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

# PROPOSAL

DATE AND TIME OF BID OPENING: **APRIL 17, 2018 AT 2:00 PM**

| | |
|---|---|
| CONTRACT ID | C204080 |
| WBS | 34491.3.23 |

| | |
|---|---|
| FEDERAL-AID NO. | NHP-0040(058) |
| COUNTY | NEW HANOVER, BRUNSWICK |
| T.I.P. NO. | R-2633D |
| MILES | 21.000 |
| ROUTE NO. | I 140 |
| LOCATION | I-140 FROM US-17 BUS TO I-40 AND TRAFFIC OPERATIONS CENTER ON SR-2662 (BARBADOS BLVD) IN CASTLE HAYNE. |
| TYPE OF WORK | COMMUNICATIONS CABLE & CONDUIT ROUTING. |

**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 SIGNAL PROPOSAL**

**5% BID BOND OR BID DEPOSIT REQUIRED**

_____

**PROPOSAL FOR THE CONSTRUCTION OF**

**CONTRACT No. C204080 IN BRUNSWICK AND NEW HANOVER COUNTIES, NORTH CAROLINA**

**Date_____ 20_____**

**DEPARTMENT OF TRANSPORTATION,**

**RALEIGH, NORTH CAROLINA**

The Bidder has carefully examined the location of the proposed work to be known as Contract No. **C204080** has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract, and the forms of contract payment bond and contract performance bond; and thoroughly understands the stipulations, requirements and provisions. The undersigned bidder agrees to bound upon his execution of the bid and subsequent award to him by the Board of Transportation in accordance with this proposal to provide the necessary contract payment bond and contract performance bond within fourteen days after the written notice of award is received by him. The undersigned Bidder further agrees to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with *the 2018 Standard Specifications for Roads and Structures* by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete State Highway Contract No. **C204080** in **Brunswick and New Hanover Counties**, for the unit or lump sum prices, as the case may be, bid by the Bidder in his bid and according to the proposal, plans, and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

The published volume entitled *North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2018* with all amendments and supplements thereto, is by reference incorporated into and made a part of this contract; that, except as herein modified, all the construction and work included in this contract is to be done in accordance with the specifications contained in said volume, and amendments and supplements thereto, under the direction of the Engineer.

If the proposal is accepted and the award is made, the contract is valid only when signed either by the Contract Officer or such other person as may be designated by the Secretary to sign for the Department of Transportation. The conditions and provisions herein cannot be changed except over the signature of the said Contract Officer.

The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient.

An increase or decrease in the quantity of an item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided for the contract.

Accompanying this bid is a bid bond secured by a corporate surety, or certified check payable to the order of the Department of Transportation, for five percent of the total bid price, which deposit is to be forfeited as liquidated damages in case this bid is accepted and the Bidder shall fail to provide the required payment and performance bonds with the Department of Transportation, under the condition of this proposal, within 14 calendar days after the written notice of award is received by him, as provided in the *Standard Specifications*; otherwise said deposit will be returned to the Bidder.

NORTH CAROLINA PROFESSIONAL SEAL 022071 ENGINEER RONALD ELTON DAVENPORT, JR.

*State Contract Officer*

DocuSigned by:

Ronald E. Davenport, Jr.

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3/16/2018

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# PROJECT SPECIAL PROVISIONS

## GENERAL

**CONTRACT TIME AND LIQUIDATED DAMAGES**:
(7-20-99) (Rev. 12-18-07) 108 SP1 G04

The date of availability for this contract is **May 28, 2018,** except that work in jurisdictional waters and wetlands shall not begin until a meeting between the DOT, Regulatory Agencies, and the Contractor is held as stipulated in the permits contained elsewhere in this proposal. This delay in availability has been considered in determining the contract time for this project.

The completion date for this contract is **May 1, 2019**.

Except where otherwise provided by the contract, observation periods required by the contract will not be a part of the work to be completed by the completion date and/or intermediate contract times stated in the contract. The acceptable completion of the observation periods that extend beyond the final completion date shall be a part of the work covered by the performance and payment bonds.

The liquidated damages for this contract are **One Thousand Dollars ($ 1,000.00)** per calendar day.

**INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:**
(2-20-07) 108 SP1 G14 A

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on **Any Road** during the following time restrictions:

DAY AND TIME RESTRICTIONS

**May 15 thru September 15**
**Monday thru Friday**
**6:00 A.M. to 9:00 A.M**
**4:00 P.M. to 7:00 P.M.**
**and**
**Friday at 6:00 A.M. to Sunday at 7:00 P.M.**

**September 16 thru May 14**
**Monday thru Friday**
**6:00 A.M. to 9:00 A.M**
**4:00 P.M. to 7:00 P.M.**

In addition, the Contractor shall not close or narrow a lane of traffic on **Any Road**, detain and/or alter the traffic flow on or during holidays, holiday weekends, special events, or any other time when traffic is unusually heavy, including the following schedules:

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

1. For **unexpected occurrence** that creates unusually high traffic volumes, as directed by the Engineer.

2. For **New Year's Day**, between the hours of **6:00 A.M.** December 31st and **7:00 P.M.** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **7:00 P.M.** the following Tuesday.

3. For **Easter**, between the hours of **6:00 A.M.** Thursday and **7:00 P.M.** Monday.

4. For **Memorial Day**, between the hours of **6:00 A.M.** Friday and **7:00 P.M.** Tuesday.

5. For **Independence Day**, between the hours of **6:00 A.M.** the day before Independence Day and **7:00 P.M.** the day after Independence Day.

   If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **6:00 A.M.** the Thursday before Independence Day and **7:00 P.M.** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **6:00 A.M.** Friday and **7:00 P.M.** Tuesday.

7. For **Thanksgiving**, between the hours of **6:00 A.M.** Tuesday and **7:00 P.M.** Monday.

8. For **Christmas**, between the hours of **6:00 A.M.** the Friday before the week of Christmas Day and **7:00 P.M.** the following Tuesday after the week of Christmas Day.

Holidays and holiday weekends shall include New Year's, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The Contractor shall schedule his work so that lane closures will not be required during these periods, unless otherwise directed by the Engineer.

The time of availability for this intermediate contract work shall be the time the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion time for this intermediate contract work shall be the time the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated above and place traffic in the existing traffic pattern.

The liquidated damages are **Two Hundred Fifty Dollars** ($ **250.00**) per fifteen **(15)** minute time period.

**MAJOR CONTRACT ITEMS:**

(2-19-02) 104 SP1 G28

The following listed items are the major contract items for this contract (see Article 104-5 of the *2018 Standard Specifications*):

| **Line #** | | **Description** |
|---|---|---|
| 6 | — | Unpaved Trenching (2, 2”) |
| 27 | — | Bridge Conduit System |

**NO SPECIALTY ITEMS:**
(7-1-95) 108-6 SP1 G34

None of the items included in this contract will be specialty items (see Article 108-6 of the *2018 Standard Specifications*).

**SCHEDULE OF ESTIMATED COMPLETION PROGRESS:**
(7-15-08) (Rev. 5-16-17) 108-2 SP1 G58

The Contractor's attention is directed to the Standard Special Provision entitled *Availability of Funds Termination of Contracts* included elsewhere in this proposal. The Department of Transportation's schedule of estimated completion progress for this project as required by that Standard Special Provision is as follows:

| | **Fiscal Year** | **Progress (% of Dollar Value)** |
|---|---|---|
| 2018 | (7/01/17 - 6/30/18) | **13**% of Total Amount Bid |
| 2019 | (7/01/18 - 6/30/19) | **87**% of Total Amount Bid |

The Contractor shall also furnish his own progress schedule in accordance with Article 108-2 of the *2018 Standard Specifications*. Any acceleration of the progress as shown by the Contractor's progress schedule over the progress as shown above shall be subject to the approval of the Engineer.

**DISADVANTAGED BUSINESS ENTERPRISE:**
(10-16-07)(Rev. 1-17-17) 102-15(J) SP1 G61

**Description**

The purpose of this Special Provision is to carry out the U.S. Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts financed in whole or in part with Federal funds. This provision is guided by 49 CFR Part 26.

**Definitions**

*Additional DBE Subcontractors* - Any DBE submitted at the time of bid that will not be used to meet the DBE goal. No submittal of a Letter of Intent is required.

*Committed DBE Subcontractor* - Any DBE submitted at the time of bid that is being used to meet the DBE goal by submission of a Letter of Intent. Or any DBE used as a replacement for a previously committed DBE firm.

*Contract Goal Requirement* - The approved DBE participation at time of award, but not greater than the advertised contract goal.

*DBE Goal* - A portion of the total contract, expressed as a percentage that is to be performed by committed DBE subcontractor.

*Disadvantaged Business Enterprise (DBE)* - A firm certified as a Disadvantaged Business Enterprise through the North Carolina Unified Certification Program.

*Goal Confirmation Letter* - Written documentation from the Department to the bidder confirming the Contractor's approved, committed DBE participation along with a listing of the committed DBE firms.

*Manufacturer* - A firm that operates or maintains a factory or establishment that produces on the premises, the materials or supplies obtained by the Contractor.

*Regular Dealer* - A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business. A regular dealer engages in, as its principal business and in its own name, the purchase and sale or lease of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock, if it owns and operates distribution equipment for the products. Brokers and packagers are not regarded as manufacturers or regular dealers within the meaning of this section.

*North Carolina Unified Certification Program (NCUCP)* - A program that provides comprehensive services and information to applicants for DBE certification, such that an applicant is required to apply only once for a DBE certification that will be honored by all recipients of USDOT funds in the state and not limited to the Department of Transportation only. The Certification Program is in accordance with 49 CFR Part 26.

*United States Department of Transportation (USDOT)* - Federal agency responsible for issuing regulations (49 CFR Part 26) and official guidance for the DBE program.

**Forms and Websites Referenced in this Provision**

*DBE Payment Tracking System* - On-line system in which the Contractor enters the payments made to DBE subcontractors who have performed work on the project. https://apps.dot.state.nc.us/Vendor/PaymentTracking/

DBE-IS *Subcontractor Payment Information* - Form for reporting the payments made to all DBE firms working on the project. This form is for paper bid projects only. https://connect.ncdot.gov/business/Turnpike/Documents/Form%20DBE-IS%20Subcontractor%20Payment%20Information.pdf

RF-1 *DBE Replacement Request Form* - Form for replacing a committed DBE. http://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20MBE%20WBE%20Replacement%20Request%20Form.pdf

SAF *Subcontract Approval Form* - Form required for approval to sublet the contract. http://connect.ncdot.gov/projects/construction/Construction%20Forms/Subcontract%20Approval%20Form%20Rev.%202012.zip

JC-1 *Joint Check Notification Form* - Form and procedures for joint check notification. The form acts as a written joint check agreement among the parties providing full and prompt disclosure of the expected use of joint checks. http://connect.ncdot.gov/projects/construction/Construction%20Forms/Joint%20Check%20Notification%20Form.pdf

*Letter of Intent* - Form signed by the Contractor and the DBE subcontractor, manufacturer or regular dealer that affirms that a portion of said contract is going to be performed by the signed DBE for the amount listed at the time of bid.
http://connect.ncdot.gov/letting/LetCentral/Letter%20of%20Intent%20to%20Perform%20as%20a%20Subcontractor.pdf

*Listing of DBE Subcontractors Form* - Form for entering DBE subcontractors on a project that will meet this DBE goal. This form is for paper bids only.
http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/08%20DBE%20Subcontractors%20(Federal).docx

*Subcontractor Quote Comparison Sheet* - Spreadsheet for showing all subcontractor quotes in the work areas where DBEs quoted on the project. This sheet is submitted with good faith effort packages.
http://connect.ncdot.gov/business/SmallBusiness/Documents/DBE%20Subcontractor%20Quote%20Comparison%20Example.xls

**DBE Goal**

The following DBE goal for participation by Disadvantaged Business Enterprises is established for this contract:

Disadvantaged Business Enterprises **1.0** %

(A) *If the DBE goal is more than zero*, the Contractor shall exercise all necessary and reasonable steps to ensure that DBEs participate in at least the percent of the contract as set forth above as the DBE goal.

(B) *If the DBE goal is zero*, the Contractor shall make an effort to recruit and use DBEs during the performance of the contract. Any DBE participation obtained shall be reported to the Department.

**Directory of Transportation Firms (Directory)**

Real-time information is available about firms doing business with the Department and firms that are certified through NCUCP in the Directory of Transportation Firms. Only firms identified in the Directory as DBE certified shall be used to meet the DBE goal. The Directory can be found at the following link. https:// www.ebs.nc.gov/VendorDirectory/default.html

The listing of an individual firm in the directory shall not be construed as an endorsement of the firm's capability to perform certain work.

**Listing of DBE Subcontractors**

At the time of bid, bidders shall submit <u>all</u> DBE participation that they anticipate to use during the life of the contract. Only those identified to meet the DBE goal will be considered committed, even though the listing shall include both committed DBE subcontractors and additional DBE subcontractors. Additional DBE subcontractor participation submitted at the time of bid will be

used toward the Department's overall race-neutral goal. Only those firms with current DBE certification at the time of bid opening will be acceptable for listing in the bidder's submittal of DBE participation. The Contractor shall indicate the following required information:

(A) Electronic Bids

Bidders shall submit a listing of DBE participation in the appropriate section of Expedite, the bidding software of Bid Express®.

(1) Submit the names and addresses of DBE firms identified to participate in the contract. If the bidder uses the updated listing of DBE firms shown in Expedite, the bidder may use the dropdown menu to access the name and address of the DBE firm.

(2) Submit the contract line numbers of work to be performed by each DBE firm. When no figures or firms are entered, the bidder will be considered to have no DBE participation.

(3) The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE's participation will not count towards achieving the DBE goal.

(B) Paper Bids

(1) *If the DBE goal is more than zero,*

(a) Bidders, at the time the bid proposal is submitted, shall submit a listing of *DBE* participation, including the names and addresses on *Listing of DBE Subcontractors* contained elsewhere in the contract documents in order for the bid to be considered responsive. Bidders shall indicate the total dollar value of the DBE participation for the contract.

(b) If bidders have no DBE participation, they shall indicate this on the *Listing of DBE Subcontractors* by entering the word "None" or the number "0." This form shall be completed in its entirety. **Blank forms will not be deemed to represent zero participation**. Bids submitted that do not have DBE participation indicated on the appropriate form will not be read publicly during the opening of bids. The Department will not consider these bids for award and the proposal will be rejected.

(c) The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE's participation will not count towards achieving the corresponding goal.

(2) *If the DBE goal is zero,* entries on the *Listing of DBE Subcontractors* are not required for the zero goal, however any DBE participation that is achieved during

the project shall be reported in accordance with requirements contained elsewhere in the special provision.

**DBE Prime Contractor**

When a certified DBE firm bids on a contract that contains a DBE goal, the DBE firm is responsible for meeting the goal or making good faith efforts to meet the goal, just like any other bidder. In most cases, a DBE bidder on a contract will meet the DBE goal by virtue of the work it performs on the contract with its own forces. However, all the work that is performed by the DBE bidder and any other DBE subcontractors will count toward the DBE goal. The DBE bidder shall list itself along with any DBE subcontractors, if any, in order to receive credit toward the DBE goal.

For example, if the DBE goal is 45% and the DBE bidder will only perform 40% of the contract work, the prime will list itself at 40%, and the additional 5% shall be obtained through additional DBE participation with DBE subcontractors or documented through a good faith effort.

DBE prime contractors shall also follow Sections A and B listed under *Listing of DBE Subcontractor* just as a non-DBE bidder would.

**Written Documentation – Letter of Intent**

The bidder shall submit written documentation for each DBE that will be used to meet the DBE goal of the contract, indicating the bidder's commitment to use the DBE in the contract. This documentation shall be submitted on the Department's form titled *Letter of Intent*.

The documentation shall be received in the office of the State Contractor Utilization Engineer or at DBE@ncdot.gov no later than 10:00 a.m. of the sixth calendar day following opening of bids, unless the sixth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 10:00 a.m. on the next official state business day.

If the bidder fails to submit the Letter of Intent from each committed DBE to be used toward the DBE goal, or if the form is incomplete (i.e. both signatures are not present), the DBE participation will not count toward meeting the DBE goal. If the lack of this participation drops the commitment below the DBE goal, the Contractor shall submit evidence of good faith efforts, completed in its entirety, to the State Contractor Utilization Engineer or DBE@ncdot.gov no later than 10:00 a.m. on the eighth calendar day following opening of bids, unless the eighth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 10:00 a.m. on the next official state business day.

**Submission of Good Faith Effort**

If the bidder fails to meet or exceed the DBE goal, the apparent lowest responsive bidder shall submit to the Department documentation of adequate good faith efforts made to reach the DBE goal.

A hard copy and an electronic copy of this information shall be received in the office of the State Contractor Utilization Engineer or at DBE@ncdot.gov no later than 10:00 a.m. on the sixth calendar day following opening of bids unless the sixth day falls on an official state holiday. In that situation, it is due in the office of the State Contractor Utilization Engineer no later than 10:00 a.m. on the next official state business day. If the contractor cannot send the information electronically, then one complete set and 5 copies of this information shall be received under the same time constraints above.

Note: Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a representative letter along with a distribution list of the firms that were solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal. This documentation may include written subcontractor quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

**Consideration of Good Faith Effort for Projects with DBE Goals More Than Zero**

Adequate good faith efforts mean that the bidder took all necessary and reasonable steps to achieve the goal which, by their scope, intensity, and appropriateness, could reasonably be expected to obtain sufficient DBE participation. Adequate good faith efforts also mean that the bidder actively and aggressively sought DBE participation. Mere *pro forma* efforts are not considered good faith efforts.

The Department will consider the quality, quantity, and intensity of the different kinds of efforts a bidder has made. Listed below are examples of the types of actions a bidder will take in making a good faith effort to meet the goal and are not intended to be exclusive or exhaustive, nor is it intended to be a mandatory checklist.

(A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means through the use of the NCDOT Directory of Transportation Firms) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within at least 10 days prior to bid opening to allow the DBEs to respond to the solicitation. Solicitation shall provide the opportunity to DBEs within the Division and surrounding Divisions where the project is located. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

(B) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved.

(1) Where appropriate, break out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.

(2) Negotiate with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be sublet includes potential for DBE participation (2nd and 3rd tier subcontractors).

(C) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(D) (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

(2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidding contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

(E) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.

(F) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.

(G) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

(H) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and local minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs. Contact within 7 days from the bid opening the Business Opportunity and Work Force Development Unit at BOWD@ncdot.gov to give notification of the bidder's inability to get DBE quotes.

(I) Any other evidence that the bidder submits which shows that the bidder has made reasonable good faith efforts to meet the DBE goal.

In addition, the Department may take into account the following:

(1) Whether the bidder's documentation reflects a clear and realistic plan for achieving the DBE goal.

(2) The bidders' past performance in meeting the DBE goals.

(3) The performance of other bidders in meeting the DBE goal. For example, when the apparent successful bidder fails to meet the DBE goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the DBE goal, but meets or exceeds the average DBE participation obtained by other bidders, the Department may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made a good faith effort.

If the Department does not award the contract to the apparent lowest responsive bidder, the Department reserves the right to award the contract to the next lowest responsive bidder that can satisfy to the Department that the DBE goal can be met or that an adequate good faith effort has been made to meet the DBE goal.

**Non-Good Faith Appeal**

The State Contractual Services Engineer will notify the contractor verbally and in writing of non-good faith. A contractor may appeal a determination of non-good faith made by the Goal Compliance Committee. If a contractor wishes to appeal the determination made by the Committee, they shall provide written notification to the State Contractual Services Engineer or at DBE@ncdot.gov. The appeal shall be made within 2 business days of notification of the determination of non-good faith.

**Counting DBE Participation Toward Meeting DBE Goal**

(A) Participation

The total dollar value of the participation by a committed DBE will be counted toward the contract goal requirement. The total dollar value of participation by a committed DBE will be based upon the value of work actually performed by the DBE and the actual payments to DBE firms by the Contractor.

(B) Joint Checks

Prior notification of joint check use shall be required when counting DBE participation for services or purchases that involves the use of a joint check. Notification shall be through submission of Form JC-1 *(Joint Check Notification Form)* and the use of joint checks shall be in accordance with the Department's Joint Check Procedures.

(C) Subcontracts (Non-Trucking)

A DBE may enter into subcontracts. Work that a DBE subcontracts to another DBE firm may be counted toward the contract goal requirement. Work that a DBE subcontracts to a

non-DBE firm does not count toward the contract goal requirement. If a DBE contractor or subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of standard industry practices, it shall be presumed that the DBE is not performing a commercially useful function. The DBE may present evidence to rebut this presumption to the Department. The Department's decision on the rebuttal of this presumption is subject to review by the Federal Highway Administration but is not administratively appealable to USDOT.

(D) Joint Venture

When a DBE performs as a participant in a joint venture, the Contractor may count toward its contract goal requirement a portion of the total value of participation with the DBE in the joint venture, that portion of the total dollar value being a distinct clearly defined portion of work that the DBE performs with its forces.

(E) Suppliers

A contractor may count toward its DBE requirement 60 percent of its expenditures for materials and supplies required to complete the contract and obtained from a DBE regular dealer and 100 percent of such expenditures from a DBE manufacturer.

(F) Manufacturers and Regular Dealers

A contractor may count toward its DBE requirement the following expenditures to DBE firms that are not manufacturers or regular dealers:

(1) The fees or commissions charged by a DBE firm for providing a *bona fide* service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, provided the fees or commissions are determined to be reasonable and not excessive as compared with fees and commissions customarily allowed for similar services.

(2) With respect to materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site (but not the cost of the materials and supplies themselves), provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services.

**Commercially Useful Function**

(A) DBE Utilization

The Contractor may count toward its contract goal requirement only expenditures to DBEs that perform a commercially useful function in the work of a contract. A DBE performs a commercially useful function when it is responsible for execution of the work of the

contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE shall also be responsible with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and any other relevant factors.

(B) DBE Utilization in Trucking

The following factors will be used to determine if a DBE trucking firm is performing a commercially useful function:

(1) The DBE shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there shall not be a contrived arrangement for the purpose of meeting DBE goals.

(2) The DBE shall itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

(3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.

(4) The DBE may subcontract the work to another DBE firm, including an owner-operator who is certified as a DBE. The DBE who subcontracts work to another DBE receives credit for the total value of the transportation services the subcontracted DBE provides on the contract.

(5) The DBE may also subcontract the work to a non-DBE firm, including from an owner-operator. The DBE who subcontracts the work to a non-DBE is entitled to credit for the total value of transportation services provided by the non-DBE subcontractor not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE subcontractors receives credit only for the fee or commission it receives as a result of the subcontract arrangement. The value of services performed under subcontract agreements between the DBE and the Contractor will not count towards the DBE contract requirement.

(6) A DBE may lease truck(s) from an established equipment leasing business open to the general public. The lease must indicate that the DBE has exclusive use of and control over the truck. This requirement does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. This type of lease may count toward the DBE's credit as long as the driver is under the DBE's payroll.

(7) Subcontracted/leased trucks shall display clearly on the dashboard the name of the DBE that they are subcontracted/leased to and their own company name if it is not identified on the truck itself. Magnetic door signs are not permitted.

**DBE Replacement**

When a Contractor has relied on a commitment to a DBE firm (or an approved substitute DBE firm) to meet all or part of a contract goal requirement, the contractor shall not terminate the DBE for convenience. This includes, but is not limited to, instances in which the Contractor seeks to perform the work of the terminated subcontractor with another DBE subcontractor, a non-DBE subcontractor, or with the Contractor's own forces or those of an affiliate. A DBE may only be terminated after receiving the Engineer's written approval based upon a finding of good cause for the termination. The prime contractor must give the DBE firm 5 days to respond to the prime contractor's notice of termination and advise the prime contractor and the Department of the reasons, if any, why the firm objects to the proposed termination of its subcontract and why the Department should not approve the action.

All requests for replacement of a committed DBE firm shall be submitted to the Engineer for approval on Form RF-1 *(DBE Replacement Request).* If the Contractor fails to follow this procedure, the Contractor may be disqualified from further bidding for a period of up to 6 months.

The Contractor shall comply with the following for replacement of a committed DBE:

(A) Performance Related Replacement

When a committed DBE is terminated for good cause as stated above, an additional DBE that was submitted at the time of bid may be used to fulfill the DBE commitment. A good faith effort will only be required for removing a committed DBE if there were no additional DBEs submitted at the time of bid to cover the same amount of work as the DBE that was terminated.

If a replacement DBE is not found that can perform at least the same amount of work as the terminated DBE, the Contractor shall submit a good faith effort documenting the steps taken. Such documentation shall include, but not be limited to, the following:

(1) Copies of written notification to DBEs that their interest is solicited in contracting the work defaulted by the previous DBE or in subcontracting other items of work in the contract.

(2) Efforts to negotiate with DBEs for specific subbids including, at a minimum:

(a) The names, addresses, and telephone numbers of DBEs who were contacted.
(b) A description of the information provided to DBEs regarding the plans and specifications for portions of the work to be performed.

(3) A list of reasons why DBE quotes were not accepted.

(4) Efforts made to assist the DBEs contacted, if needed, in obtaining bonding or insurance required by the Contractor.

(B) Decertification Replacement

(1) When a committed DBE is decertified by the Department after the SAF (*Subcontract Approval Form*) has been received by the Department, the Department will not require the Contractor to solicit replacement DBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement.

(2) When a committed DBE is decertified prior to the Department receiving the SAF (*Subcontract Approval Form*) for the named DBE firm, the Contractor shall take all necessary and reasonable steps to replace the DBE subcontractor with another DBE subcontractor to perform at least the same amount of work to meet the DBE goal requirement. If a DBE firm is not found to do the same amount of work, a good faith effort must be submitted to NCDOT (see A herein for required documentation).

**Changes in the Work**

When the Engineer makes changes that result in the reduction or elimination of work to be performed by a committed DBE, the Contractor will not be required to seek additional participation. When the Engineer makes changes that result in additional work to be performed by a DBE based upon the Contractor's commitment, the DBE shall participate in additional work to the same extent as the DBE participated in the original contract work.

When the Engineer makes changes that result in extra work, which has more than a minimal impact on the contract amount, the Contractor shall seek additional participation by DBEs unless otherwise approved by the Engineer.

When the Engineer makes changes that result in an alteration of plans or details of construction, and a portion or all of the work had been expected to be performed by a committed DBE, the Contractor shall seek participation by DBEs unless otherwise approved by the Engineer.

When the Contractor requests changes in the work that result in the reduction or elimination of work that the Contractor committed to be performed by a DBE, the Contractor shall seek additional participation by DBEs equal to the reduced DBE participation caused by the changes.

**Reports and Documentation**

A SAF (*Subcontract Approval Form*) shall be submitted for all work which is to be performed by a DBE subcontractor. The Department reserves the right to require copies of actual subcontract agreements involving DBE subcontractors.

When using transportation services to meet the contract commitment, the Contractor shall submit a proposed trucking plan in addition to the SAF. The plan shall be submitted prior to beginning

construction on the project. The plan shall include the names of all trucking firms proposed for use, their certification type(s), the number of trucks owned by the firm, as well as the individual truck identification numbers, and the line item(s) being performed.

Within 30 calendar days of entering into an agreement with a DBE for materials, supplies or services, not otherwise documented by the SAF as specified above, the Contractor shall furnish the Engineer a copy of the agreement. The documentation shall also indicate the percentage (60% or 100%) of expenditures claimed for DBE credit.

**Reporting Disadvantaged Business Enterprise Participation**

The Contractor shall provide the Engineer with an accounting of payments made to all DBE firms, including material suppliers and contractors at all levels (prime, subcontractor, or second tier subcontractor). This accounting shall be furnished to the Engineer for any given month by the end of the following month. Failure to submit this information accordingly may result in the following action:

(A) Withholding of money due in the next partial pay estimate; or

(B) Removal of an approved contractor from the prequalified bidders' list or the removal of other entities from the approved subcontractors list.

While each contractor (prime, subcontractor, 2nd tier subcontractor) is responsible for accurate accounting of payments to DBEs, it shall be the prime contractor's responsibility to report all monthly and final payment information in the correct reporting manner.

Failure on the part of the Contractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from further bidding until the required information is submitted.

Failure on the part of any subcontractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from being approved for work on future DOT projects until the required information is submitted.

Contractors reporting transportation services provided by non-DBE lessees shall evaluate the value of services provided during the month of the reporting period only.

At any time, the Engineer can request written verification of subcontractor payments.

The Contractor shall report the accounting of payments through the Department's DBE Payment Tracking System.

**Failure to Meet Contract Requirements**

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *2018 Standard Specifications* may be cause to disqualify the Contractor.

## CERTIFICATION FOR FEDERAL-AID CONTRACTS:

(3-21-90) SP1 G85

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(A) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(B) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, *Disclosure Form to Report Lobbying*, in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by *Section 1352, Title 31, U.S. Code*. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

## CONTRACTOR'S LICENSE REQUIREMENTS:

(7-1-95) 102-14 SP1 G88

If the successful bidder does not hold the proper license to perform any plumbing, heating, air conditioning, or electrical work in this contract, he will be required to sublet such work to a contractor properly licensed in accordance with *Article 2 of Chapter 87 of the General Statutes* (licensing of heating, plumbing, and air conditioning contractors) and *Article 4 of Chapter 87* of the *General Statutes* (licensing of electrical contractors).

## U.S. DEPARTMENT OF TRANSPORTATION HOTLINE:

(11-22-94) 108-5 SP1 G100

To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free hotline Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the hotline to report such activities.

The hotline is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

**CARGO PREFERENCE ACT:**
(2-16-16)

Privately owned United States-flag commercial vessels transporting cargoes are subject to the Cargo Preference Act (CPA) of 1954 requirements and regulations found in 46 CFR 381.7. Contractors are directed to clause (b) of 46 CFR 381.7 as follows:

(b) Contractor and Subcontractor Clauses. "Use of United States-flag vessels: The contractor agrees-

" (1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract."

**SUBSURFACE INFORMATION:**
(7-1-95) 450 SP1 G112 A

There is **no** subsurface information available on this project. The Contractor shall make his own investigation of subsurface conditions.

**MAINTENANCE OF THE PROJECT:**
(11-20-07) (Rev. 1-17-12) 104-10 SP1 G125

Revise the *2018 Standard Specifications* as follows:

**Page 1-39, Article 104-10 Maintenance of the Project, line 25,** add the following after the first sentence of the first paragraph:

All guardrail/guiderail within the project limits shall be included in this maintenance.

**Page 1-39, Article 104-10 Maintenance of the Project, line 30,** add the following as the last sentence of the first paragraph:

The Contractor shall perform weekly inspections of guardrail and guiderail and shall report damages to the Engineer on the same day of the weekly inspection. *Where damaged guardrail or guiderail is repaired or replaced as a result of maintaining the project in* accordance with this article, such repair or replacement shall be performed within 7 consecutive calendar days of such inspection report.

**Page 1-39, Article 104-10 Maintenance of the Project, lines 42-44,** replace the last sentence of the last paragraph with the following:

The Contractor will not be directly compensated for any maintenance operations necessary, except for maintenance of guardrail/guiderail, as this work will be considered incidental to the work covered by the various contract items. The provisions of Article 104-7, Extra Work, and Article 104-8, Compensation and Record Keeping will apply to authorized maintenance of guardrail/guiderail. Performance of weekly inspections of guardrail/guiderail, and the damage reports required as described above, will be considered to be an incidental part of the work being paid for by the various contract items.

**COOPERATION BETWEEN CONTRACTORS:**

(7-1-95) 105-7 SP1 G133

The Contractor's attention is directed to Article 105-7 of the *2018 Standard Specifications*.

2018CPT.03.04.10101, etc. (C204135) resurfacing package is anticipated to begin construction on April 2, 2018. Maps #10, and #12 thru #15 of the resurfacing package are located in the vicinity of this project.

I-5760 (C203868) is currently under construction and located within the project limits of this project.

R-2633BA (C203199) is currently under construction and located within the project limits of this project.

The Contractor on this project shall cooperate with the Contractor working within or adjacent to the limits of this project to the extent that the work can be carried out to the best advantage of all concerned.

## PROJECT SPECIAL PROVISIONS

## ROADWAY

### BURNING RESTRICTIONS:

(7-1-95) 200, 210, 215 SP2 R05

Open burning is not permitted on any portion of the right-of-way limits established for this project. Do not burn the clearing, grubbing or demolition debris designated for disposal and generated from the project at locations within the project limits, off the project limits or at any waste or borrow sites in this county. Dispose of the clearing, grubbing and demolition debris by means other than burning, according to state or local rules and regulations.

**STANDARD SPECIAL PROVISION**
**AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS**

(5-20-08) Z-2

*General Statute 143C-6-11. (h) Highway Appropriation* is hereby incorporated verbatim in this contract as follows:

(h) Amounts Encumbered. – Transportation project appropriations may be encumbered in the amount of allotments made to the Department of Transportation by the Director for the estimated payments for transportation project contract work to be performed in the appropriation fiscal year. The allotments shall be multiyear allotments and shall be based on estimated revenues and shall be subject to the maximum contract authority contained in *General Statute 143C-6-11(c).* Payment for transportation project work performed pursuant to contract in any fiscal year other than the current fiscal year is subject to appropriations by the General Assembly. Transportation project contracts shall contain a schedule of estimated completion progress, and any acceleration of this progress shall be subject to the approval of the Department of Transportation provided funds are available. The State reserves the right to terminate or suspend any transportation project contract, and any transportation project contract shall be so terminated or suspended if funds will not be available for payment of the work to be performed during that fiscal year pursuant to the contract. In the event of termination of any contract, the contractor shall be given a written notice of termination at least 60 days before completion of scheduled work for which funds are available. In the event of termination, the contractor shall be paid for the work already performed in accordance with the contract specifications.

Payment will be made on any contract terminated pursuant to the special provision in accordance with Subarticle 108-13(D) of the *2018 Standard Specifications*.

## STANDARD SPECIAL PROVISION

## ERRATA

(2-12-18) Z-4

Revise the *2018 Standard Specifications* as follows:

### Division 7

**Page 7-27, line 4, Article 725-1 MEASUREMENT AND PAYMENT,** replace article number "725-1" with "724-4".

**Page 7-28, line 10, Article 725-1 MEASUREMENT AND PAYMENT,** replace article number "725-1" with "725-3".

### Division 10

**Page 10-162, line 1, Article 1080-50 PAINT FOR VERTICAL MARKERS,** replace article number "1080-50" with "1080-10".

**Page 10-162, line 5, Article 1080-61 EPOXY RESIN FOR REINFORCING STEEL,** replace article number "1080-61" with "1080-11".

**Page 10-162, line 22, Article 1080-72 ABRASIVE MATERIALS FOR BLAST CLEANING STEEL,** replace article number "1080-72" with "1080-12".

**Page 10-163, line 25, Article 1080-83 FIELD PERFORMANCE AND SERVICES,** replace article number "1080-83" with "1080-13".

# STANDARD SPECIAL PROVISION

## PLANT AND PEST QUARANTINES
## (Imported Fire Ant, Gypsy Moth, Witchweed, Emerald Ash Borer, And Other Noxious Weeds)

(3-18-03) (Rev. 12-20-16) Z-04a

### Within Quarantined Area

This project may be within a county regulated for plant and/or pests. If the project or any part of the Contractor's operations is located within a quarantined area, thoroughly clean all equipment prior to moving out of the quarantined area. Comply with federal/state regulations by obtaining a certificate or limited permit for any regulated article moving from the quarantined area.

### Originating in a Quarantined County

Obtain a certificate or limited permit issued by the N.C. Department of Agriculture/United States Department of Agriculture. Have the certificate or limited permit accompany the article when it arrives at the project site.

### Contact

Contact the N.C. Department of Agriculture/United States Department of Agriculture at 1-800-206-9333, 919-707-3730, or *http://www.ncagr.gov/plantindustry/* to determine those specific project sites located in the quarantined area or for any regulated article used on this project originating in a quarantined county.

### Regulated Articles Include

1. Soil, sand, gravel, compost, peat, humus, muck, and decomposed manure, separately or with other articles. This includes movement of articles listed above that may be associated with cut/waste, ditch pulling, and shoulder cutting.
2. Plants with roots including grass sod.
3. Plant crowns and roots.
4. Bulbs, corms, rhizomes, and tubers of ornamental plants.
5. Hay, straw, fodder, and plant litter of any kind.
6. Clearing and grubbing debris.
7. Used agricultural cultivating and harvesting equipment.
8. Used earth-moving equipment.
9. Any other products, articles, or means of conveyance, of any character, if determined by an inspector to present a hazard of spreading imported fire ant, gypsy moth, witchweed, emerald ash borer, or other noxious weeds.

## STANDARD SPECIAL PROVISION

## MINORITY AND FEMALE EMPLOYMENT REQUIREMENTS

Z-7

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (*EXECUTIVE NUMBER 11246*)

1. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, see as shown on the attached sheet entitled "Employment Goals for Minority and Female participation".

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in *41 CFR Part 60-4* shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in *41 CFR 60-4.3(a)*, and its effort to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the executive Order and the regulations *in 41 CFR Part 60-4*. Compliance with the goals will be measured against the total work hours performed.

2. As used in this Notice and in the contract resulting from this solicitation, the "covered area" is the county or counties shown on the cover sheet of the proposal form and contract.

## EMPLOYMENT GOALS FOR MINORITY AND FEMALE PARTICIPATION

Economic Areas

***Area 023 29.7%***
Bertie County
Camden County
Chowan County
Gates County
Hertford County
Pasquotank County
Perquimans County

***Area 024 31.7%***
Beaufort County
Carteret County
Craven County
Dare County
Edgecombe County
Green County
Halifax County
Hyde County
Jones County
Lenoir County
Martin County
Nash County
Northampton County
Pamlico County
Pitt County
Tyrrell County
Washington County
Wayne County
Wilson County

***Area 025 23.5%***
Columbus County
Duplin County
Onslow County
Pender County

***Area 026 33.5%***
Bladen County
Hoke County
Richmond County
Robeson County
Sampson County
Scotland County

***Area 027 24.7%***
Chatham County
Franklin County
Granville County
Harnett County
Johnston County
Lee County
Person County
Vance County
Warren County

***Area 028 15.5%***
Alleghany County
Ashe County
Caswell County
Davie County
Montgomery County
Moore County
Rockingham County
Surry County
Watauga County
Wilkes County

***Area 029 15.7%***
Alexander County
Anson County
Burke County
Cabarrus County
Caldwell County
Catawba County
Cleveland County
Iredell County
Lincoln County
Polk County
Rowan County
Rutherford County
Stanly County

***Area 0480 8.5%***
Buncombe County
Madison County

***Area 030 6.3%***
Avery County
Cherokee County
Clay County
Graham County
Haywood County
Henderson County
Jackson County
McDowell County
Macon County
Mitchell County
Swain County
Transylvania County
Yancey County

**SMSA Areas**

***Area 5720 26.6%***
Currituck County

***Area 9200 20.7%***
Brunswick County
New Hanover County

***Area 2560 24.2%***
Cumberland County

***Area 6640 22.8%***
Durham County
Orange County
Wake County

***Area 1300 16.2%***
Alamance County

***Area 3120 16.4%***
Davidson County
Forsyth County
Guilford County
Randolph County
Stokes County
Yadkin County

***Area 1520 18.3%***
Gaston County
Mecklenburg County
Union County

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Goals for Female

Participation in Each Trade

(Statewide) 6.9%

# STANDARD SPECIAL PROVISION

## REQUIRED CONTRACT PROVISIONS FEDERAL - AID CONSTRUCTION CONTRACTS

FHWA - 1273 Electronic Version - May 1, 2012 Z-8

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Compliance with Governmentwide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

**ATTACHMENTS**

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

   The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

   Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

   Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).
2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.
4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:
   a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.
   b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.
3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
   a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
   b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
   c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.
   d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
   e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.
   a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.
   b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.
   c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.
5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
   a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
   b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
   c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
   d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.
6. **Training and Promotion:**
   a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.
   b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).
   c The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
   d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.
7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:
   a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.
   b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
   c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. **Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.
9. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.
   a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.
   b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.
10. **Assurance Required by 49 CFR 26.13(b):**
   a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.
   b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.
11. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.
   a. The records kept by the contractor shall document the following:
      (1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;
      (2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and
      (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;
   b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

**III. NONSEGREGATED FACILITIES**

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

**IV. DAVIS-BACON AND RELATED ACT PROVISIONS**

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. **Minimum wages**
   a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

      Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. **Withholding.** The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. **Payrolls and basic records**

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/ wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. **Apprentices and trainees**

a. Apprentices (programs of the USDOL). Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL). Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT). Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. **Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. **Contract termination:** debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. **Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.
3. **Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.
4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

**VI. SUBLETTING OR ASSIGNING THE CONTRACT**

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).
   a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees

from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:
(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.
4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.
5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

**VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

**VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

**IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

**X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. **Instructions for Certification – First Tier Participants:**
   a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
   b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
   c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
   d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
   e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
   f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
   g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.
   h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.
   i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
   j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**
   a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:
      (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;
      (2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
      (3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and
      (4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
   b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.
2. **Instructions for Certification - Lower Tier Participants:**
   (Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)
   a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
   b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
   c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
   d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of

Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
   a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
   b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.
3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

# STANDARD SPECIAL PROVISION

## ON-THE-JOB TRAINING

(10-16-07) (Rev. 4-21-15) Z-10

### Description

The North Carolina Department of Transportation will administer a custom version of the Federal On-the-Job Training (OJT) Program, commonly referred to as the Alternate OJT Program. All contractors (existing and newcomers) will be automatically placed in the Alternate Program. Standard OJT requirements typically associated with individual projects will no longer be applied at the project level. Instead, these requirements will be applicable on an annual basis for each contractor administered by the OJT Program Manager.

On the Job Training shall meet the requirements of 23 CFR 230.107 (b), 23 USC – Section 140, this provision and the On-the-Job Training Program Manual.

The Alternate OJT Program will allow a contractor to train employees on Federal, State and privately funded projects located in North Carolina. However, priority shall be given to training employees on NCDOT Federal-Aid funded projects.

### Minorities and Women

Developing, training and upgrading of minorities and women toward journeyman level status is a primary objective of this special training provision. Accordingly, the Contractor shall make every effort to enroll minority and women as trainees to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

### Assigning Training Goals

The Department, through the OJT Program Manager, will assign training goals for a calendar year based on the contractors' past three years' activity and the contractors' anticipated upcoming year's activity with the Department. At the beginning of each year, all contractors eligible will be contacted by the Department to determine the number of trainees that will be assigned for the upcoming calendar year. At that time the Contractor shall enter into an agreement with the Department to provide a self-imposed on-the-job training program for the calendar year. This agreement will include a specific number of annual training goals agreed to by both parties. The number of training assignments may range from 1 to 15 per contractor per calendar year. The Contractor shall sign an agreement to fulfill their annual goal for the year.\

**Training Classifications**

The Contractor shall provide on-the-job training aimed at developing full journeyman level workers in the construction craft/operator positions. Preference shall be given to providing training in the following skilled work classifications:

| | |
|---|---|
| Equipment Operators | Office Engineers |
| Truck Drivers | Estimators |
| Carpenters | Iron / Reinforcing Steel Workers |
| Concrete Finishers | Mechanics |
| Pipe Layers | Welders |

The Department has established common training classifications and their respective training requirements that may be used by the contractors. However, the classifications established are not all-inclusive. Where the training is oriented toward construction applications, training will be allowed in lower-level management positions such as office engineers and estimators. Contractors shall submit new classifications for specific job functions that their employees are performing. The Department will review and recommend for acceptance to FHWA the new classifications proposed by contractors, if applicable. New classifications shall meet the following requirements:

Proposed training classifications are reasonable and realistic based on the job skill classification needs, and

The number of training hours specified in the training classification is consistent with common practices and provides enough time for the trainee to obtain journeyman level status.

The Contractor may allow trainees to be trained by a subcontractor provided that the Contractor retains primary responsibility for meeting the training and this provision is made applicable to the subcontract. However, only the Contractor will receive credit towards the annual goal for the trainee.

Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman level status or in which they have been employed as a journeyman.

**Records and Reports**

The Contractor shall maintain enrollment, monthly and completion reports documenting company compliance under these contract documents. These documents and any other information as requested shall be submitted to the OJT Program Manager.

Upon completion and graduation of the program, the Contractor shall provide each trainee with a certification Certificate showing the type and length of training satisfactorily completed.

**Trainee Interviews**

All trainees enrolled in the program will receive an initial and Trainee/Post graduate interview conducted by the OJT program staff.

**Trainee Wages**

Contractors shall compensate trainees on a graduating pay scale based upon a percentage of the prevailing minimum journeyman wages (Davis-Bacon Act). Minimum pay shall be as follows:

| | |
|---|---|
| 60 percent | of the journeyman wage for the first half of the training period |
| 75 percent | of the journeyman wage for the third quarter of the training period |
| 90 percent | of the journeyman wage for the last quarter of the training period |

In no instance shall a trainee be paid less than the local minimum wage. The Contractor shall adhere to the minimum hourly wage rate that will satisfy both the NC Department of Labor (NCDOL) and the Department.

**Achieving or Failing to Meet Training Goals**

The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and who receives training for at least 50 percent of the specific program requirement. Trainees will be allowed to be transferred between projects if required by the Contractor's scheduled workload to meet training goals.

If a contractor fails to attain their training assignments for the calendar year, they may be taken off the NCDOT's Bidders List.

**Measurement and Payment**

No compensation will be made for providing required training in accordance with these contract documents.

**STANDARD SPECIAL PROVISION**
**MINIMUM WAGES**
**GENERAL DECISION NC180103 01/05/2018 NC103**

Z-103

Date: January 5, 2018

General Decision Number: NC180103 01/05/2018 NC103

Superseded General Decision Numbers: NC20170103

State: North Carolina

Construction Type: HIGHWAY

**COUNTIES:**

| | | |
|---|---|---|
| Brunswick | Greene | Onslow |
| Cumberland | Hoke | Pender |
| Currituck | Johnston | Pitt |
| Edgecombe | Nash | Wake |
| Franklin | New Hanover | Wayne |

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.35 for calendar year 2018 that applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract for calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2) – (60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

| Modification Number | Publication Date |
|---|---|
| 0 | 01/05/2018 |

SUNC2014-005 11/17/2014

| | Rates | Fringes |
|---|---|---|
| BLASTER | 21.04 | |
| CARPENTER | 13.72 | |
| CEMENT MASON/CONCRETE FINISHER | 14.48 | |
| ELECTRICIAN | | |
| Electrician | 17.97 | |
| Telecommunications Technician | 16.79 | .63 |
| IRONWORKER | 16.02 | |
| LABORER | | |
| Asphalt Raker and Spreader | 12.46 | |
| Asphalt Screed/Jackman | 14.33 | |

| | Rates | Fringes |
|---|---|---|
| Carpenter Tender | 12.88 | |
| Cement Mason/Concrete Finisher Tender | 12.54 | |
| Common or General | 10.20 | |
| Guardrail/Fence Installer | 12.87 | |
| Pipelayer | 12.17 | |
| Traffic Signal/Lighting Installer | 14.89 | |
| PAINTER | | |
| Bridge | 24.57 | |
| POWER EQUIPMENT OPERATORS | | |
| Asphalt Broom Tractor | 11.85 | |
| Bulldozer Fine | 17.04 | |
| Bulldozer Rough | 14.34 | |
| Concrete Grinder/Groover | 20.34 | 2.30 |
| Crane Boom Trucks | 20.54 | |
| Crane Other | 20.08 | |
| Crane Rough/All-Terrain | 20.67 | |
| Drill Operator Rock | 14.38 | |
| Drill Operator Structure | 21.14 | |
| Excavator Fine | 16.60 | |
| Excavator Rough | 14.00 | |
| Grader/Blade Fine | 18.47 | |
| Grader/Blade Rough | 14.62 | |
| Loader 2 Cubic Yards or Less | 13.76 | |
| Loader Greater Than 2 Cubic Yards | 14.14 | |
| Material Transfer Vehicle (Shuttle Buggy) | 15.18 | |
| Mechanic | 17.55 | |
| Milling Machine | 15.36 | |
| Off-Road Hauler/Water Tanker | 11.36 | |
| Oiler/Greaser | 13.55 | |
| Pavement Marking Equipment | 12.11 | |
| Paver Asphalt | 15.59 | |
| Paver Concrete | 18.20 | |
| Roller Asphalt Breakdown | 12.45 | |
| Roller Asphalt Finish | 13.85 | |
| Roller Other | 11.36 | |
| Scraper Finish | 12.71 | |
| Scraper Rough | 11.35 | |
| Slip Form Machine | 16.50 | |
| Tack Truck/Distributor Operator | 14.52 | |
| TRUCK DRIVER | | |
| GVWR of 26,000 Lbs or Less | 11.12 | |
| GVWR of 26,000 Lbs or Greater | 12.37 | |

Welders – Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other

health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier. Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

NORTH CAROLINA PROFESSIONAL SEAL 031636 ENGINEER PAUL P. MARAK

DocuSigned by:
Paul P. Marak 2/19/2018
C49FA370BC5A4C1...

# R-2633D
# Intelligent Transportation Systems Conduit and Fiber Installation

## Project Special Provisions

**Not Valid Unless Signed – This Seal Applies to Sections 1-15**

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# 1 GENERAL REQUIREMENTS

## 1.1 DESCRIPTION

### A. General

Conform to these Project Special Provisions, Project Plans, and the *2018 Standard Specifications for Roads and Structures* (also referred to hereinafter as the *"Standard Specifications"*) and the *2018 Roadway Standard Drawings* (also referred hereinafter as the "*Standard Drawings*"). The current edition of these specifications and publications in effect on the date of advertisement will apply.

In the event of a conflict between these Project Special Provisions and the Standard Specifications, these Project Special Provisions govern.

### B. Scope

The scope of this project includes the installation of twenty-one (21) miles of underground conduit and fiber optic cable along the I-140 corridor from US 17 Ocean Highway into the Division 3 TOC located in the Traffic Services Building on I-40 in Castle Hayne, NC. The scope also includes installing fiber optic drop cable to connect eight (8) existing CCTVs and four (4) existing DMS along the I-140 corridor, and two (2) existing DMS signs along the US 74/76 corridor approximately one (1) mile west of I-140.

The installed fiber optic system will be fully integrated with the head-end equipment in the Division 3 TOC located in the Traffic Services building at 5501 Barbados Blvd. in Castle Hayne, NC. From the Division 3 TOC, all CCTVs and DMS will be accessible for viewing and control on the NCDOT network.

## 1.2 MATERIALS

### A. Domestic Steel and Iron Products

See section 106-1 (B) of the Standard Specifications.

### B. Qualified Products

Furnish new equipment, materials, and hardware unless otherwise required. Inscribe manufacturer's name, model number, serial number, and any additional information needed for proper identification on each piece of equipment housed in a case or housing.

Furnish factory assembled cables without adapters, unless otherwise approved by the Engineer, for all cables required to interconnect any field or central equipment including but not limited to fiber optic transceivers.

Certain equipment listed in these Project Special Provisions must be pre-approved on the Department's 2018 ITS & Signals Qualified Products List (QPL) by the date of installation. Equipment, material, and hardware not pre-approved when required will not be allowed for use on the project.

The QPL is available on the Department's website. The QPL website is:

https://connect.ncdot.gov/resources/safety/Pages/ITS-and-Signals-Qualified-Products.aspx

### C. Warranties

Provide manufacturer's warranties on Contractor-furnished equipment for material and workmanship that are customarily issued by the equipment manufacturer and that are at least two years in length from successful completion of the 30-day observation period. Include unconditional coverage for all parts and labor necessary or incidental to repair of defective equipment or workmanship and malfunctions that arise during warranty period.

Ensure all contractor-furnished equipment; including pieces and components of equipment, hardware, firmware, software, middleware, internal components, and subroutines which perform any date or time data recognition function, calculation, or sequencing will support a four digit year format for a period of at least 50 years.

Upon successful completion of the 30-day observation period, transfer manufacturer's warranties with proper validation by the manufacturer to the Department or its designated maintaining agency.

## 1.3 CONSTRUCTION METHODS

### A. General

Do not remove existing cellular communications equipment until fiber optic communications has been established. The communications equipment and materials to be removed under this project include, but are not limited to: cellular modems, antenna and cabling. All Department-owned communications related equipment and material that will not be used per the Plans, shall be returned to the Deputy Traffic Engineer at NCDOT Division 3 Traffic Services office located at 5504 Barbados Blvd. Castle Hayne, NC 28429, during typical business hours. The Department will deduct the cost of Department-owned equipment damaged by the Contractor from money due to the Contractor.

### B. Ground Surface Restoration

Upon completion of the installation of all conduit and the backfilling of all trenches and other excavations, restore the disturbed ground to its original condition as determined and approved by the Engineer. Backfill the excavation areas with removed material, tamp the backfilled material, and rake smooth the top 1-1/2 inches. Finish unpaved areas flush with surrounding natural ground and to match the original contour of the ground. Seed with the same type of grass as the surrounding areas and mulch the newly seeded areas. If unpaved area was not grassed, replace the original ground cover in kind as directed by the Engineer.

### C. Information Technology Compliance

Conform to the State of North Carolina Information Technology (IT) policy and standards as described at http://it.nc.gov. The architecture of the IT modules must be approved by the NC- DOT IT and NC Office of Information Technology architecture groups.

### D. Plan of Record Documentation

Comply with all requirements of Article 1098-1(F) of the *Standard Specifications* for providing plan of record documentation for all work performed under this Project.

## 1.4 REQUIREMENTS FOR CABLES CROSSING RAILROADS

Copies of all executed railroad agreements and related correspondence may be obtained from the Engineer upon request.

### A. Railroad Crossings

Application has been made with CSX Transportation, Inc., herein called the Railroad Company for the encroachment agreements necessary under this Contract. Do not commence cable routings over or under railroad-owned facilities until notification and coordination with Engineer and the appropriate railroad company has occurred. Install fiber optic communications cable as shown on the Plans and comply with CSXT guidelines.

As shown on the Plans, there are six (6) affected railroad crossings in this project which are owned by CSX Transportation (CSXT), herein called the Railroad Company.

