

CITY OF HIGH POINT

AGENDA ITEM



**Title: Construction Support Services- U-5896 US 29/US 70/Business 85 and South Main Street (SR 1009)
Davis • Martin • Powell (DMP)**

From: Robby Stone – Interim Public Services Director
Derrick Boone – Public Services Asst. Director
Allan Hicks – Public Services Proj. Engineer

Meeting Date: April 18, 2022

Public Hearing: N/A

Advertising Date: N/A

Advertised By: N/A

Attachments: Attachment A – Proposal
Attachment B – Utility Construction Drawings

PURPOSE:

The Public Services Department is requesting that City Council approve a proposal from Davis-Martin-Powell (DMP) for Contract Administration (CA) and Resident Project Representative (RPR) for the upcoming NCDOT interchange improvement project at US 29/ US 70/ Business 85 and South Main Street (SR 1009).

BACKGROUND:

The North Carolina Department of Transportation (NCDOT) has prepared construction plans for improvements to the interchange at US 29/ US 70/ Business 85 and S. Main St. This project will require substantial water and sewer improvements which will be accomplished in conjunction with this NCDOT project. The Public Services Department requests part-time Contract Administration (CA) and part-time Resident Project Representative (RPR) services from DMP for the anticipated 30-month duration of the project. DMP's services are needed to augment city staff on items such as field inspections, plan revisions, water-sewer testing, and record drawings related to the Water and Sewer improvements. The anticipated cost of DMP's services for the 30-month duration is \$97,800. This NCDOT construction project was recently awarded to Boggs Contracting Inc. and construction is anticipated to begin mid April 2022.

BUDGET IMPACT:

Funds for this project are available in the FY 2021/2022 budget.

RECOMMENDATION / ACTION REQUESTED:

The Public Services Department recommends approval of the Contract Administration (CA) and Resident Project Representative (RPR) services provided by Davis-Martin-Powell (DMP) and that the appropriate City official and/or employee be authorized to execute all necessary documents to finalize the agreement with DMP and for an estimated total of \$97,800.

March 16, 2022

Re: City of High Point, NC
NCDOT Project U-5896
Interchange Improvements at
US 29/70 and South Main Street
Proposal for Engineering Services
DMP Project 170205.01 (BF)

Mr. Derrick Boone
City of High Point
Public Services Department
P.O. Box 230
High Point, NC 27261

Dear Mr. Boone:

Davis-Martin-Powell (DMP) is pleased to offer this Proposal for Engineering Services related to the construction of proposed water and sewer relocations as part of NCDOT Project U-5896. This project involves improvements to the Interchange at US 29/70 (Business 85) and South Main Street.

Understanding of the Project

Through our NCDOT Utility Design Engineering Limited Services Contract, DMP designed the Utility Construction plans for the U-5896 project, which includes relocations of existing water and sewer facilities that are in conflict with the proposed roadway and drainage improvements.

As requested, we are providing this Proposal for limited Construction Administration (CA) and Resident Project Representative (RPR) services for proposed water and sewer relocations associated with the project. We understand that both NCDOT and the City of High Point Public Services Department will have representatives assigned to project. On a project of this size, construction of water and sewer relocations can be in progress at multiple locations on any given day. In these situations, it has been common for DMP to assist City staff with observation of construction activities on previous projects. There are also times when City representatives are not available to visit the project, and DMP can fill in during these times as needed.

Proposed water and sewer utility relocations on the project will include:

- On Sheet UC-5A, there will be an 18" sewer line relocation. This sewer line relocation will include installation of a 30" steel encasement pipe to be bored and jacked under US 29/70, and an aerial sewer line crossing over Richland Creek.
- On Sheet UC-5B, two existing 8" vitrified clay (VC) sewer lines under the pavement of South Main Street will be replaced with a new 12" ductile iron (DI) sewer line to be installed behind the new curb on the west side of South Main Street. An existing 6" cast iron (CI) water line and 12" CI water line under the pavement of South Main Street will be replaced with a new 12" DI water line to be installed behind the new curb on the east side of South Main Street.
- On Sheet UC-5C, an existing 10" cast iron (CI) water line will be replaced with a new 12" DI water line to be installed on the south side of the new US 29/70 eastbound on-ramp.

- On Sheet UC-5D, two existing 8" VC sewer lines under the pavement of South Main Street will be replaced with a new 12" DI sewer line to be installed behind the new curb on the west side of South Main Street. An existing 6" CI water line and 12" CI water line under the pavement of South Main Street will be replaced with a new 12" DI water line to be installed behind the new curb on the east side of South Main Street. An existing 10" CI water line will be replaced with a new 12" DI water line to be installed on the south side of new US 29/70 northbound on-ramp.
- On Sheet UC-7, two existing 8" VC sewer lines under the pavement of South Main Street will be replaced with a new 12" DI sewer line to be installed behind the new curb on the west side of South Main Street. An existing 6" CI water line and 12" CI water line under the pavement of South Main Street will be replaced with a new 12" DI water line.
- Several existing water meters and fire hydrants through the project will be relocated.

The overall construction period for the project is expected to last approximately 2.5 years (30 months). NCDOT expects that construction will begin in mid-April 2022, with an anticipated completion date in October 2024. Construction activities for proposed water and sewer relocations will vary over the course of the 30-month construction period.

Scope of Services

Based on our understanding of the project, DMP proposes to provide the following services:

- Attend the Pre-Construction Meeting.
- Assist City staff with reviewing water and sewer shop drawing submittals from the Contractor.
- Provide RPR services to observe construction activities, and witness testing of completed water and sewer relocations as necessary to support City staff. DMP will furnish the City with copies of daily field reports and site photos on a weekly basis (during periods of active construction on proposed water and/or sewer relocations).
- Prepare any necessary revisions to the Utility Construction Plans.
- Assist City staff with generating a final punch list, and verify completion of the punch list at the end of the project.
- Prepare record drawings of the Utility Construction Plans, based on any observed deviations from the plans and red-line mark-ups provided by the City, NCDOT, and/or the Contractor.
- The NCDOT Resident Engineer will prepare the Engineer's Certification statements associated with the water and sewer permits issued by NCDEQ, but DMP will coordinate with NCDOT staff to confirm this is completed, and obtain copies of the certifications for the City's records.
- Perform other construction related services pertaining to the water and sewer construction, such as attending monthly progress meetings, e-mail and telephone communications with the City, NCDOT, and the Contractor, and coordination with City staff for critical water/sewer tie-ins.

Compensation

DMP will perform the services described herein, based on our Understanding of the Project and the Scope of Services presented above. The actual time that our staff will need to spend on the project will depend on the Contractor's plan for constructing the proposed water and sewer relocations. For the purpose of estimating our fee limit for this Proposal, for RPR site visits we have assumed an average intensity of 2 hours per day, 3 days per week, for 130 weeks (30 months).

DMP proposes to perform the above-described services on an hourly basis in accordance with the attached Standard Rate Schedule, with an estimated cost of **\$97,800** and will not exceed this cost unless approved by City staff. Please see our Fee Estimate Worksheet is on the following page for details.

Fee Estimate Worksheet

| Task | Project Manager (\$160/hour) | | Sr. Design Technician (\$110/hour) | | Resident Project Representative (\$85/hour) | | Mileage (\$0.60/mile) | | TOTALS |
|------------------------------------|---------------------------------|-----------------|--|----------------|---|-----------------|--------------------------|----------------|-----------------|
| | Hours | Cost | Hours | Cost | Hours | Cost | Miles | Cost | |
| RPR Services | | | | | | | | | |
| Site visits | 24 | \$3,840 | | | 780 | \$66,300 | 7,236 | \$4,342 | \$74,482 |
| CA Services | | | | | | | | | |
| Progress Meetings | 20 | \$3,200 | | | 50 | \$4,250 | 180 | \$108 | \$7,558 |
| E-mail and Phone Communications | 40 | \$6,400 | | | | | | | \$6,400 |
| Shop Drawing Review | 4 | \$640 | | | | | | | \$640 |
| Plan Revisions (as necessary) | 16 | \$2,560 | 16 | \$1,760 | | | | | \$4,320 |
| Record Drawings | 16 | \$2,560 | 16 | \$1,760 | | | | | \$4,320 |
| TOTALS | 120 | \$19,200 | 32 | \$3,520 | 830 | \$70,550 | 7,416 | \$4,450 | \$97,720 |

Estimates & Assumptions:

1. Site Visits:
 - RPR: 2 hours/day x 3 days/week x 130 weeks = 780 hours
 - Project Manager: 12 visits x 2 hours/visit = 24 hours
2. Monthly Progress Meetings (includes travel time and any required follow-up):
 - RPR: 25 meetings x 2 hours/meeting = 50 hours
 - Project Manager: 10 meetings x 2 hours/meeting = 20 hours
3. Mileage for Site Visits:
 - RPR: 3 site visits/week x 130 weeks x 18 miles/visit = 7,020 miles
 - Project Manager: 22 visits x 18 miles/visit = 396 miles

Additional Services

If the duration of the project carries on longer than expected, or if more intensive RPR services are needed, the estimated fee can be adjusted. Any additional services would be performed in accordance with our standard rates, and charges would not be incurred without the City's prior authorization.

Closing

We appreciate the opportunity to submit this Proposal, and we look forward to the construction phase of this project. If you have any questions or need additional information, please do not hesitate to call.

Sincerely,

DAVIS • MARTIN • POWELL & ASSOCIATES, INC



Andrew P. Larrick, PE

Attachment A – DMP Standard Terms & Conditions

Attachment B – DMP Rate Schedule

cc: Robby Stone, PE
 Allan Hicks, PE
 File

Attachment "A"
Davis • Martin • Powell & Associates, Inc.
Standard Terms and Conditions

These Standard Terms and Conditions are incorporated by reference in the accompanying Proposal or Agreement (Agreement) between Davis • Martin • Powell & Associates, Inc. (Consultant) and its Client for the performance of Engineering, Surveying, Planning, or other professional services (Services) as indicated.

1. **Period of Offer:** This Agreement is valid for a period of 60 days from the date unless otherwise extended in writing by Consultant. Consultant may withdraw an Agreement at any time prior to its expiration date.
2. **Performance of Services:** Consultant shall perform the Services as outlined in this Agreement in consideration of the stated fee and payment methods.
3. **Access to Site:** Unless otherwise stated, Client shall provide Consultant right-of-access to the project site(s) for activities necessary for the performance of the services. Consultant will take reasonable precautions to minimize damage due to these activities, but has not included in the fee the cost of restoration of any resulting damage and will not be responsible for such costs.
4. **Additional Services:** In the event Client requests Consultant to provide services not specifically described in the Agreement, or in the event Consultant, or anyone employed by Consultant, is called upon to be deposed or to testify in a matter to which Consultant is not a named party as a result of Services performed hereunder, Client agrees to compensate Consultant in accordance with the Billing Rate Schedule set forth in this Agreement..
5. **Rate Schedule:** If no Rate Schedule is set forth, compensation shall be at the Consultant's then effective Rate Schedule. Consultant may adjust the Rate Schedule annually to reflect equitable changes in the various categories.
6. **Period of Service:** This Agreement and the compensation set forth herein are established in anticipation of the continuous progress of the services. In the event of suspension of Services by Client, Consultant may at its option terminate this Agreement or request adjustment in amount of compensation.
7. **Payment Terms:** Client agrees to pay Consultant for all services performed and all costs incurred. Prior to providing services, Client shall deposit a Retainer with Consultant if so specified in Agreement. The Retainer shall be credited on the final invoice and remaining balance, if any, refunded to Client. Invoices for the Consultant's services shall be submitted, at Consultant's option, either upon completion of such services or on a monthly basis. Invoices shall be due

and payable upon receipt. If Client reasonably objects to any portion of an invoice, Client shall notify Consultant in writing within 10 days from the date of receipt of invoice, give reasons for the objection, and pay that portion not in dispute. Failure to provide such written notice shall be deemed a waiver of all objections to that invoice and the sums set forth therein.

Accounts unpaid 30 days after the invoice date are subject to a monthly finance charge of 1.5% on the unpaid balance. If any invoice is not paid within 60 days, Consultant may, without waiving any claim or right against Client, and without liability whatsoever to Client, suspend or terminate the performance of services. In the event any portion of an account remains unpaid 90 days after the billing, Consultant may institute collection action. Client shall pay all costs of collection, including without limitation attorney's fees actually incurred in connection with the collection effort.

8. **Indemnification:** Client shall, to the fullest extent permitted by law, indemnify, defend and hold harmless Consultant, his or her officers, directors, employees, agents, and sub-consultants from and against all damage, liability and cost, including reasonable attorney's fees and defense costs, arising out of or in any way connected with the performance of Services under this Agreement, excepting only those damages, liabilities or costs attributable to the negligence or willful misconduct of Consultant.
9. **Limitation of Liability:** *Consultant's liability to Client for any claim, loss or damage asserted by Client, its agents or employees, or any third party claiming through Client, arising out of an alleged breach of this Agreement or any other act, error or omission of Consultant, shall not exceed the greater of \$50,000.00 or the fees actually paid Consultant. If Client desires a higher limit of liability, the parties may agree to an increased fee to offset the increased limit of liability.*
10. **Waiver of Consequential Damages:** In no event shall Consultant be liable to Client for any special, indirect, incidental or consequential loss or damages, including but not limited to damages relating to or arising from delay, lost profits, and loss of use arising from or relating to the Services.
11. **Waiver of Claims against Individuals:** In acknowledgement that Consultant is a corporate entity and carries professional liability insurance, Client agrees that any claim made by it arising out of any act or omission of any director, officer, or employee of

Attachment "A"
Davis • Martin • Powell & Associates, Inc.
Standard Terms and Conditions

Consultant in the execution or performance of Services hereunder, shall be made against the entity and not against any of Consultant's individual directors, officers, or employees.

12. Information for the Sole Use and Benefit of the Client:

All opinions and conclusions of Consultant, whether written or oral, and any plans, specifications or other documents and services provided by Consultant are for the sole use and benefit of Client on the named project and may be used only if the Client has satisfied all of its obligations under this Agreement. Information is not to be provided to any other person or entity without the prior written consent of Consultant. Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of any third party against either Consultant or Client. There are no intended third-party beneficiaries of this Agreement.

13. Ownership of Documents:

All documents produced by Consultant under this Agreement are instruments of Consultant's professional service and shall remain the property of Consultant and may not be used by Client for any other purpose without the prior written consent of Consultant.

14. Assignment:

This Agreement may not be assigned by either party without prior written approval by the other party. Client acknowledges that Consultant may subcontract portions of these Services without the approval of the Client.

15. Certifications, Guarantees and Warranties:

Consultant will perform Services using the degree of skill and care ordinarily exercised under similar conditions by members of the Consultant's profession practicing in the same or similar locality at the time of this Agreement. No other representation, express or implied, and no warranty or guarantee is included or intended in the Agreement, or in any report, opinion, document or other Instrument of Service of the Consultant.

Requests for lender consents or other third-party reliance letters must be received at least 14 days prior to the date desired. Consultant shall not be required to execute any document that would result in Consultant certifying, guaranteeing or warranting the existence of any conditions, that relate to facts of which the Consultant does not have actual knowledge, or that cause the Consultant to violate rules of professional conduct. This Agreement considers only those regulations in effect 60 days prior to Agreement date. No portion of the Services, this Agreement, or other

representations by Consultant, its agents or employees shall be construed or interpreted as a guarantee of approval by any board or agency.

16. Dispute Resolution:

Any claims or disputes between Client and Consultant arising out of the services to be provided by Consultant or out of this Agreement shall be submitted to non-binding mediation. Client and Consultant agree to include a similar mediation agreement with all contractors, sub-consultants, sub-contractors, suppliers and fabricators, providing for mediation as the primary method for dispute resolution among all parties.

17. Accrual of Actions:

As between the parties to this Agreement: as to all acts or failures to act by either party to this Agreement, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the relevant Date of Substantial Completion, and as to any acts or failures to act occurring after the relevant Date of Substantial Completion, not later than the date of Consultant's final invoice for the Services.

18. Termination of Services:

This Agreement may be terminated at any time by either party should the other party fail to perform its obligations hereunder. In the event of termination for any reason whatsoever, Client shall pay Consultant for all services rendered to the date of termination, and all reimbursable expenses incurred prior to termination and reasonable termination expenses incurred as the result of termination.

19. Site Responsibility:

If the Consultant has prepared construction documents under this agreement and is not retained to make periodic site visits during construction, the Client assumes all responsibility for interpretation of the documents and for construction observation, and the Client waives any claims against the Consultant in any way connected thereto.

The Client agrees that each contract with any contractor shall state that the contractor shall be solely responsible for job site safety and its means and methods; that the contractor shall indemnify the Client and the Consultant for all claims and liability arising out of job site accidents and the contractor's failure to follow the plans and specifications prepared by Consultant; and that the Client and the Consultant shall be made additional insureds under the contractor's general liability insurance policy. The Consultant is not responsible for any duties assigned to it in any construction contract that are not expressly provided for in this Agreement.

Attachment "A"
Davis • Martin • Powell & Associates, Inc.
Standard Terms and Conditions

The presence of Consultant's representatives will not relieve any contractor, subcontractor, or consultant not employed by Consultant, of their responsibility to perform their work in accordance with applicable laws and regulations. Client agrees that each contractor, subcontractor, or consultant not employed by Consultant shall solely be responsible for working conditions; security and safety of persons and property; compliance with OSHA regulations; and providing all safety equipment and training necessary for the protection of its personnel.

Consultant's monitoring of others performance is not intended to include supervision of the others; review of safety procedures; nor is Consultant responsible for the safety or security at the site, other than its own employees. Consultant is not responsible for the contractor's failure to perform the work in accordance with the Contract Documents. Consultant does not have the right or duty to halt the work of others.

20. **Cost Estimates:** Consultant may provide opinions of construction and other project related costs as part of these Services. Consultant assumes no responsibility for such cost estimates as Consultant has no control over the costs of labor, materials, or services furnished by others, or the competitive bidding and market conditions. Consultant's services required to bring costs within any limitation established by the Client will be paid for as Additional Services.
21. **Construction Costs.** Under no circumstances shall the Consultant be liable for extra costs or other consequences due to unknown conditions or related to the failure of contractors to perform work in accordance with the plans and specifications.
- Consultant shall have no liability whatsoever for any costs arising out of the Client's decision to obtain bids or proceed with construction before the Consultant has issued final, fully-approved plans and specifications. The Client acknowledges that all preliminary plans (or those noted "For Review and Approval" are subject to substantial revision until plans are fully approved and all permits obtained.
22. **Insurance:** Consultant will maintain the following insurance coverage: Workers Compensation; Commercial General Liability; Automobile Liability; and Professional Liability. Should Client request to be a named insured, or request the Consultant provide additional insurance coverage, Client agrees to reimburse the Consultant for any additional cost associated with such requests. Client acknowledges that it cannot be an additional named insured under

any policy of insurance providing coverage for Professional Liability.

23. **Deliverables.** Consultant shall select the methods, software, and format of any deliverables utilized or created during performance of the work, unless otherwise stated in the Agreement or requested by the Client prior to commencement of work. Electronic deliverables shall be compatible with current industry standards and conversion to other formats shall be the responsibility of the recipient.
24. **Severability:** If any part of this Agreement is held to be illegal or unenforceable, the validity and enforceability of the remaining parts shall not be affected, and the rights of Consultant and Client shall be enforced as if the Agreement did not contain the illegal or unenforceable part.
25. **Governing Law:** This Agreement, including its construction and interpretation and the Services provided hereunder, shall be governed by and interpreted in accordance with the laws of the State of North Carolina, without regard to any choice of law rules to the contrary.

These Standard Terms and Conditions and any other documents expressly referenced in the Agreement constitute the entire Agreement between the parties.

**ATTACHMENT “B”
RATE SCHEDULE**

| | |
|--|-------------|
| Principal | \$190.00 |
| Associate | \$170.00 |
| Project Manager | \$160.00 |
| Senior Engineer / Surveyor | \$130.00 |
| Project Engineer / Surveyor | \$115.00 |
| Senior Designer/Technician | \$110.00 |
| Engineering/Surveying Technician I | \$90.00 |
| Engineering/Surveying Technician II | \$72.00 |
| Senior Resident Project Representative | \$100.00 |
| Resident Project Representative | \$85.00 |
| 3-Man Surveying Crew | \$185.00 |
| 2-Man Surveying Crew | \$145.00 |
| 1-Man Surveying Crew | \$120.00 |
| Remote Sensing Crew (Min. 4 hour charge) | \$175.00 |
| Senior Administrative Assistant | \$76.00 |
| Travel Mileage | \$0.60 |
| Meals and Lodging | At Cost |
| Reimbursable Expenses | At Cost+15% |
| SUE Level A: Half day, includes survey location (minimum charge) | \$1,200.00 |
| SUE Level A: Full day, includes survey location | \$2,000.00 |
| SUE Level B: Delineation, GPR, hourly (minimum 4 hour charge) | \$135.00 |
| SUE Traffic Control Assistance | At Cost |
| SUE Select Backfill / Surface Restoration (stone, asphalt, concrete) | At Cost |

Effective January 1, 2021

09, 08/2019

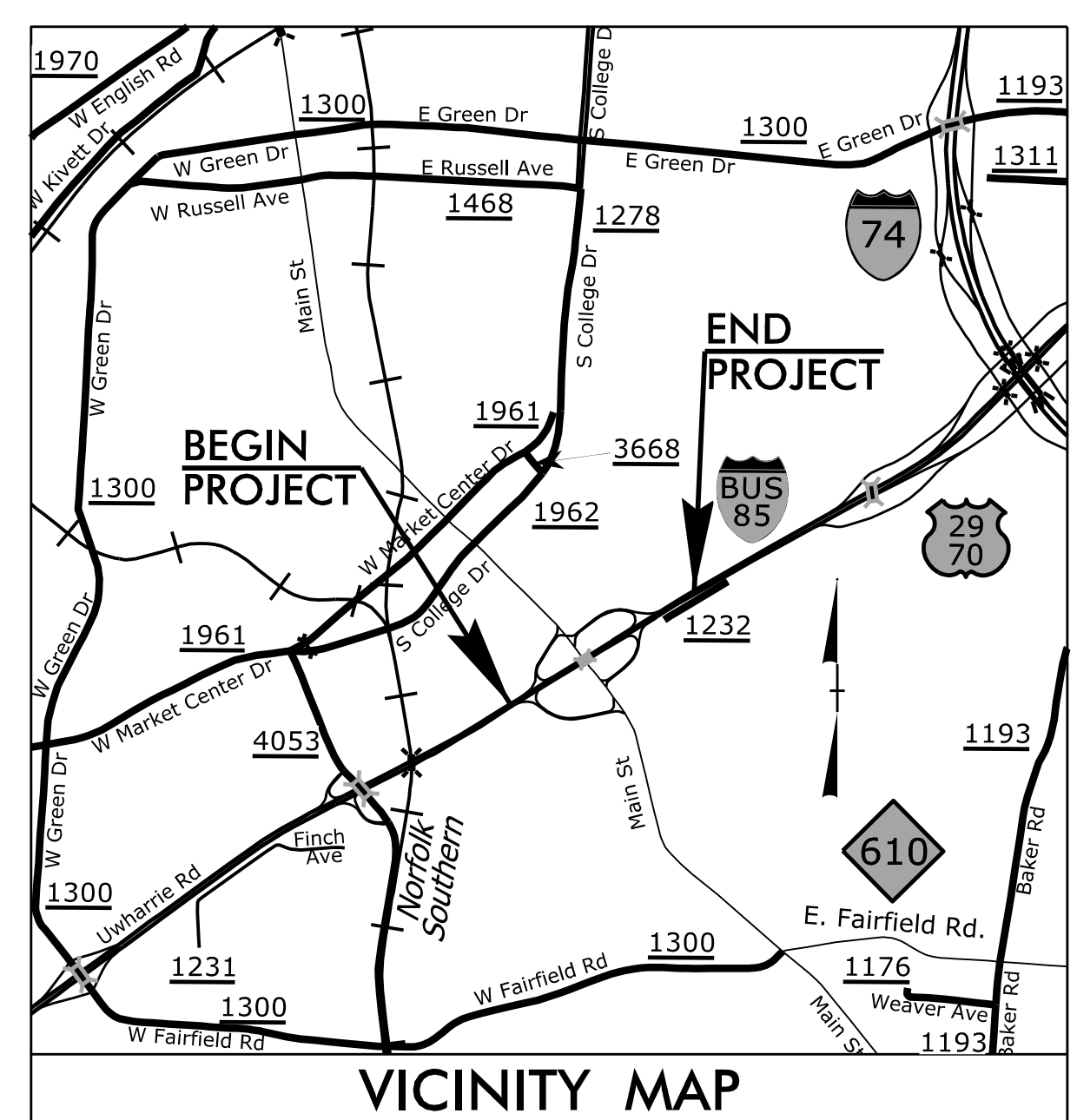
TIP PROJECT: U-5896

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

| | |
|------------|-----------|
| T.I.P. NO. | SHEET NO. |
| U-5896 | UC-1 |

UTILITY CONSTRUCTION PLANS GUILFORD COUNTY

LOCATION: INTERCHANGE AT US 29, US 70 AND S MAIN STREET (SR 1009), IN HIGH POINT
TYPE OF WORK: UTILITY CONSTRUCTION



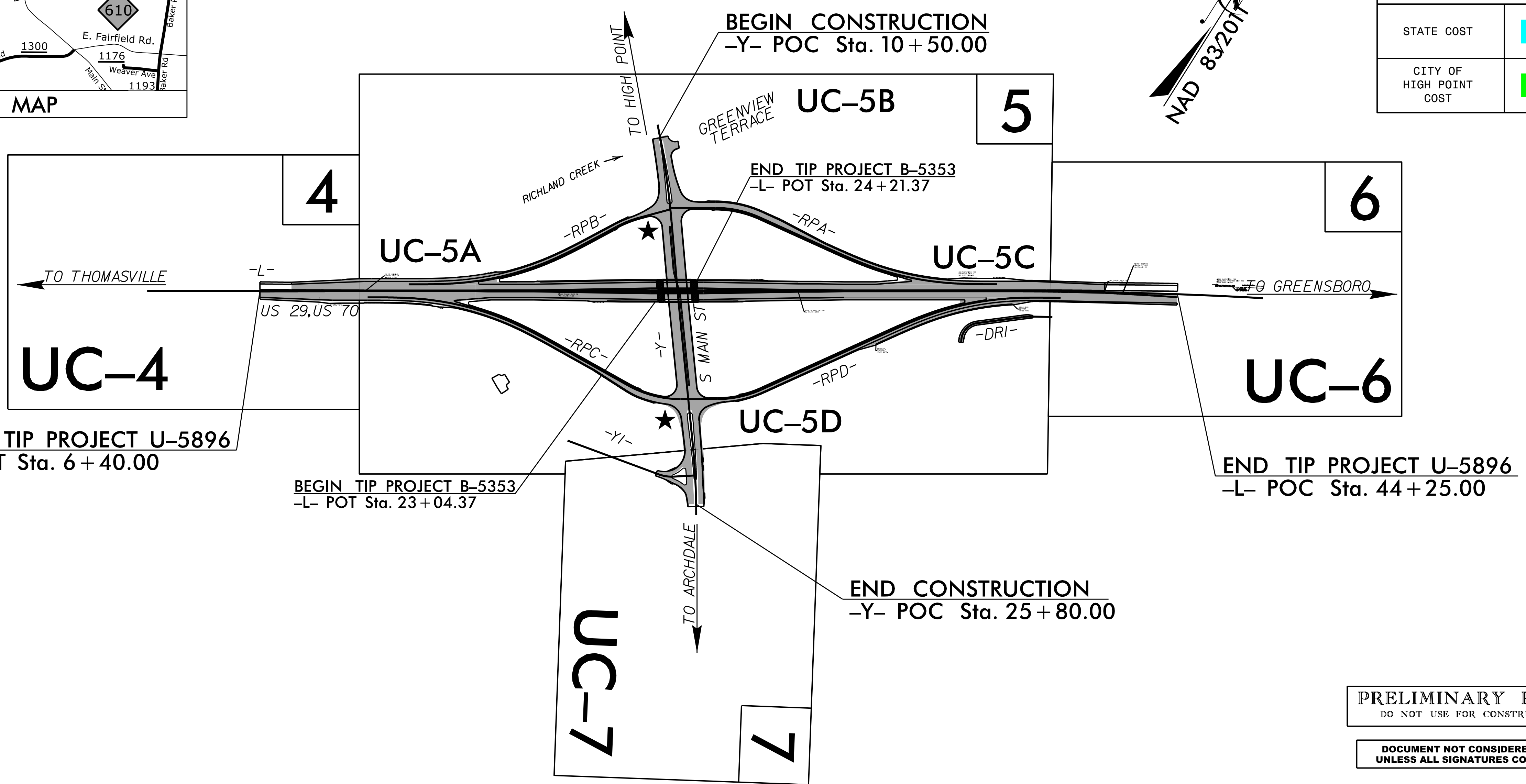
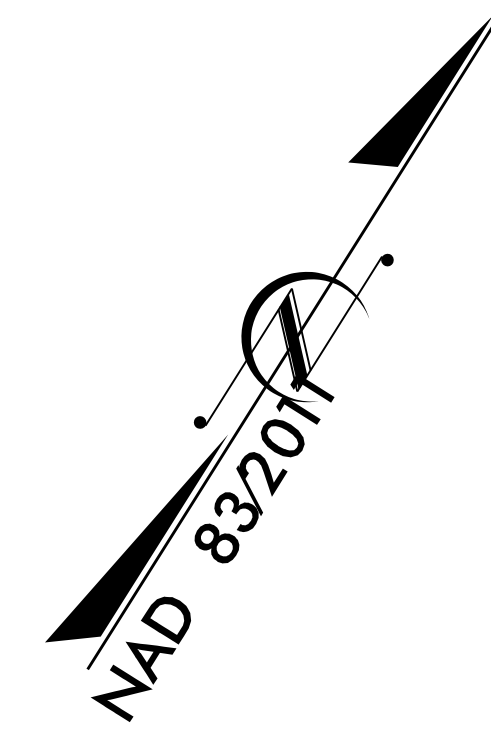
UTILITY AGREEMENT PLANS

