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

C204688

CONTRACT AND
CONTRACT BONDS

FOR CONTRACT NO. C204688

WBS 41162.3.1 STP-1217(6)

T.I.P NO. R-5014

COUNTY OF DARE
THIS IS THE ROADWAY CONTRACT
ROUTE NUMBER SR 1217 LENGTH 4.204 MILES
LOCATION SR-1217 (COLINGTON RD) FROM DEAD END TO US-158 (CROATAN HWY) IN KILL DEVIL HILLS.

CONTRACTOR FSC II LLC DBA FRED SMITH COMPANY
ADDRESS 701 CORPORATE CENTER DRIVE STE 101
RALEIGH, NC 27607

BIDS OPENED DECEMBER 21, 2021
CONTRACT EXECUTION 01/20/2022

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

PROPOSAL

INCLUDES ADDENDUM No. 1 DATED 12-16-2021

DATE AND TIME OF BID OPENING: **DECEMBER 21, 2021 AT 2:00 PM**

CONTRACT ID	C204688
WBS	41162.3.1

FEDERAL-AID NO.	STP-1217(6)
COUNTY	DARE
T.I.P. NO.	R-5014
MILES	4.204
ROUTE NO.	SR 1217
LOCATION	SR-1217 (COLINGTON RD) FROM DEAD END TO US-158 (CROATAN HWY) IN KILL DEVIL HILLS.
TYPE OF WORK	GRADING, DRAINAGE, PAVING, AND SAFETY IMPROVEMENTS.

NOTICE:

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

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

PROPOSAL FOR THE CONSTRUCTION OF

CONTRACT No. C204688 IN DARE COUNTY, 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. **C204688** 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. **C204688** in **Dare County**, 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.

State Contract Officer

DocuSigned by:
Ronald E. Davenport, Jr.
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Dec 16, 2021

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PROJECT SPECIAL PROVISIONS

GENERAL

CONTRACT TIME AND LIQUIDATED DAMAGES:

(8-15-00) (Rev. 12-18-07) 108 SP1 G07 A

The date of availability for this contract is **January 31, 2022**, **except from -L- Sta. 231+00 (+/-) to -L- Sta. 240+00 (+/-) will not be available until July 6, 2022**, 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 **April 12, 2024**.

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 **Two Hundred Dollars ($ 200.00)** per calendar day. These liquidated damages will not be cumulative with any liquidated damages which may become chargeable under Intermediate Contract Time Number 1.

INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:

(7-1-95) (Rev. 2-21-12) 108 SP1 G13 A

Except for that work required under the Project Special Provisions entitled *Planting, Reforestation* and/or *Permanent Vegetation Establishment*, included elsewhere in this proposal, the Contractor will be required to complete all work included in this contract and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is **January 31, 2022**, **except from -L- Sta. 231+00 (+/-) to -L- Sta. 240+00 (+/-) will not be available until July 6, 2022**.

The completion date for this intermediate contract time is **October 15, 2023**.

The liquidated damages for this intermediate contract time are **Two Thousand Dollars ($ 2,000.00)** per calendar day.

Upon apparent completion of all the work required to be completed by this intermediate date, a final inspection will be held in accordance with Article 105-17 and upon acceptance, the Department will assume responsibility for the maintenance of all work except *Planting, Reforestation* and/or *Permanent Vegetation Establishment*. The Contractor will be responsible for and shall make corrections of all damages to the completed roadway caused by his planting operations, whether occurring prior to or after placing traffic through the project.

INTERMEDIATE CONTRACT TIME NUMBER 2 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

Monday thru Friday, 6:00 AM to 9:00 AM and 4:00 PM to 7:00 PM

and from Friday at 7:00 PM to Monday at 6:00 AM

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 AM** December 31st and **7:00 PM** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **7:00 PM** the following Tuesday.

3. For **Easter**, between the hours of **6:00 AM** Thursday and **7:00 PM** Monday.

4. For **Memorial Day**, between the hours of **6:00 AM** Friday and **7:00 PM** Tuesday.

5. For **Independence Day**, between the hours of **6:00 AM** the day before Independence Day and **8:00 PM** the day after Independence Day.

   If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **6:00 AM** the Thursday before Independence Day and **8:00 PM** the Tuesday after Independence Day.

6. For **Labor Day**, between the hours of **6:00 AM** Friday and **8:00 PM** Tuesday.

7. For **Thanksgiving**, between the hours of **6:00 AM** Tuesday and **7:00 PM** Monday.

8. For **Christmas**, between the hours of **6:00 AM** the Friday before the week of Christmas Day and **7:00 PM** 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 **Five Hundred Dollars ($ 500.00)** per hour.

PERMANENT VEGETATION ESTABLISHMENT:

(2-16-12) (Rev. 10-15-13) 104 SP1 G16

Establish a permanent stand of the vegetation mixture shown in the contract. During the period between initial vegetation planting and final project acceptance, perform all work necessary to establish permanent vegetation on all erodible areas within the project limits, as well as, in borrow and waste pits. This work shall include erosion control device maintenance and installation, repair seeding and mulching, supplemental seeding and mulching, mowing, and fertilizer topdressing, as directed. All work shall be performed in accordance with the applicable section of the *2018 Standard Specifications*. All work required for initial vegetation planting shall be performed as a part of the work necessary for the completion and acceptance of the Intermediate Contract Time (ICT). Between the time of ICT and Final Project acceptance, or otherwise referred to as the vegetation establishment period, the Department will be responsible for preparing the required National Pollutant Discharge Elimination System (NPDES) inspection records.

Once the Engineer has determined that the permanent vegetation establishment requirement has been achieved at an 80% vegetation density (the amount of established vegetation per given area to stabilize the soil) and no erodible areas exist within the project limits, the Contractor will be notified to remove the remaining erosion control devices that are no longer needed. The Contractor will be responsible for, and shall correct any areas disturbed by operations performed in permanent vegetation establishment and the removal of temporary erosion control measures, whether occurring prior to or after placing traffic on the project.

Payment for *Response for Erosion Control*, *Seeding and Mulching, Repair Seeding*, *Supplemental Seeding, Mowing, Fertilizer Topdressing, Silt Excavation,* and *Stone for Erosion Control* will be made at contract unit prices for the affected items. Work required that is not represented by contract line items will be paid in accordance with Articles 104-7 or 104-3 of the *2018 Standard Specifications*. No additional compensation will be made for maintenance and removal of temporary erosion control items.

CONSTRUCTION MORATORIUM:

(7-15-14) SP1 G18B

No in-water work will be allowed from **April 1** through **September 30** of any year.

DELAY IN RIGHT OF ENTRY:

(7-1-95) (Rev. 7-15-14) 108 SP1 G22

The Contractor will not be allowed right of entry to the following parcel(s) prior to the listed date(s) unless otherwise permitted by the Engineer.

Parcel No.	Property Owner	Date
031	Hilda Gifford	04-04-22

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
41	Asphalt Conc Base Course, Type B25.0C
43	Asphalt Conc Surface Course, Type S9.5B
123	12" Water Line

SPECIALTY ITEMS:

(7-1-95)(Rev. 7-20-21) 108-6 SP1 G37

Items listed below will be the specialty items for this contract (see Article 108-6 of the *2018 Standard Specifications*).

Line #	Description
68-77	Guardrail
85-94	Signing
106-110, 117	Long-Life Pavement Markings
118	Permanent Pavement Markers
119-146	Utility Construction
147-174	Erosion Control
175-199	Signals/ITS System

FUEL PRICE ADJUSTMENT:

(11-15-05) (Rev. 7-20-21) 109-8 SP1 G43

Revise the *2018 Standard Specifications* as follows:

Page 1-87, Article 109-8, Fuel Price Adjustments, add the following:

The base index price for DIESEL #2 FUEL is **$ 2.6786** per gallon. Where any of the following are included as pay items in the contract, they will be eligible for fuel price adjustment.

The pay items and the fuel factor used in calculating adjustments to be made will be as follows:

Description	Units	Fuel Usage Factor Diesel
Unclassified Excavation	Gal/CY	0.29
Borrow Excavation	Gal/CY	0.29

Class IV Subgrade Stabilization	Gal/Ton	0.55
Aggregate Base Course	Gal/Ton	0.55
Sub-Ballast	Gal/Ton	0.55
Asphalt Concrete Base Course, Type ____	Gal/Ton	0.90 or 2.90
Asphalt Concrete Intermediate Course, Type ____	Gal/Ton	0.90 or 2.90
Asphalt Concrete Surface Course, Type ____	Gal/Ton	0.90 or 2.90
Open-Graded Asphalt Friction Course	Gal/Ton	0.90 or 2.90
Permeable Asphalt Drainage Course, Type ____	Gal/Ton	0.90 or 2.90
Sand Asphalt Surface Course, Type ____	Gal/Ton	0.90 or 2.90
Aggregate for Cement Treated Base Course	Gal/Ton	0.55
Portland Cement for Cement Treated Base Course	Gal/Ton	0.55
__" Portland Cement Concrete Pavement	Gal/SY	0.245
Concrete Shoulders Adjacent to __" Pavement	Gal/SY	0.245

For the asphalt items noted in the chart as eligible for fuel adjustments, the bidder may include the *Fuel Usage Factor Adjustment Form* with their bid submission if they elect to use the fuel usage factor. The *Fuel Usage Factor Adjustment Form* is found at the following link:

https://connect.ncdot.gov/letting/LetCentral/Fuel%20Usage%20Factor%20Adjustment%20Form.pdf

Select either 2.90 Gal/Ton fuel factor or 0.90 Gal/Ton fuel factor for each asphalt line item on the *Fuel Usage Factor Adjustment Form*. The selected fuel factor for each asphalt item will remain in effect for the duration of the contract.

Failure to complete the *Fuel Usage Factor Adjustment Form* will result in using 2.90 gallons per ton as the Fuel Usage Factor for Diesel for the asphalt items noted above. The contractor will not be permitted to change the Fuel Usage Factor after the bids are submitted.

SCHEDULE OF ESTIMATED COMPLETION PROGRESS:

(7-15-08) (Rev. 5-13-19) 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)
2022	(7/01/21 - 6/30/22)	**31**% of Total Amount Bid
2023	(7/01/22 - 6/30/23)	**59**% of Total Amount Bid
2024	(7/01/23 - 6/30/24)	**10**% 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. 8-17-21) 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(s).

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.

Replacement / Substitution – A full or partial reduction in the amount of work subcontracted to a committed (or an approved substitute) DBE firm.

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 estimated amount (based on quantities and unit prices) 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 **8.0** %

(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 all 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 the electronic submittal file.

(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 the electronic submittal file, 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, 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 Prequalification 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 Prequalification 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 <u>not</u> 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 subcontractor (or an approved substitute DBE subcontractor) to meet all or part of a contract goal requirement, the contractor shall not terminate the DBE subcontractor 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.

The Contractor must give notice in writing both by certified mail and email to the DBE subcontractor, with a copy to the Engineer of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor must give the DBE subcontractor five (5) business days to respond to the Contractor's Notice of Intent to Request Termination and/or Substitution. If the DBE subcontractor objects to the intended termination/substitution, the DBE, within five (5) business days must advise the Contractor and the Department of the reasons why the action should not be approved. The five-day notice period shall begin on the next business day after written notice is provided to the DBE subcontractor.

A committed DBE subcontractor may only be terminated after receiving the Department's written approval based upon a finding of good cause for the proposed termination and/or substitution. For purposes of this section, good cause shall include the following circumstances:

(a) The listed DBE subcontractor fails or refuses to execute a written contract;
(b) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
(c) The listed DBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements;
(d) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
(e) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to 2 CFR Parts 180, 215 and 1,200 or applicable state law;
(f) The listed DBE subcontractor is not a responsible contractor;
(g) The listed DBE voluntarily withdraws from the project and provides written notice of withdrawal;
(h) The listed DBE is ineligible to receive DBE credit for the type of work required;
(i) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;
(j) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime contractor can self-perform the work for which the DBE contractor was engaged or so that the prime contractor can substitute another DBE or non-DBE contractor after contract award.

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).

(3) Exception: If the DBE's ineligibility is caused solely by its having exceeded the size standard during the performance of the contract, 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 and overall goal.

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.

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).

RESTRICTIONS ON ITS EQUIPMENT AND SERVICES:
(11-17-20) SP01 G090

All telecommunications, video or other ITS equipment or services installed or utilized on this project must be in conformance with UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS FOR FEDERAL AWARDS **2 CFR, § 200.216 Prohibition on certain telecommunications and video surveillance services or equipment.**

USE OF UNMANNED AIRCRAFT SYSTEM (UAS):
(8-20-19) SP1 G092

The Contractor shall adhere to all Federal, State and Local regulations and guidelines for the use of Unmanned Aircraft Systems (UAS). This includes but is not limited to US 14 CFR Part 107 *Small UAS Rule*, NC GS 15A-300.2 *Regulation of launch and recovery sites,* NC GS 63-95 *Training required for the operation of unmanned aircraft systems*, NC GS 63-96 *Permit required for commercial operation of unmanned aircraft system,* and NCDOT UAS Policy. The required operator certifications include possessing a current Federal Aviation Administration (FAA) Remote Pilot Certificate, a NC UAS Operator Permit as well as operating a UAS registered with the FAA.

Prior to beginning operations, the Contractor shall complete the NCDOT UAS – Flight Operation Approval Form and submit it to the Engineer for approval. All UAS operations shall be approved by the Engineer prior to beginning the operations.

All contractors or subcontractors operating UAS shall have UAS specific general liability insurance to cover all operations under this contract.

The use of UAS is at the Contractor's discretion. No measurement or payment will be made for the use of UAS. In the event that the Department directs the Contractor to utilize UAS, payment will be in accordance with Article 104-7 Extra Work.

EQUIPMENT IDLING GUIDELINES:

(1-19-21) 107 SP1 G096

Exercise reduced fuel consumption and reduced equipment emissions during the construction of all work associated with this contract. Employees engaged in the construction of this project should turn off vehicles when stopped for more than thirty (30) minutes and off-highway equipment should idle no longer than fifteen (15) consecutive minutes.

These guidelines for turning off vehicles and equipment when idling do not apply to:

1. Idling when queuing.
2. Idling to verify the vehicle is in safe operating condition.
3. Idling for testing, servicing, repairing or diagnostic purposes.
4. Idling necessary to accomplish work for which the vehicle was designed (such as operating a crane, mixing concrete, etc.).
5. Idling required to bring the machine system to operating temperature.
6. Emergency vehicles, utility company, construction, and maintenance vehicles where the engines must run to perform needed work.
7. Idling to ensure safe operation of the vehicle.
8. Idling when the propulsion engine is providing auxiliary power for other than heating or air conditioning. (such as hydraulic systems for pavers)
9. When specific traffic, safety, or emergency situations arise.
10. If the ambient temperature is less than 32 degrees Fahrenheit. Limited idling to provide for the safety of vehicle occupants (e.g. to run the heater).
11. If the ambient temperature is greater than 90 degrees Fahrenheit. Limited idling to provide for the safety of vehicle occupants of off-highway equipment (e.g. to run the air conditioning) no more than 30 minutes.
12. Diesel powered vehicles may idle for up to 30 minutes to minimize restart problems.

Any vehicle, truck, or equipment in which the primary source of fuel is natural gas or electricity is exempt from the idling limitations set forth in this special provision.

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 C

Subsurface information is available on the roadway and structure portions of this project.

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.

FAA NOTIFICATION OF CONSTRUCTION:

The CONTRACTOR shall adhere to the requirements of the Title 14 of the Code of Federal Regulations (14 CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace,* Advisory Circular 70/7460-1L Change 2, *Obstruction Marking and Lighting,* and Dare County zoning regulations, Kill Devil Hills town code and National Park Service (NPS) regulations pertaining to the First Flight Airport (FFA). A minimum of activity, the CONTRACTOR shall submit a Notice of Proposed Construction or Alteration (Form 7460-1) through the Federal Aviation Administration (FAA) Obstruction Evaluation / Airport Airspace Analysis (OE/AAA) portal found here:

https://oeaaa.faa.gov/oeaaa/external/portal.jsp

The CONTRACTOR shall be responsible for all work and costs associated with the FAA forms and approvals required for construction of the project. This shall include, but is not limited to, preparation and submittal of forms 7460-1 and 7460-2. The electronic submittal portal, forms and instructions can be found at the website noted above. Form 7460-1 shall be completed and submitted to the FAA a minimum of 45 days prior to construction.

The CONTRACTOR shall be responsible for all work and costs associated with the compliance to applicable Dare County height zoning ordinances, Kill Devil Hills town code, and approvals required for construction of the project. Applicable height zoning ordinances, permit applications, and/or variance application forms can be found at the websites noted below:

https://www.darenc.com/departments/planning/zoning-regulations

https://www.kdhnc.com/572/Town-Code

Copies of all applicable FAA, County, or Town forms shall be concurrently submitted to the following:

NCDOT Division of Aviation

Todd Meyer, P.E., Airport Project Manager
NCDOT Division of Aviation

tmeyer@ncdot.gov

National Park Service, Outer Banks Group

Daniel (Boone) Vandzura, Chief Ranger
First Flight Airport at Wright Brothers National Memorial
boone_vandzura@nps.gov

https://www.ncdot.gov/aviation
Telephone: 919-814-0586

https://www.nps.gov/wrbr/index.htm
Telephone: 252-475-9010

Throughout the project, the CONTRACTOR shall include both parties listed above in project status meetings, including agendas, meeting minutes, and other stakeholder related communications.

NCDOT NOTIFICATION OF CONSTRUCTION:

The Contractor shall provide a 48-hour notice to the Engineer prior to performing any construction activities in the Runway Protection Zone (L-Sta 190+00 to L-Sta 199+00).

This will allow the Engineer to provide timely information to the NCDOT Division of Aviation and Airport Sponsor:

NCDOT Division of Aviation

Todd Meyer, P.E., Airport Project Manager
NCDOT Division of Aviation

tmeyer@ncdot.gov
https://www.ncdot.gov/aviation
Telephone: 919-814-0586

National Park Service, Outer Banks Group

Daniel (Boone) Vandzura, Chief Ranger
First Flight Airport at Wright Brothers National Memorial
boone_vandzura@nps.gov
https://www.nps.gov/wrbr/index.htm
Telephone: 252-475-9010

ELECTRONIC BIDDING:

(2-19-19) 101, 102, 103 SP1 G140

Revise the *2018 Standard Specifications* as follows:

Page 1-4, Article 101-3, DEFINITIONS, BID (OR PROPOSAL) *Electronic Bid,* line 1, replace "Bid Express®" with "the approved electronic bidding provider".

Page 1-15, Subarticle 102-8(B), Electronic Bids, lines 39-40, replace "to Bid Express®" with "via the approved electronic bidding provider".

Page 1-15, Subarticle 102-8(B)(1), Electronic Bids, line 41, delete "from Bid Express®"

Page 1-17, Subarticle 102-9(C)(2), Electronic Bids, line 21, replace "Bid Express® miscellaneous folder within the .ebs" with "electronic submittal".

Page 1-29, Subarticle 103-4(C)(2), Electronic Bids, line 32, replace ".ebs miscellaneous data file of Expedite" with "electronic submittal file"

TWELVE MONTH GUARANTEE:

(7-15-03) 108 SP1 G145

(A) The Contractor shall guarantee materials and workmanship against latent and patent defects arising from faulty materials, faulty workmanship or negligence for a period of twelve months following the date of final acceptance of the work for maintenance and shall replace such defective materials and workmanship without cost to the Department. The Contractor will not be responsible for damage due to faulty design, normal wear and tear, for negligence on the part of the Department, and/or for use in excess of the design.

(B) Where items of equipment or material carry a manufacturer's guarantee for any period in excess of twelve months, then the manufacturer's guarantee shall apply for that particular piece of equipment or material. The Department's first remedy shall be through the manufacturer although the Contractor is responsible for invoking the warranted repair work with the manufacturer. The Contractor's responsibility shall be limited to the term of the manufacturer's guarantee. NCDOT would be afforded the same warranty as provided by the Manufacturer.

This guarantee provision shall be invoked only for major components of work in which the Contractor would be wholly responsible for under the terms of the contract. Examples would include pavement structures, bridge components, and sign structures. This provision will not be used as a mechanism to force the Contractor to return to the project to make repairs or perform additional work that the Department would normally compensate the Contractor for. In addition, routine maintenance activities (i.e. mowing grass, debris removal, ruts in earth shoulders,) are not parts of this guarantee.

Appropriate provisions of the payment and/or performance bonds shall cover this guarantee for the project.

To ensure uniform application statewide the Division Engineer will forward details regarding the circumstances surrounding any proposed guarantee repairs to the Chief Engineer for review and approval prior to the work being performed.

EROSION AND SEDIMENT CONTROL/STORMWATER CERTIFICATION:

(1-16-07) (Rev 12-15-20) 105-16, 225-2, 16 SP1 G180

General

Schedule and conduct construction activities in a manner that will minimize soil erosion and the resulting sedimentation and turbidity of surface waters. Comply with the requirements herein regardless of whether or not a National Pollution discharge Elimination System (NPDES) permit for the work is required.

Establish a chain of responsibility for operations and subcontractors' operations to ensure that the *Erosion and Sediment Control/Stormwater Pollution Prevention Plan* is implemented and maintained over the life of the contract.

(A) *Certified Supervisor* - Provide a certified Erosion and Sediment Control/Stormwater Supervisor to manage the Contractor and subcontractor operations, insure compliance with

Federal, State and Local ordinances and regulations, and manage the Quality Control Program.

(B) *Certified Foreman* - Provide a certified, trained foreman for each construction operation that increases the potential for soil erosion or the possible sedimentation and turbidity of surface waters.

(C) *Certified Installer* - Provide a certified installer to install or direct the installation for erosion or sediment/stormwater control practices.

(D) *Certified Designer* - Provide a certified designer for the design of the erosion and sediment control/stormwater component of reclamation plans and, if applicable, for the design of the project erosion and sediment control/stormwater plan.

Roles and Responsibilities

(A) *Certified Erosion and Sediment Control/Stormwater Supervisor* - The Certified Supervisor shall be Level II and responsible for ensuring the erosion and sediment control/stormwater plan is adequately implemented and maintained on the project and for conducting the quality control program. The Certified Supervisor shall be on the project within 24 hours notice from initial exposure of an erodible surface to the project's final acceptance. Perform the following duties:

(1) Manage Operations - Coordinate and schedule the work of subcontractors so that erosion and sediment control/stormwater measures are fully executed for each operation and in a timely manner over the duration of the contract.

(a) Oversee the work of subcontractors so that appropriate erosion and sediment control/stormwater preventive measures are conformed to at each stage of the work.
(b) Prepare the required National Pollutant Discharge Elimination System (NPDES) Inspection Record and submit to the Engineer.
(c) Attend all weekly or monthly construction meetings to discuss the findings of the NPDES inspection and other related issues.
(d) Implement the erosion and sediment control/stormwater site plans requested.
(e) Provide any needed erosion and sediment control/stormwater practices for the Contractor's temporary work not shown on the plans, such as, but not limited to work platforms, temporary construction, pumping operations, plant and storage yards, and cofferdams.
(f) Acquire applicable permits and comply with requirements for borrow pits, dewatering, and any temporary work conducted by the Contractor in jurisdictional areas.
(g) Conduct all erosion and sediment control/stormwater work in a timely and workmanlike manner.
(h) Fully perform and install erosion and sediment control/stormwater work prior to any suspension of the work.

(i) Coordinate with Department, Federal, State and Local Regulatory agencies on resolution of erosion and sediment control/stormwater issues due to the Contractor's operations.

(j) Ensure that proper cleanup occurs from vehicle tracking on paved surfaces or any location where sediment leaves the Right-of-Way.

(k) Have available a set of erosion and sediment control/stormwater plans that are initialed and include the installation date of Best Management Practices. These practices shall include temporary and permanent groundcover and be properly updated to reflect necessary plan and field changes for use and review by Department personnel as well as regulatory agencies.

(2) Requirements set forth under the NPDES Permit - The Department's NPDES Stormwater permit (NCS000250) outlines certain objectives and management measures pertaining to construction activities. The permit references *NCG010000, General Permit to Discharge Stormwater* under the NPDES, and states that the Department shall incorporate the applicable requirements into its delegated Erosion and Sediment Control Program for construction activities disturbing one or more acres of land. The Department further incorporates these requirements on all contracted bridge and culvert work at jurisdictional waters, regardless of size. Some of the requirements are, but are not limited to:

(a) Control project site waste to prevent contamination of surface or ground waters of the state, i.e. from equipment operation/maintenance, construction materials, concrete washout, chemicals, litter, fuels, lubricants, coolants, hydraulic fluids, any other petroleum products, and sanitary waste.

(b) Inspect erosion and sediment control/stormwater devices and stormwater discharge outfalls at least once every 7 calendar days and within 24 hours after a rainfall event equal to or greater than 1.0 inch that occurs within a 24 hour period. Additional monitoring may be required at the discretion of Division of Water Resources personnel if the receiving stream is 303(d) listed for turbidity and the project has had documented problems managing turbidity.

(c) Maintain an onsite rain gauge or use the Department's Multi-Sensor Precipitation Estimate website to maintain a daily record of rainfall amounts and dates.

(d) Maintain erosion and sediment control/stormwater inspection records for review by Department and Regulatory personnel upon request.

(e) Implement approved reclamation plans on all borrow pits, waste sites and staging areas.

(f) Maintain a log of turbidity test results as outlined in the Department's Procedure for Monitoring Borrow Pit Discharge.

(g) Provide secondary containment for bulk storage of liquid materials.

(h) Provide training for employees concerning general erosion and sediment control/stormwater awareness, the Department's NPDES Stormwater Permit NCS000250 requirements, and the applicable requirements of the *General Permit, NCG010000.*

(i) Report violations of the NPDES permit to the Engineer immediately who will notify the Division of Water Quality Regional Office within 24 hours of becoming aware of the violation.

(3) Quality Control Program - Maintain a quality control program to control erosion, prevent sedimentation and follow provisions/conditions of permits. The quality control program shall:

(a) Follow permit requirements related to the Contractor and subcontractors' construction activities.
(b) Ensure that all operators and subcontractors on site have the proper erosion and sediment control/stormwater certification.
(c) Notify the Engineer when the required certified erosion and sediment control/stormwater personnel are not available on the job site when needed.
(d) Conduct the inspections required by the NPDES permit.
(e) Take corrective actions in the proper timeframe as required by the NPDES permit for problem areas identified during the NPDES inspections.
(f) Incorporate erosion control into the work in a timely manner and stabilize disturbed areas with mulch/seed or vegetative cover on a section-by-section basis.
(g) Use flocculants approved by state regulatory authorities where appropriate and where required for turbidity and sedimentation reduction.
(h) Ensure proper installation and maintenance of temporary erosion and sediment control devices.
(i) Remove temporary erosion or sediment control devices when they are no longer necessary as agreed upon by the Engineer.
(j) The Contractor's quality control and inspection procedures shall be subject to review by the Engineer. Maintain NPDES inspection records and make records available at all times for verification by the Engineer.

(B) *Certified Foreman* - At least one Certified Foreman shall be onsite for each type of work listed herein during the respective construction activities to control erosion, prevent sedimentation and follow permit provisions:

(1) Foreman in charge of grading activities
(2) Foreman in charge of bridge or culvert construction over jurisdictional areas
(3) Foreman in charge of utility activities

The Contractor may request to use the same person as the Level II Supervisor and Level II Foreman. This person shall be onsite whenever construction activities as described above are taking place. This request shall be approved by the Engineer prior to work beginning.

The Contractor may request to name a single Level II Foreman to oversee multiple construction activities on small bridge or culvert replacement projects. This request shall be approved by the Engineer prior to work beginning.

(C) *Certified Installers* - Provide at least one onsite, Level I Certified Installer for each of the following erosion and sediment control/stormwater crew:

(1) Seeding and Mulching
(2) Temporary Seeding
(3) Temporary Mulching
(4) Sodding
(5) Silt fence or other perimeter erosion/sediment control device installations
(6) Erosion control blanket installation
(7) Hydraulic tackifier installation
(8) Turbidity curtain installation
(9) Rock ditch check/sediment dam installation
(10) Ditch liner/matting installation
(11) Inlet protection
(12) Riprap placement
(13) Stormwater BMP installations (such as but not limited to level spreaders, retention/detention devices)
(14) Pipe installations within jurisdictional areas

If a Level I *Certified Installer* is not onsite, the Contractor may substitute a Level II Foreman for a Level I Installer, provided the Level II Foreman is not tasked to another crew requiring Level II Foreman oversight.

(D) *Certified Designer* - Include the certification number of the Level III Certified Designer on the erosion and sediment control/stormwater component of all reclamation plans and if applicable, the certification number of the Level III Certified Designer on the design of the project erosion and sediment control/stormwater plan.

Preconstruction Meeting

Furnish the names of the *Certified Erosion and Sediment Control/Stormwater Supervisor, Certified Foremen, Certified Installers* and *Certified Designer* and notify the Engineer of changes in certified personnel over the life of the contract within 2 days of change.

Ethical Responsibility

Any company performing work for the North Carolina Department of Transportation has the ethical responsibility to fully disclose any reprimand or dismissal of an employee resulting from improper testing or falsification of records.

Revocation or Suspension of Certification

Upon recommendation of the Chief Engineer to the certification entity, certification for *Supervisor*, *Certified Foremen*, *Certified Installers* and *Certified Designer* may be revoked or suspended with the issuance of an *Immediate Corrective Action (ICA), Notice of Violation (NOV),* or C*ease and Desist Order* for erosion and sediment control/stormwater related issues.

The Chief Engineer may recommend suspension or permanent revocation of certification due to the following:

(A) Failure to adequately perform the duties as defined within this certification provision.
(B) Issuance of an ICA, NOV, or Cease and Desist Order.
(C) Failure to fully perform environmental commitments as detailed within the permit conditions and specifications.
(D) Demonstration of erroneous documentation or reporting techniques.
(E) Cheating or copying another candidate's work on an examination.
(F) Intentional falsification of records.
(G) Directing a subordinate under direct or indirect supervision to perform any of the above actions.
(H) Dismissal from a company for any of the above reasons.
(I) Suspension or revocation of one's certification by another entity.

Suspension or revocation of a certification will be sent by certified mail to the certificant and the Corporate Head of the company that employs the certificant.

A certificant has the right to appeal any adverse action which results in suspension or permanent revocation of certification by responding, in writing, to the Chief Engineer within 10 calendar days after receiving notice of the proposed adverse action.

Chief Engineer
1536 Mail Service Center
Raleigh, NC 27699-1536

Failure to appeal within 10 calendar days will result in the proposed adverse action becoming effective on the date specified on the certified notice. Failure to appeal within the time specified will result in a waiver of all future appeal rights regarding the adverse action taken. The certificant will not be allowed to perform duties associated with the certification during the appeal process.

The Chief Engineer will hear the appeal and make a decision within 7 days of hearing the appeal. Decision of the Chief Engineer will be final and will be made in writing to the certificant.

If a certification is temporarily suspended, the certificant shall pass any applicable written examination and any proficiency examination, at the conclusion of the specified suspension period, prior to having the certification reinstated.

Measurement and Payment

Certified Erosion and Sediment Control/Stormwater Supervisor, Certified Foremen, Certified Installers and *Certified Designer* will be incidental to the project for which no direct compensation will be made.

PROCEDURE FOR MONITORING BORROW PIT DISCHARGE:

(2-20-07) (Rev. 4-5-19) 105-16, 230, 801 SP1 G181

Water discharge from borrow pit sites shall not cause surface waters to exceed 50 NTUs (nephelometric turbidity unit) in streams not designated as trout waters and 10 NTUs in streams, lakes or reservoirs designated as trout waters. For lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTUs. If the turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased.

If during any operating day, the downstream water quality exceeds the standard, the Contractor shall do all of the following:

(A) Either cease discharge or modify the discharge volume or turbidity levels to bring the downstream turbidity levels into compliance, or

(B) Evaluate the upstream conditions to determine if the exceedance of the standard is due to natural background conditions. If the background turbidity measurements exceed the standard, operation of the pit and discharge can continue as long as the stream turbidity levels are not increased due to the discharge.

(C) Measure and record the turbidity test results (time, date and sampler) at all defined sampling locations 30 minutes after startup and at a minimum, one additional sampling of all sampling locations during that 24-hour period in which the borrow pit is discharging.

(D) Notify DWQ within 24 hours of any stream turbidity standard exceedances that are not brought into compliance.

During the Environmental Assessment required by Article 230-4 of the *2018 Standard Specifications*, the Contractor shall define the point at which the discharge enters into the State's surface waters and the appropriate sampling locations. Sampling locations shall include points upstream and downstream from the point at which the discharge enters these waters. Upstream sampling location shall be located so that it is not influenced by backwater conditions and represents natural background conditions. Downstream sampling location shall be located at the point where complete mixing of the discharge and receiving water has occurred.

The discharge shall be closely monitored when water from the dewatering activities is introduced into jurisdictional wetlands. Any time visible sedimentation (deposition of sediment) on the wetland surface is observed, the dewatering activity will be suspended until turbidity levels in the stilling basin can be reduced to a level where sediment deposition does not occur. Staining of wetland surfaces from suspended clay particles, occurring after evaporation or infiltration, does not constitute sedimentation. No activities shall occur in wetlands that adversely affect the functioning of a wetland. Visible sedimentation will be considered an indication of possible adverse impacts on wetland use.

The Engineer will perform independent turbidity tests on a random basis. These results will be maintained in a log within the project records. Records will include, at a minimum, turbidity test results, time, date and name of sampler. Should the Department's test results exceed those of the Contractor's test results, an immediate test shall be performed jointly with the results superseding the previous test results of both the Department and the Contractor.

The Contractor shall use the *NCDOT Turbidity Reduction Options for Borrow Pits Matrix,* available at https://connect.ncdot.gov/resources/roadside/FieldOperationsDocuments/TurbidityReductionOptionSheet.pdf to plan, design, construct, and maintain BMPs to address water quality standards. Tier I Methods include stilling basins which are standard compensatory BMPs. Other Tier I methods are noncompensatory and shall be used when needed to meet the stream turbidity standards. Tier II Methods are also noncompensatory and are options that may

be needed for protection of rare or unique resources or where special environmental conditions exist at the site which have led to additional requirements being placed in the DWQ's 401 Certifications and approval letters, Isolated Wetland Permits, Riparian Buffer Authorization or a DOT Reclamation Plan's Environmental Assessment for the specific site. Should the Contractor exhaust all Tier I Methods on a site exclusive of rare or unique resources or special environmental conditions, Tier II Methods may be required by regulators on a case by case basis per supplemental agreement.

The Contractor may use cation exchange capacity (CEC) values from proposed site borings to plan and develop the bid for the project. CEC values exceeding 15 milliequivalents per 100 grams of soil may indicate a high potential for turbidity and should be avoided when dewatering into surface water is proposed.

No additional compensation for monitoring borrow pit discharge will be paid.

NOTE TO CONTRACTOR (Contractor Coordination with FAA):

Due to the proximity of First Flight Airport, coordination between the contractor and Federal Aviation Administration will need to occur prior to construction in order to complete FAA Forms 7460-1 and 7460-2.

NOTE TO CONTRACTOR (Additional Permit Conditions):

The Contractors attention is directed to additional permit conditions found in the Special Use Permit issued by the National Park Service associated with this contract for work performed within the Wright Brothers National Memorial.

PROJECT SPECIAL PROVISIONS

ROADWAY

CLEARING AND GRUBBING - METHOD II:

(9-17-02) (Rev.8-18-15) 200 SP2 R02A

Perform clearing on this project to the limits established by Method "II" shown on Standard Drawing No. 200.02 of the *2018 Roadway Standard Drawings*. Conventional clearing methods may be used except where permit drawings or conditions have been included in the proposal which require certain areas to be cleared by hand methods.

BUILDING REMOVAL:

(1-1-02) (Rev. 11-15-16) 215 SP2 R15 C

Remove the buildings and appurtenances listed below in accordance with Section 215 of the *2018 Standard Specifications*:

Building No. 1: Parcel 31 (1SFD)... -L- Sta 60+60 Rt.
Building No. 2: Parcel 44A (1SFD)... -L- Sta 81+50 Lt.

When the description of the work for an item indicates a building partially inside and partially outside the right of way and/or construction area but does not require the building to be cut off, the entire building shall be removed.

TEMPORARY DETOURS (Incidental Stone):

Construct temporary detours for open-cut pipe installations as shown on plan sheet TMP-5.

After the detours have served their purpose, remove the portions deemed unsuitable for use as a permanent part of the project as directed by the Engineer. Remove the incidental stone and deliver it to the NCDOT Manteo Maintenance Yard at 306 Simon Street, Manteo, NC. The business hours for Manteo Maintenance Yard are 7:00 am – 3:30 pm (M-F).

No separate measurement or payment will be made for this work as it shall be included in other project items.

The NCDOT contact (252-473-2990) for delivery of the incidental stone is Jeff Ryder or Mark Gawlinski.

SHOULDER AND FILL SLOPE MATERIAL:

(5-21-02) 235, 560 SP2 R45 B

Description

Perform the required shoulder and slope construction for this project in accordance with the applicable requirements of Section 560 and Section 235 of the *2018 Standard Specifications*.

Measurement and Payment

When the Contractor elects to obtain material from an area located beneath a proposed fill sections which does not require excavation for any reason other than to generate acceptable shoulder and fill slope material, the work of performing the excavation will be considered incidental to the item of *Borrow Excavation* or *Shoulder Borrow*. If there is no pay item for *Borrow* or *Shoulder Borrow* in the contract, this work will be considered incidental to *Unclassified Excavation*. Stockpile the excavated material in a manner to facilitate measurement by the Engineer. Fill the void created by the excavation of the shoulder and fill slope material with suitable material. Payment for material used from the stockpile will be made at the contract unit price for *Borrow Excavation* or *Shoulder Borrow*. If there is no pay item for *Borrow Excavation* or *Shoulder Borrow*, then the material will be paid for at the contract unit price for *Unclassified Excavation*. The material used to fill the void created by the excavation of the shoulder and fill slope material will be made at the contract unit price for *Unclassified Excavation*, *Borrow Excavation*, or *Shoulder Borrow*, depending on the source of the material.

Material generated from undercut excavation, unclassified excavation or clearing and grubbing operations that is placed directly on shoulders or slope areas, will not be measured separately for payment, as payment for the work requiring the excavation will be considered adequate compensation for depositing and grading the material on the shoulders or slopes.

When undercut excavation is performed at the direction of the Engineer and the material excavated is found to be suitable for use as shoulder and fill slope material, and there is no area on the project currently prepared to receive the material generated by the undercut operation, the Contractor may construct a stockpile for use as borrow at a later date. Payment for the material used from the stockpile will be made at the contract unit price for *Borrow Excavation* or *Shoulder Borrow*.

When shoulder material is obtained from borrow sources or from stockpiled material, payment for the work of shoulder construction will be made at the contract unit price per cubic yard for *Borrow Excavation* or *Shoulder Borrow* in accordance with the applicable provisions of Section 230 or Section 560 of the *2018 Standard Specifications*.

BORROW EXCAVATION (Truck Measurement):

(7-1-95) 230 SP2 R57

The borrow material used on this project will be measured for payment by truck measurement as provided in Article 230-5 of the *2018 Standard Specifications*.

COAL COMBUSTION PRODUCTS IN EMBANKMENTS:

(4-16-02) (Rev. 12-15-20) 235 SP02 R70

Description

This specification allows the Contractor an option, with the approval of the Engineer, to use coal combustion products (CCPs) in embankments as a substitute for conventional borrow material. The amount of CCPs allowed to be used for this project will be less than 80,000 tons total and less than 8,000 tons per acre.

Materials

Supply coal combustion products from the Department list of potential suppliers maintained by the Materials and Tests Unit. Site specific approval of CCP material will be required prior to beginning construction.

The following CCPs are unacceptable:
(A) Frozen material,
(B) Ash from boilers fired with both coal and petroleum coke, and
(C) Material with a maximum dry unit weight of less than 65 pounds per cubic foot when tested in accordance with AASHTO T-99 Method A or C.

Collect and transport CCPs in a manner that will prevent nuisances and hazards to public health and safety. Moisture condition the CCPs as needed and transport in covered trucks to prevent dusting.

Preconstruction Requirements

When CCPs are to be used as a substitute for earth borrow material, request written approval from the Engineer at least ninety (90) days in advance of the intent to use CCPs and include the following details using the NCDOT Form CCP-2015 in accordance with NCGS § 130A-309.219(b)(1):

(A) Description, purpose and location of project.
(B) Estimated start and completion dates of project.
(C) Estimated volume of CCPs to be used on project with specific locations and construction details of the placement.
(D) Toxicity Characteristic Leaching Procedure analysis from a representative sample of each different CCP source to be used in the project for, at minimum, all of the following constituents: arsenic, barium, cadmium, lead, chromium, mercury, selenium, and silver.
(E) The names, address, and contact information for the generator of the CCPs.
(F) Physical location of the project at which the CCPs were generated.

Submit the form to the Engineer and the Resource Conservation Program (RCP) Engineer at ResourceConservation@ncdot.gov for review. The Engineer and the RCP Engineer will coordinate the requirements of NCGS § 130A-309.219(a)(1) and notify the Contractor that all the necessary requirements have been met before the placement of structural fill using coal combustion products is allowed.

Construction Methods

In accordance with the detail in the plans, place CCPs in the core of the embankment section with at least 4 feet of earth cover to the outside limits of the embankments or subgrade and at least 5 feet above the seasonal high ground-water table. CCPs used in embankments shall not be placed as follows:

(A) Within 50 feet of any property boundary.
(B) Within 300 horizontal feet of a private dwelling or well.

(C) Within 50 horizontal feet of the top of the bank of a perennial stream or other surface water body.

(D) Within a 100-year floodplain except as authorized under NCGS § 143-215.54A(b). A site located in a floodplain shall not restrict the flow of the 100-year floodplain or result in washout of solid waste so as to pose a hazard to human life, wildlife or land and water resources.

(E) Within 50 horizontal feet of a wetland, unless, after consideration of the chemical and physical impact on the wetland, the United States Army Corps of Engineers issues a permit or waiver for the fill.

Construct embankments by placing CCPs in level uniform lifts with no more than a lift of 10 inches and compacted to at least a density of 95 percent as determined by test methods in AASHTO T-99, Determination of Maximum Dry Density and Optimum Moisture Content, Method A or C depending upon particle size of the product. Provide a moisture content at the time of compaction of within 4 percent of optimum but not greater than one percent above optimum as determined by AASHTO T-99, Method A or C.

Divert surface waters resulting from precipitation from the CCPs placement area during filling and construction activities. Construct embankments such that rainfall will not run directly off of the CCPs. Provide dust control to minimize airborne emissions. Construct fill in a manner that prevents water from accumulating and ponding and do not pump nor discharge waters from CCP's filling and construction areas.

Measurement and Payment

Borrow Excavation will be measured by truck volume and paid in cubic yards in accordance with Article 230-5 of the *2018 Standard Specifications*.

MANUFACTURED QUARRY FINES IN EMBANKMENTS:

(01-17-17) 235 SP02 R72

Description

This specification addresses the use of manufactured quarry fines that are not classified as select materials. The specification allows the Contractor an option, with the approval of the Engineer, to use manufactured quarry fines (MQFs) in embankments as a substitute for conventional borrow material. Furnish and place geotextile for pavement stabilization in accordance with the Geotextile for Pavement Stabilization special provision and detail. Geotextile for pavement stabilization is required to prevent pavement cracking and provide separation between the subgrade and pavement section at embankment locations where manufactured quarry fines are utilized and as directed by the Engineer.

Materials

Manufactured Quarry Fines.
Site specific approval of MQFs material will be required prior to beginning construction as detailed in the preconstruction requirements of this provision.

The following MQFs are unacceptable:

(A) Frozen material,

(B) Material with a maximum dry unit weight of less than 90 pounds per cubic foot when tested in accordance with AASHTO T-99 Method A or C.
(C) Material with greater than 80% by weight Passing the #200 sieve

Collect and transport MQFs in a manner that will prevent nuisances and hazards to public health and safety. Moisture condition the MQFs as needed and transport in covered trucks to prevent dusting. If MQFs are blended with natural earth material, follow Borrow Criteria in Section 1018 of the *Standard Specifications.*

Geotextiles

Areas of embankment where MQFs are incorporated, Geotextile for Pavement Stabilization shall be used. If the Geotextile for Pavement Stabilization special provision is not included elsewhere in this contract, then it along with a detail will be incorporated as part of the contractors request to use. Notification of subgrade elevation, sampling and waiting period as required in the Construction Methods section of the Geotextile for Pavement Stabilization special provision are not required.

Preconstruction Requirements

When MQFs are to be used as a substitute for earth borrow material, request written approval from the Engineer at least ninety (90) days in advance of the intent to use MQFs and include the following details:

(A) Description, purpose and location of project.
(B) Estimated start and completion dates of project.
(C) Estimated volume of MQFs to be used on project with specific locations and construction details of the placement.
(D) The names, address, and contact information for the generator of the MQFs.
(E) Physical location of the site at which the MQFs were generated.

The Engineer will forward this information to the State Materials Engineer for review and material approval.

Construction Methods

Place MQFs in the core of the embankment section with at least 4 feet of earth cover to the outside limits of the embankments or subgrade.

Construct embankments by placing MQFs in level uniform lifts with no more than a lift of 10 inches and compacted to at least a density of 95 percent as determined by test methods in AASHTO T-99, Determination of Maximum Dry Density and Optimum Moisture Content, Method A or C depending upon particle size of the product. Provide a moisture content at the time of compaction of within 4 percent of optimum but not greater than one percent above optimum as determined by AASHTO T-99, Method A or C.

Areas of embankment where MQFs are incorporated, Geotextile for Pavement Stabilization shall be used. See Geotextile for Pavement Stabilization special provision for geotextile type and

construction method.

Measurement and Payment

Borrow Excavation will be measured by truck volume and paid in cubic yards in accordance with Article 230-5 of the *2018 Standard Specifications*. As an alternate weigh tickets can be provided and payment made by converting weight to cubic yards based on the verifiable unit weight. Where the pay item of *Geotextile for Pavement Stabilization* is included in the original contract the material will be measured and paid in square yards (see Geotextile for Pavement Stabilization special provision). Where the pay item of *Geotextile for Pavement Stabilization* is not included in the original contract then no payment will be made for this item and will be considered incidental to the use of MQFs in embankment.

CORRUGATED ALUMINUM ALLOY CULVERT PIPE:

(9-21-21) 305, 310 SP3 R34

Revise the *Standard Specifications* as follows:

Page 3-5, Article 305-2, MATERIALS, add the following after line 16:

Item	**Section**
Waterborne Paint	1080-9
Hot Bitumen	1081-3

Page 3-5, Article 305-3, CONSTRUCTION METHODS, add the following after line 24:

Coating must be applied to the aluminum when in contact with concrete. Immediately prior to coating, aluminum surfaces to be coated shall be cleaned by a method that will remove all dirt, oil, grease, chips, and other foreign substances. Aluminum to be coated shall be given one coat of suitable quality coating such as:

Approved waterborne paint (Section 1080-9)
Approved Hot Bitumen (Section 1081-3)

Other coating materials may be submitted to the Engineer for approval.

Page 3-7, Article 310-6, MEASUREMENT AND PAYMENT, lines 6-11, delete the fourth sentence and replace with the following:

Select bedding and backfill material and coating will be included in the cost of the installed pipe. Such price and payment will be full compensation for all materials, labor, equipment, and other incidentals necessary to complete the work.

POLYPROPYLENE CULVERT PIPE:

(8-20-19) 305,310 SP3 R35

Revise the *2018 Standard Specifications* as follows:

Page 3-5, Article 305-1 DESCRIPTION, lines 12-14, replace with the following:

Where shown in the plans, the Contractor may use reinforced concrete pipe, aluminum alloy pipe, aluminized corrugated steel pipe, HDPE pipe, Polypropylene Pipe, or PVC pipe in accordance with the following requirements.

Page 3-5, Article 305-2 MATERIALS, add the following after line 16:

Item	**Section**
Polypropylene Pipe	1032-9

Page 3-6, Article 310-2 MATERIALS, add the following after line 9:

Item	**Section**
Polypropylene Pipe	1032-9

Page 3-6, Article 310-4 SIDE DRAIN PIPE, lines 24-25, replace the first sentence of the second paragraph with the following:

Where shown in the plans, side drain pipe may be Class II reinforced concrete pipe, aluminized corrugated steel pipe, corrugated aluminum alloy pipe, polypropylene pipe, HDPE pipe or PVC pipe.

Page 3-7, Article 310-5 PIPE END SECTIONS, lines 2-4, replace the second sentence with the following:

Both corrugated steel and concrete pipe end sections will work on concrete pipe, corrugated steel pipe, polypropylene pipe, and HDPE smooth lined corrugated plastic pipe.

Page 3-7, Article 310-6 MEASUREMENT AND PAYMENT, add the following after line 14:

Pay Item	**Pay Unit**
__″ Polypropylene Pipe	Linear Foot

Page 10-60, add Article 1032-9:

(A) General

Use polypropylene pipe from sources participating in the Department's Polypropylene Pipe QA/QC Program. A list of participating sources is available from the Materials and Tests Unit. The Department will remove a manufacturer of polypropylene pipe from this program if the monitoring efforts indicated that non-specification material is being provided or test procedures are not being followed.

Use polypropylene culvert pipe that meets AASHTO M 330 for Type S or Type D, or ASTM F2881 or ASTM F2764 Double or Triple wall; and has been evaluated by NTPEP.

(B) End Treatments, Pipe Tees and Elbows

End treatments, pipe tees and elbows shall meet AASHTO M 330, Section 7.7, or ASTM

F2764, Section 6.6.

(C) Marking

Clearly mark each section of pipe, end section, tee and elbow and other accessories according to the Department's Polypropylene Pipe QC/QA Program:

(1) AASHTO or ASTM Designation
(2) The date of manufacture
(3) Name or trademark of the manufacturer

When polypropylene pipe, end sections, tees and elbows have been inspected and accepted a sticker will be applied to the inside of the pipe. Do no use pipe sections, flared end sections, tees or elbows which do not have this seal of approval.

AGGREGATE SUBGRADE:

(5-15-18) 505 SP5 R8

Revise the *2018 Standard Specifications* as follows:

Page 5-8, Article 505-1 DESCRIPTION, lines 4-6, replace the paragraph with the following:

Construct aggregate subgrades in accordance with the contract. Install geotextile for soil stabilization and place Class IV subgrade stabilization at locations shown in the plans and as directed.

Undercut natural soil materials if necessary to construct aggregate subgrades. Define "subbase" as the portion of the roadbed below the Class IV subgrade stabilization. For Type 2 aggregate subgrades, undercut subbases as needed. The types of aggregate subgrade with thickness and compaction requirements for each are as shown below.

Type 1 – A 6 to 24 inch thick aggregate subgrade with Class IV subgrade stabilization compacted to 92% of AASHTO T 180 as modified by the Department or to the highest density that can be reasonably obtained.

Type 2 – An 8 inch thick aggregate subgrade on a proof rolled subbase with Class IV subgrade stabilization compacted to 97% of AASHTO T 180 as modified by the Department.

Page 5-8, Article 505-3 CONSTRUCTION METHODS, line 12, insert the following after the first sentence of the first paragraph:

For Type 2 aggregate subgrades, proof roll subbases in accordance with Section 260 before installing geotextile for soil stabilization.

Page 5-8, Article 505-3 CONSTRUCTION METHODS, lines 16-17, replace the last sentence of the first paragraph with the following:

Compact ABC as required for the type of aggregate subgrade constructed.

Page 5-8, Article 505-4 MEASUREMENT AND PAYMENT, line 26, insert the following after the last sentence of the first paragraph:

Undercut Excavation of natural soil materials from subbases for Type 2 aggregate subgrades will be measured and paid in accordance with Article 225-7 or 226-3. No measurement will be made for any undercut excavation of fill materials from subbases.