Cable crossings include the following locations:

| Plan Sheet | Location | Railroad Company |
|---|---|---|
| ITS-16 | I-140 Overpass between Malmo Loop Rd. Crossing # 629193 T (CSX-AC 254.83) and Lanvale Rd. Crossing # 629191 E (CSX-AC 252.28) | CSX |
| ITS-21 | I-140 Overpass between Mt. Misery Rd. Crossing # 631494 N (CSX-SE 350.8) and Eastbrook Rd. Crossing # 631498 C (CSX-SE 358.8) | CSX |
| ITS-32 | I-140 Overpass between Sutton Steam Plant Rd. Crossing # 629168 K (CSX-AF 288.79) and S. Navassa Rd. Crossing # 629178 R (CSX-SE 350.1) | CSX |
| ITS-33 | I-140 Overpass between End/Begin track at Sutton Steam Plant and Fredrickson Rd. Crossing # 629168 K (CSX-AF 288.79) | CSX |
| ITS-34 | I-140 Overpass between Roymac Drive and Sutton Steam Plant Rd. Crossing # 629168 K (CSX-AF 288.79) | CSX |
| ITS-45 | I-140 Overpass between Blue Clay Rd. Crossing # 628712 P (CSX-SE 358.1) and Pamele Rd. Crossing # 628980 A (CSX-SE 370.57) | CSX |

**B. Requirements for Insurance**

The Contractor will be required to provide coverage conforming to the requirements of the Federal-Aid Policy Guide outlined under 23 CFR 646A for all work to be performed on the Railroad right(s) of way under the terms of the contract by carrying insurance of the following kinds:

**Contractor's General Liability and Railroad Liability Insurance**

1. Furnish a certificate of general liability insurance and railroad protective liability insurance evidencing a combined single limit of a minimum of $5,000,000.00 per occurrence of general liability insurance naming CSX Transportation as the certificate holder and as an additional insured party on the insurance policy.
2. If any part of the work is sublet, similar insurance and evidence thereof in the same amounts as required of the Prime Contractor, shall be provided by the subcontractor to cover his operations on railroad right of way. As an alternative, the Prime Contractor may provide for the subcontractor by means of separate and individual policies.
3. Certificates shall make reference to the project, milepost, and county. Certificate description and project designation to include the following information: Installation of fiber optic communications cable under tracks of CSX Transportation, Brunswick and New Hanover Counties (include Railroad milepost) identified as NC Project R-2633D.

   Use the address below for the Certificates of Insurance holder:

   CSX Transportation
   Risk Management (C-907)
   500 Walter Street
   Jacksonville, FL 32202

4. All policies and certificates shall contain a clause requiring that thirty (30) days written notice be given to the Department of Transportation and the Railroad Company prior to cancellation or change. The notices shall make reference to the project, milepost, and county.

   <u>NOTICE TO:</u>

   CSX Transportation
   Risk Management (C-907)
   500 Walter Street
   Jacksonville, FL 32202

   <u>COPY NOTICE TO:</u> NCDOT Resident Engineer

5. Carry all insurance herein specified until the final inspection and acceptance of this project, or that portion of the project within railroad right of way, by the Department of Transportation or, in the case of subcontractors, until the Contractor furnishes a letter to the Engineer stating that the subcontractor has completed his subcontracted work within railroad right of way to the satisfaction of the Contractor and the Contractor will accomplish any additional work necessary on railroad right of way

with his own forces. It is understood that the amounts specified are minimum amounts and that the Contractor may carry insurance in larger amounts if he so desires. As to "aggregate limits" if the insurer establishes loss reserves equal to or in excess of the aggregate limit specified in any of the required insurance policies, immediately notify the Department and cease all operations until the aggregate limit is reinstated. If the insurer establishes loss reserves equal to or in excess of one-half of the aggregate limit, arrange to restore the aggregate limit to at least the minimum amount stated in these requirements. Any insurance policies and certificates taken out and furnished due to these requirements shall be approved by the Department and the Railroad Company as to form and amount prior to beginning work on railroad right of way.

No extra allowance will be made for the insurance required hereunder. The entire cost shall be included in the unit contract bid price for other pay items.

6. Furnish evidence of insurance as required above for review to the Engineer.

**C. Delays Caused by Operations of Others**

Neither the Department nor the Railroad Company assumes any responsibility for any work performed by others in connection with the construction of the project, and the Contractor shall have no claim whatsoever against the Department or the Railroad Company for any inconvenience, delay, or additional cost incurred by him on account of such operations by others.

**D. Cooperation with Others**

Cooperate with others participating in the construction of the project to the end that all work may be carried on to the best advantage.

**E. Authority of Railroad Engineer**

The authorized representative of the Railroad Company hereinafter referred to as the Railroad Engineer, shall have the final authority in all matters affecting the safe maintenance of railroad traffic of his company.

**F. Interference with Railroad Operations**

Arrange and conduct work so that there will be no interference with railroad operations including train, signal, telephone, and telegraphic services, or damage to the property of the Railroad Company or to the poles, wire, and other facilities of tenants on the rights of way of the Railroad Company. Wherever work is liable to affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the Contractor from liability.

Should conditions arising from or in connection with the work, require that immediate and unusual provisions me made to protect train operations and property of the Railroad Company, it shall be a part of the required services by the Contractor to make such provisions and if, in the judgement of the Railroad Engineer such provisions is insufficient, the Railroad Engineer or the Department, may require or provide such provisions as may be deemed necessary.

**G. Storage of Materials**

Materials and equipment shall not be stored where they will interfere with railroad operations, nor on the right of way of the Railroad Company without first having obtained permission from the Railroad Engineer, and such permission will be with the understanding that the Railroad Company will not be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor's expense, such material and equipment.

**H. Flagging Protection or Watchman Service**

The contractor shall give two (2) weeks advance notice to the Railroad Company in order that flagging service can be arranged and provided. No work shall be undertaken until the flagman is at the job site. No extra allowance will be made for all costs associated with the scheduling and compensation of flagmen. The entire cost shall be included in the unit contract bid price for other pay items.

**I. Completion and Acceptance of Work**

Upon completion of the work, remove from within the limits of the railroad right of way all machinery, equipment, surplus materials, or rubbish and leave said rights of way in a neat and orderly condition. After the final inspection has been made and work found to be completed in a satisfactory manner acceptable to the Department and the Railroad Company, the Department will be notified of the Railroad Company's acceptance in writing by the Railroad Company.

**J. Completion and Acceptance of Work**

There will be no direct payment for work covered in this section. Payment will be incidental to the overall conduit and cable installation prices in the contract and these Project

## 1.5 MEASUREMENT AND PAYMENT

There will be no direct payment for work covered in this section. Payment at the contract unit prices for the various items in the contract will be full compensation for all work covered in this section.

# 2 MOBILIZATION

## 2.1 DESCRIPTION

This work consists of preparatory work and operations, including but not limited to the movement of personnel, equipment, supplies, and incidentals to the project site, for the establishment of offices, buildings, and other facilities necessary for work on the project; the removal and disbandment of those personnel, equipment, supplies, incidentals, or other facilities that were established for the prosecution of work on the project; and for all other work and operations which must be performed for costs incurred prior to beginning work on the various items on the project site.

## 2.2 MEASUREMENT AND PAYMENT

*Mobilization* will be measured and paid for at the contract lump sum price.

Payment will be made under:

| **Pay Item** | **Pay Unit** |
|---|---|
| Mobilization | Lump Sum |

## 3 TEMPORARY TRAFFIC CONTROL

### 3.1 DESCRIPTION

The Contractor shall provide all traffic control for this project in accordance with the *Standard Drawings* and *Standard Specifications*.

### 3.2 CONSTRUCTION METHODS

The Contractor shall maintain traffic during construction and furnish, install, remove, secure, and maintain all traffic control devices.

### 3.3 MEASUREMENT AND PAYMENT

*Temporary traffic control* will be paid on a lump sum basis. The lump sum bid price for Temporary Traffic Control as required in this contract, as shown in the *Standard Drawings* and as directed by the Engineer includes, but is not limited to providing Portable Work Zone Signs, Flashing Arrow Boards (FAB), Drums, Cones, Flagging Devices, Temporary Crash Cushion (TCC), Truck Mounted Attenuators (TMA), Skinny Drums, Law Enforcement, and Portable Lighting.

Payment will be made under:

| **Pay Item** | **Pay Unit** |
|---|---|
| Temporary Traffic Control | Lump Sum |

## 4 UNDERGROUND CONDUIT

### 4.1 DESCRIPTION

Furnish and install conduit for underground installation with tracer wire, miscellaneous fittings, all necessary hardware, marker tape, backfill, graded stone, paving materials, and seeding and mulching.

Install underground conduit at locations shown in the Plans. Comply with Sections 1098-4 and 1715 of the *Standard Specifications*

### 4.2 MATERIAL

Furnish underground PVC and HDPE conduits as shown in the Plans. All vertical conduits (entrance to electrical service and equipment disconnect and pole mounted cabinet) must be rigid galvanized steel.

Material, equipment, and hardware furnished under this section shall be pre-approved on the

Department's QPL. Refer to Articles 1091-3 (Conduit), 1091-4 (Duct and Conduit Sealer), 1018-2 (Backfill), and 545-2 and 545-3 (Graded Stone) of the *Standard Specifications*.

Furnish conduits in the following colors according to contents and quantity:

| Conduit Contents Conduit | Number of Conduits | Colors |
|---|---|---|
| Communications Cable | 1 | Orange |
| | 2 | Orange and Black |
| | 4 | Orange, Black, White and Blue |

## 4.3 CONSTRUCTION METHODS

Install underground conduit in compliance with all requirements of Section 1715-3 of the *Standard Specifications*. Use adapters and rigid galvanized steel sweeping elbows to transition from PVC conduit to rigid conduit.

## 4.4 MEASUREMENT AND PAYMENT

*Tracer wire* will be measured along the horizontal linear feet of tracer wire furnished, installed, and accepted. Measurement will be along the approximate centerline of the conduit system. Payment will be made in linear feet. No payment will be made for excess tracer wire in junction boxes and/or cabinets.

*Unpaved trenching (1) (2")* will be measured horizontal linear feet of trenching for underground conduit installation of each type furnished, installed, and accepted. Measurement will be along the approximate centerline of the conduit system. Payment will be in linear feet.

*Unpaved trenching (2) (2")* will be measured horizontal linear feet of trenching for underground conduit installation of each type furnished, installed, and accepted. Measurement will be along the approximate centerline of the conduit system. Payment will be in linear feet.

*Directional Drill (2) (2")* will be measured horizontal linear feet of directional drill for underground conduit installation furnished, installed, and accepted. Measurement will be along the approximate centerline of the conduit system. Payment will be in linear feet.

No measurement will be made of vertical segments, metallic conduit, conduit adapters, conduit bodies, sweeping elbows, conduit couplings, stainless steel banding straps, sealing devices, backfill, graded stone, paved materials, miscellaneous fittings, pull lines, seeding and mulching as these will be considered incidental to conduit installation.

Payment will be made under:

**Pay Item** **Pay Unit**

Tracer Wire ..... Linear Foot

Unpaved Trenching (1) (2") ..... Linear Foot

Unpaved Trenching (2) (2") ..... Linear Foot

Directional Drill (2) (2”) .....Linear Foot

## 5 JUNCTION BOXES

### 5.1 DESCRIPTION

Furnish and install junction boxes (pull boxes) with covers, graded stone, grounding systems, and all necessary hardware. Comply with Section 1716 of the Standard Specifications.

### 5.2 MATERIAL

**A. General**

Material, equipment, and hardware furnished under this section shall be pre-approved on the Department’s QPL except for “Junction Box (Special-Size Heavy-Duty)”.

Refer to Article 1098-5 Junction Boxes and Section 545 and 1005 Graded Stone.

**1. Special-Size Heavy-Duty Junction Boxes**

Provide special-size heavy-duty junction boxes and covers with minimum inside dimensions of 24” x 36” x 22” (L x W x D).

### 5.3 CONSTRUCTION METHODS

Comply with Article 1411-3 Electrical Junction Boxes, except as follows:

Install junction boxes flush with finished grade. Do not install sealant compound between junction boxes and covers.

Install junction boxes where underground splicing of cable is necessary and where transitioning from below ground to above ground installation or vice-versa.

### 5.4 MEASUREMENT AND PAYMENT

*Over-Sized Heavy-Duty Junction Boxes (28” x 15” x 22”)* will be measured and paid in actual number of junction boxes of each size and type furnished, installed, and accepted.

*Special-Size Heavy-Duty Junction Boxes (24” x 36”x 22”)* will be measured and paid in actual number of junction boxes of each size and type furnished, installed, and accepted.

No measurement will be made of covers, graded stone, and grounding systems as these will be considered incidental to furnishing and installing junction boxes.

Payment will be made under:

**Pay Item** **Pay Unit**

Junction Boxes (Over-Sized Heavy-Duty)……..Each
Junction Boxes (Special-Size Heavy-Duty)……....…….…..Each

## 6 WOOD POLES

### 6.1 DESCRIPTION

Furnish and install wood poles with grounding systems and all necessary hardware in accordance with Section 1720 of the Standard Specifications.

### 6.2 MATERIAL

Material, equipment, and hardware furnished under this section shall be pre-approved on the Department's QPL. Refer to Sub-Articles 1082-3(F) Treated Timber and Lumber – Poles and 1082-4(G) Preservative Treatment - Poles.

**A. Wood Pole**

Furnish 40' Class 4 or better wood poles for attaching messenger cable and fiber optic communications cable as shown in the Plans.

### 6.3 CONSTRUCTION METHOD

Mark final pole locations and receive approval before installing poles. Comply with all requirements of Section 1720-3 of the Standard Specifications.

### 6.4 MEASUREMENT AND PAYMENT

*Wood Pole* will be measured and paid as the actual number of 40' wood poles furnished, installed, and accepted.

No measurement will be made for installing grounding systems, as these will be incidental to furnishing and installing wood poles.

Payment will be made under:

**Pay Item** **Pay Unit**

Wood Pole.....Each

## 7 MESSENGER CABLE

### 7.1 DESCRIPTION

Furnish and install messenger cable (span wire) with cable clamps, machine bolts, eyebolts, 3-bolt clamps, eye nuts, split-bolt connectors, metal pole clamps, stainless steel bands, and all necessary hardware.

Furnish and install pole grounding systems consisting of #6 AWG bare copper wire, messenger bonding clamps, hot-dipped galvanized wire staples, ground rods, and exothermic welding.

### 7.2 MATERIALS

Furnish and install 1/4-inch messenger cable for the installation of new aerial fiber optic communications cable. Comply with the Standard Specifications:

Article 1098-3, "Messenger Cable"

### 7.3 CONSTRUCTION METHOD

Comply with the Standard Specifications:

Section 1710, "Messenger Cable"

Bond guy assembly in a manner that complies with Article 1720-3.

### 7.4 MEASUREMENT AND PAYMENT

*Messenger Cable* will be measured along the horizontal linear feet of messenger cable furnished, installed, and accepted. Measurement will be point to point with no allowance for sag.

No measurement will be made of cable clamps, machine bolts, eyebolts, three-bolt assemblies, eye nuts, split bolt, connectors, and pole grounding systems as these will be considered incidental to furnishing and installing messenger cable.

Payment will be made under:

| Pay Item | Pay Unit |
|---|---|
| Messenger Cable (1/4") | Linear Foot |

## 8 GUY ASSEMBLIES

### 8.1 DESCRIPTION

Furnish and install guy assemblies with all necessary hardware. Comply with Section 1721 of the Standard Specifications.

### 8.2 MATERIAL

Material, equipment, and hardware furnished under this section shall be pre-approved on the Department's QPL.

Article 1098-6 Guy Assemblies.

### 8.3 CONSTRUCTION METHODS

When installing messenger cable for supporting only communications cable, use approved one-bolt attachment method for attaching messenger cable and guy assembly.

Bond guy assembly in a manner that complies with Article 1720-3.

### 8.4 MEASUREMENT AND PAYMENT

*Guy Assembly* will be measured and paid as actual number of guy assemblies furnished, installed, and accepted.

No measurement will be made of guy cable, guy guards, anchors, clamps, or fittings as these will be considered incidental to furnishing and installing guy assemblies.

Payment will be made under:

**Pay Item** **Pay Unit**

Guy Assembly.....Each

## 9 RISER ASSEMBLIES

### 9.1 DESCRIPTION

Furnish and install riser assemblies with heat shrink tubing, galvanized pole attachment fittings, and all necessary hardware in accordance with Section 1722 of the Standard Specifications.

### 9.2 MATERIAL

Material, equipment, and hardware furnished under this section shall be pre-approved on the Department's QPL. Provide rigid metallic conduit for risers. Refer to Sub-Article 1098-4(B)(1) Rigid Metallic Conduit.

Provide UV stabilized heat shrink tubing for the installation of fiber optic in new risers.

### 9.3 CONSTRUCTION METHOD

Install risers with required heat shrink tubing on poles using pole attachment fittings.

Install risers with heat shrink tubing so that cable can be installed without violating its minimum bending radius.

Install heat shrink tubing in accordance with manufacturer's recommendations. Provide tubing a minimum of 5 inches in length with a minimum of 2.5 inches extended over cables and 2.5 inches extended over risers after heat has been applied. Use nylon filler rods with UV protection or equivalent, and sealing spacer clips to separate cables where multiple cables enter a riser. Ensure sealing spacer clips have a heat activated sealing compound with the sealing compound fully encapsulating the space between cables. Ensure heat shrink tubing provides a watertight fit around individual cables and outer wall of risers. Do not use cut section of cable or any other devices in lieu of filler rods. Use aluminum tape around cables to prevent damage from sealing chemicals. Use a heat source that will provide even heat distribution around tubing. Ensure no damage occurs to any cables.

### 9.4 MEASUREMENT AND PAYMENT

*2" Riser with Heat Shrink Tubing* will be measured and paid as the actual number of risers furnished, installed, and accepted. No measurement will be made of heat shrink tubing, or pole attachment fittings as these will be considered incidental to furnishing and installing risers.

Payment will be made under:

**Pay Item** **Pay Unit**

2" Riser with Heat Shrink Tubing .....Each

# 10 FIBER OPTIC CABLE

## 10.1 DESCRIPTION

Furnish and install 72-fiber single mode fiber optic (SMFO) communications cable and 12-fiber drop cable assemblies in accordance with the Plans and these Project Special Provisions. The SMFO cable installation will utilize new and existing aerial and underground facilities. Splice the new fiber cables as shown in the Plans.

Furnish and install fiber optic interconnect centers and splice enclosures in accordance with the Plans and these Project Special Provisions.

## 10.2 MATERIALS

Comply with the Standard Specifications:

Article 1098-10 (A), "SMFO Communications Cable"

Article 1098-10 (B), "Drop Cable"

Article 1098-10 (C), "Communications Cable Identification Markers"

Article 1098-10 (D), "Fiber-Optic Cable Storage Guides"

Article 1098-11 (A), "Interconnect Center"

Article 1098-11 (B), "Splice Enclosure"

Article 1098-13 "Delineator Markers"

## 10.3 CONSTRUCTION METHODS

Install SMFO cable along aerial and underground routes as shown in the Plans.

Install fiber optic interconnect centers and splice enclosures as shown in the Plans.

Comply with the Standard Specifications:

Section 1730, "Fiber Optic Cable"

Section 1731, "Fiber Optic Splice Centers"

Section 1733, "Delineator Markers"

Splice the new 72-fiber and 12-fiber drop cables as shown in the Plans.

Perform bidirectional OTDR testing on all fibers and submit test result to the Engineer for review and acceptance.

## 10.4 MEASUREMENT AND PAYMENT

*Communications Cable (72-fiber)* will be measured and paid as the actual linear feet of fiber-optic cable of each fiber count furnished, installed, and accepted. Measurement will be made by calculating the difference in length markings located on outer jacket from start of run to end of run for each run. Terminate all fibers before determining length of cable run.

*Communications Cable (12-fiber)* will be measured and paid as the actual linear feet of fiber-optic drop cable assemblies furnished, installed, and accepted. Sag and vertical segments will not be paid for as these distances are considered incidental to the installation of drop cable assemblies

*Splice Enclosure* will be measured and paid as the actual number of splice enclosures furnished, installed and accepted. No measurement will be made between aerial, underground, manhole, or junction box installation of the fiber optic splice enclosure.

*Interconnect Center* will be measured and paid as the actual number of fiber optic interconnect centers furnished, installed and accepted.

*Hub Interconnect Center* will be measured and paid as the actual number of fiber optic interconnect centers furnished, installed and accepted.

*Delineator Marker* will be measured and paid as the actual number of delineator markers furnished, installed and accepted.

No measurement will be made for terminating, splicing, and testing fiber optic cable, communications cable identification markers, or fiber optic cable storage racks, as these will be considered incidental to the installation of fiber optic cable.

No separate measurement will be made of splice trays, pigtails, jumpers, connector panels, and testing, as these will be considered incidental to furnishing and installing splice enclosure or modify splice enclosure.

Payment will be made under:

| Pay Item | Pay Unit |
|---|---|
| Communications Cable (72-fiber) | Linear Foot |
| Communications Cable (12-fiber) | Linear Foot |
| Splice Enclosure | Each |
| Interconnect Center | Each |
| Hub Interconnect Center | Each |
| Delineator Marker | Each |

## 11 LOCAL AREA NETWORK EQUIPMENT

### 11.1 DESCRIPTION

Furnish and install all equipment described below for a fully functional Gigabit Ethernet network for communication to the existing CCTV and existing DMS system.

Return of equipment

**A. Enclosed Communications Rack**

Furnish and install a caster-mounted enclosed communications rack at the Division 3 TOC as shown in the Plans.

**B. Field Ethernet Switch**

Furnish and install field Ethernet switches in CCTV and DMS field equipment cabinets as shown in the Plans and as described in these Project Special Provisions for the successful

integration of the existing field devices into the TOC located at the Division 3 Traffic Services Building.

**C. Ethernet Hub Switch**

Furnish and install an Ethernet Hub switch for use in the Division 3 TOC. Ensure that the Ethernet Hub switch provides wire speed, Ethernet connectivity at transmission rates of 1000 megabits per second to/from each device on the switch.

**D. KVM Switch**

Furnish and install a rack-mounted KVM switch assembly consisting of a monitor, keyboard, and mouse with switching hardware to control and access the servers supplied with this project.

**E. Workstation**

Furnish and install one workstation in the Division 3 TOC. Ensure that the workstation computer can access the ITS LAN and can be used to monitor, interact, and control all critical input and output parameters of the existing Division 3 ITS devices.

## 11.2 MATERIALS

**A. General**

Reuse the existing monitors in the Division 3 TOC as shown in Plans.
Reuse the existing wireless modem and maintain all of its current functionality.
Connect the wireless modem to the Ethernet Hub Switch as shown in Plans.

Remove all existing servers, computers, and associated support equipment designated to be removed in the Plans and these Project Special Provisions.

Ensure that the field Ethernet switches are fully compatible and interoperable with the Ethernet network interface and that the Ethernet switches support half and full duplex Ethernet communications.

Furnish field Ethernet switches that provide 99.999% error-free operation, and that complies with the Electronic Industries Alliance (EIA) Ethernet data communication requirements using single mode fiber-optic transmission medium and copper transmission medium at the TOC. Ensure that the field Ethernet switches have a minimum mean time between failures (MTBF) of 10 years, or 87,600 hours, as calculated using the Bellcore/Telcordia SR-332 standard for reliability prediction.

Provide all SMFO jumpers required to connect the Ethernet Hub switch, and field Ethernet switches with the connector panels of fiber-optic splice centers. Provide SMFO jumpers with factory-assembled LC connectors one end (i.e., the fiber optic interconnect center/connector housing end) and, on the other end, factory-assembled connectors of the same type provided on the Ethernet Hub switch, and field Ethernet switches. Provide SMFO jumpers that are a minimum of 3 feet in length for Ethernet switches inside the existing DMS cabinets and CCTV cabinets. Furnish SMFO jumpers that are a minimum of 6 feet in length for the

communications racks inside the TOC. Ensure SMFO jumpers meet the operating characteristics of the SMFO cable with which it is to be coupled.

Furnish Ethernet switches that comply with the following electrical safety requirements: UL60950 or CSA C22.2 No. 60950 (safety requirements for IT equipment) and FCC Part15 Class A for EMI emissions.

**B. Enclosed Communications Rack**

Furnish an enclosed caster-mounted EIA 19-inch communications rack cabinet in the TOC to house a managed Ethernet Hub Switch, VPU Switch, KVM Switch, fiber-optic interconnect center, and a rack-mounted UPS. The unit shall be an enclosed rack at least 42 rack units high with approximate dimensions of 78.5” H x 21” W x 26” D. The unit shall have lockable casters.

Furnish a rack with removable and adjustable shelves and pull out drawers capable of holding 1.5 times the heaviest component required to be placed on shelf or drawer (when fully extended).

Provide a power strip inside that uses 120 VAC 60 Hz power; the power strip shall contain at least six outlets and a six-foot power cord. Provide grounding bus bar system to ground rack-mounted electrical equipment.

Provide racks constructed of all metal components. Supply all screws, nuts, washers, lock nuts, brackets and hardware necessary to assemble equipment described herein. Vents shall be on front and rear panels. Furnish wire entry access plates with dust tight seals.

Provide cable management hardware for attachment to rack frame and between 19-inch rack angles. The hardware shall include cable organizers and clamps to provide strain relief and cable mounting. Provide one shelf.

Construct all rack frames and rack angles of 12-gauge steel or greater. Construct the sides, top and bottom panels of 16-gauge steel or greater.

Paint the panels, rack frames, and rack angles with black polyester powder coating or baked on paint.

Equip the rack with a rack-mount uninterruptible power supply (UPS) unit capable of detecting a power failure and providing back-up power to the components plugged into within twenty (20) milliseconds. The transition to the UPS source from primary power shall occur without loss of data or damage to the equipment being provided with back-up power.

Furnish a UPS unit that is sized such that it is capable of providing back-up power for the total load of all equipment connected to the UPS plus an additional load of twenty-five percent of the total load for at least ten (10) minutes of operation.

Furnish a UPS unit that acts as surge and power transient suppression devices that meets or exceeds the surge suppression requirements of Underwriter’s Laboratory standards UL 1449 and UL 1778.

Furnish a UPS unit with the following characteristics:

- Commercial 115 VAC, 60 Hz power interconnection and power loss sensing and alarm reporting

- Power protection and filtering
- Power conversion for battery charging
- Battery status sensing and low battery alarm reporting
- Battery charging and charge management
- Battery power conversion and filtering as necessary for interface compatibility with installed equipment
- Compliance with article 645 of the National Electric Code (NEC)
- Operating temperature Range 32 Degrees F to 105 Degrees F
- Humidity 0%-95%, non-condensing
- Size less than 5.25" (3RU) tall
- Surge energy rating greater than 480 joules

Electrical outlets 6 NEMA 5-15R

**C. Field Ethernet Switch**

Furnish and install a field hardened Ethernet switch at the locations shown in the Plans. Ensure proposed Ethernet switches comply with the following minimum functional requirements:

- Six (6) Fast Ethernet ports (10/100BaseTx)
- 24-48 VDC or 120VAC Power Supply, 10 Watts max.
- -10 – 158 $^{O}$F temperature range
- DIN rail or panel mounted
- Store & Forward switching mode with $\leq$10 μ Sec. latency
- 128, 256, 512 kbps, 4, 8 Mbps port rate limiting
- $\geq$ 1 kbytes MAC table
- $\geq$ 512 Mbit Frame buffer memory
- $\geq$ 4 Priority queues
- 1.49 Mpps @64 bytes packet throughput ability

Ensure the switch complies with all applicable IEEE networking standards, including but not limited to:

- IEEE 802.3
- IEEE 802.3u, .3x

**D. Ethernet Hub Switch**

**1. Standards**

Furnish a layer 2 Ethernet Hub switch that meets the following specifications:

- 24 Gigabit Ethernet copper ports with line-rate forwarding,

- Provide copper ports that are Type RJ-45 and that auto-negotiate speed (i.e., 9 10/100/1000 Base) and duplex (i.e., full or half). Ensure that all 10/100/1000 Base TX ports meet the specifications detailed in this section and are compliant with the IEEE 802.3 standard pinouts.

- Four Gigabit Small Form-Factor Pluggable (SFP) uplinks,
  - Provide required fiber-optic 100/1000 Base-FX optical ports at full wire speed. The single mode fiber-optic ports shall support Standard (10 km), Medium (40 km), and Long Haul (70+ km) optics
  - Provide the necessary optics to match the Ethernet Field Switches

Ensure that the Ethernet Hub switch complies with all applicable IEEE networking standards for Ethernet communications, including but not limited to:

- IEEE 802.lD Spanning Tree Protocol (STP)
- IEEE 802.lP Quality of Service (QoS)
- IEEE 802.1Q Virtual Local Area Networks (VLAN Tagging)
- IEEE 802.1Q-2005 Multiple Spanning Tree Protocol (MSTP)
- IEEE 802.lX Port-Based Network Access Control
- IEEE 802.1W Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.3u supplement standard regarding 100 Base TX/100 Base FX
- IEEE 802.3X Flow Control
- IEEE 802.3Z Standards Compliant 1000 Base-SX and 1000 Base-LX optics
- IEEE 802.3ad Link Aggregation
- RFC 821 - Simple Mail Transfer Protocol
- RFC 854 - Telnet Protocol Specification
- RFC 1112 - IGMP vl
- RFC 2131 - Dynamic Host Configuration Protocol for 1Pv4
- RFC 2236 - IGMP v2
- RFC 3315 - Dynamic Host Configuration Protocol for 1Pv6 (DCHCPv6)
- RFC 3376 - IGMP v3
- RFC 2362 - Protocol Independent Multicast Sparse Mode (PIM-SM)
- RFC 3973 - Protocol Independent Multicast Dense Mode (PIM-DM)
- RFC 2328 - Open Shortest Path First (OSPF) v2
- RFC 2338 - Virtual Router Redundancy Protocol (VRRP)
- RFC 2570:2575 - SNMP v3
- RFC 2030 - Simple Network Time Protocol (SNTP)
- RFC 2267 - Denial of Service (DoS)

Ensure that the managed Ethernet switches have a minimum mean time between failures (MTBF) of 10 years, or 87,600 hours, as calculated using the Bellcore/Telcordia SR-332 standard for reliability prediction.

**2. Functional**

Ensure that the managed Ethernet switches support all Layer 2 management features and certain Layer 3 features related to multicast data transmission and routing. These features shall include, but not be limited to:

- An STP healing/convergence rate that meets or exceeds specifications published in the IEEE 802.lD standard
- An RSTP healing/convergence rate that meets or exceeds specifications published in the IEEE 802.1 w standard
- Support port-based VLAN and support VLAN tagging that meets or exceeds specifications as published in the IEEE 802.1 Q standard, and have a minimum 4-kilobit VLAN address table
- A forwarding/filtering rate that is a minimum of 14,880 packets per second for 10 megabits per second and 148,800 packets per second for 100 megabits per second
- A minimum 4-kilobit MAC address table
- Support of Traffic Class Expediting and Dynamic Multicast Filtering
- Support of, at a minimum, snooping of Version 2 of the Internet Group Management Protocol (IGMP)
- Support of remote and local setup and management via telnet, Secure Shell (SSHv2), or secure Web-based GUI and command line interfaces
- Support of the Simple Network Management Protocol version 3 (SNMPv3). Verify that the Ethernet field switch can be accessed using the resident EIA-232 management port, a telecommunication network, or the Trivial File Transfer Protocol (TFTP)
- Port security through controlling access by the users. Ensure that the Ethernet field switch has the capability to generate an alarm and shut down ports when an unauthorized user accesses the network
- Support ofremote monitoring (RMON-1) of the Ethernet agent
- Support of the TFTP and SNTP. Ensure that the managed Ethernet switches support port mirroring for troubleshooting purposes when combined with a network analyzer

**3. Physical Features**

*Mounting:* Provide 19" rack mount managed Ethernet switches that do not exceed a height of 2RU.

*Optical Ports:* Ensure that all single mode fiber-optic link ports operate at 1310 or 1550 nanometers in single mode. Provide fully-functional ports with Type LC connectors and the optics for the optical ports as specified in the Plans or by the Engineer. Do not use mechanical transfer registered jack (MTRJ) or ST type connectors. Ensure that each optical port consists of pair of fibers: one fiber will transmit (TX) data and the other fiber will receive (RX) data.

Provide fully functional single mode fiber-optic 100 Mbps ports with optical transceivers installed in the proposed managed Ethernet switches. Each optical transceiver shall consist of fiber pairs; one fiber will transmit (TX) data and one fiber will receive (RX) data. Provide GBICs ports that have 70 km optics.

*Copper Ports*: If two chassis are needed in the hub cabinets in order to provide the required number of ports provide two (2) 1000 Base TX uplink ports.
For the TOC location provide two (2) 1000 Base TX uplink ports and 48 10/100/1000 Base TX ports. Provide Type RJ-45 copper ports and that auto-negotiate speed (i.e., 10/100/1000 Base) and duplex (i.e., full or halt). Ensure that all 10/10011000 Base TX ports meet the

specifications detailed in this section and are compliant with the IEEE 802.3 standard pinouts.
Ensure that all Category 5e unshielded twisted pair/shielded twisted pair network cables are compliant with the EWTIA-568-B standard.

Ensure that the managed Ethernet switch (10/100/1000 Mbps ports) supports jumbo frames and full Layer 3 routing. Ensure that the switch includes support for dynamic unicast routing protocols such as RIPvl/v2 and OSPF, and support for multicast routing protocols, including PIM-SM, PIM-DM, and DVMRP.

*Port Security*: Ensure that the managed Ethernet switches support/comply with the following minimum requirements:

- Ability to configure static MAC addresses
- Ability to disable automatic address learning per ports, known hereafter as Secure Port. Secure Ports only forward data for pre-defined I learned MAC addresses
- Trap and alarm upon any unauthorized MAC address and shutdown for programmable duration. Port shutdown requires administrator to manually reset the port before communications are allowed
- MAC-based VLAN assignment to allow different users to authenticate on different VLANs,
- Comprehensive 802.1X features to control access to the network, including Flexible Authentication, 802.1x Monitor Mode, and RADIUS Change of Authorization,
- IPv6 First-Hop Security to protects against rogue router advertisements, address spoofing, fake DHCP replies and other risks introduced by IPv6 technology,
- Access Control Lists (ACLs) for IPv6 and IPv4 for security and QoS ACEs.

*Network Capabilities:* Provide managed Ethernet switches that support/comply with the following minimum requirements:

- Have a non-blocking architecture
- Route and switch unicast and multicast traffic simultaneously at wire speed
- Support port mirroring and monitoring to aid in troubleshooting
- Support QoS queue management using weighted round robin (WRR) and strict priority (SP),
- Support 10/100/1000 BaseTX ports (RJ-45)
- Provide support for the following RMON-1 groups, at a minimum:

- Part 1: Statistics
- Part 2: History
- Part 3: Alarm
- Part 9: Event

- Capable of mirroring any port to any other port within the switch
- Meet the IEEE 802.3ad (Port Trunking) standard for a minimum of two groups of four ports
- Telnet/CLI
- HTTP (Embedded Web Server) with Secure Sockets Layer (SSL)
- Be managed through console (RS-232), telnet, and Web interface

- Support download and upload of images and configurations via TFTP
- Full implementation of RFC 783 (TFTP) to allow remote firmware upgrades
- Support port mirroring and monitoring to aid in troubleshooting

*Network Security:* Provide managed Ethernet switches that support/comply with the following (remotely) minimum network security requirements:

- Multi-level user passwords
- RADIUS centralized password management (IEEE 802.IX)
- SNMPv3 encrypted authentication and access security
- Port security through controlling access by the users: ensure that the managed Ethernet switch has the capability to generate an alarm and shut down ports when an unauthorized user accesses the network
- Support of remote monitoring (RMON) of the Ethernet agent
- Support of the TFTP and SNTP. Ensure that the managed Ethernet switch supports port mirroring for troubleshooting purposes when combined with a network analyzer.

**4. Electrical Specifications**

Ensure that the managed Ethernet switches have redundant power supplies and operate and power is supplied with 115 V AC.
Ensure that the field switch has a minimum operating input of 110 AC and a maximum operating input of 130 VAC.
Ensure that if the device requires operating voltages other than 120 VAC, supply the required voltage converter.
Ensure that the maximum power consumption does not exceed 350 watts.
Ensure that the managed Ethernet switches have diagnostic light emitting diodes (LEDs), including link, port activity, duplex mode, speed (for Category 5e ports only), and power LEDs.

**5. Management Capabilities**

Ensure that the managed Ethernet switch includes management capabilities, as defined in the following:

- Incorporate an internal temperature sensor capable of sending system log and/or SNMP traps should the switch exceed a specified warning level
- Support automatic powering off should the temperature exceed a specified level to prevent damage to the switch
- Support port mirroring and monitoring to aid in troubleshooting
- Be capable of utilizing the following standard protocols:
    - Support VLAN (IEEE 802.1 Q)
    - Support Multiple Spanning Tree Protocol (IEEE 802.1 Q-2005)
    - Support Rapid Spanning Tree Protocol (IEEE 802.1 W)
    - Support IGMP Versions 1 and 2 (RFC 1112 and 2236)
    - Support RIP Versions 1and2 (RFC 1058 and 1723)
    - Support OSPF Version 2 (RFC 1583 and 2328)

- Support PIM (SM & DM)
- Support IGMP Version 1and2 (RFC 1112 and 2236)
- Support DVMRP
- Support VRRP (RFC 2338)
- Support ToS/DSCP mapping to priority queue
- Support QoS queue management using weighted round robin (WRR) and strict priority (SP)
- Support 10/100/1000 BaseTX ports (RJ-45)
- Support a minimum of (2) 10-Gigabit Ethernet ports per blade
- Support Flow Control (IEEE 802.3x)
- Support Gigabit Ethernet (IEEE 802.3z)
- Support SNMP Version 1 and 3
- Support 4 groups ofRMON-1. (Groups 1-3, 9)
- Be managed through console (RS-232), telnet, and Web interface
- Support download and upload of images and configurations via TFTP

Ensure that the managed Ethernet switch fully supports all Layer 2 and Layer 3 management features related to multicast data transmission and routing, including, but not be limited to:

- An STP healing/convergence rate that meets or exceeds specifications published in the IEEE 802.1 D standards
- An RSTP healing/convergence rate that meets or exceeds specifications published in the IEEE 802.1 w standard
- A managed Ethernet core switch that is a port-based VLAN and supports VLAN tagging that meets or exceeds specifications as published in the IEEE 802.1 Q standard
- A multicast forwarding database that supports a minimum of 2048 entries in hardware
- A forwarding/filtering rate that is a minimum of 14,880 packets per second for 10 megabits per second and 148,800 packets per second for 100 megabits per second
- Support of Traffic Class Expediting and Dynamic Multicast Filtering
- Support of, at a minimum, Version 2 of the Internet Group Management Protocol (IGMP)
- Support of remote and local setup and management via telnet, Secure Shell (SSHv2), or secure Web-based GUI and command line interfaces
- Support of the SNMP protocol
- Verify that the Ethernet Hub switch can be accessed using the resident EIA-232 management port, a telecommunication network, or the Trivial File Transfer Protocol (TFTP)
- Port security through controlling access by the users. Ensure that the Ethernet core switch has the capability to generate an alarm and shut down ports when an unauthorized user accesses the network
- Support of the TFTP and the SNTP. Ensure that the Ethernet core switch supports port mirroring for troubleshooting purposes when combined with a network analyzer.

**6. Environmental Specifications**

Provide managed Ethernet switches that adhere to the following environmental constraints if located within a climate-controlled environment:

- Operating temperature range: -40°F to 130°F
- Storage temperature range: -40°F to 185°F
- Operating relative humidity range: 5% to 90%, non-condensing

## E. KVM Switch

Provide a rack mount console KVM switch as described below. Provide keyboard-video-mouse (KVM) assembly that can access and provide operator interface for at least four (4) servers. The KVM switch shall have an integral tilt-up screen.

### 1. Performance

Provide KVM meeting the following requirements:

- Meets EIA-310C & IEC-3 specifications,
- The KVM assembly shall include KVM switch, keyboard, flat screen display, and associated cabling,
- Port selection by pushbuttons, on-screen display, or hot keys,
- Active port status LEDs,
- Administrative and user assignable rights,
- Compatible with Windows® 7 Professional and Windows® Server 2016,
- Support video resolution up to 1,280 x 1,024 at 75 Hz, and
- Servers: minimum of four (4).

### 2. Physical Features

Furnish a KVM switch meeting the following material requirements:

- Users: 1 administrator and 4 local users,
- Monitor: Integrated 17-inch, LCD 1,280 x 1,024, 27 dpi, SGVA, LED, folding rack-mounted, contrast ratio of 350:1, frame rate of 60Hz (typ.), 75Hz (Max),
- Keyboard: 104 key model,
- Mouse: Touch pad,
- KVM switch: Rack-mounted, maximum 1 RU size,
- Cabling: All power, keyboard, mouse and display cabling between each server and the KVM assembly; and mounting brackets,
- Power Supply: 120 VAC, and
- Expandability: HD15 VGA Monitor Port and PS/2 keyboard/mouse ports.

## F. Workstation

### 1. Functional

Provide workstation that can operate the video control software and DMS control software over an Ethernet network in the TOC.

**2. Performance**

Provide a workstation that is upgradable and meets the following requirements:

- Processor: Intel Xeon E5-1603
- Memory: 8 GB
- Hard Drive: 250 GB
- Network: 1 GB network interface card
- Video: 2.0 GB NVIDIA Quadro NVS 510, or equivalent, that can drive 4 video displays
- Optical Drive: Internal DVD+/-RW
- Mini-Tower chassis
- Microsoft 2-button/scroll mouse
- Full function, 104 keyboard with separate numeric and cursor control keys
- Speakers
- A minimum of four (4) universal serial bus (USB) ports
- Stand-alone UPS unit, with a minimum
  - Surge protection and filtering
  - Battery capable of providing 6 minutes of backup time at full load
  - Three (3) NEMA 5-15R output connections (with battery backup)
  - Three (3) NEMA 5-15R output connections (with surge protection)

For the workstation in the TOC, use dual video output card to drive the workstation monitor and one wall monitor as follows.

**3. Physical Features**

Provide workstation meeting the minimum power requirements:

- Input voltage: 90-135 V at 50/60 Hz,
- Output wattage: 460 W, and
- Heat Dissipation: 93.1 BTU/hour (fully loaded computer without monitor).

Provide workstation meeting the minimum port requirements:

- Keyboard: One USB connection,
- Mouse: One USB connection,
- Audio: Miniature phono jacks – line out, line in, and microphone,
- Ethernet: 10/100 Base T Ethernet with RJ-45 connector, and
- USB Port: At least 4 rear and 2 front USB 2.0 ports (min. 6 total)

Equip workstation with at least one direct 10/100 Base T Ethernet LAN interface. The network connector shall be RJ-45 for Category 5e or 6 UTP for interfacing with the Ethernet Hub Switch.

## 11.3 CONSTRUCTION METHOD

### A. General

Do not remove existing cellular communications equipment until fiber optic communications has been established. The communications equipment and materials to be removed under this project include, but are not limited to: cellular modems, antenna and cabling. All Department-owned communications related equipment and material that will not be used per the Plans, shall be returned to the Deputy Traffic Engineer at NCDOT Division 3 Traffic Services office located at 5504 Barbados Blvd. Castle Hayne, NC 28429, during typical business hours. The Department will deduct the cost of Department-owned equipment damaged by the Contractor from money due to the Contractor.

Furnish media access control (MAC) addresses for all equipment utilized as part of this project. Affix MAC Address label to each device utilized. Furnish IP addresses for all equipment utilized as part of this project. Affix final IP address each device utilized. Use labels that do not smear or fade.

Ground the communications rack to a building ground.

### B. Enclosed Communications Rack

Install the caster-mounted communications rack cabinet in the TOC as shown in the Plans. Install the Ethernet Hub Switch, VPU Switch, KVM Switch, fiber-optic splice center, and a rack-mounted UPS.

Furnish and install a power strip and 10-foot power cord on the rear of the rack frame. Furnish and install strip that uses 120 VAC 60 Hz power and that contains at least 5 outlets. Furnish and install grounding bus bar system to ground the rack-mounted electrical equipment. Equip door with grounding studs.

Furnish and install cable management hardware for attachment vertically along the rack frame and horizontally between 19-inch rack angles. Cable management hardware shall run vertically up one rear rack frame. Provide hardware including cable organizers and clamps to provide strain relief and cable mounting.

Connect the UPS unit to a power outlet. Connect the power strip to the UPS. Connect all communications equipment installed in the rack to the power strip or directly to the UPS.

### C. Field Ethernet Switch

Install and integrate all field Ethernet switches at field locations as called for in Project Plans. In CCTV field equipment cabinets, fully integrate new field Ethernet switches with CCTV cameras, and in DMS field equipment cabinets, fully integrate new field Ethernet switches with DMS controllers. Connect the field Ethernet switch to the DMS or CCTV controller using outdoor rated CAT 5e LAN cable. Provide inline surge protection for all Ethernet connections in field cabinets.

### D. Ethernet Hub Switch

Ensure that at a minimum, the switch configuration includes the following features: SNMPv3, SNTP, Port Security, all required VLANs, Unicast Routing protocols, and Multicast Routing protocols. Ensure unused switch ports are disabled.

Ensure that the proposed Ethernet Hub switch is fully accessible by technicians without blocking access to other equipment.

Verify that network/field/data jumper cables meet all ANSI/EIA/TIA requirements for Category 5e 4-pair unshielded twisted pair cabling with stranded conductors and RJ45 connectors.

Mount and secure the proposed Ethernet Hub switch inside an existing communications rack in the existing Division 4 ITS Center.

Fully integrate LAN equipment to provide virus protection, user authentication, and security functions to prevent unauthorized users and data from entering the LAN.

Ensure that at a minimum, the switch configuration includes the following features: SNMPv3, SNTP, Port Security, all required VLANs, Unicast Routing protocols, and Multicast Routing protocols. Ensure unused switch ports are disabled.

Integrate the proposed Ethernet Hub switch with new and existing Ethernet devices to remain on the network and with proposed Ethernet field switches.

**E. KVM Switch**

Install the KVM assembly in the enclosed 19-inch communications rack with the ITS servers. After the KVM assembly has been installed, perform the following operational tests on the KVM assembly in accordance with the test plans:

- Connect all existing and proposed servers, monitors, keyboards, mice, and power supplies,
- Program the on-screen display to assign ports and bank numbers and to enter the names of each server in the menu,
- Program the KVM switch for scan features and access privileges,
- Configure user accounts and access privileges, and
- Select each server and ensure the mouse and keyboard work the selected server and the monitor displays the appropriate server.

**F. Workstation**

Install the workstation in the Division 3 TOC control room as shown in the Plans. After the workstation is installed, verify with Division IT administrator that all NCDOT software packages, security features and virus protections are present and in accordance with the most recent Department standards and settings.

Perform the following:

- Connect to the existing Monitor #5 as shown in the Plans.
- Configure user accounts and access privileges
- Install Vanguard Software
- Connect workstation to the Ethernet Hub Switch

- Ensure workstation has full functionality with the mouse, keyboard and the monitor displays.
- Ensure workstation has access to the LAN and to other servers and devices on the network.
- Ensure workstation can operate the video control software and DMS control software over an Ethernet network in the TOC.

## 11.4 MEASUREMENT AND PAYMENT

*Enclosed Communications Rack* will be measured and paid as the actual number of enclosed communications racks furnished, installed, and accepted.

*Field Ethernet Switch* will be measured and paid as the actual number of Ethernet field switches furnished, installed, integrated, and accepted. All SFP modules, optics, cabling, attenuators, configuration, and testing or other labor or materials required to install and integrate the Ethernet field switch will be considered incidental and will not be paid for separately.

*Ethernet Hub Switch* will be measured and paid as the actual number of Ethernet LAN switches furnished, installed, integrated, and accepted. All ports, cabling, grounding, redundancies, labeling, integration, power supplies, power cords, adapters, mounting hardware, DIN rail mounting brackets, DIN rails, connectors, signs, decals, disconnect switches, installation materials, and configuration software, and testing or other labor or materials required to install and integrate the Ethernet field switch will be considered incidental and will not be paid for separately.

*KVM Switch* will be measured and paid as the actual number of KVM switch furnished, installed, integrated and accepted. All ports, cabling, grounding, labeling, integration, power supplies, power cords, adapters, mounting hardware, DIN rail mounting brackets, DIN rails, connectors, installation materials, and configuration software, and testing or other labor or materials required to install and integrate the KVM switch will be considered incidental and will not be paid for separately.

*Workstation* will be measured and paid as the actual number of Workstations furnished, installed, integrated and accepted. All ports, cabling, grounding, labeling, integration, power cords, adapters, connectors, installation materials, configuration software, Vanguard Software installation, and testing or other labor or materials required to install and integrate the Workstation will be considered incidental and will not be paid for separately.

No separate measurement and payment will be made for the UPS unit, as such materials and work will be considered incidental to furnishing and installing the communications rack.

No separate measurement and payment will be made for rack set-up and assembly, mounting of all accessories and equipment specified for installation within the rack, all brackets, fasteners, and hardware required for properly mounting equipment in the rack, as such materials and work will be considered incidental to furnishing and installing the communications rack.

No separate measurement will be made for coaxial cables, fiber optic and Ethernet patch cords, signal and electrical cables, mounting hardware, nuts, bolts, brackets, connectors, and all other equipment and labor required to complete the work described in this sections as these will be considered incidental to the equipment pay items listed above.

Payment will be made under:

| Pay Item | Pay Unit |
|---|---|
| Enclosed Communications Rack | Each |
| Field Ethernet Switch | Each |
| Ethernet Hub Switch | Each |
| KVM Switch | Each |
| Workstation | Each |

# 12 BUILDING MODIFICATIONS AND FIBER-OPTIC CABLE TERMINATION

## 12.1 DESCRIPTION

At the Division 3 TOC shown in the Plans, route fiber-optic cable in new conduits and install conduits into buildings as shown. Terminate fiber-optic cable in fiber-optic splice trays in building as shown in the Plans. Furnish and install cable and cable routing facilities as shown in the Plans. Furnish and install electrical outlets and circuits in the TOC.

All construction to reach the building is paid for using other pay items in these Project Special Provisions. All construction to enter a building (including all work from creating a new entrance), making internal provisions for terminating cables, and modifying electrical circuits are covered under these building modification pay items.

## 12.2 MATERIALS

### A. General

Use risers and conduit materials as called for in the *Standard Specifications* or these Project Special Provisions.

Use caulking and sealing materials for sealing entrances into buildings as approved by the Engineer.

Use new cable raceways, electrical boxes, and metallic conduit as approved by the Engineer. Where called for in the Plans, use intermediate metallic conduit (IMC) that complies with the NEC and EIA/TIA Standard 569 and commercial building standards for telecommunications pathways.

### B. Fiber-Optic Splicing and Termination

Furnish SMFO pigtails with the splice housing, connector housing and interconnect center. Provide pigtails that are a maximum of 6 feet in length with a factory assembled LC

connectors on one end. Ensure that the SMFO pigtails meet the operating characteristics of the SMFO cable with which it is to be coupled.

Furnish SMFO jumpers that are a minimum of 3 feet in length with factory assembled LC connectors on one end (i.e., the splice/interconnect center end) and, on the other end, factory-assembled connectors of the same type provided on the Ethernet switch. Ensure that SMFO jumpers meet the operating characteristics of the SMFO cable with which it is to be coupled. Provide all of SMFO jumpers with all of the connector combinations necessary to provide the connectivity indicated in the Plans and required by these Project Special Provisions to produce a fully-functional Ethernet communications system.

Provide connector panels with LC-type connectors for connector housings and interconnect centers installed.

For each splice housing and interconnect center, provide splice trays that hold, protect, and organize optical fibers, and secure fibers inside splice tray. Design and size splice trays to be dielectric, to accommodate all fibers entering the splice tray, and to provide sufficient space to prevent micro-bending of optical fibers.

## C. TOC Building Modifications

### 1. Rack-Mounted Interconnect Center and Splice Tray

Furnish one rack-mountable connector housing (i.e., distribution panel) and a matching splice housing for splicing the fibers in the incoming 72-fiber cable to SMFO fiber optic pigtails and terminating on patch panels in the communications rack being installed in the TOC. The connector housing shall have LC-compatible connector panels and shall have a capacity for terminating a minimum of 72 fibers on the patch panel. The connector housing shall occupy no more than four rack units. Provide a matching splice housing and necessary splice trays for fusion splicing the incoming single-mode fibers in the 72-fiber cable to the pigtails. The splice housing shall occupy no more than four rack units, shall be of the same manufacturer as the associated connector housing and designed to work with the connector housing. The splice housing shall have the capacity to splice at least 72 fibers. Store a minimum of 20 LF of each fiber-optic cable inside the communications rack cabinet that contains the splice and connector housings. Provide all hardware needed to install these units in the TOC.

### 2. Conduit, Conduit Fasteners and Fittings for Entrances

Furnish all conduit, conduit fittings, outlet bodies, conduit straps, conduit-to-beam fasteners, rod-to-beam fasteners, threaded rods, conduit fasteners, bushings, duct sealant, heat shrink tubing, and any other hardware required to provide a conduit to convey the fiber-optic communications cable through the void ceiling in the Electronics Shop as shown in the Plans.

## 12.3 CONSTRUCTION METHODS

### A. General

Contact Engineer prior to entering any building. Coordinate and obtain approval and access from Engineer regarding allowable working time in buildings.

Prior to core drilling or otherwise creating new entrance into an existing building or through an interior wall, obtain approval of methods and materials from the Engineer. In all cases create entrances through exterior walls that are weatherproof and watertight and through interior walls that are properly sealed with an approved, UL-listed fire-block sealant.

Whenever possible, use existing cable raceways, ducts and drop ceilings to route fiber optic and Cat 5e cables.

When working inside the building, cover all furnishings, including chairs and electronic and computer equipment with drop cloths to protect them from debris and to aid in cleanup. Replace the ceiling panels and clean up all dust and debris by the end of each work period unless otherwise approved by the Engineer. Replace any ceiling panels damaged during installation of the above ceiling conduit at no expense to the Department.

Perform all work called for in the Plans to enter building, install cable conduits and cable raceways, and to route cabling in drop ceilings and new conduits.

Terminate all optical fibers in the rack-mounted interconnect center unless otherwise shown on the Plans.

Install interconnect center, splice trays, storage for slack cable or fibers, mounting and strain relief hardware, and all necessary hardware. Comply with all requirements of the "Fiber-Optic Interconnect Centers" section of these Project Special Provisions.

### B. Traffic Operations Center (TOC)

Install equipment and route cable into the Electronics Shop through proposed rigid metal and IMC conduit as shown in the Plans. Contact Stoney Mathis at (910) 341-2200 at least 30 days in advance of work to confirm work schedule, work restrictions and to make arrangements for gaining access to the building. Perform all work in accordance with.

