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SEE SHEET UC-2 FOR CONVENTIONAL PLAN SHEET SYMBOLS

T.I.P. NO.	SHEET NO.
U-5724	UC-1

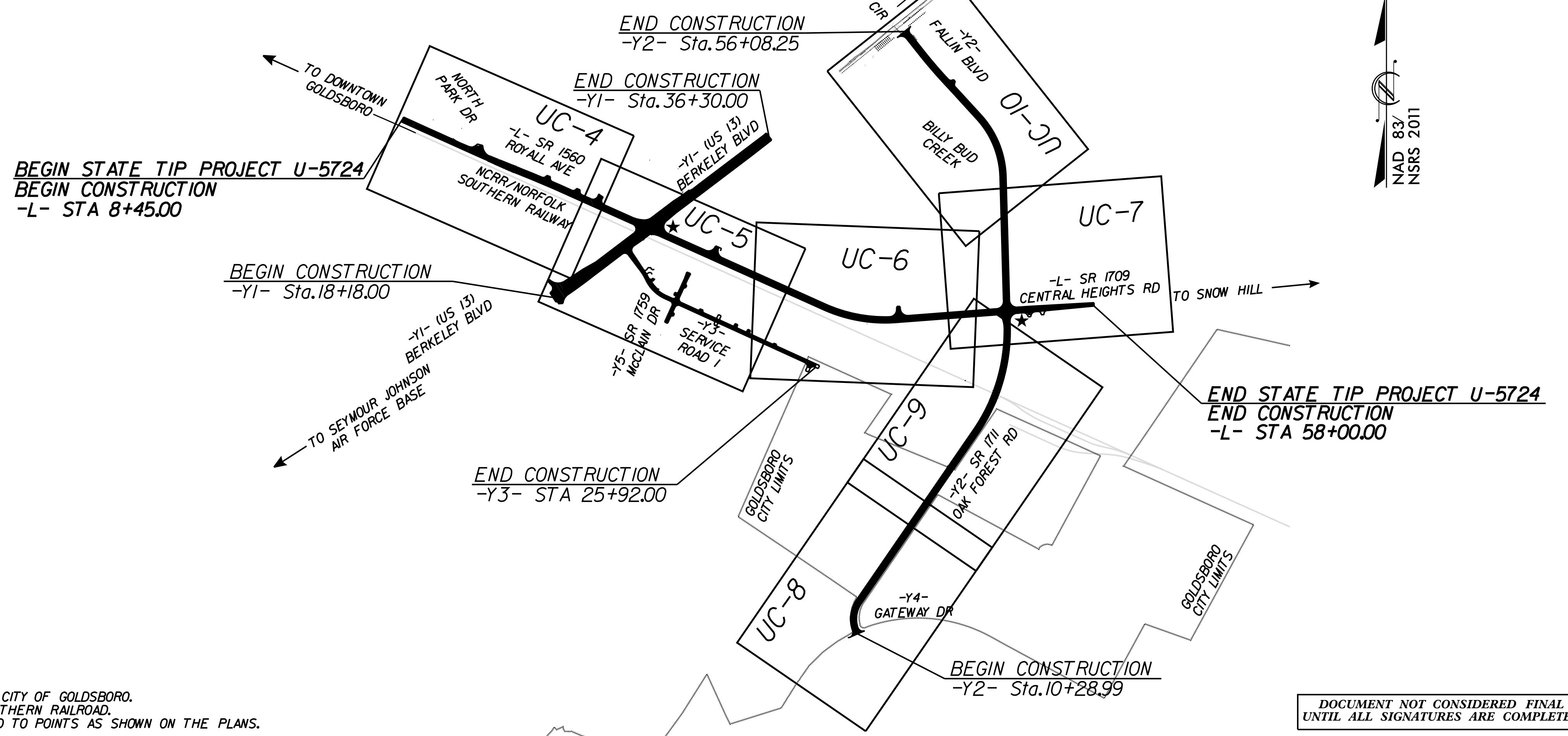
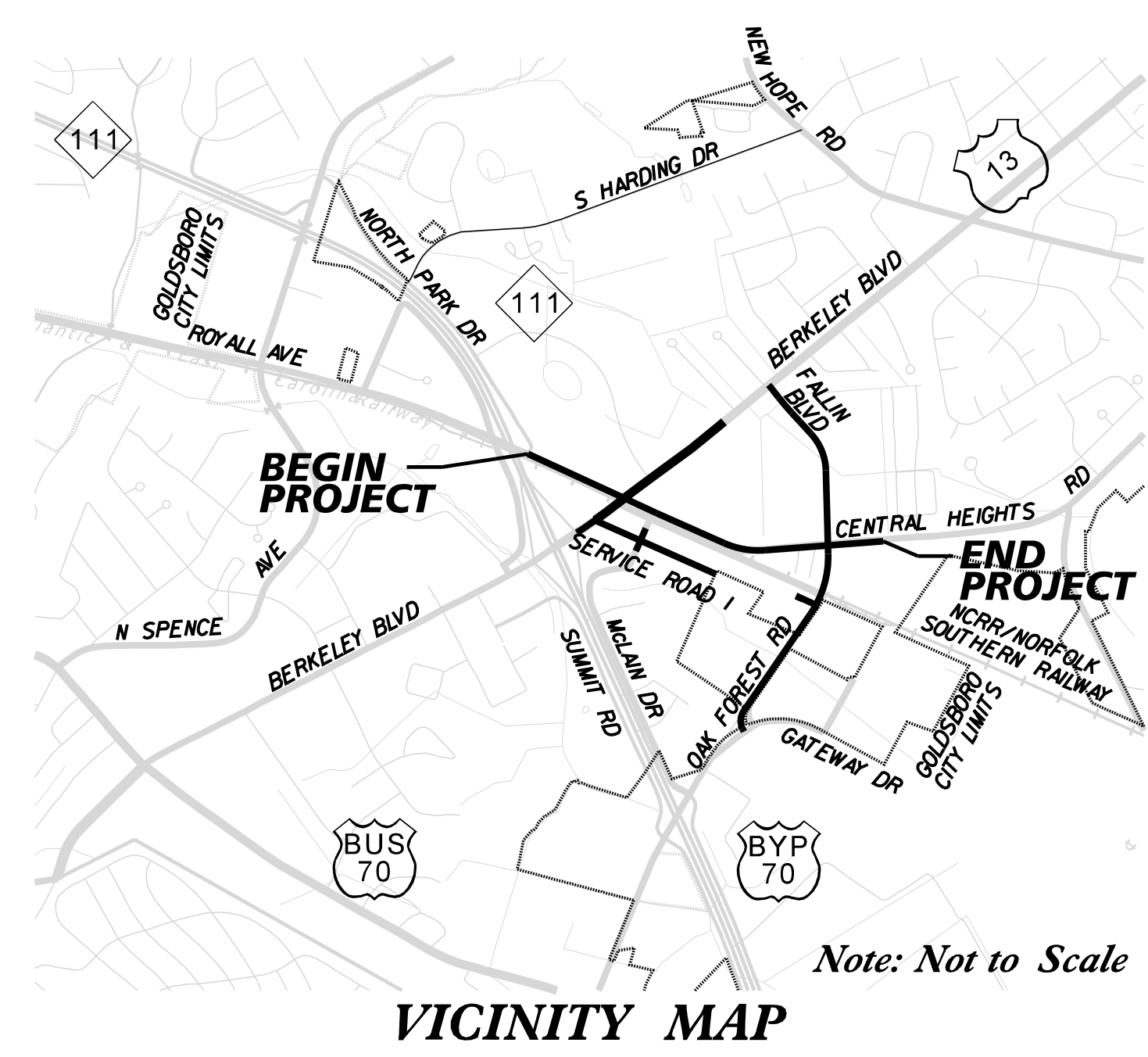
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS**  
**WAYNE COUNTY**

**LOCATION: SR 1560 (ROYALL AVENUE) FROM NORTH PARK DRIVE TO US 13 (BERKELEY BOULEVARD) AND SR 1709 (CENTRAL HEIGHTS ROAD) FROM US 13 (BERKELEY BOULEVARD) TO SR 1711 (OAK FOREST ROAD)**

**TYPE OF WORK: UTILITY CONSTRUCTION**

**TIP PROJECT: U-5724**

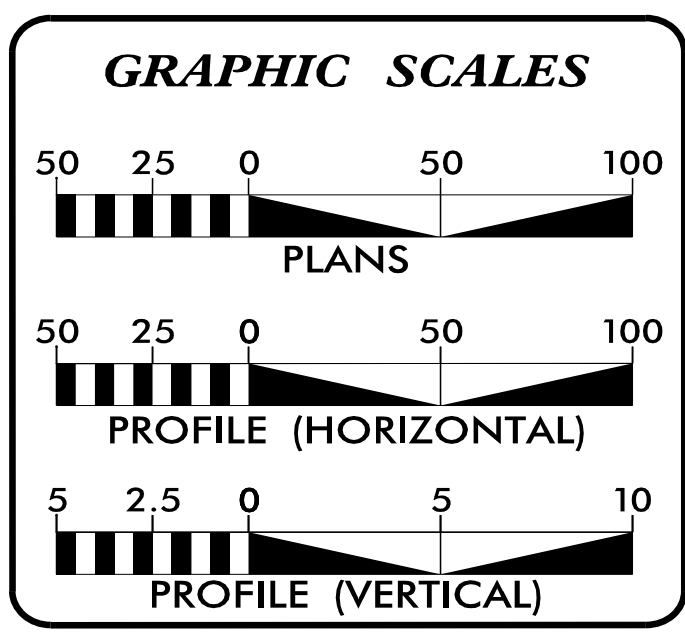


NCDOT CONTACT: ADDISON GAINIEY, PE  
DIVISION 4, PROJECT ENGINEER  
(252) 640-6428

★ TRAFFIC SIGNAL

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF GOLDSBORO.  
A PORTION OF THIS PROJECT IS WITHIN THE RIGHT-OF-WAY OF NORFOLK SOUTHERN RAILROAD.  
THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

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	UTILITY NOTES
UC-3A THRU UC-3E	UTILITY DETAILS
UC-4 THRU UC-10	UTILITY CONSTRUCTION SHEETS
UC-11 THRU UC-14	UTILITY PROFILE SHEETS

**WATER AND SEWER OWNERS ON PROJECT**

(A) WATER/SEWER - CITY OF GOLDSBORO:  
BOBBY CROOM 919-580-4367

PREPARED IN THE OFFICE OF

**Kimley»Horn** ©2022

NC LICENSE #F-0102  
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RALEIGH, NORTH CAROLINA 27636  
PHONE: (919) 677-2000

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Cody Mangano, PE CONSULTANT CONTACT #2  
Nolan Raney, PE CONSULTANT CONTACT #3

SEAL

8/11/2022

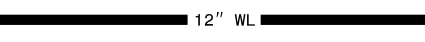

























**DIVISION OF HIGHWAYS UTILITIES UNIT**  
1555 MAIL SERVICES CENTER  
RALEIGH NC 27699-1555  
PHONE (919) 707-6690  
FAX (919) 250-4151

Nabil Hamdan UTILITIES REGIONAL ENGINEER  
Kyle Pleasant UTILITIES ENGINEER  
Tanga Sampson UTILITIES REGIONAL COORDINATOR  
Frank Zdelar UTILITIES COORDINATOR

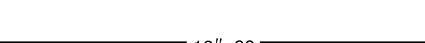



# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## UTILITIES PLAN SHEET SYMBOLS









### PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

### PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	


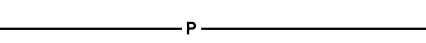











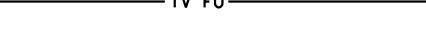

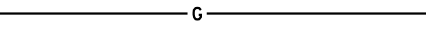

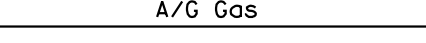



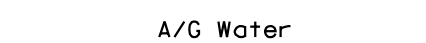















### PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

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

NOTE  
PAY ITEM

### EXISTING UTILITIES SYMBOLS

Power Pole		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
CATV Pedestal		SUE Test Hole	
Gas Valve		Water Meter	
Gas Meter		Water Valve	
Located Miscellaneous Utility Object		Fire Hydrant	
Abandoned According to Utility Records	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) .....

REVISIONS

5/14/99

2/5/2020

5/14/2024

REVISIONS

**GENERAL NOTES:**

1. ALL WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL CODES, AND ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT ITS EXPENSE, UNLESS PREVIOUSLY OBTAINED BY THE OWNER(S) AND PROVIDED AT THE PRECONSTRUCTION CONFERENCE.
2. DEVIATION FROM THESE PLANS AND NOTES WITHOUT THE PRIOR WRITTEN CONSENT OF THE UTILITY OWNER OR THEIR REPRESENTATIVE OR THE ENGINEER MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.
4. CONTRACTOR SHALL PLAN AND CONSTRUCT WORK SO AS TO CAUSE MINIMUM INCONVENIENCE TO THE UTILITY OWNER(S) AND PUBLIC. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND ERECT AND MAINTAIN AT ALL TIMES DURING THE PROGRESS OR TEMPORARY SUSPENSION OF WORK, SUITABLE BARRIERS, FENCES, SIGNS OR OTHER ADEQUATE PROTECTION, INCLUDING FLAG MEN AND WATCHMEN AS NECESSARY TO ENSURE THE SAFETY OF THE PUBLIC AS WELL AS THOSE ENGAGED IN THE CONSTRUCTION WORK. CONSTRUCTION SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF "CONSTRUCTION AND MAINTENANCE OPERATIONS SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE NCDOT.
5. ALL WATER AND SEWER CONSTRUCTION SHALL CONFORM TO NCDEQ REGULATIONS, AND TO CURRENT UTILITY OWNER REGULATIONS, STANDARDS, AND SPECIFICATIONS. CONTRACTOR SHALL OBTAIN FROM EACH UTILITY OWNER AND ENGINEER APPROVED SUBMITTALS FOR ALL MATERIALS PROPOSED TO BE INCORPORATED IN THE WORK PRIOR TO ORDERING ANY MATERIALS OR COMMENCING UTILITY CONSTRUCTION.
6. CONTRACTOR SHALL COORDINATE ALL WORK WITH UTILITY OWNERS LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION, OR AS OTHERWISE SPECIFIED HEREIN. CITY OF GOLDSBORO CONSTRUCTION INSPECTORS JOHNATHAN PERRY AND JOHN HEATH CAN BE REACHED AT 919-580-4317 AND 919-580-4368, RESPECTIVELY.
7. ALL PIPE LENGTHS ARE MEASURED ALONG A HORIZONTAL PLANE. SANITARY SEWER LINES ARE MEASURED TO CENTER OF MANHOLE.
8. THE CONTRACTOR SHALL PROVIDE ALL STAKEOUT SURVEY. ANY EXISTING STAKEOUT OR BENCHMARKS SHALL NOT BE RELIED UPON BY THE CONTRACTOR.
9. COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD 83).
10. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE UTILITY OWNER PRIOR TO CONSTRUCTION.
11. LOCATIONS OF EXISTING SHOWN UTILITIES ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE SIZE, DEPTH, MATERIAL AND LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION AND TO TAKE WHATEVER STEPS ARE NECESSARY TO PROVIDE FOR THEIR PROTECTION. THE ENGINEER HAS ATTEMPTED TO LOCATE AND INDICATE ALL EXISTING FACILITIES ON THE PLANS; HOWEVER, THIS INFORMATION IS SHOWN FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE ENGINEER AND THE OWNER(S) ASSUME NO RESPONSIBILITY FOR THE LOCATIONS OF UTILITIES SHOWN OR NOT SHOWN. PRIOR TO DIGGING ON AND OFF SITE, THE CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED BY "NC 811" 1-800-632-4949. THE CONTRACTOR SHALL CONTACT ANY UTILITY OWNER WHOSE UTILITIES ARE NOT LOCATED BY "NC 811" FOR EXACT LOCATION OF THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AND/OR REPLACE ANY AND ALL DAMAGE MADE TO UTILITIES BY THE CONTRACTOR TO PRECONSTRUCTION CONDITION OR BETTER AT THE CONTRACTOR'S EXPENSE.
12. DEPTH AND LOCATION OF BURIED DATA AND TELECOMMUNICATIONS CABLES (FIBER OPTICS AND CONVENTIONAL) ARE KNOWN TO VARY DUE TO INSTALLATION TECHNIQUES. CONTRACTOR SHALL COORDINATE ITS WORK WITH CONFLICTING CABLES AS NECESSARY FOR INSTALLATION OF THE PROPOSED WATER AND SEWER. COORDINATION WITH EXISTING UTILITIES SHALL BE INCLUDED IN THE PROJECT SCHEDULE. COORDINATION AND PHASING RELATED TO EXISTING UTILITIES ARE INCLUSIVE TO THE PROJECT AND NO SPECIFIC OR ADDITIONAL PAYMENT SHALL BE MADE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH UTILITY PROVIDERS ANY SUPPORT OF EXISTING UTILITY POLES OR OTHER ITEMS AS REQUIRED FOR TRENCH EXCAVATION. ALL COSTS OF SUCH WORK SHALL BE PAID BY THE CONTRACTOR.
14. THE CONTRACTOR SHALL VERIFY THE VOLTAGES OF ALL ELECTRICAL UTILITIES AND FOLLOW THE APPROPRIATE OSHA STANDARDS WHEN WORKING IN THEIR VICINITY.
15. UNLESS OTHERWISE INDICATED, ALL GRADE ELEVATIONS SHOWN ARE ALONG THE PIPE CENTERLINE.
16. UTILITY OWNERS WILL FURNISH DESCRIPTIONS OF EASEMENTS UPON REQUEST.
17. ALL PAVEMENT CUTS SHALL BE SAWCUT OR MILLED ALONG A CONTINUOUS STRAIGHT LINE AND REPAVED PER NCDOT REQUIREMENTS AND AS SPECIFIED HEREIN.
18. TRAFFIC ISLANDS, CURBS, CONCRETE DRIVEWAYS, AND OTHER CONCRETE SURFACINGS SHALL BE REPLACED TO THE FIRST EXPANSION JOINT BEYOND THE TRENCH EXCAVATION LIMITS AND TO THE FULL WIDTH. ALL CONCRETE WORK SHALL MATCH EXISTING.
19. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SHEETING AND/OR ACTIVE SHORING REQUIRED FOR THE INSTALLATION OF THE UTILITY. ALL EXCAVATIONS SHALL BE KEPT WITHIN THE DESIGNATED EASEMENT WIDTHS. EXCAVATION WITHIN PAVED AREAS SHALL BE KEPT TO A MINIMUM. SHEETING AND/OR ACTIVE SHORING SHALL BE INSTALLED AS REQUIRED TO PROTECT EXISTING UTILITIES.
20. PLACED RIP-RAP SHALL HAVE A MINIMUM DEPTH OF 1.5 TIMES THE MAXIMUM STONE DIAMETER AND SHALL HAVE A LAYER OF TYPE II GEOTEXTILE SEPARATOR PLACED BETWEEN THE SOIL AND STONE.
21. ALL MATERIAL CLEARED AND GRUBBED BY THE CONTRACTOR IN ORDER TO CONSTRUCT THE WORK, SUCH AS TREES, VEGETATION, ETC., SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF-SITE AT A STATE APPROVED DISPOSAL SITE.
22. IMMEDIATELY PRIOR TO DISTURBANCE, CONTRACTOR SHALL OBTAIN DIGITALLY RECORDED VIDEO OF THE UTILITY ALIGNMENTS INCLUDING EACH DRIVEWAY, SIDEWALK, SIGN, LANDSCAPING, ETC., TO BE DISTURBED. EACH SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR BETTER. VIDEO SHALL BE SUBMITTED TO THE UTILITY OWNER(S) AND THE ENGINEER PRIOR TO WORK.

23. CONTRACTOR SHALL MAINTAIN A MEANS FOR ACCESS TO EACH PROPERTY, RESIDENCE, AND BUSINESS AT ALL TIMES.

24. DURING CONSTRUCTION, EMERGENCY VEHICLE APPARATUS ACCESS AND ACCESS TO FIRE HYDRANTS SHALL BE MAINTAINED AT ALL TIMES.

25. ALL CONSTRUCTION SHALL BE LIMITED TO STREET RIGHTS-OF-WAY AND OBTAINED EASEMENTS. WHERE THE CONTRACTOR DETERMINES THAT ENCROACHMENT ONTO PRIVATE PROPERTY IS NECESSARY AND AN EASEMENT HAS NOT BEEN PROVIDED, THE CONTRACTOR SHALL CONTACT INDIVIDUAL PROPERTY OWNERS AND OBTAIN WRITTEN APPROVAL FOR THAT ENCROACHMENT. SUCH APPROVALS SHALL BE PROVIDED TO THE UTILITY OWNER, NCDOT, AND THE ENGINEER.

26. CONTRACTOR SHALL NOTIFY PROPERTY OWNERS AND TENNANTS AT LEAST 7 DAYS PRIOR TO CONSTRUCTION THAT CONSTRUCTION ACTIVITY WILL TAKE PLACE IN THEIR AREA.

27. CONTRACTOR SHALL REMOVE AND REPLACE ALL CONFLICTING MAIL BOXES, CULVERTS, HEADWALLS, ORNAMENTAL STRUCTURES, SIGNS, HARDSCAPING, ETC. WITHIN THE RIGHT OF WAY OR PERMANENT EASEMENT UNLESS OTHERWISE SHOWN ON THE PLANS OR IN THE CONTRACT DOCUMENTS. CONFLICTING TREES WITHIN THE RIGHT OF WAY SHALL BE REMOVED AND NOT REPLANTED.