EXHIBIT A

AGREEMENT PLANS

COST BREAKDOWN LEGEND

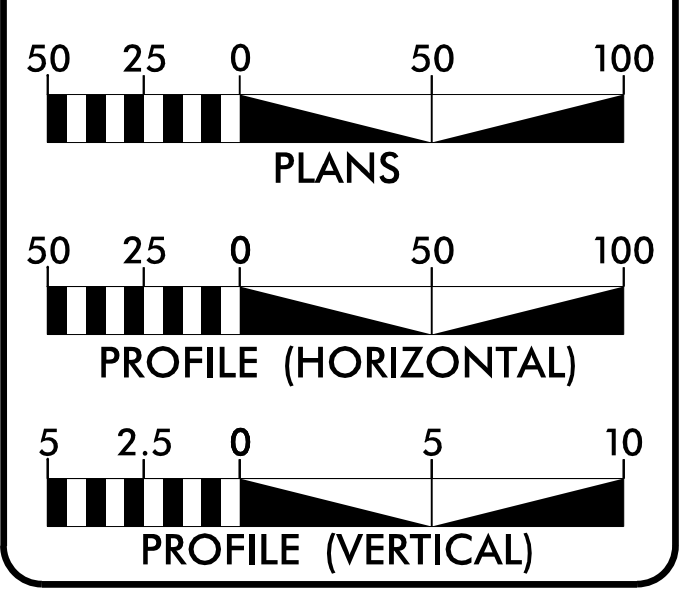
| | |
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| STATE COST | |
| CITY OF HIGH POINT COST | |



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



INDEX OF SHEETS

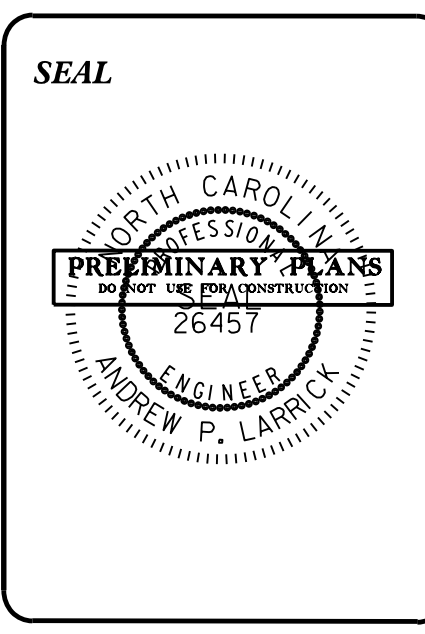
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|------------------|-----------------------------|
| UC-1 | TITLE SHEET |
| UC-2 | UTILITY SYMBOLOGY |
| UC-3 | NOTES |
| UC-3A THRU UC-3E | DETAILS |
| UC-4 THRU UC-7 | UTILITY CONSTRUCTION SHEETS |
| UC-8 THRU UC-10 | PROFILE SHEETS |

WATER AND SEWER OWNERS ON PROJECT

- A) WATER - CITY OF HIGH POINT
- B) SEWER - CITY OF HIGH POINT

PREPARED IN THE OFFICE OF:
DAVIS • MARTIN • POWELL
ENGINEERS & SURVEYORS
6415 OLD PLANK RD., HIGH POINT, NC 27265
PHONE: (336)886-4821 FAX: (336)886-4458
WWW.DMP-INC.COM LICENSE: F-0245

- Andy Larrick, P.E. CONSULTANT CONTACT #1
- Steve McKee, P.E. CONSULTANT CONTACT #2
- Ralph Lowe CONSULTANT CONTACT #3



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



























Amy York CENTRAL UTILITIES MANAGER
Ali Kouchehi, P.E. UTILITIES REGIONAL ENGINEER
Jon Loughry SENIOR UTILITIES ENGINEER
Dayton Martin REGIONAL UTILITY COORDINATOR
O'Hara Parker SENIOR UTILITY COORDINATOR

\$\$\$\$\$ SYSTEM TIME\$\$\$\$\$
\$\$\$\$\$ DGN\$\$\$\$\$
\$\$\$\$\$ USERNAME\$\$\$\$\$

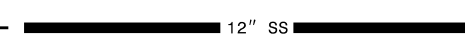
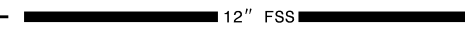


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS





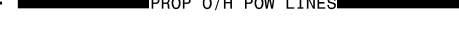



PROPOSED WATER SYMBOLS








| | |
|---------------------------------|---|
| Water Line (Sized as Shown) |  |
| 11¼ Degree Bend |  |
| 22½ Degree Bend |  |
| 45 Degree Bend |  |
| 90 Degree Bend |  |
| Plug |  |
| Tee |  |
| Cross |  |
| Reducer |  |
| Gate Valve |  |
| Butterfly Valve |  |
| Tapping Valve |  |
| Line Stop |  |
| Line Stop with Bypass |  |
| Blow Off |  |
| Fire Hydrant |  |
| Relocate Fire Hydrant |  |
| Remove Fire Hydrant |  |
| 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)

5/14/99
REV: 2/1/2012

5/14/99

REVISIONS

UTILITY CONSTRUCTION

GENERAL NOTES:

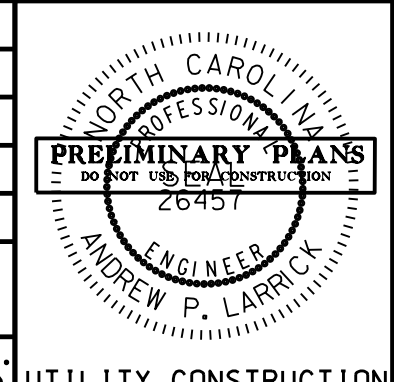
1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2018.
2. THE EXISTING WATER AND SEWER UTILITIES BELONG TO THE CITY OF HIGH POINT.
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES AND SEWER PUMP STATIONS TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNERS OWN THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT AND ACCEPTANCE BY EACH UTILITY OWNER. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNERS ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNERS 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 OWNERS' REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNERS 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. LINE STOPS AND INSERT VAVLES WILL BE REQUIRED WHERE INDICATED ON THE PLANS, WHERE THE UTILITY OWNER CANNOT ISOLATE THE EXISTING LINES WITHOUT MAJOR DISRUPTION OF SERVICE TO MANY USERS.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1. UNLESS OTHERWISE NOTED, PIPE FOR PROPOSED WATER MAINS IN NOMINAL DIAMETERS 4" THROUGH 12" SHALL BE DUCTILE IRON, PC 350. PROVIDE RESTRAINED JOINT PIPE WHERE INDICATED ON PROFILES.
2. UNLESS OTHERWISE NOTED, PIPE FOR PROPOSED WATER LINES IN NOMINAL DIAMETERS 2" AND SMALLER SHALL BE TYPE K COPPER.
3. WATER LINE VALVES SHALL BE RESILIENT-SEAT GATE VALVES CONFORMING TO ANSI/AWWA C509 OR ANSI/AWWA C515, AND SHALL BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI.
4. UNLESS OTHERWISE NOTED, PIPE FOR PROPOSED GRAVITY SEWER LINES IN NOMINAL DIAMETERS 8" AND LARGER SHALL BE DUCTILE IRON, CLASS 51. PROVIDE RESTRAINED JOINT PIPE WHERE INDICATED ON PROFILES. THE INTERIOR OF THE PIPE SHALL BE COATED TO A MINIMU DRY THICKNESS OF 24 MILS WITH AND APPROVED COAL-TAR EPOXY HAVING AN EPOXY RESIN CONTENT OF 35% BY WEIGHT IN THE DRY FILM AND A MINIMUM SOLIDES CONTENT OF 74% BY VOLUME.
5. TEMPORARY BYPASS PUMPING OF FLOW IN SOME EXISTING SEWER LINES WILL BE REQUIRED WHEN INSTALLING NEW SEWER LINES IN THE SAME HORIZONTAL ALIGNMENT AS THE EXISTING SEWER LINES, AND WHEN TYING PROPOSED MH'S INTO EXISTING SEWER LINES. SEE DIVISION 15, SECTION 1520-3-A-1 OF THE NCDOT STANDARD SPECIFICATIONS. COSTS FOR TEMPORARY BYPASS PUMPING SHALL BE INCIDENTAL TO THE CONTRACT.
6. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER CONCERNING THE TIMING AND SCHEDULE OF REQUIRED SHUT-DOWNS OF ANY EXISTING WATER OR SEWER MAINS.
7. THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICE TO CUSTOMERS WHEN EXISTING WATER MAINS HAVE TO BE SHUT DOWN FOR MORE THAN 8 HOURS, OR AS DIRECTED BY THE ENGINEER.

8. FOR EXISTING WATER SERVICES TO BE ABANDONED, AND ARE CONNECTED TO EXISTING WATER MAINS THAT WILL REMAIN IN SERVICE, THE CONTRACTOR SHALL EXCAVATE THE CORPORATION STOP AT THE WATER MAIN, CLOSE THE CORPORATION STOP, AND DISCONNECT THE WATER SERVICE LINE FROM THE CORPORATION STOP. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE COST FOR THE "REMOVE WATER METER" PAY ITEM.
9. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SEWER LATERALS AND/OR CLEANOUTS AS DIRECTED BY THE ENGINEER. THE NECESSARY QUANTITIES HAVE BEEN ADDED TO THE CONTRACT TO FACILITATE THIS PROCEDURE.

| | |
|--|--|
| PROJECT REFERENCE NO. U-5896 | SHEET NO. UC-3 |
| DESIGNED BY: DMP |  |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | UTILITY CONSTRUCTION PLANS ONLY |
| UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |

UTILITY CONSTRUCTION

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

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS

PROJECT TYPICAL DETAILS

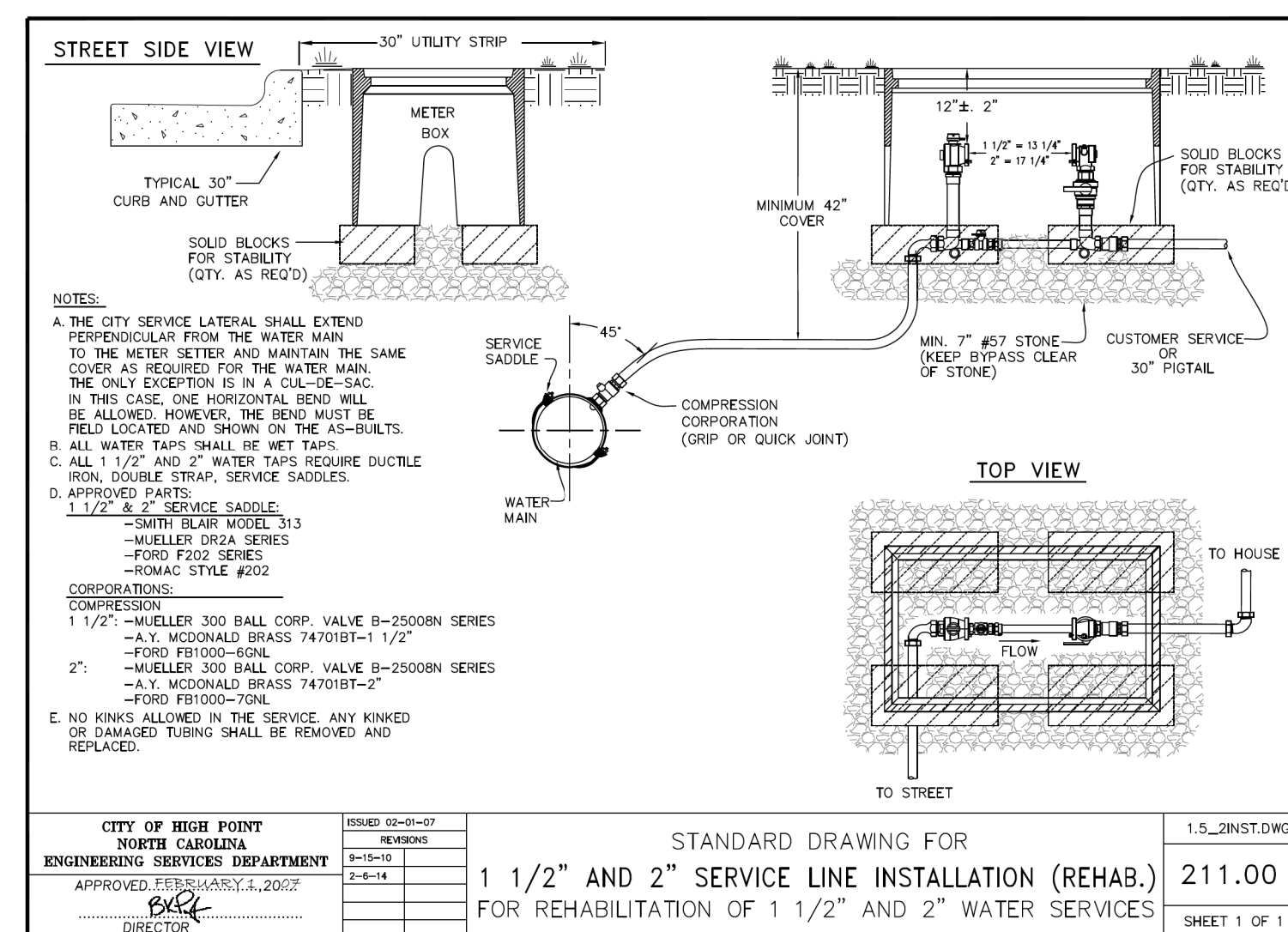
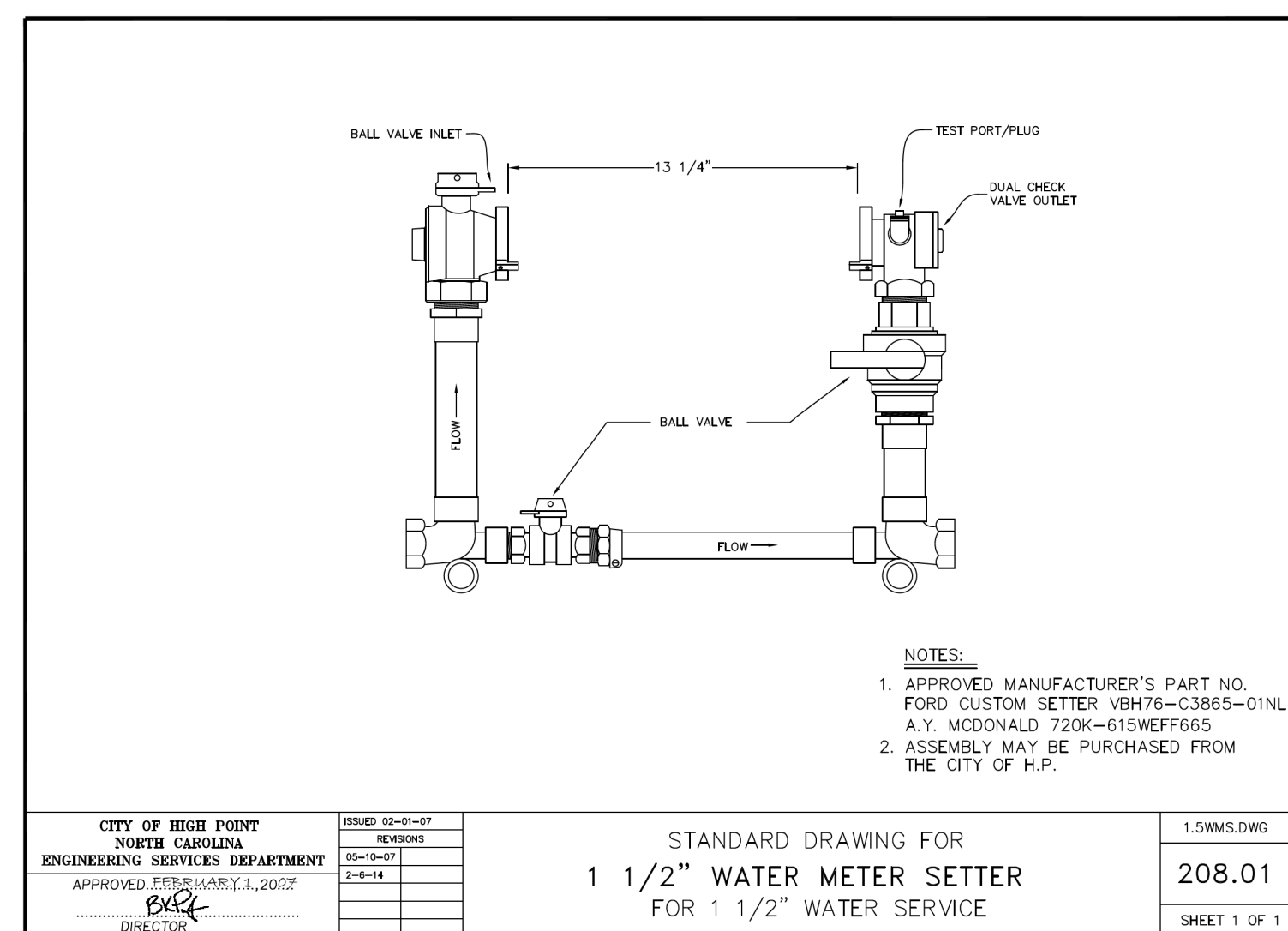
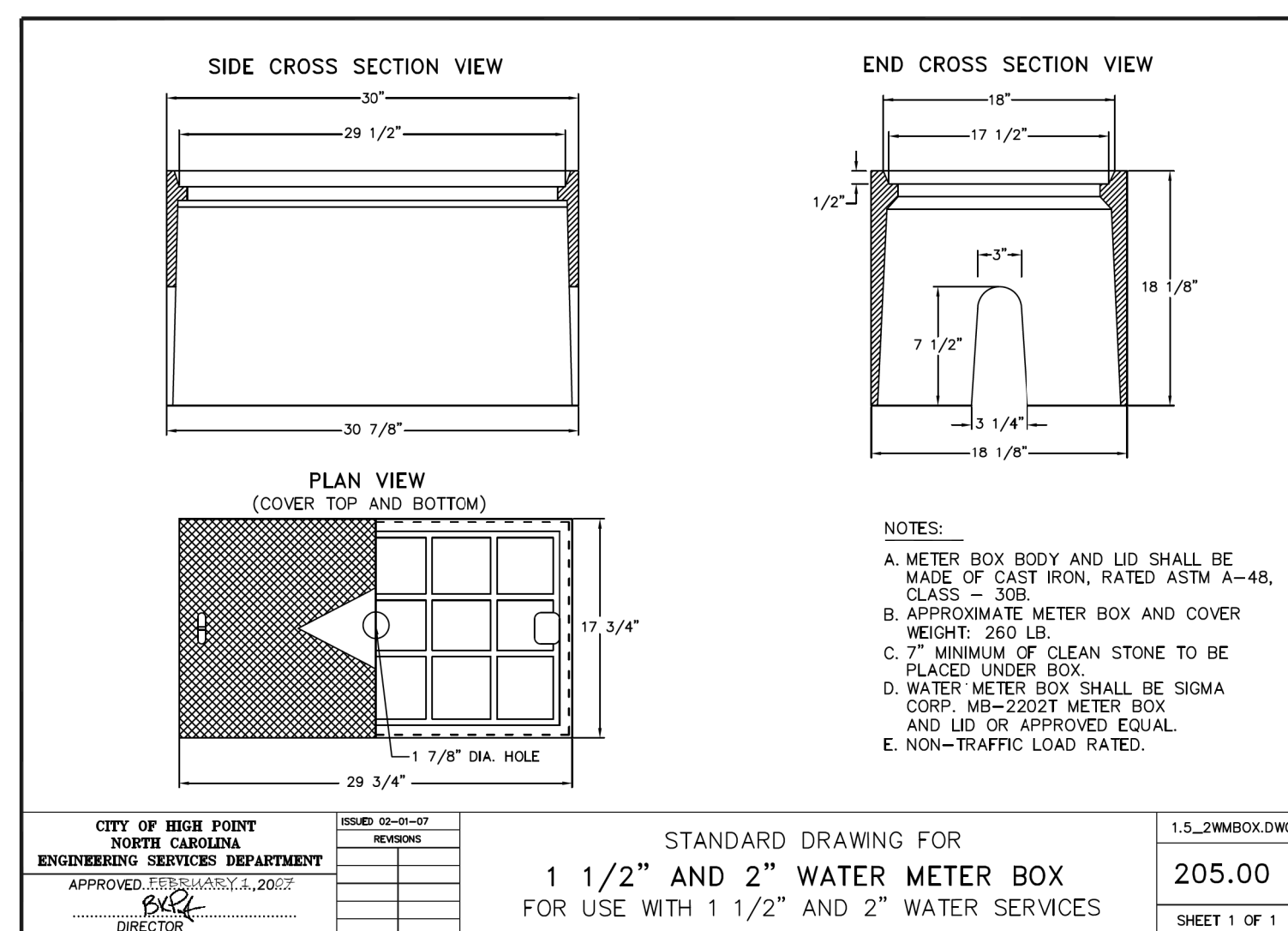
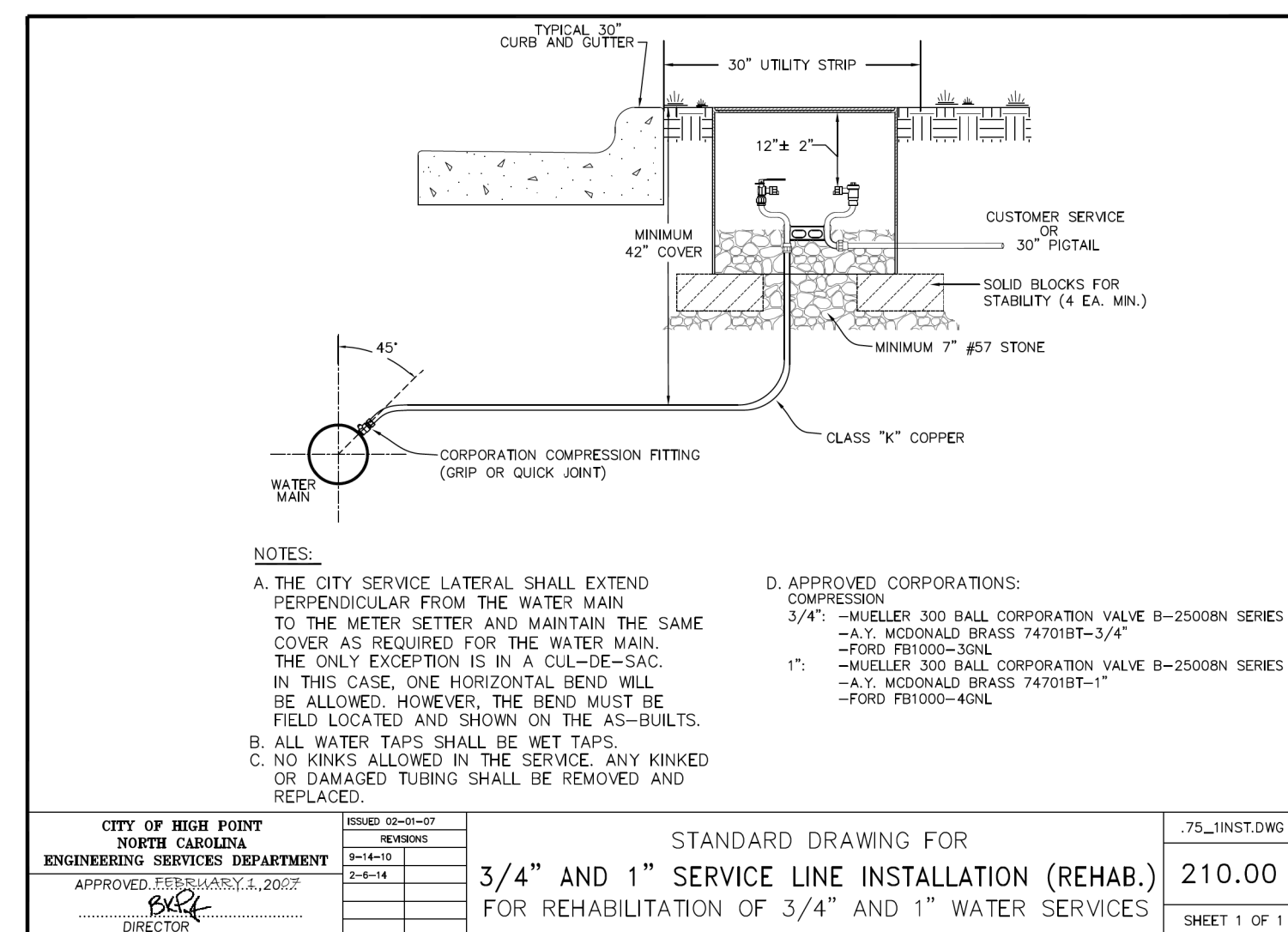
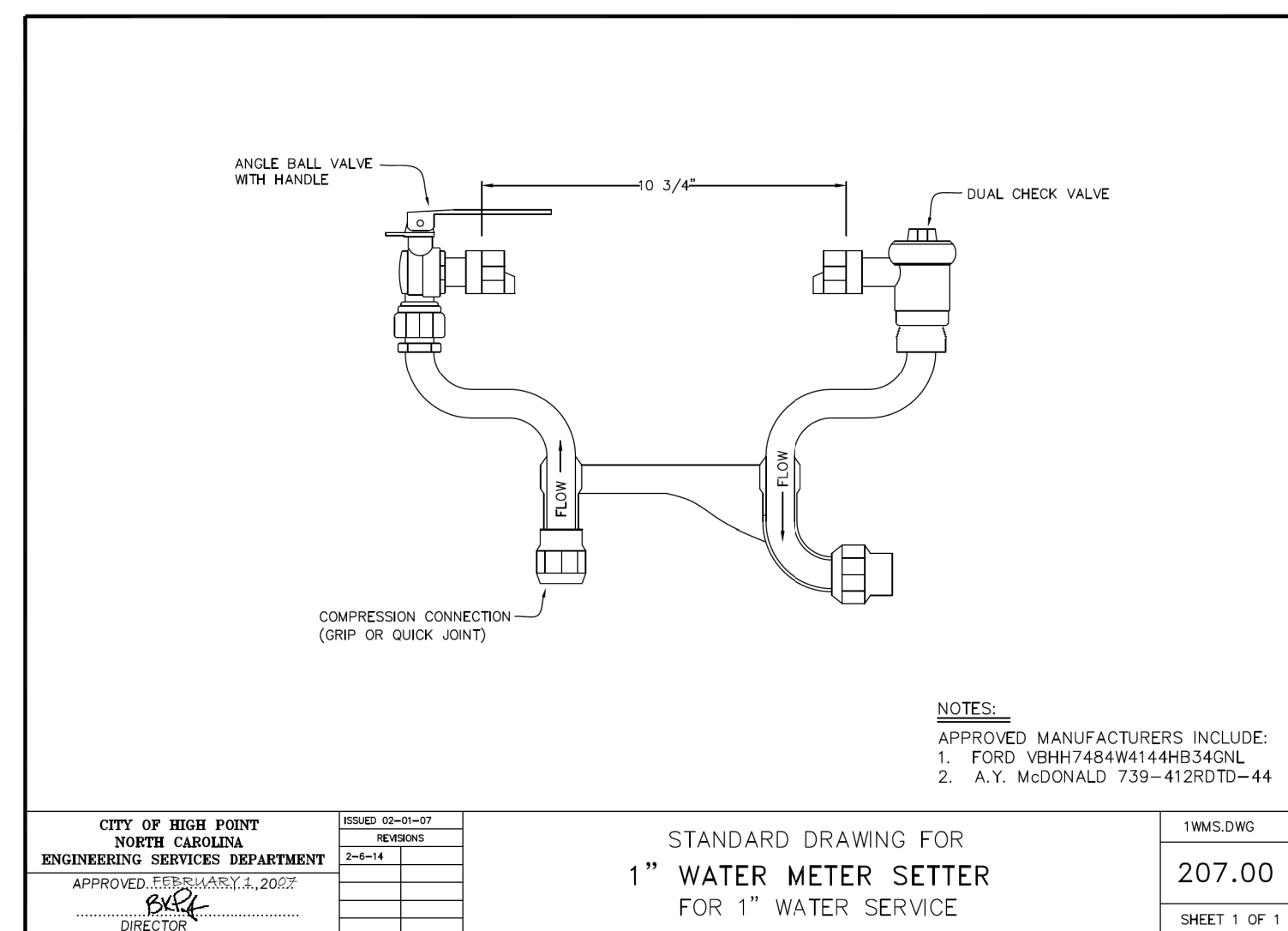
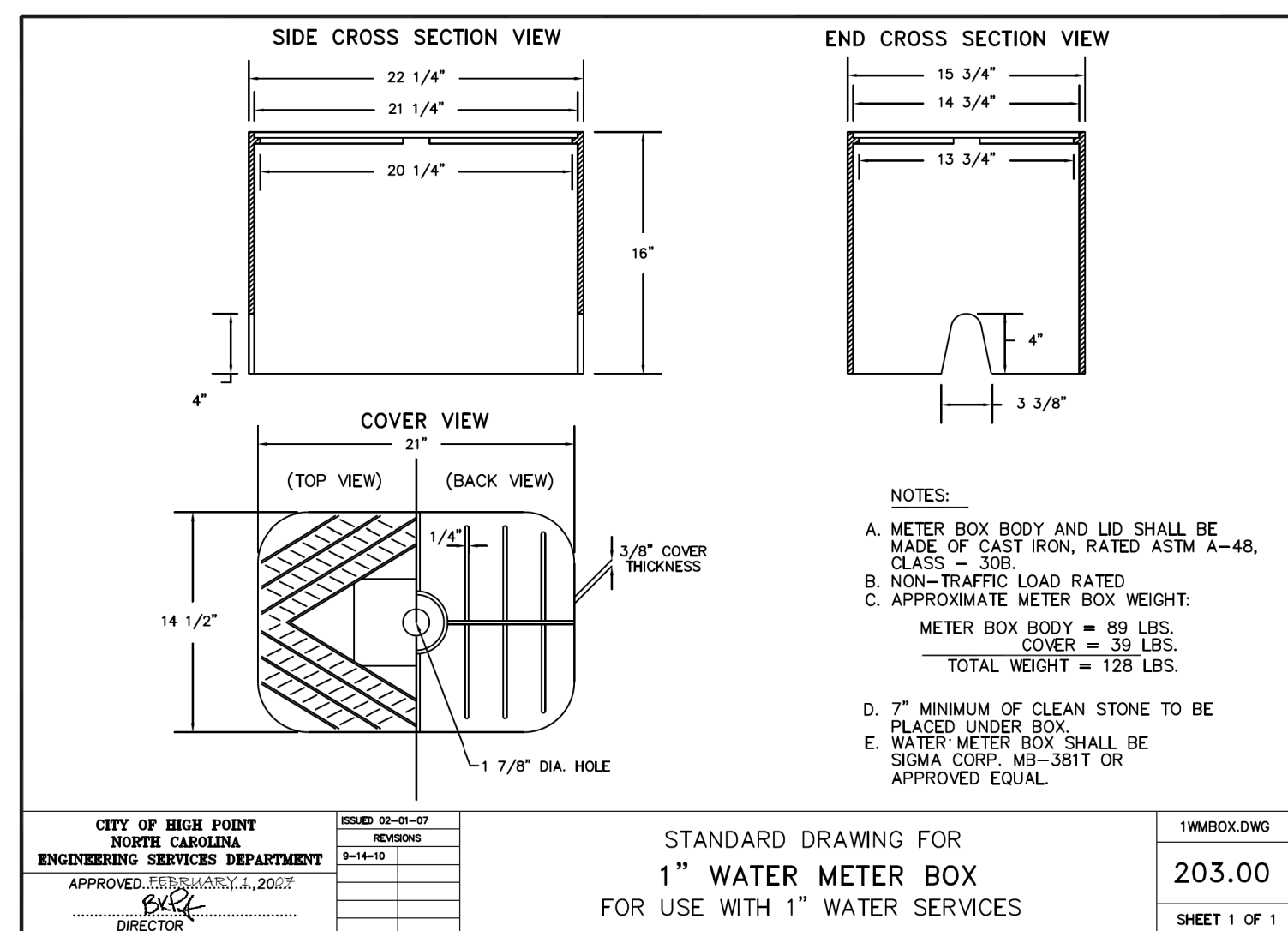
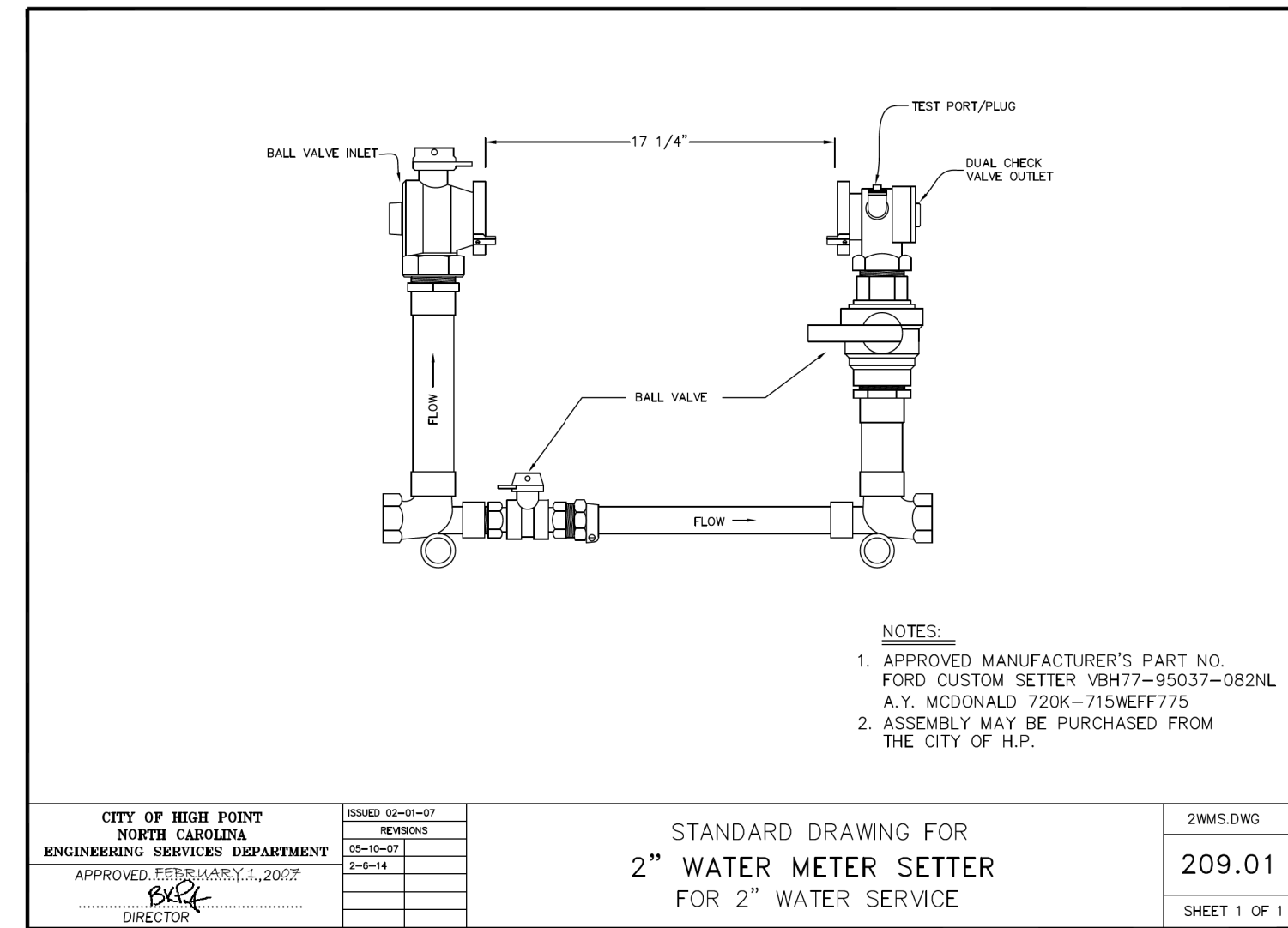
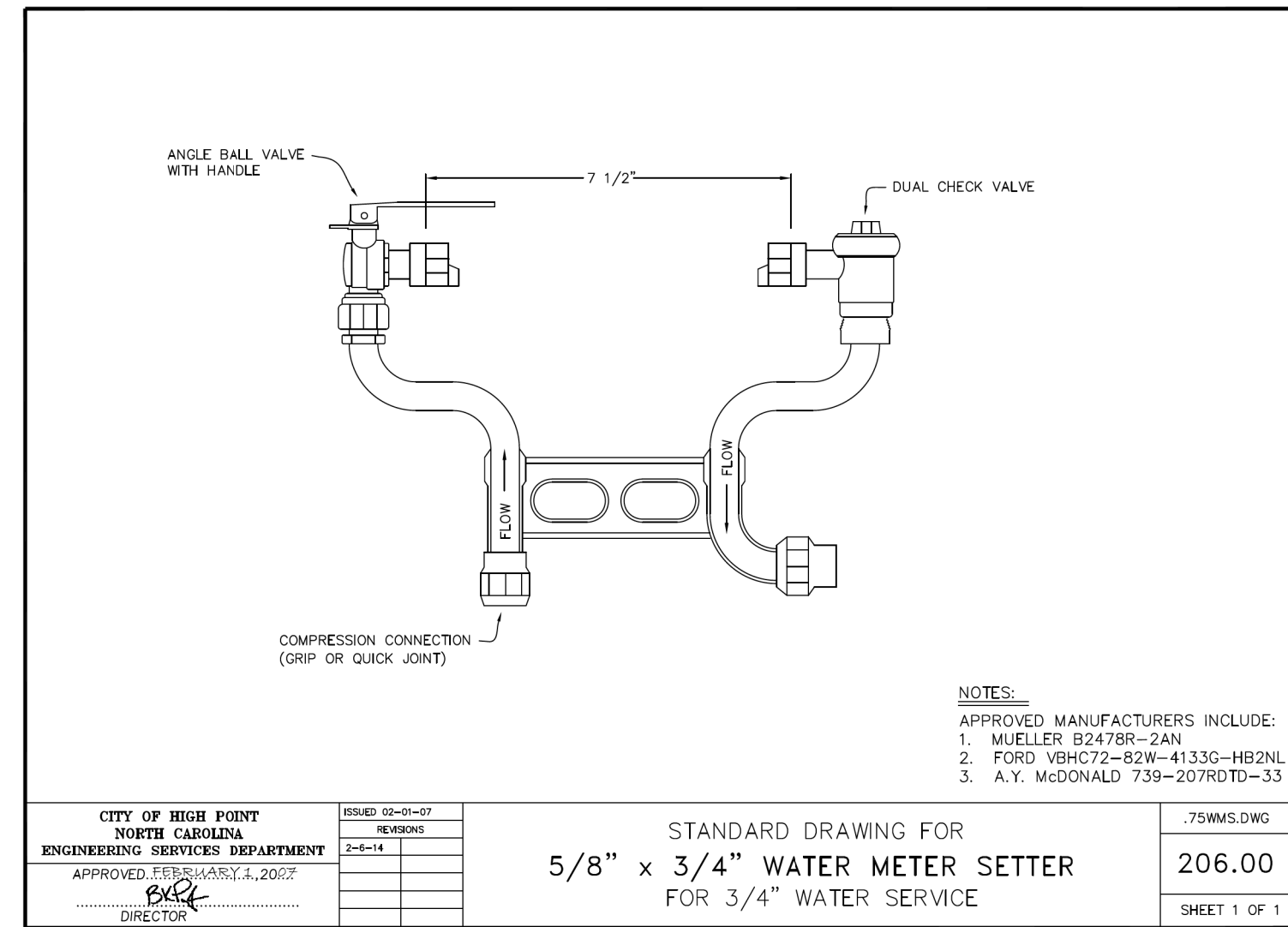
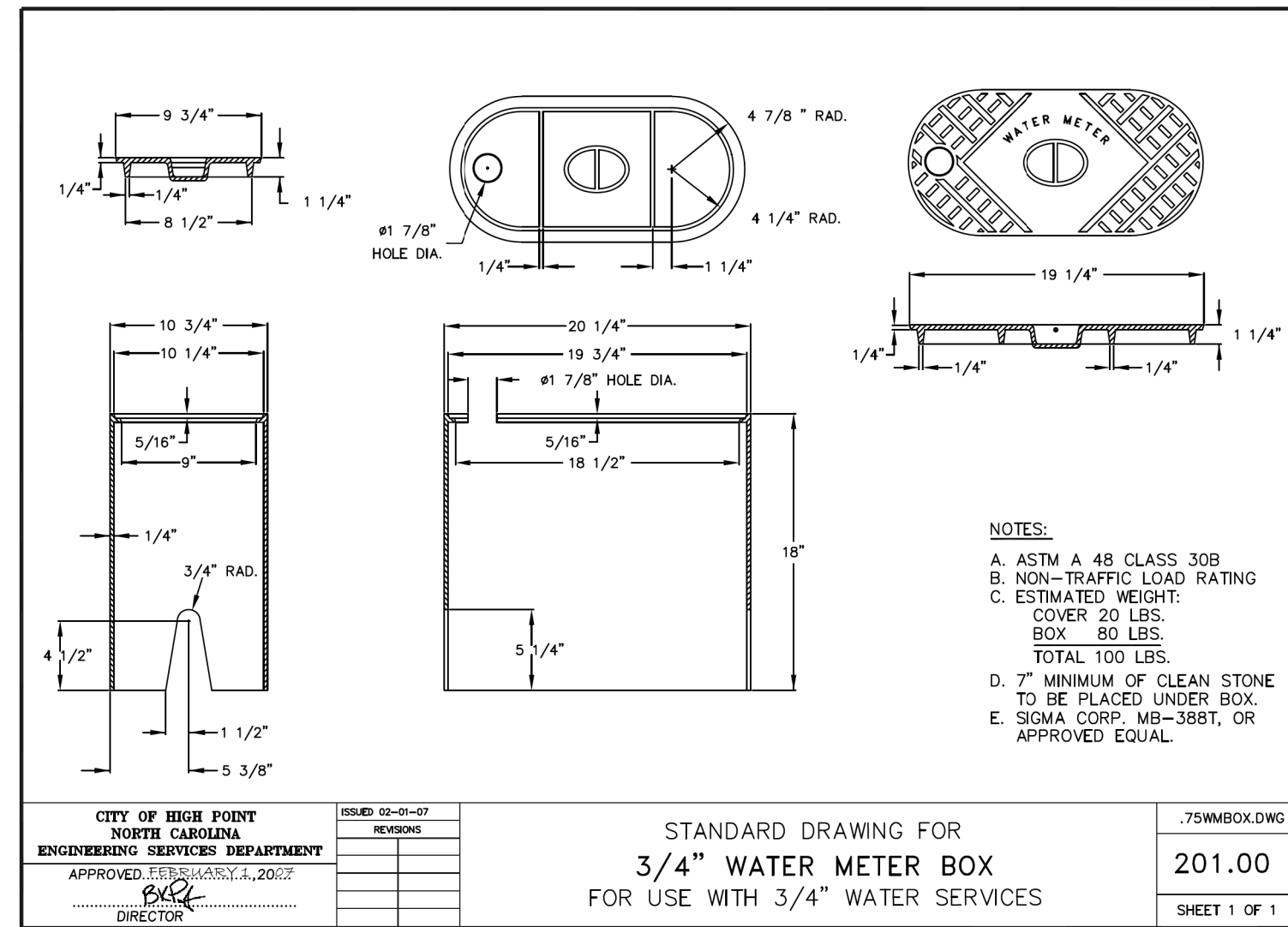
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|---|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-5896 | UC-3A |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS



REVISIONS

5/14/2022

PROJECT TYPICAL DETAILS

| | |
|--|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-5896 | UC-3B |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| 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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PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS

STREET SIDE VIEW
 5' WIDE SIDEWALK (S/W REQUIREMENT VARIES)
 4" CONC. SIDEWALK
 TYPICAL 30" CURB AND GUTTER
 MIN. 42" COVER
 SOLID BLOCKS FOR STABILITY (QTY. AS REQ'D)
 CLASS "K" COPPER
 TO HOUSE
 TO STREET

STREET FRONT VIEW
 TO HOUSE
 TO STREET
 MIN. 7" #57 STONE (KEEP BYPASS CLEAR OF STONE)
 30" PITTAIL
 CUSTOMER SERVICE

NOTES:
 A. THE CITY SERVICE LATERAL SHALL EXTEND PERPENDICULAR FROM THE WATER MAIN TO THE METER SETTER AND MAINTAIN THE SAME COVER AS REQUIRED FOR THE WATER MAIN. THE ONLY EXCEPTION IS IN A CUL-DE-SAC. IN THIS CASE, ONE HORIZONTAL BEND WILL BE ALLOWED. HOWEVER, THE BEND MUST BE FIELD LOCATED AND SHOWN ON THE AS-BUILTS.
 B. ALL WATER TAPS SHALL BE WET TAPS.
 C. APPROVED CORPORATIONS:
 COMPRESSION
 -MUELLER 300 BALL CORPORATION VALVE B-2500RN SERIES
 -A.Y. McDONALD BRASS 747018T-3/4" -FORD F1000-70N
 -MUELLER 300 BALL CORPORATION VALVE B-2500RN SERIES
 -A.Y. McDONALD BRASS 747018T-1" -FORD F1000-70N
 D. FOR RIBBON PAVEMENT ROADS, THE WATER METER BOX AND SETTER SHALL BE LOCATED WITHIN THE GRASS STRIP, WHICH IS LOCATED 2' INSIDE OF THE RIGHT-OF-WAY LINE.
 E. NO KINKS ALLOWED IN THE SERVICE. ANY KINKED OR DAMAGED TUBING SHALL BE REMOVED AND REPLACED.

CITY OF HIGH POINT NORTH CAROLINA ENGINEERING SERVICES DEPARTMENT APPROVED: FEBRUARY 2, 2022
 STANDARD DRAWING FOR 3/4" AND 1" SERVICE LINE INSTALLATION (NEW) FOR 3/4" AND 1" WATER SERVICES
 212.00
 SHEET 1 OF 1

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS
 BASED ON TEST PRESSURE OF 200 PSI

| SIZE AND DEGREE OF BEND | STATIC THRUST IN POUNDS | 1/4" CONC. CLAY 4,000 LB/SQ FT | SOFT CLAY 2,000 LB/SQ FT | GRAVEL COARSE 10,000 LB/SQ FT | DRY CLAY 8,000 LB/SQ FT | DRY CLAY 8,000 LB/SQ FT | COMPACTED SAND 8,000 LB/SQ FT | DRY CLEAN SAND 8,000 LB/SQ FT | ROCK 10,000 LB/SQ FT | TE RIGID REQUIRED |
|-------------------------|-------------------------|--------------------------------|--------------------------|-------------------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|----------------------|----------------------|
| 11.25° | 1108 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 22.50° | 2207 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | |
| 45° | 4328 | 2 | 3 | 3 | 1 | 1 | 2 | 1 | | |
| 90° | 7996 | 2 | 4 | 5 | 1 | 1 | 2 | 1 | 2 | 1/2-1 1/2" DIA. PLUG |
| PLUG | 5665 | 2 | 3 | 4 | 1 | 1 | 2 | 1 | | |
| 6" | | | | | | | | | | |
| 11.25° | 1970 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 1 |
| 22.50° | 3922 | 1 | 2 | 3 | 1 | 1 | 3 | 1 | | |
| 45° | 7654 | 2 | 4 | 5 | 1 | 1 | 5 | 1 | | |
| 90° | 14215 | 4 | 8 | 9 | 2 | 2 | 8 | 2 | | |
| PLUG | 10053 | 3 | 5 | 6 | 2 | 2 | 6 | 1 | 2 | 5/8" DIA. |
| 12" | | | | | | | | | | |
| 11.25° | 4433 | 2 | 3 | 3 | 1 | 1 | 2 | 1 | 2 | 1 |
| 22.50° | 8826 | 3 | 5 | 6 | 2 | 2 | 3 | 1 | | |
| 45° | 17312 | 5 | 9 | 11 | 3 | 3 | 5 | 2 | | |
| 90° | 31983 | 8 | 16 | 19 | 4 | 4 | 8 | 4 | | |
| PLUG | 22619 | 6 | 12 | 14 | 3 | 3 | 6 | 3 | 4 | 3/4" DIA. |

NOTES:
 1. CONCRETE SHALL BE 3000 PSI.
 2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
 3. ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.
 4. USE OF 90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTORS.

CITY OF HIGH POINT NORTH CAROLINA ENGINEERING SERVICES DEPARTMENT APPROVED: FEBRUARY 2, 2022
 STANDARD DRAWING FOR THRUST BLOCKING FOR 6" - 12" WATER LINE
 232.00
 SHEET 1 OF 1

SECTION B-B
 SUPPORT LEG
 SKID
 STEEL ENCASMENT PIPE (SEE SPECIFICATIONS)
 ENCLOSE ENDS WITH 8" BRICK MASONRY PLUGS
 SLOPE TO DRAIN
 CARRIER PIPE
 SLOPE TO DRAIN
 1" DIA. WEEPHOLE
 #57 DRAINAGE STONE (10 CU. FT.)

SECTION A-A
 BOLTS: ZINC COATED
 STEEL ENCASMENT PIPE
 INSULATING LINER
 SPIDER SUPPORT AND SPACER
 CARRIER PIPE
 FINISH: ANTI-CORROSION
 BAND
 SKIDS

NOTES:
 A. THE CARRIER PIPE SUPPORTS SHALL BE MADE OF STRUCTURAL STEEL LOW CARBON HOT ROLLED FLAT PLATE ACCORDING TO ASTM A 36/A.
 B. THE CARRIER PIPE SUPPORTS SHALL BE MANUFACTURED BY SPIDER MANUFACTURING, INC. OR AN APPROVED EQUAL.
 C. 4" - 16" CARRIER PIPE REQUIRES TWO "SPIDER" SUPPORTS PER SECTION OF PIPE.
 D. 18" - 36" CARRIER PIPE REQUIRES THREE "SPIDER" SUPPORTS PER SECTION OF PIPE.
 E. 18" AND LARGER CARRIER PIPE SUPPORTS ARE MANUFACTURED AS TWO-PIECE COMPONENTS.
 F. INSULATING LINER SHALL BE EPDM NON-CONDUCTIVE RUBBER 3/16" ± 1/16" THICKNESS (ASTM D-2000 75E).

CITY OF HIGH POINT NORTH CAROLINA ENGINEERING SERVICES DEPARTMENT APPROVED: FEBRUARY 2, 2022
 STANDARD DRAWING FOR SPIDER SUPPORT FOR DUCTILE IRON PIPE INSTALLED IN STEEL ENCASMENT PIPE
 234.00
 SHEET 1 OF 1

STREET SIDE VIEW
 5' WIDE SIDEWALK (S/W REQUIREMENT VARIES)
 4" CONC. SIDEWALK
 TYPICAL 30" CURB AND GUTTER
 MIN. 42" COVER
 SOLID BLOCKS FOR STABILITY (QTY. AS REQ'D)
 CLASS "K" COPPER
 TO HOUSE
 TO STREET

STREET FRONT VIEW
 TO HOUSE
 TO STREET
 MIN. 7" #57 STONE (KEEP BYPASS CLEAR OF STONE)
 30" PITTAIL
 CUSTOMER SERVICE

NOTES:
 A. THE CITY SERVICE LATERAL SHALL EXTEND PERPENDICULAR FROM THE WATER MAIN TO THE METER SETTER AND MAINTAIN THE SAME COVER AS REQUIRED FOR THE WATER MAIN. THE ONLY EXCEPTION IS IN A CUL-DE-SAC. IN THIS CASE, ONE HORIZONTAL BEND WILL BE ALLOWED. HOWEVER, THE BEND MUST BE FIELD LOCATED AND SHOWN ON THE AS-BUILTS.
 B. ALL WATER TAPS SHALL BE WET TAPS.
 C. ALL 1 1/2" AND 2" WATER TAPS REQUIRE DUCTILE IRON DOUBLE STRAP SERVICE SADDLES.
 D. APPROVED PARTS:
 1 1/2" & 2" SERVICE SADDLE:
 -SMITH BLAIR MODEL 313
 -MUELLER 300 BALL CORPORATION VALVE B-2500RN SERIES
 1 1/2" & 2" SERVICE SADDLE:
 -A.Y. McDONALD BRASS 747018T-1 1/2" -FORD F1000-70N
 -MUELLER 300 BALL CORPORATION VALVE B-2500RN SERIES
 -A.Y. McDONALD BRASS 747018T-2" -FORD F1000-70N
 E. FOR RIBBON PAVEMENT ROADS, THE WATER METER BOX AND SETTER SHALL BE LOCATED WITHIN THE GRASS STRIP, WHICH IS LOCATED 2' INSIDE OF THE RIGHT-OF-WAY LINE.
 F. NO KINKS ALLOWED IN THE SERVICE. ANY KINKED OR DAMAGED TUBING SHALL BE REMOVED AND REPLACED.

CITY OF HIGH POINT NORTH CAROLINA ENGINEERING SERVICES DEPARTMENT APPROVED: FEBRUARY 2, 2022
 STANDARD DRAWING FOR 1 1/2" AND 2" SERVICE LINE INSTALLATION (NEW) FOR 1 1/2" AND 2" WATER SERVICES
 213.00
 SHEET 1 OF 1

TRENCH WIDTH:
 MIN W = Bc + 16"
 MAX W = Bc + 36"

IF CONTRACTOR CHOOSES TO EXCAVATE PAST THE MAX W, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS IN THE EXCAVATION BEYOND THE MAX W LIMITS.

FINAL BACKFILLING NOTES:
 A. EXCAVATION, TRENCHING, AND FINAL BACKFILLING SHALL BE DONE ACCORDING TO NC DOT SECTION 1505.
 B. UNDER ROADWAYS, FINAL BACKFILLING SHALL ALSO BE IN ACCORDANCE WITH ARTICLE 300-7 AND COMPACTED TO 90% OF THE AASHTO T99 STANDARD PROCTOR, AS MODIFIED BY THE NC DOT.
 C. UNDER ROADWAYS, THE LAST 12" OF BACKFILL BELOW THE FINISHED SURFACE OF THE SUBGRADE SHALL BE COMPACTED TO 100% OF THE AASHTO T99 STANDARD PROCTOR, AS MODIFIED BY THE NC DOT.
 D. UNDER NON-ROADWAYS, FINAL BACKFILLING SHALL BE IN ACCORDANCE WITH ARTICLE 300-7 AND COMPACTED TO 90% OF THE AASHTO T99 STANDARD PROCTOR.

BEDDING:
 A. FOR TYPE 3 AND 4 BEDDINGS, SUBGRADES SHOULD BE EXCAVATED OR OVER EXCAVATED, IF NECESSARY, SO A UNIFORM FOUNDATION FREE OF PROTRUDING ROCKS MAY BE PROVIDED.