Based on equipment load, a licensed electrical contractor shall size and install electrical conductors, breakers, and a quadrupole power outlet in accordance with all local and NEC regulations and guidelines to provide electrical service for the new enclosed equipment rack in the Electronics Shop as shown in the Plans.

Install the required rack-mounted fiber interconnect center and splice tray in the communications rack in the Electronics Shop as shown in the Plans. Fusion splice all fibers in the entering fiber-optic cables to SMFO pigtails inside rack-mounted splice housing, then connect the pigtails to the appropriate connectors in the interconnect center. Terminate all pigtails from the incoming cable. Clearly label the interconnect center using an approved labeling method. Install SMFO jumpers between the connector panels and the Ethernet Hub Switch.

Install a 3" RGS conduit through the exterior brick wall into the void ceiling area above the existing control room as shown in the Plans. Install a waterproof duct sealant to make a water

tight seal and prevent water intrusion between exterior of the 3" conduit and the hole through the wall. Seal the exterior end of the conduit with approved heat shrink tubing after the fiber-optic cable has been pulled into the building.

Install a 3" IMC conduit with appropriate RGS to IMC conduit fitting and run the IMC conduit through the void ceiling area as shown in the Plans. Install a 90-degree bend to run the conduit down the wall near the equipment rack. Attach the conduit to the wall using approved conduit straps anchored into the wall. Terminate the conduit with a bushing to protect the cable from damage.

Install the proposed fiber-optic and Ethernet cable in proposed IMC conduit as shown in the Plans. Follow procedures above for protecting equipment, cleaning up and terminating cable.

Feed the cables down through the tubing, into the rack-mounted fiber-optic interconnect center. Install the required rack-mounted fiber-optic interconnect center in the Electronics Shop as shown in the Plans. Fusion splice all fibers in the entering fiber-optic cables to SMFO pigtails inside rack-mounted splice tray, then connect the pigtails to the appropriate connectors in the interconnect center. Install SMFO jumpers between the connector panels and the Ethernet Hub Switch.

Maintain fire rating of wall penetrations with fire stop materials. Apply an Engineer-approved, UL-listed fire-stop sealant (putty, caulk, mortar, etc.) to seal gaps between any new conduits installed and holes cut through exterior and interior building walls and partitions.

## 12.4 MEASUREMENT AND PAYMENT

*Building Modifications* will be measured and paid at the contract lump sum price. The price and payment will be full compensation for all work required to supply power to the equipment rack including feeder conductors and ICM conduit, install conduit and route and terminate the fiber-optic cable into the building as shown in the Plans, as well as any other work not called for under other items but required to accomplish the building modifications.

No separate payment will be made for conduit, conduit fittings, conduit hangers, conduit surface mounting hardware and brackets, and fire-stop sealant as these will be considered incidental to the building modifications.

No separate measurement will be made for mounting hardware, nuts, bolts, brackets, connectors, grounding equipment as these will be considered incidental to the building modifications.

No separate measurement will be made for computer hardware, Ethernet switches, Ethernet cables, video head-end equipment, and rack cabinets, as these will be measured and paid for elsewhere in these Project Special Provisions.

Payment will be made under:

**Pay Item** **Pay Unit**

Building Modifications…….....Lump Sum

# 13 DIGITAL VIDEO EQUIPMENT

## 13.1 DESCRIPTION

Furnish and install a video processing unit (VPU), using software to decode digitized video signals from the CCTV cameras and to manage the switching of video images onto user selectable video monitors.

Remove all existing equipment related to analog video that will not be needed for the updated digital video system.

## 13.2 MATERIALS

### A. General

Provide a server class computer that will serve as a video processing unit. Provide video monitor display cards to operate the existing display monitors. The video processing unit shall meet the following requirements:

- Support Windows® 7 Professional (64-Bit) operating system,
- Occupy no more than three rack units,
- Include 10/100/1000 MB network interface cards,
- Include one terabyte of storage,
- Include a quad core (or better) processor,
- Minimum of 8 Gigabytes of RAM,
- Provide software-based video decoding for a minimum of sixteen (16) H.264 video streams at 25 frames per second.
- Provide video monitor display cards described below.

### B. Video Monitor Display Card

Provide video display output cards that meet the following requirements:

| | |
|---|---|
| • Form Factor: | ATX, |
| • Graphics Bus: | PCI Express 2.0 x16, |
| • Number of Slots: | One, |
| Resolution: | Up to 3840 x 2160 @ 60Hz, |
| • Memory interface: | 128-bit, |
| • Frame buffer memory: | 2 GB DDDR3, |
| • Memory bandwidth: | 28.5 GB/s per graphics processor unit (GPU), |
| • Display Connectors: | 4x mini DisplayPort, |
| • Passive Heat sink. | |

### C. Display Connector Cables

Furnish display connector cable with the appropriate connectors at each end to connect the outputs of the video monitor display card to the existing video monitors.

### D. Software

Furnish and install software onto the VPU to decode, switch and display video streams onto the existing video monitors.

**1. Decoding Software**

Furnish decoder software to decode the digitized video from all existing CCTV cameras as well as the CCTV cameras installed on this project.

Furnish decoder software that supports multiple video formats, specifically MPEG-2 and MPEG-4.

Furnish decoder software that permits the easy addition and configuration of encoders and cameras into the database as well as the ability to manage and identify cameras and encoders within the system.

Furnish software that allows additional video decoders to be easily added to the system.

**2. Video Switching Software**

Furnish video switching software that enables a user to pair an encoder with video decoder using the drag and drop method. Once paired, the VPU will instantly start decoding the digitized video stream and display it on the video window.

Furnish video switching software that enables decoded video to be displayed on multiple monitor outputs on a single VPU and allows a user to drag and drop any given video output to any video display.

Furnish video switching software that allows a user to split each video window into four, nine and sixteen streams.

## 13.3 CONSTRUCTION METHODS

**A. Video Processing Unit**

Install the video processing unit in an existing communications rack in the Division 4 ITS Center. Integrate the unit with the Ethernet LAN switch and video display subsystem.

Install and configure the video decoding software and video switching software on the video processing unit. Configure the decoding software to decode digitized video streams from all existing CCTV cameras as well as the new CCTV cameras installed on this project.

Configure the video switching software to pair encoders with the correct decoders.

Install compatible client video management software onto an existing operator workstation on the network to allow operator interaction with the VPU to pair encoders and decoders, and to switch video inputs and outputs as desired.

**B. Analog Video Equipment**

Remove all existing analog video equipment from the rack(s) that will not be needed with the updated digital video system. Deliver the removed analog video equipment to Division 4 at a time and place designated by the Engineer.

## 13.4 MEASUREMENT AND PAYMENT

*Video processing unit* will be measured and paid as the actual number of video processing units furnished, installed and accepted. No separate payment will be made for the video display output card as this will be considered incidental to furnishing and installing the video processing units. No separate measurement nor payment will be made for installing and configuring the video decoding,

video switching or VideoPro (for compatibility within the Region and with the STOC) client software as such work will be considered incidental to furnishing and installing the video processing unit.

No separate measurement will be made for video cables, cable connectors, communication cables, Ethernet cables between equipment housed within the same room/rack/cabinet, electrical cables, mounting hardware, nuts, bolts, brackets, connectors, grounding equipment, surge suppression, documentation and removal of existing analog video equipment as these will be considered incidental to furnishing and installing the video processing unit.

Payment will be made under:

| **Pay Item** | **Pay Unit** |
|---|---|
| Video Processing Unit | Each |

## 14 SUBMITTAL DATA

### 14.1 DESCRIPTION

Provide project documentation as described below.

### 14.2 SUBMITTALS

**A. General**

All documentation will be either 8½” x 11” or 11” x 17” format. No documentation may be smaller or larger than these formats. All submittals will be reviewed and approved by the Department. Absence of comment will not grant approval.

**B. Qualified Products**

Furnish new equipment, materials, and hardware unless otherwise required. Inscribe manufacturer’s name, model number, serial number, and any additional information needed for proper identification on each piece of equipment housed in a case or housing.

The ITS & Signals Qualified Products List (QPL) is available on the North Carolina Department of Transportation’s Website. Certain signal and communications equipment, material, and hardware shall be pre-approved on the QPL by the date of installation. Equipment, material, and hardware not pre-approved when required will not be allowed for use on the project. Consult the QPL Website to obtain pre-approval procedures.

**C. Test Plan**

Develop a Test Plan as described in the section “Testing and Acceptance” of these Project Special Provisions. Submit and obtain approval before beginning any testing.

**D. Submittal Requirements**

Provide written certification to the Department that all Contractor-furnished material is in accordance with the contract. When requested by the Department, provide additional certifications from independent testing laboratories and sufficient data to verify item meets applicable specifications. Ensure additional certification states the testing laboratory is independent of the material manufacturer and neither the laboratory nor the manufacturer has a vested interest in the other.

For Contractor-furnished material not on the QPL, furnish three copies of the equipment list including three copies of catalog cuts. Identify proposed material on catalog cuts by a reproducible means (highlighter pen does not transfer to copies). Ensure material lists contain material description, brand name, manufacturer's address and telephone number, stock number, size, identifying trademark or symbol, and other appropriate ratings. For submittals showing a variety of models and parts available from the manufacturer, clearly identify by circles, marking our other means the specific materials for which approval is requested.

Allocate 40 days for the Department to review and respond to a submittal. Do not deviate from what is approved without approval by the Department. Do not fabricate or order material until receipt of the Department's approval. All submittals will be returned as either "Approved (as submitted)", "Approved as Noted" or "Rejected". The Contractor may proceed with fabrication or ordering for items marked "Approved". If an item is marked "Approved as Noted" without any stipulation for resubmittal, then the Contractor may proceed with fabrication or ordering. For any other notations, the Contractor shall revise the submittal, address comments, and resubmit for approval.

## 14.3 MEASUREMENT AND PAYMENT

There will be no direct payment for work covered in this section. Payment at the contract unit prices for the various items in the contract will be full compensation for all work covered by this section.

# 15 TESTING AND ACCEPTANCE

## 15.1 DESCRIPTION

Once all hardware has been installed and the system integration is complete, perform a System Operational Test, which fully exercises all functions of the system. Submit a test plan a minimum of fifteen (15) days prior to the scheduled start of the test to the Engineer for review and approval. The Engineer will review the test plans and reply within fifteen (15) working-days from the receipt of the test plan.

The field tests will include inspection of the modified cabinets, wire & cabling, field Ethernet switches and all other components installed in the existing DMS and CCTV cabinets.

**Software / Central System Test**

Demonstrate that all equipment furnished has been installed properly and operates as specified in these Project Special Provisions.

From the Division 3 TOC, demonstrate that all CCTV cameras connected under this project have been integrated with the VideoPro video management software. Demonstrate GUI controls and features. Exercise all CCTV functionality and PTZ control for each CCTV unit. Demonstrate selection and display of each CCTV video to available monitors.

From the Division 3 TOC, demonstrate that all DMSs connected under this project are fully integrated with Vanguard DMS software by posting test messages.

**30-Day Observation Period**

The 30-Day Observation Period is not part of work to be completed by the project completion date. Upon successful completion of all project work, the component tests, the System Test, and the correction of all deficiencies, including minor construction items, the 30-day Observation Period may commence. This observation consists of a 30-day period of normal, day-to-day operations of the new field equipment in operation with the new central equipment without any failures. The purpose of this period is to ensure that all components of the system function in accordance with the Plans and these Project Special Provisions.

Respond to system or component failures (or reported failures) that occur during the 30-day Observation Period within twenty-four (24) hours. Correct said failures within forty-eight (48) hours. Any failure that affects a major system component as defined below for more than forty-eight (48) hours will suspend the timing of the 30-day Observation Period beginning at the time when the failure occurred. After the cause of such failures has been corrected, timing of the 30-day Observation Period will resume. System or component failures that necessitate a redesign of any component or failure in any of the major system components exceeding a total of three (3) occurrences, will terminate the 30-day Observation Period and cause the 30-day Observation Period to be restarted from day zero when the redesigned components have been installed and/or the failures corrected. The major system components are:

- Ethernet Switches
- Fiber Optic Communications
- Video Processing Unit

## 15.2 MEASUREMENT AND PAYMENT

There will be no direct payment for work covered in this section. Payment at contract unit prices for the various items in the contract will be full compensation for all work covered in this section.

2/6/2018
NORTH CAROLINA PROFESSIONAL SEAL 26936 ENGINEER DAVID S. STUTTS
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# R-2633D
# Intelligent Transportation Systems Conduit and Fiber Installation

Project Special Provisions

**Not Valid Unless Signed – This Seal Applies Only to Section 16**

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## 16 BRIDGE CONDUIT SYSTEM

### 16.1 DESCRIPTION

The work covered by this section consists of furnishing and installing a conduit system suspended beneath an existing structure and terminated in junction boxes that are accessible from the shoulder at the ends of the bridge. Perform all work in accordance with these special provisions, the plans, and the National Electrical Code (NEC). Install the conduit system in accordance with NEC requirements as an approved raceway.

The Contractor actually performing the work described in these special provisions is required to have a license of the proper classification from the North Carolina State Board of Examiners of Electrical Contractors.

The Contractor is required to be available on the job site when the work is being performed or when requested by the Engineer. The Contractor is required to have a set of plans and special provisions in his possession on the job site, and must maintain accurate “as built” plans.

### 16.2 MATERIALS

For the work covered by this section, the term conduit applies to a system of components consisting of an outer duct, 4 inner ducts, internal spacers, special-purpose spin couplings and all necessary components, referred to as a multi-cell raceway system.

Furnish and install bridge junction boxes that are closed in the back, with internal capacity to store 50' of fiber-optic without exceeding the cables bend radius. Fabricate bridge junction boxes from 0.125" aluminum. Furnish the aluminum door with a gasket strip to prevent moisture penetration and a continuous stainless steel hinge for front access to stored cable.

For the outer duct of RGC multi-cell raceway, use rigid galvanized conduit per UL 6 "Rigid Metallic Conduit" with rigid full weight galvanized threaded fittings. Provide factory installed reverse-spin couplings with 3 set screws, to allow assembly without turning the outer duct, and prevent the coupling from backing off before and after installation. Provide an O-ring gasket in the coupling body to resist pullout and to create a watertight seal. Provide pre-installed, smooth walled, pre-lubricated PVC inner ducts, with one white "tracer" duct and internal spacers to maintain alignment throughout the raceway system. Do not use materials provided by more than one manufacturer.

When deflection couplers are detailed on the plans, use deflection couplers that are designed for use with RGC multi-cell raceway, and meet all the requirements for RGC outer duct stated above. Provide deflection couplers that allow a 30 degree bend in any direction and ¾ inch mis-alignment in all axis. Provide factory installed reverse-spin couplings with 3 set screws, to allow assembly without turning the outer duct, and prevent the coupling from backing off before and after installation. Provide deflection couplers with a middle section consisting of a rubber boot attached by spin couplings and galvanized straps, with inner ducts that bend in unison with the rubber boot.

Use expansion joints that are designed for use with RGC multi-cell raceway, and meet the requirements for RGC outer duct stated above. Provide expansion joints that allow 8 inches of longitudinal movement. Use expansion joints consisting of a female end with a lead-in coupling body and spin coupling, an exterior sliding joint, and a fixed inner duct with an internal sliding joint. Provide expansion joints that have factory installed reverse-spin couplings with 3 set screws, to allow assembly without turning the outer duct and prevent the coupling from backing off before and after installation.

Use transition adapters that allow RGC raceway and PVC raceway to be coupled together while maintaining the same inner duct alignment. Provide adapters consisting of a threaded female adapter, an outer duct adapter, and a modified coupling body with a sleeve, thin wall couplings and an end spacer.

For the outer duct of PVC multi-cell raceway use schedule 40 PVC per UL 651 "Rigid Nonmetallic Conduit." Use PVC raceway with 6 inch bell ends and an O-ring gasket to resist pullout and provide a watertight seal. Provide PVC raceway having a print line that states "Install Print Line Up" to help facilitate correct installation. Use PVC raceway with prelubricated PVC inner ducts, with one white "tracer" duct and internal spacers to maintain alignment throughout the raceway system. Do not use material provided by more than one manufacturer.

Use terminations designed for PVC raceway, to seal each inner duct and the outer duct, and to provide watertight protection.

Use schedule 40 PVC for sleeves in accordance with UL 651 “Rigid Nonmetallic Conduit.”

Provide concrete inserts made of galvanized malleable iron, with internal threads for suspending loads from a fixed point beneath a concrete ceiling or deck where no lateral adjustment is required. Use inserts that can be secured to the concrete forms, preventing movement during concrete placement.

For stabilizers and hangers, use galvanized rods that conform to ASTM-A36 or A-575. Galvanized rods may be threaded on both ends or threaded continuously. Use steel stabilizer clamps and attachment brackets, sized as noted in the plans and hot dipped galvanized per ASTM-A123. Provide high strength bolts, nuts and washers that are galvanized in accordance with Article 1072-5 of the Standard Specifications.

Use adjustable clevis-type pipe hangers that allow for vertical adjustment and limited movement of the pipe. Use galvanized pipe hangers that are listed with Underwriters Laboratories, or are Factory Mutual approved for the size conduit shown in the plans. Use hangers that comply with Federal Specification WW-H-171E Type 1 and Manufacturers Standardization Society SP-69 Type 1. Plastic-coat the saddle area of the hanger.

Provide pull lines specifically designed for pulling rope through conduit. Use pull lines made of 2-ply line, with a tensile strength of 240 pounds minimum. Use rot and mildew resistant pull lines that are resistant to tangling when being dispensed.

Use mastic that is a permanent, non-hardening, water sealing compound that adheres to metal, plastic, and concrete.

Provide jute that is a burlap-like material used for filling voids and protecting components from waterproofing and adhesive compounds.

Provide zinc rich paint conforming to Section 1080-9 of the Standard Specifications.

## 16.3 CONSTRUCTION METHOD

To ensure against corrosion in the area where hot dipped galvanizing has been damaged, cover all raw metal surfaces with a cold galvanized, zinc rich paint.

Stub the raceway out in a splice special oversize junction box at an accessible location in earth near the structure’s end bent, and seal with termination kits designed specifically for that purpose. Use termination kits of the same material as the raceway.

Install Stabilizers as shown on the plans to assure proper movement of the conduit expansion joints. Securely fasten the clamps with attachment brackets and stabilizer rods to the conduit at the indicated locations to assure these locations remain stationary. Install the stabilizer rods parallel to the alignment of the conduit, and tilt rod upward at an orientation of 45 degrees to the bottom of the bridge deck.

Insert a pull line in each inner duct with sufficient slack for future use.

Smooth all sleeve ends and make them flush with surrounding concrete surfaces. Remove burrs and rough edges by filing or grinding. A torch may be used to cut the ends of metal sleeves. Use shields to protect all surfaces during torch-cutting operations.

Place backfill in accordance with Section 300-7 of the Standard Specifications.

Fill the space between the raceway and the sleeve with mastic and jute. Install the mastic with a minimum distance of 2 inches at each end of the sleeve and the remaining interior space filled with jute. Finish the mastic by making it smooth and flush with the concrete.

Coordinate conduit system work on existing structure with work by others, and allow installation of fiber optic cables during the construction process as directed by the Engineer.

Ensure that the concrete inserts are in the proper position and installed correctly, including when they are located in pre-stressed concrete deck panels.

Keep the raceway system clean of all debris during construction, with the completed system clean and ready for installation of fiber optic cables.

The Engineer must inspect and approve all work before concealment.

Install bridge junction boxes at intervals less than 750 feet as shown in the Plans. Bridge junction box shall be suspended beneath the bridge deck in line with the raceway system. Bridge junction box shall provide for side access by raceway system.

## 16.4 MEASUREMENT AND PAYMENT

*Bridge Junction Box* will be measured and paid in actual number of bridge junction boxes furnished, installed, and accepted as shown in the Plans.

*Bridge Conduit System* will be measured and paid in Lineal Feet by the number of feet of conduit installed, and accepted on the existing Dan Cameron Bridge structure.

Such price and payment for the conduit system as provided above will be considered full compensation for all materials, equipment, and labor necessary to complete the work in accordance with the plans and these special provisions.

| **Pay Item** | **Pay Unit** |
|---|---|
| Bridge Junction Box | Each |
| Bridge Conduit System | Linear Feet |

## PROJECT SPECIAL PROVISION

(10-18-95) (Rev. 3-21-17) Z-1

## PERMITS

The Contractor's attention is directed to the following permits, which have been issued to the Department of Transportation by the authority granting the permit.

| PERMIT | AUTHORITY GRANTING THE PERMIT |
|---|---|
| Dredge and Fill and/or<br>Work in Navigable Waters (404) | U. S. Army Corps of Engineers |
| Water Quality (401) | Division of Environmental Management, DEQ<br>State of North Carolina |
| State Dredge and Fill and/or<br>CAMA | Division of Coastal Management, DEQ<br>State of North Carolina |

The Contractor shall comply with all applicable permit conditions during construction of this project. Those conditions marked by ***** are the responsibility of the Department and the Contractor has no responsibility in accomplishing those conditions.

Agents of the permitting authority will periodically inspect the project for adherence to the permits.

The Contractor's attention is also directed to Articles 107-10 and 107-13 of the *2018 Standard Specifications* and the following:

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Engineer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Engineer. The Contractor shall not utilize the construction method until it is approved by the permitting agency. The request normally takes approximately 60 days to process; however, no extensions of time or additional compensation will be granted for delays resulting from the Contractor's request for approval of construction methods not specifically identified in the permit.

**Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the restricted waters, wetlands or buffer zones, provided that activities outside those areas is done in such a manner as to not affect the restricted waters, wetlands or buffer zones.**

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Contract Standards and Development
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# P-2

*Electronically Transmitted*

## U.S. ARMY CORPS OF ENGINEERS

WILMINGTON DISTRICT

Action Id. **SAW-1994-03552** County: **New Hanover/Brunswick County** U.S.G.S. Quad: **Multiple**

## GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Permittee: **NCDOT – Colin Mellor**
**1598 Mail Service Center**
Address: **Raleigh, NC 27699-1548**

Size (acres) **21 miles**
Nearest Waterway **Cape Fear/NE Cape Fear**
USGS HUC **03030007**

Nearest Town **BRUNSWICK/NEW HANOVER**
River Basin **Cape Fear**
Coordinates Latitude: **34.2472751962937**
Longitude: **-78.0482732812573**

Location description: **The project (R-26233 D) starts at the Division office and terminates along High 17 south of Brunswick Forest in Brunswick County. The project follows the path of the Wilmington Bypass (R-2633).**

Description of projects area and activity: **The project involves the installation of an Intelligent Transportation System infrastructure within the NCDOT R/W. The verification authorizes up to 0.03 of an acre of permanent wetland impact for the installation of junction boxes (originating from Directional Drill activities).**

Applicable Law: ☒ Section 404 (Clean Water Act, 33 USC 1344)
☒ Sections 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Regional General Permit Number or Nationwide Permit Number: **NW-12**
***SEE ATTACHED RGP or NWP GENERAL, REGIONAL AND SPECIAL CONDITIONS***

**Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted application dated 2/16/2018 and revised plans dated 3/2/2018. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order, a Class I administrative penalty, and/or appropriate legal action.**

This verification will remain valid until the expiration date identified below unless the nationwide authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Resources (telephone 919-807-6300) to determine Section 401 requirements.

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management in Wilmington, NC, at (910) 796-7215.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact **Brad Shaver at (910) 251-4611 or Brad.E.Shaver@usace.army.mil**.

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Corps Regulatory Official: Date: **March 12, 2018**
Expiration Date of Verification: **March 18, 2022**

# P-3

## Determination of Jurisdiction:

**A.** ☐ There are waters, including wetlands, on the above described project area that may be subject to Section 404 of the Clean Water Act (CWA) (33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved JD, which is an appealable action, by contacting the Corps district for further instruction. Please note, if work is authorized by either a general or nationwide permit, and you wish to request an appeal of an approved JD, the appeal must be received by the Corps and the appeal process concluded prior to the commencement of any work in waters of the United States and prior to any work that could alter the hydrology of waters of the United States.

**B.** ☐ There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403) and Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

**C.** ☐ There are waters, including wetlands, within the above described project area that are subject to the permit requirements of Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

**D.** ☒ The jurisdictional areas within the above described project area have been identified under a previous action. Please reference jurisdictional determination issued historically. Action ID: **SAW-1994-03552**.

**Basis For Determination:** **see JD.**

**Remarks:** **See special conditions.**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Copy furnished(electronic):

NCDOT-Chris Rivenbark
NCDOT – Mason Herndon
NCDEQ, DWR Joanne Steenhuis

SAW-1994-03552

## SPECIAL CONDITIONS
## R-2633 D

1. The applicant must continue to avoid and minimize impacts during the construction of this project. As the plans are not absolute, where possible the utility line should be placed within the shoulder of the road or within the previously authorized areas under earlier phases.

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# P-5

**Action ID Number:** **SAW-1994-03552** **County:** **New Hanover/Brunswick County**

**Permittee:** **NCDOT**

**Project Name:** **NCDOT / WILMINGTON BYPASS / R2633D**

**Date Verification Issued:** **March 12, 2018**

**Project Manager:** **Brad Shaver**

**Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:**

**US ARMY CORPS OF ENGINEERS**
**WILMINGTON DISTRICT**
**Attn: Brad Shaver**
**69 Darlington Ave**
**Wilmington, NC 28403**

**Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.**

**I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.**

_____ _____

**Signature of Permittee** **Date**

**NATIONWIDE PERMIT 12**
**DEPARTMENT OF THE ARMY**
**CORPS OF ENGINEERS**
**FINAL NOTICE OF ISSUANCE AND MODIFICATION OF NATIONWIDE PERMITS**
**FEDERAL REGISTER**
**AUTHORIZED MARCH 19, 2017**

**Utility Line Activities.** Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Utility lines: This NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters for crossings of those waters associated with the construction, maintenance, or repair of utility lines, including outfall and intake structures. There must be no change in pre-construction contours of waters of the United States. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and internet, radio, and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP authorizes, to the extent that Department of the Army authorization is required, temporary structures, fills, and work necessary for the remediation of inadvertent returns of drilling fluids to waters of the United States through sub-soil fissures or fractures that might occur during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines. These remediation activities must be done as soon as practicable, to restore the affected waterbody. District engineers may add special conditions to this NWP to require a remediation plan for addressing inadvertent returns of drilling fluids to waters of the United States during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

* **Notification:** The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above

grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 32.) (Authorities: Sections 10 and 404)

**Note 1:** Where the utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, a copy of the NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

**Note 2:** For utility line activities crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Utility line activities must comply with 33 CFR 330.6(d).

**Note 3:** Utility lines consisting of aerial electric power transmission lines crossing navigable waters of the United States (which are defined at 33 CFR part 329) must comply with the applicable minimum clearances specified in 33 CFR 322.5(i).

**Note 4:** Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

**Note 5:** Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

**Note 6:** This NWP authorizes utility line maintenance and repair activities that do not qualify for the Clean Water Act section 404(f) exemption for maintenance of currently serviceable fills or fill structures.

**Note 7:** For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

**Note 8:** For NWP 12 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

## NATIONWIDE PERMIT GENERAL CONDITIONS

The following General Conditions must be followed in order for any authorization by a NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status,

unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

* (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that

might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non- Federal applicant of the Corps' determination within 45 days of receipt of a complete pre- construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory

birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

* (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-

lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)).

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill

material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To

validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____
(Transferee)

_____
(Date)

* 30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

* 31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

* 32. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the

prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters.

Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and

supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

## DISTRICT ENGINEER'S DECISION

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal

individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site- specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and

include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

## FURTHER INFORMATION

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

## DEFINITIONS

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National

Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the acres or linear feet of stream bed that are filled or excavated as a result of the regulated activity. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the

primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Protected tribal resources: Those natural resources and properties of traditional or customary religious or cultural importance, either on or off Indian lands, retained by, or reserved by or for, Indian tribes through treaties, statutes, judicial decisions, or executive orders, including tribal trust resources.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine- marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water

surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

# FINAL 2017 REGIONAL CONDITIONS

*NOTICE ABOUT WEB LINKS IN THIS DOCUMENT:*
*The web links (both internal to our Wilmington District and any external links to collaborating agencies) in this document are valid at the time of publication. However, the Wilmington District Regulatory Program web page addresses, as with other agency web sites, may change over the timeframe of the five-year Nationwide Permit renewal cycle, in response to policy mandates or technology advances. While we will make every effort to check on the integrity of our web links and provide re-direct pages whenever possible, we ask that you report any broken links to us so we can keep the page information current and usable. We apologize in advanced for any broken links that you may encounter, and we ask that you navigate from the Regulatory home page (Regulatory Permit Program Wetlands and Streams) of the Wilmington District Corps of Engineers, to the "Permits" section of our web site to find links for pages that cannot be found by clicking directly on the listed web link in this document.*

## Final 2017 Regional Conditions for Nationwide Permits (NWP) in the Wilmington District

### 1.0 Excluded Waters

The Corps has identified waters that will be excluded from the use of all NWP's during certain timeframes. These waters are:

### 1.1 Anadromous Fish Spawning Areas

Waters of the United States identified by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning areas are excluded during the period between February 15 and June 30, without prior written approval from the Corps and either NCDMF or NCWRC.

### 1.2 Trout Waters Moratorium

Waters of the United States in the designated trout watersheds of North Carolina are excluded during the period between October 15 and April 15 without prior written approval from the NCWRC, or from the Eastern Band of Cherokee Indians (EBCI) Fisheries and Wildlife Management (FWM) office if the project is located on EBCI trust land. (See Section 2.7 for information on the designated trout watersheds).

### 1.3 Sturgeon Spawning Areas as Designated by the National Marine Fisheries Service (NMFS)

Waters of the United States designated as sturgeon spawning areas are excluded during the period between February 1 and June 30, without prior written approval from the NMFS.

## * 2.0 Waters Requiring Additional Notification

The Corps has identified waters that will be subject to additional notification requirements for activities authorized by all NWPs. These waters are:

## * 2.1 Western NC Counties that Drain to Designated Critical Habitat

For proposed activities within waters of the United States that require a Pre-Construction Notification (PCN) and are located in the sixteen counties listed below, permittees must provide a copy of the PCN to the U.S. Fish and Wildlife Service (USFWS), 160 Zillicoa Street, Asheville, North Carolina 28801. This PCN must be sent concurrently to the U.S. Fish and Wildlife Service and the Corps Asheville Regulatory Field Office. Please see General Condition 18 for specific notification requirements related to the Endangered Species Act and the below website for information on the location of designated critical habitat.

Counties with tributaries that drain to designated critical habitat that require notification to the Asheville U.S. Fish and Wildlife Service: Avery, Cherokee, Forsyth, Graham, Haywood, Henderson, Jackson, Macon, Mecklenburg, Mitchell, Stokes, Surry, Swain, Transylvania, Union and Yancey.

Website and office addresses for Endangered Species Act Information:

The Wilmington District has developed the following website for permittees which provides guidelines on how to review linked websites and maps in order to fulfill NWP General Condition 18 requirements:
http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram/AgencyCoordination/ESA.aspx

Permittees who do not have internet access may contact the appropriate U.S. Fish and Wildlife Service offices listed below or Corps at (910) 251-4633:

Asheville U.S. Fish and Wildlife Service Office counties: All counties west of and including Anson, Stanly, Davidson, Forsythe and Stokes Counties.

U.S. Fish and Wildlife Service
Asheville Field Office
160 Zillicoa Street
Asheville, NC 28801
Telephone: (828) 258-3939

Raleigh U.S. Fish and Wildlife Service Office counties: all counties east of and including Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

U.S. Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726

Raleigh, NC 27636-3726
Telephone: (919) 856-4520

*** 2.2 Special Designation Waters**

Prior to the use of any NWP, except NWP 3, that involves a discharge of dredged or fill material in any of the following identified waters and/or adjacent wetlands in North Carolina, permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). The North Carolina waters and wetlands that require additional notification requirements are:

"Outstanding Resource Waters" (ORW) or "High Quality Waters" (HQW) as designated by the North Carolina Environmental Management Commission; "Primary Nursery Areas" (PNA), including inland PNA, as designated by the North Carolina Marine Fisheries Commission and the NCWRC; or wetlands adjacent to these waters. Definitions of ORW, HQW and PNA waters can be found in the North Carolina State Administrative Code, Title 15A, Subchapters 2B and 10C (15A NCAC 02B, 15A NCAC 10C) and at the following World Wide Web page: http://reports.oah.state.nc.us/ncac.asp?folderName=\Title%2015A%20-%20Environmental%20Quality&lookUpError=15A%20NCAC%20000%20. Surface water classifications for waters in North Carolina can be viewed at the North Carolina Division of Water Resources website or at the following World Wide Web Page: https://deq.nc.gov/about/divisions/water-resources/planning/classification-standards/classifications

Permittees who do not have internet access may contact the Corps at (910) 251- 4633.

**2.3 Coastal Area Management Act (CAMA) Areas of Environmental Concern**

Non-federal permittees for any NWP in a designated "Area of Environmental Concern" (AEC) in the twenty (20) counties of Eastern North Carolina covered by the North Carolina Coastal Area Management Act (CAMA) must also obtain the required CAMA permit. Development activities for non-federal projects may not commence until a copy of the approved CAMA permit is furnished to the appropriate Wilmington District Regulatory Field Office (Wilmington Field Office – 69 Darlington Avenue, Wilmington, NC 28403, (910) 251-4802 or Washington Field Office – 2407 West 5th Street, Washington, NC 27889, (910) 251-4610).

*** 2.4 Barrier Islands**

Prior to the use of any NWP on a barrier island of North Carolina, permittees must submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32).

*** 2.5 Mountain or Piedmont Bogs**

Prior to the use of any NWP in a Bog, as classified by the North Carolina Wetland Assessment Methodology (NCWAM), permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). The latest version of NCWAM can be

viewed on the Corps RIBITS (Regulatory In-lieu Fee and Bank Information Tracking System) website or at the following World Wide Web Page:
https://ribits.usace.army.mil/ribits_apex/f?p=107:27:0::NO:::

*** 2.6 Animal Waste Facilities**

Prior to use of any NWP for construction of animal waste facilities in waters of the United States, including wetlands, permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32).

*** 2.7 Trout Waters**

Prior to any discharge of dredge or fill material into streams, waterbodies or wetlands within the 294 designated trout watersheds of North Carolina, the permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to commencing the activity, unless other thresholds are established in the Regional Conditions in Section 4 (Additional Regional Conditions for Specific Nationwide Permits). The permittee shall also provide a copy of the notification to the appropriate NCWRC office, or to the EBCI FWM Office (if the project is located on EBCI trust land), to facilitate the determination of any potential impacts to designated Trout Waters.

Notification to the Corps will include a statement with the name of the NCWRC or EBCI FWM biologist contacted, the date of the notification, the location of work, a delineation of wetlands and waters, a discussion of alternatives to working in the mountain trout waters, why alternatives were not selected, and, if applicable, a plan to provide compensatory mitigation for all unavoidable adverse impacts to mountain trout waters.

NCWRC and NC Trout Watersheds:

| **NCWRC Contact**** | **Counties that are entirely within Trout Watersheds*** | | **Counties that are partially within Trout Watersheds*** | |
|---|---|---|---|---|
| Mountain Coordinator<br>Balsam Depot<br>20830 Great Smoky<br>Mountain Expressway<br>Waynesville, NC 28786<br>Telephone: (828) 558-6011<br><br>For NCDOT Projects:<br><br>NCDOT Coordinator<br>206 Charter. Street<br>Albemarle, NC 28001<br>Telephone: (704) 982-9181 | Alleghany<br>Ashe<br>Avery<br>Graham<br>Haywood | Jackson<br>Macon<br>Swain<br>Transylvania<br>Watauga | Burke<br>Buncombe<br>Caldwell<br>Cherokee<br>Clay<br>Henderson<br>Madison | McDowell<br>Mitchell<br>Polk<br>Rutherford<br>Surry<br>Wilkes<br>Yancey |

*NOTE: To determine notification requirements, contact the Corps Asheville Regulatory Field Office at (828) 271-7980 or view maps for each County at the following World Wide Web page: http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout/.

**If a project is located on EBCI trust land, submit the PCN in accordance with Section 3.14. Contact the Corps Asheville Regulatory Field Office at (828) 271-7980 with questions.

*** 2.8 Western NC Waters and Corridors**

The permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to commencing the activity in waters of the United States if the activity will occur within any of the following identified waters in western North Carolina, within 0.5 mile on either side of these waters, or within 0.75 mile of the Little Tennessee River, as measured from the top of the bank of the respective water (i.e., river, stream, or creek):

Brasstown Creek
Burningtown Creek
Cane River
Caney Fork
Cartoogechaye Creek
Chattooga River
Cheoah River
Cowee Creek
Cullasaja River
Deep Creek
Ellijay Creek
French Broad River
Garden Creek
Hiwassee River
Hominy Creek
Iotla Creek
Little Tennessee River (within the river or within 0.75 mile on either side of this river)
Nantahala River
Nolichucky River
North Fork French Broad River
North Toe River
Nottley River
Oconaluftee River (portion not located on trust/EBCI land)
Peachtree Creek
Shooting Creek
Snowbird Creek
South Toe River
Stecoah Creek
Swannanoa River
Sweetwater Creek

Tuckasegee River (also spelled Tuckaseegee or Tuckaseigee)
Valley River
Watauga Creek
Watauga River
Wayah Creek
West Fork French Broad River

To determine notification requirements, contact the Corps Asheville Regulatory Field Office at (828) 271-7980 or view maps for all corridors at the following World Wide Web page: http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Designated-Special-Waters.aspx

**3.0 List of Corps Regional Conditions for All Nationwide Permits**

The following conditions apply to all Nationwide Permits in the Wilmington District:

**3.1 Limitation of Loss of Stream Bed**

NWPs may not be used for activities that may result in the loss or degradation of more than 300 total linear feet of stream bed, unless the District Engineer has waived the 300 linear foot limit for ephemeral and intermittent streams on a case-by-case basis and has determined that the proposed activity will result in minimal individual and cumulative adverse impacts to the aquatic environment. Waivers for the loss of ephemeral and intermittent streams must be in writing and documented by appropriate/accepted stream quality assessments*. This waiver only applies to the 300 linear feet threshold for NWPs.

This Regional Condition does not apply to NWP 23 (Approved Categorical Exclusions).

*NOTE: Permittees should utilize the most current methodology prescribed by Wilmington District to assess stream function and quality. Information can be found at: https://ribits.usace.army.mil/ribits_apex/f?p=107:27:0::NO:::

**3.2 Mitigation for Loss of Stream Bed**

For any NWP that results in a loss of more than 150 linear feet of stream, the permittee shall provide a mitigation proposal to compensate for more than minimal individual and cumulative adverse impacts to the aquatic environment. For stream losses of 150 linear feet or less that require a PCN, the District Engineer may determine, on a case-by-case basis, that compensatory mitigation is required to ensure that the activity results in minimal adverse effect on the aquatic environment.

**3.3 Pre-construction Notification for Loss of Streambed Exceeding 150 Feet**

Prior to use of any NWP for any activity which impacts more than 150 total linear feet of perennial stream, intermittent or ephemeral stream, the permittee shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). This applies to

NWPs that do not have specific notification requirements. If a NWP has specific notification requirements, the requirements of the NWP should be followed.

**3.4 Restriction on Use of Live Concrete**

For all NWPs which allow the use of concrete as a building material, live or fresh concrete, including bags of uncured concrete, may not come into contact with the water in or entering into waters of the United States. Water inside coffer dams or casings that has been in contact with wet concrete shall only be returned to waters of the United States after the concrete is set and cured and when it no longer poses a threat to aquatic organisms.

**3.5 Requirements for Using Riprap for Bank Stabilization**

For all NWPs that allow for the use of riprap material for bank stabilization, the following measures shall be applied:

**3.5.1.** Where bank stabilization is conducted as part of an activity, natural design, bioengineering and/or geoengineering methods that incorporate natural durable materials, native seed mixes, and native plants and shrubs are to be utilized to the maximum extent practicable.

**3.5.2.** Filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters. The placement of filter fabric is not required if the riprap will be pushed or "keyed" into the bank of the waterbody. A waiver from the specifications in this Regional Condition may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with this Regional Condition would result in greater adverse impacts to the aquatic environment.

**3.5.3.** The placement of riprap shall be limited to the areas depicted on submitted work plan drawings.

**3.5.4.** The riprap material shall be clean and free from loose dirt or any pollutant except in trace quantities that would not have an adverse environmental effect.

**3.5.5.** It shall be of a size sufficient to prevent its movement from the authorized alignment by natural forces under normal conditions.

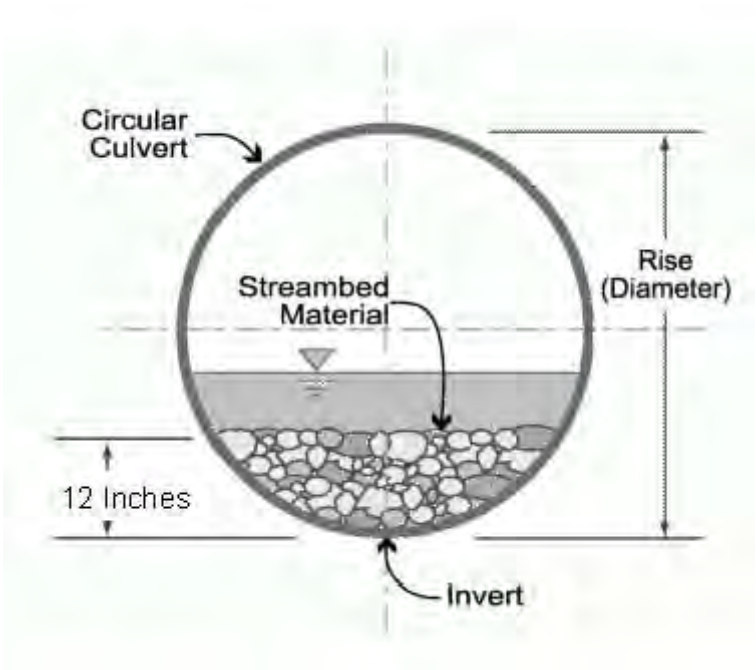
**3.5.6.** The riprap material shall consist of clean rock or masonry material such as, but not limited to, granite, marl, or broken concrete.

**3.6 Requirements for Culvert Placement**

**3.6.1** For all NWPs that involve the construction/installation of culverts, measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by altering the width or depth of the stream profile in connection with the construction activity. The width, height, and gradient of a proposed culvert should be

sufficient to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow is the seasonal sustained high flow that typically occurs in the spring. Spring flows should be determined from gage data, if available. In the absence of such data, bank-full flow can be used as a comparable indicator.

In Public Trust Areas of Environmental Concern (AEC) and/or the Estuarine Waters AEC as designated by the Coastal Area Management Act (CAMA): All pipes/culverts must be sufficiently sized to allow for the burial of the bottom of the culvert at least one foot below normal bed elevation.




In all other areas: Culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter or less shall be buried to maintain aquatic passage and to maintain passage during drought or low flow conditions, and every effort shall be made to maintain the existing channel slope.

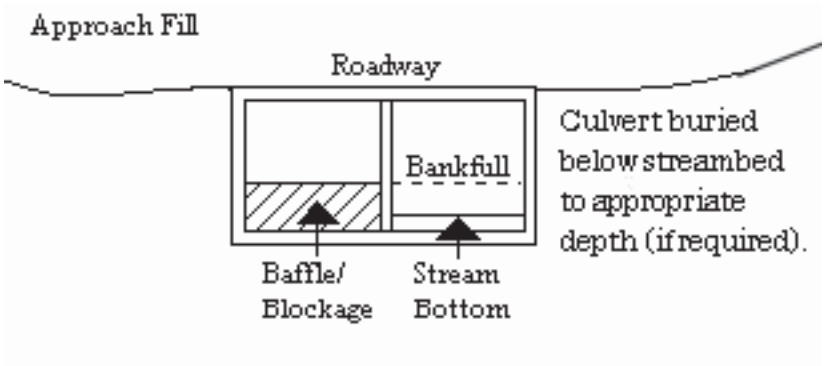
Culverts must be designed and constructed in a manner that minimizes destabilization and head cutting. Destabilizing the channel and head cutting upstream should be considered and appropriate actions incorporated in the design and placement of the culvert.

A waiver from the depth specifications in this condition may be requested, in writing, by the permittee and issued by the Corp; this request must be specific as to the reasons(s) for the request. The waiver will be issued if it can be demonstrated that the proposed design would result in less impacts to the aquatic environment.

All counties: Culverts placed within riparian and/or riverine wetlands must be installed in a manner that does not restrict the flow and circulation patterns of waters of the United States.

Culverts placed across wetland fills purely for the purposes of equalizing surface water do not have to be buried, but the culverts must be of adequate size and/or number to ensure unrestricted transmission of water.

**3.6.2** Bank-full flows (or less) shall be accommodated through maintenance of the existing bank-full channel cross sectional area. Additional culverts or culvert barrels at such crossings shall be allowed only to receive bank-full flows.




**3.6.3** Where adjacent floodplain is available, flows exceeding bank-full should be accommodated by installing culverts at the floodplain elevation. Additional culverts or culvert barrels at such crossings should not be buried, or if buried, must have sills at the inlets to ensure that they only receive flows exceeding bank-full.

**3.6.4** Excavation of existing stream channels shall be limited to the minimum necessary to construct or install the proposed culvert. The final width of the impacted stream at the culvert inlet and outlet should be no greater than the original stream width. A waiver from this condition may be requested in writing; this request must be specific as to the reason(s) for the request. The waiver will be issued if the proposed design would result in less impacts to the aquatic environment and/or if it can be demonstrated that it is not practicable to restore the final width of the impacted stream at the culvert inlet and outlet to the width of the original stream channel.

**3.6.5** The width of the culvert shall be comparable to the width of the stream channel. If the width of the culvert is wider than the stream channel, the culvert shall include baffles, benches and/or sills to maintain the width of the stream channel. A waiver from this condition may be requested in writing; this request must be specific as to the reason(s) for the request. The waiver will be issued if it can be demonstrated that it is not practicable or necessary to include baffles, benches or sills and the design would result in less impacts to the aquatic environment.

**3.7 Notification to NCDEQ Shellfish Sanitation Section**

Permittees shall notify the NCDEQ Shellfish Sanitation Section prior to dredging in or removing sediment from an area closed to shell fishing where the effluent may be released to an area open for shell fishing or swimming in order to avoid contamination from the disposal area and cause a temporary shellfish closure to be made. Such notification shall also be provided to the appropriate Corps Regulatory Field Office. Any disposal of sand to the ocean beach should occur between November 1 and April 30 when recreational usage is low. Only clean sand

should be used and no dredged sand from closed shell fishing areas may be used. If beach disposal were to occur at times other than stated above or if sand from a closed shell fishing area is to be used, a swimming advisory shall be posted, and a press release shall be issued by the permittee.

### 3.8 Submerged Aquatic Vegetation

Impacts to Submerged Aquatic Vegetation (SAV) are not authorized by any NWP, except NWP 48, unless EFH Consultation has been completed pursuant to the Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act). Permittees shall submit a PCN (See NWP General Condition 32) to the District Engineer prior to commencing the activity if the project would affect SAV. The permittee may not begin work until notified by the Corps that the requirements of the Magnuson-Stevens Act have been satisfied and that the activity is authorized.

### 3.9 Sedimentation and Erosion Control Structures and Measures

All PCNs will identify and describe sedimentation and erosion control structures and measures proposed for placement in waters of the United States. The structures and measures should be depicted on maps, surveys or drawings showing location and impacts to jurisdictional wetlands and streams.

### 3.10 Restoration of Temporary Impacts to Stream Beds

Upon completion of work that involves temporary stream impacts, streambeds are to be restored to pre-project elevations and widths using natural streambed material such that the impacted stream reach mimics the adjacent upstream and downstream reach. The impacted area shall be backfilled with natural streambed material to a depth of at least 12 inches or to the bottom depth of the impacted area if shallower than 12 inches. An engineered in-stream structure or material can be used to provide protection of a buried structure if it provides benefits to the aquatic environment and can be accomplished by a natural streambed design. A permittee may request a waiver of this condition if it is determined a buried structure needs significant physical protection beyond those provided in this condition. This condition does not apply to NWP 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities.

### 3.11 Restoration of Temporary Impacts to Stream Banks

Upon completion of work involving temporary stream bank impacts, stream banks are to be restored to pre-project grade and contours or beneficial grade and contours if the original bank slope is steep and unstable. Natural durable materials, native seed mixes, and native plants and shrubs are to be utilized in the restoration. Natural designs which use bioengineered and/or geo-engineered methods are to be applied. An engineered structure or material can be used to provide protection of a buried structure if it provides benefits to the stream bank environment, provided it is not in excess of the minimum amount needed for protection and does not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark. A permittee may request a waiver of this condition if it is determined a buried structure

needs significant physical protection beyond those provided in this condition. This condition does not apply to NWP 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities.

**3.12 Federal Navigation Channel Setbacks and Corps Easements**

**3.12.1** Authorized structures and fills located in or adjacent to Federally authorized waterways will be constructed in accordance with the latest setback criteria established by the Wilmington District Engineer. You may review the setback policy at http://www.saw.usace.army.mil/Missions/Navigation/Setbacks.aspx. This general permit does not authorize the construction of hardened or permanently fixed structures within the Federally Authorized Channel Setback, unless the activity is approved by the Corps. The permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to the construction of any structures or fills within the Federally Authorized Channel Setback.

**3.12.2** The permittee shall obtain a Consent to Cross Government Easement from the Wilmington District's Land Use Coordinator prior to any crossing of the Corps easement and/or prior to commencing construction of any structures, authorized dredging or other work within the right-of-way of, or in proximity to, a federally designated disposal area. The Land Use Coordinator may be contacted at: CESAW-OP-N, 69 Darlington Avenue, Wilmington, North Carolina 28403-1343, email: SAWWeb-NAV@usace.army.mil

**3.13 Northern Long-eared Bat – Endangered Species Act Compliance**

The Wilmington District, U.S. Army Corps of Engineers has consulted with the United States Fish and Wildlife Service (USFWS) in regards to the threatened Northern long-eared bat (NLEB) (*Myotis septentrionalis*) and Standard Local Operating Procedures for Endangered Species (SLOPES) have been approved by the Corps and the USFWS. This condition concerns effects to the NLEB only and does not address effects to other federally listed species and/or federally designated critical habitat.

A. Procedures when the Corps is the lead federal* agency for a project:

The permittee must comply with (1) and (2) below when:

- the project is located in the western 41 counties of North Carolina, to include non-federal aid North Carolina Department of Transportation (NCDOT) projects, OR;

- the project is located in the 59 eastern counties of North Carolina, and is a non-NCDOT project.

*Generally, if a project is located on private property or on non-federal land, and the project is not being funded by a federal entity, the Corps will be the lead federal agency due to the requirement to obtain Department of the Army authorization to impact waters of the United States. If the project is located on federal land, contact the Corps to determine the lead federal agency.

(1) A permittee using a NWP must check to see if their project is located in the range of the NLEB by using the following website: http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf. If the project is within the range of the NLEB, or if the project includes percussive activities (e.g., blasting, pile driving, etc.), the permittee is then required to check the appropriate website in the paragraph below to discover if their project:

- is located in a 12-digit Hydrologic Unit Code area ("red HUC" - shown as red areas on the map), AND/OR;

- involves percussive activities within 0.25 mile of a red HUC.

Red HUC maps - for the western 41 counties in NC (covered by the Asheville Ecological Services Field Office), check the project location against the electronic maps found at: http://www.fws.gov/asheville/htmls/project_review/NLEB_in_WNC.html. For the eastern 59 counties in NC (covered by the Raleigh Ecological Services Field Office), check the project location against the electronic maps found at: https://www.fws.gov/raleigh/NLEB_RFO.html.

(2) A permittee must submit a PCN to the District Engineer, and receive written authorization from the District Engineer, prior to commencing the activity, if the activity will involve any of the following:

- tree clearing/removal, construction/installation of wind turbines in a red HUC, AND/OR;

- bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, (applies anywhere in the range of the NLEB), AND/OR:

- percussive activities in a red HUC, or within 0.25 mile of a red HUC.

The permittee may proceed with the activity without submitting a PCN to either the Corps or the USFWS, provided the activity complies with all applicable NWP terms and general and regional conditions, if the permittee's review under A.(1) and A.(2) above shows that the project is:

- located outside of a red HUC (and there are no percussive activities), and the activity will NOT include bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, OR;

- located outside of a red HUC and there are percussive activities, but the percussive activities will not occur within 0.25-mile of a red HUC boundary, and the activity will NOT include bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, OR;

- located in a red HUC, but the activity will NOT include: tree clearing/removal; construction/installation of wind turbines; bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, and/or; any percussive activities.

B. Procedures when the USACE is not the lead federal agency:

For projects where another federal agency is the lead federal agency - if that other federal agency has completed project-specific ESA Section 7(a)(2) consultation for the NLEB, and has (1) determined that the project would not cause prohibited incidental take of the NLEB, and (2) completed coordination/consultation that is required by the USFWS (per the directions on the respective USFWS office's website), that project may proceed without notification to either the USACE or the USFWS, provided all General and Regional Permit Conditions are met.

The NLEB SLOPES can be viewed on the USACE website at the following World Wide Web Page: http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/ESA/. Permittees who do not have internet access may contact the USACE at (910) 251- 4633.

**3.14 Work on Eastern Band of Cherokee Indians Land**

All PCNs submitted for activities in waters of the United States on Eastern Band of Cherokee Indians (EBCI) trust land (i.e., Qualla Boundary and non-contiguous tracts of trust land), must comply with the requirements of the latest MOU between the Wilmington District and the Eastern Band of Cherokee Indians.

## 4.0 Additional Regional Conditions for Specific Nationwide Permits

### 4.1 NWP #12 - Utility Line Activities

**4.1.1** Pipeline/utility line construction through jurisdictional waters and wetlands will be accomplished utilizing directional drilling/boring methods to the maximum extent practicable.

**4.1.2** Temporary discharge of excavated or fill material into wetlands and waters of the United States will be for the absolute minimum period of time necessary to accomplish the work. Temporary discharges will be fully contained with appropriate erosion control or containment methods or otherwise such fills will consist of non-erodible materials.

**4.1.3** The work area authorized by this permit, including temporary and/or permanent fills, will be minimized to the greatest extent practicable. Justification for work corridors exceeding forty (40) feet in width is required and will be based on pipeline diameter and length, size of equipment required to construct the utility line, and other construction information deemed necessary to support the request. The permittee is required to provide this information to the Corps with the initial notification package.