28. THE CONTRACTOR SHALL INSTALL ALL SIGNS AS REQUIRED BY NCDOT ALONG STATE ROADWAYS AND AS REQUIRED BY CITY OF GOLDSBORO ALONG CITY STREETS AND PUBLIC PARKING AREAS.

29. LANE AND SHOULDER CLOSURES SHALL BE IN ACCORDANCE WITH NCDOT REQUIREMENTS.

30. TRENCHES AND EXCAVATIONS SHALL BE BACKFILLED OR COVERED WITH ROAD PLATES AT THE END OF EACH WORK DAY. OPEN ENDS OF INSTALLED LINE SHALL BE CAPPED WITH A WATERTIGHT CAP DESIGNED FOR THE INTENDED USE.

31. CONTRACTOR SHALL PATCH ALL ROADWAY PAVEMENT DISTURBANCES TO RECEIVE TRAFFIC BY THE END OF EACH WEEK. TEMPORARY PATCHES OF COMPACTED AGGREGATE BASE COURSE (ABC) OR COMPACTED ASPHALT MILLINGS SHALL BE PROVIDED DAILY AND MAINTAINED FLUSH WITH ADJACENT PAVEMENT UNTIL PAVEMENT PATCH IS PROVIDED. EROSION CONTROL SHALL BE PROVIDED AS NECESSARY FOR TEMPORARY PATCH AREAS.

32. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL TOOLS, APPLIANCES, CONSTRUCTION EQUIPMENT AND MACHINERY, SURPLUS MATERIALS, AND DEBRIS AND SHALL RESTORE TO ORIGINAL CONDITION OR BETTER ALL PROPERTY NOT DESIGNATED FOR ALTERATION BY THE CONTRACT DOCUMENTS.

33. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS FOR ALL UTILITY CONSTRUCTION PRIOR TO PLACING THE PIPELINE(S) IN SERVICE.

**UTILITY NOTES:**

1. UTILITY SEPARATION REQUIREMENTS:
  - A. DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
  - B. WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE OWNER. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
  - C. WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
  - D. 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
  - E. MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, DIP MATERIALS & A CONCRETE CRADLE IN ACCORDANCE WITH DETAIL 6/UC-3A SHALL BE INSTALLED.
  - F. ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
2. MINIMUM PIPE COVER FOR DISTRIBUTION WATER MAINS SHALL BE 4 FEET AND TRANSMISSION WATER MAINS SHALL BE 5 FEET, UNLESS DUCTILE IRON PIPE IS USED AND LESS COVER IS SPECIFICALLY SHOWN ON DRAWINGS OR AS APPROVED BY THE UTILITY OWNER OR ENGINEER.
3. TRENCHES SHALL BE IN STRICT ACCORDANCE WITH DETAIL 5/UC-3D. UNLESS OTHERWISE SPECIFIED BEDDING AND BACKFILL SHALL BE IN STRICT ACCORDANCE WITH BEDDING TYPE B (SEE DETAIL 2/UC-3D).
4. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING CUSTOMERS THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE COORDINATED WITH AND TAKE PLACE AT A TIME AND DATE ACCEPTABLE TO THE UTILITY OWNER. A 72 HOUR ADVANCE NOTICE SHALL BE PROVIDED TO AFFECTED CUSTOMERS.
5. ALL WATERLINE FOR THIS PROJECT SHALL BE MATERIAL AND SIZE AS NOTED ON THE PROFILE DRAWINGS.
6. ALL PRESSURIZED FITTINGS SHALL BE DUCTILE IRON RESTRAINED MECHANICAL JOINT WITH PRESSURE RATING EQUAL TO OR HIGHER THAN HOST PIPE, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
7. ALL MECHANICAL JOINTS SHALL BE FITTED WITH WEDGE-TYPE MECHANICAL RESTRAINT ACCESSORY KITS DESIGNED FOR THE INTENDED USE AND MATERIAL, AS APPROVED BY UTILITY OWNER. RESTRAINED JOINT PIPING SHALL BE INSTALLED TO THE NEXT FULL JOINT BEYOND THE STATIONS SHOWN ON THE PROFILE DRAWINGS AT MINIMUM.

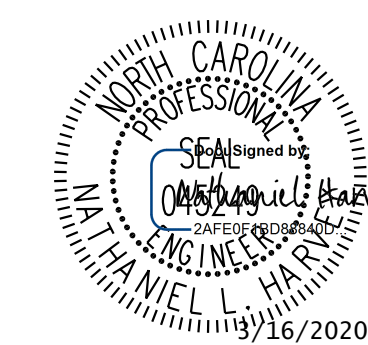
**Kimley»Horn**421 FAYETTEVILLE STREET, SUITE 600  
RALEIGH, NC 27601RIGHT-OF-WAY REV.  
CONST. REV.

PROJECT REFERENCE NO. SHEET NO.

U-5724

UC-3

UTILITY DESIGN ENGINEER

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

8. PIPE ALIGNMENT SHOWN IS BASED ON STANDARD DUCTILE IRON MECHANICAL JOINT FITTINGS. JOINT DEFLECTIONS SHALL NOT EXCEED 75 PERCENT OF MANUFACTURER'S RECOMMENDED DEFLECTION. CONTRACTOR SHALL ADJUST PIPELINE ALIGNMENT AND DEFLECT JOINTS AS NECESSARY TO ACCOMMODATE THE STANDARD BENDS SHOWN.

9. DETECTABLE WARNING TAPE AND TRACER WIRE IS REQUIRED FOR ALL BURIED PIPE AND SHALL BEAR THE APPROPRIATE AWP COLORING AND TEXT FOR THE APPLICABLE UTILITY. INSULATED 14GA TRACER WIRE SHALL BE INSTALLED ALONG ALL PIPELINES AND SHALL BE ACCESSIBLE FROM THE FINISHED GRADE WITHIN ALL VALVE BOXES, MANHOLES, AND OTHER END POINTS OF TRACER WIRE. SPLICES IN TRACER WIRE SHALL BE MADE WITH SPLICE CONNECTORS DESIGNED FOR THE INTENDED PURPOSE AND IN ACCORDANCE WITH TRACER WIRE MANUFACTURER'S RECOMMENDATIONS.

10. ALL MANHOLE COVERS AND VALVE BOX LIDS FOR WATER SHALL READ "WATER", ALL MANHOLE COVERS AND VALVE BOX LIDS FOR SEWER SHALL READ "SEWER", AND ALL SHALL BE IN ACCORDANCE WITH NCDOT AND APPLICABLE UTILITY OWNER STANDARDS AND DETAILS.

11. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE OWNER(S) AND ENGINEER.

12. EXISTING WATER SERVICES SHALL REMAIN IN SERVICE AT ALL TIMES UNTIL THE PROPOSED MAIN IS TESTED AND PHASED INTO SERVICE.

**ASBESTOS CEMENT PIPE NOTES:**

1. CONTRACTOR SHALL FOLLOW ALL FEDERAL, STATE, AND LOCAL RULES AND REGULATIONS FOR SAFELY CUTTING, DEMOLISHING, AND DISPOSING OF ASBESTOS CEMENT PIPE.
2. CONTRACTOR SHALL TAKE ANY PRECAUTIONS NECESSARY TO AVOID EXPOSING WORKERS OR THE PUBLIC TO ASBESTOS FIBERS.
3. CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY FOR CUTTING, DEMOLISHING, OR DISPOSING OF ASBESTOS CEMENT PIPE.
4. CONTRACTOR SHALL FOLLOW ALL NORTH CAROLINA DEPARTMENT OF HEALTH AND HUMAN SERVICES REQUIREMENTS DURING CONSTRUCTION.
5. CONTRACTOR SHALL FOLLOW ALL OSHA ASBESTOS REQUIREMENTS DURING CONSTRUCTION.
6. ALL ASBESTOS PIPE DISPOSAL SHALL CONFORM WITH ALL FEDERAL AND STATE REQUIREMENTS.
7. ASBESTOS PIPE ABANDONED IN PLACE SHALL BE FILLED WITH FLOWABLE FILL.

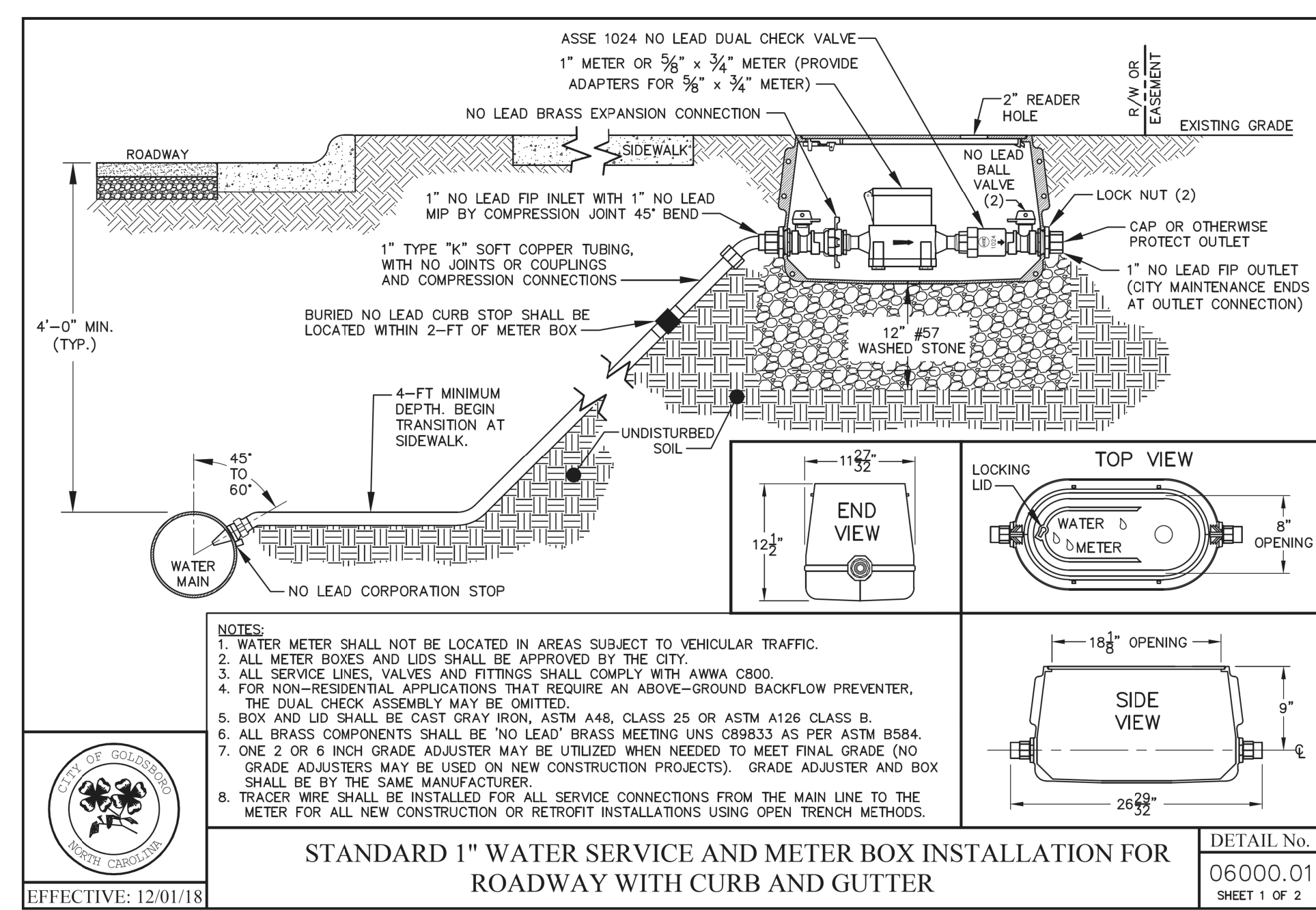
**GENERAL SEQUENCE:**

1. FOR EACH WATER LINE AND SEWER LINE RELOCATION, THE CONTRACTOR SHALL PROVIDE THE UTILITY OWNER WITH A DETAILED INSTALLATION, CONNECTION, AND SERVICE INTERRUPTION PLAN FOR APPROVAL AT LEAST SEVEN (7) DAYS PRIOR TO THE RELOCATION. AT A MINIMUM, EACH PLAN SHALL ADDRESS THE FOLLOWING:
  - A. SEQUENCE OF CONSTRUCTION OPERATIONS.
  - B. PROCEDURE FOR FLUSHING, TESTING, AND DISINFECTION OF ALL AFFECTED PIPING AND VALVES, AS REQUIRED BY THE UTILITY OWNER.
  - C. PHASING AND SCHEDULE FOR ALL CONNECTIONS, INCLUDING PLANNED SERVICE OUTAGES, DURATION, AND CONTINGENCY PLAN.
2. NO INTERRUPTION OF SERVICE WILL BE PERMITTED UNTIL THE FOREGOING PLAN HAS BEEN APPROVED BY THE UTILITY OWNER. THE UTILITY OWNER'S PERSONNEL SHALL OPERATE THE UTILITY OWNER'S EXISTING FACILITIES INVOLVED IN THE INTERRUPTIONS OF SERVICE.
3. PLANNED SERVICE CONNECTION INTERRUPTIONS SHALL LAST NO LONGER THAN 8 HOURS UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER. ALL INTERRUPTIONS OF SERVICES SHALL BE COORDINATED WITH AND SCHEDULED AT TIMES ACCEPTABLE TO THE UTILITY OWNER.
4. WRITTEN WATER SERVICE INTERRUPTION NOTICES SHALL BE PROVIDED TO ALL AFFECTED CUSTOMERS AT LEAST 72 HOURS PRIOR TO EACH PLANNED INTERRUPTION.

5/14/19

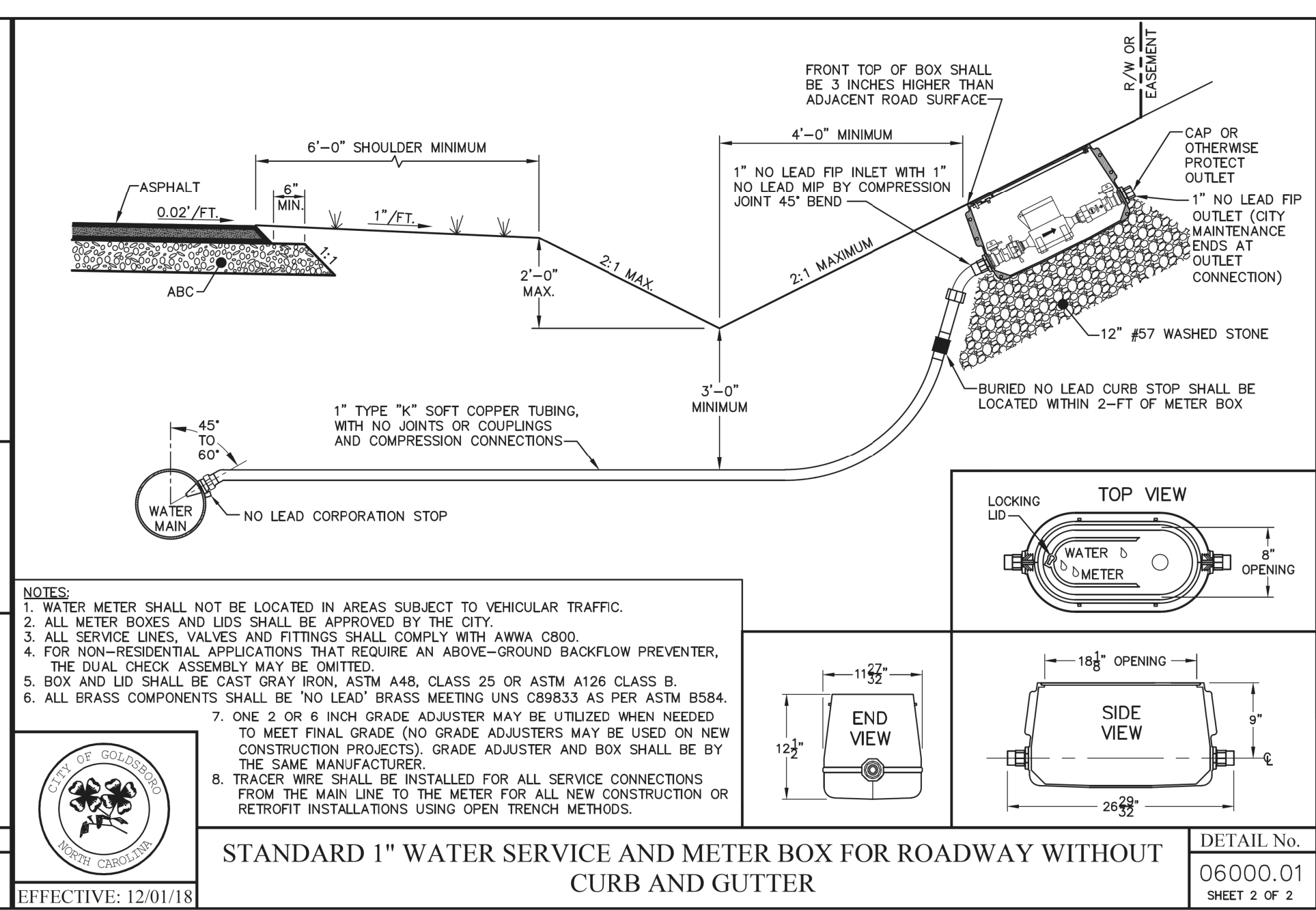
**Kimley»Horn**  
 421 FAYETTEVILLE STREET, SUITE 600  
 RALEIGH, NC 27601

PROJECT REFERENCE NO. U-5724	SHEET NO. UC-3A
UTILITY DESIGN ENGINEER	
<b>STANDARD DETAILS DESIGNED BY CITY OF GOLDSBORO</b>	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



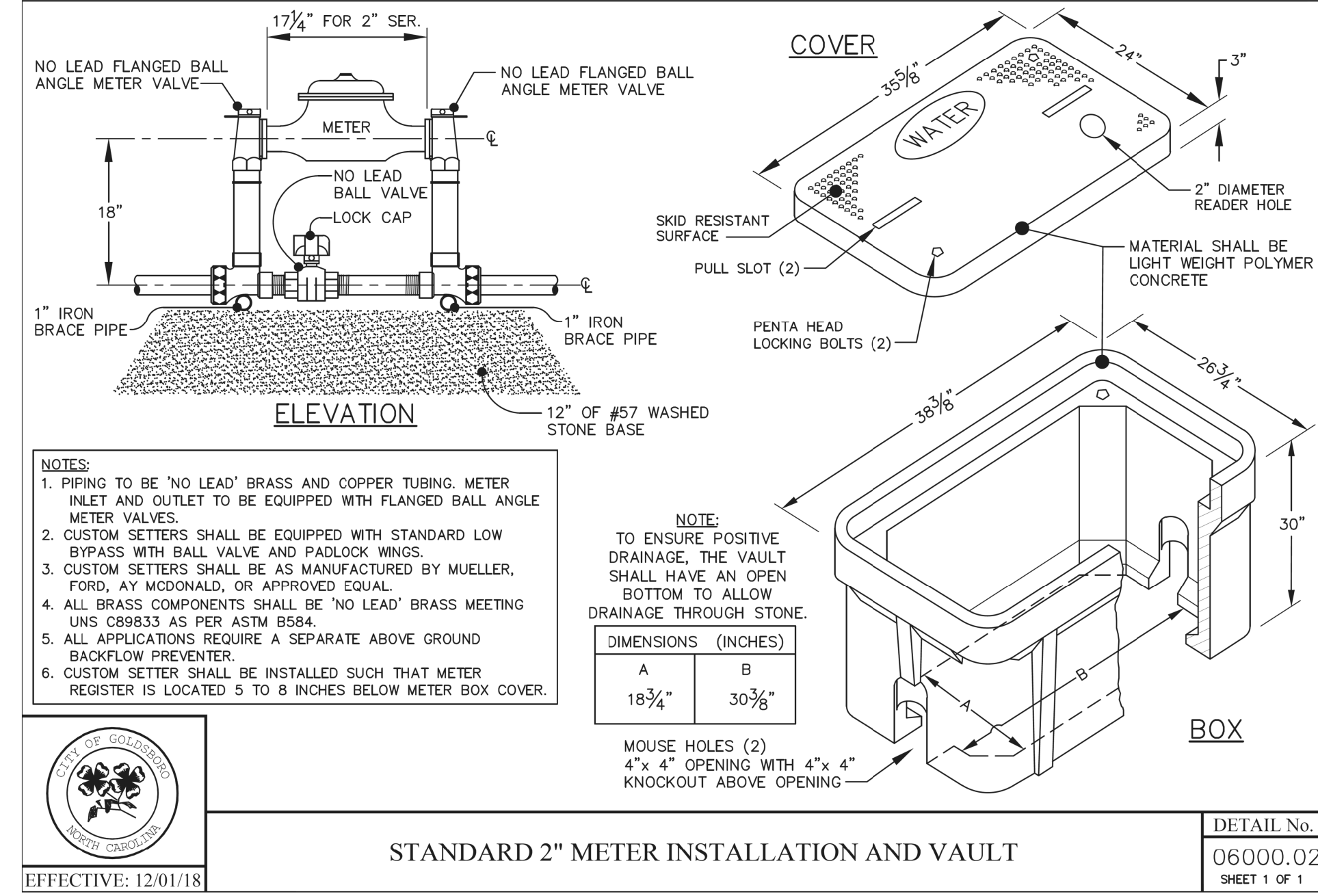
STANDARD 1" WATER SERVICE AND METER BOX INSTALLATION FOR ROADWAY WITH CURB AND GUTTER