CITY OF HIGH POINT NORTH CAROLINA ENGINEERING SERVICES DEPARTMENT APPROVED: FEBRUARY 2, 2022
 STANDARD DRAWING FOR D.I. PIPE BEDDING & MAXIMUM DEPTH OF COVER
 233.00
 SHEET 1 OF 2

MIN. HEIGHT - 12" ABOVE WEEPHOLES
 2" MIN. TO 4" MAX.
 18" MIN. TO 20" MAX.
 48" MINIMUM
 6" MINIMUM DUCTILE IRON PIPE
 6" GATE VALVE
 VALVE BOX SEE COMP. STD. 237.00
 CONCRETE THRUST BLOCKING PLACED AGAINST UNDISTURBED SOIL
 CONCRETE THRUST BLOCKING

NOTES:
 A. RESTRAINT SYSTEM
 OPTION 1 - HYDRANT LEAD PIPE SHALL BE SECURED BY (TWO) 3/4" RODS. (SEE SHEET 1 OF 2)
 OPTION 2 - HYDRANT LEAD PIPE JOINTS SHALL BE RESTRAINED BY USING A RESTRAINED HYDRANT TEE AND USING RESTRAINED JOINT RETAINER GLANDS. (SEE SHEET 2 OF 2)
 ALL OPTIONS - CONCRETE THRUST BLOCKING REQUIRED BEHIND THE HYDRANT AND BEHIND THE TEE. BOLTS, NUTS, AND WEEPHOLES TO BE FREE OF CONCRETE.
 B. HYDRANT PLACEMENT
 1) C&G ROAD - FACE OF HYDRANT SET 12" TO 30" FROM BACK OF CURB.
 2) RIBBON PAVEMENT ROAD - CENTER OF HYDRANT PLACED 1' INSIDE RIGHT OF WAY LINE.
 3) VARIABLES - HYDRANT SHALL NOT FALL IN THE FLOW-LINE OF THE HYDRANT.
 HYDRANT SHALL BE SET BEYOND THE HINGE POINT OF THE CUT OR FILL LINE OR AS DIRECTED BY THE ENGINEER.
 C. THE HYDRANT SHALL BE GIVEN 2 COATS OF PAINT AS FOLLOWS:

| | FIRST COAT | FINAL FIELD COAT |
|---------------------|---|-------------------|
| BARREL ABOVE GROUND | BRIGHT RED ENAMEL | BRIGHT RED ENAMEL |
| BONNET AND CAPS | CHROME ALUMINUM ENAMEL | WHITE ENAMEL |
| BARREL BELOW GROUND | TWO COATS OF FITON TAR VARNISH OR BLACK ASPHALTUM PAINT | |

CITY OF HIGH POINT NORTH CAROLINA ENGINEERING SERVICES DEPARTMENT APPROVED: FEBRUARY 2, 2022
 STANDARD DRAWING FOR FIRE HYDRANT INSTALLATION FOR 6" 3-WAY FIRE HYDRANTS
 235.00
 SHEET 1 OF 2

DUCTILE IRON WATER PIPE

| PIPE SIZE | COVER |
|----------------|----------------|
| 6" - 10" D.I. | 48" MIN. COVER |
| 12" - 36" D.I. | 54" MIN. COVER |

CITY OF HIGH POINT NORTH CAROLINA ENGINEERING SERVICES DEPARTMENT APPROVED: FEBRUARY 2, 2022
 STANDARD DRAWING FOR WATER PIPE COVER REQUIREMENTS FOR 6" - 36" D.I. WATER PIPE - PRESSURE CLASS 350
 230.00
 SHEET 1 OF 1

WATERLINES

| PIPE SIZE | MOD. TYPE |
|-----------|-------------|
| 3" | MOD. TYPE 1 |
| 4" | MOD. TYPE 1 |
| 6" | MOD. TYPE 1 |
| 8" | MOD. TYPE 1 |
| 12" | MOD. TYPE 1 |
| 16" | MOD. TYPE 2 |
| 24" | MOD. TYPE 2 |

SEWER LINES

| PIPE SIZE | MOD. TYPE |
|-----------|-------------|
| 8" | MOD. TYPE 1 |
| 12" | MOD. TYPE 1 |
| 16" | MOD. TYPE 1 |
| 24" | MOD. TYPE 1 |
| 30" | MOD. TYPE 2 |
| 36" | MOD. TYPE 3 |

CITY OF HIGH POINT NORTH CAROLINA ENGINEERING SERVICES DEPARTMENT APPROVED: FEBRUARY 2, 2022
 STANDARD DRAWING FOR D.I. PIPE BEDDING & MAXIMUM DEPTH OF COVER
 233.00
 SHEET 2 OF 2

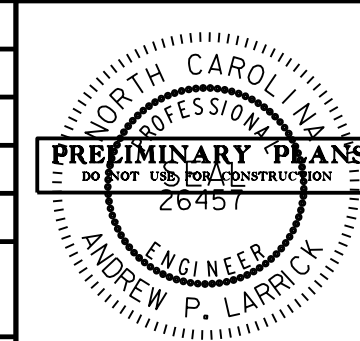
30" UTILITY STRIP
 2" MIN. TO 4" MAX.
 18" MIN. TO 20" MAX.
 48" MINIMUM
 6" MINIMUM DUCTILE IRON PIPE
 6" GATE VALVE
 VALVE BOX SEE COMP. STD. 237.00
 CONCRETE THRUST BLOCKING PLACED AGAINST UNDISTURBED SOIL
 CONCRETE THRUST BLOCKING

NOTES:
 A. RESTRAINT SYSTEM
 OPTION 1 - HYDRANT LEAD PIPE SHALL BE SECURED BY (TWO) 3/4" RODS. (SEE SHEET 1 OF 2)
 OPTION 2 - HYDRANT LEAD PIPE JOINTS SHALL BE RESTRAINED BY USING A RESTRAINED HYDRANT TEE AND USING RESTRAINED JOINT RETAINER GLANDS. (SEE SHEET 2 OF 2)
 ALL OPTIONS - CONCRETE THRUST BLOCKING REQUIRED BEHIND THE HYDRANT AND BEHIND THE TEE. BOLTS, NUTS, AND WEEPHOLES TO BE FREE OF CONCRETE.
 B. HYDRANT PLACEMENT
 1) C&G ROAD - FACE OF HYDRANT SET 12" TO 30" FROM BACK OF CURB.
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 3) VARIABLES - HYDRANT SHALL NOT FALL IN THE FLOW-LINE OF THE HYDRANT.
 HYDRANT SHALL BE SET BEYOND THE HINGE POINT OF THE CUT OR FILL LINE OR AS DIRECTED BY THE ENGINEER.
 C. THE HYDRANT SHALL BE GIVEN 2 COATS OF PAINT AS FOLLOWS:

| | FIRST COAT | FINAL FIELD COAT |
|---------------------|---|-------------------|
| BARREL ABOVE GROUND | BRIGHT RED ENAMEL | BRIGHT RED ENAMEL |
| BONNET AND CAPS | CHROME ALUMINUM ENAMEL | WHITE ENAMEL |
| BARREL BELOW GROUND | TWO COATS OF FITON TAR VARNISH OR BLACK ASPHALTUM PAINT | |

CITY OF HIGH POINT NORTH CAROLINA ENGINEERING SERVICES DEPARTMENT APPROVED: FEBRUARY 2, 2022
 STANDARD DRAWING FOR FIRE HYDRANT INSTALLATION FOR 6" 3-WAY FIRE HYDRANTS
 235.00
 SHEET 2 OF 2

PROJECT TYPICAL DETAILS

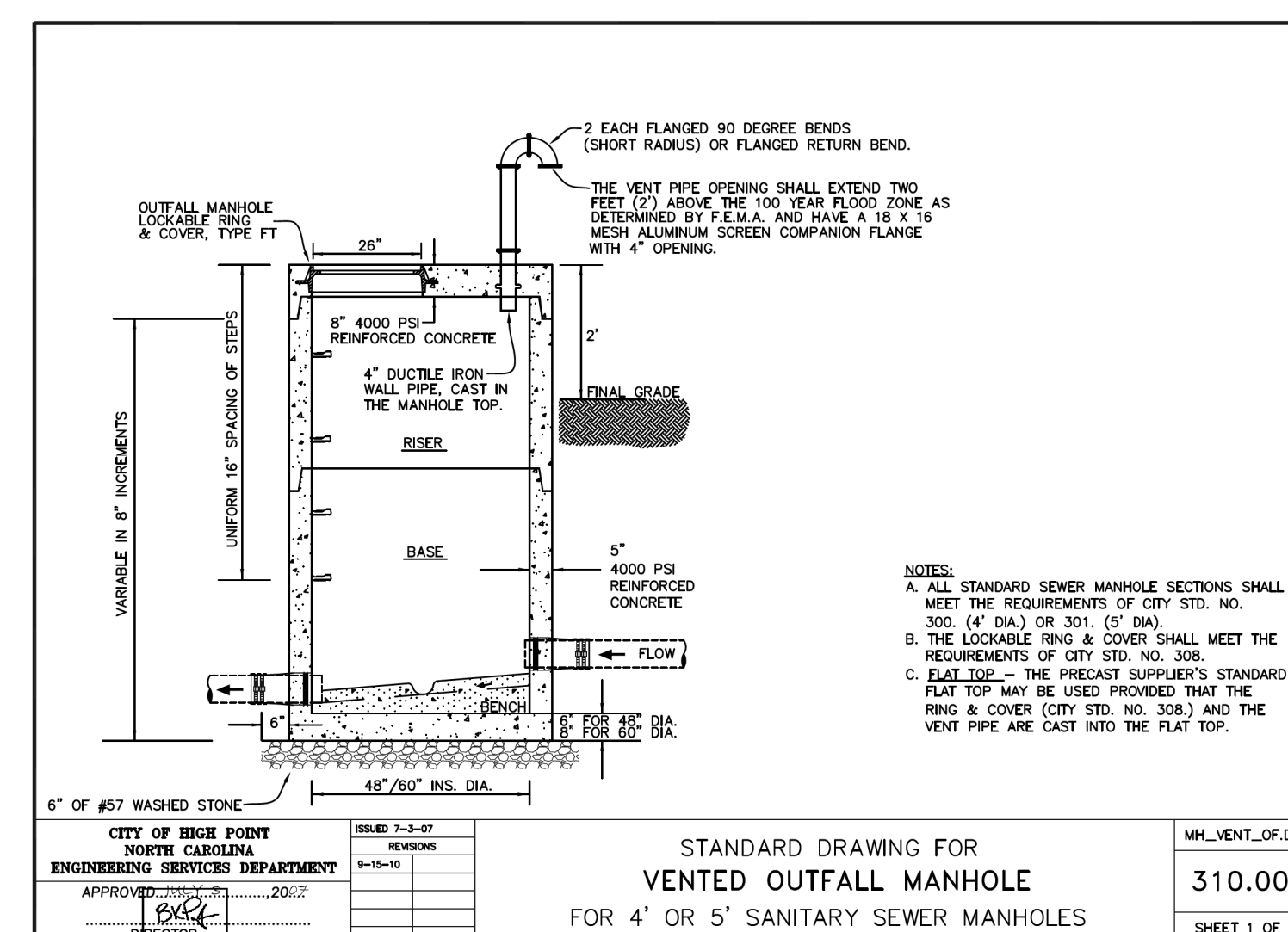
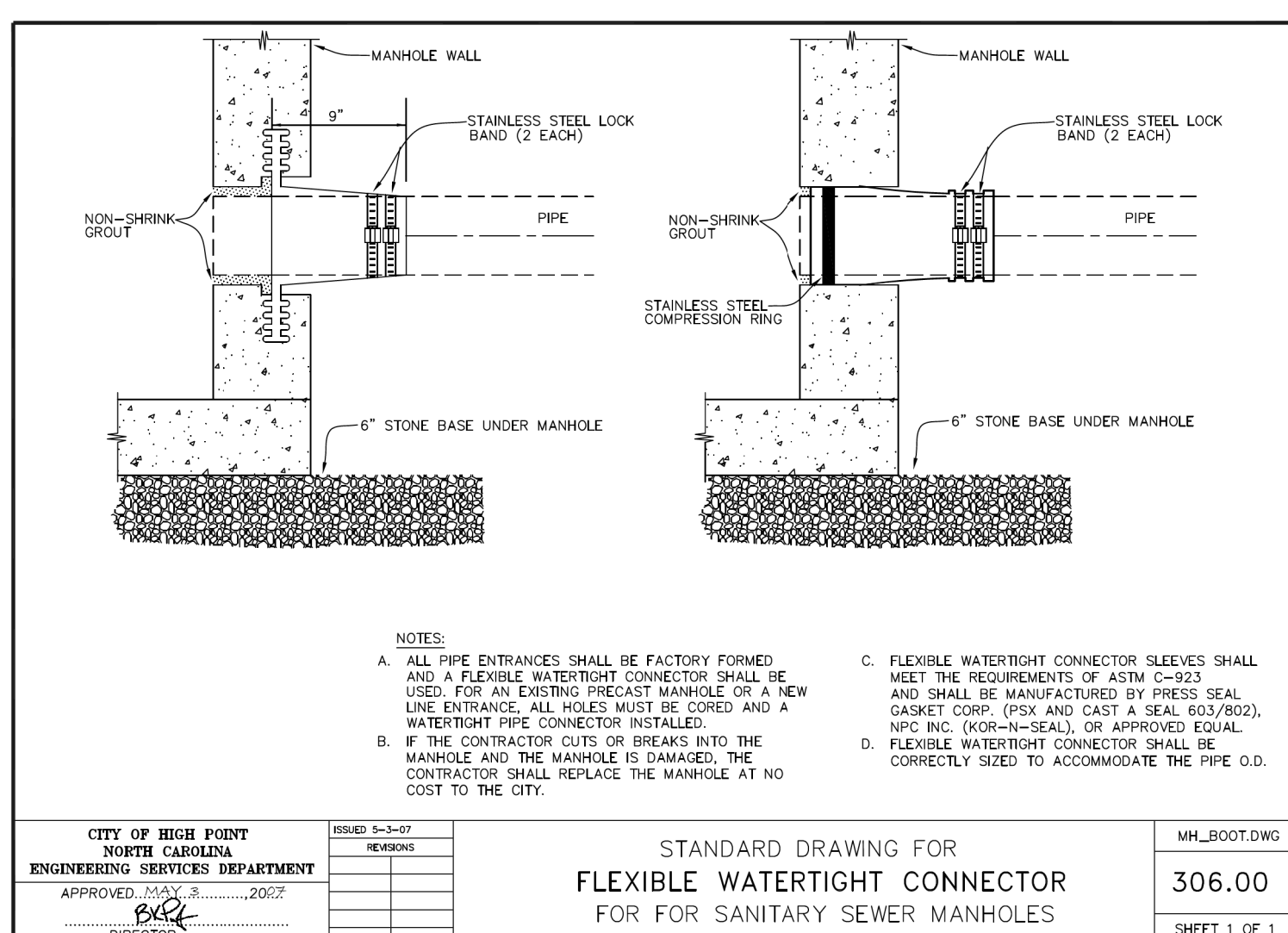
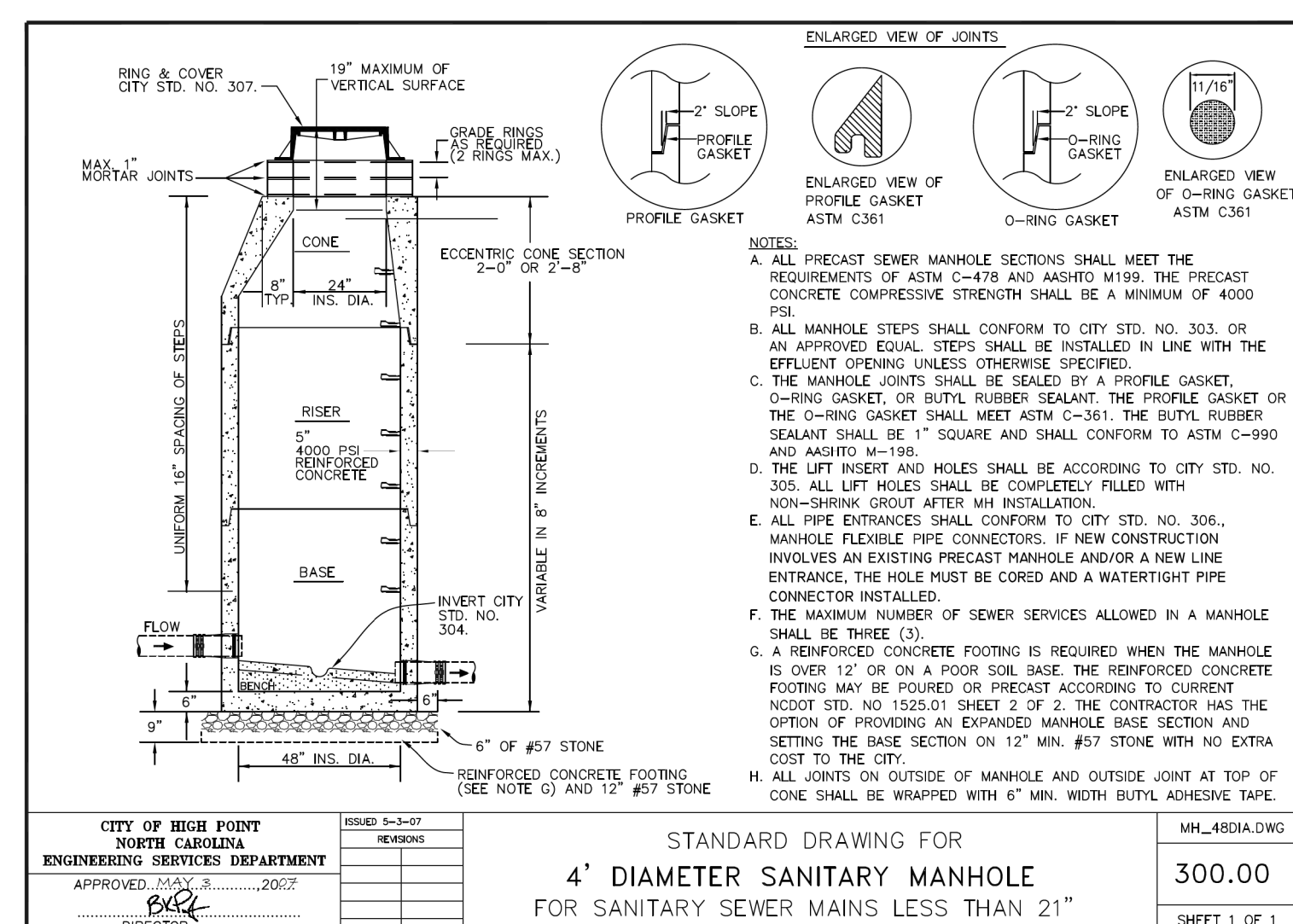
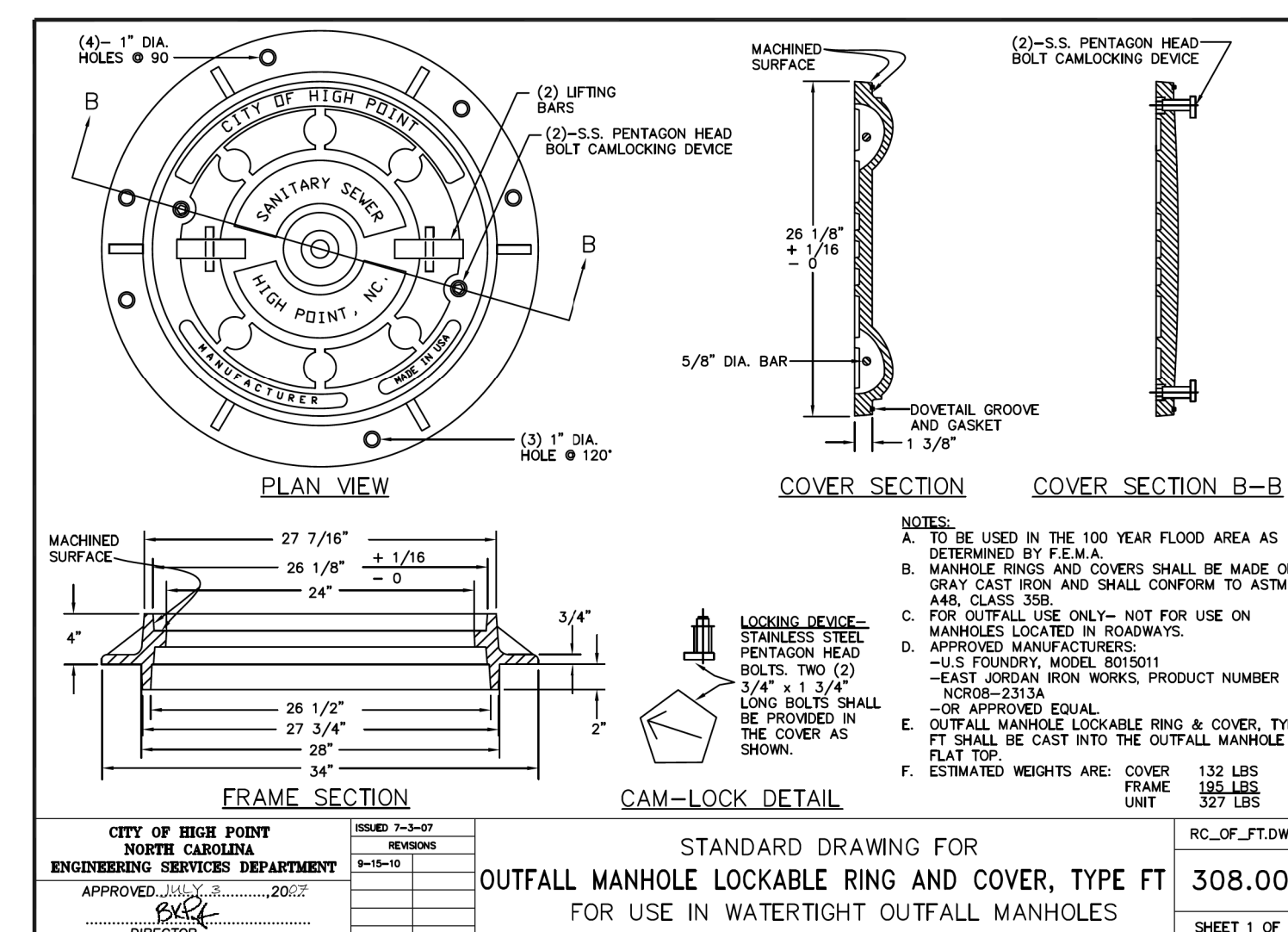
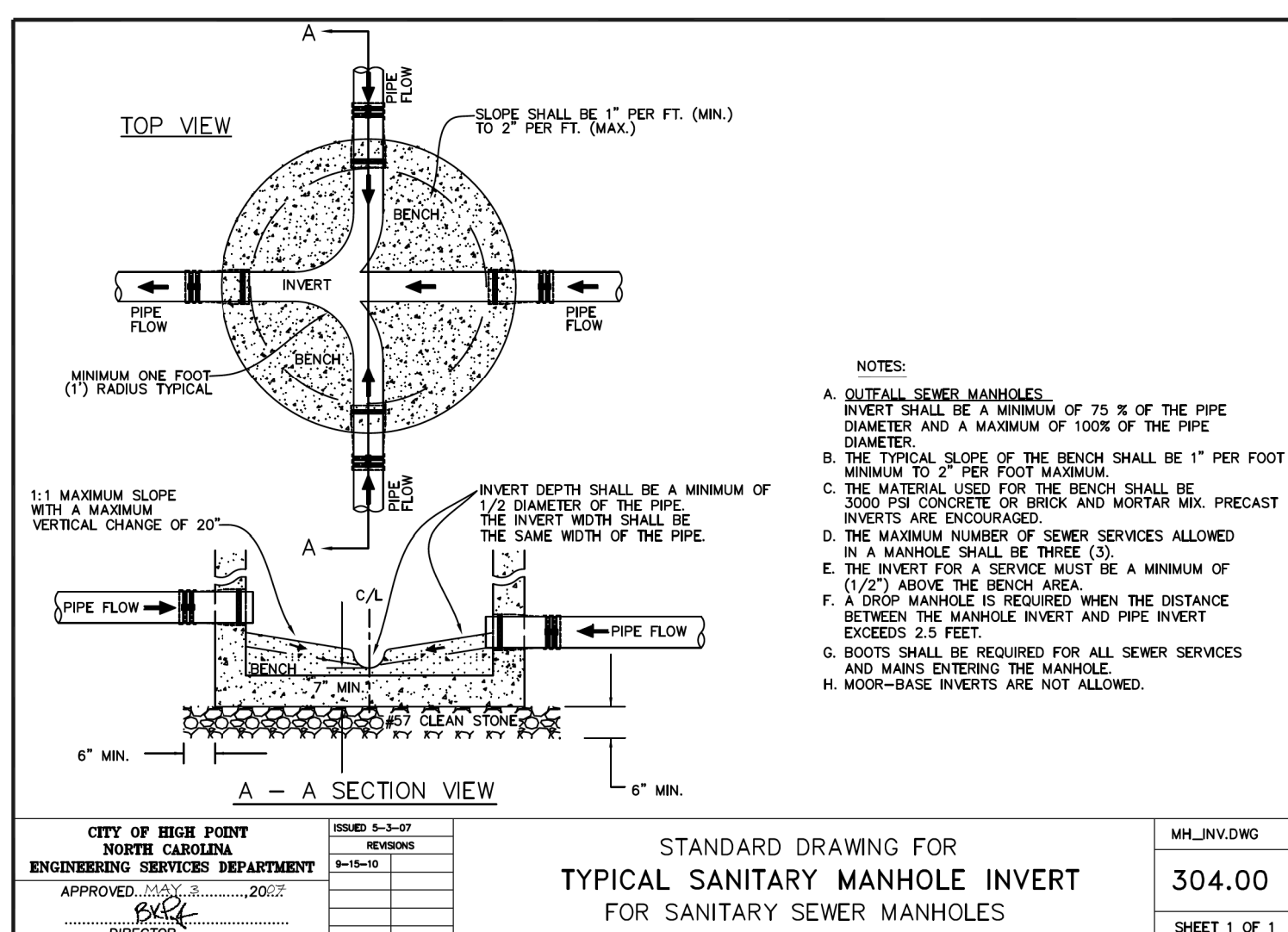
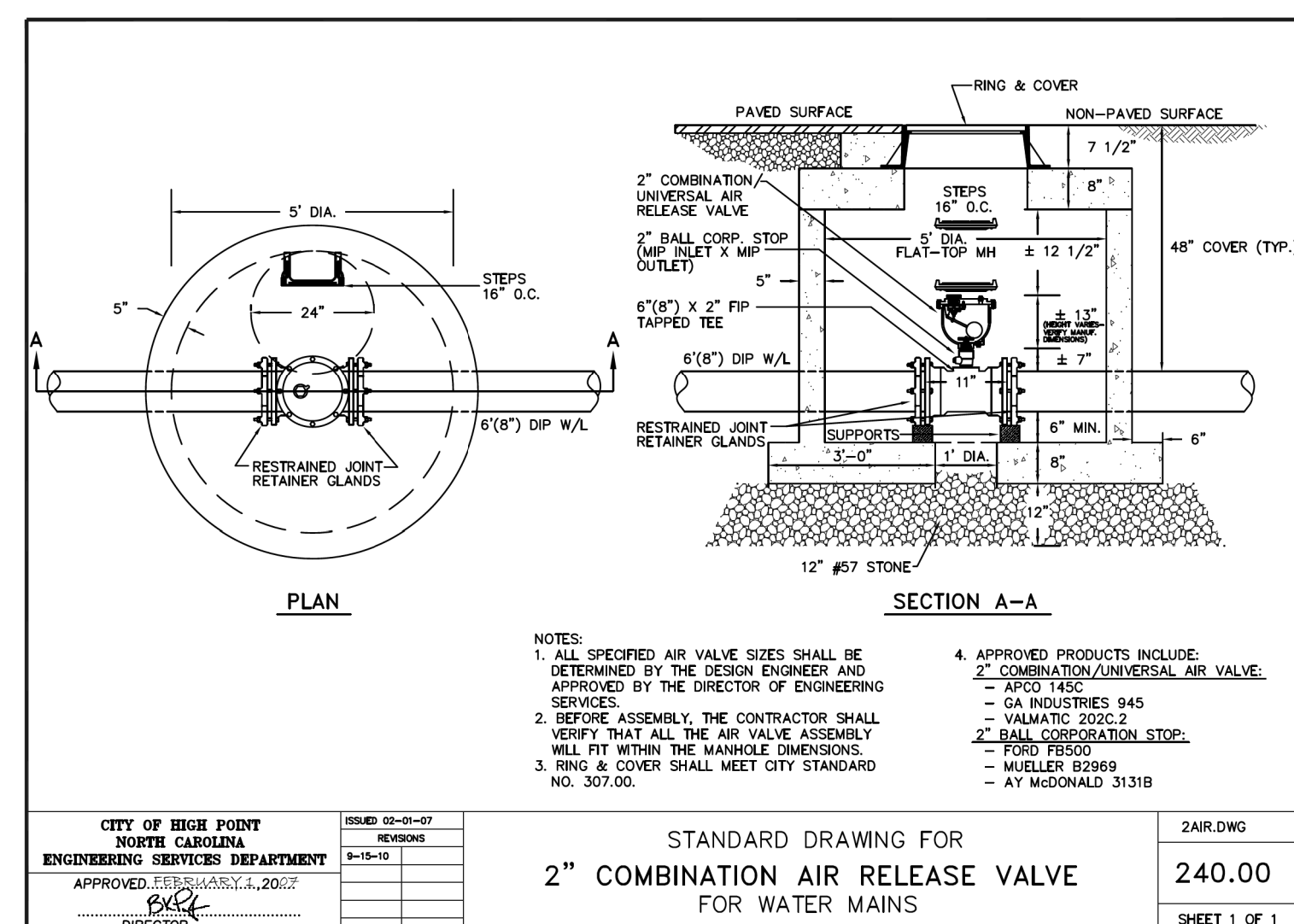
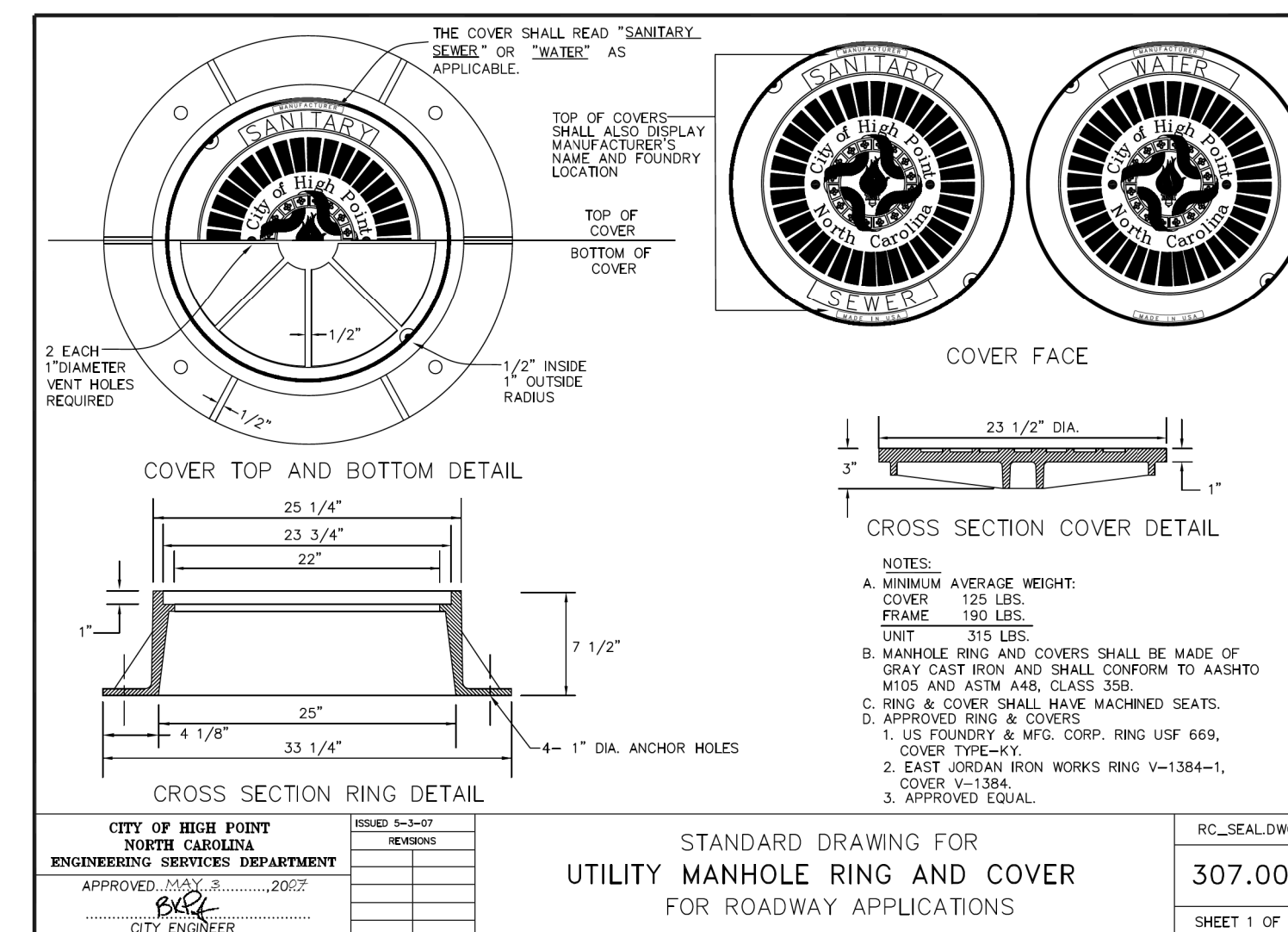
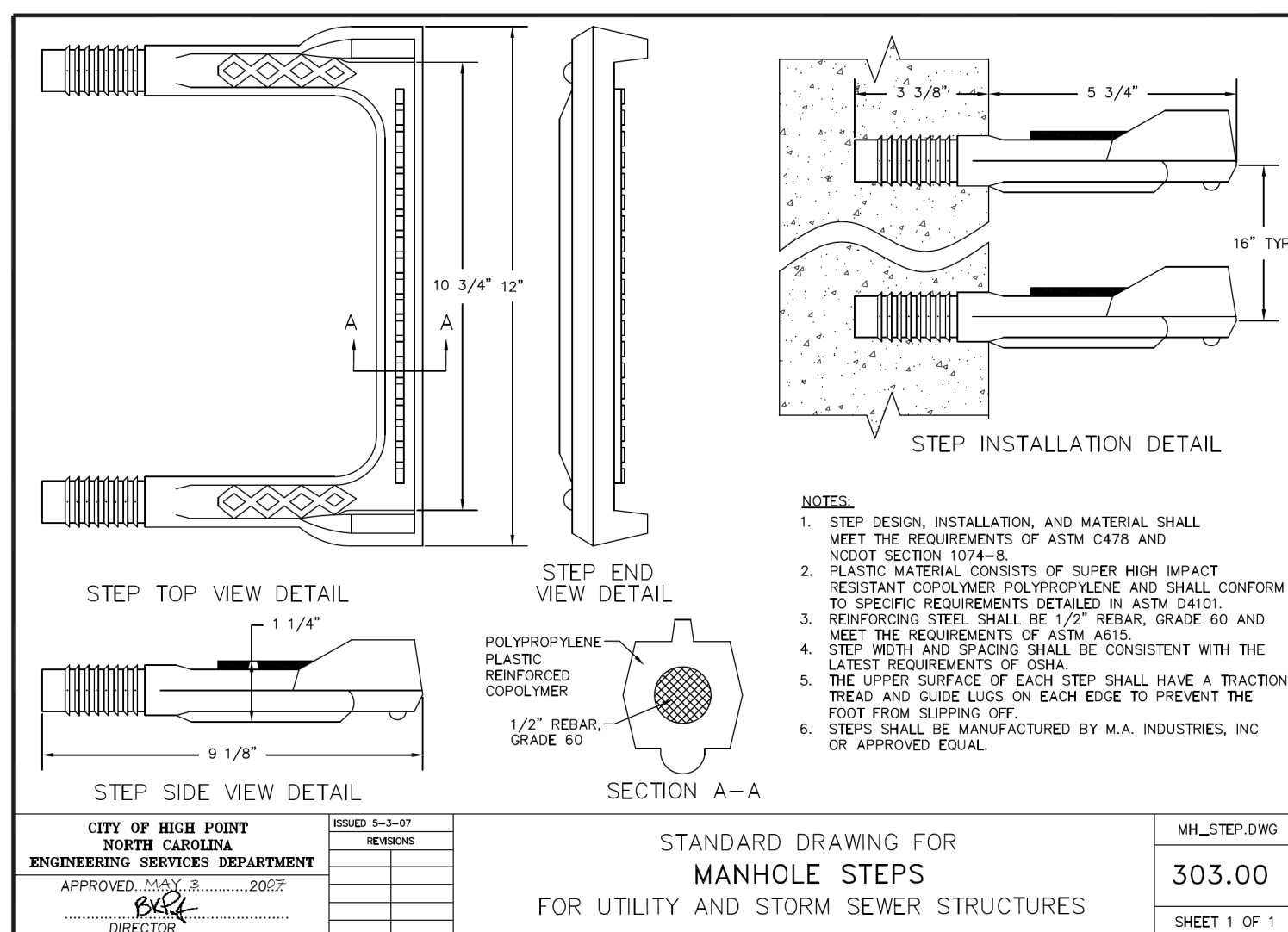
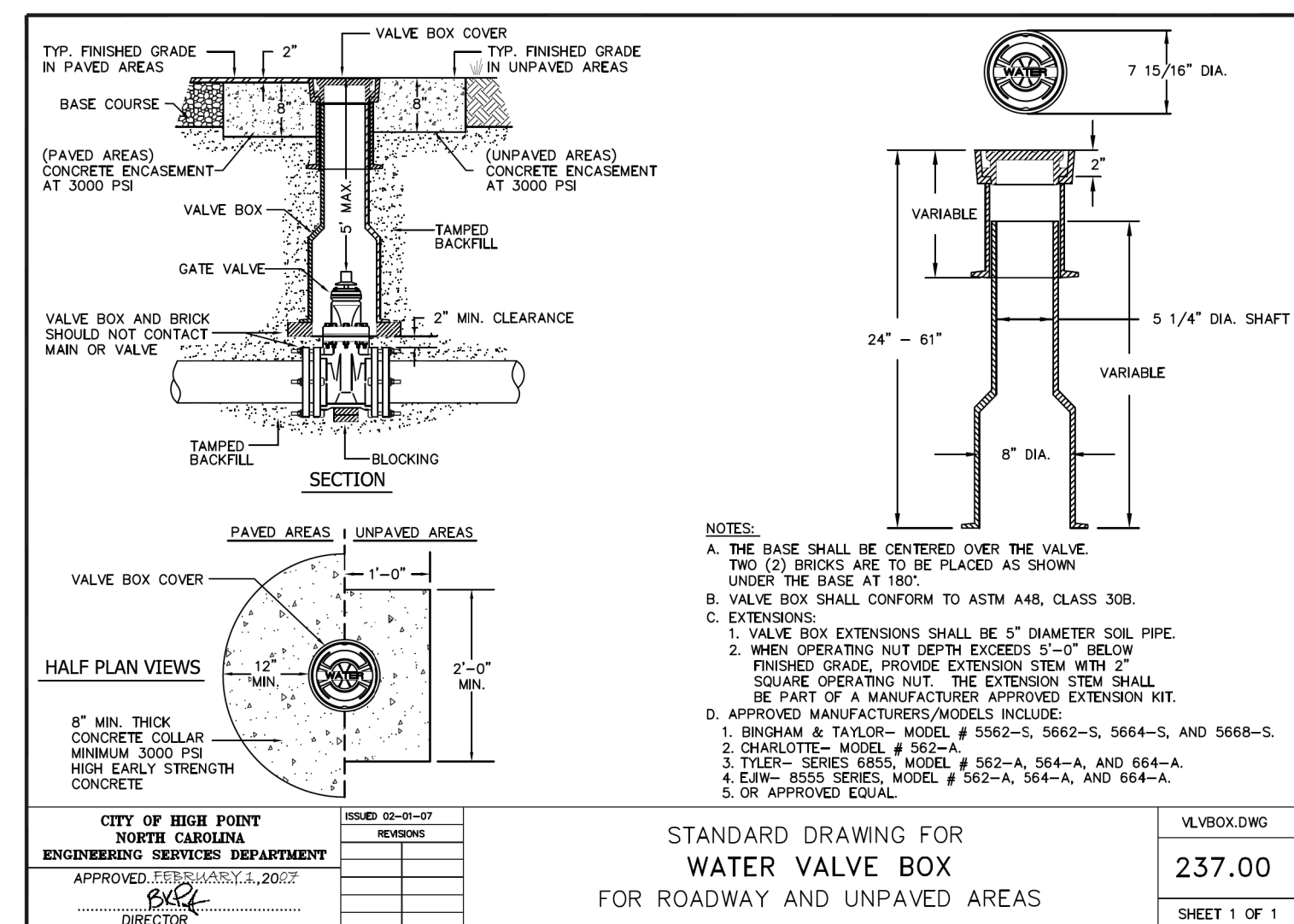
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| PROJECT REFERENCE NO. | SHEET NO. |
| U-5896 | UC-3C |
| DESIGNED BY: DMP |  |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: DMP | |
| REVISED: | NORTH CAROLINA DEPARTMENT OF TRANSPORTATION |
| UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | UTILITY CONSTRUCTION PLANS ONLY |

