STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

February 27, 2019

Addendum No. 2
RE: Contract # C204177
WBS # 34360.3.4
F. A. # NHF-0070 (049)
Carteret-Craven Counties (R-1015)
US-70 (Havelock Bypass) From North of Pine Grove To North
Of Carteret County Line

March 19, 2019 Letting

To Whom It May Concern:

Reference is made to the plans and proposal form furnished to you on this project.

The following revisions have been made to the Structure plans:

Sheet No.	Revision
S03-4	Revised TOTAL BILL OF MATERIAL to adjust quantities for HP 12x53 Steel Piles and Pile Driving Equipment Setup for HP 12x53 Steel Piles
S03-32	Revised quantities for HP 12x53 Steel Piles and Pile Driving Equipment Setup for HP 12x53 Steel Piles
S9-20	Revised to show the correct amount of Epoxy Coated Reinforcing Steel in SUPERSTRUCTURE BILL OF MATERIAL
S12-13	Revised to add anchor bolt length in SECTION E-E

Please void the above listed existing Sheets in your plans and staple the revised Sheets thereto.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT
1591 MAIL SERVICE CENTER
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900
Fax: (919) 250-4127
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
1020 BIRCH RIDGE DR.
RALEIGH, NC 27610

The following revisions have been made to the Roadway plans:

Sheet No.	Revision
3B-2	Revised to separate the earthwork for service road (SERVEXT) from the Mainline (L).
New EC-17C thru EC-17E	Sheets added for Sta. 244+09 -L- pipe culvert construction sequence.
New EC-36A and EC-36B	Sheets added for Sta. 509+41 -L- pipe culvert construction sequence.
UO-5, UO-9, UO-10, UO-17, UO-18, UO-19, UO-22, UO-23	Revised to add Piedmont Natural Gas and Duke Energy Progress utilities.

Please void the above listed existing Sheets in your plans and staple the revised Sheets thereto. Please staple the new Sheets EC-17C thru EC-17E after existing Sheet EC-17B in your plans. Please staple the new Sheets EC-36A and EC-36B after existing Sheet EC-36 in your plans.

The following revisions have been made to the Cross Sections:

Sheet No.	Revision
Cross Section Index Sheet	Revised to reflect the separation of earthwork for service road (SERVEXT) from the Mainline (L)
X-1E, X-1F, X-1J	Revised to separate the earthwork for service road (SERVEXT) from the Mainline (L)

Please void the above listed existing Sheets in your plans and staple the revised Sheets thereto.

The following revisions have been made to the proposal:

Page No.	Revisions
Proposal Cover	Note added that reads "Includes Addendum No. 2 Dated 02-27-2019"
UbO-3	Revised I.2. to read, "Utility location unknown"
EC-33 thru EC-39 and new pages EC-40 thru EC-42	Revised and added pages to add project special provisions entitled TEMPORARY PIPE FOR CULVERT CONSTRUCTION and COMPOST BLANKET
ST-46	Revised section 8. A.

Please void the above listed existing Pages in your proposal and staple the revised Pages thereto. Please staple the new Pages EC-40 thru EC-42 after existing Page EC-39 in your proposal.

On the item sheets the following pay items revisions have been made:

Item	Description	Old Quantity	New Quantity
0028-0196000000-E-270	GEOTEXTILE FOR SOIL STABILIZATION	72,500 SY	74,600 SY
0084-1491000000-E-610	ASPHALT CONC BASE COURSE, TYPE B25.0C	53,560 TON	20,880 TON
0085-1503000000-E-610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	156,730	139,880 TON
0086-1519000000-E-610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	28,470 TON	13,100 TON
0087-1523000000-E-610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	109,310 TON	98,960 TON
0088-1575000000-E-620	ASPHALT BINDER FOR PLANT MIX	18,400 TON	14,470 TON
0226-6069000000-E-1638	STILLING BASINS	700 CY	1,250 CY
0227-6070000000-N-1639	SPECIAL STILLING BASINS	26 EA	38 EA
0230-6071030000-E-1640	COIR FIBER BAFFLE	20,000 LF	20,100 LF
0239-6111000000-E-SP	IMPERVIOUS DIKE	1,275 LF	2,100 LF
0243-6120000000-E-SP	CULVERT DIVERSION CHANNEL	3,132 CY	4,175 CY
0360-8328200000-E-450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP12X53)	575 EA	576 EA
0364-8364000000-E-450	HP12X53 STEEL PILES	43,865 LF	43,970 EA
0383-0015000000-N-205	SEALING ABANDONED WELLS	New Item	25 EA
0384-6045000000-E-SP	72" TEMPORARY PIPE	New Item	85 LF
0385-6135000000-E-SP	COMPOST BLANKET	New Item	5 ACR

The Contractor's bid must include these pay item revisions and additions.

The electronic bidding file has been updated to reflect these revisions. Please download the Addendum File and follow the instructions for applying the addendum. Bid Express will not accept your bid unless the addendum has been applied.

The contract will be prepared accordingly.

Sincerely,

DocuSigned by:
Ronald E. Davenport, Jr.
F81B6038A47A442...

Ronald E. Davenport, Jr., PE
State Contract Officer

RED/jjr
Attachments

cc:
Mr. Lamar Sylvester, PE
Mr. Preston Hunter, PE
Mr. Ron Hancock, PE
Mr. Jon Weathersbee, PE
Mr. Ken Kennedy, PE
Ms. Lori Strickland
Project File (2)
Mr. Ray Arnold, PE
Mr. Jamie Lancaster, PE
Ms. Jaci Kincaid
Mr. Mike Gwyn
Mr. Alex J. Foster, PE
Ms. Penny Higgins
Mr. Mitchell Dixon

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

PROPOSAL

INCLUDES ADDENDUM No. 2 DATED 02-27-2019

DATE AND TIME OF BID OPENING: **MARCH 19, 2019 AT 2:00 PM**

CONTRACT ID	C204177
WBS	34360.3.4

FEDERAL-AID NO.	NHF-0070(049)
COUNTY	CARTERET, CRAVEN
T.I.P. NO.	R-1015
MILES	10.353
ROUTE NO.	US 70
LOCATION	US-70 (HAVELOCK BYPASS) FROM NORTH OF PINE GROVE TO NORTH OF CARTERET COUNTY LINE.
TYPE OF WORK	GRADING, DRAINAGE, PAVING, SIGNALS & STRUCTURES.

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS $30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY & STRUCTURE PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

PROJECT SPECIAL PROVISIONS
Utilities by Others

F. Telecommunications – Charter Communications

1. Charter Communications will relocate facilities by April 30, 2020.
2. See UbO plan for details
3. Contact person: Jason Stone (252).514-5893

G. Telecommunications – Spirit Communications

1. Spirit Communications will relocate facilities by April 30, 2020.
2. See UbO plan for details
3. Contact person: Scott Williford (336).937-1743

H. Telecommunications – MCNC

1. MCNC will relocate facilities by April 30, 2020.
2. See UbO plan for details
3. Contact person: Scott Williford (336).937-1743

I. Telecommunications – City of New Bern (Fiber)

1. City of New Bern will relocate facilities by April 30, 2020.
2. Utility location unknown
3. Contact person: Mike Harper (252).639-2840

J. Gas – Piedmont Natural Gas (PNG)

1. . Piedmont Natural Gas will relocate their facilities by October 31, 2020.
2. Piedmont Natural Gas will cooperate with contractor to sequence work ahead of construction. PNG inspectors must be on-site to during any work over the PNG lines. Contact Joe Keily to request inspectors. Allow a two (2) week notice when requesting inspectors.
3. See UbO plan for details
4. Contact person: Joe Keily (910).358-0537

Measurement and Payment

Impervious Dike will be measured and paid as the actual number of linear feet of impervious dike(s) constructed, measured in place from end to end of each separate installation that has been completed and accepted. Such price and payment will be full compensation for all work including but not limited to furnishing materials, construction, maintenance, and removal of the impervious dike.

Payment will be made under:

Pay Item	Pay Unit
Impervious Dike	Linear Foot

TEMPORARY PIPE FOR CULVERT CONSTRUCTION:

Description

This work consists of furnishing, installing, maintaining and removing any and all temporary pipe used on this project in conjunction with the culvert construction.

Construction Methods

The Contractor shall install temporary pipe in locations shown on the plans in such a manner approved by the Engineer. The temporary pipe shall provide a passageway for the stream through the work-site. The minimum size requirements will be as stated on the erosion control plans.

Measurement and Payment

__" *Temporary Pipe* will be measured and paid for at the contract unit price per linear foot of temporary pipe approved by the Engineer and measured in place from end to end. Such price and payment will be full compensation for all work covered by this section including but not limited to furnishing all materials required for installation, construction, maintenance, and removal of temporary pipe.

Payment will be made under:

Pay Item	Pay Unit
__" Temporary Pipe	Linear Foot

COIR FIBER MAT:

Description

Furnish material, install and maintain coir fiber mat in locations shown on the plans or in locations as directed. Work includes providing all materials, excavating and backfilling, and placing and securing coir fiber mat with stakes, steel reinforcement bars or staples as directed.

Materials

Item	Section
Coir Fiber Mat	1060-14

Anchors: Stakes, reinforcement bars, or staples shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes 12"- 24" long with a 2" x 2" nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving through the coir fiber mat and down into the underlying soil. The other end of the stake needs to have a 1"- 2" long head at the top with a 1"- 2" notch following to catch and secure the coir fiber mat.

Steel Reinforcement Bars:

Provide uncoated #10 steel reinforcement bars 24" nominal length. The bars shall have a 4" diameter bend at one end with a 4" straight section at the tip to catch and secure the coir fiber mat.

Staples:

Provide staples made of 0.125" diameter new steel wire formed into a *u* shape not less than 12" in length with a throat of 1" in width.

Construction Methods

Place the coir fiber mat immediately upon final grading. Provide a smooth soil surface free from stones, clods, or debris that will prevent the contact of the mat with the soil. Unroll the mat and apply without stretching such that it will lie smoothly but loosely on the soil surface.

For stream relocation applications, take care to preserve the required line, grade, and cross section of the area covered. Bury the top slope end of each piece of mat in a narrow trench at least 6 in. deep and tamp firmly. Where one roll of matting ends and a second roll begins, overlap the end of the upper roll over the buried end of the second roll so there is a 6 in. overlap. Construct check trenches at least 12 in. deep every 50 ft. longitudinally along the edges of the mat or as directed. Fold over and bury mat to the full depth of the trench, close and tamp firmly. Overlap mat at least 6 in. where 2 or more widths of mat are installed side by side.

Place anchors across the mat at the ends approximately 1 ft. apart. Place anchors along the outer edges and down the center of the mat 3 ft. apart.

Adjustments in the trenching or anchoring requirements to fit individual site conditions may be required.

Measurement and Payment

Coir Fiber Mat will be measured and paid for as the actual number of square yards measured along the surface of the ground over which coir fiber mat is installed and accepted.

No measurement will be made for anchor items.

Payment will be made under:

Pay Item	Pay Unit
Coir Fiber Mat	Square Yard

CONCRETE WASHOUT STRUCTURE:
(09-07-18)

Description

Concrete washout structures are enclosures above or below grade to contain concrete waste water and associated concrete mix from washing out ready-mix trucks, drums, pumps, or other equipment. Concrete washouts must collect and retain all the concrete washout water and solids, so that this material does not migrate to surface waters or into the ground water. These enclosures are not intended for concrete waste not associated with wash out operations.

The concrete washout structure may include constructed devices above or below ground and or commercially available devices designed specifically to capture concrete wash water.

Materials

Item	Section
Temporary Silt Fence	1605

Safety Fence shall meet the specifications as provided elsewhere in this contract.

Geomembrane basin liner shall meet the following minimum physical properties for low permeability; it shall consist of a polypropylene or polyethylene 10 mil think geomembrane. If the minimum setback dimensions can be achieved the liner is not required. (5 feet above groundwater, 50 feet from top of bank of perennial stream, other surface water body, or wetland.)

Construction Methods

Build an enclosed earthen berm or excavate to form an enclosure in accordance with the details and as directed.

Install temporary silt fence around the perimeter of the enclosure in accordance with the details and as directed if structure is not located in an area where existing erosion and sedimentation control devices are capable to containing any loss of sediment.

Post a sign with the words "Concrete Washout" in close proximity of the concrete washout area, so it is clearly visible to site personnel. Install safety fence as directed for visibility to construction traffic.

The construction details for the above grade and below grade concrete washout structures can be found on the following web page link:

https://inside.ncdot.gov/stage/connect/resources/roadside/SoilWaterDocuments/ConcreteWashoutStructuredetail.pdf

Alternate details for accommodating concrete washout may be submitted for review and approval. The alternate details shall include the method used to retain and dispose of the concrete waste water within the project limits and in accordance with the minimum setback requirements. (5 feet above groundwater, 50 feet from top of bank of perennial stream, other surface water body, or wetland.)

Maintenance and Removal

Maintain the concrete washout structure(s) to provide adequate holding capacity plus a minimum freeboard of 12 inches. Remove and dispose of hardened concrete and return the structure to a functional condition after reaching 75% capacity.

Inspect concrete washout structures for damage and maintain for effectiveness.

Remove the concrete washout structures and sign upon project completion. Grade the earth material to match the existing contours and permanently seed and mulch area.

Measurement and Payment

Concrete Washout Structure will be paid for per each enclosure installed in accordance with the details. If alternate details are approved then those details will also be paid for per each approved and installed device.

Temporary Silt Fence will be measured and paid for in accordance with Article 1605-5 of the *Standard Specifications*.

No measurement will be made for other items or for over excavation or stockpiling.

Payment will be made under:

Pay Item	Pay Unit
Concrete Washout Structure	Each

COMPOST BLANKET:
(8-23-17)

Description

This work shall consist of furnishing, installing, maintaining, and seeding a water permeable *Compost Blanket* to reduce soil erosion and sediment by promoting the establishment of vegetation on sandy soils where vegetation is difficult to establish. Compost Blanket will not be shown on the plans but it will be installed on fill slopes 2:1 or steeper or as directed.

Materials

Compost:

Compost used for Compost Blankets shall be weed free and derived from a well-decomposed source of organic matter. The compost shall be produced using an aerobic composting process meeting CFR 503 regulations, including time and temperature data indicating effective weed seed, pathogen, and insect larvae kill. The compost shall be free of any refuse, contaminants or other materials toxic to plant growth. Non-composted products will not be accepted. Test methods for the items below should follow USCC TMECC guidelines for laboratory procedures:

1. pH between 5.0-8.0 in accordance with TMECC 04.11-A, "Electrometric pH Determinations for Compost".
2. For seeded Compost Blankets, seed should be incorporated at the time of application in the entire depth of the compost blanket, at rates per foot, per square yard, or per acre, as acceptable to the engineer. The following particle sizes shall also be followed: 100% passing a 2" sieve; 99% passing a 1" sieve; minimum of 60% passing a ½" sieve. All other testing parameters remain the same. The seeding rates are generally similar or slightly higher than those used when considering application of seed via hydroseeding or other seeding methods.
3. Moisture content of less than 60% in accordance with standardized test methods for moisture determination.
4. Material shall be relatively free (<1% by dry weight) of inert or foreign man made materials.
5. A sample shall be submitted to the engineer for approval prior to being used and must comply with all local, state and federal regulations.

Construction Methods

1. Compost Blankets will be placed as directed. Unless otherwise specified, Compost Blankets should be installed at a minimum depth of 1".
2. The Compost Blanket shall be seeded at time of installation for establishment of permanent vegetation. The Engineer will specify seeding requirements.
3. Compost Blankets are not to be used in direct flow situations or in runoff channels.
4. The type and rate of seed, fertilizer and lime shall be in accordance with the Seeding and Mulching provisions of this contract and as directed.

Maintenance

1. The Contractor shall perform routine inspections and maintain the Compost Blanket in a functional condition at all times.
2. Where the Compost Blanket fails, it will be routinely repaired.
3. The Compost Blanket will be seeded on site, at rates and seed types as determined by the Engineer. Once vegetation is established, final seeding is not required.

Performance

1. The Contractor is responsible for establishing a working erosion control system and may, with approval of the Engineer, work outside the minimum construction requirements as needed.
2. Where the Compost Blanket deteriorates or fails, it will be repaired or replaced with a more effective approved alternative.

Measurement and Payment

The Contractor shall provide the Engineer with proof that a minimum 1" thick Compost Blanket has been applied after settling. This rate equals approximately 270 cubic yards of compost material per acre of application area. The Contractor shall supply satisfactory evidence that the specified amount of material has been effectively placed (i.e., truck load tickets).

Compost Blanket will be measured and paid for as the actual number of acres measured along the surface of the ground over which the Compost Blanket is installed and accepted.

Payment will be made under:

Pay Item	Pay Unit
Compost Blanket	Acre

EQUIPMENT CLEANING FOR NATIONAL FOREST SERVICE LANDS
(2-4-19)

All construction equipment, including but not limited to cranes, graders, pans, excavators, loaders, and dump trucks, shall be cleaned prior to being brought into the National Forest Service (NFS) lands construction areas to ensure they are free of seeds, rhizomes, or other propagules. Cleaning may be done with pressure washing or other acceptable methods sufficient to remove this material. Equipment shall be visually inspected for vegetation when moving from delineated non-native invasive species sites to ensure that seeds or other propagules are not transported outside of those areas. No direct payment will be made for Equipment Cleaning for National Forest Service Lands.

MANAGEMENT OF NON-NATIVE INVASIVE SPECIES
(11-6-18)

Minimize removal of native vegetation within NCDOT right-of-way within Nation Forest System (NFS) lands to prevent the encroachment of non-native invasive species (NNIS) onto NFS lands To control the spread of NNIS on NFS lands, areas will be identified and delineated with flagging at the direction of USFS for targeted removal of NNIS. NNIS delineated areas within the proposed fill shall be cleared and grubbed and the material disposed of outside the limits of the NFS land. Within identified areas of NNIS in proposed cuts, excavation of material should include the actual thickness of root mat or other defined amount and shall be disposed of outside the limits of the NFS land.

Use of mowing as a control method for NNIS shall be timed to avoid spreading seeds (e.g. before seed set) to the extent possible.

HERBICIDE APPLICATION ON NATIONAL FOREST LANDS
(02-04-19)

Herbicide application shall comply with section 1060-13 of NCDOT's *Standard Specification for Roads and Structures* as well as all guidelines and mitigation measures presented in Forest Manual 2150, *Pesticide-Use Management and Coordination*, and Forest Service Handbook 2109.14, *Pesticide Use Management and Coordination Handbook*. United States Forest Service (USFS) approval is required for non-routine maintenance on National Forest Service (NFS) lands or prior to use of herbicides not contained within the manuals. Prior to herbicide application, an herbicide treatment plan shall be submitted for review by forest resource specialists in areas of wildlife biology, botany, aquatics, soils, recreation, and heritage resources.

The use of broadcast sprays for herbicides and pesticides on NFS lands is not permitted. Herbicides and pesticides will only be used in specific areas on NFS lands in consultation with the USFS. Coordination with the USFS on any mechanical methods that would be allowed.

Herbicide application within NFS lands shall also conform to the following:

A) Along stream edges and banks, wide-angle cone tip nozzle guards shall be used on the end of herbicide applicator wands. All herbicides will be sprayed away from any water in ephemeral and perennial streams, vernal pools, or lakes. Aquatic-labeled herbicides shall be used when within 150 feet of any live water. Only surfactants/adjuvants with low toxicity to aquatic species will be used in these areas.

B) When conducting chemical control of targeted Non-native Invasive Species (NNIS) within 10 feet of any identified USFS Rare Plant Species populations, the following guidelines apply:

- All the rare plant species occurrences shall be flagged or marked prior to treatment sufficient to avoid any off-target effects and "No Treatment" signs shall be posted at rare plant sites along the roadway.
- No chemical treatment shall occur within 1 foot of the rare plant. Cover rare plants or place an appropriate barrier adjacent to them prior to applying herbicide within 10 feet of the plants. For vining species, pull the vines outside one foot of adjacent rare plants.
- For larger woody stems with diameters 1 inch or greater, apply herbicide to cut stem surfaces. Apply herbicides to cut stems with a small wick applicator or with a spray bottle to minimize drift.
- For smaller woody NNIS stems, broadcast treatment is allowable at the the only feasible treatment if no other viable option is available at the direction of the engineer. Stems shall be cut and herbicide applied only after re-sprouting from 6-inches to 1 foot in height. While spraying the re-sprouting foliage, place a barrier (such as an appropriately sized cardboard sheet) next to the rare plant species or cover the rare plant species with an appropriate container.

Application

Apply herbicides following approved treatment plan to targeted non-native invasive species at delineated sites in accordance with this provision. Reapply as directed until targeted non-native invasive species have been eliminated.

Measurement and Payment

Herbicide Application for Non-Native Invasive Species shall be measured and paid for as the actual number of man hours worked while applying herbicide treatment, as directed. Where an area has had herbicide applied previously, as directed, separate measurement will also be made for each subsequent application of herbicide.

Payment will be made under:

Pay Item	Pay Unit
Herbicide Application for Non-Native Invasive Species	MHR

REMOVAL OF NNIS VIA MECHANICAL METHODS ON NFS LANDS

When conducting mechanical control by hand, NNIS capable of starting new plants (seeds, rhizomes, root mats, etc.) require proper disposal outside the limits of the NFS lands. Plants should be bagged and moved off site. Bagged plants will receive standard garbage disposal. For large woody bushes that would be difficult to move, treatments will be scheduled prior to seed

set as practical. Coordination with the USFS on any mechanical methods that would be allowed for NNIS will be needed. No direct payment will be made for Removal of NNIS Via Mechanical Methods on NFS Lands.

NATURAL FIBER MATTING:
(11-2-18)

Description

This work consists of furnishing, installing and maintaining *Natural Fiber Matting*, of the type specified, in locations shown on the plans or in locations as directed. Work includes providing all materials, placing and securing natural fiber matting with stakes or staples as directed.

Materials

The product shall be a temporary erosion control mat and shall be constructed of weed free 100% grain straw, a combination of coir and grain straw, or curled wood excelsior fibers evenly distributed throughout the mat between a biodegradable bottom and top netting made of jute or cotton fibers or other biodegradable organic material. The matting shall be stitched together with a degradable thread. The mat shall meet following physical properties:

(A) Straw Natural Fiber Matting shall consist of a machine produced mat of 100% grain straw. The straw natural fiber matting shall have a width of at least 48 inches and no more than 90 inches and weighing at least 0.50 lb/sy and no more than 0.75 lb/sy. Evenly distribute the straw over the entire area of the blanket between a woven biodegradable bottom and top netting made of jute, cotton fibers or other biodegradable organic material with a maximum mesh (netting) size of 0.75 inch x 0.75 inch (or maximum opening of 0.60 square inches) sewn together with a degradable thread. The grain straw shall contain no weed seeds.

(B) Straw-Coir Natural Fiber Matting shall be a blend of no more that 70% grain straw of consistent thickness with the straw and coir evenly distributed over the entire area of the mat. The straw-coir natural fiber matting shall have a width of at least 48 inches and no more than 90 inches and weighing at least 0.50 lb/sy. The blanket shall be covered on the top and bottom sides with a woven biodegradable bottom and top netting made of jute, cotton fibers or other biodegradable organic material with a maximum mesh (netting) size of 0.75 inch x 0.75 inch (or maximum opening of 0.60 square inches) sewn together with a degradable thread. The grain straw shall contain no weed seeds.