STABILIZATION OF COASTAL PLAIN SANDS:

(11-18-14) 510 SP5 R12

Description

As directed by the Engineer, stabilize sandy subgrade material with Class IV aggregate to prevent rutting of the subgrade prior to paving directly on the subgrade. Remove material as needed in cut areas prior to placing the Class IV aggregate.

Materials

Refer to Division 10.

Item	Section
Select Material, Class IV	1016

Use Class IV Select Material for Class IV Aggregate Stabilization.

Construction Methods

Class IV Aggregate Stabilization

As directed by the Engineer, place aggregate by end dumping aggregate on approved subgrade soils to provide a working platform and reduce wheel rutting of subgrade material. Place the Class IV aggregate stabilization to a thickness of 2 to 3 inches.

Maintenance

Maintain aggregate stabilization in an acceptable condition and minimize the use of heavy equipment on aggregate in order to avoid damaging the subgrade. Provide and maintain drainage ditches and drains as required to prevent entrapping water in aggregate stabilization.

Measurement and Payment

Class IV Aggregate Stabilization will be measured and paid in tons. Aggregate will be measured by weighing in trucks in accordance with Article 106-7. The contract unit price for *Class IV Aggregate Stabilization* will be full compensation for furnishing, hauling, handling, placing, mixing, compacting and maintaining aggregate.

The work to excavate material to place Class IV Aggregate Stabilization below subgrade is considered incidental to the work of placing the aggregate and no separate payment will be made.

Payment will be made under:

Pay Item	**Pay Unit**
Class IV Aggregate Stabilization	Ton

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:
(11-21-00) 620 SP6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the *2018 Standard Specifications.*

The base price index for asphalt binder for plant mix is **$ 509.55** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **November 1, 2021**.

FINAL SURFACE TESTING NOT REQUIRED:
(5-18-04) (Rev. 2-16-16) 610 SP6 R45

Final surface testing is not required on this project in accordance with Section 610-13, *Final Surface Testing and Acceptance.*

MILLING ASPHALT PAVEMENT:
(1-15-19) 607 SP6 R59

Revise the *2018 Standard Specifications* as follows:

Page 6-5, Article 607-2, EQUIPMENT, lines 14-16, delete the seventh sentence of this Article and replace with the following:

Use either a non-contacting laser or sonar type ski system with a minimum of three referencing stations mounted on the milling machine at a length of at least 24 feet.

ASPHALT CONCRETE PLANT MIX PAVEMENTS:
(2-20-18) (Rev.1-15-19) 610, 1012 SP6 R65

Revise the *2018 Standard Specifications* as follows:

Page 6-14, Table 609-3, LIMITS OF PRECISION FOR TEST RESULTS, replace with the following:

TABLE 609-3
LIMITS OF PRECISION FOR TEST RESULTS

Mix Property	**Limits of Precision**
25.0 mm sieve (Base Mix)	± 10.0%
19.0 mm sieve (Base Mix)	± 10.0%
12.5 mm sieve (Intermediate & Type P-57)	± 6.0%
9.5 mm sieve (Surface Mix)	± 5.0%
4.75 mm sieve (Surface Mix)	± 5.0%

2.36 mm sieve (All Mixes, except S4.75A)	± 5.0%
1.18 mm sieve (S4.75A)	± 5.0%
0.075 mm sieve (All Mixes)	± 2.0%
Asphalt Binder Content	± 0.5%
Maximum Specific Gravity (G_{mm})	± 0.020
Bulk Specific Gravity (G_{mb})	± 0.030
TSR	± 15.0%
QA retest of prepared QC Gyratory Compacted Volumetric Specimens	± 0.015
Retest of QC Core Sample	± 1.2% (% Compaction)
Comparison QA Core Sample	± 2.0% (% Compaction)
QA Verification Core Sample	± 2.0% (% Compaction)
Density Gauge Comparison of QC Test	± 2.0% (% Compaction)
QA Density Gauge Verification Test	± 2.0% (% Compaction)

Page 6-17, Table 610-1, MIXING TEMPERATURE AT THE ASPHALT PLANT, replace with the following:

TABLE 610-1
MIXING TEMPERATURE AT THE ASPHALT PLANT

Binder Grade	JMF Temperature
PG 58-28; PG 64-22	250 - 290°F
PG 76-22	300 - 325°F

Page 6-17, Subarticle 610-3(C), Job Mix Formula (JMF), lines 38-39, delete the fourth paragraph.

Page 6-18, Subarticle 610-3(C), Job Mix Formula (JMF), line 12, replace "SF9.5A" with "S9.5B".

Page 6-18, Table 610-3, MIX DESIGN CRITERIA, replace with the following:

TABLE 610-3
MIX DESIGN CRITERIA

Mix Type	Design ESALs millions [A]	Binder PG Grade	Compaction Levels G_{mm} @ N_{ini}	N_{des}	Max. Rut Depth (mm)	Volumetric Properties [B] VMA % Min.	VTM %	VFA Min.-Max.	$\%G_{mm}$ @ N_{ini}
S4.75A	< 1	64 - 22	6	50	11.5	16.0	4.0 - 6.0	65 - 80	≤ 91.5
S9.5B	0 - 3	64 - 22	6	50	9.5	16.0	3.0 - 5.0	70 - 80	≤ 91.5
S9.5C	3 - 30	64 - 22	7	65	6.5	15.5	3.0 - 5.0	65 - 78	≤ 90.5
S9.5D	> 30	76 - 22	8	100	4.5	15.5	3.0 - 5.0	65 - 78	≤ 90.0
I19.0C	ALL	64 - 22	7	65	-	13.5	3.0 - 5.0	65 - 78	≤ 90.5
B25.0C	ALL	64 - 22	7	65	-	12.5	3.0 - 5.0	65 - 78	≤ 90.5

	Design Parameter	Design Criteria
All Mix Types	Dust to Binder Ratio ($P_{0.075}$ / P_{be})	0.6 - 1.4 [C]
	Tensile Strength Ratio (TSR) [D]	85% Min. [E]

A. Based on 20 year design traffic.
B. Volumetric Properties based on specimens compacted to N_{des} as modified by the Department.
C. Dust to Binder Ratio ($P_{0.075}$ / P_{be}) for Type S4.75A is 1.0 - 2.0.
D. NCDOT-T-283 (No Freeze-Thaw cycle required).

E. TSR for Type S4.75A & B25.0C mixes is 80% minimum.

Page 6-19, Table 610-5, BINDER GRADE REQUIREMENTS (BASED ON RBR%), replace with the following:

TABLE 610-5
BINDER GRADE REQUIREMENTS (BASED ON RBR%)

Mix Type	%RBR ≤ 20%	21% ≤ %RBR ≤ 30%	%RBR ≥ 30%
S4.75A, S9.5B, S9.5C, I19.0C, B25.0C	PG 64-22	PG 64-22[A]	PG-58-28
S9.5D, OGFC	PG 76-22[B]	n/a	n/a

A. If the mix contains any amount of RAS, the virgin binder shall be PG 58-28.
B. Maximum Recycled Binder Replacement (%RBR) is 18% for mixes using PG 76-22 binder.

Page 6-20, Table 610-6, PLACEMENT TEMPERATURES FOR ASPHALT, replace with the following:

TABLE 610-6
PLACEMENT TEMPERATURES FOR ASPHALT

Asphalt Concrete Mix Type	Minimum Surface and Air Temperature
B25.0C	35°F
I19.0C	35°F
S4.75A, S9.5B, S9.5C	40°F [A]
S9.5D	50°F

A. For the final layer of surface mixes containing recycled asphalt shingles (RAS), the minimum surface and air temperature shall be 50°F.

Page 6-21, Article 610-8, SPREADING AND FINISHING, lines 34-35, delete the second sentence and replace with the following:

Use an MTV for all surface mix regardless of binder grade on Interstate, US Routes, and NC Routes (primary routes) that have 4 or more lanes and median divided.

Page 6-21, Article 610-8, SPREADING AND FINISHING, lines 36-38, delete the fourth sentence and replace with the following:

Use MTV for all ramps, loops, Y-line that have 4 or more lanes and are median divided, full width acceleration lanes, full width deceleration lanes, and full width turn lanes that are greater than 1000 feet in length.

Page 6-23, Table 610-7, DENSITY REQUIREMENTS, replace with the following:

TABLE 610-7
DENSITY REQUIREMENTS

Mix Type	Minimum % G_{mm} (Maximum Specific Gravity)
S4.75A	85.0 [A]
S9.5B	90.0
S9.5C, S9.5D, I19.0C, B25.0C	92.0

A. Compaction to the above specified density will be required when the S4.75A mix is applied at a rate of 100 lbs/sy or higher.

Page 6-24, Article 610-13, FINAL SURFACE TESTING, lines 35-36, delete the second sentence and replace with the following:

Final surface testing is not required on ramps, loops and turn lanes.

Page 6-26, Subarticle 610-13(A)(1), Acceptance for New Construction, lines 29-30, delete the second sentence and replace with the following:

Areas excluded from testing by the profiler may be tested using a 10-foot straightedge in accordance with Article 610-12.

Page 6-27, Subarticle 610-13(B), Option 2- North Carolina Hearne Straightedge, lines 41-46, delete the eighth and ninth sentence of this paragraph and replace with the following:

Take profiles over the entire length of the final surface travel lane pavement exclusive of structures, approach slabs, paved shoulders, tapers, or other irregular shaped areas of pavement, unless otherwise approved by the Engineer. Test in accordance with this provision all mainline travel lanes, full width acceleration or deceleration lanes and collector lanes.

Page 6-28, Subarticle 610-13(B), Option 2- North Carolina Hearne Straightedge, lines 1-2, delete these two lines.

Page 6-32, Article 610-16 MEASUREMENT AND PAYMENT, replace with the following:

Pay Item	**Pay Unit**
Asphalt Concrete Base Course, Type B25.0C	Ton
Asphalt Concrete Intermediate Course, Type I19.0C	Ton
Asphalt Concrete Surface Course, Type S4.75A	Ton
Asphalt Concrete Surface Course, Type S9.5B	Ton
Asphalt Concrete Surface Course, Type S9.5C	Ton
Asphalt Concrete Surface Course, Type S9.5D	Ton

Page 10-30, Table 1012-1, AGGREGATE CONSENSUS PROPERTIES, replace with the following:

TABLE 1012-1
AGGREGATE CONSENSUS PROPERTIES[A]

Mix Type	**Coarse Aggregate Angularity[B]**	**Fine Aggregate Angularity % Minimum**	**Sand Equivalent % Minimum**	**Flat and Elongated 5 : 1 Ratio % Maximum**
Test Method	*ASTM D5821*	*AASHTO T 304*	*AASHTO T 176*	*ASTM D4791*
S4.75A; S9.5B	75 / -	40	40	-
S9.5C; I19.0C; B25.0C	95 / 90	45	45	10

S9.5D	100 / 100	45	50	10
OGFC	100 / 100	45	45	10
UBWC	100 / 85	45	45	10

A. Requirements apply to the design aggregate blend.
B. 95 / 90 denotes that 95% of the coarse aggregate has one fractured face and 90% has 2 or more fractured faces.

AUTOMATED MACHINE GUIDANCE

(1-2-11) 801 SP8 R01

General

This Special Provision contains requirements to be followed if the Contractor elects to use Global Positioning System (GPS) machine control grading and shall be used in conjunction with Section 801 of the *Standard Specifications*. The use of this technology is referenced as Automated Machine Guidance (AMG).

All equipment using AMG shall be able to generate end results that meet the *Standard Specifications*. Perform test sections for each type of work to be completed with AMG to demonstrate that the system has the capability to achieve acceptable results. If acceptable results cannot be achieved, conform to the requirements for conventional stakeout.

The Contractor shall be responsible for all errors resulting from the use of AMG and shall correct deficiencies to the satisfaction of the Engineer at no cost to the Department.

Submittals

If the Contractor elects to use AMG, a Digital Terrain Model (DTM) of the design surface and all intermediate surfaces shall be developed and submitted to the Engineer for review.

At least 90 days prior to beginning grading operations, the Contractor shall submit to the Engineer an AMG work plan to include, but not limited to, proposed equipment, control software manufacturer and version, types of work to be completed using AMG, project site calibration report, repetitive calibration methods for construction equipment and rover units to be used for the duration of the project, and local GPS base station to be used for broadcasting differential correction data to rover units (this may include the NC Network RTK). All surveys must be tied to existing project control as established by NCDOT.

Inspection

The Engineer will perform quality assurance checks of all work associated with AMG. If it is determined that work is not being performed in a manner that will assure accurate results, the Engineer may require corrective action at no cost to the Department.

The Contractor shall provide the Engineer with one GPS rover unit for use during the duration of the contract. The rover will be loaded with the same model that is used with the AMG and have the same capability as rover units used by the Contractor. The rover will be kept in the possession

of the Engineer and will be returned to the Contractor upon completion of the contract. Any maintenance or repairs required for the rover will be the responsibility of the Contractor. Formal training of at least 8 hours shall be provided to the Engineer by the Contractor on the use of the proposed AMG system.

Subgrade and Base Controls

If the Contractor elects to use AMG for fine grading and placement of base or other roadway materials, the GPS shall be supplemented with a laser or robotic total station. Include details of the proposed system in the AMG work plan. In addition, the following requirements apply for the use of AMG for subgrade and base construction.

Provide control points at intervals along the project not to exceed 1,000 feet. The horizontal position of these points shall be determined by static GPS sessions or by traverse connection from the original base line control points. The elevation of these control points shall be established using differential leveling from project benchmarks, forming closed loops where practical. A copy of all new control point information shall be provided to the Engineer prior to construction activities.

Provide control points and conventional survey grade stakes at 500 foot intervals and at critical points such as, but not limited to, PCs, PTs, superelevation transition points, and other critical points as requested by the Engineer.

Provide hubs at the top of the finished subgrade at all hinge points on the cross section at 500 foot intervals. These hubs shall be established using conventional survey methods for use by the Engineer to check the accuracy of construction.

Measurement and Payment

No direct payment will be made for work required to utilize this provision. All work will be considered incidental to various grading operations.

SUPPLEMENTAL SURVEYING:

(4-20-21) 801 SP8 R03

Revise the *2018 Standard Specifications* as follows:

Page 8-7, Article 801-3 MEASUREMENT AND PAYMENT, lines 10-11, replace with the following:

Supplemental Surveying Office Calculations will be paid at the stated price of $85.00 per hour. *Supplemental Field Surveying* will be paid at the stated price of $145.00 per hour. The

GUARDRAIL END UNITS, TYPE - TL-2:

(10-21-08) (Rev. 7-1-17) 862 SP8 R64

Description

Furnish and install guardrail end units in accordance with the details in the plans, the applicable requirements of Section 862 of the *2018 Standard Specifications*, and at locations shown in the plans.

Materials

Furnish guardrail end units listed on the NCDOT Approved Products List at https://apps.dot.state.nc.us/vendor/approvedproducts/ or approved equal.

Prior to installation the Contractor shall submit to the Engineer:

(A) FHWA acceptance letter for each guardrail end unit certifying it meets the requirements of the AASHTO Manual for Assessing Safety Hardware, Test Level 2 in accordance with Article 106-2 of the *2018 Standard Specifications*.

(B) Certified working drawings and assembling instructions from the manufacturer for each guardrail end unit in accordance with Article 105-2 of the *2018 Standard Specifications*.

No modifications shall be made to the guardrail end unit without the express written permission from the manufacturer. Perform installation in accordance with the details in the plans, and details and assembling instructions furnished by the manufacturer.

Construction Methods

Guardrail end delineation is required on all approach and trailing end sections for both temporary and permanent installations. Guardrail end delineation consists of yellow reflective sheeting applied to the entire end section of the guardrail in accordance with Article 1088-3 of the *2018 Standard Specifications* and is incidental to the cost of the guardrail end unit.

Measurement and Payment

Measurement and payment will be made in accordance with Article 862-6 of the *2018 Standard Specifications*.

Payment will be made under:

Pay Item	Pay Unit
Guardrail End Units, Type TL-2	Each

GUARDRAIL END UNITS, TYPE - TL-3:

(4-20-04) (Rev. 7-1-17) 862 SP8 R65

Description

Furnish and install guardrail end units in accordance with the details in the plans, the applicable requirements of Section 862 of the *2018 Standard Specifications*, and at locations shown in the plans.

Materials

Furnish guardrail end units listed on the NCDOT Approved Products List at https://apps.dot.state.nc.us/vendor/approvedproducts/ or approved equal.

Prior to installation the Contractor shall submit to the Engineer:

(A) FHWA acceptance letter for each guardrail end unit certifying it meets the requirements of the AASHTO Manual for Assessing Safety Hardware, Test Level 3, in accordance with Article 106-2 of the *2018 Standard Specifications*.

(B) Certified working drawings and assembling instructions from the manufacturer for each guardrail end unit in accordance with Article 105-2 of the *2018 Standard Specifications*.

No modifications shall be made to the guardrail end unit without the express written permission from the manufacturer. Perform installation in accordance with the details in the plans, and details and assembling instructions furnished by the manufacturer.

Construction Methods

Guardrail end delineation is required on all approach and trailing end sections for both temporary and permanent installations. Guardrail end delineation consists of yellow reflective sheeting applied to the entire end section of the guardrail in accordance with Article 1088-3 of the *2018 Standard Specifications* and is incidental to the cost of the guardrail end unit.

Measurement and Payment

Measurement and payment will be made in accordance with Article 862-6 of the *2018 Standard Specifications*.

Payment will be made under:

Pay Item	**Pay Unit**
Guardrail End Units, Type TL-3	Each

GUARDRAIL ANCHOR UNITS AND TEMPORARY GUARDRAIL ANCHOR UNITS:

(1-16-2018) 862 SP8 R70

Guardrail anchor units will be in accordance with the details in the plans and the applicable requirements of Section 862 of the *2018 Standard Specifications*.

Revise the *2018 Standard Specifications* as follows:

Page 8-42, Article 862-6 MEASUREMENT AND PAYMENT, add the following:

Guardrail Anchor Units, Type ___ and Temporary Guardrail Anchor Units Type ___ will be measured and paid as units of each completed and accepted. No separate measurement will be made of any rail, terminal sections, posts, offset blocks, concrete, hardware or any other components of the completed unit that are within the pay limits shown in the plans for the unit as all such components will be considered to be part of the unit.

Payment will be made under:

Pay Item	Pay Unit
Guardrail Anchor Units, Type ____	Each
Temporary Guardrail Anchor Units, Type ___	Each

FOUNDATIONS AND ANCHOR ROD ASSEMBLIES FOR METAL POLES:

(1-17-12) (Rev. 1-16-18) 9, 14, 17 SP9 R05

Description

Foundations for metal poles include foundations for signals, cameras, overhead and dynamic message signs (DMS) and high mount and light standards supported by metal poles or upright trusses. Foundations consist of footings with pedestals and drilled piers with or without grade beams or wings. Anchor rod assemblies consist of anchor rods (also called anchor bolts) with nuts and washers on the exposed ends of rods and nuts and a plate or washers on the other ends of rods embedded in the foundation.

Construct concrete foundations with the required resistances and dimensions and install anchor rod assemblies in accordance with the contract and accepted submittals. Construct drilled piers consisting of cast-in-place reinforced concrete cylindrical sections in excavated holes. Provide temporary casings or polymer slurry as needed to stabilize drilled pier excavations. Use a prequalified Drilled Pier Contractor to construct drilled piers for metal poles. Define "excavation" and "hole" as a drilled pier excavation and "pier" as a drilled pier.

This provision does not apply to foundations for signal pedestals; see Section 1743 of the *2018 Standard Specifications* and 2018 Roadway Standard Drawing No. 1743.01.

Materials

Refer to the *2018 Standard Specifications*.

Item	Section
Conduit	1091-3
Grout, Type 2	1003
Polymer Slurry	411-2(B)(2)
Portland Cement Concrete	1000
Reinforcing Steel	1070
Rollers and Chairs	411-2(C)
Temporary Casings	411-2(A)

Provide Type 3 material certifications in accordance with Article 106-3 of the *2018 Standard Specifications* for conduit, rollers, chairs and anchor rod assemblies. Store steel materials on blocking at least 12" above the ground and protect it at all times from damage; and when placing in the work make sure it is free from dirt, dust, loose mill scale, loose rust, paint, oil or other foreign materials. Load, transport, unload and store foundation and anchor rod assembly materials so materials are kept clean and free of damage. Bent, damaged or defective materials will be rejected.

Use conduit type in accordance with the contract. Use Class A concrete for footings and pedestals, Class Drilled Pier concrete for drilled piers and Class AA concrete for grade beams and wings including portions of drilled piers above bottom of wings elevations. Corrugated temporary casings may be accepted at the discretion of the Engineer. A list of approved polymer slurry products is available from:
connect.ncdot.gov/resources/Geological/Pages/Products.aspx

Provide anchor rod assemblies in accordance with the contract consisting of the following:

(A) Straight anchor rods,

(B) Heavy hex top and leveling nuts and flat washers on exposed ends of rods, and

(C) Nuts and either flat plates or washers on the other ends of anchor rods embedded in foundations.

Do not use lock washers. Use steel anchor rods, nuts and washers that meet ASTM F1554 for Grade 55 rods and Grade A nuts. Use steel plates and washers embedded in concrete with a thickness of at least 1/4". Galvanize anchor rods and exposed nuts and washers in accordance with Article 1076-4 of the *2018 Standard Specifications*. It is not necessary to galvanize nuts, plates and washers embedded in concrete.

Construction Methods

Install the required size and number of conduits in foundations in accordance with the plans and accepted submittals. Construct top of piers, footings, pedestals, grade beams and wings flat, level and within 1" of elevations shown in the plans or approved by the Engineer. Provide an Ordinary Surface finish in accordance with Subarticle 825-6(B) of the *2018 Standard Specifications* for portions of foundations exposed above finished grade. Do not remove anchor bolt templates or pedestal or grade beam forms or erect metal poles or upright trusses onto foundations until concrete attains a compressive strength of at least 3,000 psi.

(A) Drilled Piers

Before starting drilled pier construction, hold a predrill meeting to discuss the installation, monitoring and inspection of the drilled piers. Schedule this meeting after the Drilled Pier Contractor has mobilized to the site. The Resident or Division Traffic Engineer, Contractor and Drilled Pier Contractor Superintendent will attend this predrill meeting.

Do not excavate holes, install piles or allow equipment wheel loads or vibrations within 20 ft of completed piers until 16 hours after Drilled Pier concrete reaches initial set.

Check for correct drilled pier alignment and location before beginning drilling. Check plumbness of holes frequently during drilling.

Construct drilled piers with the minimum required diameters shown in the plans. Install piers with tip elevations no higher than shown in the plans or approved by the Engineer.

Excavate holes with equipment of the sizes required to construct drilled piers. Depending on the subsurface conditions encountered, drilling through rock and boulders may be required. Do not use blasting for drilled pier excavations.

Contain and dispose of drilling spoils and waste concrete as directed and in accordance with Section 802 of the *2018 Standard Specifications*. Drilling spoils consist of all materials and fluids removed from excavations.

If unstable, caving or sloughing materials are anticipated or encountered, stabilize holes with temporary casings and/or polymer slurry. Do not use telescoping temporary casings. If it becomes necessary to replace a temporary casing during drilling, backfill the excavation, insert a larger casing around the casing to be replaced or stabilize the excavation with polymer slurry before removing the temporary casing.

If temporary casings become stuck or the Contractor proposes leaving casings in place, temporary casings should be installed against undisturbed material. Unless otherwise approved, do not leave temporary casings in place for mast arm poles and cantilever signs. The Engineer will determine if casings may remain in place. If the Contractor proposes leaving temporary casings in place, do not begin drilling until a casing installation method is approved.

Use polymer slurry and additives to stabilize holes in accordance with the slurry manufacturer's recommendations. Provide mixing water and equipment suitable for polymer slurry. Maintain the required slurry properties at all times except for sand content.

Define a "sample set" as slurry samples collected from mid-height and within 2 ft of the bottom of holes. Take sample sets from excavations to test polymer slurry immediately after filling holes with slurry, at least every 4 hours thereafter and immediately before placing concrete. Do not place Drilled Pier concrete until both slurry samples from an excavation meet the required polymer slurry properties. If any slurry test results do not meet the requirements, the Engineer may suspend drilling until both samples from a sample set meet the required polymer slurry properties.

Remove soft and loose material from bottom of holes using augers to the satisfaction of the Engineer. Assemble rebar cages and place cages and Drilled Pier concrete in accordance with Subarticle 411-4(E) of the *2018 Standard Specifications* except for the following:

(1) Inspections for tip resistance and bottom cleanliness are not required,
(2) Temporary casings may remain in place if approved, and
(3) Concrete placement may be paused near the top of pier elevations for anchor rod assembly installation and conduit placement or
(4) If applicable, concrete placement may be stopped at bottom of grade beam or wings elevations for grade beam or wing construction.

If wet placement of concrete is anticipated or encountered, do not place Drilled Pier concrete until a concrete placement procedure is approved. If applicable, temporary casings and fluids may be removed when concrete placement is paused or stopped in

accordance with the exceptions above provided holes are stable. Remove contaminated concrete from exposed Drilled Pier concrete after removing casings and fluids. If holes are unstable, do not remove temporary casings until a procedure for placing anchor rod assemblies and conduit or constructing grade beams or wings is approved.

Use collars to extend drilled piers above finished grade. Remove collars after Drilled Pier concrete sets and round top edges of piers.

If drilled piers are questionable, pile integrity testing (PIT) and further investigation may be required in accordance with Article 411-5 of the *2018 Standard Specifications*. A drilled pier will be considered defective in accordance with Subarticle 411-5(D) of the *2018 Standard Specifications* and drilled pier acceptance is based in part on the criteria in Article 411-6 of the *2018 Standard Specifications* except for the top of pier tolerances in Subarticle 411-6(C) of the *2018 Standard Specifications*.

If a drilled pier is under further investigation, do not grout core holes, backfill around the pier or perform any work on the drilled pier until the Engineer accepts the pier. If the drilled pier is accepted, dewater and grout core holes and backfill around the pier with approved material to finished grade. If the Engineer determines a pier is unacceptable, remediation is required in accordance with Article 411-6 of the *2018 Standard Specifications*. No extension of completion date or time will be allowed for remediation of unacceptable drilled piers or post repair testing.

Permanently embed a plate in or mark top of piers with the pier diameter and depth, size and number of vertical reinforcing bars and the minimum compressive strength of the concrete mix at 28 days.

(B) Footings, Pedestals, Grade Beams and Wings

Excavate as necessary for footings, grade beams and wings in accordance with the plans, accepted submittals and Section 410 of the *2018 Standard Specifications*. If unstable, caving or sloughing materials are anticipated or encountered, shore foundation excavations as needed with an approved method. Notify the Engineer when foundation excavation is complete. Do not place concrete or reinforcing steel until excavation dimensions and foundation material are approved.

Construct cast-in-place reinforced concrete footings, pedestals, grade beams and wings with the dimensions shown in the plans and in accordance with Section 825 of the *2018 Standard Specifications*. Use forms to construct portions of pedestals and grade beams protruding above finished grade. Provide a chamfer with a 3/4" horizontal width for pedestal and grade beam edges exposed above finished grade. Place concrete against undisturbed soil or backfill and fill in accordance with Article 410-8 of the *2018 Standard Specifications*. Proper compaction around footings and wings is critical for foundations to resist uplift and torsion forces.

(C) Anchor Rod Assemblies

Size anchor rods for design and the required projection above top of foundations. Determine required anchor rod projections from nut, washer and base plate thicknesses, the protrusion of 3 to 5 anchor rod threads above top nuts after tightening and the distance of one nut thickness between top of foundations and bottom of leveling nuts.

Protect anchor rod threads from damage during storage and installation of anchor rod assemblies. Before placing anchor rods in foundations, turn nuts onto and off rods past leveling nut locations. Turn nuts with the effort of one workman using an ordinary wrench without a cheater bar. Report any thread damage to the Engineer that requires extra effort to turn nuts.

Arrange anchor rods symmetrically about center of base plate locations as shown in the plans. Set anchor rod elevations based on required projections above top of foundations. Securely brace and hold rods in the correct position, orientation and alignment with a steel template. Do not weld to reinforcing steel, temporary casings or anchor rods.

Install top and leveling (bottom) nuts, washers and the base plate for each anchor rod assembly in accordance with the following procedure:

(1) Turn leveling nuts onto anchor rods to a distance of one nut thickness between the top of foundation and bottom of leveling nuts. Place washers over anchor rods on top of leveling nuts.
(2) Determine if nuts are level using a flat rigid template on top of washers. If necessary, lower leveling nuts to level the template in all directions or if applicable, lower nuts to tilt the template so the metal pole or upright truss will lean as shown in the plans. If leveling nuts and washers are not in full contact with the template, replace washers with galvanized beveled washers.
(3) Verify the distance between the foundation and leveling nuts is no more than one nut thickness.
(4) Place base plate with metal pole or upright truss over anchor rods on top of washers. High mount luminaires may be attached before erecting metal poles but do not attach cables, mast arms or trusses to metal poles or upright trusses at this time.
(5) Place washers over anchor rods on top of base plate. Lubricate top nut bearing surfaces and exposed anchor rod threads above washers with beeswax, paraffin or other approved lubricant.
(6) Turn top nuts onto anchor rods. If nuts are not in full contact with washers or washers are not in full contact with the base plate, replace washers with galvanized beveled washers.
(7) Tighten top nuts to snug-tight with the full effort of one workman using a 12" wrench. Do not tighten any nut all at once. Turn top nuts in increments. Follow a star pattern cycling through each nut at least twice.
(8) Repeat (7) for leveling nuts.
(9) Replace washers above and below the base plate with galvanized beveled washers if the slope of any base plate face exceeds 1:20 (5%), any washer is not in firm contact with the base plate or any nut is not in firm contact with a washer. If any washers are replaced, repeat (7) and (8).

(10) With top and leveling nuts snug-tight, mark each top nut on a corner at the intersection of 2 flats and a corresponding reference mark on the base plate. Mark top nuts and base plate with ink or paint that is not water-soluble. Use the turn-of-nut method for pretensioning. Do not pretension any nut all at once. Turn top nuts in increments for a total turn that meets the following nut rotation requirements:

NUT ROTATION REQUIREMENTS (Turn-of-Nut Pretensioning Method)	
Anchor Rod Diameter, inch	**Requirement**
≤ 1 1/2	1/3 turn (2 flats)
> 1 1/2	1/6 turn (1 flat)

Follow a star pattern cycling through each top nut at least twice.

(11) Ensure nuts, washers and base plate are in firm contact with each other for each anchor rod. Cables, mast arms and trusses may now be attached to metal poles and upright trusses.

(12) Between 4 and 14 days after pretensioning top nuts, use a torque wrench calibrated within the last 12 months to check nuts in the presence of the Engineer. Completely erect mast arm poles and cantilever signs and attach any hardware before checking top nuts for these structures. Check that top nuts meet the following torque requirements:

TORQUE REQUIREMENTS	
Anchor Rod Diameter, inch	**Requirement, ft-lb**
7/8	180
1	270
1 1/8	380
1 1/4	420
≥ 1 1/2	600

If necessary, retighten top nuts in the presence of the Engineer with a calibrated torque wrench to within ± 10 ft-lb of the required torque. Do not overtighten top nuts.

(13) Do not grout under base plate.

Measurement and Payment

Foundations and anchor rod assemblies for metal poles and upright trusses will be measured and paid for elsewhere in the contract.

No payment will be made for temporary casings that remain in drilled pier excavations. No payment will be made for PIT. No payment will be made for further investigation of defective piers. Further investigation of piers that are not defective will be paid as extra work in accordance with Article 104-7 of the *2018 Standard Specifications*. No payment will be made for remediation of unacceptable drilled piers or post repair testing.

PORTLAND CEMENT CONCRETE PRODUCTION AND DELIVERY:

(9-15-20) 1000, 1014, 1024 SP10 R01

Revise the *2018 Standard Specifications* as follows:

Page 10-6, Table 1000-1, REQUIREMENTS FOR CONCRETE, replace with the following:

TABLE 1000-1
REQUIREMENTS FOR CONCRETE

Class of Concrete	Min. Compressive Strength at 28 days	Maximum Water-Cement Ratio				Consistency Maximum Slump		Cement Content			
		Air-Entrained Concrete		Non-Air-Entrained Concrete		Vibrated	Non-Vibrated	Vibrated		Non-Vibrated	
		Rounded Aggregate	Angular Aggregate	Rounded Aggregate	Angular Aggregate			Min.	Max.	Min.	Max.
Units	*psi*					*inch*	*inch*	*lb/cy*	*lb/cy*	*lb/cy*	*lb/cy*
AA	4500	0.381	0.426	---	---	3.5[A]	---	639	715	---	---
AA Slip Form	4500	0.381	0.426	---	---	1.5	---	639	715	---	---
Drilled Pier	4500	---	---	0.450	0.450	---	5 – 7 dry 7 - 9 wet	---	---	640	800
A	3000	0.488	0.532	0.550	0.594	3.5[A] 1.5 machine placed	4.0	564	---	602	---
B	2500	0.488	0.567	0.559	0.630	2.5[A] hand placed	4.0	508	---	545	---
Sand Light-weight	4500	---	0.420	---	---	4.0[A]	---	715	---	---	---
Latex Modified	3000 (at 7 days)	0.400	0.400	---	---	6.0	---	658	---	---	---
Flowable Fill excavatable	150 max. (at 56 days)	as needed	as needed	as needed	as needed	---	Flowable	---	---	40	100
Flowable Fill non-excavatable	125	as needed	as needed	as needed	as needed	---	Flowable	---	---	100	as needed
Pavement	4500 Design, field 650 flexural, design only	0.559	0.559	---	---	1.5 slip form 3.0 hand placed	---	526	---	---	---
Precast	See Table 1077-1	as needed	as needed	---	---	6.0	as needed	as needed	as needed	as needed	as needed
Prestressed	per contract	See Table 1078-1	See Table 1078-1	---	---	8.0	---	564	as needed	---	---

A. The slump may be increased to 6 inches, provided the increase in slump is achieved by adding a chemical admixture conforming to Section 1024-3. In no case shall the water-cement ratio on the approved design be exceeded. Concrete exhibiting segregation and/or excessive bleeding will be rejected. Utilizing an Admixture to modify slump does not relinquish the contractor's responsibility to ensure the final product quality and overall configuration meets design specifications. Caution should be taken when placing these modified mixes on steep grades to prevent unintended changes to the set slope.

HIGH STRENGTH CONCRETE FOR DRIVEWAYS:

(11-21-00) (Rev. 1-17-12) 848 SP10 R02

Use high early strength concrete for all driveways shown in the plans and as directed by the Engineer. Provide high early strength concrete that meets the requirements of Article 1000-5 of the *2018 Standard Specifications*.

Measurement and payment will be in accordance with Section 848 of the *2018 Standard Specifications*.

THERMOPLASTIC PAVEMENT MARKING MATERIAL – COLOR TESTING:

3-19-19 1087 SP10 R05

Revise the *2018 Standard Specifications* as follows:

Pages 10-183 and 10-184, Subarticle 1087-7(D)(1)(b) Yellow, lines 9-11, delete and replace with the following:

Obtain Color Values Y,x,y per ASTM E1349 using C/2° illuminant/observer.
Results shall be Y ≥ 45%, and x,y shall fall within PR#1 chart chromaticity limits.

MATERIALS FOR PORTLAND CEMENT CONCRETE:

(9-15-20) 1000, 1024 SP10 R24

Revise the *2018 Standard Specifications* as follows:

Page 10-52, Article 1024-4, WATER, lines 3-6, delete and replace with the following:

Test water from wells at all locations. Test public water supplies from all out of state locations and in the following counties: Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrell and Washington unless the Engineer waives the testing requirements.

Page 10-52, Table 1024-2, PHYSICAL PROPERTIES OF WATER, replace with the following:

Property	Requirement	Test Method
Compression Strength, minimum percent of control at 3 and 7 days	90%	ASTM C1602

Time of set, deviation from control	From 1:00 hr. earlier to 1:30 hr. later	ASTM C1602
pH	4.5 to 8.5	ASTM D1293 *
Chloride Ion Content, Max.	250 ppm	ASTM D512 *
Total Solids Content (Residue), Max.	1,000 ppm	SM 2540B *
Resistivity, Min.	0.500 kohm-cm	ASTM D1125 *

*Denotes an alternate method is acceptable. Test method used shall be referenced in the test report.

TEMPORARY SHORING:

(2-20-07) (Rev. 10-19-21) SP11 R02

Description

Temporary shoring includes cantilever, braced and anchored shoring and temporary mechanically stabilized earth (MSE) walls. Temporary shoring does not include trench boxes. At the Contractor's option, use any type of temporary shoring unless noted otherwise in the plans or as directed. Design and construct temporary shoring based on actual elevations and shoring dimensions in accordance with the contract and accepted submittals. Construct temporary shoring at locations shown in the plans and as directed. Temporary shoring is required to maintain traffic when a 2:1 (H:V) slope from the top of an embankment or bottom of an excavation will intersect the existing ground line less than 5 feet from the edge of pavement of an open travelway. This provision does not apply to pipe, inlet or utility installation unless noted otherwise in the plans.

Positive protection includes concrete barrier and temporary guardrail. Provide positive protection for temporary shoring at locations shown in the plans and as directed. Positive protection is required if temporary shoring is located in the clear zone in accordance with the *AASHTO Roadside Design Guide.*

(A) Cantilever and Braced Shoring

Cantilever shoring consists of steel sheet piles or H-piles with timber lagging. Braced shoring consists of sheet piles or H-piles with timber lagging and bracing such as beams, plates, walers, struts, rakers, etc. Define "piles" as sheet piles or H-piles.

(B) Anchored Shoring

Anchored shoring consists of sheet piles with walers or H-piles with timber lagging anchored with ground or helical anchors. Driven anchors may be accepted at the discretion of the Engineer. A ground anchor consists of a grouted steel bar or multi-strand tendon with an anchorage. A helical anchor consists of a lead section with a central steel shaft and at least one helix steel plate followed by extensions with only central shafts (no helixes) and an anchorage. Anchorages consist of steel bearing plates with washers and hex nuts for bars or steel wedge plates and wedges for strands. Use a prequalified Anchored Wall Contractor to install ground anchors. Define "anchors" as ground, helical or driven anchors.

(C) Temporary MSE Walls

Temporary MSE walls include temporary geosynthetic and wire walls. Define "temporary wall" as a temporary MSE wall and "Temporary Wall Vendor" as the vendor supplying the temporary MSE wall. Define "reinforcement" as geotextile, geogrid, geostrip, welded wire grid or metallic strip reinforcement.

Temporary geosynthetic walls consist of geotextiles or geogrids wrapped behind welded wire facing or geostrips connected to welded wire facing. Define "temporary geotextile wall" as a temporary geosynthetic wall with geotextile reinforcement, "temporary geogrid wall" as a temporary geosynthetic wall with geogrid reinforcement and "temporary geostrip wall" as a temporary geosynthetic wall with geostrip reinforcement.

Temporary wire walls consist of welded wire grid or metallic strip reinforcement connected to welded wire facing. Define "Wire Wall Vendor" as the vendor supplying the temporary wire wall.

(D) Embedment

Define "embedment" for cantilever, braced and anchored shoring as the pile depth below the grade in front of shoring. Define "embedment" for temporary walls as the wall embedment below the grade at the wall face.

(E) Positive Protection

Define "unanchored or anchored portable concrete barrier" as portable concrete barrier (PCB) that meets 2018 Roadway Standard Drawing No. 1170.01. Define "concrete barrier" as unanchored or anchored PCB or an approved equal. Define "temporary guardrail" as temporary steel beam guardrail that meets 2018 Roadway Standard Drawing No. 862.02.

Materials

Refer to the *2018 Standard Specifications*.

Item	**Section**
Concrete Barrier Materials	1170-2
Flowable Fill, Excavatable	1000-6
Geosynthetics	1056
Grout, Type 1	1003
Portland Cement	1024-1
Portland Cement Concrete	1000
Select Materials	1016
Steel Beam Guardrail Materials	862-2
Steel Plates	1072-2
Steel Sheet Piles and H-Piles	1084
Untreated Timber	1082-2

Item	**Section**
Water	1024-4
Welded Wire Reinforcement	1070-3

Provide Type 6 material certifications for shoring materials in accordance with Article 106-3 of the *2018 Standard Specifications*. Use Class IV select material for temporary guardrail and Class A concrete that meets Article 450-2 of the *2018 Standard Specifications* or Type 1 grout for drilled-in piles. Provide untreated timber with a thickness of at least 3 inches and a bending stress of at least 1,000 pounds per square inch for timber lagging. Provide steel bracing that meets ASTM A36.

(A) Shoring Backfill

Use Class II, Type 1, Class III, Class V or Class VI select material or material that meets AASHTO M 145 for soil classification A-2-4 with a maximum PI of 6 for shoring backfill except do not use A-2-4 soil for backfill around culverts.

(B) Anchors

Store anchor materials on blocking a minimum of 12 inches above the ground and protect it at all times from damage; and when placing in the work make sure it is free from dirt, dust, loose mill scale, loose rust, paint, oil or other foreign materials. Load, transport, unload and store anchor materials so materials are kept clean and free of damage. Bent, damaged or defective materials will be rejected.

(1) Ground Anchors

Use high-strength deformed steel bars that meet AASHTO M 275 or seven-wire strands that meet ASTM A886 or Article 1070-5 of the *2018 Standard Specifications*. Splice bars in accordance with Article 1070-9 of the *2018 Standard Specifications*. Do not splice strands. Use bondbreakers, spacers and centralizers that meet Article 6.3.5 of the *AASHTO LRFD Bridge Construction Specifications*.

Use neat cement grout that only contains cement and water with a water cement ratio of 0.4 to 0.5 which is approximately 5.5 gallons of water per 94 pounds of Portland cement. Provide grout with a compressive strength at 3 and 28 days of at least 1,500 and 4,000 psi, respectively.

(2) Helical Anchors

Use helical anchors with an ICC Evaluation Service, Inc. (ICC-ES) report. Provide couplers, thread bar adapters and bolts recommended by the Anchor Manufacturer to connect helical anchors together and to piles.

(3) Anchorages

Provide steel plates for bearing plates and steel washers, hex nuts, wedge plates and wedges recommended by the Anchor Manufacturer.

(C) Temporary Walls

(1) Welded Wire Facing

Use welded wire reinforcement for welded wire facing, struts and wires. For temporary wire walls, provide welded wire facing supplied by the Wire Wall Vendor or a manufacturer approved or licensed by the vendor. For temporary wire walls with separate reinforcement and facing components, provide connectors (e.g., bars, clamps, plates, etc.) and fasteners (e.g., bolts, nuts, washers, etc.) required by the Wire Wall Vendor.

(2) Geotextiles

Provide Type 2 geotextile for separation and retention geotextiles. Provide Type 5 geotextile for geotextile reinforcement with ultimate tensile strengths in accordance with the accepted submittals.

(3) Geogrid and Geostrip Reinforcement

Use geogrids with a roll width of at least 4 feet. Use geogrids for geogrid reinforcement and geostrips for geostrip reinforcement with an "approved" status code in accordance with the NCDOT Geosynthetic Reinforcement Evaluation Program. The list of approved geogrids and geostrips is available from: connect.ncdot.gov/resources/Geological/Pages/Products.aspx

Provide geogrids and geostrips with design strengths in accordance with the accepted submittals. Geogrids and geostrips are approved for short-term design strengths (3-year design life) in the machine direction (MD) and cross-machine direction (CD) based on material type. Define material type from the website above for shoring backfill as follows:

Material Type	**Shoring Backfill**
Borrow	A-2-4 Soil
Fine Aggregate	Class II, Type 1 or Class III Select Material
Coarse Aggregate	Class V or VI Select Material

(4) Welded Wire Grid and Metallic Strip Reinforcement

Provide welded wire grid and metallic strip reinforcement supplied by the Wire Wall Vendor or a manufacturer approved or licensed by the vendor. Use welded wire grid reinforcement ("mesh", "mats" and "ladders") that meet Article 1070-3 of the *2018 Standard Specifications* and metallic strip reinforcement ("straps") that meet ASTM A572 or A1011.

Preconstruction Requirements

(A) Concrete Barrier

Define "clear distance" behind concrete barrier as the horizontal distance between the barrier and edge of pavement. The minimum required clear distance for concrete barrier is shown in the plans. At the Contractor's option or if the minimum required clear distance is not available, set concrete barrier next to and up against traffic side of temporary shoring except for barrier above temporary walls. Concrete barrier with the minimum required clear distance is required above temporary walls.

(B) Temporary Guardrail

Define "clear distance" behind temporary guardrail as the horizontal distance between guardrail posts and temporary shoring. At the Contractor's option or if clear distance for cantilever, braced and anchored shoring is less than 4 feet, attach guardrail to traffic side of shoring as shown in the plans. Place ABC in clear distance and around guardrail posts instead of pavement. Do not use temporary guardrail above temporary walls.

(C) Temporary Shoring Designs

Before beginning temporary shoring design, survey existing ground elevations in the vicinity of shoring locations to determine actual design heights (H). Submit PDF files of working drawings and design calculations for temporary shoring designs in accordance with Article 105-2 of the *2018 Standard Specifications*. Submit working drawings showing plan views, shoring profiles, typical sections and details of temporary shoring design and construction sequence. Do not begin shoring construction until a design submittal is accepted.

Have cantilever and braced shoring designed, detailed and sealed by an engineer licensed in the state of North Carolina. Use a prequalified Anchored Wall Design Consultant to design anchored shoring. Provide anchored shoring designs sealed by a Design Engineer approved as a Geotechnical Engineer (key person) for an Anchored Wall Design Consultant. Include details in anchored shoring working drawings of anchor locations and lock-off loads, unit grout/ground bond strengths for ground anchors or minimum installation torque and torsional strength rating for helical anchors and if necessary, obstructions extending through shoring or interfering with anchors. Include details in the anchored shoring construction sequence of pile and anchor installation, excavation and anchor testing.

Provide temporary wall designs sealed by a Design Engineer licensed in the state of North Carolina and employed or contracted by the Temporary Wall Vendor. Include details in temporary wall working drawings of geotextile and reinforcement types, locations and directions and obstructions extending through walls or interfering with reinforcement.

(1) Soil Parameters

Design temporary shoring for the assumed soil parameters and groundwater or flood elevations shown in the plans. Assume the following soil parameters for shoring backfill:

(a) Unit weight (γ) = 120 pcf,

(b)

Friction Angle (ϕ)	**Shoring Backfill**
30°	A-2-4 Soil
34°	Class II, Type 1 or Class III Select Material
38°	Class V or VI Select Material

(c) Cohesion (c) = 0 psf.

(2) Traffic Surcharge

Design temporary shoring for a traffic surcharge of 250 pounds per square foot if traffic will be above and within H of shoring. This traffic surcharge does not apply to construction traffic. Design temporary shoring for any construction surcharge if construction traffic will be above and within H of shoring. Design temporary shoring for a traffic (live load) surcharge in accordance with Article 11.5.6 of the *AASHTO LRFD Bridge Design Specifications*.

(3) Cantilever, Braced and Anchored Shoring Designs

Use shoring backfill for fill sections and voids between cantilever, braced and anchored shoring and the critical failure surface. Use concrete or Type 1 grout for embedded portions of drilled-in H-piles. Do not use drilled-in sheet piles.

Define "top of shoring" for cantilever, braced and anchored shoring as where the grade intersects the back of sheet piles or H-piles and timber lagging. Design cantilever, braced and anchored shoring for a traffic impact load of 2,000 pounds per foot applied 18 inches above top of shoring if concrete barrier is above and next to shoring or temporary guardrail is above and attached to shoring. Extend cantilever, braced and anchored shoring at least 32 inches above top of shoring if shoring is designed for traffic impact. Otherwise, extend shoring at least 6 inches above top of shoring.

Design cantilever, braced and anchored shoring for a maximum deflection of 3 inches if the horizontal distance to the closest edge of pavement or structure is less than H. Otherwise, design shoring for a maximum deflection of 6 inches. Design cantilever and braced shoring in accordance with the plans and *AASHTO Guide Design Specifications for Bridge Temporary Works*.

Design anchored shoring in accordance with the plans and Article 11.9 of the *AASHTO LRFD Bridge Design Specifications*. Use a resistance factor of 0.80 for tensile resistance of anchors with bars, strands or shafts. Extend the unbonded length for ground anchors and the shallowest helix for helical anchors at least 5 feet behind the critical failure surface. Do not extend anchors beyond right-of-way or easement limits. If existing or future obstructions such as foundations, guardrail posts, pavements, pipes, inlets or utilities will interfere with anchors, maintain a clearance of at least 6 inches between obstructions and anchors.

(4) Temporary Wall Designs

Use shoring backfill in the reinforced zone of temporary walls. Separation geotextiles are required between shoring backfill and backfill, natural ground or culverts along the sides of the reinforced zone perpendicular to the wall face. For Class V or VI select material in the reinforced zone, separation geotextiles are also required between shoring backfill and backfill or natural ground on top of and at the back of the reinforced zone.

Design temporary walls in accordance with the plans and Article 11.10 of the *AASHTO LRFD Bridge Design Specifications*. Embed temporary walls at least 18 inches except for walls on structures or rock as determined by the Engineer. Use a uniform reinforcement length throughout the wall height of at least 0.7H or 6 feet, whichever is longer. Extend the reinforced zone at least 6 inches beyond end of reinforcement. Do not locate the reinforced zone outside right-of-way or easement limits.

Use the simplified method for determining maximum reinforcement loads in accordance with the AASHTO LRFD specifications. For geotextile reinforcement, use geotextile properties approved by the Department or default values in accordance with the AASHTO LRFD specifications. For geogrid and geostrip reinforcement, use approved geosynthetic reinforcement properties available from the website shown elsewhere in this provision. Use geosynthetic properties for the direction reinforcement will be installed, a 3-year design life and shoring backfill to be used in the reinforced zone.

Do not use more than 4 different reinforcement strengths for each temporary geosynthetic wall. Design temporary geotextile walls for a reinforcement coverage ratio (R_c) of 1.0. For temporary geogrid walls with an R_c of less than 1.0, use a maximum horizontal clearance between geogrids of 3 feet and stagger reinforcement so geogrids are centered over gaps in the reinforcement layer below.

For temporary geosynthetic walls, use "L" shaped welded wire facing with 18 to 24 inch long legs. Locate geosynthetic reinforcement so reinforcement layers are at the same level as the horizontal legs of welded wire facing. Use vertical reinforcement spacing equal to facing height. Wrap geotextile or geogrid reinforcement behind welded wire facing and extend reinforcement at least 3 feet back behind facing into shoring backfill. Attach geostrip reinforcement to welded wire facing with a connection approved by the Department.

For temporary wire walls with separate reinforcement and facing components, attach welded wire grid or metallic strip reinforcement to welded wire facing with a connection approved by the Department. For temporary geogrid, geostrip and wire walls, retain shoring backfill at welded wire facing with retention geotextiles and extend geotextiles at least 3 feet back behind facing into backfill.

(D) Preconstruction Meeting

The Engineer may require a shoring preconstruction meeting to discuss the construction, inspection and testing of the temporary shoring. If required and if this meeting occurs before all shoring submittals have been accepted, additional preconstruction meetings may be required before beginning construction of temporary shoring without accepted submittals. The Resident, District or Bridge Maintenance Engineer, Area Construction Engineer, Geotechnical Operations Engineer, Contractor and Shoring Contractor Superintendent will attend preconstruction meetings.

Construction Methods

Control drainage during construction in the vicinity of shoring. Direct run off away from shoring and shoring backfill. Contain and maintain backfill and protect material from erosion.

Install positive protection in accordance with the contract and accepted submittals. Use PCB in accordance with Section 1170 of the *2018 Standard Specifications* and 2018 Roadway Standard Drawing No. 1170.01. Use temporary guardrail in accordance with Section 862 of the *2018 Standard Specifications* and 2018 Roadway Standard Drawing Nos. 862.01, 862.02 and 862.03.