**4.1.4** Excavated materials shall be returned to the excavated areas and any remaining materials shall be disposed of in uplands, unless the Corps authorizes disposal in waters of the United States.

**4.1.5** In areas where a sub-aqueous utility line is to cross a federally-maintained channel, (i.e., the Atlantic Intracoastal Waterway [AIWW]), the line will be buried at least six (6) feet below the allowable overdepth of the authorized channel, including all side slopes. For areas outside federally-maintained channels, sub-aqueous lines must be installed at a minimum depth of two (2) feet below the substrate when such lines might interfere with navigation.

**4.1.6** The minimum clearance*(see NOTE in 4.1.7) for aerial communication lines, or any lines not transmitting electrical power, will be ten (10) feet above the clearance required for nearby stationary bridges as established by the U.S. Coast Guard. In the event the U.S. Coast Guard has not established a bridge clearance, minimum vertical clearances for power and aerial lines will not be less than required by Section 23, Rule 232, of the latest revision of the National Electrical Safety Code (ANSI C2). Clearances will not be less than shown in Table 232-1, Item 7, ANSI C2.

**4.1.7** The minimum clearance* for an aerial line, transmitting electrical power, is based on the low point of the line under conditions that produce the greatest sag, taking into consideration temperature, load, wind, length or span and the type of supports. The minimum clearance for an aerial electrical power transmission line crossing navigable waters of the United States, where there is an established bridge clearance established by the U.S. Coast Guard, shall be governed by the system voltage, as indicated below:

| Nominal System | Minimum Clearance |
|---|---|
| Voltage, kilovolt | Above Bridge Clearance (As Established by the U.S. Coast Guard) |

| | |
|---|---|
| 115 and below | 20 feet |
| 138 | 22 |
| 161 | 24 |
| 230 | 26 |
| 350 | 30 |
| 500 | 35 |
| 700 | 42 |
| 750 to 765 | 45 |

NOTE: Minimum clearance is the distance measured between the lowest point of a stationary bridge, including any infrastructure attached to underside of the bridge, and the Mean High Water (MHW) of the navigable waters of the United States beneath the bridge.

**4.1.8** On navigable waters of the United States, including all federal navigation projects, where there is no bridge for reference for minimum clearance, the proposed project will need to be reviewed by the Corps in order to determine the minimum clearance between the line and MHW necessary to protect navigational interests.

**4.1.9** A plan to restore and re-vegetate wetland areas cleared for construction must be submitted with the required PCN. Cleared wetland areas shall be re-vegetated to the maximum extent practicable with native species of canopy, shrub, and herbaceous species. Fescue grass shall not be used.

**4.1.10** Any permanently maintained corridor along the utility right of way within forested wetlands shall be considered a permanent impact. A compensatory mitigation plan will be required for all such impacts associated with the requested activity if the activity requires PCN and the cumulative total of permanent forested wetland impacts exceeds 1/10-acre, unless the District Engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal.

For permanent forested wetland impacts of 1/10-acre or less, the District Engineer may determine, on a case-by-case basis, that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment.

**4.1.11** Use of rip-rap or any other engineered structures to stabilize a stream bed should be avoided to the maximum extent practicable. If riprap stabilization is needed, it should be placed only on the stream banks, or, if it is necessary to be placed in the stream bed, the finished top elevation of the riprap should not exceed that of the original stream bed.

**4.1.12** When directional boring or horizontal directional drilling (HDD) under waters of the United States, including wetlands, permittees shall closely monitor the project for hydraulic fracturing or "fracking." Any discharge from hydraulic fracturing or "fracking" into waters of the United States, including wetlands, shall be reported to the appropriate Corps Regulatory Field Office within 48 hours. Restoration and/or compensatory mitigation may be required as a result of any unintended discharges.

**4.1.13** For purposes of this NWP, the term utility line does not include pipes or culverts associated with driveways, roadways, lots, etc.

**4.1.14** The permittee shall submit a PCN to the District Engineer prior to commencing the activity if the activity will involve the discharge of dredged or fill material into more than 1/10-acre of wetlands or 150 linear feet of stream channel for the construction of temporary access fills and/or temporary road crossings. The PCN must include a restoration plan that thoroughly describes how all temporary fills will be removed, describes how pre-project conditions will be restored, and includes a timetable for all restoration activities.

**STATE OF NORTH CAROLINA**
**DEPARTMENT OF ENVIRONMENTAL QUALITY**
**DIVISION OF WATER RESOURCES**

# WATER QUALITY GENERAL CERTIFICATION NO. 4133

**GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR US ARMY CORPS OF ENGINEERS**

- **NATIONWIDE PERMIT 12 (UTILITY LINE ACTIVITIES)**

Water Quality Certification Number 4133 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Regulations in 15A NCAC 02H .0500 and 15A NCAC 02B .0200 for the discharge of fill material to surface waters and wetland areas as described in 33 CFR 330 Appendix A (B) (12) of the US Army Corps of Engineers regulations.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Effective date: December 1, 2017

Signed this day: December 1, 2017

By

*for* Linda Culpepper
Interim Director

**Activities meeting any one (1) of the following thresholds or circumstances require *written approval* for a 401 Water Quality Certification from the Division of Water Resources (DWR):**

a) If any of the Conditions of this Certification (listed below) cannot be met; or
b) Total permanent impacts to wetlands or open waters equal to or greater than one-tenth (1/10) acre within the entire utility project; or
c) Any permanent impacts to streams; or
d) Total temporary impacts to streams greater than 500 feet within the entire utility project; or
e) Any stream relocation or stream restoration; or
f) Any high-density utility line and associated facilities project, as defined in 15A NCAC 02H .1003(2)(a) and by the density thresholds specified in 15A NCAC 02H .1017, which:
   i. Disturbs one acre or more of land (including a project that disturbs less than one acre of land that is part of a larger common plan of development or sale); and
   ii. Has permanent wetland, stream or open water impacts; and
   iii. Is proposing new built-upon area; and
   iv. Does not have a stormwater management plan reviewed and approved under a state stormwater program[1] or a state-approved local government stormwater program[2].

   Projects that have vested rights, exemptions, or grandfathering from state or locally-implemented stormwater programs and projects that satisfy state or locally-implemented stormwater programs through use of community in-lieu programs **require written approval**; or
g) Any permanent impacts to waters, or to wetlands adjacent to waters, designated as: ORW (including SAV), HQW (including PNA), SA, WS-I, WS-II, Trout, or North Carolina or National Wild and Scenic River; or
h) Any permanent impacts to coastal wetlands [15A NCAC 07H .0205], or Unique Wetlands (UWL); or
i) Any impact associated with a Notice of Violation or an enforcement action for violation(s) of NC Wetland Rules (15A NCAC 02H .0500), NC Isolated Wetland Rules (15A NCAC 02H .1300), NC Surface Water or Wetland Standards (15A NCAC 02B .0200), or State Regulated Riparian Buffer Rules (15A NCAC 02B .0200); or
* j) Any impacts to subject water bodies and/or state regulated riparian buffers along subject water bodies in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman Lake, Jordan Lake or Goose Creek Watersheds (or any other basin or watershed with State Regulated Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) *unless:*
   i. The activities are listed as "EXEMPT" from these rules; or
   ii. A Buffer Authorization Certificate is issued by the NC Division of Coastal Management (DCM); or

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[1] e.g. Coastal Counties, HQW, ORW, or state-implemented Phase II NPDES
[2] e.g. Delegated Phase II NPDES, Water Supply Watershed, Nutrient-Sensitive Waters, or Universal Stormwater Management Program

iii. A Buffer Authorization Certificate or a Minor Variance is issued by a delegated or designated local government implementing a state riparian buffer program pursuant to 143-215.23.

**Activities included in this General Certification that do not meet one of the thresholds listed above do not require written approval.**

## I. ACTIVITY SPECIFIC CONDITIONS:

1. All sewer lines shall be designed, constructed and maintained in accordance with Title 15A NCAC Chapter 02T.

2. Any utility construction corridor that is parallel to a stream or open water shall not be closer than 10 feet to the top of bank or ordinary high-water mark. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506 (b)(4) and (c)(4)]

3. Where there are temporary or permanent impacts from stream crossings, utility lines shall cross the stream channel at a near-perpendicular direction (i.e., between 75 degrees and 105 degrees to the stream bank). Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506 (b)(2) and (c)(2)]

4. Construction corridors in wetlands and across stream channels shall be minimized to the maximum extent practicable and shall not exceed 50 feet wide for gas utility lines and 40 feet wide for all other utility lines. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506 (b)(2) and (c)(2)]

   For construction corridors in wetlands and across stream channels, stumps shall be grubbed only as needed to install the utility and remaining stumps shall be cut off at grade level. The general stripping of topsoil within wetlands along the construction corridor is not permitted.

5. Permanent maintained access corridors in wetlands and across stream channels shall be restricted to the minimum width practicable and shall not exceed 30 feet wide for gas utility lines and 20 feet wide for all other utility lines except at manhole locations. 15-foot by 15-foot perpendicular vehicle turnarounds shall be allowed in access corridors but must be spaced at least 500 feet apart. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506 (b)(2) and (c)(2)]

6. For all utility lines constructed within wetlands, an anti-seep collar shall be placed at the downstream (utility line gradient) wetland boundary and every 150 feet up the gradient until the utility exits the wetland. Anti-seep collars may be constructed with class B concrete, compacted clay, PVC pipe, or metal collars. Wetland crossings that are directionally drilled, and perpendicular wetland crossings that are open cut and less than 150 feet long do not require anti-seep collars. The compacted clay shall have a specific

infiltration of 1 X $10^{-5}$ cm/sec or less. A section and plan view diagram is attached for the anti-seep collars. [15A NCAC 02H .0506 (b)(4) and (c)(4)]

The following specifications shall apply to class B concrete:

a. Minimum cement content, sacks per cubic yard with rounded coarse aggregate 5.0
b. Minimum cement content, sacks per cubic yard with angular coarse aggregate 5.5
c. Maximum water-cement ratio gallons per sack 6.8
d. Slump range 2" to 4"
e. Minimum strength - 28-day psi 2,500

7. The applicant shall have a specific plan for restoring wetland contours. Any excess material will be removed to a high ground disposal area. [15A NCAC 02H .0506 (b)(2) and (c)(2)]

   The mixing of topsoil and subsoils within the wetlands along utility corridors shall be minimized to the greatest extent practical. During excavation, the soils shall be placed on fabric to minimize impacts whenever possible. Topsoil excavated from utility trenches will be piled separately from subsoils and will be backfilled into the trench only after the subsoils have been placed and compacted.

*8. For the North Carolina Department of Transportation, compliance with the NCDOT's individual NPDES permit NCS000250 shall serve to satisfy this condition. All other high-density utility line and associated facilities projects that trigger threshold Item (f) above shall comply with one of the following requirements: [15A NCAC 02H .0506(b)(5) and (c)(5)]

   a. Provide a completed Stormwater Management Plan (SMP) for review and approval, including all appropriate stormwater control measure (SCM) supplemental forms and associated items, that complies with the high-density development requirements of 15A NCAC 02H .1003. Stormwater management shall be provided throughout the entire project area in accordance with 15A NCAC 02H .1003. For the purposes of 15A NCAC 02H .1003(2)(a), density thresholds shall be determined in accordance with 15A NCAC 02H .1017.

   b. Provide documentation (including calculations, photos, etc.) that the project will not cause degradation of downstream surface waters. Documentation shall include a detailed analysis of the hydrological impacts from stormwater runoff when considering the volume and velocity of stormwater runoff from the project built upon area and the size and existing condition of the receiving stream(s).

   Exceptions to this condition require application to and written approval from DWR.

## II. GENERAL CONDITIONS:

1. When written authorization is required, the plans and specifications for the project are incorporated into the authorization by reference and are an enforceable part of the Certification. Any modifications to the project require notification to DWR and may require an application submittal to DWR with the appropriate fee. [15A NCAC 02H .0501 and .0502]

2. No waste, spoil, solids, or fill of any kind shall occur in wetlands or waters beyond the footprint of the impacts (including temporary impacts) as authorized in the written approval from DWR; or beyond the thresholds established for use of this Certification without written authorization. [15A NCAC 02H .0501 and .0502]

   No removal of vegetation or other impacts of any kind shall occur to state regulated riparian buffers beyond the footprint of impacts approved in a Buffer Authorization or Variance or as listed as an exempt activity in the applicable riparian buffer rules. [15A NCAC 02B .0200]

* 3. In accordance with 15A NCAC 02H .0506(h) and Session Law 2017-10, compensatory mitigation may be required for losses of greater than 300 linear feet of perennial streams and/or greater than one (1) acre of wetlands. Impacts associated with the removal of a dam shall not require mitigation when the removal complies with the requirements of Part 3 of Article 21 in Chapter 143 of the North Carolina General Statutes. Impacts to isolated and other non-404 jurisdictional wetlands shall not be combined with 404 jurisdictional wetlands for the purpose of determining when impact thresholds trigger a mitigation requirement. For linear publicly owned and maintained transportation projects that are not determined to be part of a larger common plan of development by the US Army Corps of Engineers, compensatory mitigation may be required for losses of greater than 300 linear feet per perennial stream.

   Compensatory stream and/or wetland mitigation shall be proposed and completed in compliance with G.S. 143-214.11. For applicants proposing to conduct mitigation within a project site, a complete mitigation proposal developed in accordance with the most recent guidance issued by the US Army Corps of Engineers Wilmington District shall be submitted for review and approval with the application for impacts.

4. All activities shall be in compliance with any applicable State Regulated Riparian Buffer Rules in Chapter 2 of Title 15A.

5. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506 (b)(3) and (c)(3) and 15A NCAC 02B .0200]

   Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual*.

   All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watersheds*.

6. Sediment and erosion control measures shall not be placed in wetlands or waters except within the footprint of temporary or permanent impacts authorized under this Certification. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0501 and .0502]

7. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within wetlands. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02B .0201]

8. An NPDES Construction Stormwater Permit (NCG010000) is required for construction projects that disturb one (1) or more acres of land. The NCG010000 Permit allows stormwater to be discharged during land disturbing construction activities as stipulated in the conditions of the permit. If the project is covered by this permit, full compliance with permit conditions including the erosion & sedimentation control plan, inspections and maintenance, self-monitoring, record keeping and reporting requirements is required. [15A NCAC 02H .0506(b)(5) and (c)(5)]

   The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit. [15A NCAC 02H .0506(b)(5) and (c)(5)]

9. All work in or adjacent to streams shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the most current version of the *NC Sediment and Erosion Control Manual*, or the *NC DOT Construction and Maintenance Activities Manual*, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(3) and (c)(3)]

10. If activities must occur during periods of high biological activity (e.g. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. [15A NCAC 02H .0506 (b)(2) and 15A NCAC 04B .0125]

All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) shall be implemented. Exceptions to this condition require written approval by the resource agency responsible for the given moratorium. A copy of the approval from the resource agency shall be forwarded to DWR.

Work within a designated trout watershed of North Carolina (as identified by the Wilmington District of the US Army Corps of Engineers), or identified state or federal endangered or threatened species habitat, shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

11. Culverts shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. [15A NCAC 02H .0506(b)(2) and (c)(2)]

    Placement of culverts and other structures in streams shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20% of the culvert diameter for culverts having a diameter less than or equal to 48 inches, to allow low flow passage of water and aquatic life.

    If multiple pipes or barrels are required, they shall be designed to mimic the existing stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided.

    When topographic constraints indicate culvert slopes of greater than 5%, culvert burial is not required, provided that all alternative options for flattening the slope have been investigated and aquatic life movement/connectivity has been provided when possible (e.g. rock ladders, cross vanes, etc.). Notification, including supporting documentation to include a location map of the culvert, culvert profile drawings, and slope calculations, shall be provided to DWR 60 calendar days prior to the installation of the culvert.

    When bedrock is present in culvert locations, culvert burial is not required provided that there is sufficient documentation of the presence of bedrock. Notification, including supporting documentation such as a location map of the culvert, geotechnical reports, photographs, etc. shall be provided to DWR a minimum of 60 calendar days prior to the installation of the culvert. If bedrock is discovered during construction, then DWR shall be notified by phone or email within 24 hours of discovery.

    If other site-specific topographic constraints preclude the ability to bury the culverts as described above and/or it can be demonstrated that burying the culvert would result in destabilization of the channel, then exceptions to this condition require application to and written approval from DWR.

Installation of culverts in wetlands shall ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. When roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges shall be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

The establishment of native woody vegetation and other soft stream bank stabilization techniques shall be used where practicable instead of rip-rap or other bank hardening methods.

12. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means to the maximum extent practicable (e.g. grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(5)]

13. Application of fertilizer to establish planted/seeded vegetation within disturbed riparian areas and/or wetlands shall be conducted at agronomic rates and shall comply with all other Federal, State and Local regulations. Fertilizer application shall be accomplished in a manner that minimizes the risk of contact between the fertilizer and surface waters. [15A NCAC 02B .0200 and 15A NCAC 02B .0231]

14. If concrete is used during construction, then all necessary measures shall be taken to prevent direct contact between uncured or curing concrete and waters of the state. Water that inadvertently contacts uncured concrete shall not be discharged to waters of the state. [15A NCAC 02B .0200]

15. All proposed and approved temporary fill and culverts shall be removed and the impacted area shall be returned to natural conditions within 60 calendar days after the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross sectional dimensions, planform pattern, and longitudinal bed profile. For projects that receive written approval, no temporary impacts are allowed beyond those included in the application and authorization. All temporarily impacted sites shall be restored and stabilized with native vegetation. [15A NCAC 02H .0506(b)(2) and (c)(2)]

16. All proposed and approved temporary pipes/culverts/rip-rap pads etc. in streams shall be installed as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* or the *North Carolina Department of Transportation Best Management Practices for Construction and Maintenance Activities* so as not to restrict stream flow or cause dis-equilibrium during use of this Certification. [15A NCAC 02H .0506(b)(2) and (c)(2)]

17. Any rip-rap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original stream elevation and streambank contours are restored and maintained. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or in a manner that precludes aquatic life passage. [15A NCAC 02H .0506(b)(2)]

18. Any rip-rap used for stream or shoreline stabilization shall be of a size and density to prevent movement by wave, current action, or stream flows and shall consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures. [15A NCAC 02H .0506(b)(2)]

19. Applications for rip-rap groins proposed in accordance with 15A NCAC 07H .1401 (NC Division of Coastal Management General Permit for construction of Wooden and Rip-rap Groins in Estuarine and Public Trust Waters) shall meet all the specific conditions for design and construction specified in 15A NCAC 07H .1405.

20. All mechanized equipment operated near surface waters shall be inspected and maintained regularly to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. Construction shall be staged in order to minimize the exposure of equipment to surface waters to the maximum extent practicable. Fueling, lubrication and general equipment maintenance shall be performed in a manner to prevent, to the maximum extent practicable, contamination of surface waters by fuels and oils. [15A NCAC 02H .0506(b)(3) and (c)(3) and 15A NCAC 02B .0211 (12)]

21. Heavy equipment working in wetlands shall be placed on mats or other measures shall be taken to minimize soil disturbance. [15A NCAC 02H .0506(b)(3) and (c)(3)]

22. In accordance with 143-215.85(b), the applicant shall report any petroleum spill of 25 gallons or more; any spill regardless of amount that causes a sheen on surface waters; any petroleum spill regardless of amount occurring within 100 feet of surface waters; and any petroleum spill less than 25 gallons that cannot be cleaned up within 24 hours.

* 23. If an environmental document is required under the State Environmental Policy Act (SEPA), then this General Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse. If an environmental document is required under the National Environmental Policy Act (NEPA), then this General Certification is not valid until a Categorical Exclusion, the Final Environmental Assessment, or Final Environmental Impact Statement is published by the lead agency. [15A NCAC 01C .0107(a)]

24. This General Certification does not relieve the applicant of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

25. The applicant and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If DWR determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then DWR may revoke or modify a written authorization associated with this General Water Quality Certification. [15A NCAC 02H .0507(d)]

26. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this Certification. A copy of this Certification, including all conditions shall be available at the project site during the construction and maintenance of this project. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

*27. When written authorization is required for use of this Certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return a certificate of completion (available on the DWR website: https://edocs.deq.nc.gov/Forms/Certificate-of-Completion). [15A NCAC 02H .0502(f)]

28. Additional site-specific conditions, including monitoring and/or modeling requirements, may be added to the written approval letter for projects proposed under this Water Quality Certification in order to ensure compliance with all applicable water quality and effluent standards. [15A NCAC 02H .0507(c)]

29. If the property or project is sold or transferred, the new permittee shall be given a copy of this Certification (and written authorization if applicable) and is responsible for complying with all conditions. [15A NCAC 02H .0501 and .0502]

## III. GENERAL CERTIFICATION ADMINISTRATION:

*1. In accordance with North Carolina General Statute 143-215.3D(e), written approval for a 401 Water Quality General Certification must include the appropriate fee. An applicant for a CAMA permit under Article 7 of Chapter 113A of the General Statutes for which a Water Quality Certification is required shall only make one payment to satisfy both agencies; the fee shall be as established by the Secretary in accordance with 143-215.3D(e)(7).

2. This Certification neither grants nor affirms any property right, license, or privilege in any waters, or any right of use in any waters. This Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and this Certification does not create any prescriptive right or any right of priority regarding any usage of water. This Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded.

3. This Certification grants permission to the Director, an authorized representative of the Director, or DWR staff, upon the presentation of proper credentials, to enter the property during normal business hours. [15A NCAC 02H .0502(e)]

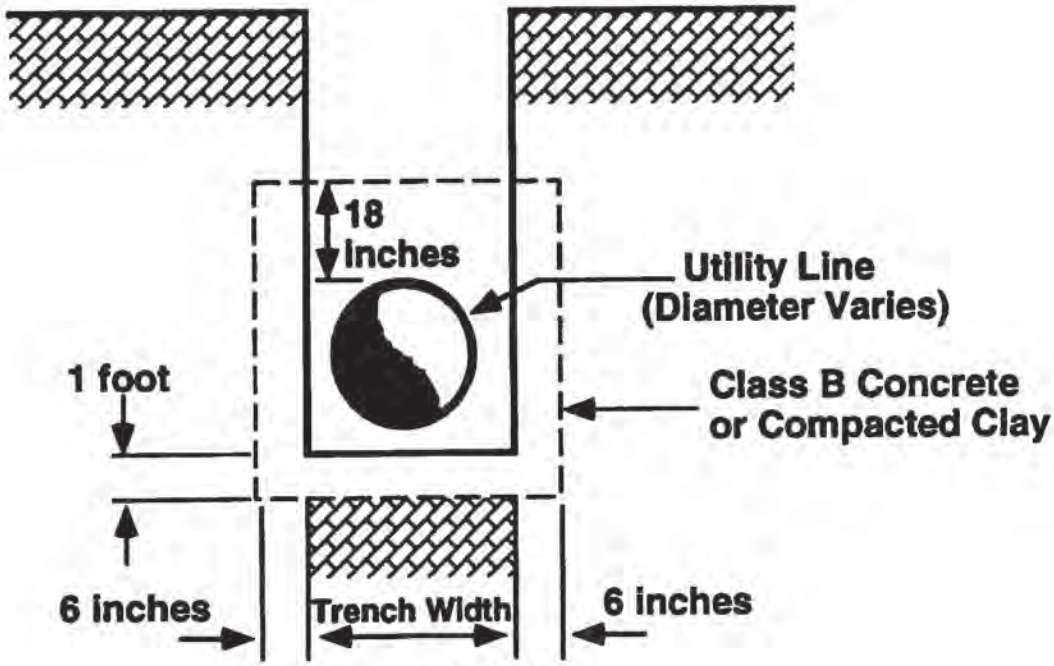
4. This General Certification shall expire on the same day as the expiration date of the corresponding Nationwide Permit and/or Regional General Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. This General Certification is rescinded when the US Army Corps of Engineers reauthorizes any of the corresponding Nationwide Permits and/or Regional General Permits or when deemed appropriate by the Director of the Division of Water Resources.

5. Non-compliance with or violation of the conditions herein set forth by a specific project may result in revocation of this General Certification for the project and may also result in criminal and/or civil penalties.

* 6. The Director of the North Carolina Division of Water Resources may require submission of a formal application for Individual Certification for any project in this category of activity if it is deemed in the public's best interest or determined that the project is likely to have a significant adverse effect upon water quality, including state or federally listed endangered or threatened aquatic species, or degrade the waters so that existing uses of the water or downstream waters are precluded.

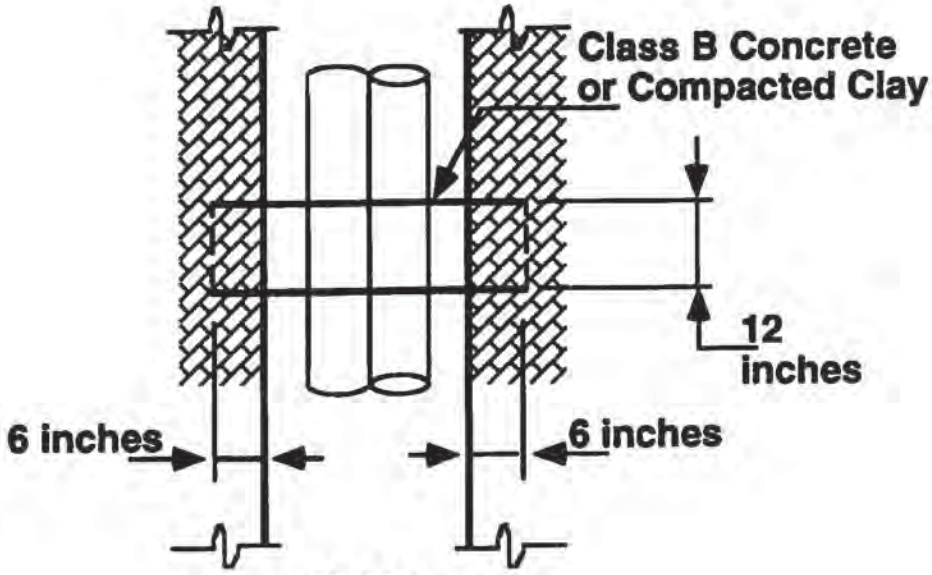
*History Note: Water Quality Certification (WQC) Number 4133 issued December 1, 2017 replaces WQC 4086 issued March 3, 2017; WQC 3884 issued March 19, 2012; WQC Number 3819 issued March 19, 2010; WQC Number 3699 issued November 1, 2007; WQC Number 3625 issued March 19, 2007; WQC Number 3374 issued March 18, 2002; WQC Number 3288 issued June 1, 2000; WQC Number 3101 issued February 11, 1997; WQC Number 3022 issued September 6, 1995, WQC Number 2664 issued January 21, 1992.*

## ANTI -SEEP COLLAR




Not to exceed 40 feet

**SECTION**




**PLAN**

☑ CAMA / ☐ DREDGE & FILL

# GENERAL PERMIT

P-57

☑ New ☐ Modification ☐ Complete Reissue ☐ Partial Reissue

№ 69559 A B C (D)

Previous permit # —

Date previous permit issued —

As authorized by the State of North Carolina, Department of Environment and Natural Resources and the Coastal Resources Commission in an area of environmental concern pursuant to 15A NCAC 07H .1600

☑ Rules attached

Applicant Name: NCDOT - Environmental Analysis Unit

Address: 1598 Mail Service Center

City: Raleigh State: NC ZIP: 27699-1598

Phone # (919) 707-6000 E-Mail: crivenbark@ncdot.gov

Authorized Agent: Chris Rivenbark

Affected AEC(s): ☐ CW ☑ EW ☑ PTA ☑ ES ☐ PTS ☐ OEA ☐ HHF ☐ IH ☐ UBA ☐ N/A ☐ PWS:

ORW: yes / (no) PNA (yes) / no

Project Location: County: Brunswick/New Hanover

Street Address/ State Road/ Lot #(s): I-140/I-40/ Barbados Blvd.

Subdivision: —

City: Wilmington, NC ZIP: 28402

Phone # (___) ___ River Basin: Cape Fear

Adj. Wtr. Body: Cape Fear/N.E. Cape Fear (nat) /man /unkn)

Closest Maj. Wtr. Body: Cape Fear River

**Type of Project/ Activity:** Construct 21 miles of Intelligent Transportation System utility line in 6" conduit along the I-140/I-40 corridor R/W from US-17 Bus. to Barbados Blvd, including 7,220' over the Cape Fear River and 7,425' over the N.E. Cape Fear River. (Scale: N/A)

Pier (dock) length —
Fixed Platform(s) —
Floating Platform(s) —
Finger pier(s) —
Groin length —
number —
Bulkhead/ Riprap length —
avg distance offshore —
max distance offshore —
Basin, channel —
—
cubic yards —
Boat ramp —
Boathouse/ Boatlift —
—
Beach Bulldozing —
Other 7,220' of 6" cable line
7,425' of 6" cable line
—
Shoreline Length ~1,615'
SAV: not sure yes (no)
Moratorium: n/a yes (no)
Photos: (yes) no
Waiver Attached: yes (no)

Utility Line Plans Attached and Incorporated into Permit.

A building permit may be required by: Brunswick County/New Hanover County (Note Local Planning Jurisdiction)

☐ See note on back regarding River Basin rules.

**Notes/ Special Conditions:** ① Measures sufficient to restrain sedimentation and erosion shall be utilized and implemented in accordance with Best Management Practices.

② Finished grades shall be returned to pre-project contours and stabilized with vegetation.

③ The aerial lines shall be installed a minimum of one foot above the "low steel" of the bridges.

Philip S. Harris III — Agent or Applicant Printed Name

Stephen Lane — Permit Officer's Printed Name

Signature — ** Please read compliance statement on back of permit **

Signature: Stephen Lane

$400.00 WBS# 34528.1.1 — Application Fee(s) — Check #

3-12-18 — Issuing Date

3-12-19 — Expiration Date

## SECTION .1600 - GENERAL PERMIT FOR THE INSTALLATION OF AERIAL AND SUBAQUEOUS UTILITY LINES WITH ATTENDANT STRUCTURES IN COASTAL WETLANDS: ESTUARINE WATERS: PUBLIC TRUST WATERS AND ESTUARINE SHORELINES

### 15A NCAC 07H .1601 PURPOSE

A permit under this Section shall allow for the installation of utility lines both aerially and subaqueously in the coastal wetland, estuarine water, public trust areas and estuarine and public trust shoreline AECs according to the authority provided in Subchapter 7J .1100 and according rules in this Section. This general permit shall not apply to the ocean hazard AECs.

*History Note:* *Authority G.S. 113-229(c1); 113A-107(a)(b); 113A-113(b); 113A-118.1;*
*Eff. March 1, 1985;*
*Amended Eff. August 1, 2000; August 1, 1998.*

### 15A NCAC 07H .1602 APPROVAL PROCEDURES

(a) The applicant must contact the Division of Coastal Management and complete an application form requesting approval for development. The applicant shall provide information on site location, dimensions of the project area, and his name and address.

(b) The applicant must provide:

(1) confirmation that a written statement has been obtained signed by the adjacent riparian property owners indicating that they have no objections to the proposed work; or

(2) confirmation that the adjacent riparian property owners have been notified by certified mail of the proposed work. Such notice should instruct adjacent property owners to provide any comments on the proposed development in writing for consideration by permitting officials to the Division of Coastal Management within ten days of receipt of the notice, and, indicate that no response will be interpreted as no objection. DCM staff will review all comments and determine, based on their relevance to the potential impacts of the proposed project, if the proposed project can be approved by a General Permit. If DCM staff finds that the comments are worthy of more in-depth review, the applicant will be notified that he must submit an application for a major development permit.

(c) No work shall begin until an on-site meeting is held with the applicant and appropriate Division of Coastal Management representative so that the utility line alignment can be appropriately marked. Written authorization to proceed with the proposed development will be issued during this visit. Construction on the utility line must begin within twelve months of this visit or the general authorization expires.

*History Note:* *Authority G.S. 113A-107(a)(b); 113A-113(b); 113A-118.1; 113A-229(cl);*
*Eff. March 1, 1985;*
*Amended Eff. January 1, 1990.*

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### 15A NCAC 07H .1603 PERMIT FEE

The applicant shall pay a permit fee of four hundred dollars ($400.00) by check or money order payable to the Department.

*History Note:* *Authority G.S. 113-229(c1); 113A-107; 113A-113(b); 113A-118.1; 113A-119; 113A-119.1;*
*Eff. March 1, 1985;*
*Amended Eff. September 1, 2006; August 1, 2000; March 1, 1991.*

### 15A NCAC 07H .1604 GENERAL CONDITIONS

(a) Utility lines for the purpose of this general permit or any pipes or pipelines for the transportation of potable water, domestic sanitary sewage, natural gas, and any cable, line, or wire for the transmission, for any purpose, of electrical energy, telephone and telegraph messages, and radio and television communication.

(b) There must be no resultant change in preconstruction bottom contours. Authorized fill includes only that necessary to backfill or bed the utility line. Any excess material must be removed to an upland disposal area.

(c) The utility line crossing will not adversely affect a public water supply intake.

(d) The utility line route or construction method will not disrupt the movement of those species of aquatic life indigenous to the waterbody.

(e) Individuals shall allow authorized representatives of the Department of Environment, Health, and Natural Resources to make periodic inspections at any time necessary to ensure that the activity being performed under authority of this general permit is in accordance with the terms and conditions prescribed herein.

(f) This general permit will not be applicable to proposed construction where the Department has determined, based on an initial review of the application, that notice and review pursuant to G.S. 113A-119 is necessary because there are unresolved

questions concerning the proposed activity=s impact on adjoining properties or on water quality; air quality; coastal wetlands; cultural or historic sites; wildlife; fisheries resources; or public trust rights.
(g) This permit does not eliminate the need to obtain any other required state, local, or federal authorization, nor, to abide by regulations adopted by any federal or other state agency.
(h) Development carried out under this permit must be consistent with all local requirements, AEC guidelines, and local Land Use Plans current at the time of authorization.

*History Note:* *Authority G.S. 113-229(c1); 113A-107(a)(b); 113A-113(b); 113A-118.1;*
*Eff. March 1, 1985;*
*Amended Eff. May 1, 1990;*
*RRC Objection due to ambiguity Eff. May 19, 1994;*
*Amended Eff. August 1, 1998; July 1, 1994.*

**15A NCAC 07H .1605 SPECIFIC CONDITIONS**

Proposed utility line installations must meet each of the following specific conditions to be eligible for authorization by this general permit:

(1) All domestic sanitary sewer line requests must be accompanied by a statement of prior approval from the NC Division Water Quality.
(2) All spoils which are permanently removed must be placed on a high ground disposal site and stabilized so as not to return to waters, marsh or other wetlands.
(3) Any additional backfill material required must be clean sand or rock free of organic matter.
(4) Cuts through wetlands must be minimized.
(5) Finished grades or subaqueous or wetland crossing must be returned to preproject contours.
(6) There can be no work within any productive shellfish beds.
(7) No excavation or filling activities will be permitted between April 1 and September 30 of any year within any designated primary nursery area.
(8) Subaqueous lines must be placed at a depth of six feet below the project depth of federal projects. In other areas they will be installed at a minimum depth of two feet below the bottom contour.
(9) The minimum clearance for aerial communication lines or any lines not transmitting electricity will be 10' above the clearance required for bridges in the vicinity.
(10) The minimum clearance for aerial electrical transmission lines shall be consistent with those established by the US Army Corps of Engineers and US Coast Guard.
(11) The installation of a utility line on pipe bents or otherwise above the elevation of mean high or mean ordinary water must be of sufficient height to allow for traditional navigation in the water body. Additionally the utility line must not interfere with the waterflow of normal or flood waters.
~~(12) Natural gas lines must not exceed 11 inches in diameter.~~

*History Note:* *Authority G.S. 113-229(c1); 113A-107(a)(b); 113A-113(b); 113A-118.1;*
*Eff. March 1, 1985;*
*Amended Eff. August 1, 1998.*

Revised 3/2/2018

CONTRACT: C204080 TIP PROJECT: R-2633D

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. |
|---|---|---|
| N.C. | R-2633D | ITS-1 |

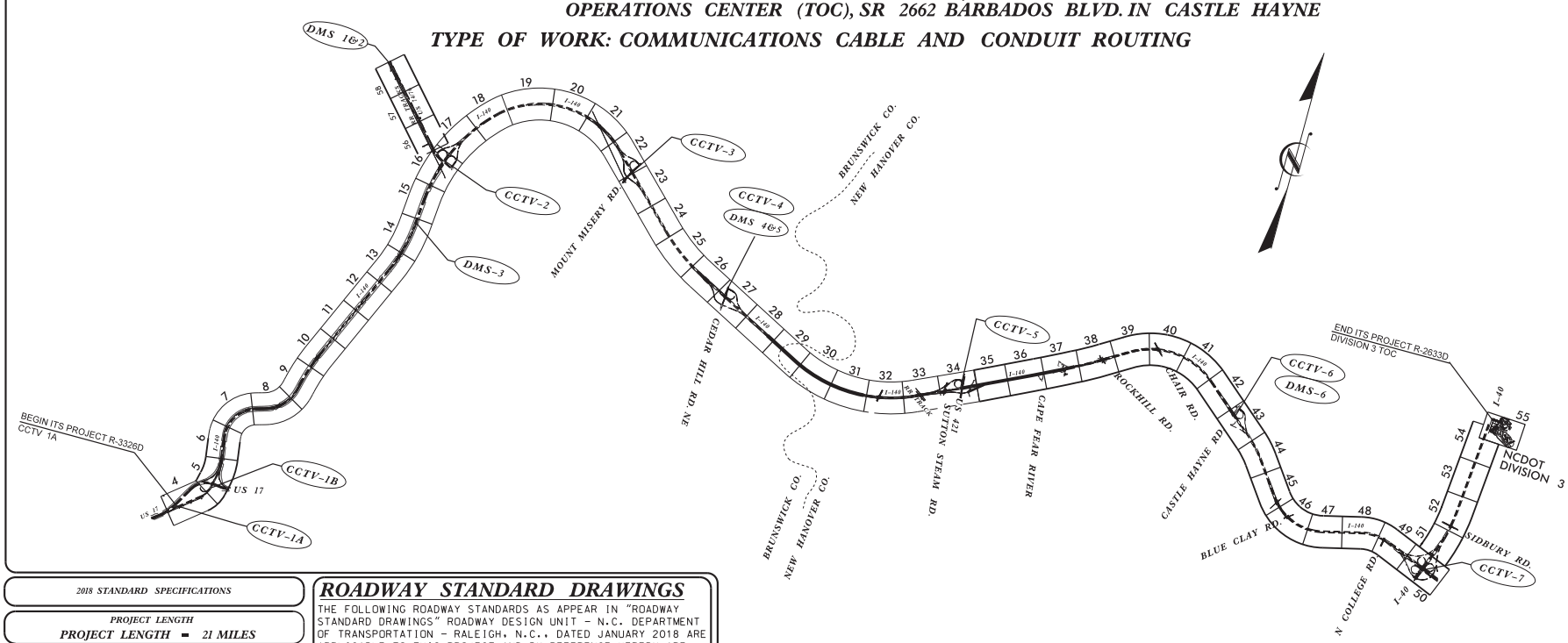
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 34491.1.12 | NHP-0040(058) | PE |
| 34491.3.23 | NHP-0040(058) | CONST. |

# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

# BRUNSWICK COUNTY
# NEW HANOVER COUNTY

**LOCATION:** I-140 FROM US 17 BUS. TO I-40 NORTH, TO DIVISION 3 TRAFFIC OPERATIONS CENTER (TOC), SR 2662 BARBADOS BLVD. IN CASTLE HAYNE

**TYPE OF WORK:** COMMUNICATIONS CABLE AND CONDUIT ROUTING




2018 STANDARD SPECIFICATION

2018 STANDARD SPECIFICATIONS

PROJECT LENGTH
PROJECT LENGTH = 21 MILES

LETTING DATE:
APRIL 17, 2018

INDEX OF SHEETS


SHEET ITS 1 ..... TITLE SHEET
SHEET ITS 2 ..... TRAFFIC CONTROL PLANS
SHEET ITS 3 ..... CONSTRUCTION NOTES
SHEET ITS 4-58 ..... CABLE ROUTING PLANS
SHEET ITS 59 ..... BUILDING ENTRANCE
SHEET ITS 60-69 ..... SPLICE DETAILS
SHEET ITS 70 ..... BLOCK DIAGRAM
SHEET S1 ..... CONDUIT HANGER DETAIL


## ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" ROADWAY DESIGN UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE |
|---|---|
| 1710.01 | MESSENGER CABLE |
| 1715.01 | UNDERGROUND CONDUIT-TRENCHING |
| 1716.01 | JUNCTION BOXES |
| 1720.01 | WOOD POLES |
| 1721.01 | GUY ASSEMBLIES |
| 1722.01 | RISER ASSEMBLY |
| 1730.01 | FIBER OPTIC CABLE |

NCDOT CONTACT:
TRANSPORTATION MOBILITY AND SAFETY
P.P. MARAK, PE
ITS DEVELOPMENT &
DESIGN ENGINEER

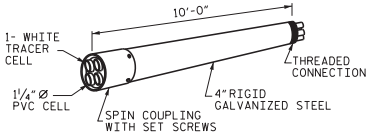
Prepared in the Offices of:
750 N. Greenfield Pkwy., Garner, NC 27529

ENGLISH
ALL DIMENSIONS IN THESE PLANS ARE IN FEET UNLESS OTHERWISE NOTED

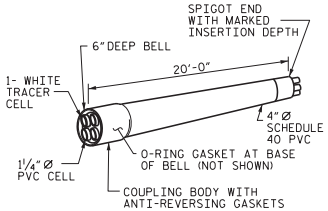
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031636 ENGINEER PAUL P. MARAK
Digitally signed by Paul P. Marak
SIGNATURE
2/7/2018
DATE

P-60

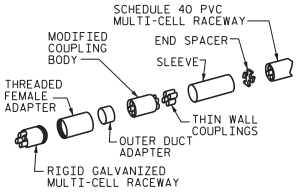
February 16, 2018



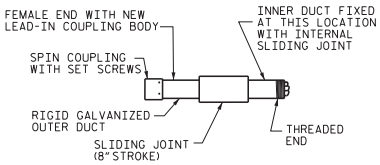

RIGID GALVANIZED (RGC)
MULTI-CELL RACEWAY




SCHEDULE 40 PVC
MULTI-CELL RACEWAY

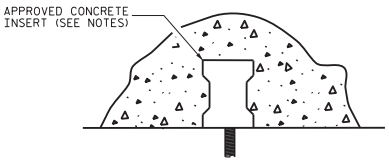


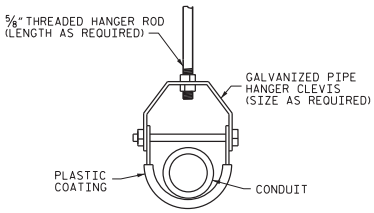

TRANSITION ADAPTER



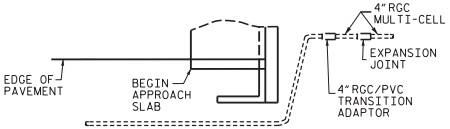

EXPANSION JOINT FITTING

DETAIL "D"
4" MULTI-CELL COMPONENTS




DETAIL "C"
HANGER ASSEMBLY




DETAIL "A"
TERMINATION OF CONDUIT AT WING WALL

## NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE TOTAL QUANTITY OF CONDUIT NEEDED TO COMPLETE THE WORK AND THAT THE CONDUIT(S) ARE PLACED AT THE NOTED DIMENSION AND ABOVE THE BOTTOM OF THE GIRDER.

BRIDGE CONDUIT SYSTEM SHALL BE MEASURED AND PAID AS LINEAR FEET. THE PRICE SHALL INCLUDE ALL CONDUIT, HANGERS, STABILIZERS, EXPANSION JOINTS, CONCRETE INSERTS, PVC SLEEVES AND ALL NECESSARY HARDWARE TO COMPLETE THE WORK.

THE CONTRACTOR SHALL FIELD VERIFY THAT THE CONDUIT SYSTEM IS NOT IN CONFLICT WITH THE GUARDRAIL POSTS.

SEE DETAIL "C" FOR HANGER ASSEMBLY INSTALLATION.

PROVIDE TRANSITION ADAPTOR AND EXPANSION JOINT FOR CONDUIT AT END BENT 1 AND END BENT 2.

INSTALL STABILIZER'S MIDWAY BETWEEN DECK EXPANSION JOINTS. STABILIZER CAN NOT BE USED INSTEAD OF A HANGER ASSEMBLY.

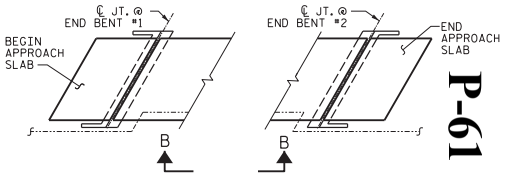
INSTALL EXPANSION JOINTS AT EACH BENT.

THE CONCRETE SCREW INSERT SHALL HAVE A ROD SIZE OF ⅝" AND A PULL FORCE OF 1260 lbs.

FOR BRIDGE CONDUIT SYSTEM, SEE SPECIAL PROVISIONS.

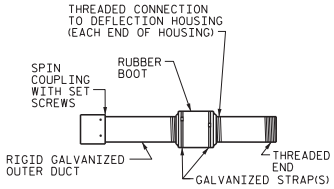
THE CONDUIT WILL BE INSTALLED AT A MINIMUM OF 1 FOOT ABOVE LOW STEEL.

DETAILS SHOWN ARE FOR RGC CONDUIT, CONTRACTOR MAY USE FIBERGLASS REINFORCED EPOXY CONDUIT.

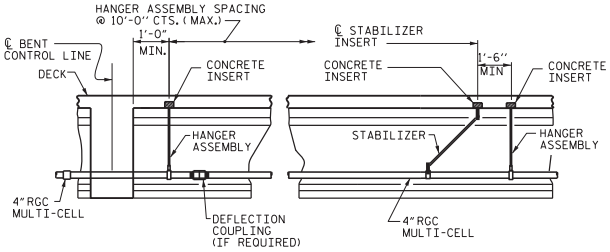



CONDUIT LAYOUT

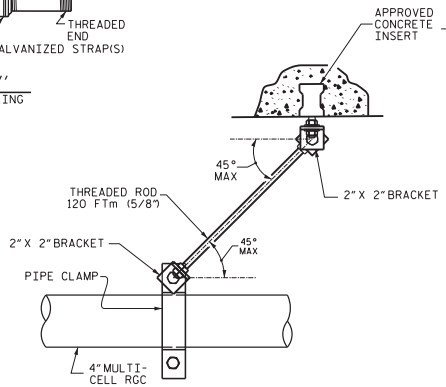
P-61



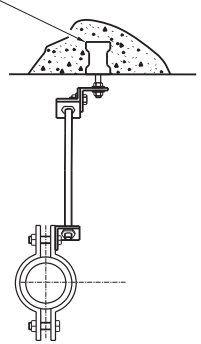

DETAIL "F"
DEFLECTION COUPLING




VIEW B-B
PRESTRESSED GIRDERS
CONTINUOUS FOR LIVE LOAD




DETAIL "E"
STABILIZER



CONDUIT DETAILS

PROJECT NO. R-2633D
BRUNSWICK/NEW HANOVER COUNTY
STATION: -

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE CONDUIT SYSTEM

NORTH CAROLINA PROFESSIONAL SEAL 26936 ENGINEER DAVID S. STUTTS

DocuSigned by: David Stutts
1/31/2018

| | | | |
|---|---|---|---|
| ASSEMBLED BY : J.P. ADAMS | DATE : 1/2018 | | |
| CHECKED BY : D.S. STUTTS | DATE : 1/2018 | | |
| DRAWN BY : RWW 2-4-03 | REV. 5/1/06 | TLA/GM | |
| CHECKED BY : DBM 2-4-03 | REV. 10/1/11 | MAA/GM | |

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| REVISIONS | | | | | | SHEET NO. |
|---|---|---|---|---|---|---|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-1 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 1 |

$$$$$$$SYSTIME$$$$$
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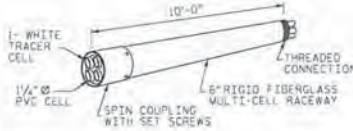
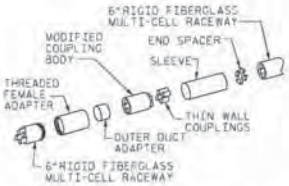
$$$$$USERNAME$$$$

February 16, 2018

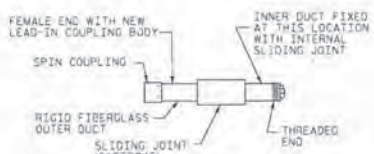
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2633D | ITS-72 |




RIGID FIBERGLASS MULTI-CELL RACEWAY




TRANSITION ADAPTER




EXPANSION JOINT FITTING

DETAIL "D"

6" MULTI-CELL COMPONENTS

## NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE TOTAL QUANTITY OF CONDUIT NEEDED TO COMPLETE THE WORK AND THAT THE CONDUIT(S) ARE PLACED AT THE NOTED DIMENSION AND ABOVE THE BOTTOM OF THE GIRDER.

THE INSTALLATION OF THE CONDUIT SYSTEM SHALL BE PAID FOR PER LIN FOOT, SUM. THE PRICE SHALL INCLUDE ALL CONDUIT, HANGERS, STABILIZERS, EXPANSION JOINTS, CONCRETE INSERTS, FG SLEEVES, AND ALL NECESSARY HARDWARE TO COMPLETE THE WORK.

THE CONTRACTOR SHALL FIELD VERIFY THAT THE CONDUIT SYSTEM IS NOT IN CONFLICT WITH THE GUARDRAIL POSTS.

SEE DETAIL "C" ON TYPICAL SECTION SHEET (S-2) FOR HANGER ASSEMBLY INSTALLATION.

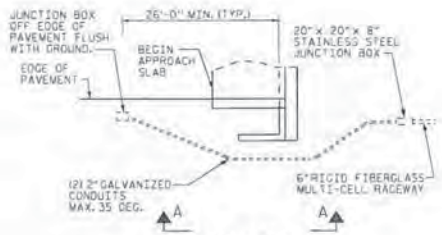
INSTALL SLEEVES PARALLEL TO GIRDERS. SEE VIEW "C" FOR SLEEVE INSTALLATION.

PROVIDE TRANSITION ADAPTOR (AND EXPANSION JOINT) FOR CONDUIT AT END BENT 1 AND END BENT 2.

INSTALL STABILIZER'S MIDWAY BETWEEN DECK EXPANSION JOINTS. STABILIZER CAN NOT BE USED INSTEAD OF A HANGER ASSEMBLY.

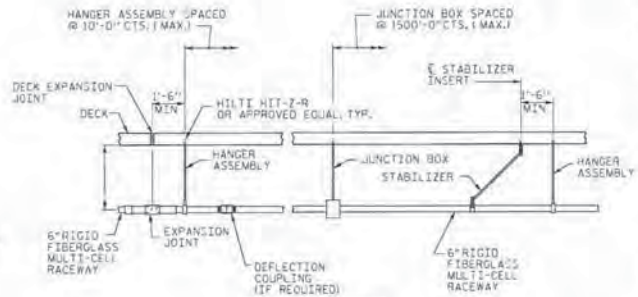
INSTALL EXPANSION JOINTS AT END BENT #1, BENT #1, BENT #3, BENT #6, BENT #9, BENT#12, BENT#14, BENT#16, BENT#19, BENT#22, BENT#25, BENT#28, BENT#31, BENT#34, BENT#37, BENT#40, BENT#43, BENT#46, BENT#49, BENT#52, BENT#58, AND END BENT #2

FOR ELECTRICAL CONDUIT SYSTEM FOR SIGNALS, SEE SPECIAL PROVISIONS.

