



## **Invitation for Bid No. 2024-065**

### **Emerald Woods Watermain Extension**

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#### **ADDENDUM No. 1**

**ISSUE DATE: July 16, 2024**

Responding Offerors on this project are hereby notified that this Addendum shall be made a part of the above named IFB document.

The following items add to, modify, and/or clarify the IFB documents and shall have the full force and effect of the original Documents. This Addendum shall be acknowledged by the Offeror in the IFB document.

**ADDENDUM NO. 1**  
**Addendum Date: July 16, 2024**

**UNION COUNTY, NC**  
**Emerald Woods Watermain Extension**

Notice to Bidders: This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated June 25, 2024 as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the bidder to disqualification. This Addendum consists of 7 pages and 3 pages of attachments and can be downloaded from the internet at <http://www.dpibidroom.com>.

**QUESTIONS AND RESPONSES**

- Q1. Will we be paid for subgrade stabilization stone if we are in rock and need stone around the pipe?
- R1. Please review the pay item description for “Subgrade Stabilization Stone” in specification Section 01025 of the Project Manual.
- Q2. Will the gravel shoulder at Emerald Wood Road be paid for under the gravel driveway bid item or will it be an incidental expense to the project.
- R2. The cost for the NCDOT required gravel shoulder at the entrance to Emerald Woods Subdivision should be included in “Traffic Control” listed in the Bid Form of the Project Manual.
- Q3. Do you have an engineer’s estimate?
- R3. Construction Estimate is approximately \$600,000 to \$700,000.
- Q4. When do you expect to issue a notice to proceed?
- R4. NTP will be issued upon successful Construction Contract Award to the lowest responsible bidder by the Board of County Commissioners, full execution of The Agreement, and completion of the preconstruction conference.

Please review “Commencement of Contract Times; Notice to Proceed” listed in “Article 2 – Preliminary Matters” in Section C-700 of the Project Manual.

- Q5. There are several references in regards to testing in the above project. Can you please clarify as to who will be responsible for testing of materials (backfill, concrete, asphalt...) and who will be responsible for testing of the water line?
- R5. The contractor shall be responsible for testing of materials, please see Modifications to Contract Documents item 3 for added item “Testing Allowance” to Section 01025 Measurement and Payment.

The contractor shall be responsible for testing the water line, please review subsection 3.12 “Field Quality Control” in specification Section 02660 of the Project Manual.

- Q6. Regarding this project, can you confirm that the Contractor is to provide Construction Testing (compaction testing) – or is the County to provide (perhaps through KHA?).

- R6. Please see R5, above.
- Q7. The measurement and payment section mentions “free boring” for the proposed waterline across driveways, but there is no pay item for free bore, how do we get paid for this item?
- R7. Please see Modifications to Contract Documents items 1 and 2. This includes replaced Bid Form including line item for “Free Bore” and added item to Section 01025 Measurement and Payment for “Free Bores for Paved (Concrete or Asphalt) Driveway and Tree Under-crossings”.
- Q8. There’s not an item for asphalt driveway repair, how do we get paid for this item?
- R8. Please see Modifications to Contract Documents item 1. This now includes replaced Bid Form including line item for “Driveway Repair – Asphalt”.
- Q9. Will 12” HDPE be acceptable to use in lieu of 12” steel casing pipe under Lawyers Rd.?
- R9. Steel casing pipe will need to be used under Lawyers Road. Please refer to Union County standard detail 14 for Pipe Encasement included on Sheet C-8 of the drawings.

## **MODIFICATIONS TO CONTRACT DOCUMENTS**

1. SECTION C-410 BID FORM  
REPLACE ENTIRE SECTION  
WITH:  
SECTION C-410 BID FORM (ATTACHED)
2. SECTION 01025 MEASUREMENT AND PAYMENT  
SUBSECTION 1.4 MEASUREMENT AND PAYMENT  
ADD:  
Free Bores for Paved (Concrete or Asphalt) Driveway and Tree Under-crossings:
  - a) Measurement for payment of paved driveway and designated tree under-crossings shall be at the actual linear feet of “free-bored” pipe installed. Payment shall include excavation, installation, “free boring”, backfilling, and restoration of ditches and culverts to original condition. Unit price for free bores shall not include installation of the carrier pipe.
  - b) No payment will be made for unsuccessful free bore attempts.
3. SECTION 01025 MEASUREMENT AND PAYMENT  
SUBSECTION 1.4 MEASUREMENT AND PAYMENT  
ADD:  
Testing Allowance:
  - a) Contractor shall pay testing costs from cash allowance in the Project Bid for inspections and tests, which pass specification requirements. Tests to be performed by an Engineer and/or Owner approved independent laboratory for:
    - a. Subgrade preparation and soil compaction testing.
    - b. Concrete testing.
    - c. Pavement materials and construction.

## **MODIFICATIONS TO DRAWINGS**

1. SHEET C-0, COVER SHEET  
REPLACE WITH:  
SHEET C-0, COVER SHEET REV 1 (ATTACHED)
2. SHEET C-2, WEST LAWYERS RD WATERMAIN  
ADDED CALLOUTS:  
SHEET C-2, WEST LAWYERS RD WATERMAIN REV 1 (ATTACHED)
3. SHEET C-9, STANDARD DETAILS 4  
REPLACE WITH:  
SHEET C-9, STANDARD DETAILS 4 REV 1 (ATTACHED)

## **ATTACHMENTS**

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**ARTICLE 1 – BID RECIPIENT**

1.01 This Bid is submitted to:

**Union County Procurement Office  
Attn: Corey Brooks  
500 N. Main Street, Suite 709  
Monroe, NC 28112**

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

**ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS**

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

**ARTICLE 3 – BIDDER’S REPRESENTATIONS**

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

#### **ARTICLE 4 – BIDDER'S CERTIFICATION**

##### **4.01 Bidder certifies that:**

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
  - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
  - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;



3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the e execution of the Contract.

