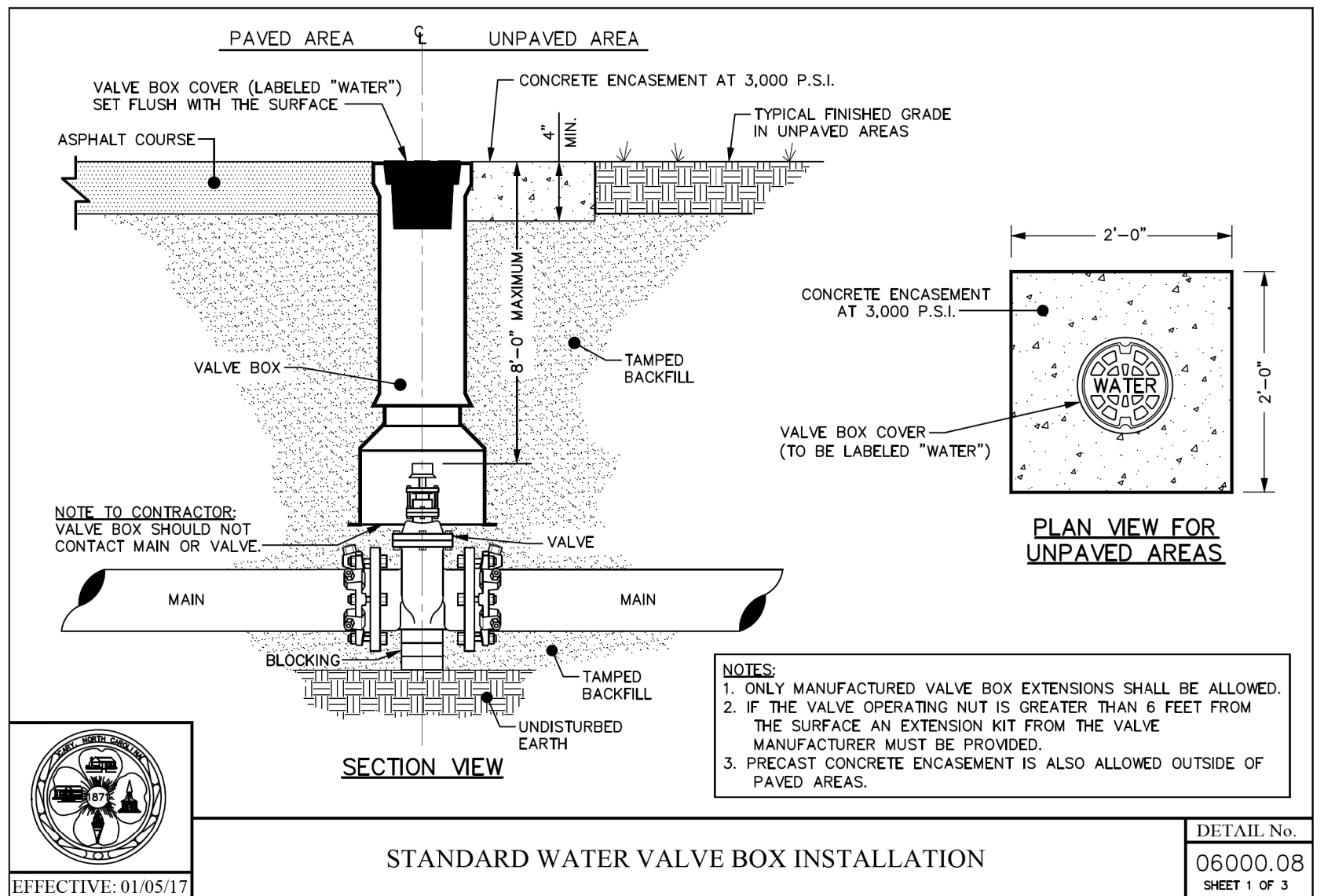
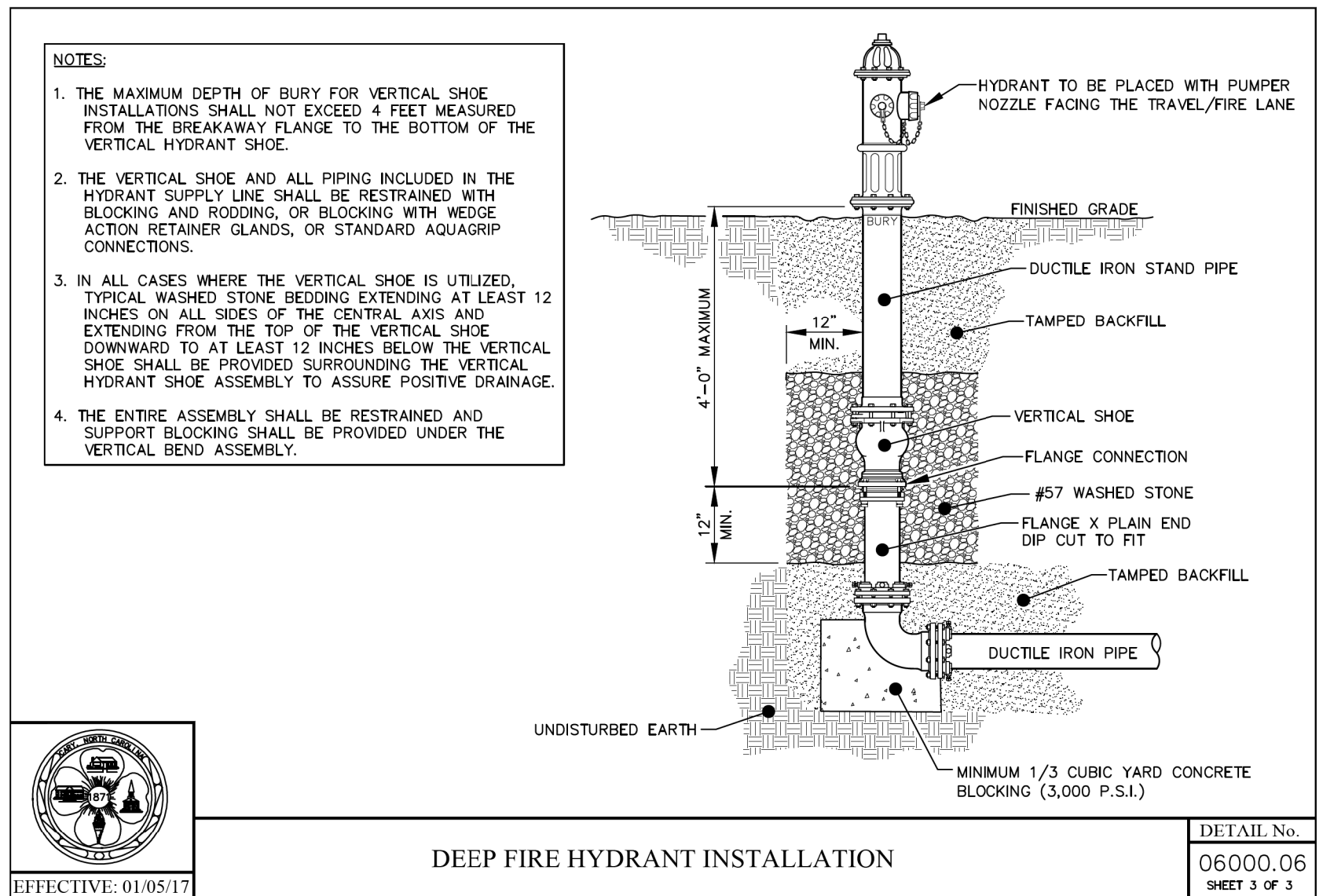
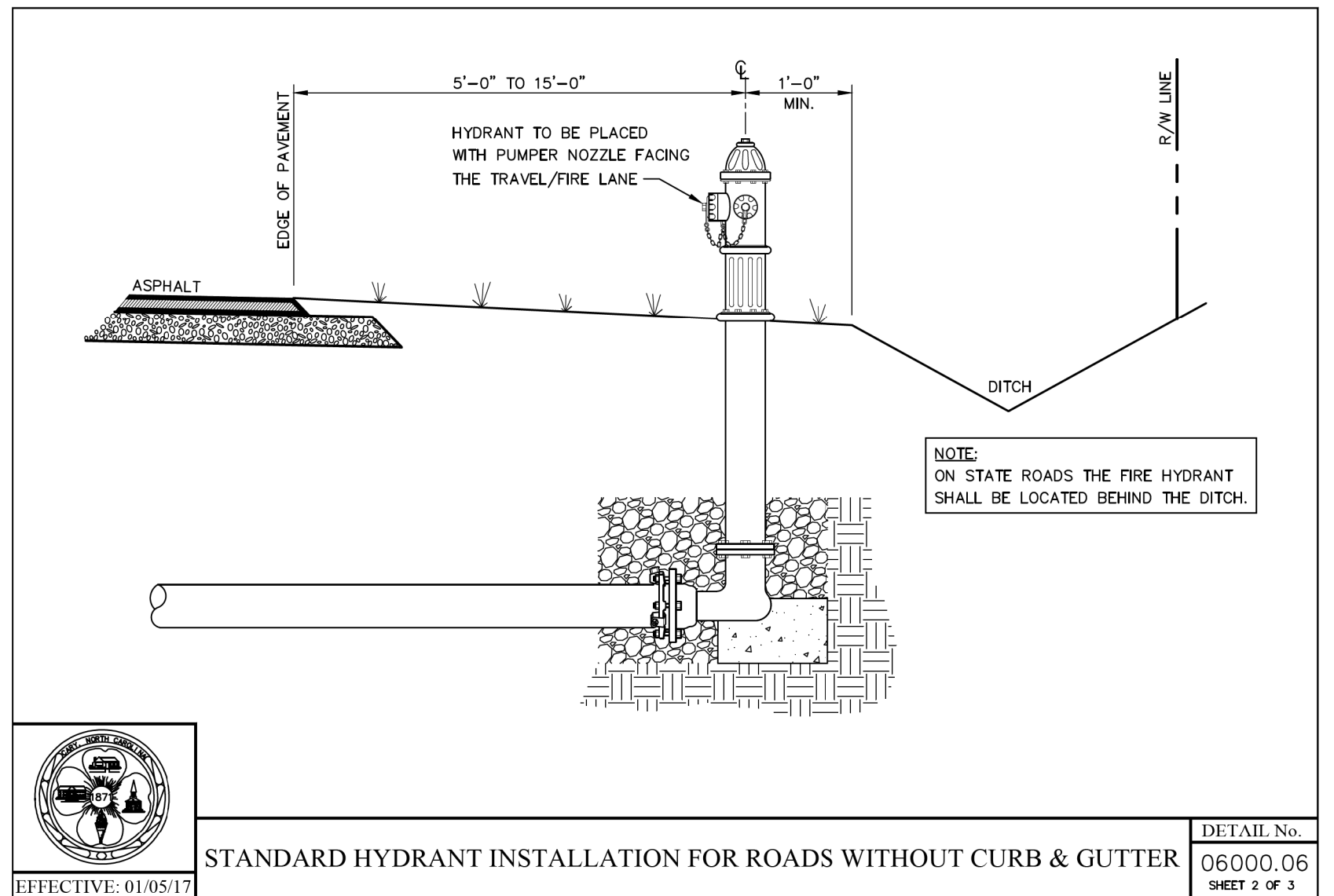
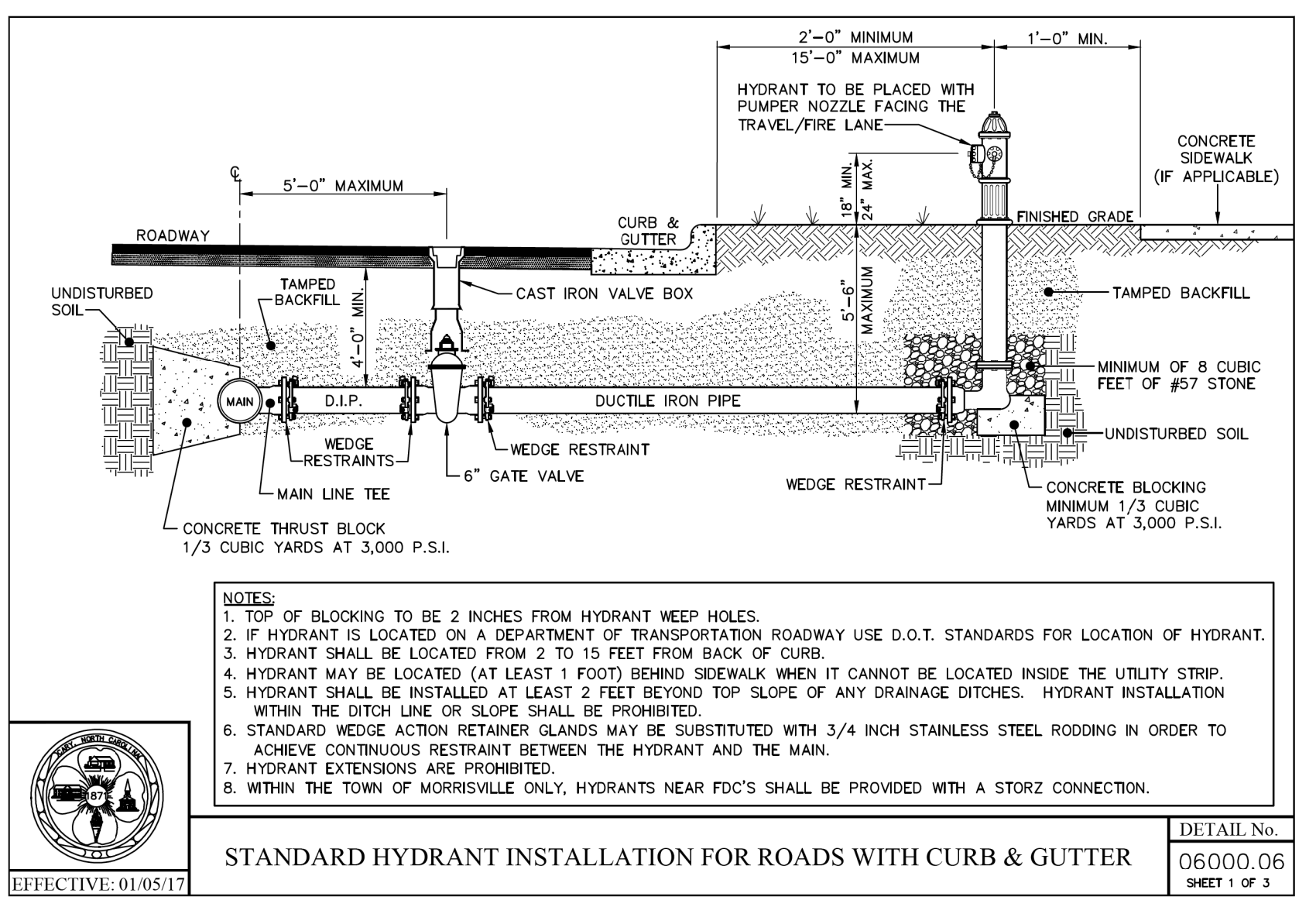
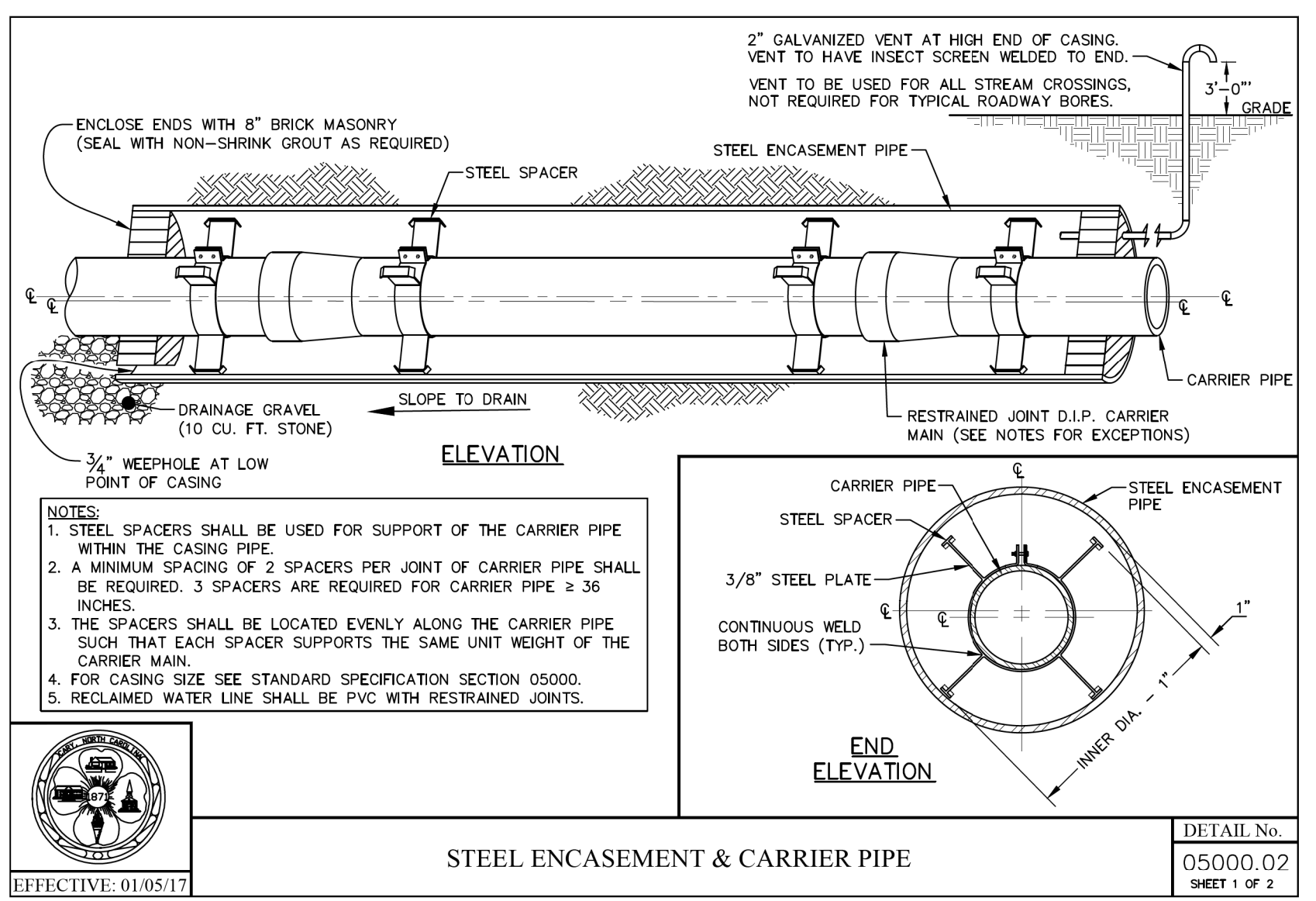
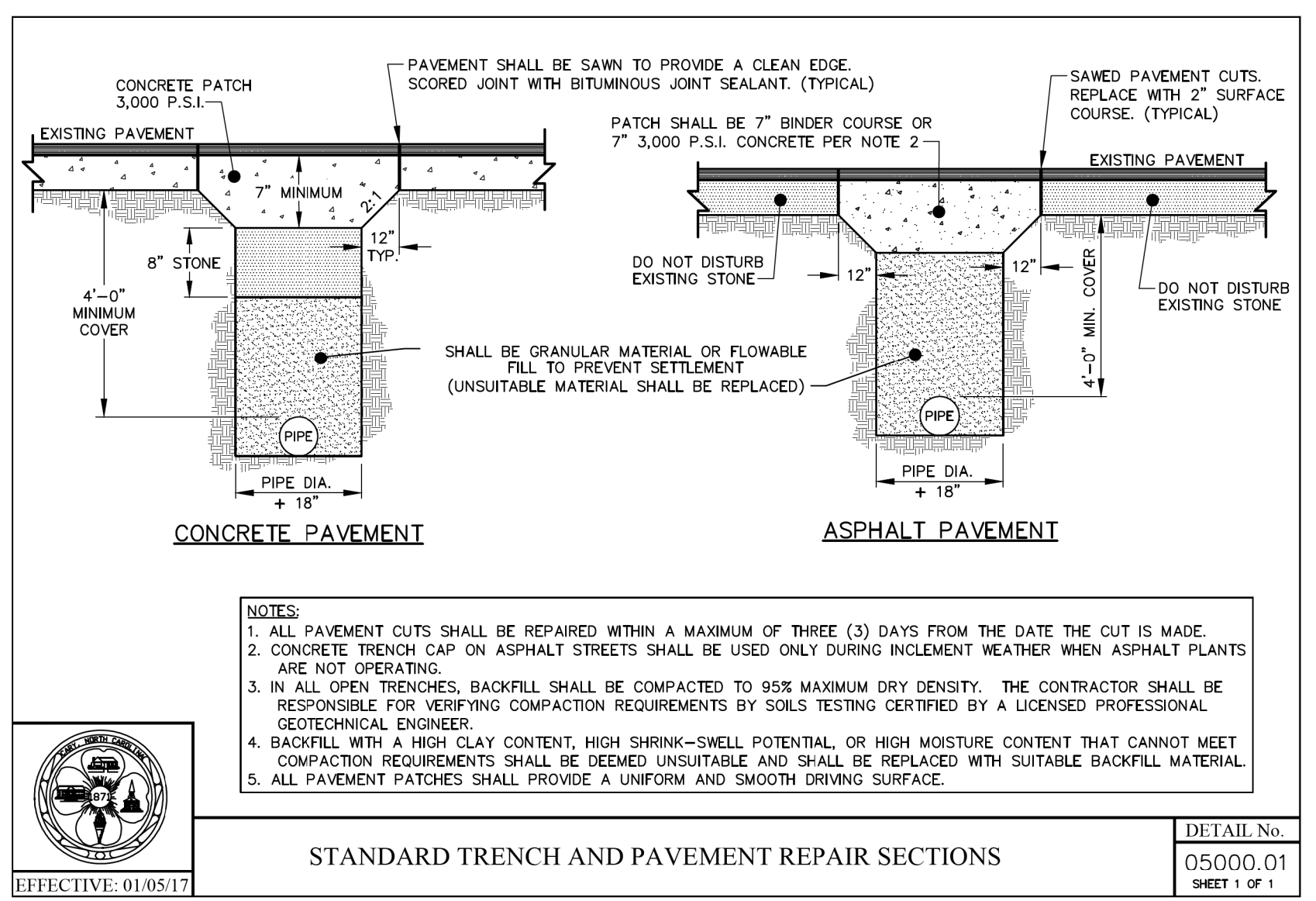
5/14/19