DETAIL No. 06000.01 SHEET 1 OF 2 EFFECTIVE: 12/01/18



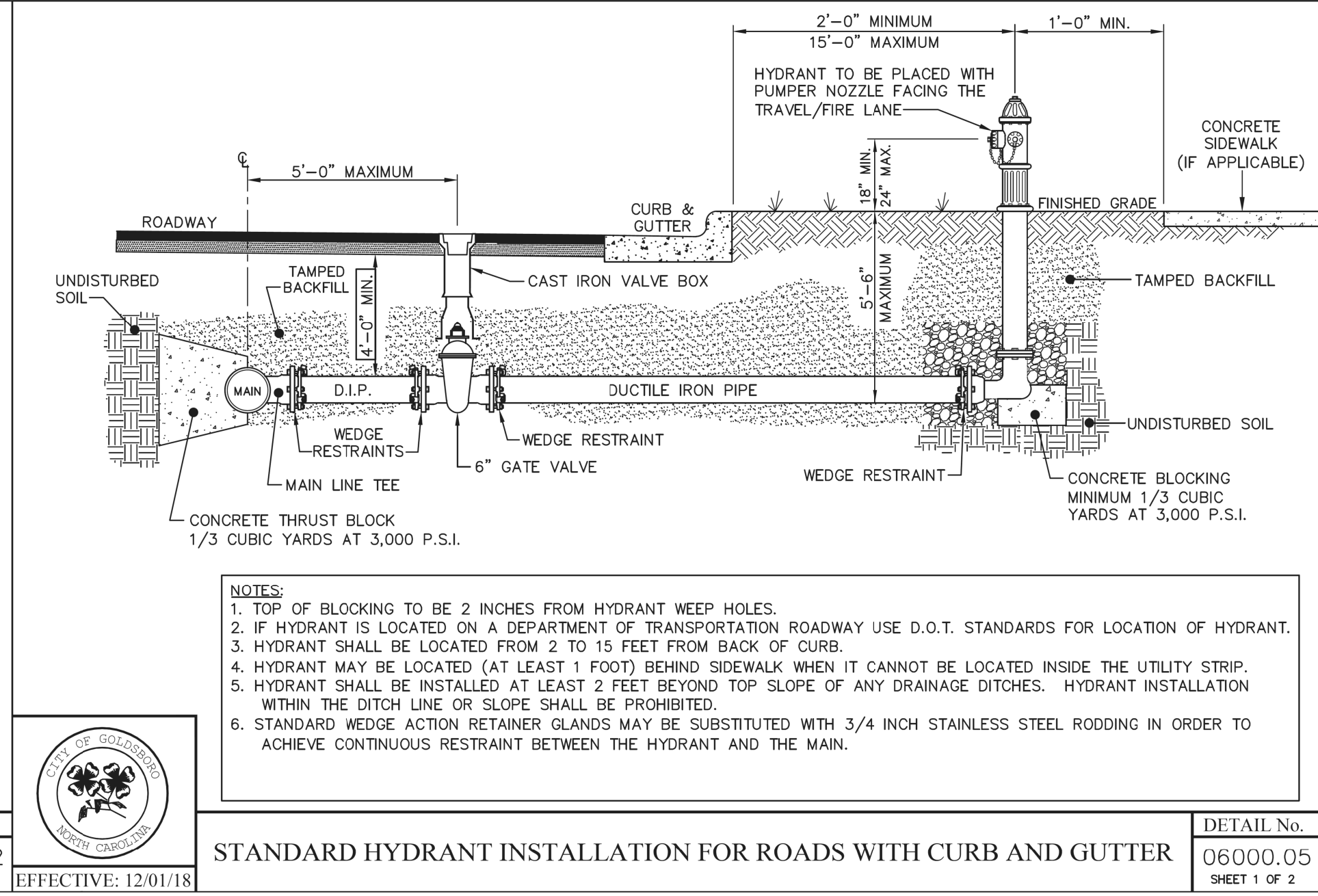
STANDARD 1" WATER SERVICE AND METER BOX FOR ROADWAY WITHOUT CURB AND GUTTER

DETAIL No. 06000.01 SHEET 2 OF 2 EFFECTIVE: 12/01/18



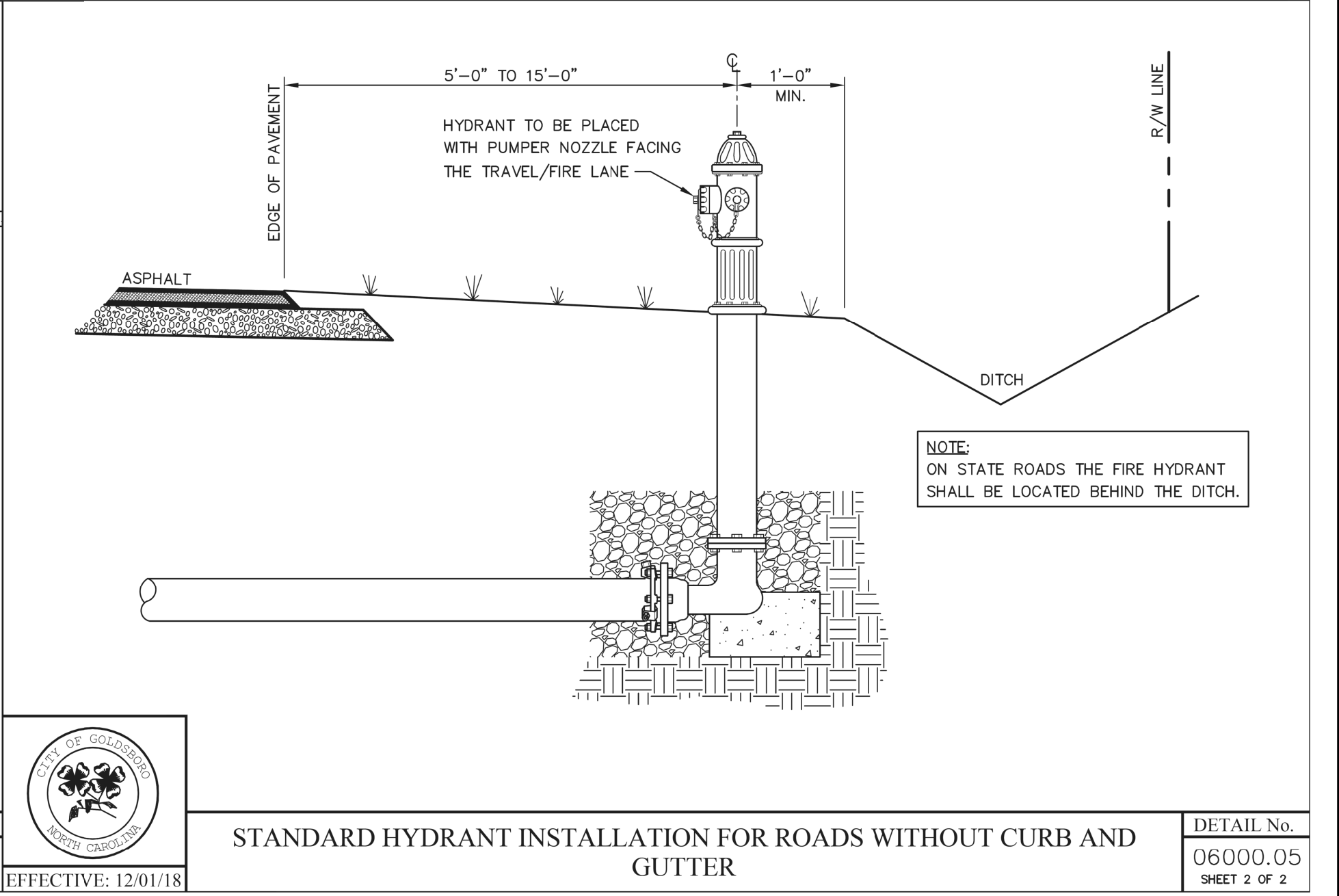
STANDARD 2" METER INSTALLATION AND VAULT

DETAIL No. 06000.02 SHEET 1 OF 1 EFFECTIVE: 12/01/18



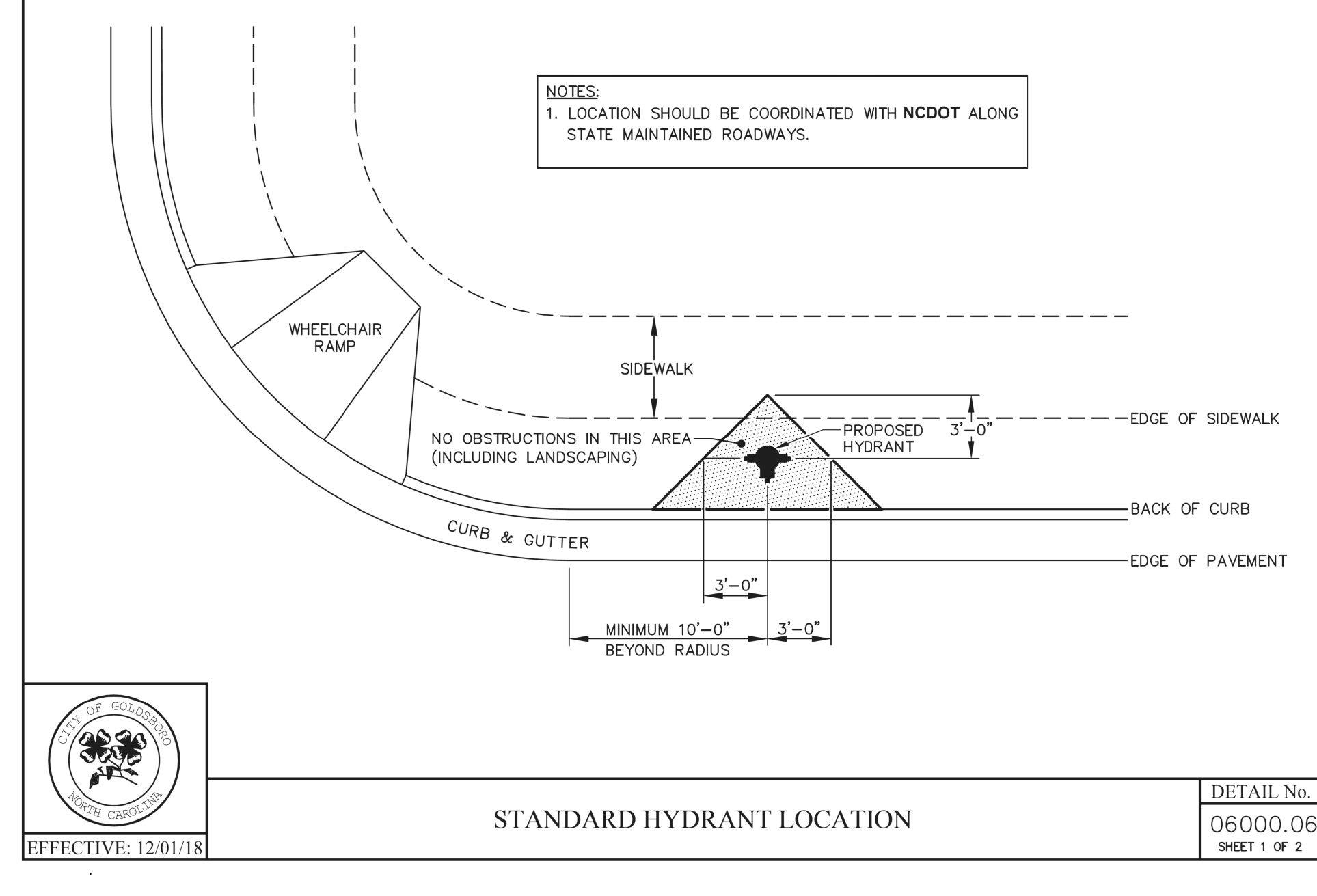
STANDARD HYDRANT INSTALLATION FOR ROADS WITH CURB AND GUTTER

DETAIL No. 06000.05 SHEET 1 OF 2 EFFECTIVE: 12/01/18



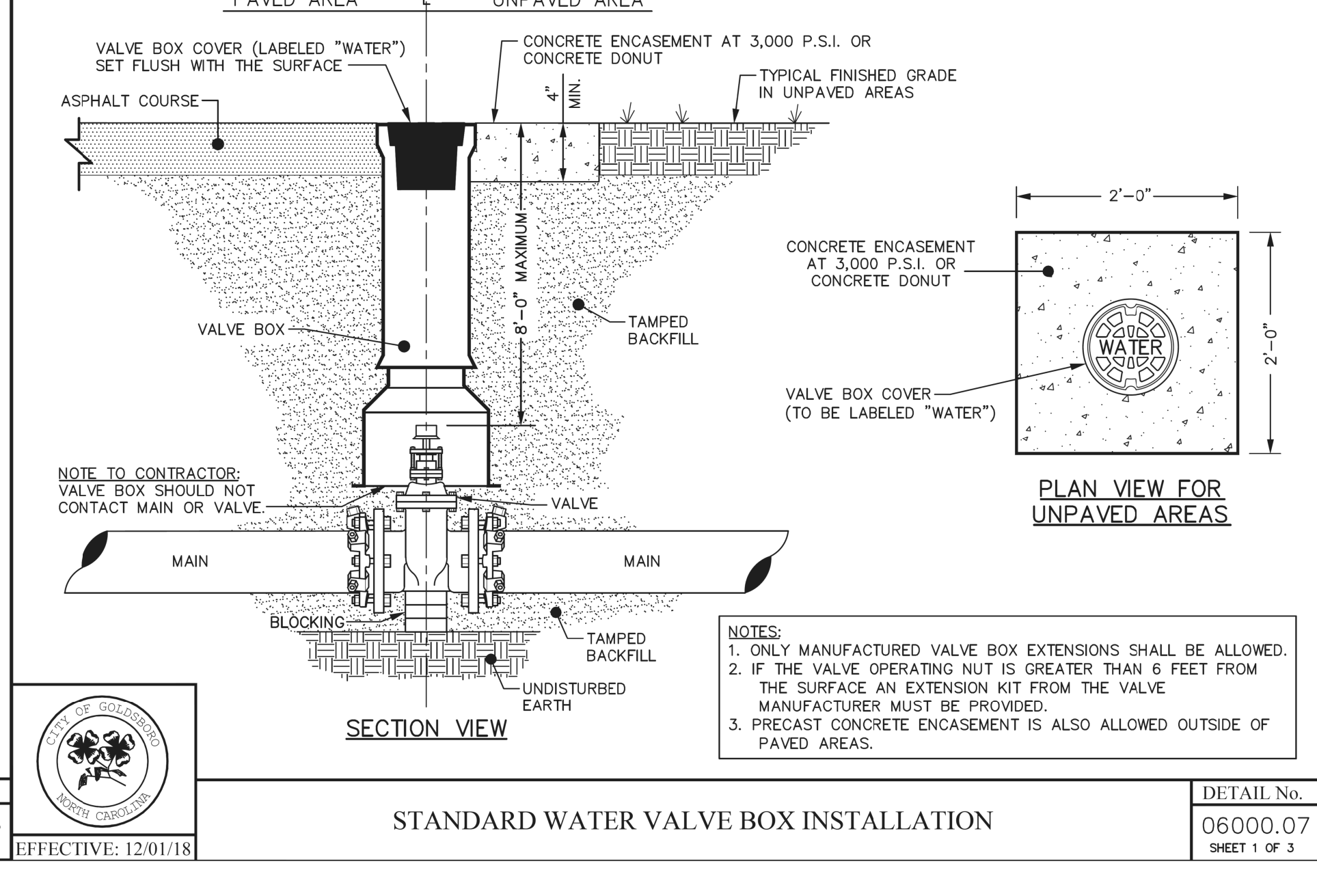
STANDARD HYDRANT INSTALLATION FOR ROADS WITHOUT CURB AND GUTTER

DETAIL No. 06000.05 SHEET 2 OF 2 EFFECTIVE: 12/01/18



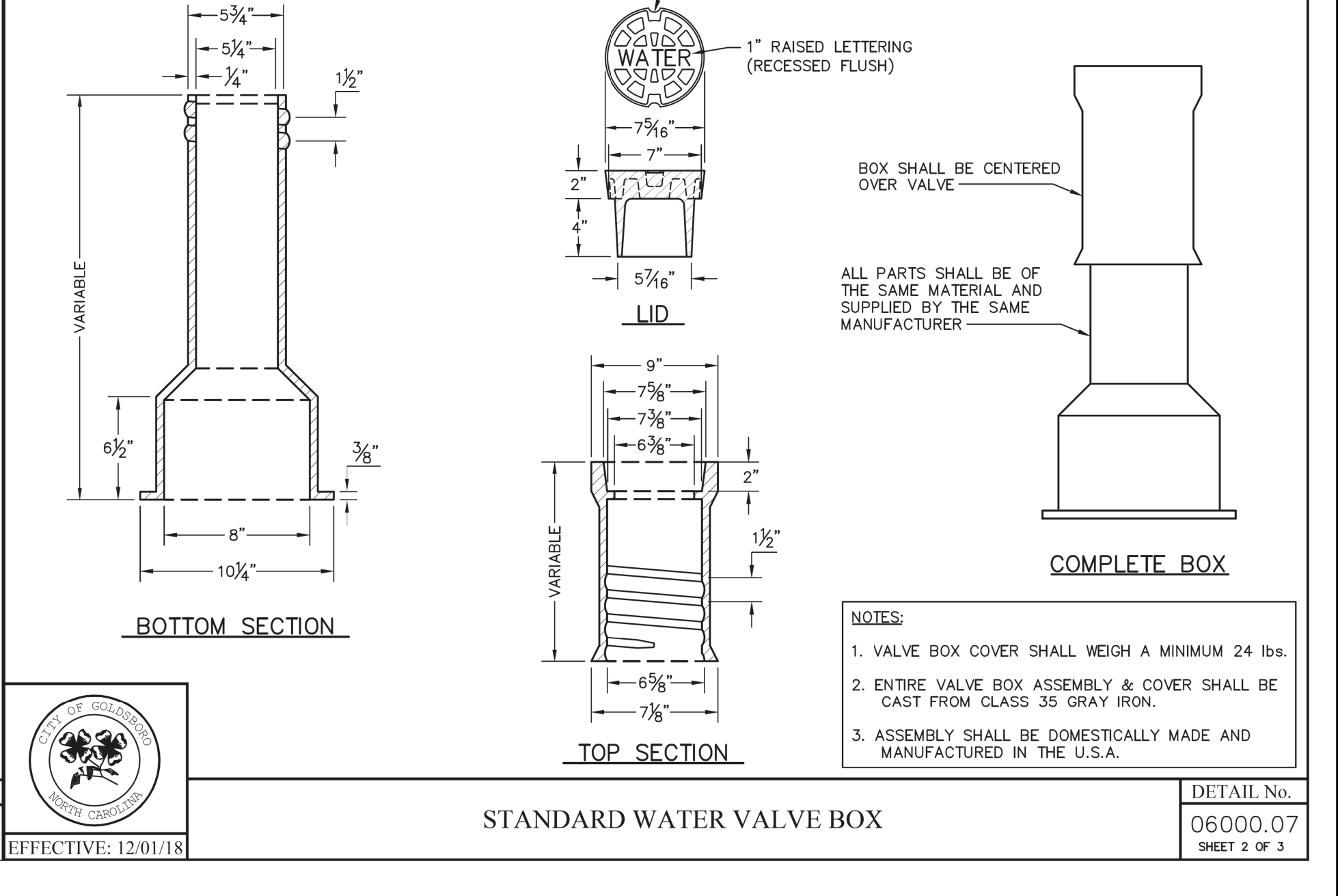
STANDARD HYDRANT LOCATION

DETAIL No. 06000.06 SHEET 1 OF 2 EFFECTIVE: 12/01/18



STANDARD WATER VALVE BOX INSTALLATION

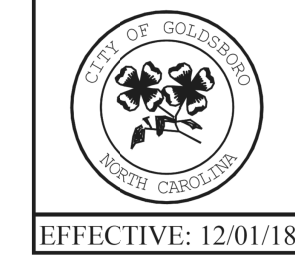
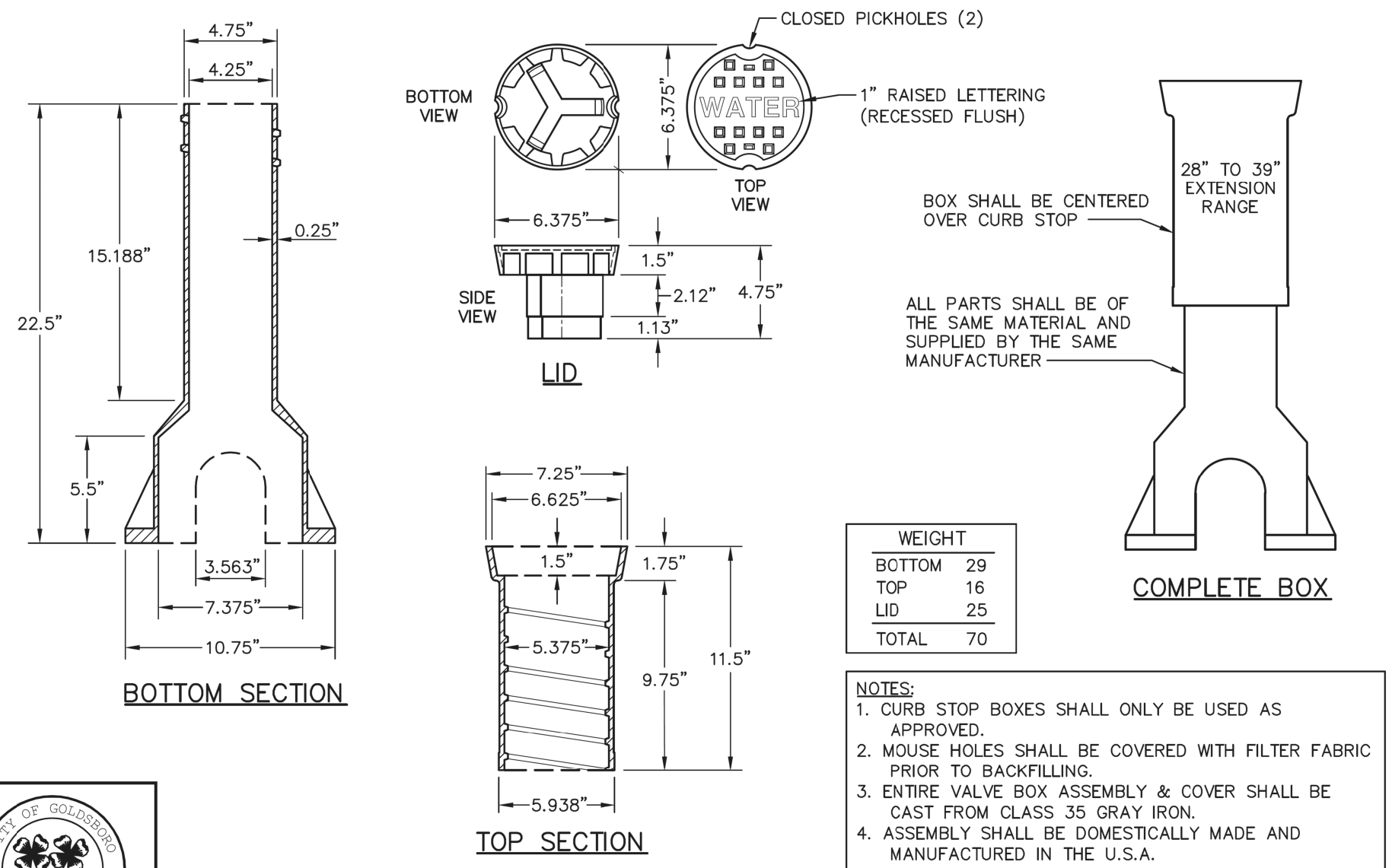
DETAIL No. 06000.07 SHEET 1 OF 3 EFFECTIVE: 12/01/18