#### **ARTICLE 5 – BASIS OF BID**

- 5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Total Base Bid
1	Subgrade Stabilization Stone	TN	72		
2	Tapping Sleeve and Valve	EA	1		
3.1	8-inch Water Main PVC	LF	800		
3.2	8-inch Water Main RJ DIP	LF	400		
3.3	6-inch Water Main PVC	LF	1,700		
3.4	6-inch Water Main RJ DIP	LF	750		
3.5	2-inch Water Main PVC	LF	800		
4.1	8-inch Gate Valve	EA	3		
4.2	6-inch Gate Valve	EA	2		
4.3	2-inch Gate Valve	EA	4		
5	2-inch Blow Off Assembly	EA	3		
6	Fire Hydrant Assembly	EA	5		
7	12" Steel Casing Pipe (Bored)	LF	80		
8	12" Steel Casing Pipe (Open Cut)	LF	45		
9	Water Service Connection Assemblies (6" x 3/4")	EA	19		
10	3/4" Copper Service Tubing (Bored)	LF	650		
11	3/4" Copper Service Tubing (Open Cut)	LF	50		
12	Free Bore	LF	200		
13	Asphalt Pavement Replacement - Roads	SY	430		
14	Driveway Replacement - Asphalt	SY	14		
15	Driveway Replacement - Concrete	SY	50		
16	Driveway Replacement - Gravel	LF	750		
17	Grassing and Erosion Control	LS	1		
18	Traffic Control	LS	1		
<b>Total Base Bid (Item No. 1 – 17)</b>					\$
19	Testing Allowance	LS	1	\$5,000	
20	Mobilization (4% of Base Bid)	LS	1		
21	Contingency Allowance (5% of Base Bid)	LS	1		
<b>Total Bid (Base Bid + Mobilization + Allowances)</b>					\$

Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

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**Unit Price Bids = Total Bid Price**

\$ \_\_\_\_\_

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**ARTICLE 6 – TIME OF COMPLETION**

- 6.01 Bidder agrees that the Work will be substantially complete within 120 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 150 calendar days after the date when the Contract Times commence to run.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

**ARTICLE 7 – ATTACHMENTS TO THIS BID**

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
  - B. List of Proposed Subcontractors;
  - C. List of Proposed Suppliers;
  - D. List of Project References;
  - E. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
  - F. Contractor's License No.: \_\_\_\_\_
  - G. Required Bidder Qualification Statement with supporting data; and
  - H. Non-collusion affidavit of Prime Bidder

**ARTICLE 8 – DEFINED TERMS**

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

**ARTICLE 9 – BID SUBMITTAL**

BIDDER: *[Indicate correct name of bidding entity]*

By: \_\_\_\_\_  
*[Signature]*

\_\_\_\_\_  
*[Printed name]*  
*(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)*

Attest: \_\_\_\_\_  
*[Signature]*

\_\_\_\_\_  
*[Printed name]*

Title: \_\_\_\_\_

Submittal Date: \_\_\_\_\_

Address for giving notices:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

Contact Name and e-mail address: \_\_\_\_\_  
\_\_\_\_\_

Bidder's License No.: \_\_\_\_\_  
*(where applicable)*

*NOTE TO USER: Use in those states or other jurisdictions where applicable or required.*

Plotted By: illoxy\_savannah - Sheet Set: EMERALD WOODS WATERMAIN EXTENSION - Layout: C-0 COVER SHEET - July 12, 2024 - 03:30:08pm - K:\CHL\_PRA\015127\union\_county\005\_emerald\_woods\_watermain\_extension\04\_CADD\plan\_sheets\COVER SHEET.dwg  
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and approval by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