(A) Tolerances

Construct shoring with the following tolerances:

(1) Horizontal wires of welded wire facing are level in all directions,

(2) Shoring location is within 6 inches of horizontal and vertical alignment shown in the accepted submittals, and

(3) Shoring plumbness (batter) is not negative and within 2 degrees of vertical.

(B) Cantilever, Braced and Anchored Shoring Installation

If overexcavation behind cantilever, braced or anchored shoring is shown in the accepted submittals, excavate before installing piles. Otherwise, install piles before excavating for shoring. Install cantilever, braced or anchored shoring in accordance with the construction sequence shown in the accepted submittals. Remove piles and if applicable, timber lagging when shoring is no longer needed.

(1) Pile Installation

Install piles with the minimum required embedment and extension in accordance with Subarticles 450-3(D) and 450-3(E) of the *2018 Standard Specifications* except that a pile driving equipment data form is not required. Piles may be installed with a vibratory hammer as approved by the Engineer.

Do not splice sheet piles. Use pile excavation to install drilled-in H-piles. After filling holes with concrete or Type 1 grout to the elevations shown in the accepted submittals, remove any fluids and fill remaining portions of holes with flowable

fill. Cure concrete or grout at least 7 days before excavating.

Notify the Engineer if refusal is reached before pile excavation or driven piles attain the minimum required embedment. When this occurs, a revised design submittal may be required.

(2) Excavation

Excavate in front of piles from the top down in accordance with the accepted submittals. For H-piles with timber lagging and braced and anchored shoring, excavate in staged horizontal lifts with a maximum height of 5 feet. Remove flowable fill and material in between H-piles as needed to install timber lagging. Position lagging with at least 3 inches of contact in the horizontal direction between the lagging and pile flanges. Do not excavate the next lift until timber lagging for the current lift is installed and if applicable, bracing and anchors for the current lift are accepted. Backfill behind cantilever, braced or anchored shoring with shoring backfill.

(3) Anchor Installation

If applicable, install foundations located behind anchored shoring before installing anchors. Fabricate and install ground anchors in accordance with the accepted submittals, Articles 6.4 and 6.5 of the *AASHTO LRFD Bridge Construction Specifications* and the following unless otherwise approved:

(a) Materials in accordance with this provision are required instead of materials conforming to Articles 6.4 and 6.5.3 of the AASHTO LRFD Specifications,

(b) Encapsulation-protected ground anchors in accordance with Article 6.4.1.2 of the AASHTO LRFD specifications are not required, and

(c) Corrosion protection for unbonded lengths of ground anchors and anchorage covers are not required.

(d) Mix and place neat cement grout in accordance with Subarticles 1003-5, 1003-6 and 1003-7 of the *2018 Standard Specifications*. Measure grout temperature, density and flow during grouting with at least the same frequency grout cubes are made for compressive strength. Perform density and flow field tests in the presence of the Engineer in accordance with American National Standards Institute/American Petroleum Institute Recommended Practice 13B-1 (Section 4, Mud Balance) and ASTM C939 (Flow Cone), respectively.

Install helical anchors in accordance with the accepted submittals and Anchor Manufacturer's instructions. Measure torque during installation and do not exceed the torsional strength rating of the helical anchor. Attain the minimum required installation torque and penetration before terminating anchor installation. When replacing a helical anchor, embed last helix of the replacement anchor at least 3

helix plate diameters past the location of the first helix of the previous anchor.

(4) Anchor Testing

Proof test and lock-off anchors in accordance with the accepted submittals and Article 6.5.5 of the *AASHTO LRFD Bridge Construction Specifications* except for the acceptance criteria in Article 6.5.5.5. For the AASHTO LRFD specifications, "ground anchor" refers to a ground or helical anchor and "tendon" refers to a bar, strand or shaft.

(a) Anchor Acceptance

Anchor acceptance is based in part on the following criteria.

(i) For ground and helical anchors, total movement is less than 0.04 inches between the 1 and 10 minute readings or less than 0.08 inches between the 6 and 60 minute readings.

(ii) For ground anchors, total movement at maximum test load exceeds 80% of the theoretical elastic elongation of the unbonded length.

(b) Anchor Test Results

Submit PDF files of anchor test records including movement versus load plots for each load increment within 24 hours of completing each row of anchors. The Engineer will review the test records to determine if the anchors are acceptable.

If the Engineer determines an anchor is unacceptable, revise the anchor design or installation methods. Submit a revised anchored shoring design for acceptance and provide an acceptable anchor with the revised design or installation methods. If required, replace the anchor or provide additional anchors with the revised design or installation methods.

(C) Temporary Wall Installation

Excavate as necessary for temporary walls in accordance with the plans and accepted submittals. If applicable, install foundations located in the reinforced zone before placing shoring backfill or reinforcement unless otherwise approved. Notify the Engineer when foundation excavation is complete. Do not place shoring backfill or reinforcement until excavation dimensions and foundation material are approved.

Erect welded wire facing so the wall position is as shown in the plans and accepted submittals. Set welded wire facing adjacent to each other in the horizontal and vertical direction to completely cover the wall face with facing. Stagger welded wire facing to create a running bond by centering facing over joints in the row below.

Attach geostrip reinforcement to welded wire facing and wrap geotextile reinforcement and retention geotextiles behind welded wire facing as shown in the plans and accepted

submittals. Cover geotextiles with at least 3" of shoring backfill. Overlap adjacent geotextile reinforcement and retention and separation geotextiles at least 18 inches with seams oriented perpendicular to the wall face. Hold geotextiles in place with wire staples or anchor pins as needed.

Place reinforcement within 3 inches of locations shown in the plans and accepted submittals. Before placing shoring backfill, pull geosynthetic reinforcement taut so it is in tension and free of kinks, folds, wrinkles or creases. Install reinforcement with the direction shown in the plans and accepted submittals. For temporary wire walls with separate reinforcement and facing components, attach welded wire grid or metallic strip reinforcement to welded wire facing as shown in the accepted submittals. Do not splice or overlap reinforcement so seams are parallel to the wall face. Contact the Engineer when unanticipated existing or future obstructions such as foundations, pavements, pipes, inlets or utilities will interfere with reinforcement.

Place shoring backfill in the reinforced zone in 8 to 10 inch thick lifts. Compact A-2-4 soil and Class II, Type 1 and Class III select material in accordance with Subarticle 235-3(C) of the *2018 Standard Specifications*. Use only hand operated compaction equipment to compact backfill within 3 feet of welded wire facing. At a distance greater than 3 feet, compact shoring backfill with at least 4 passes of an 8 to 10 ton vibratory roller in a direction parallel to the wall face. Smooth wheeled or rubber tired rollers are also acceptable for compacting backfill. Do not use sheepsfoot, grid rollers or other types of compaction equipment with feet. Do not displace or damage reinforcement when placing and compacting shoring backfill. End dumping directly on geosynthetics is not permitted. Do not operate heavy equipment on reinforcement until it is covered with at least 8 inches of shoring backfill. Replace any damaged reinforcement to the satisfaction of the Engineer.

Backfill for temporary walls outside the reinforced zone in accordance with Article 410-8 of the *2018 Standard Specifications*. Bench temporary walls into the sides of excavations where applicable. For temporary geosynthetic walls with top of wall within 5 feet of finished grade, remove top facing and incorporate top reinforcement layer into fill when placing fill in front of wall. Temporary walls remain in place permanently unless otherwise required.

Measurement and Payment

Temporary Shoring will be measured and paid in square feet. Temporary walls will be measured as the square feet of exposed wall face area. Cantilever, braced or anchored shoring will be measured as the square feet of exposed shoring face area with the shoring height equal to the difference between the top and bottom of shoring elevations. Define "top of shoring" as where the grade intersects the back of sheet piles or H-piles and timber lagging. Define "bottom of shoring" as where the grade intersects front of sheet piles or H-piles and timber lagging. No measurement will be made for any embedment, shoring extension above top of shoring or pavement thickness above temporary walls.

The contract unit price for *Temporary Shoring* will be full compensation for providing shoring designs, submittals and materials, excavating, backfilling, hauling and removing excavated materials and supplying all labor, tools, equipment and incidentals necessary to construct

temporary shoring.

No payment will be made for temporary shoring not shown in the plans or required by the Engineer including shoring for OSHA reasons or the Contractor's convenience. No value engineering proposals will be accepted based solely on revising or eliminating shoring locations shown in the plans or estimated quantities shown in the bid item sheets as a result of actual field measurements or site conditions.

PCB will be measured and paid in accordance with Section 1170 of the *2018 Standard Specifications*. No additional payment will be made for anchoring PCB for temporary shoring. Costs for anchoring PCB will be incidental to temporary shoring.

Temporary guardrail will be measured and paid for in accordance with Section 862 of the *2018 Standard Specifications*.

Payment will be made under:

Pay Item	**Pay Unit**
Temporary Shoring	Square Foot

MATERIAL AND EQUIPMENT STORAGE & PARKING OF PERSONAL VEHICLES:

11-17-21 1101 SP11 R03

Revise the *2018 Standard Specifications* as follows:

Page 11-2, Article 1101-8 MATERIAL AND EQUIPMENT STORAGE, line 35-38, delete and replace with the following:

When work is not in progress, keep all personnel, equipment, machinery, tools, construction debris, materials and supplies away from active travel lanes that meets Table 1101-1.

TABLE 1101-1
MATERIAL AND EQUIPMENT STORAGE FROM ACTIVE TRAVEL LANES

Posted Speed Limit (mph)	Distance (ft)
40 or less	≥ 18
45-50	≥ 28
55	≥ 32
60 or higher	≥ 40

When vehicles, equipment and materials are protected by concrete barrier or guardrail, they shall be offset at least 5 feet from the barrier or guardrail.

Page 11-2, Article 1101-9 PARKING OF PERSONAL VEHICLES, line 40-41, delete and replace with the following:

Provide staging areas for personal vehicle parking in accordance with section 1101-8 or as directed by the Engineer before use.

WORK ZONE INSTALLER:

(7-20-21) 1101, 1150 SP11 R04

Provide the service of at least one qualified work zone installer during the setup, installation, and removal of temporary traffic control within the highway right of way. The qualified work zone installer shall serve as crew leader and shall be on site and directing the installation and removal of temporary traffic control. If multiple temporary traffic control installations or removals are occurring simultaneously, then each shall have a qualified work zone installer.

The work zone installer shall be qualified by an NCDOT approved training agency in the safe and competent set up of temporary traffic control. For a complete listing of approved training agencies, see the Work Zone Safety Training webpage.

A work zone supervisor, in accordance with Article 1101-13 of the *Standard Specifications*, may fulfill the role of the work zone installer during the setup, installation, and removal of temporary traffic control within the highway right of way provided they are on site and directing the installation and removal of temporary traffic control.

All other individuals participating in the setup, installation, and removal of temporary traffic control within the highway right of way shall be certified as a qualified flagger in accordance with Article 1150-3 of the *Standard Specifications*, even if flagging is not being performed as part of the traffic control.

Provide the name and contact information of all qualified work zone installers to the Engineer prior to or at the preconstruction conference. Additionally, provide a qualification statement that all other individuals participating in the setup, installation, and removal of temporary traffic control are qualified flaggers that have been properly trained through an NCDOT approved training agency.

EXTRUDED THERMOPLASTIC PAVEMENT MARKING THICKNESS:

3-19-19 1205 SP12 R05

Revise the *2018 Standard Specifications* as follows:

Page 12-6, Subarticle 1205-4(A)(1) General, lines 5-8, delete the second sentence and replace with the following:

Use application equipment that provides multiple width settings ranging from 4 inches to 12 inches and multiple thickness settings to achieve a minimum pavement marking thickness of 0.090 inch above the surface of the pavement.

Page 12-7, Table 1205-3, THICKNESS REQUIREMENTS FOR THERMOPLASTIC, replace with the following:

TABLE 1205-3 MINIMUM THICKNESS REQUIREMENTS FOR THERMOPLASTIC	
Thickness	**Location**
240 mils	In-lane and shoulder-transverse pavement markings (rumble strips). May be placed in 2 passes.

90 mils	Center lines, skip lines, transverse bands, mini-skip lines, characters, bike lane symbols, crosswalk lines, edge lines, gore lines, diagonals, and arrow symbols

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
NCDOT GENERAL SEED SPECIFICATION FOR SEED QUALITY

(5-17-11) Z-3

Seed shall be sampled and tested by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory. When said samples are collected, the vendor shall supply an independent laboratory report for each lot to be tested. Results from seed so sampled shall be final. Seed not meeting the specifications shall be rejected by the Department of Transportation and shall not be delivered to North Carolina Department of Transportation warehouses. If seed has been delivered it shall be available for pickup and replacement at the supplier's expense.

Any re-labeling required by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory, that would cause the label to reflect as otherwise specified herein shall be rejected by the North Carolina Department of Transportation.

Seed shall be free from seeds of the noxious weeds Johnsongrass, Balloonvine, Jimsonweed, Witchweed, Itchgrass, Serrated Tussock, Showy Crotalaria, Smooth Crotalaria, Sicklepod, Sandbur, Wild Onion, and Wild Garlic. Seed shall not be labeled with the above weed species on the seed analysis label. Tolerances as applied by the Association of Official Seed Analysts will NOT be allowed for the above noxious weeds except for Wild Onion and Wild Garlic.

Tolerances established by the Association of Official Seed Analysts will generally be recognized. However, for the purpose of figuring pure live seed, the found pure seed and found germination percentages as reported by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory will be used. Allowances, as established by the NCDOT, will be recognized for minimum pure live seed as listed on the following pages.

The specifications for restricted noxious weed seed refers to the number per pound as follows:

Restricted Noxious **Weed**	Limitations per Lb. Of Seed	Restricted Noxious **Weed**	Limitations per Lb. of Seed
Blessed Thistle	4 seeds	Cornflower (Ragged Robin)	27 seeds
Cocklebur	4 seeds	Texas Panicum	27 seeds
Spurred Anoda	4 seeds	Bracted Plantain	54 seeds
Velvetleaf	4 seeds	Buckhorn Plantain	54 seeds
Morning-glory	8 seeds	Broadleaf Dock	54 seeds
Corn Cockle	10 seeds	Curly Dock	54 seeds
Wild Radish	12 seeds	Dodder	54 seeds
Purple Nutsedge	27 seeds	Giant Foxtail	54 seeds
Yellow Nutsedge	27 seeds	Horsenettle	54 seeds
Canada Thistle	27 seeds	Quackgrass	54 seeds
Field Bindweed	27 seeds	Wild Mustard	54 seeds
Hedge Bindweed	27 seeds		

Seed of Pensacola Bahiagrass shall not contain more than 7% inert matter, Kentucky Bluegrass, Centipede and Fine or Hard Fescue shall not contain more than 5% inert matter whereas a maximum of 2% inert matter will be allowed on all other kinds of seed. In addition, all seed shall

not contain more than 2% other crop seed nor more than 1% total weed seed. The germination rate as tested by the North Carolina Department of Agriculture shall not fall below 70%, which includes both dormant and hard seed. Seed shall be labeled with not more than 7%, 5% or 2% inert matter (according to above specifications), 2% other crop seed and 1% total weed seed.

Exceptions may be made for minimum pure live seed allowances when cases of seed variety shortages are verified. Pure live seed percentages will be applied in a verified shortage situation. Those purchase orders of deficient seed lots will be credited with the percentage that the seed is deficient.

FURTHER SPECIFICATIONS FOR EACH SEED GROUP ARE GIVEN BELOW:

Minimum 85% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 83% pure live seed will not be approved.

Sericea Lespedeza
Oats (seeds)

Minimum 80% pure live seed; maximum 1% total weed seed; maximum 2% total other crop; maximum 144 restricted noxious weed seed per pound. Seed less than 78% pure live seed will not be approved.

Tall Fescue (all approved varieties)
Kobe Lespedeza
Korean Lespedeza
Weeping Lovegrass
Carpetgrass
Bermudagrass
Browntop Millet
German Millet – Strain R
Clover – Red/White/Crimson

Minimum 78% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 76% pure live seed will not be approved.

Common or Sweet Sundangrass

Minimum 76% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 74% pure live seed will not be approved.

Rye (grain; all varieties)
Kentucky Bluegrass (all approved varieties)
Hard Fescue (all approved varieties)
Shrub (bicolor) Lespedeza

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 noxious weed seed per pound. Seed less than 70% pure live seed will not be approved.

Centipedegrass
Crownvetch
Pensacola Bahiagrass
Creeping Red Fescue
Japanese Millet
Reed Canary Grass
Zoysia

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 5% inert matter; maximum 144 restricted noxious weed seed per pound.

Barnyard Grass
Big Bluestem
Little Bluestem
Bristly Locust
Birdsfoot Trefoil
Indiangrass
Orchardgrass
Switchgrass
Yellow Blossom Sweet Clover

STANDARD SPECIAL PROVISION

ERRATA

(10-16-18) (Rev.2-16-21) Z-4

Revise the *2018 Standard Specifications* as follows:

Division 6

Page 6-7, Article 609-1 DESCRIPTION, line 29, replace article number "609-10" with "609-9".

Division 7

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

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

Division 10

Page 10-78, Article 1056-4 GEOTEXTILES, TABLE 1056-1, Permittivity, Type 2, replace "Table 6[D]" with "Table 7[D]" and **Permittivity, Type 3[B],** replace "Table 7[D]" with "Table 8[D]".

Page 10-121, Article 1076-7, REPAIR OF GALVANIZING, line 8, replace article number "1080-9" with "1080-7".

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

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

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

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

Division 17

Page 17-15, Article 1715-4 MEASUREMENT AND PAYMENT, lines 42-44, replace the second sentence with the following:

An example is an installation of a single 1.25 inch HDPE conduit would be paid as:

Directional Drill (1)(1.25″) Linear Foot

STANDARD SPECIAL PROVISION

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

(3-18-03) (Rev. 5-21-19) 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 *https://www.ncagr.gov/plantindustry/Plant/quaran/table2.htm* 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, guava root knot nematode, or other noxious weeds.

STANDARD SPECIAL PROVISION

TITLE VI AND NONDISCRIMINATION:

(6-28-77)(Rev 6/19/2018) Z-6

Revise the *2018 Standard Specifications* as follows:

Replace Article 103-4(B) with the following:

The North Carolina Department of Transportation is committed to carrying out the U.S. Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts.

The provisions of this section related to United States Department of Transportation (US DOT) Order 1050.2A, Title 49 Code of Federal Regulations (CFR) part 21, 23 United States Code (U.S.C.) 140 and 23 CFR part 200 (or 49 CFR 303, 49 U.S.C. 5332 or 49 U.S.C. 47123) are applicable to all North Carolina Department of Transportation (NCDOT) contracts and to all related subcontracts, material supply, engineering, architectural and other service contracts, regardless of dollar amount. Any Federal provision that is specifically required not specifically set forth is hereby incorporated by reference.

(1) **Title VI Assurances (USDOT Order 1050.2A, Appendix A)**

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

(a) Compliance with Regulations

The contractor (hereinafter includes consultants) shall comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

(b) Nondiscrimination

The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

(c) Solicitations for Subcontractors, Including Procurements of Materials and Equipment

In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

(d) Information and Reports

The contractor shall provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FHWA to be pertinent to ascertain compliance with such Acts,

Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor shall so certify to the Recipient or the FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.

(e) Sanctions for Noncompliance:
In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it and/or the FHWA may determine to be appropriate, including, but not limited to:
(i) Withholding payments to the contractor under the contract until the contractor complies; and/or
(ii) Cancelling, terminating, or suspending a contract, in whole or in part.

(f) Incorporation of Provisions
The contractor shall include the provisions of paragraphs (a) through (f) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor shall take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

(2) **Title VI Nondiscrimination Program (23 CFR 200.5(p))**
The North Carolina Department of Transportation (NCDOT) has assured the USDOT that, as a condition to receiving federal financial assistance, NCDOT will comply with Title VI of the Civil Rights Act of 1964 and all requirements imposed by Title 49 CFR part 21 and related nondiscrimination authorities to ensure that no person shall, on the ground of race, color, national origin, limited English proficiency, sex, age, or disability (including religion/creed or income-level, where applicable), be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any programs, activities, or services conducted or funded by NCDOT. Contractors and other organizations under contract or agreement with NCDOT must also comply with Title VI and related authorities, therefore:

(a) During the performance of this contract or agreement, contractors (e.g., subcontractors, consultants, vendors, prime contractors) are responsible for complying with NCDOT's Title VI Program. Contractors are not required to prepare or submit Title VI Programs. To comply with this section, the prime contractor shall:
1. Post NCDOT's Notice of Nondiscrimination and the Contractor's own Equal Employment Opportunity (EEO) Policy in conspicuous locations accessible to all employees, applicants and subcontractors on the jobsite.
2. Physically incorporate the required Title VI clauses into all subcontracts on federally-assisted and state-funded NCDOT projects, and ensure inclusion by subcontractors into all lower-tier subcontracts.
3. Required Solicitation Language. The Contractor shall include the following notification in all solicitations for bids and requests for work or material, regardless of funding source:
"The North Carolina Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 US.C. §§

2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award. In accordance with other related nondiscrimination authorities, bidders and contractors will also not be discriminated against on the grounds of sex, age, disability, low-income level, creed/religion, or limited English proficiency in consideration for an award."

4. Physically incorporate the FHWA-1273, in its entirety, into all subcontracts and subsequent lower tier subcontracts on Federal-aid highway construction contracts only.
5. Provide language assistance services (i.e., written translation and oral interpretation), free of charge, to LEP employees and applicants. Contact NCDOT OCR for further assistance, if needed.
6. For assistance with these Title VI requirements, contact the NCDOT Title VI Nondiscrimination Program at 1-800-522-0453.

(b) Subrecipients (e.g. cities, counties, LGAs, planning organizations) may be required to prepare and submit a Title VI Plan to NCDOT, including Title VI Assurances and/or agreements. Subrecipients must also ensure compliance by their contractors and subrecipients with Title VI. (23 CFR 200.9(b)(7))

(c) If reviewed or investigated by NCDOT, the contractor or subrecipient agrees to take affirmative action to correct any deficiencies found within a reasonable time period, not to exceed 90 calendar days, unless additional time is granted by NCDOT. (23 CFR 200.9(b)(15))

(d) The Contractor is responsible for notifying subcontractors of NCDOT's External Discrimination Complaints Process.

1. Applicability
   Title VI and related laws protect participants and beneficiaries (e.g., members of the public and contractors) from discrimination by NCDOT employees, subrecipients and contractors, regardless of funding source.
2. Eligibility
   Any person—or class of persons—who believes he/she has been subjected to discrimination based on race, color, national origin, Limited English Proficiency (LEP), sex, age, or disability (and religion in the context of employment, aviation, or transit) may file a written complaint. The law also prohibits intimidation or retaliation of any sort.
3. Time Limits and Filing Options
   Complaints may be filed by the affected individual(s) or a representative and must be filed no later than 180 calendar days after the following:
   (i) The date of the alleged act of discrimination; or
   (ii) The date when the person(s) became aware of the alleged discrimination; or
   (iii) Where there has been a continuing course of conduct, the date on which that conduct was discontinued or the latest instance of the conduct.

   Title VI and related discrimination complaints may be submitted to the following entities:

- North Carolina Department of Transportation, Office of Civil Rights, Title VI Program, 1511 Mail Service Center, Raleigh, NC 27699-1511; toll free 1-800-522-0453
- Federal Highway Administration, North Carolina Division Office, 310 New Bern Avenue, Suite 410, Raleigh, NC 27601, 919-747-7010
- US Department of Transportation, Departmental Office of Civil Rights, External Civil Rights Programs Division, 1200 New Jersey Avenue, SE, Washington, DC 20590; 202-366-4070

4. Format for Complaints
   Complaints must be in writing and signed by the complainant(s) or a representative, and include the complainant's name, address, and telephone number. Complaints received by fax or e-mail will be acknowledged and processed. Allegations received by telephone will be reduced to writing and provided to the complainant for confirmation or revision before processing. Complaints will be accepted in other languages, including Braille.
5. Discrimination Complaint Form
   Contact NCDOT Civil Rights to receive a full copy of the Discrimination Complaint Form and procedures.
6. Complaint Basis
   Allegations must be based on issues involving race, color, national origin (LEP), sex, age, disability, or religion (in the context of employment, aviation or transit). "Basis" refers to the complainant's membership in a protected group category.

TABLE 103-1
COMPLAINT BASIS

Protected Categories	Definition	Examples	Applicable Nondiscrimination Authorities
Race and Ethnicity	An individual belonging to one of the accepted racial groups; or the perception, based usually on physical characteristics that a person is a member of a racial group	Black/African American, Hispanic/Latino, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, White	Title VI of the Civil Rights Act of 1964; 49 CFR Part 21; 23 CFR 200; 49 U.S.C. 5332(b); 49 U.S.C. 47123. *(Executive Order 13166)*
Color	Color of skin, including shade of skin within a racial group	Black, White, brown, yellow, etc.	
National Origin *(Limited English Proficiency)*	Place of birth. Citizenship is not a factor. (*Discrimination based on language or a person's accent is also covered)*	Mexican, Cuban, Japanese, Vietnamese, Chinese	
Sex	Gender. The sex of an individual. *Note:* Sex under this program does not include sexual orientation.	Women and Men	1973 Federal-Aid Highway Act; 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Age	Persons of any age	21-year-old person	Age Discrimination Act of 1975 49 U.S.C. 5332(b); 49 U.S.C. 47123.
Disability	Physical or mental impairment, permanent or temporary, or perceived.	Blind, alcoholic, para-amputee, epileptic, diabetic, arthritic	Section 504 of the Rehabilitation Act of 1973; Americans with Disabilities Act of 1990

Religion (in the context of employment) *(Religion/ Creed in all aspects of any aviation or transit-related construction)*	An individual belonging to a religious group; or the perception, based on distinguishable characteristics that a person is a member of a religious group. In practice, actions taken as a result of the moral and ethical beliefs as to what is right and wrong, which are sincerely held with the strength of traditional religious views. ***Note:*** Does not have to be associated with a recognized religious group or church; if an individual sincerely holds to the belief, it is a protected religious practice.	Muslim, Christian, Sikh, Hindu, etc.	Title VII of the Civil Rights Act of 1964; 23 CFR 230; FHWA-1273 Required Contract Provisions. *(49 U.S.C. 5332(b);* *49 U.S.C. 47123)*

(3) **Pertinent Nondiscrimination Authorities**

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest agrees to comply with the following non-discrimination statutes and authorities, including, but not limited to:

(a) Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.

(b) The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

(c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);

(d) Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability) and 49 CFR Part 27;

(e) The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);

(f) Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);

(g) The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

(h) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

(i) The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

(j) Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Nondiscrimination against minority populations by discouraging programs, policies, and activities with

disproportionately high and adverse human health or environmental effects on minority and low-income populations;

(k) Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

(l) Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

(m) Title VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000e et seq., Pub. L. 88-352), (prohibits employment discrimination on the basis of race, color, religion, sex, or national origin).

(4) **Additional Title VI Assurances**

***The following Title VI Assurances (Appendices B, C and D) shall apply, as applicable*

(a) Clauses for Deeds Transferring United States Property (1050.2A, Appendix B)

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4.

NOW, THEREFORE, the U.S. Department of Transportation as authorized by law and upon the condition that the North Carolina Department of Transportation (NCDOT) will accept title to the lands and maintain the project constructed thereon in accordance with the North Carolina General Assembly, the Regulations for the Administration of the Federal-Aid Highway Program, and the policies and procedures prescribed by the Federal Highway Administration of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the U.S Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the NCDOT all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto the North Carolina Department of Transportation (NCDOT) and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the NCDOT, its successors and assigns.

The NCDOT, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the NCDOT will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended [, and (3) that in the event of breach of any of the above-mentioned nondiscrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

(b) Clauses for Transfer of Real Property Acquired or Improved Under the Activity, Facility, or Program (1050.2A, Appendix C)

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the North Carolina Department of Transportation (NCDOT) pursuant to the provisions of Assurance 7(a):

1. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:
   (i.) In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
2. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued. *
3. With respect to a deed, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. *

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

(c) Clauses for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program (1050.2A, Appendix D)

The following clauses will be included in deeds, licenses, permits, or similar instruments/ agreements entered into by the North Carolina Department of Transportation (NCDOT) pursuant to the provisions of Assurance 7(b):

1. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
2. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non¬ discrimination covenants, the NCDOT will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued. *
3. With respect to deeds, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. *

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

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

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 NC20210091 01/01/2021 NC91

Z-091

Date: January 1, 2021

General Decision Number: NC20210091 01/01/2021 NC91

Superseded General Decision Numbers: NC20200091

State: North Carolina

Construction Type: HIGHWAY

COUNTIES:

Beaufort	Granville	Pasquotank
Bertie	Halifax	Perquimans
Bladen	Harnett	Robeson
Camden	Hertford	Sampson
Carteret	Hyde	Scotland
Chowan	Jones	Tyrrell
Columbus	Lenoir	Vance
Craven	Martin	Warren
Dare	Northampton	Washington
Duplin	Pamlico	Wilson
Gates		

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 $10.95 for calendar year 2021 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 $10.95 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 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR.5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). 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	01/01/2021

SUNC2014-006 11/17/2014

	Rates	Fringes
BLASTER	21.85	
CARPENTER	13.72	
CEMENT MASON/CONCRETE FINISHER	14.26	
ELECTRICIAN		
Electrician	18.69	2.66
Telecommunications Technician	14.72	1.67
IRONWORKER	16.32	
LABORER		
Asphalt Raker and Spreader	12.42	
Asphalt Screed/Jackman	13.48	
Carpenter Tender	10.85	
Cement Mason/Concrete Finisher Tender	11.35	
Common or General	10.12	
Guardrail/Fence Installer	13.39	
Pipelayer	13.31	
Traffic Signal/Lighting Installer	16.88	
PAINTER		
Bridge	19.62	
POWER EQUIPMENT OPERATORS		
Asphalt Broom Tractor	13.28	
Bulldozer Fine	18.46	
Bulldozer Rough	14.09	
Concrete Grinder/Groover	24.66	
Crane Boom Trucks	17.25	
Crane Other	21.48	
Crane Rough/All-Terrain	19.00	
Drill Operator Rock	15.43	1.61
Drill Operator Structure	19.12	
Excavator Fine	17.61	
Excavator Rough	12.99	
Grader/Blade Fine	16.73	
Grader/Blade Rough	15.28	
Loader 2 Cubic Yards or Less	10.28	
Loader Greater Than 2 Cubic Yards	13.58	
Material Transfer Vehicle (Shuttle Buggy)	17.39	
Mechanic	18.63	
Milling Machine	14.38	
Off-Road Hauler/Water Tanker	9.30	
Oiler/Greaser	13.45	
Pavement Marking Equipment	11.87	
Paver Asphalt	15.53	
Roller Asphalt Breakdown	12.13	
Roller Asphalt Finish	13.65	
Roller Other	10.48	
Scraper Finish	13.98	
Scraper Rough	10.17	
Slip Form Machine	19.29	
Tack Truck/Distributor Operator	14.56	
TRUCK DRIVER		
GVWR of 26,000 Lbs or Less	10.35	
GVWR of 26,001 Lbs or Greater	12.04	

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

PROJECT SPECIAL PROVISIONS

GEOTECHNICAL

ROCK EMBANKMENTS (SPECIAL)	GT-1.1	-	GT-1.2
TIMBER RETAINING WALL (SPECIAL)	GT-2.1	-	GT-2.1

DocuSigned by:
Geotechnical Engineering Unit
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1/22/2019

ROCK EMBANKMENTS: **(Special)**

Description

Construct rock embankments in accordance with the contract. Rock embankments are required to construct embankments in water at locations shown in the plans and as directed.

Materials

Refer to Division 10 of the *Standard Specifications*.

Item	Section
Geotextile for Rock Embankments, Type 2	1056
Rip Rap Materials	1042
Select Materials	1016

Provide Type 2 geotextile for filtration geotextiles. Use Class 2 rip rap material for rock embankments. Use Class A rip rap and No. 57 stone to fill voids in rock embankments. Obtain aggregates from sources participating in the Department's Aggregate QC/QA Program in accordance with Section 1006 of the *Standard Specifications* or use similar size onsite material approved by the engineer.

Construction Methods

Construct rock embankments in accordance with the slopes, dimensions and elevations shown in the plans and Section 235 of the *Standard Specifications*. Place Class 2 so smaller rocks are uniformly distributed throughout rock embankments. Provide a uniform surface free of obstructions, debris and groups of large rocks that could cause voids in embankments.

Before placing embankment fill material or filtration geotextiles over rock embankments, fill voids in the top of rock embankments with Class A rip rap and No. 57 stone. Place and compact Class A rip rap first. Then, fill any remaining voids with No. 57 stone so geotextiles are not torn, ripped or otherwise damaged when installed and covered. Compact rip rap and No. 57 stone with tracked equipment or other approved methods. Install filtration geotextiles on top of Class 2, rip rap and No. 57 stone in accordance with Article 270-3 of the *Standard Specifications* before placing embankment fill material.

Measurement and Payment

Rip Rap, Class 2, *Rip Rap, Class A* and *#57 Stone* will be measured and paid in tons. Select material and rip rap will be measured by weighing material and rip rap in trucks in accordance with Article 106-7 of the *Standard Specifications*. The contract unit prices for *Rip Rap, Class 2*, *Rip Rap, Class A* and *#57 Stone* will be full compensation for providing, hauling, handling, placing, compacting and maintaining select material and rip rap.

Geotextile for Rock Embankments will be measured and paid in square yards. Geotextiles will be measured along the top of rock embankments as the square yards of exposed geotextiles before placing embankment fill material. No measurement will be made for overlapping geotextiles. The contract unit price for *Geotextile for Rock Embankments* will be full compensation for providing, transporting and installing geotextiles.

Payment will be made under:

GT-1.2

Pay Item	Pay Unit
Rip Rap, Class 2	Ton
Rip Rap, Class A	Ton
#57 Stone	Ton
Geotextile for Rock Embankments	Square Yard

NORTH CAROLINA PROFESSIONAL SEAL 032171 ENGINEER JINYOUNG PARK

DocuSigned by:

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9/12/2017

TIMBER RETAINING WALL (SPECIAL)

1.0 GENERAL

The work covered by this provision consists of the design and construction of timber retaining walls at the locations shown on the plans and as directed by the Engineer. The timber retaining wall shall match the appearance of the existing retaining wall.

The timber retaining wall shall be designed in accordance with the current edition of the AASHTO LRFD Bridge Design Specification.

The design of the timber retaining wall is the responsibility of the Contractor and is subject to review, comments and approval. Prior to submittal of Working Drawings, submit one set of preliminary plans for review and approval. Include material specifications for all components. Once preliminary plans are approved, submit Working Drawings, including details necessary to construct the retaining walls.

Have a North Carolina Registered Professional Engineer check and seal the plans and design calculations. After the plans and design calculations are reviewed and, if necessary, the corrections made, submit a full-size formatted PDF file for each plan sheet to become part of the contract plans.

Verify wall locations and elevations before constructing the retaining walls.

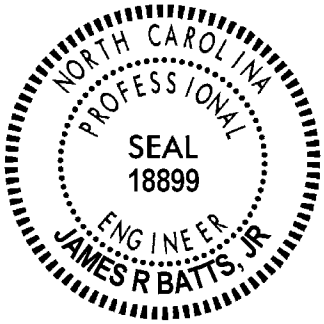
2.0 MEASUREMENT AND PAYMENT

The quantity of retaining wall to be paid for will be the actual number of square feet of wall face area with the pay height equal to the difference between top of wall and bottom of wall elevations which has been completed and accepted. Define "top of wall" as top of timber coping. In measuring these quantities, the length and height will be measured parallel to the face of the wall. No measurement will be made of the perpendicular dimension of any juts in the wall, or other dimensions which are not parallel to the outside face of the wall.

The quantity of wall, measured as provided above, will be paid for at the contract unit price per square foot for "Timber Retaining Wall". Such price and payment will be full compensation for all work covered by this Special Provision, the plans and applicable parts of the Standard Specifications and will include but not be limited to furnishing all labor, materials, equipment, excavation, drainage, backfilling and other incidentals necessary to complete this work.

Payment will be made under:

Timber Retaining Wall ..... Square Foot



DocuSigned by:
James R Batts, Jr
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1/2/2019

PROJECT SPECIAL PROVISIONS
GEOENVIRONMENTAL

CONTAMINATED SOIL (4/14/2021)

The Contractor's attention is directed to the fact that soil contaminated with petroleum hydrocarbon compounds exist within the project area. The known areas of contamination are indicated on corresponding plans sheets. Information relating to these contaminated areas, sample locations, and investigation reports will be available at the following web address by navigating to the correct letting year and month then selecting, "Plans and Proposals", "Dare R-5014", "Individual Sheets/520 GeoEnvironmental":

http://dotw-xfer01.dot.state.nc.us/dsplan/

Petroleum contaminated soil may be encountered during any earthwork activities on the project. The Contractor shall only excavate those soils that the Engineer designates necessary to complete a particular task. The Engineer shall determine if soil is contaminated based on areas shown on the plans, petroleum odors, and unusual soil staining. Contaminated soil not required to be excavated is to remain in place and undisturbed. Undisturbed soil shall remain in place, whether contaminated or not. The Contractor shall transport all contaminated soil excavated from the project to a facility licensed to accept contaminated soil.

In the event that a stockpile is needed, the stockpile shall be created within the property boundaries of the source material and in accordance with the Diagram for Temporary Containment and Treatment of Petroleum-Contaminated Soil per North Carolina Department of Environmental Quality's (NCDEQ) Division of Waste Management UST Section GUIDELINES FOR EX SITU PETROLEUM CONTAMINATED SOIL REMEDIATION. If the volume of contaminated material exceeds available space on site, the Contractor shall obtain a permit from the NCDEQ UST Section's Regional Office for off-site temporary storage. The Contractor shall provide copies of disposal manifests completed per the disposal facilities requirements and weigh tickets to the Engineer.

Measurement and Payment:

The quantity of contaminated soil hauled and disposed of shall be the actual number of tons of material, which has been acceptably transported and weighed with certified scales as documented by disposal manifests and weigh tickets. The quantity of contaminated soil, measured as provided above, shall be paid for at the contract unit price per ton for "Hauling and Disposal of Petroleum Contaminated Soil".

The above price and payment shall be full compensation for all work covered by this section, including, but not limited to stockpiling, loading, transportation, weighing, laboratory testing, disposal, equipment, decontamination of equipment, labor, and personal protective equipment.

Payment shall be made under:

Pay Item	Pay Unit
Hauling and Disposal of Petroleum Contaminated Soil	Ton

DocuSigned by:
Ethan J. Caldwell
E9A1CFAC49A2414...
4/14/2021

NORTH CAROLINA PROFESSIONAL SEAL 036892 ENGINEER Ethan J. Caldwell

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PROJECT SPECIAL PROVISIONS
Utility Construction

CDM Smith, Inc.
5400 Glenwood Avenue, Suite 400
Raleigh, NC 27612

NORTH CAROLINA PROFESSIONAL SEAL 028186 ENGINEER JOHN D. BOYER

DocuSigned by: John D. Boyer
5252EE0AB07243...
7/9/2021 (Seal)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Revise the 2018 Standard Specifications as follows:

Page 15-1, Sub-article 1500-2 Cooperation with the Utility Owner, paragraph 2:
add the following sentences:

"The water utility owner is Dare County Water Department, the contact person is Patrick Irwin and he can be reached by phone at (252) 475-5603. The sanitary sewer utility owner is Kill Devil Hills Waste Water Treatment Plant (KDHWWTP, LLC), the contact person is Michael Robinson and he can be reached by phone at (252) 255-8026."

Page 15-2, Sub-article 1500-5 Relation of Water Mains to Sewers:
Add the following sentences after line 9:

"There shall be a minimum of 12" vertical separation between water mains and storm drain lines, except as shown on the plans. There shall be a minimum of 24" horizontal separation between water mains and storm drain lines, except as shown on the plans."

Page 15-2, Sub-article 1500-7 Submittals and Records:
Add the following sentences after line 25:

"Product Data: Submit data on all pipe materials, pipe fittings, valves and accessories. Manufacturer's Installation Instructions: Submit special procedures required to install Products specified. Manufacturer's Certificate: Certify that products meet or exceed specifications.

For disinfecting water lines, submit procedures, proposed chemicals, and treatment levels for review prior to beginning construction."

Page 15-2, Sub-article 1500-7 Submittals and Records:
Add the following sentences after line 35:

"Record location and depth of cover for pipe runs, valves, tees, and other fittings. Identify and describe variations to drawings and discovery of unidentified buried objects. Provide color photographs for all tee and valve connections and fire hydrant assemblies taken prior to placing any backfill. Photographs shall be numbered and keyed to the appropriate location on the as-built drawings. For abandoned utilities, indicate removal termination point for underground utilities on record documents. Record locations of all air release valves."

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Page 15-2, Sub-article 1500-9 Placing Pipelines into Service:
Add the following:

Obtain approval from Dare County prior to placing a new water line into service."

Page 15-2, Sub-article 1500-9 Placing Pipelines into Service:
Add the following provisions related to planned service interruptions:

"Coordination of temporary interruptions to water services shall be the responsibility of the Contractor. The Contractor shall schedule a coordination meeting with the Engineer, CDM Smith and Dare County Water Department a minimum of three (3) business days prior to any planned service interruption and prior to any notices being issued. The purpose of this coordination meeting is to ensure that the Contractor has a good understanding of the requirements related to the proposed outage, verify that there are no utility conflicts, discuss any necessary contingency plans, and all equipment, materials, tools, and all other incidentals necessary to complete the work are on the project site in good working order. Should, for any reason, the Department and Dare County deem that the Contractor is not prepared for the proposed outage, the outage notifications will not be distributed and the outage shall be postponed a minimum of two (2) weeks. The Department will provide written notification to the Contractor of this decision. No additional contract time will be granted for this delay.

The duration of the service interruption shall be coordinated with the Engineer. Service interruptions to residents shall be limited to no more than six (6) hours at any given time. If the service interruption is anticipated to exceed six (6) hours, temporary service shall be provided. The Contractor shall provide all the necessary equipment and materials for temporary service. The notifications shall describe the work to be undertaken and approximate dates of the work. The text of the notifications shall be approved by the Department and Dare County in advance. The Contractor shall furnish a copy of the notification to the Engineer each time such notification is issued to the residents.

Whenever the property owner's use of the water must be interrupted by the Work, the Contractor shall notify the residents a minimum of 48 hours prior to service interruption. This notification shall be accomplished with door hanger notification cards placed at the addresses of the affected residents. Property owners shall be informed when service interruption takes place and the expected duration. The Contractor shall make every effort to minimize inconvenience to the public and property owners.

The Contractor shall complete the required work and restore water service within the given time period for the outage. The Engineer reserves the right to cancel or postpone the outage at any time, for any reason."

Add the following provisions for furnishing pressurized, temporary water service:

"Provide and maintain pressurized, temporary water supply to all services connected to water mains that must be depressurized and/or interrupted for any reason related to the Work including cut in construction and ties in. The only exception to this requirement is the performance of

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emergency repair and if the planned interruption of service is expected to last less than six consecutive hours. Provide temporary water supply if the interruption extends past six consecutive hours.

Maintain and operate temporary water supply until completion of required disinfection and flushing procedures and, receipt of confirmation of acceptable bacteriological test results for the section of water main that was interrupted or as otherwise directed by Engineer.

The Contractor shall submit a detailed temporary water layout plan to the Engineer prior to the planned outage. The Contractor will be responsible for furnishing, installing, maintaining and removing all temporary water lines during the course of the work. All costs associated this item shall be incidental for the work that is needed for.

The temporary lines shall be leak free and installed in a neat and orderly fashion. The Contractor shall be responsible for protection of the temporary line and shall provide the personnel necessary to immediately respond to all water line breaks, leaks, and outages associated with the project. A 24-hour "hotline" shall be established for Dare County to call when a problem arises with the temporary water system. Any leaks on the temporary water service lines shall be repaired immediately. The Contractor shall also take all necessary precautions to protect the temporary water system from freezing and shall include freezing protection procedures in the temporary water layout plan.

The Contractor shall connect the temporary water system directly to the customer's meter, utilizing all appropriate fittings. This may necessitate the meter being placed outside of the meter box. During weather that may result in the meter and/or temporary service lines freezing, the Contractor shall take all reasonable precautions (i.e, covering the meter with dirt) to prevent the meter and/or temporary bypass lines from freezing. Fire protection must be maintained at all times during construction. Temporary fire hydrants must meet the approval of the applicable Fire Department, prior to their use.

Backflow prevention measures will be required when the temporary water system is serving any commercial businesses. Backflow prevention measures will not be necessary when the temporary water system is only serving residential homes. Where backflow prevention is required, the system shall be installed in accordance with the Dare County Cross Connection Control Plan and the Rules Governing Public Water Systems as found in Title 15a, Subchapter 18c of the North Carolina Administrative Code.

Restrained joint PVC piping will be allowed if properly placed so as to prevent its damage by traffic. All temporary service pipe crossing streets and/or commercial driveways must cross in a fashion that will not create a traffic hazard. Boring or punching may be required when crossing streets with high traffic volume or higher speeds. Temporary piping crossing sidewalks or wheel chair access ramps must be ramped or buried. Any temporary water lines crossing a driveway shall be covered with a rubber ramp or bituminous cold patch provided by the Contractor. When temporary paving is used to ramp temporary services lines, it must be compacted by a roller or compaction device to minimize tracking. The Contractor is to maintain ramps and patches to ensure access by public. Piping must be buried when so directed by Engineer. All temporary

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water piping connected to fire hydrants shall be constructed in such a manner that if necessary, can be easily removed so the fire hydrant can be used for firefighting purposes with minimal effort. All such connections to the fire hydrants must be compatible with applicable Fire Department requirements for each fire hydrant outlet used. Where fire hydrants cannot be used or are not available, the Contractor shall make below ground taps for bypass connections.

Direct connections to the existing water system will not be allowed until chlorination is complete and each section of temporary line, including service lines, has passed bacteriological and turbidity testing. All dead-end temporary services lines shall be equipped with a temporary blow-off.

Temporary service lines longer than 750 linear feet must have a supply at each end. Temporary service lines must have a main line shut off valve at least every 500 feet. Fire protection must be maintained at all times during construction.

Upon activation of the newly relocated or installed pipe, the Contractor shall remove all temporary service lines and shall leave all streets, sidewalks, and adjacent properties in a condition of equal or better than original. Prior to installing the meter and connecting the customer to the new main, the existing service line shall be thoroughly flushed to remove any deposits collected during the work.

The pipe, hoses, and other materials which are to be furnished by the Contractor for use as temporary service pipe shall be clean, water tight and fully adequate to withstand the existing pressure and all other conditions of use and shall be approved by Engineer. Care shall be exercised throughout the installation of all temporary pipe and service fittings to avoid any possible contaminations of any mains or services.

All piping utilized in the temporary water system shall be NSF Standard 61 certified for use in potable water applications or FDA CFR 177.2600 approved, for use in contact with food articles, if such use is approved by NCDENR. The Contractor may utilize PVC pipe only if the pipe is equipped with restrained joints."

Page 15-4, Sub-article 1505-3 (D) Construction Methods, Pipe Laying:
Add the following sentence:

"Butt fusion of PVC pipe shall be performed in accordance with the manufacturer's recommendations, PPI TR-33, and ASTM D2657. Electrofusion couplings shall be installed in accordance with ASTM F1290."

Page 15-4, Sub-article 1505-3 (F) Construction Methods, Backfilling:
Replace lines 35 and 36 with the following provisions:

"Backfill water utility pipes in accordance with Article 300-7 and compact each layer to a density equal to at least to 98% in accordance with AASHTO T99. Carefully compact material under pipe haunches. Bring backfill up evenly on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system. Test backfill compaction with one field in-place density test for each 250 feet of trench using a certified geotechnical testing agency."

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Page 15-5, Sub-article 1510-2 Materials:
Add the following sentence after line 37:

"At all locations where pressure piping is installed and at lateral locations, non-ferrous or ferrous materials, the contractor shall install a continuous length of #10 or 12 solid copper wire with blue insulation, on top and parallel to the pipe terminating to each valve box and meter box.

Page 15-6, Sub-article 1510-2 Materials:
Replace lines 1 and 2 with the following sentences:

"The contractor shall install acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, continuous buried 12 inches below finish grade, 3 inches wide and 4 mils thick minimum, blue, continuously inscribed with the text "Caution – Water Line Buried Below", with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 2'-6" deep. Tape shall be Alarmtape by Paul Potter Associates, Detectatape by Allen Systems, Inc., Terra Tape by Griffolyn Co., Inc., or approved equal."

Page 15-6, Sub-article 1510-2 Materials:
Add the following sentence after line 4:

"Coat buried steel rods, bolts, lugs and brackets with coal tar coating before backfilling."

Page 15-6, Sub-article 1510-2 Materials:
Add the following provisions:

"All gate valves, 2" and larger, shall be resilient seated wedge type, iron body and bronze mounted. All gate valves shall open by turning in a counterclockwise direction. All operating nuts, hand wheels and chain wheels shall have the direction of opening cast on them. Gate valves shall be of the mechanical joint type and the non-rising stem type. All gate valves shall be manufactured by the American-Darling Co., Mueller Co., M&H Valve, Dresser, Clow, Kennedy Valve Co., or approved equal.

Tapping sleeves and valves shall be suitable for wet installation without interrupting water service in any manner. Tapping sleeves shall be fully gasketed wrap around tapping sleeve. The sleeve body shall be 18-8 stainless steel. The bolts and nuts shall be 18-8 stainless steel. The gasket shall be gridded virgin GPR compounded for water service in accordance with ASTM D2000-80M 4AA607. The outlet gasket shall be Buna-N. The flange shall be ductile iron. The tapping sleeve shall be fitted with a female ¾" NPT test port and supplied with a ¾" 18-8 stainless steel plug with square head. Tapping valves shall be "O" ring type with mechanical joint and conforming to AWWA C509 non-rising stem construction. Inlet flange end shall be Class l25 (ASME Bl6.l).

All existing and proposed water services (if listed as a hazard); dedicated fire lines; irrigation lines; and private distribution systems must be provided with a backflow prevention in accordance with the Dare County Cross Connection Control Plan and the Rules Governing Public Water Systems as found in Title 15A, Subchapter 18C of the North Carolina Administrative Code.

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All existing and proposed water services (if listed as a hazard); dedicated fire lines; irrigation lines; and private distribution systems must be provided with a backflow prevention in accordance with the Dare County Cross Connection Control Plan and the Rules Governing Public Water Systems as found in Title 15A, Subchapter 18C of the North Carolina Administrative Code.

Fire hydrants shall be of the compression or gate type and shall be 5-1/4" VO with ALPHA connection, or alternate approved by Dare County. All hydrants shall have a bronze to bronze main valve assembly. Hydrants shall open by turning counterclockwise and shall be so marked. Elbow shall have interior coated with minimum 4 mils thickness epoxy in accordance with AWWA C550. The hydrant barrel shall be of such length to provide a minimum of 3'6" of bury. All hydrants shall be traffic models with breakable safety sleeve stem coupling with ss stem coupling pins. Hydrants shall be designed for a 300 psi test pressure and a 200 psi working pressure. All hydrants shall be factory primed and finish painted. Final color of the hydrant body and bonnet shall be oil-based protective enamel "Safety Red", or approved equal.

Contractor shall install at all hydrant locations a reflective hydrant marker, two-way blue reflector in centerline of pavement perpendicular to hydrant location using e-bond epoxy adhesive 1240/1241 per manufacturer's specifications."

Page 15-6, Sub-article 1510-3 (A) Construction Methods, General:
Add the following sentences:

"Install pipe to have bearing along entire length of pipe. Excavate bell holes to permit proper joint installation."

"Install pipe using a pipe joint lubricant (soap) that meets the requirements of NSF 61."