(C) Excelsior Natural Fiber Matting shall be made of weed free, curled wood excelsior fibers with 80% of the fibers six inches or greater length. The excelsior natural fiber matting shall have a width of at least 48 inches and no more than 90 inches and weighing at least 0.975 lb/sy. Evenly distribute the excelsior over the entire area of the blanket between a woven biodegradable netting made of jute, cotton fibers or other biodegradable organic material with a maximum mesh (netting) size of 1.0 inch x 1.0 inch sewn together with a degradable thread. Netless excelsior fiber matting is acceptable for slopes 3:1 or

shallower meeting a minimum weight of 0.70 lb/sy (+/- 10%) with stitch spacing no more than 2 inches on center.

Construction Methods

Matting shall be installed in accordance with Subarticle 1631-3 of the *Standard Specifications*.

All areas to be matted shall be brought to final grade and seeded in accordance with Section 1660 of the *Standard Specifications*. The surface of the soil shall be smooth, firm, stable and free of rocks, clods, roots or other obstructions that would prevent the mat from lying in direct contact with the soil surface. Areas where the mat is to be placed will not need to be mulched.

Measurement and Payment

Natural Fiber Matting will be measured and paid for as the actual number of square yards measured along the surface of the ground over which Natural Fiber Matting is installed and accepted. Overlaps will not be included in the measurement and will be considered as incidental to the work. Such payment shall be full compensation for furnishing and installing the mat, including overlaps, and for all required maintenance.

Payment will be made under:

Pay Item	**Pay Unit**
Natural Fiber Matting	Square Yard

above estimates of flagging costs are provided for information only and are not binding in any way.

D. Verification:

1. Railroad's flagman will electronically enter flagging time via Railroad's electronic billing system. Any complaints concerning flagging must be resolved in a timely manner. If the need for flagging is questioned, please contact the Railroad Engineer. All verbal complaints will be confirmed in writing by the Contractor within 5 working days with a copy to the Department Engineer. Address all written correspondence electronically to Railroad Engineer.

2. The Railroad flagman assigned to the project will be responsible for notifying the Department Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin and on the last day that he performs such services for each separate period that services are provided. The Department's Engineer will document such notification in the project records. When requested, the Department Engineer will also sign the flagman's diary showing daily time spent and activity at the project site.

8. HAUL ACROSS RAILROAD TRACK:

A. Where the plans show or imply that materials of any nature must be hauled across tracks of the Company or Railroad, unless the plans clearly show that the Department has included arrangements for such haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the tracks of the Company or Railroad. The Department will be required to bear all railroad costs incidental to such crossings, including flagging, materials and services performed by Railroad personnel. The Contractor shall sequence construction to minimize the duration the crossing(s) remain in-place. Cost of the installation, maintenance and removal of the temporary crossing(s) incurred by the Contractor will be considered incidental to the other pay items.

B. No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the company or Railroad unless specific authority for its installation, maintenance, necessary watching and flagging thereof and removal, until a temporary private crossing agreement has been executed between the Contractor and Railroad. The approval process for an agreement normally takes 90 days.

9. WORK FOR THE BENEFIT OF THE CONTRACTOR:

A. All temporary or permanent changes in wire lines or other facilities owned by the Company or Railroad and which are considered necessary to the project are shown on the plans; included in the force account agreement between the Department and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the Department and/or the Railroad.

B. Should the Contractor desire any changes in addition to the above, then he shall make separate arrangements with the Railroad for same to be accomplished at the Contractor's expense.

County : Carteret, Craven

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			ROADWAY ITEMS			
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0000700000-N	SP	FIELD OFFICE	Lump Sum	L.S.	
0004	0000900000-N	SP	GENERIC MISCELLANEOUS ITEM UTILITY COORDINATOR	Lump Sum	L.S.	
0005	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (138+69.74 -L-)	Lump Sum	L.S.	
0006	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (139+25.54 -L-)	Lump Sum	L.S.	
0007	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (176+32.00 -L- LT)	Lump Sum	L.S.	
0008	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (176+32.00 -L- RT)	Lump Sum	L.S.	
0009	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (227+54.13 -L-)	Lump Sum	L.S.	
0010	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (227+59.99 -L-)	Lump Sum	L.S.	
0011	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (288+29.87 -L- LT)	Lump Sum	L.S.	
0012	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (288+29.87 -L- RT)	Lump Sum	L.S.	
0013	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (44+71.82 -Y4-)	Lump Sum	L.S.	
0014	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (506+32.25 -L-)	Lump Sum	L.S.	

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0015	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (506+47.11 -L-)	Lump Sum	L.S.	
0016	0028000000-N	SP	TYPE I STANDARD APPROACH FILL STATION ********** (52+32.96 -Y3-)	Lump Sum	L.S.	
0017	0029000000-N	SP	TYPE III REINFORCED APPROACH FILL, STATION ******* (11+50.20 -RP1AB-)	Lump Sum	L.S.	
0018	0029000000-N	SP	TYPE III REINFORCED APPROACH FILL, STATION ******* (12+01.81 -RP1AB-)	Lump Sum	L.S.	
0019	0029000000-N	SP	TYPE III REINFORCED APPROACH FILL, STATION ******* (516+87.37 -L- LT)	Lump Sum	L.S.	
0020	0029000000-N	SP	TYPE III REINFORCED APPROACH FILL, STATION ******* (516+87.37 -L- RT)	Lump Sum	L.S.	
0021	0036000000-E	225	UNDERCUT EXCAVATION	96,000 CY		
0022	0050000000-E	226	SUPPLEMENTARY CLEARING & GRUBBING	5 ACR		
0023	0063000000-N	SP	GRADING	Lump Sum	L.S.	
0024	0106000000-E	230	BORROW EXCAVATION	5,793,000 CY		
0025	0127000000-N	235	EMBANKMENT SETTLEMENT GAUGES	2 EA		
0026	0134000000-E	240	DRAINAGE DITCH EXCAVATION	9,730 CY		
0027	0194000000-E	265	SELECT GRANULAR MATERIAL, CLASS III	150,000 CY		
0028	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	74,600 SY		
0029	0199000000-E	SP	TEMPORARY SHORING	1,341.2 SF		
0030	0241000000-E	SP	GENERIC GRADING ITEM GEOTEXTILE FOR EMBANKMENT STABILIZATION	6,000 SY		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0031	0255000000-E	SP	GENERIC GRADING ITEM HAULING & DISPOSAL OF PETROLEUM CONTAMINATED SOIL	100 TON		
0032	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	5,260 TON		
0033	0320000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	16,520 SY		
0034	0342000000-E	310	*** SIDE DRAIN PIPE (30")	88 LF		
0035	0342000000-E	310	*** SIDE DRAIN PIPE (36")	52 LF		
0036	0342000000-E	310	*** SIDE DRAIN PIPE (60")	116 LF		
0037	0342000000-E	310	*** SIDE DRAIN PIPE (84")	76 LF		
0038	0343000000-E	310	15" SIDE DRAIN PIPE	524 LF		
0039	0344000000-E	310	18" SIDE DRAIN PIPE	980 LF		
0040	0345000000-E	310	24" SIDE DRAIN PIPE	272 LF		
0041	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (15", V)	548 LF		
0042	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (18", V)	400 LF		
0043	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (24", V)	416 LF		
0044	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (30", V)	548 LF		
0045	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (36", V)	3,064 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0046	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (42", V)	388 LF		
0047	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (72", V)	664 LF		
0048	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (84", V)	728 LF		
0049	0366000000-E	310	15" RC PIPE CULVERTS, CLASS III	3,580 LF		
0050	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	1,664 LF		
0051	0378000000-E	310	24" RC PIPE CULVERTS, CLASS III	684 LF		
0052	0384000000-E	310	30" RC PIPE CULVERTS, CLASS III	732 LF		
0053	0390000000-E	310	36" RC PIPE CULVERTS, CLASS III	1,436 LF		
0054	0396000000-E	310	42" RC PIPE CULVERTS, CLASS III	628 LF		
0055	0402000000-E	310	48" RC PIPE CULVERTS, CLASS III	192 LF		
0056	0414000000-E	310	60" RC PIPE CULVERTS, CLASS III	92 LF		
0057	0426000000-E	310	72" RC PIPE CULVERTS, CLASS III	404 LF		
0058	0448000000-E	310	***** RC PIPE CULVERTS, CLASS IV (48")	720 LF		
0059	0448000000-E	310	***** RC PIPE CULVERTS, CLASS IV (72")	932 LF		
0060	0448000000-E	310	***** RC PIPE CULVERTS, CLASS IV (84")	388 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0061	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	10,972 LF		
0062	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	2,460 LF		
0063	0448400000-E	310	24" RC PIPE CULVERTS, CLASS IV	580 LF		
0064	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	388 LF		
0065	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	8,212 LF		
0066	0448700000-E	310	42" RC PIPE CULVERTS, CLASS IV	396 LF		
0067	0546000000-E	310	*** CAA PIPE CULVERTS, ****** THICK (15", 0.064")	5,464 LF		
0068	0546000000-E	310	*** CAA PIPE CULVERTS, ****** THICK (18", 0.064")	694 LF		
0069	0546000000-E	310	*** CAA PIPE CULVERTS, ****** THICK (24", 0.064")	76 LF		
0070	0564000000-E	310	*** CAA PIPE ELBOWS, ****** THICK (15", 0.064")	150 EA		
0071	0564000000-E	310	*** CAA PIPE ELBOWS, ****** THICK (18", 0.064")	30 EA		
0072	0564000000-E	310	*** CAA PIPE ELBOWS, ****** THICK (24", 0.064")	4 EA		
0073	0995000000-E	340	PIPE REMOVAL	3,991 LF		
0074	0996000000-N	350	PIPE CLEAN OUT	3 EA		
0075	1000000000-E	462	6" SLOPE PROTECTION	250 SY		
0076	1077000000-E	SP	#57 STONE	400 TON		
0077	1099500000-E	505	SHALLOW UNDERCUT	1,000 CY		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0078	1099700000-E	505	CLASS IV SUBGRADE STABILIZATION	2,550 TON		
0079	1111000000-E	SP	CLASS IV AGGREGATE STABILIZATION	50,600 TON		
0080	1121000000-E	520	AGGREGATE BASE COURSE	272,400 TON		
0081	1220000000-E	545	INCIDENTAL STONE BASE	2,500 TON		
0082	1275000000-E	600	PRIME COAT	14,290 GAL		
0083	1330000000-E	607	INCIDENTAL MILLING	1,500 SY		
0084	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	20,880 TON		
0085	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	139,880 TON		
0086	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	13,100 TON		
0087	1523000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	98,960 TON		
0088	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	14,470 TON		
0089	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	1,300 TON		
0090	1840000000-E	665	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)	215,500 LF		
0091	2000000000-N	806	RIGHT-OF-WAY MARKERS	97 EA		
0092	2020000000-N	806	CONTROL-OF-ACCESS MARKERS	147 EA		
0093	2022000000-E	815	SUBDRAIN EXCAVATION	1,434 CY		
0094	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	6,400 SY		
0095	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	1,075 CY		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0096	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	6,400 LF		
0097	2070000000-N	815	SUBDRAIN PIPE OUTLET	13 EA		
0098	2077000000-E	815	6" OUTLET PIPE	78 LF		
0099	2209000000-E	838	ENDWALLS	134.3 CY		
0100	2220000000-E	838	REINFORCED ENDWALLS	101.1 CY		
0101	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	331 EA		
0102	2297000000-E	840	MASONRY DRAINAGE STRUCTURES	9.2 CY		
0103	2308000000-E	840	MASONRY DRAINAGE STRUCTURES	60.1 LF		
0104	2364000000-N	840	FRAME WITH TWO GRATES, STD 840.16	13 EA		
0105	2364200000-N	840	FRAME WITH TWO GRATES, STD 840.20	137 EA		
0106	2365000000-N	840	FRAME WITH TWO GRATES, STD 840.22	133 EA		
0107	2366000000-N	840	FRAME WITH TWO GRATES, STD 840.24	11 EA		
0108	2367000000-N	840	FRAME WITH TWO GRATES, STD 840.29	31 EA		
0109	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	3 EA		
0110	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	2 EA		
0111	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	2 EA		
0112	2396000000-N	840	FRAME WITH COVER, STD 840.54	2 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0113	2451000000-N	852	CONCRETE TRANSITIONAL SECTION FOR DROP INLET	9 EA		
0114	2542000000-E	846	1'-6" CONCRETE CURB & GUTTER	3,760 LF		
0115	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	1,780 LF		
0116	2556000000-E	846	SHOULDER BERM GUTTER	29,970 LF		
0117	2577000000-E	846	CONCRETE EXPRESSWAY GUTTER	2,400 LF		
0118	2591000000-E	848	4" CONCRETE SIDEWALK	100 SY		
0119	2612000000-E	848	6" CONCRETE DRIVEWAY	40 SY		
0120	2647000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (SURFACE MOUNTED)	50 SY		
0121	2724000000-E	857	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED	1,239 LF		
0122	2752000000-E	SP	GENERIC PAVING ITEM MEDIAN HAZARD PROTECTION	426 LF		
0123	2815000000-N	858	ADJUSTMENT OF DROP INLETS	3 EA		
0124	3001000000-N	SP	IMPACT ATTENUATOR UNITS, TYPE TL-3	8 EA		
0125	3030000000-E	862	STEEL BEAM GUARDRAIL	50,425 LF		
0126	3210000000-N	862	GUARDRAIL END UNITS, TYPE CAT-1	22 EA		
0127	3215000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE III	8 EA		
0128	3287000000-N	SP	GUARDRAIL END UNITS, TYPE TL-3	53 EA		
0129	3288000000-N	SP	GUARDRAIL END UNITS, TYPE TL-2	2 EA		
0130	3317000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE B-77	63 EA		
0131	3360000000-E	863	REMOVE EXISTING GUARDRAIL	640 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0132	3380000000-E	862	TEMPORARY STEEL BEAM GUARDRAIL	888 LF		
0133	3389150000-N	SP	TEMPORARY GUARDRAIL END UNITS, TYPE ***** (TL-2)	4 EA		
0134	3389200000-E	865	CABLE GUIDERAIL	47,250 LF		
0135	3389500000-N	865	ADDITIONAL GUIDERAIL POSTS	18 EA		
0136	3389600000-N	865	CABLE GUIDERAIL ANCHOR UNITS	36 EA		
0137	3503000000-E	866	WOVEN WIRE FENCE, 47" FABRIC	108,660 LF		
0138	3509000000-E	866	4" TIMBER FENCE POSTS, 7'-6" LONG	6,920 EA		
0139	3515000000-E	866	5" TIMBER FENCE POSTS, 8'-0" LONG	1,550 EA		
0140	3578000000-N	SP	GENERIC FENCING ITEM 16' USFS WELDED PIPE GATES	14 EA		
0141	3628000000-E	876	RIP RAP, CLASS I	2,020 TON		
0142	3649000000-E	876	RIP RAP, CLASS B	900 TON		
0143	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	9,800 SY		
0144	4048000000-E	902	REINFORCED CONCRETE SIGN FOUNDATIONS	16 CY		
0145	4054000000-E	902	PLAIN CONCRETE SIGN FOUNDATIONS	4 CY		
0146	4057000000-E	SP	OVERHEAD FOOTING	148 CY		
0147	4060000000-E	903	SUPPORTS, BREAKAWAY STEEL BEAM	14,533 LB		
0148	4066000000-E	903	SUPPORTS, SIMPLE STEEL BEAM	7,946 LB		
0149	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	306 LF		
0150	4082000000-E	903	SUPPORTS, WOOD	4,474 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0151	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (22+05 -RP1AB-)	Lump Sum	L.S.	
0152	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (42+00 -L-)	Lump Sum	L.S.	
0153	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (504+50 -L-)	Lump Sum	L.S.	
0154	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (544+00 -L-)	Lump Sum	L.S.	
0155	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (57+15 -RP2AC-)	Lump Sum	L.S.	
0156	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (58+50 -L-)	Lump Sum	L.S.	
0157	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (76+00 -L-)	Lump Sum	L.S.	
0158	4082100000-N	906	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ****** (89+84 -L-)	Lump Sum	L.S.	
0159	4096000000-N	904	SIGN ERECTION, TYPE D	12 EA		
0160	4102000000-N	904	SIGN ERECTION, TYPE E	125 EA		
0161	4108000000-N	904	SIGN ERECTION, TYPE F	27 EA		
0162	4109000000-N	904	SIGN ERECTION, TYPE *** (OVERHEAD) (A)	14 EA		
0163	4109000000-N	904	SIGN ERECTION, TYPE *** (OVERHEAD) (B)	7 EA		
0164	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (A)	29 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0165	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (B)	22 EA		
0166	4114000000-N	904	SIGN ERECTION, MILEMARKERS	22 EA		
0167	4115000000-N	904	SIGN ERECTION, OVERLAY (OVER-HEAD)	3 EA		
0168	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (E)	8 EA		
0169	4141000000-N	907	DISPOSAL OF SUPPORT, WOOD	8 EA		
0170	4158000000-N	907	DISPOSAL OF SIGN SYSTEM, WOOD	56 EA		
0171	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	752 SF		
0172	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	832 SF		
0173	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	384 SF		
0174	4415000000-N	1115	FLASHING ARROW BOARD	6 EA		
0175	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	4 EA		
0176	4430000000-N	1130	DRUMS	860 EA		
0177	4445000000-E	1145	BARRICADES (TYPE III)	208 LF		
0178	4455000000-N	1150	FLAGGER	60 DAY		
0179	4465000000-N	1160	TEMPORARY CRASH CUSHIONS	3 EA		
0180	4470000000-N	1160	REMOVE & RESET TEMPORARY CRASH CUSHION	1 EA		
0181	4480000000-N	1165	TMA	4 EA		
0182	4485000000-E	1170	PORTABLE CONCRETE BARRIER	5,220 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0183	4500000000-E	1170	REMOVE & RESET PORTABLE CONC-RETE BARRIER	610 LF		
0184	4510000000-N	1190	LAW ENFORCEMENT	40 HR		
0185	4516000000-N	1180	SKINNY DRUM	500 EA		
0186	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	400 EA		
0187	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	20,359 LF		
0188	4686000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	24,986 LF		
0189	4688000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (6", 90 MILS)	258,306 LF		
0190	4690000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (6", 120 MILS)	35,807 LF		
0191	4695000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	249 LF		
0192	4697000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (8", 120 MILS)	465 LF		
0193	4700000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	9,926 LF		
0194	4702000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 120 MILS)	3,507 LF		
0195	4710000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)	609 LF		
0196	4721000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	32 EA		
0197	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	100 EA		
0198	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	51,288 LF		
0199	4815000000-E	1205	PAINT PAVEMENT MARKING LINES (6")	147,366 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0200	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	208 LF		
0201	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	10 EA		
0202	4847020000-E	1205	POLYUREA PAVEMENT MARKING LINES (4", 30 MILS)	2,334 LF		
0203	4847040000-E	1205	POLYUREA PAVEMENT MARKING LINES (6", 30 MILS)	18,160 LF		
0204	4847080000-E	1205	POLYUREA PAVEMENT MARKING LINES (12", 30 MILS)	819 LF		
0205	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	80 LF		
0206	4855000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (6")	2,500 LF		
0207	4870000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (24")	20 LF		
0208	4900000000-N	1251	PERMANENT RAISED PAVEMENT MARKERS	147 EA		
0209	4905000000-N	1253	SNOWPLOWABLE PAVEMENT MARKERS	2,693 EA		
0210	6000000000-E	1605	TEMPORARY SILT FENCE	503,715 LF		
0211	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	660 TON		
0212	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	32,100 TON		
0213	6012000000-E	1610	SEDIMENT CONTROL STONE	23,000 TON		
0214	6015000000-E	1615	TEMPORARY MULCHING	560.5 ACR		
0215	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	25,500 LB		
0216	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	128.5 TON		
0217	6024000000-E	1622	TEMPORARY SLOPE DRAINS	55,000 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0218	6029000000-E	SP	SAFETY FENCE	70,000 LF		
0219	6030000000-E	1630	SILT EXCAVATION	65,100 CY		
0220	6036000000-E	1631	MATTING FOR EROSION CONTROL	79,000 SY		
0221	6037000000-E	SP	COIR FIBER MAT	700 SY		
0222	6038000000-E	SP	PERMANENT SOIL REINFORCEMENT MAT	10,550 SY		
0223	6042000000-E	1632	1/4" HARDWARE CLOTH	14,200 LF		
0224	6043000000-E	SP	LOW PERMEABILITY GEOTEXTILE	1,300 SY		
0225	6046000000-E	1636	TEMPORARY PIPE FOR STREAM CROSSING	600 LF		
0226	6069000000-E	1638	STILLING BASINS	1,250 CY		
0227	6070000000-N	1639	SPECIAL STILLING BASINS	38 EA		
0228	6071012000-E	SP	COIR FIBER WATTLE	78,000 LF		
0229	6071020000-E	SP	POLYACRYLAMIDE (PAM)	36,350 LB		
0230	6071030000-E	1640	COIR FIBER BAFFLE	20,100 LF		
0231	6071050000-E	SP	*** SKIMMER (1-1/2")	53 EA		
0232	6071050000-E	SP	*** SKIMMER (2")	4 EA		
0233	6084000000-E	1660	SEEDING & MULCHING	753 ACR		
0234	6087000000-E	1660	MOWING	702 ACR		
0235	6090000000-E	1661	SEED FOR REPAIR SEEDING	5,400 LB		
0236	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	30 TON		
0237	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	18,675 LB		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0238	6108000000-E	1665	FERTILIZER TOPDRESSING	560.15 TON		
0239	6111000000-E	SP	IMPERVIOUS DIKE	2,100 LF		
0240	6114500000-N	1667	SPECIALIZED HAND MOWING	450 MHR		
0241	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	100 EA		
0242	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	12 EA		
0243	6120000000-E	SP	CULVERT DIVERSION CHANNEL	4,175 CY		
0244	6123000000-E	1670	REFORESTATION	0.1 ACR		
0245	6141000000-E	SP	GENERIC EROSION CONTROL ITEM NATURAL FIBER MATTING	445,000 SY		
0246	7060000000-E	1705	SIGNAL CABLE	5,950 LF		
0247	7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	33 EA		
0248	7132000000-E	1705	VEHICLE SIGNAL HEAD (12", 4 SECTION)	4 EA		
0249	7144000000-E	1705	VEHICLE SIGNAL HEAD (12", 5 SECTION)	4 EA		
0250	7252000000-E	1710	MESSENGER CABLE (1/4")	14,550 LF		
0251	7264000000-E	1710	MESSENGER CABLE (3/8")	1,360 LF		
0252	7279000000-E	1715	TRACER WIRE	26,630 LF		
0253	7300000000-E	1715	UNPAVED TRENCHING (**********) (1, 2")	2,550 LF		
0254	7300000000-E	1715	UNPAVED TRENCHING (**********) (2, 2")	13,560 LF		
0255	7300000000-E	1715	UNPAVED TRENCHING (**********) (3, 2")	270 LF		
0256	7300000000-E	1715	UNPAVED TRENCHING (**********) (4, 2")	30 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0257	7300100000-E	1715	UNPAVED TRENCHING FOR TEMP-ORARY LEAD-IN	10 LF		
0258	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 2")	900 LF		
0259	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 6")	860 LF		
0260	7301000000-E	1715	DIRECTIONAL DRILL (**********) (2, 2")	5,960 LF		
0261	7301000000-E	1715	DIRECTIONAL DRILL (**********) (3, 2")	50 LF		
0262	7324000000-N	1716	JUNCTION BOX (STANDARD SIZE)	42 EA		
0263	7348000000-N	1716	JUNCTION BOX (OVER-SIZED, HEA-VY DUTY)	61 EA		
0264	7372000000-N	1721	GUY ASSEMBLY	35 EA		
0265	7396000000-E	1722	1/2" RISER WITH WEATHERHEAD	1 EA		
0266	7420000000-E	1722	2" RISER WITH WEATHERHEAD	14 EA		
0267	7430000000-N	1722	HEAT SHRINK TUBING RETROFIT KIT	22 EA		
0268	7432000000-E	1722	2" RISER WITH HEAT SHRINK TUBING	16 EA		
0269	7444000000-E	1725	INDUCTIVE LOOP SAWCUT	1,850 LF		
0270	7456000000-E	1726	LEAD-IN CABLE (**********) (14-2)	6,620 LF		
0271	7516000000-E	1730	COMMUNICATIONS CABLE (**FIBER) (24)	72,940 LF		
0272	7528000000-E	1730	DROP CABLE	10,000 LF		
0273	7540000000-N	1731	SPLICE ENCLOSURE	23 EA		
0274	7541000000-N	1731	MODIFY SPLICE ENCLOSURE	1 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0275	7552000000-N	1731	INTERCONNECT CENTER	31 EA		
0276	7566000000-N	1733	DELINEATOR MARKER	23 EA		
0277	7575160000-E	1734	REMOVE EXISTING COMMUNICATIONS CABLE	5,190 LF		
0278	7576000000-N	SP	METAL STRAIN SIGNAL POLE	12 EA		
0279	7613000000-N	SP	SOIL TEST	20 EA		
0280	7614100000-E	SP	DRILLED PIER FOUNDATION	72 CY		
0281	7636000000-N	1745	SIGN FOR SIGNALS	15 EA		
0282	7684000000-N	1750	SIGNAL CABINET FOUNDATION	3 EA		
0283	7696000000-N	1751	CONTROLLERS WITH CABINET (**********) (2070E)	17 EA		
0284	7901000000-N	1753	CABINET BASE EXTENDER	3 EA		
0285	7960000000-N	SP	METAL POLE FOUNDATION REMOVAL	4 EA		
0286	7972000000-N	SP	METAL POLE REMOVAL	4 EA		
0287	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV CAMERA ASSEMBLY	7 EA		
0288	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV CAMERA EXTENSION POLE	2 EA		
0289	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV WOOD POLE	5 EA		
0290	7980000000-N	SP	GENERIC SIGNAL ITEM CONTROLLER (TYPE 2070E)	3 EA		
0291	7980000000-N	SP	GENERIC SIGNAL ITEM DETECTOR CARD (TYPE 2070E)	136 EA		
0292	7980000000-N	SP	GENERIC SIGNAL ITEM DMS ACCESS LADDER	2 EA		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0293	7980000000-N	SP	GENERIC SIGNAL ITEM DMS TYPE A	2 EA		
0294	7980000000-N	SP	GENERIC SIGNAL ITEM DMS TYPE A STRUCTURE	2 EA		
0295	7980000000-N	SP	GENERIC SIGNAL ITEM DMS TYPE B	6 EA		
0296	7980000000-N	SP	GENERIC SIGNAL ITEM DMS TYPE B STRUCTURE	6 EA		
0297	7980000000-N	SP	GENERIC SIGNAL ITEM ELECTRICAL SERVICE FOR ITS DEVICE	12 EA		
0298	7980000000-N	SP	GENERIC SIGNAL ITEM ETHERNET EDGE SWITCH	20 EA		
0299	7980000000-N	SP	GENERIC SIGNAL ITEM FIELD EQUIPMENT CABINET	6 EA		
0300	7980000000-N	SP	GENERIC SIGNAL ITEM FURNISH CCTV CAMERA ASSEMBLY	7 EA		
0301	7980000000-N	SP	GENERIC SIGNAL ITEM JUNCTION BOX MARKER	37 EA		
0302	7980000000-N	SP	GENERIC SIGNAL ITEM MICROWAVE VEHICLE DETECTION SYSTEM-MULTIPLE ZONES	9 EA		
0303	7980000000-N	SP	GENERIC SIGNAL ITEM WOOD PEDESTAL	2 EA		
0304	7992000000-E	SP	GENERIC SIGNAL ITEM DMS FOUNDATION	48 CY		
0381	0000970000-E	SP	GENERIC MISCELLANEOUS ITEM CLEARING ACCESS FOR DUKE	6.3 ACR		
0382	0000970000-E	SP	GENERIC MISCELLANEOUS ITEM SPECIALIZED CLEARING	14.31 ACR		
0383	0015000000-N	205	SEALING ABANDONED WELLS	25 EA		
0384	6045000000-E	SP	*** TEMPORARY PIPE (72")	85 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0385	6135000000-E	SP	GENERIC EROSION CONTROL ITEM COMPOST BLANKET	5 ACR		
			CULVERT ITEMS			
0305	8126000000-N	414	CULVERT EXCAVATION, STA ****** (44+89.00-RP2AC-)	Lump Sum	L.S.	
0306	8126000000-N	414	CULVERT EXCAVATION, STA ****** (509+41.00-L-)	Lump Sum	L.S.	
0307	8133000000-E	414	FOUNDATION CONDITIONING MATERIAL, BOX CULVERT	1,025 TON		
0308	8196000000-E	420	CLASS A CONCRETE (CULVERT)	2,346.4 CY		
0309	8217000000-E	425	REINFORCING STEEL (BRIDGE)	206,812 LB		
			WALL ITEMS			
0310	8801000000-E	SP	MSE RETAINING WALL NO **** (1)	8,200 SF		
0311	8801000000-E	SP	MSE RETAINING WALL NO **** (2)	4,600 SF		
0312	8801000000-E	SP	MSE RETAINING WALL NO **** (3)	6,400 SF		
0313	8801000000-E	SP	MSE RETAINING WALL NO **** (4)	5,400 SF		
			STRUCTURE ITEMS			
0314	8017000000-N	SP	CONSTRUCTION, MAINTENANCE, & REMOVAL OF TEMP ACCESS AT STA ********** (177+67.00-L-)	Lump Sum	L.S.	