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PROJECT REFERENCE NO. <b>I-5700</b>	SHEET NO. <b>UC-3A</b>
DESIGNED BY: JGB	
DRAWN BY: JGB	
CHECKED BY: JAR	
APPROVED BY: JAR	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

# PROJECT TYPICAL DETAILS



5/14/17

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PROJECT REFERENCE NO. <b>I-5700</b>	SHEET NO. <b>UC-3b</b>
DESIGNED BY: JGB	
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CHECKED BY: JAR	
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UTILITY CONSTRUCTION PLANS ONLY	

# PROJECT TYPICAL DETAILS

**STANDARD WATER VALVE BOX**

DETAIL No. 06000.08  
SHEET 2 OF 3  
EFFECTIVE: 01/05/17

NOTES:  
1. VALVE BOX COVER SHALL WEIGH A MINIMUM 24 lbs.  
2. ENTIRE VALVE BOX ASSEMBLY & COVER SHALL BE CAST FROM CLASS 35 GRAY IRON.  
3. ASSEMBLY SHALL BE DOMESTICALLY MADE AND MANUFACTURED IN THE U.S.A.

**STANDARD WATER CURB STOP BOX**

DETAIL No. 06000.08  
SHEET 3 OF 3  
EFFECTIVE: 01/05/17

NOTES:  
1. CURB STOP BOXES SHALL ONLY BE USED AS SPECIFIED ON DETAIL DRAWINGS 06000.04 and 06000.20.  
2. MOUSE HOLES SHALL BE COVERED WITH FILTER FABRIC PRIOR TO BACKFILLING.  
3. ENTIRE VALVE BOX ASSEMBLY & COVER SHALL BE CAST FROM CLASS 35 GRAY IRON.  
4. ASSEMBLY SHALL BE DOMESTICALLY MADE AND MANUFACTURED IN THE U.S.A.

**STANDARD VALVE RESTRAINT WITH RODDING AT A TEE OR CROSS UP TO 16" IN DIAMETER**

DETAIL No. 06000.09  
SHEET 1 OF 2  
EFFECTIVE: 01/05/17

STAINLESS STEEL ROD REQUIREMENTS	
BRANCH SIZE	No. OF RODS
4"	2
6"	2
8"	4
12"	6
16"	8

GENERAL NOTES:  
1. SEE STANDARD THRUST BLOCK DETAIL.  
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL FITTINGS.  
3. RODS SHALL NOT BE COUPLED.

**ALTERNATE VALVE RESTRAINT WITH WEDGE ACTION RETAINER GLANDS AT A TEE OR CROSS**

DETAIL No. 06000.09  
SHEET 2 OF 2  
EFFECTIVE: 01/05/17

GENERAL NOTES:  
1. SEE STANDARD THRUST BLOCK DETAIL.  
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL FITTINGS.

**STANDARD CAPPING DETAIL**

DETAIL No. 06000.12  
SHEET 1 OF 1  
EFFECTIVE: 01/05/17

NOTES:  
1. THIS DETAIL SHALL APPLY ONLY TO TEMPORARY CAPPING. PERMANENT DEAD END LINES TO BE IN ACCORDANCE WITH STANDARD DETAIL 06000.11.  
2. REQUIRED RESTRAINT AWAY FROM THE DEAD END MAY BE MJ PIPE WITH WEDGE ACTION RESTRAINTS FOR PIPE ≤ 12 INCH DIAMETER.