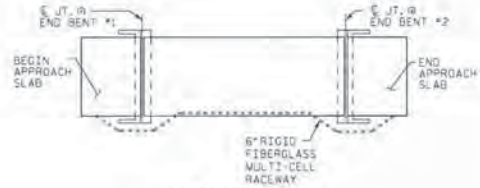



PLAN VIEW

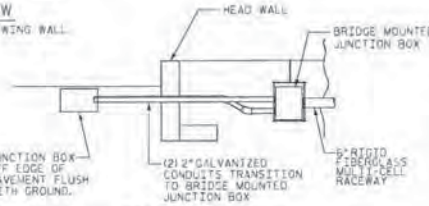
CONDUIT ROUTING AT WING WALL




VIEW "B-B"

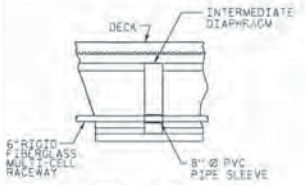



CONDUIT LAYOUT

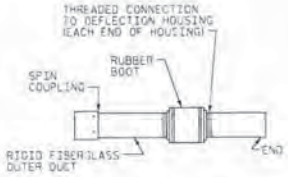



DETAIL "A"

CONDUIT ROUTING AT WING WALL

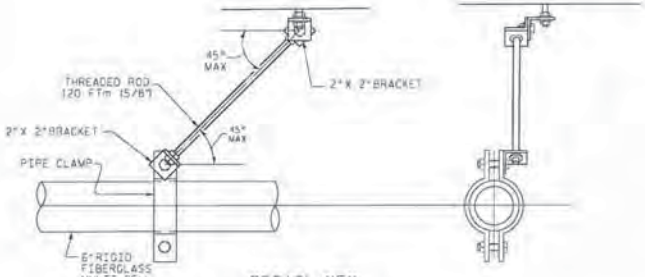



VIEW "C-C"




DETAIL "F"

DEFLECTION COUPLING




DETAIL "E"

STABILIZER

FIBERGLASS CONDUIT DETAILS

**PRELIMINARY PLANS**
**DO NOT USE FOR CONSTRUCTION**

PROJECT NO. R-2633D

BRUNSWICK/NEW HANOVER COUNTY

STATION:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

MULTI-CELL RACEWAY
TYPICAL SECTION DETAILS


Stantec
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DRAWN BY: J. B. GEILE DATE: 11/06/17
CHECKED BY: R. F. DECOLA DATE: 11/06/17
DESIGN ENGINEER OF RECORD: R. F. DECOLA DATE: 11/06/17

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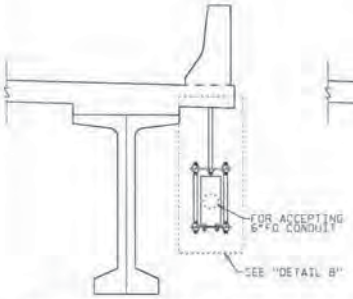
| REVISIONS | | | | | | | | SHEET NO. |
|---|---|---|---|---|---|---|---|---|
| NO. | BY: | DATE: | NO. | BY: | DATE: | | | S-1 |
| | | | | | | | | TOTAL SHEETS |
| | | | | | | | | 2 |

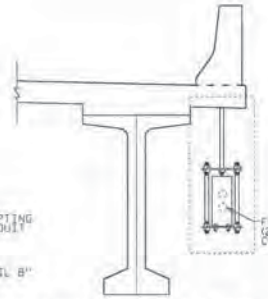
P-62

February 16, 2018

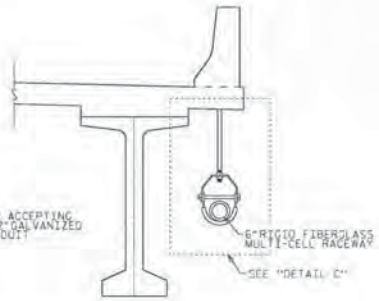
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2633D | TIS-F2 |



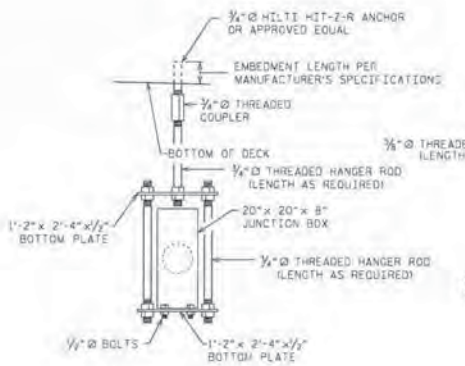

TYPICAL SECTION AT JUNCTION BOX FOR MIDSPAN




TYPICAL SECTION AT JUNCTION BOX AT HEADWALL BEGIN AND END

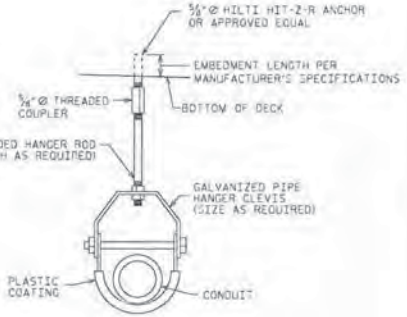



TYPICAL SECTION ALONG RACEWAY




DETAIL "B"

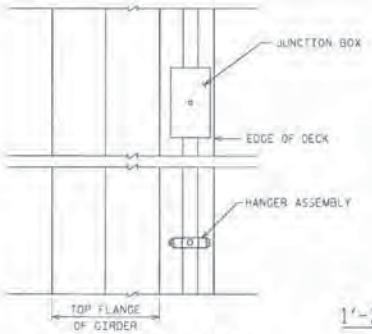
JUNCTION BOX HANGER ASSEMBLY




DETAIL "C"

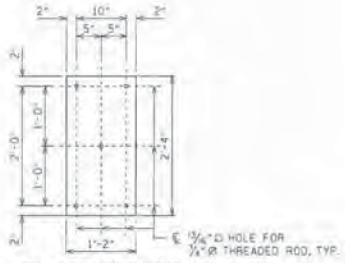
RACEWAY HANGER ASSEMBLY

NOTE: THREADED RODS, COUPLERS, WASHERS, AND NUTS SHALL BE STAINLESS STEEL.

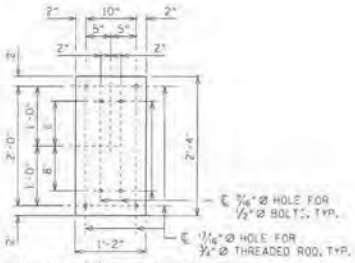



PLAN VIEW

CONCRETE BARRIER NOT SHOWN FOR CLARITY




1'-2"x 2'-4"x1/2" TOP PLATE DETAILS



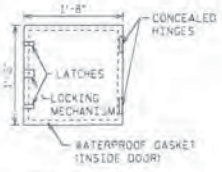

1'-2"x 2'-4"x1/2" BOTTOM PLATE DETAILS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PROJECT NO. R-2633D

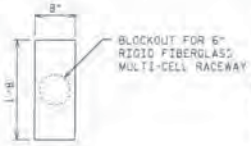
BRUNSWICK/NEW HANOVER COUNTY

STATION:



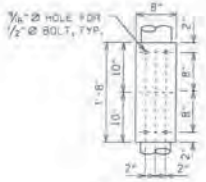

FRONT VIEW

BACK VIEW




SIDE VIEW

TOP VIEW




BOTTOM VIEW

BOX DETAILS

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION

DETAIL FOR BRIDGE MOUNTED 20"x20"x8" JUNCTION BOX AND HANGING DETAIL

| REVISIONS | | | | | | SHEET NO. |
|---|---|---|---|---|---|---|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-2 |
| 1 | | | 3 | | | TOTAL SHEETS |
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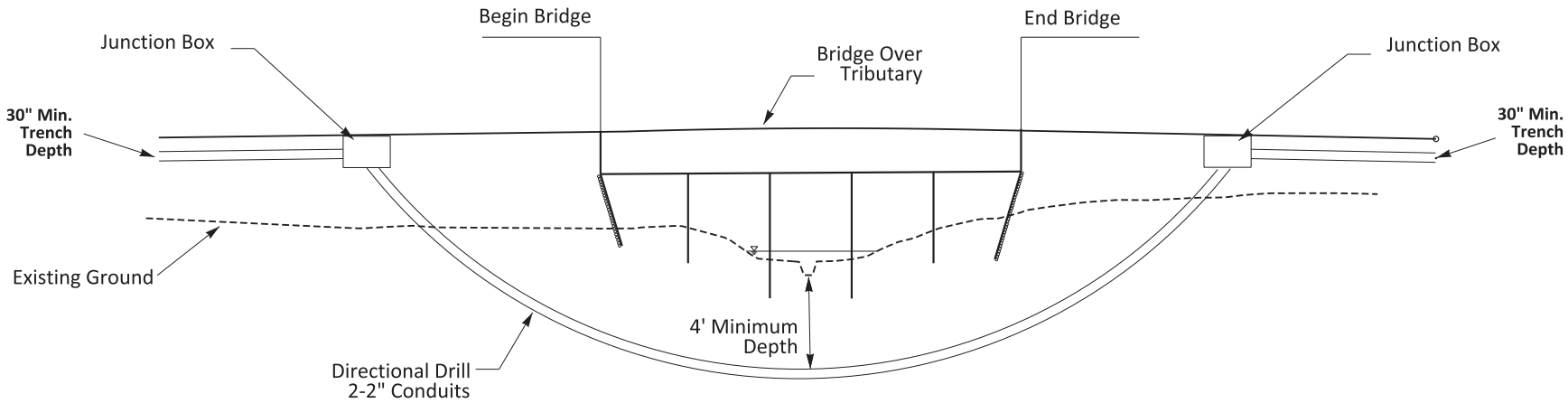
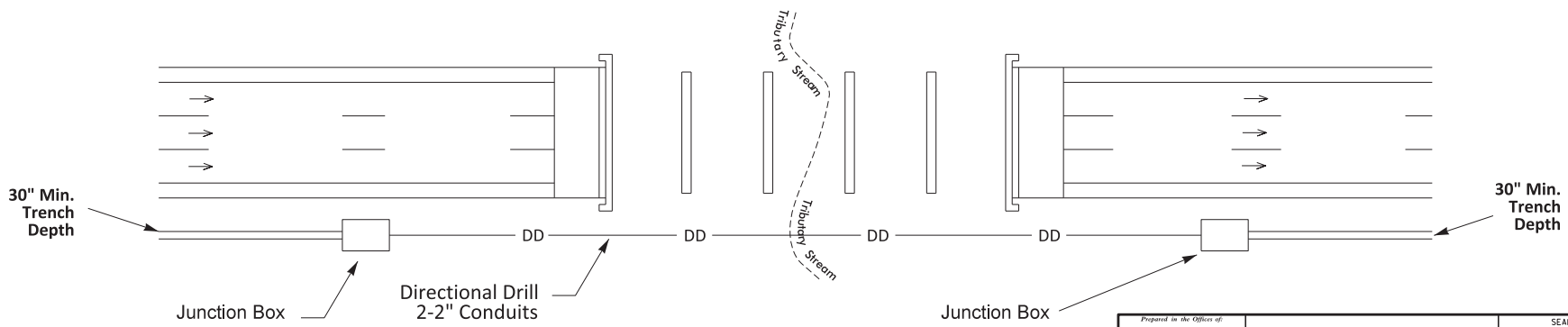
| DRAWN BY: | J. B. GEILE | DATE: | 11/06/17 |
| CHECKED BY: | R. F. DECOLA | DATE: | 11/06/17 |
| DESIGN ENGINEER OF RECORD: | R. F. DECOLA | DATE: | 11/06/17 |

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2633D | DD-TYP1 |

# TYPICAL DIRECTIONAL DRILL




## PROFILE VIEW




## PLAN VIEW

Prepared in the Offices of:

750 N. Greenfield Pkwy., Garner, NC 27529

DIRECTIONAL DRILL
TYPICAL

DIVISION 3 BRUNSWICK CO.

| | | | |
|---|---|---|---|
| PLAN DATE: | 2/7/18 | REVIEWED BY: | |
| PREPARED BY: | L.E. NEAL | REVIEWED BY: | |

SCALE 0

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SEAL

SIGNATURE DATE

CADD Filename:

February 16, 2018

February 16, 2018

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2633D | ITS-3 |

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL REA, PE – 39, (UNDERGROUND) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
4. INSTALL SMFO CABLE
5. INSTALL MMFO CABLE
6. INSTALL FIBER OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. TRENCH
9. INSTALL PVC CONDUIT
10. INSTALL RIGID, GALVANIZED STEEL CONDUIT
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
12A. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
12B. INSTALL BRIDGE MOUNTED FIBERGLASS CONDUIT, WITH FOUR–WAY INNERDUCT INSERT
13. INSTALL OUTER–DUCT POLYETHYLENE CONDUIT
14. INSTALL POLYETHYLENE CONDUIT
15. DIRECTIONAL DRILL CONDUIT
16. BORE AND JACK CONDUIT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
18. INSTALL CABLE(S) IN NEW CONDUIT
19. INSTALL CABLE(S) IN EXISTING RISER
20. INSTALL CABLE(S) IN NEW RISER
21. INSTALL CABLE(S) IN EXISTING CONDUIT STUB–OUTS
22. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)
24. INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET
25. INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
26. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
27. INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
28. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
29. INSTALL UNDERGROUND SPLICE ENCLOSURE
30. INSTALL AERIAL SPLICE ENCLOSURE
31. INSTALL POLE MOUNTED SPLICE CABINET
32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTENDED BASE
33. REMOVE EXISTING SPLICE CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV CAMERA WOOD POLE
38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
39. INSTALL SPECIAL OVERSIZED JUNCTION BOX WITH 100 FEET OF COMMUNICATION CABLE
40. INSTALL OVERSIZED JUNCTION BOX
41. INSTALL BRIDGE MOUNTED JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL REEL END SPLICE
51. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET OF COMMUNICATIONS CABLE
54. LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE
55. LASH CABLE(S) TO EXISTING MESSENGER CABLE
56. LASH CABLE(S) TO NEW MESSENGER CABLE
57. MODIFY EXISTING ELECTRICAL SERVICE
58. INSTALL NEW ELECTRICAL SERVICE FOR DMS/CCTV
59. INSTALL NEW BASE MOUNTED CABINET (336)
60. SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND CABINETS WITH MOLDABLE DUCT SEAL
61. INSTALL ETHERNET SWITCH
62. LOCATE EXISTING CONDUIT STUBOUT FOR NEW JUNCTION BOX INSTALLATION
63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

## LEGEND

- NEW AERIAL FIBER OPTIC COMMUNICATIONS CABLE
- EXISTING COMMUNICATIONS CABLE
- EXISTING FENCE LINE
- EXISTING WATER LINE /WETLANDS
- PROPOSED CONDUIT
- EXISTING CONDUIT
- NEW DIRECTIONAL DRILLED CONDUIT
- NEW BORED AND JACKED CONDUIT
- NEW JUNCTION BOX
- EXISTING JUNCTION BOX
- NEW WOOD POLE
- EXISTING WOOD POLE
- NEW AERIAL SPLICE ENCLOSURE
- NEW METAL SIGNAL POLE
- NEW UNDERGROUND SPLICE CLOSURE
- EXISTING METAL SIGNAL POLE
- EXISTING CCTV CAMERA ASSEMBLY
- NEW STANDARD GUY ASSEMBLY
- NEW STANDARD GUY USING EXISTING ANCHOR
- NEW SIDEWALK GUY ASSEMBLY
- NEW CABLE STORAGE RACKS (SNOW SHOES)
- EXISTING CONTROLLER AND CABINET
- EXISTING SPLICE CABINET
- EXISTING DYNAMIC MESSAGE SIGN (DMS) ON SINGLE STEEL POLE
- SP — SIGNAL POLE
- XXXX–XX — ITS FIELD DEVICES

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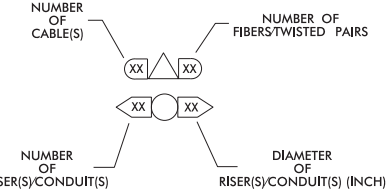
## CONSTRUCTION NOTE SYMBOLOGY KEY

- XX — INDICATES NUMBER OF CABLES, LOOPS, ETC.
- XX — INDICATES NUMBER OF FIBERS PER CABLE, TWISTED PAIRS PER CABLE, ETC.
- XX — INDICATES NUMBER OF RISER(S)/CONDUIT(S)
- XX — INDICATES DIAMETER OF RISER(S)/CONDUIT(S) (INCH)




Prepared for the Offices of:
Division of Highways
Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

CONSTRUCTION NOTES

| PLAN DATE: | AUGUST 2017 | REVIEWED BY: | DEAN HARRIS |
|---|---|---|---|
| PREPARED BY: | J. INGRAM | REVIEWED BY: | BETSY L. WATSON |

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

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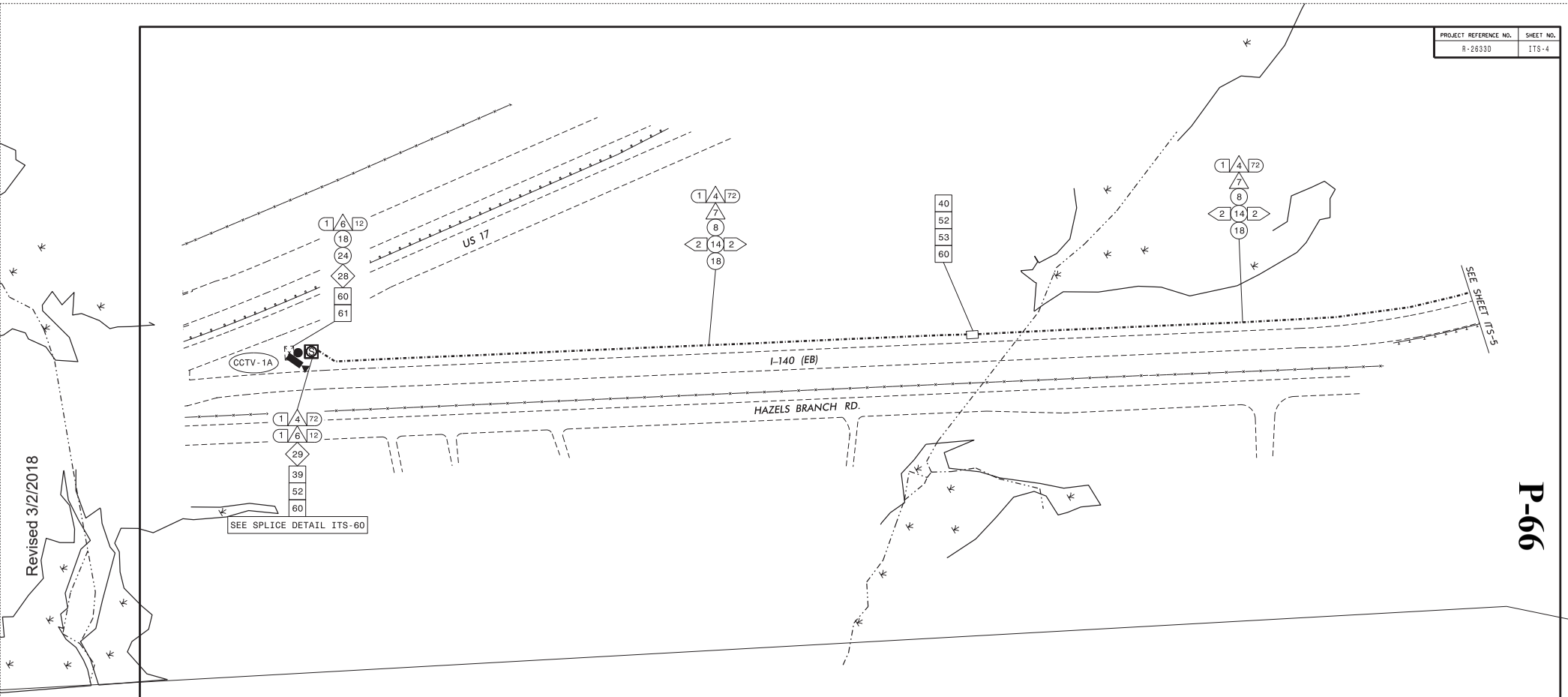
SIGNATURE DATE

CADD FILE NAME

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2633D | ITS-4 |




Revised 3/2/2018

P-66

GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL 3–CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE
4. INSTALL SMFO CABLE
5. INSTALL CAT 5e COMMUNICATIONS CABLE
6. INSTALL FIBER OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. TRENCH
9. INSTALL PVC CONDUIT
10. INSTALL RIGID, GALVANIZED STEEL CONDUIT
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
12. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
13. INSTALL OUTER–DUCT POLYETHYLENE CONDUIT
14. INSTALL POLYETHYLENE CONDUIT
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27. INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
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30. INSTALL AERIAL SPLICE ENCLOSURE
31. INSTALL POLE MOUNTED SPLICE CABINET
32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
33. REMOVE EXISTING SPLICE CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV CAMERA WOOD POLE
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Prepared for the Offices of:
Mobility and Public Transportation
Construction Operations Maintenance
Planning Administration
Engineering Services
Traffic Engineering
Communications
Transportation
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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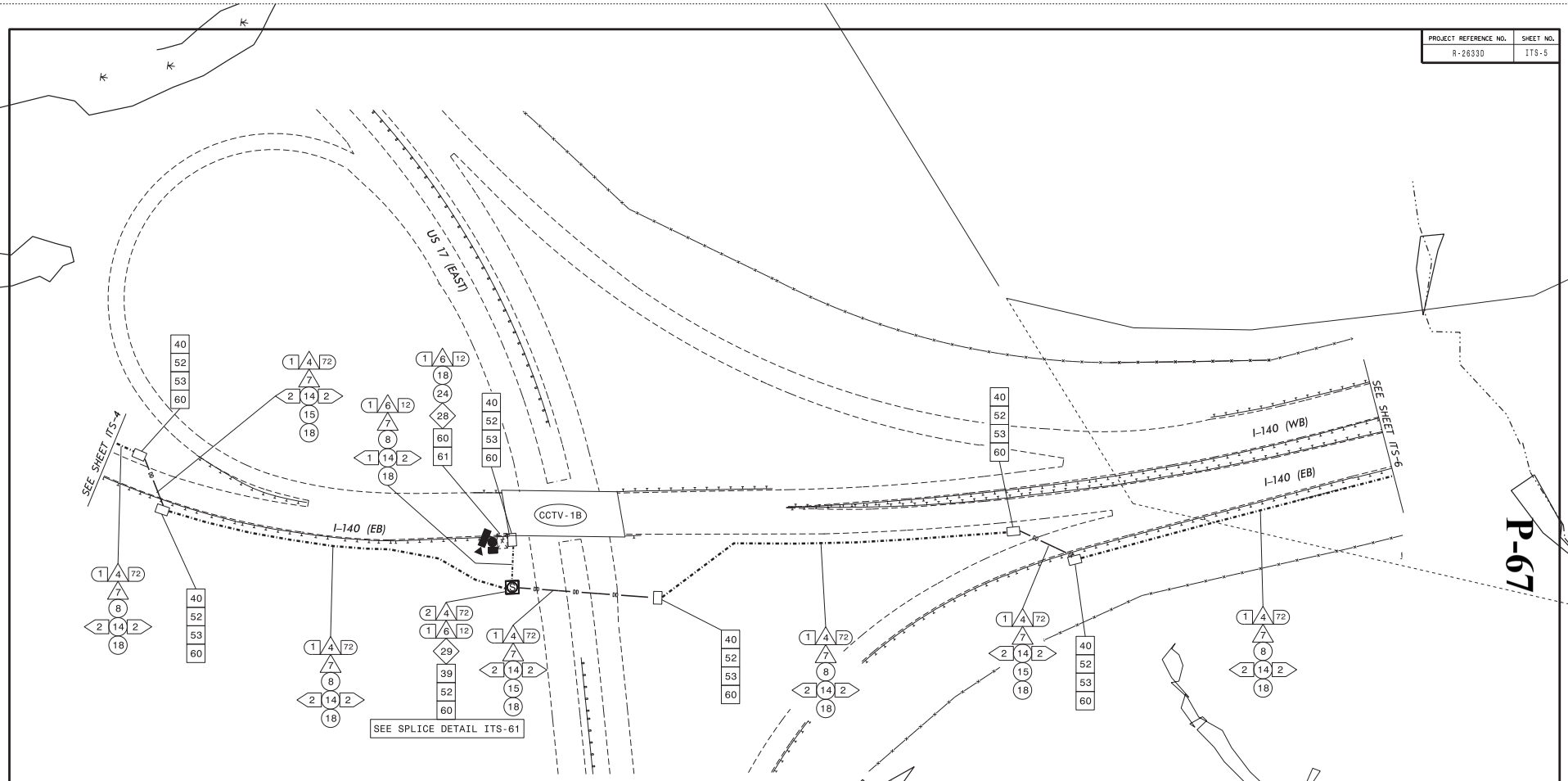
| R-26330 | ITS-5 |

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Prepared for the Offices of:
Division of Highways
Traffic Engineering Branch
Intelligent Transportation Systems Section
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

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SCALE: NTS

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SEAL: PRELIMINARY PLANS NOT FOR CONSTRUCTION

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Revised 3/2/2018

P-67

| PROJECT REFERENCE NO. | SHEET NO. |
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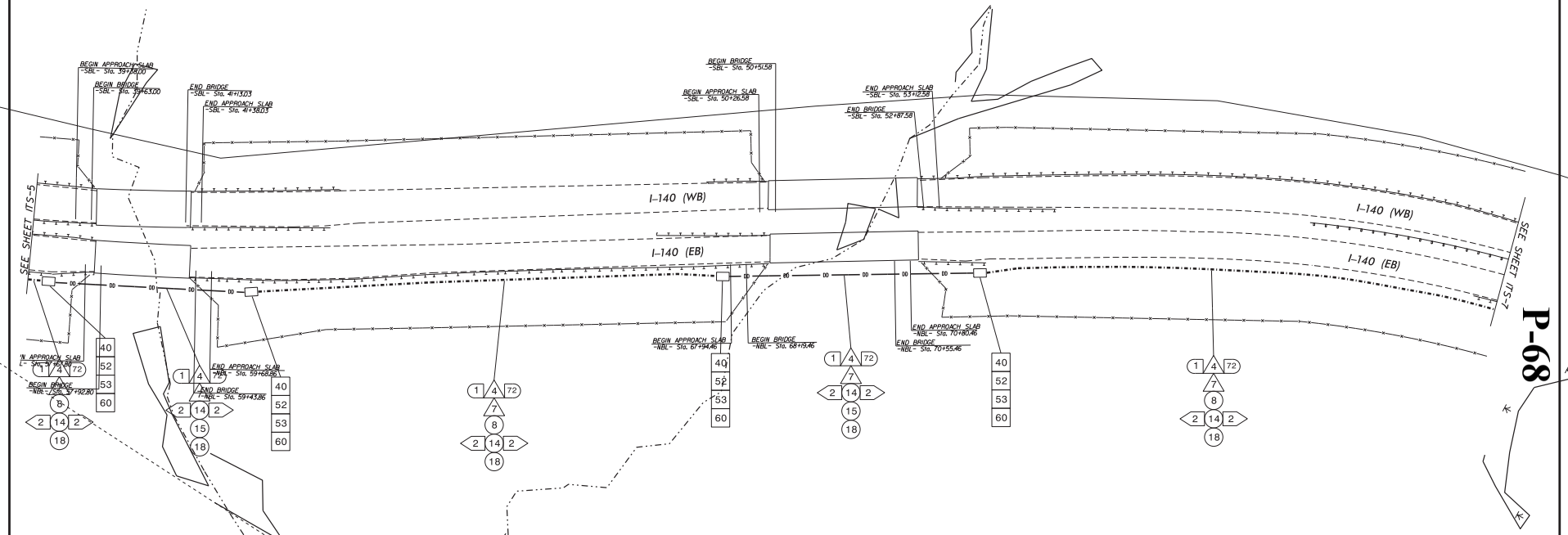
| R-2633D | ITS-6 |

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Prepared for the Offices of:
Mobility and Public Transportation
Connectivity
Multimodal
Safety
Environmental Stewardship
Economic Competitiveness
Quality Organization
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

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Revised 3/2/2018

P-68

| PROJECT REFERENCE NO. | SHEET NO. |
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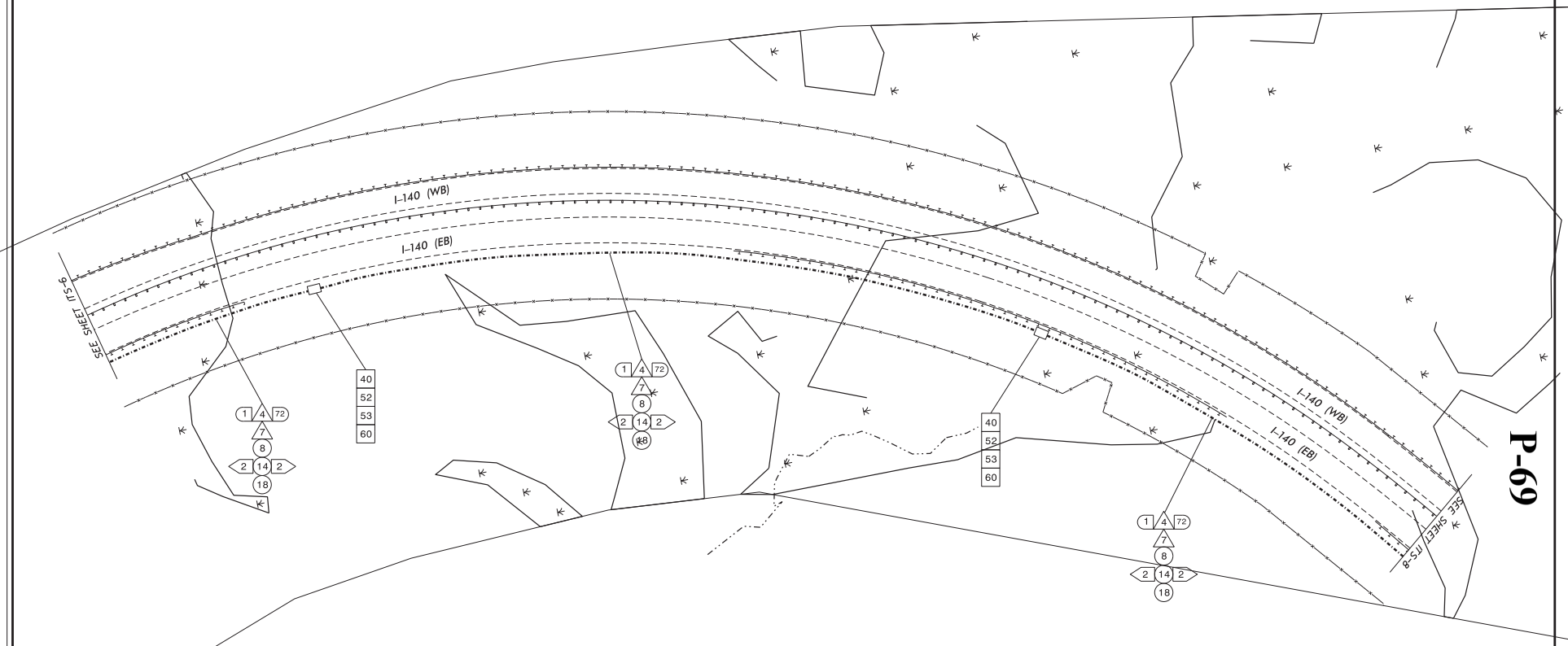
| R-2633D | ITS-7 |




P-69

Revised 3/2/2018

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Prepared for the Offices of:
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
Traffic Management Unit
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

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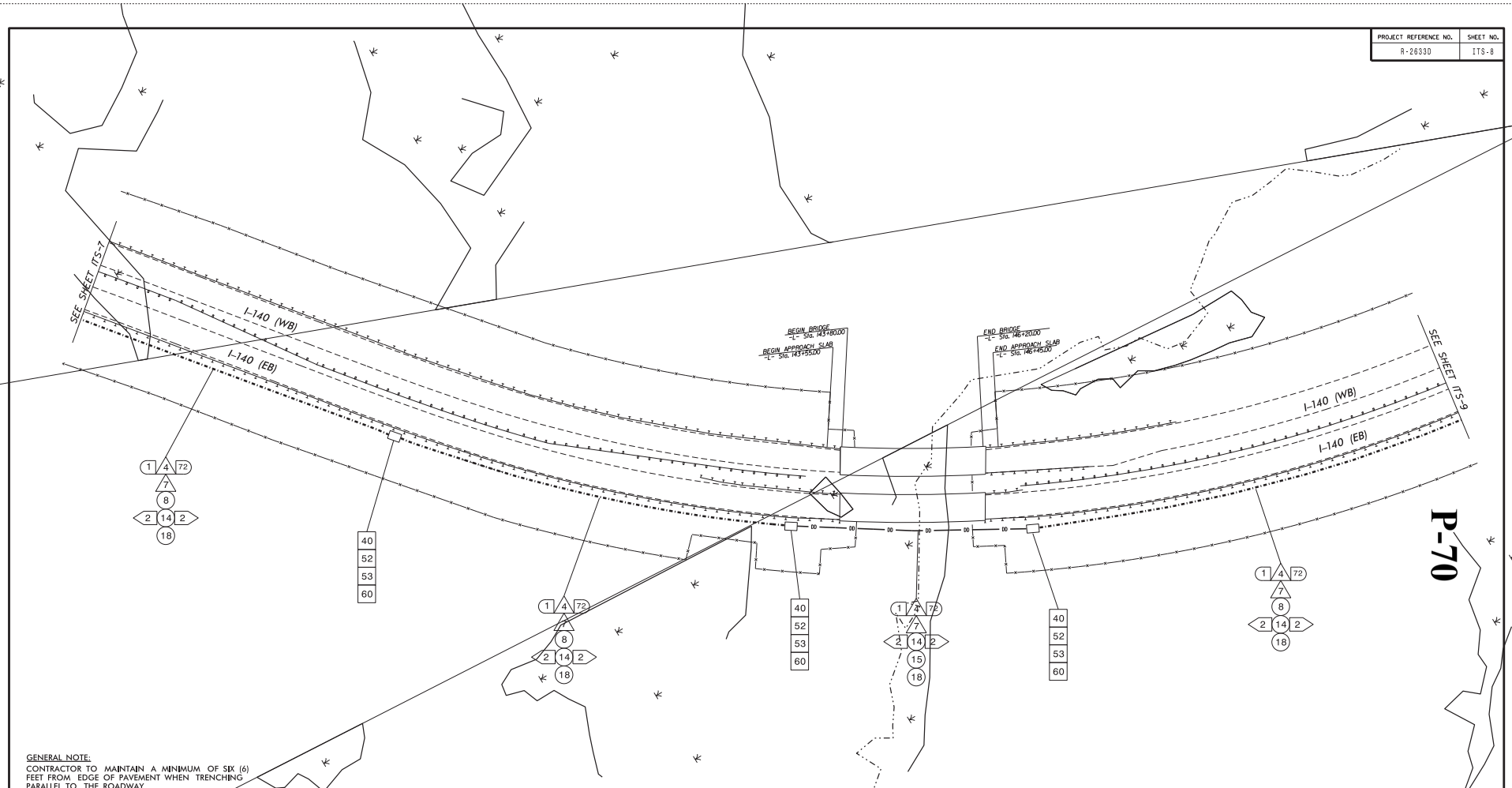


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Prepared for the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Connecting People, Products, Places
750 N. Greenfield Pkwy., Garner, NC 27529

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P-70

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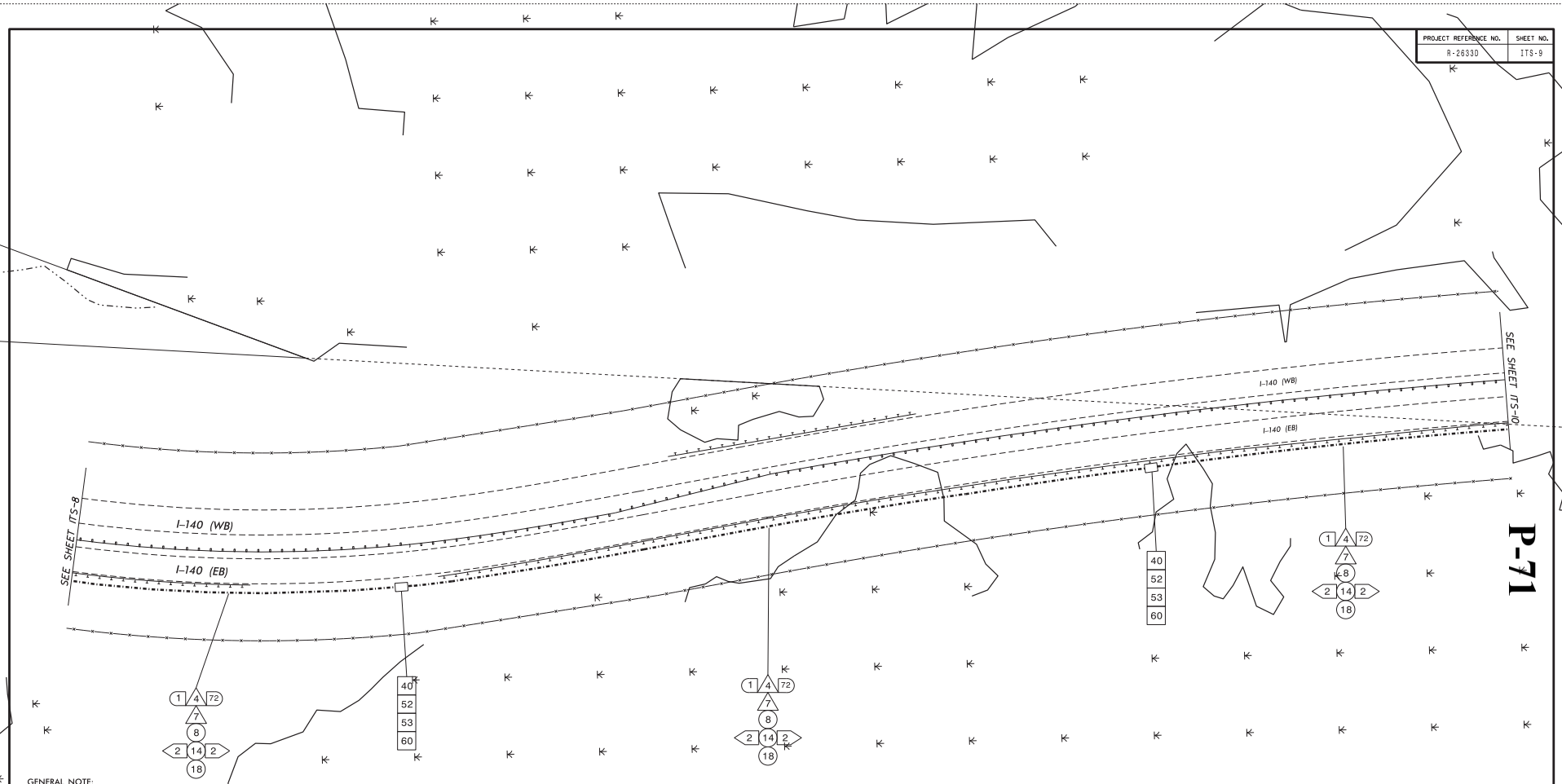
| R-26330 | ITS-9 |




P-71

Revised 3/2/2018

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14. INSTALL POLYETHYLENE CONDUIT
15. DIRECTIONAL DRILL CONDUIT
16. INSTALL BRIDGE MOUNTED FIBERGLASS CONDUIT, WITH FOUR-WAY INNERDUCT INSERT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
18. INSTALL CABLE(S) IN NEW CONDUIT
19. INSTALL CABLE(S) IN EXISTING RISER
20. INSTALL CABLE(S) IN NEW RISER
21. INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
24. INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET
25. INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
26. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
27. INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
28. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
29. INSTALL UNDERGROUND SPLICE ENCLOSURE
30. INSTALL AERIAL SPLICE ENCLOSURE
31. INSTALL POLE MOUNTED SPLICE CABINET
32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
33. REMOVE EXISTING SPLICE CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV CAMERA WOOD POLE
38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
39. INSTALL SPECIAL OVERSIZED JUNCTION BOX WITH 100 FEET OF COMMUNICATIONS CABLE
40. INSTALL OVERSIZED JUNCTION BOX
41. INSTALL BRIDGE MOUNTED JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
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47. INSTALL MESSENGER CABLE
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62. LOCATE EXISTING JUNCTION BOX AND CONNECT WITH NEW CONDUIT
63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

Prepared for the Offices of:
Mobility and Transportation Solutions Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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SEAL

PRELIMINARY PLANS
NOT TO BE USED FOR CONSTRUCTION

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CADD FILE NAME

| PROJECT REFERENCE NO. | SHEET NO. |
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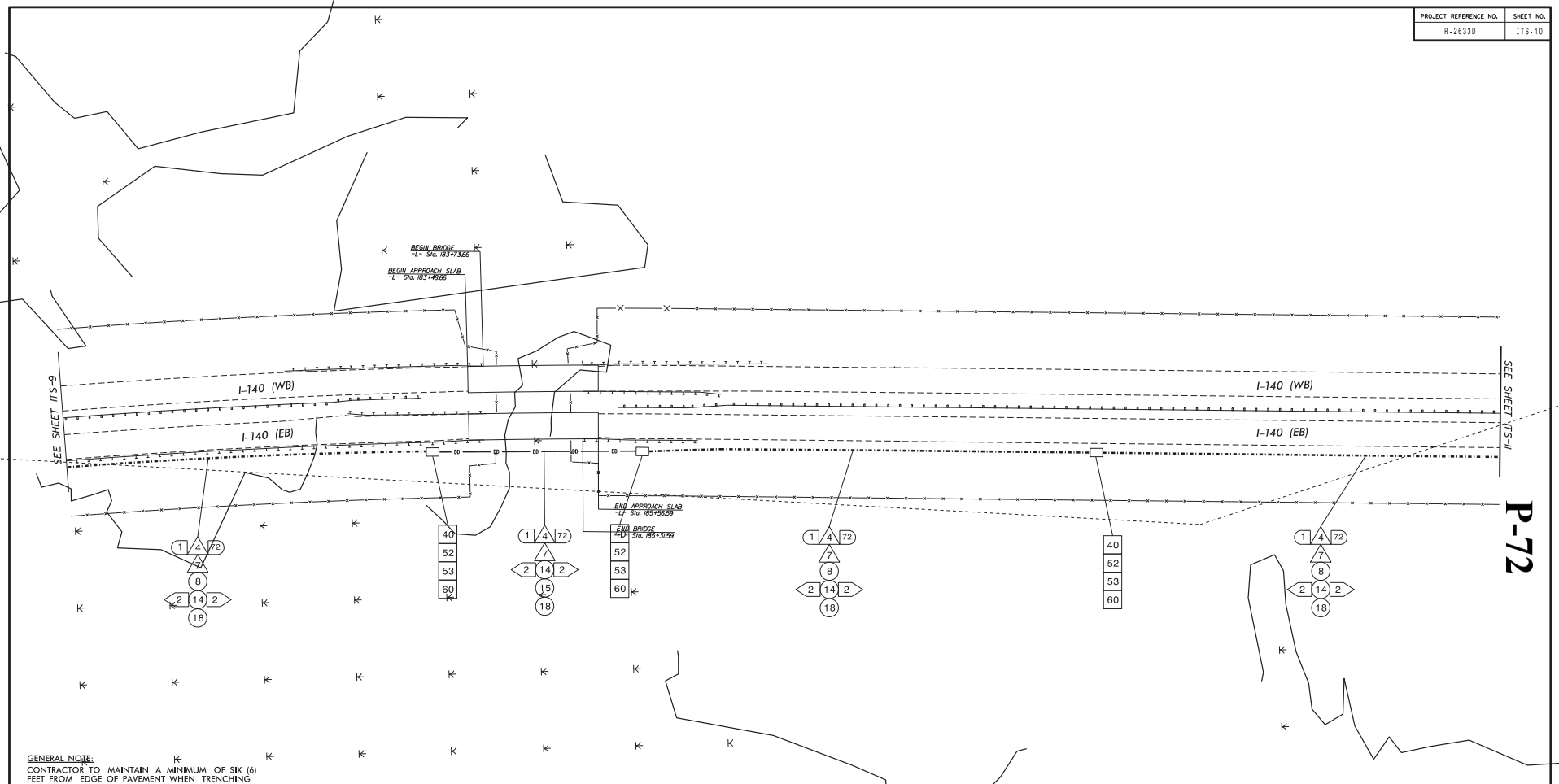


P-72

Revised 3/2/2018

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Prepared for the Offices of:
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
Fiber Optic Operations Unit
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

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| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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DO NOT USE FOR CONSTRUCTION
SIGNATURE
DATE
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| PROJECT REFERENCE NO. | SHEET NO. |
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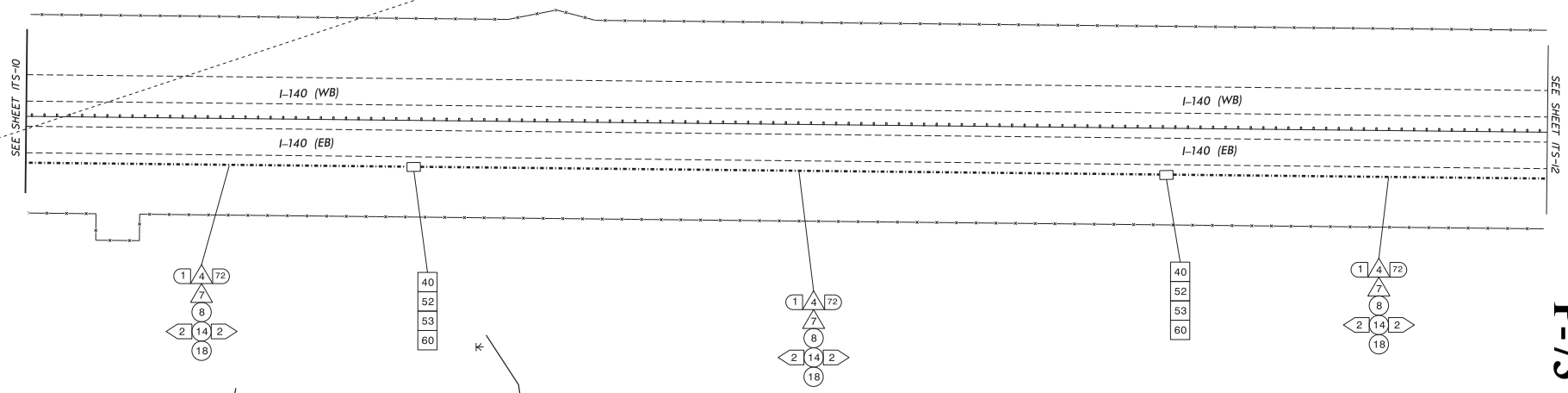


Revised 3/2/2018

P-73

GENERAL NOTE:
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Prepared for the Offices of:
Division of Highways
Traffic Engineering Branch
Traffic Management Unit
Communications
Intelligent Transportation
Operations
Maintenance
Construction
Planning
Environmental
Administration
Right of Way
Roadway Design
Structures Management
Hydraulics
Rail Division
Public Transportation
Aviation
Ferry
Bicycle & Pedestrian
Transportation Mobility and Safety
DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
|---|---|---|
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SEAL

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SIGNATURE DATE

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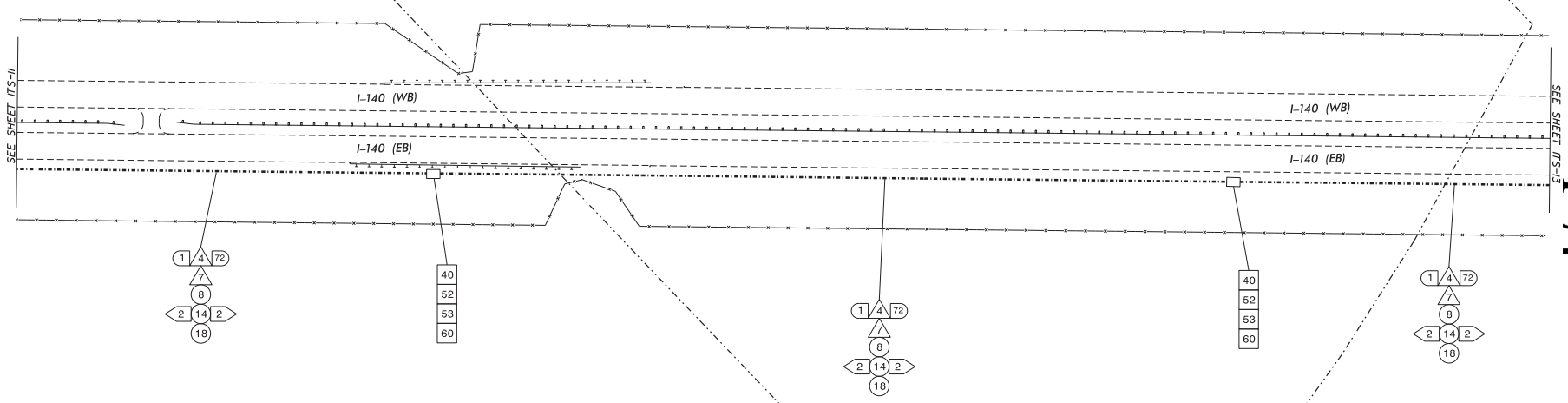


P-74

Revised 3/2/2018

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Prepared for the Offices of:
Traffic Engineering Design Branch
Traffic Management Unit
Traffic Signal Design Section
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

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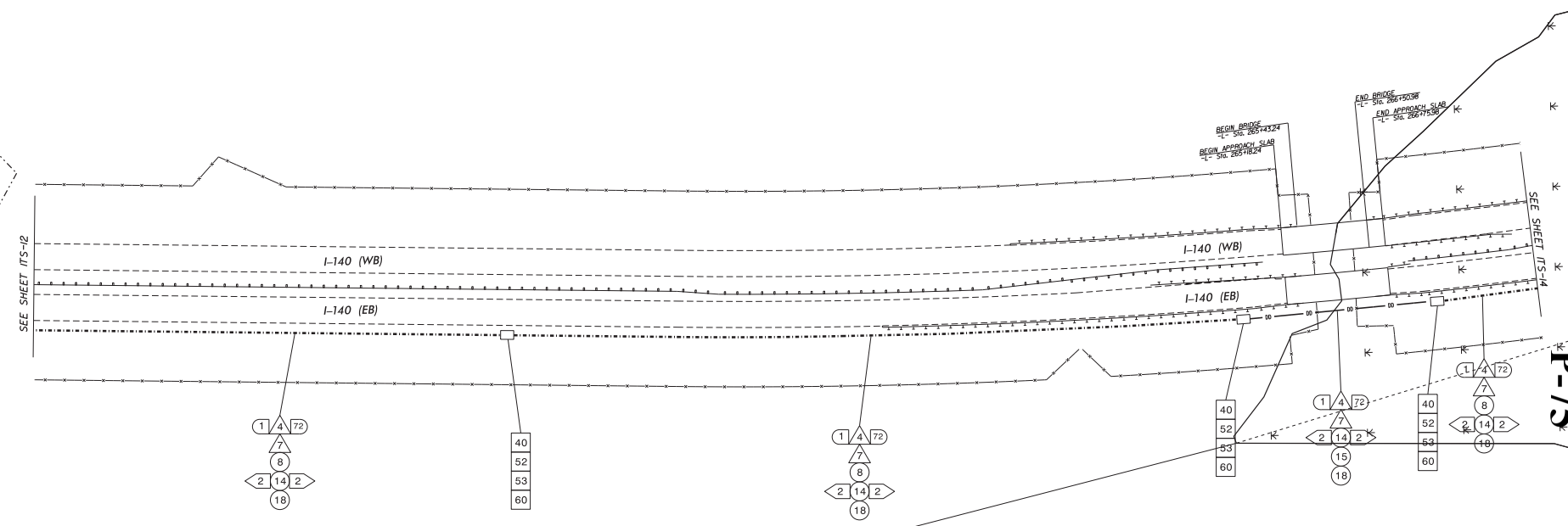


P-75

Revised 3/2/2018

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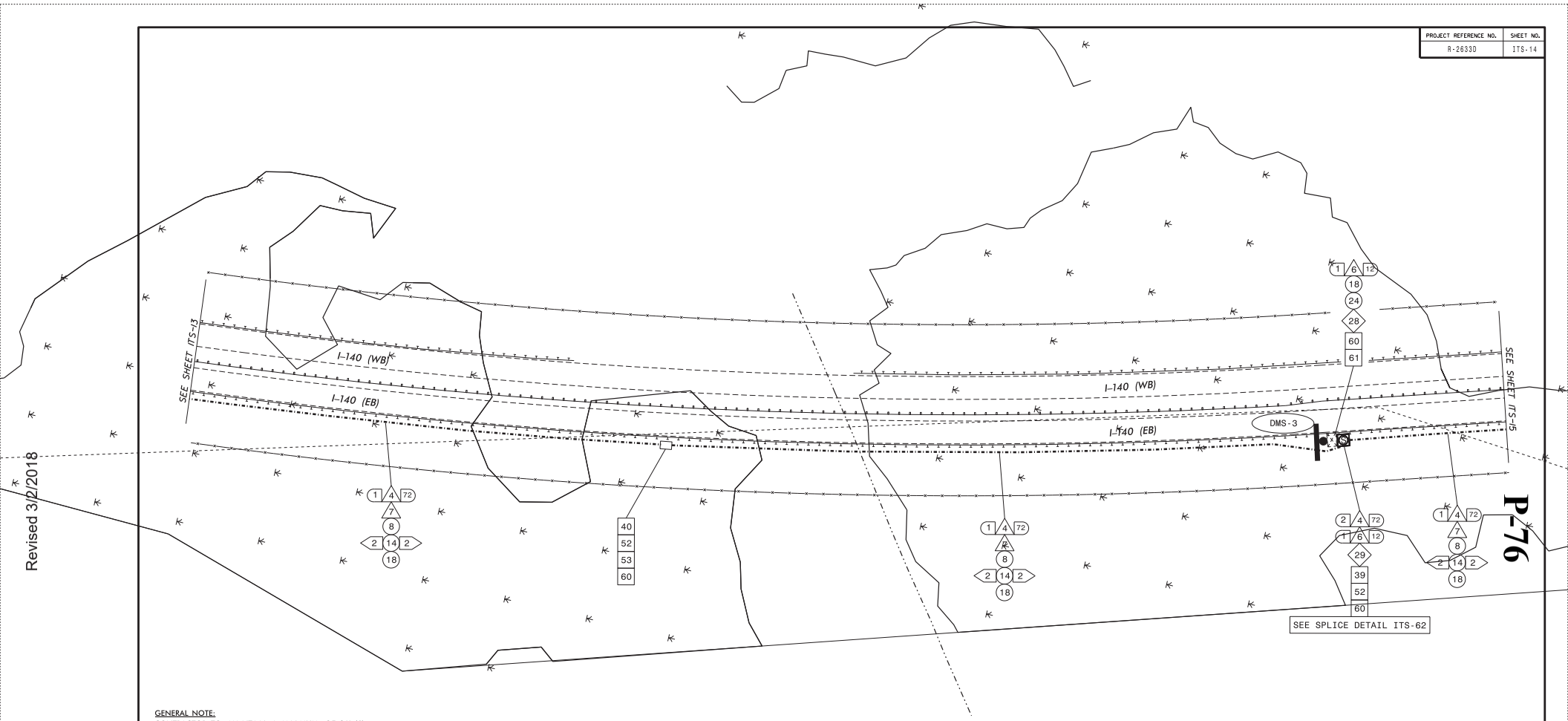


Revised 3/2/2018

P-76

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CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