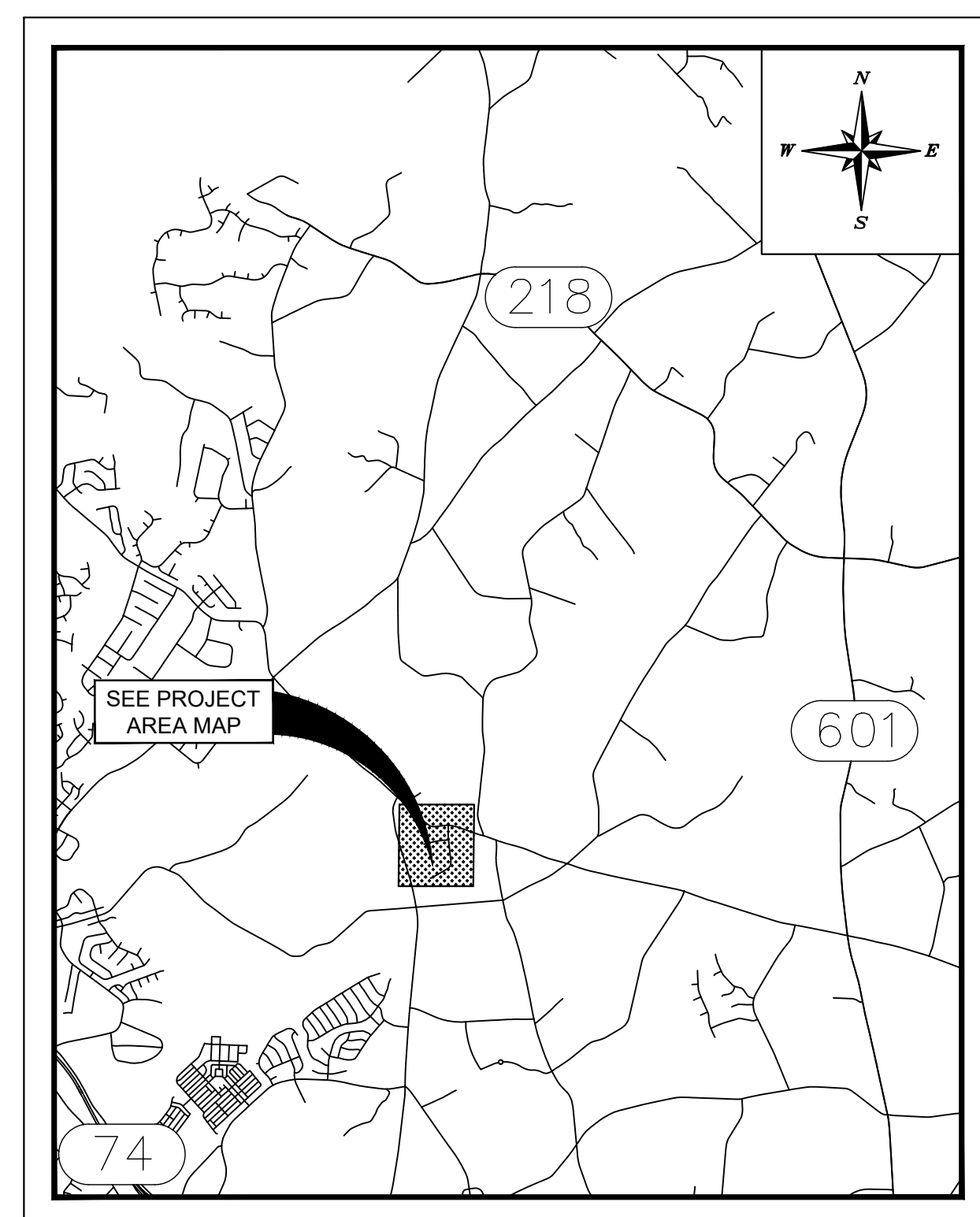
**GENERAL NOTES:**

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH UNION COUNTY WATER SPECIFICATIONS. WORK IN PUBLIC RIGHTS-OF-WAY SHALL BE IN ACCORDANCE WITH NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. ALL WORK SHALL BE PERFORMED WITHIN PUBLIC RIGHTS-OF-WAY AND/OR PERMANENT AND TEMPORARY CONSTRUCTION EASEMENTS.
2. WATER MAINS SHALL HAVE A MINIMUM COVER OF 3'-0". DUCTILE IRON PIPE SHALL BE SUBSTITUTED WHEN MINIMUM COVER CANNOT BE MAINTAINED, OR AS DIRECTED BY THE ENGINEER DUE TO FIELD CONDITIONS.
3. EXISTING UTILITIES, DRAINAGE PIPES AND STRUCTURES ARE SHOWN FROM THE BEST AVAILABLE INFORMATION AND ARE APPROXIMATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE AND OTHER UTILITIES BEFORE STARTING CONSTRUCTION. NOTIFY UTILITY LOCATING COMPANY (NORTH CAROLINA 811) OR INDIVIDUAL UTILITY OWNERS FOR UNDERGROUND LOCATIONS AT LEAST 72 HOURS IN ADVANCE. CONTRACTOR SHALL REPAIR, AT THEIR OWN EXPENSE, ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES TO EXISTING DRAINAGE PIPES AND STRUCTURES, UTILITY LINES AND/OR SERVICES.
4. TRACER WIRE SHALL BE INSTALLED ON ALL WATER MAINS AND SERVICE CONNECTIONS. THE WIRE SHALL EXTEND INTO THE METER OR VALVE BOX AT ALL LOCATIONS WITHOUT EXCEPTION.
5. FIRE HYDRANTS SHALL BE PLACED A MINIMUM DISTANCE OF 6' FROM EDGE OF PAVEMENT AND HAVE A CLEAR SPACE OF 3' FROM ANY PERMANENT STRUCTURES.
  - a. FIRE HYDRANTS SHALL BE BAGGED UNTIL THE WATERLINE HAS BEEN PUT INTO SERVICE.
6. EXISTING VALVES AND HYDRANTS ARE TO BE OPERATED BY UNION COUNTY WATER OPERATIONS STAFF OR UNDER THE DIRECTION OF UNION COUNTY WATER PERSONNEL.
7. PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL NOTIFY NEAL GASTON, CIP CONSTRUCTION MANAGER FOR UNION COUNTY WATER, AT 704-296-4254 OR 704-363-9168.
8. CONTRACTOR IS SOLELY RESPONSIBLE FOR SITE SAFETY ASSOCIATED WITH THE WORK UNDER THIS PROJECT AND FOR COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL HEALTH AND SAFETY LAWS, CODES, REGULATIONS AND ORDINANCES INCLUDING, BUT NOT LIMITED TO, THOSE CURRENTLY MANDATED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.
9. CONTRACTOR SHALL USE ADEQUATE SHORING AND BRACING METHODS TO ENSURE:
  - A. COMPLIANCE WITH OSHA REGULATIONS.
  - B. PROTECTION OF EXISTING PAVEMENT AND ROADWAY SHOULDERS PER NCDOT.
  - C. CONSTRUCTION ACTIVITIES ARE CONFINED TO RIGHTS-OF-WAY OR EASEMENTS AS INDICATED.
10. CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO ANY EXISTING ITEM AND/OR MATERIAL DUE TO CONSTRUCTION OPERATIONS. ALL STREET SURFACES, UTILITY POLES, CULVERTS, DITCHES, MAILBOXES, WATER METERS, CURB AND GUTTERS OR OTHER STRUCTURES THAT ARE DISTURBED OR DAMAGED IN ANY MANNER AS A RESULT OF CONSTRUCTION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR IN ACCORDANCE WITH THE APPROPRIATE SPECIFICATIONS.
11. ACCESS TO AND FOR PIPELINE CONSTRUCTION SHALL BE ALONG EXISTING ROADS OR ALONG PERMANENT AND/OR TEMPORARY CONSTRUCTION EASEMENTS ONLY. IF ADDITIONAL AREAS ARE NEEDED FOR THE STORAGE OF EQUIPMENT OR SUPPLIES, CONTRACTOR SHALL MAKE ARRANGEMENTS FOR OBTAINING SUCH AREAS AND SHALL NOTIFY THE OWNER OF ALL SUCH ARRANGEMENTS. ANY AGREEMENT BETWEEN CONTRACTOR AND PROPERTY OWNERS SHALL BE MADE IN WRITING AND COPIED TO UNION COUNTY.
12. CONTRACTOR SHALL TAKE APPROPRIATE ACTION TO ENSURE THAT ACCESS TO EXISTING RESIDENCES AND PROPERTY IS NOT IMPEDED. CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS FOR ALL PROPERTY OWNERS WITHIN AND ADJACENT TO CONSTRUCTION AREAS AT ALL TIMES.
13. ALL HOLES, TRENCHES AND OTHER HAZARDOUS AREAS SHALL BE ADEQUATELY PROTECTED BY BARRICADES, LIGHTS OR OTHER PROTECTIVE DEVICES AS REQUIRED.
14. UNDER NO CIRCUMSTANCE SHALL TRENCHES BE LEFT OPEN OVERNIGHT OR WHEN UNATTENDED.
15. COORDINATE AND SCHEDULE ANY AND ALL TIE-INS TO EXISTING WATER MAINS AND ASSOCIATED SHUT-DOWNS OF THE WATER SYSTEM WITH THE CIP CONSTRUCTION MANAGER AT LEAST 72 HOURS PRIOR TO SUCH ACTIVITIES. CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS, INTEGRITY OF EXISTING FACILITIES, AND ALL MATERIALS NEEDED TO ACCOMPLISH TIE-INS ARE ON-HAND PRIOR TO SHUT-DOWN. SHUT-DOWN TIMES SHALL BE KEPT TO A MINIMUM.
16. METER LOCATIONS FOR INDICATED PROPERTIES SHALL BE VERIFIED WITH CIP CONSTRUCTION MANAGER AND PROPERTY OWNER.
17. ALL DISTURBED AREAS ARE TO BE RETURNED TO PRE-CONSTRUCTION CONDITION OR BETTER.
18. ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE IMPLEMENTED AS SHOWN ON THE PLANS AND SHALL NOT BE REMOVED UNTIL VEGETATION HAS BEEN SATISFACTORILY RE-ESTABLISHED. ADDITIONAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS NEEDED OR DIRECTED BY THE CIP CONSTRUCTION MANAGER, ENGINEER, OR NCDEQ.
20. WATER LINE SHALL BE INSTALLED WITH A MINIMUM OF 3 FEET OF COVER; OR 3 FEET BELOW THE ADJACENT ROADWAY ELEVATION; OR 2 FEET BELOW THE FLOW LINE