**STANDARD REACTION BLOCKING**

DETAIL No. 06000.13  
SHEET 1 OF 1  
EFFECTIVE: 01/05/17

MINIMUM CONCRETE BLOCKING (C.Y.) *					
NOMINAL PIPE DIAMETER INCHES	TEES & DEAD ENDS	90° BEND	45° BEND	22½° BEND	11¼° BEND
4	⅓	⅓	⅓	⅓	⅓
6	⅓	⅓	⅓	⅓	⅓
8	⅓	½	⅓	⅓	⅓
10	⅓	¾	½	⅓	⅓
12	¾	1.0	¾	⅓	⅓

NOTES:  
1. FITTING SHALL BE WRAPPED WITH A MINIMUM 4 MIL PLASTIC.  
2. NO CONCRETE SHALL COVER BOLTS OR GLANDS.  
3. PIPE DIAMETERS BEYOND 12 INCHES SHALL UTILIZE A PROFESSIONAL ENGINEER'S SEALED DESIGN CONSISTING OF RESTRAINED JOINT PIPE OR BLOCKING.  
\* CONCRETE SHALL BE 3,000 P.S.I. MIX.

5/14/19

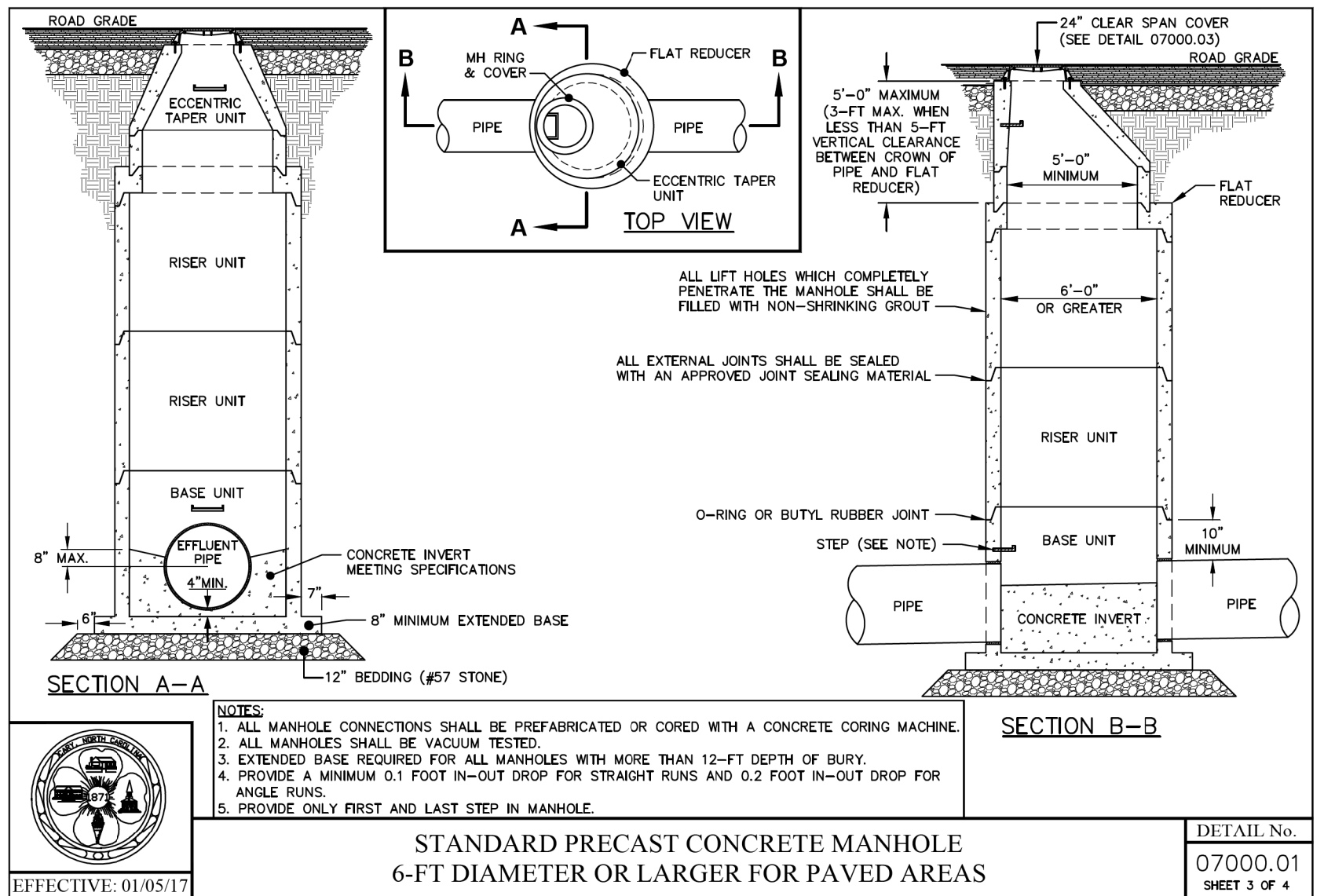
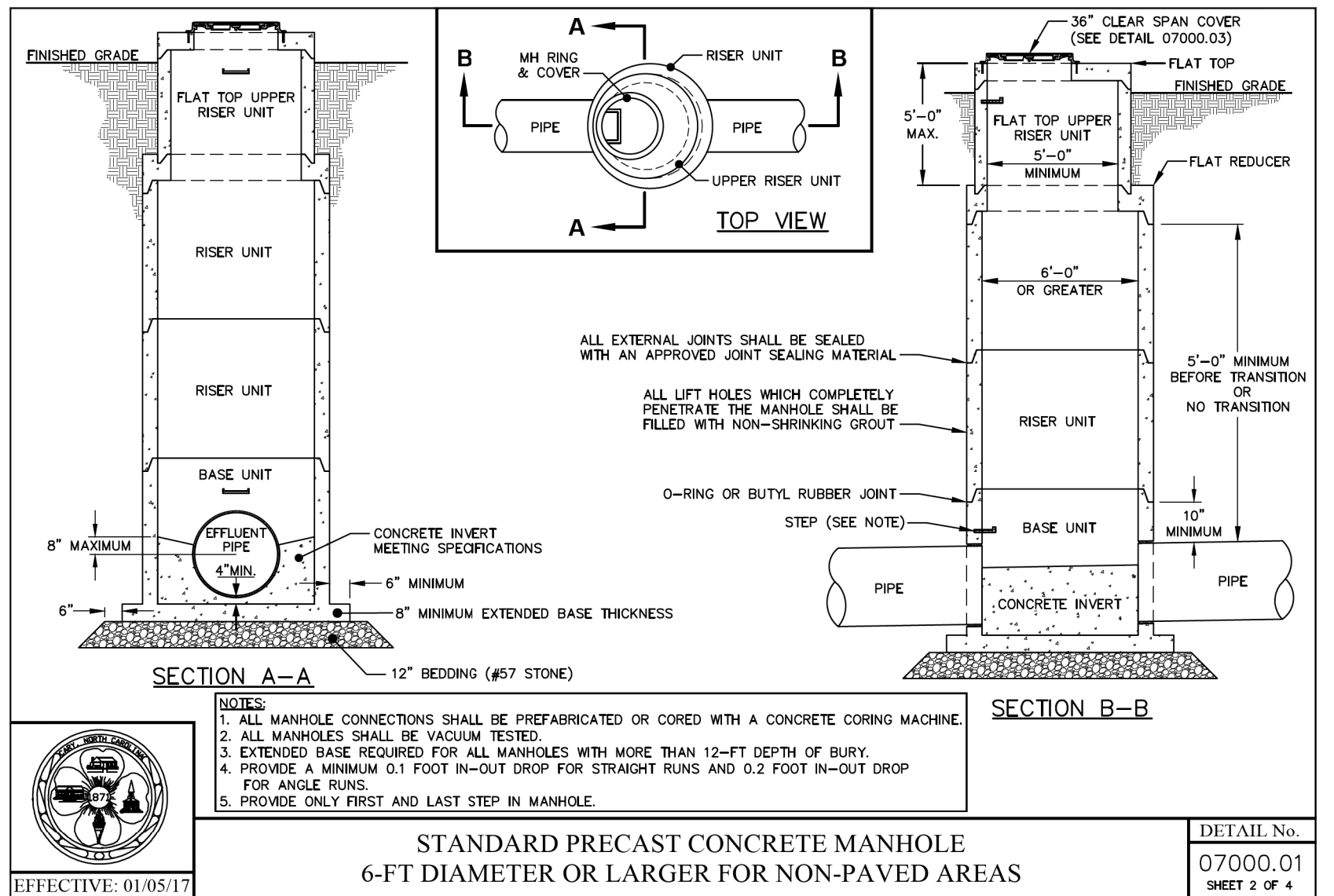
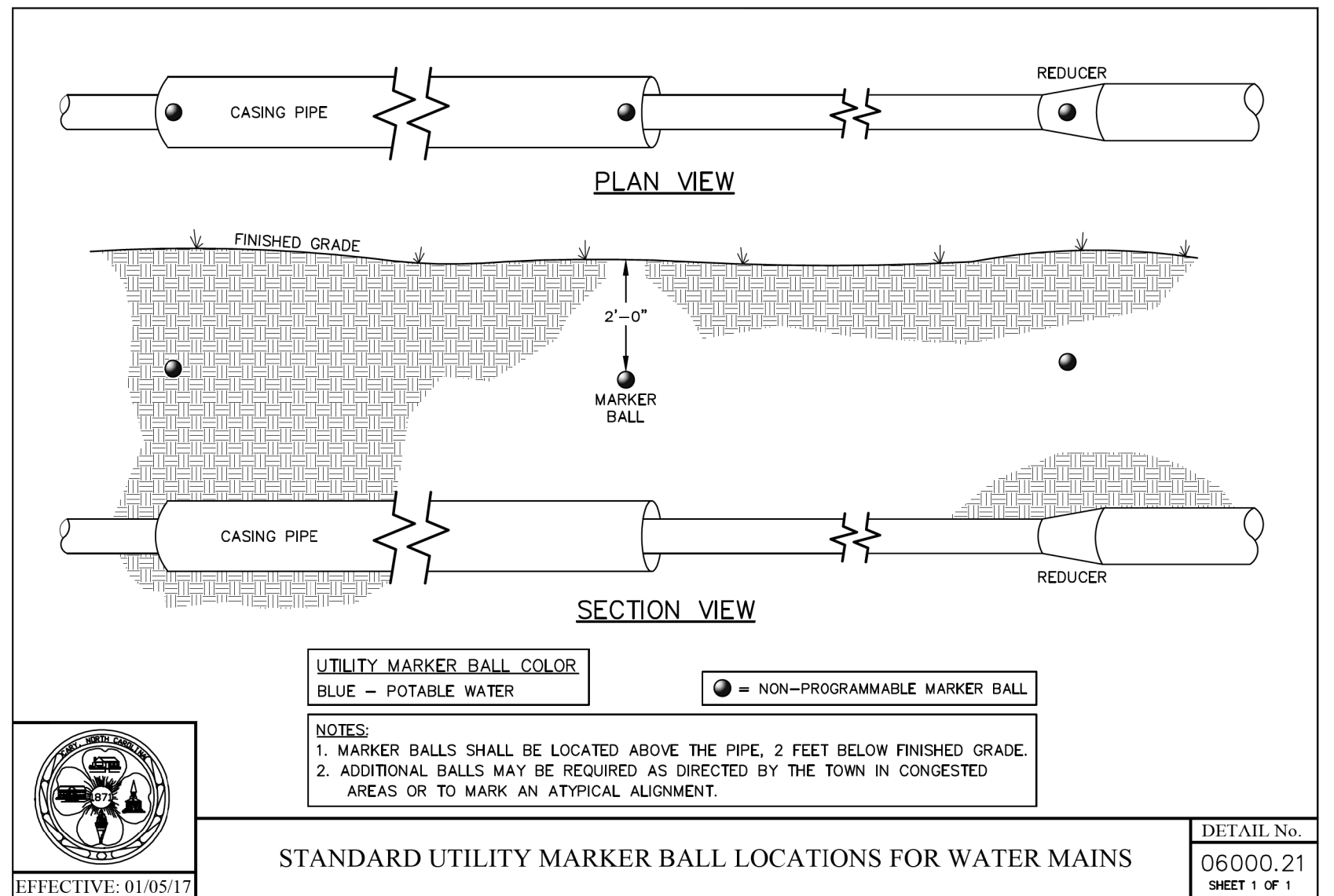
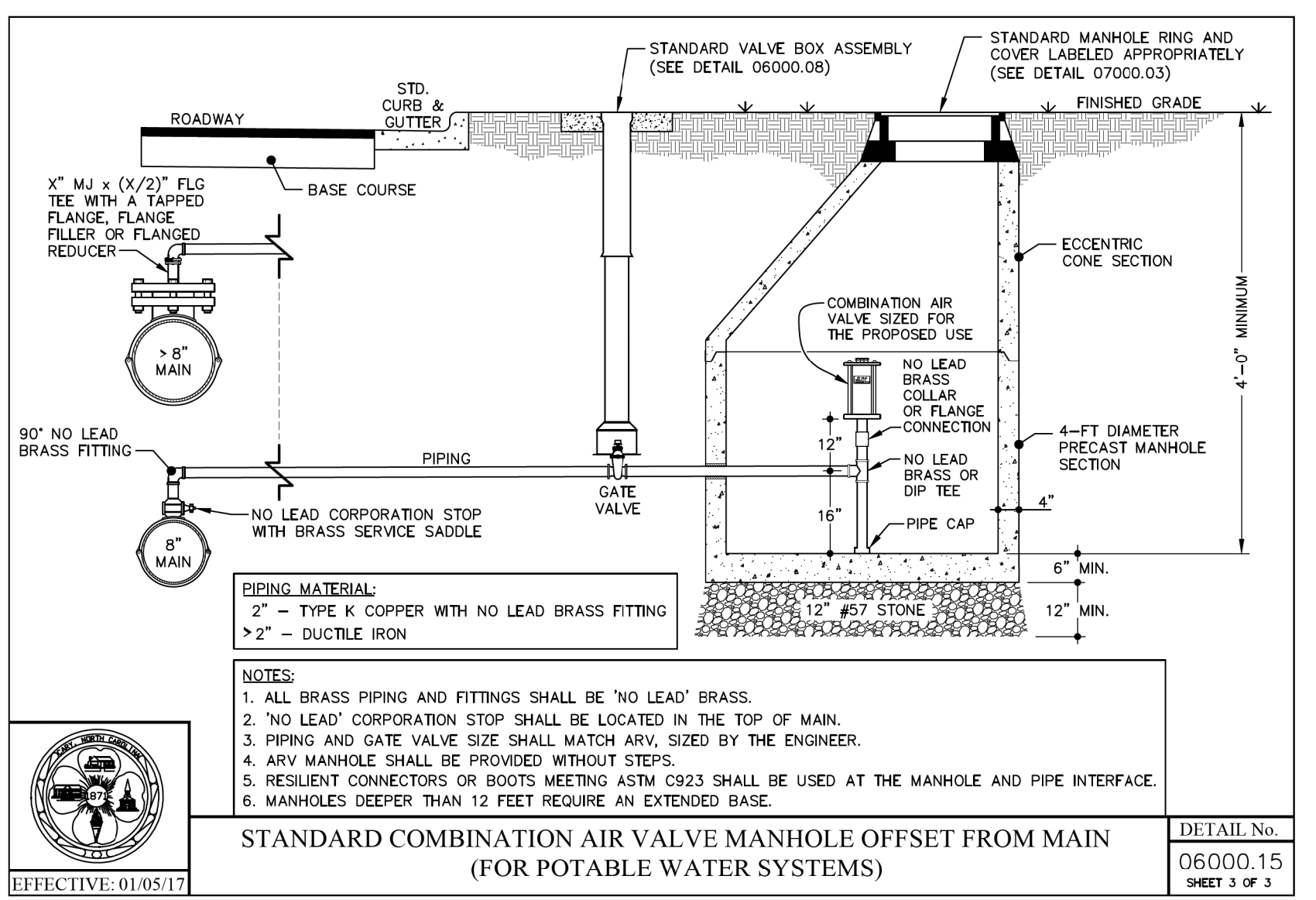
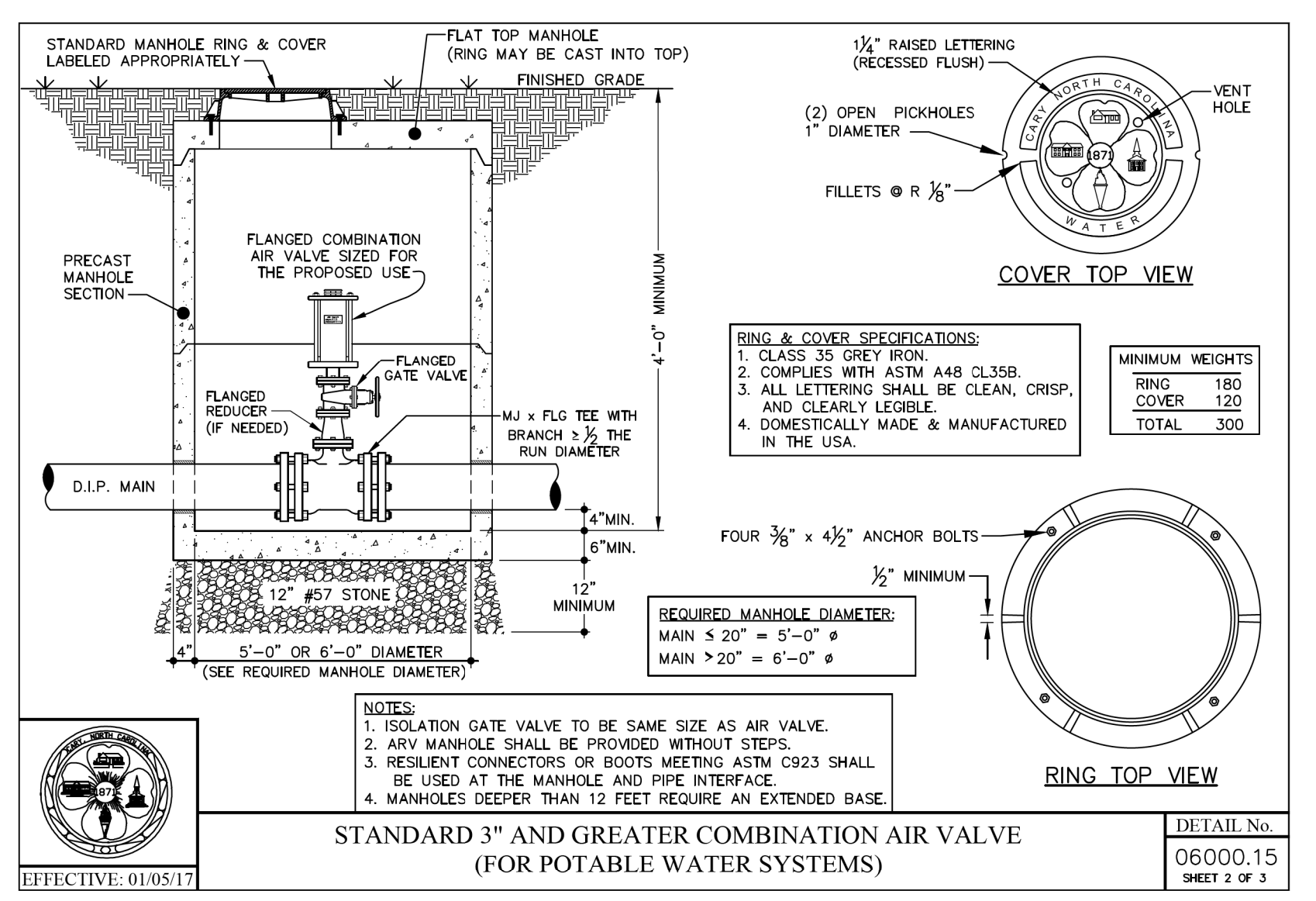
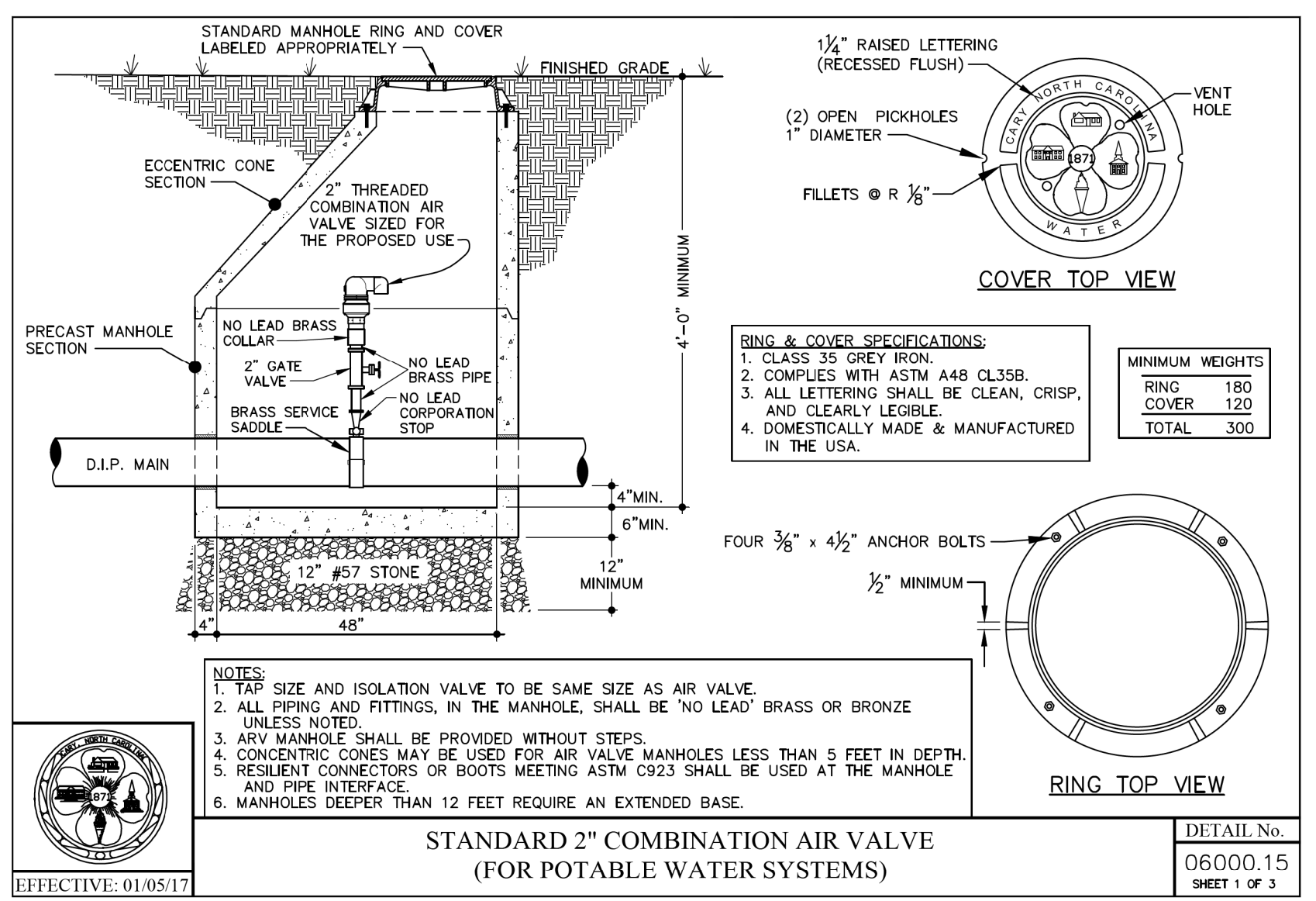
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PROJECT REFERENCE NO. <b>I-5700</b>	SHEET NO. <b>UC-3C</b>
DESIGNED BY: <b>JGB</b>	
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APPROVED BY: <b>JAR</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