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12. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
13. INSTALL OUTER–DUCT POLYETHYLENE CONDUIT
14. INSTALL POLYETHYLENE CONDUIT
15. DIRECTIONAL DRILL CONDUIT
16. INSTALL BRIDGE MOUNTED FIBERGLASS CONDUIT, WITH FOUR–WAY INNERDUCT INSERT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
18. INSTALL CABLE(S) IN NEW CONDUIT
19. INSTALL CABLE(S) IN EXISTING RISER
20. INSTALL CABLE(S) IN NEW RISER
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26. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
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31. INSTALL POLE MOUNTED SPLICE CABINET
32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
33. REMOVE EXISTING SPLICE CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
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39. INSTALL SPECIAL OVERSIZED JUNCTION BOX WITH 100 FEET OF COMMUNICATIONS CABLE
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Prepared for the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Customer Service Strategic Planning Operations
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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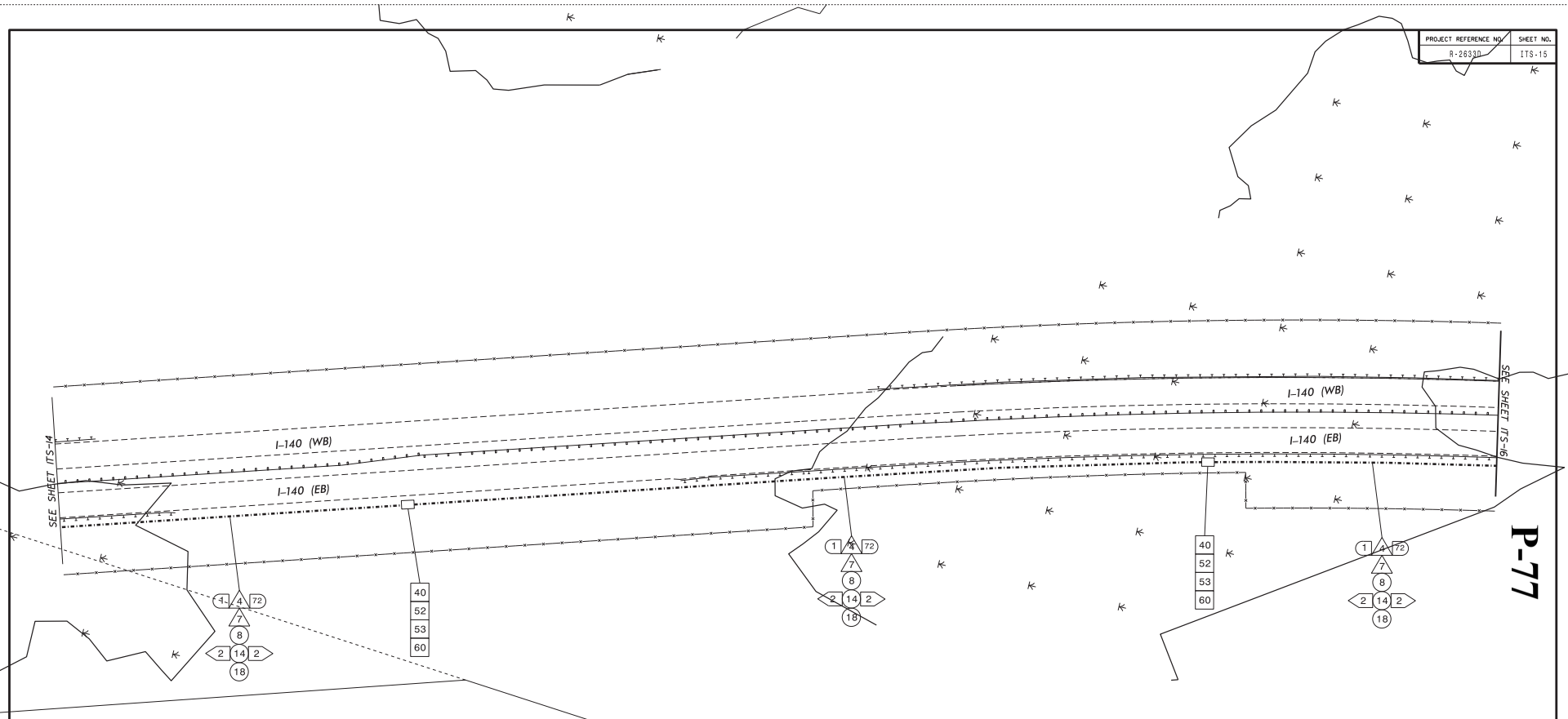


Revised 3/2/2018

P-77

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Prepared for the Offices of:
Mobility and Public Transportation
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

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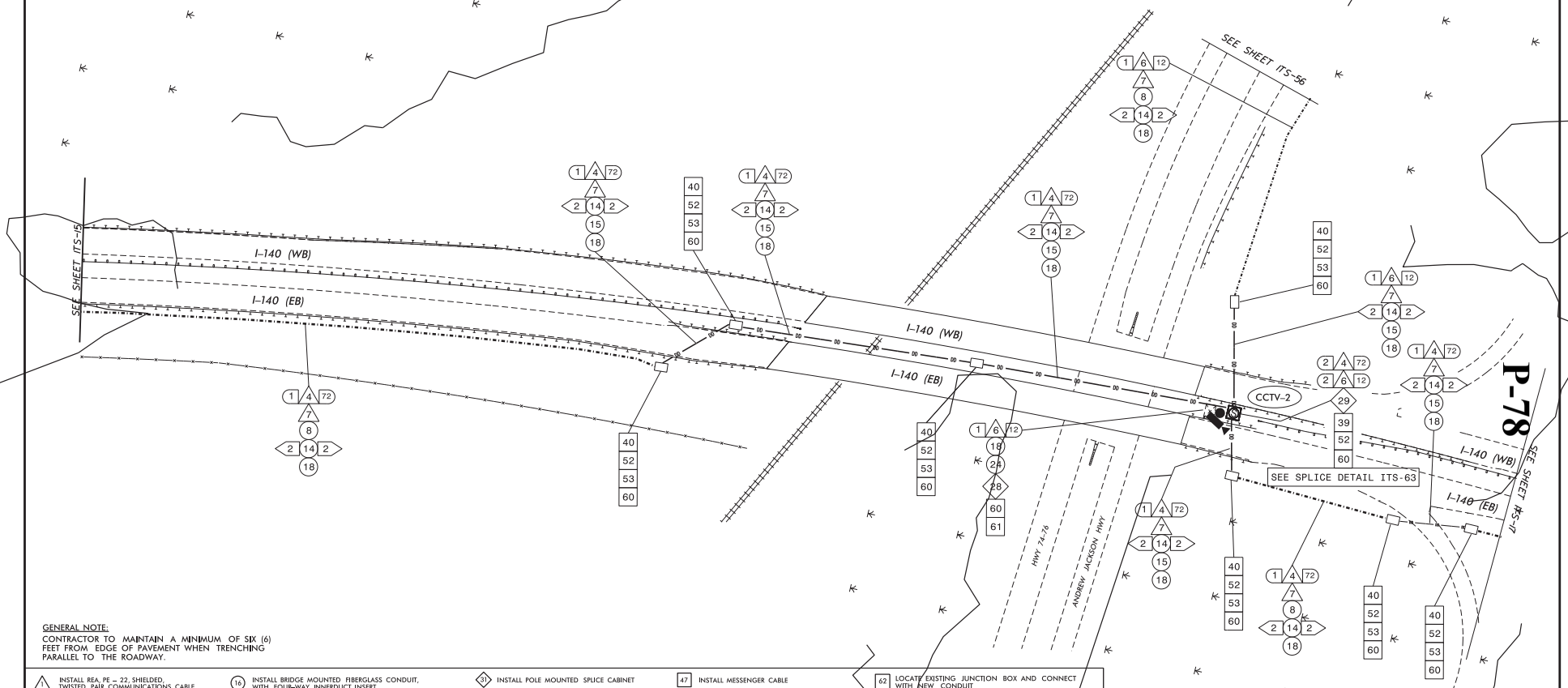


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Prepared for the Offices of:
Mobility and Road Quality
Connectivity
Safety
Transportation Mobility
Leadership
Innovation
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

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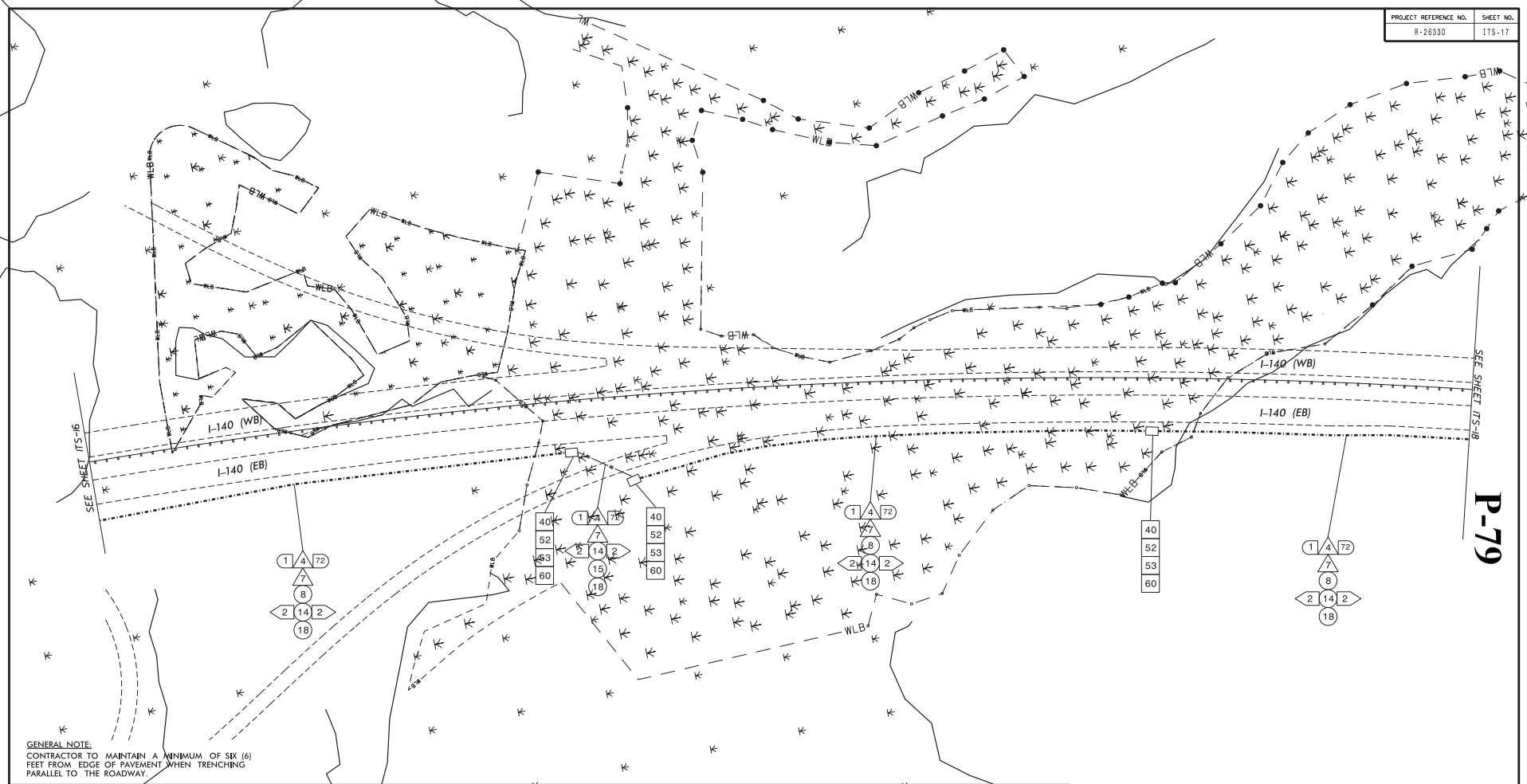


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CABLE ROUTING PLANS

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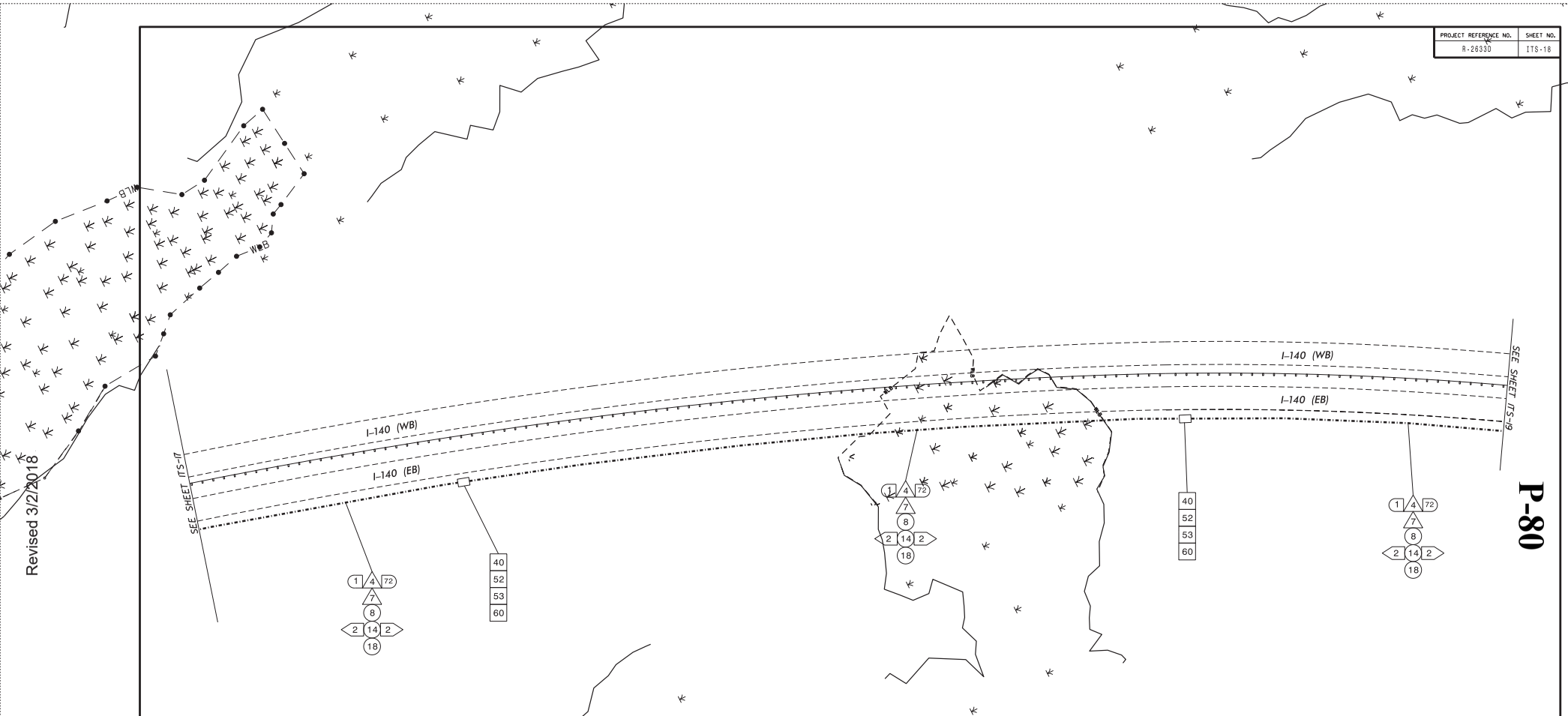


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51. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
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59. INSTALL NEW BASE MOUNTED CABINET (336)
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61. INSTALL ETHERNET SWITCH
62. LOCATE EXISTING JUNCTION BOX AND CONNECT WITH NEW CONDUIT
63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

Prepared for the Offices of:
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
Traffic Management Unit
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Warak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
|---|---|---|
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SEAL
PRELIMINARY PLANS NOT FOR CONSTRUCTION
SIGNATURE DATE
CADD FILE NAME

Revised 3/2/2018

P-80

| PROJECT REFERENCE NO. | SHEET NO. |
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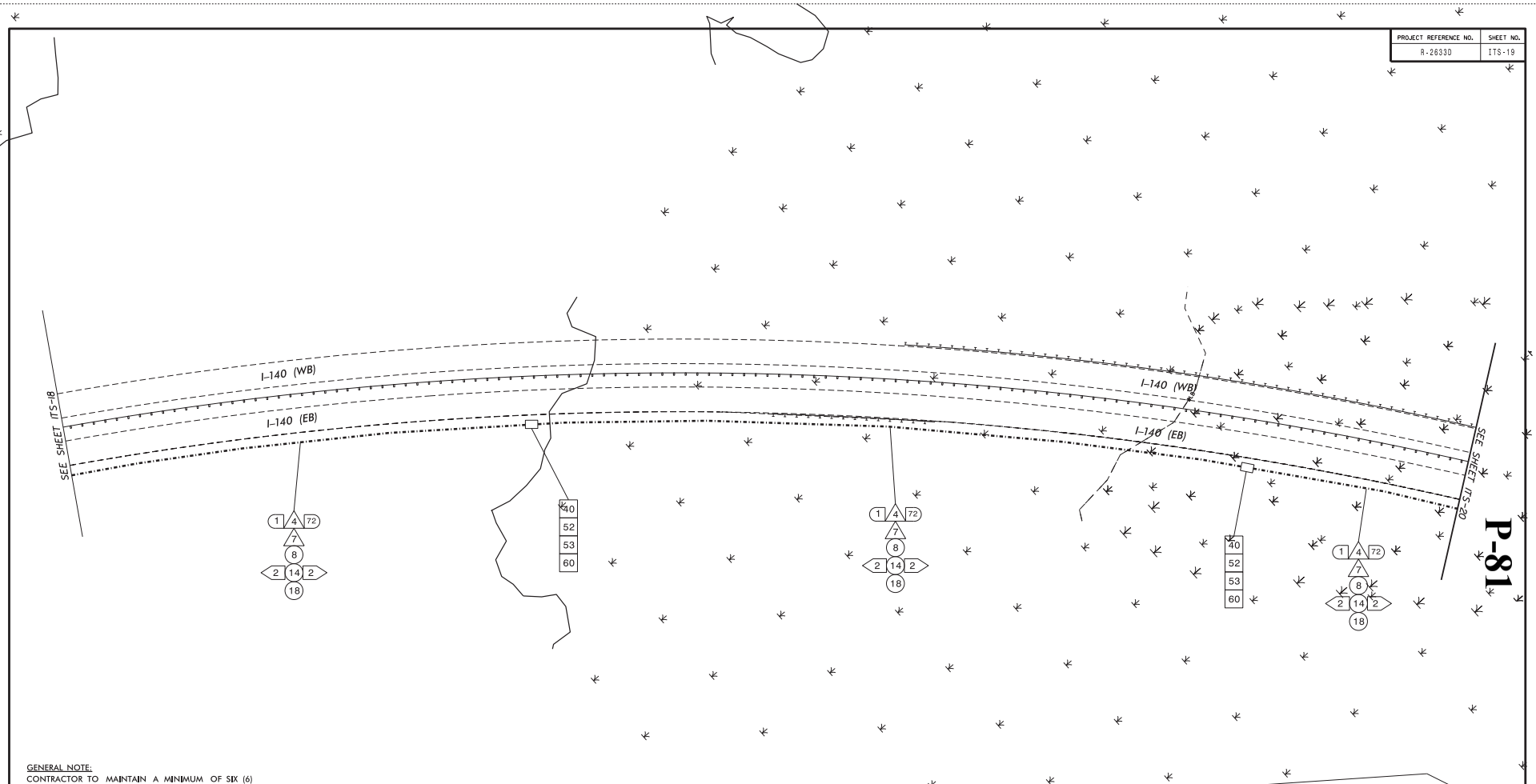
| R-2633D | ITS-19 |




P-81

Revised 3/2/2018

GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

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13. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
14. INSTALL POLYETHYLENE CONDUIT
15. DIRECTIONAL DRILL CONDUIT
16. INSTALL BRIDGE MOUNTED FIBERGLASS CONDUIT, WITH FOUR-WAY INNERDUCT INSERT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
18. INSTALL CABLE(S) IN NEW CONDUIT
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32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
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Prepared for the Offices of:
Mobility and Public Transportation
Construction Maintenance Operations Planning Preconstruction Traffic Engineering
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

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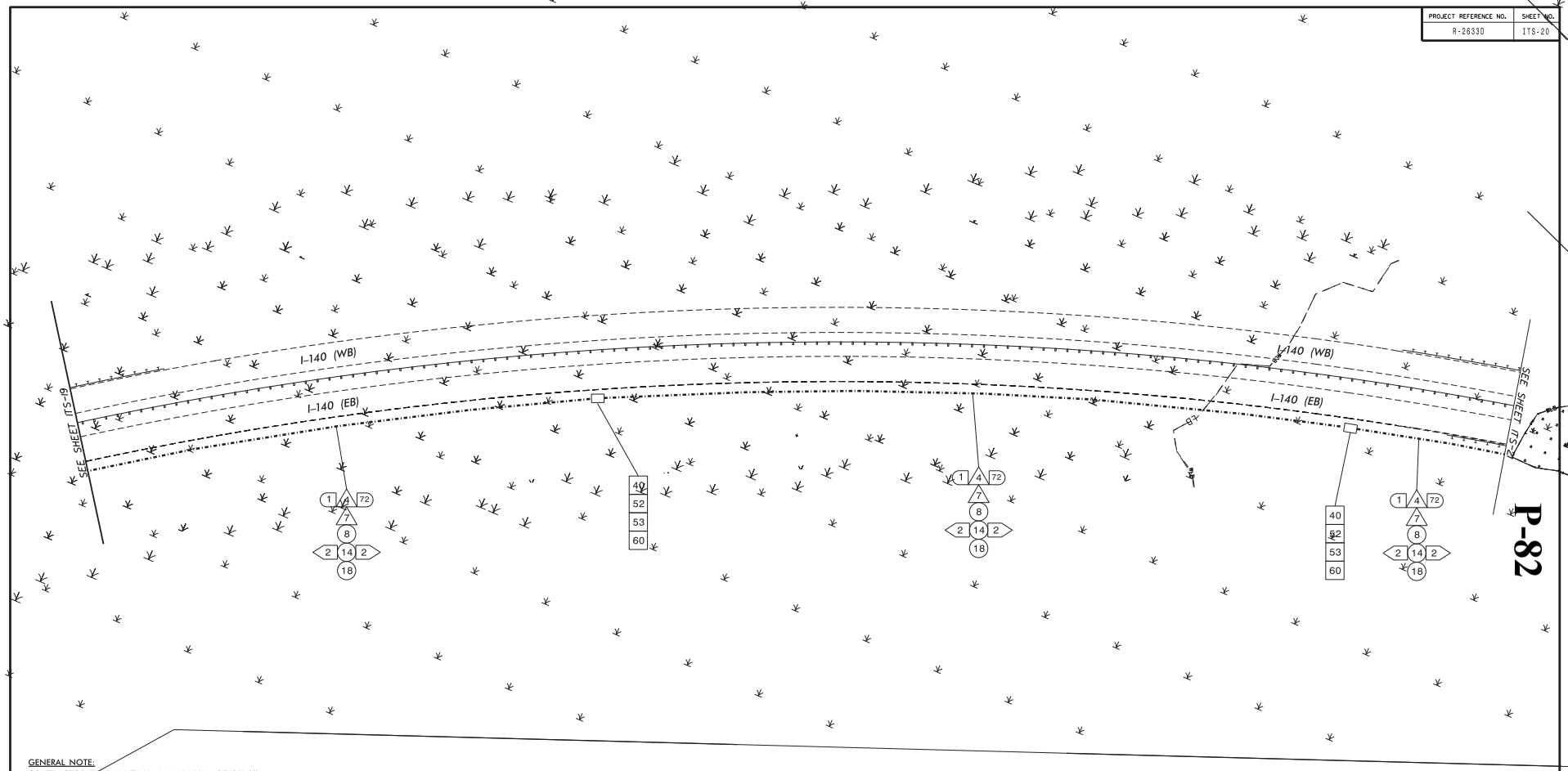


P-82

Revised 3/2/2018

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Prepared for the Offices of:
Mobility and Public Transportation
Connectivity
Safety
Quality of Life
Economic Vitality
Leveraging Assets
Transportation Choices
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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DATE
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| PROJECT REFERENCE NO. | SHEET NO. |
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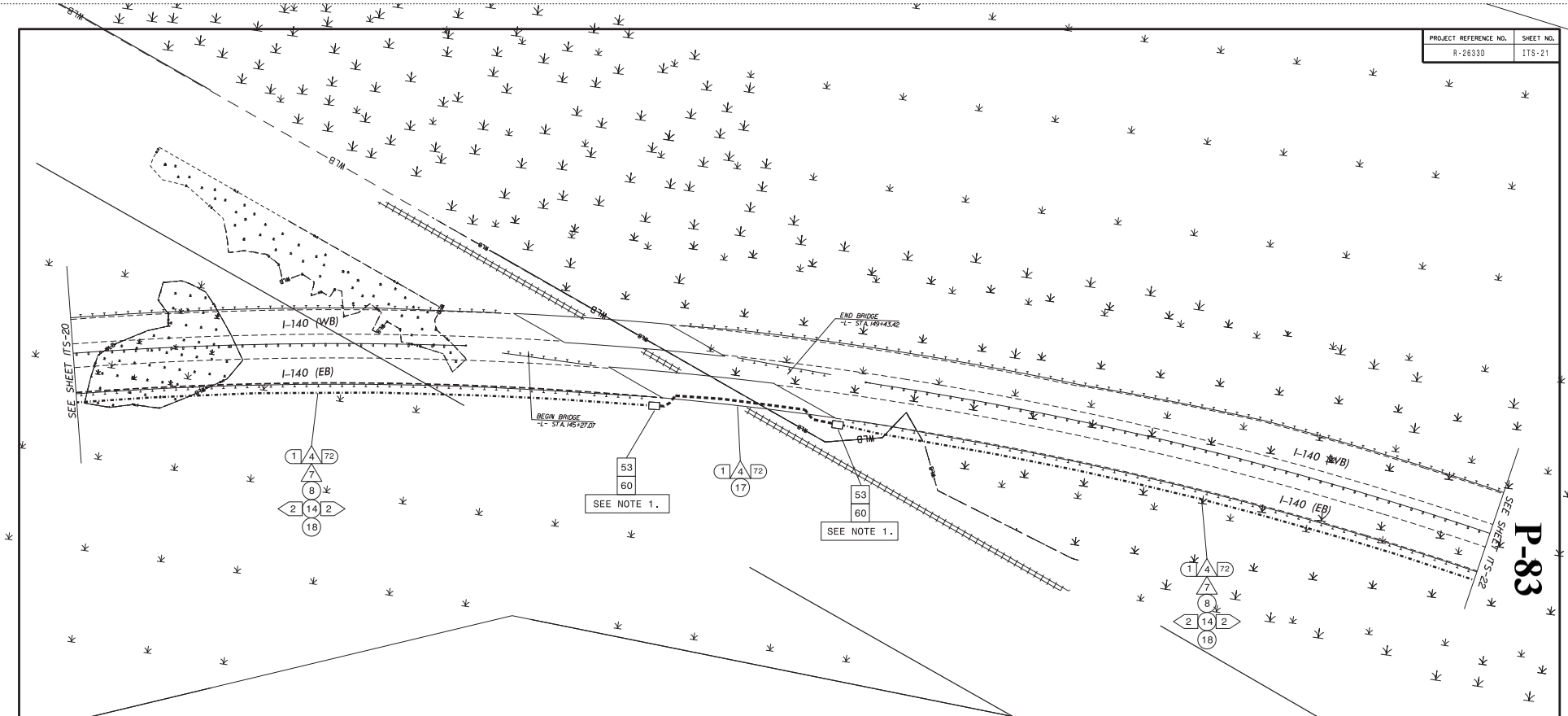


Revised 3/2/2018

P-83

NOTE No.1 CONTRACTOR SHALL LOCATE EXISTING CONDUIT STUB OUT AND SET A NEW OVERSIZE JUNCTION BOX TO RECEIVE FIBER OPTIC CABLE.

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Prepared for the Offices of:
Mobility and Public Transportation
Construction
Traffic Engineering & Safety Systems
Operations
Planning
Transportation Management
DIVISION OF HIGHWAYS
DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

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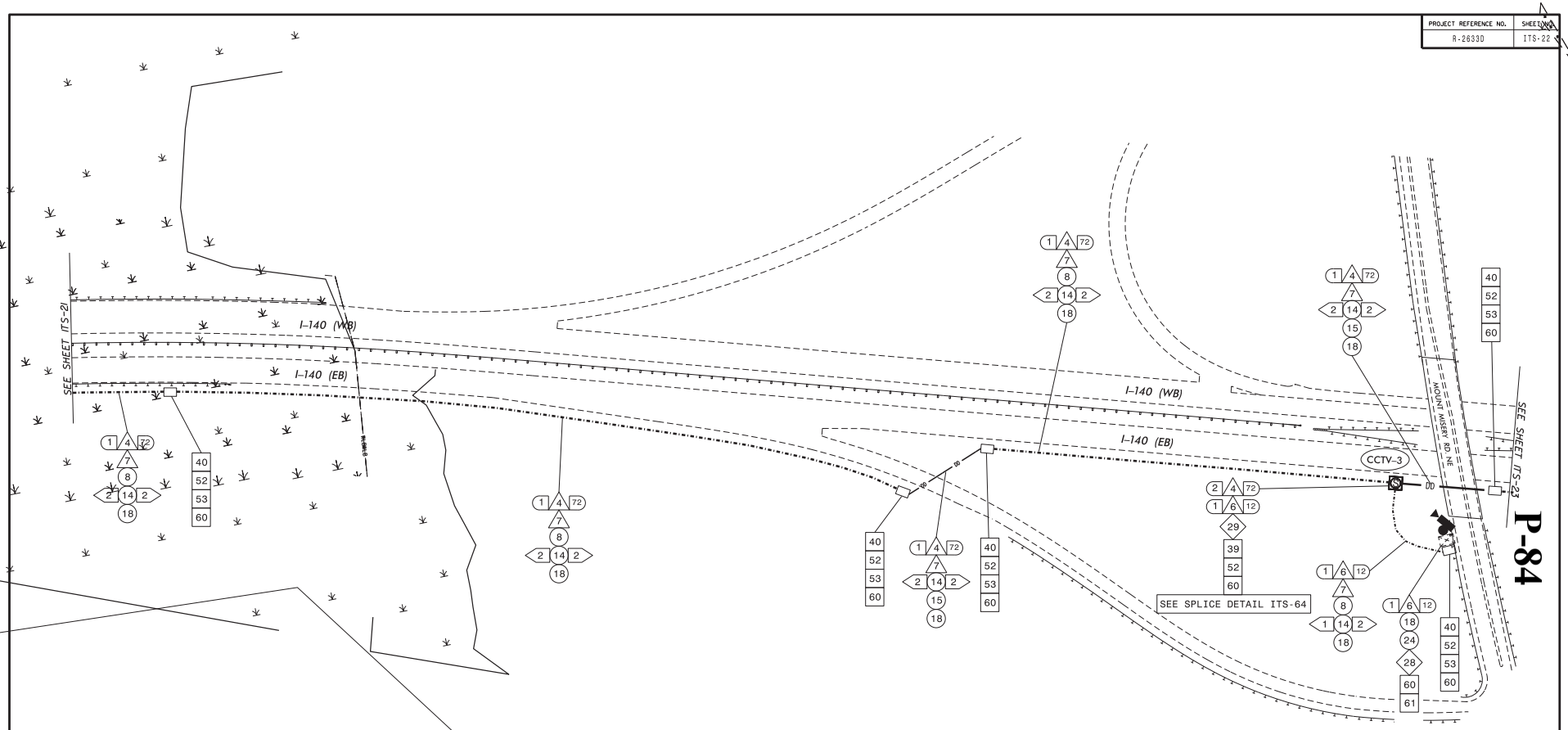


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Prepared for the Offices of:
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Department of Transportation
750 N. Greenfield Pkwy., Garner, NC 27529

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DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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Revised 3/2/2048

P-84

Revised 3/2/2018

| PROJECT REFERENCE NO. | SHEET NO. |
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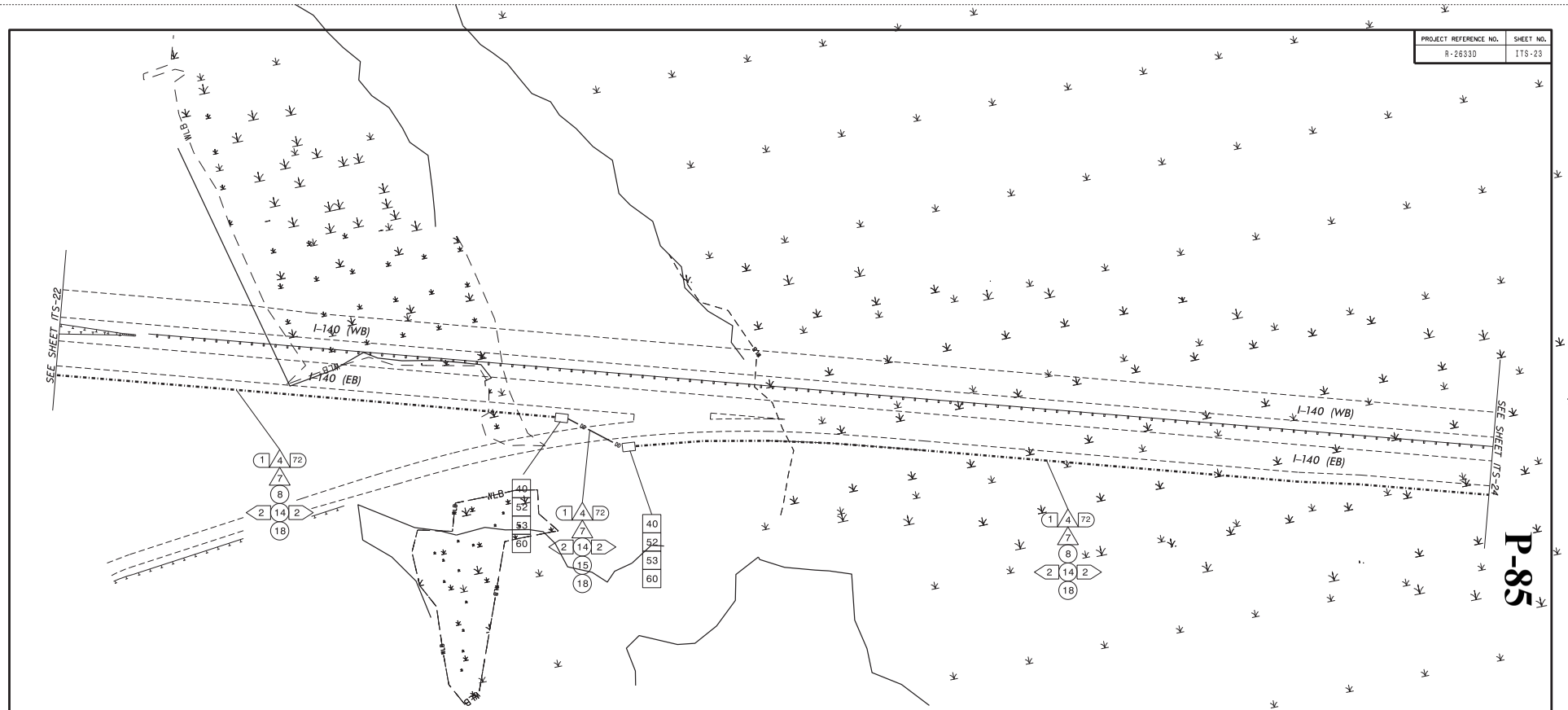


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32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
33. REMOVE EXISTING SPLICE CABINET
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Prepared for the Offices of:
Transportation Mobility and Safety Division
Department of Transportation
Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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SEAL: PRELIMINARY PLANS NOT FOR USE FOR CONSTRUCTION

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CADD FILE NAME

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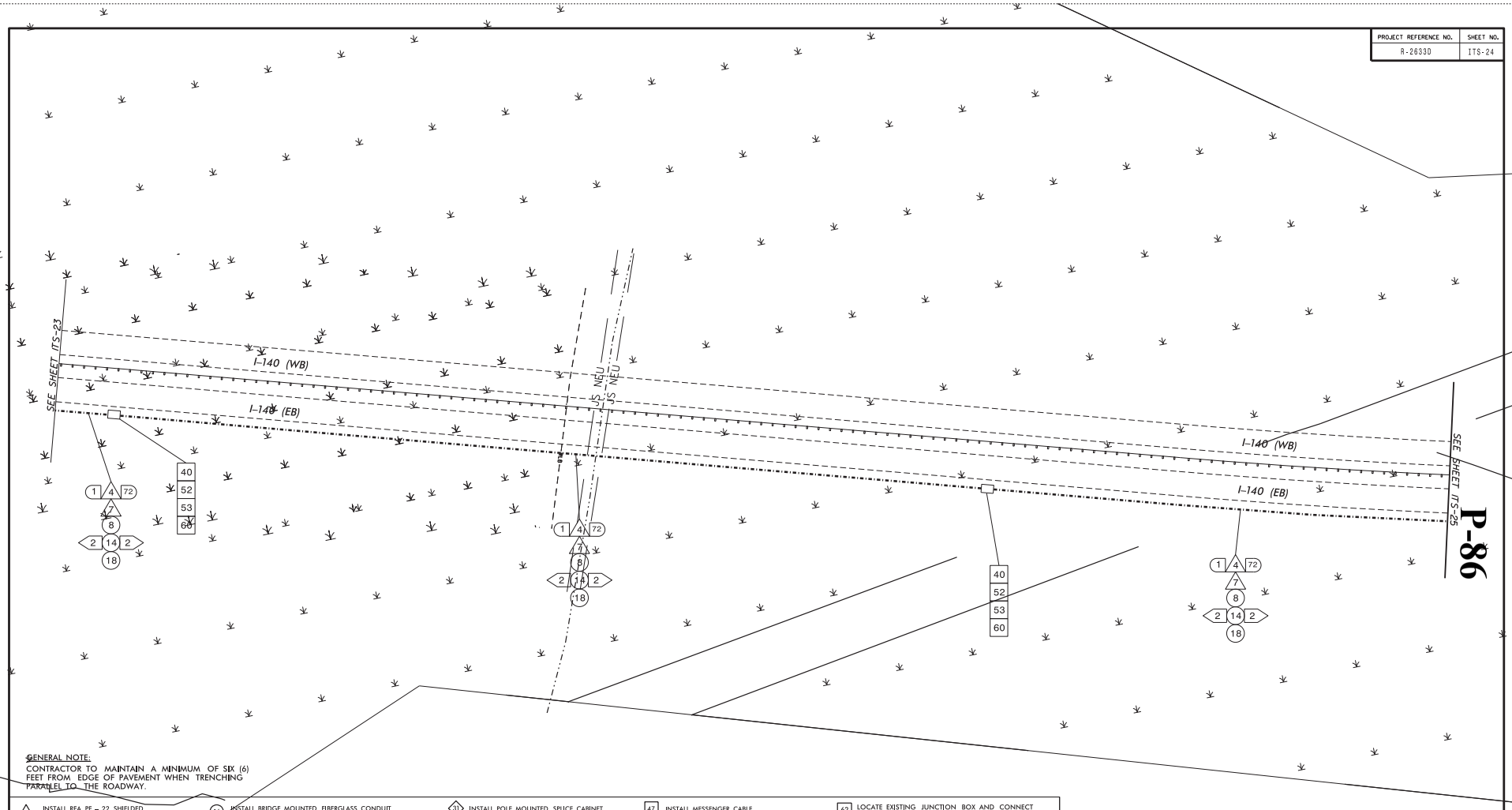


P-86

Revised 3/2/2018

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Prepared for the Offices of:
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Traffic Engineering Section
Traffic Management Section
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750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

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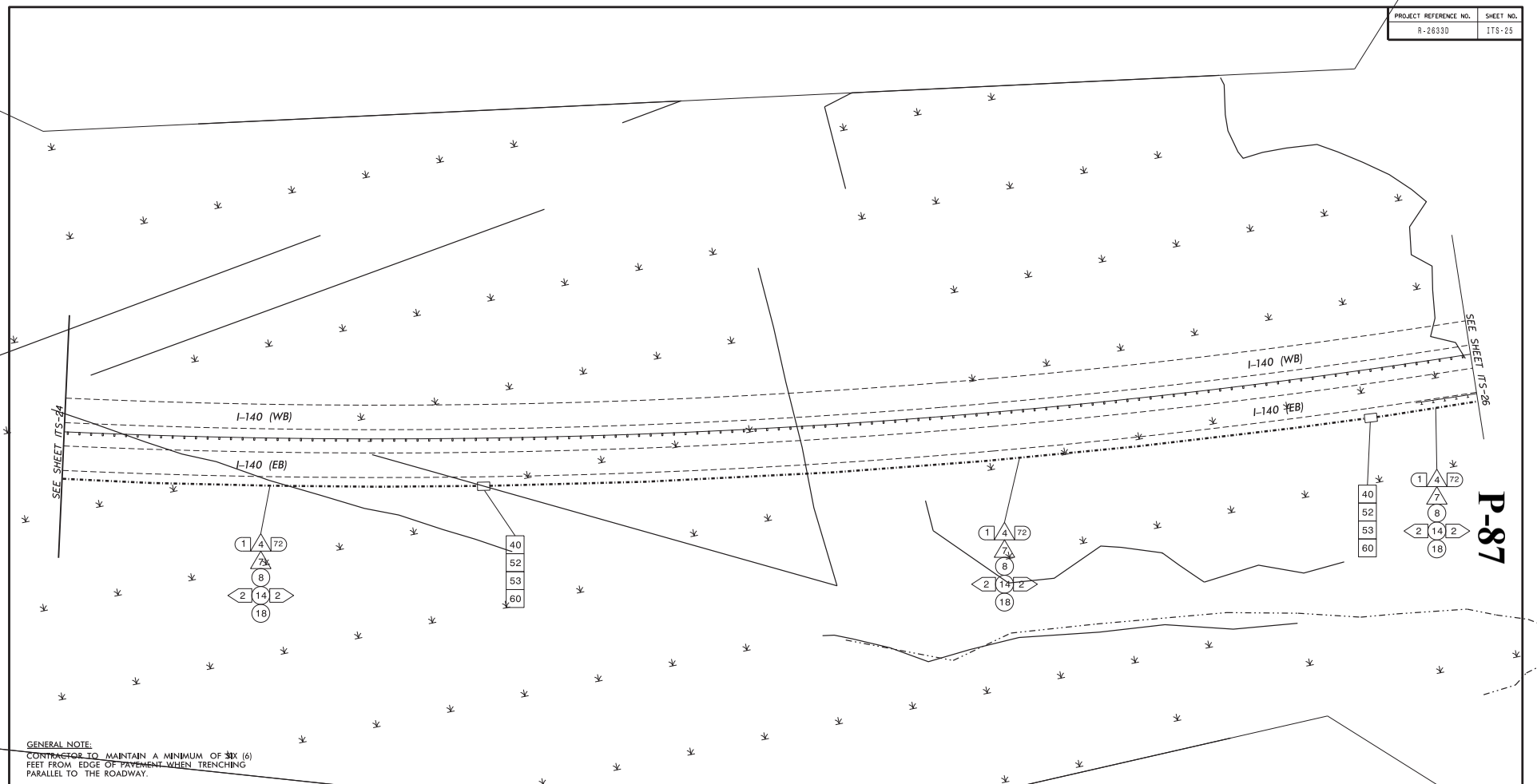


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Prepared for the Offices of:
Mobility and Public Transportation
Construction
Operations
Planning
Project Development
Traffic Engineering
Maintenance
Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

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Revised 3/2/2018

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| PROJECT REFERENCE NO. | SHEET NO. |
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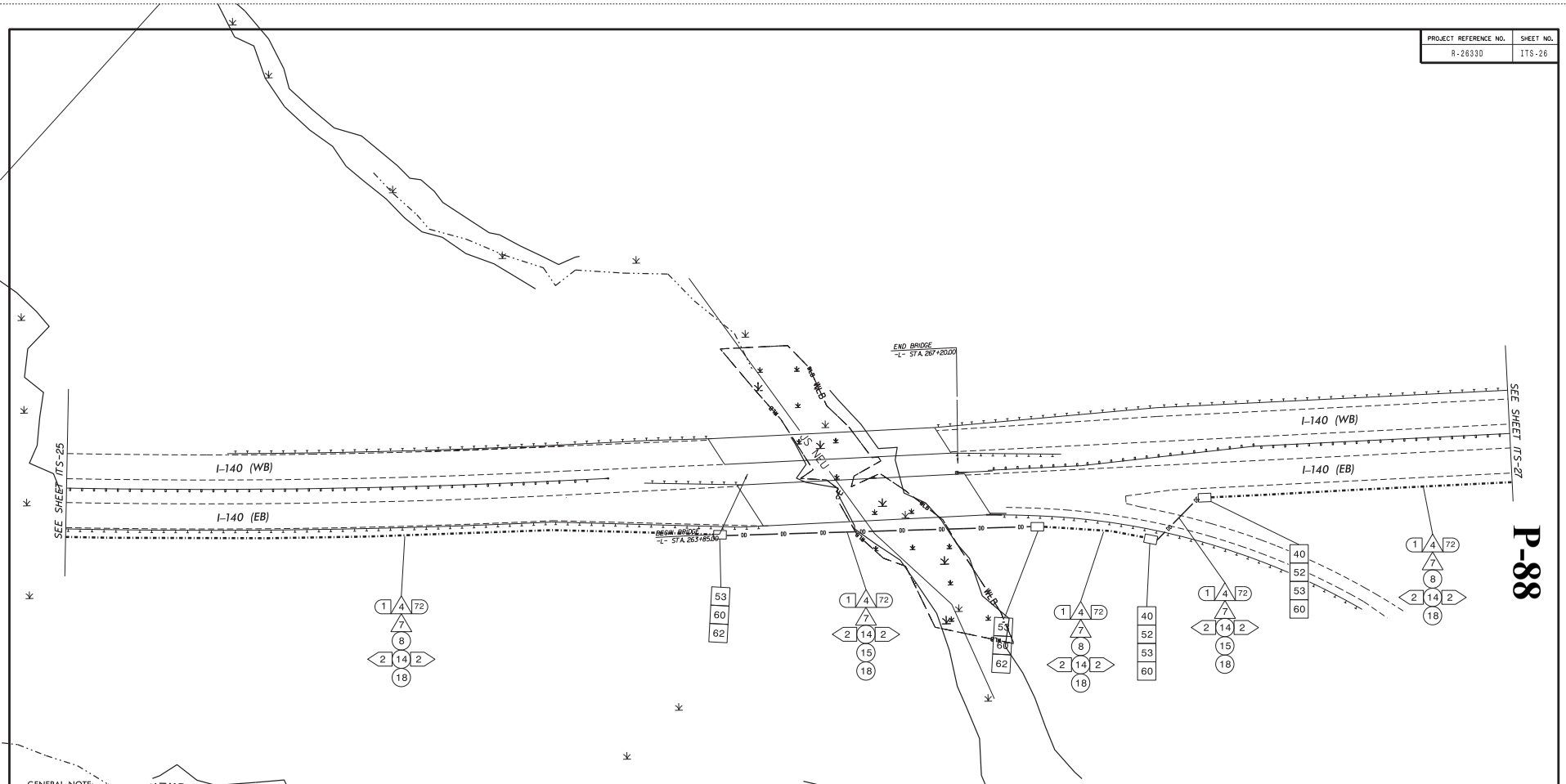


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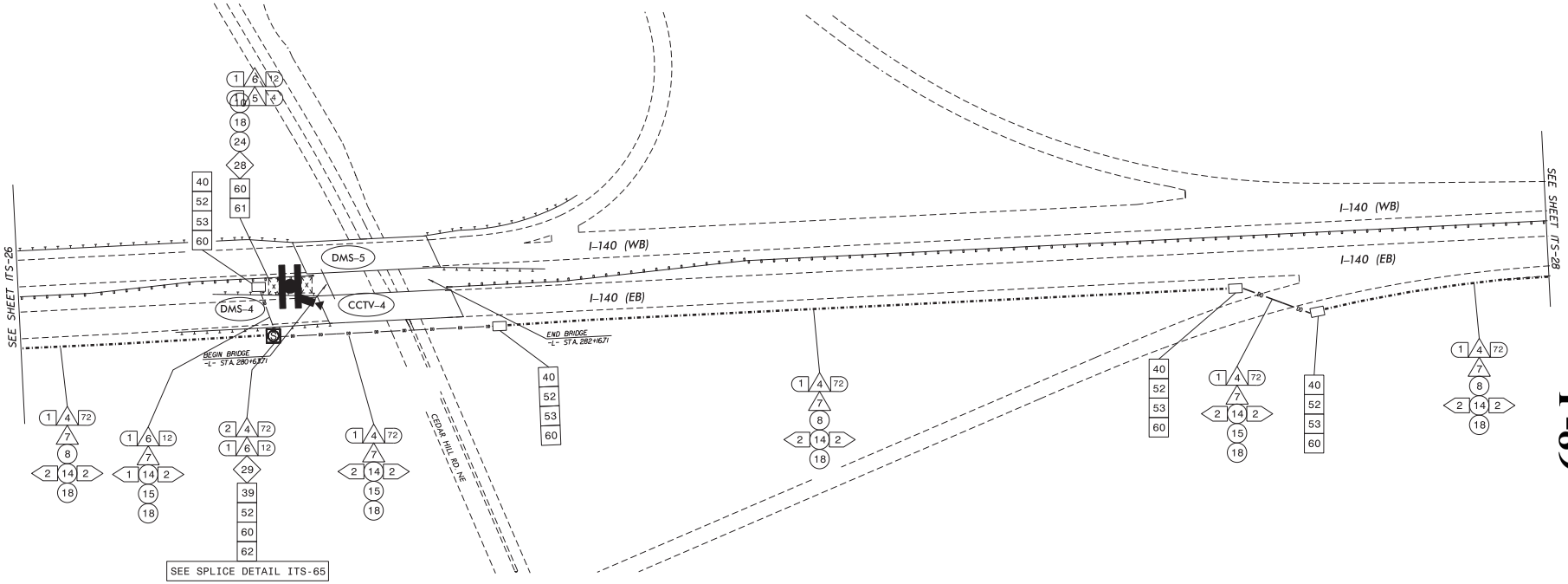


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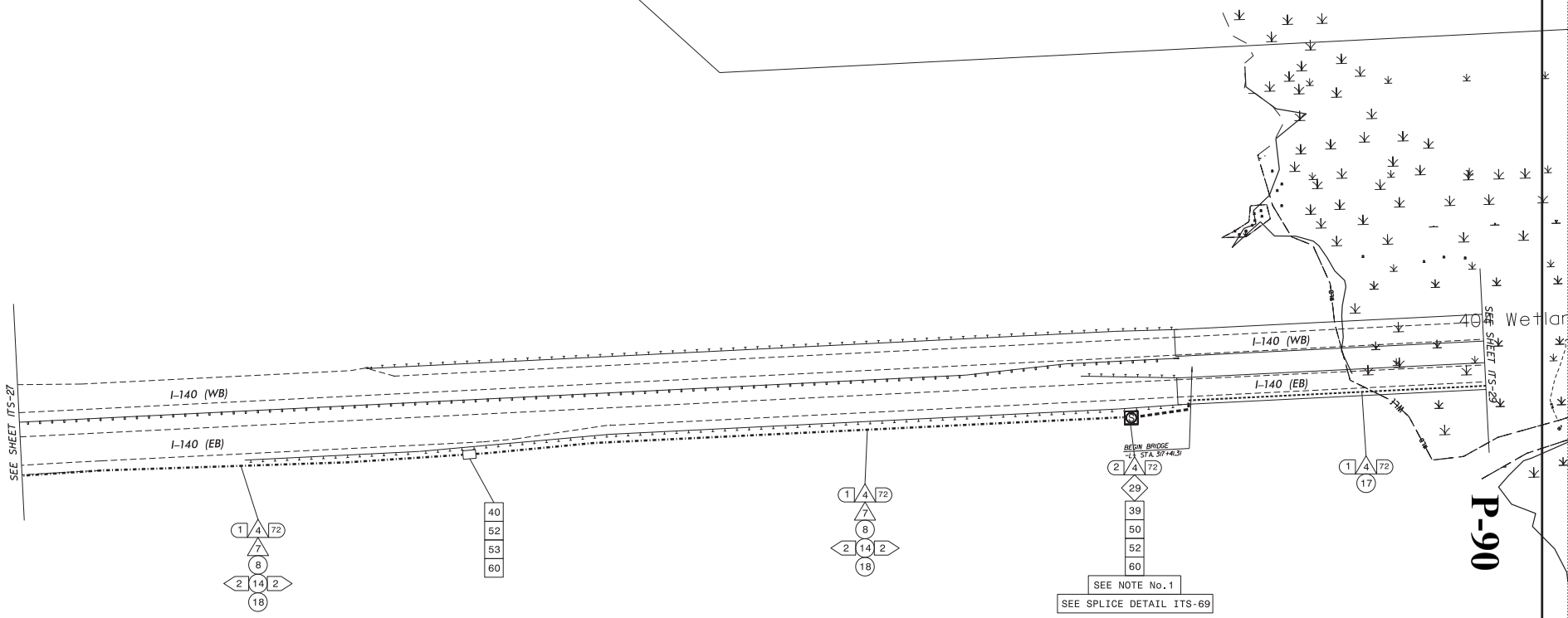


NOTE No.1 CONTRACTOR SHALL LOCATE EXISTING JUNCTION BOX AND REPLACE WITH A NEW SPECIAL OVERSIZE JUNCTION BOX TO ACCOMMODATE NEW SPLICE ENCLOSURE.