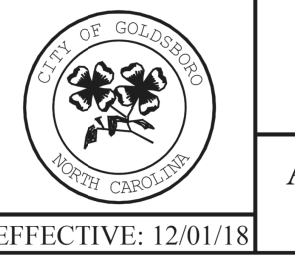
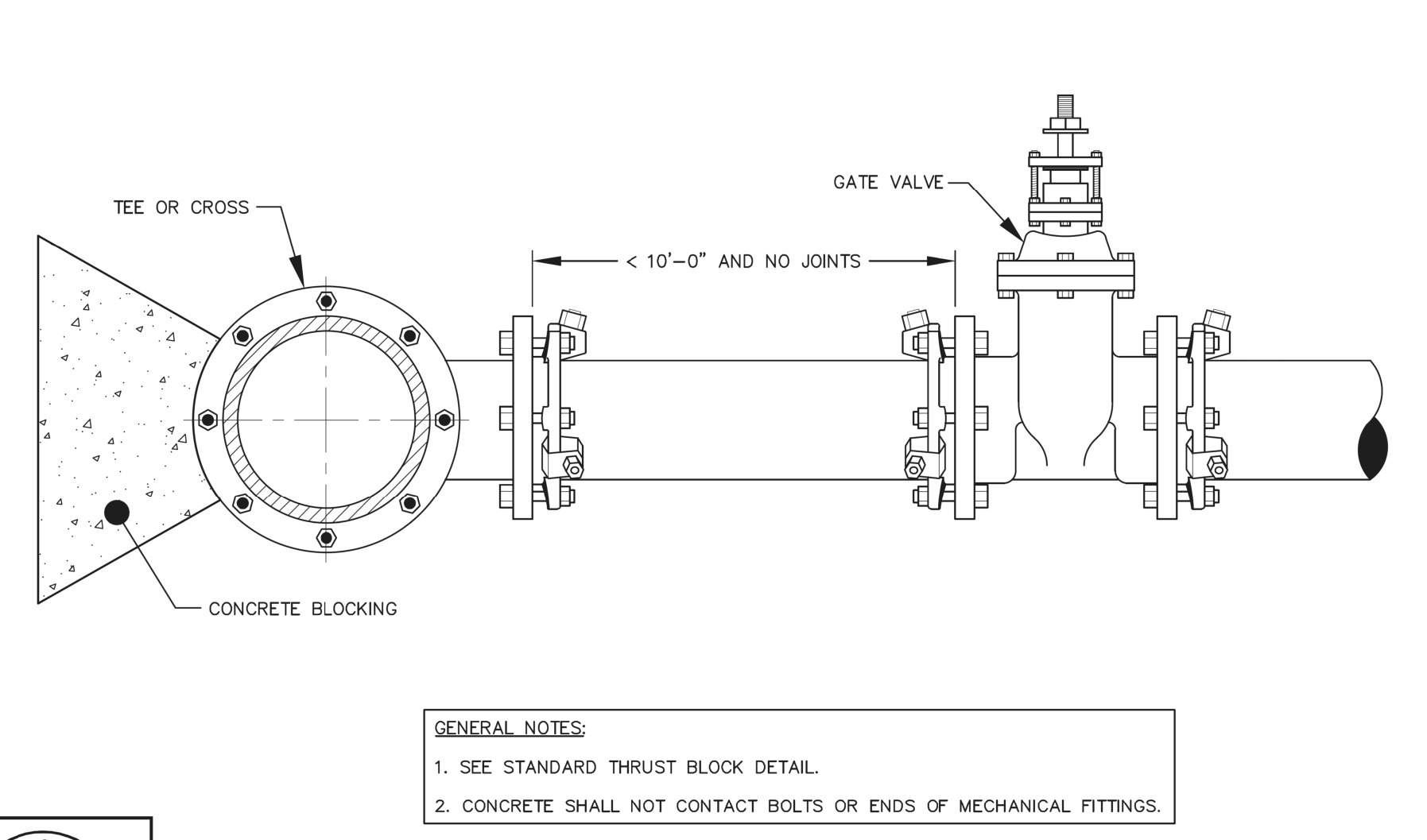
STANDARD WATER VALVE BOX

DETAIL No. 06000.07 SHEET 2 OF 3 EFFECTIVE: 12/01/18

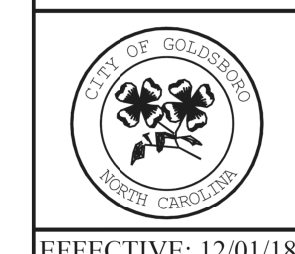
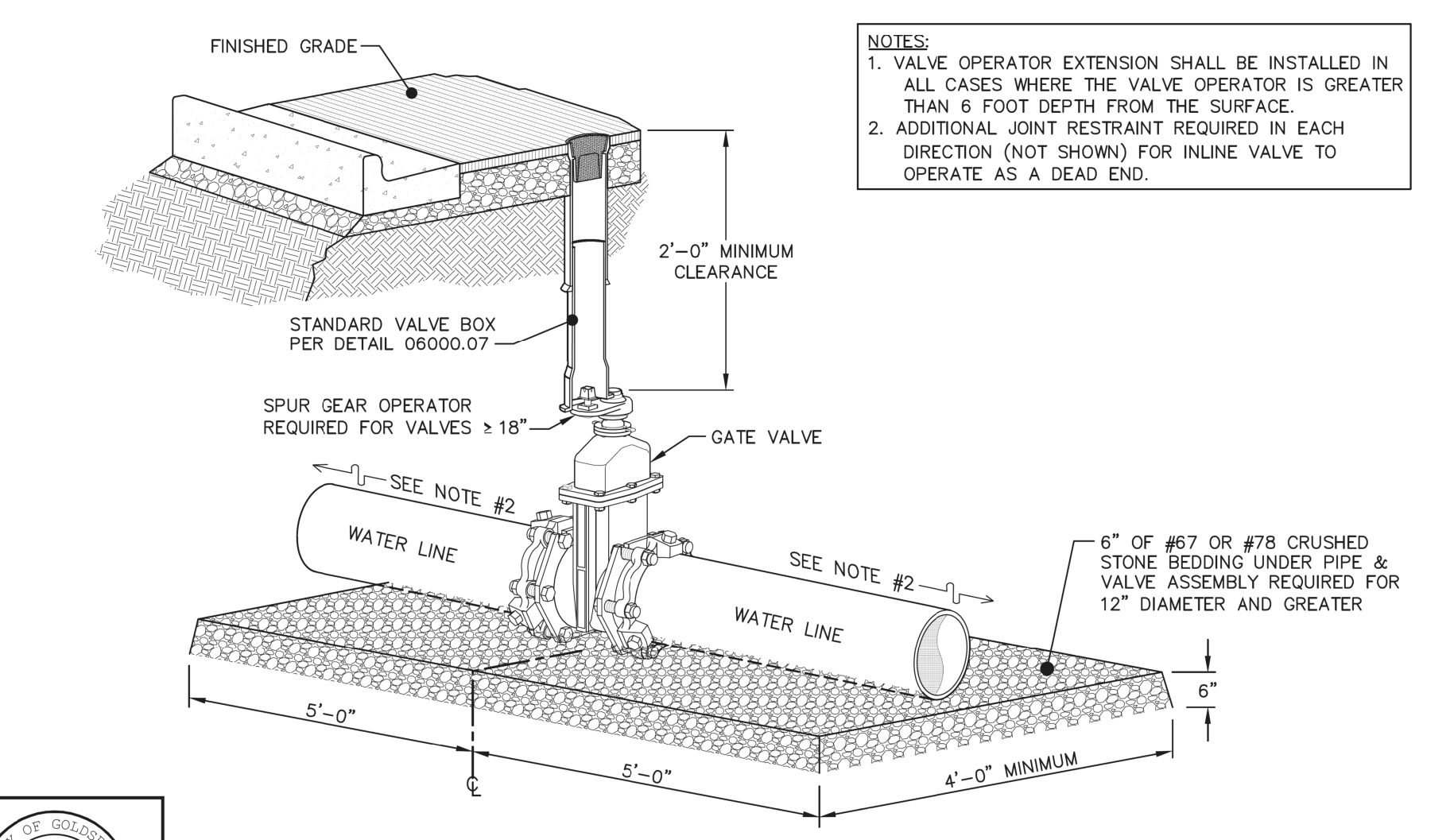
REVISIONS



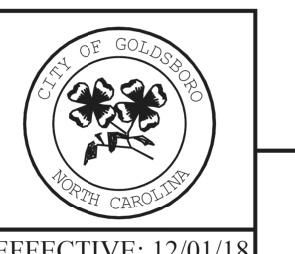
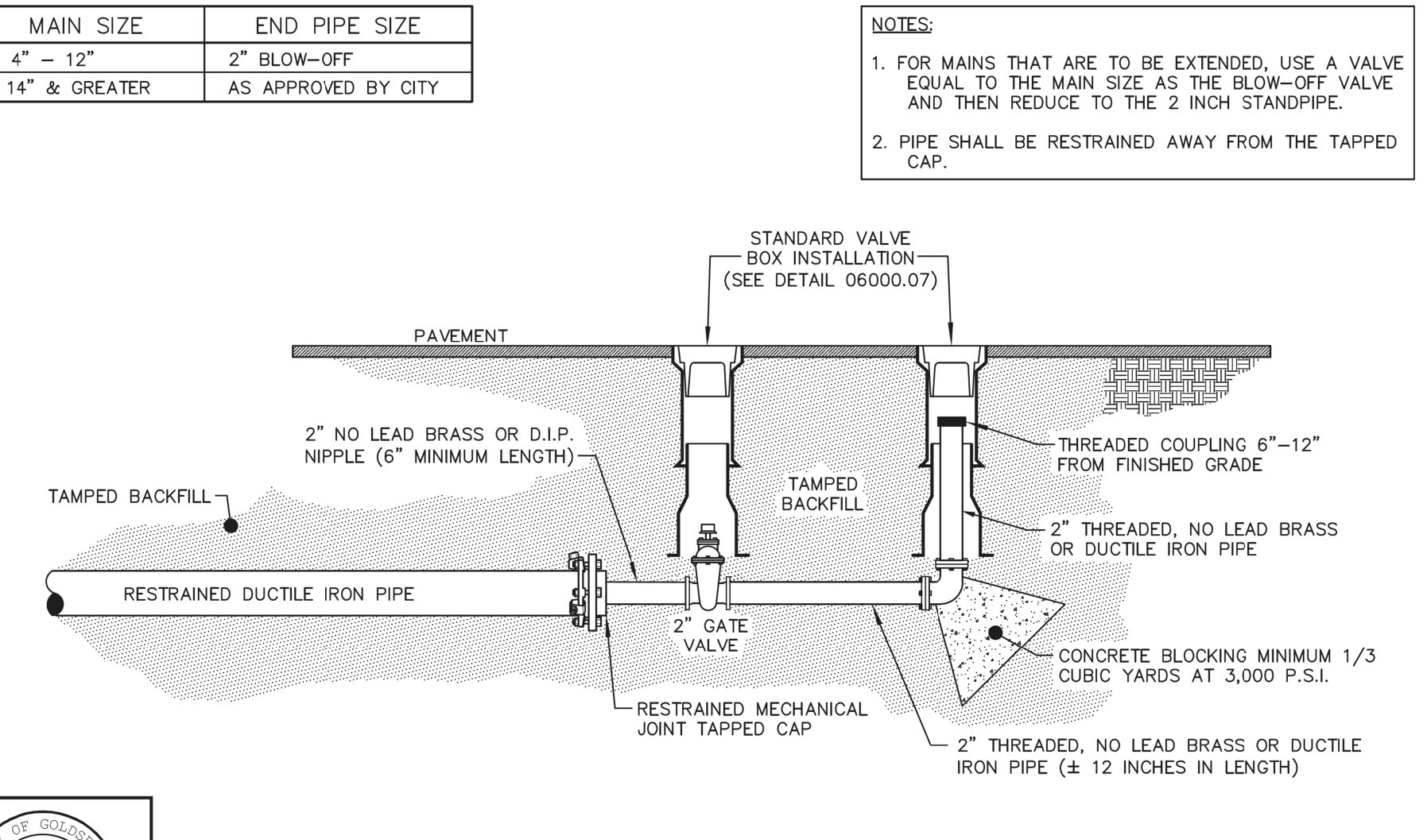
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SHEET 3 OF 3  
EFFECTIVE: 12/01/18



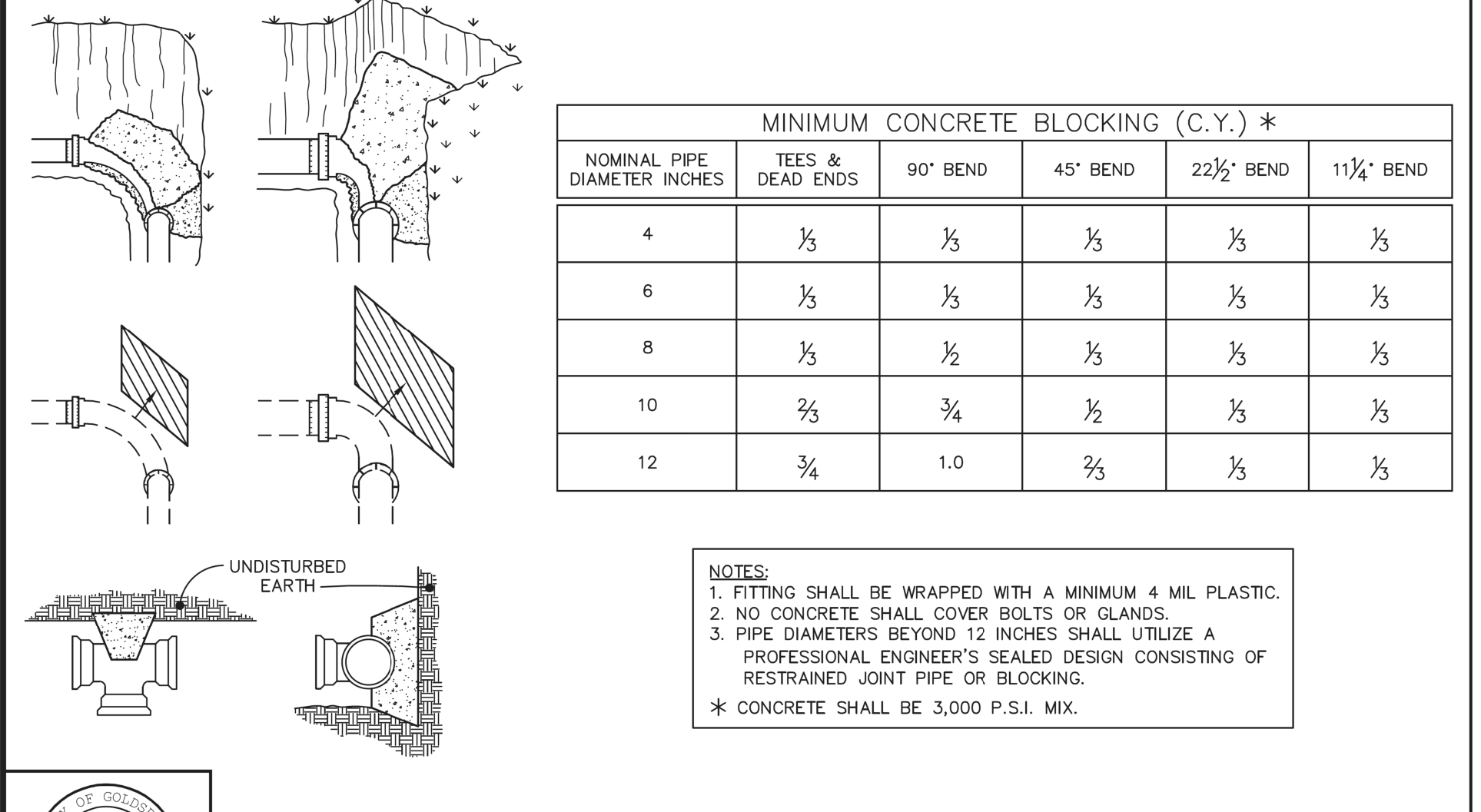
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SHEET 2 OF 2  
EFFECTIVE: 12/01/18



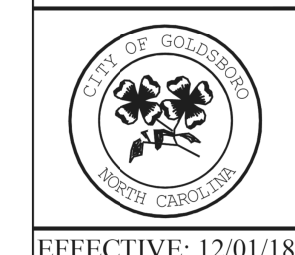
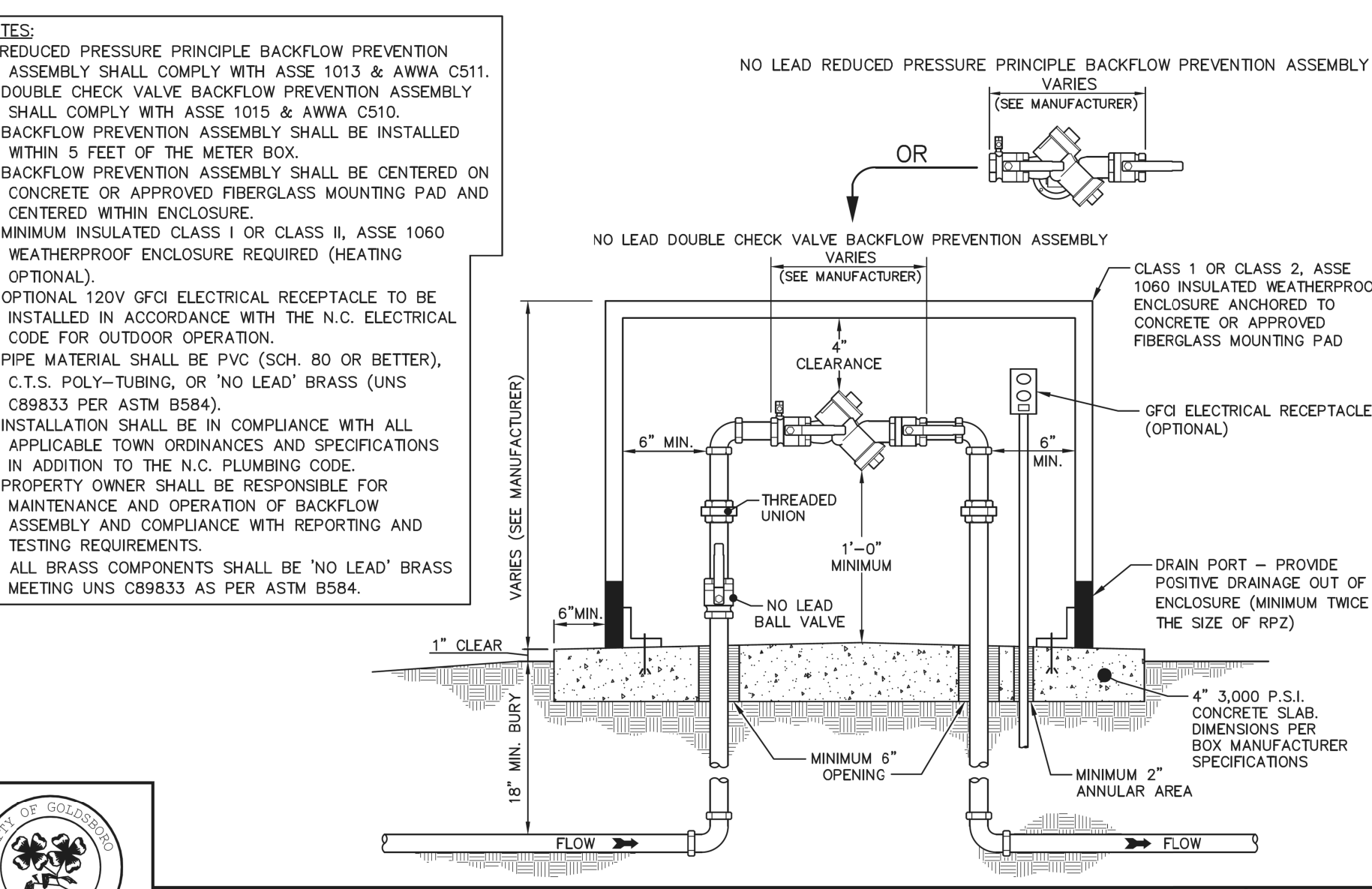
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SHEET 1 OF 2  
EFFECTIVE: 12/01/18