# PROJECT TYPICAL DETAILS

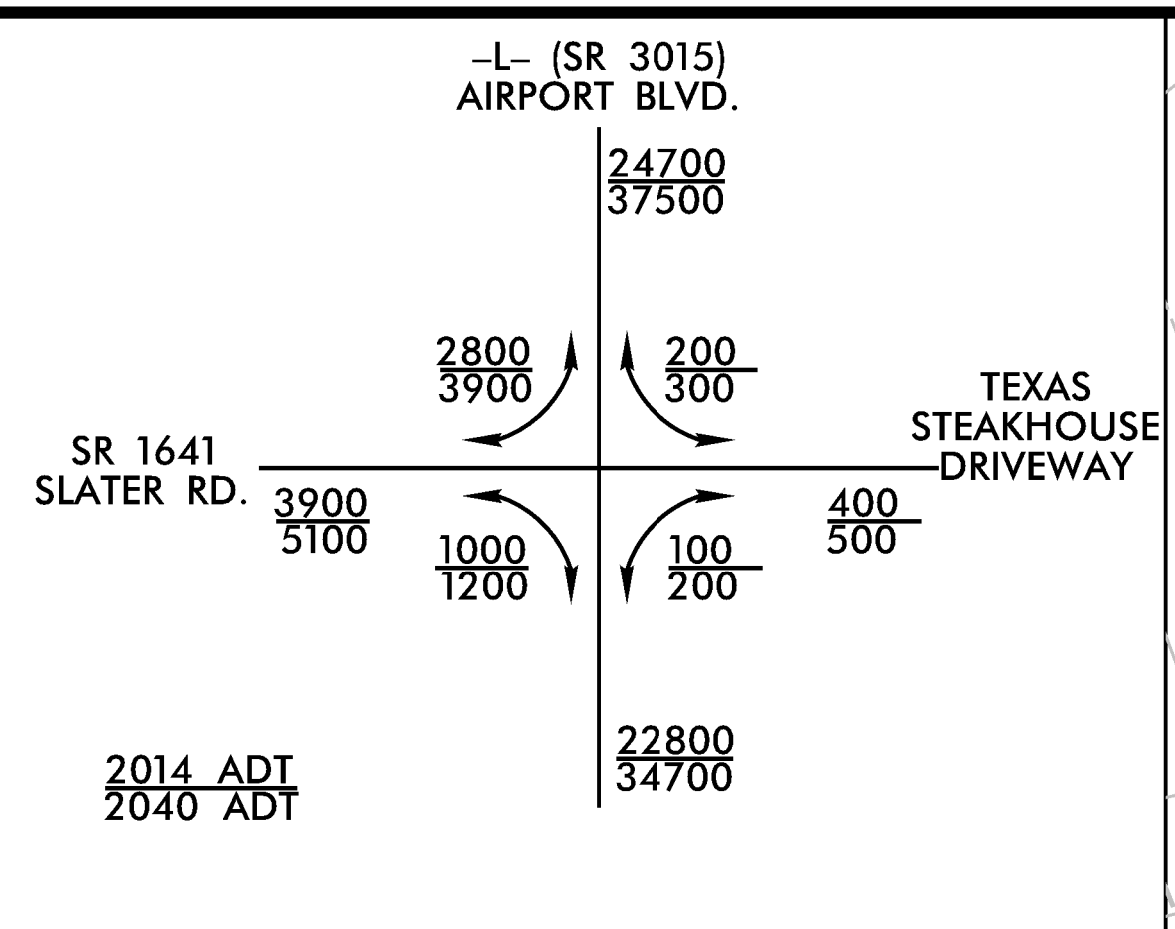
## UTILITY CONSTRUCTION



5/14/19



5/14/19  
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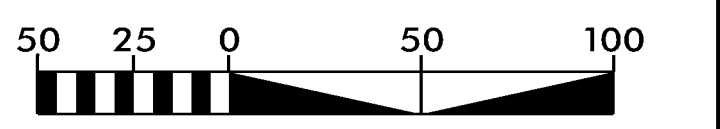
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 $D = 14' 19'' 26.2''$   
 $L = 143.40'$   
 $T = 72.48'$   
 $R = 400.00'$   
 $SE = 0.06 FT/FT$   
 $RO = 173.34'$