21. PIPE JOINT DEFLECTIONS SHALL BE NO GREATER THAN 50% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION UNLESS NOTED OTHERWISE IN THE PLANS. CONTRACTOR SHALL NOTIFY OWNER/ENGINEER WHEN JOINTS OR FITTINGS NOT SHOWN ARE REQUIRED.
22. THE MINIMUM LATERAL AND VERTICAL SEPARATION BETWEEN THE PROPOSED WATERMAIN AND UTILITIES SHALL MEET OR EXCEED THE 12-INCH SEPARATION REQUIRED IN 15A NCAC 18C. 0904(b).

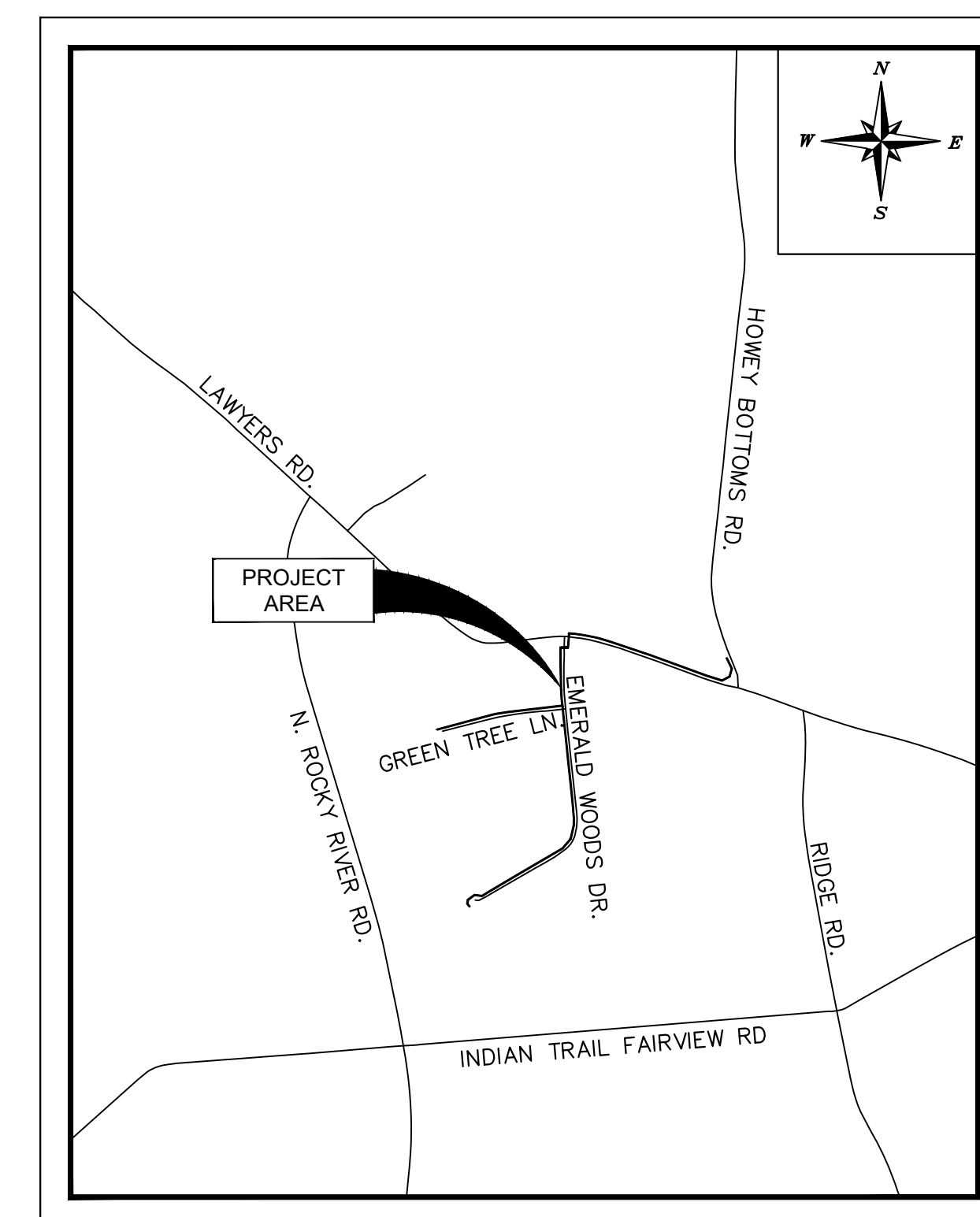


# UNION COUNTY, NORTH CAROLINA EMERALD WOODS WATERMAIN EXTENSION



**PROJECT LOCATION**

1" = 5000'



**PROJECT AREA**

1" = 1000'

**PLANS PREPARED FOR:**  
 UNION COUNTY, NORTH CAROLINA  
 UNION COUNTY WATER  
 ADDRESS: 200 SOUTH TRYON STR., MONROE, NC 28112  
 PHONE: (704) 296-4210

**DESIGN COMPANY:**  
 PLANS PREPARED BY: KIMLEY-HORN  
 ADDRESS: 200 SOUTH TRYON STR., STE. 200, CHARLOTTE, NC 28202  
 PHONE: (704) 333-5131  
 DATE DESIGN COMPLETED: 12/2023

**SURVEY COMPANY:**  
 SURVEYED BY: STEWART  
 ADDRESS: 101 NORTH TRYON ST, STE 1400, CHARLOTTE, NC 28202  
 PHONE: 704-334-7925  
 DATE SURVEY COMPLETED: 09/2023

**NCDEQ PROJECT NUMBER:**  
 23-01144

**NC DOT ENCROACHMENT ID:**  
 E103-090-23-00326

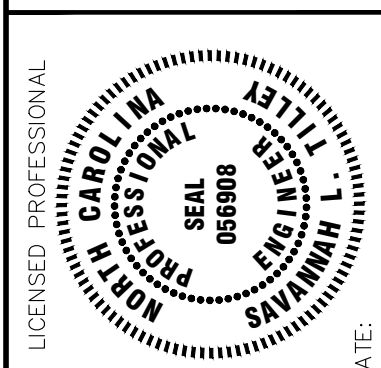
Sheet List Table	
Sheet Number	Sheet Title
C-0	COVER SHEET
C-1	WATERMAIN SHEET INDEX
C-2	WEST LAWYERS RD WATERMAIN
C-3	EMERALD WOODS DR WATERLINE
C-4	GREENTREE LN WATERLINE
C-5	WEST LAWYERS JACK AND BORE
C-6	STANDARD DETAILS 1
C-7	STANDARD DETAILS 2
C-8	STANDARD DETAILS 3
C-9	STANDARD DETAILS 4
C-10	EROSION AND SEDIMENT CONTROL DETAILS 1
C-11	EROSION AND SEDIMENT CONTROL DETAILS 2
C-12	EROSION AND SEDIMENT CONTROL DETAILS 3
C-13	WEST LAWYERS RD TRAFFIC CONTROL PLAN
C-14	EMERALD WOODS DR TRAFFIC CONTROL PLAN

Water Main Quantities			
Type	Dia.	Material	Quantity
WATER MAIN	8"	PVC	805'
WATER MAIN	8"	DI	395'
WATER MAIN	6"	DI	730'
WATER MAIN	6"	PVC	1680'
WATER MAIN	2"	PVC	780'
CASING PIPE (BORED)	12"	STEEL	80'
CASING PIPE (OPEN CUT)	12"	STEEL	73'
TSV	16"x8"	DI	1
GATE VALVE	8"	DI	3
GATE VALVE	6"	DI	2
GATE VALVE	2"	DI	4
PLUG	8"	DI	1
FIRE HYDRANT ASSEMBLY	8"	DI	1
FIRE HYDRANT ASSEMBLY	6"	DI	4
TEE	8"x6"	DI	1
TEE	6"	DI	1
BOV	2"	DI	3



NO.	REVISIONS	DATE
1	ADDENDUM 1	7/16/2024

**Kimley»Horn**  
 © 2024 KIMLEY-HORN AND ASSOCIATES, INC.  
 NC LICENSE #F-0102  
 200 SOUTH TRYON, SUITE 200, CHARLOTTE, NC 28202  
 PHONE: 704-333-5131  
 WWW.KIMLEY-HORN.COM