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS



PROJECT TYPICAL DETAILS

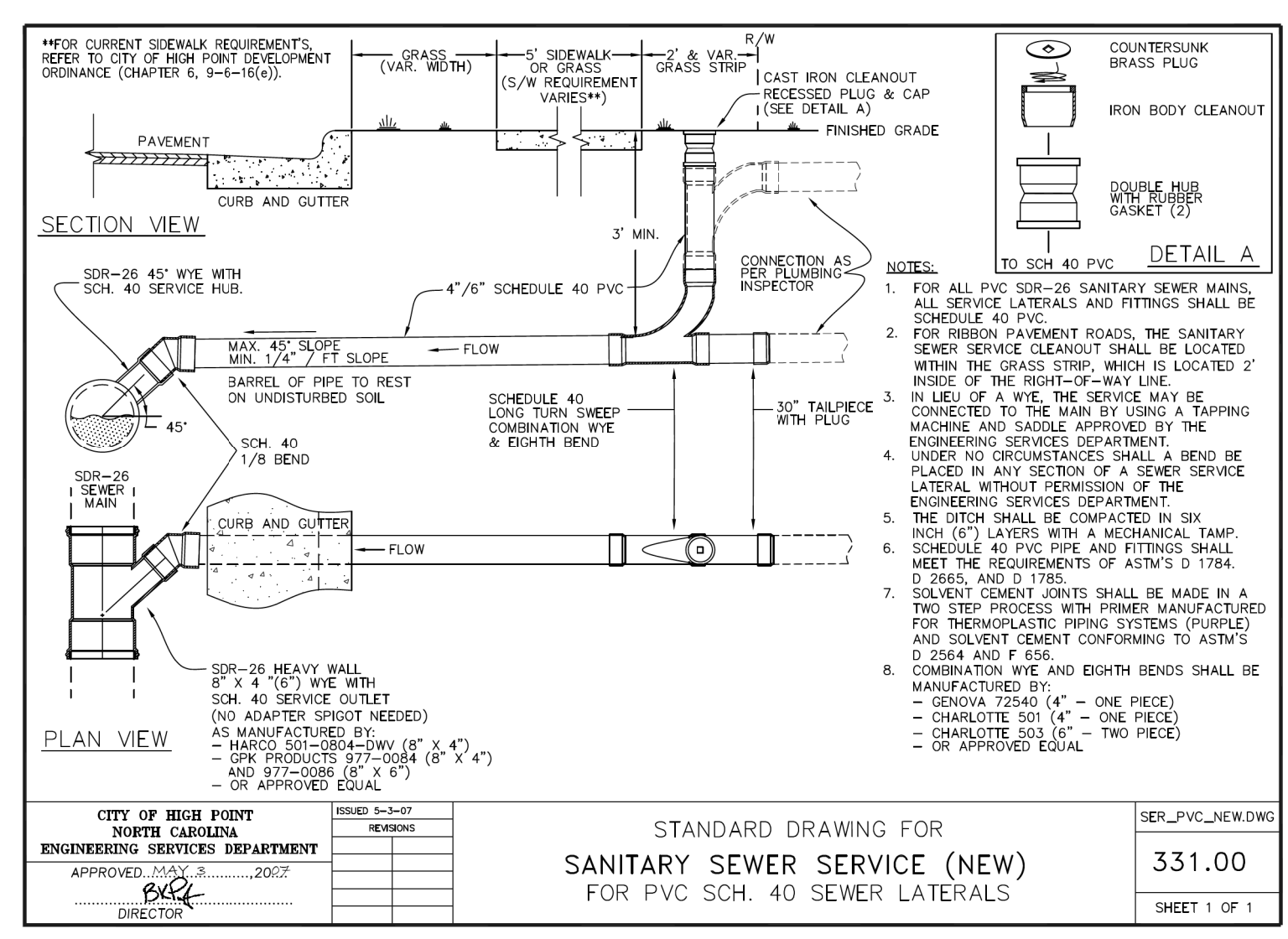
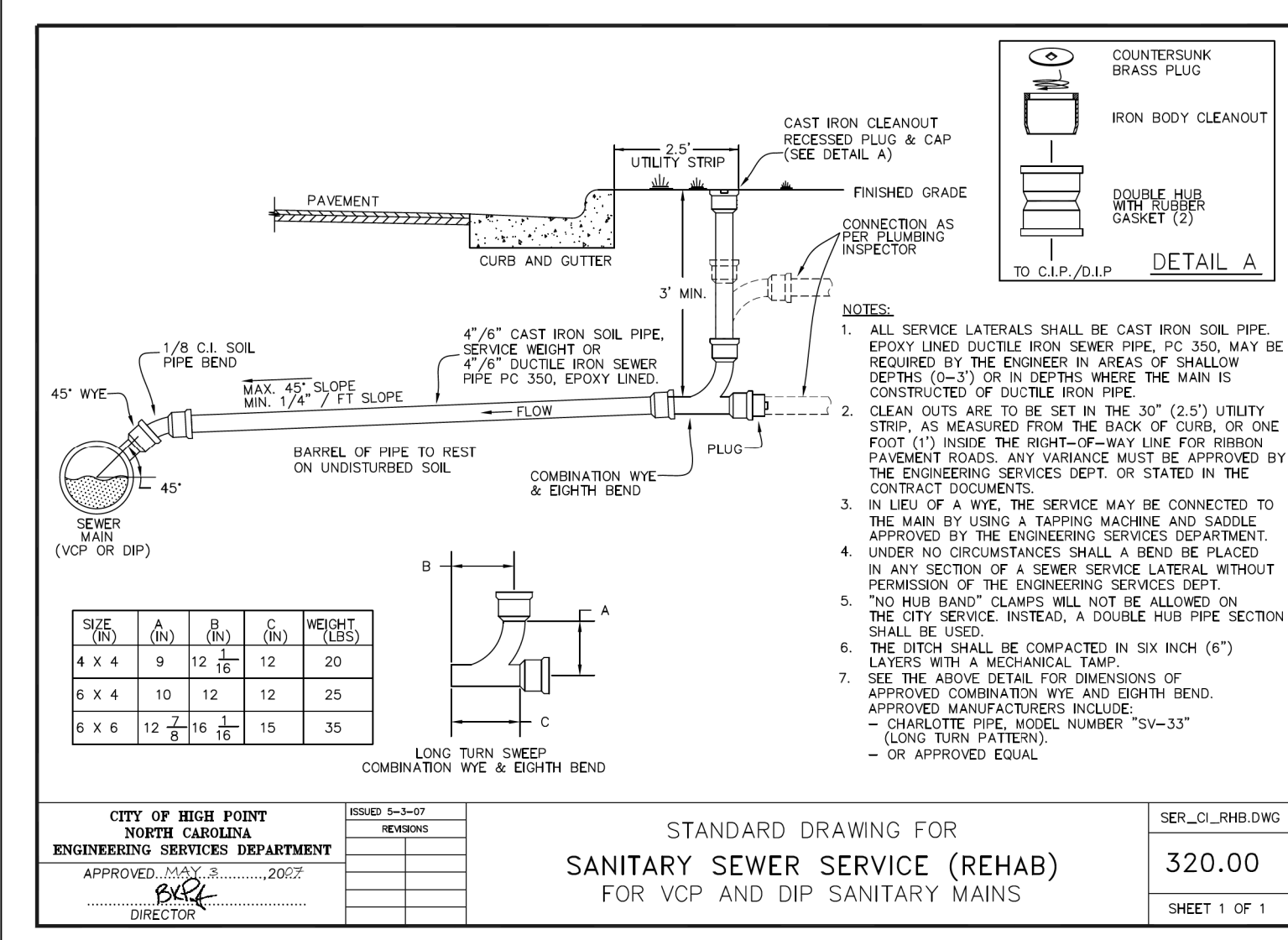
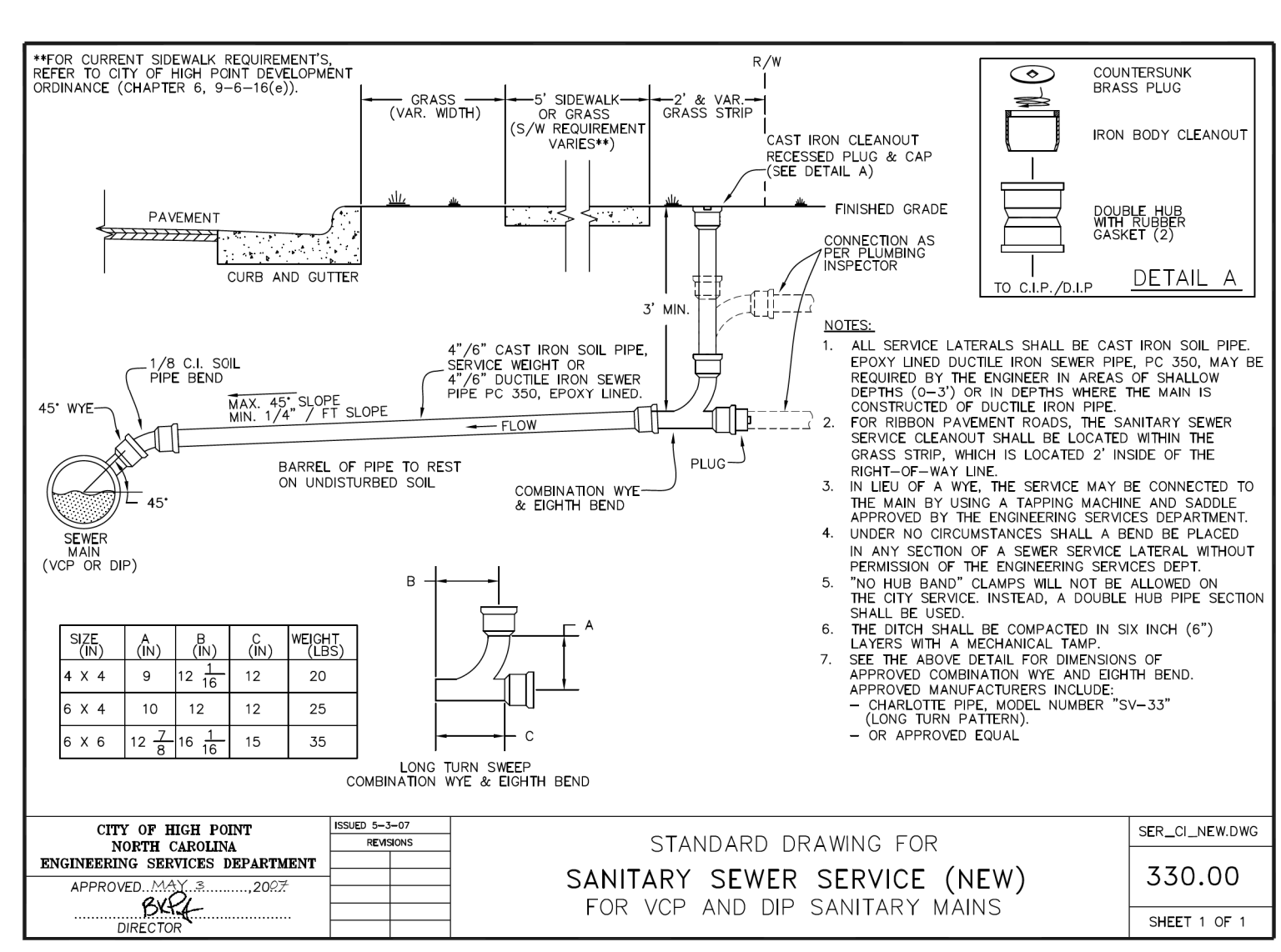
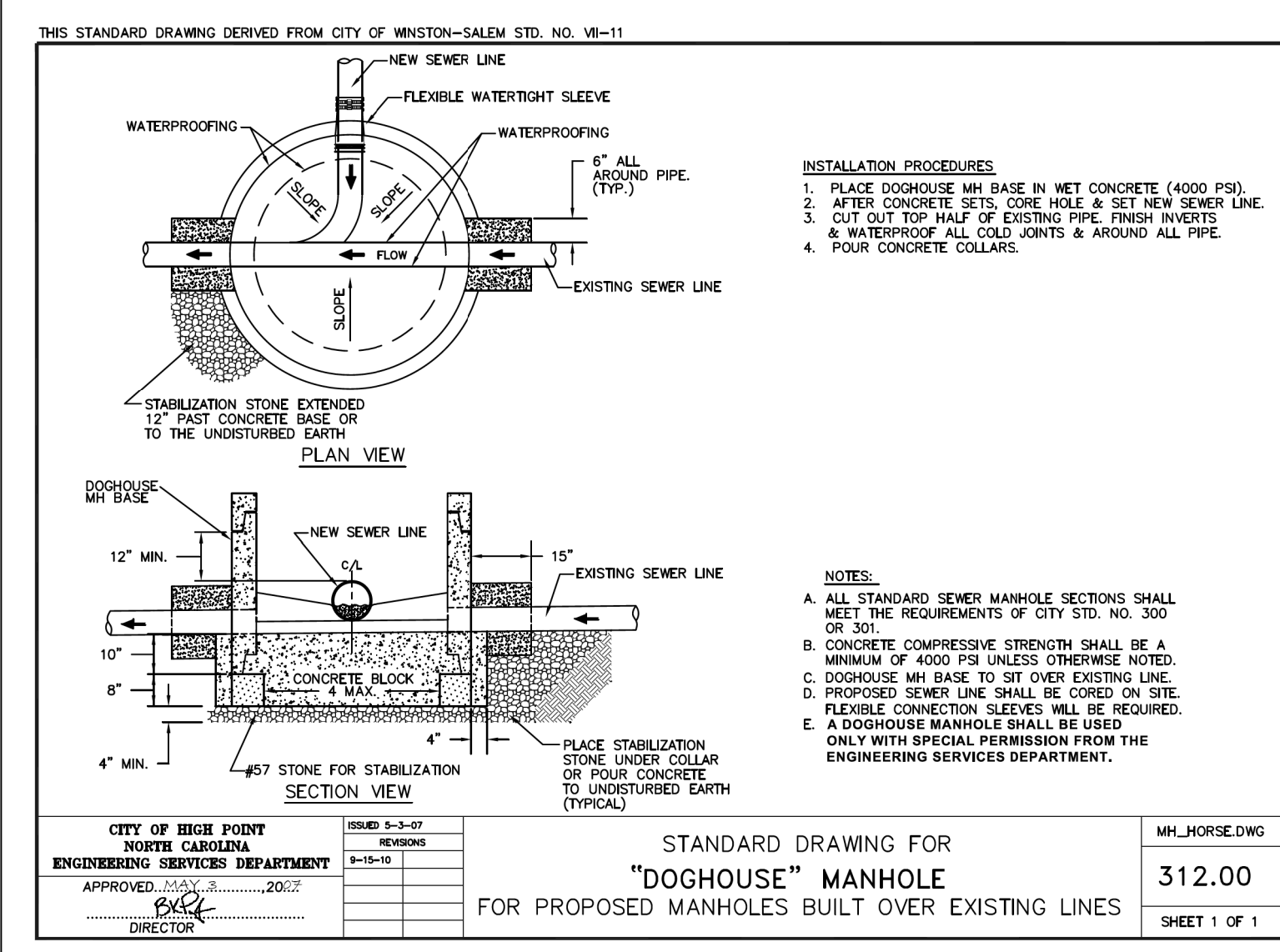
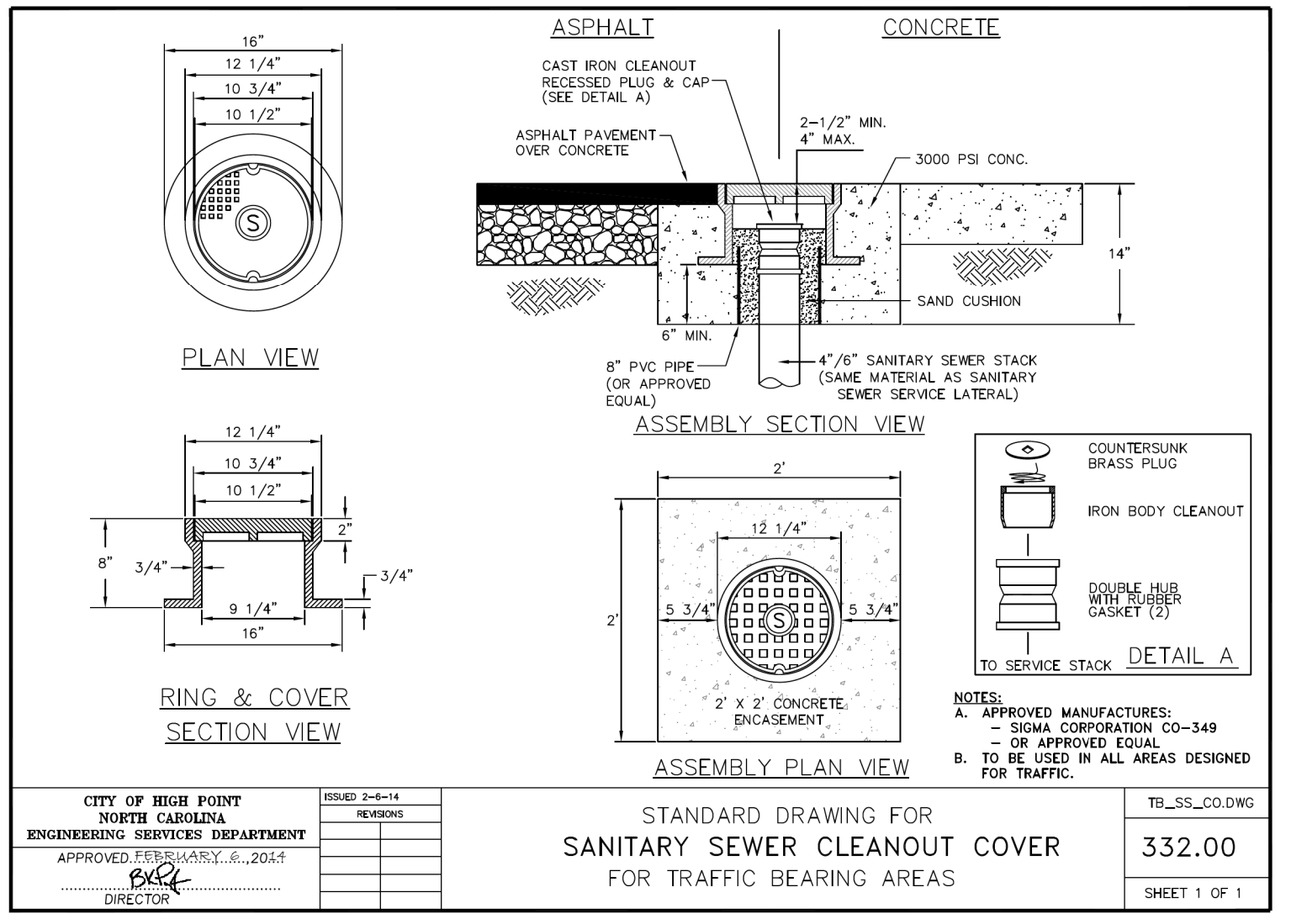
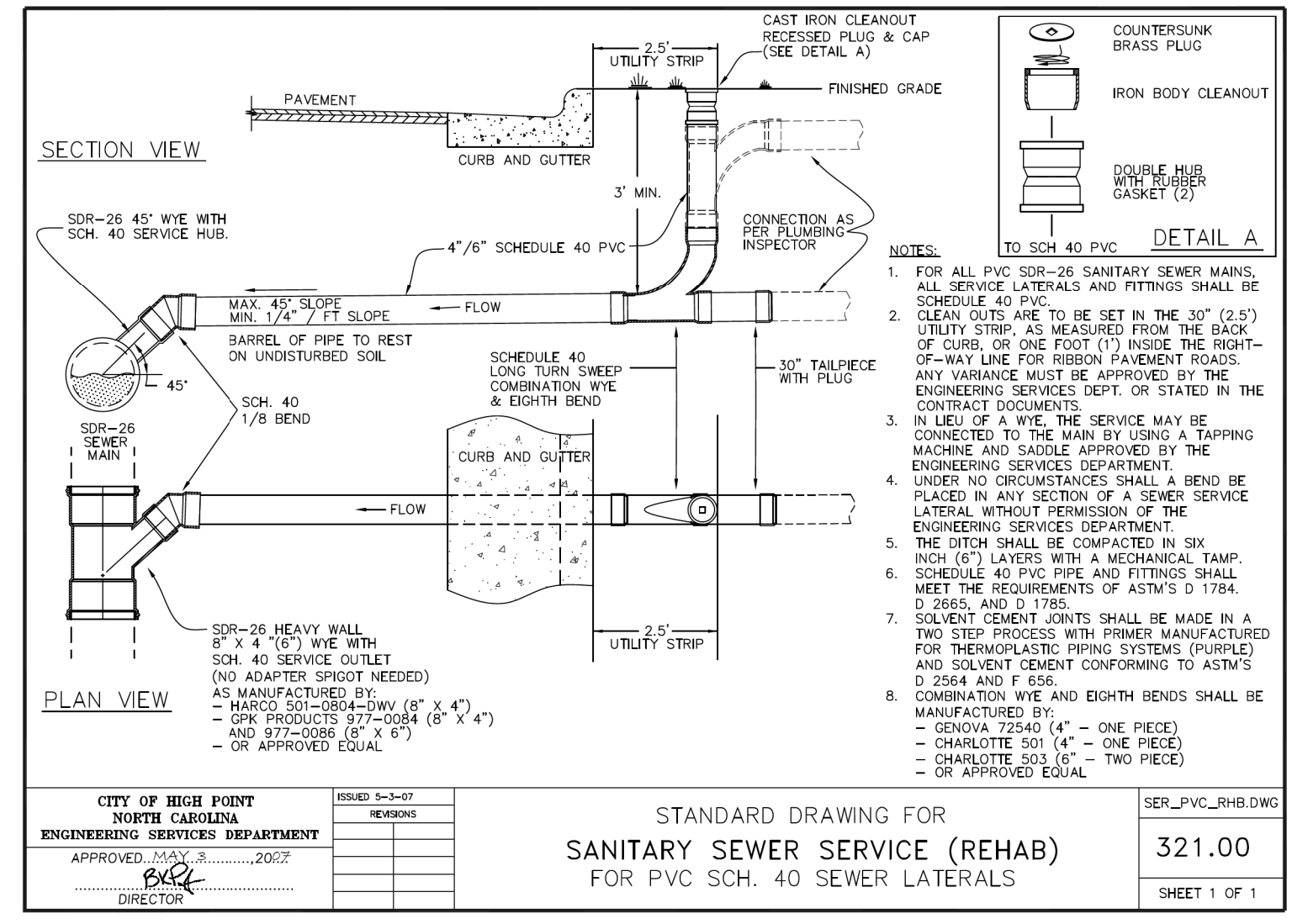
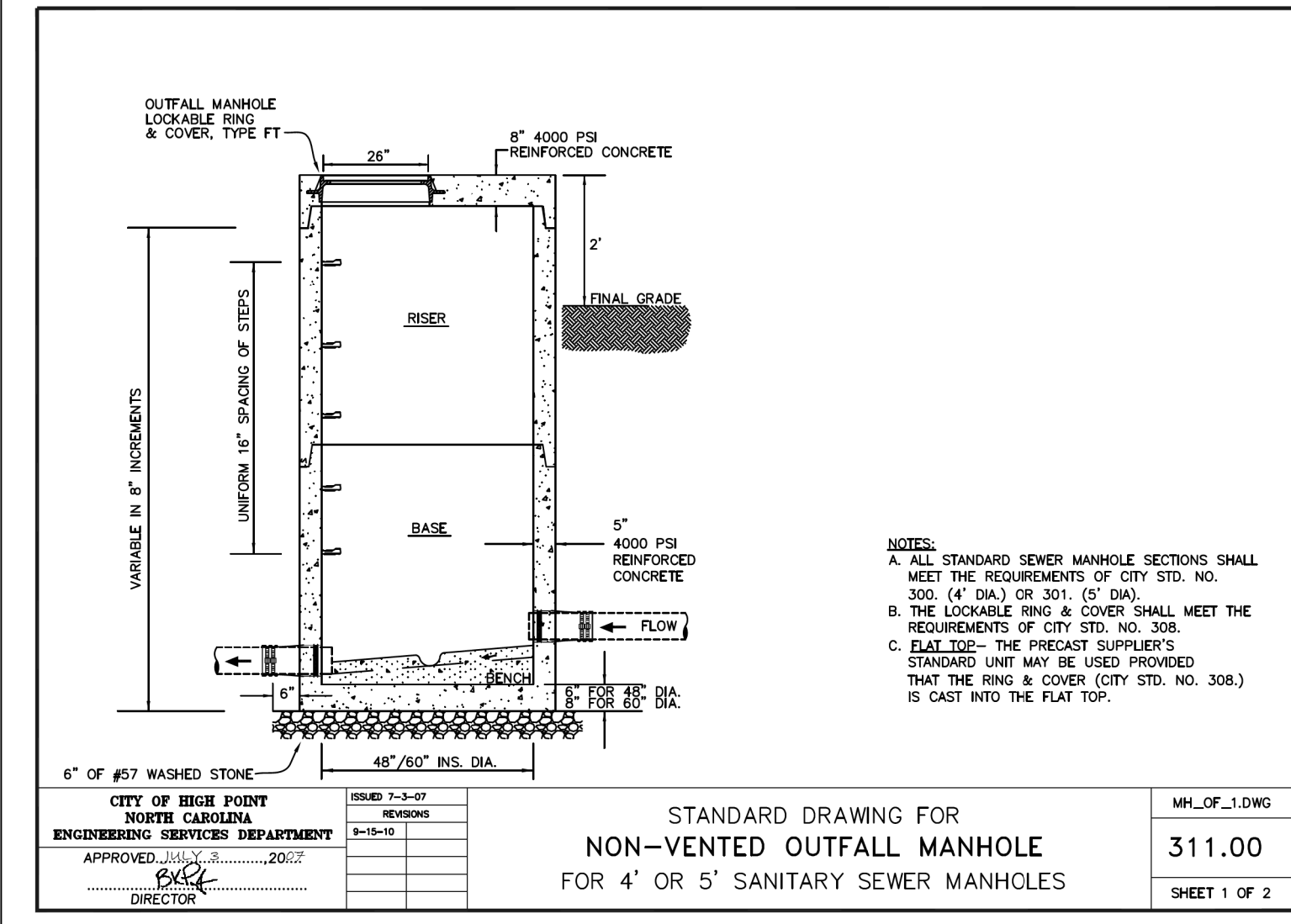
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| PROJECT REFERENCE NO. | SHEET NO. |
| U-5896 | UC-3D |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY | |