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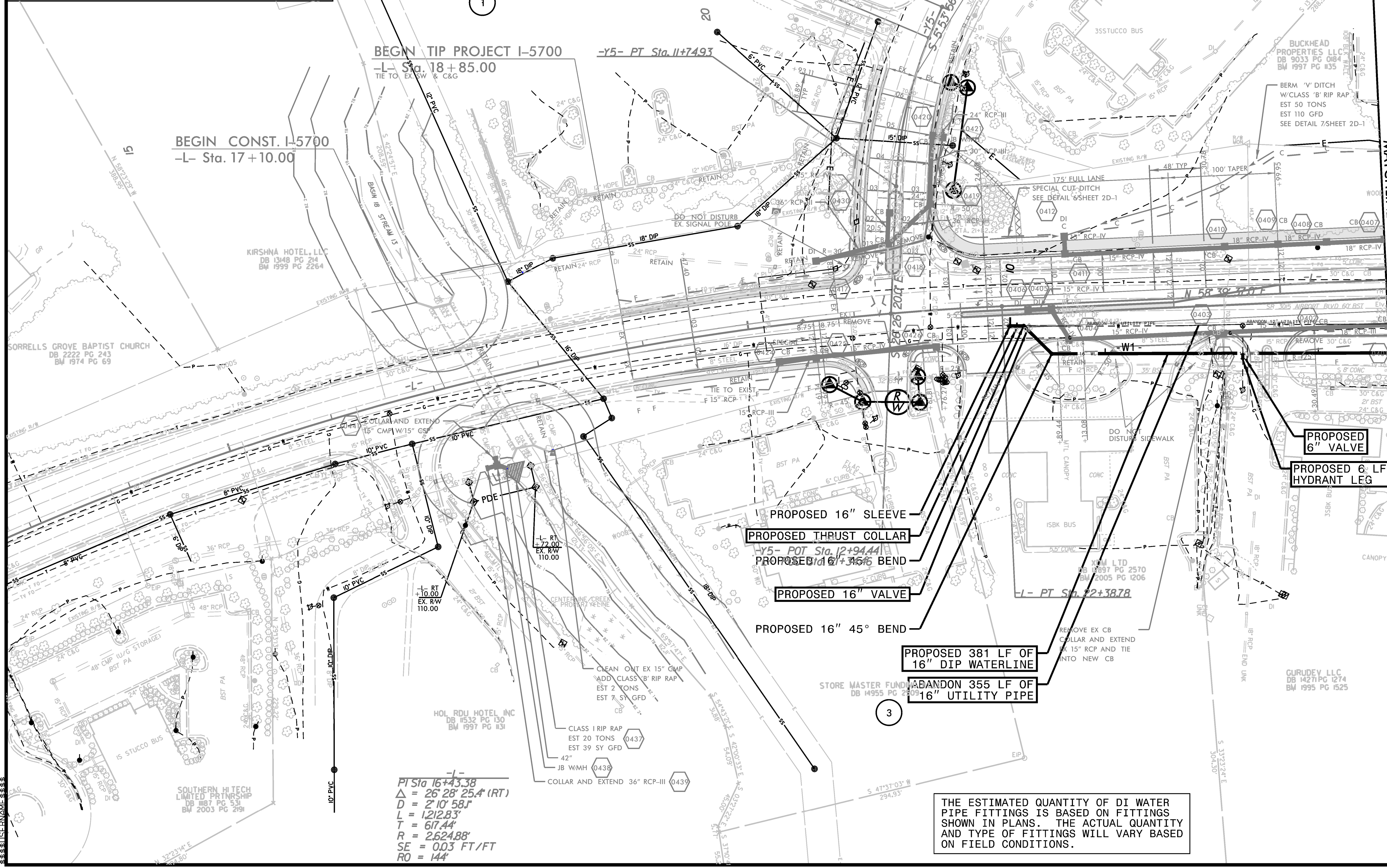


PROJECT REFERENCE NO. <b>I-5700</b>	SHEET NO. <b>UC-4</b>
DESIGNED BY: JGB	
DRAWN BY: JGB	
CHECKED BY: JAR	
APPROVED BY: JAR	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

**UTILITY CONSTRUCTION**



PROP CONC SIDEWALK



MATCHLINE -L- STA. 26+00.00 SEE SH. 5

PROPOSED 16" SLEEVE  
PROPOSED THRUST COLLAR

-Y5- POT Sta. 12+94.44  
PROPOSED 16" 45° BEND

PROPOSED 16" VALVE

PROPOSED 16" 45° BEND

PROPOSED 381 LF OF  
16" DIP WATERLINE

ABANDON 355 LF OF  
16" UTILITY PIPE

THE ESTIMATED QUANTITY OF DI WATER PIPE FITTINGS IS BASED ON FITTINGS SHOWN IN PLANS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

SEE SH. UC-9 FOR -W1- PROFILE



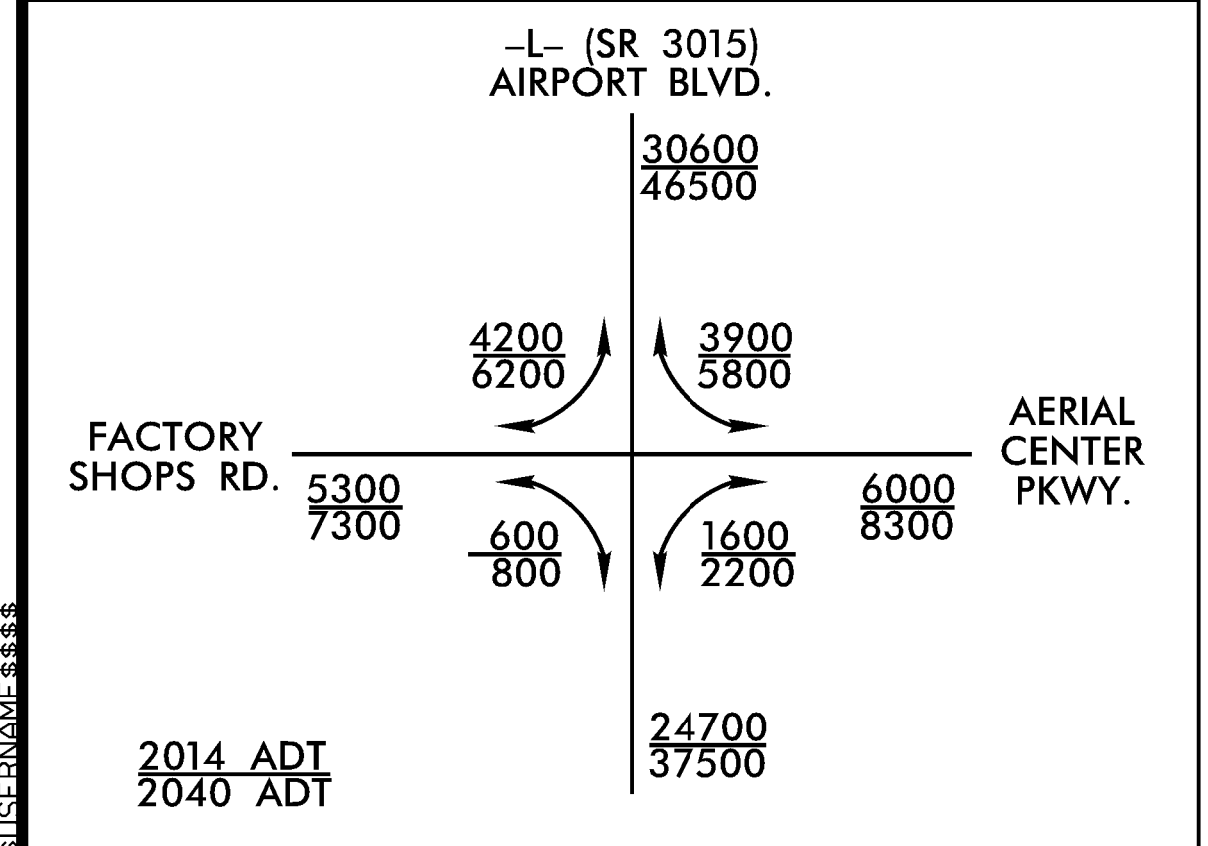
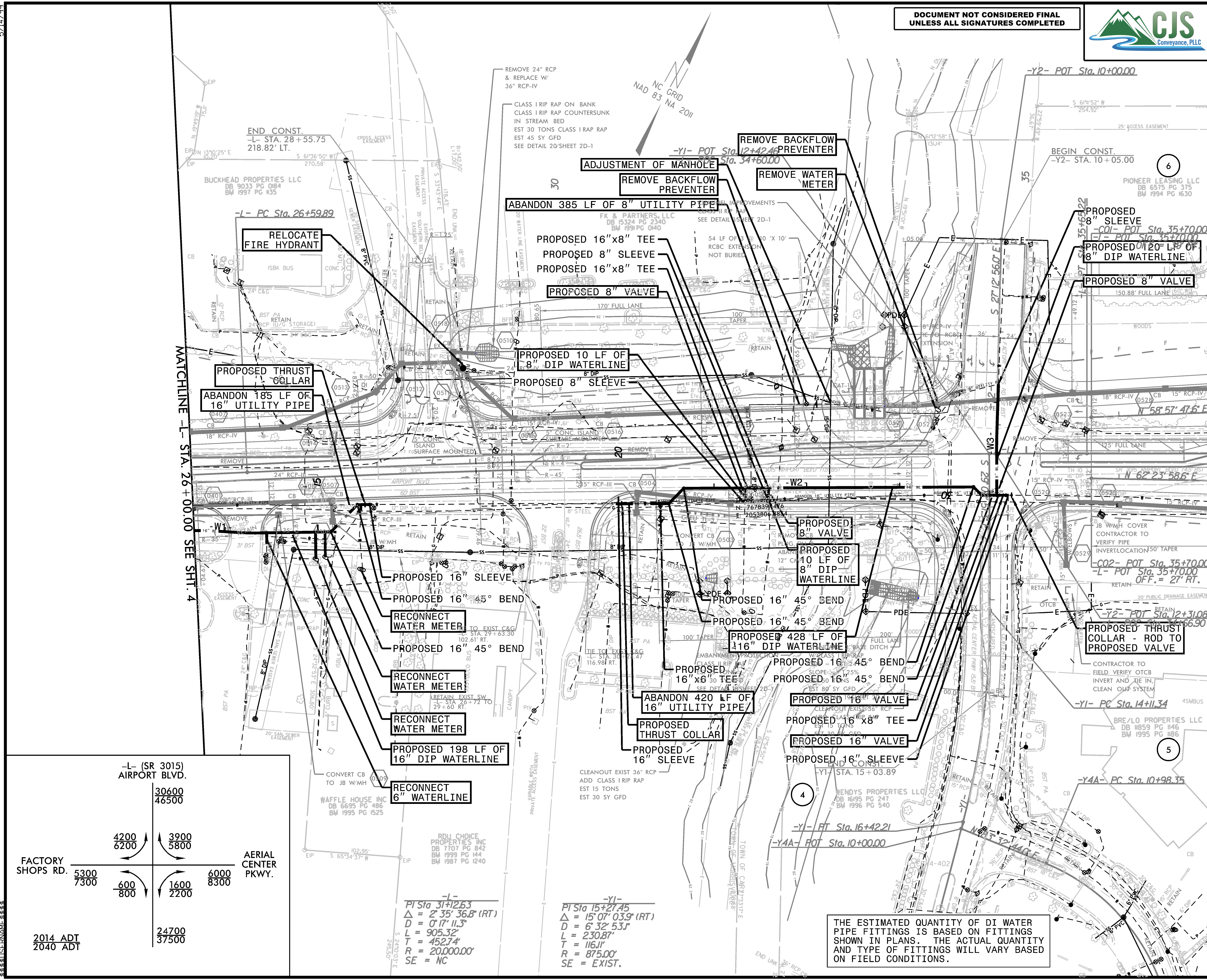
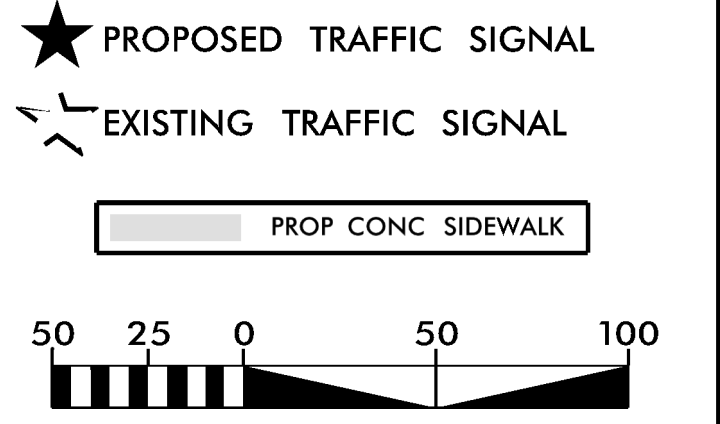
5/14/19