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14. INSTALL POLYETHYLENE CONDUIT
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17. INSTALL CABLE(S) IN EXISTING CONDUIT
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32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
33. REMOVE EXISTING SPLICE CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV CAMERA WOOD POLE
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39. INSTALL SPECIAL OVERSIZED JUNCTION BOX WITH 100 FEET OF COMMUNICATIONS CABLE
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42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
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Prepared for the Offices of:
Mobility and Public Transportation
Construction Maintenance Operations Planning Traffic Engineering
DIVISION OF HIGHWAYS
DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 BRUNSWICK CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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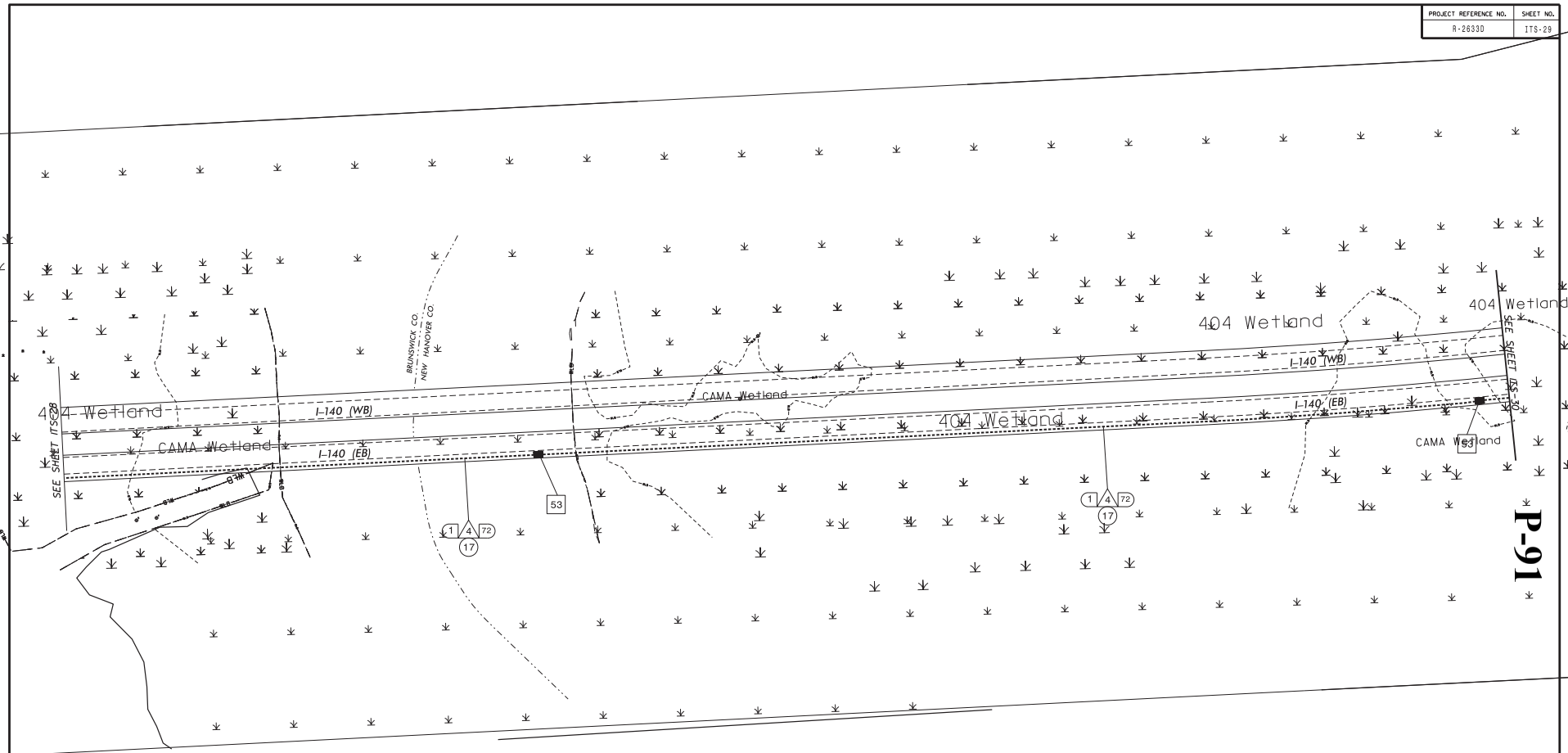


Revised 3/2/2018

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Prepared for the Offices of:
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Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

NEW HANOVER CO./
DIV 3 BRUNSWICK CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

| REVISIONS | INIT. | DATE |
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SCALE: NTS

SEAL: PRELIMINARY PLANS NOT FOR CONSTRUCTION

SIGNATURE | DATE

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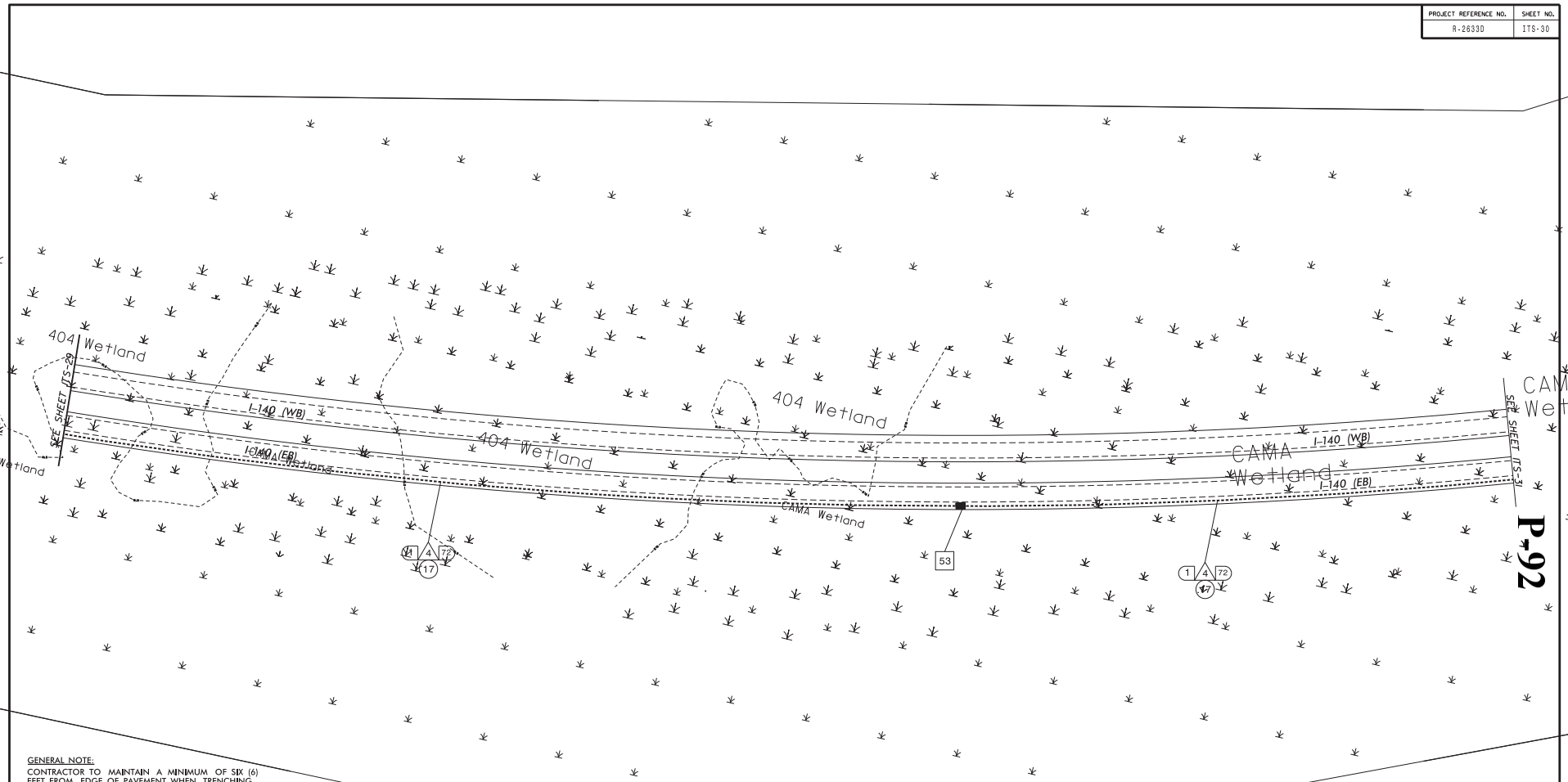


Revised 3/2/2018

P-92

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Prepared for the Offices of:
Mobility and Public Transportation
Construction
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Preconstruction
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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

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| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

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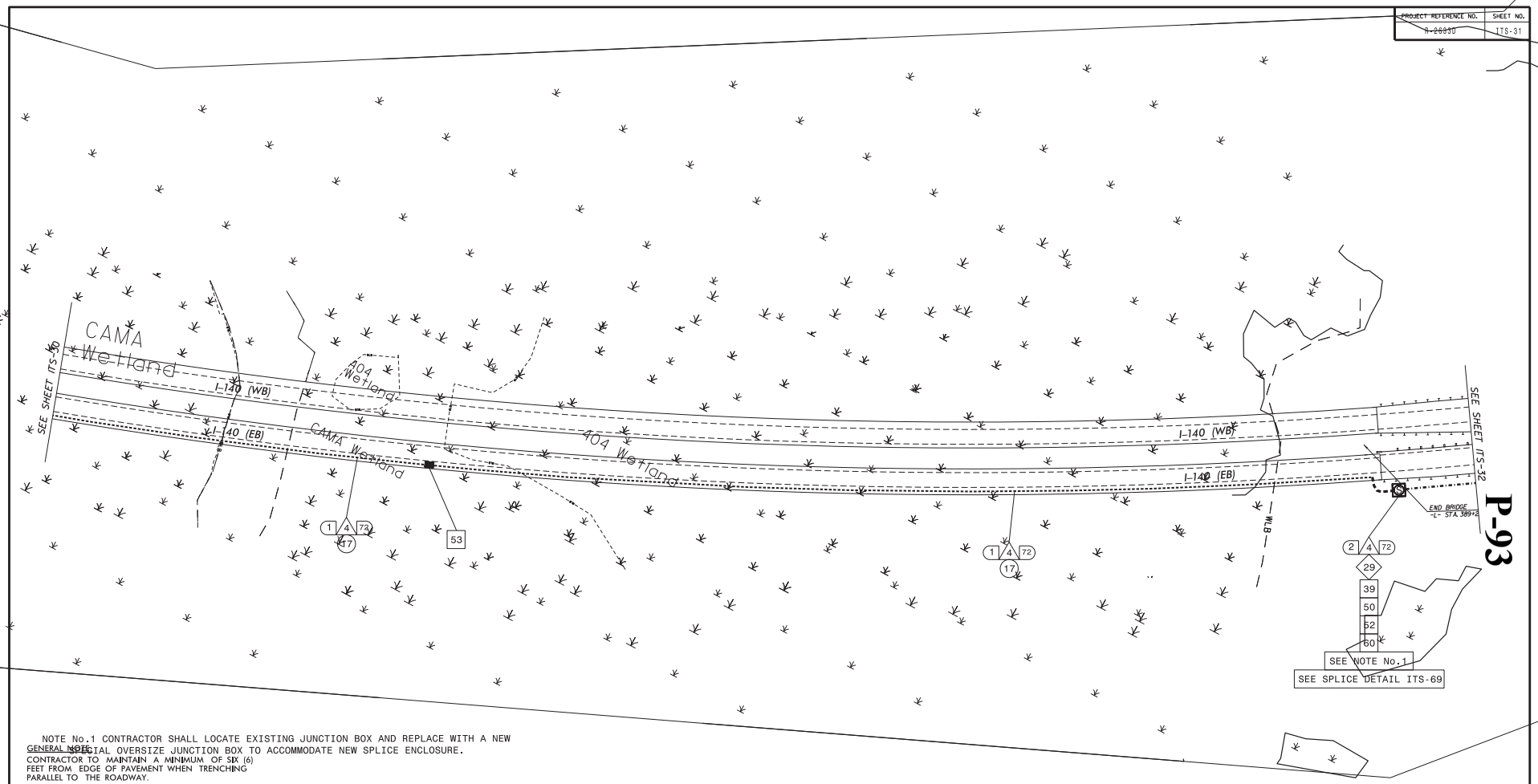


P-93

Revised 3/2/2018

NOTE No.1 CONTRACTOR SHALL LOCATE EXISTING JUNCTION BOX AND REPLACE WITH A NEW SPECIAL OVERSIZE JUNCTION BOX TO ACCOMMODATE NEW SPLICE ENCLOSURE. CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

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Prepared for the Offices of:

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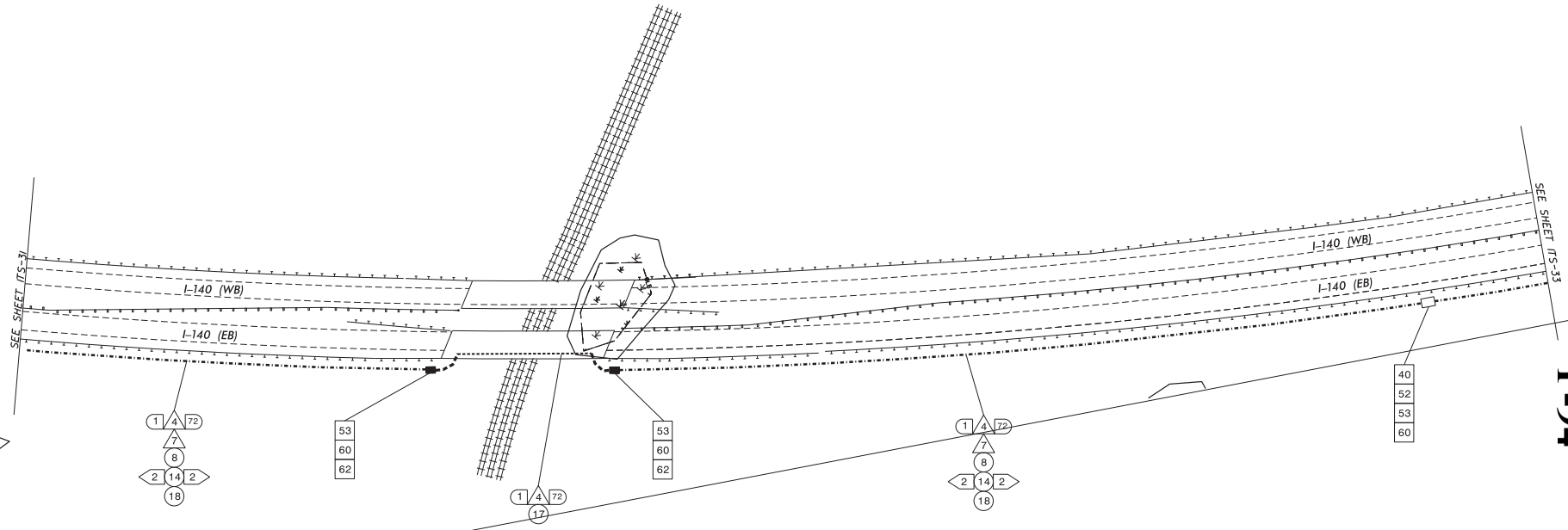


Revised 3/2/2018

P-94

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58. INSTALL NEW ELECTRICAL SERVICE FOR DMS
59. INSTALL NEW BASE MOUNTED CABINET (336)
60. SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND CABINETS WITH MOLDABLE DUCT SEAL
61. INSTALL ETHERNET SWITCH
62. LOCATE EXISTING JUNCTION BOX AND CONNECT WITH NEW CONDUIT
63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

Prepared for the Offices of:
Mobility and Public Transportation
Connectivity
Safety
Quality of Life
Economic Vitality
Leadership
Stewardship
Organizational Excellence
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Client Organization
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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SEAL
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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DATE
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| PROJECT REFERENCE NO. | SHEET NO. |
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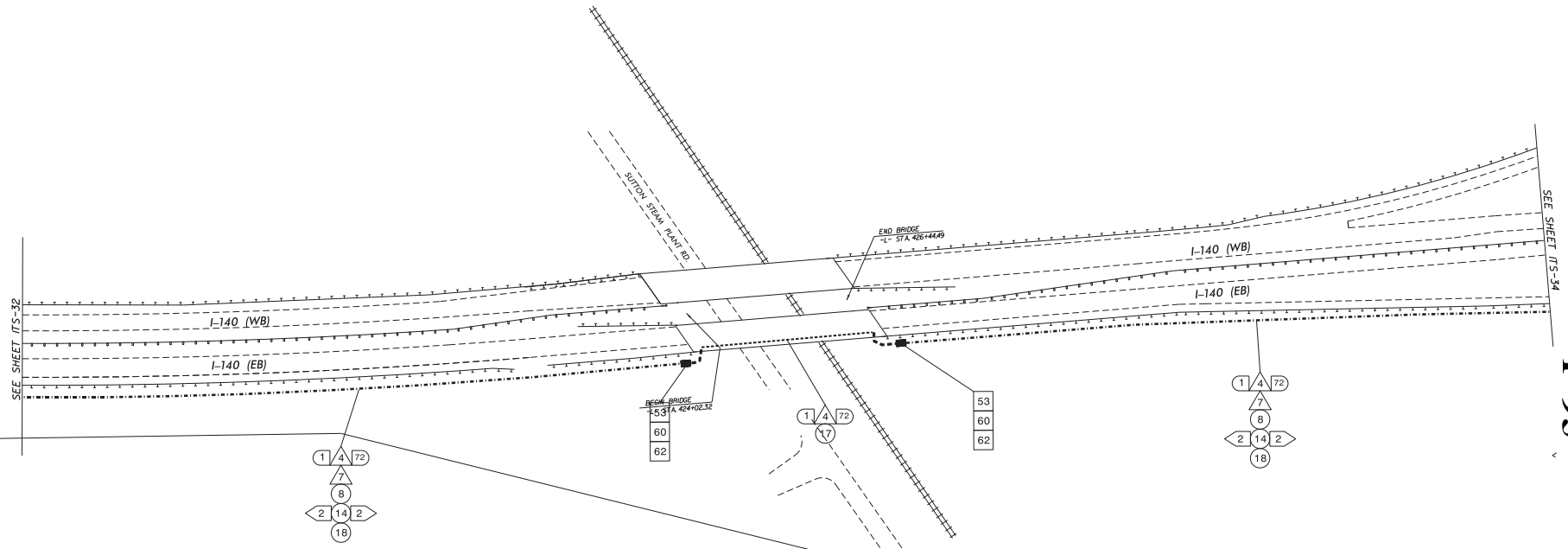
| R-2633D | ITS-33 |




GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL 3–CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE
4. INSTALL SMFO CABLE
5. INSTALL CAT 5e COMMUNICATIONS CABLE
6. INSTALL FIBER OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. TRENCH
9. INSTALL PVC CONDUIT
10. INSTALL RIGID, GALVANIZED STEEL CONDUIT
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
12. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
13. INSTALL OUTER–DUCT POLYETHYLENE CONDUIT
14. INSTALL POLYETHYLENE CONDUIT
15. DIRECTIONAL DRILL CONDUIT
16. INSTALL BRIDGE MOUNTED FIBERGLASS CONDUIT, WITH FOUR–WAY INNERDUCT INSERT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
18. INSTALL CABLE(S) IN NEW CONDUIT
19. INSTALL CABLE(S) IN EXISTING RISER
20. INSTALL CABLE(S) IN NEW RISER
21. INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)
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26. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
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32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
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35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV CAMERA WOOD POLE
38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
39. INSTALL SPECIAL OVERSIZED JUNCTION BOX WITH 100 FEET OF COMMUNICATIONS CABLE
40. INSTALL OVERSIZED JUNCTION BOX
41. INSTALL BRIDGE MOUNTED JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
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52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET OF COMMUNICATIONS CABLE
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Prepared for the Offices of:
Mobility and Public Transportation
Construction Maintenance Operations Planning Preconstruction Traffic Engineering
Division of Highways
Transportation
750 N. Greenfield Pkwy., Garner, NC 27529

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DIV 3 NEW HANOVER CO. Near WILMINGTON

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P-95

Revised 3/2/2018

Revised 3/2/2018

| PROJECT REFERENCE NO. | SHEET NO. |
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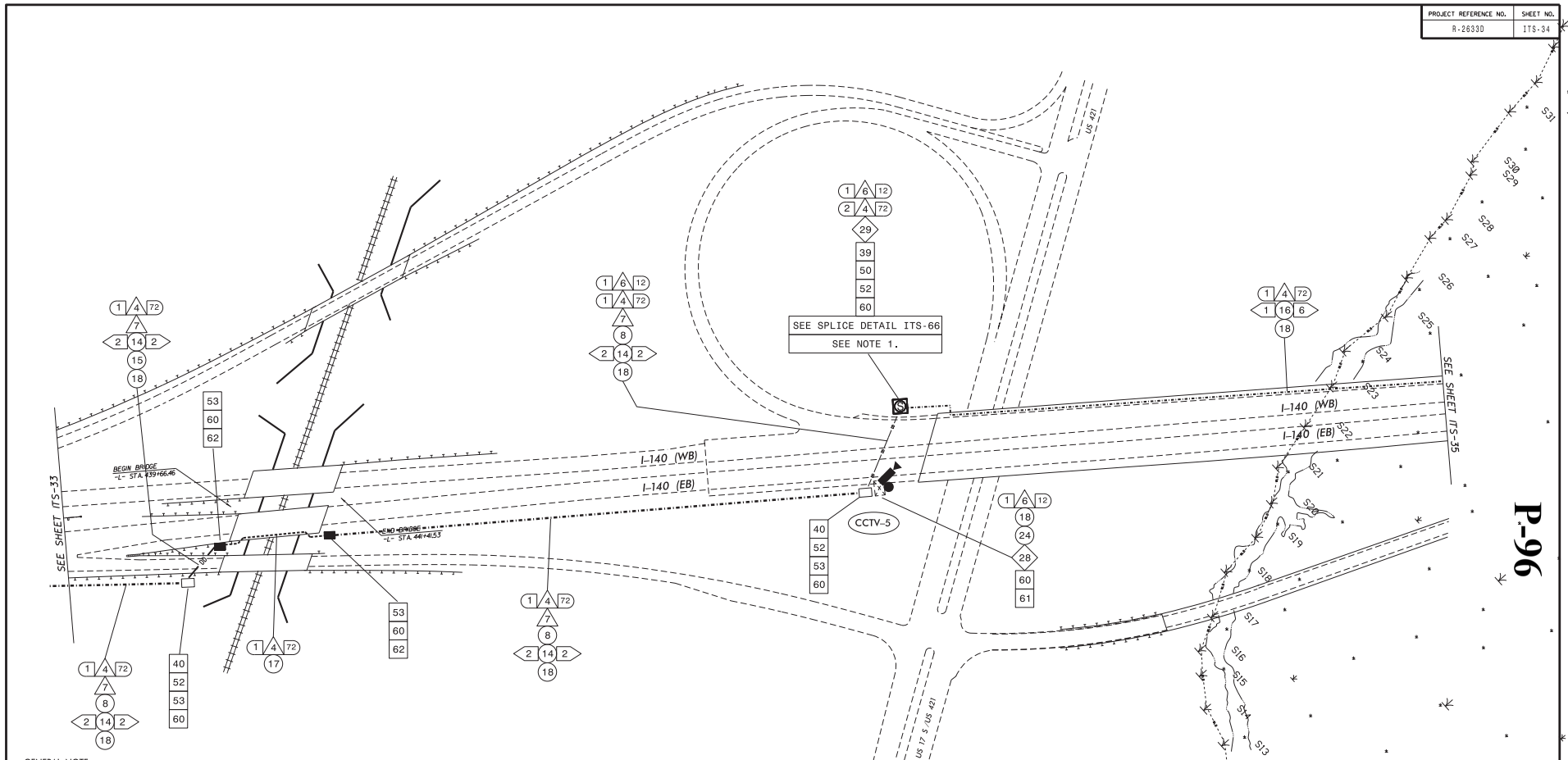
| R-2633D | ITS-34 |




P-96

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Prepared for the Offices of:
Mobility and Road Quality
Transportation Mobility and Safety Division
Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | K. Neals | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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SEAL: PRELIMINARY PLANS NOT FOR CONSTRUCTION

SIGNATURE | DATE

CADD FILE NAME

| PROJECT REFERENCE NO. | SHEET NO. |
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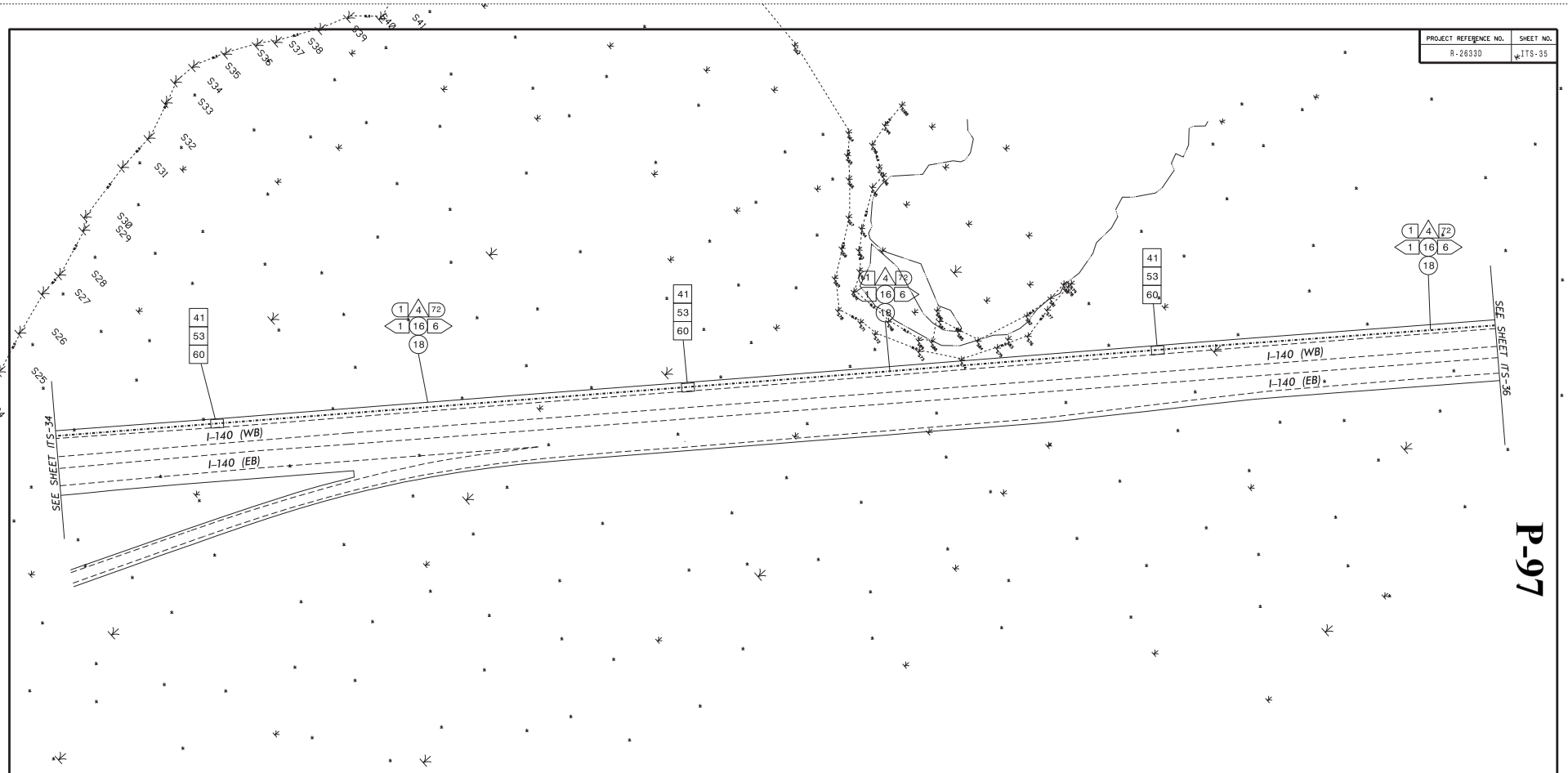
| R-2633D | ITS-35 |




Revised 3/2/2018

P-97

GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

1. INSTALL REA, PE – #2, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
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Prepared for the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Intelligent Transportation Systems Unit
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Warak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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Revised 3/2/2018

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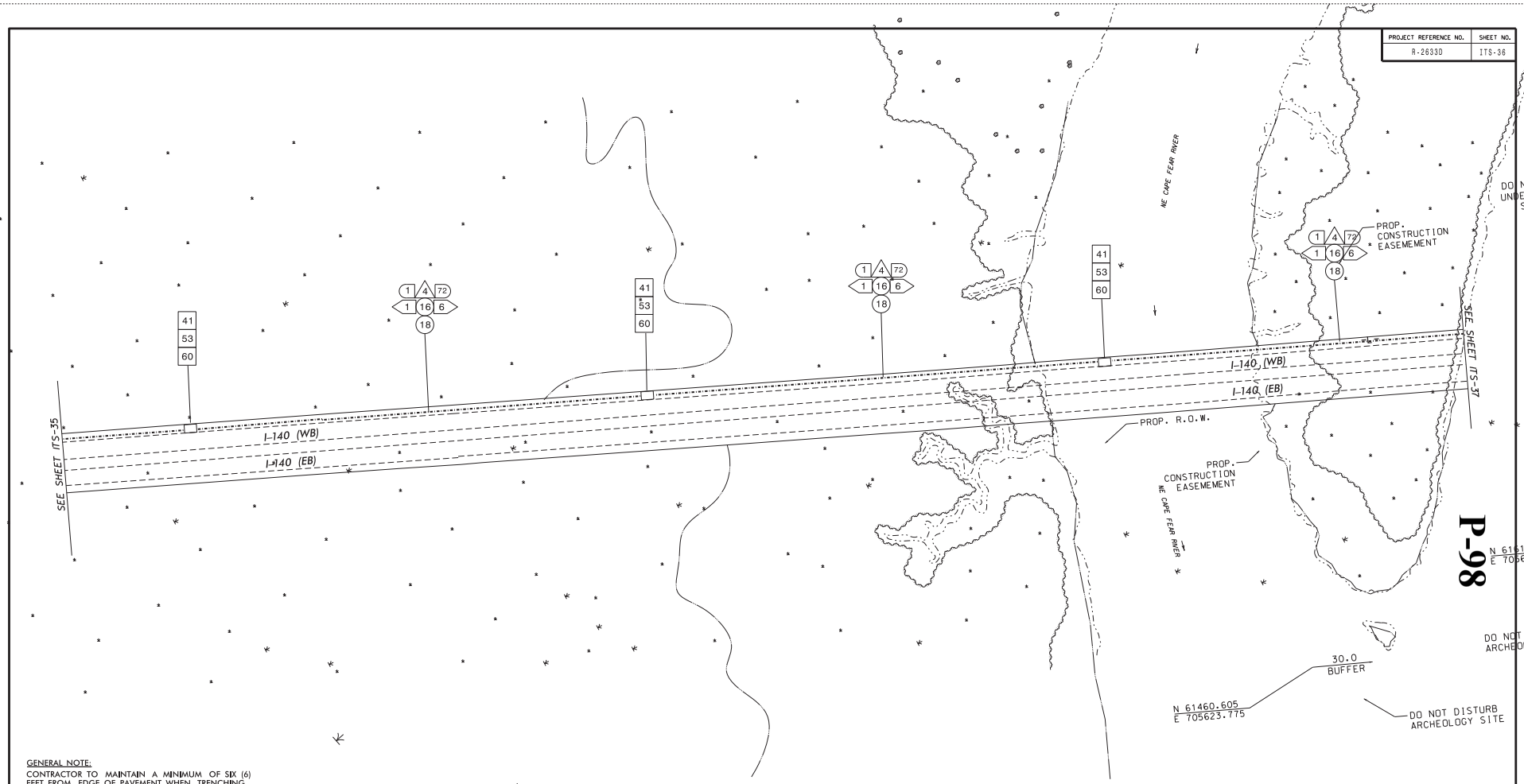


GENERAL NOTE:
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Prepared for the Offices of:
Division of Highways
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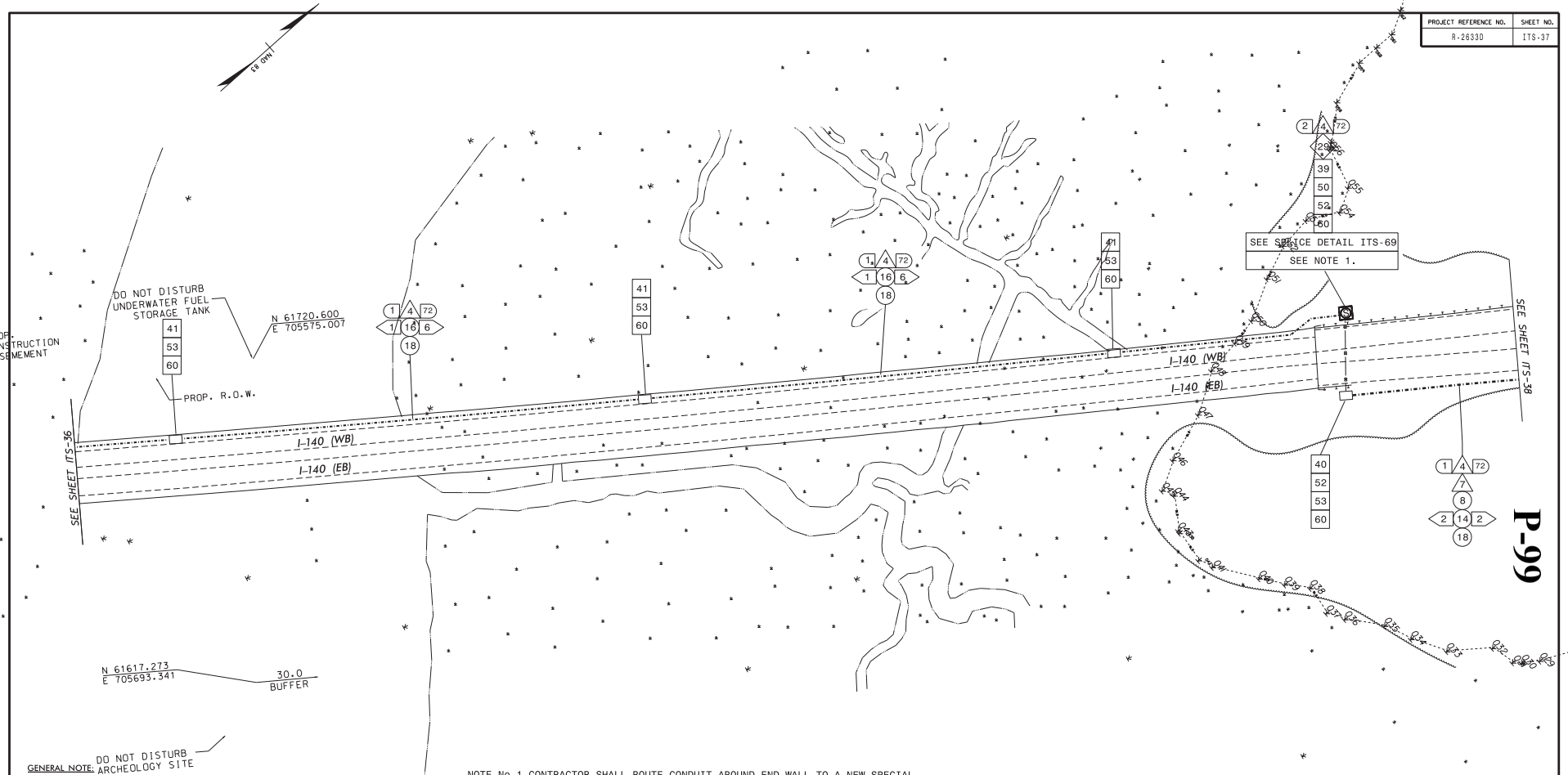


P-99

Revised 3/2/2018

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28. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
29. INSTALL UNDERGROUND SPLICE ENCLOSURE
30. INSTALL AERIAL SPLICE ENCLOSURE
31. INSTALL POLE MOUNTED SPLICE CABINET
32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
33. REMOVE EXISTING SPLICE CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV CAMERA WOOD POLE
38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
39. INSTALL SPECIAL OVERSIZED JUNCTION BOX WITH 100 FEET OF COMMUNICATIONS CABLE
40. INSTALL OVERSIZED JUNCTION BOX
41. INSTALL BRIDGE MOUNTED JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL REEL END SPLICE
51. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET OF COMMUNICATIONS CABLE
54. LASH CABLE(S) TO EXISTING SIGNAL / COMMUNICATIONS CABLE
55. LASH CABLE(S) TO EXISTING MESSENGER CABLE
56. LASH CABLE(S) TO NEW MESSENGER CABLE
57. MODIFY EXISTING ELECTRICAL SERVICE
58. INSTALL NEW ELECTRICAL SERVICE FOR DMS
59. INSTALL NEW BASE MOUNTED CABINET (336)
60. SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND CABINETS WITH MOLDABLE DUCT SEAL
61. INSTALL ETHERNET SWITCH
62. LOCATE EXISTING JUNCTION BOX AND CONNECT WITH NEW CONDUIT
63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

Prepared for the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Operations Support Unit
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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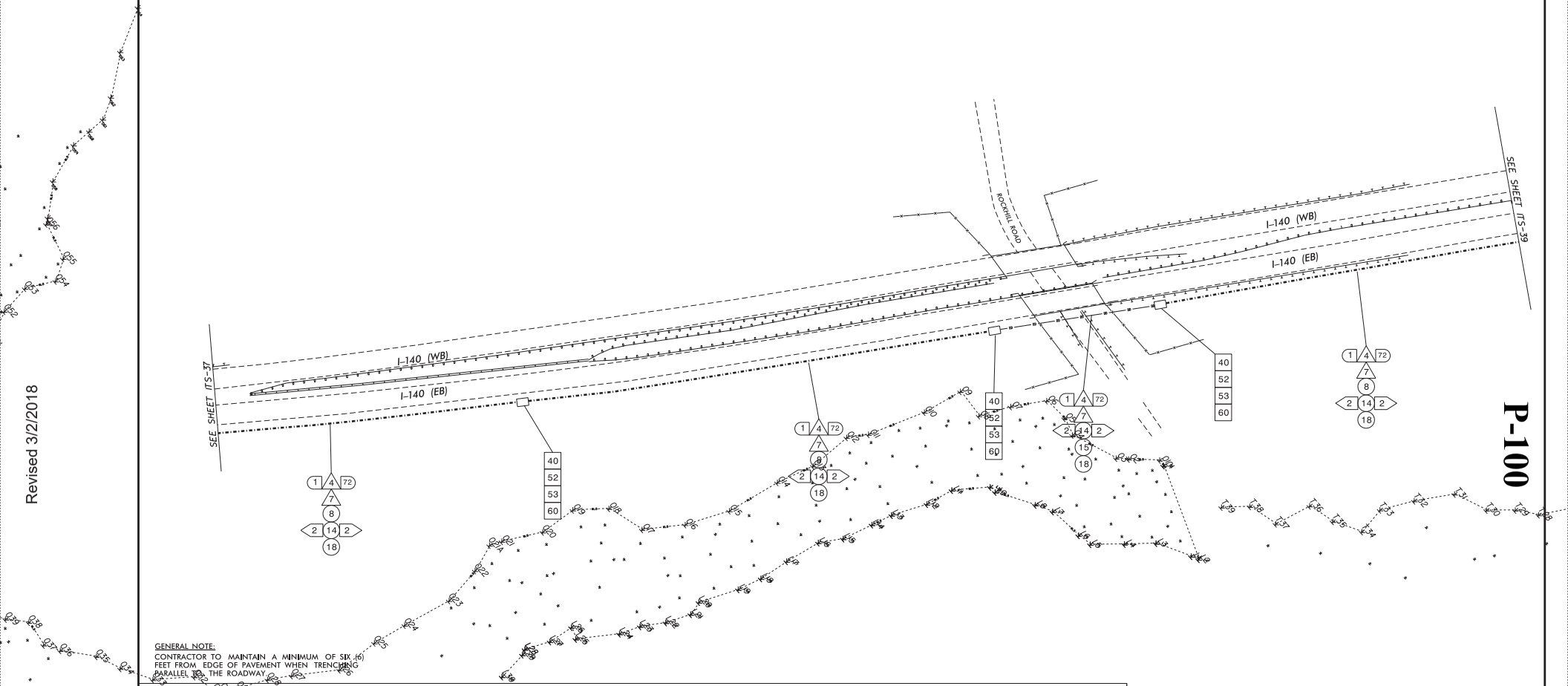


Revised 3/2/2018

GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

1. INSTALL REA, PE – 39, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL 3–CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE
4. INSTALL SMFO CABLE
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6. INSTALL FIBER OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. TRENCH
9. INSTALL PVC CONDUIT
10. INSTALL RIGID, GALVANIZED STEEL CONDUIT
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
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13. INSTALL OUTER–DUCT POLYETHYLENE CONDUIT
14. INSTALL POLYETHYLENE CONDUIT
15. DIRECTIONAL DRILL CONDUIT
16. INSTALL BRIDGE MOUNTED FIBERGLASS CONDUIT, WITH FOUR–WAY INNERDUCT INSERT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
18. INSTALL CABLE(S) IN NEW CONDUIT
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20. INSTALL CABLE(S) IN NEW RISER
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22. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)
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62. LOCATE EXISTING JUNCTION BOX AND CONNECT WITH NEW CONDUIT
63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

Prepared for the Offices of:
Mobility and Public Transportation
Construction Rail Division
Traffic Engineering Branch
Intermodal Planning Division
Transportation Management Center
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

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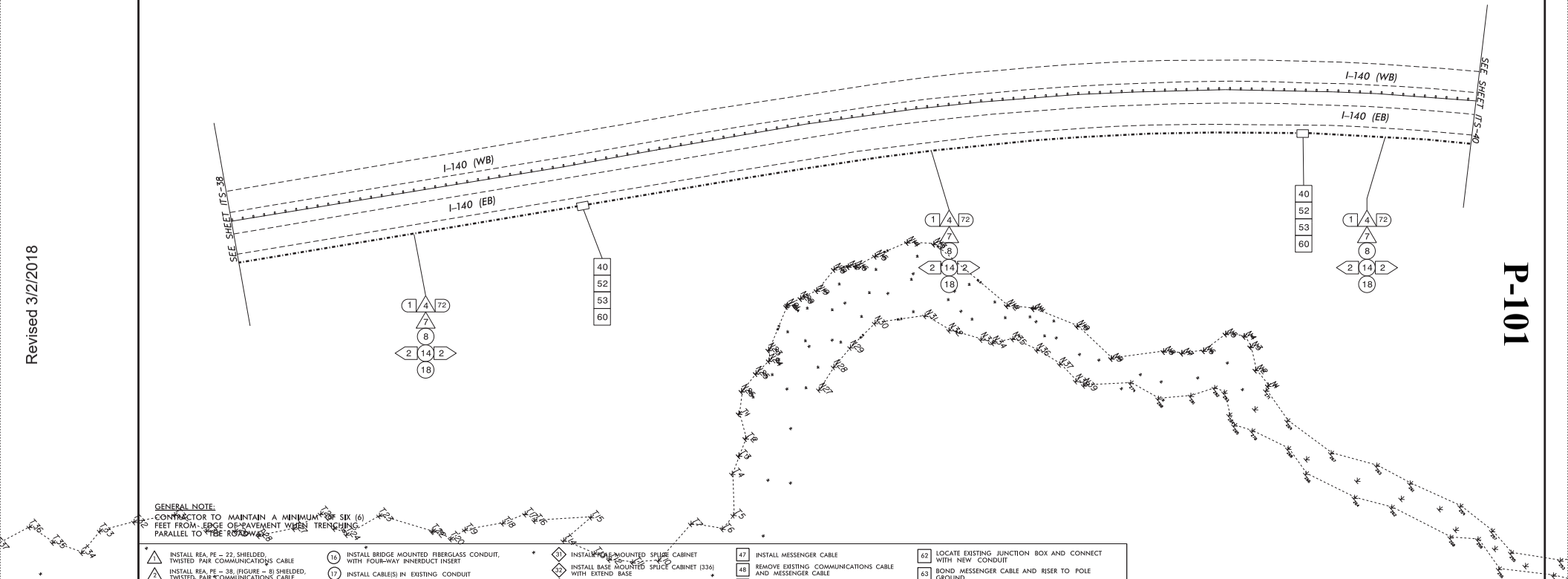


P-101

Revised 3/2/2018

GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
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63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

Prepared for the Offices of:
Traffic Engineering, Signals, Communications, Roadway Lighting, Traffic Management, Operations, Planning, Design, Construction, Maintenance, Right of Way, Human Resources, Finance, Administration, Legal, Information Technology, Environmental, Contracts, Procurement, Materials, Safety, Equipment, Ferry, Aviation, Rail, Public Transportation, Legislative Affairs, Communications, Highway Safety, Bicycle and Pedestrian
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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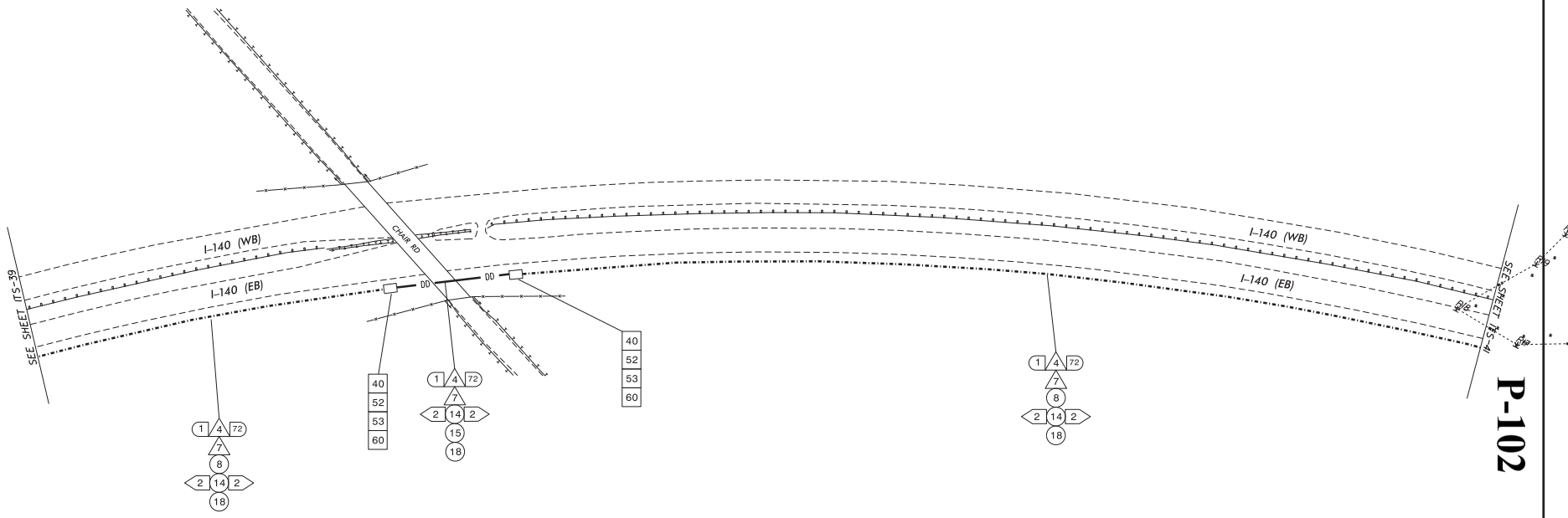


P-102

GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL 3-CONDUCTOR, CLASS B STRANDED UNDERGROUND POWER CABLE
4. INSTALL SMFO CABLE
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63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

Prepared for the Offices of:
Mobility and Road Quality
Connectivity
Transportation Mobility and Safety
Customer Service
Leadership
Organization
Technology
Workforce Development
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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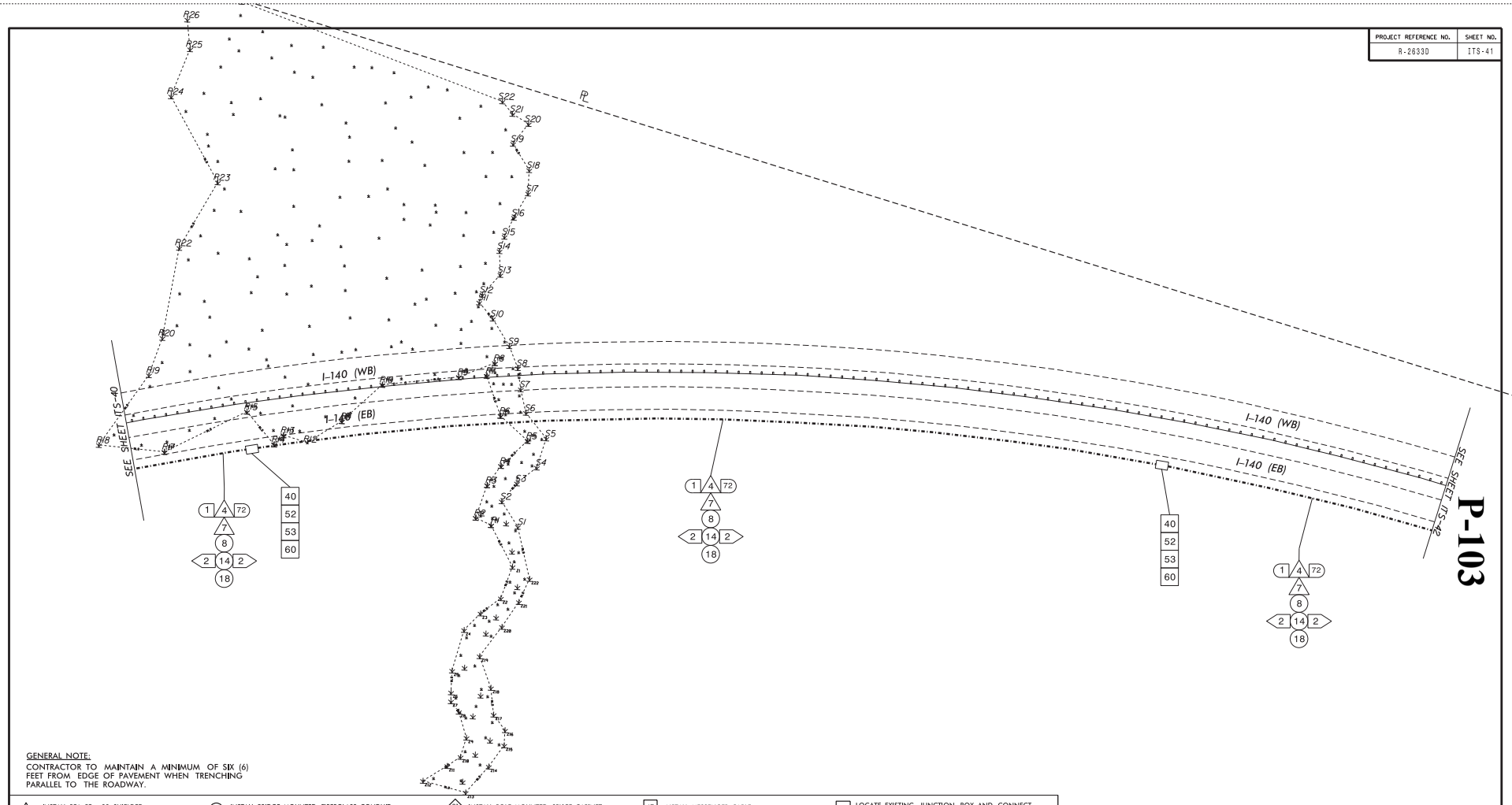


# P-103

GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
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Prepared for the Offices of:
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
Traffic Management Unit
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

## CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

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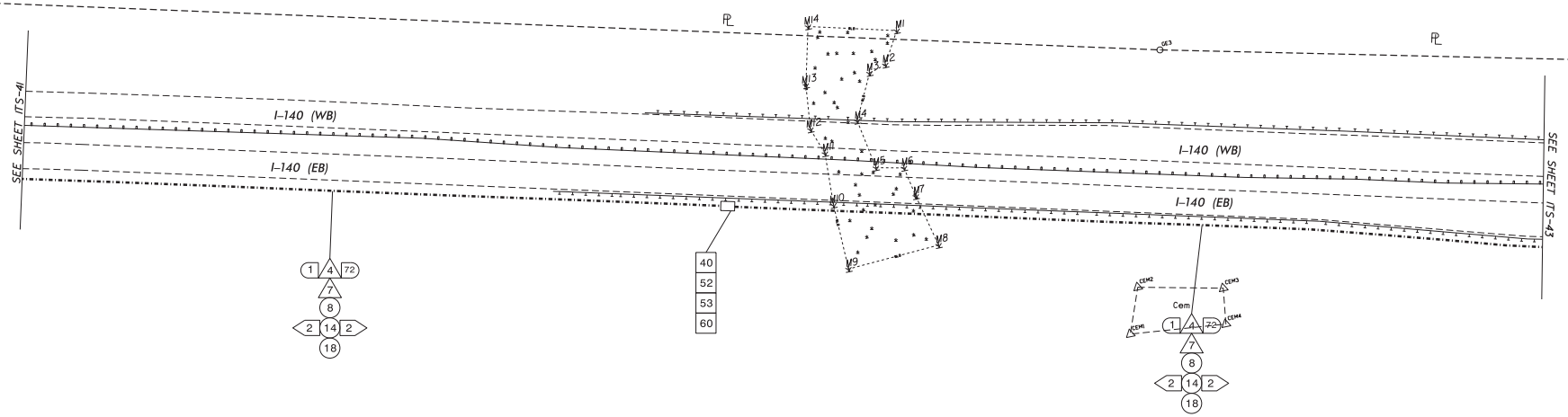


P-104

Revised 3/2/2018

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17. INSTALL CABLE(S) IN EXISTING CONDUIT
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Prepared for the Offices of:
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
Traffic Management Unit
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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SEAL: PRELIMINARY PLANS NOT FOR CONSTRUCTION

SIGNATURE DATE

CADD FILE NAME

| PROJECT REFERENCE NO. | SHEET NO. |
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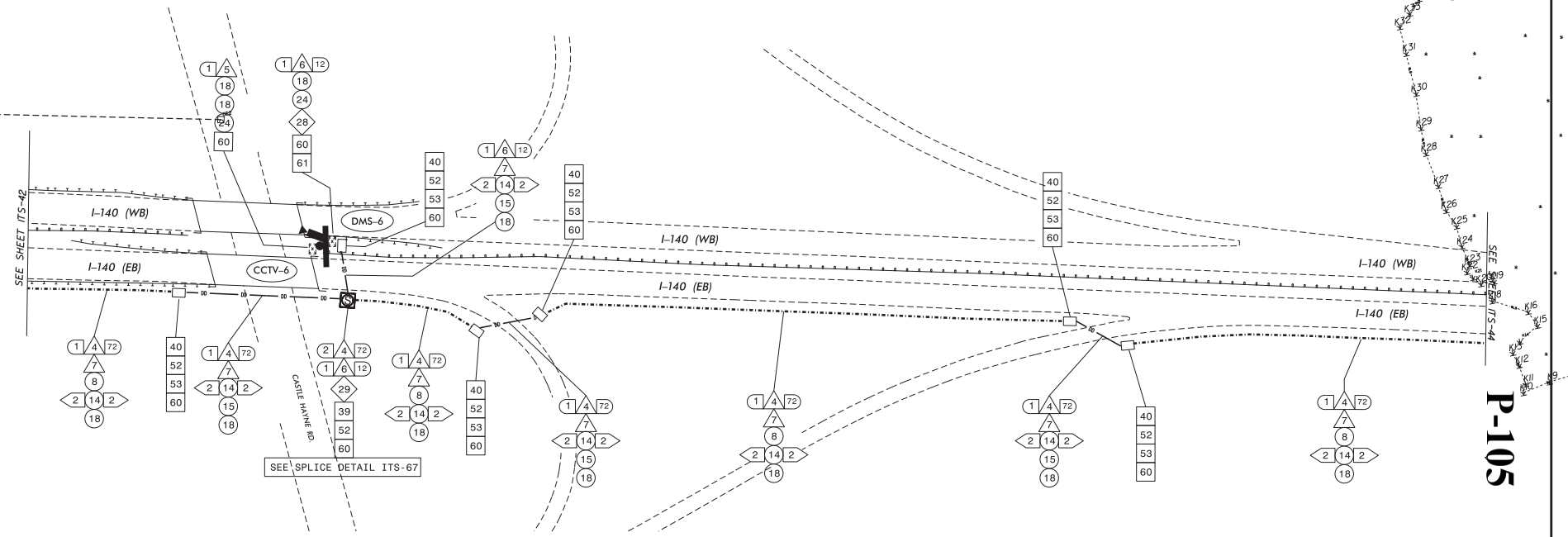
| R-26330 | ITS-43 |

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Prepared for the Offices of:
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Construction
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Maintenance
Traffic Engineering
Administration
Development
Human Resources
Information Technology
Communications
Legal Services
Audits
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
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750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

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| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