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0315	8017000000-N	SP	CONSTRUCTION, MAINTENANCE, & REMOVAL OF TEMP ACCESS AT STA ********** (287+62.50-L-)	Lump Sum	L.S.	
0316	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 138+31.09-L-LT)	Lump Sum	L.S.	
0317	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 138+31.09-L-RT)	Lump Sum	L.S.	
0318	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 227+57.02-L-LT)	Lump Sum	L.S.	
0319	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 227+57.02-L-RT)	Lump Sum	L.S.	
0320	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 44+71.82-Y4-)	Lump Sum	L.S.	
0321	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 506+32.25-L-LT)	Lump Sum	L.S.	
0322	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 506+32.25-L-RT)	Lump Sum	L.S.	
0323	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (1, 52+32.96-Y3-)	Lump Sum	L.S.	
0324	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (2, 138+31.09-L-LT)	Lump Sum	L.S.	
0325	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (2, 138+31.09-L-RT)	Lump Sum	L.S.	
0326	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (2, 227+57.02-L-LT)	Lump Sum	L.S.	
0327	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (2, 227+57.02-L-RT)	Lump Sum	L.S.	

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0328	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (2, 506+32.25-L-LT)	Lump Sum	L.S.	
0329	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (2, 506+32.25-L-RT)	Lump Sum	L.S.	
0330	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (3, 138+31.09-L-LT)	Lump Sum	L.S.	
0331	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ********** (3, 138+31.09-L-RT)	Lump Sum	L.S.	
0332	8112730000-N	450	PDA TESTING	38 EA		
0333	8147000000-E	420	REINFORCED CONCRETE DECK SLAB	340,594 SF		
0334	8161000000-E	420	GROOVING BRIDGE FLOORS	308,222 SF		
0335	8175000000-E	420	CLASS AA CONCRETE (BRIDGE)	1,140.6 CY		
0336	8182000000-E	420	CLASS A CONCRETE (BRIDGE)	4,001.5 CY		
0337	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (11+76.30-RP1AB-LT)	Lump Sum	L.S.	
0338	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (11+76.30-RP1AB-RT)	Lump Sum	L.S.	
0339	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (138+31.09-L-LT)	Lump Sum	L.S.	
0340	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (138+31.09-L-RT)	Lump Sum	L.S.	
0341	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (177+67.00-L-LT)	Lump Sum	L.S.	
0342	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (177+67.00-L-RT)	Lump Sum	L.S.	

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0343	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (227+57.02-L-LT)	Lump Sum	L.S.	
0344	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (227+57.02-L-RT)	Lump Sum	L.S.	
0345	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (287+62.50-L-LT)	Lump Sum	L.S.	
0346	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (287+62.50-L-RT)	Lump Sum	L.S.	
0347	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (44+71.82-Y4-)	Lump Sum	L.S.	
0348	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (506+32.25-L-LT)	Lump Sum	L.S.	
0349	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (506+32.25-L-RT)	Lump Sum	L.S.	
0350	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (516+87.37-L-LT)	Lump Sum	L.S.	
0351	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (516+87.37-L-RT)	Lump Sum	L.S.	
0352	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ********** (52+32.96-Y3-)	Lump Sum	L.S.	
0353	8217000000-E	425	REINFORCING STEEL (BRIDGE)	605,741 LB		
0354	8224000000-E	425	EPOXY COATED REINFORCING STEEL (BRIDGE)	184,196 LB		
0355	8238000000-E	425	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)	47,027 LB		
0356	8265000000-E	430	54" PRESTRESSED CONCRETE GIRDERS	8,099.63 LF		

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0357	8277000000-E	430	MODIFIED 72" PRESTRESSED CONC GIRDERS	1,892.44 LF		
0358	8328000000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** PRESTRESSED CONCRETE PILES (12")	92 EA		
0359	8328000000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** PRESTRESSED CONCRETE PILES (20")	84 EA		
0360	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP12X53)	576 EA		
0361	8328400000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** GALVANIZED STEEL PILES (PP14X0.50)	28 EA		
0362	8329000000-E	450	12" PRESTRESSED CONCRETE PILES	5,020 LF		
0363	8336000000-E	450	20" PRESTRESSED CONCRETE PILES	4,760 LF		
0364	8364000000-E	450	HP12X53 STEEL PILES	43,970 LF		
0365	8385200000-E	450	PP ** X **** GALVANIZED STEEL PILES (14X0.50)	2,510 LF		
0366	8391000000-N	450	STEEL PILE POINTS	34 EA		
0367	8392000000-N	450	PIPE PILE PLATES	28 EA		
0368	8392500000-E	450	PREDRILLING FOR PILES	274 LF		
0369	8393000000-N	450	PILE REDRIVES	801 EA		
0370	8475000000-E	460	TWO BAR METAL RAIL	712.59 LF		
0371	8503000000-E	460	CONCRETE BARRIER RAIL	15,087.36 LF		
0372	8517000000-E	460	1'-***X ****** CONCRETE PARA-PET (1'-2" X 2'-6")	744.24 LF		

County : Carteret, Craven

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0373	8531000000-E	462	4" SLOPE PROTECTION	12,882.3 SY		
0374	8608000000-E	876	RIP RAP CLASS II (2'-0" THICK)	1,883 TON		
0375	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	2,128 SY		
0376	8657000000-N	430	ELASTOMERIC BEARINGS	Lump Sum	L.S.	
0377	8706000000-N	SP	EXPANSION JOINT SEALS	Lump Sum	L.S.	
0378	8867000000-E	SP	GENERIC STRUCTURE ITEM HP14X73 METALLIZED STEEL PILES	34,740 LF		
0379	8867000000-E	SP	GENERIC STRUCTURE ITEM MODIFIED 74" PRESTRESSED CONCRETE GIRDERS	28,382.49 LF		
0380	8897000000-N	SP	GENERIC STRUCTURE ITEM PILE DRIVING EQUIPMENT SETUP FOR HP14X73 METALIZED STEEL PILES	396 EA		

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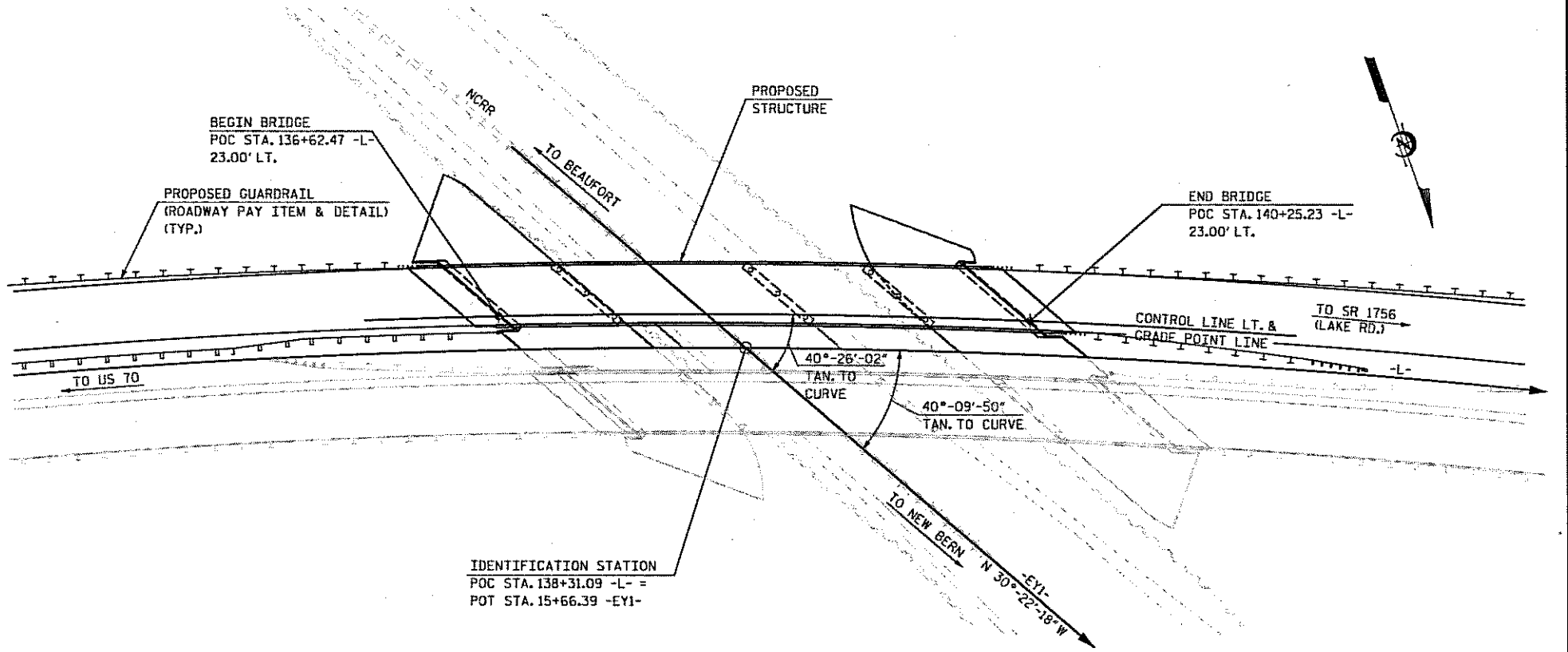
BM - "BM7"-L- STA 140+63.43, 191.75' LT., RR SPIKE IN TREE. EL 22.75



LOCATION SKETCH

NOTE: FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

GENERAL NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR MODIFIED 74" PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPLICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

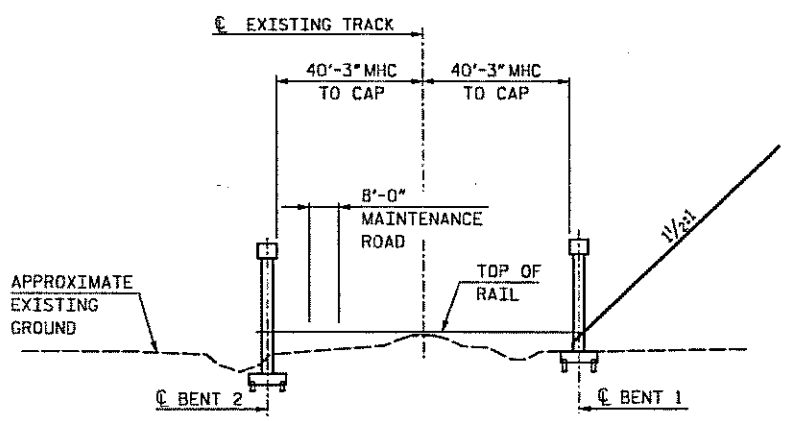
THE RAILROAD TRACK TOP OF RAIL ELEVATIONS SHOWN ON THE PLANS ARE FROM THE BEST INFORMATION AVAILABLE. PRIOR TO BEGINNING BRIDGE CONSTRUCTION, VERIFY THE TOP OF RAIL ELEVATIONS AND REPORT ANY VARIATIONS TO THE ENGINEER. ANY PLAN REVISIONS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM VERTICAL CLEARANCE WILL BE PROVIDED BY THE DEPARTMENT.

TOTAL BILL OF MATERIAL

	FOUNDATION EXCAVATION FOR BENT AT STATION 138+31.09 -L- (LEFT LANE)	PDA TESTING	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLAB AT STATION 138+31.09 -L- (LEFT LANE)	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL
	LUMP SUM	EA.	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	LBS.
SUPERSTRUCTURE	——	——	15,549	15,031	——	LUMP SUM	——	——
END BENT 1	——	——	——	——	86.3	——	11,392	——
BENT 1	LUMP SUM	——	——	——	150.7	——	29,787	2,953
BENT 2	LUMP SUM	——	——	——	164.0	——	29,749	3,153
BENT 3	LUMP SUM	——	——	——	153.4	——	29,088	3,069
END BENT 2	——	——	——	——	88.9	——	11,968	——
TOTAL	LUMP SUM	2	15,549	15,031	643.3	LUMP SUM	111,984	9,175

TOTAL BILL OF MATERIAL

	MODIFIED 74" PRESTRESSED CONCRETE GIRDERS		PILE DRIVING EQUIPMENT SETUP FOR HP 12X53 STEEL PILES	HP 12X53 STEEL PILES		PILE REDRIVES	CONCRETE BARRIER RAIL	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS	EXPANSION JOINT SEALS
	NO.	L.F.	EA.	NO.	L.F.	EA.	L.F.	SQ. YD.	LUMP SUM	LUMP SUM
SUPERSTRUCTURE	16	1413.54	——	—	——	——	763.3	——	LUMP SUM	LUMP SUM
END BENT 1	—	——	14	14	1,470	6	——	1,616.3	——	——
BENT 1	—	——	18	18	1,350	9	——	——	——	——
BENT 2	—	——	24	24	1,680	12	——	——	——	——
BENT 3	—	——	18	18	1,170	9	——	——	——	——
END BENT 2	—	——	13	13	1,300	6	——	1,196.1	——	——
TOTAL	16	1413.54	87	87	6,970	42	763.3	2,812.4	LUMP SUM	LUMP SUM



SECTION THRU RAILROAD

(LOOKING IN DIRECTION OF INCREASING STATIONS ON RAILROAD)
(SPAN LENGTHS BASED ON THIS SECTION)

MHC = MINIMUM HORIZONTAL CLEARANCE

SAMPLE BAR REPLACEMENT	
SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE:
SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND FY = 60KSI.

PROJECT NO. R-1015

CRAVEN COUNTY

STATION: POC STA. 138+31.09 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWINGS LOCATION SKETCH, GENERAL NOTES, AND TOTAL BILL OF MATERIALS

LEFT LANE

Developed by: D. Gregg

NORTH CAROLINA PROFESSIONAL SEAL 046632 2/25/2019 ENGINEER JAMES P. GREGG

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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343 E. Six Forks Rd., Suite 200, Raleigh, N.C. 27609

DRAWN BY A. SMITH DATE 7/18
CHECKED BY B. NEUPANE DATE 9/18
DESIGN ENGINEER OF RECORD J. GREGG DATE 10/18
DWG. NO. 4

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S03-4
1			3			TOTAL SHEETS
2			4			46

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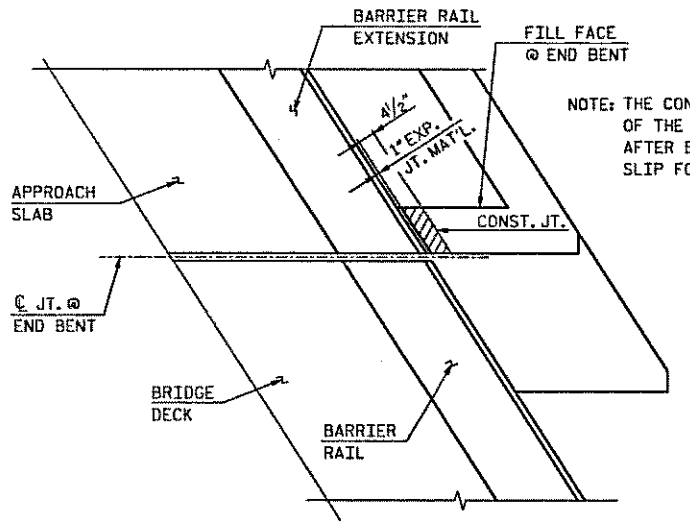
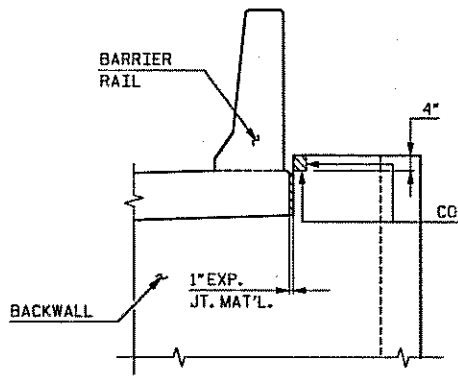


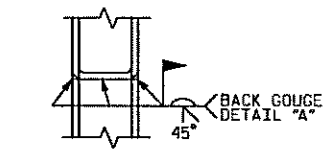
PLAN

NOTE: THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER BARRIER RAILS ARE CAST IF SLIP FORMING IS USED.

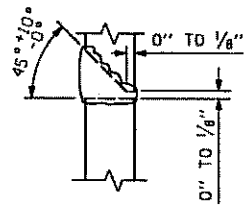


ELEVATION

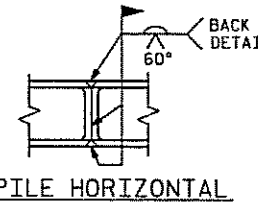
BLOCKOUT IN WINGWALL



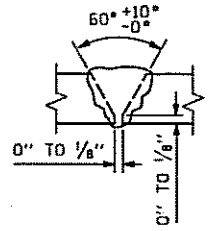
*PILE VERTICAL



DETAIL "A"



*PILE HORIZONTAL OR VERTICAL



DETAIL "B"

* POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

NOTES:

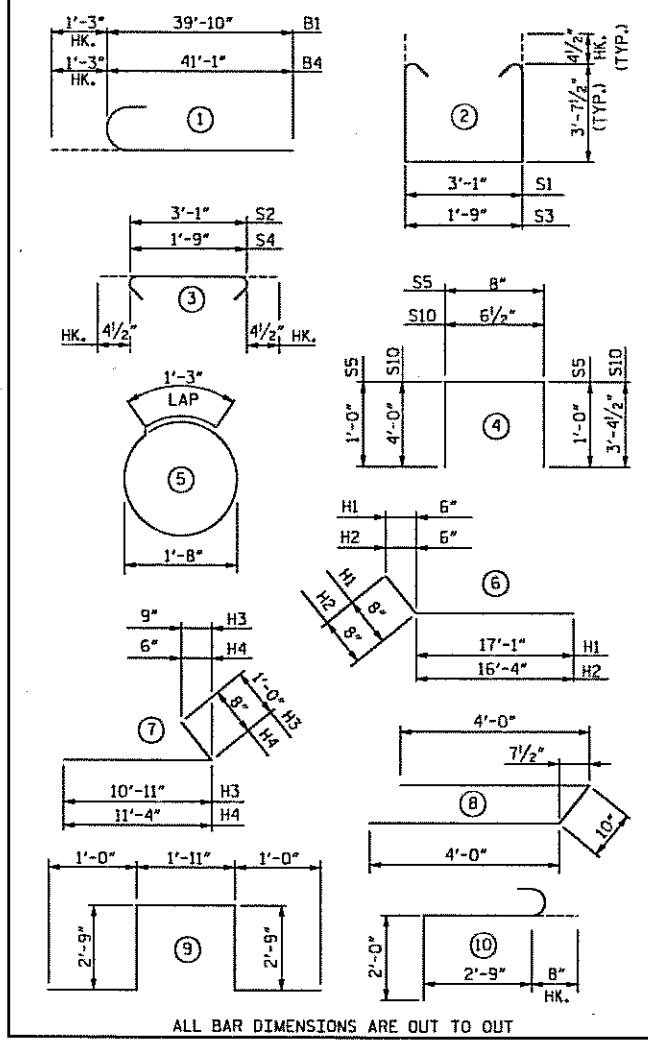
STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.

BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.

THE TOP SURFACE AREAS OF THE END BENT CAPS SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.

THE TOP SURFACE OF THE END BENT CAP EXCEPT THE BRIDGE SEAT BUILDUPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE BACK FACE AT THE RATE OF 2%.

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

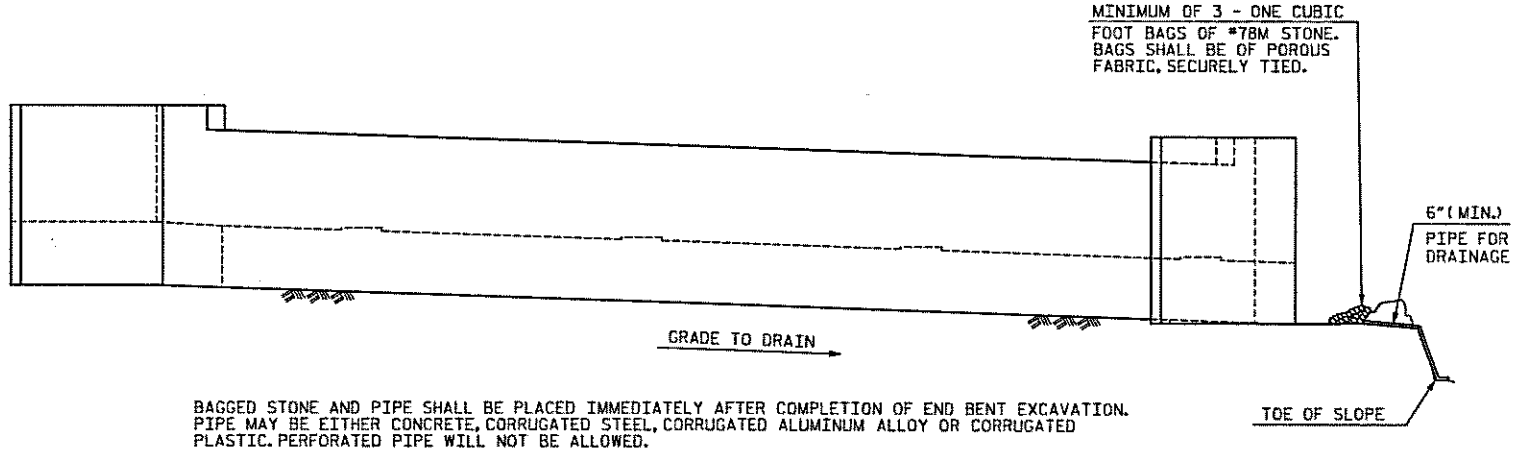
BILL OF REINFORCING

END BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	14	9	1	41'-1"	1,956
B2	60	4	STR	26'-2"	1,049
B3	18	4	STR	4'-8"	56
B4	14	9	1	42'-4"	2,015
H1	14	4	6	17'-9"	166
H2	14	4	6	17'-0"	159
H3	25	6	7	11'-11"	447
H4	13	4	7	12'-0"	104
K1	36	4	STR	26'-2"	629
S1	198	4	2	11'-1"	1,466
S2	198	4	3	3'-10"	507
S3	2	4	2	9'-9"	13
S4	2	4	3	2'-6"	3
S5	65	4	4	2'-8"	116
S6	52	4	5	6'-6"	226
S7	3	6	9	9'-5"	42
S8	3	6	10	5'-5"	24
S9	2	4	8	8'-10"	12
S10	2	4	4	7'-11"	11
V1	130	5	STR	9'-10"	1,333
V2	58	5	STR	11'-3"	681
V3	31	5	STR	11'-8"	377

QUANTITIES

REINFORCING STEEL	LBS.	11,392
CLASS "A" CONCRETE BREAKDOWN		
POUR 1 - CAP, COLLARS & BOT. OF WINGS	CU. YDS.	61.0
POUR 2 - TOP OF WINGS & BACKWALL	CU. YDS.	25.3
TOTAL	CU. YDS.	86.3
HP 12x53 STEEL PILES	NO.	14
	LIN. FT.	1,470
PILE REDRIVES	EA.	6
PILE DRIVING EQUIPMENT SETUP	EA.	14



BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT 1

Designed by P. Gregg

NORTH CAROLINA PROFESSIONAL SEAL 046632 ENGINEER JAMES P. GREGG 7/25/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HNTB NORTH CAROLINA, P.C.
NC License No. C-554
343 E. Six Forks Rd., Suite 200, Raleigh, N.C. 27609

DRAWN BY B. NEUPANE DATE 10/18
CHECKED BY E. JOWZA DATE 10/18
DESIGN ENGINEER OF RECORD J. GREGG DATE 10/18

DWG. NO. 32

PROJECT NO. R-1015
CRAVEN COUNTY
STATION: POC STA. 138+31.09 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE
END BENT 1
LEFT LANE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	503-32
1			3			TOTAL SHEETS
2			4			46

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SUPERSTRUCTURE REINFORCING STEEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM SPLICE LENGTHS

BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL		APPROACH SLABS		PARAPET AND BARRIER RAIL
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	
#4	2'-0"	1'-9"	2'-0"	1'-9"	2'-9"
#5	2'-6"	2'-2"	2'-6"	2'-2"	3'-5"
#6	3'-0"	2'-7"	3'-10"	2'-7"	4'-4"
#7	5'-3"	3'-6"			
#8	6'-10"	4'-7"			

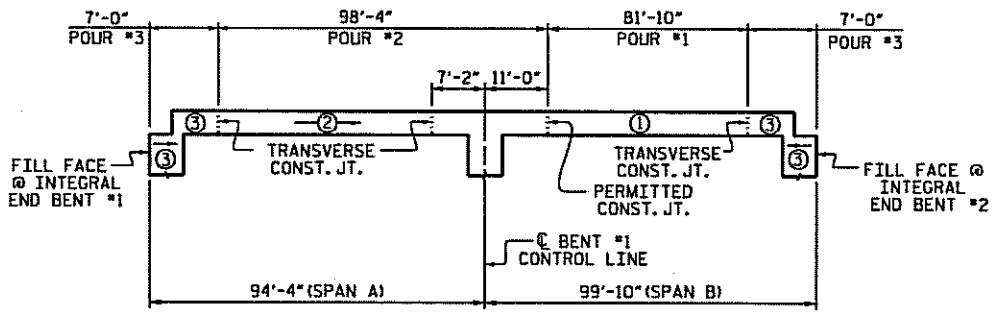
SUPERSTRUCTURE BILL OF MATERIAL

	CLASS AA CONCRETE	EPOXY COATED REINFORCING STEEL
	(CU.YDS.)	(LBS.)
POUR #1	140.3	36047
POUR #2	188.3	
POUR #3	88.6	
TOTALS **	417.2	36047

**QUANTITIES FOR CONCRETE PARAPET ARE NOT INCLUDED.

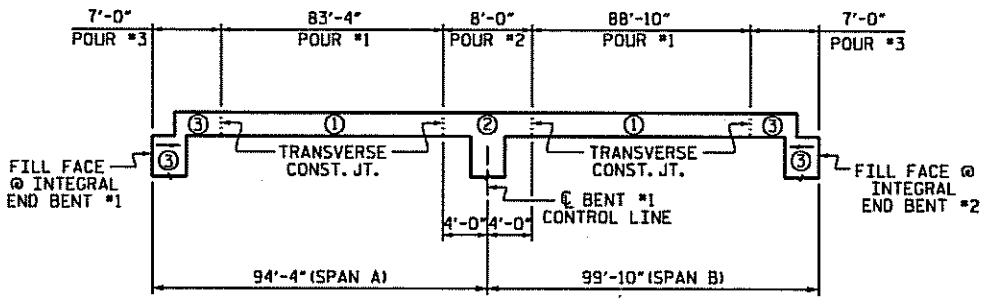
GROOVING BRIDGE FLOORS

APPROACH SLABS	2365	SQ.FT.
BRIDGE DECK	9413	SQ.FT.
TOTAL	11778	SQ.FT.



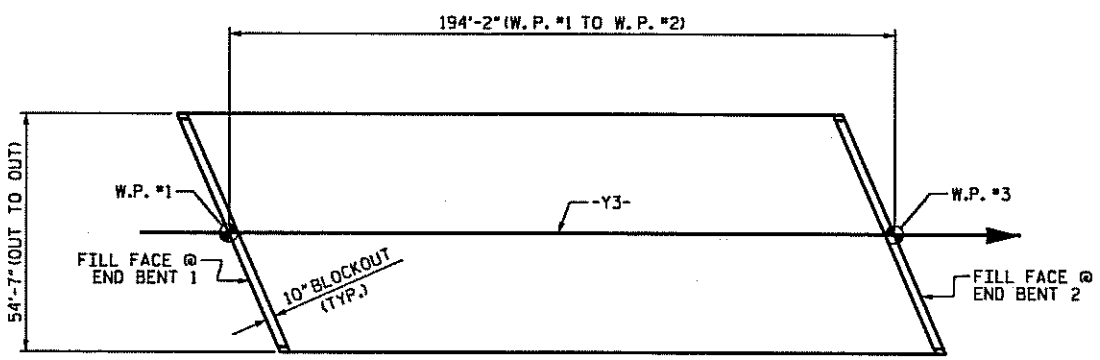
POURING SEQUENCE

(#) = INDICATES POUR NUMBER AND DIRECTION OF POUR

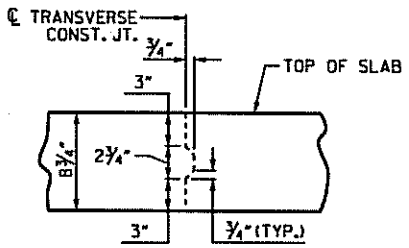


OPTIONAL POURING SEQUENCE

POUR ② CAN NOT BE STARTED UNTIL BOTH ADACENT ① POURS REACH A MINIMUM OF 3000 PSI.



LAYOUT FOR COMPUTING AREA REINFORCED CONCRETE DECK SLAB (SQ. FT. = 10598)



TRANSVERSE CONSTRUCTION JOINT DETAIL

NOTE: REINFORCING STEEL IN SLAB NOT SHOWN. LONGITUDINAL REINFORCING STEEL SHALL BE CONTINUOUS THRU JOINT

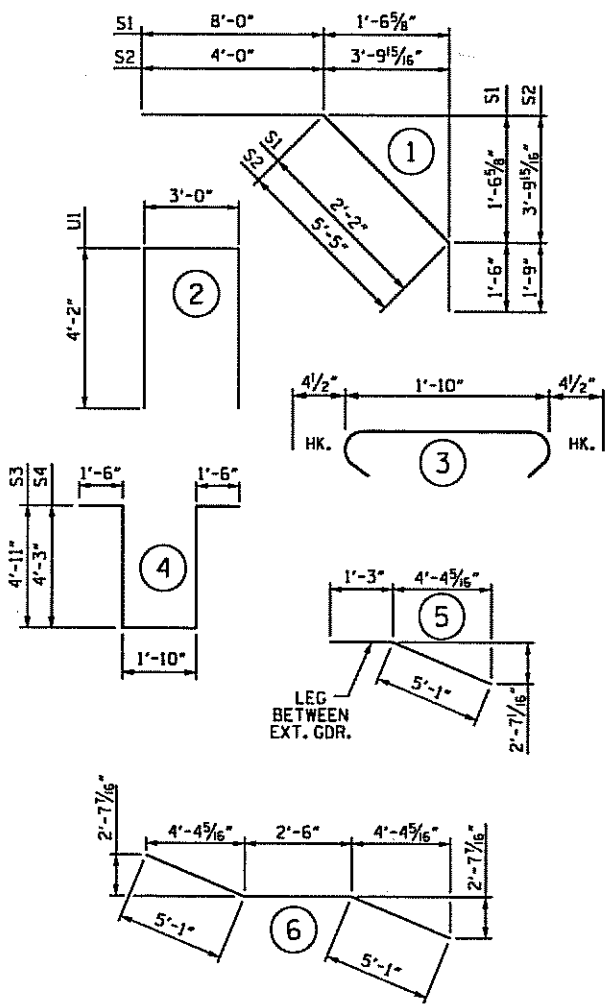
BILL OF MATERIAL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	337	#5	STR	54'-1"	19010
* A101	2	#5	STR	51'-11"	108
* A102	2	#5	STR	49'-7"	103
* A103	2	#5	STR	47'-4"	99
* A104	2	#5	STR	45'-1"	94
* A105	2	#5	STR	42'-9"	89
* A106	2	#5	STR	40'-6"	84
* A107	2	#5	STR	38'-2"	80
* A108	2	#5	STR	35'-11"	75
* A109	2	#5	STR	33'-8"	70
* A110	2	#5	STR	31'-4"	65
* A111	2	#5	STR	29'-1"	61
* A112	2	#5	STR	26'-9"	56
* A113	2	#5	STR	24'-6"	51
* A114	2	#5	STR	22'-3"	46
* A115	2	#5	STR	19'-11"	42
* A116	2	#5	STR	17'-8"	37
* A117	2	#5	STR	15'-4"	32
* A118	2	#5	STR	13'-1"	27
* A119	2	#5	STR	10'-10"	23
* A120	2	#5	STR	8'-6"	18
* A121	2	#5	STR	6'-3"	13
* A122	2	#5	STR	3'-11"	8
* B1	87	#6	STR	18'-6"	2417
* B2	88	#4	STR	23'-6"	1381
* B3	44	#6	STR	43'-2"	2853
* B4	43	#6	STR	29'-1"	1878
* B5	44	#6	STR	28'-2"	1861
* B6	88	#4	STR	24'-9"	1455
* B7	87	#6	STR	19'-9"	2581
* S3	35	#4	4	14'-8"	343
* S4	10	#4	4	13'-4"	89
* EPOXY COATED REINFORCING STEEL					36047 LBS.

BILL OF MATERIAL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A2	337	#5	STR	54'-1"	19010
A201	2	#5	STR	51'-11"	108
A202	2	#5	STR	49'-7"	103
A203	2	#5	STR	47'-4"	99
A204	2	#5	STR	45'-1"	94
A205	2	#5	STR	42'-9"	89
A206	2	#5	STR	40'-6"	84
A207	2	#5	STR	38'-2"	80
A208	2	#5	STR	35'-11"	75
A209	2	#5	STR	33'-8"	70
A210	2	#5	STR	31'-4"	65
A211	2	#5	STR	29'-1"	61
A212	2	#5	STR	26'-9"	56
A213	2	#5	STR	24'-6"	51
A214	2	#5	STR	22'-3"	46
A215	2	#5	STR	19'-11"	42
A216	2	#5	STR	17'-8"	37
A217	2	#5	STR	15'-4"	32
A218	2	#5	STR	13'-1"	27
A219	2	#5	STR	10'-10"	23
A220	2	#5	STR	8'-6"	18
A221	2	#5	STR	6'-3"	13
A222	2	#5	STR	3'-11"	8
B8	252	#5	STR	49'-10"	13098
K1	30	#4	STR	21'-1"	423
K2	20	#4	STR	8'-2"	109
K3	40	#4	STR	9'-3"	247
K4	20	#4	STR	8'-6"	111
K5	10	#4	STR	7'-7"	51
K6	4	#4	STR	2'-7"	7
K7	8	#4	STR	3'-1"	16
K8	4	#4	STR	2'-8"	7
K9	4	#4	STR	2'-4"	6
K10	10	#4	STR	6'-4"	42
K11	10	#4	5	6'-4"	42
K12	20	#4	6	12'-8"	169
S1	92	#4	1	11'-8"	717
S2	88	#4	1	11'-2"	656
S5	170	#4	3	2'-7"	293
U1	92	#4	2	11'-4"	697
REINFORCING STEEL					36041 LBS.

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

PROJECT NO. R-1015

CRAVEN COUNTY

STATION: 52+32.96 -Y3-

DEPARTMENT OF TRANSPORTATION

STANDARD

SUPERSTRUCTURE

BILL OF MATERIAL

DRAWN BY : J.B.W. DATE : 2/20/18
CHECKED BY : T.L.B. DATE : 2/20/18
DESIGN ENGINEER OF RECORD: T.L.B. DATE : 2/20/18

1998 20 2018
ALPHA & OMEGA GROUP
CIVIL | STRUCTURAL | WATER RESOURCES
4601 LakeBooneTrail Suite 3C Raleigh, NC 27607
Phone 919 981 0310 Fax 919 981 0451
www.aogroup.com Firm License No. C-1684
A&O PROJECT NO. 2015.042

DocuSigned by: D784597C456A4F7...
SEAL 14431 ENGINEER TODD L. BARTELL
2/8/2019

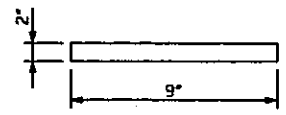
REFERENCE NO. 9-20

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

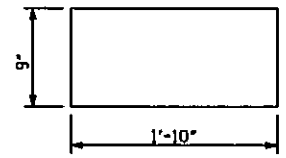
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S9-20
1			3			TOTAL SHEETS
2			4			32

STD. NO. BOM1

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$



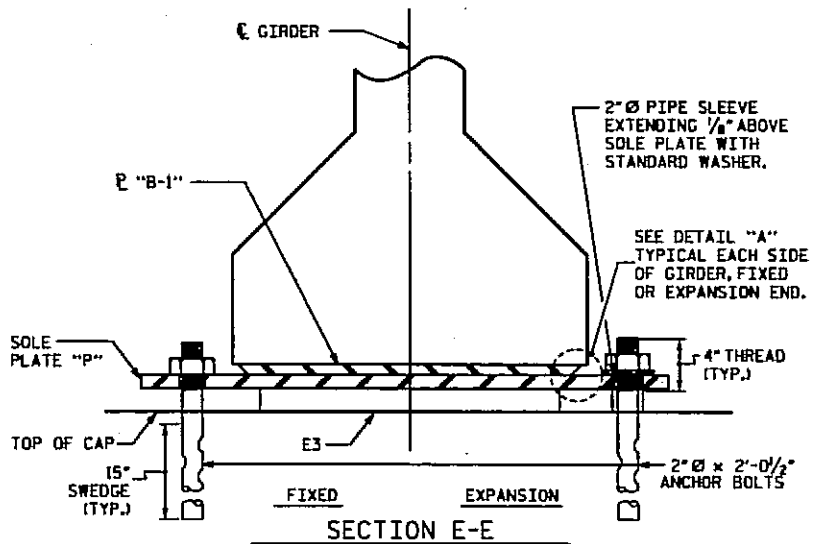
TYPICAL SECTION OF ELASTOMERIC BEARINGS



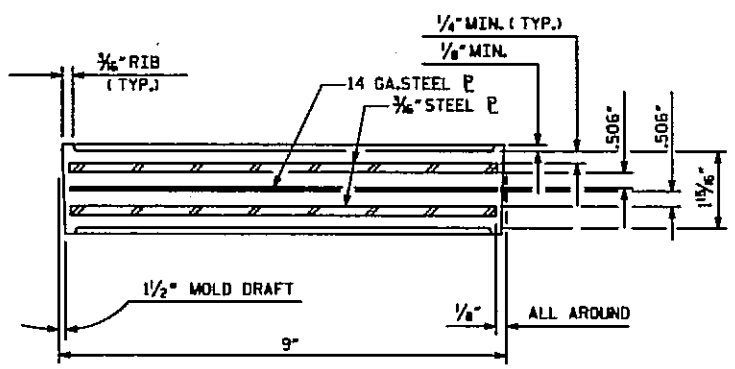
E1 (8 REQ'D)

PLAN VIEW OF ELASTOMERIC BEARING

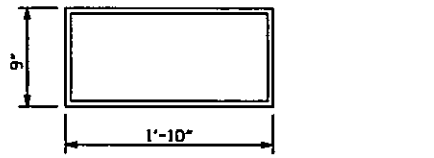
TYPE I



SECTION E-E



TYPICAL SECTION OF ELASTOMERIC BEARINGS



E3 (__ REQ'D)

PLAN VIEW OF ELASTOMERIC BEARING

TYPE IV

NOTES

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

THE 2"Ø PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 PVC PLASTIC PIPE. THE PVC PLASTIC PIPE SHALL MEET THE REQUIREMENTS OF ASTM D1785.

STEEL SOLE PLATES, ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

PRIOR TO WELDING, GRIND THE GALVANIZED SURFACE OF THE PORTION OF THE EMBEDDED PLATE AND SOLE PLATE THAT ARE TO BE WELDED. AFTER WELDING, DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

WHEN WELDING THE SOLE PLATE TO THE EMBEDDED PLATE IN THE GIRDER, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE SOLE PLATE DOES NOT EXCEED 300°F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.

SOLE PLATE "P", BOLTS, NUTS, WASHERS, AND PIPE SLEEVE SHALL BE INCLUDED IN THE PAY ITEM FOR PRESTRESSED CONCRETE GIRDERS.

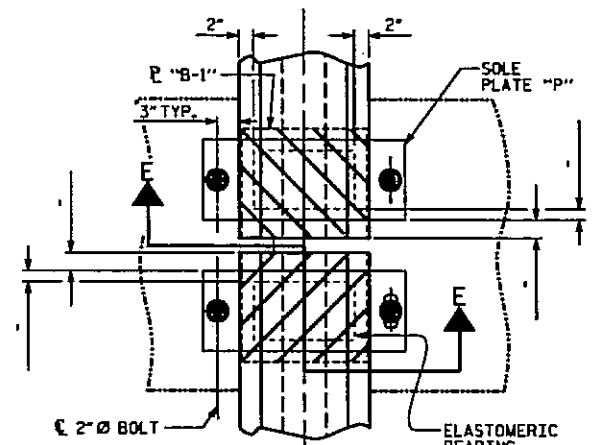
ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLT, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

THE ELASTOMER IN THE STEEL REINFORCED BEARINGS SHALL HAVE A SHEAR MODULUS OF 0.160 KSI, IN ACCORDANCE WITH AASHTO M251.

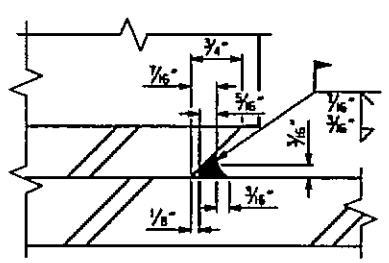
FOR STEEL REINFORCED ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

ALL SOLE PLATES SHALL BE AASHTO M270 GRADE 36.