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UNLESS ALL SIGNATURES COMPLETED



PROJECT REFERENCE NO. <b>I-5700</b>	SHEET NO. <b>UC-5</b>
DESIGNED BY: JGB	
DRAWN BY: JGB	
CHECKED BY: JAR	
APPROVED BY: JAR	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION



-L-  
 PI Sta 31+263  
 $\Delta = 2' 35'' 36.8''$  (RT)  
 $D = 0' 17'' 11.3''$   
 $L = 905.32'$   
 $T = 452.74'$   
 $R = 20,000.00'$   
 SE = NC

-Y1-  
 PI Sta 15+27.45  
 $\Delta = 15' 07'' 03.9''$  (RT)  
 $D = 6' 32'' 53.1''$   
 $L = 230.87'$   
 $T = 116.11'$   
 $R = 875.00'$   
 SE = EXIST.

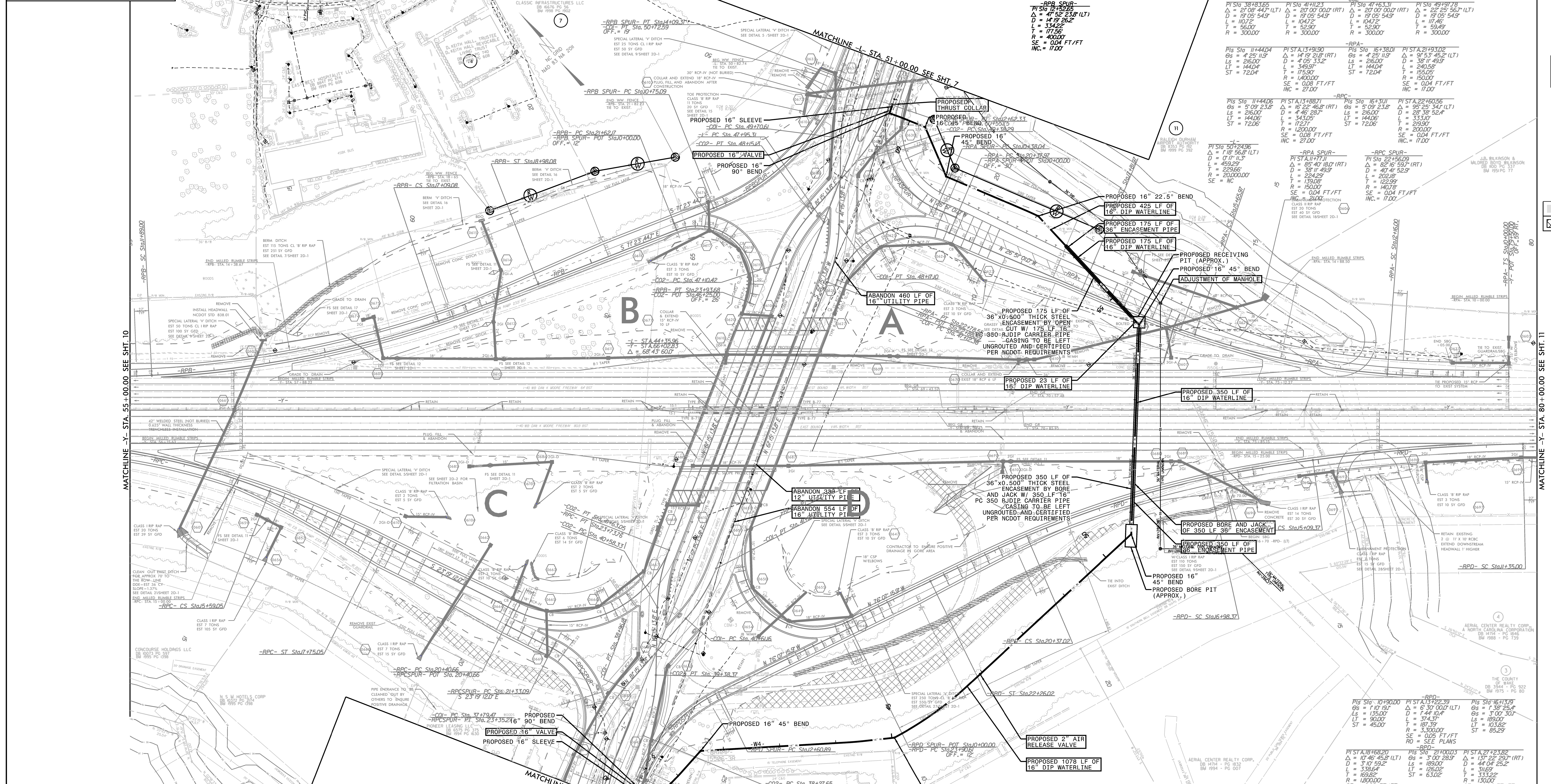
THE ESTIMATED QUANTITY OF DI WATER PIPE FITTINGS IS BASED ON FITTINGS SHOWN IN PLANS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

SEE SHT. UC-9 FOR -W1- PROFILE  
SEE SHT. UC-9 FOR -W2- PROFILE  
SEE SHT. UC-9 FOR -W3- PROFILE

MATCHLINE -L- STA. 26+00.00 SEE SHT. 4

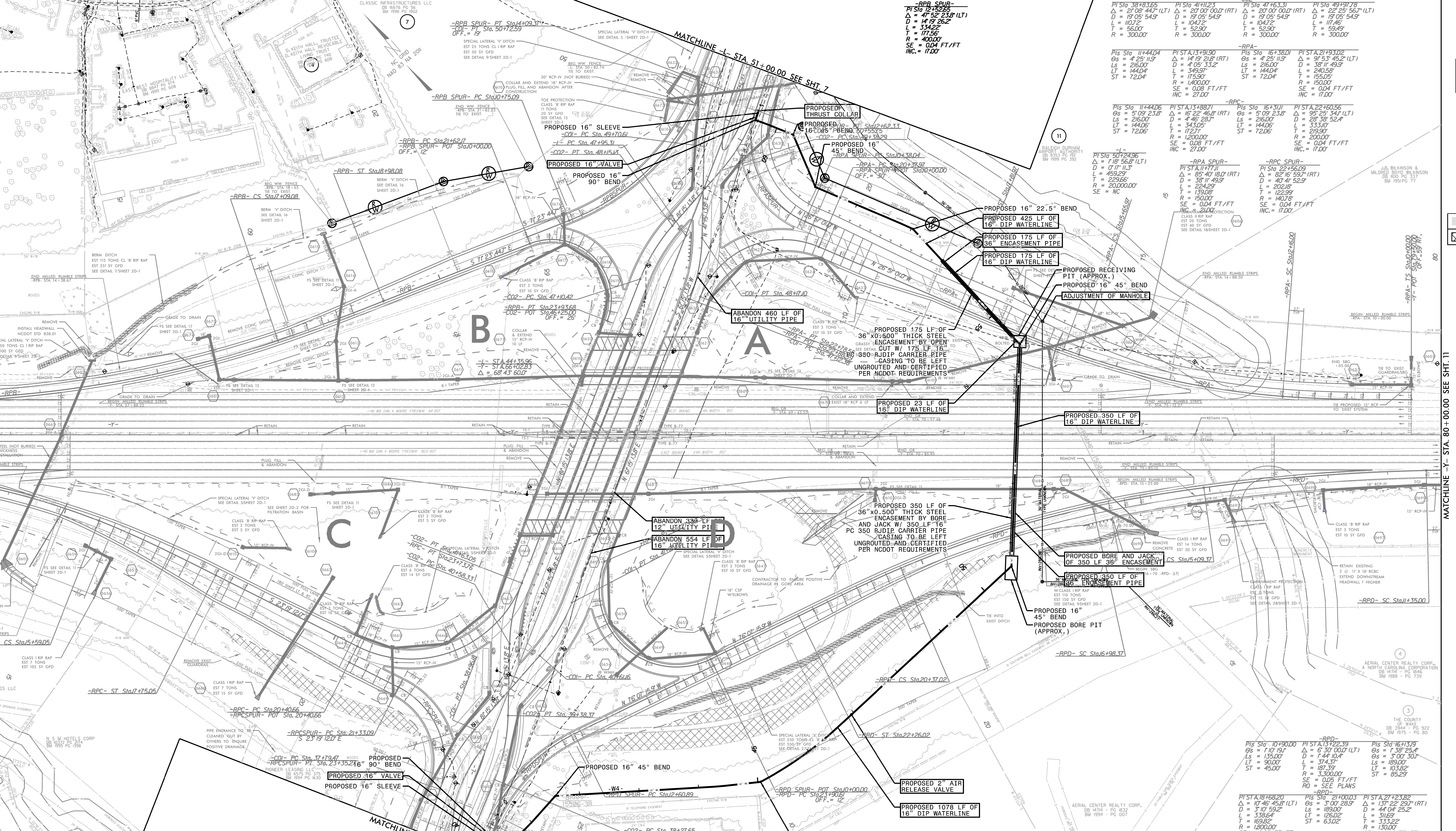
MATCHLINE -L- STA. 37+00.00 SEE SHT. 6

NO.	DESCRIPTION



NO.	DESCRIPTION

NO.	DESCRIPTION	NO.	DESCRIPTION



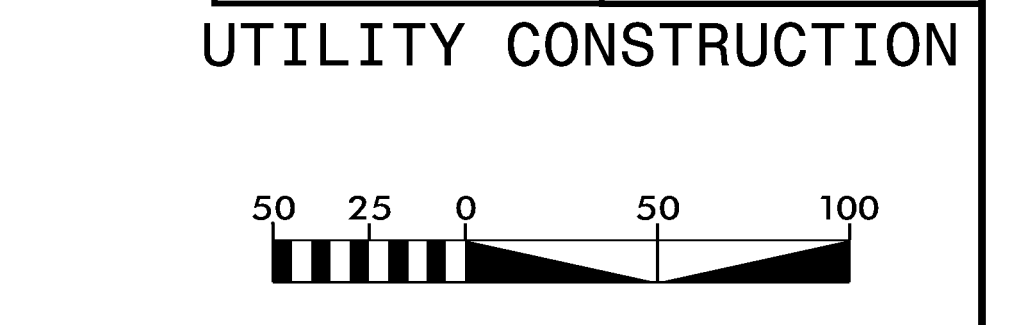
NO.	DESCRIPTION

PROJECT REFERENCE NO. 1-5700 SHEET NO. UC-6

DESIGNED BY: JGB  
 DRAWN BY: JAR  
 CHECKED BY: JAR  
 APPROVED BY: JAR

SEAL  
 NORTH CAROLINA  
 DEPARTMENT OF  
 TRANSPORTATION  
 UTILITIES ENGINEERING SECTION  
 PHONE: (919) 707-6690  
 FAX: (919) 250-4151