Page 15-6, Sub-article 1510-3 (B) Construction Methods, Testing and Sterilization:
Add the following sentences:

"Conduct concurrent hydrostatic pressure and leakage tests, in the presence of the County Engineering Department, in accordance with AWWA C600. Slowly bring piping to test pressure and allow system to stabilize prior to conducting leakage test. Do not open or close valves at differential pressures above rated pressure."

"Representative samples of the water shall be collected when residual chlorine concentration is approximately 2 ppm. Disinfection and Bacteriological Test Reports shall include the following information:

Disinfection Report:

1. Type and form of disinfectant used.
2. Date and time of disinfectant injection start and time of completion.
3. Test locations.
4. Name of person collecting samples.
5. Initial and 24-hour disinfectant residuals in treated water in ppm for each outlet tested.
6. Date and time of flushing start and completion.
7. Disinfectant residual after flushing in ppm for each outlet tested.

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Bacteriological Test Report:

1. Date report issued, project name, and testing laboratory name, address, and telephone number.
2. Time and date of water sample collection.
3. Name of person collecting samples.
4. Test locations.
5. Initial and 24-hour disinfectant residuals in ppm for each outlet tested.
6. Coliform bacteria test results for each outlet tested."

"At locations where new water lines are to be tied into the existing system, the interior of all new fittings and valves required shall be bathed with a concentrated chlorine solution at the time of installation. Water shall be flushed through the new valve a sufficient time to wash out the chlorine solution before closing the valve and installing additional pipe. The new valve shall remain closed until the new section of pipe to be installed has passed all tests"

Page 15-7, Sub-article 1510-3, (B) Construction Methods, Testing and Sterilization:
Line 10 – Delete "Sections 4.6 and 4.7" and Replace with "Sections 4.10 and 4.11".

(A) AMR capable output proportional to flow.
(B) Self diagnostics with on screen display of faults.
(C) Digital indicator displaying totalized flow in engineering units."

Page 15-8, Sub-article 1515-3 (D) Construction Methods, Fire Hydrants:
Add the following sentences:

"Provide support blocking and drainage gravel; do not block drain hole. After hydrostatic testing, flush hydrants and check for proper drainage.

"Paint hydrants in accordance with local color scheme."

Page 15-8, Sub-article 1515-3 (D) Construction Methods, Fire Hydrants:
Replace lines 42-44 with the following sentences:

"Connect fire hydrants to the main with a 6 inch valve and branch line having at least as much cover as the distribution main. Set hydrants plumb with the pumper nozzle facing the roadway and set hydrants with centerline of pumper nozzle 18 inches above finished grade and safety flange not more than 4 inches nor less than 2 inches above grade."

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Page 15-18, Sub-article 1540-2 Material, Encasement:
Add the following sentences:

"Steel encasing pipe shall have a weldless press-fit interlocking machined joint. Machined joint shall be Permalok AB joint by Northwest Pipe Company, Tri-loc by Trinity Products, or approved equal. Machined joint shall be leak resistant utilizing a silicone sealant or approved equal."

Page 15-18, Sub-article 1540-3 (D) Construction Methods, Carrier Pipe Installation:
Replace lines 16-21 with the following sentences:

"Install carrier pipe directly on the interlocking encasement pipe invert without using spacers. If welded steel encasement is utilized, install carrier pipe using spacers or insulators to support the carrier pipe.

Install casing end seals with stainless steel bands as manufactured by Pipeline Seal and Insulator, Inc., Advance Products & Systems, LLC, Westatlantic Tech, or approved equal."

Page 15-18, Sub-article 1540-3 (E) Construction Methods, Casing Pipe Fill:
Replace lines 23-24 with the following sentences:

"Annular space shall remain open and shall not be filled or grouted."

Polyethylene Encasement Water Line
Install polyethylene encasements as shown in the plans or as directed by the Engineer.

Measurement and Payment:
Payment for polyethylene encasement shall be by the linear foot, and paid for under the contract price for "Polyethylene Encasement Water Line". Such price and payments will be full compensation for all labor, materials, excavation, backfilling and any incidentals necessary to complete the work, as required.

Pay Item:	Pay Unit
Polyethylene Encasement Water Line	LF

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Reinforced Concrete Encasement and Supports
Construct concrete encasements and supports as shown in the plans and Section 1505 of the *Standard Specifications*. Use reinforcing steel meeting Section 1070 of the *Standard Specifications*.

Measurement and Payment:
Payment for reinforced concrete encasements and supports shall be per cubic yard of concrete, and paid for under the contract price for "Reinforced Concrete Encasement and Supports". Such price and payments will be full compensation for all labor, materials, excavation, backfilling and any incidentals necessary to complete the work as required.

Pay Item:	Pay Unit
Reinforced Concrete Encasement and Supports	CY

PROJECT SPECIAL PROVISIONS
Utilities by Others

Weston
WSE of North Carolina, PC
598 East Chatham Street, Suite 137
Cary, NC 27511-6956

General:

The following utility companies have facilities that will be in conflict with the construction of this project.

A) Dominion Energy – Power (Distribution)
B) Lumen– Communications
C) Charter-Spectrum – Communications
D) Duke Energy – Gas
E) Town of Kill Devil Hills – Water
F) KDHWWTP – Wastewater
G) MCNC – Communications

The conflicting facilities of these concerns will be adjusted prior to the date of availability, unless otherwise noted and are therefore listed in these special provisions for the benefit of the Contractor. All utility work listed herein will be done by the utility owners. All utilities are shown on the plans from the best available information.

The Contractor's attention is directed to Article 105-8 of the 2018 Standard Specifications.

Utilities Requiring Adjustments:

Utility relocations are shown on the Utilities by Others Plans.

A) Dominion Energy – Distribution Power
   1. Dominion Energy will complete their relocation work by September 24, 2021.
   2. The contact person for Dominion Energy is Mr. Joseph "Harley" Bowen. (252) 209-7747 Joseph.H.Bowen@DominionEnergy.com

B) Lumen - Communications
   1. Lumen will complete their relocation work by November 1, 2021, except at the locations as shown on the plans.
   2. Lumen will require 4 weeks' notice and 1 week to adjust at the locations as shown on the plans.
   3. The contact person for Lumen is Mr. Jon Raduns (252) 339-5695 Jon.C.Raduns@Lumen.com

PROJECT SPECIAL PROVISIONS
Utilities by Others

Weston
WSE of North Carolina, PC
598 East Chatham Street, Suite 137
Cary, NC 27511-6956

C) Charter-Spectrum – Communications
   1. Spectrum will complete their relocation work by January 3, 2022
   2. At areas where adjusting, Spectrum will require 4 weeks' notice and 1 week to adjust per location.
   3. The contact person for Charter-Spectrum is Mr. Wilbur Haynes
      (252) 489-1194 Wilbur.Haynes@Charter.com

D) Duke Energy (fka Piedmont Natural Gas) – Gas
   1. Duke Energy (gas) has completed their relocation work.
   2. The contact person for Duke Energy is Mr. Mr. Jason Smith
      (252) 717-8298 Jason.Smith1@Duke-Energy.com

E) Town of Kill Devil Hills – Water
   1. The Town of Kill Devil Hills Water has completed their relocation work.
   2. The contact person for the Town of Kill Devil Hills is Mr. Derek Dail. PE.
      (252) 480-4080 Derek@kdhnc.com

F) KDHWWTP – Sewer
   1. KDHWWTP will complete their relocation work by January 3, 2022.
   2. The contact person for KDHWWTP is Mr. Mike Robinson with OBX Engineering.
      (252) 255-8026 MRobinson@OBXengineering.com

G) MCNC – Communications
   1. MCNC will complete their relocation work by January 3, 2022.
   2. The contact person for MCNC is Mr. Jeremy Rollins.
      (919) 943-1389 JRollins@MCNC.org

Project Special Provisions
Erosion Control

STABILIZATION REQUIREMENTS:
(4-30-2019)

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective April 1, 2019 issued by the North Carolina Department of Environmental Quality Division of Water Resources. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

SEEDING AND MULCHING: **(East)**

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

March 1 - August 31		**September 1 - February 28**	
50#	Tall Fescue	50#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Waste and Borrow Locations

March 1 – August 31		**September 1 - February 28**	
75#	Tall Fescue	75#	Tall Fescue
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Note: 50# of Bahiagrass may be substituted for either Centipede or Bermudagrass only upon Engineer's request.

Approved Tall Fescue Cultivars

06 Dust	Escalade	Justice	Serengeti
2nd Millennium	Essential	Kalahari	Shelby
3rd Millennium	Evergreen 2	Kitty Hawk 2000	Sheridan
Apache III	Falcon IV	Legitimate	Signia
Avenger	Falcon NG	Lexington	Silver Hawk
Barlexas	Falcon V	LSD	Sliverstar
Barlexas II	Faith	Magellan	Shenandoah Elite
Bar Fa	Fat Cat	Matador	Sidewinder
Barrera	Festnova	Millennium SRP	Skyline
Barrington	Fidelity	Monet	Solara
Barrobusto	Finelawn Elite	Mustang 4	Southern Choice II
Barvado	Finelawn Xpress	Ninja 2	Speedway
Biltmore	Finesse II	Ol' Glory	Spyder LS
Bingo	Firebird	Olympic Gold	Sunset Gold
Bizem	Firecracker LS	Padre	Taccoa
Blackwatch	Firenza	Patagonia	Tanzania
Blade Runner II	Five Point	Pedigree	Trio
Bonsai	Focus	Picasso	Tahoe II
Braveheart	Forte	Piedmont	Talladega
Bravo	Garrison	Plantation	Tarheel
Bullseye	Gazelle II	Proseeds 5301	Terrano
Cannavaro	Gold Medallion	Prospect	Titan ltd
Catalyst	Grande 3	Pure Gold	Titanium LS
Cayenne	Greenbrooks	Quest	Tracer
Cessane Rz	Greenkeeper	Raptor II	Traverse SRP
Chipper	Gremlin	Rebel Exeda	Tulsa Time
Cochise IV	Greystone	Rebel Sentry	Turbo
Constitution	Guardian 21	Rebel IV	Turbo RZ
Corgi	Guardian 41	Regiment II	Tuxedo RZ
Corona	Hemi	Regenerate	Ultimate
Coyote	Honky Tonk	Rendition	Venture
Darlington	Hot Rod	Rhambler 2 SRP	Umbrella
Davinci	Hunter	Rembrandt	Van Gogh
Desire	Inferno	Reunion	Watchdog
Dominion	Innovator	Riverside	Wolfpack II
Dynamic	Integrity	RNP	Xtremegreen
Dynasty	Jaguar 3	Rocket	
Endeavor	Jamboree	Scorpion	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Sericea Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

Native Grass Seeding and Mulching **(East)**

Native Grass Seeding and Mulching shall be performed on the disturbed areas of wetlands and riparian areas, and adjacent to Stream Relocation construction within a 50 foot zone on both sides of the stream or depression, measured from top of stream bank or center of depression. The stream bank of the stream relocation shall be seeded by a method that does not alter the typical cross section of the stream bank. Native Grass Seeding and Mulching shall also be performed in the permanent soil reinforcement mat section of preformed scour holes, and in other areas as directed.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

March 1 - August 31		**September 1 - February 28**	
18#	Creeping Red Fescue	18#	Creeping Red Fescue
6#	Indiangrass	6#	Indiangrass
8#	Little Bluestem	8#	Little Bluestem
4#	Switchgrass	4#	Switchgrass
25#	Browntop Millet	35#	Rye Grain
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

Approved Creeping Red Fescue Cultivars:

Aberdeen	Boreal	Epic	Cindy Lou

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

Native Grass Seeding and Mulching shall be performed in accordance with Section 1660 of the *Standard Specifications* and vegetative cover sufficient to restrain erosion shall be installed immediately following grade establishment.

Measurement and Payment

Native Grass *Seeding and Mulching* will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.

All areas seeded and mulched shall be tacked with asphalt. Crimping of straw in lieu of asphalt tack shall not be allowed on this project.

CRIMPING STRAW MULCH:

Crimping shall be required on this project adjacent to any section of roadway where traffic is to be maintained or allowed during construction. In areas within six feet of the edge of pavement, straw is to be applied and then crimped. After the crimping operation is complete, an additional application of straw shall be applied and immediately tacked with a sufficient amount of undiluted emulsified asphalt.

Straw mulch shall be of sufficient length and quality to withstand the crimping operation.

Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crimper blades shall not exceed 8".

TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet or Browntop Millet shall be used in summer months and Rye Grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, with the exception that no centipede seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

MOWING:

The minimum mowing height on this project shall be 4 inches.

RESPONSE FOR EROSION CONTROL:

Description

Furnish the labor, materials, tools and equipment necessary to move personnel, equipment, and supplies to the project necessary for the pursuit of any or all of the following work as shown herein, by an approved subcontractor.

Section	Erosion Control Item	Unit
1605	Temporary Silt Fence	LF
1606	Special Sediment Control Fence	LF/TON
1615	Temporary Mulching	ACR
1620	Seed - Temporary Seeding	LB
1620	Fertilizer - Temporary Seeding	TN
1631	Matting for Erosion Control	SY
SP	Coir Fiber Mat	SY
1640	Coir Fiber Baffles	LF
SP	Permanent Soil Reinforcement Mat	SY
1660	Seeding and Mulching	ACR
1661	Seed - Repair Seeding	LB
1661	Fertilizer - Repair Seeding	TON
1662	Seed - Supplemental Seeding	LB
1665	Fertilizer Topdressing	TON
SP	Safety/Highly Visible Fencing	LF
SP	Response for Erosion Control	EA

Construction Methods

Provide an approved subcontractor who performs an erosion control action as described in the NPDES Inspection Form SPPP30. Each erosion control action may include one or more of the above work items.

Measurement and Payment

Response for Erosion Control will be measured and paid for by counting the actual number of times the subcontractor moves onto the project, including borrow and waste sites, and satisfactorily completes an erosion control action described in Form 1675. The provisions of Article 104-5 of the *Standard Specifications* will not apply to this item of work.

Payment will be made under:

Pay Item	Pay Unit
Response for Erosion Control	Each

MINIMIZE REMOVAL OF VEGETATION:

The Contractor shall minimize removal of vegetation within project limits to the maximum extent practicable. Vegetation along stream banks and adjacent to other jurisdictional resources outside the construction limits shall only be removed upon approval of Engineer. No additional payment will be made for this minimization work.

STOCKPILE AREAS:

The Contractor shall install and maintain erosion control devices sufficient to contain sediment around any erodible material stockpile areas as directed.

ACCESS AND HAUL ROADS:

At the end of each working day, the Contractor shall install or re-establish temporary diversions or earth berms across access/haul roads to direct runoff into sediment devices. Silt fence sections that are temporarily removed shall be reinstalled across access/haul roads at the end of each working day.

CONSTRUCTION MATERIALS MANAGEMENT
(3-19-19) (rev. 04-27-19)

Description

The requirements set forth shall be adhered to in order to meet the applicable materials handling requirements of the NCG010000 permit. Structural controls installed to manage construction materials stored or used on site shall be shown on the E&SC Plan. Requirements for handling materials on construction sites shall be as follows:

Polyacrylamides (PAMS) and Flocculants

Polyacrylamides (PAMS) and flocculants shall be stored in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures designed to protect adjacent surface waters. PAMS or other flocculants used shall be selected from the NC DWR List

of Approved PAMS/Flocculants The concentration of PAMS and other flocculants used shall not exceed those specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions. The NC DWR List of Approved PAMS/Flocculants is available at:

https://files.nc.gov/ncdeq/Water%20Quality/Environmental%20Sciences/ATU/ApprovedPAMS4_1_2017.pdf

Equipment Fluids

Fuels, lubricants, coolants, and hydraulic fluids, and other petroleum products shall be handled and disposed of in a manner so as not to enter surface or ground waters and in accordance with applicable state and federal regulations. Equipment used on the site must be operated and maintained properly to prevent discharge of fluids. Equipment, vehicle, and other wash waters shall not be discharged into E&SC basins or other E&SC devices. Alternative controls should be provided such that there is no discharge of soaps, solvents, or detergents.

Waste Materials

Construction materials and land clearing waste shall be disposed of in accordance with North Carolina General Statutes, Chapter 130A, Article 9 - Solid Waste Management, and rules governing the disposal of solid waste (15A NCAC 13B). Areas dedicated for managing construction material and land clearing waste shall be at least 50 feet away from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. Paint and other liquid construction material waste shall not be dumped into storm drains. Paint and other liquid construction waste washouts should be located at least 50 feet away from storm drain inlets unless there is no alternative. Other options are to install lined washouts or use portable, removable bags or bins. Hazardous or toxic waste shall be managed in accordance with the federal Resource Conservation and Recovery Act (RCRA) and NC Hazardous Waste Rules at 15A NCAC, Subchapter 13A. Litter and sanitary waste shall be managed in a manner to prevent it from entering jurisdictional waters and shall be disposed of offsite.

Herbicide, Pesticide, and Rodenticides

Herbicide, pesticide, and rodenticides shall be stored and applied in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act, North Carolina Pesticide Law of 1971 and labeling restrictions.

Concrete Materials

Concrete materials onsite, including excess concrete, must be controlled and managed to avoid contact with surface waters, wetlands or buffers. No concrete or cement slurry shall be discharged from the site. (Note that discharges from onsite concrete plants require coverage under a separate NPDES permit – NCG140000.) Concrete wash water shall be managed in accordance with the *Concrete Washout Structure* provision. Concrete slurry shall be managed and disposed of in accordance with *NCDOT DGS and HOS DCAR Distribution of Class A Residuals Statewide*

(Permit No. WQ0035749). Any hardened concrete residue will be disposed of, or recycled on site, in accordance with state solid waste regulations.

Earthen Material Stock Piles

Earthen material stock piles shall be located at least 50 feet away from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available.

Measurement and Payment

Conditions set within the *Construction Materials Management* provision are incidental to the project for which no direct compensation will be made.

WASTE AND BORROW SOURCES:

Payment for temporary erosion control measures, except those made necessary by the Contractor's own negligence or for his own convenience, will be paid for at the appropriate contract unit price for the devices or measures utilized in borrow sources and waste areas.

No additional payment will be made for erosion control devices or permanent seeding and mulching in any commercial borrow or waste pit. All erosion and sediment control practices that may be required on a commercial borrow or waste site will be done at the Contractor's expense.

All offsite Staging Areas, Borrow and Waste sites shall be in accordance with "Borrow and Waste Site Reclamation Procedures for Contracted Projects" located at:

http://www.ncdot.gov/doh/operations/dp_chief_eng/roadside/fieldops/downloads/Files/ContractedReclamationProcedures.pdf
All forms and documents referenced in the "Borrow and Waste Site Reclamation Procedures for Contracted Projects" shall be included with the reclamation plans for offsite staging areas, and borrow and waste sites.

SAFETY FENCE AND JURISDICTIONAL FLAGGING:

Description

Safety Fence shall consist of furnishing materials, installing and maintaining polyethylene or polypropylene fence along the outside riparian buffer, wetland, or water boundary, or other boundaries located within the construction corridor to mark the areas that have been approved to infringe within the buffer, wetland, endangered vegetation, culturally sensitive areas or water. The fence shall be installed prior to any land disturbing activities.

Interior boundaries for jurisdictional areas noted above shall be delineated by stakes and highly visible flagging.

Jurisdictional boundaries at staging areas, waste sites, or borrow pits, whether considered outside or interior boundaries shall be delineated by stakes and highly visible flagging.

Materials

(A) Safety Fencing

Polyethylene or polypropylene fence shall be a highly visible preconstructed safety fence approved by the Engineer. The fence material shall have an ultraviolet coating.

Either wood posts or steel posts may be used. Wood posts shall be hardwood with a wedge or pencil tip at one end, and shall be at least 5 ft. in length with a minimum nominal 2" x 2" cross section. Steel posts shall be at least 5 ft. in length, and have a minimum weight of 0.85 lb/ft of length.

(B) Boundary Flagging

Wooden stakes shall be 4 feet in length with a minimum nominal 3/4" x 1-3/4" cross section. The flagging shall be at least 1" in width. The flagging material shall be vinyl and shall be orange in color and highly visible.

Construction Methods

No additional clearing and grubbing is anticipated for the installation of this fence. The fence shall be erected to conform to the general contour of the ground.

(A) Safety Fencing

Posts shall be set at a maximum spacing of 10 ft., maintained in a vertical position and hand set or set with a post driver. Posts shall be installed a minimum of 2 ft. into the ground. If hand set, all backfill material shall be thoroughly tamped. Wood posts may be sharpened to a dull point if power driven. Posts damaged by power driving shall be removed and replaced prior to final acceptance. The tops of all wood posts shall be cut at a 30-degree angle. The wood posts may, at the option of the Contractor, be cut at this angle either before or after the posts are erected.

The fence geotextile shall be attached to the wood posts with one 2" galvanized wire staple across each cable or to the steel posts with wire or other acceptable means.

Place construction stakes to establish the location of the safety fence in accordance with Article 105-9 or Article 801-1 of the *Standard Specifications.* No direct pay will be made for the staking of the safety fence. All stakeouts for safety fence shall be considered incidental to the work being paid for as "Construction Surveying", except that where there is no pay item for construction surveying, all safety fence stakeout will be performed by state forces.

The Contractor shall be required to maintain the safety fence in a satisfactory condition for the duration of the project as determined by the Engineer.

(B) Boundary Flagging

Boundary flagging delineation of interior boundaries shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6" into the ground. Interior boundaries may be staked on a tangent that runs parallel to buffer but must not encroach on the buffer at any location. Interior boundaries of hand clearing shall be identified with a different colored flagging to distinguish it from mechanized clearing.

Boundary flagging delineation of interior boundaries will be placed in accordance with Article 105-9 or Article 801-1 of the *Standard Specifications*. No direct pay will be made for delineation of the interior boundaries. This delineation will be considered incidental to the work being paid for as *Construction Surveying,* except that where there is no pay item or construction surveying the cost of boundary flagging delineation shall be included in the unit prices bid for the various items in the contract. Installation for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6" into the ground. Additional flagging may be placed on overhanging vegetation to enhance visibility but does not substitute for installation of stakes.

Installation of boundary flagging for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall be performed in accordance with Subarticle 230-4(B)(5) or Subarticle 802-2(F) of the *Standard Specifications*. No direct pay will be made for this delineation, as the cost of same shall be included in the unit prices bid for the various items in the contract.

The Contractor shall be required to maintain alternative stakes and highly visible flagging in a satisfactory condition for the duration of the project as determined by the Engineer.

Measurement and Payment

Safety Fence will be measured and paid as the actual number of linear feet of polyethylene or polypropylene fence installed in place and accepted. Such payment will be full compensation including but not limited to furnishing and installing fence geotextile with necessary posts and post bracing, staples, tie wires, tools, equipment and incidentals necessary to complete this work.

Payment will be made under:

Pay Item	**Pay Unit**
Safety Fence	Linear Foot

<u>PERMANENT SOIL REINFORCEMENT MAT:</u>

Description

This work consists of furnishing and placing *Permanent Soil Reinforcement Mat*, of the type specified, over previously prepared areas as directed.

Materials

The product shall be a permanent erosion control reinforcement mat and shall be constructed of synthetic or a combination of coconut and synthetic fibers evenly distributed throughout the mat between a bottom UV stabilized netting and a heavy duty UV stabilized top net. The matting shall be stitched together with UV stabilized polypropylene thread to form a permanent three-dimensional structure. The mat shall have the following minimum physical properties:

Property	Test Method	Value	Unit
Light Penetration	ASTM D6567	9	%
Thickness	ASTM D6525	0.40	in
Mass Per Unit Area	ASTM D6566	0.55	lb/sy
Tensile Strength	ASTM D6818	385	lb/ft
Elongation (Maximum)	ASTM D6818	49	%
Resiliency	ASTM D1777	>70	%
UV Stability *	ASTM D4355	≥80	%
Porosity (Permanent Net)	ECTC Guidelines	≥85	%
Maximum Permissible Shear Stress (Vegetated)	Performance Bench Test	≥8.0	lb/ft^2
Maximum Allowable Velocity (Vegetated)	Performance Bench Test	≥16.0	ft/s

*ASTM D1682 Tensile Strength and % strength retention of material after 1000 hours of exposure.

Submit a certification (Type 1, 2, or 3) from the manufacturer showing:

(A) the chemical and physical properties of the mat used, and
(B) conformance of the mat with this specification.

Construction Methods

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

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

Measurement and Payment

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

Payment will be made under:

Pay Item	**Pay Unit**
Permanent Soil Reinforcement Mat	Square Yard

COIR FIBER WATTLES WITH POLYACRYLAMIDE (PAM):

Description

Coir Fiber Wattles are tubular products consisting of coir fibers (coconut fibers) encased in coir fiber netting. Coir Fiber Wattles are used on slopes or channels to intercept runoff and act as a velocity break. Coir Fiber Wattles are to be placed at locations shown on the plans or as directed. Installation shall follow the detail provided in the plans and as directed. Work includes furnishing materials, installation of coir fiber wattles, matting installation, PAM application, and removing wattles.

Materials

Coir Fiber Wattle shall meet the following specifications:

100% Coir (Coconut) Fibers	
Minimum Diameter	12 in.
Minimum Density	3.5 lb/ft^3 +/- 10%
Net Material	Coir Fiber
Net Openings	2 in. x 2 in.
Net Strength	90 lbs.
Minimum Weight	2.6 lbs./ft. +/- 10%

Anchors: Stakes shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes a minimum of 2-ft. long with a 2 in. x 2 in. nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving down into the underlying soil.

Matting shall meet the requirements of Article 1060-8 of the *Standard Specifications*, or shall meet specifications provided elsewhere in this contract.

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

Polyacrylamide (PAM) shall be applied in powder form and shall be anionic or neutrally charged. Soil samples shall be obtained in areas where the wattles will be placed, and from offsite material used to construct the roadway, and analyzed for the appropriate PAM flocculant to be utilized with each wattle. The PAM product used shall be listed on the North Carolina Department of

Environmental Quality Division of Water Resources web site as an approved PAM product for use in North Carolina.

Construction Methods

Coir Fiber Wattles shall be secured to the soil by wire staples approximately every 1 linear foot and at the end of each section of wattle. A minimum of 4 stakes shall be installed on the downstream side of the wattle with a maximum spacing of 2 linear feet along the wattle, and according to the detail. Install a minimum of 2 stakes on the upstream side of the wattle according to the detail provided in the plans. Stakes shall be driven into the ground a minimum of 10 in. with no more than 2 in. projecting from the top of the wattle. Drive stakes at an angle according to the detail provided in the plans.

Only install coir fiber wattle(s) to a height in ditch so flow will not wash around wattle and scour ditch slopes and according to the detail provided in the plans and as directed. Overlap adjoining sections of wattles a minimum of 6 in.

Installation of matting shall be in accordance with the detail provided in the plans, and in accordance with Article 1631-3 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

Apply PAM over the lower center portion of the coir fiber wattle where the water is going to flow over at a rate of 2 ounces per wattle, and 1 ounce of PAM on matting on each side of the wattle. PAM applications shall be done during construction activities after every rainfall event that is equal to or exceeds 0.50 in.

The Contractor shall maintain the coir fiber wattles until the project is accepted or until the wattles are removed, and shall remove and dispose of silt accumulations at the wattles when so directed in accordance with the requirements of Section 1630 of the *Standard Specifications*.

Measurement and Payment

Coir Fiber Wattles will be measured and paid for by the actual number of linear feet of wattles which are installed and accepted. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the *Coir Fiber Wattles*.

Matting will be measured and paid for in accordance with Article 1631-4 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

Polyacrylamide(PAM) will be measured and paid for by the actual weight in pounds of PAM applied to the coir fiber wattles. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to apply the *Polyacrylamide(PAM)*.

Payment will be made under:

Pay Item	Pay Unit
Polyacrylamide(PAM)	Pound
Coir Fiber Wattle	Linear Foot

IMPERVIOUS DIKE:

Description

This work consists of furnishing, installing, maintaining, and removing an *Impervious Dike* for the purpose of diverting normal stream flow around the construction site. The Contractor shall construct an impervious dike in such a manner approved by the Engineer. The impervious dike shall not permit seepage of water into the construction site or contribute to siltation of the stream. The impervious dike shall be constructed of an acceptable material in the locations noted on the plans or as directed.

Materials

Acceptable materials shall include but not be limited to sheet piles, sandbags, and/or the placement of an acceptable size stone lined with polypropylene or other impervious geotextile.

Earth material shall not be used to construct an impervious dike when it is in direct contact with the stream unless vegetation can be established before contact with the stream takes place.

Measurement and Payment

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

Payment will be made under:

Pay Item	Pay Unit
Impervious Dike	Linear Foot

COIR FIBER MAT:

Description

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

Materials

Item	**Section**
Coir Fiber Mat	1060-14

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

Wooden Stakes:

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

Steel Reinforcement Bars:

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

Staples:

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

Construction Methods

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

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

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

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

Measurement and Payment

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

No measurement will be made for anchor items.

Payment will be made under:

Pay Item	Pay Unit
Coir Fiber Mat	Square Yard

FLOATING TURBIDITY CURTAIN:

Description

This work consists of furnishing a *Floating Turbidity Curtain* to deter silt suspension and movement of silt particles during construction. The floating turbidity curtain shall be constructed at locations as directed.

Materials

The curtain material shall be made of a tightly woven nylon, plastic or other non-deteriorating material meeting the following specifications:

Property	Value
Grab tensile strength	*md-370 lbs *cd-250 lbs
Mullen burst stength	480 psi
Trapezoid tear strength	*md-100 lbs *cd-60 lbs
Apparent opening size	70 US standard sieve
Percent open area	4% permittivity 0.28 sec-1

*md - machine direction
*cd - cross machine direction

In the event that more than one width of fabric is required, a 6" overlap of the material shall also be required.

The curtain material shall be supported by a flotation material having over 29 lbs/ft buoyancy. The floating curtain shall have a 5/16" galvanized chain as ballast and dual 5/16" galvanized wire ropes with a heavy vinyl coating as load lines.

Construction Methods

The Contractor shall maintain the *Floating Turbidity Curtain* in a satisfactory condition until its removal is requested by the Engineer. The curtain shall extend to the bottom of the jurisdictional resource. Anchor the curtain according to manufacturer recommendations.

Measurement and Payment

Floating Turbidity Curtain will be measured and paid for as the actual number of square yards of curtain furnished as specified and accepted. Such price and payment will be full compensation for the work as described in this section including but not limited to furnishing all materials, tools, equipment, and all incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
Floating Turbidity Curtain	Square Yard

CONCRETE WASHOUT STRUCTURE:
(12-10-20)

Description

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

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

Materials

Item	Section
Temporary Silt Fence	1605

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

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

Construction Methods

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

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

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

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

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

Alternate details for accommodating concrete washout may be submitted for review and approval.

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

Maintenance and Removal

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

Inspect concrete washout structures for damage and maintain for effectiveness.

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

Measurement and Payment

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

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

Safety Fence shall be measured and paid for as provided elsewhere in this contract.

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

Payment will be made under:

Pay Item	**Pay Unit**
Concrete Washout Structure	Each

CORRUGATED ALUMINUM ALLOY PIPE AND ALUMINUM STRUCTURAL PLATE HEADWALLS

1.0 GENERAL

1.1 This item shall govern the furnishing and installation of ALUMINUM ALLOY PIPE and ALUMINUM STRUCTURAL PLATE (ALSP) HEADWALLS for culverts and storm sewers for the types, sizes, and designations as shown on the plans and further specified in these specifications.

2.0 MATERIAL

2.1 The pipe shall be fabricated from an ALUMINUM ALLOY coil, conforming to the current ASTM B-744 (AASHTO M-197) material specification. The materials shall also meet or exceed the latest N.C. Department of Transportation Specifications and shall be designed for a HL-93 Live Load.

2.2 Pipe is to be fully welded inside and out to headwalls using two root welds and two finish welds on either side of the wall. All finish welds are to be ground to a smooth finish.

2.3 Headwalls and Pipe shall to be reinforced per AASHTO specifications and structural engineer's requirements.

2.4 All fabrication of the product shall occur within the United States.

2.5 Supplier must provide all necessary hardware including wale beams, caps, gaskets, galvanized steel tieback rods with dead man anchor (DMA) plates, anchors, lugs, inserts, adjustable turnbuckles and all other materials relating to the pipe and headwall system necessary to complete the assembly.

2.6 All joints shall be connected with ¼" thick Aluminum Flanges fully welded to each pipe connected with a 3/4" diameter, A307 Galvanized Steel Bolts with 3/8" thick Neoprene Gaskets.

3.0 INSTALLATION

3.1 Job Site Installation Assistance: A manufacturer's representative, with at least two (2) years of experience in the installation of this type of structure, is required to give technical advice with assembly of the pipe and headwalls, as well as, to be on site during the installation and backfilling of the pipe and headwalls through completion.

3.2 Installation shall be in accordance with AASHTO Standard Specifications for Highway Bridges, Section 26 and the Project Plans and Specifications.

3.3 Backfill Material: Recommended backfill material shall be the following:

3.3.1 Pipe Bedding and where water is encountered: NCDOT #57 Stone or approved equal. (Section 1005 of the NCDOT Standard Specifications).

3.3.2 Other backfill up to a minimum of 12" over the top of the pipe: NCDOT ABC stone or approved equal. (Section 1005 of the NCDOT Standard Specifications).

3.3.3 When transitioning from #57 stone to ABC stone, a minimum 4 oz. geotextile is required for separation of the different backfill materials.

3.3.4 Construction Loads: Construction loads may be higher than final design loads. Follow manufacturer's guidelines.

3.3.5 All backfill behind the headwalls and wing walls shall be stone and shall extend a minimum specified distance behind the face of the walls and wings walls.

4.0 SHOP DRAWINGS

4.1 Within five (5) days after receiving purchase order, bidder will submit three (3) copies of detailed shop drawings, and one (1) copy of design calculations for review and approval. These drawings and calculations shall be provided by an independent engineering firm and stamped and sealed by a North Carolina Professional Engineer.

5.0 MEASUREMENT AND PAYMENT

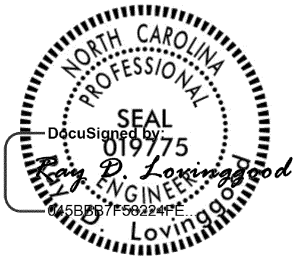
Aluminum Headwall, 0.150" Thick (Contractor Designed) will be measured and paid as each for the actual number of headwalls incorporated into the completed and accepted work. Such prices and payment will be full compensation for all materials, labor, tools, equipment and incidentals necessary to complete the work.

35" x 24" Corrugated Aluminum Pipe Arch 0.105" Thick (12 Gauge) will be measured and paid in linear feet of all pipe that has been incorporated into the completed and accepted work. Measurement will be made along the pipe installation to the nearest foot. Such prices and payment will be full compensation for all materials, labor, tools, equipment and incidentals necessary to complete the work

Payment will be made under:

Pay Item	**Pay Unit**
Aluminum Headwall, 0.150" Thick (Contractor Designed)	Each
35" x 24" Corrugated Aluminum Pipe Arch 0.105" Thick (12 Gauge)	Linear Foot

.



11/9/2021

NORTH CAROLINA PROFESSIONAL SEAL 042608 ENGINEER MEGHAN E. LEBLANC

DocuSigned by: Meghan E. LeBlanc 3/26/2021

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Document not considered final unless all signatures completed.

Signals and Intelligent Transportation Systems
Project Special Provisions
(Version 18.5)

Prepared By: _MEL__
26-Mar-21

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1. 2018 STANDARD SPECIFICATIONS FOR ROADS & STRUCTURES

The 2018 Standard Specifications are revised as follows:

1.1. GENERAL REQUIREMENTS – Construction Methods (1700-3(K))

Page 17-4, revise sentence starting on line 14 to read "Modify existing electrical services, as necessary, to meet the grounding requirements of the NEC, these *Standard Specifications, Standard Drawings,* and the project plans."

Page 17-4, revise sentence beginning on line 21 to read "Furnish and install additional ground rods to grounding electrode system as necessary to meet the *Standard Specifications, Standard Drawings*, and test requirements."

1.2. GENERAL REQUIREMENTS – Construction Methods (1700-3(M))

Page 17-4, Replace the sentence beginning on line 41 with "Prior to placing signal in the steady (stop-and-go) mode, the signal should be placed in the flashing mode for up to 7 days or as directed by the Engineer. The signal should not be placed in the steady (stop-and-go) mode on a Saturday or Sunday without prior approval from the Engineer. Do not place the signal in steady (stop-and-go) mode until inspected and without the prior approval of the Engineer."

1.3. WOOD POLES – Construction Methods (1720-3)

Page 17-18, revise sentence starting on line 13 to read "On new Department-owned poles, install a grounding system consisting of #6 AWG solid bare copper wire that is mechanically crimped using an irreversible compression tool with die to a single ground rod installed at base of pole or to the electrical service grounding electrode system located within 10 feet of the pole."

2. SIGNAL HEADS

2.1. MATERIALS

A. General:

Fabricate vehicle signal head housings and end caps from die-cast aluminum. Fabricate 12-inch and 16-inch pedestrian signal head housings and end caps from die-cast aluminum. Fabricate 9-inch pedestrian signal head housings, end caps, and visors from virgin polycarbonate material. Provide visor mounting screws, door latches, and hinge pins fabricated from stainless steel. Provide interior screws, fasteners, and metal parts fabricated from stainless steel.

Fabricate tunnel and traditional visors from sheet aluminum.

Paint all surfaces inside and outside of signal housings and doors. Paint outside surfaces of tunnel and traditional visors, wire outlet bodies, wire entrance fitting brackets and end caps when supplied as components of messenger cable mounting assemblies, pole and pedestal mounting assemblies, and pedestrian pushbutton housings. Have electrostatically-applied, fused-polyester paint in highway yellow (Federal Standard 595C, Color Chip Number 13538) a minimum of 2.5 to 3.5 mils thick. Do not apply paint to the latching hardware, rigid vehicle signal head mounting brackets for mast-arm attachments, messenger cable hanger components or balance adjuster components.

Have the interior surfaces of tunnel and traditional visors painted an alkyd urea black synthetic baking enamel with a minimum gloss reflectance and meeting the requirements of MIL-E-10169, "Enamel Heat Resisting, Instrument Black."

Where required, provide polycarbonate signal heads and visors that comply with the provisions pertaining to the aluminum signal heads listed on the QPL with the following exceptions:

Fabricate signal head housings, end caps, and visors from virgin polycarbonate material. Provide UV stabilized polycarbonate plastic with a minimum thickness of 0.1 ± 0.01 inches that is highway yellow (Federal Standard 595C, Color Chip 13538). Ensure the color is incorporated into the plastic material before molding the signal head housings and end caps. Ensure the plastic formulation provides the following physical properties in the assembly (tests may be performed on separately molded specimens):

Test	Required	Method
Specific Gravity	1.17 minimum	ASTM D 792
Flammability	Self-extinguishing	ASTM D 635
Tensile Strength, yield, PSI	8500 minimum	ASTM D 638
Izod impact strength, ft-lb/in [notched, 1/8 inch]	12 minimum	ASTM D 256

For pole mounting, provide side of pole mounting assemblies with framework and all other hardware necessary to make complete, watertight connections of the signal heads to the poles and pedestals. Fabricate the mounting assemblies and frames from aluminum with all necessary hardware, screws, washers, etc. to be stainless steel. Provide mounting fittings that match the positive locking device on the signal head with the serrations integrally cast into the brackets. Provide upper and lower pole plates that have a 1 ¼-inch vertical conduit entrance hubs with the hubs capped on the lower plate and 1 ½-inch horizontal hubs. Ensure that the assemblies provide rigid attachments to poles and pedestals so as to allow no twisting or swaying of the signal heads. Ensure that all raceways are free of sharp edges and protrusions, and can accommodate a minimum of ten Number 14 AWG conductors.

For pedestal mounting, provide a post-top slipfitter mounting assembly that matches the positive locking device on the signal head with serrations integrally cast into the slipfitter. Provide stainless steel hardware, screws, washers, etc. Provide a minimum of six 3/8 X 3/4-inch long square head bolts for attachment to pedestal. Provide a center post for multi-way slipfitters.

For light emitting diode (LED) traffic signal modules, provide the following requirements for inclusion on the Department's Qualified Products List for traffic signal equipment.

1. Sample submittal,
2. Third-party independent laboratory testing results for each submitted module with evidence of testing and conformance with all of the Design Qualification Testing specified in section 6.4 of each of the following Institute of Transportation Engineers (ITE) specifications:
   - Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Circular Signal Supplement
   - Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement
   - Pedestrian Traffic Control Signal Indications –Light Emitting Diode (LED) Signal Modules.

   (Note: The Department currently recognizes two approved independent testing laboratories. They are Intertek ETL Semko and Light Metrics, Incorporated with Garwood Laboratories. Independent laboratory tests from other laboratories may be considered as part of the QPL submittal at the discretion of the Department,
3. Evidence of conformance with the requirements of these specifications,

4. A manufacturer's warranty statement in accordance with the required warranty, and
5. Submittal of manufacturer's design and production documentation for the model, including but not limited to, electrical schematics, electronic component values, proprietary part numbers, bill of materials, and production electrical and photometric test parameters.
6. Evidence of approval of the product to bear the Intertek ETL Verified product label for LED traffic signal modules.

In addition to meeting the performance requirements for the minimum period of 60 months, provide a written warranty against defects in materials and workmanship for the modules for a period of 60 months after installation of the modules. During the warranty period, the manufacturer must provide new replacement modules within 45 days of receipt of modules that have failed at no cost to the State. Repaired or refurbished modules may not be used to fulfill the manufacturer's warranty obligations. Provide manufacturer's warranty documentation to the Department during evaluation of product for inclusion on Qualified Products List (QPL).

B. Vehicle Signal Heads:

Comply with the ITE standard "Vehicle Traffic Control Signal Heads". Provide housings with provisions for attaching backplates.

Provide visors that are 8 inches in length for 8-inch vehicle signal head sections. Provide visors that are 10 inches in length for 12-inch vehicle signal heads.

Provide a termination block with one empty terminal for field wiring for each indication plus one empty terminal for the neutral conductor. Have all signal sections wired to the termination block. Provide barriers between the terminals that have terminal screws with a minimum Number 8 thread size and that will accommodate and secure spade lugs sized for a Number 10 terminal screw.

Mount termination blocks in the yellow signal head sections on all in-line vehicle signal heads. Mount the termination block in the red section on five-section vehicle signal heads.

Furnish vehicle signal head interconnecting brackets. Provide one-piece aluminum brackets less than 4.5 inches in height and with no threaded pipe connections. Provide hand holes on the bottom of the brackets to aid in installing wires to the signal heads. Lower brackets that carry no wires and are used only for connecting the bottom signal sections together may be flat in construction.

For messenger cable mounting, provide messenger cable hangers, wire outlet bodies, balance adjusters, bottom caps, wire entrance fitting brackets, and all other hardware necessary to make complete, watertight connections of the vehicle signal heads to the messenger cable. Fabricate messenger cable hanger components, wire outlet bodies and balance adjuster components from stainless steel or malleable iron galvanized in accordance with ASTM A153 (Class A) or ASTM A123. Provide serrated rings made of aluminum. Provide messenger cable hangers with U-bolt clamps. Fabricate washers, screws, hex-head bolts and associated nuts, clevis pins, cotter pins, U-bolt clamps and nuts from stainless steel.

For mast-arm mounting, provide rigid vehicle signal head mounting brackets and all other hardware necessary to make complete, watertight connections of the vehicle signal heads to the mast arms and to provide a means for vertically adjusting the vehicle signal heads to proper alignment. Fabricate the mounting assemblies from aluminum, and provide serrated rings made of aluminum. Provide stainless steel cable attachment assemblies to secure the brackets to the mast arms. Ensure all fastening hardware and fasteners are fabricated from stainless steel.

Provide LED vehicular traffic signal modules (hereafter referred to as modules) that consist of an assembly that uses LEDs as the light source in lieu of an incandescent lamp for use in traffic signal

sections. Use LEDs that are aluminum indium gallium phosphorus (AlInGaP) technology for red and yellow indications and indium gallium nitride (InGaN) for green indications. Install the ultra bright type LEDs that are rated for 100,000 hours of continuous operation from -40°F to +165°F. Design modules to have a minimum useful life of 60 months and to meet all parameters of this specification during this period of useful life.

For the modules, provide spade terminals crimped to the lead wires and sized for a #10 screw connection to the existing terminal block in a standard signal head. Do not provide other types of crimped terminals with a spade adapter.

Ensure the power supply is integral to the module assembly. On the back of the module, permanently mark the date of manufacture (month & year) or some other method of identifying date of manufacture.

Tint the red, yellow and green lenses to correspond with the wavelength (chromaticity) of the LED. Transparent tinting films are unacceptable. Provide a lens that is integral to the unit with a smooth outer surface.

1. LED Circular Signal Modules:

Provide modules in the following configurations: 12-inch circular sections, and 8-inch circular sections. All makes and models of LED modules purchased for use on the State Highway System shall appear on the current NCDOT Traffic Signal Qualified Products List (QPL).

Provide the manufacturer's model number and the product number (assigned by the Department) for each module that appears on the 2018 or most recent Qualified Products List. In addition, provide manufacturer's certification in accordance with Article 106-3 of the *Standard Specifications,* that each module meets or exceeds the ITE "Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Circular Signal Supplement" dated June 27, 2005 (hereafter referred to as VTCSH Circular Supplement) and other requirements stated in this specification.

Provide modules that meet the following requirements when tested under the procedures outlined in the VTCSH Circular Supplement:

Module Type	Max. Wattage at 165° F	Nominal Wattage at 77° F
12-inch red circular	17	11
8-inch red circular	13	8
12-inch green circular	15	15
8-inch green circular	12	12

For yellow circular signal modules, provide modules tested under the procedures outlined in the VTCSH Circular Supplement to insure power required at 77° F is 22 Watts or less for the 12-inch circular module and 13 Watts or less for the 8-inch circular module.

Note: Use a wattmeter having an accuracy of ±1% to measure the nominal wattage and maximum wattage of a circular traffic signal module. Power may also be derived from voltage, current and power factor measurements.

2. LED Arrow Signal Modules

Provide 12-inch omnidirectional arrow signal modules. All makes and models of LED modules purchased for use on the State Highway System shall appear on the current NCDOT Traffic Signal Qualified Products List (QPL).

Provide the manufacturer's model number and the product number (assigned by the Department) for each module that appears on the 2018 or most recent Qualified Products List. In addition, provide

manufacturer's certification in accordance with Article 106-3 of the *Standard Specifications,* that each module meets or exceeds the requirements for 12-inch omnidirectional modules specified in the ITE "Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement" dated July 1, 2007 (hereafter referred to as VTCSH Arrow Supplement) and other requirements stated in this specification.

Provide modules that meet the following requirements when tested under the procedures outlined in the VTCSH Arrow Supplement:

Module Type	Max. Wattage at 165° F	Nominal Wattage at 77° F
12-inch red arrow	12	9
12-inch green arrow	11	11

For yellow arrow signal modules, provide modules tested under the procedures outlined in the VTCSH Arrow Supplement to insure power required at 77° F is 12 Watts or less.

Note: Use a wattmeter having an accuracy of ±1% to measure the nominal wattage and maximum wattage of an arrow traffic signal module. Power may also be derived from voltage, current and power factor measurements.

3. LED U-Turn Arrow Signal Modules:

Provide modules in the following configurations: 12-inch left u-turn arrow signal modules and 12-inch right u-turn arrow signal modules.

Modules are not required to be listed on the ITS and Signals Qualified Products List. Provide manufacturer's certification in accordance with Article 106-3 of the *Standard Specifications,* that each module meets or exceeds the ITE "Vehicle Traffic Control Signal Heads – Light Emitting Diode (LED) Circular Signal Supplement" dated June 27, 2005 (hereafter referred to as VTCSH Circular Supplement) and other requirements stated in this specification.

Provide modules that have minimum maintained luminous intensity values that are not less than 16% of the values calculated using the method described in section 4.1 of the VTCSH Circular Supplement.

Provide modules that meet the following requirements when tested under the procedures outlined in the VTCSH Circular Supplement:

Module Type	Max. Wattage at 165° F	Nominal Wattage at 77° F
12-inch red u-turn arrow	17	11
12-inch green u-turn arrow	15	15

For yellow u-turn arrow signal modules, provide modules tested under the procedures outlined in the VTCSH Circular Supplement to ensure power required at 77° F is 22 Watts or less.

Note: Use a wattmeter having an accuracy of ±1% to measure the nominal wattage and maximum wattage of a circular traffic signal module. Power may also be derived from voltage, current and power factor measurements.

4. LED Bi-Modal Green-Yellow Arrow Signal Modules

Provide 12-inch omnidirectional bi-modal arrow signal modules. Ensure both green and yellow arrow indications are in each module with a clear lens that is integral to the unit. Ensure both indications display an incandescent style look.

Modules are not required to be listed on the ITS and Signals Qualified Products List. Ensure that both indications along with the module meet or exceed the requirements in sections 1, 2, 3, 4 and 5 of the VTCSH Arrow Supplement and other requirements stated in this specification.

Provide modules that meet the following requirements when tested under the procedures outlined in the VTCSH Arrow Supplement:

Arrow Type	Nominal Wattage at 77° F
12-inch yellow arrow	12
12-inch green arrow	11

Note: Use a wattmeter having an accuracy of ±1% to measure the nominal wattage and maximum wattage of a circular traffic signal module. Power may also be derived from voltage, current and power factor measurements.

C. Pedestrian Signal Heads:

Provide pedestrian signal heads with international symbols that meet the MUTCD. Do not provide letter indications.

Comply with the ITE standard for "Pedestrian Traffic Control Signal Indications" and the following sections of the ITE standard for "Vehicle Traffic Control Signal Heads" in effect on the date of advertisement:

- Section 3.00 - "Physical and Mechanical Requirements"
- Section 4.01 - "Housing, Door, and Visor: General"
- Section 4.04 - "Housing, Door, and Visor: Materials and Fabrication"
- Section 7.00 - "Exterior Finish"

Provide a double-row termination block with three empty terminals and number 10 screws for field wiring. Provide barriers between the terminals that accommodate a spade lug sized for number 10 terminal screws. Mount the termination block in the hand section. Wire all signal sections to the terminal block.

Where required by the plans, provide 16-inch pedestrian signal heads with traditional three-sided, rectangular visors, 6 inches long. Where required by the plans, provide 12-inch pedestrian signal heads with traditional three-sided, rectangular visors, 8 inches long.

Provide 2-inch diameter pedestrian push-buttons with weather-tight housings fabricated from die-cast aluminum and threading in compliance with the NEC for rigid metal conduit. Provide a weep hole in the housing bottom and ensure that the unit is vandal resistant.

Provide push-button housings that are suitable for mounting on flat or curved surfaces and that will accept 1/2-inch conduit installed in the top. Provide units that have a heavy duty push-button assembly with a sturdy, momentary, normally-open switch. Have contacts that are electrically insulated from the housing and push-button. Ensure that the push-buttons are rated for a minimum of 5 mA at 24 volts DC and 250 mA at 12 volts AC.

Provide standard R10-3 signs with mounting hardware that comply with the MUTCD in effect on the date of advertisement. Provide R10-3E signs for countdown pedestrian heads and R10-3B for non-countdown pedestrian heads.

Design the LED pedestrian traffic signal modules (hereafter referred to as modules) for installation into standard pedestrian traffic signal sections that do not contain the incandescent signal section reflector, lens, eggcrate visor, gasket, or socket. Provide modules that consist of an assembly that uses LEDs as the light source in lieu of an incandescent lamp. Use LEDs that are of the latest aluminum indium gallium phosphorus (AlInGaP) technology for the Portland Orange hand and

countdown displays. Use LEDs that are of the latest indium gallium nitride (InGaN) technology for the Lunar White walking man displays. Install the ultra-bright type LEDs that are rated for 100,000 hours of continuous operation from -40°F to +165°F. Design modules to have a minimum useful life of 60 months and to meet all parameters of this specification during this period of useful life.