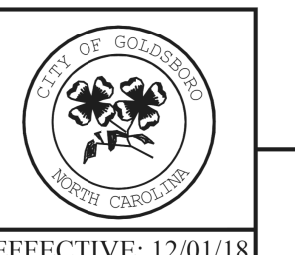
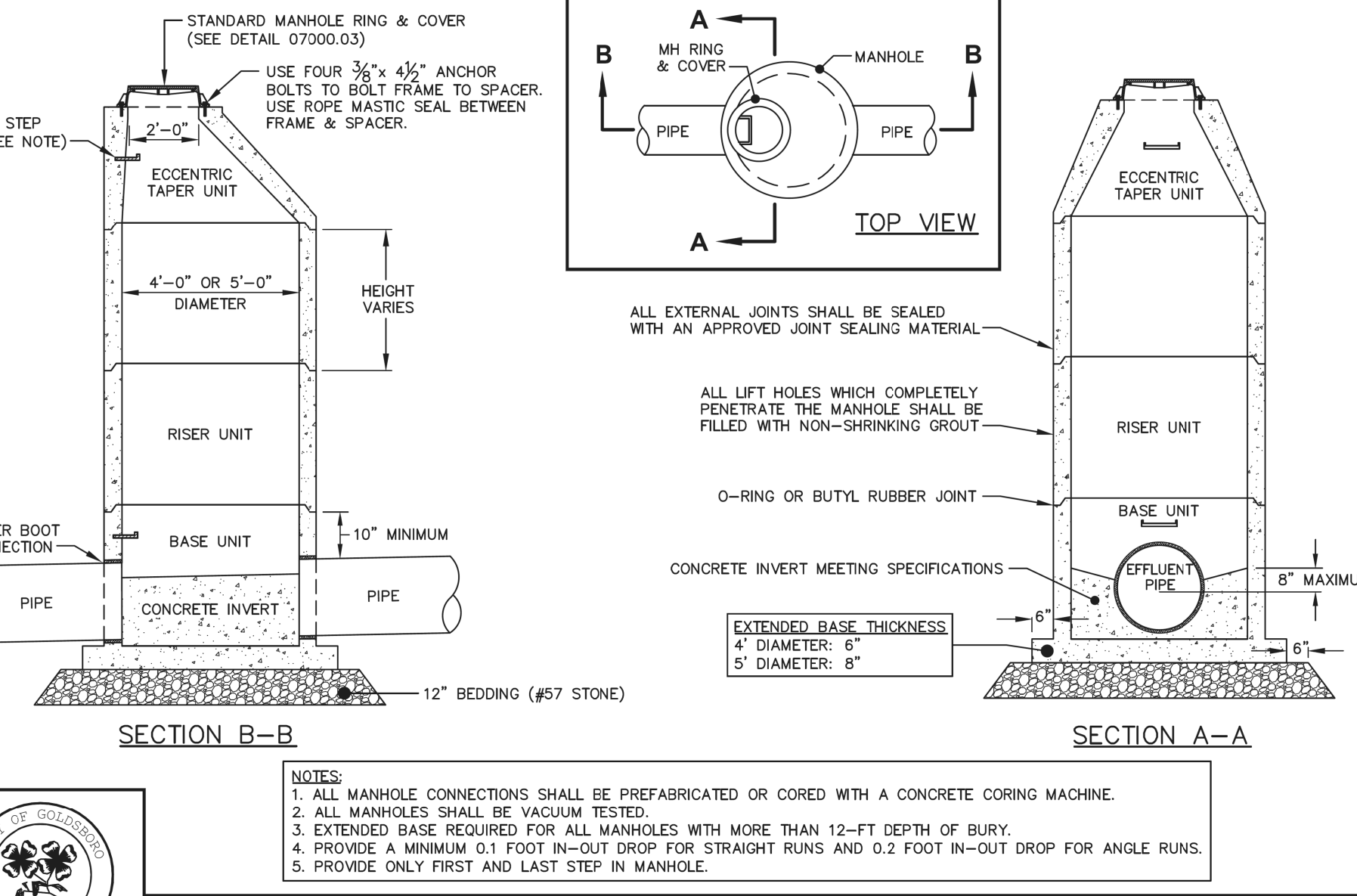
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SHEET 1 OF 1  
EFFECTIVE: 12/01/18



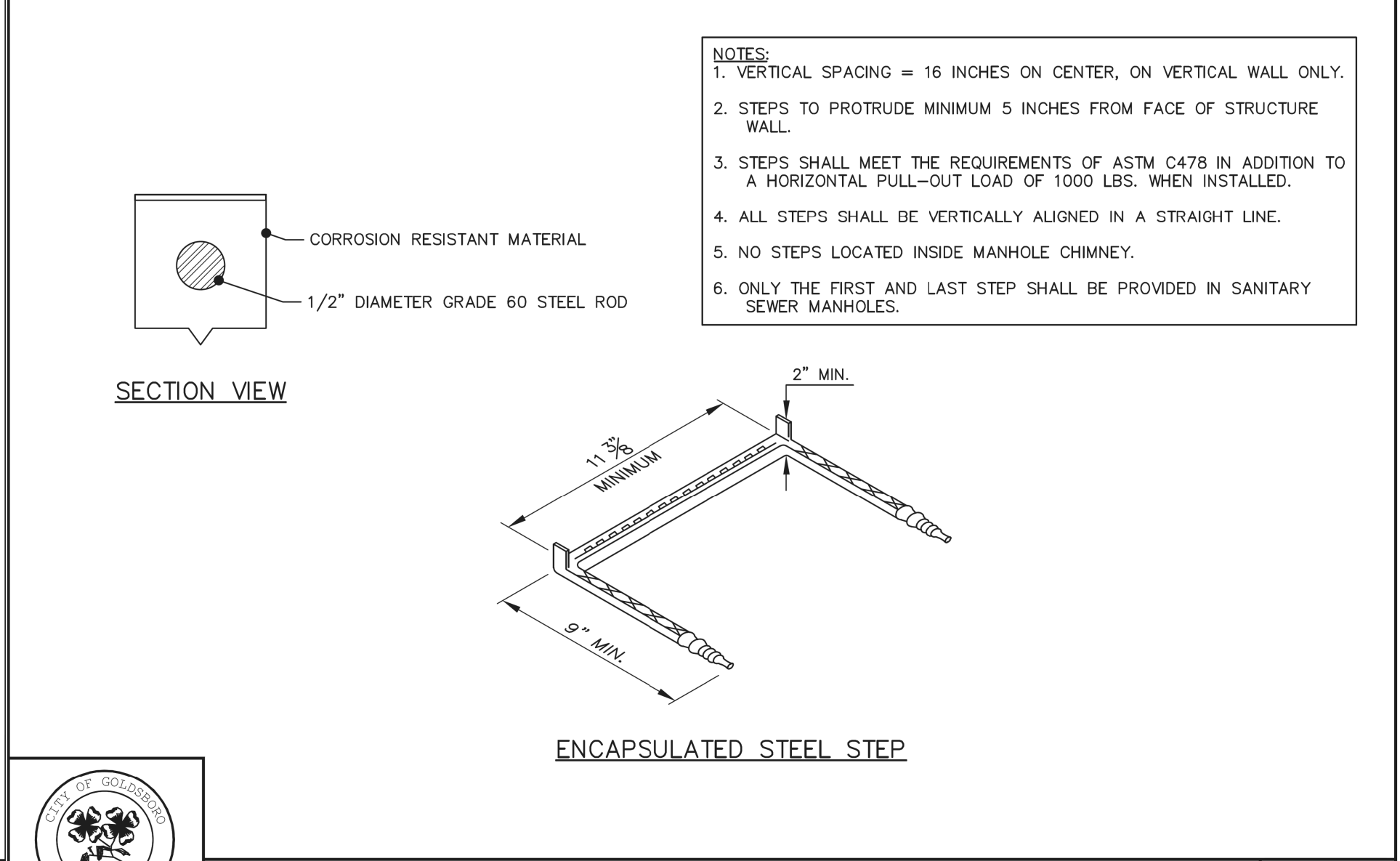
DETAIL No. 06000.12  
SHEET 1 OF 1  
EFFECTIVE: 12/01/18



DETAIL No. 07000.03  
SHEET 1 OF 1  
EFFECTIVE: 12/01/18



DETAIL No. 08000.01  
SHEET 1 OF 4  
EFFECTIVE: 12/01/18



DETAIL No. 08000.01  
SHEET 4 OF 4  
EFFECTIVE: 12/01/18

REVISIONS

5/14/99

5/14/2018

**Kimley»Horn**  
 421 FAYETTEVILLE STREET, SUITE 600  
 RALEIGH, NC 27601

PROJECT REFERENCE NO. U-5724	SHEET NO. UC-3C
UTILITY DESIGN ENGINEER	
<b>STANDARD DETAILS DESIGNED BY CITY OF GOLDSBORO AND NCDOT AS SHOWN</b>	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

**BASE UNIT INSTALLMENT**

**INVERT INSTALLMENT**

**NOTES:**  
 1. DOGHOUSE OPENINGS IN PRECAST UNITS SHALL HAVE A RADIUS OF 4 TO 8 INCHES LARGER THAN THE EXISTING PIPE DIAMETER.  
 2. CAST-IN-PLACE CONCRETE SHALL BE 4000 PSI PER ASTM C-94.  
 3. ALL PRECAST MANHOLE COMPONENTS SHALL MEET ASTM C-478.  
 4. BENCH SHALL SLOPE UPWARD FROM THE SPRINGLINE TO THE PROJECTED LEVEL OF THE PIPE CROWN OR 8 INCHES ABOVE THE SPRINGLINE, WHICHEVER IS LESS.

**STANDARD PRECAST CONCRETE DOGHOUSE MANHOLE**

DETAIL No. 08000.02  
SHEET 1 OF 1  
EFFECTIVE: 12/01/18

**PLAN VIEW**

**SECTION VIEW**

**NOTES:**  
 1. CLEANOUT SHALL BE PLACED AT RIGHT-OF-WAY OR EDGE OF EASEMENT.  
 2. DO NOT INSTALL CLEANOUT INSIDE A FENCE.  
 3. CONNECTIONS TO 15 INCH OUTFALLS AND GREATER MUST BE MADE INTO MANHOLE.  
 4. TRACER WIRE SHALL BE INSTALLED FOR ALL SERVICE CONNECTIONS FROM THE MAIN LINE TO THE CLEANOUT FOR ALL NEW CONSTRUCTION OR RETROFIT INSTALLATIONS USING OPEN TRENCH METHODS.

**STANDARD 4" SANITARY SEWER SERVICE FOR CURB AND GUTTER SECTIONS**

DETAIL No. 08000.08  
SHEET 1 OF 4  
EFFECTIVE: 12/01/18

**SECTION VIEW**

**NOTES:**  
 1. INSTALLATION TO BE THE SAME AS FOR STANDARD 4 INCH SEWER SERVICE CONNECTION (SHEET 1 OF 4).  
 2. ALL 6 INCH SEWER SERVICES MUST GO TO A MANHOLE.  
 3. TRACER WIRE SHALL BE INSTALLED FOR ALL SERVICE CONNECTIONS FROM THE MAIN LINE TO THE CLEANOUT FOR ALL NEW CONSTRUCTION OR RETROFIT INSTALLATIONS USING OPEN TRENCH METHODS.

**STANDARD SANITARY SEWER SERVICE MANHOLE TAP**

DETAIL No. 08000.08  
SHEET 3 OF 4  
EFFECTIVE: 12/01/18

**PLAN VIEW**

**SECTION VIEW**

**NOTES:**  
 1. CLEANOUT SHALL BE PLACED AT RIGHT-OF-WAY OR EDGE OF EASEMENT.  
 2. DO NOT INSTALL CLEANOUT INSIDE A FENCE.  
 3. CONNECTIONS TO 15 INCH OUTFALLS AND GREATER MUST BE MADE INTO MANHOLE.  
 4. MARKING TAPE SHALL BE INSTALLED FOR ALL SERVICE CONNECTIONS FROM THE MAIN LINE TO THE CLEANOUT FOR ALL NEW CONSTRUCTION OR RETROFIT INSTALLATIONS USING OPEN TRENCH METHODS.

**STANDARD 4" SANITARY SEWER SERVICE FOR DITCH SECTION**

DETAIL No. 08000.08  
SHEET 4 OF 4  
EFFECTIVE: 12/01/18

**STANDARD BEDDING FOR 4" TO 14" DEPTHS**

**SPECIAL BEDDING FOR 14"-20" DEPTHS**

**NOTES:**  
 1. EMBEDMENT MATERIAL MUST BE CLASS I (#67 OR #78M WASHED STONE IS TYPICALLY USED).  
 2. EMBEDMENT MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY FOR CLASS I MATERIAL.  
 3. UNSTABLE TRENCH BOTTOMS SHALL HAVE AN APPROVED FOUNDATION PLAN PRIOR TO PIPELINE INSTALLATION.  
 4. ALL SANITARY SEWER LINES LESS THAN 4 FEET AND OVER 20 FEET IN DEPTH MUST BE DUCTILE IRON PIPE.

**BEDDING FOR PVC SANITARY SEWER PIPE**

DETAIL No. 08000.10  
SHEET 1 OF 1  
EFFECTIVE: 12/01/18

**SPECIFICATION TIME (MIN:SEC) REQUIRED FOR PRESSURE DROP FROM 3-1/2 TO 2-1/2 PSIG**

LENGTH OF TEST SECTION	NOMINAL PIPE DIAMETER (INCHES)															
	8	10	12	14	15	16	18	20	21	24	27	30	36	42		
25	7:33	9:26	11:20	13:13	14:10	15:11	17:00	18:53	19:48	22:40	25:30	28:19	34:00	39:40		
50	7:33	9:26	11:20	13:13	14:10	15:11	17:00	18:53	19:48	22:40	25:30	28:19	34:00	39:40		
75	7:33	9:26	11:20	13:13	14:10	15:11	17:00	18:53	19:48	22:40	25:30	28:19	34:00	52:35		
100	7:33	9:26	11:20	13:13	14:10	15:11	17:00	18:53	19:48	22:47	25:51	35:37	51:17	69:48		
125	7:33	9:26	11:20	13:13	14:10	15:11	17:00	19:47	21:48	28:29	36:03	44:31	64:06	87:15		
150	7:33	9:26	11:20	13:13	14:10	15:12	19:14	23:44	26:10	34:11	43:16	53:25	76:55	104:42		
175	7:33	9:26	11:20	13:34	15:35	17:44	22:26	27:42	30:32	39:53	50:28	62:19	89:45	122:10		
200	7:33	9:26	11:24	15:31	17:48	20:16	25:39	31:39	34:54	45:35	57:42	71:13	102:36	139:36		
225	7:33	9:26	12:49	17:27	20:02	22:48	28:51	35:37	39:16	51:17	64:54	80:08	115:24	157:03		
250	7:33	9:53	14:15	19:23	22:16	25:20	32:03	39:34	43:37	56:58	72:07	89:02	128:12	174:30		
275	7:33	10:52	15:40	21:20	24:29	27:52	35:16	43:31	47:59	62:40	79:19	97:56	141:00	191:57		
300	7:35	11:52	17:06	23:16	26:43	30:23	38:28	47:29	52:21	68:22	86:32	106:48	153:54	209:25		
350	8:52	13:51	19:57	27:09	31:10	35:27	44:52	55:24	61:05	79:46	101:00	124:42	179:30	244:19		
400	10:07	15:50	22:48	31:01	35:37	40:31	51:17	63:19	69:48	91:10	115:24	142:30	205:06	279:13		
450	11:23	17:48	25:39	34:54	40:04	45:35	57:42	71:13	78:31	102:36	129:48	160:18	230:48	314:07		
500	12:39	19:47	28:30	38:47	44:31	50:39	64:06	79:08	87:15	114:00	144:12	178:06	256:24	349:02		