UTILITY CONSTRUCTION PLANS ONLY



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EXISTING TRAFFIC SIGNAL

PROP CONC SIDEWALK

PAVEMENT REMOVAL

DRAINAGE TO BE INSTALLED UNDER NCDOT PROJECT I-5506

SEE SHTS UC-9 & UC-10 FOR -WI- PROFILE

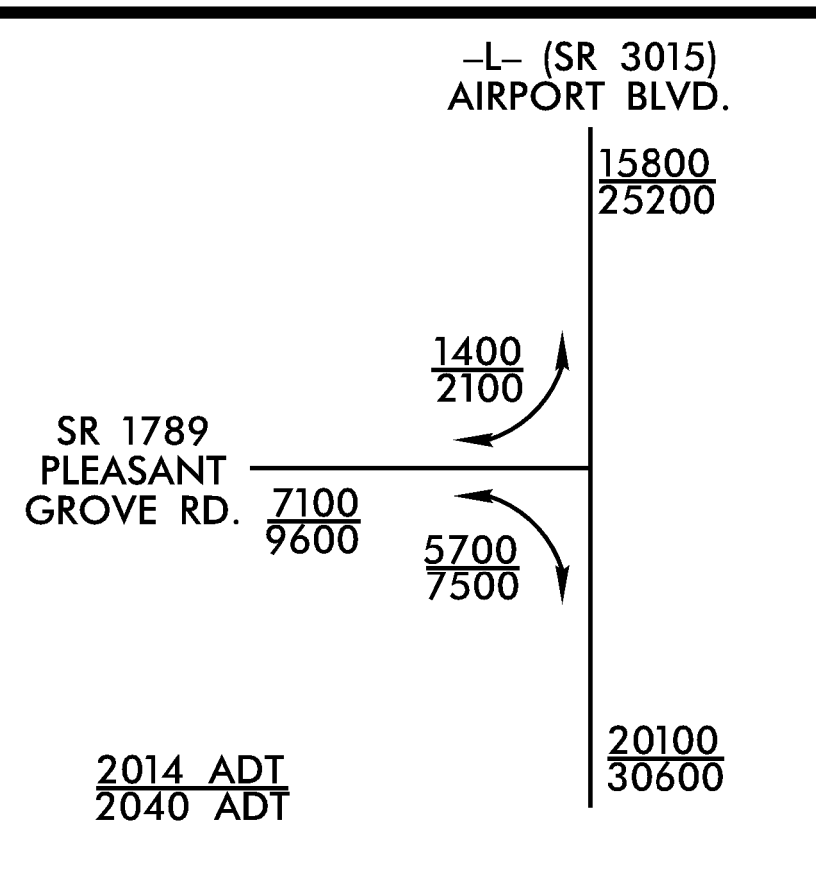
GRAPHIC SCALE  
 0 25 50 100  
 PLANS

LOCATION: SB 3015 (AIRPORT BLVD) WITH I-40

TIP NO. I-5700 COUNTY: WAKE

DESIGNED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

5/14/19



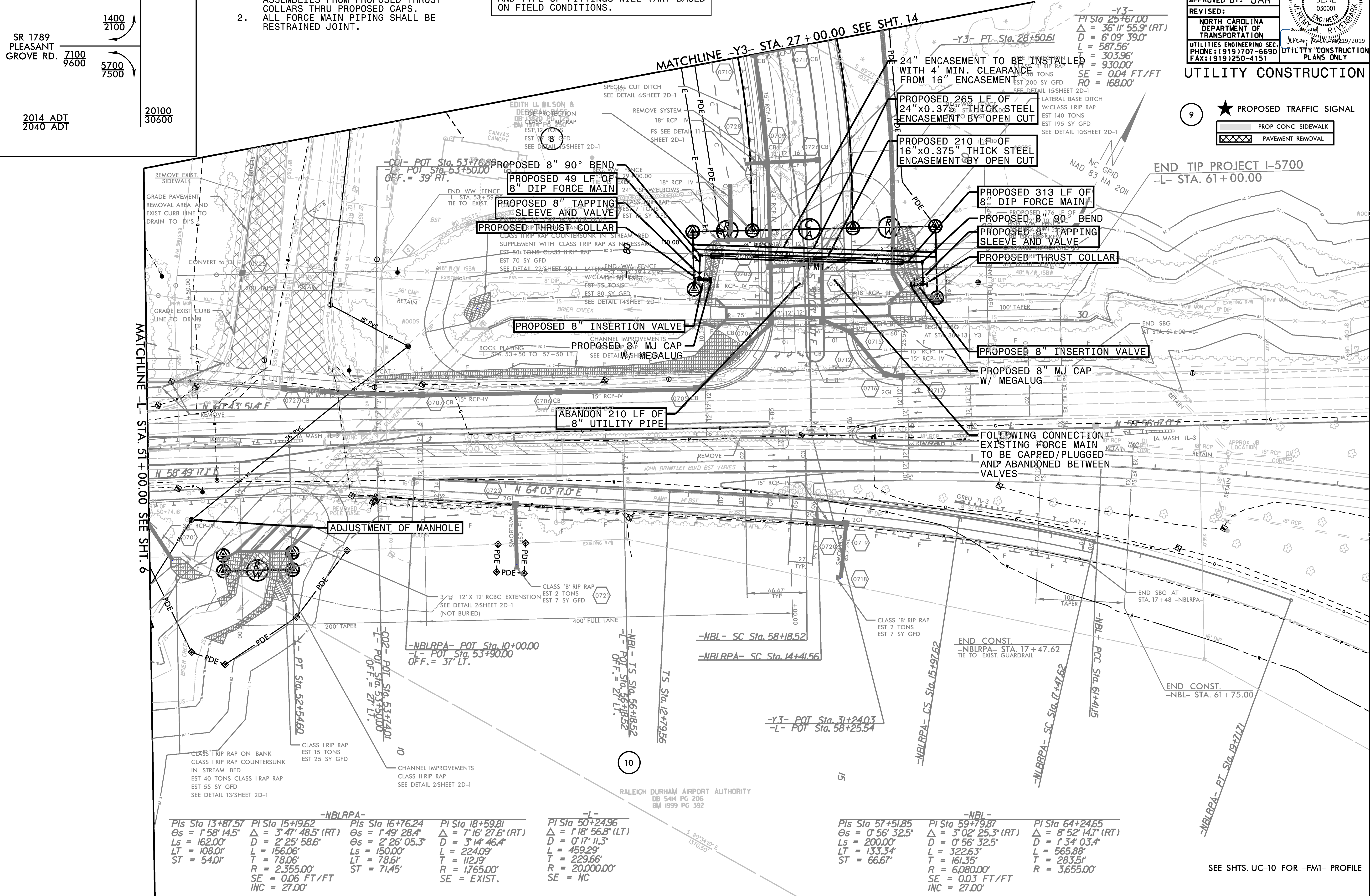
- NOTES:
- PROPOSED TAPPING SLEEVE AND VALVES, INSERTION VALVES, AND CAPS SHALL BE RODDED AND/OR MEGA LUGGED TO RESTRAIN FULL ASSEMBLIES FROM PROPOSED THRUST COLLARS THRU PROPOSED CAPS.
  - ALL FORCE MAIN PIPING SHALL BE RESTRAINED JOINT.

THE ESTIMATED QUANTITY OF DI WATER PIPE FITTINGS IS BASED ON FITTINGS SHOWN IN PLANS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

DOCUMENT NOT CONSIDERED FINAL  
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PROJECT REFERENCE NO. <b>I-5700</b>	SHEET NO. <b>UC-7</b>
DESIGNED BY: JGB	
DRAWN BY: JGB	
CHECKED BY: JAR	
APPROVED BY: JAR	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
<b>UTILITY CONSTRUCTION</b> PLANS ONLY	



- ★ PROPOSED TRAFFIC SIGNAL
- PROP CONC SIDEWALK
- PAVEMENT REMOVAL

PIs Sta 13+87.57 $\theta_s = 1'58''14.5''$ $L_s = 162.00'$ $LT = 108.01'$ $ST = 54.01'$	PIs Sta 15+19.62 $\Delta = 3'47''48.5'' (RT)$ $D = 2'25''58.6''$ $L = 156.06'$ $T = 78.06'$ $R = 2,355.00'$ $SE = 0.06 \text{ FT/FT}$ $INC = 27.00'$	PIs Sta 16+76.24 $\theta_s = 1'49''28.4''$ $\Delta = 2'26''05.3''$ $L_s = 150.00'$ $LT = 78.61'$ $ST = 71.45'$	PIs Sta 18+59.81 $\Delta = 7'16''27.6'' (RT)$ $D = 3'14''46.4''$ $L = 224.09'$ $T = 112.19'$ $R = 1,765.00'$ $SE = \text{EXIST.}$	PIs Sta 50+24.96 $\Delta = 1'18''56.8'' (LT)$ $D = 0'17''11.3''$ $L = 459.29'$ $T = 229.66'$ $R = 20,000.00'$ $SE = \text{NC}$	PIs Sta 57+51.85 $\theta_s = 0'56''32.5''$ $L_s = 200.00'$ $LT = 133.34'$ $ST = 66.67'$	PIs Sta 59+79.87 $\Delta = 3'02''25.3'' (RT)$ $D = 0'56''32.5''$ $L = 322.63'$ $T = 161.35'$ $R = 6,080.00'$ $SE = 0.03 \text{ FT/FT}$ $INC = 27.00'$	PIs Sta 64+24.65 $\Delta = 8'52''14.7'' (RT)$ $D = 1'34''03.4''$ $L = 565.88'$ $T = 283.51'$ $R = 3,655.00'$
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SEE SHTS. UC-10 FOR -FM1- PROFILE

5/14/19

**-Y8-**  
 PI Sta 22+46.92  
 $\Delta = 139^\circ 44' 53.0''$  (LT)  
 D = 12' 4" 24.3"  
 L = 1,01.24'  
 T = 1,232.05'  
 R = 451.50'  
 SE = 0.04 FT/FT  
 RO = 104.00'

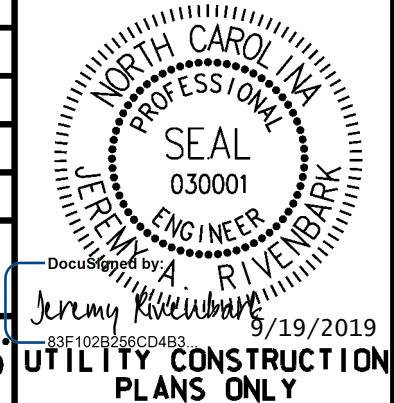
**-Y3-**  
 PI Sta 19+12.12  
 $\Delta = 45^\circ 51' 15.9''$  (LT)  
 D = 6' 09" 39.0"  
 L = 744.29'  
 T = 393.37'  
 R = 930.00'  
 SE = 0.04 FT/FT  
 RO = 168.00'

PI Sta 25+67.00  
 $\Delta = 36^\circ 11' 55.9''$  (RT)  
 D = 6' 09" 39.0"  
 L = 587.56'  
 T = 303.96'  
 R = 930.00'  
 SE = 0.04 FT/FT  
 RO = 168.00'

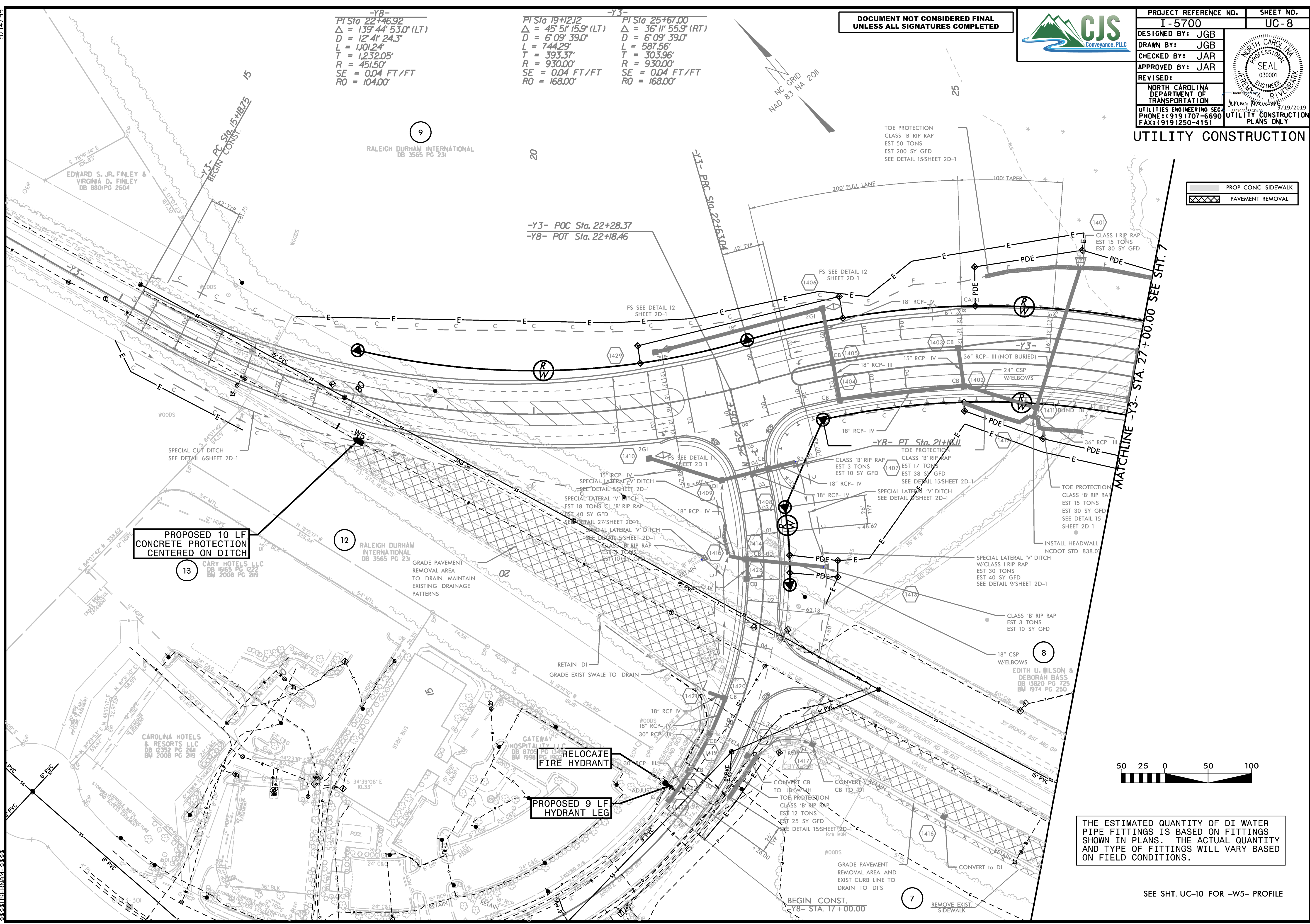
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PROJECT REFERENCE NO.	I-5700
SHEET NO.	UC-8
DESIGNED BY:	JGB
DRAWN BY:	JGB
CHECKED BY:	JAR
APPROVED BY:	JAR
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SECTION	
PHONE: (919) 707-6690	
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UTILITY CONSTRUCTION