Design all modules to operate using a standard 3 - wire field installation. Provide spade terminals crimped to the lead wires and sized for a #10 screw connection to the existing terminal block in a standard pedestrian signal housing. Do not provide other types of crimped terminals with a spade adapter.

Ensure the power supply is integral to the module assembly. On the back of the module, permanently mark the date of manufacture (month & year) or some other method of identifying date of manufacture.

Provide modules in the following configuration: 16-inch displays which have the solid hand/walking man overlay on the left and the countdown on the right, and 12-inch displays which have the solid hand/walking man module as an overlay. All makes and models of LED modules purchased for use on the State Highway System shall appear on the current NCDOT Traffic Signal Qualified Products List (QPL).

Provide the manufacturer's model number and the product number (assigned by the Department) for each module that appears on the 2018 or most recent Qualified Products List. In addition, provide manufacturer's certification in accordance with Article 106-3 of the *Standard Specifications,* that each module meets or exceeds the ITE "Pedestrian Traffic Control Signal Indicators - Light Emitting Diode (LED) Signal Modules" dated August 04, 2010 (hereafter referred to as PTCSI Pedestrian Standard) and other requirements stated in this specification.

Provide modules that meet the following requirements when tested under the procedures outlined in the PTCSI Pedestrian Standard:

Module Type	Max. Wattage at 165° F	Nominal Wattage at 77° F
Hand Indication	16	13
Walking Man Indication	12	9
Countdown Indication	16	13

Note: Use a wattmeter having an accuracy of ±1% to measure the nominal wattage and maximum wattage of a circular traffic signal module. Power may also be derived from voltage, current and power factor measurements.

Provide module lens that is hard coated or otherwise made to comply with the material exposure and weathering effects requirements of the Society of Automotive Engineers (SAE) J576. Ensure all exposed components of the module are suitable for prolonged exposure to the environment, without appreciable degradation that would interfere with function or appearance.

Ensure the countdown display continuously monitors the traffic controller to automatically learn the pedestrian phase time and update for subsequent changes to the pedestrian phase time.

Ensure the countdown display begins normal operation upon the completion of the preemption sequence and no more than one pedestrian clearance cycle.

D. Signal Cable:

Furnish 16-4 and 16-7 signal cable that complies with IMSA specification 20-1 except provide the following conductor insulation colors:

- For 16-4 cable: white, yellow, red, and green

- For 16-7 cable: white, yellow, red, green, yellow with black stripe tracer, red with black stripe tracer, and green with black stripe tracer. Apply continuous stripe tracer on conductor insulation with a longitudinal or spiral pattern.

Provide a ripcord to allow the cable jacket to be opened without using a cutter. IMSA specification 19-1 will not be acceptable. Provide a cable jacket labeled with the IMSA specification number and provide conductors constructed of stranded copper.

3. CONTROLLERS WITH CABINETS

3.1.MATERIALS – GENERAL CABINETS

Provide a moisture resistant coating on all circuit boards.

Provide one 20 mm diameter radial lead UL-recognized metal oxide varistor (MOV) between each load switch field terminal and equipment ground. Electrical performance is outlined below.

PROPERTIES OF MOV SURGE PROTECTOR	
Maximum Continuous Applied Voltage at 185° F	150 VAC (RMS) 200 VDC
Maximum Peak 8x20µs Current at 185° F	6500 A
Maximum Energy Rating at 185° F	80 J
Voltage Range 1 mA DC Test at 77° F	212-268 V
Max. Clamping Voltage 8x20µs, 100A at 77° F	395 V
Typical Capacitance (1 MHz) at 77° F	1600 pF

Provide a power line surge protector that is a two-stage device that will allow connection of the radio frequency interference filter between the stages of the device. Ensure that a maximum continuous current is at least 10A at 120V. Ensure that the device can withstand a minimum of 20 peak surge current occurrences at 20,000A for an 8x20 microsecond waveform. Provide a maximum clamp voltage of 395V at 20,000A with a nominal series inductance of 200µh. Ensure that the voltage does not exceed 395V. Provide devices that comply with the following:

Frequency (Hz)	Minimum Insertion Loss (dB)
60	0
10,000	30
50,000	55
100,000	50
500,000	50
2,000,000	60
5,000,000	40
10,000,000	20
20,000,000	25

3.2. MATERIALS – TYPE 170 DETECTOR SENSOR UNITS

Furnish detector sensor units that comply with Chapter 5 Section 1, "General Requirements," and Chapter 5 Section 2, "Model 222 & 224 Loop Detector Sensor Unit Requirements," of the CALTRANS "Transportation Electrical Equipment Specifications" dated March 12, 2009 with Erratum 1.

3.3. MATERIALS – TYPE 2070E CONTROLLERS

Furnish model 2070E controller units that conform to CALTRANS *Transportation Electrical Equipment Specifications* (TEES) (dated March 12, 2009, plus Errata 1 dated January 21, 2010 and Errata 2 dated December 5, 2014) except as required herein.

The Department will provide software at the beginning of the burning-in period. Contractor shall give 5 working days notice before needing software. Program software provided by the Department.

Provide model 2070E controllers with OS-9 release 1.3.1 or later with kernel edition #380 or later operating software and device drivers, composed of the unit chassis and at a minimum the following modules and assemblies:

- MODEL 2070-1E, CPU Module, Single Board, with 8Mb Datakey (blue in color)
- MODEL 2070-2E+, Field I/O Module (FI/O)
  - Note: Configure the Field I/O Module to disable both the External WDT Shunt/Toggle Switch and SP3 (SP3 active indicator is "off")
- MODEL 2070-3B, Front Panel Module (FP), Display B (8x40)
- MODEL 2070-4A, Power Supply Module, 10 AMP
- MODEL 2070-7A, Async Serial Com Module (9-pin RS-232)

4. METAL POLE SUPPORTS

4.1. METAL POLES

A. General:

Furnish and install metal poles, grounding systems, and all necessary hardware. Work covered under this special provision includes requirements for design, fabrication, and installation of standard and custom/site-specific designed metal pole supports and associated foundations.

Comply with applicable sections of the *2018 STANDARD SPECIFICATIONS FOR ROADS & STRUCTURES*, hereinafter referred to as the *Standard Specifications.* Provide designs of completed assemblies with hardware equaling or exceeding AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals* 6th Edition, 2013 (hereinafter called 6th Edition AASHTO), including the latest interim specifications. Provide assemblies with a round or near-round (18 sides or more) cross-section, or a multi-sided cross section with no less than six sides. The sides may be straight, convex, or concave.

For bid purposes, pole heights shown on plans are estimated from available data. Prior to furnishing metal poles, use field measurements and adjusted cross-sections to determine whether pole heights will meet required clearances. If pole heights do not meet required clearances, the Contractor should immediately notify the Engineer of the required revised pole heights.

Standard Drawings for Metal Poles are available that supplement these project special provisions. The drawings are located on the Department's website:

https://connect.ncdot.gov/resources/safety/pages/ITS-Design-Resources.aspx

Comply with article 1098-1B of the *Standard Specifications* for submittal requirements. Furnish shop drawings for approval. Provide copies of detailed shop drawings for each type of structure as summarized below. Ensure shop drawings include material specifications for each component. Ensure shop drawings identify welds by type and size on the detail drawing only, not in table format. **Do not release structures for fabrication until shop drawings have been approved by NCDOT**. Ensure shop drawings contain an itemized bill of materials for all structural components and associated connecting hardware.

Comply with article 1098-1A of the *Standard Specifications* for Qualified Products List (QPL) submittals. All shop drawings must include project location description, signal or asset inventory number(s) and project number or work order number.

Summary of information required for metal pole review submittal:

Item	Electronic Submittal	Comments / Special Instructions
Sealed, Approved Signal or ITS Plan/Loading Diagram	1 set	All structure design information needs to reflect the latest approved Signal or ITS plans
Custom Pole Shop Drawings	1 set	Submit drawings on 11” x 17” format media. Show NCDOT signal or asset inventory number(s), Contractor’s name and relevant revision number in the title block. All drawings must have a unique drawing number for each project.
Standard Strain Pole Shop Drawings (from the QPL)	1 set	Submit drawings on 11” x 17” format media. Show NCDOT signal inventory number(s), Contractor’s name and relevant revision number in the title block. All drawings must have a unique drawing number for each project.
Structure Calculations	1 set	Not required for Standard QPL Poles
Standard Strain Pole Foundation Drawings	1 set	Submit drawings on 11” x 17” format media. Submit a completed Standard Foundation Selection form for each pole using foundation table on Metal Pole Drawing M8.
Custom Foundation Drawings	1 set	Submit drawings on 11” x 17” format media. Show NCDOT signal or asset inventory number(s), Contractor’s name and relevant revision number in the title block. All drawings must have a unique drawing number for each project. If QPL Poles are used, include the corresponding QPL pole shop drawings with this submittal.
Foundation Calculations	1 set	**Submit copies of LPILE input, output, and pile tip deflection graph per Section titled Drilled Pier Foundations for Metal Poles of this specification for each foundation.** Not required for Standard Strain Poles (from the QPL)

Soil Boring Logs and Report	1 set	Report shall include a location plan and a soil classification report including soil capacity, water level, hammer efficiency, soil bearing pressure, soil density, etc. for each pole.

NOTE – All shop drawings and custom foundation design drawings must be sealed by a Professional Engineer licensed in the state of North Carolina. All geotechnical information must be sealed by either a Professional Engineer or Geologist licensed in the state of North Carolina. Include a title block and revision block on the shop drawings and foundation drawings showing the NCDOT signal or asset inventory number(s).

Shop drawings and foundation drawings may be submitted together or separately for approval. However, shop drawings must be approved before foundations can be reviewed. Foundation designs will be returned without review if the associated shop drawing has not been approved. Boring reports shall include the following: Engineer's summary, boring location maps, soil classification per AASHTO Classification System, hammer efficiency, and Metal Pole Standard Foundation Selection Form. Incomplete submittals will be returned without review. The Reviewer has the right to request additional analysis and copies of the calculations to expedite the approval process.

B. Materials:

Fabricate metal pole from coil or plate steel that meet the requirements of ASTM A 595 Grade A tubes. For structural steel shapes, plates, and bars use, as a minimum, ASTM A572 Gr 50, AASHTO M270 Gr 50, ASTM A709 Gr 50, or an approved equivalent. Provide pole shafts of round or near round (18 sides or more) cross-section, or multi-sided tubular cross-section with no less than six sides, having a uniform linear taper of 0.14 in/ft. Construct shafts from one piece of single-ply plate or coil. For anchor base fabrication, conform to the applicable bolt pattern and orientation as shown on Metal Pole Standard Drawing Sheet M2.

Use the submerged arc process, or other NCDOT previously approved process suitable for shafts, to continuously weld pole shafts along their entire length. Finish the longitudinal seam weld flush with the outside contour of the base metal. Ensure shaft has no circumferential welds except at the lower end joining the shaft to the pole base. Use full penetration groove welds with backing ring for all tube-to-transverse-plate connections in accordance with 6th Edition AASHTO. Provide welding that conforms to Article 1072-18 of the *Standard Specifications.* No field welding on any part of the pole will be permitted unless approved by a qualified Engineer.

After fabrication, hot-dip galvanize steel poles and all assembly components in accordance with section 1076-3 of the *Standard Specifications*. Design structural assemblies with weep holes large enough and properly located to drain molten zinc during the galvanization process. Galvanize hardware in accordance with section 1076-4 of the *Standard Specifications*. Ensure threaded material is brushed and retapped as necessary after galvanizing. Perform repair of damaged galvanizing in accordance with section 1076-7 of the Standard *Specifications. Ensure* all hardware is galvanized steel or stainless steel. The Contractor is responsible for ensuring the Designer/Fabricator specifies connecting hardware and/or materials that prevent a dissimilar metal corrosive reaction.

Ensure each anchor rod is 2-inch minimum diameter and 60-inch length. Provide 10-inch minimum thread projection at the top of the rod, and 8-inch minimum at the bottom of the rod. Use anchor rod assembly and drilled pier foundation materials complying with SP09_R005, hereinafter referred to as *Foundations and Anchor Rod Assemblies for Metal Poles*.

Ensure anchor bolt hole diameters are ¼-inch larger than the anchor bolt diameters in the base plate.

Provide a circular anchor bolt lock plate securing the anchor bolts at the embedded end with two (2) washers and two (2) nuts. Provide a base plate template matching the bolt circle diameter of the anchor bolt lock plate. Construct plates and templates from ¼-inch minimum thick steel with a minimum width of 4 inches. Hot-dip galvanizing is not required for both plates.

Provide four (4) heavy hex nuts and four (4) flat washers for each anchor bolt. For nuts, use AASHTO M291 grade 2H, DH, or DH3 or equivalent material. For flat washers, use AASHTO M293 or equivalent material. Ensure anchor bolts have required diameters, lengths, and positions, and will develop strengths comparable to their respective poles.

For each pole, provide a grounding lug with a ½-inch minimum thread diameter, coarse thread stud and nut that will accommodate #4 AWG ground wire. Ensure the lug is electrically bonded to the pole and is conveniently located inside the pole at the hand hole.

Provide a removable pole cap with stainless steel attachment screws for the top of each pole. Ensure cap is cast aluminum conforming to Aluminum Association Alloy 356.0F. Furnish cap attached to the pole with a sturdy stainless-steel chain that is long enough to permit cap to hang clear of the pole-top opening when cap is removed.

Where required by the plans, furnish couplings 42 inches above bottom of the pole base for mounting of pedestrian pushbuttons. Provide mounting points consisting of 1½-inch internally threaded half-couplings complying with the NEC, mounted within the poles. Ensure that couplings are essentially flush with the outside surfaces of the poles and are installed before any required hot-dip galvanizing. Provide a threaded plug in each mounting point. Ensure the surface of the plug is essentially flush with the outer end of the mounting point when installed and has a recessed slot that will accommodate a ½ “drive standard socket wrench.

Metal poles may be erected and fully loaded after concrete has attained a minimum allowable compressive strength of 3,000 psi.

Connect poles to grounding electrodes and bond them to the electrical service grounding electrodes.

When field drilling is necessary for wire or cable entrances into the pole, comply with the following requirements:

- Do not drill holes within 2 inches of any welds.
- Do not drill any holes larger than 3 inches in diameter without checking with the ITS & Signals Structure Engineers.
- Avoid drilling multiple holes along the same cross section of tube shafts.
- Install rubber grommets in all field drilled holes that wire, or cable will directly enter unless holes are drilled for installation of weather heads or couplings.
- Treat the inside of the drilled holes and repair all galvanized surfaces in accordance with Section 1076-7 of the latest edition of the *Standard Specification prior to installing grommets, caps, or plugs.*
- Cap or plug any existing field drilled holes that are no longer used with rubber, aluminum, or stainless-steel hole plugs.

When street lighting is installed on metal signal structures, isolate the conductors feeding the luminaires inside the pole shaft using liquid tight flexible metal conduit (Type LFMC), liquid tight flexible nonmetallic conduit (Type LFNC), high density polyethylene conduit (Type HDPE), or

approved equivalent.. All conductors supplying power for luminaires must run through an external disconnect prior to entrance into the structure. Comply with applicable National Electrical Safety Codes (NESC). Refer to Article "G" Luminaire Arms.

Install a ¼-inch thick plate for a concrete foundation tag to include the following information: concrete grade, depth, diameter, and reinforcement sizes of the installed foundation. Install galvanized wire mesh to cover gap between the base plate and top of foundation for debris and pest control. Refer to standard drawing M7 for further details.

Immediately notify the Engineer of any structural deficiency that becomes apparent in any assembly, or member of any assembly, because of the design requirements imposed by these specifications, the plans, or the typical drawings.

C. Design:

Unless otherwise specified, design all metal pole support structures using the following 6th Edition AASHTO specifications:

- Design for a 50-year service life as recommended by Table 3.8.3-2.
- Use wind pressure map developed from 3-second gust speeds, as provided in Section 3.8.
- Assume wind loads as shown in Figures 3.9.4.2-2 and 3.9.4.2-3 of the 6th Edition AASHTO for Group III loading with Ice.
- Ensure metal pole support structures include natural wind gust loading and truck-induced gust loading for fatigue design, as provided in Sections 11.7.1.2 and 11.7.1.3, respectively. Designs need not consider periodic galloping forces.
- Assume 11.2 mph natural wind gust speed in North Carolina. For natural wind fatigue stress calculations, utilize a drag coefficient (C_d) based on the yearly mean wind velocity of 11.2 mph.
- When selecting Fatigue Importance Factors, utilize Fatigue Importance Category II, as provided for in Table 11.6-1, unless otherwise specified.
- Calculate all stresses using applicable equations from Section 5. The Maximum allowable stress ratio for all metal pole support designs is 0.9.
- Conform to Sections 10.4.2 and 11.8 for deflection requirements. For CCTV support structures, ensure maximum deflection at top of pole does not exceed 2.0 percent of pole height.
- Assume the combined minimum weight of a messenger cable bundle (including messenger cable, signal cable and detector lead-in cables) is 1.3 lbs/ft. Assume the combined minimum diameter of the cable bundle is 1.3 inches.

Unless otherwise specified by special loading criteria, the following computed surface area for ice load on signal heads shall be used:

- 3-section, 12-inch, Surface area: 26.0 ft^2
- 4-section, 12-inch, Surface area: 32.0 ft^2
- 5-section, 12-inch, Surface area: 42.0 ft^2

Design a base plate for each pole. The minimum base plate thickness for all poles is determined by the following criteria:

Case 1 Circular or rectangular solid base plate with the upright pole welded to the top surface of base plate with full penetration butt weld, where no stiffeners are provided. A base plate with a

small center hole, which is less than 1/3 of the upright diameter, and located concentrically with the upright pole, may be considered as a solid base plate.

The magnitude of bending moment in the base plate, induced by the anchoring force of each anchor bolt is $M = (P \times D_1) / 2$, where

M = bending moment at the critical section of the base plate induced by one (1) anchor bolt

P = anchoring force of each anchor bolt

D_1 = horizontal distance between the anchor bolt center and the outer face of the upright, or the difference between the bolt circle radius and the outside radius of the upright

Locate the critical section at the face of the anchor bolt and perpendicular to the bolt circle radius. The overlapped part of two (2) adjacent critical sections is considered ineffective.

Case 2 Circular or rectangular base plate with the upright pole socketed into and attached to the base plate with two (2) lines of fillet weld, and where no stiffeners are provided, or any base plate with a center hole that is larger in diameter than 1/3 of the upright diameter.

The magnitude of bending moment induced by the anchoring force of each anchor bolt is $M = P \times D_2$,

where P = anchoring force of each anchor bolt

D_2 = horizontal distance between the face of the upright and the face of the anchor bolt nut

Locate the critical section at the face of the anchor bolt top nut and perpendicular to the radius of the bolt circle. The overlapped part of two (2) adjacent critical sections is considered ineffective.

If the base plate thickness calculated for Case 2 is less than Case 1, use the thickness calculated for Case 1.

The following additional requirements apply concerning pole base plates.

- Ensure that whichever case governs as defined above, the anchor bolt diameter is set to match the base plate thickness. If the minimum diameter required for the anchor bolt exceeds the thickness required for the base plate, set the base plate thickness equal to the required bolt diameter.
- For all metal poles, use a full penetration groove weld with a backing ring to connect the pole upright component to the base. Refer to Metal Pole Standard Drawing Sheet M3 or M4.

The Professional Engineer is wholly responsible for the design of all poles. Review and acceptance of these designs by the Department does not relieve the said Professional Engineer of his or her responsibility.

D. Strain Poles:

Refer to Metal Pole Standard Drawing Sheets M2 and M3 for fabrication details.

Provide two (2) messenger cable (span wire) clamps and associated hardware for attachment of messenger cable. Ensure diameter of the clamp is appropriate to its location on the pole and is appropriately designed for adjustment from 1’-6” below the top, down to 6’-6” below the top of the pole. Do not attach more than one (1) support cable to a messenger cable clamp.

Provide a minimum of three (3) 2-inch holes equipped with an associated coupling and weatherhead on the messenger cable load side of the pole to accommodate passage of signal cables

from inside the pole. Provide galvanized threaded plugs for all unused couplings at pole entrance points. Refer to Metal Pole Standard Drawing Sheet M3 for fabrication details.

Provide designs with a 6” x 12” hand hole with reinforcing frame for each pole.

Provide a terminal compartment with cover and screws in each pole encompassing the hand hole and containing a 12-terminal barrier type terminal block. Provide two (2) terminal screws with a removable shorting bar between them for each termination. Furnish terminal compartment covers attached to the pole by a sturdy chain or cable approved by the Engineer. Ensure chain or cable is long enough to permit cover to hang clear of the compartment opening when cover is removed and is strong enough to prevent vandalism. Ensure chain or cable will not interfere with service to cables in the pole base.

Have poles permanently stamped above the hand holes with the identification tag details as shown on Metal Pole Standard Drawing Sheets M2 and M3.

Provide grounding lug(s) in the approximate vicinity of the messenger cable clamp for bonding and grounding messenger cable. Lugs must accept #4 AWG wire to bond messenger cables to the pole in order to provide an effective ground fault circuit path. Refer to Metal Pole Standard Drawing Sheet M6 for construction details.

Install metal poles, hardware, and fittings as shown on the manufacturer’s installation drawings. Ensure the installed pole, when fully loaded, is within 1 degree 40 minutes (1°40') of vertical. Install poles with the manufacturer’s recommended “rake.” Where required, use threaded leveling nuts to establish rake.

E. Mast Arm Poles:

Refer to Metal Pole Standard Drawing Sheets M2 through M5 for fabrication details.

Fabricate metal arm shaft from coil or plate steel that meet the requirements of ASTM A 595 Grade A tubes. Provide arm shafts of round or near round (18 sides or more) cross-section, or multi-sided tubular cross-section with no less than six sides, having a uniform linear taper of 0.14 in/ft. Construct shafts from one piece of single-ply plate or coil, eliminating circumferential weld splices.

Use the submerged arc process, or other NCDOT previously approved process suitable for arm shafts, to continuously weld arm shafts along their entire length. The longitudinal seam weld shall be finished flush to the outside contour of the base metal. Ensure arm shaft has no circumferential welds except at the lower end joining the shaft to the arm flange plate. Use full penetration groove welds with backing ring for all tube-to-transverse-plate connections in accordance with 6th Edition AASHTO. Provide welding that conforms to Article 1072-18 of the *Standard Specifications*, except no field welding on any part of the arm shaft will be permitted unless approved by a qualified Engineer.

After fabrication, hot-dip galvanize steel arm shafts and all assembly components per section 1076 of the *Standard Specifications*. Design arm shafts with weep holes large enough and properly located to drain molten zinc during the galvanization process. Provide hot-dip galvanizing on steel arm shafts that meets or exceeds ASTM Standard A-123, AASHTO M111, or an approved equivalent. Perform repair of damaged galvanizing that complies with the following *Standard Specifications* article:

Repair of Galvanizing.....Article 1076-7

Ensure metal arm shafts permit cables to be installed inside arm shafts. For holes in arm shafts used to accommodate cables, provide full-circumference grommets. Wire access holes for arm

flange plates should be deburred, non-grommeted, and oversized to fit around 4-inch diameter grommeted wire access holes for shaft flange plates.

Provide a minimum of four (4) 1-1/2” diameter high strength bolts for connection between arm plate and pole plate. Increase number of bolts to a minimum of six (6) 1-1/2” diameter high strength bolts when arm lengths are greater than 50’-0” long.

Provide designs with a 6” x 12” hand hole with reinforcing frame for each pole.

Provide a terminal compartment with cover and screws in each pole encompassing the hand hole and containing a 12-terminal barrier type terminal block. Provide two (2) terminal screws with a removable shorting bar between them for each termination. Furnish terminal compartment covers attached to the pole by a sturdy chain or cable approved by the Engineer. Ensure chain or cable is long enough to permit cover to hang clear of the compartment opening when cover is removed and is strong enough to prevent vandalism. Ensure chain or cable will not interfere with service to cables in the pole base.

Have poles permanently stamped above the hand holes with the identification tag details as shown on Metal Pole Standard Drawing Sheets M2 and M4.

Provide a removable end cap with stainless steel attachment screws for the end of each mast arm. Ensure cap is cast aluminum conforming to Aluminum Association Alloy 356.0F. Furnish cap attached to arm with a sturdy chain or cable approved by the Engineer. Ensure chain or cable is long enough to permit cap to hang clear of arm end opening when cap is removed.

Provide pole flange plates and associated gussets and fittings for attachment of required mast arms. As part of each mast arm attachment, provide a cable passage hole in pole to allow passage of cables from pole to arm. Provide a grommeted 4-inch diameter cable passage hole on the shaft side of the connection to allow passage of cables from pole to arm.

Furnish all arm plates and necessary attachment hardware, including bolts and brackets.

Provide two (2) extra bolts for each arm.

Provide arms with weatherproof connections for attaching to the pole shaft.

Provide hardware that is galvanized steel, stainless steel, or corrosive-resistant aluminum.

Install metal poles, hardware, and fittings as shown on the manufacturer’s installation drawings. Ensure the installed pole, when fully loaded, is within 1 degree 40 minutes (1°40') of vertical. Install poles with the manufacturer’s recommended “rake.” Where required, use threaded leveling nuts to establish rake.

Install horizontal-type arms with a manufactured rise preventing arm from deflecting below arm attachment height.

Ensure maximum angular rotation of the top of mast arm pole does not exceed 1 degree 40 minutes (1°40'). Ensure allowable mast arm deflection does not exceed that allowed per 6th Edition AASHTO. For all group load combinations specified under Section 3 of 6th Edition AASHTO, restrict tip of fully loaded arm from going below arm attachment point with the pole.

4.2. DRILLED PIER FOUNDATIONS FOR METAL POLES

Analysis procedures and formulas shall be based on AASHTO 6th Edition, latest ACI-318 code and the *Drilled Shafts: Construction Procedures and Design Methods* FHWA-NHI-10-016 manual. Design methods based on engineering publications or research papers must have prior approval from NCDOT. The Department reserves the right to accept or reject any method used for the analysis.

Use the following Safety Factors for the foundation design:

- 1.0 x Service (Unfactored) Loads for LPile Shaft Lateral Deflection
- 1.3 x Torsion (Unfactored) Load for Drilled Shaft Concrete and Steel Strength
- (1.3 / 1.33) x Torsion (Unfactored) Load for Shaft Soil-to-Concrete Torsion Capacity
- (2.0 / 1.33) x Axial (Unfactored) Load for Shaft Axial Capacity in Soil

Ensure deflection at top of foundation does not exceed 1 inch for worst-case lateral load.

Use LPILE Plus V6.0 or later for lateral analysis. Submit inputs, results and corresponding graphs with the design calculations.

Calculate skin friction using the α-method for cohesive soils and the β-method for cohesion-less soils (**Broms method will not be accepted**). Detailed descriptions of the "α" and "β" methods can be found in *FHWA-NHI-10-016*.

Omit first 2.5 feet for cohesive soils when calculating skin friction.

Assume a hammer efficiency of 0.70 unless value is provided.

Design custom foundations to carry maximum capacity of each metal pole. For standard case strain poles with custom design, use actual shear, axial and moment reactions from the Standard Strain Pole Foundation Selection Table shown on Standard Drawing No. M8.

When poor soil conditions are encountered, which could create an excessively large foundation design, consideration may be given to allow an exemption to the maximum capacity design. The Contractor must gain approval from the Engineer before reducing a foundation's capacity. On projects where poor soil is known to be present, the Contractor should have foundation designs approved before releasing poles for fabrication.

Have the Contractor notify the Engineer if the proposed foundation is to be installed on a slope other than 8H: 1V or flatter.

A. Description:

Furnish and install foundations for NCDOT metal poles with all necessary hardware in accordance with the plans and specifications.

Metal Pole Standards have been developed and implemented by NCDOT for use at signalized intersections in North Carolina. If the plans call for a standard strain pole, then a standard foundation may be selected from the plans. However, the Contractor is not required to use a standard foundation. If the Contractor chooses to design a non-standard site-specific foundation for a standard strain pole or if the plans call for a non-standard site-specific pole, design the foundation to conform to the applicable provisions in the NCDOT Metal Pole Standard Drawings and Section B4 (Non-Standard Foundation Design) below. If non-standard site-specific foundations are designed for standard QPL approved strain poles, the foundation designer must use the design moment specified by load case on Metal Pole Standard Drawing Sheet M8. Failure to conform to this requirement will be grounds for rejection of the design.

If the Contractor chooses to design a non-standard foundation for a standard strain pole and the soil test results indicate a standard foundation is feasible for the site, the Contractor will be paid the cost of the standard foundation. Any additional cost associated with a non-standard site-specific foundation including additional materials, labor and equipment will be considered incidental to the cost of the standard foundation. All costs for the non-standard foundation design will be considered incidental to the cost of the standard foundation.

B. Soil Test and Foundation Determination:

1. General:

Drilled piers are reinforced concrete sections, cast-in-place against in situ, undisturbed material. Drilled piers are of straight shaft type and vertical.

2. Soil Test:

Perform a soil test at each proposed metal pole location. Complete all required fill placement and excavation at each pole location to finished grade before drilling each boring. Soil tests performed that are not in compliance with this requirement may be rejected and will not be paid. Drill one boring to a depth of 26 feet within a 25-foot radius of each proposed foundation.

Perform standard penetration tests (SPT) in accordance with ASTM D 1586 at depths of 1, 2.5, 5, 7.5, 10, 15, 20 and 26 feet. Discontinue the boring if one of the following occurs:

- A total of 100 blows have been applied in any two consecutive 6-inch intervals.
- A total of 50 blows have been applied with < 3-inch penetration.

Describe each pole location along the project corridor in a manner that is easily discernible to both the Contractor's Designer and NCDOT Reviewers. If the pole is at an intersection, label the boring the "Intersection of *(Route or SR #)*, *(Street Name)* and *(Route or SR #)*, *(Street Name)*, _____ County, Signal or Asset Inventory No. _____". Label borings with "B- *N, S, E, W, NE, NW, SE or SW*" corresponding to the quadrant location within the intersection.

If the pole location is located between intersections, provide a coordinate location and offset, or milepost number and offset. Pole numbers should be made available to the Drill Contractor. Include pole numbers in the boring label if they are available. If they are not available, ensure the boring labels can be cross-referenced to corresponding pole numbers. For each boring, submit a legible (hand-written or typed) boring log signed and sealed by a licensed Geologist or Professional Engineer registered in North Carolina. Include on each boring the SPT blow counts and N-values at each depth, depth of the boring, hammer efficiency, depth of water table and a general description of the soil types encountered using the AASHTO Classification System.

Borings that cannot be easily correlated to their specific pole location will be returned to the Contractor for clarification; or if approved by the Engineer, the foundation may be designed using the worst-case soil condition obtained as part of this project.

3. Standard Foundation Determination:

Use the following method for determining the Design N-value:

$$N_{AVG} = \frac{N_{@1'} + N_{@2.5'} + \cdots + N_{@Deepest\ Boring\ Depth}}{Total\ Number\ of\ N\ values}$$

$$Y = (N_{@1'})^2 + (N_{@2.5'})^2 + \cdots + (N_{@Deepest\ Boring\ Depth})^2$$

$$Z = N_{@1'} + N_{@2.5'} + \cdots + N_{@Deeepest\ Boring\ Depth}$$

$$N_{STD\ DEV} = \sqrt{\left(\frac{(Total\ Number\ of\ N\ values\ \times Y) - Z^2}{(Total\ Number\ of\ N\ values) \times (Total\ Number\ of\ N\ values - 1)}\right)}$$

Design N-value equals lesser of the following two conditions:

$$N_{AVG} - (N_{STD\ DEV} \times 0.45)$$

OR

$$Average\ of\ First\ Four\ (4) N\ values = \frac{N_{@1'} + N_{@2.5'} + N_{@5'} + N_{@7.5'}}{4}$$

Note: If less than four (4) N-values are obtained because of criteria listed in Section 2 above, use average of N-values collected for second condition. Do not include the N-value at the deepest boring depth for above calculations if the boring is discontinued at or before the required boring depth because of criteria listed in Section 2 above. Use N-value of zero (0) for weight of hammer or weight of rod. If N-value is greater than fifty (50), reduce N-value to fifty (50) for calculations.

If standard NCDOT strain poles are shown on the plans and the Contractor chooses to use standard foundations, determine a drilled pier length, "L," for each signal pole from the Standard Strain Pole Foundations Chart (sheet M8) based on the Design N-value and the predominant soil type. For each standard pole location, submit a completed "Metal Pole Standard Foundation Selection Form" signed by the Contractor's representative. Signature on form is for verification purposes only. Include the Design N-value calculation and resulting drilled pier length, "L," on each form.

If non-standard site-specific poles are shown on the plans, submit completed boring logs collected in accordance with Section 2 (Soil Test) along with pole loading diagrams from the plans to the Contractor-selected pole Fabricator to assist in the pole and foundation design.

If one of the following occurs, the Standard Foundations Chart shown on the plans may not be used and a non-standard foundation may be required. In such case, contact the Engineer.

- The Design N-value is less than four (4).
- The drilled pier length, "L", determined from the Standard Foundations Chart, is greater than the depth of the corresponding boring.

In the case where a standard foundation cannot be used, the Department will be responsible for the additional cost of the non-standard foundation.

Foundation designs are based on level ground around the traffic signal pole. If the slope around the edge of the drilled pier is steeper than 8:1 (H:V) or the proposed foundation will be less than 10 feet from the top of an embankment slope, the Contractor is responsible for providing slope information to the foundation Designer and to the Engineer so it can be considered in the design.

The "Metal Pole Standard Foundation Selection Form" may be found at:

https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx

If assistance is needed, contact the Engineer.

4. Non-Standard Foundation Design:

Design non-standard foundations based upon site-specific soil test information collected in accordance with Section 2 (Soil Test). Design drilled piers for side resistance in accordance with

Section 4.6 of the *2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition*. Use computer software LPILE version-6.0 or later manufactured by Ensoft, Inc. to analyze drilled piers. Use computer software gINT V8i or later manufactured by Bentley Systems, Inc. with the current NCDOT gINT library and data template to produce SPT boring logs. Provide a drilled pier foundation for each pole with a length and diameter resulting in horizontal lateral movement less than 1 inch at top of the pier, and horizontal rotational movement less than 1 inch at the edge of pier. Contact the Engineer for pole loading diagrams of standard poles used for non-standard foundation designs. Submit non-standard foundation designs including drawings, calculations, and soil boring logs to the Engineer for review and approval, before construction.

C. Drilled Pier Construction:

Construct drilled pier foundation and Install anchor rod assemblies in accordance with the *Foundations and Anchor Rod Assemblies for Metal Poles* Standard Special Provision SP09-R005 located at:

https://connect.ncdot.gov/resources/Specifications/Pages/2018-Specifications-and-Special-Provisions.aspx

4.3. METAL POLE REMOVALS

A. Description:

Remove and dispose of existing metal support poles, and remove and dispose of existing foundations, associated anchor bolts, electrical wires and connections.

B. Construction Methods:

1. Foundations:

Remove and promptly dispose of the metal support pole foundations including reinforcing steel, electrical wires, and anchor bolts to a minimum depth of 2 feet below the finished ground elevation. At the Contractor's option, remove the complete foundation.

2. Metal Poles:

Consult Division Traffic Services regarding ownership of poles. If the Division chooses to maintain these structures in their inventory for future use, permanently mark the pole with the signal inventory number, asset inventory number or some identifying information that identifies where the pole came from

Remove the metal support poles, and promptly transport the metal support poles from the project. Use methods to remove the metal support poles and attached equipment that will not result in damage to other portions of the project or facility. Repair damages that are a result of the Contractor's actions at no additional cost to the Department.

Transport and properly dispose of the materials.

Backfill and compact disturbed areas to match the finished ground elevation. Seed unpaved areas.

Use methods to remove the foundations that will not result in damage to other portions of the project or facility. Repair damages that are a result of the Contractor's actions at no cost to the Department.

4.4. POLE NUMBERING SYSTEM

A. New Poles

Attach an identification tag to each pole shaft section as shown on Metal Pole Standard Sheet M2 "Typical Fabrication Details for All Metal Poles."

B. Reused Poles

Do not remove the original identification tag(s) from the pole shaft sections. Add a new identification tag based on the new location for any reused poles.

4.5. MEASUREMENT AND PAYMENT

Actual number of metal poles with single mast arms furnished, installed, and accepted.

Actual number of designs for mast arms with metal poles furnished and accepted.

Actual number of metal signal pole foundations removed and disposed.

Actual number of metal signal poles removed and disposed.

Actual number of soil tests with SPT borings drilled furnished and accepted.

Actual volume of concrete poured in cubic yards of drilled pier foundation furnished, installed and accepted.

Payment will be made under:

Metal Pole with Single Mast Arm .....Each
Mast Arm with Metal Pole Design .....Each
Metal Pole Foundation Removal .....Each
Metal Pole Removal.....Each
Soil Test .....Each
Drilled Pier Foundation..... Cubic Yard

PROJECT SPECIAL PROVISION

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

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 Work in Navigable Waters (404)	U. S. Army Corps of Engineers
Water Quality (401)	Division of Environmental Management, DEQ State of North Carolina
State Dredge and Fill and/or CAMA	Division of Coastal Management, DEQ State of North Carolina
Special Use Permit	National Park Service, Cape Hatteras NS, Fort Raleigh NHS & Wright Brothers NMEM

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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U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. **SAW-2018-01570** County: **Dare County** U.S.G.S. Quad: **Kitty Hawk**

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Permittee: **Chris Rivenbark**
NCDOT-NEU
Address: **1548 Mail Service Center**
Raleigh NC, 27699
Telephone Number: **(919) 707-6152**

Size (acres) **4.2 miles of SR 1217**
Nearest Waterway **Albemarle Sound**
USGS HUC **03010205**

Nearest Town **Kill Devil Hills**
River Basin **Albemarle-Chowan**
Coordinates Latitude: **36.009155**
Longitude: **-75.700069**

Location description: **The project area is a 4.2 mile reach of SR 1217 beginning at US 158 in the town of Kill Devil Hills and ending at the road terminus 0.09 miles north of Island Drive in the Colington community in Dare County, North Carolina.**

Description of projects area and activity**: The project involves the widening of SR1217 to accommodate bike lanes and to raise the grade in sections that are subject to flooding. The project will permanently fill 0.8 acres of wetlands, permanently fill 181 linear feet of steam, temporarily fill 61 linear feet of stream, permanently fill 0.06 acres of open waters and temporarily fill 0.08 acres of open waters as identified on project impact summary table dated March 11, 2021 and revised March 12, 2021.**

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

Authorization: Regional General Permit Number and/or Nationwide Permit Number: **RGP 201902350**

SEE ATTACHED RGP or NWP GENERAL, REGIONAL AND/OR 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 and attached information dated March 17, 2021. 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 and/or regional general permit authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide and/or regional general 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 and/or regional general 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 and/or regional general permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide and/or regional general 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 Elizabeth City, NC, at (252) 264-3901.

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 **Kyle Barnes at (910) 251-4584 or Kyle.W.Barnes@usace.army.mil**.

Corps Regulatory Official: Kyle Barnes
Date: **May 3, 2021** Expiration Date of Verification: **May 25, 2025**

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SAW-2018-01570

A. Determination of Jurisdiction:

1. ☒ 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.

2. ☐ 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.

3. ☐ 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.

4. ☐ A jurisdiction determination was not completed with this request. Therefore, this is not an appealable action. However, you may request an approved JD, which is an appealable action, by contacting the Corps for further instruction.

5. ☐ The aquatic resources within the above described project area have been identified under a previous action. Please reference the approved jurisdictional determination issued. Action ID:

B. Basis For Jurisdictional Determination: **The Water within the project area are subject to the ebb and flow of tides.**

C. Remarks:

D. Attention USDA Program Participants

This delineation/determination has been conducted to identify the limits of Corps' Clean Water Act jurisdiction for the particular site identified in this request. The delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

E. Appeals Information for Approved Jurisdiction Determinations (as indicated in A2 and A3 above).

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

US Army Corps of Engineers
South Atlantic Division
Attn: Jason Steele, Review Officer
60 Forsyth Street SW, Room 10M15
Atlanta, Georgia 30303-8801
Phone: (404) 562-5137

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by N/A.
It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: Kyle Barnes
Kyle Barnes

Date of JD: **May 3, 2021** Expiration Date of JD: **N/A**

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.

SAW-2018-01570

Copy furnished:

Jason Dilday
NCDOT
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Paul Williams
NCDOT Division 1
113 Airport Drive
Suite 100
Edenton, North Carolina 27932

SAW-2018-01570

SPECIAL CONDITIONS

A. CONSTRUCTION PLANS: All work authorized by this permit must be performed in strict compliance with the attached plans revised March 12, 2021 and modified Permit Drawing Sheet 4, 16, 17, 18, 27, 31, 32, 35, and 36 of 41 and Impacts Summary 41 of 41 dated March 11, 2021 and revised March 12, 2021, which are a part of this permit. Any modification to these plans must be approved by the US Army Corps of Engineers (USACE) prior to implementation.

B.UNAUTHORIZED DREDGE OR FILL: Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.

C. MAINTAIN CIRCULATION AND FLOW OF WATERS: Except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within waters or wetlands or to reduce the reach of waters or wetlands.

D. DEVIATION FROM PERMITTED PLANS: The permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Mr. Kyle Barnes, Washington Regulatory Field Office, 2407 West 5th Street, Washington, North Carolina 27889 or (910) 251-4584 prior to any active construction in waters or wetlands.

E. PRECONSTRUCTION MEETING: The Permittee shall schedule an onsite preconstruction meeting between its representatives, the contractor's representatives and the appropriate Corps of Engineers Project Manager prior to undertaking any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all terms and conditions contained within the Department of the Army permit. The Permittee shall notify the Corps of Engineers Project Manager a minimum of thirty (30) days in advance of the scheduled meeting in order to provide that individual with ample opportunity to schedule and participate in the required meeting.

F. WATER CONTAMINATION: All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-3300 or (800) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

G. CAMA PERMIT: The Permittee shall fully abide by all conditions of the CAMA Major Development Permit No. 125-18, dated April 30, 2021, issued by the North Carolina Division of Coastal Management, which are incorporated herein by reference.

H. NOTIFICATION OF CONSTRUCTION COMMENCEMENT AND COMPLETION: The permittee shall advise the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

I. CLEAN FILL: Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act.

J. TEMPORARY FILL: 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.

K. PERMIT DISTRIBUTION: 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 permit. A copy of this permit, including all conditions, shall be available at the project site during construction and maintenance of this project.

L. SILT-FENCING: The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).

M. PERMIT REVOCATION: The permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

N. EROSION CONTROL MEASURES IN WETLANDS: The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

O. REPORTING ADDRESS: All reports, documentation and correspondence required by the conditions of this permit shall be submitted to the following address: U.S. Army Corps of Engineers, Regulatory Division, Washington Regulatory Field Office, c/o Mr. Kyle Barnes, at: 2470 West 5th Street Washington, North Carolina 27889 or by phone at (910) 251-4584. The Permittee shall reference the following permit number, SAW-2018-01570, on all submittals.

P. REPORTING VIOLATIONS OF THE CLEAN WATER ACT AND RIVERS AND HARBORS ACT: Violation of these conditions or violation of Section 404 of the Clean Water Act of Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permitee's discovery of the violation.

Q. COMPLIANCE INSPECTION: A representative of the Corps of Engineers will periodically and randomly inspect the work for compliance with these conditions. Deviations from these procedures may result in an administrative financial penalty and/or directive to cease work until the problem is resolved to the satisfaction of the Corps.

R. WORK MORATORIUM: In order to protect anadromous fish, no excavation or filling activities will be permitted between the dates of April 1 to September 30 of any year without the prior approval of the Corps of Engineers.

S. PROHIBITIONS ON CONCRETE: The permittee shall take measures to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with any water in or entering into waters of the United States. Water inside coffer dams or casings that has been in contact with concrete shall only be returned to waters of the United States when it no longer poses a threat to aquatic organisms (concrete is set and cured).

T. INSTALLATION OF CULVERTS: For construction of culverts, measures will be included in the construction that will promote the safe passage of fish and other aquatic organisms. For all culvert construction activities, the dimension, pattern, and profile of the stream, (above and below a pipe or culvert), should not be modified by widening the stream channel or by reducing the depth of the stream. Culvert inverts will be buried at least one foot below the bed of the stream for culverts greater than 48 inches in diameter. For culverts 48 inches in diameter or smaller, culverts must be buried below the bed of the stream to a depth equal to or greater than 20 percent of the diameter of the culvert.

U. MITIGATION: In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.

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Permittee: Chris Rivenbark
NCDOT-NEU

Project Name: R-5014 Widening of SR1217

Date Verification Issued: May 3, 2021

Project Manager: Kyle Barnes

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: Kyle Barnes
2407 WEST 5TH STREET
WASHINGTON, NORTH CAROLINA 27889

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**

DEPARTMENT OF THE ARMY
Wilmington District, Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403-1343

Regional General Permit No. SAW-2019-02350 (RGP 50)
Name of Permittee: North Carolina Department of Transportation
Effective Date: May 26, 2020
Expiration Date: May 25, 2025

DEPARTMENT OF THE ARMY
REGIONAL GENERAL PERMIT

A regional general permit (RGP) to perform work in or affecting navigable waters of the United States and waters of the United States, upon recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 U.S.C. 403), and Section 404 of the Clean Water Act (33 U.S.C. 1344), is hereby issued by authority of the Secretary of the Army by the

District Commander
U.S. Army Engineer District, Wilmington
Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403-1343

TO AUTHORIZE THE DISCHARGE OF DREDGED OR FILL MATERIAL IN WATERS OF THE UNITED STATES (U.S.), INCLUDING WETLANDS, ASSOCIATED WITH MAINTENANCE, REPAIR, AND CONSTRUCTION PROJECTS CONDUCTED BY THE VARIOUS DIVISIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT), INCLUDING THE NCDOT DIVISION OF HIGHWAYS, RAIL, BICYCLE/PEDESTRIAN, ETC.

Activities authorized by this RGP:

a. (1) Road widening, and/or (2) construction, maintenance, and/or repair of bridges. For bridge projects, work can include the approaches.

b. (1) Improvement of interchanges or intersections, or (2) construction of interchanges or intersections over, or on, existing roads.

Full descriptions/terms of "a" and "b":

a. (1) Road widening, and/or (2) construction, maintenance, and/or repair of bridges. For bridge projects, work can include the approaches.

Permanent impacts that result in a loss of waters of the U.S., excluding stream relocation(s), must be less than or equal to 500 linear feet (lf) of stream and/or one (1) acre of wetland/open water for each single and complete linear project.

Single and complete linear project. As noted in 33 CFR 330.2(i), for linear projects, the ''single and complete project'' (i.e., single and complete crossing) will apply to each crossing of a separate water of the U.S. (i.e., single waterbody) at that location; except that for linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. 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 crossing of such features cannot be considered separately.

Also authorized under "a": (1) stream relocation(s) and (2) temporary impacts, such as those from temporary structures, fills, dewatering, and other work necessary to conduct the activities listed under "a". Stream relocation(s) and temporary impacts will be evaluated independently and are not limited to the permanent loss limits of 500 lf of stream and/or 1 acre of wetland/open water (i.e., stream relocations and/or temporary impacts do not factor into these limits) for each single and complete linear project; however, if the Corps determines that the proposed stream relocation(s) and/or temporary impacts are of such magnitude that they cannot be authorized under this section ("a") of RGP 50, even if the permanent losses from road widening, and/or construction, maintenance, and repair of bridges do not exceed the impact limits for this section ("a") of RGP 50, an Individual Permit will be required.

If the Corps determines, on a case-by-case basis, that the concerns for the aquatic environment so indicate, he/she may exercise discretionary authority to override this RGP and require an Individual Permit.

b. (1) Improvement of interchanges or intersections, or (2) construction of interchanges or intersections, over or, on existing roads.

For activities authorized under "b", the limits for permanent impacts that result in a loss of waters of the U.S. depend on the location of the impacts, as described below:

- In the coastal plain of North Carolina (both inner coastal plain and outer coastal plain) - permanent impacts that result in a loss of waters of the U.S., excluding stream relocation(s), must be less than or equal to 1,000 lf of stream and/or 3 acres of wetland/open water for the entire interchange or intersection project.

- All other areas of North Carolina - permanent impacts that result in a loss of waters of the U.S., excluding stream relocation(s), must be less than or equal to 1,000 lf of stream and/or 2 acres of wetland/open water for the entire interchange or intersection project.

Coastal plain – See http://saw-reg.usace.army.mil/JD/LRRs_PandT.pdf for Land Resource Areas LRRP (inner coastal plain) and LRRT (outer coastal plain).

When proposed impacts to waters of the U.S. are located both inside AND outside of the coastal plain, the Corps will determine, based on the location(s) of proposed impacts to waters of the U.S., if a project is a "coastal plain project".

Single and complete project. For permitting purposes, each interchange or intersection is considered to be one single and complete project. For example, an interchange project cannot result in a permanent loss (excluding stream relocation), of (1) greater than 1,000 lf of stream and/or 3 acres of wetland/open water in the coastal plain OR (2) greater than 1,000 lf of stream and/or 2 acres of wetland/open water in all other areas of North Carolina.

Approach fills may be considered to be part of an interchange or intersection project if the Corps determines that inclusion of these areas meet the terms of this section ("b") of RGP 50. Early coordination with the Corps is encouraged.

Intersections, regardless of the mode of transportation (e.g., railroad, other roadways, etc.), may be at grade or grade separated if the Corps determines that the project would meet the terms of this section ("b") of RGP 50. Early coordination with the Corps is encouraged.

Also authorized under "b": (1) stream relocation(s) and (2) temporary impacts, such as those from temporary structures, fills, dewatering, and other work necessary to conduct the activities listed under "b". Stream relocation(s) and temporary impacts will be evaluated independently and are not limited to the permanent loss limits of (1) 1,000 lf of stream and/or 3 acres of wetland/open water in the coastal plain OR (2) 1,000 lf of stream and/or 2 acres of wetland/open water in all other areas of North Carolina (i.e., stream relocations and/or temporary impacts do not factor into these limits) for each interchange or intersection project; however, if the Corps determines that the proposed stream relocation(s) and/or temporary impacts are of such magnitude that they cannot be authorized under this section ("b") of RGP 50, even if the permanent losses from improvement of interchanges or intersections, or construction of interchanges or intersections over, or on, existing roads do not exceed the impact limits for this section ("b") of RGP 50, an Individual Permit will be required.

If the Corps determines, on a case-by-case basis, that the concerns for the aquatic environment so indicate, he/she may exercise discretionary authority to override this RGP and require an Individual Permit.

1. Special Conditions.

a. The prospective permittee must submit a pre-construction notification (PCN) and applicable supporting information to the District Engineer and receive written verification from the Corps that the proposed work complies with this RGP prior to commencing any activity authorized by this RGP.

b. If the project will not impact a designated "Area of Environmental Concern" (AEC) in the twenty* (20) counties of North Carolina covered by the North Carolina Coastal Area Management Act (CAMA) ("CAMA counties"), a consistency submission is not required. If the project will impact a designated AEC and meets the definition of "development", the prospective permittee must obtain the required CAMA permit. Development activities shall not commence until a copy of the approved CAMA permit is furnished to the appropriate Corps Regulatory Field Office (Wilmington Field Office – 69 Darlington Avenue, Wilmington, NC 28403 or Washington Field Office – 2407 West 5th Street, Washington, NC 27889).

***The 20 CAMA counties in North Carolina include Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell, and Washington.**

c. No work shall be authorized by this RGP within the 20* CAMA counties without prior consultation with the National Oceanic and Atmospheric Administration's (NOAA) Habitat Conservation Division. For each activity reviewed by the Corps where it is determined that the activity may affect Essential Fish Habitat (EFH) for federally managed species, an EFH Assessment shall be prepared by the prospective permittee and forwarded to the Corps and NOAA Fisheries for review and comment prior to authorization of work.

d. Culverts and pipes. The following conditions [(1)-(8)] apply to the construction of culverts/pipes, and work on existing culverts/pipes.