**STANDARD AIR TEST TABLE**

DETAIL No. 08000.12  
SHEET 1 OF 1  
EFFECTIVE: 12/01/18

**PLAN VIEW**

**SECTION VIEW**

**NOTES:**  
 \*LOCATED IN FIRST MANHOLE FROM TIE-IN. SOLID WALL MUST BE BUILT BEFORE LAYING NEXT RUN OF PIPE.

**SANITARY SEWER PROTECTION DURING CONSTRUCTION**

DETAIL No. 08000.13  
SHEET 1 OF 1  
EFFECTIVE: 12/01/18

**PLAN OF FRAME**

**PLAN OF COVER**

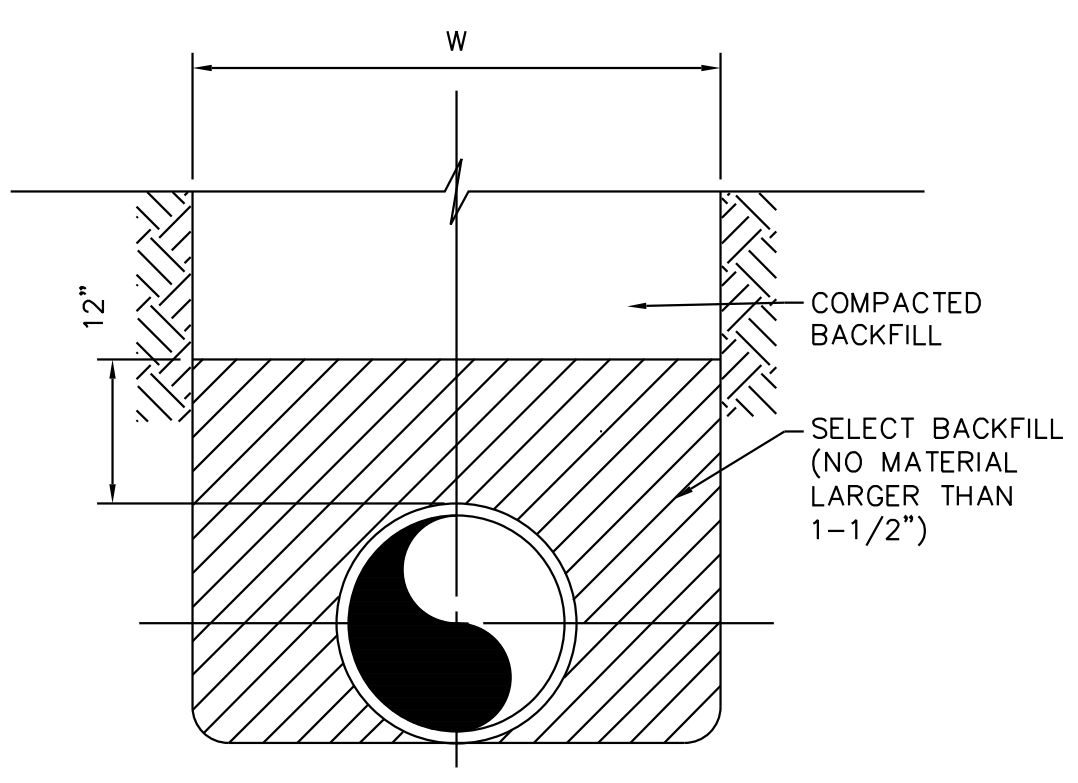
**SECTION B-B**

**MINIMUM WEIGHTS - LBS.**  
 FRAME - 180  
 COVER - 120  
 TOTAL - 300

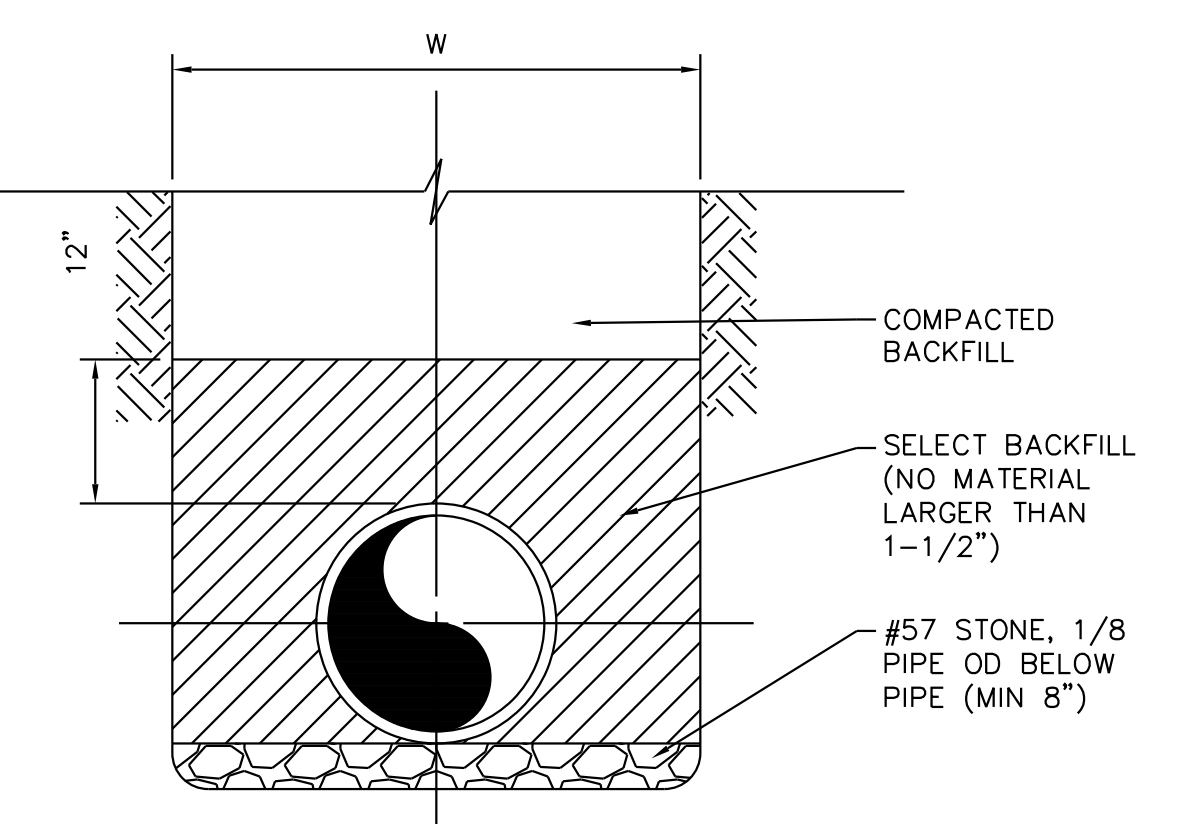
**ROADWAY STANDARD DRAWING FOR  
MANHOLE FRAME AND COVER**

STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

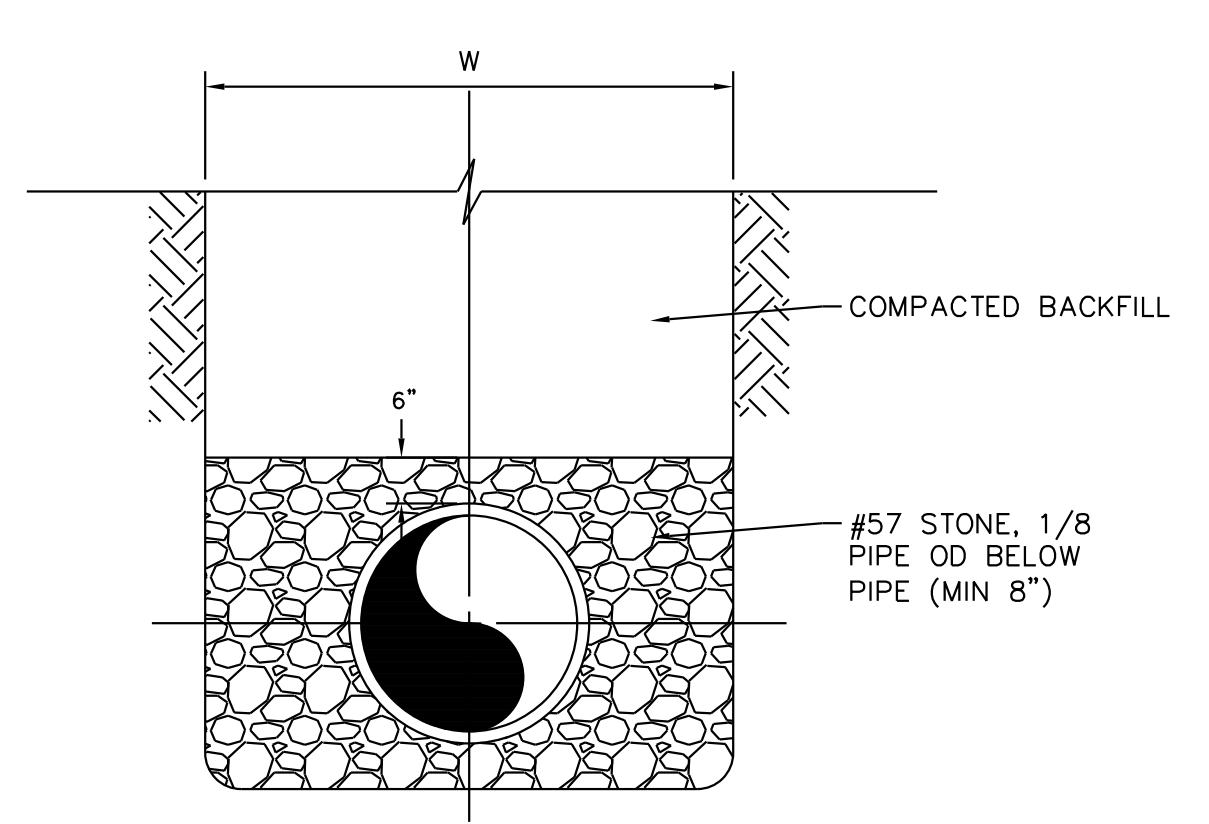
SHEET 1 OF 1  
**840.54**



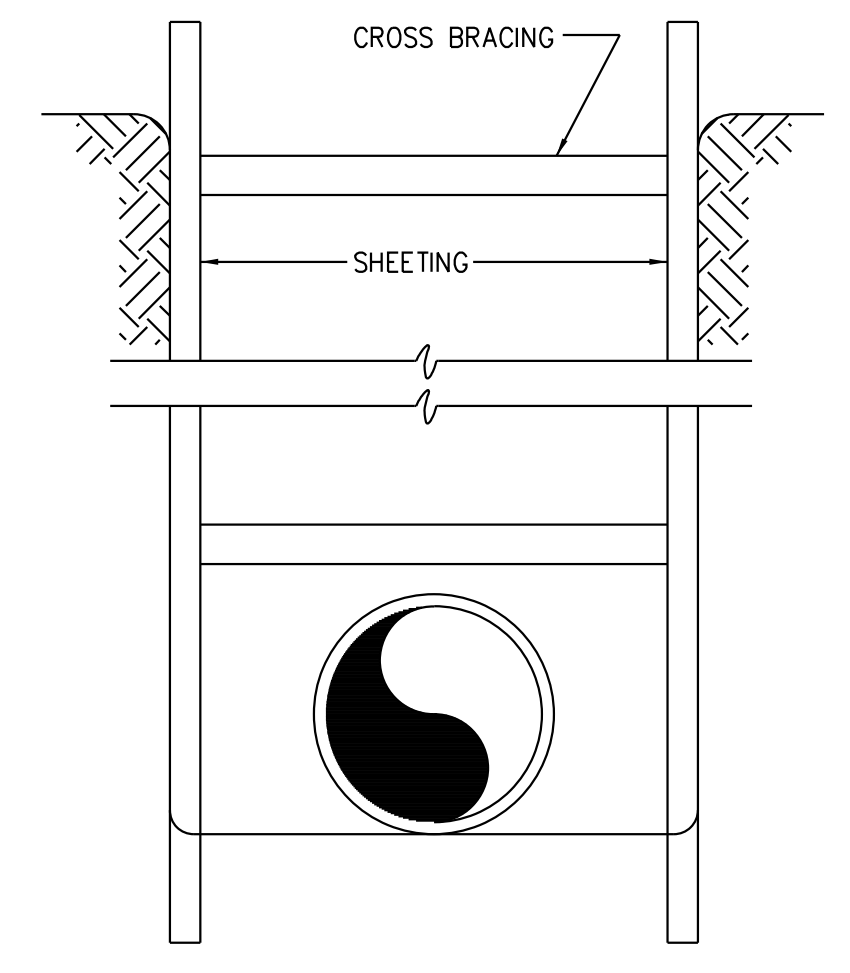
**1 BEDDING TYPE A - IN EARTH**  
 UC-3D SCALE: N.T.S.



**2 BEDDING TYPE B**  
 UC-3D SCALE: N.T.S.



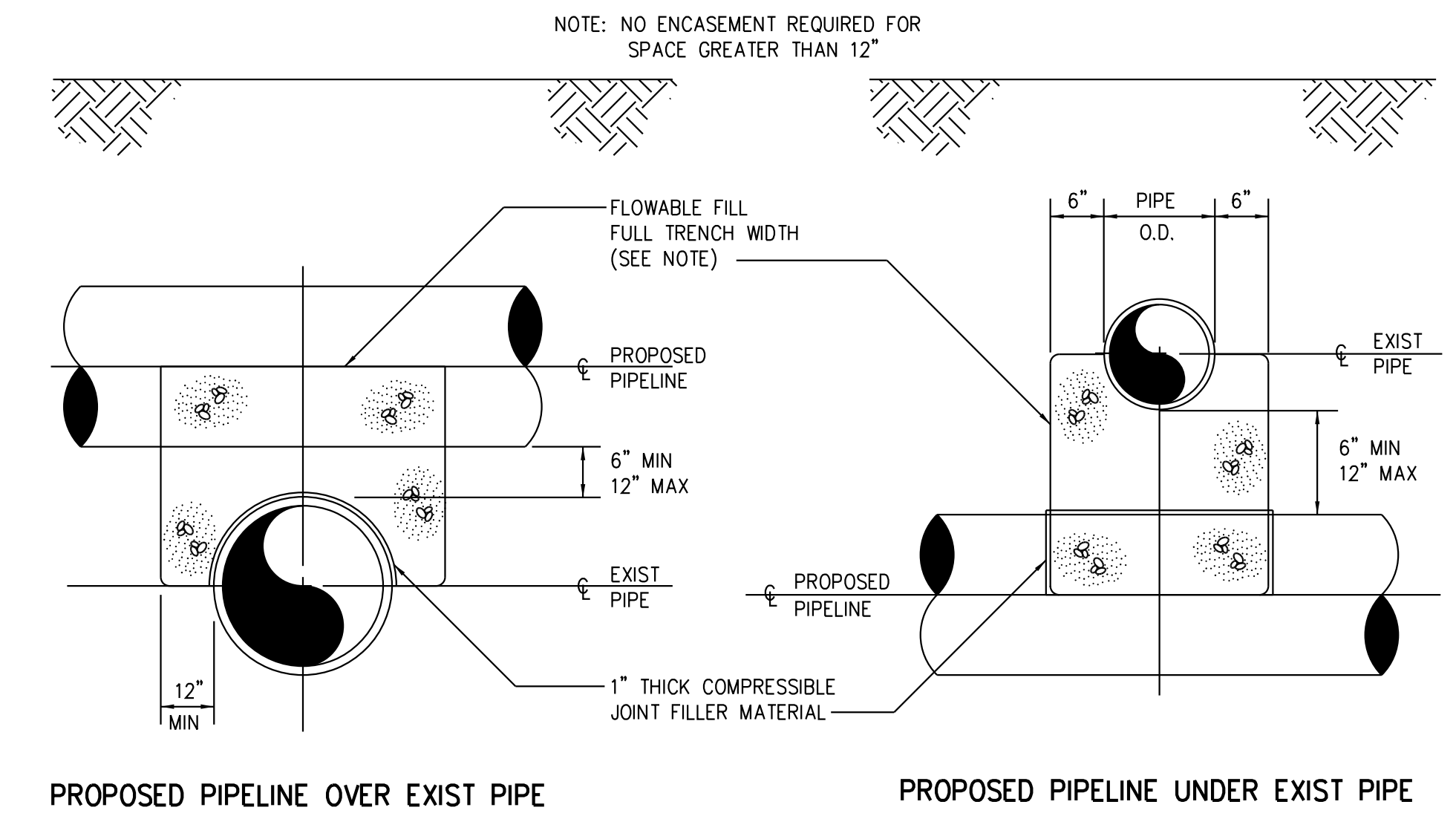
**3 BEDDING TYPE E**  
 UC-3D SCALE: N.T.S.



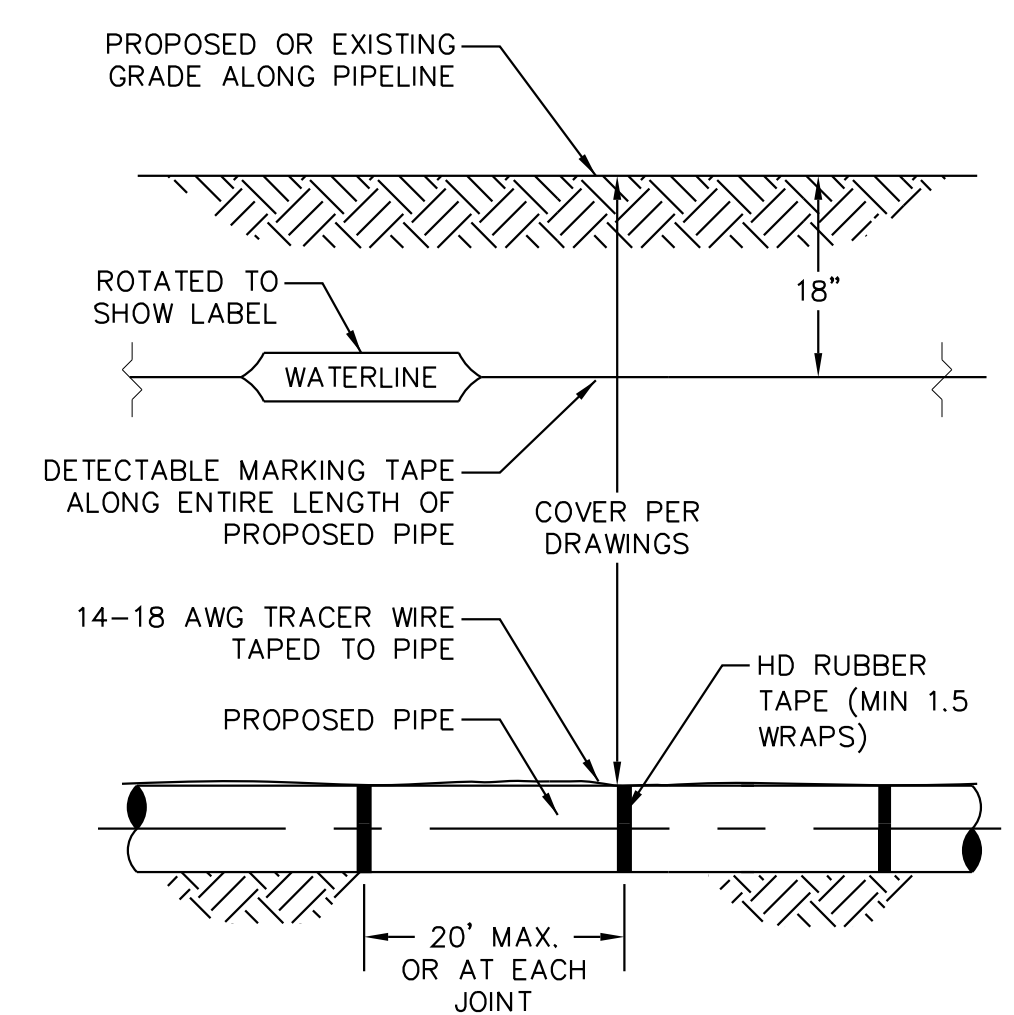
**4 TYPICAL SHEETING**  
 UC-3D SCALE: N.T.S.

TRENCH EXCAVATION LIMITS		
INTERNAL DIAMETER OF PIPE	WIDTH OF TRENCH	
	MAX	W=MIN
4"-6"	3'-9"	2'-0"
8"-10"	3'-9"	2'-2"
12"	3'-9"	O.D.+2'
14"-16"	4'-2"	O.D.+2'
18"	4'-4"	O.D.+2'
20"-21"	4'-8"	O.D.+2'
24"	4'-11"	O.D.+2'
27"	5'-9"	O.D.+2'
30"	6'-7"	O.D.+2'
36"	7'-4"	O.D.+2'
42"	8'-2"	O.D.+2'
48"	8'-9"	O.D.+2'
54"	9'-4"	O.D.+2'
60"	9'-10"	O.D.+2'
72"	11'-0"	O.D.+2'
78"	11'-8"	O.D.+2'
84"	12'-0"	O.D.+2'
90"	12'-6"	O.D.+2'
96"	13'-0"	O.D.+2'
108"	14'-0"	O.D.+2'
DEPTH OF CUT	S MAXIMUM PAVEMENT REPLACEMENT WIDTH	
0-6'	S=W+4'	
>6-8'	S=W+8'	
>8-10'	S=W+12'	
>10-12'	S=W+16'	
>12-14'	S=W+20'	
>14-16'	S=W+24'	
>16-18'	S=W+28'	
>18'	S=W+32'	

W = TRENCH WIDTH AT BOTTOM OF PIPE. TRENCH SIDE SLOPES SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.

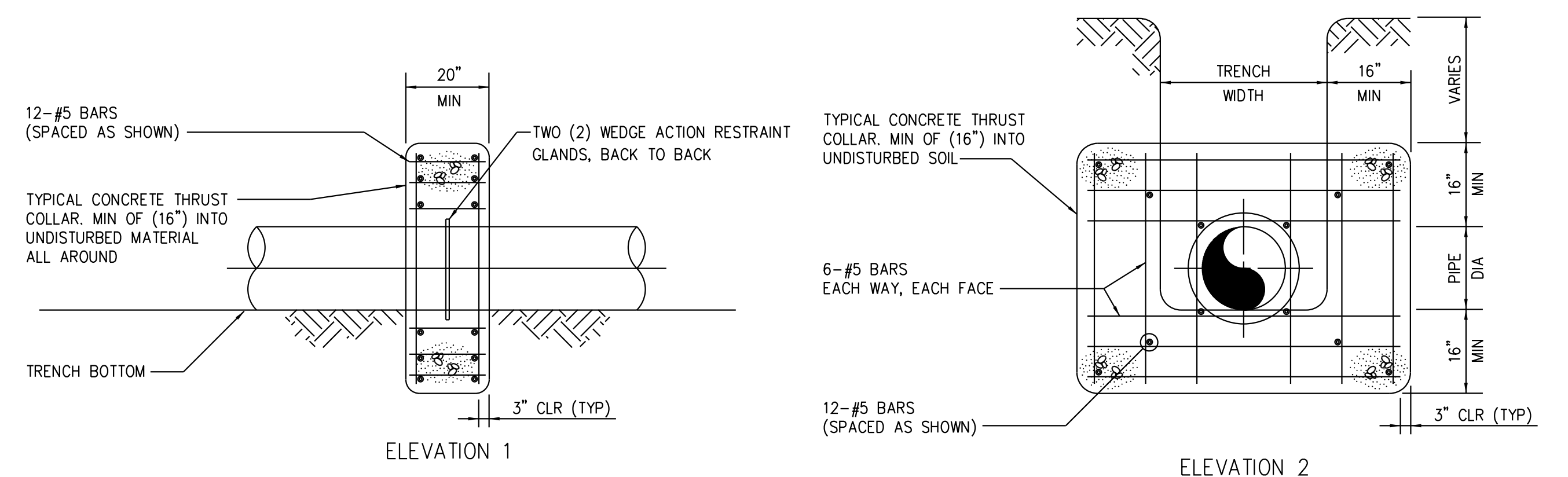


**6 PROPOSED PIPELINE OVER/UNDER EXIST PIPE**  
 UC-3D SCALE: N.T.S.



**7 DETECTABLE MARKING TAPE AND WIRE**  
 UC-3D SCALE: N.T.S.

**5 TRENCH EXCAVATION LIMITS**  
 UC-3D SCALE: N.T.S.



NOTE:  
 1. DO NOT TIGHTEN WEDGE RESTRAINT ON ASBESTOS CEMENT PIPE OR CAST IRON PIPE.