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PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

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REVISIONS

5/14/09

5/14/99

REVISIONS

PROJECT TYPICAL DETAILS

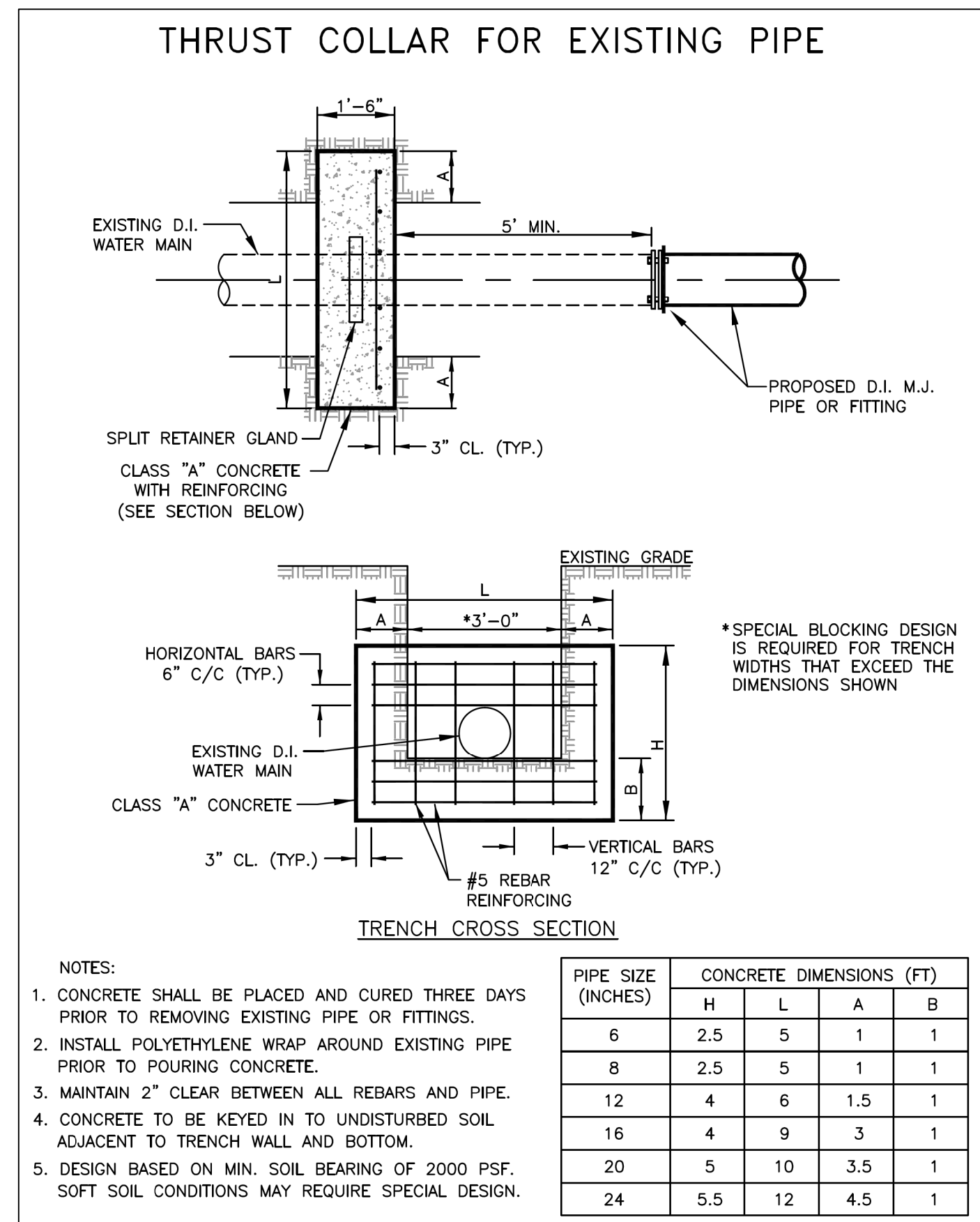
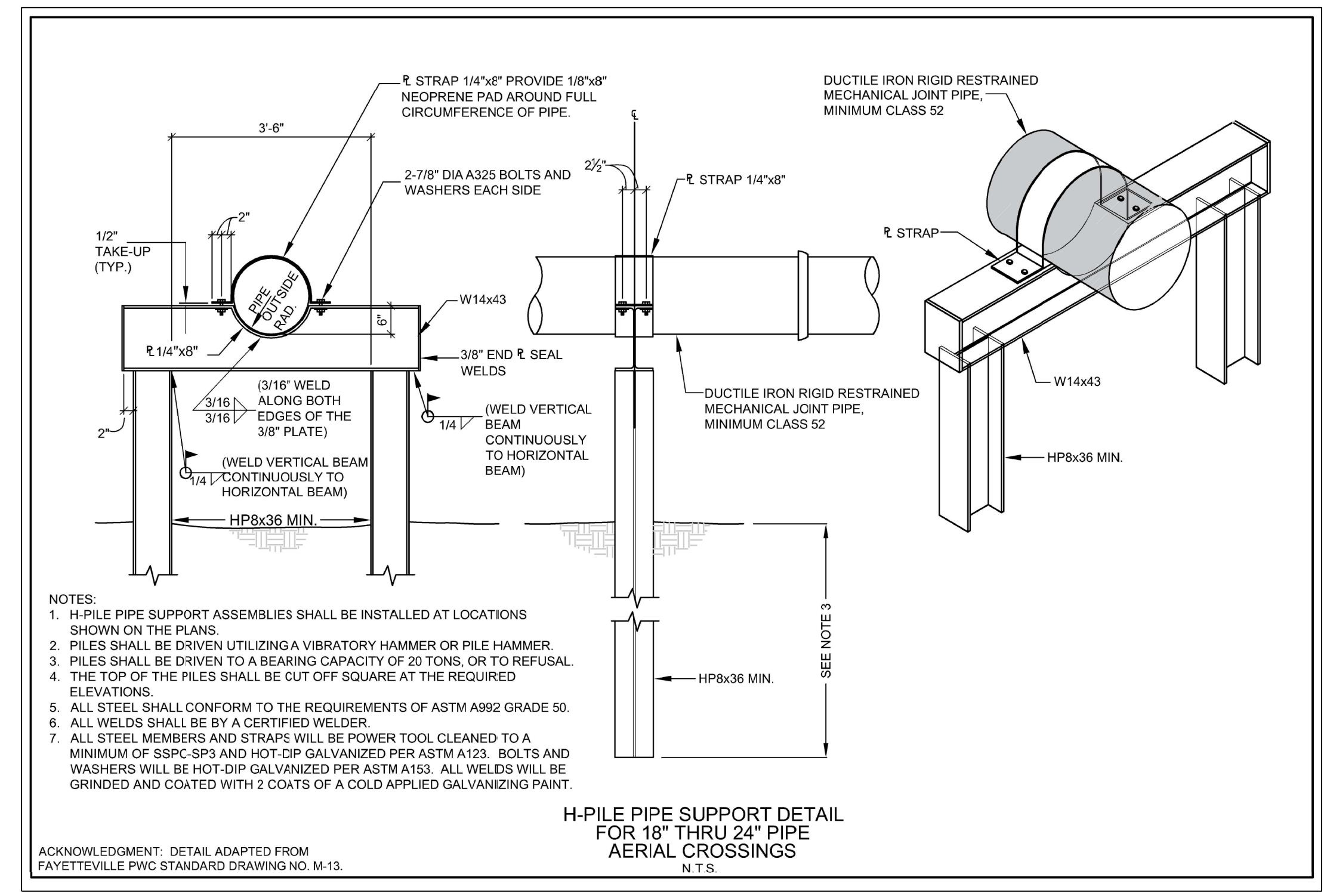
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| PROJECT REFERENCE NO. U-5896 | SHEET NO. UC-3E |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION

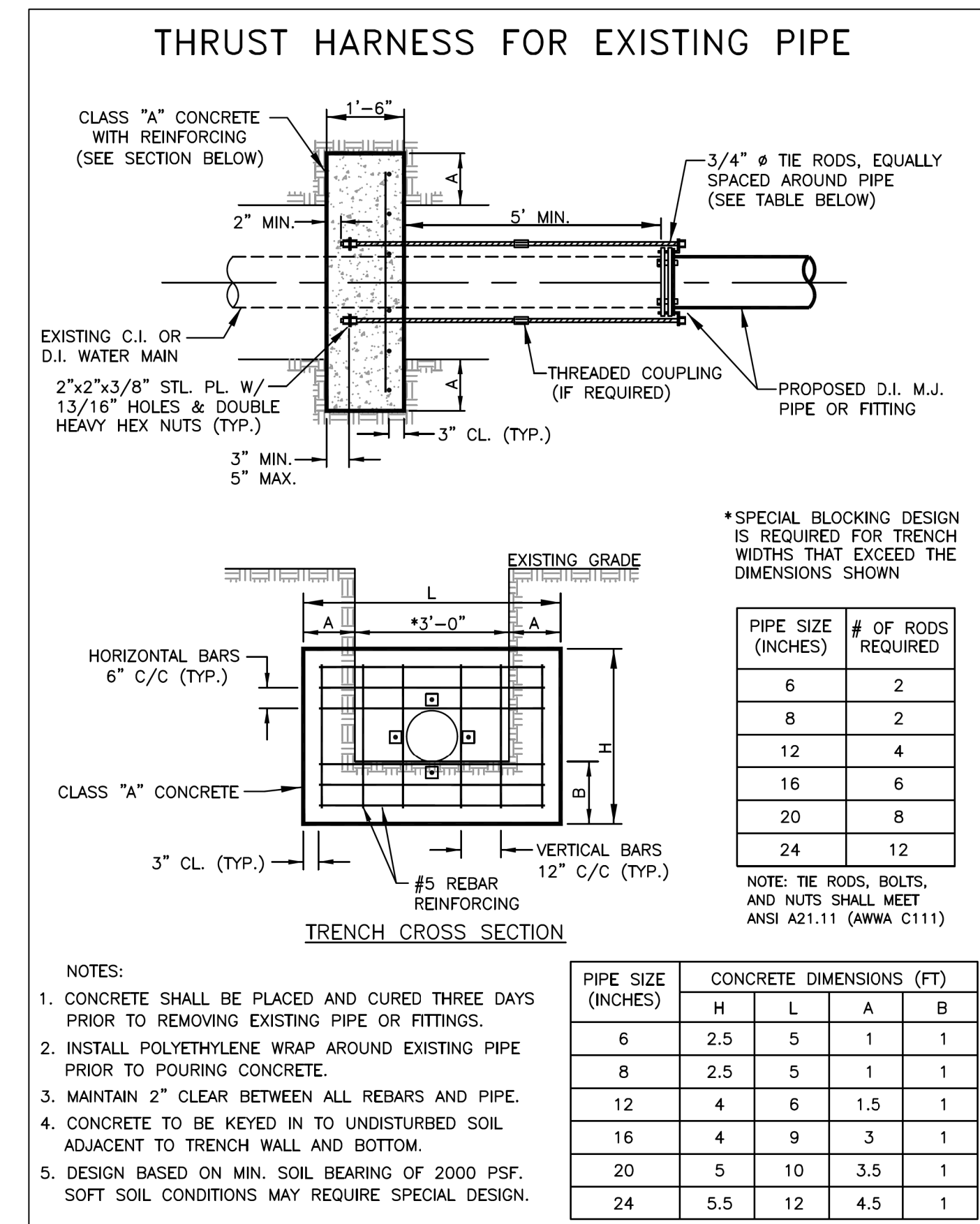
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS



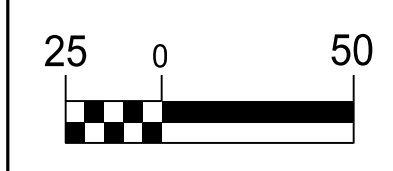
ACKNOWLEDGMENT: DETAIL IS FROM CITY OF WINSTON-SALEM ENGINEERING DEPT.



ACKNOWLEDGMENT: DETAIL IS FROM CITY OF WINSTON-SALEM ENGINEERING DEPT.

5/14/99

THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. NO WATER OR SEWER CONFLICTS ARE ANTICIPATED ON THIS SHEET.



| | |
|---|---------------------------------|
| PROJECT REFERENCE NO. U-5896 | SHEET NO. UC-4 |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | UTILITY CONSTRUCTION PLANS ONLY |

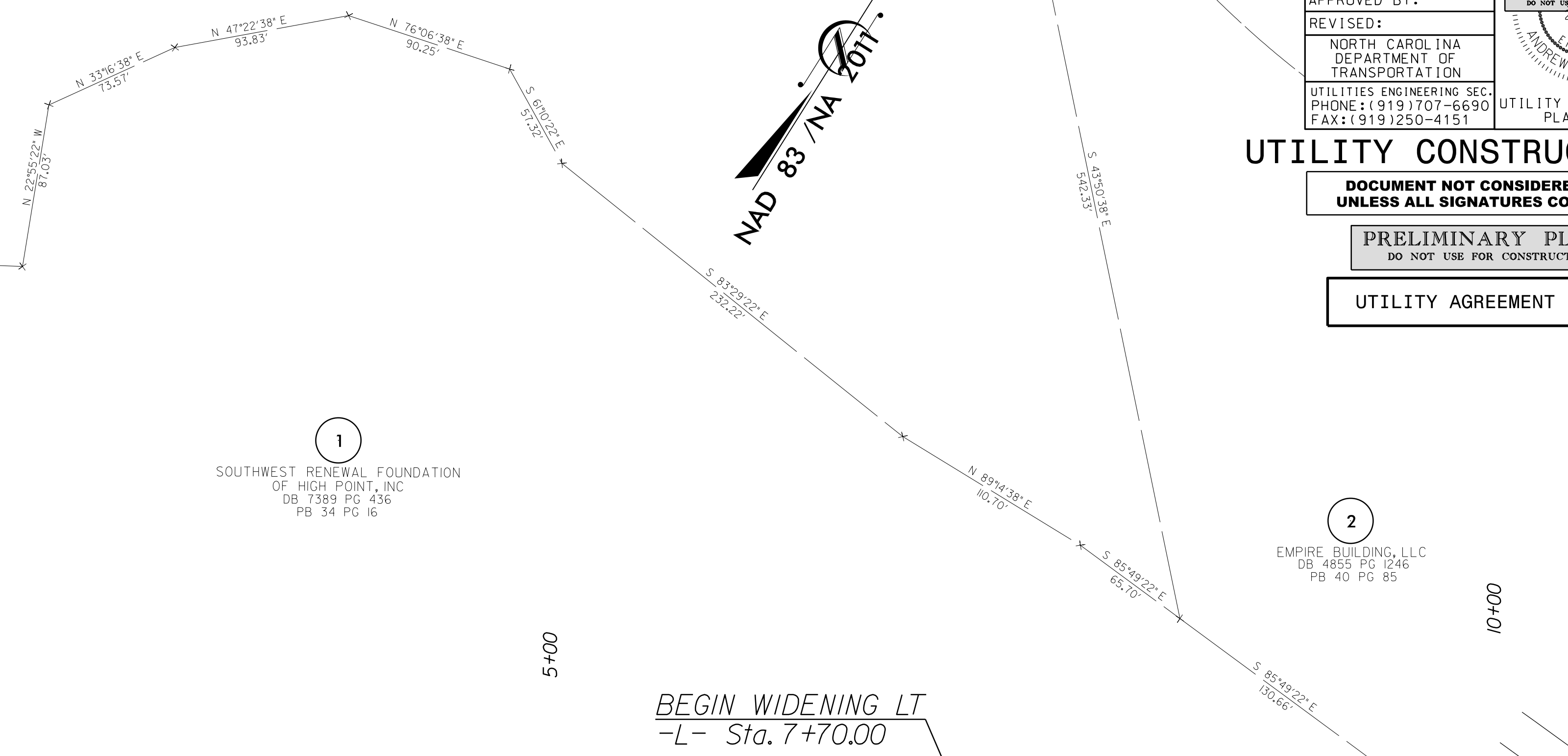
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS

REVISIONS



1
SOUTHWEST RENEWAL FOUNDATION
OF HIGH POINT, INC
DB 7389 PG 436
PB 34 PG 16

2
EMPIRE BUILDING, LLC
DB 4855 PG 1246
PB 40 PG 85

3
WINDSOR INVESTMENTS OF
NORTH CAROLINA, LLC
DB 7222 PG 2772
PB 34 PG 16

-L- POT Sta. 1+74.81

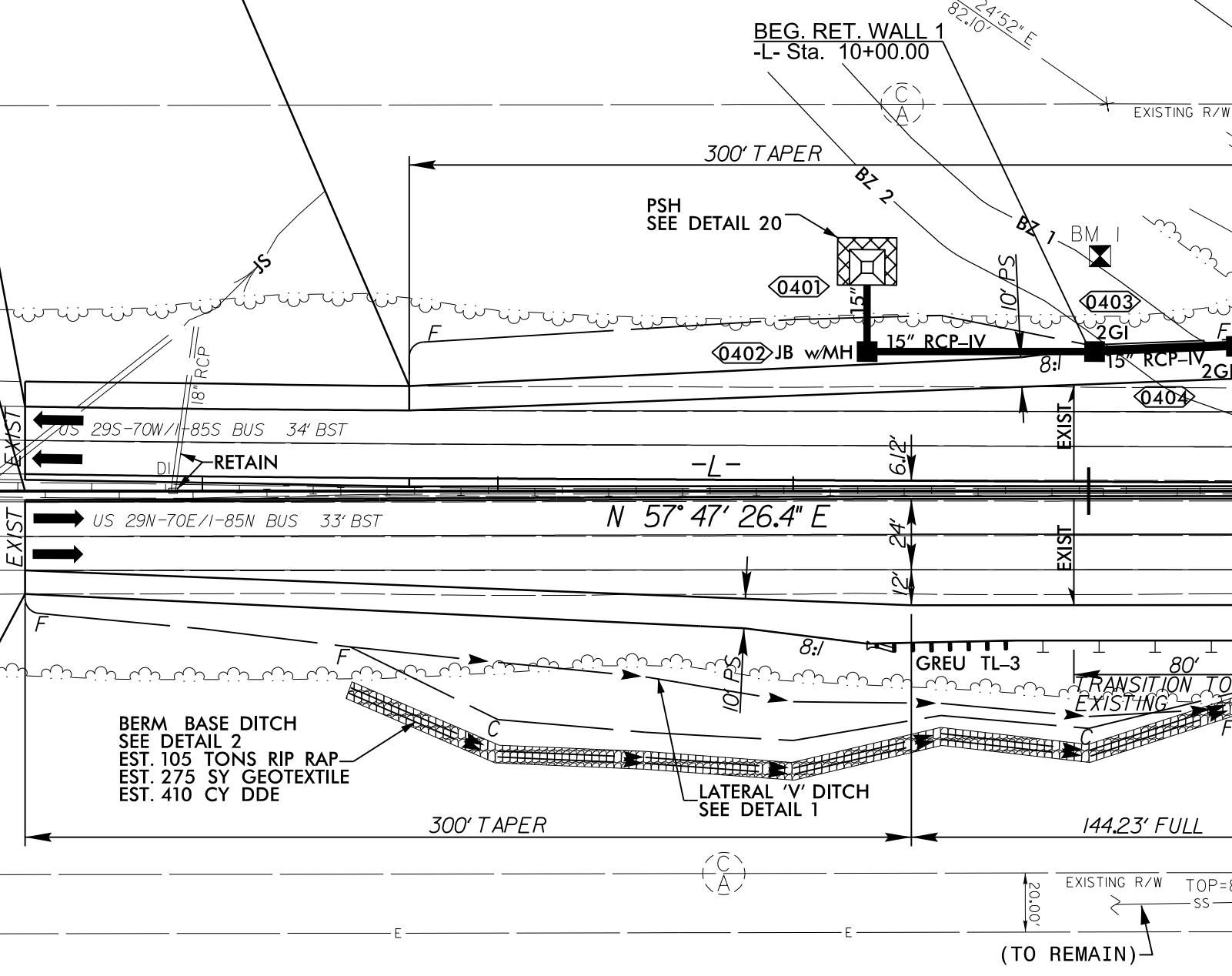
-BL-10

BEGIN WIDENING LT
-L- Sta. 7+70.00

BEGIN OVERLAY LT
-L- Sta. 6+40.00

BEGIN TIP U-5896
-L- Sta. 6+40.00

BEGIN OVERLAY & WIDENING RT
-L- Sta. 6+40.00



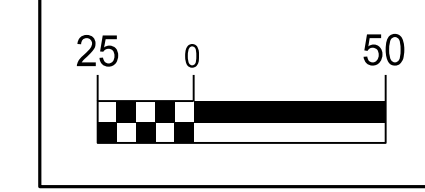
MATCHLINE -L- STA 10+50.00
SEE SHEET UC-5A

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UTILITY CONSTRUCTION PLANS PREPARED BY:

DAVIS • MARTIN • POWELL
ENGINEERS & SURVEYORS

6415 OLD PLANK RD., HIGH POINT, NC 27265
PHONE: (336) 886-4821 FAX: (336) 886-4458
WWW.DMP-INC.COM LICENSE: F-0245



| | | | |
|--|---------------------------------|-----------|-------|
| PROJECT REFERENCE NO. | U-5896 | SHEET NO. | UC-5A |
| DESIGNED BY: | DMP | | |
| DRAWN BY: | DMP | | |
| CHECKED BY: | DMP | | |
| APPROVED BY: | | | |
| REVISED: | | | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | UTILITY CONSTRUCTION PLANS ONLY | | |
| UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | | | |

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

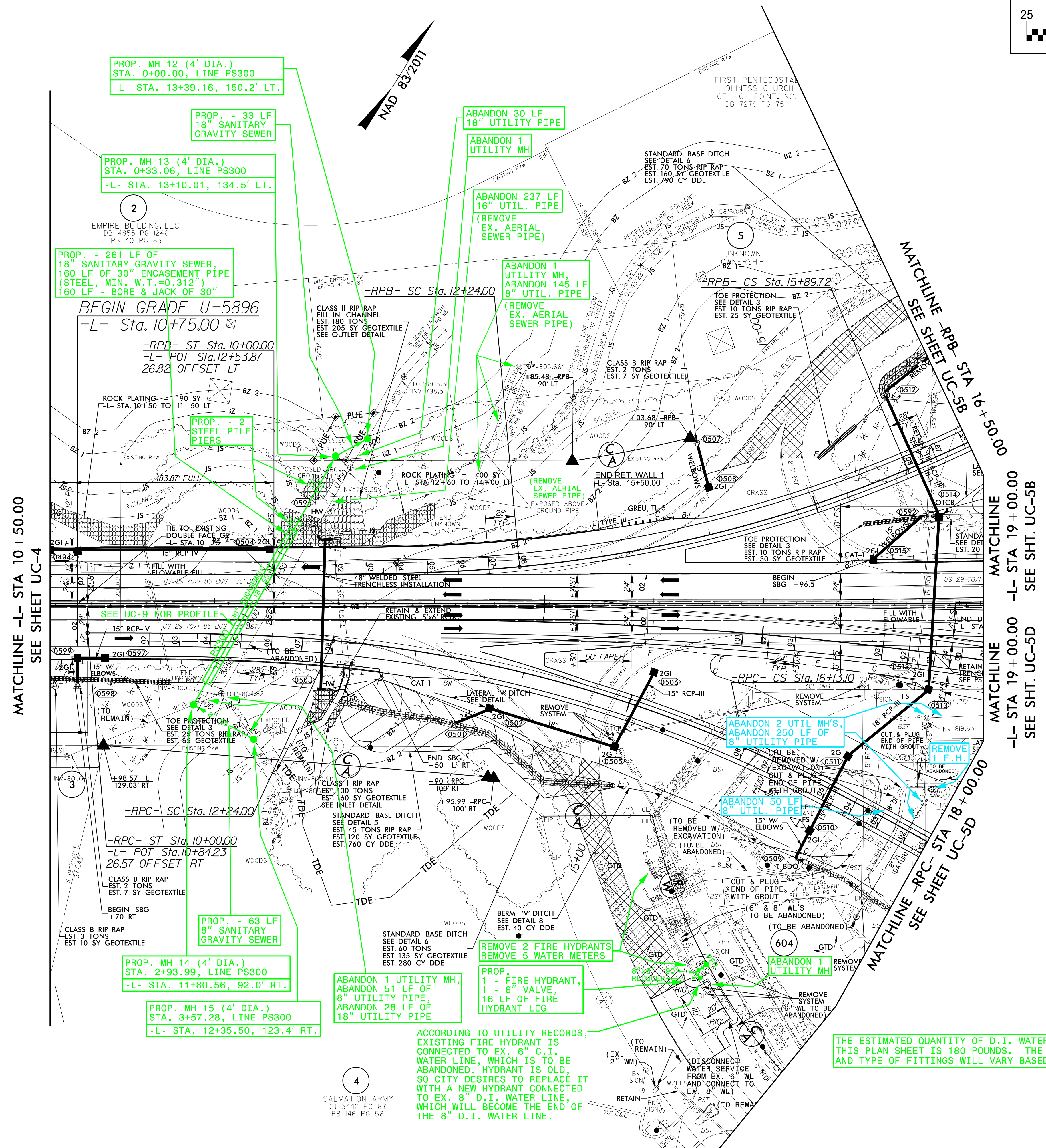
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS

5/14/99

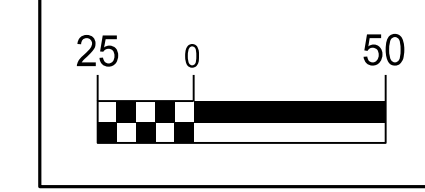
REVISIONS

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 12/26/2021 14:33
 12/26/2021 14:33
 12/26/2021 14:33



ACCORDING TO UTILITY RECORDS, EXISTING FIRE HYDRANT IS CONNECTED TO EX. 6" C.I. WATER LINE, WHICH IS TO BE ABANDONED. HYDRANT IS OLD, SO CITY DESIRES TO REPLACE IT WITH A NEW HYDRANT CONNECTED TO EX. 8" D.I. WATER LINE, WHICH WILL BECOME THE END OF THE 8" D.I. WATER LINE.