KHA PROJECT 015127005  
 DATE JUL 2024  
 SCALE AS SHOWN  
 DESIGNED BY SLT  
 DRAWN BY BLL  
 CHECKED BY DCS

**COVER SHEET**

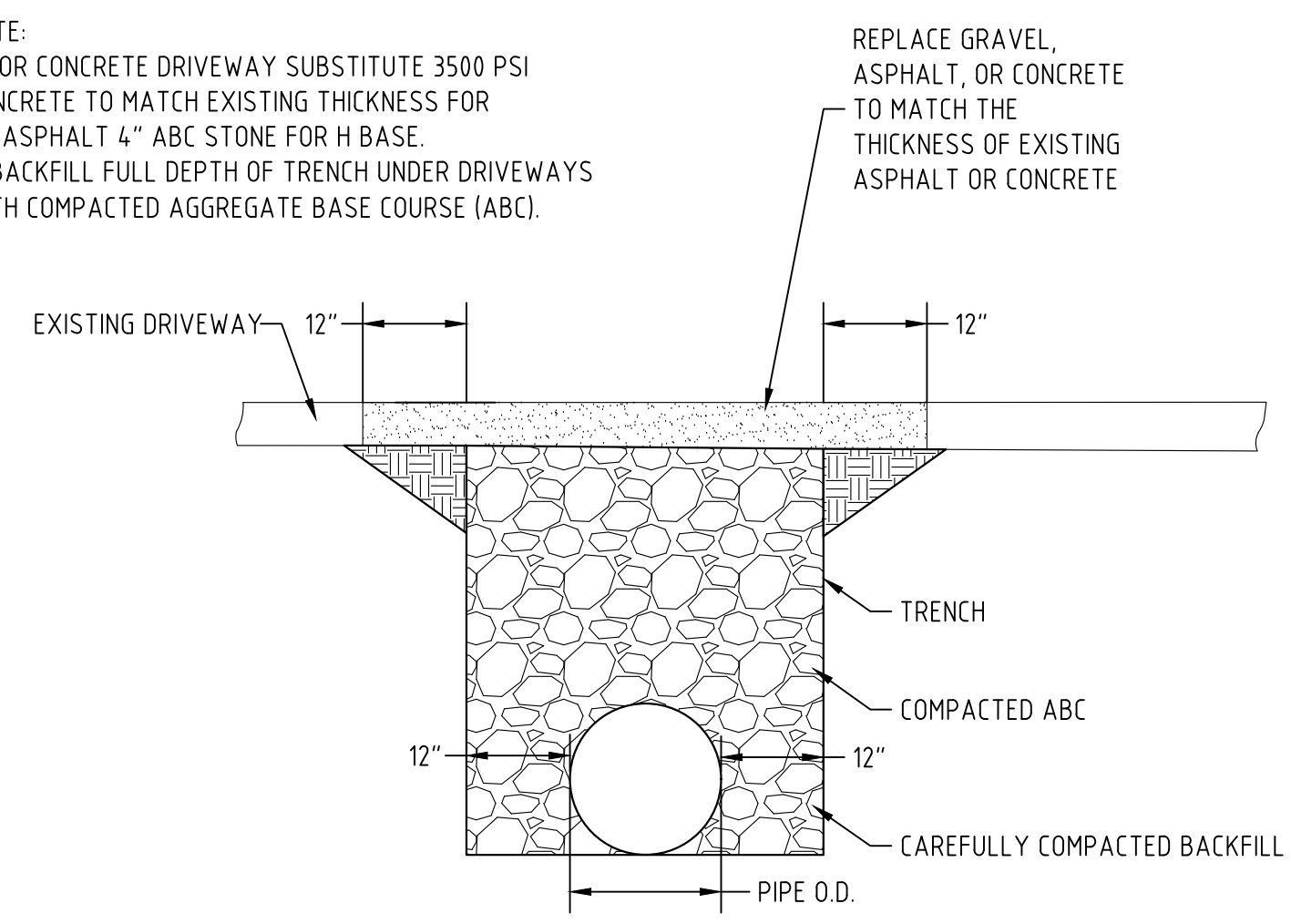
EMERALD WOODS  
 WATERMAIN EXTENSION  
 PREPARED FOR  
 UNION COUNTY WATER  
 NORTH CAROLINA  
 INDIAN TRAIL

SHEET NUMBER  
**C-0**



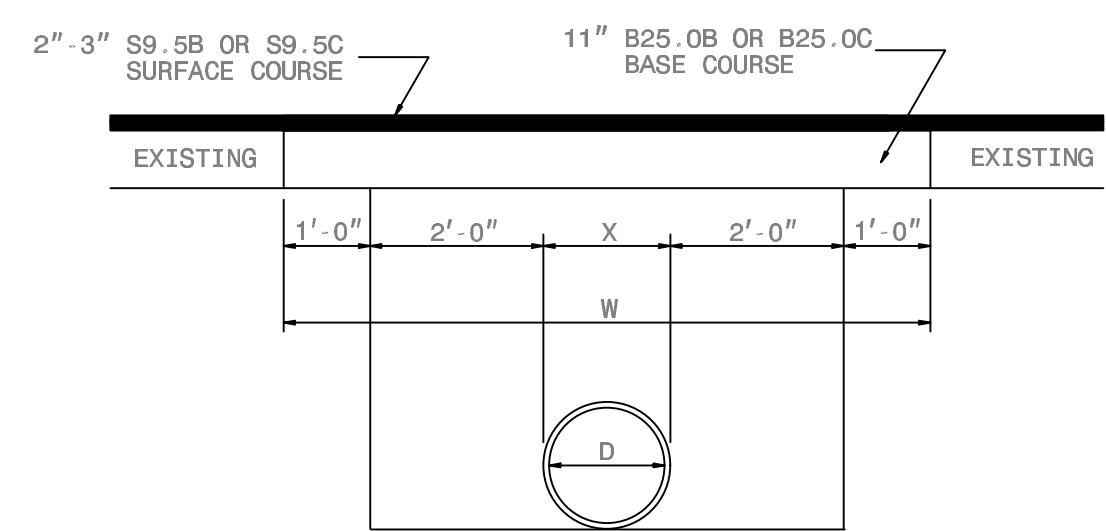
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NOTE:  
 1. FOR CONCRETE DRIVEWAY SUBSTITUTE 3500 PSI CONCRETE TO MATCH EXISTING THICKNESS FOR 1-2 ASPHALT 4" ABC STONE FOR H BASE.  
 2. BACKFILL FULL DEPTH OF TRENCH UNDER DRIVEWAYS WITH COMPACTED AGGREGATE BASE COURSE (ABC).