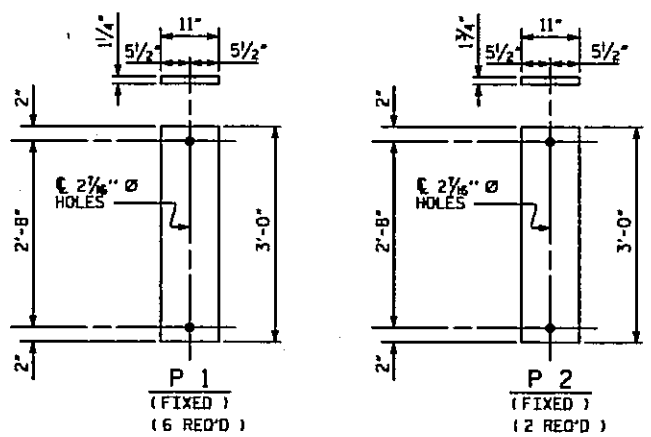


TYPICAL HALF-PLAN (SHOWING CONTINUOUS BENT)

TYPICAL HALF-PLAN (SHOWING SIMPLE SPAN BENT)



DETAIL "A"



SOLE PLATE DETAILS ("P")

MAXIMUM ALLOWABLE SERVICE LOADS	
D.L.+L.L. (NO IMPACT)	
TYPE IV	225 k

PROJECT NO. R-1015

CRAVEN COUNTY

STATION: 44+71.82 -Y4-

DocuSigned by: DB3C8E45B09C499...

NORTH CAROLINA PROFESSIONAL SEAL 14114 ENGINEER ROBERT C. LARSON

2/7/2019

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD

ELASTOMERIC BEARING DETAILS

PRESTRESSED CONCRETE GIRDER SUPERSTRUCTURE

DESIGN ENGINEER OF RECORD		DATE : 2/7/2019	
ASSEMBLED BY :	R. C. LARSON	DATE :	08/12/16
CHECKED BY :	R. A. PRUETT	DATE :	08/24/16
DRAWN BY : RJH 8/89	REV. 6/13		AAC/MAA
CHECKED BY : CRK 8/89	REV. 1/15		MAA/TMG
	REV. 12/17		MAA/THC

KCI Associates of North Carolina, P.A.

DWG. REF. NO. 13 OF 32

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. S12-13

TOTAL SHEETS 32

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STD. NO. EB3 (SHT 3)

KCI JOB NO. 231467B.11

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
–L– 472+50.00 –L– 505+00.00		76	180,835	180,835	76
–G12– 11+00.00 –G12– 13+47.00			605	605	
SUBTOTAL		76	181,440	181,440	76
–L– 507+50.00 –L– 515+50.00		6,811	366,176	366,176	6,811
–RP2C– 5+87.11 –RP2C– 10+71.91		102	74,383	74,383	102
SUBTOTAL		6,913	440,559	440,559	6,913
–L– 518+07.32 –L– 548+00.00	2,101	1,083	211,540	209,439	1,083
–LP2A– 81+29.61 –LP2A– 86+00.00	28	313	5,344	5,316	313
–RP2A– 79+22.74 –RP2A– 92+00.00	7	17	29,731	29,724	17
–RP2AC– 38+30.60 –RP2AC– 67+00.00	1,439	18	43,424	42,020	53
–RP2AC– 67+00.00 –RP2AC– 79+22.74			50,236	50,236	
–RP2CD– 5+39.89 –RP2CD– 15+00.00	1,678		30,272	28,594	
SUBTOTAL	5,253	1,431	370,547	365,329	1,466
–L– 548+00.00 –L– 579+00.00	2,420	475	20,724	18,304	475
–SERVEXT– 10+00.00 –SERVEXT– 21+64.81	310	378	4,969	4,659	378
SUBTOTAL	2,730	853	25,963	22,963	853
DETOUR REMOVAL					
–Y3DET– 36+50.00 –Y3DET– 69+00.00	14,030				14,030
–Y4DET– 34+60.97 –Y4DET– 58+70.00	12,827				12,827
SUBTOTAL	26,857				26,857
PROJECT TOTAL	84,972	72,361	5,350,612	5,292,736	99,457
MATERIAL FOR SHOULDER CONSTRUCTION			64,776	64,776	
ADDITIONAL UNDERCUT		18,000	21,600	21,600	18,000
GRADE POINT UNDERCUT		2,900	3,480	3,480	2,900
WASTE IN LIEU OF BORROW				–26,966	–26,966
EST.5% TO REPLACE TOP SOIL ON BORROW PIT				267,781	
GRAND TOTAL	84,972	93,261	5,440,468	5,623,407	93,391
SAY	88,000	96,000		5,793,000	

EST DDE = 1,560 CY
TOTAL EST SHALLOW UNDERCUT = 1,000 CY
SELECT GRANULAR MATERIAL = 144,000 CY
GEOTEXTILE FOR SOIL STABILIZATION = 62,500 SY

PAVEMENT STRUCTURE VOLUME			
L	6,970 CY	Y3RPC	62 CY
RP1A	35 CY	Y3RPD	115 CY
RP1B	160 CY	Y4	89 CY
RP1AB	386 CY	Y4DR	10 CY
LP1B	37 CY	RP2A	112 CY
RP1CD	192 CY	LP2A	36 CY
Y3	251 CY	RP2C	50 CY
Y3RPA	72 CY	RP2AC	360 CY
Y3RPB	102 CY	RP2CD	153 CY

PAVEMENT STRUCTURE VOLUME
PROJECT TOTAL = 9,487 CY

SERVEXT	50 CY
SERVRD	74 CY
SR1162	2 CY
DR1	10 CY
G12	4 CY
Y3DET	112 CY
Y4DET	43 CY

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

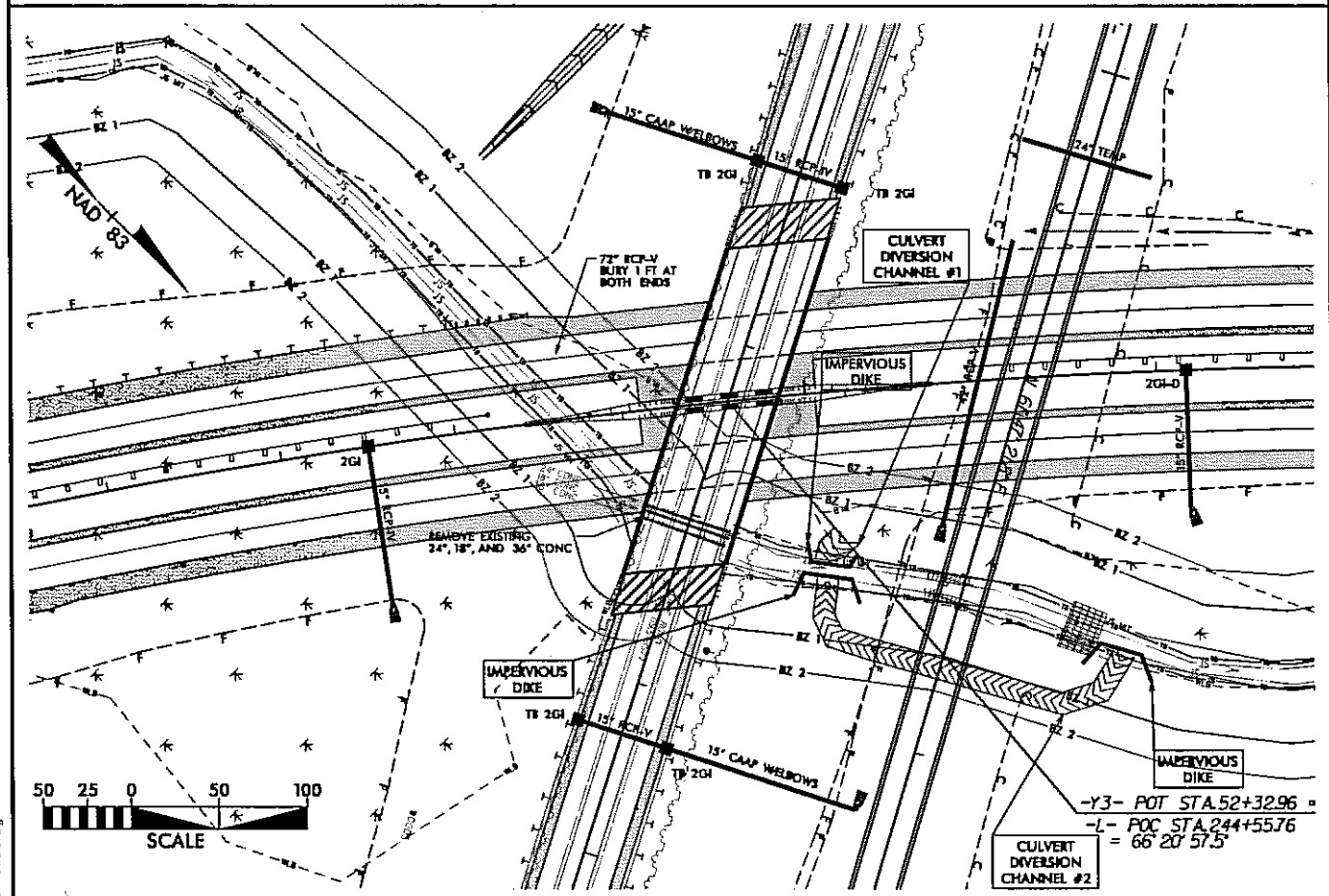
COMPUTED BY: Z. LIU DATE: 1/25/2019
CHECKED BY: G. MADLIN DATE: 1/25/2019

PROJECT REFERENCE NO.	SHEET NO.
R-1015	3B-2

PROJECT REFERENCE NO.	SHEET NO.
R-1015	EC-17OCONST.17
moffatt & nichol	

PIPE CULVERT CONSTRUCTION SEQUENCE
STA. 244+09 –L–

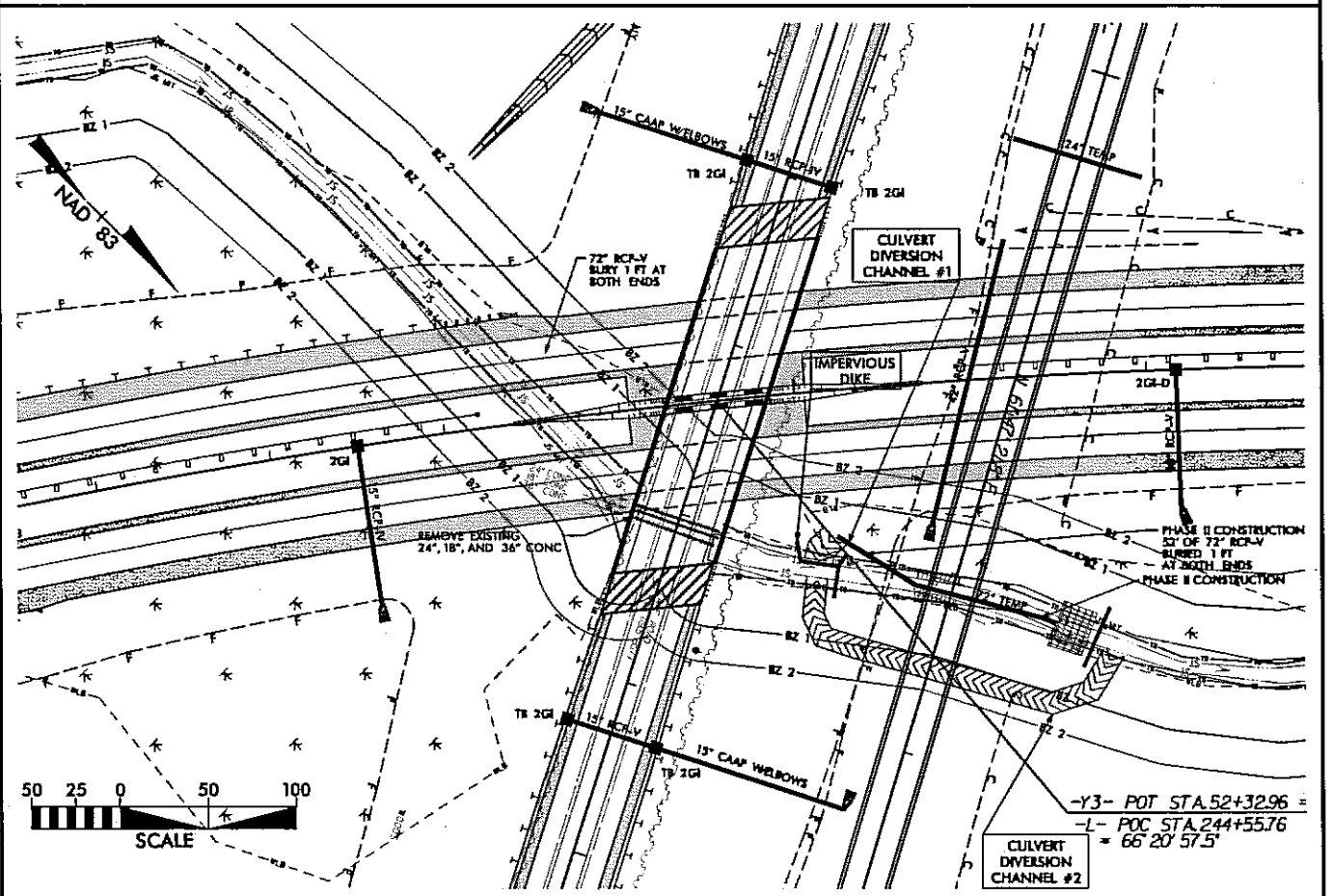
PHASE I



CULVERT CONSTRUCTION SEQUENCE

1. UTILIZE SPECIAL STILLING BASIN AS NEEDED THROUGHOUT THE PIPE CULVERT CONSTRUCTION.
2. INSTALL IMPERVIOUS DIKES AS SHOWN.
3. CONSTRUCT CULVERT DIVERSION CHANNELS WITH 2:1 SIDES. FOR CHANNEL #2, MATCH THE UPSTREAM AND DOWNSTREAM ELEVATIONS TO THE STREAM. FOR CHANNEL #1, THE DOWNSTREAM INVERT SHOULD BE 17.2' AND THE UPSTREAM INVERT SHOULD MATCH THE STREAM INVERT ELEVATION.

PHASE II



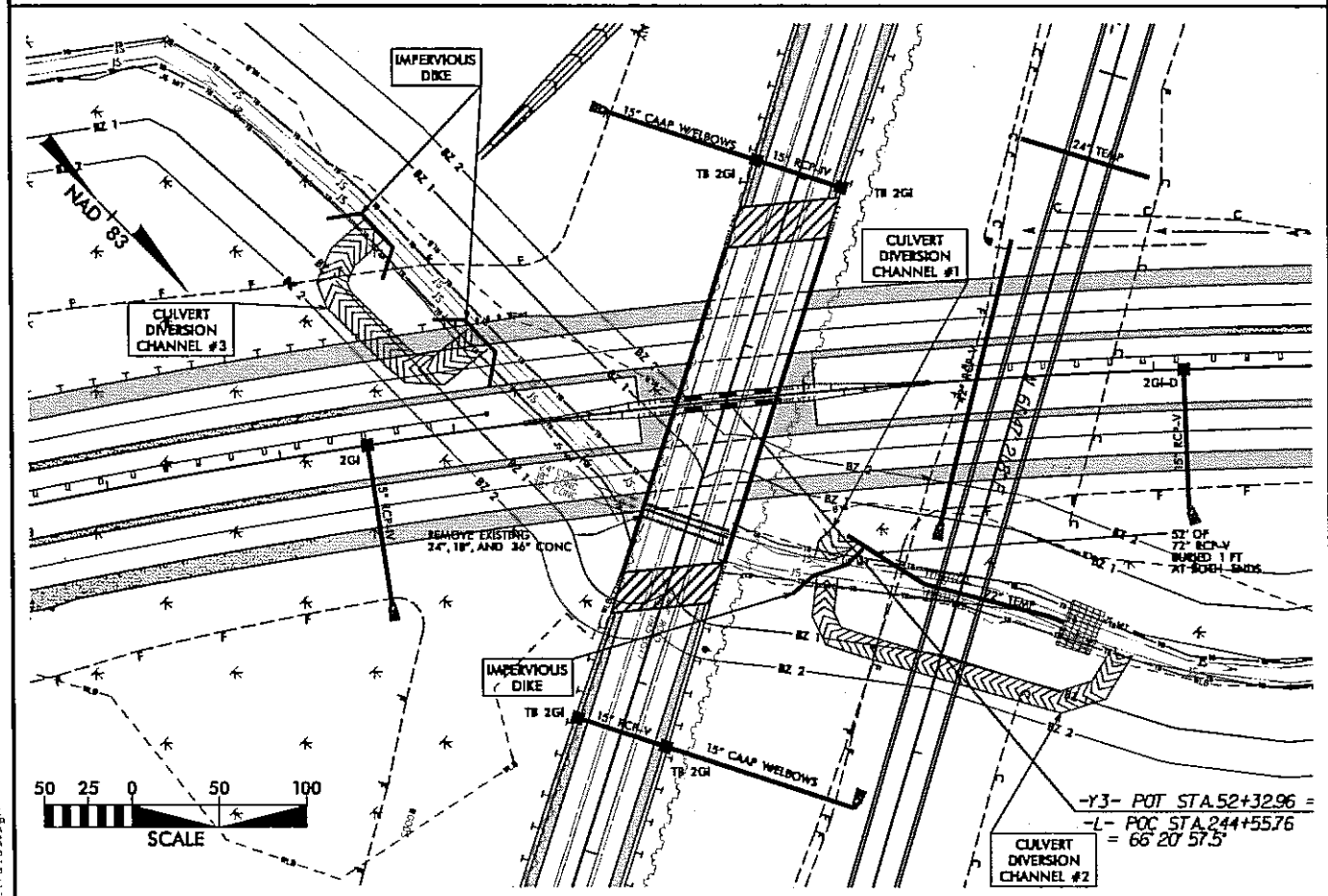
CULVERT CONSTRUCTION SEQUENCE

4. REMOVE THE IMPERVIOUS DIKES BLOCKING CULVERT DIVERSION CHANNEL #2.
5. INSTALL IMPERVIOUS DIKES TO DIVERT FLOW INTO CULVERT DIVERSION CHANNEL #2
6. DRY OUT WORK AREA NEEDED TO CONSTRUCT THE 72" PIPES. PUMPING EFFLUENT INTO SPECIAL STILLING BASINS AS NEEDED.
7. CONSTRUCT THE LAST 52' OF THE PERMANENT 72" RCP-V PIPE AND CONNECT VIA ELBOW TO THE 72" TEMPORARY PIPE. CONSTRUCT THE OUTLET RIP RAP PAD FOR THE TEMPORARY PIPE.

PROJECT REFERENCE NO.	SHEET NO.
R-1015	EC-17D/CONST.17
moffatt & nichol	

PIPE CULVERT CONSTRUCTION SEQUENCE
STA. 244+09 –L–

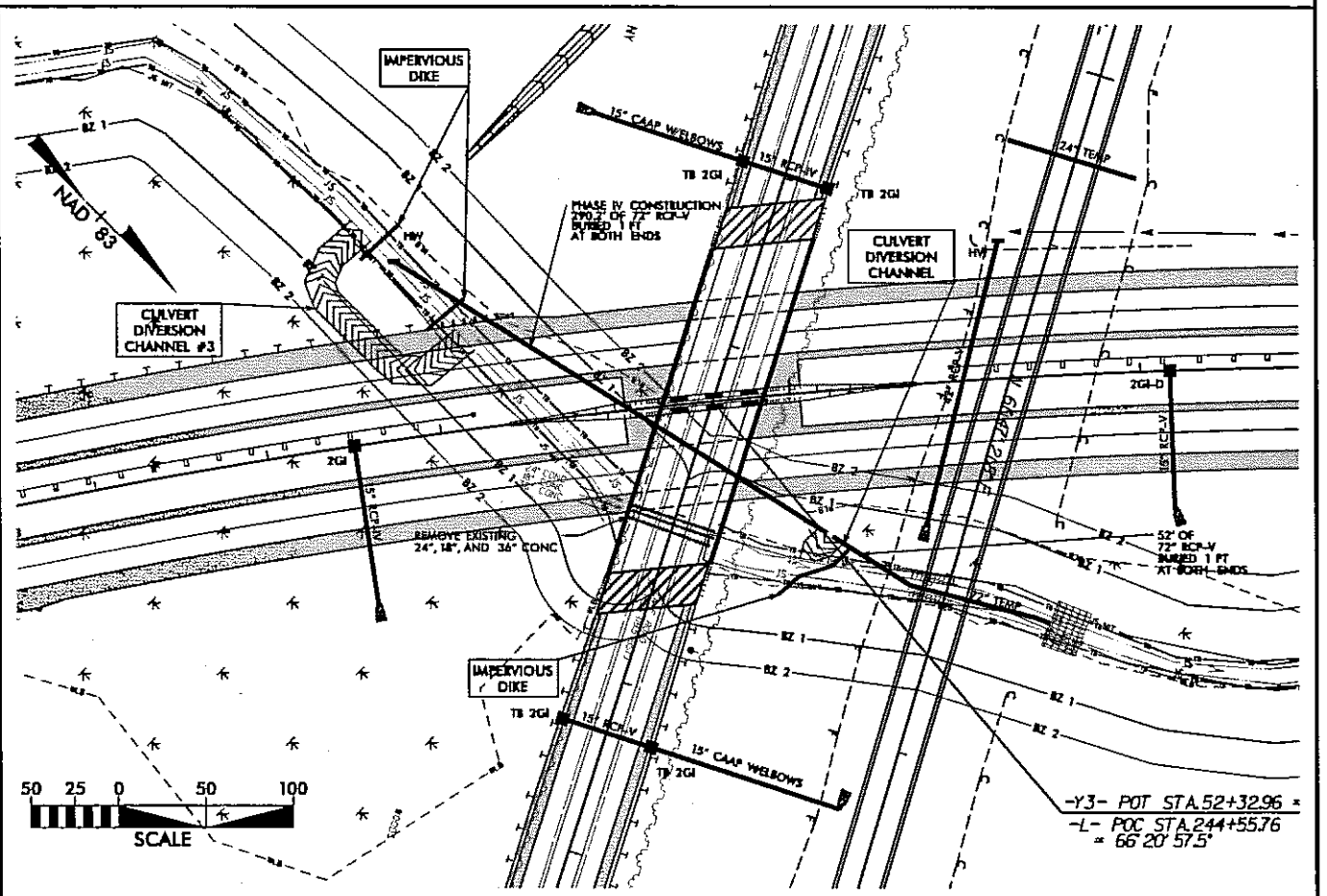
PHASE III



CULVERT CONSTRUCTION SEQUENCE

8. REMOVE THE IMPERVIOUS DIKES FROM PHASE II.
9. INSTALL THE IMPERVIOUS DIKES AS SHOWN ON THE PLANS TO DIVERT FLOW INTO CULVERT DIVERSION CHANNEL #1 AND THE PIPES CONSTRUCTED DURING PHASE II. ALSO INSTALL THE IMPERVIOUS DIKES NEAR CULVERT DIVERSION CHANNEL #3.
10. REMOVE CULVERT DIVERSION CHANNEL #1.
11. CONSTRUCT CULVERT DIVERSION CHANNEL #3.
12. COMPLETE THE DETOUR ROADWAY.

PHASE IV



CULVERT CONSTRUCTION SEQUENCE

13. REMOVE IMPERVIOUS DIKES BLOCKING FLOW IN CULVERT DIVERSION CHANNEL #3.
14. INSTALL IMPERVIOUS DIKES TO DIVERT FLOW INTO CULVERT DIVERSION CHANNEL #3.
15. CONSTRUCT THE HEADWALL AND FIRST 290.2' OF THE 72" RCP–V AS SHOWN ON THE PLANS. DO NOT CONNECT TO THE SECTION OF 72" RCP–V CONSTRUCTED DURING PHASE II.