Additionally, if the proposed work would affect an existing culvert/pipe (e.g., culvert/pipe extensions), the prospective permittee must include actions (in the PCN) to correct any existing deficiencies that are located:

- At the inlet and/or outlet of the existing culvert/pipe, IF these deficiencies are/were caused by the existing culvert/pipe, or

- Near the inlet or outlet of the existing culvert/pipe, IF these deficiencies are/were caused by the existing culvert/pipe.

These deficiencies may include, but are not limited to, stream over-widening, bank erosion, streambed scour, perched culvert/pipes, and inadequate water depth in culvert(s). Also note if the proposed work would address the existing deficiency or eliminate it – e.g., bank erosion on left bank, but the culvert extension will be placed in this eroded area. If the prospective permittee is unable to correct the deficiencies caused by the existing culvert/pipe, they must document the reasons in the PCN for Corps consideration.

(1) No activity may result in substantial, permanent disruption of the movement of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area. Measures will be included that will promote the safe passage of fish and other aquatic organisms.

(2) The dimension, pattern, and profile of the stream above and below a culvert/pipe shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. It is acceptable to use rock vanes at culvert/pipe outlets to ensure, enhance, or maintain aquatic passage. Pre-formed scour holes are acceptable when designed for velocity reduction. The width, height, and gradient of a proposed opening shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow will be determined from gauge data, if available. In the absence of such data, bankfull flow will be used as a comparable level.

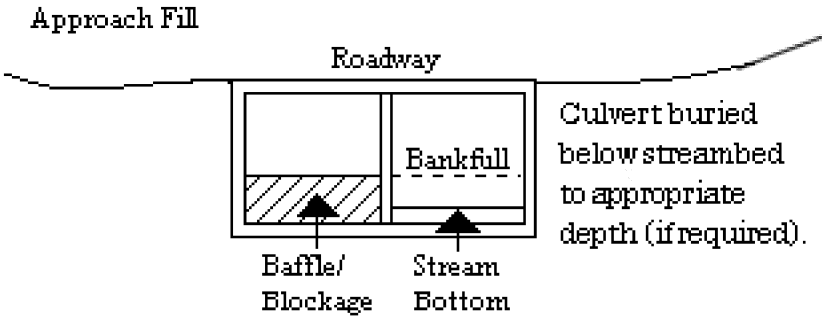
(3) Burial/depth specifications: If the project is located within any of the 20* CAMA counties, culvert/pipe inverts will be buried at least one foot below normal bed elevation when they are placed within the Public Trust AEC and/or the Estuarine Waters AEC as designated by CAMA. If the project is located outside of the 20* CAMA counties, culvert/pipe inverts will be buried at least one foot below the bed of the stream for culverts/pipes that are greater than 48 inches in diameter. Culverts/pipes that are 48 inches in diameter or less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, to include passage during drought or low flow conditions. Every effort shall be made to maintain the existing channel slope. A waiver from the burial/depth specifications in this condition may be requested in writing. The prospective permittee is encouraged to request agency input about waiver requests as early as possible, and prior to submitting the PCN for a specific project; this will allow the agencies time to conduct a site visit, if necessary, and will prevent time delays and potential project revisions for the prospective permittee. The waiver will only be issued by the Corps if it can be demonstrated that the impacts of complying with burial requirements would result in more adverse impacts to the aquatic environment.

(4) Appropriate actions to prevent destabilization of the channel and head cutting upstream shall be incorporated in the design and placement of culverts/pipes.

(5) Culverts/pipes 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 U.S. Culverts/pipes placed across wetland fills purely for the purposes of equalizing surface

water do not have to be buried, but must be of adequate size and/or number to ensure unrestricted transmission of water.

(6) Bankfull flows (or less) shall be accommodated through maintenance of the existing bankfull channel cross sectional area in no more than one culvert/pipe or culvert/pipe barrel. Additional culverts/pipes or barrels at such crossings shall be allowed only to receive flows exceeding the bankfull flow. 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 to comply with this condition.



(7) Where adjacent floodplain is available, flows exceeding bankfull will be accommodated by installing culverts/pipes at the floodplain elevation. When multiple culverts/pipes are used, baseflow must be maintained at the appropriate width and depth by the construction of floodplain benches, sills, and/or construction methods to ensure that the overflow culvert(s)/pipe(s) is elevated above the baseflow culvert(s)/pipe(s).

(8) The width of the baseflow culvert/pipe shall be comparable to the width of the bankfull width of the stream channel. If the width of the baseflow culvert/pipe is wider than the stream channel, the culvert/pipe 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.

See the remaining special conditions for additional information about culverts/pipes in specific areas.

e. Discharges into waters of the U.S. designated by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning areas are prohibited during the period between February 15th and June 30th, without prior written approval from the Corps and the appropriate wildlife agencies (NCDMF, NCWRC, and/or the National Marine Fisheries Service (NMFS)). Discharges into waters of the U.S. designated by NCWRC as primary nursery areas in inland waters are prohibited during the period between February 15th and September 30th, without prior written approval from the Corps and the appropriate wildlife agencies. Discharges into waters of the U.S. designated by NCDMF as primary nursery areas shall be coordinated with NCDMF prior to being authorized by

this RGP. Coordination with NCDMF may result in a required construction moratorium during periods of significant biological productivity or critical life stages.

The prospective permittee should contact:

NC Division of Marine Fisheries	**North Carolina Wildlife Resources Commission**
3441 Arendell Street	**Habitat Conservation Division**
Morehead City, NC 28557	**1721 Mail Service Center**
Telephone 252-726-7021	**Raleigh, NC 27699-1721**
or 800-682-2632	**Telephone (919) 707-0220**

f. This permit does not authorize the use of culverts in areas designated as anadromous fish spawning areas by the NCDMF or the NCWRC.

g. No in-water work shall be conducted in Waters of the U.S. designated as Atlantic sturgeon critical habitat during the periods between February 1st and June 30th. No in-water work shall be conducted in Waters of the U.S. in the Roanoke River designated as Atlantic sturgeon critical habitat during the periods between February 1st and June 30th, and between August 1st to October 31st, without prior written approval from NMFS.

h. Before discharging dredged or fill material into waters of the U.S. in designated trout watersheds in North Carolina, the PCN will be sent to the NCWRC and the Corps concurrently. See https://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout.aspx for the designated trout watersheds. The PCN shall summarize alternatives to conducting work in waters of the U.S. in trout watersheds that were considered during the planning process and detail why alternatives were or were not selected. For proposals where (1) a bridge in a trout stream will be replaced with a culvert, or (2) a culvert will be placed in a trout stream, the PCN must also include a compensatory mitigation plan for all loss of stream bed, and details of any on-site evaluations that were conducted to determine that installation of a culvert will not adversely affect passage of fish or other aquatic biota at the project site. The evaluation information must include factors such as the proposed slope of the culvert and determinations of how the slope will be expected to allow or impede passage, the necessity of baffles and/or sills to ensure passage, design considerations to ensure that expected baseflow will be maintained for passage and that post-construction velocities will not prevent passage, site conditions that will or will not allow proper burial of the culvert, existing structures (e.g., perched culverts, waterfalls, etc.) and/or stream patterns up and downstream of the culvert site that could affect passage and bank stability, and any other considerations regarding passage. The level of detail for this information shall be based on site conditions (i.e., culverts on a slope over 3% will most likely require more information than culverts on a slope that is less than 1%, etc.). Also, in order to evaluate potential impacts, the prospective permittee will describe bedforms that will be impacted by the proposed culvert – e.g., pools, glides, riffles, etc. The NCWRC will respond to both the prospective permittee and the Corps.

i. For all activities authorized by this RGP that involve the use of riprap material for bank stabilization, the following measures shall be applied:

(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, as appropriate to site conditions, to the maximum extent practicable.

(2) Filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters; however, the prospective permittee may request a waiver from this requirement. The waiver request must be in writing. The Corps will only issue a waiver if the prospective permittee demonstrates that the impacts of complying with this requirement would result in greater adverse impacts to the aquatic environment. Note that filter fabric is not required if the riprap will be pushed or "keyed" into the bank of the waterbody.

(3) The placement of riprap shall be limited to the areas depicted on submitted work plan drawings.

(4) Riprap shall not be placed in a manner that prevents or impedes fish passage.

(5) Riprap shall be clean and free from loose dirt or any pollutant except in trace quantities that will not have an adverse environmental effect.

(6) Riprap shall be of a size sufficient to prevent its movement from the authorized alignment by natural forces under normal conditions.

(7) Riprap material shall consist of clean rock or masonry material such as, but not limited to, granite, marl, or broken concrete.

j. Discharges of dredged or fill material into waters of the U.S., including wetlands, must be minimized or avoided to the maximum extent practicable.

k. Generally, off-site detours are preferred to avoid and minimize impacts to the human and natural environment; however, if an off-site detour is considered impracticable, then an on-site detour may be considered as a necessary component of the actions authorized by this RGP. Impacts from the detour may be considered temporary and may not require compensatory mitigation if the impacted area is restored to pre-construction elevations and contours after construction is complete. The permittee shall also restore natural hydrology and stream corridors (if applicable), and reestablish native vegetation/riparian corridors. If the construction of a detour (on-site or off-site) includes standard undercutting methods, removal of all material and backfilling with suitable material is required. See special condition "s" for additional information.

l. All activities authorized by this RGP shall, to the maximum extent practicable, be

conducted "in the dry", with barriers installed between work areas and aquatic habitat to protect that habitat from sediment, concrete, and other pollutants. Where concrete is utilized, measures will be taken to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with waters of the U.S. until the concrete has set and cured. All water in the work area that has been in contact with concrete shall only be returned to waters of the U.S. when it no longer poses a threat to aquatic organisms (concrete is set and cured).

m. In cases where new alignment approaches are to be constructed and the existing approach fill in waters of the U.S. is to be abandoned and no longer maintained as a roadway, the abandoned fill shall be removed and the area will be restored to pre-construction elevations and contours. The permittee shall also restore natural hydrology and stream corridors (if applicable), and reestablish native vegetation/riparian corridors, to the extent practicable. This activity may qualify as compensatory mitigation credit for the project and will be assessed on a case-by-case basis in accordance with Special Conditions “q” and “r” in this document. Any proposed on-site wetland restoration area must be void of utility conflicts and/or utility maintenance areas. A restoration plan detailing this activity will be required with the submittal of the PCN.

n. 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 and storm water management activities, 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).

o. The project must be implemented and/or conducted so that all reasonable and practicable measures to ensure that equipment, structures, fill pads, and work associated with the project do not adversely affect upstream and/or downstream reaches. Adverse effects include, but are not limited to, channel instability, scour, flooding, and/or shoreline/streambank erosion. During construction, the permittee shall routinely monitor for these effects, cease all work if/when detected, take initial corrective measures to correct actively eroding areas, and notify the Corps immediately. Permanent corrective measures may require additional authorization from the Corps.

p. All PCNs will describe sedimentation and erosion control structures and measures proposed for placement in waters of the U.S. To the maximum extent practicable, structures and measures will be depicted on maps, surveys or drawings showing location and impacts to jurisdictional wetlands and streams. In addition, appropriate soil and erosion control measures must be established and maintained during construction. All fills, temporary and permanent, must be adequately stabilized at the earliest practicable date to prevent erosion of fill material into adjacent waters or wetlands.

q. Compensatory mitigation will be required for permanent impacts resulting in a loss of waters of the U.S. due to culvert/pipe installation and other similar activities. Mitigation may be required for stream relocation projects (see Special Condition "r" below). When compensatory mitigation is required, the prospective permittee will attach a proposed mitigation plan to the PCN. Compensatory mitigation proposals will be written in accordance with currently approved Wilmington District guidance and Corps mitigation regulations, unless the purchase of mitigation credits from an approved mitigation bank or the North Carolina Division of Mitigation Services (NCDMS) is proposed to address all compensatory mitigation requirements. The Corps Project Manager will make the final determination concerning the appropriate amount and type of mitigation.

r. Stream Relocations (non-tidal only) - for the purposes of permitting, stream relocations are considered a loss of waters of the U.S. Depending on the condition and location of (1) the existing stream, and (2) the relocated channel, stream relocation(s) may provide a functional uplift. The Corps will determine if an uplift is possible based on the information submitted with the PCN. If the anticipated uplift(s) occurs, it may offset, either partially or fully, the loss associated with a stream relocation(s) - (i.e., due to the uplift, either no compensatory mitigation would be required for the stream relocation itself, or compensatory mitigation would be required at a reduced ratio).

Because the amount of potential uplift is dependent upon the condition (or quality) of the channel to be relocated, there is no pre-determined amount of uplift needed to satisfy the requirements for a successful relocation project. After performing the evaluation(s) noted in this document, the prospective permittee will propose a certain amount of uplift potential and the Corps project manager will make the final determination. Baseline conditions and subsequent monitoring must show that the relocated channel is providing/will provide aquatic function at, or above, the level provided by the baseline (pre-project) condition. If the required uplift is not achieved, the work will not be in compliance with this special condition of RGP 50 and remediation will be required through repair (and continued monitoring), or by the permittee providing compensatory mitigation (e.g., mitigation credit through an approved bank, mitigation credit through NCDMS, etc.).

Compensatory mitigation, in addition to the stream relocation activity, may be required if the Corps determines that (a) no uplift in stream function is achievable, (b) the proposed uplift in stream function is not sufficient, by itself, (c) the risks associated with achieving potential uplifts in stream function are excessive, and/or (d) the time period for achieving the potential uplifts/functional success is too great.

On-site compensatory mitigation is not the same as stream relocation. While stream relocation simply moves a stream to a nearby, geographically similar area, it does not generate mitigation credits. If NCDOT proposes to generate compensatory mitigation on a project site, NCDOT must submit a mitigation plan that complies with 33 CFR 332.4.

* **The prospective permittee is required to submit the following information for any proposed project that involves stream relocation, regardless of the size/length of the stream relocation** (note that 1-5 below only apply to stream relocations and not to compensatory mitigation):

(1) A statement detailing why relocating the stream is unavoidable. In order to ensure that this action is separate from a compensatory mitigation project, the need for the fill must be related to road/interchange/intersection construction or improvement, and the project must meet the requirements set forth in the full descriptions/terms of "a" and "b" on pages 2 and 3 of this permit.

(2) An evaluation of effects on the relocated stream and buffer from utilities, or potential for impact from utility placement in the future.

(3) An evaluation of the baseline condition of the stream to be relocated. In order to demonstrate a potential uplift, the prospective permittee must provide the baseline (pre-impact) condition of the stream that is proposed for relocation. The prospective permittee will document the baseline condition of the stream by using the Corps' (Wilmington District's) current functional assessment method - e.g., the North Carolina Stream Assessment Method (NCSAM). The functional assessment must be used to identify specific areas where an uplift would reasonably be expected to occur, and also show important baseline functions that will remain after the relocation.

(4) An evaluation of the potential uplifts to stream function for the relocated channel. The amount of detail required in the plan will be commensurate with the functional capacity of the original stream and proposed uplift(s). Low functional capacity will warrant less monitoring and less detail in the plan in order to ensure that the relocated channel provides the same, or better/increased, suite of aquatic functions as the existing channel.

(5) A proposed monitoring plan for the relocated channel (and buffer, if applicable), will be prepared in accordance with current District guidance. The level of detail needed in the plan will be directly related to the quality of baseline functions and the anticipated uplift, therefore it is recommended that a pre-application discussion occur with the Corps Project Manager as early as possible. For example, if the risk for achieving the anticipated functional uplift is moderate or low, or if there is a low amount of proposed uplift, less information and monitoring will be required in the proposed relocation plan; similar to the requirements found in the "2003 Stream Mitigation Guidelines". If the risk for uplift is higher, or if there is a high amount of proposed uplift, additional monitoring and information will be required, trending toward the prescriptions found in the most recent Wilmington District Compensatory Mitigation Guidance – e.g., the 2016 Wilmington District Stream and Wetland Compensatory Mitigation Update. All monitoring will be for at least 5 years unless the Corps project manager determines that (a) a specific project requires less than 5 years due to site conditions or limited risk/uplift potential, and/or complexity (or simplicity) of the existing channel and/or the

relocation work, or (b) the Corps project manager determines (during the monitoring period) that the 5 years of monitoring may be reduced (or that no further monitoring is required) based on monitoring information received once the stream relocation has been completed.

s. Upon completion of any work authorized by this RGP, all temporary fills (to include culverts, pipes, causeways, etc.) will be completely removed from waters of the U.S. and the areas will be restored to pre-construction elevations and contours. The permittee shall also restore natural hydrology and stream corridors (if applicable), and reestablish native vegetation/riparian corridors. This work will be completed within 60 days of completion of project construction. If this timeframe occurs while a required moratorium of this permit is in effect, the temporary fill shall be removed in its entirety within 60 days of the moratorium end date. If vegetation cannot be planted due to the time of the year, all disturbed areas will be seeded with a native mix appropriate for the impacted area, and vegetation will be planted during the next appropriate time frame. A native seed mix may contain non-invasive small grain annuals (e.g. millet and rye grain) to ensure adequate cover while native vegetation becomes established. The PCN must include a restoration plan showing how all temporary fills and structures will be removed and how the area will be restored to pre-project elevations and contours.

t. Once the authorized work in waters of the U.S. is complete, the permittee shall sign and return the compliance certificate that is attached to the RGP verification letter.

u. The District Engineer will consider any comments from Federal and/or State agencies concerning the proposed activity's compliance with the terms and conditions of this RGP.

v. The Corps may place additional special conditions, limitations, or restrictions on any verification of the use of RGP 50 on a project-by-project basis.

2. General Conditions.

a. Except as authorized by this RGP or any Corps approved modification to this RGP, no excavation, fill or mechanized land-clearing activities shall take place within waters or wetlands, at any time during construction or maintenance of the project. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with the project.

b. Authorization under this RGP does not obviate the need to obtain other federal, state, or local authorizations.

c. All work authorized by this RGP must comply with the terms and conditions of the applicable CWA Section 401 Water Quality Certification for this RGP issued by the North Carolina Division of Water Resources (NCDWR).

d. The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside of the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).

e. The activities authorized by this RGP must not interfere with the public's right to free navigation on all navigable waters of the U.S. No attempt will be made by the permittee to prevent the full and free use by the public of all navigable waters at, or adjacent to, the authorized work for a reason other than safety.

f. The permittee understands and agrees that if future operations by the U.S. 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, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

g. The permittee, upon receipt of a notice of revocation of this RGP for the verified individual activity, may apply for an individual permit, or will, without expense to the U.S. and in such time and manner as the Secretary of the Army or his/her authorized representative may direct, restore the affected water of the U.S. to its former conditions.

h. This RGP does not authorize any activity that would conflict with a federal project's congressionally authorized purposes, established limitations or restrictions, or limit an agency's ability to conduct necessary operation and maintenance functions. Per Section 14 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. 408), no project that has the potential to take possession of or make use of for any purpose, or build upon, alter, deface, destroy, move, injure, or obstruct a federally constructed work or project, including, but not limited to, levees, dams, jetties, navigation channels, borrow areas, dredged material disposal sites, flood control projects, etc., shall be permitted unless the project has been reviewed and approved by the appropriate Corps approval authority. Permittees shall not begin the activity authorized by this RGP until notified by the Corps that the activity may proceed.

i. The permittee shall obtain a Consent to Cross Government Easement from the appropriate Corps District's Land Use Coordinator prior to any crossing of a 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.

j. The permittee will allow the Wilmington District Engineer or his/her representative to inspect the authorized activity at any time deemed necessary to ensure that the activity is being performed or maintained in strict accordance with the Special and General Conditions of this permit.

k. This RGP does not grant any property rights or exclusive privileges.

l. This RGP does not authorize any injury to the property or rights of others.

m. This RGP does not authorize the interference with any existing or proposed federal project.

n. In issuing this permit, the Federal Government does not assume any liability for the following:

(1) Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

(2) Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest.

(3) Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

(4) Design or construction deficiencies associated with the permitted work.

(5) Damage claims associated with any future modification, suspension, or revocation of this permit.

o. Authorization provided by this RGP may be modified, suspended or revoked in whole, or in part, if the Wilmington District Engineer, acting for the Secretary of the Army, determines that such action would be in the best public interest. The term of this RGP shall be five (5) years unless subject to modification, suspension, or revocation. Any modification, suspension, or revocation of this authorization will not be the basis for any claim for damages against the U.S. Government.

p. No activity may occur in a component of the National Wild and Scenic Rivers 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 designation or study status. 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, etc.).

q. Endangered Species.

(1) No activity is authorized under this RGP 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 this RGP which “may affect” a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(2) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal prospective permittees (and when FHWA is the lead federal agency) must provide the District Engineer with the appropriate documentation to demonstrate compliance with those requirements. The District Engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the RGP activity, or whether additional ESA consultation is necessary.

(3) Non-federal prospective permittees - for activities that might affect federally-listed endangered or threatened species or designated critical habitat, the PCN must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The District Engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat. In cases where the non-federal prospective permittee has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the prospective permittee shall not begin work until the Corps has provided notification that the proposed activities will have “no effect” on listed species or critical habitat, or until Section 7 consultation has been completed.

(4) As a result of formal or informal consultation with the U.S. Fish and Wildlife Service (USFWS) or NMFS, the District Engineer may add species-specific endangered species conditions to the RGP verification letter for a project.

(5) Authorization of an activity by a RGP 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 USFWS or the NMFS, the ESA prohibits any person subject to the jurisdiction of the U.S. 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.

(6) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS in North Carolina at the addresses provided below, or from the USFWS and NMFS via their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.noaa.gov/fisheries.html respectively.

USFWS offices in North Carolina:

The Asheville USFWS Office covers all NC counties west of, and including, Anson, Stanly, Davidson, Forsyth and Stokes Counties.

US Fish and Wildlife Service
Asheville Field Office
160 Zillicoa Street
Asheville, NC 28801
Telephone: (828) 258-3939

The Raleigh USFWS Office covers all NC counties east of, and including, Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

US Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Telephone: (919) 856-4520

r. The Wilmington District, USFWS, NCDOT, and the FHWA have conducted programmatic Section 7(a)(2) consultation for a number of federally listed species and habitat, and programmatic consultation concerning other federally listed species and/or habitat may occur in the future. The result of completed programmatic consultation is a Programmatic Biological Opinion (PBO) issued by the USFWS. These PBOs contain mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" of whichever species or critical habitat is covered by a specific PBO. Authorization under RGP 50 is conditional upon the permittee's compliance with all the mandatory terms and conditions associated with incidental take of the applicable PBO (or PBOs), which are incorporated by reference in RGP 50. Failure to comply with the terms and conditions associated with incidental take of an applicable PBO, where a take of the federally listed species occurs, would constitute an unauthorized take by the permittee, and would also constitute permittee non-compliance with the authorization under RGP 50. If the terms and conditions of a specific PBO (or PBOs) apply to a project, the Corps will include this/these requirements in any RGP 50 verification that may be issued for a project. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PBO, and with the ESA.

s. Northern long-eared bat (NLEB) (*Myotis septentrionalis*). Standard Local Operating Procedures for Endangered Species (SLOPES) for the NLEB have been approved by the Corps and the U.S. Fish and Wildlife Service. See http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/ESA/ . This SLOPES details how the Corps will make determinations of effect to the NLEB when the Corps is the lead federal agency for an NCDOT project that is located in the western 41 counties of North Carolina. This SLOPES does not address NCDOT projects (either federal or state funded) in the eastern 59 counties in North Carolina. Note that if another federal agency is the lead federal agency for a project in the western 41 counties, procedures for satisfying the requirements of Section 7(a)(2) of the ESA will be dictated by that agency and will not be applicable for consideration under the SLOPES; however, information that demonstrates the lead federal agency's (if other than the Corps) compliance with Section 7(a)(2) / 4(d) Rule for the NLEB, will be required in the PCN. Note that at the time of issuance of RGP 50, the federal listing status of the NLEB as "Threatened" is being litigated at the National level. If, as a result of litigation, the NLEB is federally listed as "Endangered", this general condition ("s") will no longer be applicable because the 4(d) Rule, and this NLEB SLOPES, will no longer apply/be valid.

t. For proposed activities the sixteen (16) counties listed below, prospective permittees must provide a copy of the PCN to the USFWS, 160 Zillicoa Street, Asheville, North Carolina 28801. This PCN must be sent concurrently to the USFWS and the Corps Project Manager for that specific county.

The 16 counties with tributaries that drain to designated critical habitat that require notification to the Asheville USFWS are: Avery, Cherokee, Forsyth, Graham, Haywood, Henderson, Jackson, Macon Mecklenburg, Mitchell, Stokes, Surry, Swain, Transylvania, Union and Yancey.

u. If the permittee discovers or observes any live, damaged, injured or dead individual of an endangered or threatened species during construction, the permittee shall immediately notify the Wilmington District Engineer so that required coordination can be initiated with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service.

v. Historic Properties.

(1) 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 (NRHP), the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(2) Federal prospective permittees (or when FHWA is the lead federal agency) should follow their own procedures for complying with the requirements of Section 106 of the NHPA. Federal prospective permittees must provide the District Engineer with the appropriate documentation to demonstrate compliance with those requirements; this includes copies of correspondence sent to all interested, federally recognized tribes and a summary statement about

tribal consultation efforts or, if the Corps enters into a Programmatic Agreement (PA) with the FHWA/NCDOT, documentation that the FHWA/NCDOT has complied with PA requirements. The District Engineer will review the documentation and determine whether it is sufficient to address Section 106 compliance for this RGP activity, or whether additional Section 106 consultation is necessary.

(3) Non-federal prospective permittees - the PCN must state which historic properties may be affected by the proposed work 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 resources can be sought from the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO), as appropriate, and the NRHP (see 33 CFR 330.4(g)). When reviewing PCNs, the District Engineer will comply with the current procedures for addressing the requirements of Section 106 of the NHPA. 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 and these efforts, the District Engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties.

(4) Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)).

(5) Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to a prospective permittee 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 will 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 prospective permittee. 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 prospective permittee, 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.

w. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this general permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

x. Permittees are advised that development activities in or near a floodway may be subject to the National Flood Insurance Program that prohibits any development, including fill, within a floodway that results in any increase in base flood elevations. This general permit does not authorize any activity prohibited by the National Flood Insurance Program.

y. The permittee must install and maintain, at his/her expense, any signal lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on authorized facilities. For further information, the permittee should contact Coast Guard Sector North Carolina at (910) 772-2191 or email Coast Guard Fifth District at cgd5waterways@uscg.mil.

z. The permittee must maintain any structure or work authorized by this general permit in good condition and in conformance with the terms and conditions of this general permit. The permittee is not relieved of this requirement if the permittee abandons the structure or work. Transfer in fee simple of the work authorized by this general permit will automatically transfer this general permit to the property's new owner, with all of the rights and responsibilities enumerated herein. The permittee must inform any subsequent owner of all activities undertaken under the authority of this general permit and provide the subsequent owner with a copy of the terms and conditions of this general permit.

aa. At his or her sole discretion, any time during the processing cycle, the Wilmington District Engineer may determine that this general permit will not be applicable to a specific proposal. In such case, the procedures for processing an individual permit in accordance with 33 CFR 325 will be available.

bb. Except as authorized by this general permit or any Corps approved modification to this general permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used.

cc. Except as authorized by this general permit or any Corps approved modification to this general permit, all excavated material will be disposed of in approved upland disposal areas.

dd. Activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon this general permit will remain authorized provided the activity is completed within twelve months of the date of the general permit's expiration, modification, or revocation. Activities completed under the authorization of this general permit that were in effect at the time the activity was completed continue to be authorized by the general permit.

ee. The permittee is responsible for obtaining any “take” permits required under the USFWS’s regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the USFWS to determine if such “take” permits are required for a particular activity.

ff. The activity must comply with applicable FEMA approved state or local floodplain management requirements.

gg. There will be no unreasonable interference with navigation or the right of the public to riparian access by the existence or use of activities authorized by this RGP.

hh. Unless authorization to fill those specific wetlands or mudflats has been issued by the Corps, heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

ii. This RGP will not be applicable to proposed construction when the Wilmington District Engineer determines that the proposed activity will significantly affect the quality of the human environment and determines that an EIS must be prepared.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

CLARK.ROBERT.JAMES.1018901303

Digitally signed by CLARK.ROBERT.JAMES.1018901303
Date: 2020.05.26 14:50:28 -04'00'

Robert J. Clark
Colonel, U. S. Army
District Commander

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ROY COOPER
Governor
DIONNE DELLI-GATTI
Secretary
S. DANIEL SMITH
Director

NORTH CAROLINA
Environmental Quality

April 26, 2021
Dare County
NCDWR Project No. 20180839 v.2
TIP R-5014

REISSUANCE of APPROVAL of 401 WATER QUALITY CERTIFICATION with ADDITIONAL CONDITIONS

Mr. Philip S. Harris, III, P.E., CPM
Environmental Analysis Unit
1598 Mail Service Center
Raleigh, NC 27688-1598

Dear Mr. Harris:

You have our approval, in accordance with the conditions listed below, for the following impacts for the purpose of making improvements to SR 1217 (Colington Road) in Dare County:

Wetland Impacts in the Pasquotank River Basin

Site	Wetland Fill Permanent (ac)	Wetland Excavation (ac)	Wetland Hand Clearing (ac)
1	0.04	--	0.02
2	<0.01	<0.01	<0.01
3	<0.01	--	<0.01
4	0.22	--	0.05
5	0.28	--	0.03
6	0.02	--	0.03
7	0.04	--	0.02
8	0.04	--	0.02
9	<0.01	--	<0.01
10	--	--	0.02
11	--	<0.01	<0.01
12	<0.01	--	<0.01
13	<0.01	--	<0.01
14	<0.01	--	<0.01
15	<0.01	--	<0.01
16	0.02	--	--
17	<0.01	--	0.03
18	0.07	--	0.03
19	0.05	--	0.03
20	<0.01	--	0.01
21	<0.01	--	<0.01
Total	0.80	<0.01	0.32
Net Total	1.13 ac		

*Total includes 0.21 ac of coastal wetlands

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Stream and Open Water Impacts in the Pasquotank River Basin

Site	Stream Permanent (lf)	Stream Temporary (lf)	Open Water Permanent (ac)	Open Water Temporary (ac)
2 - culvert	32	16	<0.01	0.02
9 - culvert	23	18	<0.01	0.03
9 – bank stabilization	55	--	0.01	--
12 – culvert	--	27	<0.01	0.02
12 – bank stabilization	71	--	0.02	--
16	--	--	<0.01	--
Total	181	61	0.06	0.08
Net Total	242 lf		0.14	

The project shall be constructed in accordance with your application dated received March 17, 2021. After reviewing your application, we have decided that these impacts are covered by General Water Quality Certification Number 4135. This certification corresponds to the Regional General Permit 201902350 issued by the Corps of Engineers. In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit. This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter,and is thereby responsible for complying with all the conditions. If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 300 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you must adhere to the conditions listed in the attached certification(s) and any additional conditions listed below.

Condition(s) of Certification:

1. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.

* 2. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

3. The permittee will need to adhere to all appropriate in-water work moratoria (including the use of pile driving or vibration techniques) prescribed by DCM Fisheries and/or the North Carolina Wildlife Resources Commission. No in-water work is permitted between April 1 and September 30 of any year, without prior approval from the NC Division of Water Resources and the North Carolina Division of Marine Fisheries. In addition, the permittee shall conform to the NCDOT policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997) at all times.

4. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]

5. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]

6. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]

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7. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]

8. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage. [15A NCAC 02H.0506(b)(2)]

9. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]

10. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]

11. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]

12. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]

13. 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]
    a. 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.*
    b. 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.
    c. 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.
    d. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-1, WS-11, 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 Watershed.* [15A NCAC 02H.0506(b)(3) and (c)(3); GC 4135]

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14. Erosion control matting in riparian areas shall not contain a plastic or nylon mesh grid which can impinge and entrap small animals. Matting should be secured in place by staples, stakes, or wherever possible live stakes of native trees. Riparian areas are defined as a distance 25 feet from top of stream bank. [15A NCAC 02B.0201]

15. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, then design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands, stream beds, or banks, adjacent to or upstream and downstream of the above structures. All sediment and erosion control devices shall be removed from wetlands and waters and the natural grade restored within two (2) months of the date that the Division of Energy, Mining and Land Resources (DEMLR) or locally delegated program has released the specific area within the project. [15A NCAC 02H.0506(b)(3) and (c)(3)]

16. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]

17. NCDOT shall be in compliance with the NCS00250 issued to the NCDOT, including the applicable requirements of the NCG01000.

18. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0506(b)(2)]

19. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]

20. The permittee and its authorized agents shall conduct its 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 the NCDWR determines that such standards or laws are not being met (including the 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, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]

21. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]

22. The NCDOT will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the permit conditions and any potential issues at the permitted site. NCDWR staff shall be invited to the pre-construction meeting. [15A NCAC 02H.0506(b)(2) and (b)(3)]

* 23. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete the "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]

24. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

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The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission.
The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919) 431-3000, Facsimile: (919) 431-3100

A copy of the petition must also be served on DEQ as follows:

Mr. Bill F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center

This letter completes the review of the Division of Water Resources under Section 401 of the Clean Water Act. If you have any questions, please contact Garcy Ward at (252)948-3917 or garcy.ward@ncdenr.gov.

Sincerely,

DocuSigned by:
Amy Chapman
9C9886312DCD474...

S. Daniel Smith, Director
Division of Water Resources

Electronic copy only distribution:
Chris Rivenbark, NCDOT
Paul Williams, NCDOT, Division 1
Kyle Barnes, US Army Corps of Engineers, Washington Field Office
Cathy Brittingham, NC Division of Coastal Mangement
Greg Daisey, NC Division of Coastal Management
Garcy Ward, NC Division of Water Resources Washington Regional Office
File Copy

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES

WATER QUALITY GENERAL CERTIFICATION NO. 4135

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR US ARMY CORPS OF ENGINEERS

- **NATIONWIDE PERMIT NUMBER 14 (LINEAR TRANSPORTATION PROJECTS), AND**
- **REGIONAL GENERAL PERMIT 198200031 (NCDOT BRIDGES, WIDENING PROJECTS, INTERCHANGE IIMPROVEMENTS)**

Water Quality Certification Number 4135 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) (14) of the US Army Corps of Engineers regulations and Regional General Permit 198200031.

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

GC4135

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) Any temporary or permanent impacts to wetlands, open waters and/or streams, except for construction of a driveway to a single family residential lot that is determined to not be part of a larger common plan of development, as long as the driveway involves a travel lane of less than 25 feet and total stream impacts of less than 60 feet, including any topographic/slope stabilization or in-stream stabilization needed for the crossing; or
c) Any stream relocation or stream restoration; or
d) Any high-density 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
e) Any permanent impacts to waters, or to wetlands adjacent to waters, designated as: ORW (including SAV), HQW (including PNA), SA, WS-I, WS-II, or North Carolina or National Wild and Scenic River.
f) Any permanent impacts to waters, or to wetlands adjacent to waters, designated as Trout except for driveway projects that are below threshold (b) above provided that:
    i. The impacts are not adjacent to any existing structures
    ii. All conditions of this General Certification can be met, including adherence to any moratoriums as stated in Condition #10; and
    iii. A *Notification of Work in Trout Watersheds Form* is submitted to the Division at least 60 days prior to commencement of work; or
g) Any permanent impacts to coastal wetlands [15A NCAC 07H .0205], or Unique Wetlands (UWL); or
h) 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

[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

* i) 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
   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. If this Water Quality Certification is used to access residential, commercial or industrial building sites, then all parcels owned by the applicant that are part of the single and complete project authorized by this Certification must be buildable without additional impacts to streams or wetlands. If required in writing by DWR, the applicant shall provide evidence that the parcels are buildable without requiring additional impacts to wetlands, waters, or state regulated riparian buffers. [15A NCAC 02H .0506(b)(4) and (c)(4)]

2. For road and driveway construction purposes, this Certification shall only be utilized from natural high ground to natural high ground. [15A NCAC 02H .0506(b)(2) and (c)(2)]

*3. Deed notifications or similar mechanisms shall be placed on all lots with retained jurisdictional wetlands, waters, and state regulated riparian buffers within the project boundaries in order to assure compliance with NC Wetland Rules (15A NCAC 02H .0500), NC Isolated Wetland Rules (15A NCAC 02H .1300), and/or State Regulated Riparian Buffer Rules (15A NCAC 02B .0200). These mechanisms shall be put in place at the time of recording of the property or individual parcels, whichever is appropriate. [15A NCAC 02H .0506(b)(4) and (c)(4)]

4. 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 projects that trigger threshold item (d) 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.

GC4135

20. All mechanized equipment operated near surface waters shall be inspected and maintained regularly to prevent contamination of surface 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 4135 issued December 1, 2017 replaces WQC Number 4088 issued March 3, 2017; WQC 3886 issued March 12, 2012; WQC Number 3820 issued April 6, 2010; WQC Number 3627 issued March 2007; WQC Number 3404 issued March 2003; WQC Number 3375 issued March 18, 2002; WQC Number 3289 issued June 1, 2000; WQC Number 3103 issued February 11, 1997; WQC Number 2732 issued May 1, 1992; WQC Number 2666 issued January 21, 1992; WQC Number 2177 issued November 5, 1987.

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
BRAXTON C. DAVIS
Director

NORTH CAROLINA
Environmental Quality

November 5, 2018

N.C. Department of Transportation
1598 Mail Service Center
Raleigh, NC 27699-1598

Dear Sir or Madam:

The enclosed permit constitutes authorization under the Coastal Area Management Act, and where applicable, the State Dredge and Fill Law, for you to proceed with your project proposal. The original (buff-colored form) is retained by you and it must be available on site when the project is inspected for compliance. Please sign both the original and the copy and return the copy to this office in the enclosed envelope. Signing the permit and proceeding means you have waived your right of appeal described below.

If you object to the permit or any of the conditions, you may request a hearing pursuant to NCGS 113A-121.1 or 113-229. Your petition for a hearing must be filed in accordance with NCGS Chapter 150B with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27611-6714, (919) 733-2698 within twenty (20) days of this decision on your permit. You should also be aware that another qualified party may submit an objection to the issuance of this permit within twenty (20) days.

The project plan is subject to those conditions appearing on the permit form. Otherwise, all work must be carried out in accordance with your application. Modifications, time extensions, and future maintenance requires additional approval. Please read your permit carefully prior to starting work and review all project plans, as approved. If you are having the work done by a contractor, it would be to your benefit to be sure that he fully understands all permit requirements.

From time to time, Department personnel will visit the project site. To facilitate this review, we request that you complete and mail the enclosed Notice Card just prior to work initiation. However, if questions arise concerning permit conditions, environmental safeguards, or problem areas, you may contact Department personnel at any time for assistance. By working in accordance with the permit, you will be helping to protect our vitally important coastal resources.

Sincerely,

Douglas V Huggett

Douglas V. Huggett
Major Permits Manager
N.C. Division of Coastal Management

Enclosure

North Carolina Department of Environmental Quality | Division of Coastal Management
Morehead City Office | 400 Commerce Avenue | Morehead City, North Carolina 28557
252.808.2808

Permit Class
NEW

Permit Number
125-18

STATE OF NORTH CAROLINA
Department of Environmental Quality
and
Coastal Resources Commission

Permit

for

X Major Development in an Area of Environmental Concern pursuant to NCGS 113A-118

X Excavation and/or filling pursuant to NCGS 113-229

Issued to **N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598**

Authorizing development in Dare County at Blount Bay, Kitty Hawk Bay, & contiguous waters, SR 1217 (Colington Rd), as requested in the permittee's application dated 10/5/18 and 6/19/18, including the attached workplan drawings (89), as referenced in Condition No. 1 of this permit.

This permit, issued on **11/5/18**, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

TIP No. R-5014, Colington Road Improvements, including extension of three culverts

1) All work authorized by this permit shall be carried out in accordance with the following attached workplan drawings, unless altered herein:

Wetland and Surface Water Impact drawings (39): 3 dated 9/19/18, 17 dated 10/24/17, 14 dated 1/8/18, 4 dated 10/26/17, and 1 dated 10/30/17.

Utility Impact drawings (10): 3 dated 3/23/18, 2 dated 3/29/18, 2 dated 4/5/18, 2 dated 7/10/18, and 1 dated 5/30/18;

Roadway Design drawings (40): 4 dated 9/12/18, 20 dated 9/11/17, 6 dated 9/18/17, 5 dated 5/30/18, 3 dated 6/19/18, 1 dated 2/5/18, and 1 dated 2/16/18.

(See attached sheets for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

No expiration date, pursuant to GS 136-44.7B

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DEQ and the Chairman of the Coastal Resources Commission.

Douglas V Huggett for

Braxton C. Davis, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.

Mark C. Rt III

for Philip S. Harris, III, P.E.

Signature of Permittee

ADDITIONAL CONDITIONS

2) In accordance with commitments made by the permittee to protect juvenile fish, no in-water work shall be conducted from April 1 to September 30 of any year without prior approval of the N.C. Division of Coastal Management (DCM), in consultation with the appropriate resource agencies.

3) Unless specifically altered herein, any mitigative measures or environmental commitments specifically made by the permittee in the CAMA permit application, or within the project's approved environmental documents, shall be implemented, regardless of whether or not such commitments are addressed by individual conditions of this permit.

4) Should construction of the authorized culvert extensions result in impacts that were not included in the permit application, the permittee shall consult with DCM to determine if additional authorization is required.

5) All pipe and culvert inverts shall be buried at least one foot below normal bed elevation to allow for passage of water and aquatic life when they are placed within the Public Trust Area of Environmental Concern (AEC) as designated by the Coastal Area Management Act (CAMA).

6) If the permittee proposes to impact the bulkhead located at Wetland Site 1, at approximately STA 55 + 00 in the future, then the permittee shall initiate coordination with DCM to determine if additional authorization is required.

7) All construction access shall be through use of existing high ground areas. Use of mats for construction access across wetlands shall require additional authorization from DCM.

8) No excavation or filling shall take place at any time in any vegetated wetlands or surrounding waters outside of the alignment of the areas indicated on the attached workplan drawings, without permit modification.

9) All fill material shall be clean and free of any pollutants except in trace quantities.

10) With the exception of any material that may be used in fill areas associated with this project, all excavated materials shall be confined above normal high water and landward of regularly or irregularly flooded wetlands behind adequate dikes or other retaining structures to prevent spillover of solids or seepage of effluent into any wetlands or surrounding waters.

11) Material excavated at the project site may be used in fill areas associated with the project once properly dewatered or shall be removed from the site and taken to a high ground location.

12) The temporary placement and double handling of any excavated or fill material within wetlands or waters of the State is not authorized. This condition also applies to the removal of the culverts, roadway asphalt and associated materials.

13) The placement of riprap shall be limited to the areas as depicted on the attached workplan drawings. The riprap material shall be clean and free from loose dirt or any pollutant. The riprap material shall consist of clean rock or masonry materials, such as but not limited to, granite, marl, or broken concrete.

ADDITIONAL CONDITIONS

14) Any waste materials or debris associated with the authorized project shall not enter wetlands or waters of the State, even temporarily. Any such material shall be disposed of at an approved upland site or shall be recycled in an environmentally appropriate manner provided appropriate authorizations are obtained from any relevant state, federal, or local authorities.

15) Uncured concrete shall not be allowed to contact waters of the State, or water that will enter waters of the State.

16) Construction staging areas shall be located only in upland areas, and not in wetlands or waters of the State.

Retaining Walls

17) The retaining walls shall be structurally tight so as to prevent seepage of fill materials through the structure.

18) The retaining walls shall be solid and constructed of treated wood, concrete slabs, metal or vinyl sheet piles or other suitable materials approved by DCM.

19) The retaining walls shall be in place prior to any backfilling activities.

20) All backfill material shall be obtained from a high ground source and confined behind the permitted retaining walls. No unconfined backfill shall be discharged into waters of the State.

Utility Impacts

NOTE: The construction of the project will also require the relocation of water, communication, and electric utilities.

21) Any utility work associated with this project that is not depicted on the attached workplan drawings, or described within the attached permit application, shall require approval from DCM, either under the authority of this permit, or by the utility company obtaining separate authorization.

NOTE: Engineered plans for all water system modifications and additions must be submitted to the N.C. Division of Water Resources, Public Water Supply Plan Review Section, for approval prior to construction.

Impacts to Wetlands and Waters of the State and Compensatory Mitigation

NOTE: This project will permanently impact approximately 5,650 square feet (0.13 acres) of Coastal Wetlands (5,643 square feet due to fill and 7 square feet due to excavation) and will temporarily impact approximately 3,420 square feet (0.08 acres) of Coastal Wetlands due to hand clearing. This project will permanently impact approximately 0.67 acres of 404 Wetlands due to fill and will temporarily impact approximately 0.24 acres of 404 Wetlands due to hand clearing.

ADDITIONAL CONDITIONS

NOTE: This project will permanently impact approximately 4 linear feet of streams and will temporarily impact approximately 8 linear feet of streams. This project will permanently impact approximately 0.08 acres of surface waters due to fill, will temporarily impact approximately 0.05 acres of surface waters. This project will permanently impact approximately 188 square feet of submerged aquatic vegetation (SAV).

NOTE: Utility relocations associated with this project will result in additional wetland impacts of approximately 436 square feet of temporary fill in 404 Wetlands, 1,307 square feet (0.03 acres) of hand clearing in Coastal Wetlands, and approximately 0.16 acres of hand clearing in 404 Wetlands.

22) In accordance with commitments made by the permittee, there shall be no impacts to the Colington Cut and Colington Creek mitigation sites.

NOTE: In accordance with the N.C. Division of Mitigation Services (DMS) letter dated 9/28/18, compensatory mitigation for permanent impacts of 0.13 acres of Coastal Wetlands and 0.67 acres of Riparian Wetlands associated with the authorized project shall be provided by the DMS in accordance with the DMS In-Lieu Fee Instrument dated 7/28/10.

23) In accordance with commitments made by the permittee, fill slopes within and adjacent to areas with sub-aquatic vegetation shall be 2:1 or steeper.

24) There shall be no clearing of wetlands outside of the areas indicated on the attached workplan drawings without prior approval from DCM.

25) Wetland areas to be temporarily impacted by clearing shall not be grubbed.

*26) Due to the possibility that hand clearing and/or other site alterations might prevent the temporary Coastal Wetland impact areas from re-attaining pre-project wetland functions, the permittee shall provide an annual update on the Coastal Wetland areas temporarily impacted by this project. This annual update shall consist of photographs and a brief written report on the progress of these temporarily impacted areas in re-attaining their pre-project wetland functions. Within three years after project completion, the permittee shall hold an agency field meeting with DCM to determine if the Coastal Wetland areas temporarily impacted by this project have re-attained pre-project wetland functions. If at the end of three years DCM determines that the Coastal Wetland areas temporarily impacted by the project have not re-attained pre-project wetland functions, DCM will determine whether compensatory wetland mitigation shall be required.

Sedimentation and Erosion Control

27) This project shall conform to all requirements of the N.C. Sedimentation Pollution Control Act and the N.C. Department of Transportation's (NCDOT's) Memorandum of Agreement with the N.C. Division of Energy, Mineral and Land Resources.

ADDITIONAL CONDITIONS

General

28) Nothing in this permit authorizes any activity that has not received approval from the National Park Service (NPS) for work within the Wright Brothers National Memorial.

29) In accordance with commitments made by the permittee, the parking area and access path that are within the NCDOT Right-of-Way adjacent to the Colington Creek bridge shall be retained and shall remain open for public use after the project is complete. The number of existing parking spaces at the time of construction shall not be reduced.

30) During construction, the permittee shall attempt to keep the parking area and access path adjacent to the Colington Creek bridge open for public use as much as practicable.

31) No attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work following completion of construction.

32) The permittee shall exercise all available precautions in the day-to-day operation of the facility to prevent waste from entering the adjacent waters and wetlands.

33) If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached workplan drawings or described in the authorized permit application, a permit modification and/or additional authorization from DCM may be required. In addition, any changes in the approved plan may also require a permit modification and/or additional authorization from DCM. The permittee shall contact a representative of DCM prior to commencement of any such activity for this determination and any permit modification.

34) Development authorized by this permit shall only be conducted on lands owned by NCDOT and/or its Right-of-Ways and/or easements.

35) The permittee and/or its contractor shall contact the DCM Transportation Project Field Representative in Elizabeth City at (252) 264-3901 to request a preconstruction conference prior to initiation of construction.

36) The N.C. Division of Water Resources (DWR) authorized the proposed project on 10/31/18 (DWR Project No. 20180839) under General Water Quality Certification No. 4135. Any violation of the Certifications approved by DWR shall be considered a violation of this CAMA permit.

NOTE: The U.S. Army Corps of Engineers is reviewing this project a Regional General Permit Number 198200031 (Action ID No. SAW-2018-01570).

NOTE: This permit does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.

NOTE: An application processing fee of $475 was received by DCM for this project. This fee also satisfied the Section 401 application processing fee requirements of DWR.

Permit Class
MODIFICATION/MINOR

Permit Number
125-18

STATE OF NORTH CAROLINA
Department of Environmental Quality
and
Coastal Resources Commission

Permit

for

X Major Development in an Area of Environmental Concern pursuant to NCGS 113A-118

X Excavation and/or filling pursuant to NCGS 113-229

Issued to **N.C. Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598**

Authorizing development in Dare County at Blount Bay, Kitty Hawk Bay, & contiguous waters, SR 1217 (Colington Rd) as requested in the permittee's application dated 3/17/21, including the attached workplan drawings (9) dated 3/12/21.

This permit, issued on **April 30, 2021**, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

1) Unless specifically altered herein, this Minor Modification authorizes the following: a change from pipe extension to pipe replacement at Site 2, Site 9, and Site 12; and a change from Class I to Class II Rock at Sites 2, 8, 9, 12, 16 and 18, all as depicted on the attached workplan drawings.

2) In accordance with commitments made by the permittee to protect juvenile fish, no in-water work shall be conducted from April 1 to September 30 of any year without prior approval of the N.C. Division of Coastal Management (DCM), in consultation with the appropriate resource agencies.

3) All pipe and culvert inverts shall be buried at least one foot below normal bed elevation to allow for passage of water and aquatic life when they are placed within the Public Trust Area of Environmental Concern (AEC) as designated by the Coastal Area Management Act (CAMA).

(See attached sheet for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

No expiration date, pursuant to GS 136-44.7B

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DEQ and the Chairman of the Coastal Resources Commission.

J. Howell for

Braxton C. Davis, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.

Signature of Permittee

ADDITIONAL CONDITIONS

4) No excavation or filling shall take place at any time in any vegetated wetlands or surrounding waters outside of the alignment of the areas indicated on the attached workplan drawings, without permit modification.

5) All fill material shall be clean and free of any pollutants except in trace quantities.

6) The temporary placement and double handling of any excavated or fill material within wetlands or waters of the State is not authorized. This condition also applies to the removal of the culverts, roadway asphalt and associated materials.

NOTE: Engineered plans for any water system modifications and/or additions must be submitted to and approved by the N.C. Division of Water Resources, Public Water Supply Plan Review Section prior to the work taking place.

7) If it is determined that additional permanent and/or temporary impacts are necessary that are not shown on the attached workplan drawings or described in the authorized permit application, a permit modification and/or additional authorization from DCM may be required. In addition, any changes in the approved plan may also require a permit modification and/or additional authorization from DCM. The permittee shall contact a representative of DCM prior to commencement of any such activity for this determination and any permit modification.

8) Development authorized by this permit shall only be conducted on lands owned by NCDOT and/or its Right-of-Ways and/or easements.

9) The permittee and/or its contractor shall contact the DCM Transportation Project Field Representative in Elizabeth City at (252) 264-3901 to request a preconstruction conference prior to initiation of construction.