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Revised 3/2/2018

Revised 3/2/2018

| PROJECT REFERENCE NO. | SHEET NO. |
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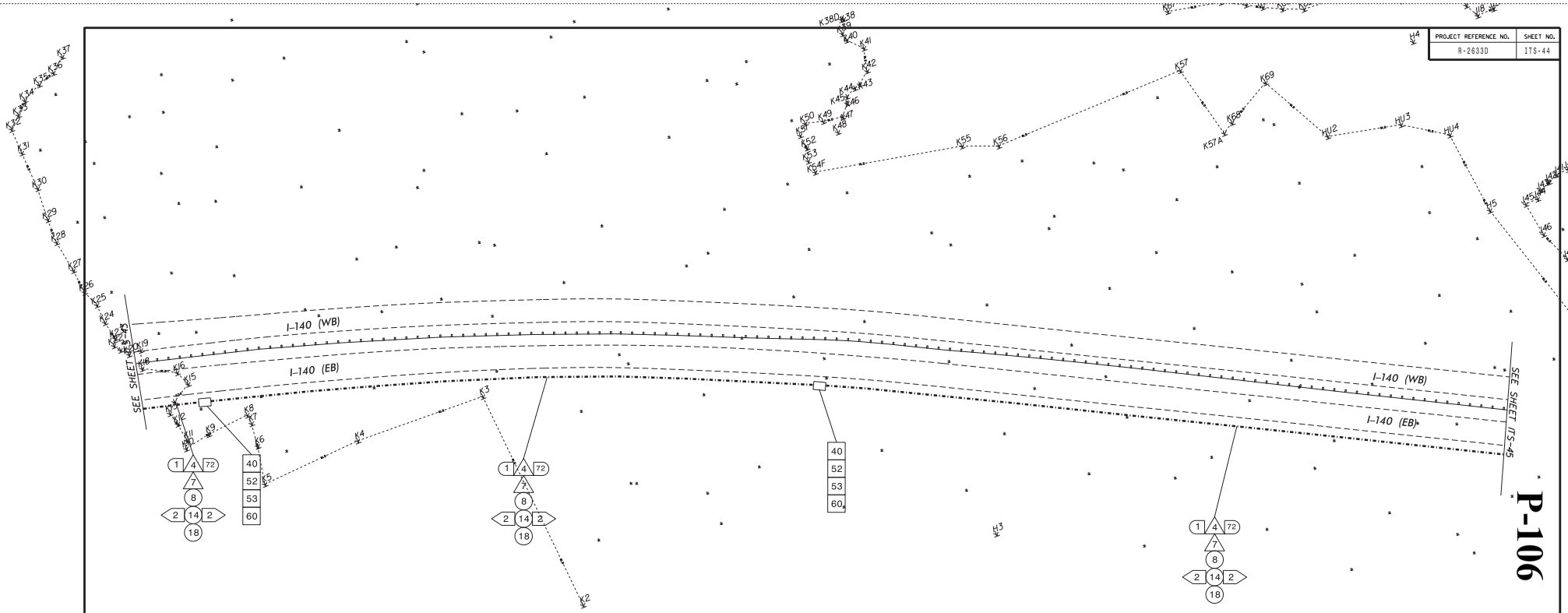
| R-26330 | ITS-44 |




# P-106

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Prepared for the Offices of:
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Construction
Traffic Management
Traffic Engineering
Operations
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Division of Highways
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

## CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| PLAN DATE: January 2018 | REVIEWED BY: G. Green |
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| PREPARED BY: L. Neal | REVIEWED BY: P. Marak |

SCALE: NTS

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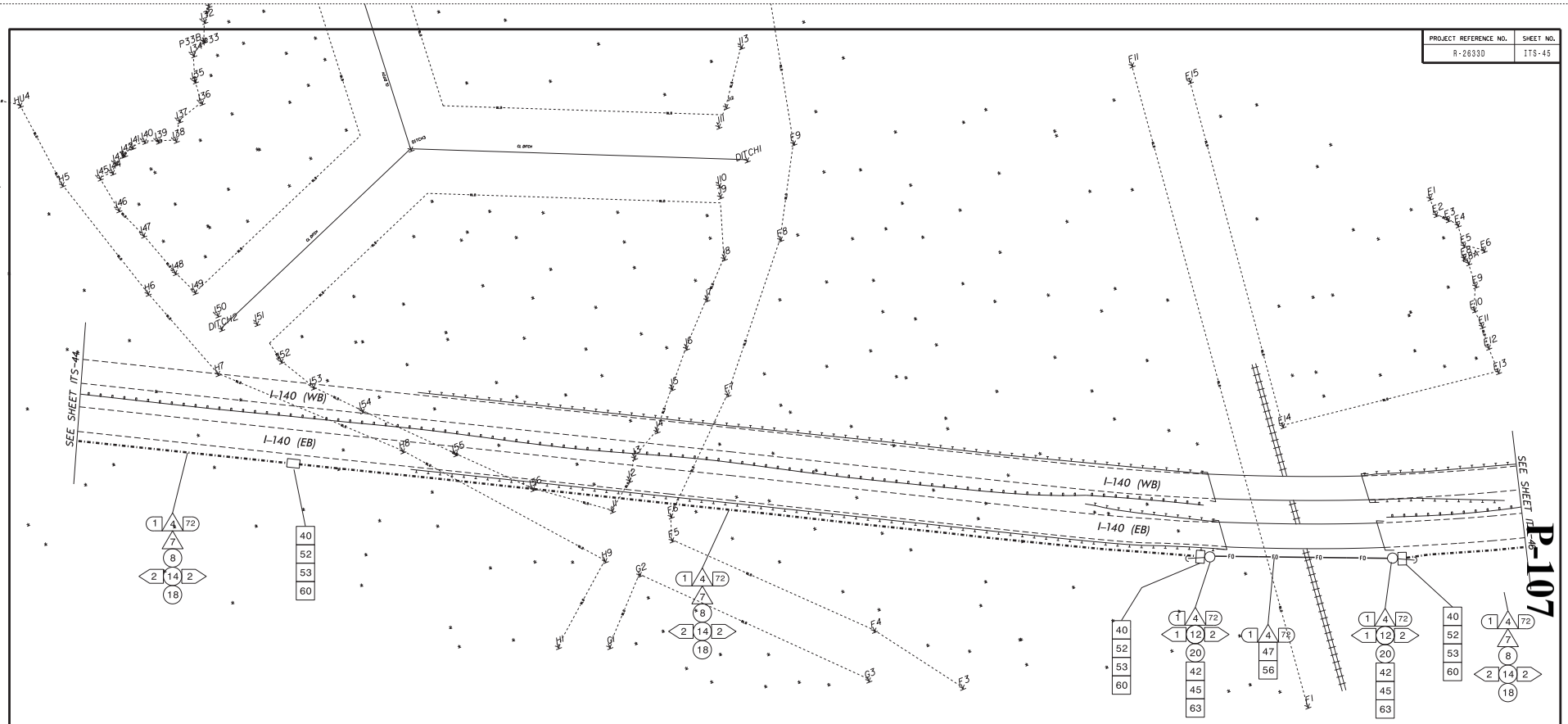
| R-2633D | ITS-45 |

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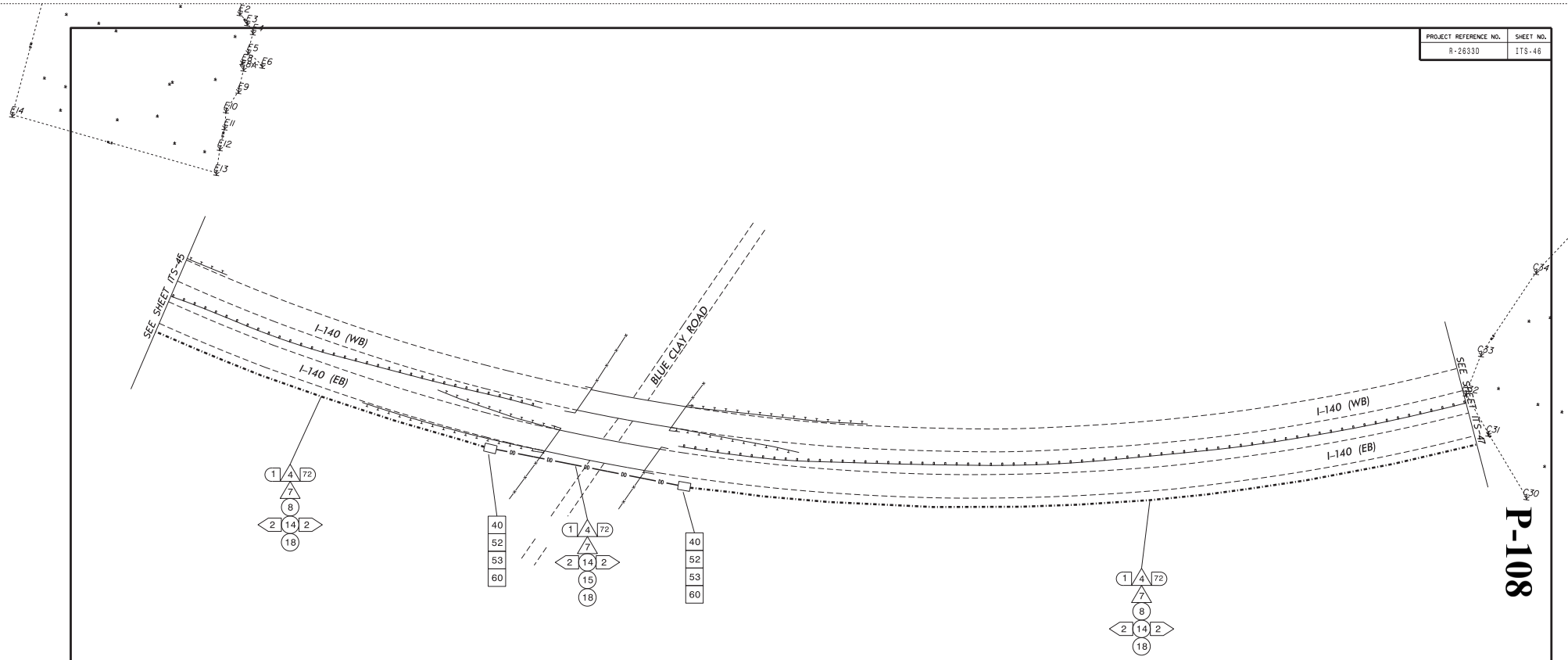


P-108

Revised 3/2/2018

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60. SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND CABINETS WITH MOLDABLE DUCT SEAL
61. INSTALL ETHERNET SWITCH
62. LOCATE EXISTING JUNCTION BOX AND CONNECT WITH NEW CONDUIT
63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

Prepared for the Offices of:
Mobility and Public Transportation
Connectivity
Safety
Quality of Life
Economic Vitality
Leadership
Stewardship
Organization
Transparency
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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SEAL
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SIGNATURE
DATE
CADD FILE NAME

Revised 3/2/2018

| PROJECT REFERENCE NO. | SHEET NO. |
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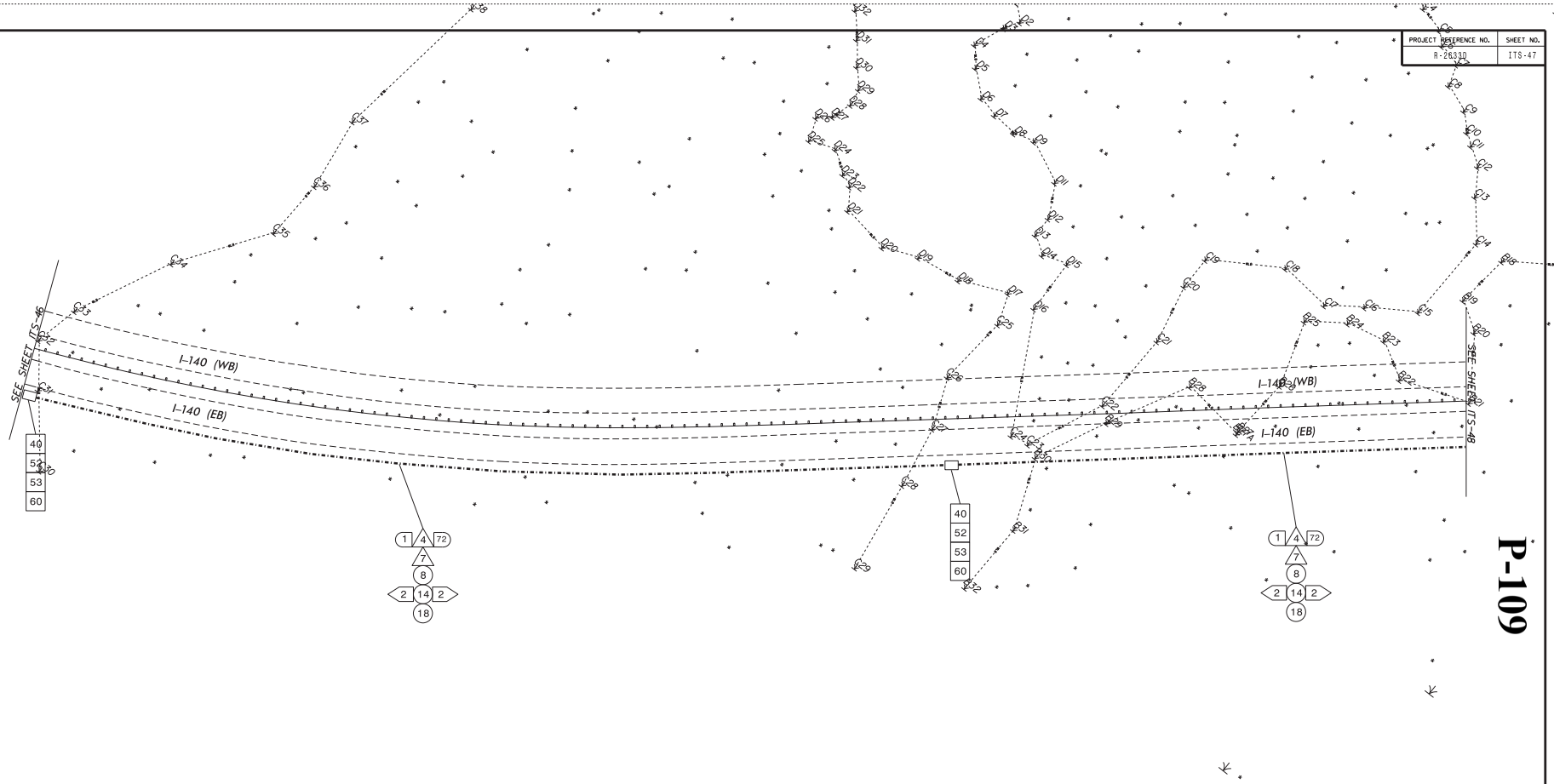
| R-2633D | ITS-47 |




P-109

GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
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4. INSTALL SMFO CABLE
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7. INSTALL TRACER WIRE
8. TRENCH
9. INSTALL PVC CONDUIT
10. INSTALL RIGID, GALVANIZED STEEL CONDUIT
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
12. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
13. INSTALL OUTER–DUCT POLYETHYLENE CONDUIT
14. INSTALL POLYETHYLENE CONDUIT
15. DIRECTIONAL DRILL CONDUIT
16. INSTALL BRIDGE MOUNTED FIBERGLASS CONDUIT, WITH FOUR–WAY INNERDUCT INSERT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
18. INSTALL CABLE(S) IN NEW CONDUIT
19. INSTALL CABLE(S) IN EXISTING RISER
20. INSTALL CABLE(S) IN NEW RISER
21. INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)
24. INSTALL NEW CONDUIT INTO EXISTING POLE
25. INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
26. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
27. INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
28. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
29. INSTALL UNDERGROUND SPLICE ENCLOSURE
30. INSTALL AERIAL SPLICE ENCLOSURE
31. INSTALL POLE MOUNTED SPLICE CABINET
32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
33. REMOVE EXISTING SPLICE CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV CAMERA WOOD POLE
38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
39. INSTALL SPECIAL OVERSIZED JUNCTION BOX WITH 100 FEET OF COMMUNICATIONS CABLE
40. INSTALL OVERSIZED JUNCTION BOX
41. INSTALL BRIDGE MOUNTED JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL REEL END SPLICE
51. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET OF COMMUNICATIONS CABLE
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Prepared for the Offices of:
Mobility and Public Transportation
Transportation Mobility and Safety Division
Intelligent Transportation Systems Section
Traffic Management Section
DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

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SEAL: PRELIMINARY PLANS NOT FOR CONSTRUCTION

SIGNATURE | DATE

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| PROJECT REFERENCE NO. | SHEET NO. |
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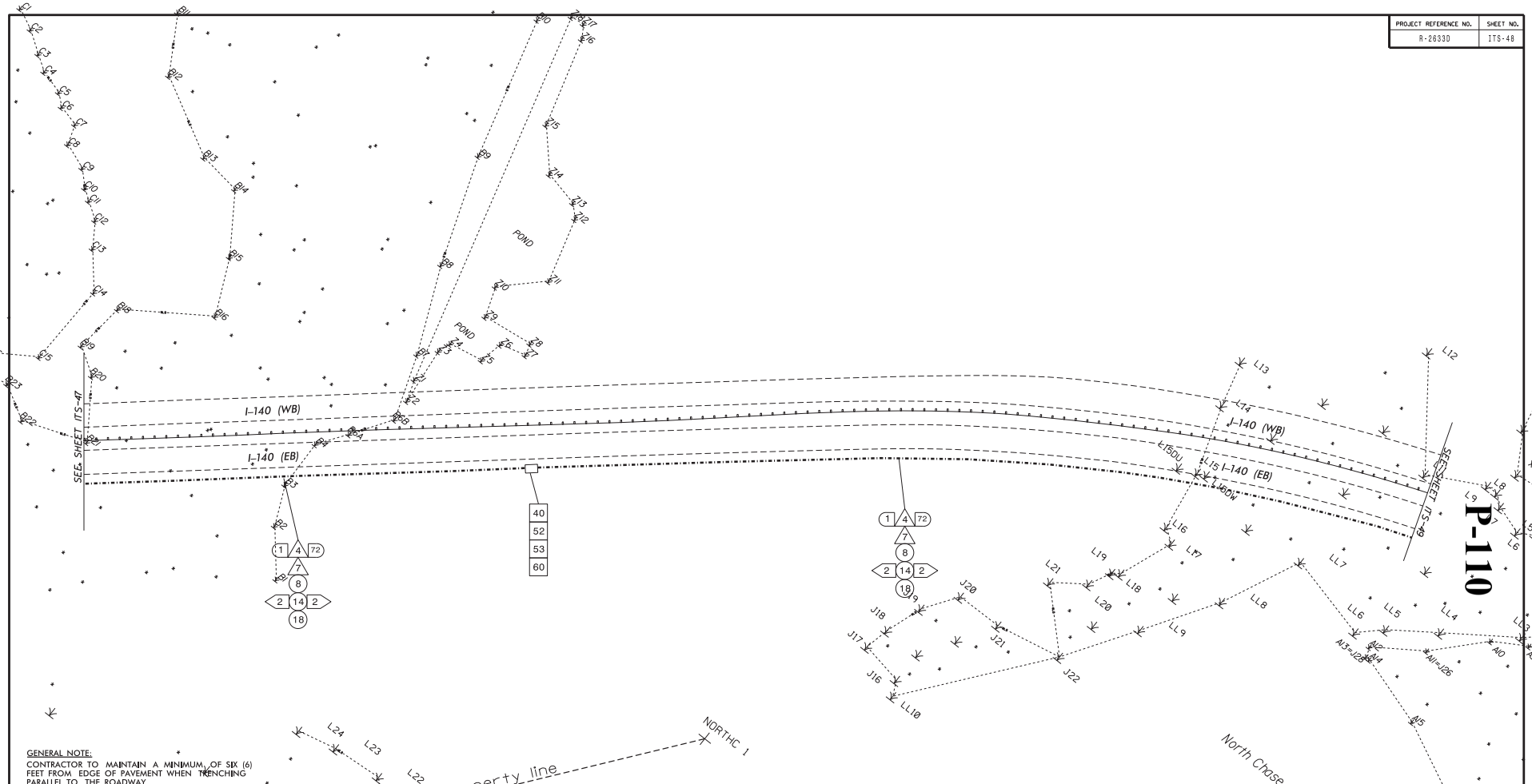
| R-2633D | ITS-48 |




P-110

Revised 3/2/2018

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Prepared for the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
|---|---|---|---|
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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SEAL
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SIGNATURE
DATE
CADD FILE NAME

| PROJECT REFERENCE NO. | SHEET NO. |
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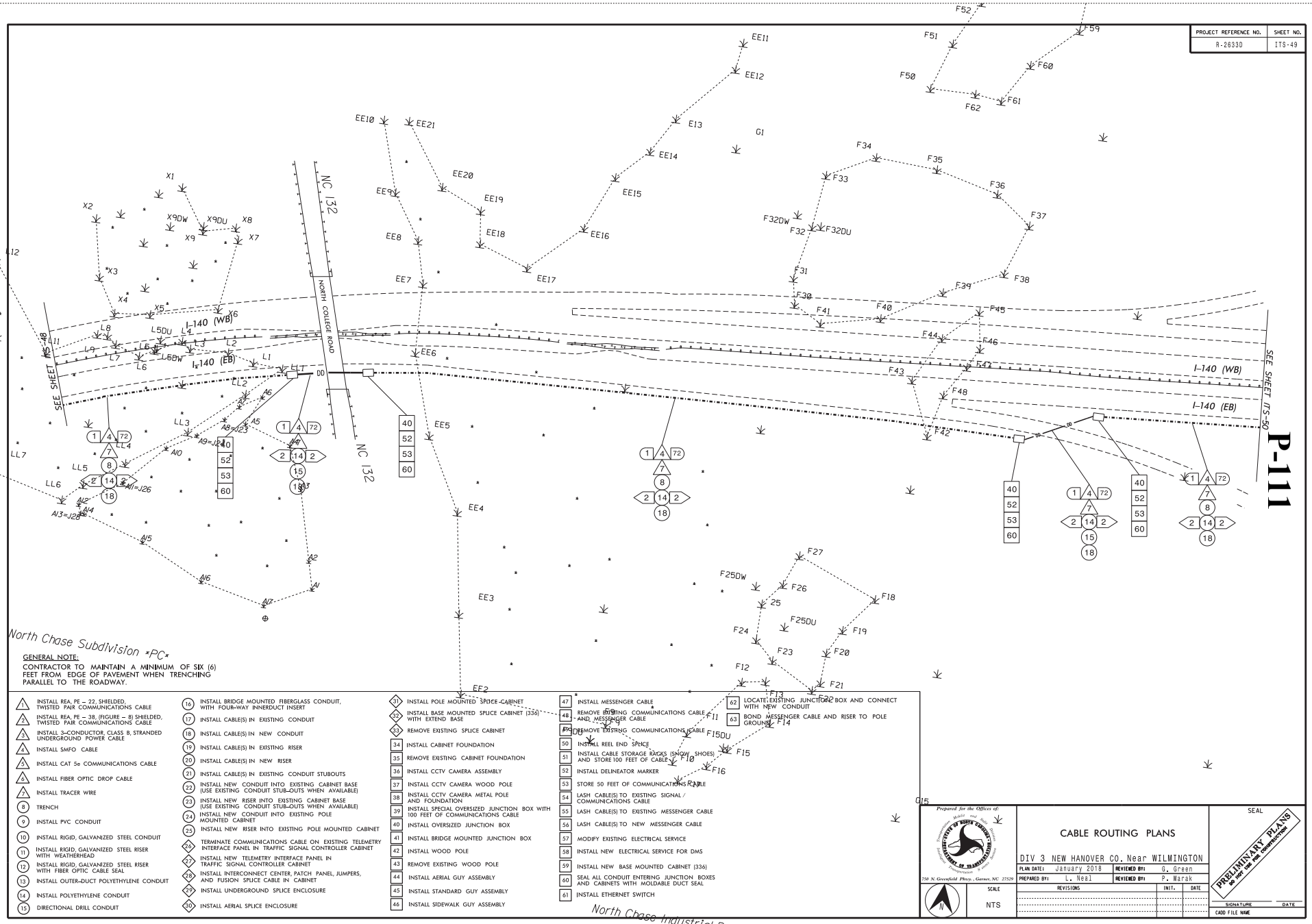
| R-2633D | ITS-49 |




Revised 3/22/2018

P-111

GENERAL NOTE:
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Prepared for the Offices of:
Mobility and Public Transportation
Connectivity
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Organizational Excellence
Transparency
DIVISION OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Warak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
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SEAL: PRELIMINARY PLANS NOT FOR USE FOR CONSTRUCTION

SIGNATURE | DATE

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Revised 3/2/2018

| PROJECT REFERENCE NO. | SHEET NO. |
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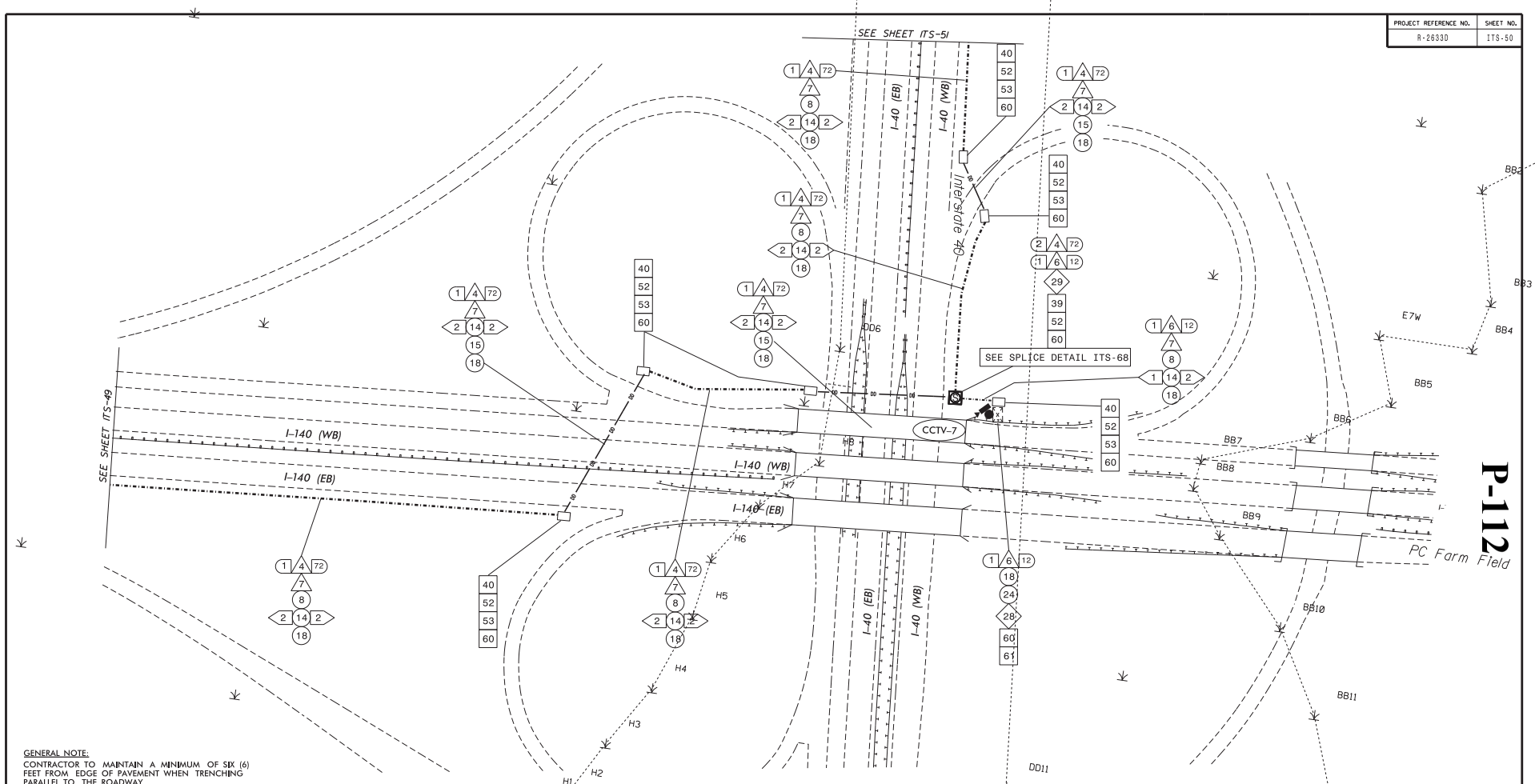
| R-26330 | ITS-50 |




GENERAL NOTE:
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Prepared for the Offices of:
Division of Highways
Traffic Engineering Branch
Telecommunications Unit
1590 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

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SCALE: NTS

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SEAL: PRELIMINARY PLANS NOT FOR CONSTRUCTION

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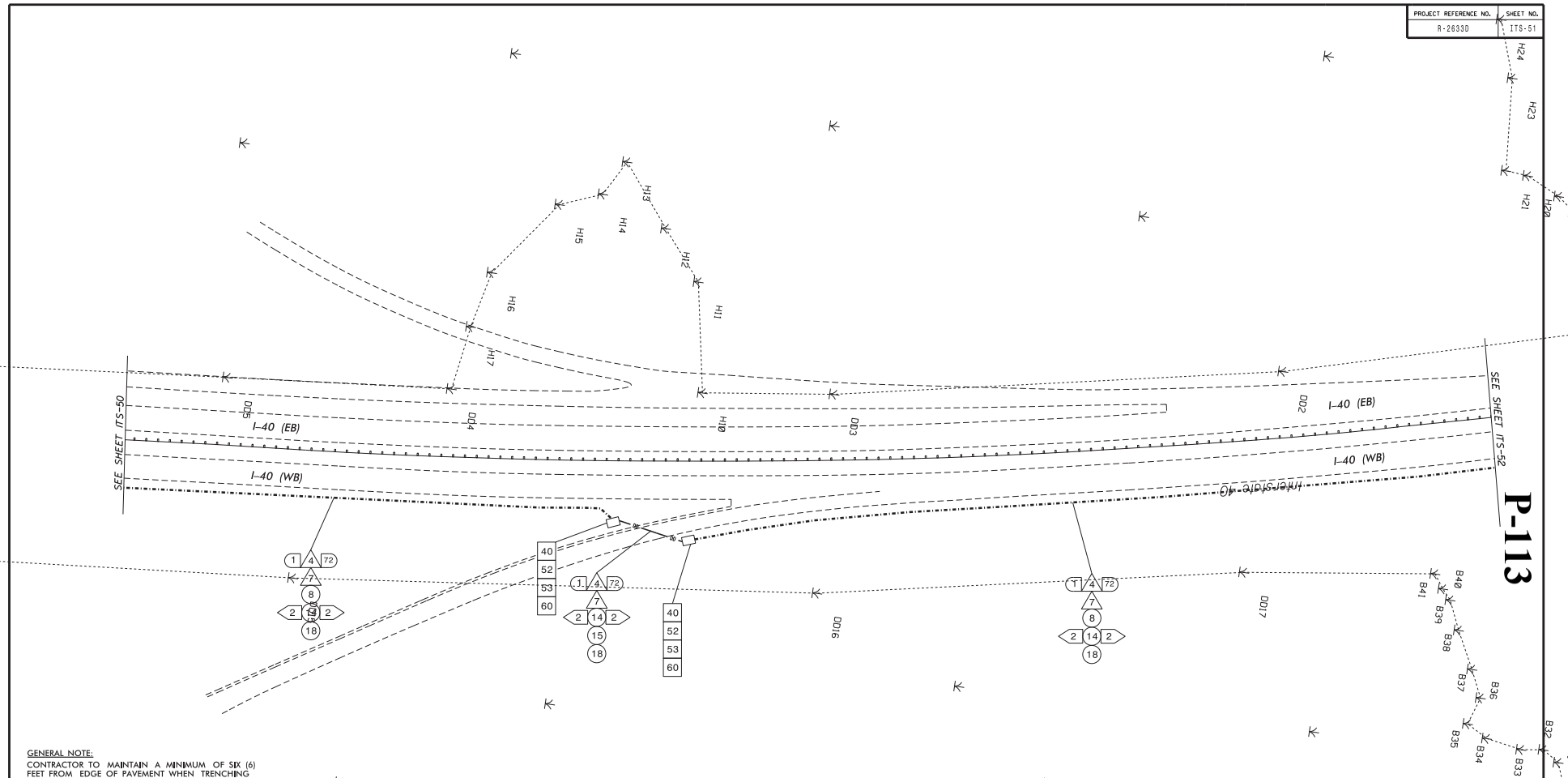
| R-26330 | ITS-51 |




Revised 3/2/2018

# P-113

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32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE
33. REMOVE EXISTING SPLICE CABINET
34. INSTALL CABINET FOUNDATION
35. REMOVE EXISTING CABINET FOUNDATION
36. INSTALL CCTV CAMERA ASSEMBLY
37. INSTALL CCTV CAMERA WOOD POLE
38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
39. INSTALL SPECIAL OVERSIZED JUNCTION BOX WITH 100 FEET OF COMMUNICATIONS CABLE
40. INSTALL OVERSIZED JUNCTION BOX
41. INSTALL BRIDGE MOUNTED JUNCTION BOX
42. INSTALL WOOD POLE
43. REMOVE EXISTING WOOD POLE
44. INSTALL AERIAL GUY ASSEMBLY
45. INSTALL STANDARD GUY ASSEMBLY
46. INSTALL SIDEWALK GUY ASSEMBLY
47. INSTALL MESSENGER CABLE
48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
49. REMOVE EXISTING COMMUNICATIONS CABLE
50. INSTALL REEL END SPLICE
51. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
52. INSTALL DELINEATOR MARKER
53. STORE 50 FEET OF COMMUNICATIONS CABLE
54. LASH CABLE(S) TO EXISTING SIGNAL / COMMUNICATIONS CABLE
55. LASH CABLE(S) TO EXISTING MESSENGER CABLE
56. LASH CABLE(S) TO NEW MESSENGER CABLE
57. MODIFY EXISTING ELECTRICAL SERVICE
58. INSTALL NEW ELECTRICAL SERVICE FOR DMS
59. INSTALL NEW BASE MOUNTED CABINET (336)
60. SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND CABINETS WITH MOLDABLE DUCT SEAL
61. INSTALL ETHERNET SWITCH
62. LOCATE EXISTING JUNCTION BOX AND CONNECT WITH NEW CONDUIT
63. BOND MESSENGER CABLE AND RISER TO POLE GROUND

Prepared for the Offices of:
Transportation Mobility and Safety Division
DEPARTMENT OF TRANSPORTATION
Transportation Building, Raleigh, North Carolina
750 N. Greenfield Pkwy., Garner, NC 27529

## I-40 ITS FIBER CABLE ROUTE
## CABLE ROUTING PLANS
DIV 3 NEW HANOVER CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

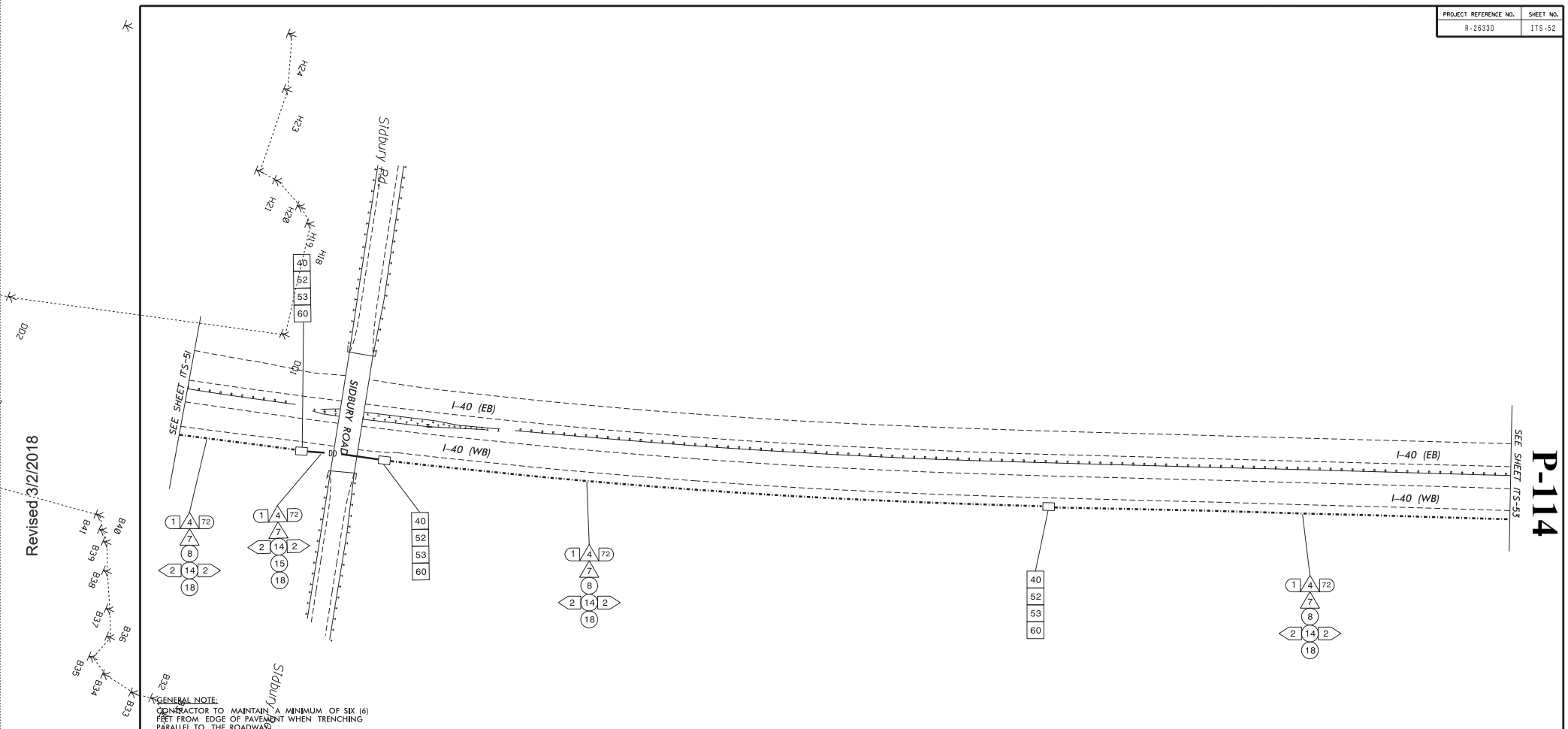
SCALE: NTS

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SEAL
PRELIMINARY PLANS
NOT FOR USE FOR CONSTRUCTION

SIGNATURE DATE
CADD FILE NAME

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2633D | ITS-52 |




P-114

GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

1. INSTALL 26EA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL 8EA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL 3C CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE
4. INSTALL SMFO CABLE
5. INSTALL CAT 5e COMMUNICATIONS CABLE
6. INSTALL FIBER OPTIC DROP CABLE
7. INSTALL TRACER WIRE
8. TRENCH
9. INSTALL PVC CONDUIT
10. INSTALL RIGID, GALVANIZED STEEL CONDUIT
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
12. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
13. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
14. INSTALL POLYETHYLENE CONDUIT
15. DIRECTIONAL DRILL CONDUIT
16. INSTALL BRIDGE MOUNTED FIBERGLASS CONDUIT, WITH FOUR-WAY INNERDUCT INSERT
17. INSTALL CABLE(S) IN EXISTING CONDUIT
18. INSTALL CABLE(S) IN NEW CONDUIT
19. INSTALL CABLE(S) IN EXISTING RISER
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21. INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS
22. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
23. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
24. INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET
25. INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
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Prepared for the Offices of:
Transportation Mobility and Safety Division
DEPARTMENT OF TRANSPORTATION
Connecting People with Places
750 N. Greenfield Pkwy., Garner, NC 27529

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| PLAN DATE: January 2018 | REVIEWED BY: G. Green |
|---|---|
| PREPARED BY: L. Neal | REVIEWED BY: P. Marak |

SCALE: NTS

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |
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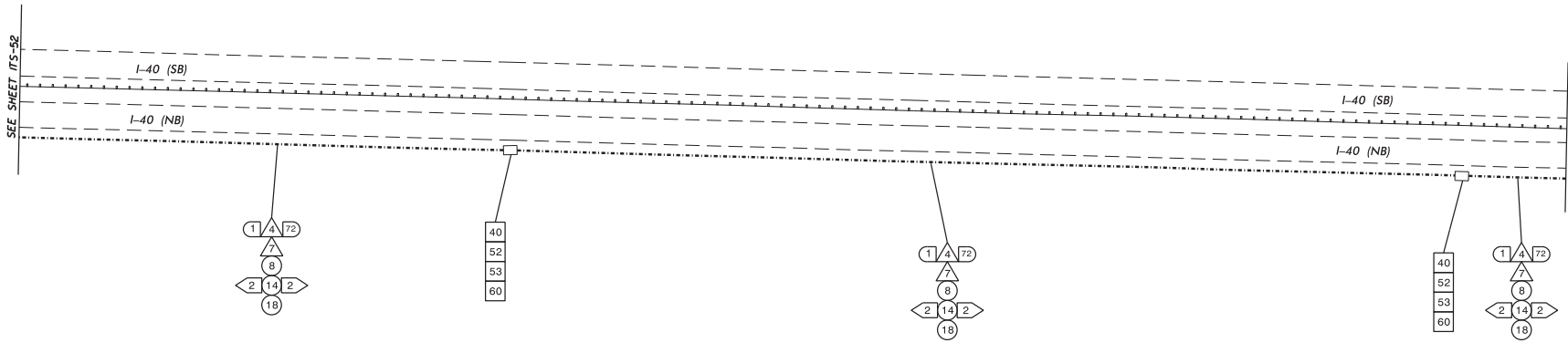
SEAL
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SIGNATURE
DATE
CADD FILE NAME

Revised 3/2/2018

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2633D | ITS-53 |




P-115

GENERAL NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM OF SIX (6) FEET FROM EDGE OF PAVEMENT WHEN TRENCHING PARALLEL TO THE ROADWAY.

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Prepared for the Offices of:
Transportation Mobility and Safety Division
Intelligent Transportation Systems Unit
759 N. Greenfield Pkwy., Garner, NC 27529


SCALE: NTS

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| | | | |
|---|---|---|---|
| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
| PREPARED BY: | L. Neal | REVIEWED BY: | P. Marak |

| REVISIONS | INIT. | DATE |
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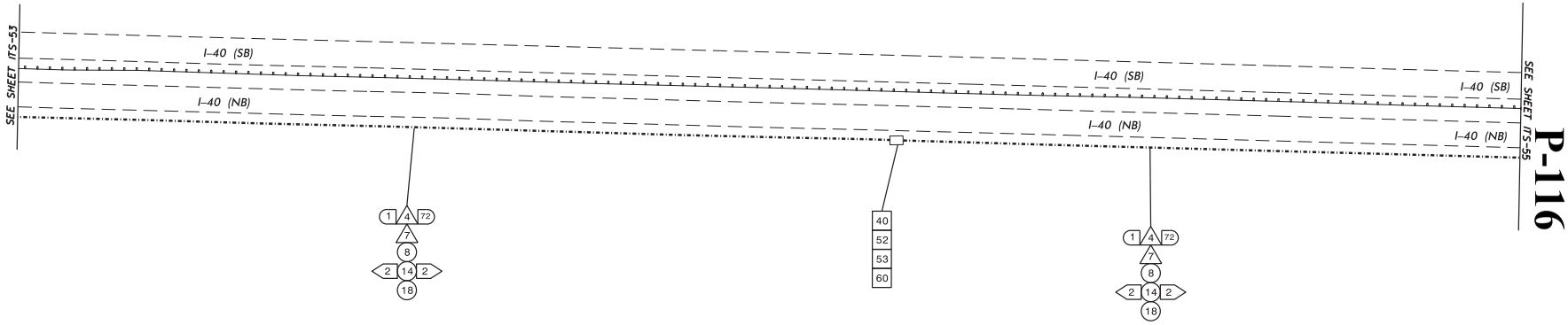
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031636 ENGINEER PAUL P. MARAK

SIGNATURE DATE
CADD FILE NAME

Revised 3/2/2018

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2633D | ITS-54 |




P-116

GENERAL NOTE:
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Prepared for the Offices of:
Transportation Mobility and Safety Division
Intelligent Transportation Systems
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
759 N. Greenfield Pkwy., Garner, NC 27529

SCALE: NTS

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| PLAN DATE: January 2018 | REVIEWED BY: G. Green |
|---|---|
| PREPARED BY: L. Neal | REVIEWED BY: P. Marak |

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |
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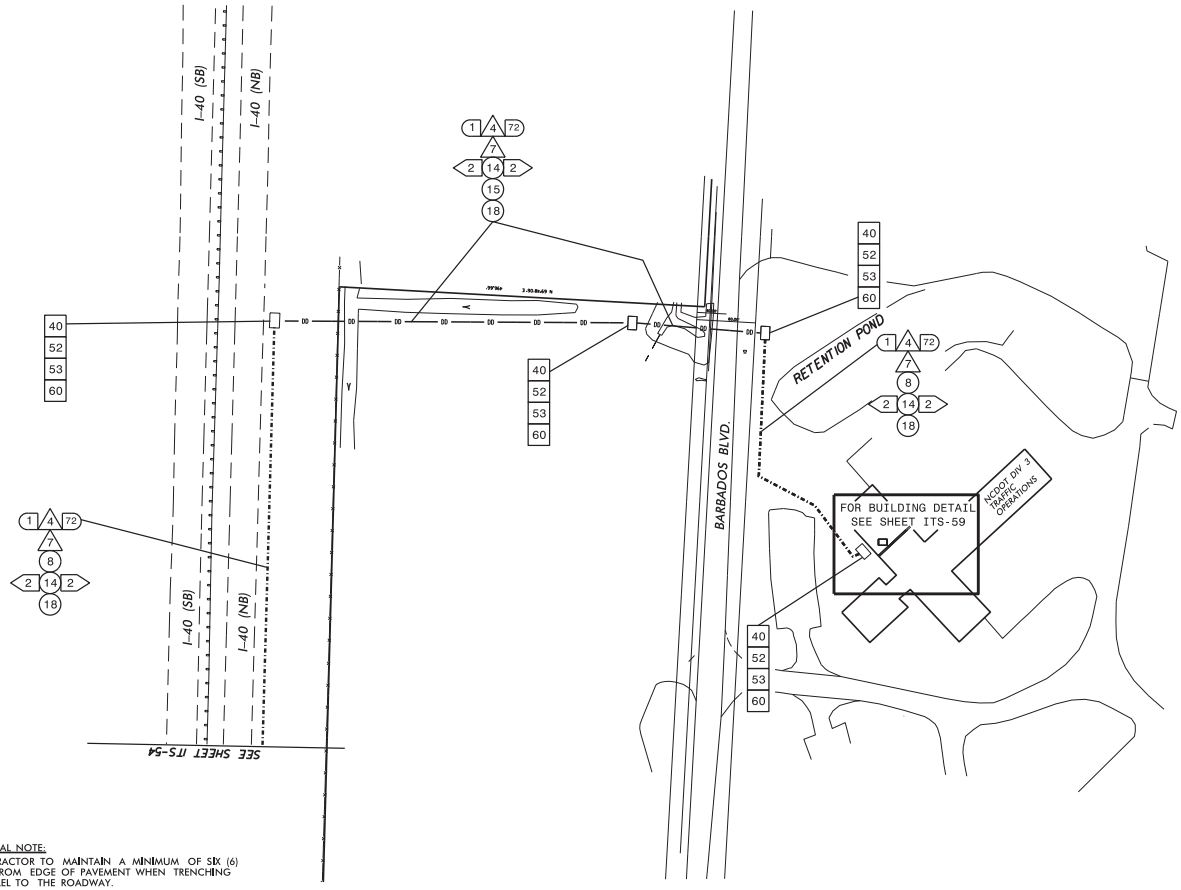
| | | |

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031636 ENGINEER PAUL P. MARAK

SIGNATURE DATE
CADD FILE NAME

Revised 3/2/2018

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2633D | ITS-55 |

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Prepared for the Offices of:
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
759 N. Greenfield Pkwy., Garner, NC 27529

SCALE: NTS

# CABLE ROUTING PLANS

DIV 3 NEW HANOVER CO. Near WILMINGTON

| PLAN DATE: | January 2018 | REVIEWED BY: | G. Green |
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SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031636 ENGINEER PAUL P. MARAK

SIGNATURE DATE
CADD FILE NAME

P-117

# P-118

Revised 3/2/2018

| R-2633 Breaks | Page # | JB's | Area ($ft^2$) | Subtotals | Total ($ft^2$) |
|---|---|---|---|---|---|
| A | 4 | 2 | 18 | 459 | 1278 |
| | 5 | 7 | 63 | | |
| | 6 | 4 | 36 | | |
| | 7 | 2 | 18 | | |
| | 8 | 3 | 27 | | |
| | 9 | 2 | 18 | | |
| | 10 | 3 | 27 | | |
| | 11 | 2 | 18 | | |
| | 12 | 2 | 18 | | |
| | 13 | 3 | 27 | | |
| | 14 | 2 | 18 | | |
| | 15 | 2 | 18 | | |
| | 16 | 8 | 72 | | |
| | 56 | 3 | 27 | | |
| | 57 | 3 | 27 | | |
| | 58 | 3 | 27 | | |
| B | 17 | 3 | 27 | 351 | |
| | 18 | 2 | 18 | | |
| | 19 | 2 | 18 | | |
| | 20 | 2 | 18 | | |
| | 21 | 2 | 18 | | |
| | 22 | 6 | 54 | | |
| | 23 | 2 | 18 | | |
| | 24 | 2 | 18 | | |
| | 25 | 2 | 18 | | |
| | 26 | 4 | 36 | | |
| | 27 | 5 | 45 | | |
| | 28 | 2 | 18 | | |
| | 29 | 0 | 0 | | |
| | 30 | 0 | 0 | | |
| | 31 | 1 | 9 | | |
| | 32 | 1 | 9 | | |
| | 33 | 0 | 0 | | |
| | 34 | 3 | 27 | | |
| C | 35 | 0 | 0 | 468 | |
| | 36 | 0 | 0 | | |
| | 37 | 2 | 18 | | |
| | 38 | 3 | 27 | | |
| | 39 | 2 | 18 | | |
| | 40 | 2 | 18 | | |
| | 41 | 2 | 18 | | |
| | 42 | 1 | 9 | | |
| | 43 | 7 | 63 | | |
| | 44 | 2 | 18 | | |
| | 45 | 3 | 27 | | |
| | 46 | 2 | 18 | | |
| | 47 | 2 | 18 | | |
| | 48 | 1 | 9 | | |
| | 49 | 4 | 36 | | |
| | 50 | 7 | 63 | | |
| | 51 | 2 | 18 | | |
| | 52 | 3 | 27 | | |
| | 53 | 2 | 18 | | |
| | 54 | 1 | 9 | | |
| | 55 | 4 | 36 | | |

County : New Hanover, Brunswick

| Line # | Item Number | Sec # | Description | Quantity | Unit Cost | Amount |
|---|---|---|---|---|---|---|
| | | | **ROADWAY ITEMS** | | | |
| 0001 | 0000100000-N | 800 | MOBILIZATION | Lump Sum | L.S. | |
| 0002 | 4457000000-N | SP | TEMPORARY TRAFFIC CONTROL | Lump Sum | L.S. | |
| 0003 | 7252000000-E | 1710 | MESSENGER CABLE (1/4") | 300 LF | | |
| 0004 | 7279000000-E | 1715 | TRACER WIRE | 109,390 LF | | |
| 0005 | 7300000000-E | 1715 | UNPAVED TRENCHING (**********) (1, 2") | 570 LF | | |
| 0006 | 7300000000-E | 1715 | UNPAVED TRENCHING (**********) (2, 2") | 99,700 LF | | |
| 0007 | 7301000000-E | 1715 | DIRECTIONAL DRILL (**********) (2, 2") | 9,030 LF | | |
| 0008 | 7312000000-N | 1716 | JUNCTION BOX (**********) (OVER-SIZED, HEAVY-DUTY) | 129 EA | | |
| 0009 | 7312000000-N | 1716 | JUNCTION BOX (**********) (SPECIAL-SIZE, HEAVY-DUTY) | 12 EA | | |
| 0010 | 7360000000-N | 1720 | WOOD POLE | 2 EA | | |
| 0011 | 7372000000-N | 1721 | GUY ASSEMBLY | 2 EA | | |
| 0012 | 7432000000-E | 1722 | 2" RISER WITH HEAT SHRINK TUBING | 2 EA | | |
| 0013 | 7516000000-E | 1730 | COMMUNICATIONS CABLE (**FIBER) (12) | 9,100 LF | | |
| 0014 | 7516000000-E | 1730 | COMMUNICATIONS CABLE (**FIBER) (72) | 126,450 LF | | |
| 0015 | 7540000000-N | 1731 | SPLICE ENCLOSURE | 12 EA | | |
| 0016 | 7552000000-N | 1731 | INTERCONNECT CENTER | 10 EA | | |
| 0017 | 7566000000-N | 1733 | DELINEATOR MARKER | 140 EA | | |
| 0018 | 7980000000-N | SP | GENERIC SIGNAL ITEM BRIDGE JUNCTION BOX | 10 EA | | |

County : New Hanover, Brunswick

| Line # | Item Number | Sec # | Description | Quantity | Unit Cost | Amount |
|---|---|---|---|---|---|---|
| 0019 | 7980000000-N | SP | GENERIC SIGNAL ITEM<br>ENCLOSED COMMUNICATIONS RACK | 1<br>EA | | |
| 0020 | 7980000000-N | SP | GENERIC SIGNAL ITEM<br>ETHERNET HUB SWITCH | 1<br>EA | | |
| 0021 | 7980000000-N | SP | GENERIC SIGNAL ITEM<br>FIELD ETHERNET SWITCH | 12<br>EA | | |
| 0022 | 7980000000-N | SP | GENERIC SIGNAL ITEM<br>HUB INTERCONNECT CENTER | 1<br>EA | | |
| 0023 | 7980000000-N | SP | GENERIC SIGNAL ITEM<br>KVM SWITCH | 1<br>EA | | |
| 0024 | 7980000000-N | SP | GENERIC SIGNAL ITEM<br>VIDEO PROCESSING UNIT | 1<br>EA | | |
| 0025 | 7980000000-N | SP | GENERIC SIGNAL ITEM<br>WORKSTATION | 1<br>EA | | |
| 0026 | 7985000000-N | SP | GENERIC SIGNAL ITEM<br>BUILDING MODIFICATIONS | Lump Sum | L.S. | |
| 0027 | 7990000000-E | SP | GENERIC SIGNAL ITEM<br>BRIDGE CONDUIT SYSTEM | 7,100<br>LF | | |