**8 THRUST COLLAR**  
 UC-3D SCALE: N.T.S.

REVISIONS

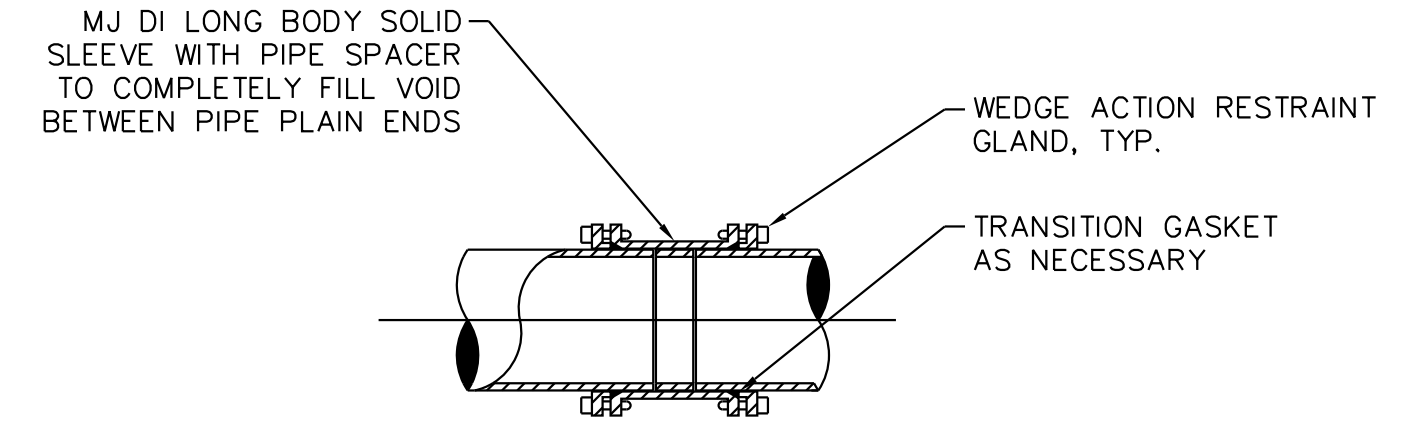


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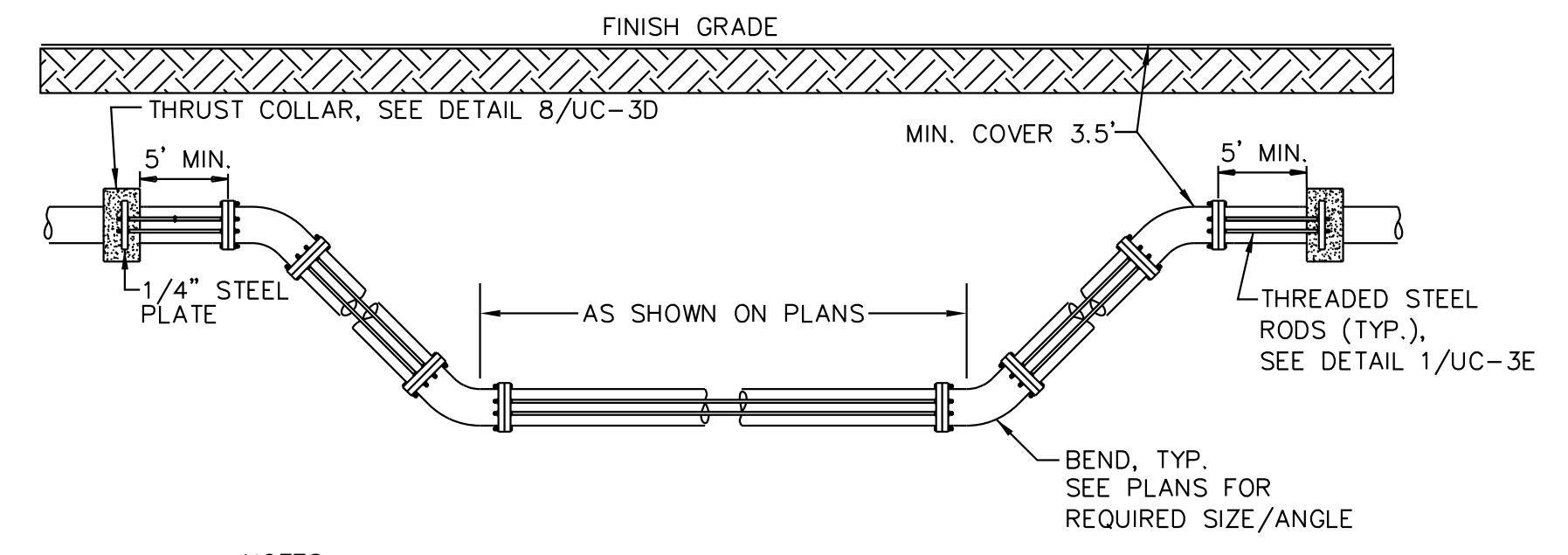
DESIGN PRESSURE 200 PSI		
PIPE SIZE	ROD DIA	NUMBER REQ'D
4" TO 8"	3/4"	2
10" TO 20"	3/4"	4
24"	3/4"	6
30"	1"	6
36"	1"	8

1. THREADED RODS FOR PIPE DIAMETERS LARGER THAN 12" SHALL BE ASTM A193 (GRADE B7). ALL OTHER THREADED RODS SHALL BE ASTM A36.
2. ALL HARDWARE IN CONTACT WITH SOIL SHALL BE PAINTED WITH TWO COATS HIGH BUILD COAL TAR EPOXY (MIN 26 MIL DRY FILM THICKNESS)
5. RODS SHALL BE EQUALLY SPACED AROUND PIPE.

**1** **THREADED ROD SCHEDULE**  
 UC-3E SCALE: N.T.S.

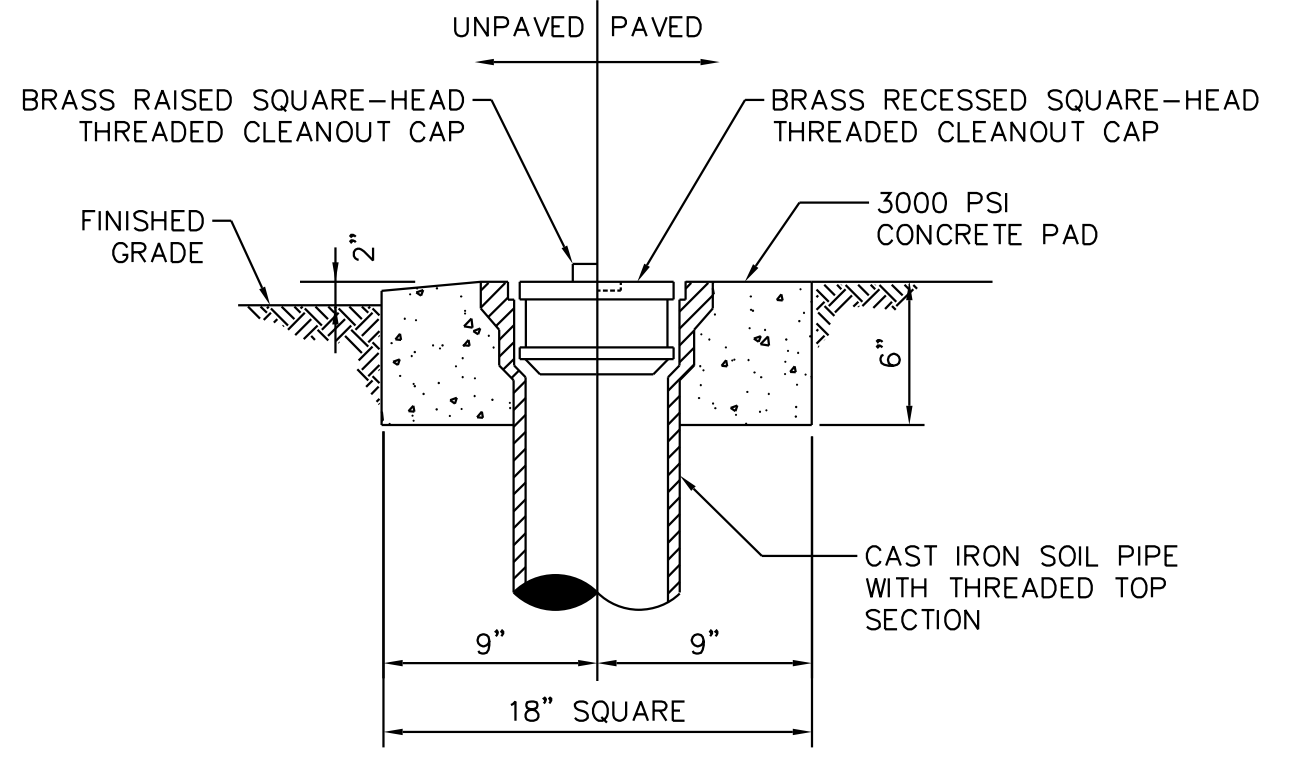


**2** **RESTRAINED MJ SOLID SLEEVE**  
 UC-3E SCALE: N.T.S.

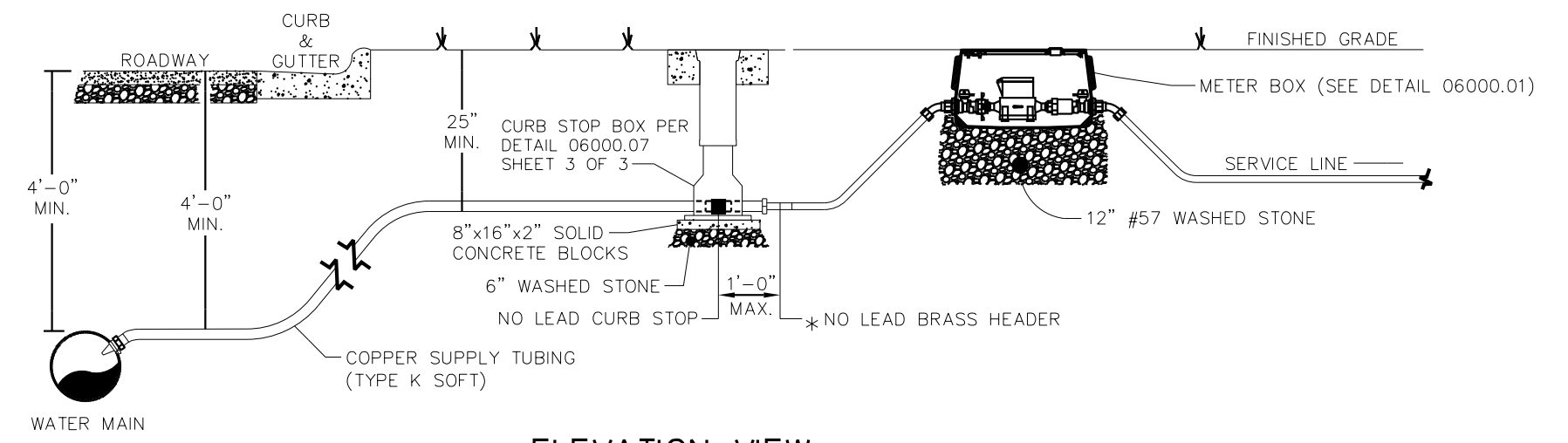


- NOTES:
1. ONCE INSTALLED AND TIGHT, THE STEEL RODS AND BOLTS SHALL BE COATED WITH 2 COATS OF BITUMINOUS BASE PAINT.
  2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS.
  3. MEGALUGS OR RESTRAINED JOINT PIPE AND FITTINGS ARE ALLOWED IN LIEU OF RODDING.
  4. THRUST COLLARS SHALL BE IN ACCORDANCE WITH DETAIL 8/UC-3D.
  5. ALL PIPE AND FITTINGS BETWEEN THRUST COLLARS SHALL BE RODDED.

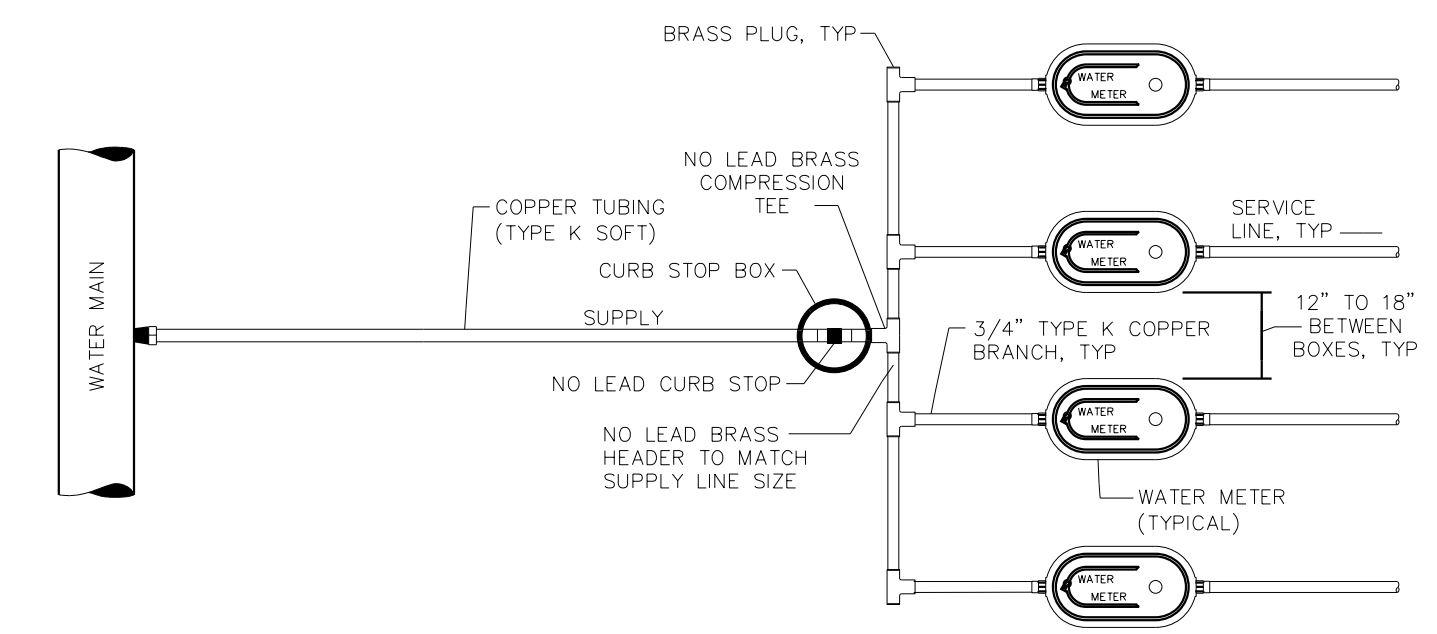
**3** **STANDARD VERTICAL BEND**  
 UC-3E SCALE: N.T.S.



**4** **SANITARY SEWER CLEANOUT TOP**  
 UC-3E SCALE: N.T.S.



**ELEVATION VIEW**



**PLAN VIEW**

MAXIMUM BRANCH CONNECTIONS	
SUPPLY LINE SIZE (INCHES)	MAXIMUM NUMBER OF BRANCHES
1	1
1.5	2
2	4

- NOTES:
1. THERE SHALL BE NO MULTIPLE CONNECTIONS FROM EXISTING 3/4 INCH SERVICE LINES.
  2. METER BOXES SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC.
  3. NO LEAD CURB STOP SHALL BE CENTERED ON MULTIPLE BRANCH SERVICE.
  4. ALL BRASS COMPONENTS SHALL BE 'NO LEAD' BRASS MEETING UNS C89833 AS PER ASTM B584.

**5** **MULTI-GANG METER ASSEMBLY**  
 UC-3E SCALE: N.T.S.

REVISIONS

5/14/2020

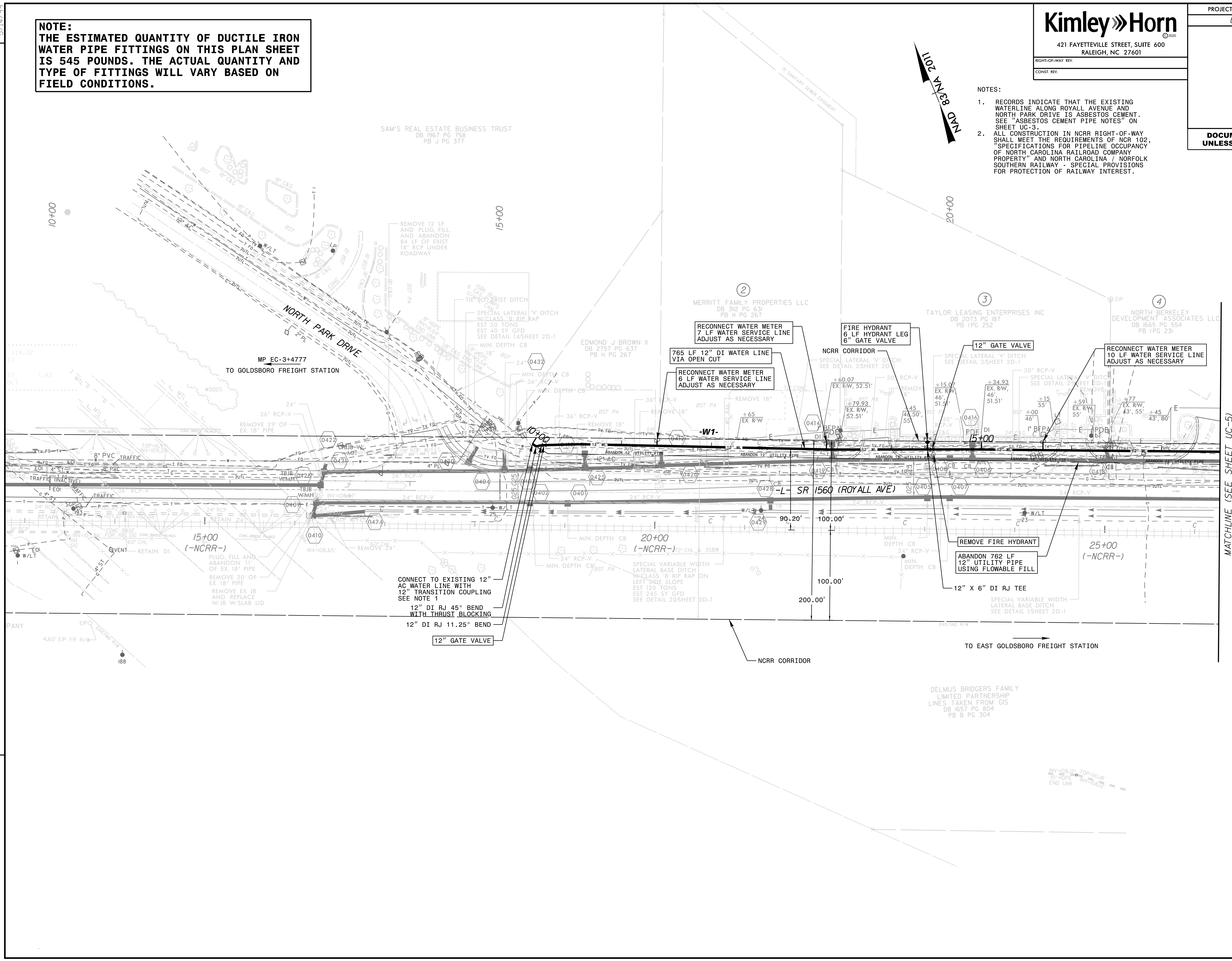
**NOTE:**  
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 545 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

**Kimley»Horn**  
 421 FAYETTEVILLE STREET, SUITE 600  
 RALEIGH, NC 27601

PROJECT REFERENCE NO. U-5724	SHEET NO. UC-4
UTILITY DESIGN ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

- NOTES:
- RECORDS INDICATE THAT THE EXISTING WATERLINE ALONG ROYALL AVENUE AND NORTH PARK DRIVE IS ASBESTOS CEMENT. SEE "ASBESTOS CEMENT PIPE NOTES" ON SHEET UC-3.
  - ALL CONSTRUCTION IN NCRR RIGHT-OF-WAY SHALL MEET THE REQUIREMENTS OF NCR 102, "SPECIFICATIONS FOR PIPELINE OCCUPANCY OF NORTH CAROLINA RAILROAD COMPANY PROPERTY" AND NORTH CAROLINA / NORFOLK SOUTHERN RAILWAY - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTEREST.

REVISIONS



MATCHLINE (SEE SHEET UC-5)  
 -WI- STA 17+65

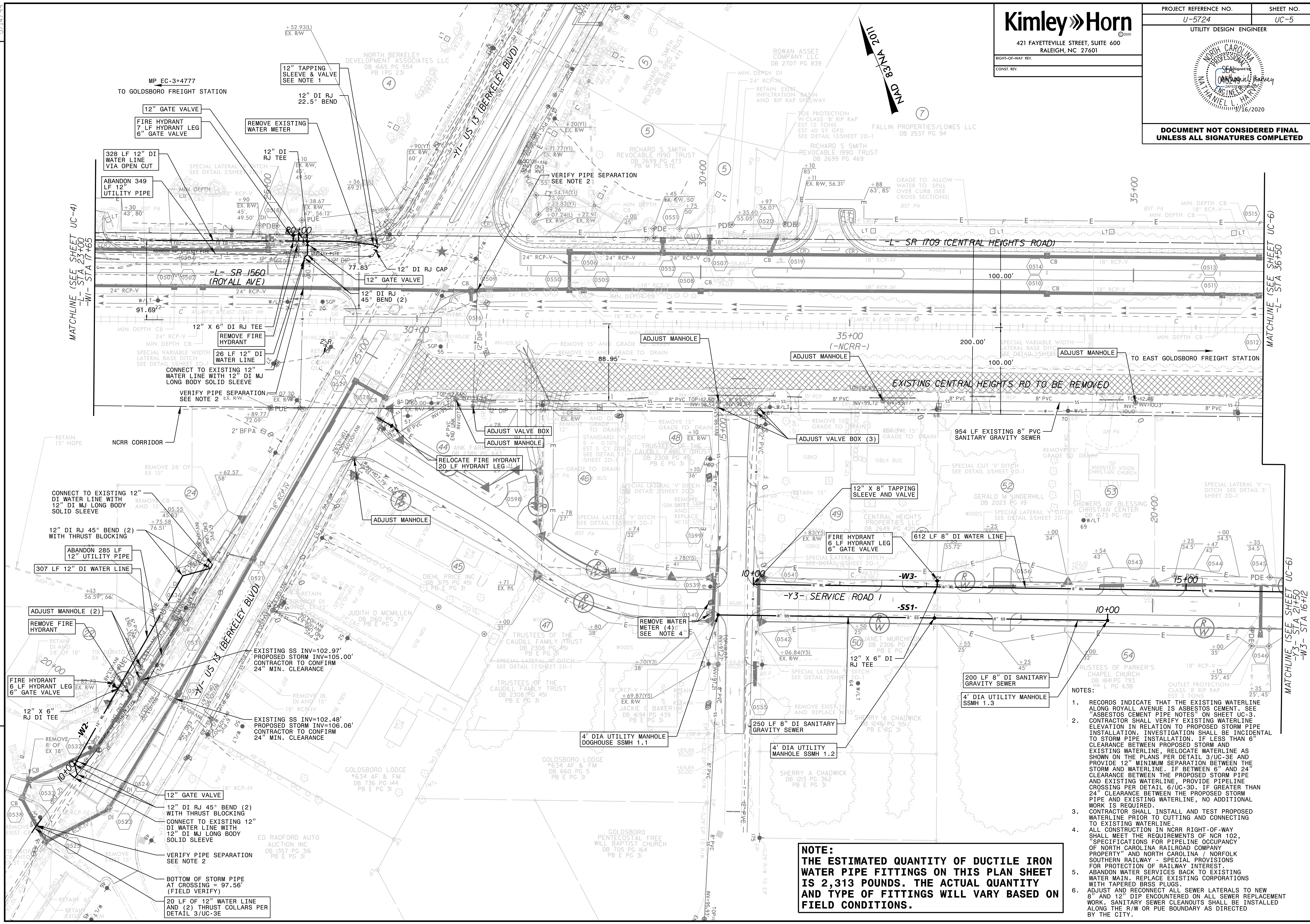
INV=108.12' TOP=101.8'  
 5' HYPE = INV=108.72' =

**Kimley»Horn**  
 421 FAYETTEVILLE STREET, SUITE 600  
 RALEIGH, NC 27601

PROJECT REFERENCE NO. U-5724 SHEET NO. UC-5  
 UTILITY DESIGN ENGINEER

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

REVISIONS



**NOTE:**  
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2,313 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

- NOTES:
- RECORDS INDICATE THAT THE EXISTING WATERLINE ALONG ROYALL AVENUE IS ASBESTOS CEMENT. SEE "ASBESTOS CEMENT PIPE NOTES" ON SHEET UC-3. CONTRACTOR SHALL VERIFY EXISTING WATERLINE ELEVATION IN RELATION TO PROPOSED STORM PIPE INSTALLATION. INVESTIGATION SHALL BE INCIDENTAL TO STORM PIPE INSTALLATION. IF LESS THAN 6" CLEARANCE BETWEEN PROPOSED STORM AND EXISTING WATERLINE, RELOCATE WATERLINE AS SHOWN ON THE PLANS PER DETAIL 3/UC-3E AND PROVIDE 12" MINIMUM SEPARATION BETWEEN THE STORM AND WATERLINE. IF BETWEEN 6" AND 24" CLEARANCE BETWEEN THE PROPOSED STORM PIPE AND EXISTING WATERLINE, PROVIDE PIPELINE CROSSING PER DETAIL 8/UC-3D. IF GREATER THAN 24" CLEARANCE BETWEEN THE PROPOSED STORM PIPE AND EXISTING WATERLINE, NO ADDITIONAL WORK IS REQUIRED.
  - CONTRACTOR SHALL INSTALL AND TEST PROPOSED WATERLINE PRIOR TO CUTTING AND CONNECTING TO EXISTING WATERLINE.
  - ALL CONSTRUCTION IN NCR RIGHT-OF-WAY SHALL MEET THE REQUIREMENTS OF NCR 102, "SPECIFICATIONS FOR PIPELINE OCCUPANCY OF NORTH CAROLINA RAILROAD COMPANY PROPERTY" AND NORTH CAROLINA / NORFOLK SOUTHERN RAILWAY - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTEREST.
  - ABANDON WATER SERVICES BACK TO EXISTING WATER MAIN. REPLACE EXISTING CORPORATIONS WITH TAPERED BRSS PLUGS.
  - ADJUST AND RECONNECT ALL SEWER LATERALS TO NEW 8" AND 12" DIP ENCOUNTERED ON ALL SEWER REPLACEMENT WORK. SANITARY SEWER CLEANOUTS SHALL BE INSTALLED ALONG THE R/W OR PUE BOUNDARY AS DIRECTED BY THE CITY.