10) The N.C. Division of Water Resources (DWR) authorized the proposed project on 4/26/21 (DWR Project No. 20180839 v.2) under General Water Quality Certification No. 4135. Any violation of the Certifications approved by DWR shall be considered a violation of this CAMA permit.

11) This Minor Modification shall be attached to the original of Permit No. 125-18, which was issued on 11/5/18, and copies of both documents shall be readily available on site when a Division representative inspects the project for compliance.

NOTE: The U.S. Army Corps of Engineers has assigned the project USACE Action ID SAW-2018-01570.

NOTE: This permit does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.

NOTE: All conditions and stipulations of the active permit remain in force under this Minor Modification unless altered herein.

NOTE: A minor modification application processing fee of $100 was received by DCM for this project.

NPS Form 10-114 (Rev. 01/2017)
National Park Service

SPECIAL USE PERMIT

Outer Banks Group:
Cape Hatteras NS, Fort Raleigh NHS, & Wright Brothers NMEM
1401 National Park Drive
Manteo, NC 27954
(252) 475-9000 **caha_special_use_permits@nps.gov**

Name			
Jerry Jennings, PE			
Company/Organization **NC Department of Transportation**			
Street Address **113 Airport Road, Suite 100**			
City **Edenton**	State **NC**	Zip Code **27932**	Country
Telephone Number **252-482-1850**	Cell Phone Number		
Fax Number			
Email Address **jjennings@ncdot.gov**			

Park Alpha Code
WRBR
Type of Use
Use of Specific Area

Permit #
USA 18 5700 016
Revision 1
Supersedes Original Signed February 26, 2019

is hereby authorized to use the following described land or facilities of the **Wright Brothers National Memorial, and being those lands within and along NC Department of Transportation's (NCDOT) existing right of way for State Route 1217, aka Colington Road, Kill Devil Hills, NC**

The permit begins at 7:00 ☒ am / ☐ pm on 4/29/19. The permit expires at 6:00 ☐ am / ☒ pm on 4/30/23.

SUMMARY OF PERMITTED ACTIVITY: To repair and replace road way surfaces, curbs, gutters, dividers, and to repave and repaint the same, within and along the existing right of way through the southernmost park of Wright Brothers National Memorial; and to install along the southernmost side of SR 1217, a new 7 ft. bicycle lane, all according to maps, schematics, drawings and documents submitted to the park in support of the Permittee's application for this permit.

Person on site responsible for adherence to the terms and conditions of the permit (include contact information)
To be supplied by NCDOT to Park's Point of Contact

Authorizing legislation or other authority:
PEPC 65265, 36 CFR Chapter 1, Part 1.6 & 2.50

APPLICATION FEE	☐ **Received** ☒ **Not Required**	Amount **$ 0**
PERFORMANCE BOND	☐ **Required** ☒ **Not Required**	Amount **$ 0**
LIABILITY INSURANCE	☒ **Required** ☐ **Not Required**	Amount $1,000,000.00 per occurrence and $2,000,000.00 aggregate
COST RECOVERY	☐ **Required** ☒ **Not Required**	Amount **$ 0**
LOCATION FEE	☐ **Required** ☒ **Not Required**	Amount **$ 0**

NPS Form 10-114 (Rev. 01/2017)
National Park Service

SPECIAL USE PERMIT

Outer Banks Group:
Cape Hatteras NS, Fort Raleigh NHS, & Wright Brothers NMEM
1401 National Park Drive
Manteo, NC 27954
(252) 475-9000 **caha_special_use_permits@nps.gov**

ISSUANCE of this permit is subject to the attached conditions. The undersigned hereby accepts this permit subject to the terms, covenants, obligations, and reservations, expressed or implied herein.

PERMITTEE Signature _____ Title: Division Engineer Date: 1/14/2020

Authorizing NPS Official _____ Title: Deputy Superintendent Date: 1/10/2020

CONDITIONS OF THIS PERMIT

Failure to comply with any of the terms and conditions of this permit may result in the immediate suspension or revocation of the permit. [36 CFR 1.6(h)]

1. The permittee is prohibited from giving false information; to do so will be considered a breach of conditions and be grounds for revocation: [36 CFR 2.32(a) (3)].

2. This permit may not be transferred or assigned without the prior written consent of the Superintendent.

3. The permittee shall exercise this privilege subject to the supervision of the Superintendent or designee, and shall comply with all applicable Federal, State, county and municipal laws, ordinances, regulations, codes, and the terms and conditions of this permit. Failure to do so may result in the immediate suspension of the permitted activity or the revocation of the permit. All costs associated with clean up or damage repairs in conjunction with a revoked permit will be the responsibility of the permittee.

* 4. The permittee is responsible for making all necessary contacts and arrangements with other Federal, State, and local agencies to secure required inspections, permits, licenses, etc.

5. The park area associated with this permit will remain open and available to the public during park visiting hours. This permit does not guarantee exclusive use of an area. Permit activities will not unduly interfere with other park visitors' use and enjoyment of the area.

6. This permit may be revoked at the discretion of the Superintendent upon 24 hours notice.

7. This permit may be revoked without notice if damage to resources or facilities occurs or is threatened, notwithstanding any other term or condition of the permit to the contrary.

8. This permit is made upon the express condition that the United States, its agents and employees shall be free from all liabilities and claims for damages and/or suits for or by reason of any injury, injuries, or death to any person or persons or property of any kind whatsoever, whether to the person or property of the Permittee, its agents or employees, or third parties, from any cause or causes whatsoever while in or upon said premises or any part thereof during the term of this permit or occasioned by any occupancy or use of said premises or any activity carried on by the Permittee in connection herewith, and the Permittee hereby covenants and agrees to indemnify, defend, save and hold harmless the United States, its agents, and employees from all liabilities, charges, expenses and costs on account of or by reason of any such injuries, deaths, liabilities, claims, suits or losses however occurring or damages growing out of the same.

9. Permittee agrees that it shall be liable for its actions and actions of its officers, employees, involuntary servant or agent of the State to the extent allowable under the North Carolina Tort Claims Act. Permittee also agrees to require its contractors, subcontractors and agents to carry general liability insurance against claims occasioned by the action or omissions of its contractors, subcontractors, agents and employees in carrying out the activities

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and operations authorized by this permit. The policy shall be in the amount(s) as specified on page 1 of this permit and underwritten by a United States company naming the United States of America as additionally insured. The policies shall name the United States as an additional insured, shall specify that the insured shall have no right of subrogation against the United States for payments of any premiums or deductibles due thereunder, and shall specify that the insurance shall be assumed by, be for the account of, and be at the insured's sole risk. Prior to beginning the authorized herein, shall provide the written confirmation of such insurance coverage. Such insurance must pay the United States the full value for all damages to the lands or other property of the United States caused by the said person or organization, its representatives, or employees. The permittee's contractors, subcontractors or agents must indemnify, save and hold harmless, and defend the United States against all fines, claims, damages, losses, judgments, and expenses arising out of, or from, any omission or activity of the said person or organization, its representatives, or employees. The permittee agrees to provide the Superintendent with such Certificate of Insurance with the proper endorsements prior to the commencement of an activity under this permit.

10. Permittee agrees to deposit with the park a bond in the amount of $__N/A__ from an authorized bonding company or in the form of cash or cash equivalent, to guarantee that all financial obligations to the park will be met.

* 11. Costs incurred by the park as a result of accepting and processing the application and managing and monitoring the permitted activity will be reimbursed by the permittee. Administrative costs and estimated costs for activities on site must be paid when the permit is approved. If any additional costs are incurred by the park, the permittee will be billed at the conclusion of the permit. Should the estimated costs paid exceed the actual costs incurred; the difference will be returned to the permittee.

12. The person(s) named on the permit as in charge of the permitted activity on-site must have full authority to make any decisions about the activity and must remain available at all times. He/she shall be responsible for all individuals, groups, vendors, etc. involved with the permit

13. Nothing herein contained shall be construed as binding the Service to expend in any one fiscal year any sum in excess of appropriations made by Congress or administratively allocated for the purpose of this permit for the fiscal year, or to involve the Service in any contract or other obligation for the further expenditure of money in excess of such appropriations or allocations.

14. If any provision of this permit shall be found to be invalid or unenforceable, the remainder of this permit shall not be affected and the other provisions of this permit shall be valid and be enforced to the fullest extent permitted by law.

Wright Brothers National Memorial
Special Park Conditions
SR 1217/Colington Road Project

15. **In the event of an emergency, dial 911. In the event of an incident that does not require emergency assistance, dial 252-473-3444.**

16. The permittee's primary contact for this project shall be the park designated Point of Contact (POC) Carmen Pantaleo (carmen_pantaleo@nps.gov or 252-475-9034) or his successor. Please notify the POC of the project schedule as soon as it is known. A pre-construction meeting must be scheduled to include the park at least 3

SPECIAL USE PERMIT

Outer Banks Group:
Cape Hatteras NS, Fort Raleigh NHS, & Wright Brothers NMEM
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weeks prior to the anticipated start of construction. Periodic meetings/updates must be provided to the POC throughout the project to ensure updated project timelines are shared with park staff.

17. The permittee must provide the National Park Service with a detailed project plan and timeline prior to commencing the work.

18. The permittee shall notify the POC of any damage to property, injuries to person or release of oils or fuels that occur within the park.

19. The permittee shall ensure that the limits of the existing right of way are clearly marked at appropriate intervals inside the park.

20. Construction work zones within the Memorial will abide by best management practices regarding avoidance of tree damage. The Contractor shall minimize removal of vegetation within project limits to the maximum extent practicable. Trees not needing to be removed within the existing easements and at the discretion of the engineer will be fenced with orange safety fencing at the drip line to prevent removal and vehicle damage to main stem, root pruning will be used to trim roots within below grade work zones, care will be given to avoid compaction of soils over root systems.

21. **Heavy Equipment Use:** Clearly mark the limit of existing and proposed easements using stakes, flagging, or fencing. Erosion control measures will be placed at the edge of the disturbed areas.

22. To reduce noise and pollution emissions, construction equipment will not idle any longer than is necessary for safety, equipment performance, and/or mechanical reasons.

23. NCDOT is authorized to construct a 7 foot wide bicycle lane along the edge of the existing SR 1217 with a disturbance area contained within the proposed slope stake line as shown on the plans. The contractor should make every effort not to disturb any trees within the existing or proposed easement. This effort should follow the NCDOT Method of Clearing as shown in the NCDOT Standard Drawing 200.2, The bicycle lane would be on the southside of SR 1217 within the Memorial as shown on the plans.

24. NCDOT must provide a public information program to warn of temporary closures, delays, and road hazards during all phases of the construction project. This program would help convey appropriate messages to the public and aid in mitigating potential impacts on visitors' expectations and experiences.

25. No other surface-disturbing work or vegetative clearing than presented in the project scope (CAD drawings) for road and bicycle lane work within the Memorial shall occur without written permission from an authorized representative of the National Park Service.

26. Equipment used at the site shall be pressure cleaned and free of weeds, seed, debris, and mud, if operating off of the road, to prevent the introduction and/or spread of exotic and invasive plants.

27. No construction staging or material storage is authorized within the Memorial without superintendent or designee approval in writing. If new actions are approved, no additional permitting is required.

28. The permittee or its contractor shall submit a safety plan to the Park Safety Officer Stacey Sigler (Stacey_sigler@nps.gov) prior to commencement of work. Safety plan shall demonstrate compliance with OSHA and other applicable safety laws. It shall include an emergency safety plan and shall list contractor points of

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contact.

29. The permittee shall submit a copy of the Traffic Management Plan for review and approval by the park prior to the commencement of work activities within the boundaries of the Memorial. This plan shall address location of warning signs, type of signs, placement of flaggers, placement of cones/fencing, barricades, duration and timing of anticipated delays, use of pilot cars, if needed. This plan shall address vehicle and pedestrian traffic within the construction zone.

* 30. The permittee must submit a copy of a soils treatment and revegetation plan to rehabilitate disturbed areas to the park for review and approval prior to project implementation.

31. Exposed soil shall be seeded and mulched as per NCGO1 permit to prevent the establishment of invasive plants. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions (Slopes between 2:1 and 3:1, with a slope length of 10 ft., Slopes 3:1 or flatter with a slope of length of 50 ft. or less, or Slopes 4:1 or flatter) in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity. NCDOT must achieve a minimum 80% groundcover to consider a project stabilized.

32. Permittee shall clearly mark the limit of the proposed project in the park using stakes, flagging, or fencing.

33. NCDOT must restore project area and any adjacent staging areas, if applicable, upon completion of project to approximate original site conditions (including reseeding of grasses) to the satisfaction of the Superintendent.

34. Upon the completion of the project the permittee shall provide the park with an as-built survey of the right of way to be used in the renewal of a right of way agreement between the parties for Colington Road through the park.

35. A copy of this issued permit must be with the permittee/workers and on site at all times when conducting project activities within the National Park.

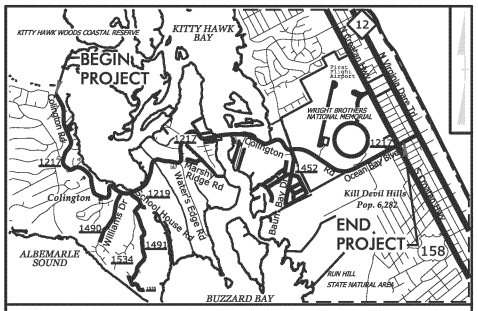
36. Fees will be waived In Accordance With 36 CFR Part 14.22 Reimbursement of costs. (a)(1) An applicant for a right-of-way or a permit incident to a right-of-way shall reimburse the United States for administrative and other costs incurred by the United States in processing the application, including the preparation of reports and statements pursuant to the National Environmental Policy Act (42 U.S.C. 4321-4347), before the right-of-way or permit will be issued under the regulations of this part. (2) The regulations contained in this section do not apply to: (i) State or local governments or agencies or instrumentalities thereof where the lands will be used for governmental purposes and the lands and resources will continue to serve the general public; (ii) road use agreements or reciprocal road agreements; or (iii) Federal government agencies.

Superintendent may revoke the permit and/or stop the construction project should any of the permit conditions be violated.

TIP PROJECT: R-5014

CONTRACT:

See Sheet 1A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DARE COUNTY

ROW PLANS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5014	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
41162.1.1	STP-1217(6)	PE
41162.2.1	STP-1217(6)	R/W & UTIL

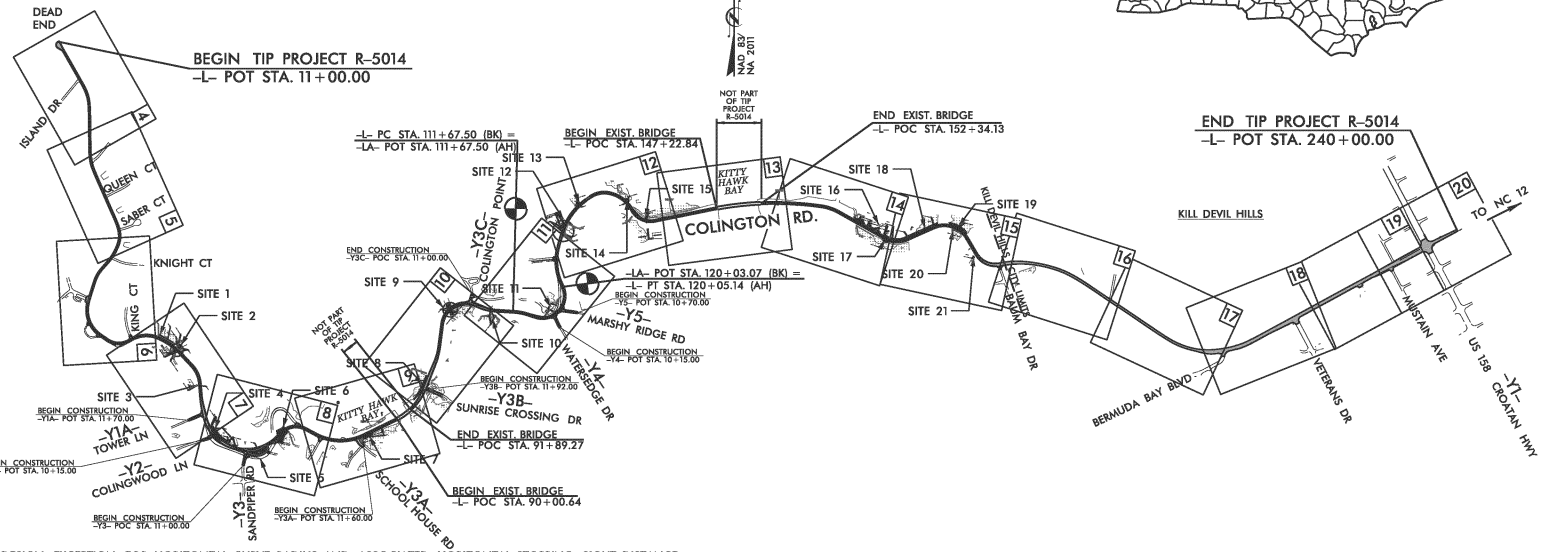
PERMIT DRAWING
SHEET 1 OF 41

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

LOCATION: SR 1217 (COLINGTON RD.) FROM DEAD END TO US 158 CROATAN HIGHWAY IN KILL DEVIL HILLS

TYPE OF WORK: GRADING, DRAINAGE, PAVING & RESURFACING

WETLAND AND SURFACE WATER IMPACTS



THERE IS A DESIGN EXCEPTION FOR HORIZONTAL CURVE RADIUS AND ASSOCIATED HORIZONTAL STOPPING SIGHT DISTANCE.
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF KILL DEVIL HILLS.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2018 = 13,970
ADT 2038 = 19,300
DHV = 11 %
D = 65 %
T = 3 % *
V = 40 MPH

* TTST =1% DUAL 2%
FUNC CLASS = LOCAL
STATEWIDE TIER

PROJECT LENGTH

TOTAL LENGTH ROADWAY TIP PROJECT R-5014 = 4.204 MILES

Prepared in the Office of:
CALYX ENGINEERS + CONSULTANTS
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 18, 2017

LETTING DATE:
NOVEMBER 20, 2018

NCDOT CONTACT: GARY LOVERING, PE
ROADWAY DESIGN - PROJECT ENGINEER

JOHNNY BANKS
CALYX E & C
PROJECT MANAGER

STEPHEN C. BROWDE, PE
CALYX E & C
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

10/24/2017
cstreemon2
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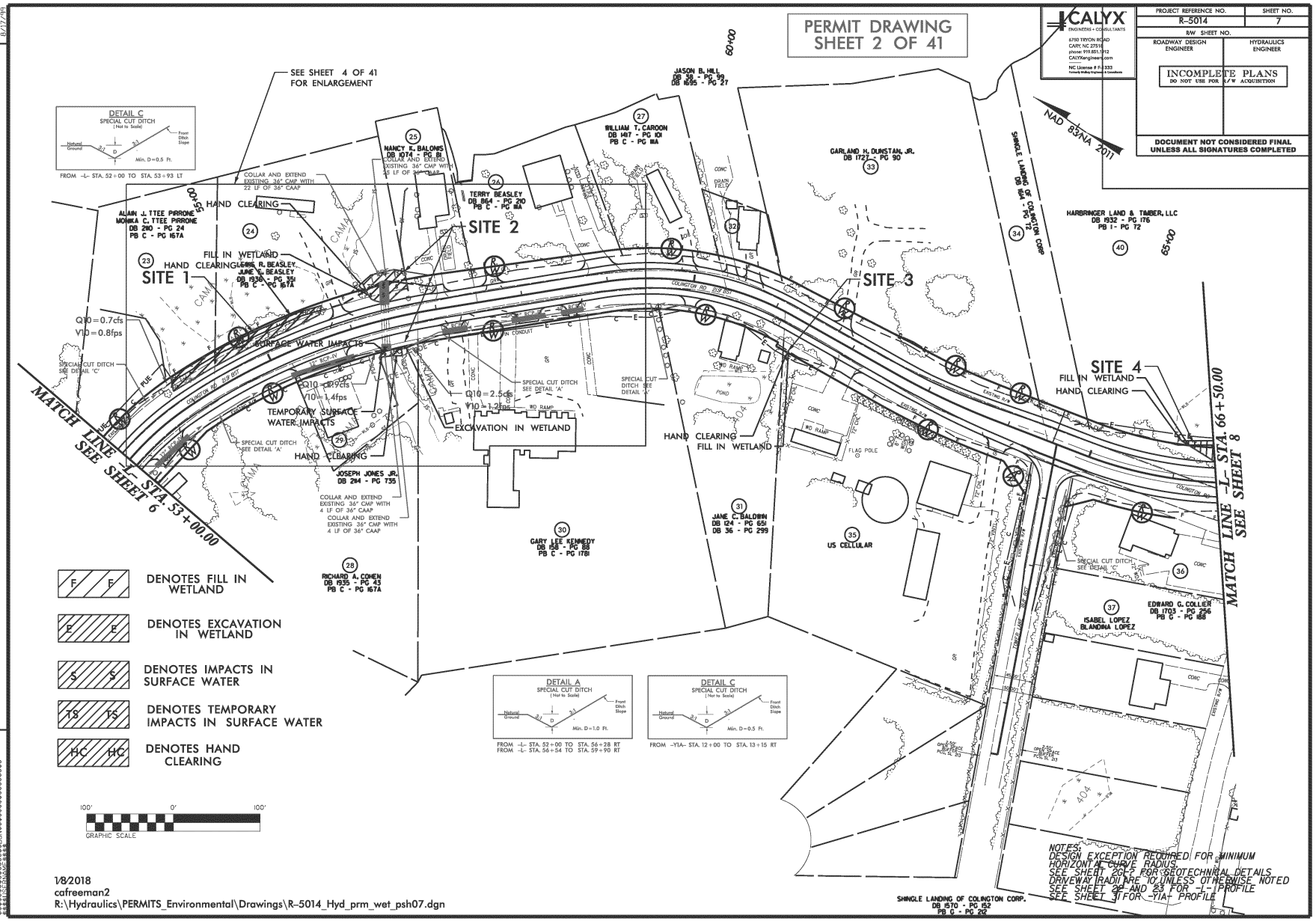
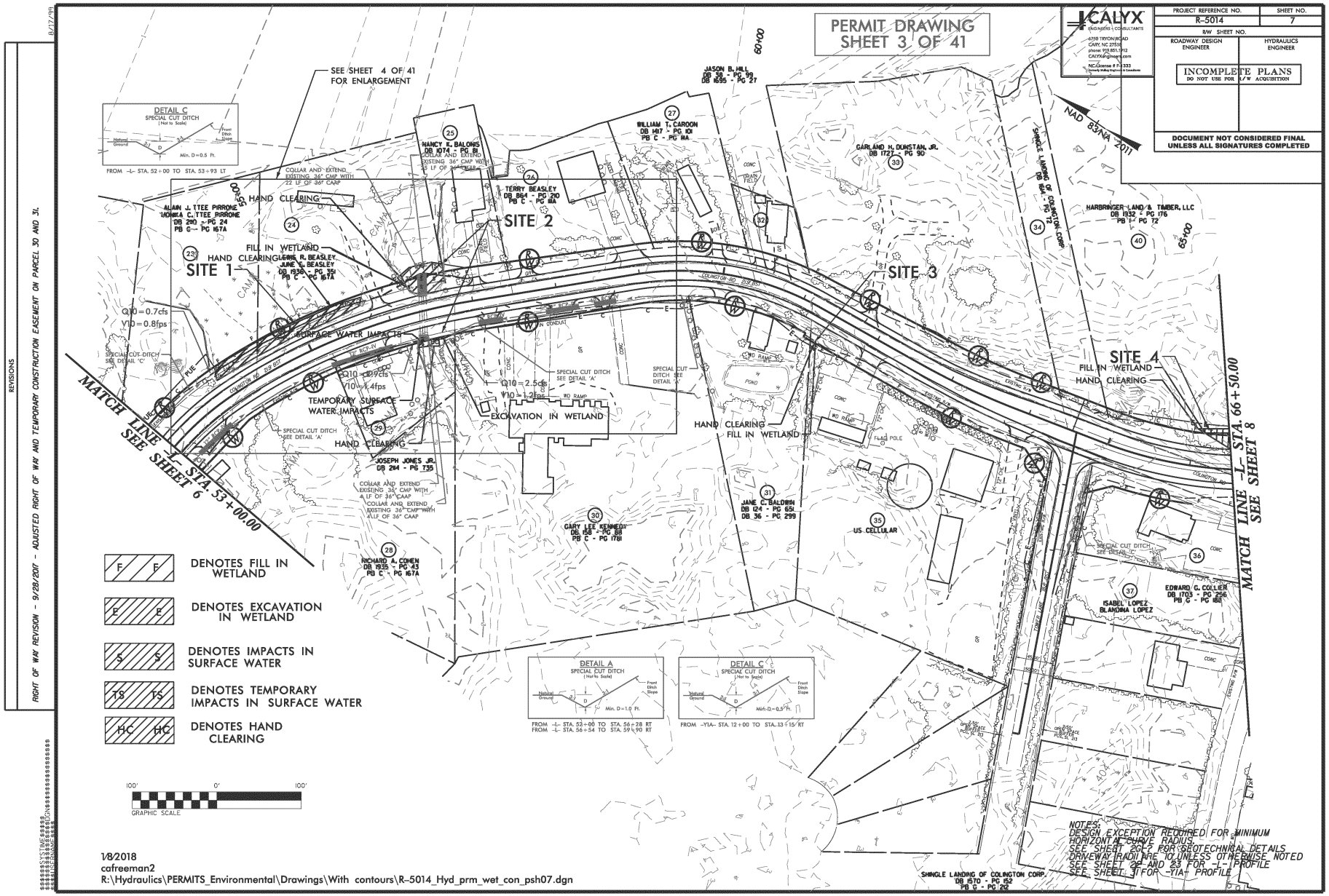


REVISIONS

RIGHT OF WAY REVISION - 9/28/2017 - ADJUSTED RIGHT OF WAY AND TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 30 AND 31.

8/17/99

P-59



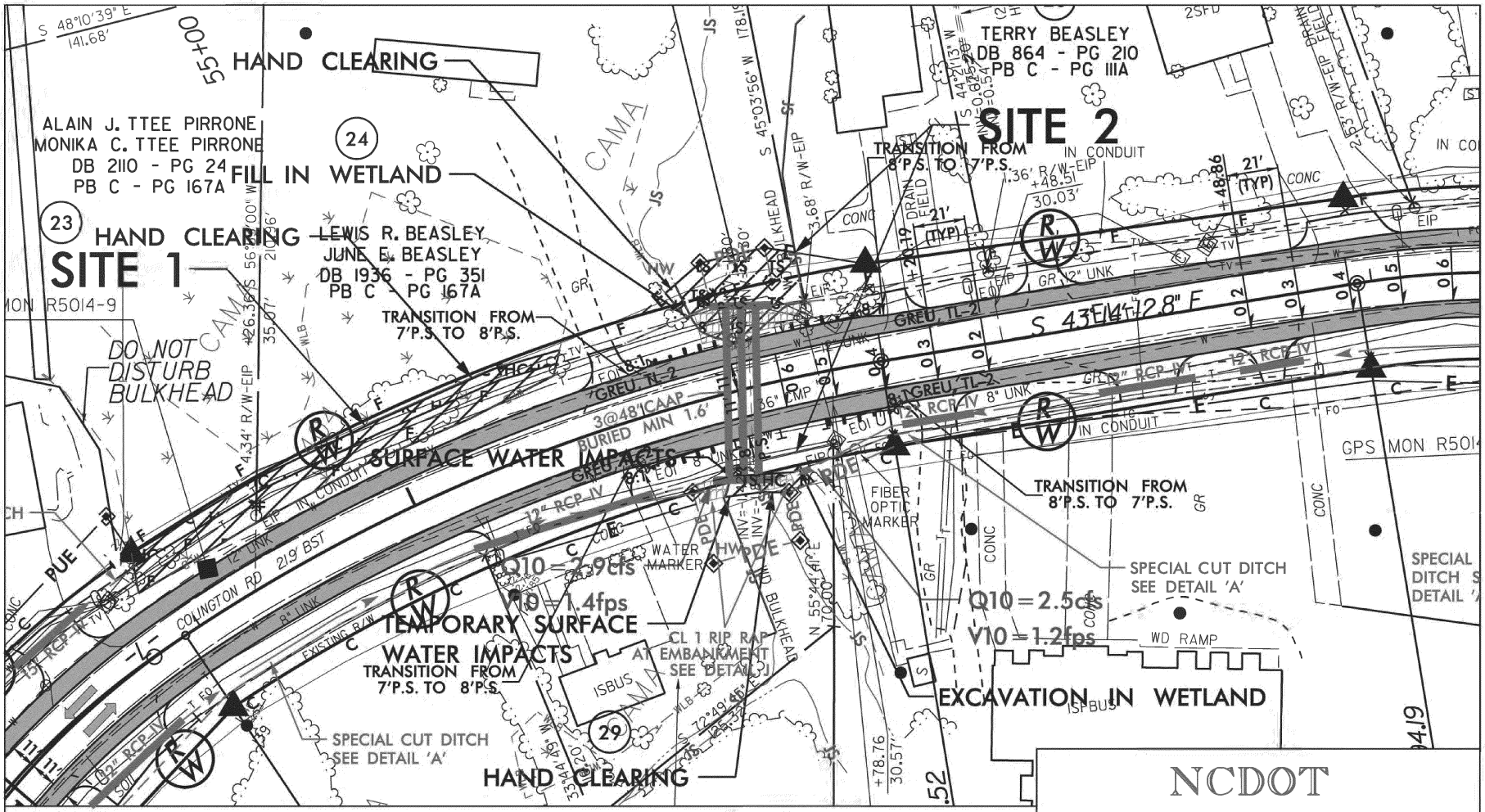
REVISIONS

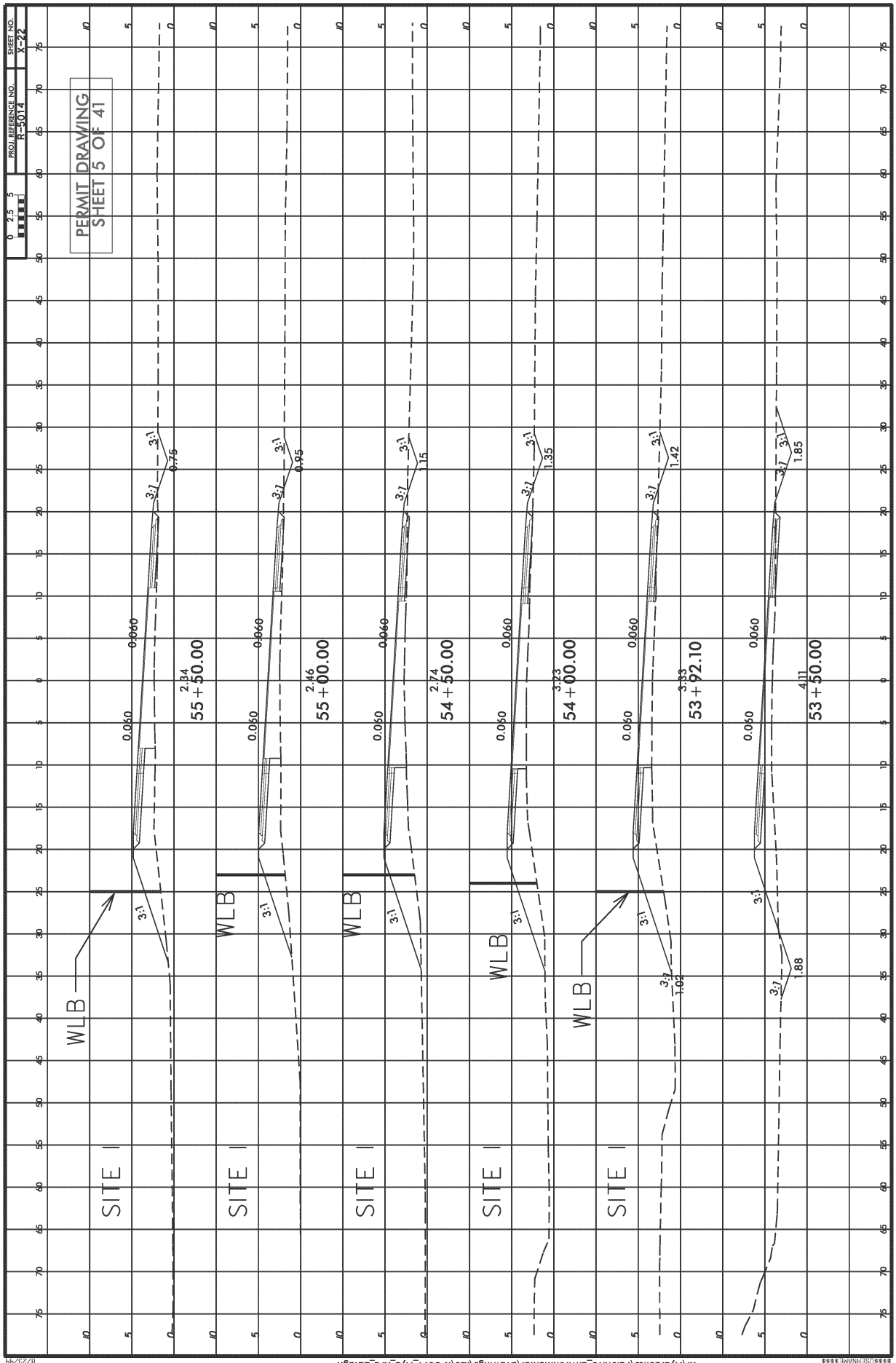
RIGHT OF WAY REVISION - 9/28/2017 - ADJUSTED RIGHT OF WAY AND TEMPORARY CONSTRUCTION EASEMENT ON PARCEL 30 AND 31.

8/17/2018

P-60

Revised 3/12/2021




PERMIT DRAWING
SHEET 5 OF 41
PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-22
0 2.5 5
SITE II
WLB
0.060
3:1
0.75
55+50.00
2.34
0.95
55+00.00
2.46
1.15
54+50.00
2.74
1.35
54+00.00
3.23
1.42
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3.33
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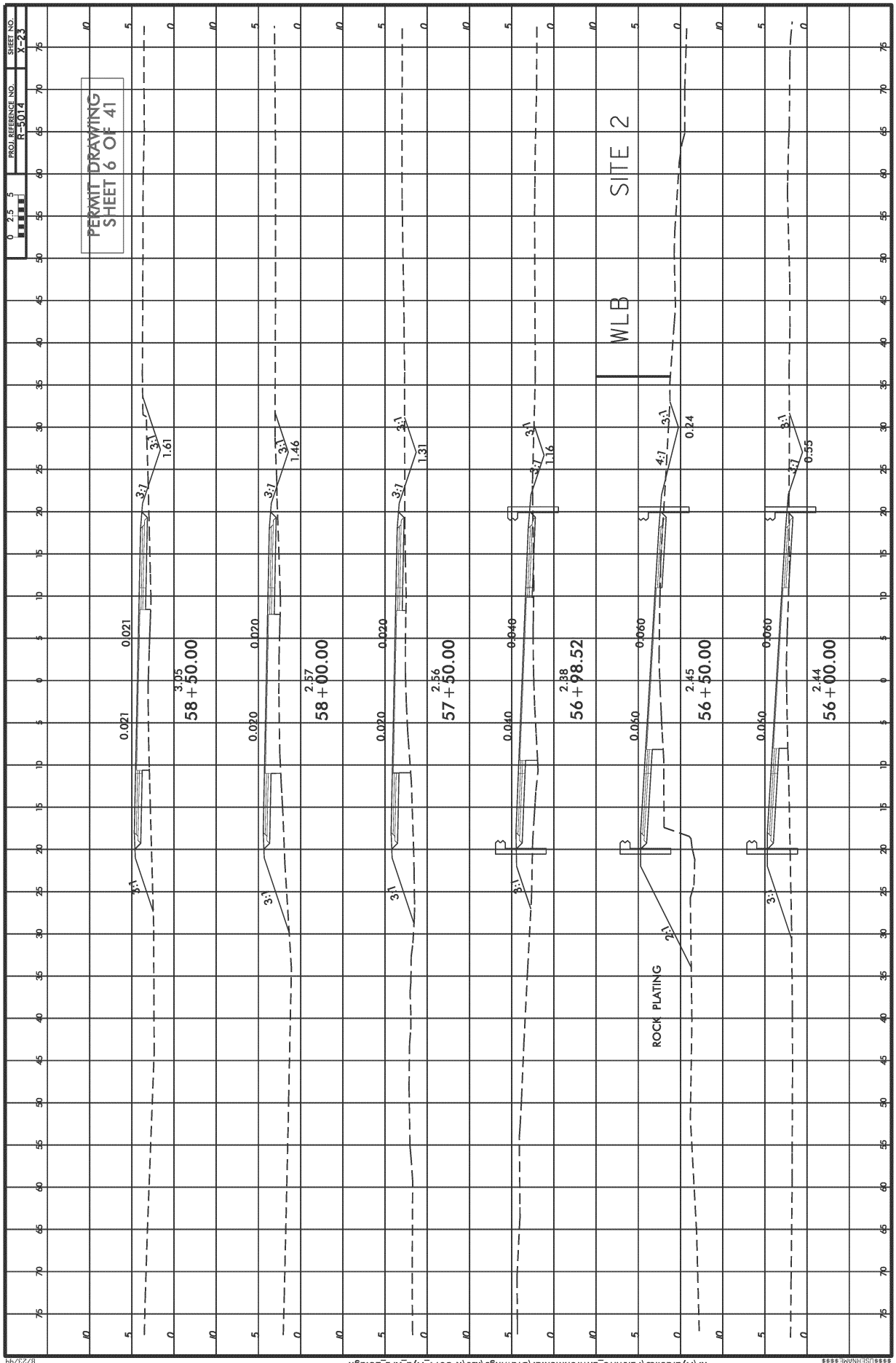
4.11
1.85


PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-23
PERMIT DRAWING
SHEET 6 OF 41
SITE 2
WLB
ROCK PLATING
58+50.00
58+00.00
57+50.00
56+98.52
56+50.00
56+00.00
3.05
2.57
2.56
2.38
2.45
2.44
1.61
1.46
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1.16
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0.020
0.040
0.060
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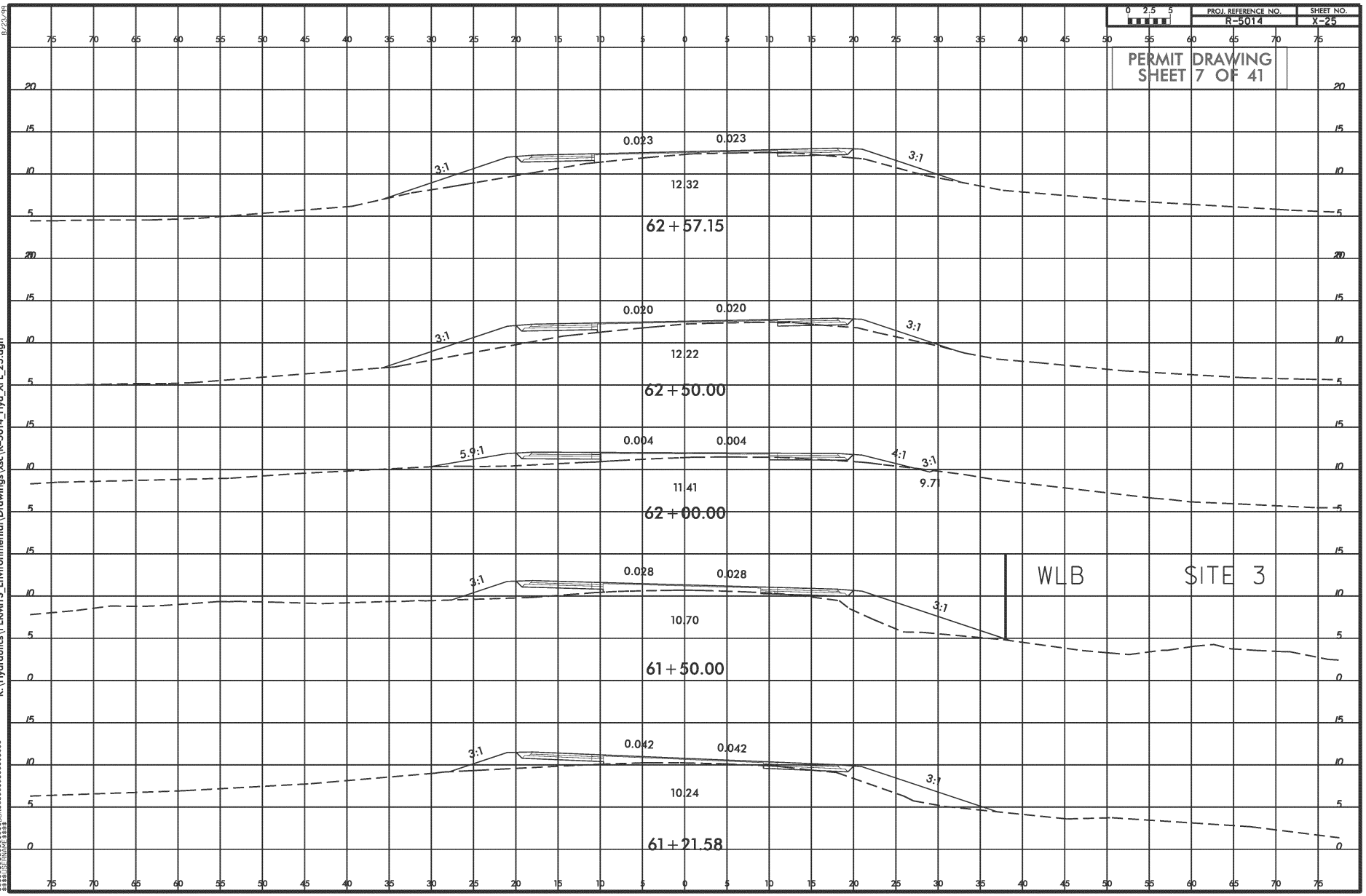
4:1
2:1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R-5014
SHEET NO.
X-25
PERMIT DRAWING
SHEET 7 OF 41
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0.020
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3:1
12.22
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0.004
5.9:1
4:1
3:1
9.71
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3:1
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WLB
SITE 3
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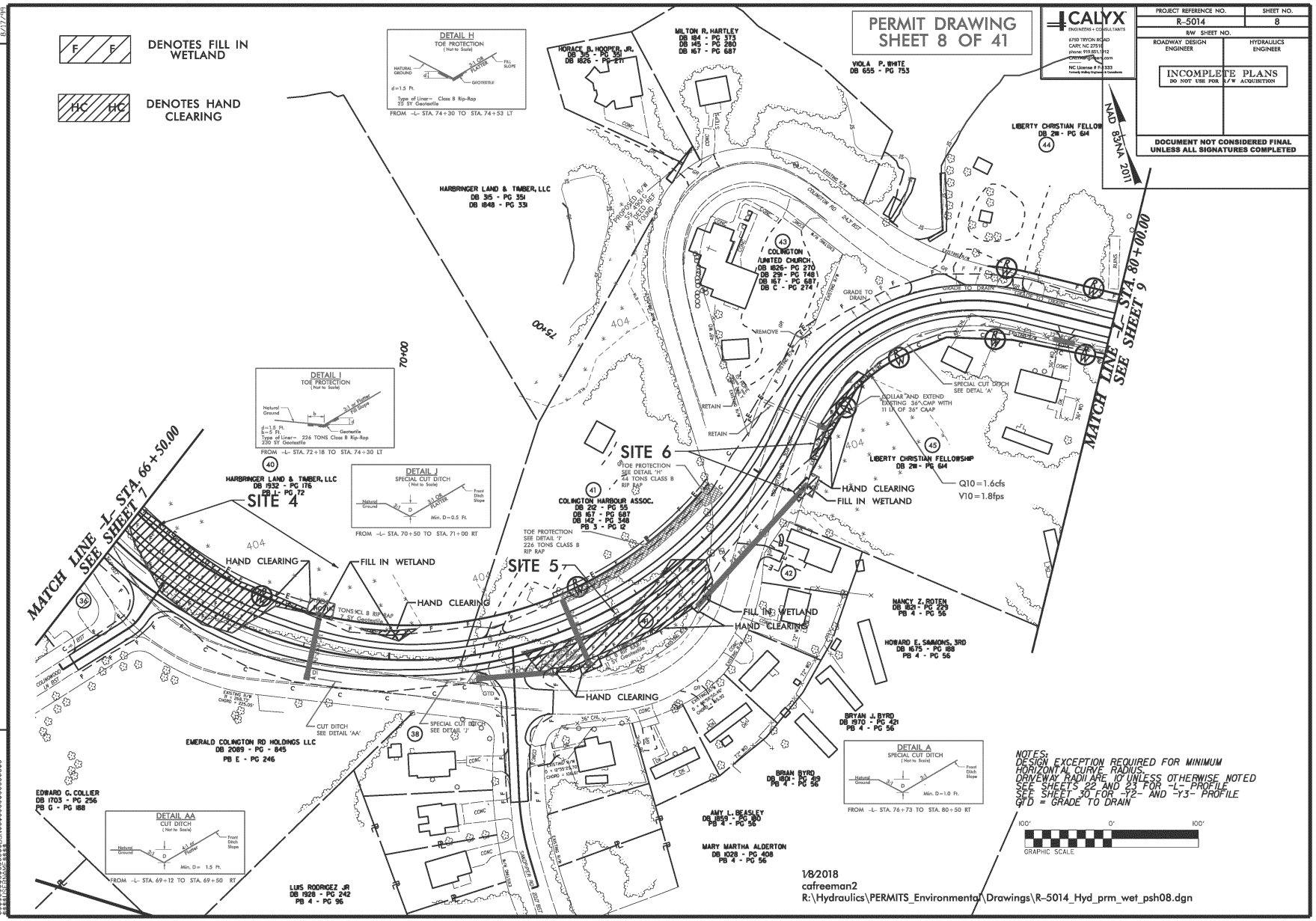
8/23/99



REVISIONS

8/17/99

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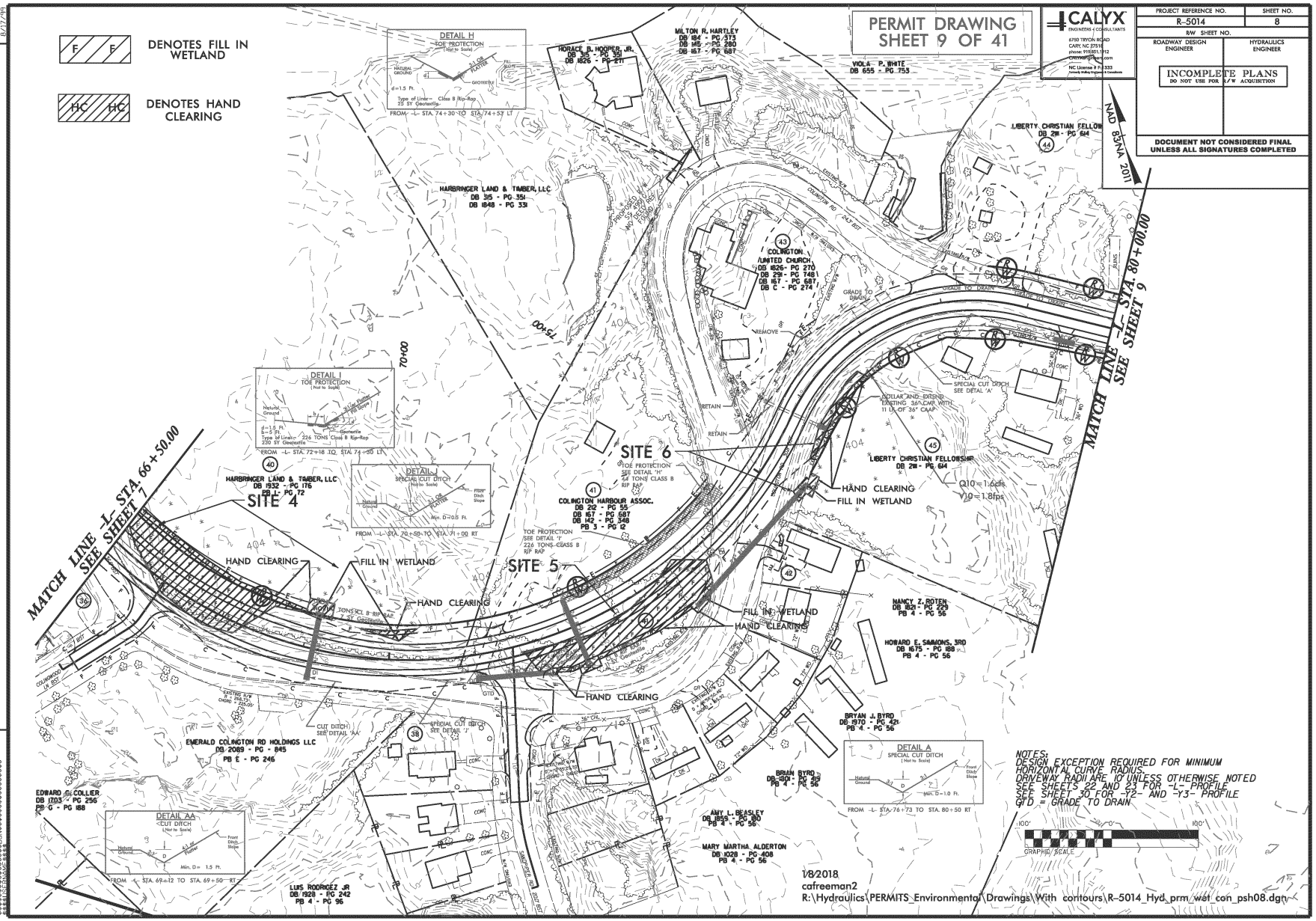
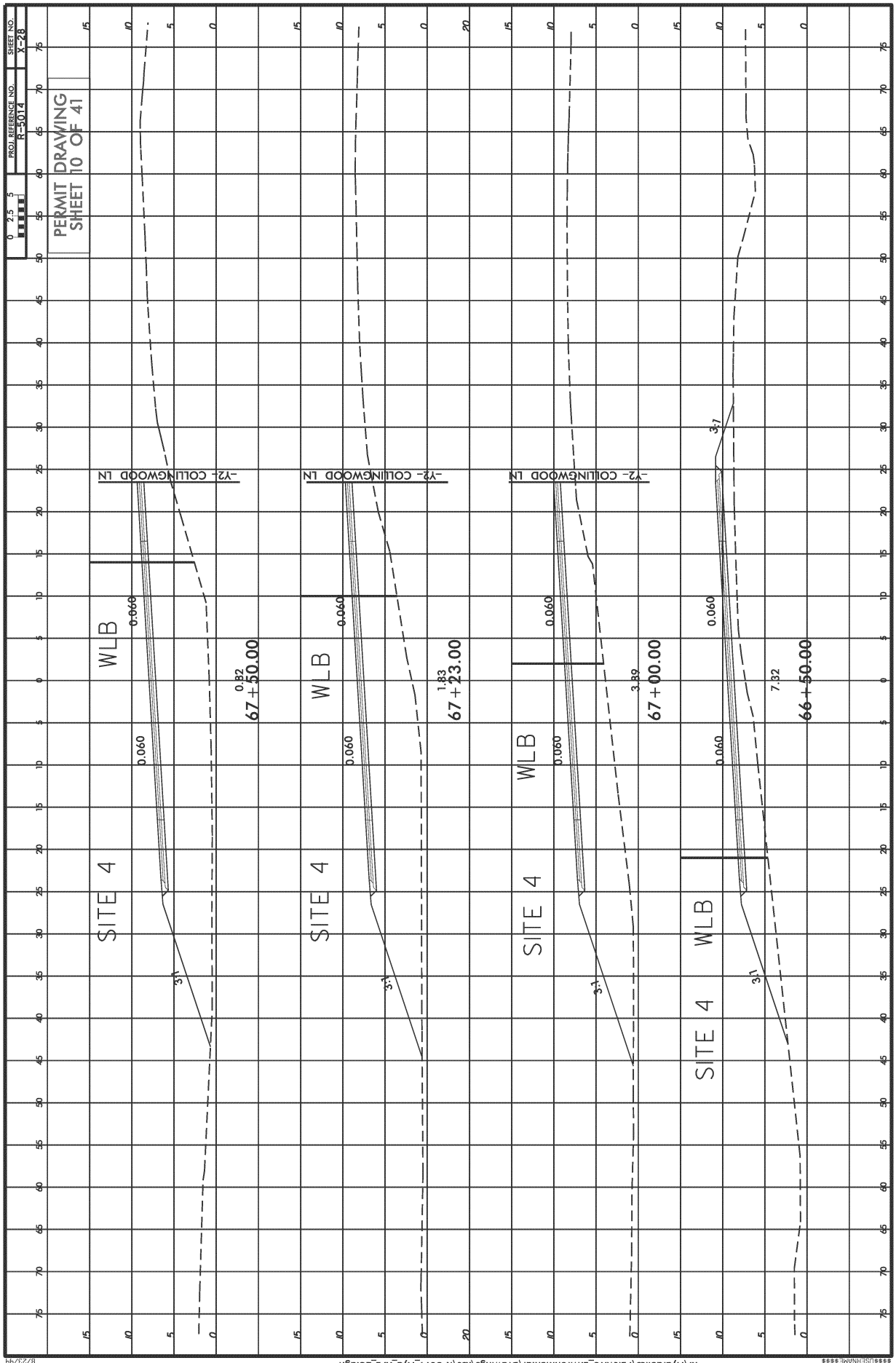