USER:2008
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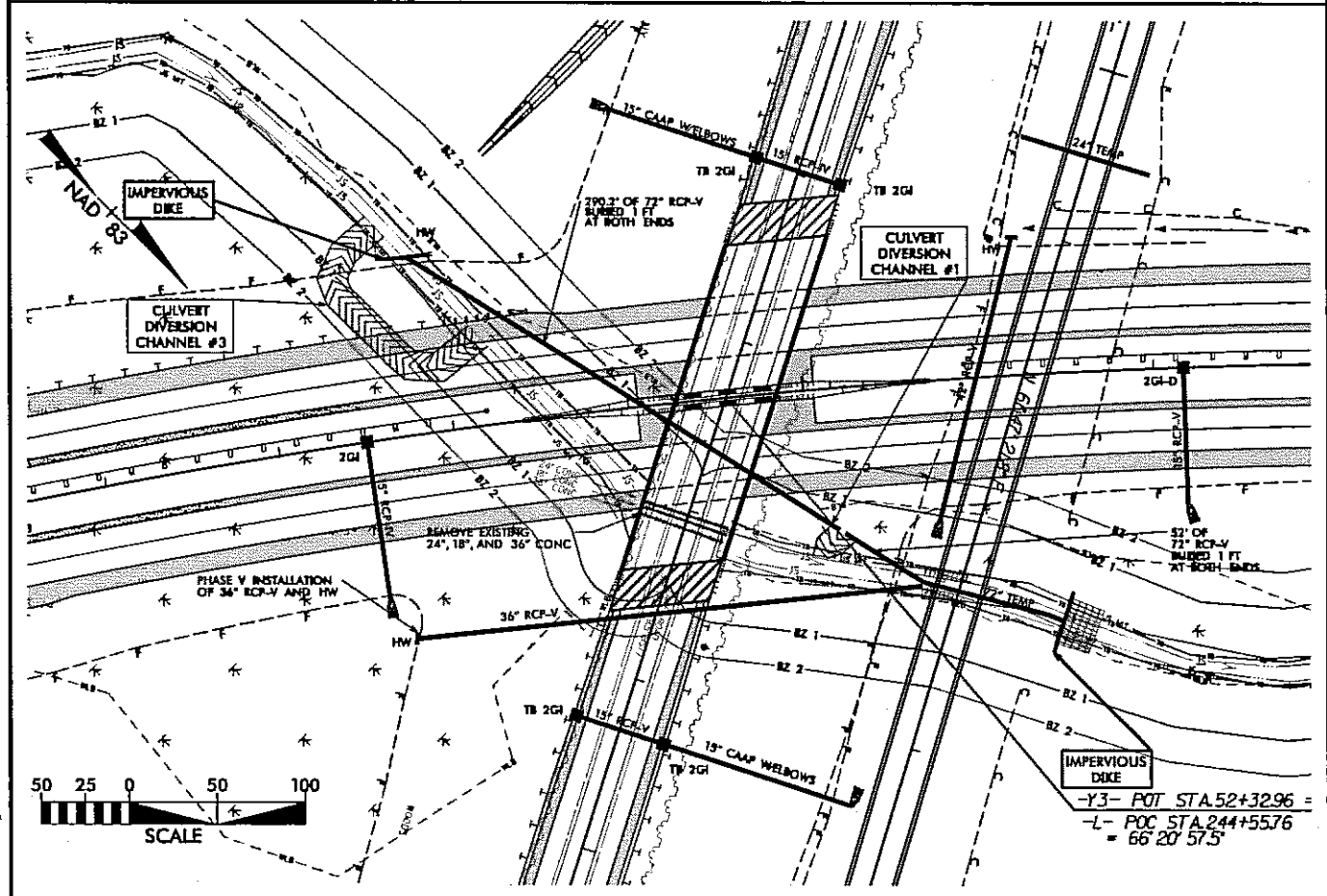
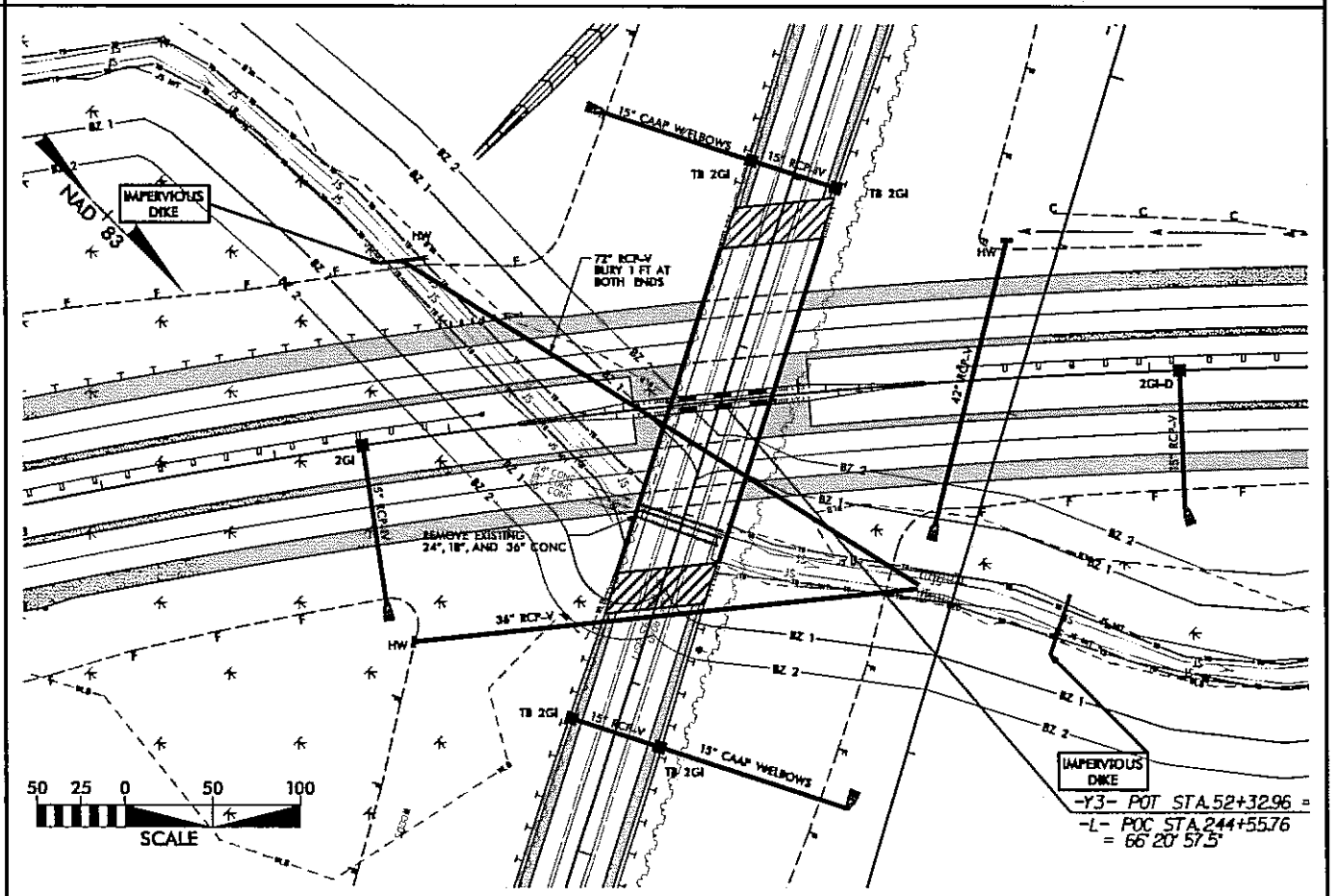
PROJECT REFERENCE NO.	SHEET NO.
R-1015	EC-17/RECONST.17
moffatt & nichol	

PIPE CULVERT CONSTRUCTION SEQUENCE
STA. 244+09 –L–

PHASE V



PHASE VI



CULVERT CONSTRUCTION SEQUENCE

16. REMOVE THE IMPERVIOUS DIKES FROM PHASE IV TO DIVERT FLOW INTO THE 72" RCP–IV SECTION CONSTRUCTED DURING PHASE IV.
17. REMOVE CULVERT DIVERSION CHANNEL #3.
18. PLACE IMPERVIOUS DIKES AS SHOWN ON PLANS.
19. CONNECT THE SECTIONS OF 72" RCP–IV CONSTRUCTED DURING PHASE II AND IV.
20. REMOVE THE IMPERVIOUS DIKES.
21. REMOVE IMPVERIOUS DIKES THAT WERE DIVERTING FLOW INTO CULVERT DIVERSION CHANNEL #1.
22. REMOVE CULVERT DIVERSION CHANNEL #1.
23. INSTALL 36" RCP–V AND HEADWALL.
24. REMOVE THE EXISTING 18", 24", AND 36" CONCRETE PIPES.
25. COMPLETE THE FINAL ROADWAY.

CULVERT CONSTRUCTION SEQUENCE

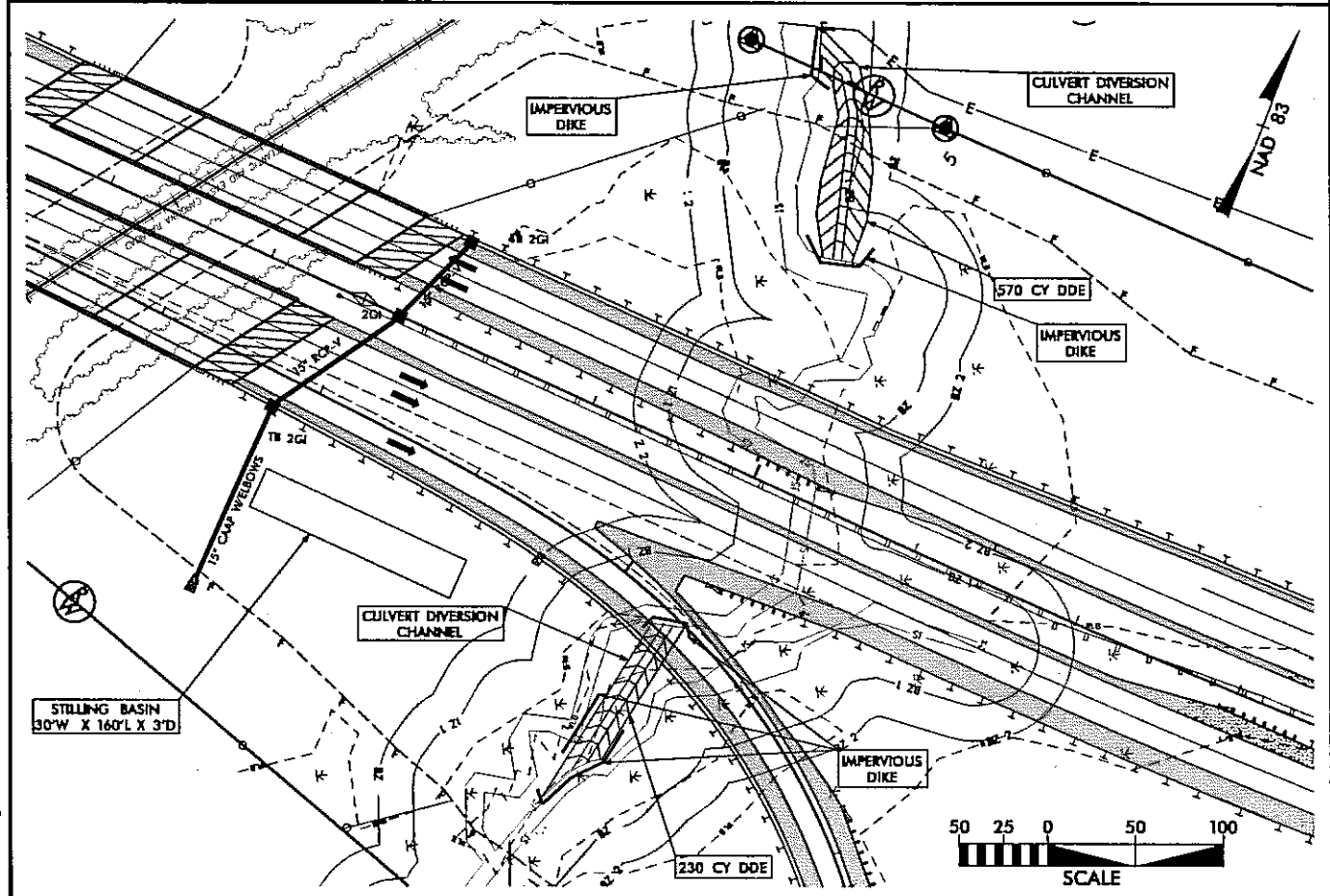
26. REMOVE THE DETOUR ROADWAY AND DRAINAGE.
27. RECONSTRUCT CHANNEL AND CONSTRUCT RIP RAP PAD AT PIPE OUTLET.
28. PLACE IMPERVIOUS DIKES AS SHOWN ON PLANS.
29. REMOVE THE ELBOW AND 72" TEMPORARY PIPE INSTALLED DURING PHASE II.
30. REMOVE THE IMPERVIOUS DIKES.

7/6/2018
6:16:42 PM
dlevenson
J:\24-02\CADD\R1015\Roadside\R-1015_REV EC-17E_PSH 17E_CC.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-1015	EC-36ACONST.36
moffatt & nichol	

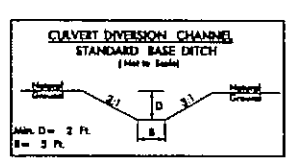
CULVERT CONSTRUCTION SEQUENCE
STA. 509 + 41 –L–

PHASE I

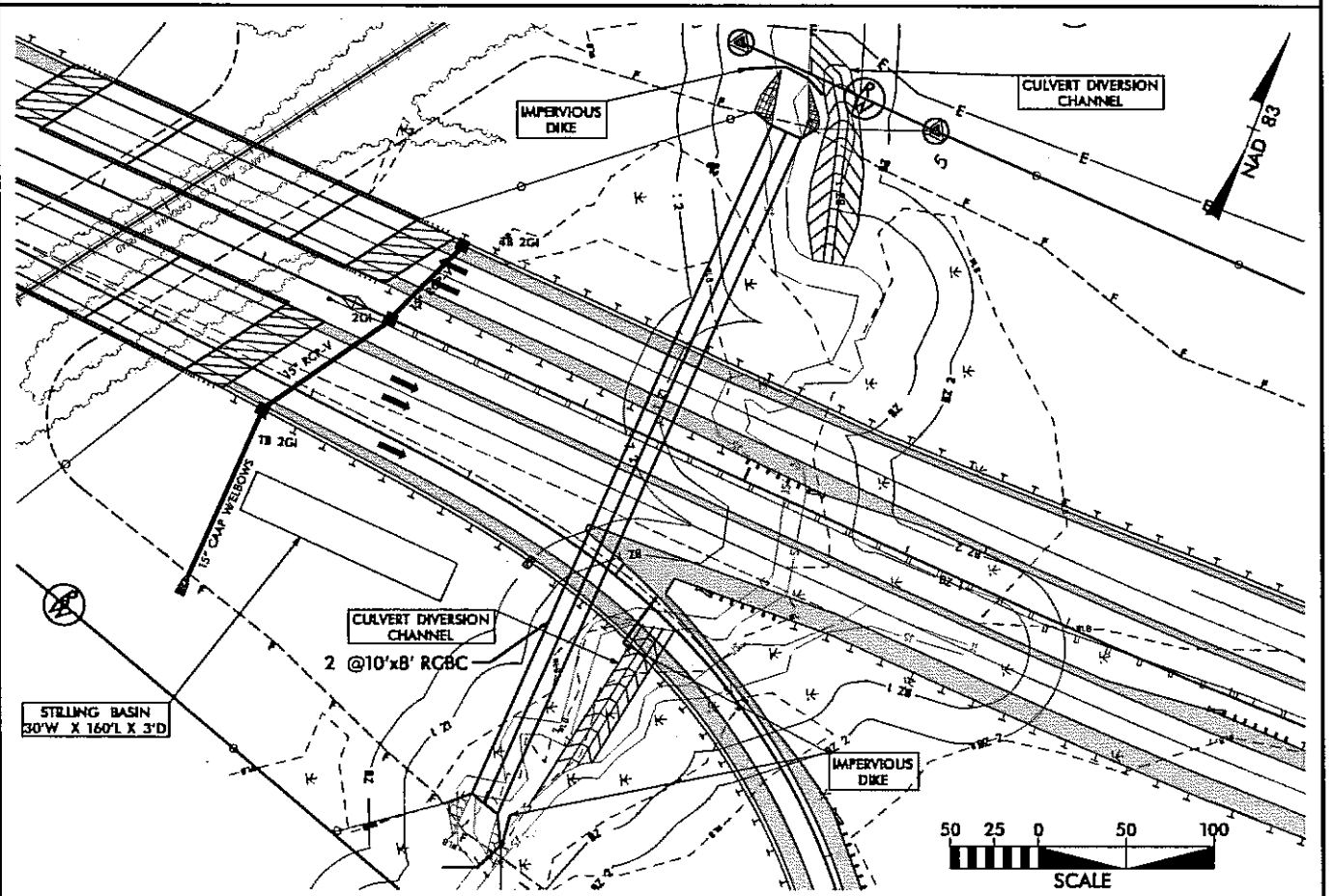


CULVERT CONSTRUCTION SEQUENCE

1. INSTALL STILLING BASIN WITH A MINIMUM CAPACITY OF 530 CY.
2. INSTALL IMPERVIOUS DIKES AS SHOWN.
3. DRY OUT WORK AREA NEEDED TO CONSTRUCT THE CULVERT DIVERSION CHANNELS, PUMPING EFFLUENT INTO STILLING BASIN.
4. CONSTRUCT CULVERT DIVERSION CHANNELS.



PHASE II



CULVERT CONSTRUCTION SEQUENCE

5. REMOVE IMPERVIOUS DIKES CONSTRUCTED IN PHASE I AND DIVERT FLOW INTO CULVERT DIVERSION CHANNELS BY CONSTRUCTING THE IMPERVIOUS DIKES SHOWN IN PHASE II.
6. DRY OUT WORK AREA NEEDED TO CONSTRUCT THE CULVERT, PUMPING EFFLUENT INTO STILLING BASIN.
7. CONSTRUCT THE TWO CULVERTS.
8. CONSTRUCT THE ARMORING TO THE GREATEST EXTENT PRACTICABLE.

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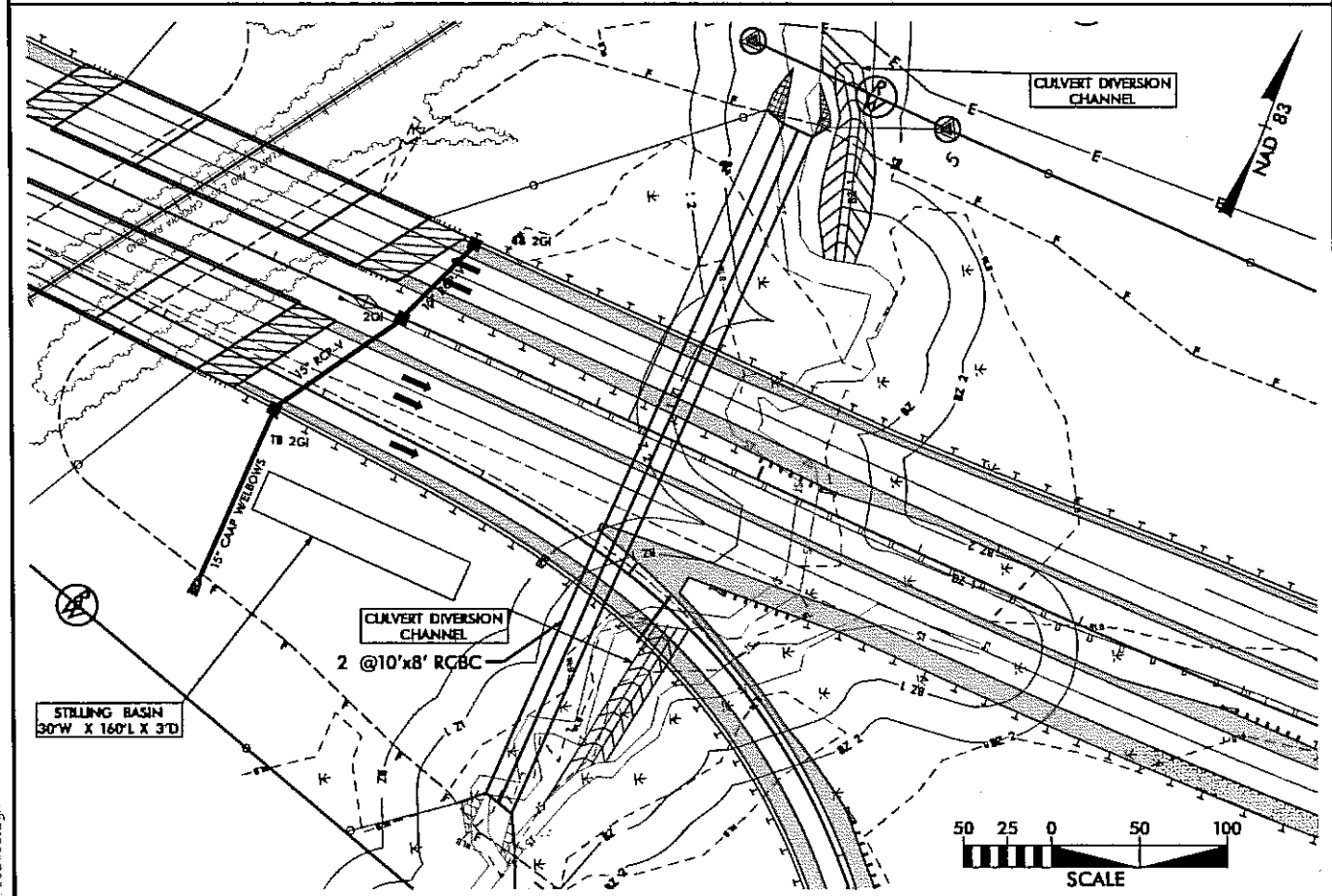
PROJECT REFERENCE NO.	SHEET NO.
R-1015	EC-36BCONST.36

moffatt & nichol

CULVERT CONSTRUCTION SEQUENCE
STA. 509 + 41 –L–

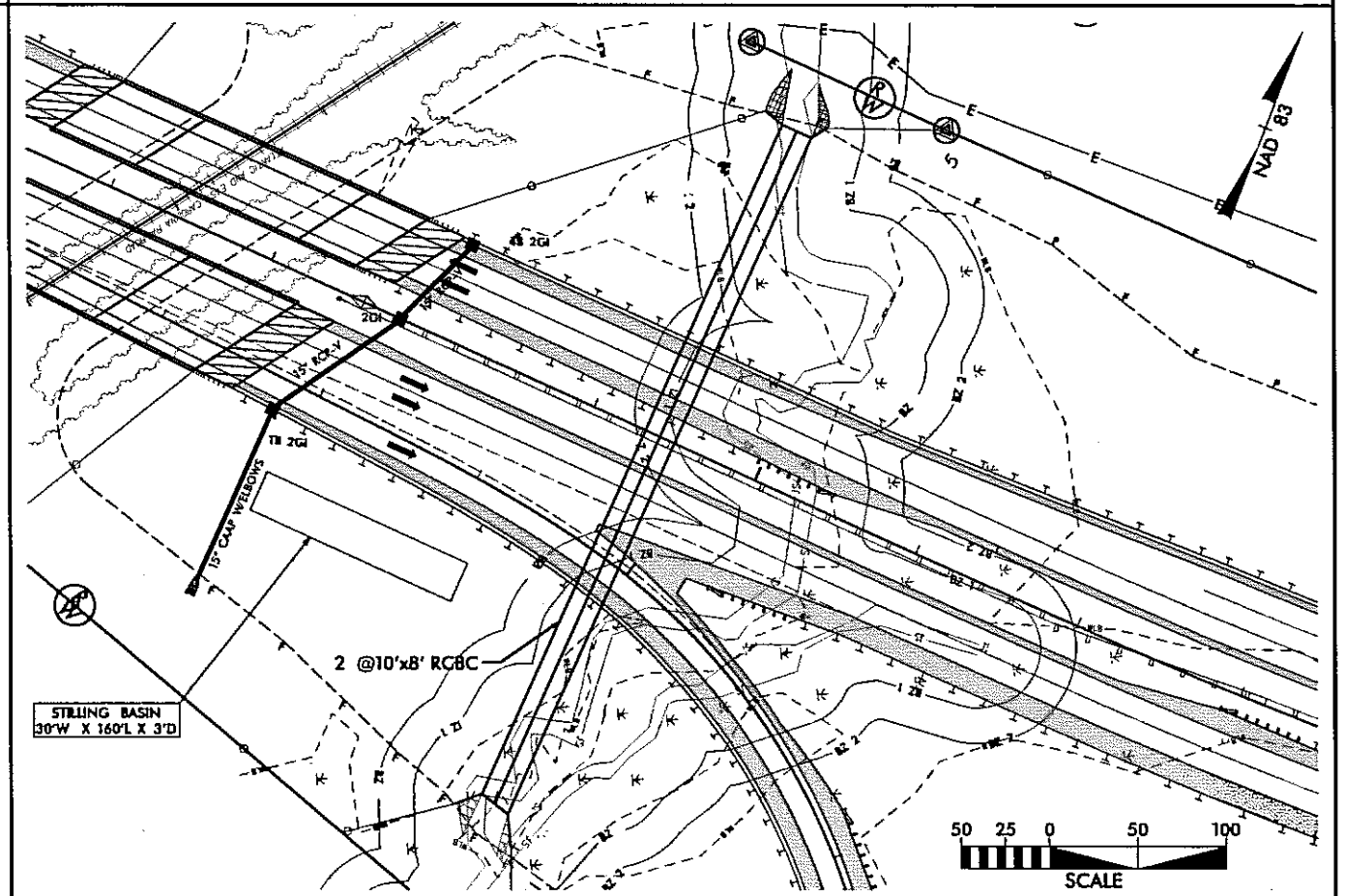
PHASE III



CULVERT CONSTRUCTION SEQUENCE

9. REMOVE IMPERVIOUS DIKES ALLOWING FLOW INTO THE CULVERT.
10. FINISH ARMORING THE BANKS THAT WERE UNABLE TO BE COMPLETED DURING PHASE II
11. REMOVE CULVERT DIVERSION CHANNELS.