5/14/2011

**NOTE:**  
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 733 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

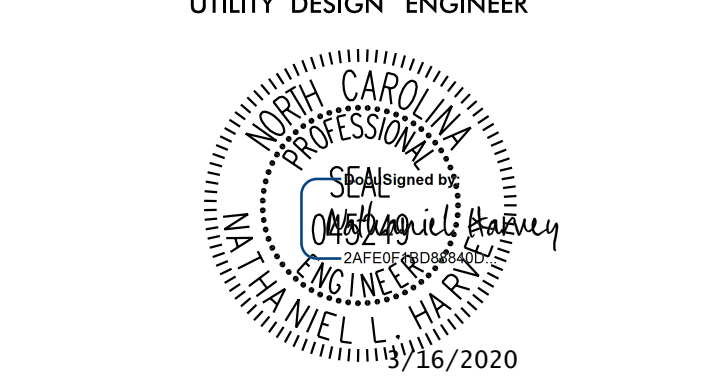
- NOTES:
- ADJUST AND RECONNECT ALL SEWER LATERALS TO NEW 8" AND 12" DIP ENCOUNTERED ON ALL SEWER REPLACEMENT WORK. SANITARY SEWER CLEANOUTS SHALL BE INSTALLED ALONG THE R/W OR PUE BOUNDARY AS DIRECTED BY THE CITY.
  - CONTRACTOR SHALL VERIFY NUMBER OF WATER METERS TO BE RELOCATED WITH UTILITY OWNER PRIOR TO RELOCATING.
  - UNIONS OR OTHER FITTINGS SHALL NOT BE PERMITTED UNDER PAVEMENT.
  - ALL CONSTRUCTION IN NCRR RIGHT-OF-WAY SHALL MEET THE REQUIREMENTS OF NCR 102, "SPECIFICATIONS FOR PIPELINE OCCUPANCY OF NORTH CAROLINA RAILROAD COMPANY PROPERTY" AND NORTH CAROLINA / NORFOLK SOUTHERN RAILWAY - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTEREST.

# Kimley Horn

421 FAYETTEVILLE STREET, SUITE 600  
RALEIGH, NC 27601

RIGHT-OF-WAY REV.  
CONST. REV.

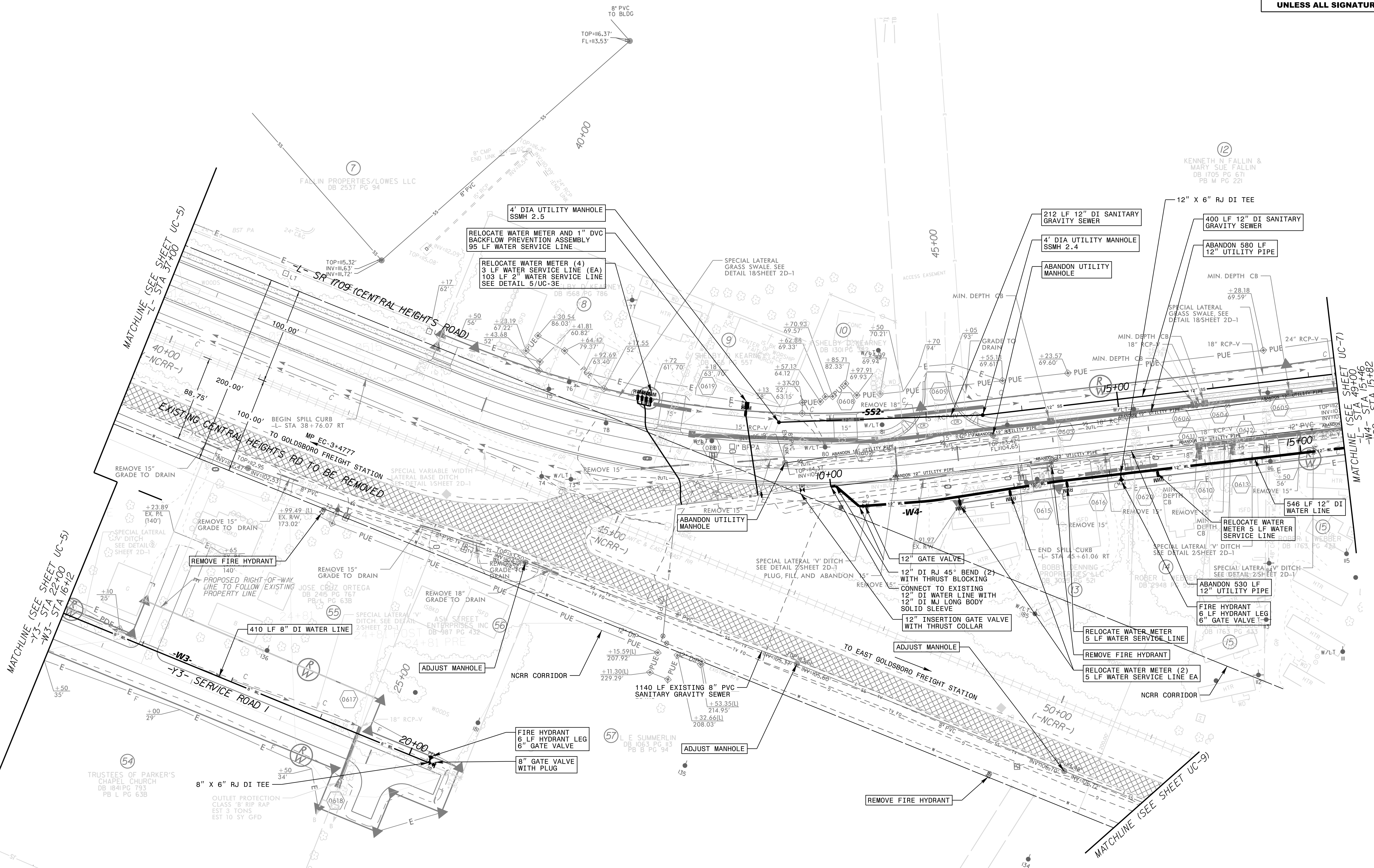
PROJECT REFERENCE NO. U-5724	SHEET NO. UC-6
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**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

NAD 83/NA 2011

REVISIONS



MATCHLINE (SEE SHEET UC-5)  
-Y3- STA 22+00  
-W3- STA 16+12

MATCHLINE (SEE SHEET UC-5)  
-L- STA 37+00

MATCHLINE (SEE SHEET UC-7)  
-W4- STA 15+46  
-S2- STA 15+82

MATCHLINE (SEE SHEET UC-9)

TRUSTEES OF PARKER'S  
CHAPEL CHURCH  
DB 1841 PG 793  
PB L PG 638

8" X 6" RJ DI TEE  
OUTLET PROTECTION  
CLASS 'B' RIP RAP  
EST 3 TONS  
EST 10 SF GFD

FIRE HYDRANT  
6 LF HYDRANT LEG  
6" GATE VALVE

8" GATE VALVE  
WITH PLUG

ADJUST MANHOLE

1140 LF EXISTING 8" PVC  
SANITARY GRAVITY SEWER

REMOVE FIRE HYDRANT

RELOCATE WATER METER (2)  
5 LF WATER SERVICE LINE EA

REMOVE FIRE HYDRANT

RELOCATE WATER METER  
5 LF WATER SERVICE LINE

ABANDON 530 LF  
12" UTILITY PIPE

FIRE HYDRANT  
6 LF HYDRANT LEG  
6" GATE VALVE

RELOCATE WATER  
METER 5 LF WATER  
SERVICE LINE

546 LF 12" DI  
WATER LINE

12" GATE VALVE

12" DI RJ 45° BEND (2)  
WITH THRUST BLOCKING  
CONNECT TO EXISTING  
12" DI WATER LINE WITH  
12" DI MJ LONG BODY  
SOLID SLEEVE

12" INSERTION GATE VALVE  
WITH THRUST COLLAR

ABANDON UTILITY  
MANHOLE

REMOVE 15"

REMOVE 15"

REMOVE 15"

REMOVE 15"

REMOVE 15"

REMOVE 15"

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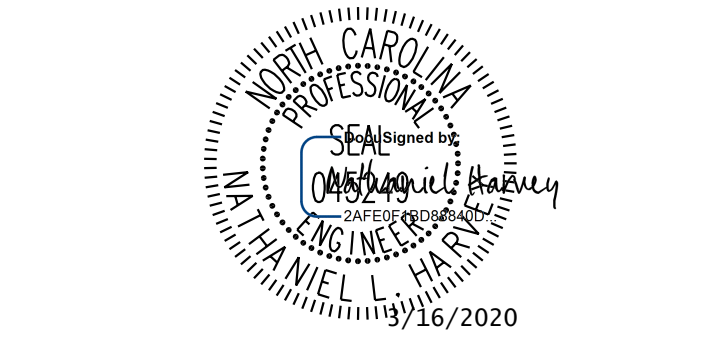
REMOVE 15"

REMOVE 15"

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REMOVE 15"

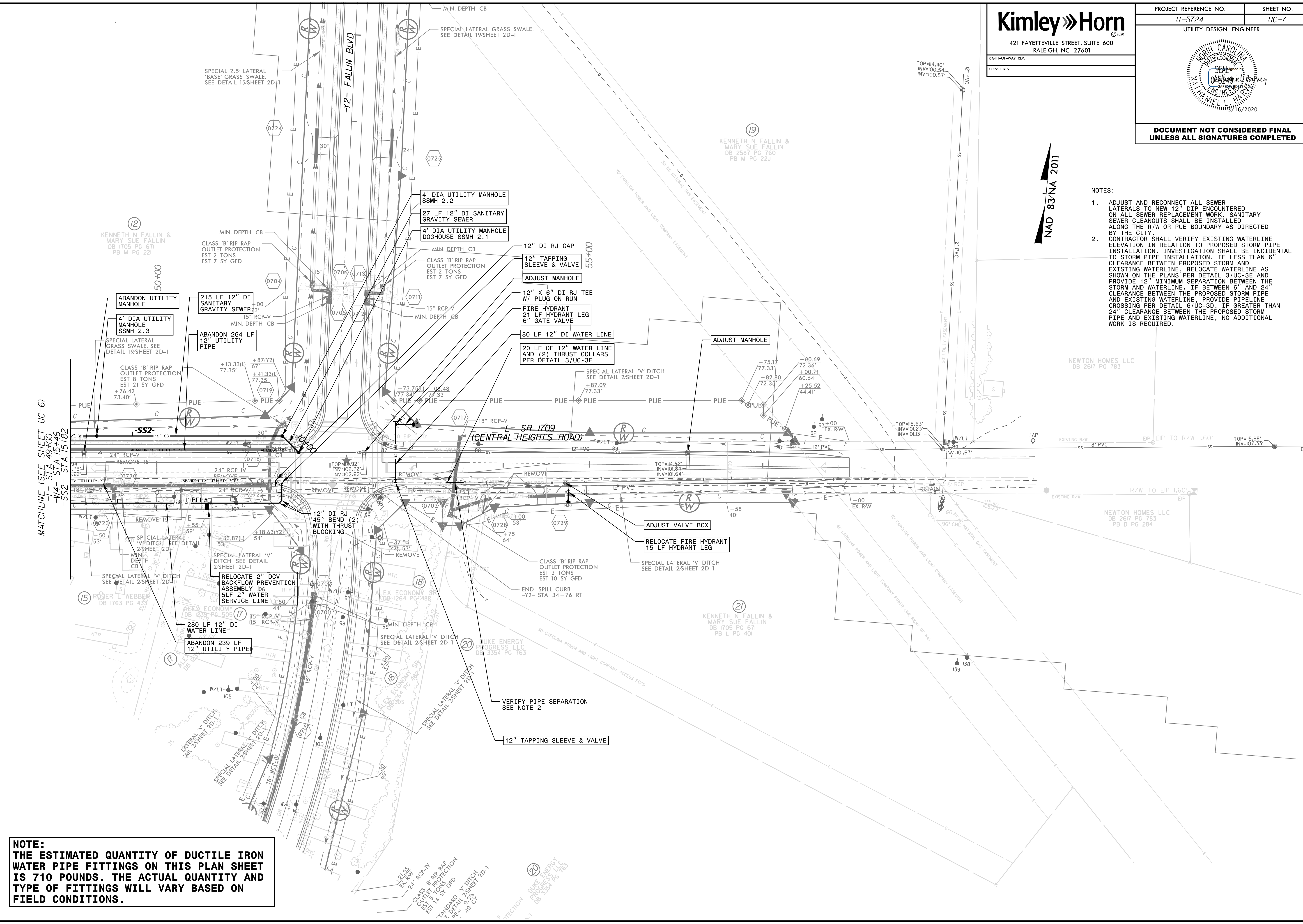


**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

NAD 83/NA 2011

NOTES:

- ADJUST AND RECONNECT ALL SEWER LATERALS TO NEW 12" DIP ENCOUNTERED ON ALL SEWER REPLACEMENT WORK. SANITARY SEWER CLEANOUTS SHALL BE INSTALLED ALONG THE R/W OR PUE BOUNDARY AS DIRECTED BY THE CITY.
- CONTRACTOR SHALL VERIFY EXISTING WATERLINE ELEVATION IN RELATION TO PROPOSED STORM PIPE INSTALLATION. INVESTIGATION SHALL BE INSTALLED TO STORM PIPE INSTALLATION. IF LESS THAN 6" CLEARANCE BETWEEN PROPOSED STORM AND EXISTING WATERLINE, RELOCATE WATERLINE AS SHOWN ON THE PLANS PER DETAIL 3/UC-3E AND PROVIDE 12" MINIMUM SEPARATION BETWEEN THE STORM AND WATERLINE. IF BETWEEN 6" AND 24" CLEARANCE BETWEEN THE PROPOSED STORM PIPE AND EXISTING WATERLINE, PROVIDE PIPELINE CROSSING PER DETAIL 6/UC-3D. IF GREATER THAN 24" CLEARANCE BETWEEN THE PROPOSED STORM PIPE AND EXISTING WATERLINE, NO ADDITIONAL WORK IS REQUIRED.



REVISIONS

**NOTE:**  
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 710 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

MATCHLINE (SEE SHEET UC-6)  
L - STA 49+00  
-W4- STA 15+46  
-SS2- STA 15+82

5/14/20

5/14/20

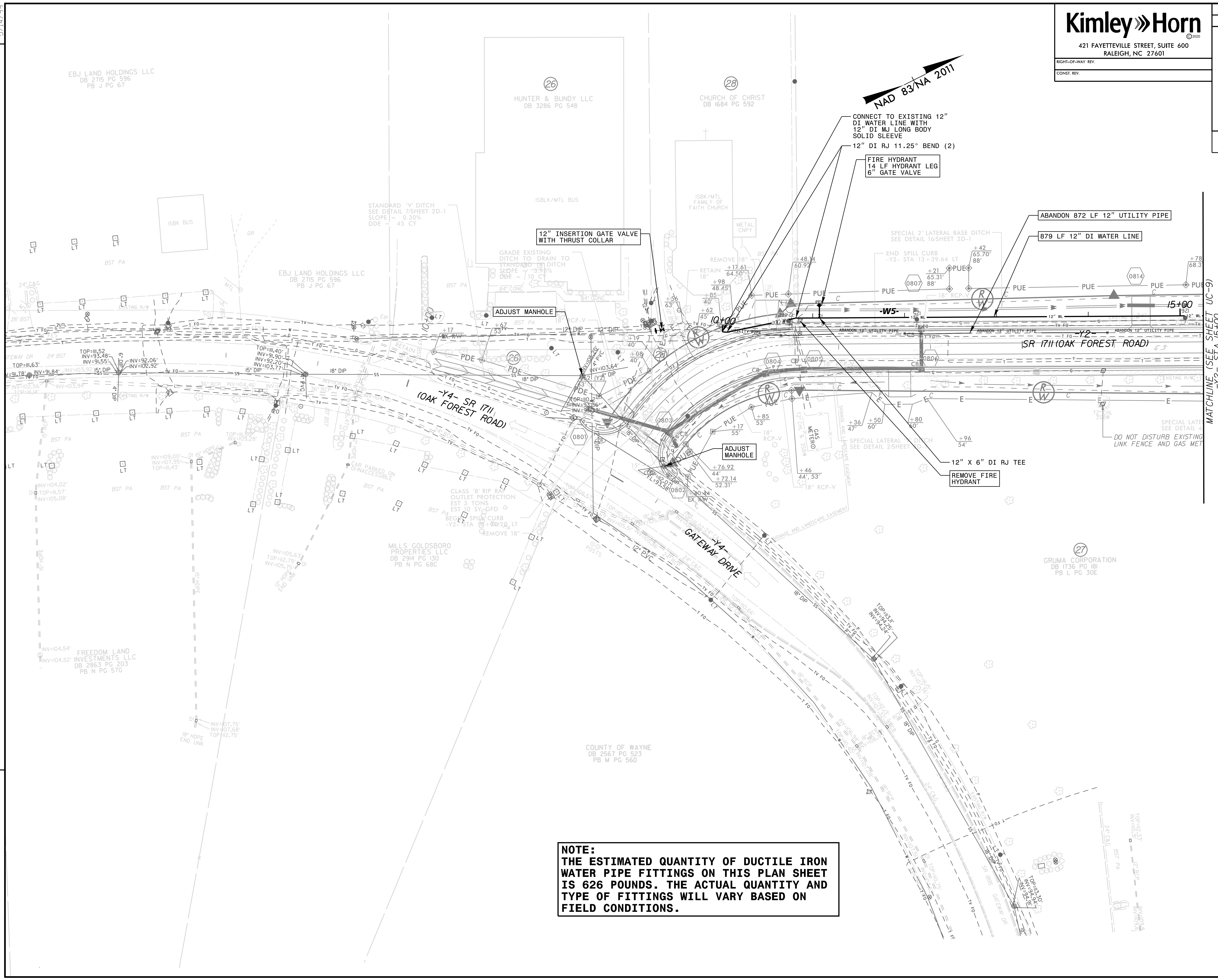
**Kimley Horn**  
 421 FAYETTEVILLE STREET, SUITE 600  
 RALEIGH, NC 27601

PROJECT REFERENCE NO. U-5724 SHEET NO. UC-8  
 UTILITY DESIGN ENGINEER

SEAL  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 M. L. HARRIS  
 11/16/2020

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

REVISIONS



**NOTE:**  
 THE ESTIMATED QUANTITY OF DUCTILE IRON  
 WATER PIPE FITTINGS ON THIS PLAN SHEET  
 IS 626 POUNDS. THE ACTUAL QUANTITY AND  
 TYPE OF FITTINGS WILL VARY BASED ON  
 FIELD CONDITIONS.