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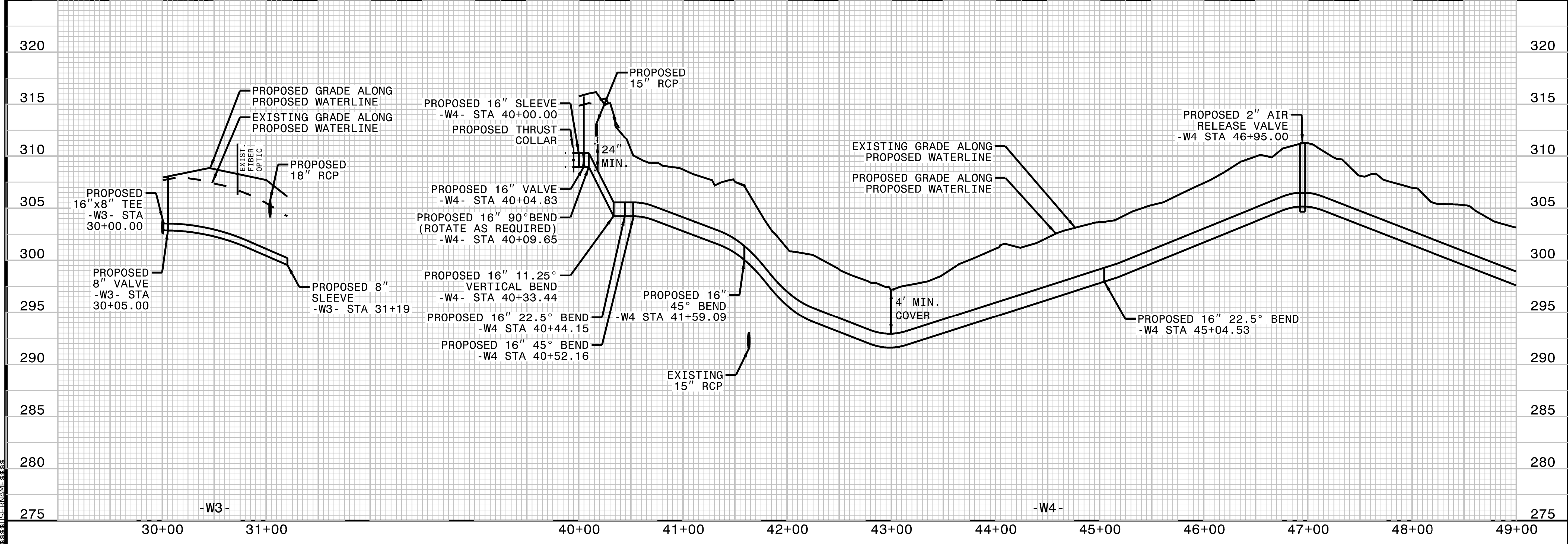
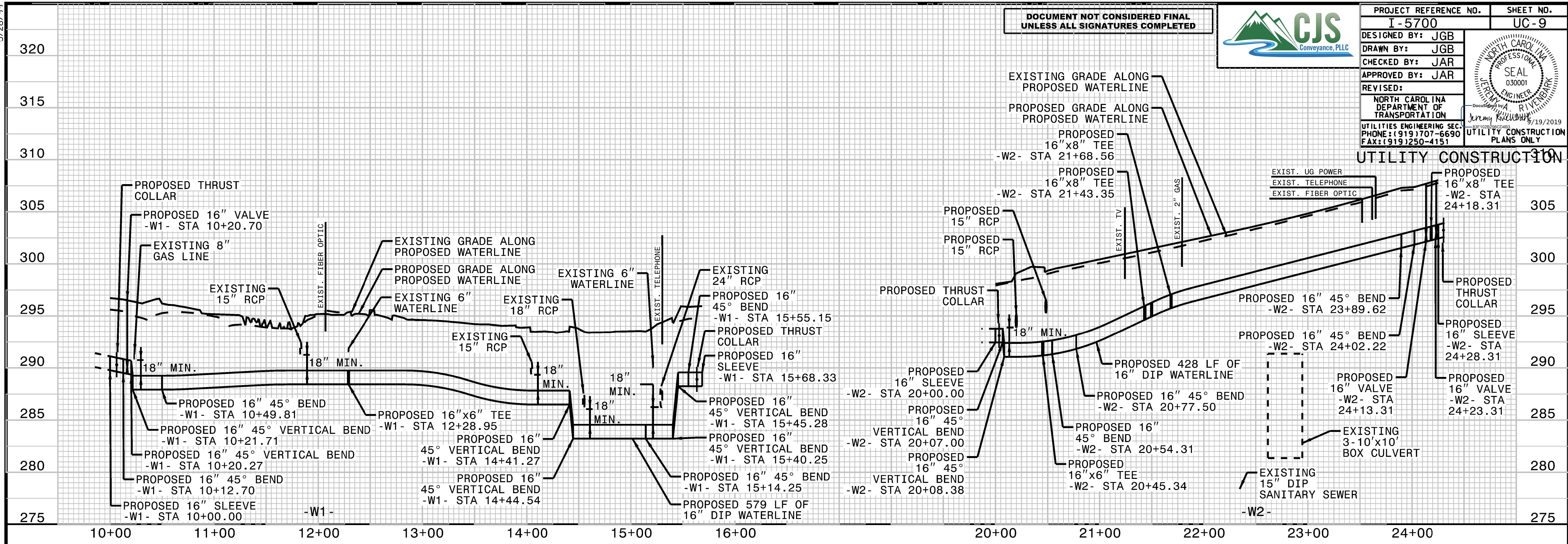
SEE SHT. UC-10 FOR -W5- PROFILE

5/28/19

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PROJECT REFERENCE NO. I-5700	SHEET NO. UC-9
DESIGNED BY: JGB	
DRAWN BY: JGB	
CHECKED BY: JAR	
APPROVED BY: JAR	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
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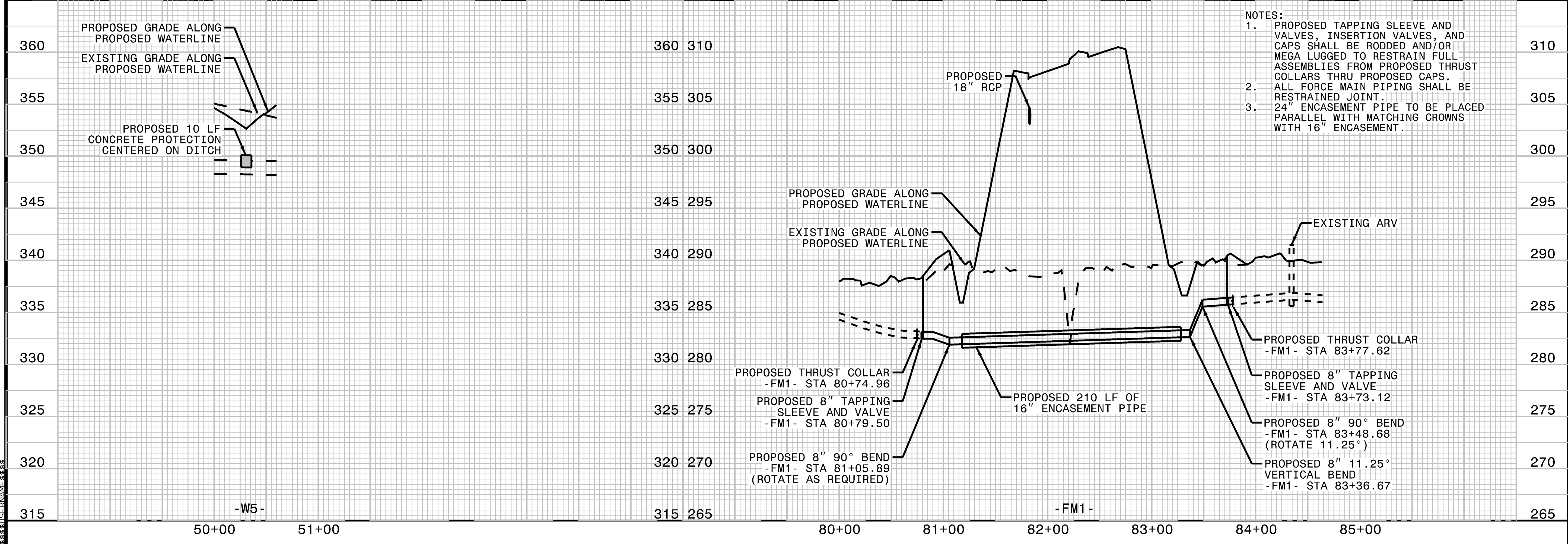
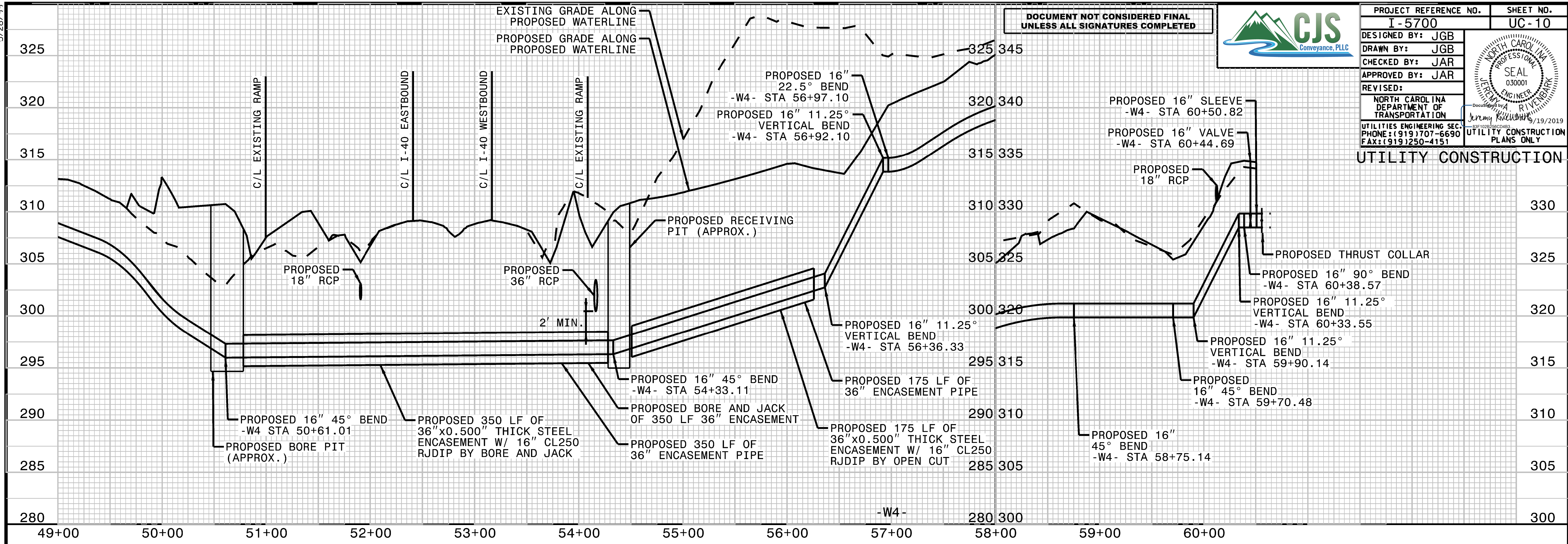
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5/28/99

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PROJECT REFERENCE NO. I-5700	SHEET NO. UC-10
DESIGNED BY: JGB	
DRAWN BY: JGB	
CHECKED BY: JAR	
APPROVED BY: JAR	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY



- NOTES:
1. PROPOSED TAPPING SLEEVE AND VALVES, INSERTION VALVES, AND CAPS SHALL BE RODDED AND/OR MEGA LUGGED TO RESTRAIN FULL ASSEMBLIES FROM PROPOSED THRUST COLLARS THRU PROPOSED CAPS.
  2. ALL FORCE MAIN PIPING SHALL BE RESTRAINED JOINT.
  3. 24" ENCASEMENT PIPE TO BE PLACED PARALLEL WITH MATCHING CROWNS WITH 16" ENCASEMENT.