PHASE IV



CULVERT CONSTRUCTION SEQUENCE

12. REMOVE STILLING BASIN
13. COMPLETE ROADWAY

05/6/2019
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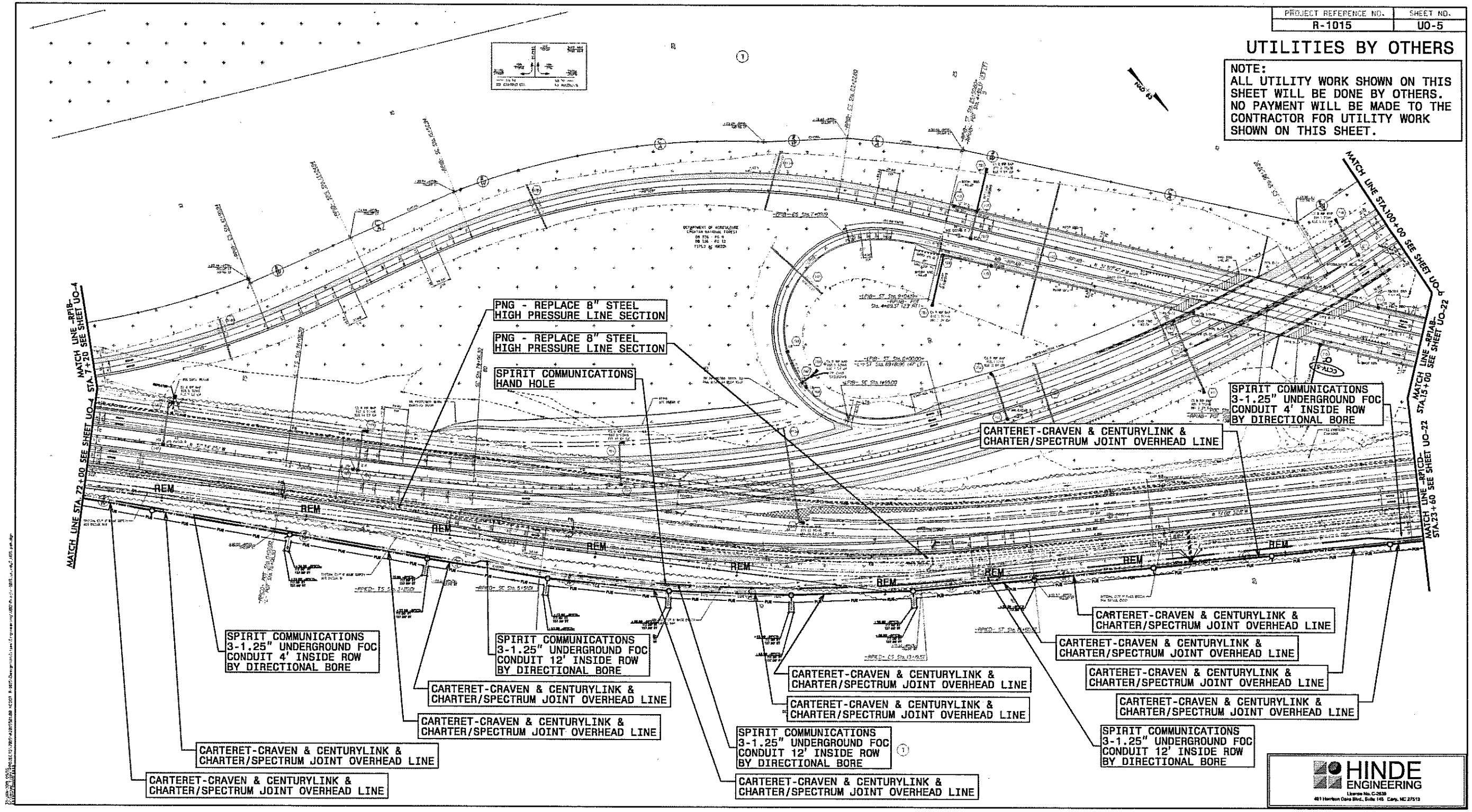
dlawrence

PROJECT REFERENCE NO.	SHEET NO.
R-1015	UO-5

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

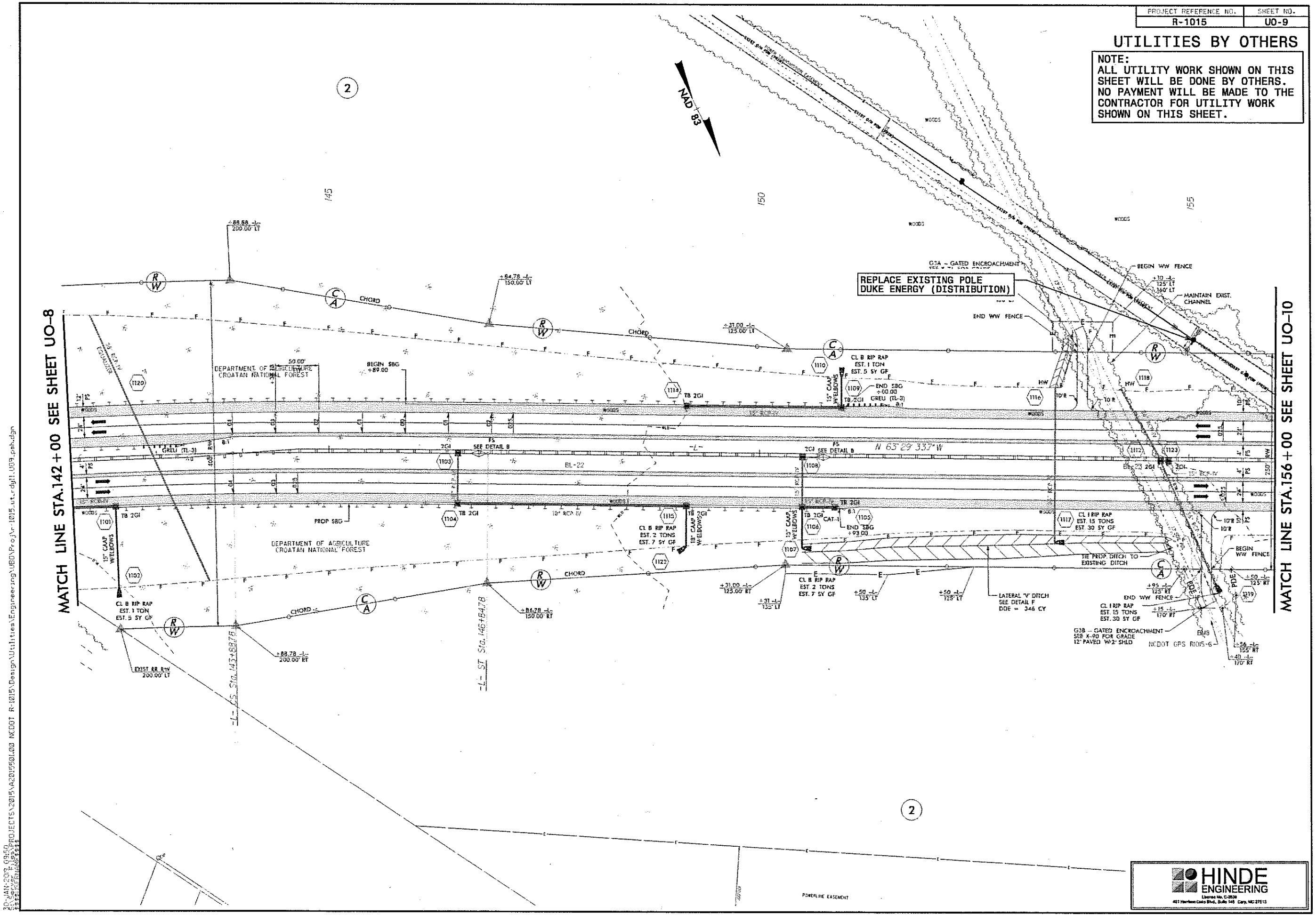


HINDE ENGINEERING
License No. C-2538
461 Hanbon Oaks Blvd., Suite 145 Cary, NC 27513

PROJECT REFERENCE NO.	SHEET NO.
R-1015	U0-9

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



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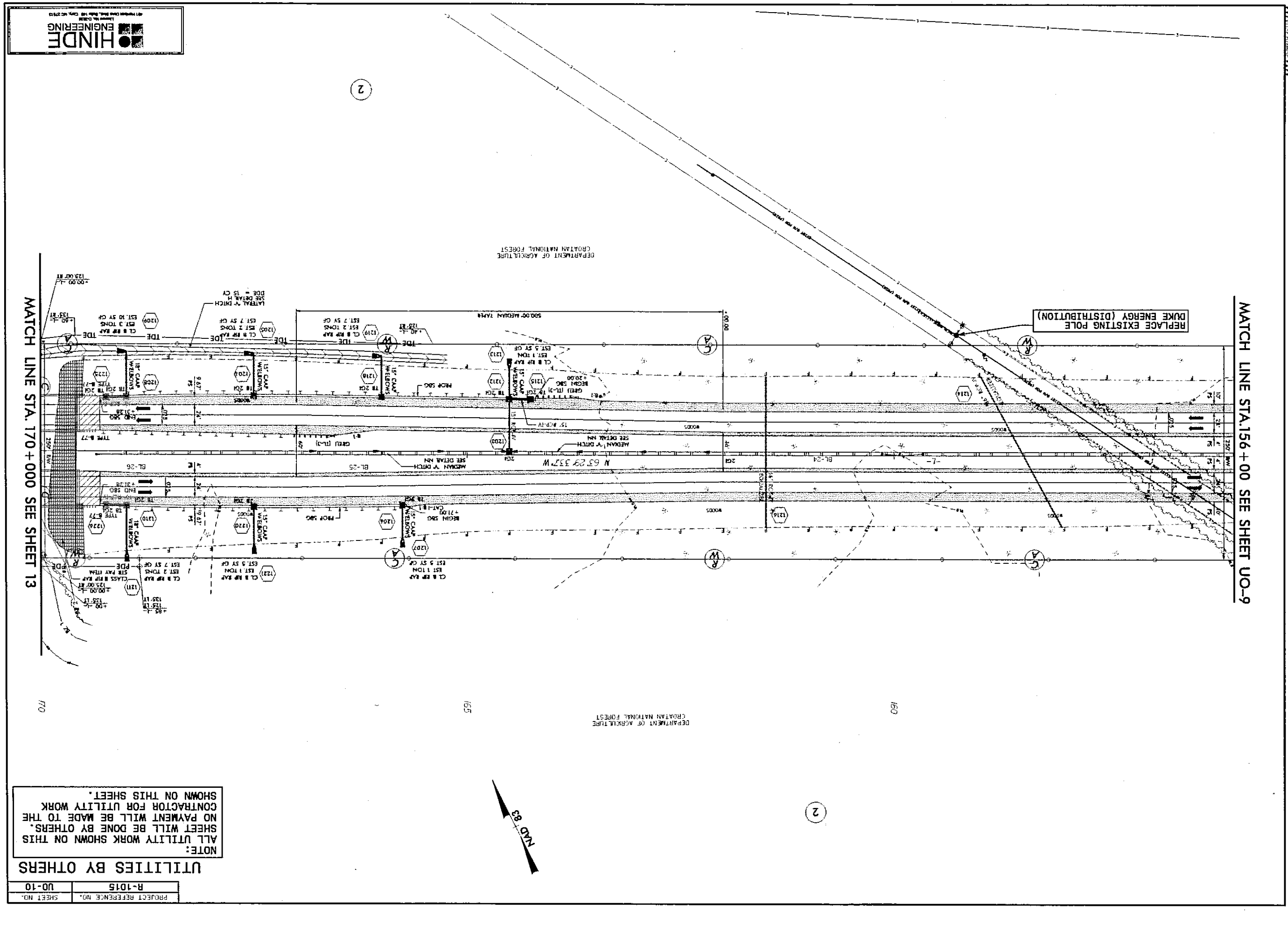

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAVEMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

PROJECT REFERENCE NO.	SHEET NO.
R-1015	UO-10

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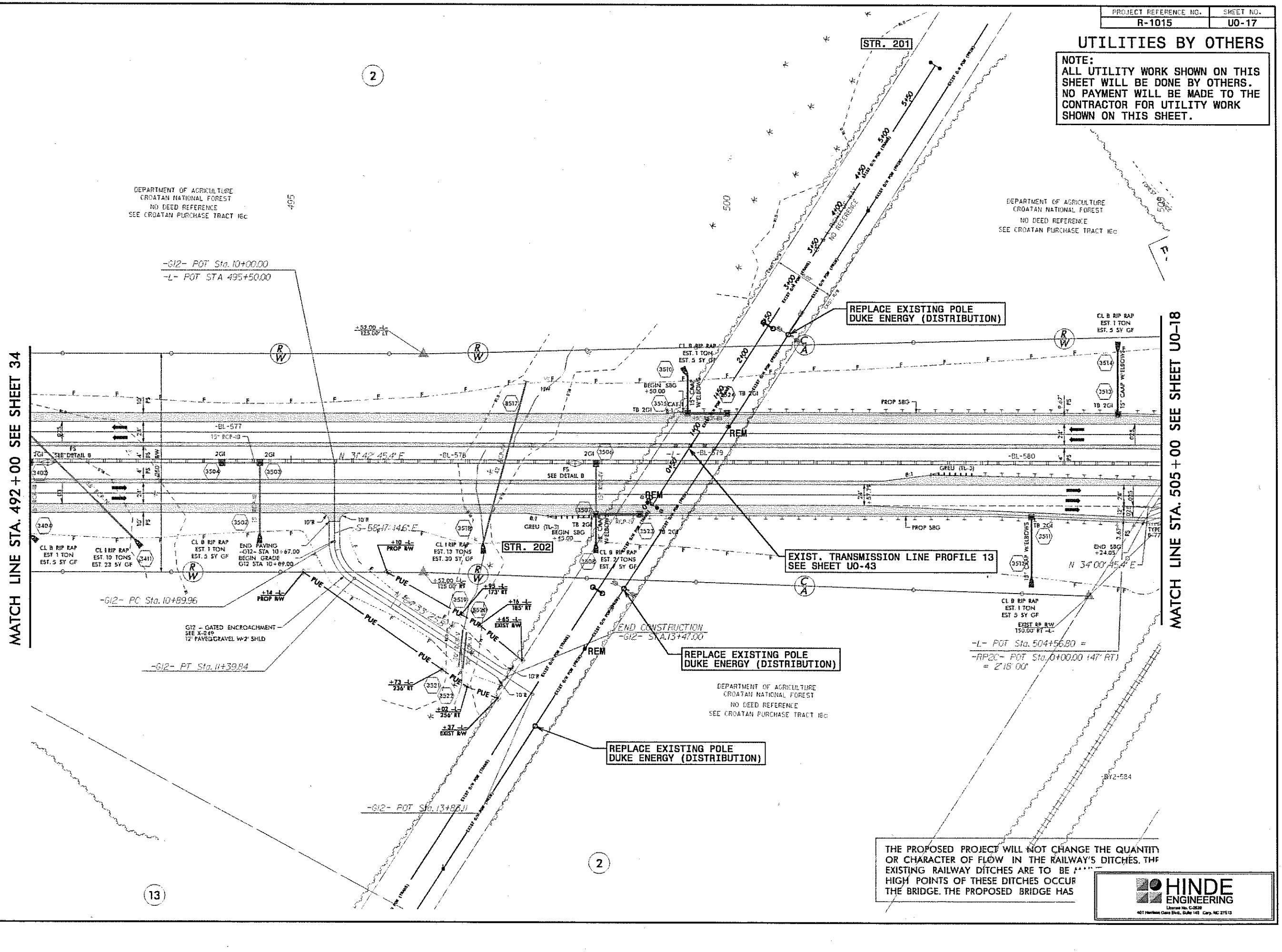
PROJECT REFERENCE NO.	SHEET NO.
R-1015	U0-17

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	U0-18

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

MATCH LINE STA. 503+00 SEE SHEET U0-17

PROTECTED AREA SITE 38BV302

PNG - REPLACE 8" STEEL HIGH PRESSURE LINE SECTION

SPIRIT COMMUNICATIONS 3-1.25" UNDERGROUND FOC CONDUIT 4' INSIDE ROW BY DIRECTIONAL BORE

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

PNG - REPLACE 8" STEEL HIGH PRESSURE LINE SECTION

SPIRIT COMMUNICATIONS 3-1.25" UNDERGROUND FOC CONDUIT 4' INSIDE ROW BY DIRECTIONAL BORE

FIBER ALONG THIS SIDE IS ABANDON

SPIRIT COMMUNICATIONS HAND HOLE

CITY OF NEW BERN OVERHEAD POWER LINE

REPLACE EXISTING POLE CITY OF NEW BERN

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CITY OF NEW BERN OVERHEAD POWER LINE

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CITY OF NEW BERN OVERHEAD POWER LINE

CITY OF NEW BERN OVERHEAD POWER LINE

MATCH LINE STA. 533+50 SEE SHEET U0-19

MATCH LINE STA. 50+00 SEE SHEET U0-21

HINDE ENGINEERING

PROJECT REFERENCE NO.	SHEET NO.
R-1015	U0-19

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

MATCH LINE -RP2A STA. 86+80 SEE SHEET U0-18

MATCH LINE STA. 533+50 SEE SHEET U0-18

MATCH LINE STA. 547+00 SEE SHEET U0-20

NAD 83

PNG - REPLACE 8" STEEL HIGH PRESSURE LINE SECTION

SPIRIT COMMUNICATIONS 3-1.25" UNDERGROUND FOC CONDUIT 4' INSIDE ROW BY DIRECTIONAL BORE

BILLY ROBERT BRIDGEWATER DB 1025 PG 568

WALTER J. KINCAID DB 805 PG 727

NEIL BAKER DB 734 PG 61

JOANN COWAN TADLOCK DB 942 PG 569

JOYCE B. DAN DB 462 PG 325

DEPARTMENT OF AGRICULTURE CROATAN NATIONAL FOREST NO DEED REFERENCE SEE CROATAN PURCHASE TRACT 62D

-L- PC Sta. 535+03.07

-L- PT Sta. 536+49.87

-L- CS Sta. 95+46.75

-RP2A- SRS Sta. 88+13.39

-RP2A- SC Sta. 90+60.39

-RP2A- ST Sta. 97+93.75

-L- ST Sta. 545+98.84 (38' RT)

-L- N 4°16'19" E

-L- N 6°11'26" E

-SERVRD- N 6°47'56" E

SPECIAL LATERAL V DITCH SEE DETAIL R

SPECIAL LATERAL 2' BASE DITCH SEE DETAIL SS

SPECIAL LATERAL 2' BASE DITCH SEE DETAIL QQ

PROPOSED WW FENCE ALONG EXIST R/W

660' MEDIAN TRANSITION

MEDIAN 'V' DITCH SEE DETAIL TAT

SPIRIT COMMUNICATIONS HAND HOLE

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CITY OF NEW BERN OVERHEAD POWER LINE

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

SPIRIT COMMUNICATIONS HAND HOLE

CITY OF NEW BERN OVERHEAD POWER LINE

CITY OF NEW BERN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CITY OF NEW BERN OVERHEAD POWER LINE

SPIRIT COMMUNICATIONS 3-1.25" UNDERGROUND FOC CONDUIT 4' INSIDE ROW BY DIRECTIONAL BORE

DB 2653 PG 478
PC H Slide 83F

ELMS B. SALTER DB 58 PG 496

THOMAS AVON GRIFF DB 1276 PG 81

LAURIE RENNIE WYNNE DICKERSON DB 1205 PG 722 PC E SLD 388

WILLIAM D. WYNNE, ET UX DB 2653 PG 481 PC H Slide 83F

HINDE ENGINEERING

30 JAN 2019, 09:50
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PRELIMINARY PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-1015	U0-22

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

NAD 83

MATCH LINE -RP1A- STA. 5+00 SEE SHEET UO-6

MATCH LINE -RP1AB- STA.15+00 SEE SHEET UO-5

MATCH LINE -RP1CD- STA. 23+60 SEE SHEET UO-5

MATCH LINE -RP1AB- STA.29+00 SEE SHEET UO-23

PNG - REPLACE 8" STEEL HIGH PRESSURE LINE SECTION

PNG - REPLACE 8" STEEL HIGH PRESSURE LINE SECTION

CARTERET-CRAVEN OVERHEAD POWER LINE

CARTERET-CRAVEN OVERHEAD POWER LINE

-RP1A- ST Sta. 0+00.00 = -RP1AB- ST Sta. 22+04.84 (47' LT)

-RP1A- SC Sta. 2+00.00

-RP1AB- CS Sta. 22+95.46

-RP1AB- ST Sta. 25+26.46

-RP1AB- TS Sta. 28+61.95

-RP1AB- TS Sta. 17+03.69

-RP1AB- SC Sta. 19+34.69

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
DB 336 - PG 9
DB 336 - PG 72
7375.2 AC (DEED)

ABANDON

ABANDON

REPLACE EXISTING POLE

SPIRIT COMMUNICATIONS 3-1.25" UNDERGROUND FOC CONDUIT 4' INSIDE ROW BY DIRECTIONAL BORE

SPIRIT COMMUNICATIONS 3-1.25" UNDERGROUND FOC CONDUIT 4' INSIDE ROW BY DIRECTIONAL BORE

CARTERET-CRAVEN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CARTERET-CRAVEN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CARTERET-CRAVEN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