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 180 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.



| | |
|--|---|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-5896 | UC-5B |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | NORTH CAROLINA DEPARTMENT OF TRANSPORTATION |
| UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

| PROP. MH # | SEWER LINE STATION | DIA. | ROADWAY STATION AND OFFSET |
|------------|--------------------|-------|------------------------------|
| EX. MH | 0+00.00, PS100 | (EX.) | -Y- STA. 11+16.00, 53.1' RT. |
| 1 | 0+94.29, PS100 | 4' | -Y- STA. 12+10.92, 42.4' RT. |
| 2 | 1+60.99, PS100 | 4' | -Y- STA. 12+71.00, 73.3' RT. |
| 3 | 2+83.66, PS100 | 4' | -Y- STA. 13+96.20, 77.2' RT. |
| 4 | 3+73.50, PS100 | 4' | -Y- STA. 14+82.48, 51.6' RT. |
| 5 | 4+95.14, PS100 | 4' | -Y- STA. 16+03.99, 46.0' RT. |

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2,425 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS

NOTE:
THE TWO EXISTING 8" V.C. SANITARY GRAVITY SEWER LINES UNDER THE PAVEMENT OF S. MAIN ST. (-Y-) ARE TO BE ABANDONED AS NOTED. DUE TO LIMITED SPACE, EACH MANHOLE AND PIPE SECTION TO BE ABANDONED ARE NOT LABELED WITH PAY ITEM NOTES. ESTIMATED QUANTITIES OF PIPE AND MANHOLES TO BE ABANDONED, WHICH ARE NOT LABELED WITH PAY ITEM NOTES INCLUDE THE FOLLOWING:

ABANDON 946 LF
8" UTILITY PIPE

BEGIN CONSTRUCTION
-Y- Sta. 10+55.00

PROP. - 94 LF
12" SANITARY
GRAVITY SEWER
SEE UC-9
FOR PROFILE

PROP. - 85 LF OF
12" WATER LINE,
1 - 12" VALVE,
24 LF 6" WATER LINE,
1 - 6" VALVE
SEE UC-8 FOR PROFILE

ABANDON 1
UTILITY MH,
ABANDON 218 LF
8" UTIL. PIPE

PROP. - 67 LF
12" SANITARY
GRAVITY SEWER
PROP. MH 2

ABANDON 1
UTILITY MH

PROP. - 123 LF
12" SANITARY
GRAVITY SEWER,
65 LF OF 24"
ENCASEMENT PIPE
PROP. MH 3

PROP. - 90 LF
12" SANITARY
GRAVITY SEWER
PROP. MH 4

PROP. - 122 LF
12" SANITARY
GRAV. SEWER
PROP. MH 5

PROP. - 83 LF
12" SANITARY
GRAVITY SEWER,
70 LF OF 24"
ENCASEMENT PIPE
SEE UC-9
FOR PROFILE

PROP. - 190 LF
24" ENC. PIPE,
190 LF - BORE
AND JACK OF 24"
SEE UC-8
FOR PROFILE

PROP. - 554 LF
12" WATER LINE
SEE UC-8 FOR PROFILE

PROP. - 70 LF
24" ENC. PIPE

ABANDON 165 LF
6" UTIL. PIPE

ABANDON 1
UTILITY MH
SEE DETAIL 9
EST. 305 CY DDE

STANDARD 'V' DITCH
SEE DETAIL 9
EST. 110 TONS RIP RAP
EST. 195 SY GEOTEXTILE
EST. 1160 CY DDE

STANDARD 'V' DITCH
SEE PSH 28-5
(TO REMAIN)

REMOVE 1
WATER METER

ABANDON 112 LF
8" UTILITY PIPE

CLASS B RIP RAP
EST. 2 TONS
EST. 7 SY GEOTEXTILE

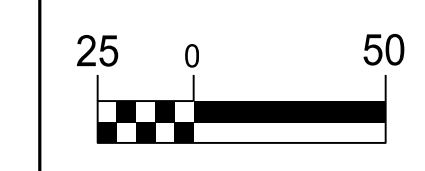
REMOVE 1
FIRE HYDRANT

MATCHLINE
-L- STA
29+00.00
SEE SHT.
UC-5C

MATCHLINE -Y- STA. 16+91.40
SEE SHEET NO. UC-5D

REVISIONS

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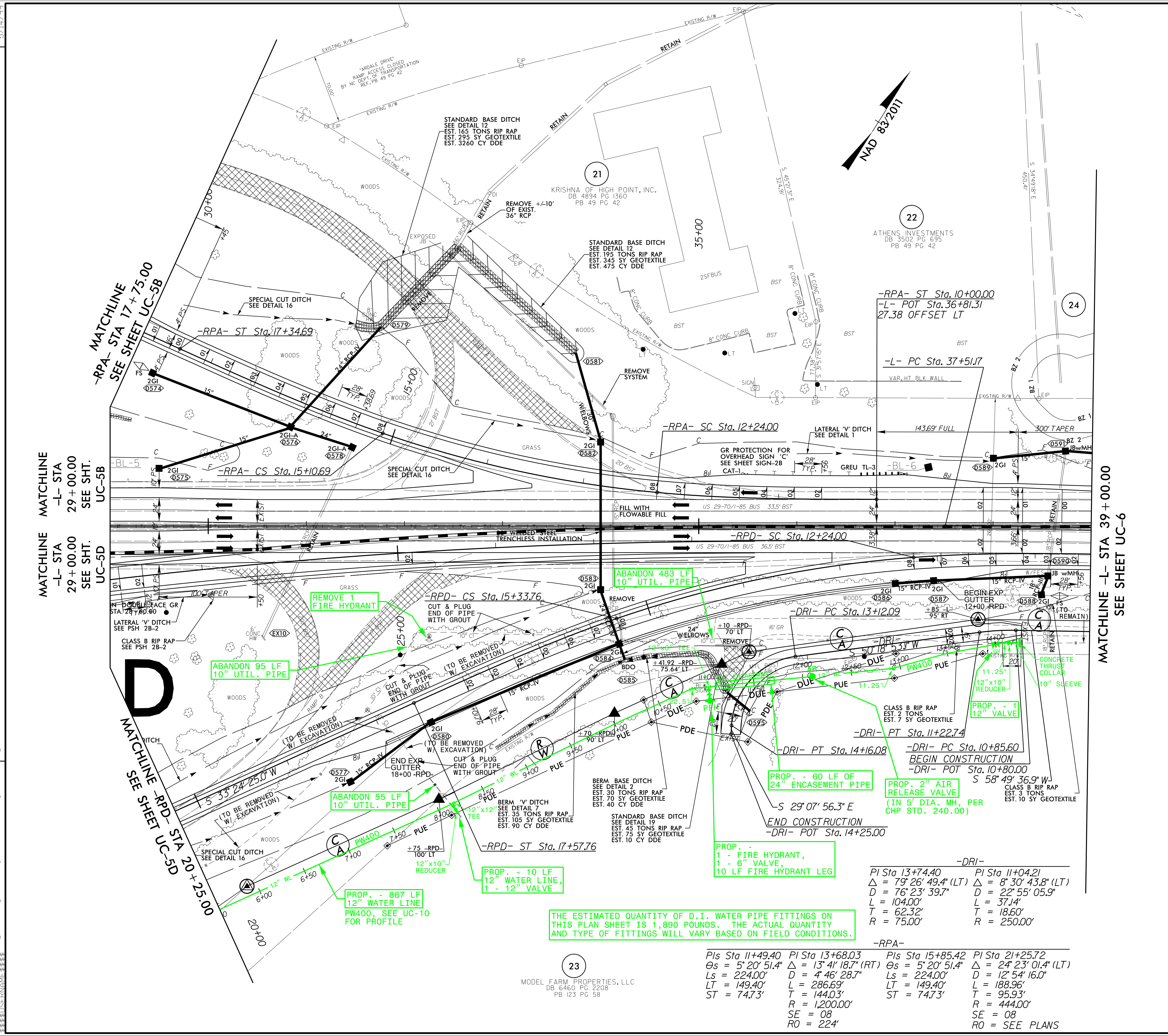
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| PROJECT REFERENCE NO. | SHEET NO. |
| U-5896 | UC-5C |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | UTILITY CONSTRUCTION PLANS ONLY |
| UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS



MATCHLINE UC-5D
-L- STA 29+00.00
SEE SHT.

MATCHLINE UC-5B
-L- STA 29+00.00
SEE SHT.

MATCHLINE UC-5A
-L- STA 29+00.00
SEE SHT.

MATCHLINE UC-6
-L- STA 39+00.00
SEE SHEET UC-6

MATCHLINE UC-5B
-RPA- STA 17+75.00
SEE SHEET UC-5B

MATCHLINE UC-5D
-RPA- CS Sta. 15+10.69
SEE SHT.

MATCHLINE UC-5D
-RPD- STA 20+25.00
SEE SHEET UC-5D

-RPA- ST Sta. 10+00.00
-L- POT Sta. 36+81.31
27.38 OFFSET LT

-L- PC Sta. 37+51.17

-RPA- SC Sta. 12+24.00

-RPD- SC Sta. 12+24.00

-RPD- CS Sta. 15+33.76

-DRI- PC Sta. 13+12.09

-DRI- PT Sta. 11+22.74

-DRI- PC Sta. 10+85.60

BEGIN CONSTRUCTION
-DRI- POT Sta. 10+80.00

-DRI- PT Sta. 14+16.08

-DRI- PC Sta. 10+85.60

BEGIN CONSTRUCTION
-DRI- POT Sta. 10+80.00

-DRI- PT Sta. 14+16.08

-DRI- PC Sta. 10+85.60

BEGIN CONSTRUCTION
-DRI- POT Sta. 10+80.00

-DRI- PT Sta. 14+16.08

-DRI- PC Sta. 10+85.60

BEGIN CONSTRUCTION
-DRI- POT Sta. 10+80.00

-DRI- PT Sta. 14+16.08

-DRI- PC Sta. 10+85.60

BEGIN CONSTRUCTION
-DRI- POT Sta. 10+80.00

-DRI- PT Sta. 14+16.08

-DRI-

| | |
|------------------------|-----------------------|
| PI Sta 13+74.40 | PI Sta 11+04.21 |
| Δ = 79' 26" 49.4" (LT) | Δ = 8' 30" 43.8" (LT) |
| D = 76' 23" 39.7" | D = 22' 55" 05.9" |
| L = 104.00' | L = 37.14' |
| T = 62.32' | T = 18.60' |
| R = 75.00' | R = 250.00' |

-RPA-

| | | | |
|-------------------|------------------------|-------------------|------------------------|
| PIs Sta 11+49.40 | PI Sta 13+68.03 | PIs Sta 15+85.42 | PI Sta 21+25.72 |
| Os = 5' 20" 51.4" | Δ = 13' 41" 18.7" (RT) | Os = 5' 20" 51.4" | Δ = 24' 23" 01.4" (LT) |
| Ls = 224.00' | D = 4' 46" 28.7" | Ls = 224.00' | D = 12' 54" 16.0" |
| LT = 149.40' | L = 286.69' | LT = 149.40' | L = 188.96' |
| ST = 74.73' | T = 144.03' | ST = 74.73' | T = 95.93' |
| | R = 1,200.00' | | R = 444.00' |
| | SE = 08 | | SE = 08 |
| | RO = 224' | | RO = SEE PLANS |

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1,890 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

ABANDON 95 LF 10" UTIL. PIPE

REMOVE 1 FIRE HYDRANT

ABANDON 55 LF 10" UTIL. PIPE

PROP. - 10 LF 12" WATER LINE, 1 - 12" VALVE

PROP. - 867 LF 12" WATER LINE PW400, SEE UC-10 FOR PROFILE

PROP. - 60 LF OF 24" ENCASUREMENT PIPE

PROP. 2" AIR RELEASE VALVE (IN 5" DIA. MH, PER CHP STD. 240.00)

PROP. - 1 - FIRE HYDRANT, 1 - 6" VALVE, 10 LF FIRE HYDRANT LEG

PROP. - 1 12" VALVE

12"x10" REDUCER

CONCRETE THRUST COLLAR

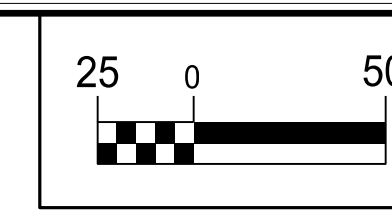
10" SLEEVE

23
MODEL FARM PROPERTIES, LLC
DB 6460 PG 2208
PB 123 PG 58

REVISIONS

5/14/99
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5/14/99
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| | |
|---|---------------------------------|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-5896 | UC-5D |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | UTILITY CONSTRUCTION PLANS ONLY |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |

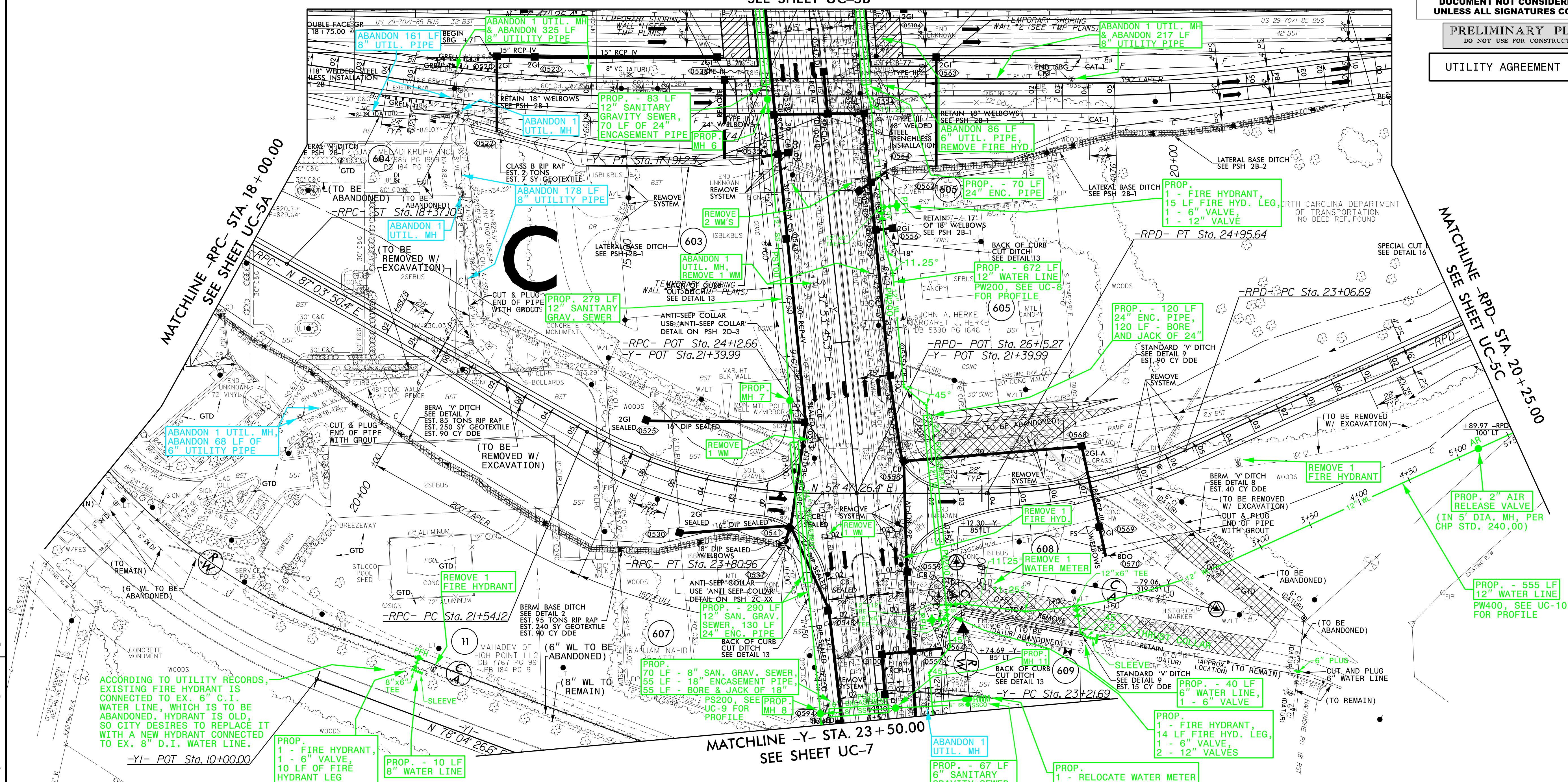
MATCHLINE -Y- STA. 16 + 91.40
SEE SHEET UC-5B

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS



ACCORDING TO UTILITY RECORDS, EXISTING FIRE HYDRANT IS CONNECTED TO EX. 6" C.I. WATER LINE, WHICH IS TO BE ABANDONED. HYDRANT IS OLD, SO CITY DESIRES TO REPLACE IT WITH A NEW HYDRANT CONNECTED TO EX. 8" D.I. WATER LINE.

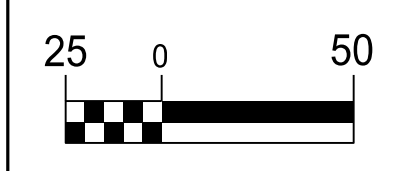
NOTE:
THE TWO EXISTING 8" V.C. SANITARY GRAVITY SEWER LINES UNDER THE PAVEMENT OF S. MAIN ST. (-Y-) ARE TO BE ABANDONED AS NOTED. DUE TO LIMITED SPACE, EACH MANHOLE AND PIPE SECTION TO BE ABANDONED ARE NOT LABELED WITH PAY ITEM NOTES. ESTIMATED QUANTITIES OF PIPE AND MANHOLES TO BE ABANDONED, WHICH ARE NOT LABELED WITH PAY ITEM NOTES INCLUDE THE FOLLOWING:

ABANDON 1,342 LF 8" UTILITY PIPE,
ABANDON 7 UTILITY MH'S

| PROP. MH # | SEWER LINE STATION | DIA. | ROADWAY STATION AND OFFSET |
|------------|--------------------|------|------------------------------|
| 6 | 6+61.81, PS100 | 4" | -Y- STA. 17+70.21, 46.0' RT. |
| 7 | 9+40.48, PS100 | 4" | -Y- STA. 20+48.68, 53.0' RT. |
| 8 | 12+30.66, PS100 | 4" | -Y- STA. 23+39.19, 53.5' RT. |
| 11 | 0+69.58, PS200 | 4" | -Y- STA. 23+39.19, 16.1' LT. |

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1,580 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. NO WATER OR SEWER CONFLICTS ARE ANTICIPATED ON THIS SHEET.



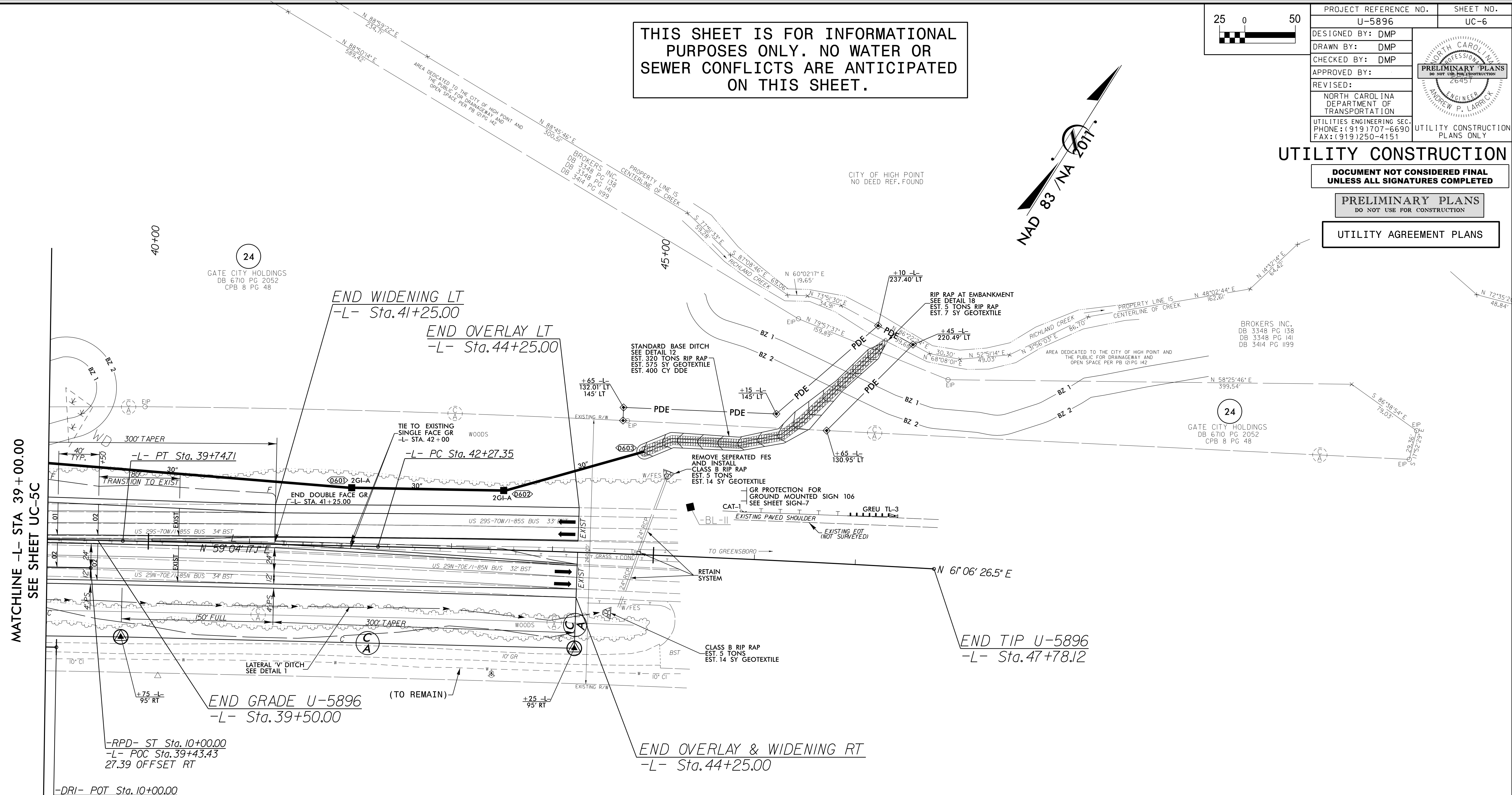
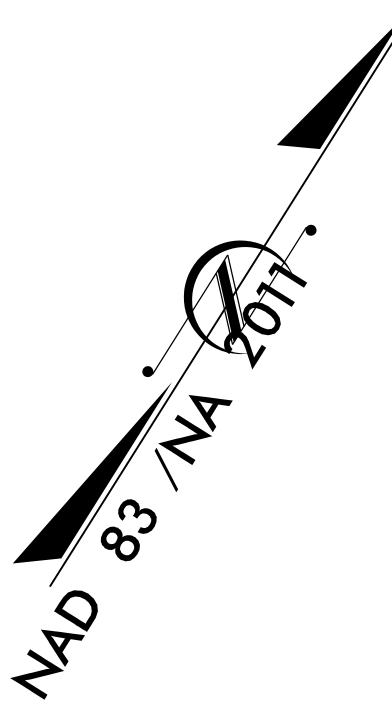
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| PROJECT REFERENCE NO. | SHEET NO. |
| U-5896 | UC-6 |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | UTILITY CONSTRUCTION PLANS ONLY |
| UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS



REVISIONS

MATCHLINE -L- STA 39+00.00 SEE SHEET UC-5C

23

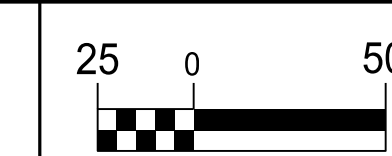
MODEL FARM PROPERTIES, LLC
DB 6460 PG 2208
PB 123 PG 55

| | |
|--------------------------------|--------------------------------|
| -L- | -RPD- |
| PI Sta 38+62.95 | PI Sta 43+82.98 |
| $\Delta = 1' 16'' 50.7'' (RT)$ | $\Delta = 1' 09'' 01.9'' (RT)$ |
| $D = 0' 34'' 22.6''$ | $D = 0' 22'' 10.7''$ |
| $L = 223.53'$ | $L = 311.24'$ |
| $T = 111.77'$ | $T = 155.63'$ |
| $R = 10,000.00'$ | $R = 15,500.00'$ |
| $SE = NC$ | $SE = NC$ |
| $RO = SEE PLANS$ | $RO = SEE PLANS$ |

| | | |
|---------------------------|---------------------------------|-----------------|
| -RPD- | PI Sta 11+49.40 | PI Sta 13+79.75 |
| $\Delta = 5' 20'' 51.4''$ | $\Delta = 14' 47'' 24.1'' (LT)$ | |
| $Ls = 224.00'$ | $D = 4' 46'' 28.7''$ | |
| $LT = 149.40'$ | $L = 309.76'$ | |
| $ST = 74.73'$ | $T = 155.75'$ | |
| | $R = 1,200.00'$ | |
| | $SE = 08$ | |
| | $RO = 224'$ | |

5/14/99

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| | | | |
|--|--------|---------------------------------|------|
| PROJECT REFERENCE NO. | U-5896 | SHEET NO. | UC-7 |
| DESIGNED BY: | DMP | | |
| DRAWN BY: | DMP | | |
| CHECKED BY: | DMP | | |
| APPROVED BY: | | | |
| REVISED: | | | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | | UTILITY CONSTRUCTION PLANS ONLY | |
| UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | | | |

UTILITY CONSTRUCTION

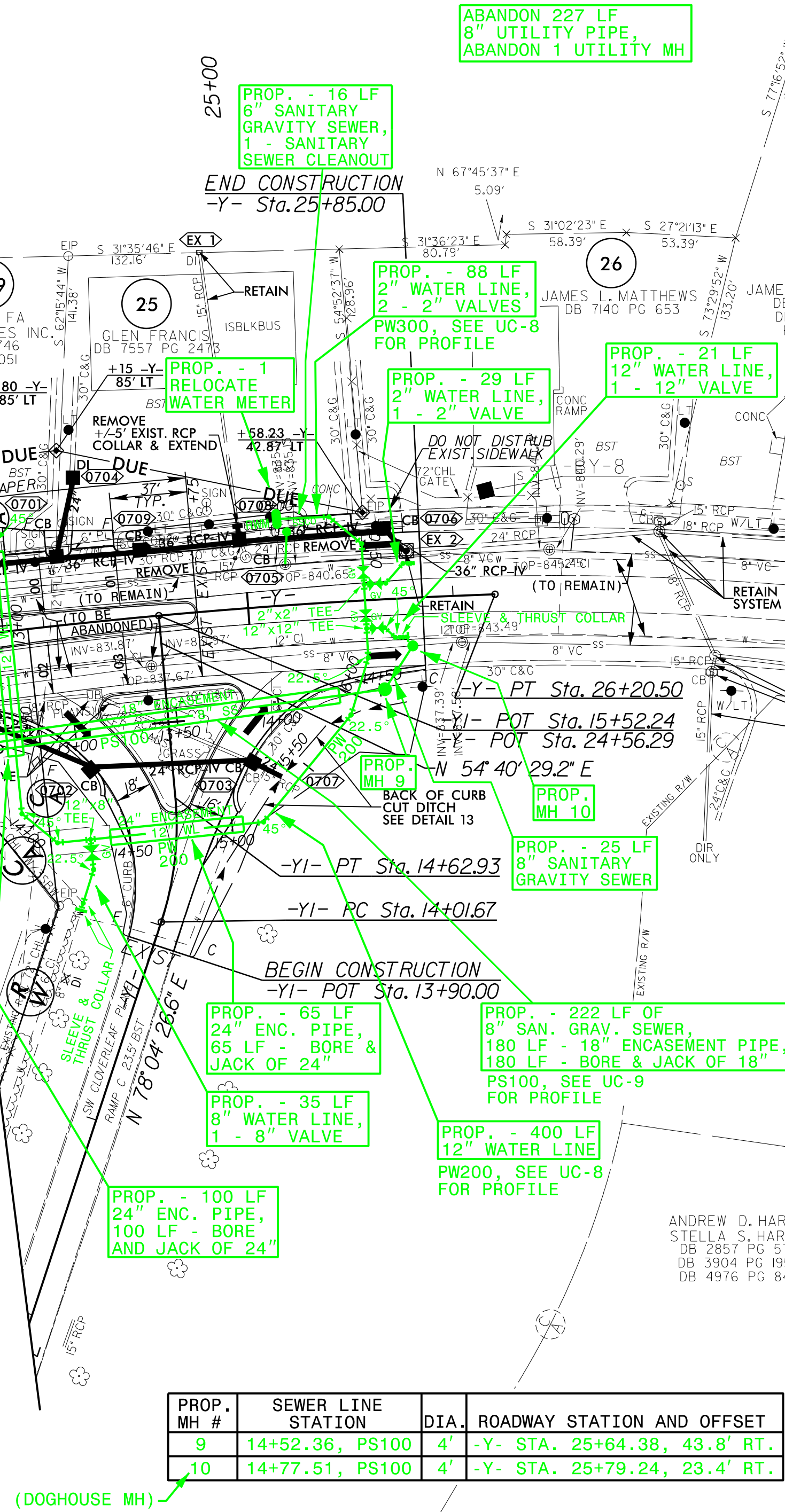
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS

| | | | |
|---------------------------------|--------------------------------|--------------------------------|---------------------------------|
| -Y- | | -YI- | |
| PI Sta 12+02.53 | PI Sta 17+30.99 | PI Sta 24+71.21 | PI Sta 14+32.74 |
| $\Delta = 6' 21'' 07.05'' (RT)$ | $\Delta = 0' 41'' 25.5'' (LT)$ | $\Delta = 5' 42'' 24.6'' (RT)$ | $\Delta = 23' 23'' 57.3'' (LT)$ |
| $D = 1' 34'' 11.09''$ | $D = 0' 34'' 22.6''$ | $D = 1' 54'' 35.5''$ | $D = 38' 11'' 49.9''$ |
| $L = 404.65'$ | $L = 120.50'$ | $L = 298.81'$ | $L = 61.26'$ |
| $T = 202.53'$ | $T = 60.25'$ | $T = 149.53'$ | $T = 31.06'$ |
| $R = 3,650.00'$ | $R = 10,000.00'$ | $R = 3,000.00'$ | $R = 150.00'$ |
| $SE = RC$ | $SE = NC$ | $SE = NC$ | $SE = NC$ |
| $RO = 74'$ | $RO = SEE PLANS$ | $RO = SEE PLANS$ | $RO = SEE PLANS$ |

NOTE: THE EXISTING 8" V.C. SANITARY GRAVITY SEWER LINE UNDER THE PAVEMENT ON THE WEST SIDE OF S. MAIN ST. (-Y-) IS TO BE ABANDONED AS NOTED. DUE TO LIMITED SPACE, EACH MANHOLE AND PIPE SECTION TO BE ABANDONED ARE NOT LABELED WITH PAY ITEM NOTES. ESTIMATED QUANTITIES OF PIPE AND MANHOLES TO BE ABANDONED, WHICH ARE NOT LABELED WITH PAY ITEM NOTES INCLUDE THE FOLLOWING:



| PROP. MH # | SEWER LINE STATION | DIA. | ROADWAY STATION AND OFFSET |
|------------|--------------------|------|------------------------------|
| 9 | 14+52.36, PS100 | 4' | -Y- STA. 25+64.38, 43.8' RT. |
| 10 | 14+77.51, PS100 | 4' | -Y- STA. 25+79.24, 23.4' RT. |

(DOGHOUSE MH)

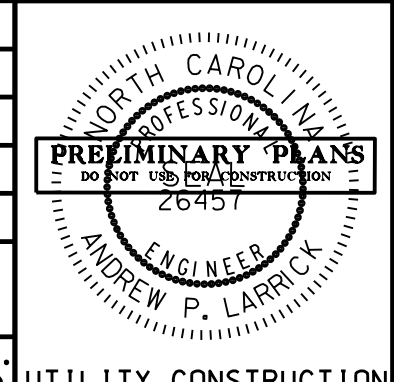
THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 3,560 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

REVISIONS

MATCHLINE -Y- STA 23+50.00
SEE SHEET UC-5D

5/14/99

25 0 50
1"=50' H, 1"=5' V

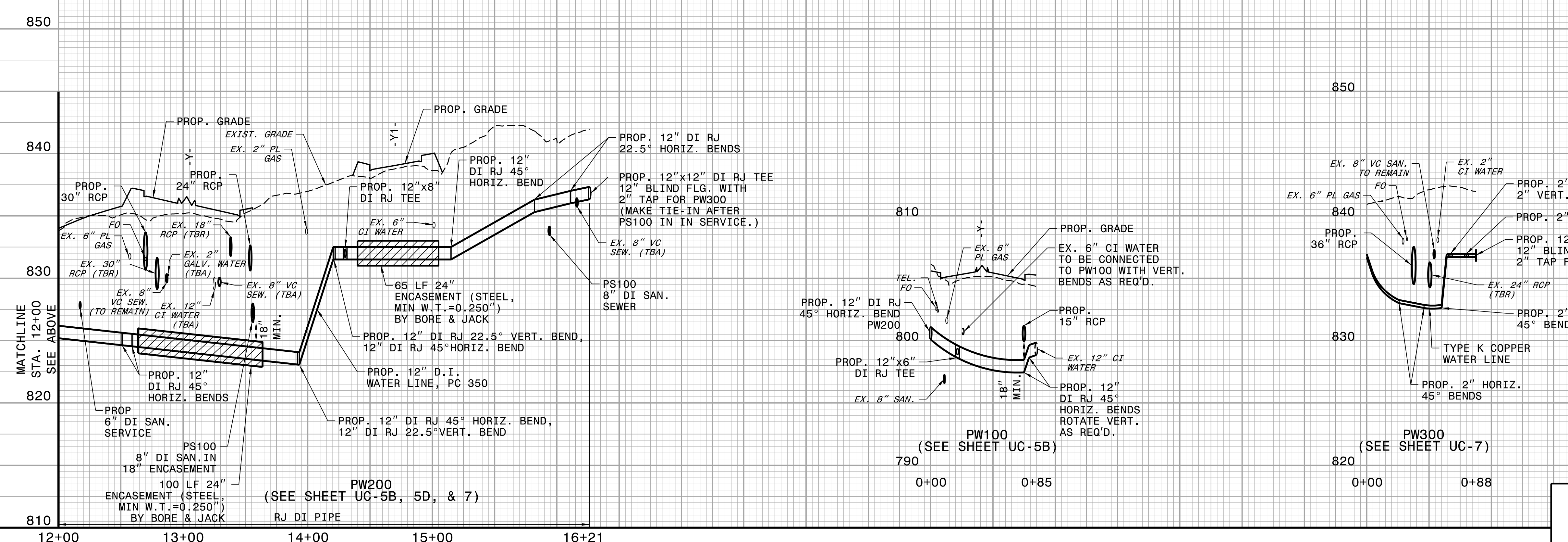
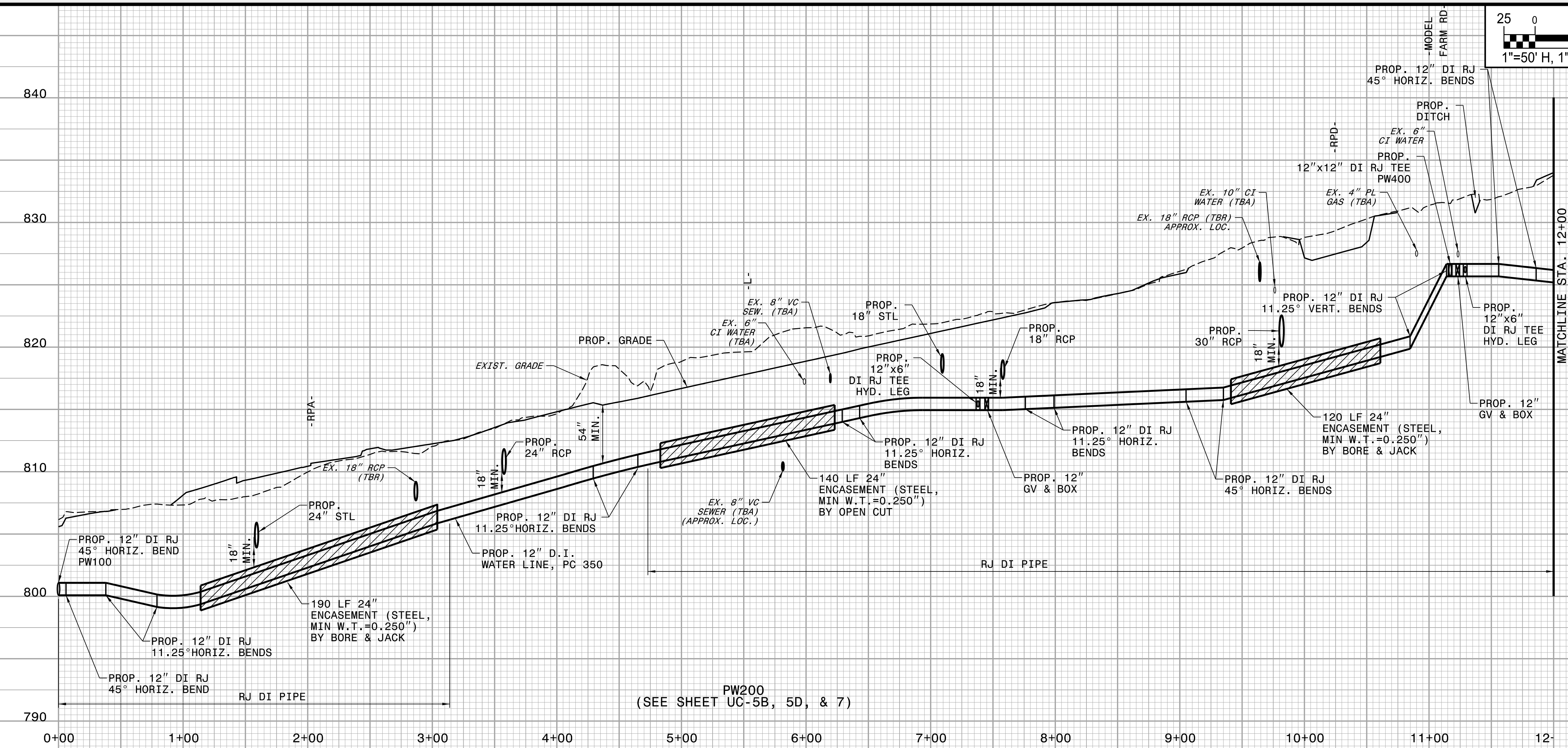
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| PROJECT REFERENCE NO. U-5896 | SHEET NO. UC-8 |
| DESIGNED BY: DMP |  |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | UTILITY CONSTRUCTION PLANS ONLY |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |

UTILITY CONSTRUCTION

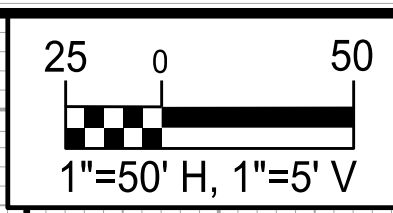
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UNLESS ALL SIGNATURES COMPLETED**

PRELIMINARY PLANS
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UTILITY AGREEMENT PLANS



5/14/99
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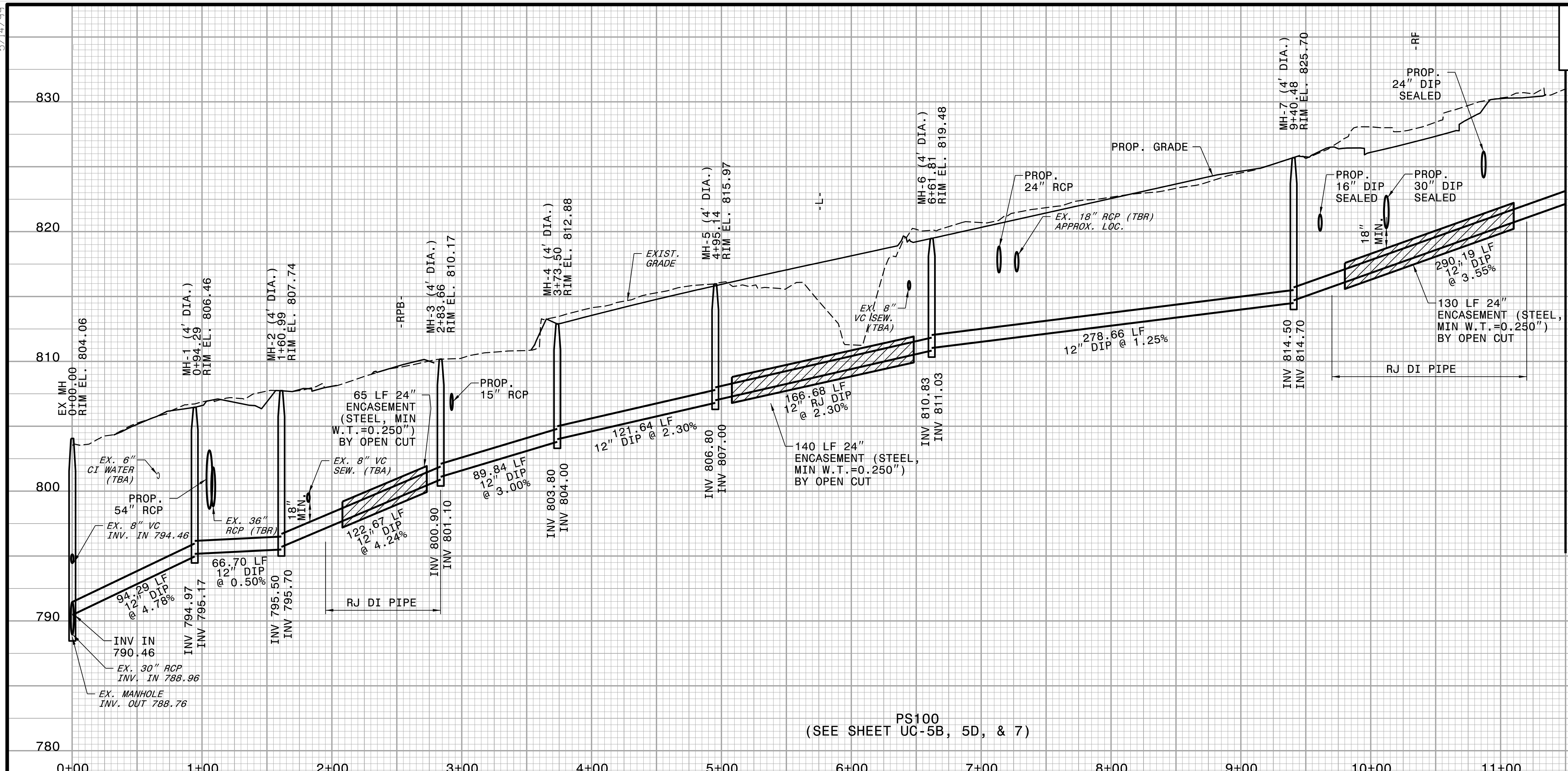
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| PROJECT REFERENCE NO. | SHEET NO. |
| U-5896 | UC-9 |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | |
| UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION

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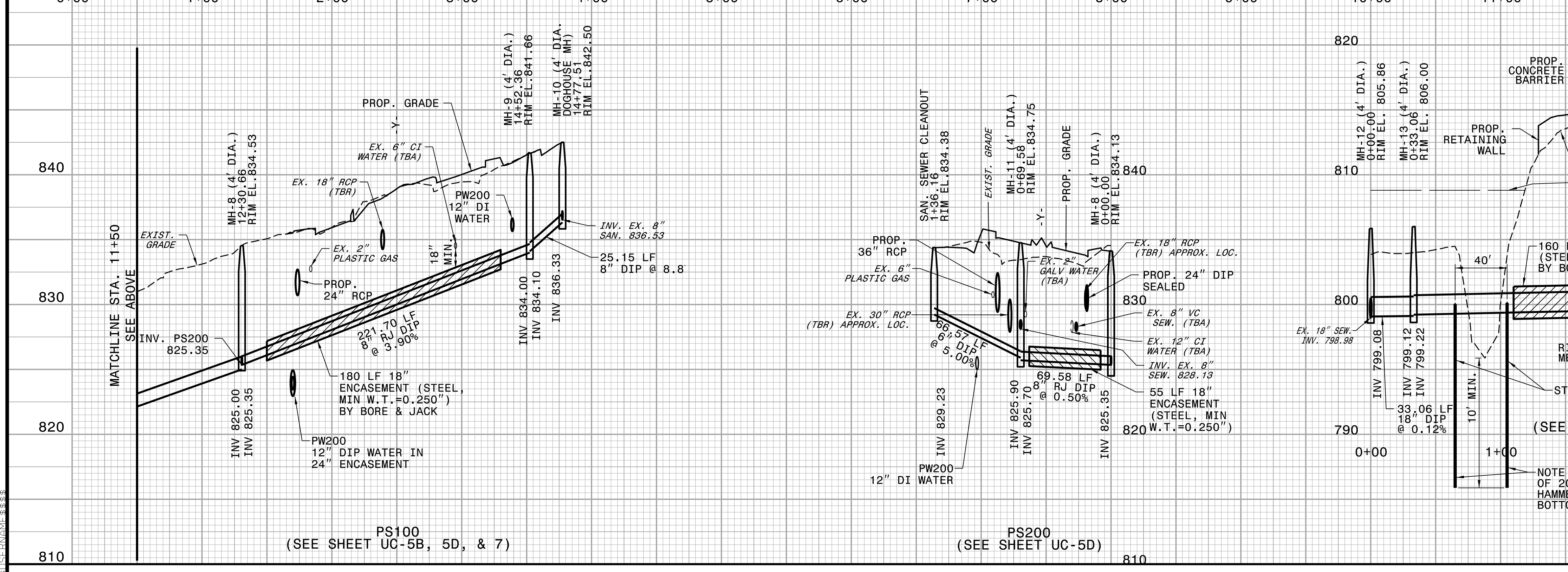
PRELIMINARY PLANS
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UTILITY AGREEMENT PLANS



PS100
(SEE SHEET UC-5B, 5D, & 7)

- NOTES:
- MH'S 12, 13, AND 15 SHALL BE CHP STD. NO. 311.00 4' DIA. FLAT-TOP MH'S.
 - MH 14 SHALL BE CHP STD. NO. 310.00 4' DIA. VENTED FLAT-TOP MH.

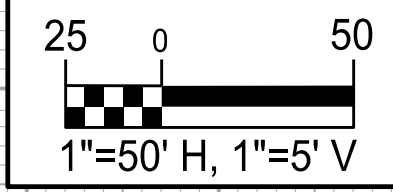


PS100
(SEE SHEET UC-5B, 5D, & 7)

PS200
(SEE SHEET UC-5D)

NOTE: DRIVE STEEL PILE PIERS TO BEARING CAPACITY OF 20 TONS, OR TO REFUSAL, WITH PILE DRIVER HAMMER APPROVED BY ENGINEER. (MIN. 10' BELOW BOTTOM OF STREAM, OR AS DIRECTED BY ENGINEER.)

5/14/99



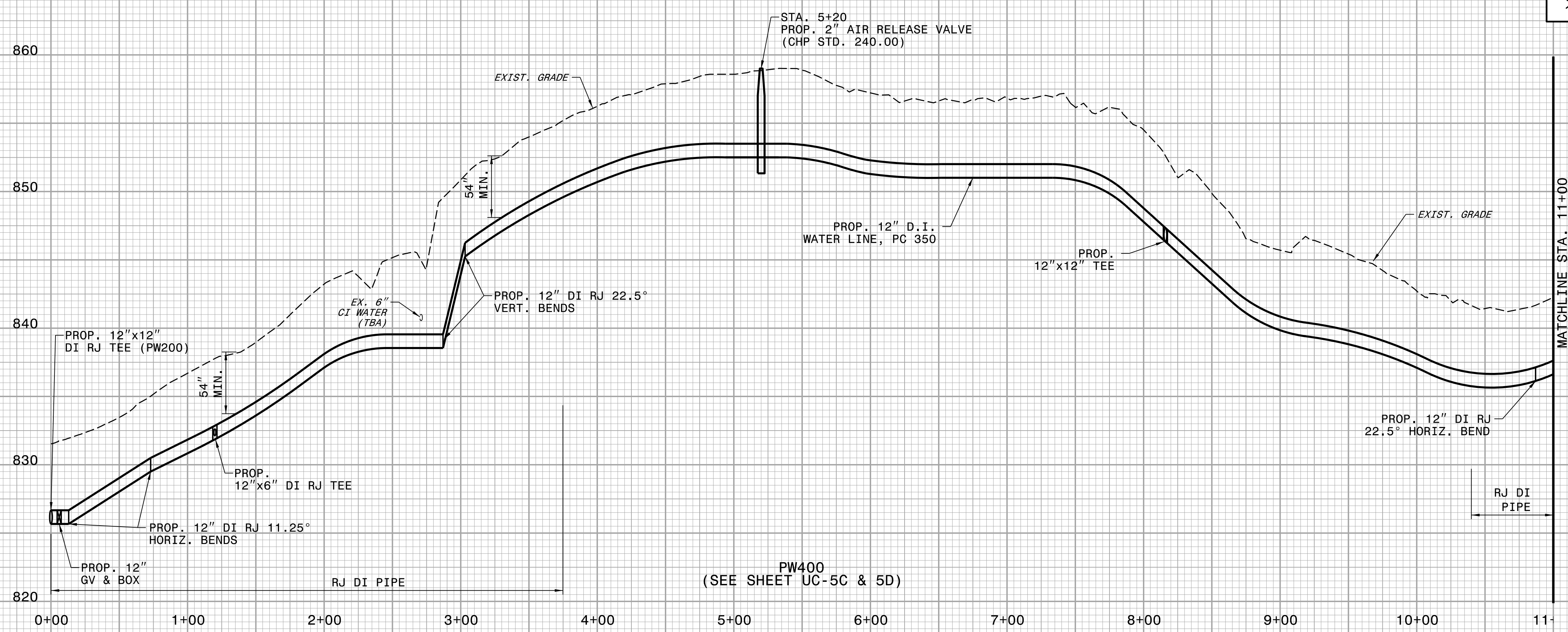
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| PROJECT REFERENCE NO. | SHEET NO. |
| U-5896 | UC-10 |
| DESIGNED BY: DMP | |
| DRAWN BY: DMP | |
| CHECKED BY: DMP | |
| APPROVED BY: | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | UTILITY CONSTRUCTION PLANS ONLY |
| UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 | |

UTILITY CONSTRUCTION

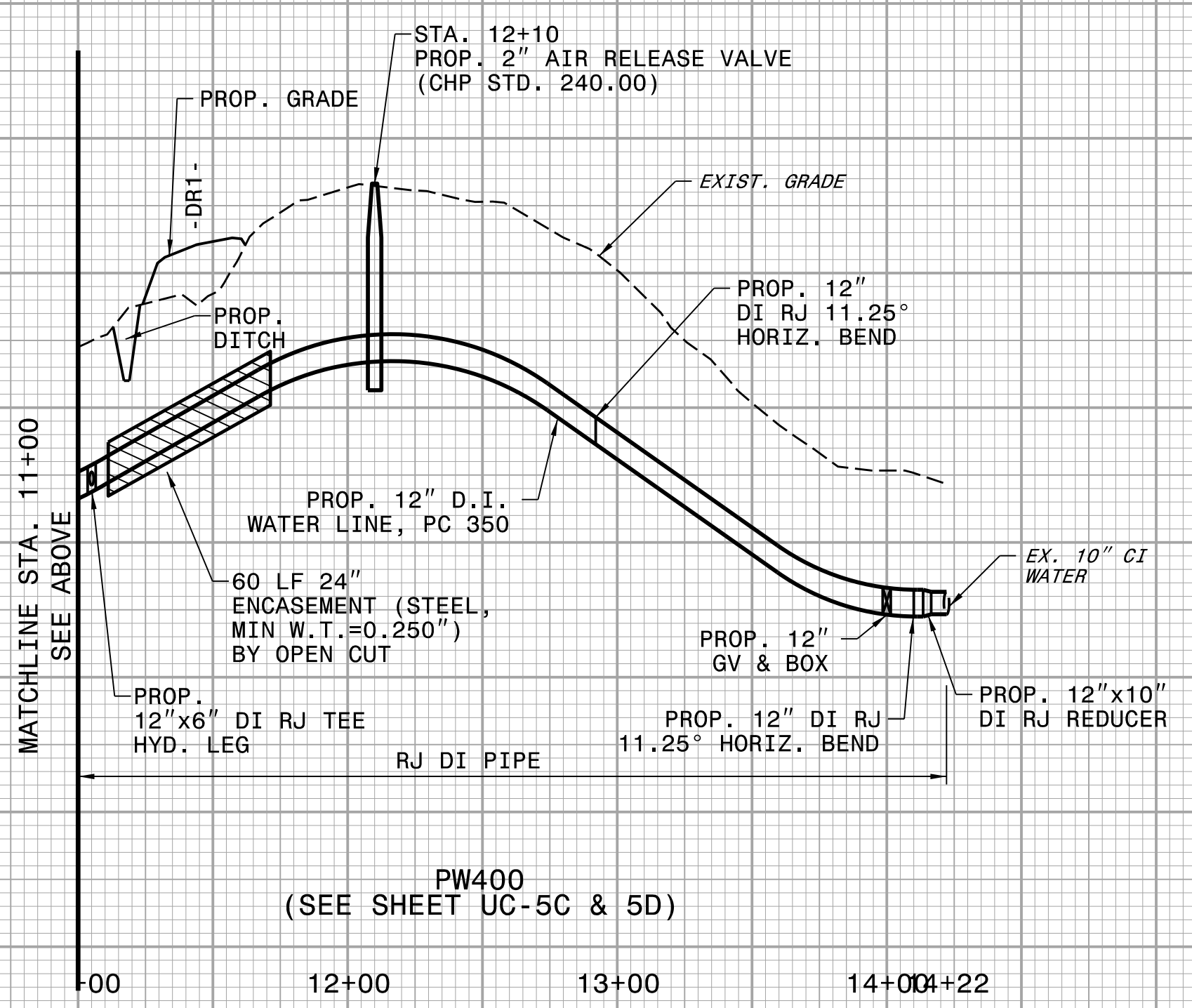
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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

UTILITY AGREEMENT PLANS



PW400
(SEE SHEET UC-5C & 5D)



PW400
(SEE SHEET UC-5C & 5D)