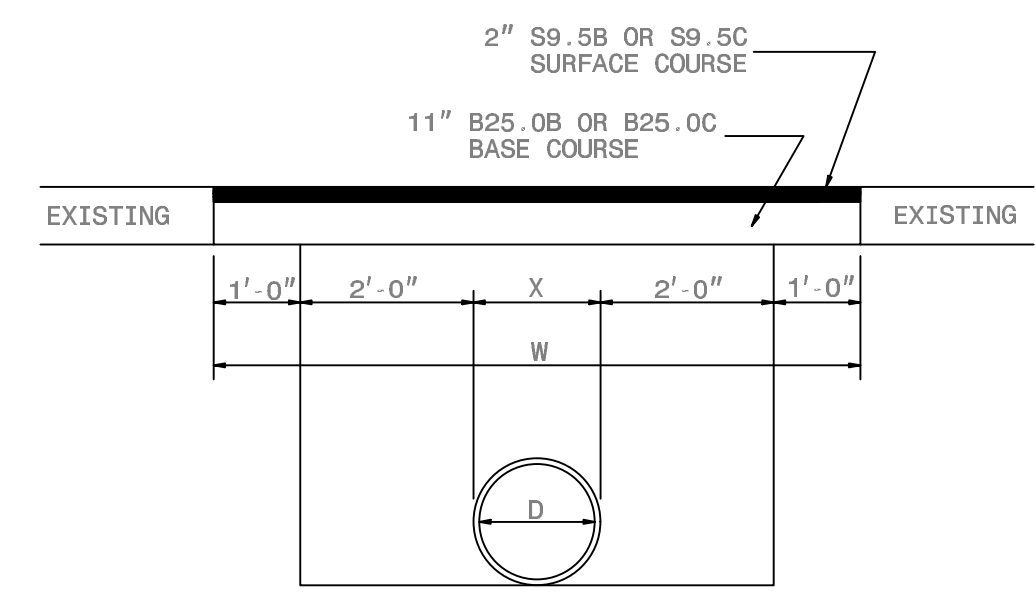


1 DRIVEWAY REPLACEMENT  
 NOT TO SCALE

D	X	W
12"	1'-4"	7'-4"
15"	1'-7"	7'-7"
18"	1'-10"	7'-10"
24"	2'-6"	8'-6"
30"	3'-1"	9'-1"
36"	3'-8"	9'-8"
42"	4'-5"	10'-5"
48"	5'-0"	11'-0"



PAVEMENT REPAIRS ON ROADS TO BE RESURFACED  
 (PIPE IS PLACED UNDER EXISTING PAVEMENT)

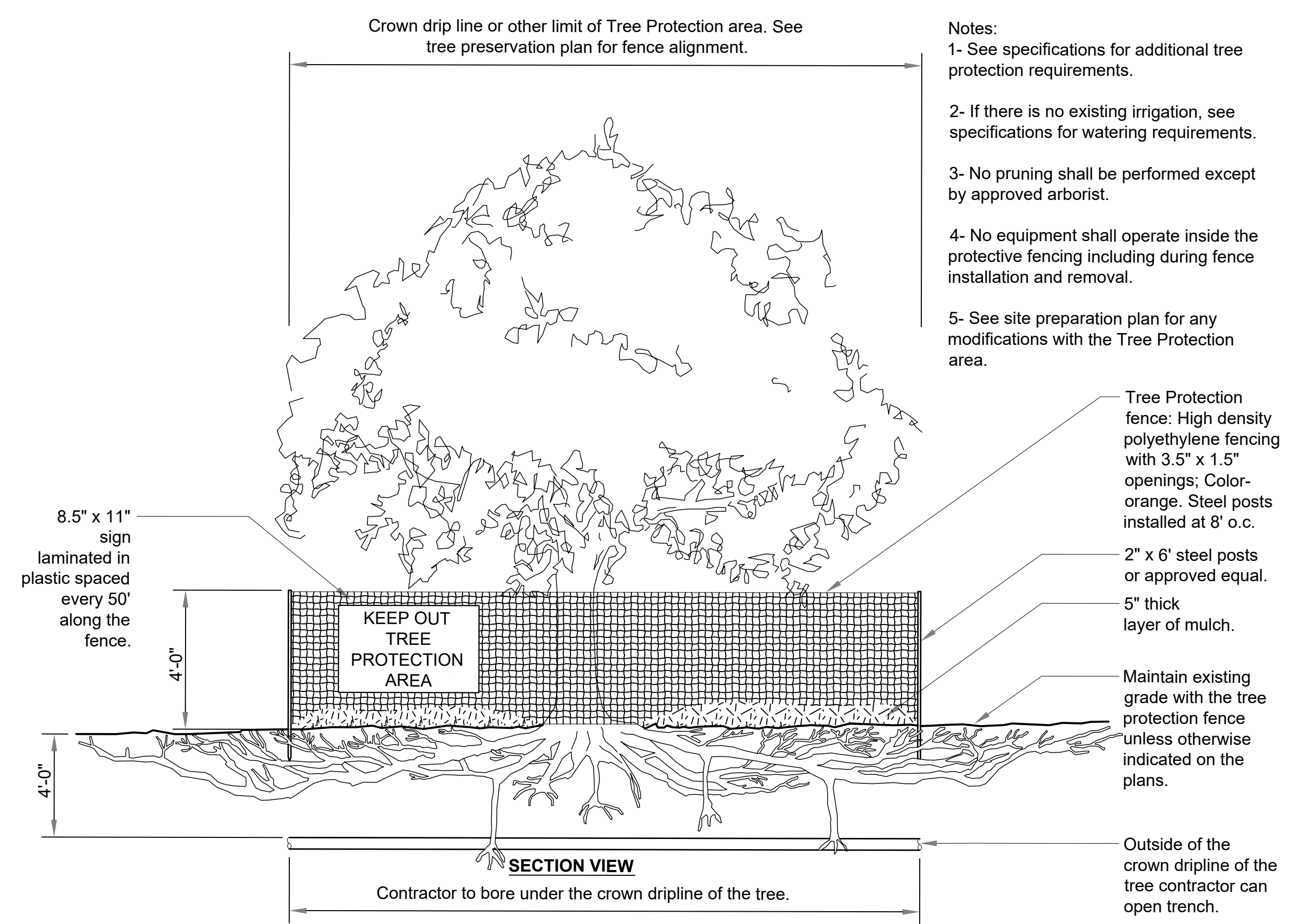


PAVEMENT REPAIRS ON ROADS NOT TO BE RESURFACED  
 (PIPE IS TO BE PLACED UNDER EXISTING PAVEMENT)