CARTERET-CRAVEN & CENTURYLINK & CHARTER/SPECTRUM JOINT OVERHEAD LINE

SPIRIT COMMUNICATIONS HAND HOLE

SPIRIT COMMUNICATIONS HAND HOLE

MCNC/SPIRIT COMMUNICATIONS HAND HOLE

SPIRIT COMMUNICATIONS 3-1.25" UNDERGROUND FOC CONDUIT BY DIRECTIONAL BORE

ARMSTEAD PROPERTIES, LLC.
DB 1436 PG 335

N 51°08'32.8" W

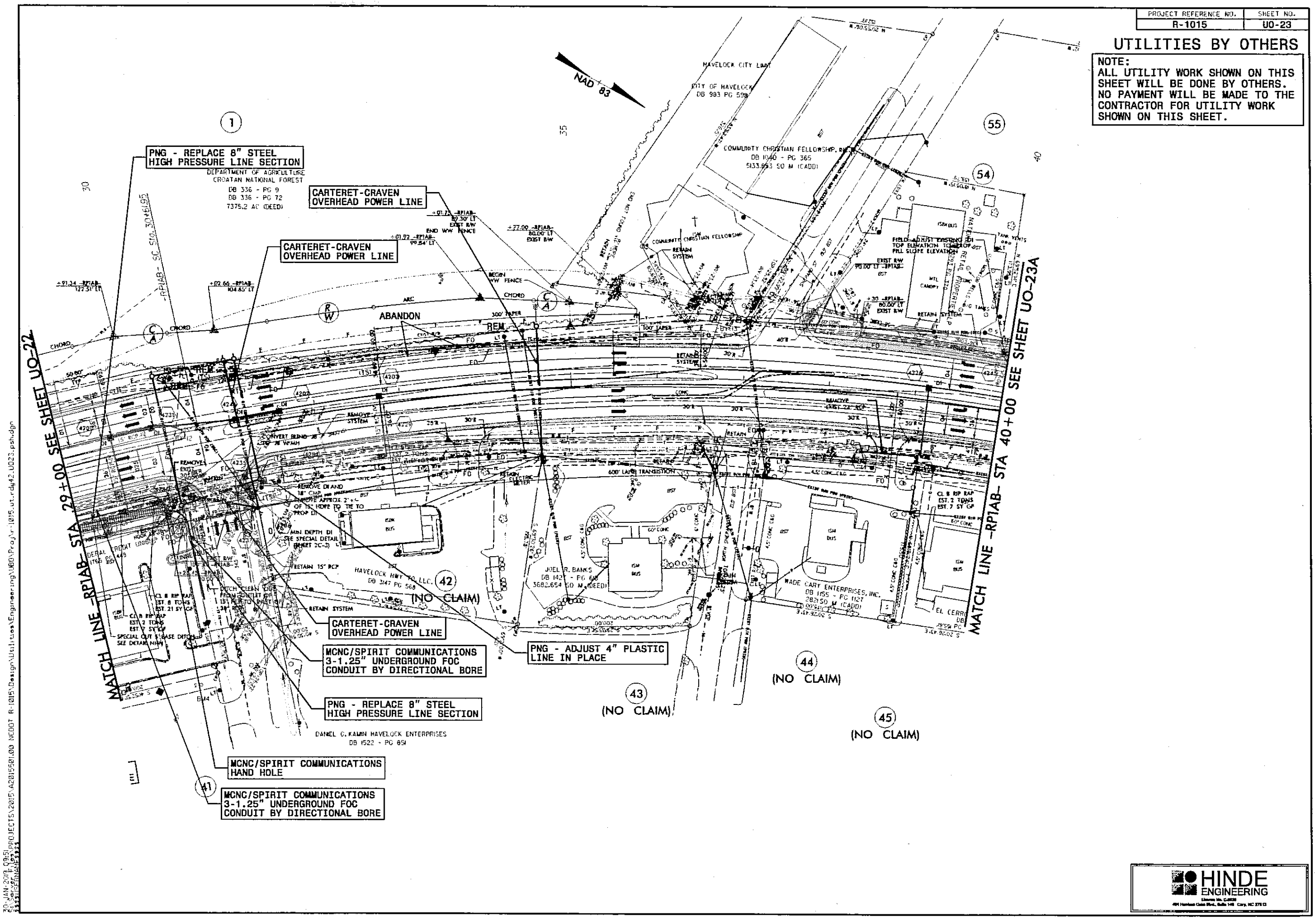
N 43°13'42.6" W

HINDE ENGINEERING

PROJECT REFERENCE NO.	SHEET NO.
R-1015	U0-23

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



30-JAN-2018 09:45
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HINDE ENGINEERING

CROSS SECTION INDEX SHEET

TIP NO: R-1015
INITIALS: GM

Chain	Beg Sta	End Sta	LOC	Sheet No.	Comments / Log File
L	32+80.83	64+50.00	RT	X-1 TO X-11	L_earthwork.log
L	64+50.00	94+50.00	RT	X-11 TO X-22	L_earthwork.log
L	94+50.00	107+00.00	RT	X-22 TO X-26	L_earthwork.log
L	107+00.00	136+00.00	RT	X-26 TO X-48	L_earthwork.log
L	141+50.00	169+50.00	RT	X-48 TO X-68	L_earthwork.log
L	186+00.00	216+00.00	RT	X-68 TO X-91 LT - X-105 TO X-108 RT	L_earthwork.log
L	216+00.00	226+00.00	RT	X-91 TO X-98 LT - X-108 TO X-115 RT	L_earthwork.log
L	228+70.94	258+50.00	RT	X-98 TO X-104 LT - X-115 TO X-130	L_earthwork.log
L	258+50.00	282+50.00	RT	X-130 TO X-142	L_earthwork.log
L	292+50.00	322+50.00	RT	X-147 TO X-158	L_earthwork.log
L	322+50.00	352+50.00	RT	X-158 TO X-168	L_earthwork.log
L	352+50.00	382+50.00	RT	X-168 TO X-178	L_earthwork.log
L	382+50.00	412+50.00	RT	X-178 TO X-188	L_earthwork.log
L	412+50.00	442+50.00	RT	X-188 TO X-198	L_earthwork.log
L	442+50.00	472+50.00	RT	X-198 TO X-208	L_earthwork.log
L	472+50.00	505+00.00	RT	X-208 TO X-220 LT - X-249 RT	L_earthwork.log
L	507+50.00	515+45.80	RT	X-220 TO X-229 LT - X-249 TO X-258 RT	L_earthwork.log
L	518+07.32	548+00.00	RT	X-232 TO X-243 LT - X-258 TO X-272 RT	L_earthwork.log
L	548+00.00	579+00.00	RT	X-244 TO X-248 LT - X-272 TO X-282	L_earthwork.log
RP1A	2+99.974043	7+54.621890	RT	X-283 TO X-286	RP1A_earthwork.log
RP1B	5+20.307762	25+50.60000	RT	X-287 TO X-294	RP1B_earthwork.log
RP1AB	4+89.37	10+00.00	RT	X-295 TO X-298 LT - X-303 TO X-306 RT	RP1AB_earthwork.log
RP1AB	13+50.00	45+00.00	RT	X-300 TO X-302 LT - X-309 TO X-320	RP1AB_earthwork.log
LP1B	2+23.338024	6+50.000000	RT	X-321 TO X-322	LP1B_earthwork.log
RP1CD	2+95.593694	32+53.24886	RT	X-323 TO X-333	RP1CD_earthwork.log
Y3	35+00.00000	51+00.00000	RT	X-334 TO X-340	Y3_earthwork.log
Y3	53+50.00000	73+50.00000	RT	X-342 TO X-350	Y3_earthwork.log
Y3RPA	7+50.000000	17+30.73999	RT	X-351 TO X-354	Y3RPA_earthwork.log
Y3RPB	6+41.918719	20+06.95999	RT	X-355 TO X-362	Y3RPB_earthwork.log
Y3RPC	10+27.15074	17+04.29000	RT	X-363 TO X-366	Y3RPC_earthwork.log
Y3RPD	6+50.000000	25+23.59000	RT	X-367 TO X-374	Y3RPD_earthwork.log
Y4	34+40.00000	43+50.00000	RT	X-375 TO X-379	Y4_earthwork.log
Y4	46+00.00000	59+12.29000	RT	X-380 TO X-386	Y4_earthwork.log
Y4DR	10+50.00000	16+00.00000	RT	X-387 TO X-388	Y4DR_earthwork.log
RP2A	79+22.74000	92+00.00000	RT	X-389 TO X-393	RP2A_earthwork.log
LP2A	81+29.60615	86+00.00000	RT	X-394 TO X-395	LP2A_earthwork.log
RP2C	5+87.111756	10+71.90583	RT	X-396 TO X-399	RP2C_earthwork.log
RP2AC	37+00.00000	67+00.00000	RT	X-400 TO X-410	RP2AC_earthwork.log
RP2AC	67+00.00000	79+22.73500	RT	X-410 TO X-414	RP2AC_earthwork.log
RP2CD	5+39.888869	15+00.00000	RT	X-415 TO X-418	RP2CD_Earthwork.log
DR1	10+00.00000	13+78.96000	RT	X-419 TO X-420	DR1_earthwork.log
G12	11+00.00000	13+47.00000	RT	X-421	G12_earthwork.log
Y3DET	36+50.00000	69+00.00000	RT	X-422 TO X-431	Y3DET_earthwork.log
Y4DET	34+60.97000	58+70.00000	RT	X-432 TO X-439	Y4DET_earthwork.log

Chain	Beg Sta	End Sta	LOC	Sheet No.	Comments / Log File
SERVEXT	551+00 (L)	563+00(L)	LT	X-244 TO X-248	

PROJ. REFERENCE NO.	SHEET NO.
R-1015	X-1E

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

Quantities are approximate only. The Resident Engineer will recross-section the work accurately when the project is staked out. These cross-section notes will be used in computing the final quantities for which the contractor will be paid.

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
458+50.00	0	1882	737
459+00.00	0	1918	600
459+50.00	0	1744	293
460+00.00	0	1480	99
460+50.00	0	1243	0
461+00.00	0	1300	0
461+50.00	0	1359	0
462+00.00	0	1384	0
462+50.00	0	1538	0
463+00.00	0	1801	0
463+50.00	0	2049	0
464+00.00	0	2156	0
464+50.00	0	2176	0
464+72.00	0	1089	0
465+00.00	0	1283	0
465+50.00	0	1667	0
466+00.00	0	1388	0
466+50.00	0	1227	0
467+00.00	0	1215	0
467+50.00	0	1244	0
468+00.00	0	1269	0
468+50.00	0	1301	0
469+00.00	0	1531	0
469+50.00	3	2000	0
470+00.00	10	2467	0
470+50.00	7	2757	0
471+00.00	0	2570	0
471+50.00	0	2157	0
472+00.00	0	2111	0
472+50.00	0	2359	0

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
472+50.00	0	0	0
473+00.00	0	2427	0
473+50.00	0	2239	0
474+00.00	0	2063	0
474+50.00	0	1995	0
475+00.00	0	2046	0
475+50.00	0	2068	0
476+00.00	0	2046	0
476+50.00	0	1995	0
477+00.00	0	1912	0
477+50.00	0	1842	0
478+00.00	0	1768	0
478+50.00	0	1662	0
479+00.00	0	1577	0
479+50.00	0	1556	0
480+00.00	0	1569	0
480+50.00	0	1524	0
481+00.00	0	1464	0
481+50.00	0	1373	0

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
482+00.00	0	1292	0
482+50.00	0	1312	0
483+00.00	0	1294	0
483+50.00	0	1303	0
484+00.00	0	1362	0
484+50.00	0	1317	0
485+00.00	0	1237	0
485+50.00	0	1226	0
486+00.00	0	1240	0
486+50.00	0	1221	0
487+00.00	0	1204	0
487+50.00	0	1157	0
488+00.00	0	1039	0
488+50.00	0	906	0
489+00.00	0	886	0
489+50.00	0	944	0
490+00.00	0	978	0
490+50.00	0	1037	0
491+00.00	0	1183	0
491+50.00	0	1406	0
492+00.00	0	1628	0
492+50.00	0	1788	0
493+00.00	0	1869	0
493+50.00	0	1797	0
494+00.00	0	1456	0
494+50.00	0	1108	22
495+00.00	0	946	34
495+50.00	0	923	20
496+00.00	0	1054	0
496+50.00	0	1248	0
497+00.00	0	2009	0
497+50.00	0	2703	0
498+00.00	0	2645	0
498+50.00	0	2563	0
499+00.00	0	2687	0
499+50.00	0	2950	0
500+00.00	0	3348	0
500+50.00	0	3896	0
501+00.00	0	4461	0
501+50.00	0	4947	0
502+00.00	0	5343	0
502+50.00	0	5713	0
503+00.00	0	6142	0
503+50.00	0	6672	0
504+00.00	0	7335	0
504+50.00	0	8070	0
504+56.80	0	1154	0
505+00.00	0	7571	0

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
507+50.00	0	0	0
508+00.00	0	15822	0
508+50.00	0	17009	0
509+00.00	0	18746	0
509+50.00	0	21452	0
510+00.00	0	24620	970
510+50.00	0	22082	817
511+00.00	0	18566	966
511+50.00	0	19105	1499
512+00.00	0	19098	1070
512+50.00	0	19445	560
513+00.00	0	19795	393
513+50.00	0	19702	308
514+00.00	0	19369	228
514+50.00	0	18468	0
515+00.00	0	17528	0
515+19.53	0	6475	0
515+45.80	0	7865	0

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
518+07.32	0	0	0
518+39.12	0	6939	0
519+00.00	0	13908	0
519+50.00	0	11150	0
520+00.00	0	10399	0
520+50.00	0	9331	0
521+00.00	0	8117	0
521+50.00	0	7176	0
522+00.00	0	8052	0
522+50.00	0	9064	0
523+00.00	0	8517	0
523+50.00	0	7719	0
524+00.00	0	6784	0
524+50.00	0	5863	0
525+00.00	0	4909	0
525+50.00	0	3981	0
526+00.00	0	3250	0
526+50.00	31	2677	0
527+00.00	69	2160	0
527+50.00	75	1741	0
528+00.00	61	1427	25
528+50.00	42	1101	92
529+00.00	61	794	393
529+50.00	74	572	125
530+00.00	50	431	116
530+50.00	42	325	109
531+00.00	53	286	110
531+50.00	77	291	0
532+00.00	100	290	0
532+50.00	103	306	0
533+00.00	106	394	0

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
533+50.00	118	531	0
534+00.00	78	641	0
534+50.00	32	650	0
535+00.00	41	739	0
535+50.00	41	898	0
536+00.00	32	974	0
536+50.00	33	1041	0
537+00.00	34	1099	0
537+50.00	24	1186	0
538+00.00	20	1300	0
538+50.00	27	1596	0
539+00.00	25	1841	0
539+50.00	15	1835	0
540+00.00	4	1767	0
540+50.00	4	1756	0
541+00.00	8	1812	0
541+50.00	9	1828	0
542+00.00	9	1847	0
542+50.00	8	1870	0
543+00.00	16	1874	0
543+50.00	22	1858	0
544+00.00	32	1781	0
544+50.00	44	1644	0
545+00.00	42	1495	0
545+50.00	51	1294	0
546+00.00	65	1062	0
546+50.00	71	822	0
547+00.00	77	577	0
547+50.00	77	404	0
548+00.00	98	306	0

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
548+00.00	0	0	0
548+50.00	134	242	0
549+00.00	145	228	0
549+50.00	141	249	0
550+00.00	137	276	0
550+50.00	123	281	2
551+00.00	109	281	1
551+50.00	97	279	3
552+00.00	85	283	5
552+50.00	81	297	3
553+00.00	62	279	3
553+50.00	41	269	3
554+00.00	33	297	3
554+50.00	30	330	5
555+00.00	31	343	3
555+50.00	33	341	1
556+00.00	29	348	0
556+50.00	24	331	0
557+00.00	16	440	0

PROJ. REFERENCE NO.	SHEET NO.
R-1015	X-1F

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

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NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
557+50.00	5	553	0
558+00.00	4	501	0
558+50.00	9	457	0
559+00.00	11	444	0
559+50.00	50	369	82
560+00.00	62	354	100
560+50.00	23	427	92
561+00.00	18	420	93
561+50.00	29	370	0
562+00.00	35	321	0
562+50.00	39	281	0
563+00.00	51	239	0
563+50.00	55	231	0
564+00.00	54	206	0
564+50.00	48	194	0
565+00.00	38	244	0
565+50.00	28	299	0
566+00.00	11	313	0
566+50.00	4	351	0
567+00.00	2	414	0
567+50.00	1	406	0
568+00.00	3	374	0
568+50.00	4	326	0
569+00.00	6	274	0
569+50.00	9	226	0
570+00.00	15	176	61
570+50.00	21	140	15
571+00.00	24	127	0
571+50.00	21	137	0
572+00.00	16	178	0
572+50.00	13	222	0
573+00.00	15	243	0
573+50.00	19	257	0
574+00.00	20	268	0
574+50.00	19	261	0
575+00.00	17	244	0
575+50.00	17	221	0
576+00.00	19	197	0
576+50.00	25	163	0
577+00.00	32	128	0
577+50.00	41	102	0
578+00.00	49	81	0
578+50.00	47	70	0
579+00.00	40	67	0

Station RP1A	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
2+99.974043	0	0	0
3+46.020745	0	858	0
3+92.558332	0	1038	0
4+50.000000	0	1223	0
5+00.000000	0	866	0

Station RP1A	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
5+50.000000	0	690	0
6+00.000000	0	563	0
6+50.000000	0	505	0
7+07.478548	0	580	0
7+54.621890	0	471	0

Station RP1B	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
5+20.307762	0	0	0
5+70.322824	459	322	0
6+20.101009	493	265	0
6+69.825576	518	183	0
7+00.000000	298	64	0
7+50.000000	419	37	0
8+00.000000	352	21	0
8+50.000000	323	112	0
9+00.000000	160	308	0
9+50.000000	0	509	0
10+00.00000	0	681	0
10+50.00000	0	820	0
11+00.00000	0	873	0
11+50.00000	0	899	0
12+00.00000	0	893	0
12+50.00000	0	844	0
13+00.00000	0	802	0
13+50.00000	0	786	0
14+00.00000	0	807	0
14+50.00000	0	812	0
15+00.00000	0	806	0
15+50.00000	0	828	0
16+00.00000	0	860	0
16+50.00000	0	921	0
17+00.00000	0	994	0
17+50.00000	0	904	180
18+00.00000	0	739	185
18+50.00000	0	681	428
19+00.00000	0	656	597
19+50.00000	0	656	613
20+00.00000	0	712	703
20+50.00000	0	794	900
21+00.00000	0	955	1089
21+50.00000	0	1254	1297
22+00.00000	0	1606	1335
22+50.00000	0	1927	1041
23+00.00000	0	3681	1148
23+50.00000	0	5361	1508
24+00.00000	0	5707	1695
24+50.00000	0	6207	1893
25+00.00000	0	6771	2038
25+50.60000	0	7687	2280

Station RP1AB	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
4+89.37	0	0	0
5+00.00	0	1730	0
5+50.00	0	8674	1701
6+00.00	0	9613	1101
6+50.00	0	10611	883
7+00.00	0	11619	1366
7+50.00	0	12535	1979
8+00.00	0	13270	2569
8+50.00	0	13992	3188
9+00.00	0	14253	3030
9+50.00	0	13542	2473
10+00.00	0	12075	2048

Station RP1AB	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
13+50.00	0	0	0
14+00.00	0	11744	0
14+50.00	0	12406	0
15+00.00	0	11849	0
15+50.00	0	10811	0
16+00.00	0	9707	0
16+50.00	0	8668	0
17+00.00	0	7686	0
17+50.00	0	6720	0
18+00.00	0	5946	0
18+50.00	0	5202	0
19+00.00	0	4290	0
19+50.00	0	3581	0
20+00.00	0	2848	0
20+50.00	64	2036	0
21+00.00	103	1461	0
21+50.00	69	1039	0
22+00.00	54	715	0
22+50.00	81	469	0
23+00.00	100	382	0
23+50.00	88	391	0
24+00.00	90	372	0
24+50.00	214	359	0
25+00.00	276	324	0
25+50.00	252	312	0
26+00.00	290	360	0
26+50.00	276	401	0
27+00.00	256	396	0
27+50.00	236	342	0
28+00.00	236	269	0
28+50.00	240	197	0
29+00.00	183	136	0
29+50.00	143	101	0
30+00.00	132	94	0
30+50.00	74	88	0
31+00.00	32	115	0
31+50.00	51	156	0
32+00.00	71	178	0

Station RP1AB	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
32+50.00	74	195	0
33+00.00	78	200	0
33+50.00	82	196	0
34+00.00	79	188	0
34+50.00	59	169	0
35+00.00	31	103	0
35+50.00	15	52	0
36+00.00	14	56	0
36+50.00	16	77	0
37+00.00	16	102	0
37+50.00	11	106	0
38+00.00	7	107	0
38+50.00	6	111	0
39+00.00	6	115	0
39+50.00	6	121	0
40+00.00	7	130	0
40+50.00	10	125	0
41+00.00	16	109	0
41+50.00	20	94	0
42+00.00	19	126	0
42+50.00	20	195	0
43+00.00	19	186	0
43+50.00	17	119	0
44+00.00	27	49	0
44+50.00	42	20	0
45+00.00	55	19	0

Station LP1B	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
2+23.338024	0	0	0
2+65.655489	0	469	0
3+08.000000	0	475	0
3+50.000000	0	465	0
4+00.000000	0	635	0
4+50.000000	0	807	0
5+00.000000	0	1075	0
5+50.000000	0	1443	1144
6+00.000000	0	1937	1315
6+50.000000	0	2462	1556

Station RP1CD	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
2+95.593694	0	0	0
3+46.353732	39	676	0
3+97.300933	32	825	0
4+48.394172	29	1037	0
4+99.333603	30	1259	0
5+50.669360	30	1464	0
6+02.205765	29	1623	0
6+53.841456	30	1713	0
7+05.567062	33	1737	0
7+50.000000	30	1479	0

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

PROJ. REFERENCE NO.	SHEET NO.
R-1015	X-1J

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NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

Station Y4DET	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
52+50.00000	0	654	1331
53+00.00000	0	532	796
53+50.00000	0	454	350
54+00.00000	5	379	0
54+50.00000	8	301	0
55+00.00000	5	249	0
55+50.00000	1	248	0
56+00.00000	0	289	0
56+50.00000	0	225	0
57+00.00000	0	105	0
57+50.00000	0	43	0
58+00.00000	1	16	0
58+50.00000	2	5	0
58+70.00000	1	2	0

Station SERVEXT (L STA)	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)	Undercut (cu. yd.)
551+00.00000	0	0	0
551+50.00000	3	128	16
552+00.00000	8	159	0
552+50.00000	10	208	0
553+00.00000	11	257	0
553+50.00000	12	298	0
554+00.00000	31	275	0
554+50.00000	42	266	0
555+00.00000	29	316	0
555+50.00000	14	319	0
556+00.00000	2	310	0
556+50.00000	0	281	0
557+00.00000	0	249	0
557+50.00000	3	229	0
558+00.00000	6	218	0
558+50.00000	9	182	34
559+00.00000	15	108	72
559+50.00000	9	55	72
560+00.00000	0	68	42
560+50.00000	0	92	28
561+00.00000	1	66	25
561+50.00000	7	31	24
562+00.00000	19	13	25
562+50.00000	33	7	40
563+00.00000	46	6	0