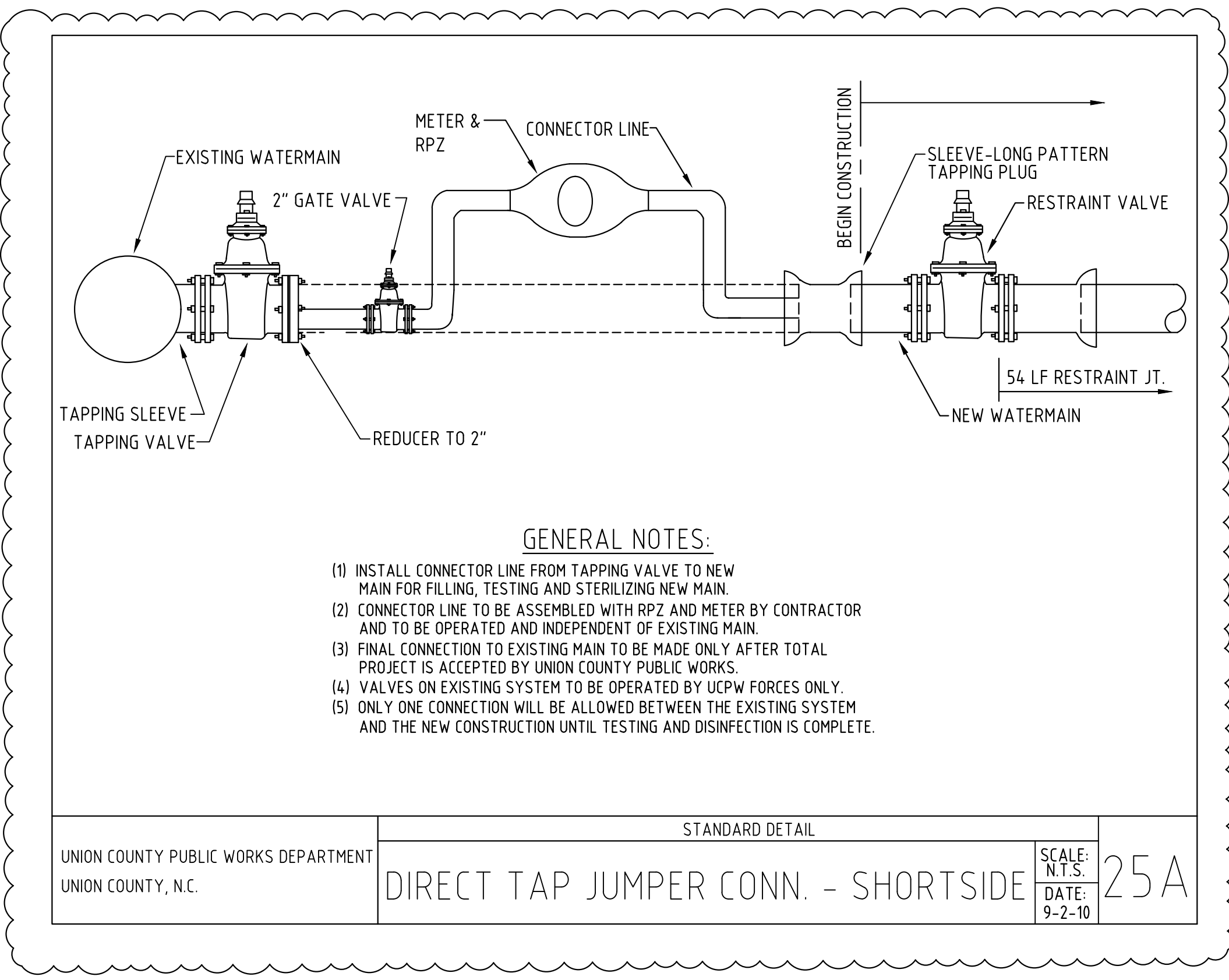
STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**PAVEMENT REPAIRS**  
 FOR SUPERPAVE MIX TYPES

SHEET 1 OF 1  
**654.01**



2 TREE PROTECTION - BORING UNDER DRIPLINE  
 NOT TO SCALE



UNION COUNTY PUBLIC WORKS DEPARTMENT  
 UNION COUNTY, N.C.

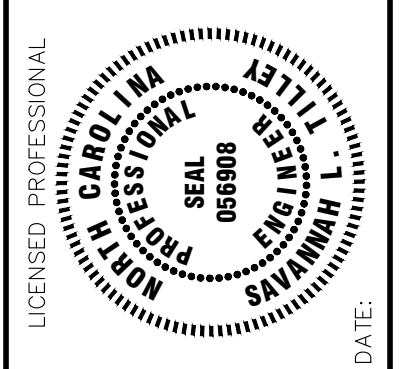
STANDARD DETAIL  
**DIRECT TAP JUMPER CONN. - SHORTSIDE**

SCALE: N.T.S.  
 DATE: 9-2-10

25A

No.	REVISIONS	DATE	BY
1	ADDENDUM 1	7/16/2024	SLT

**Kimley-Horn**  
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 NC LICENSE #F-0102  
 200 SOUTH IRYON, SUITE 200, CHARLOTTE, NC 28202  
 PHONE: 704-333-5131  
 WWW.KIMLEY-HORN.COM



KHA PROJECT	015127005
DATE	JUL 2024
SCALE	AS SHOWN
DESIGNED BY	SLT
DRAWN BY	BLL
CHECKED BY	DCS

**STANDARD DETAILS 4**

**EMERALD WOODS WATERMAIN EXTENSION**  
 PREPARED FOR  
**UNION COUNTY WATER**  
 INDIAN TRAIL NORTH CAROLINA

SHEET NUMBER  
**C-9**

**END OF ADDENDUM NO. 1**