REVISIONS

8/17/99

P-66


PERMIT DRAWING
SHEET 10 OF 41
PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-28
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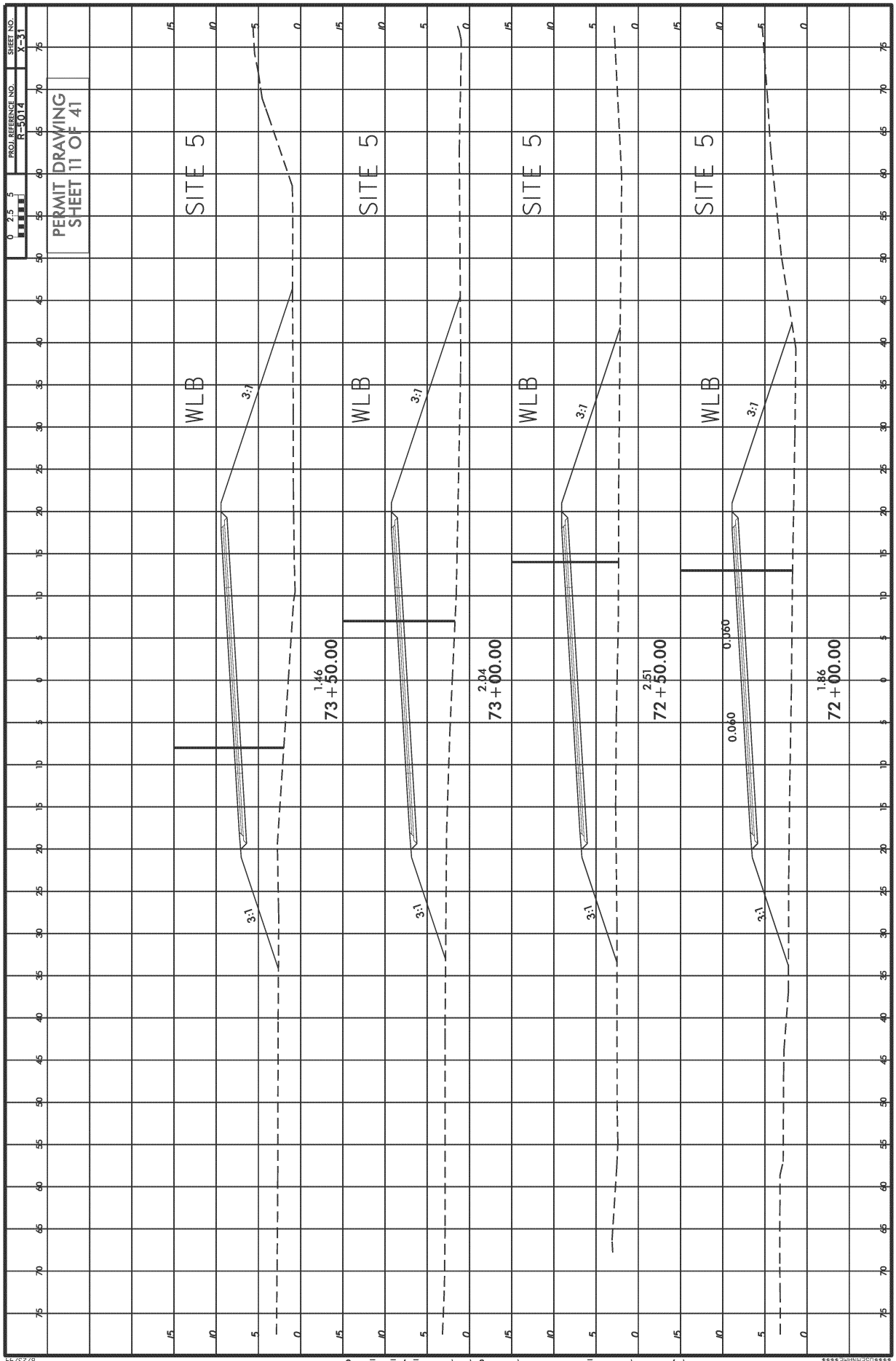
7.32
66+50.00
3:1


PERMIT DRAWING
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R-5014
SHEET NO.
X-31
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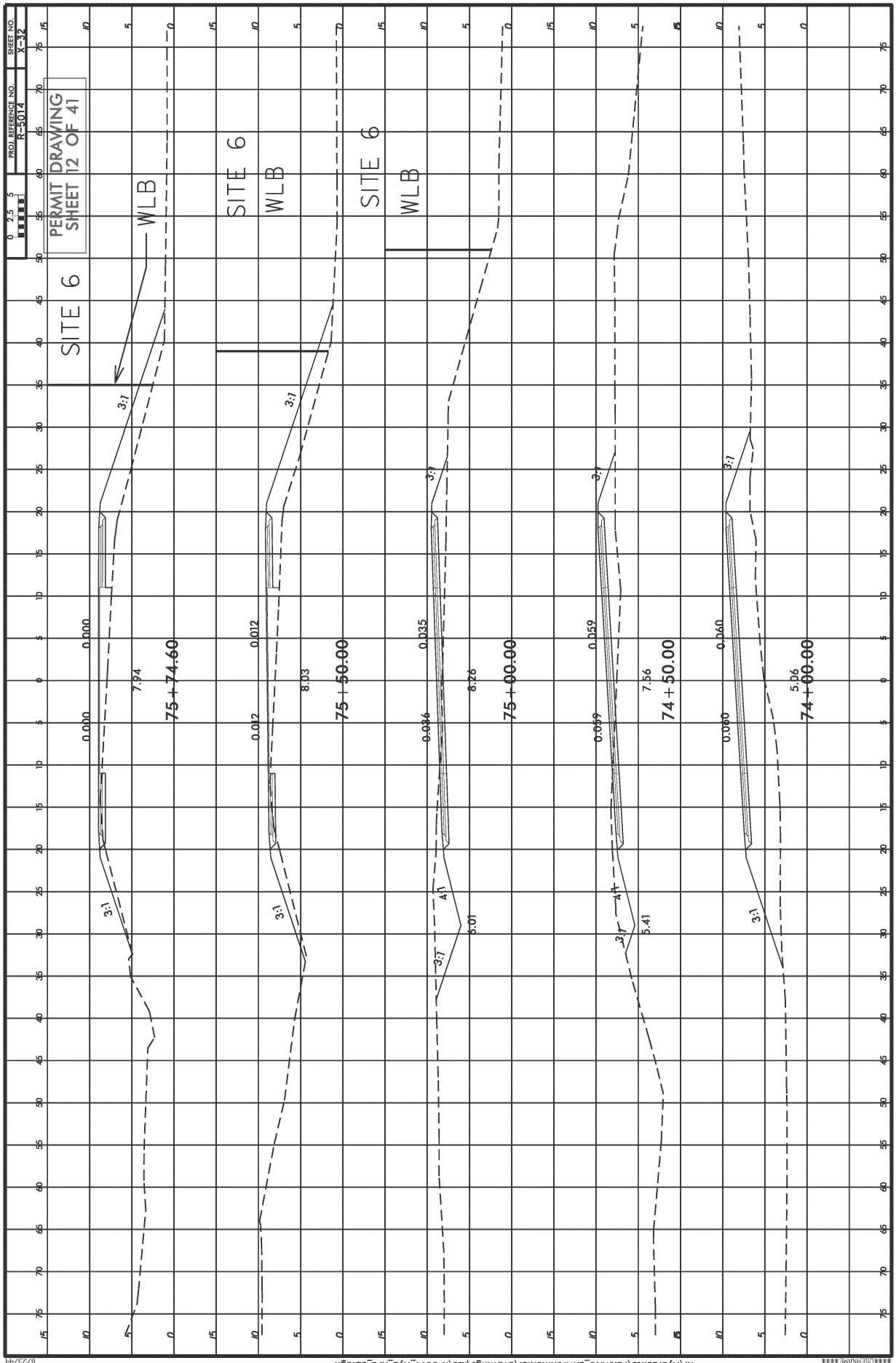
72+00.00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X-32
PERMIT DRAWING
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8.26
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5.06
5.01
5.41
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75+50.00
75+00.00
74+50.00
74+00.00
10/30/2017
cafreemanz
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8/23/99

PERMIT DRAWING
SHEET 13 OF 41

CALYX
ENGINEERS + CONSULTANTS
6750 TRYON ROAD
CARY, NC 27511
phone: 919.851.1912
CALYXengineers.com
NC License # F-1333
Formerly Mulkey Engineers & Consultants

PROJECT REFERENCE NO.	SHEET NO.
R-5014	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

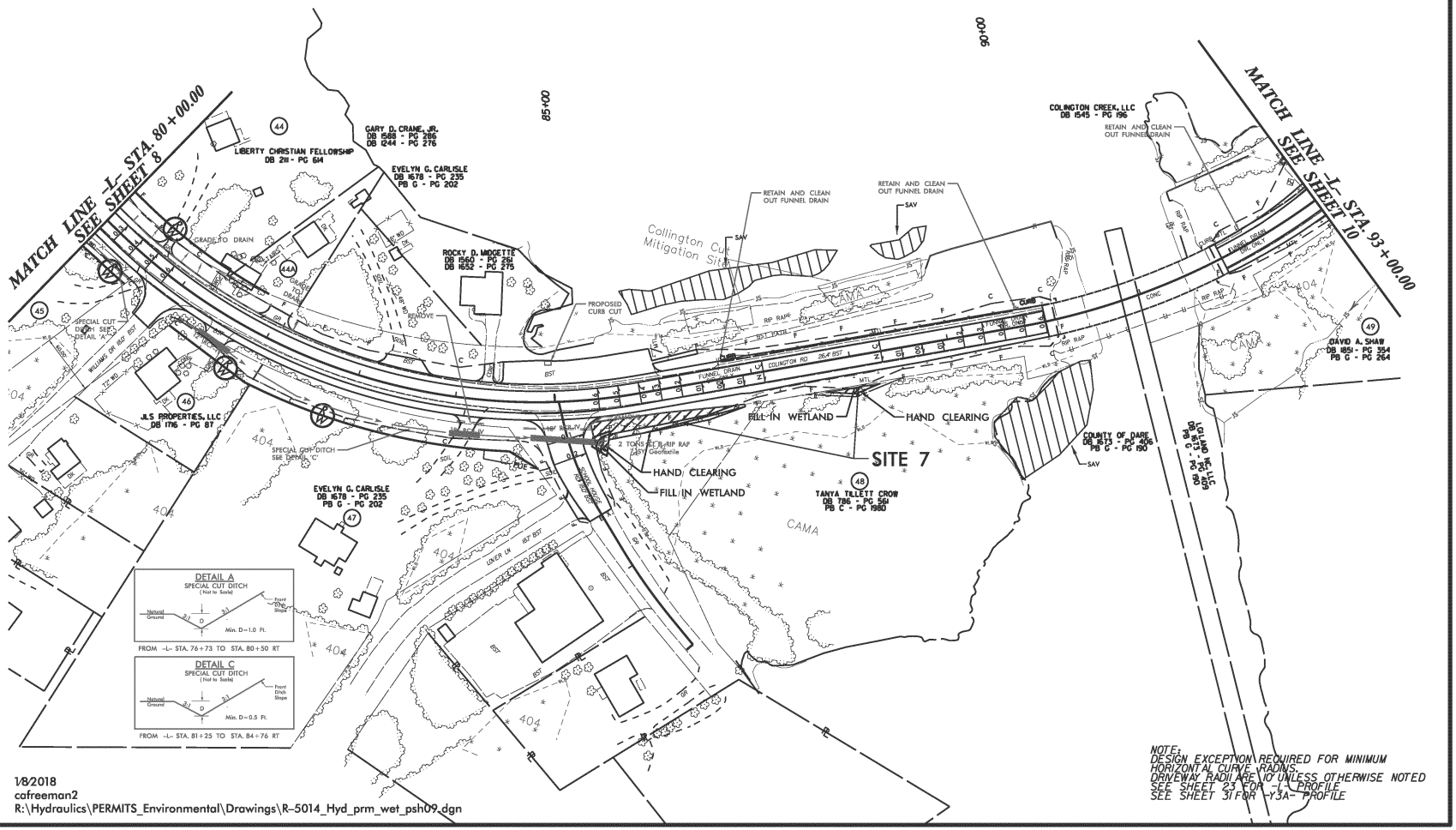
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING

100' 0' 100'
GRAPHIC SCALE



NOTE:
DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS.
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
SEE SHEET 23 FOR -L- PROFILE
SEE SHEET 31 FOR -Y3A- PROFILE

1/8/2018
cafreeman2
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REVISIONS

8/17/99

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PERMIT DRAWING
SHEET 14 OF 41

CALYX
ENGINEERS + CONSULTANTS
6750 TRYON ROAD
CARY, NC 27511
phone: 919.851.1912
CALYXengineers.com
NC License # F-1333
Formerly Mulkey Engineers & Consultants

PROJECT REFERENCE NO.	SHEET NO.
R-5014	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

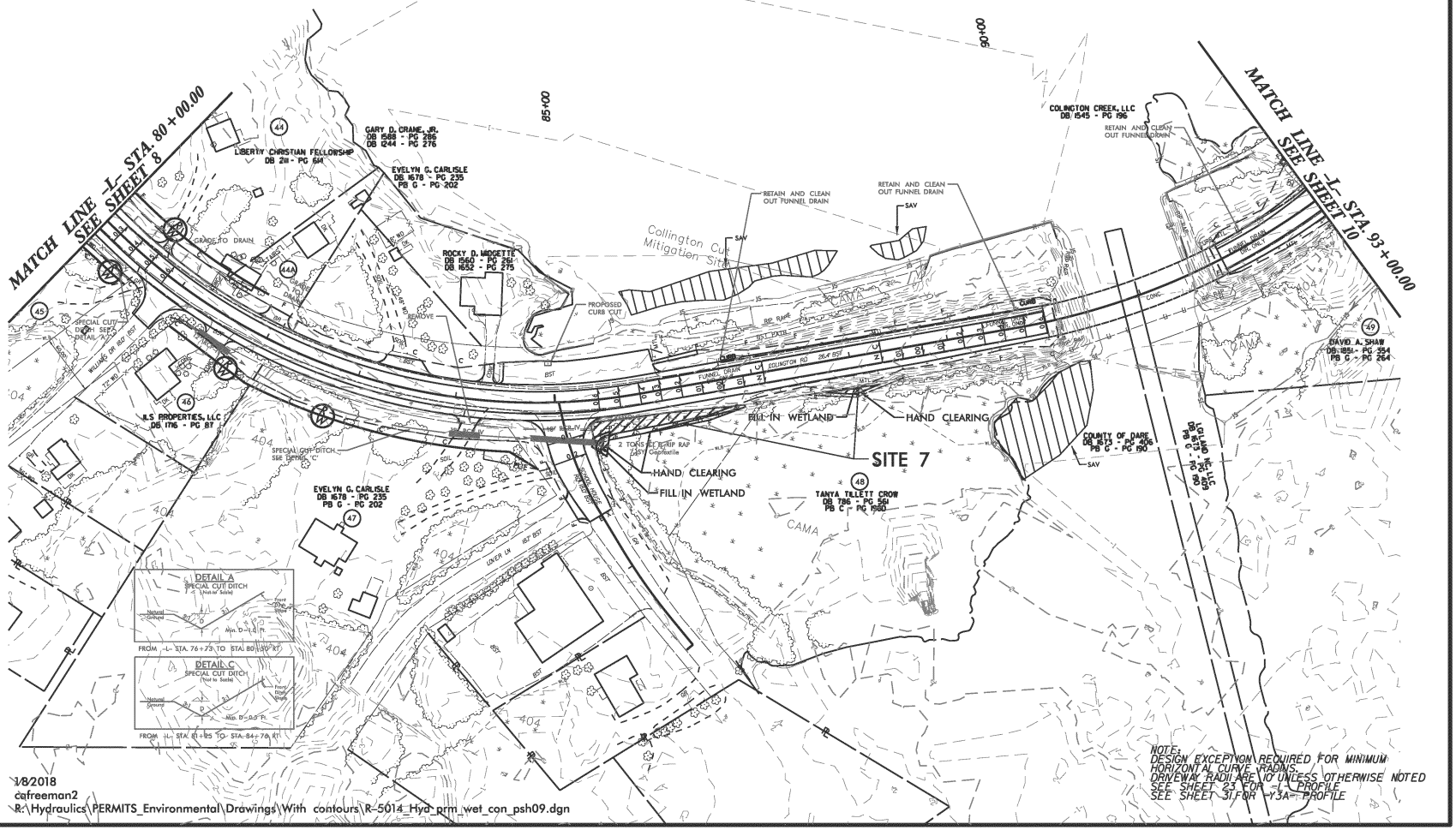
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING

100' 0' 100'
GRAPHIC SCALE



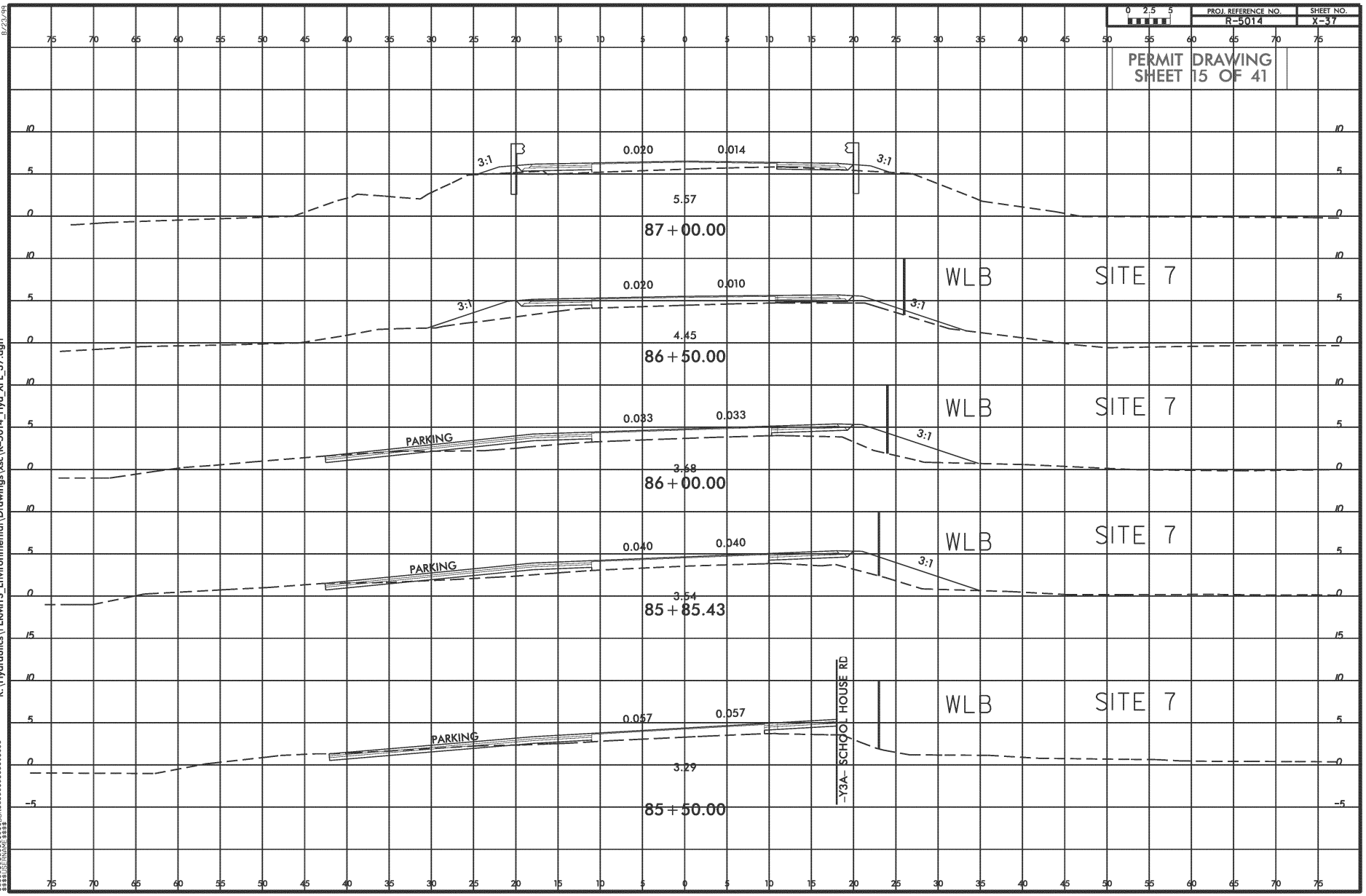
NOTE:
DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS.
DRIVEWAY RADII ARE 30' UNLESS OTHERWISE NOTED
SEE SHEET 23 FOR -L- PROFILE
SEE SHEET 31 FOR -Y3A- PROFILE

1/8/2018
cafreeman2
R:\Hydraulics\PERMITS_Environmental\Drawings\With contours\R-5014_Hyd_prm_wet_con_psh09.dgn

REVISIONS

8/17/99

P-71


PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-37
PERMIT DRAWING
SHEET 15 OF 41
0.020
0.014
3:1
5.57
87+00.00
WLB
SITE 7
0.020
0.010
4.45
86+50.00
0.033
0.033
PARKING
3.68
86+00.00
0.040
0.040
3.54
85+85.43
0.057
0.057
3.29
85+50.00
Y3A SCHOOL HOUSE RD
10/24/2017
cafreeman2
R:\Hydraulics\PERMITS_Environmental\Drawings\xsc\R-5014_Hyd_XPL_37.dgn
8/23/99

Revised 3/12/2021

PERMIT DRAWING
SHEET 16 OF 41

CALYX
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6750 TRYON ROAD
CARY, NC 27518
phone: 919.851.... 72
CALYXengineers.com
NC License # F-333
Formerly Midkiff Engineers & Consultants

PROJECT REFERENCE NO.	SHEET NO.
R-5014	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

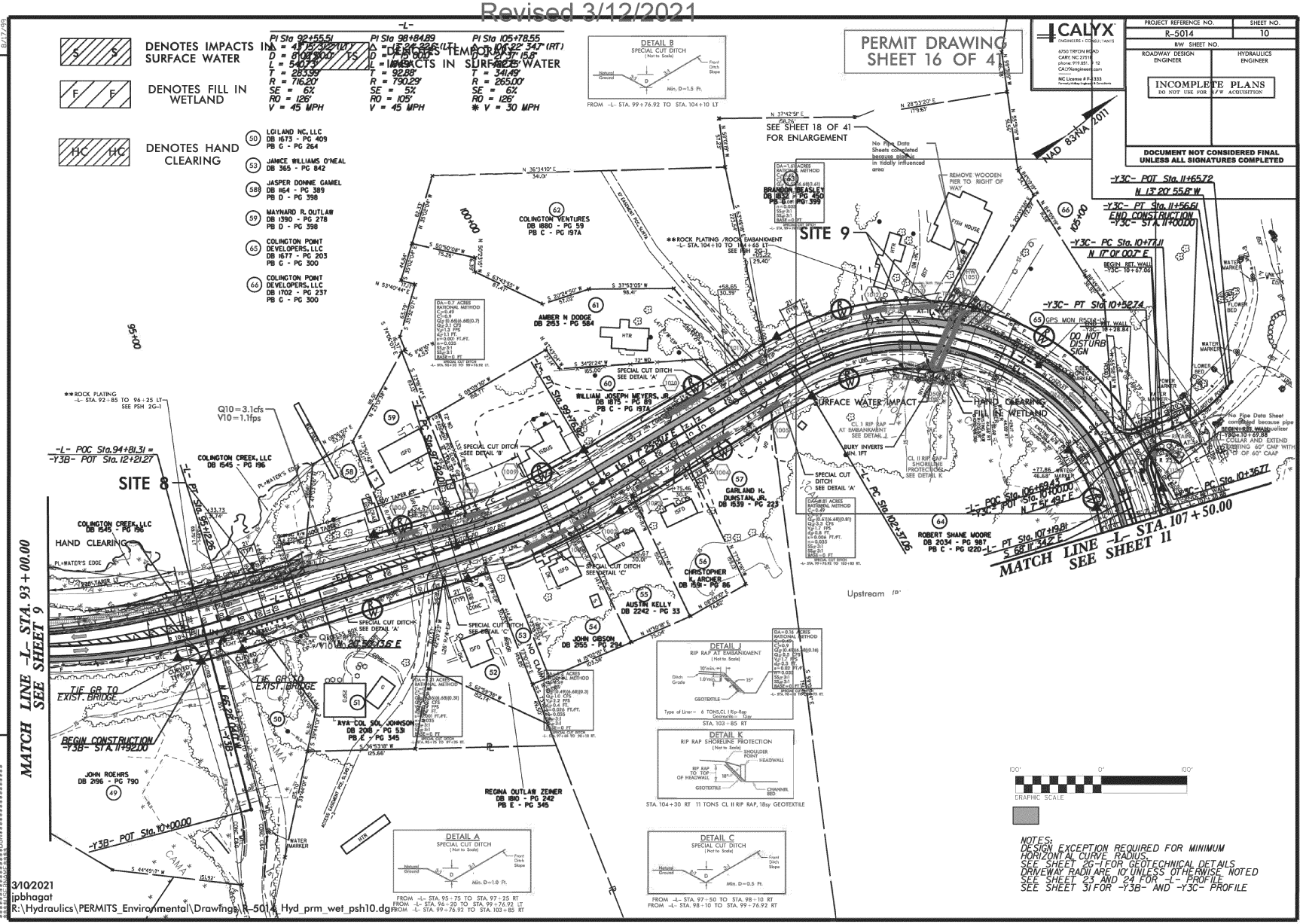
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DENOTES IMPACTS IN SURFACE WATER

DENOTES FILL IN WETLAND

DENOTES HAND CLEARING

-L-		
PI Sta 92+55.51	PI Sta 98+84.89	PI Sta 105+78.55
Δ = 43°15'31.2" (LT)	Δ = 24°22'26" (LT)	Δ = 106°22'34.7" (RT)
D = 8°00'00.0"	D = 5°00'00"	D = 10°47'15.8"
L = 540.73'	L = 184.93'	L = 322.25'
T = 283.39'	T = 92.88'	T = 341.49'
R = 716.20'	R = 790.29'	R = 265.00'
SE = 6%	SE = 5%	SE = 6%
RO = 126'	RO = 105'	RO = 126'
V = 45 MPH	V = 45 MPH	* V = 30 MPH



NOTES:
DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS.
SEE SHEET 26-1 FOR GEOTECHNICAL DETAILS
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
SEE SHEET 23 AND 24 FOR -L- PROFILE
SEE SHEET 31 FOR -Y3B- AND -Y3C- PROFILE

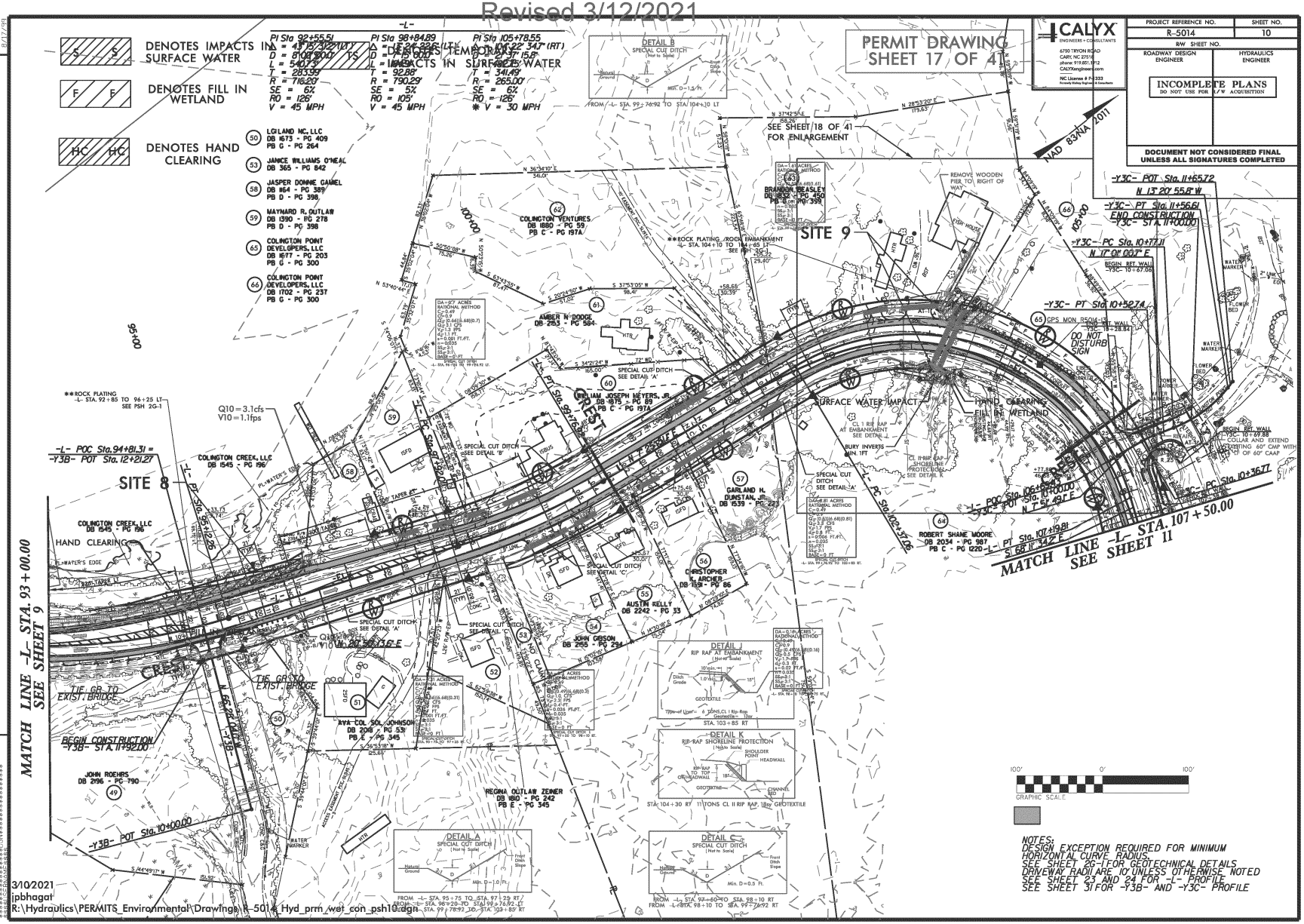
3/10/2021
jpbhagat
R:\Hydraulics\PERMITS_Environmental\Drawings\R-5014_Hyd_prm_wet_psh10.dgn

REVISIONS
RIGHT OF WAY REVISION - 11/29/2018 - CHANGED THE PROPERTY OWNER NAME ON PARCEL #9,54,55 & 61.
RIGHT OF WAY REVISION - 12/06/2018 - REMOVED RIGHT OF WAY MONUMENTS ON PARCEL 53.

8/17/99

P-73

Revised 3/12/2021

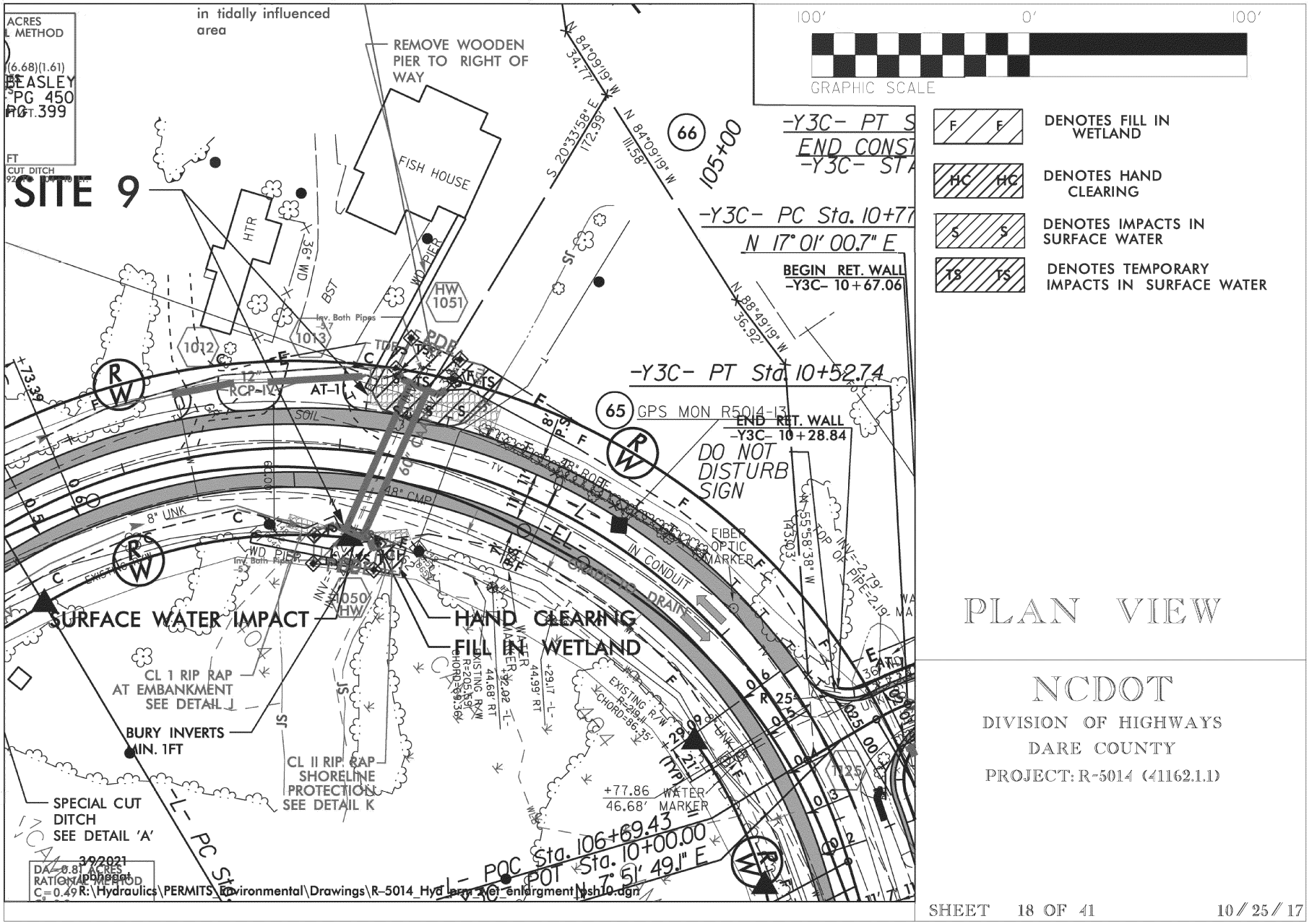


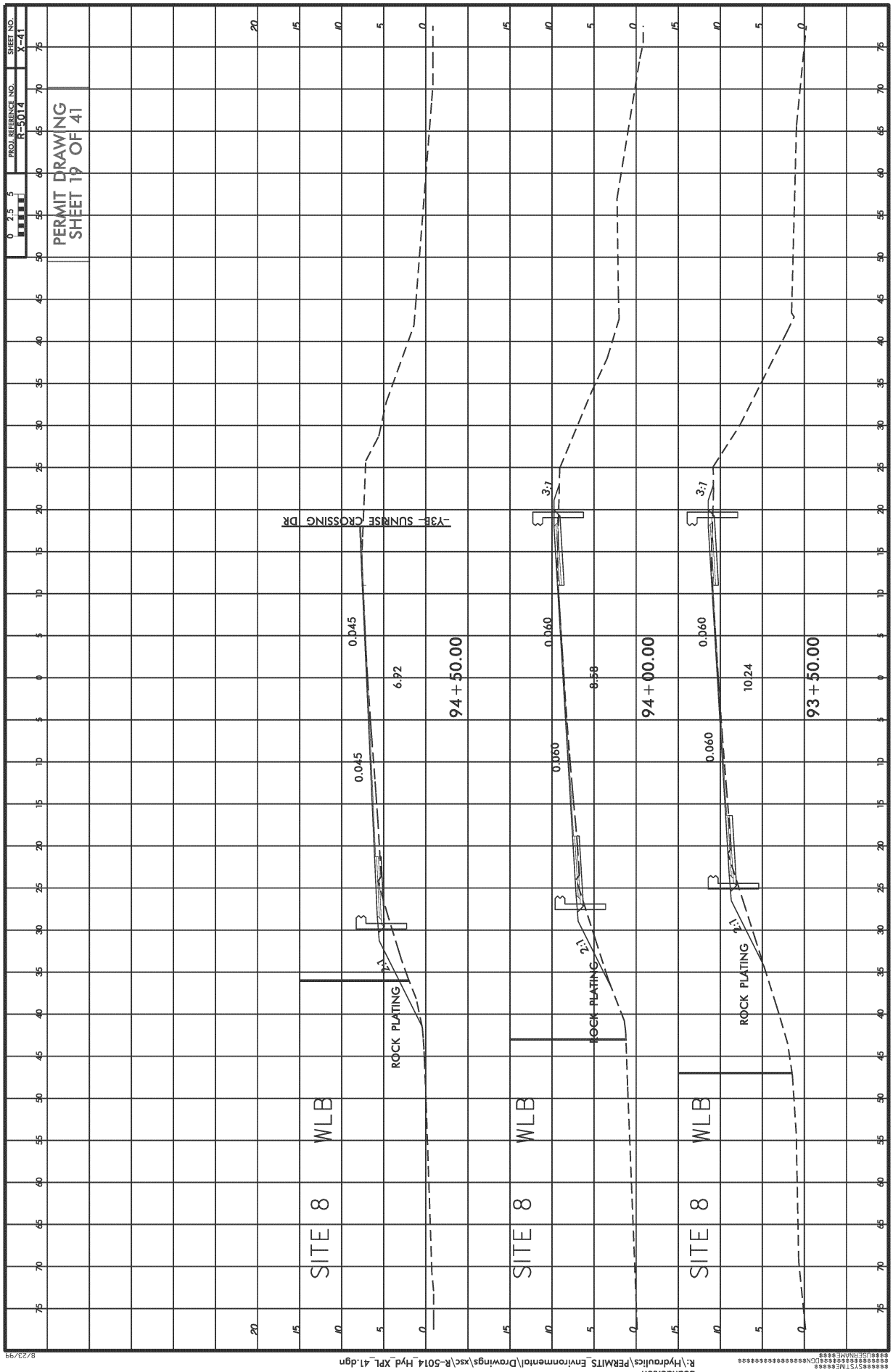
REVISIONS

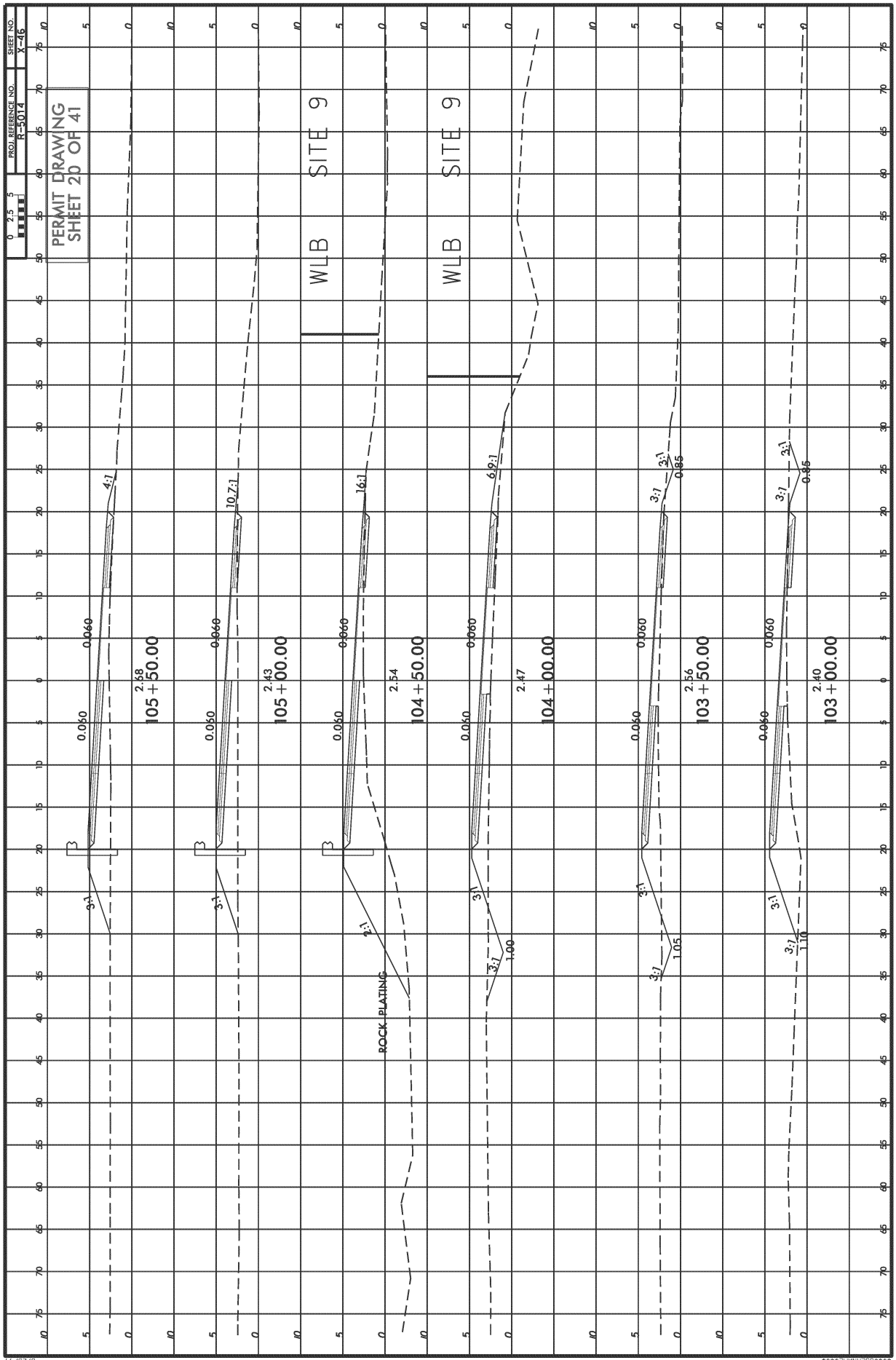
RIGHT OF WAY REVISION - 11/29/2018 - CHANGED THE PROPERTY OWNER NAME ON PARCEL 49,54,55 & 61.
RIGHT OF WAY REVISION - 12/06/2018 - REMOVED RIGHT OF WAY MONUMENTS ON PARCEL 53.

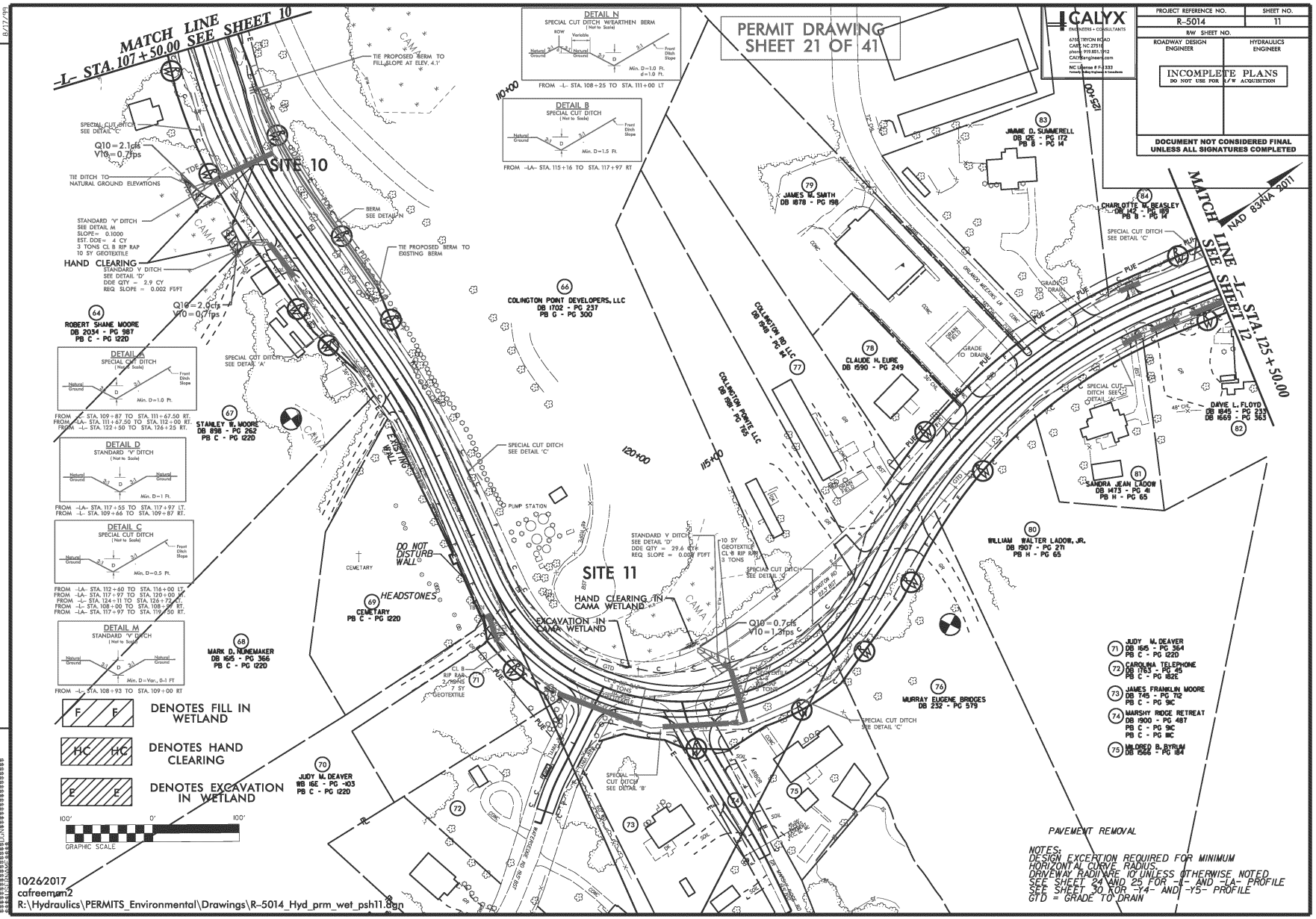
8/17/09

Revised 3/12/2021




PERMIT DRAWING
SHEET 19 OF 41
PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-41
0 2.5 5
SITE 8
WLB
ROCK PLATING
2:1
0.045
6.92
94+50.00
-Y38- SUNRISE CROSSING DR
3:1
0.060
8.58
94+00.00
10.24
93+50.00
20
15
10
5
0
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

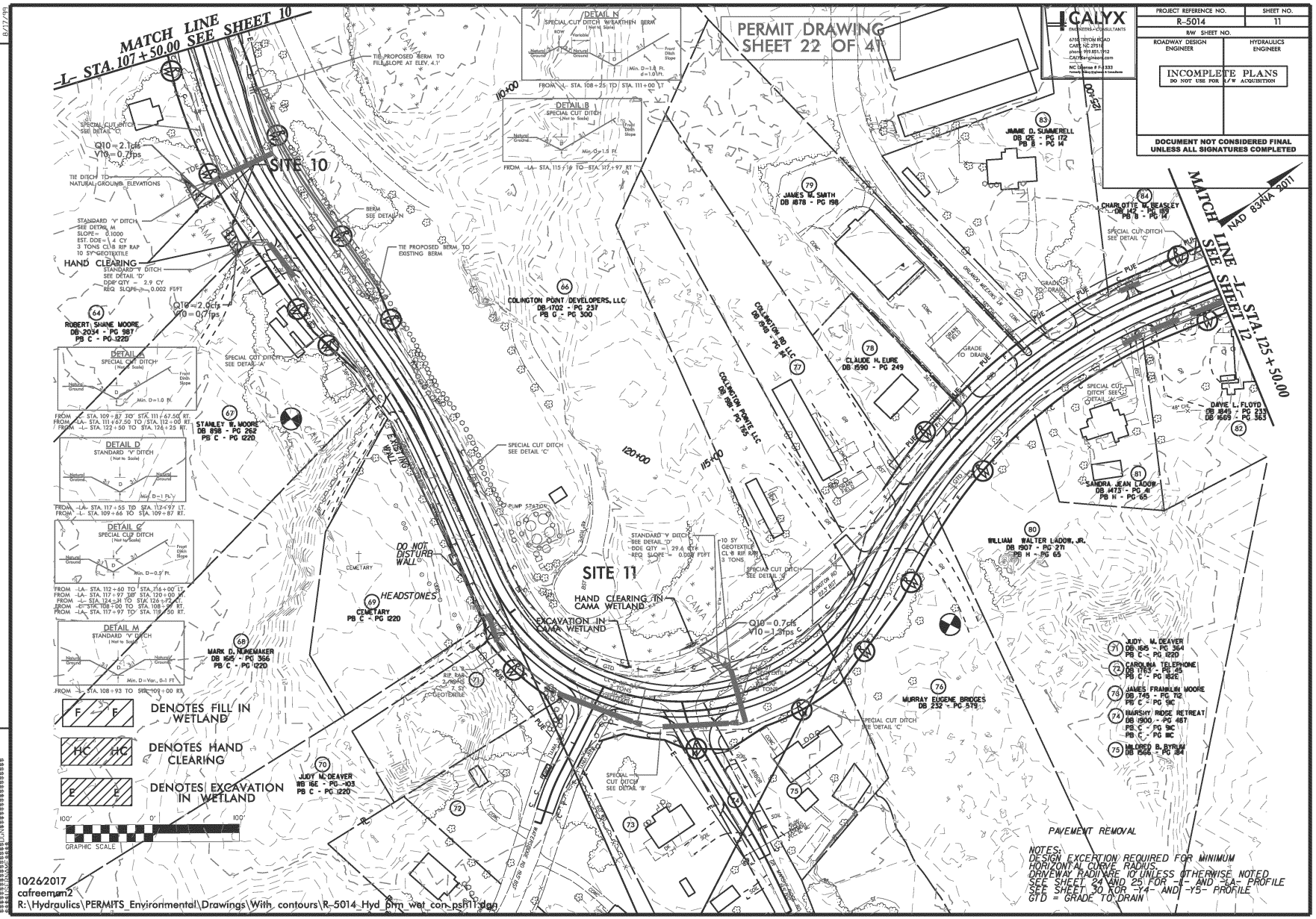

PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-46
PERMIT DRAWING
SHEET 20 OF 41
WLB SITE 9
WLB SITE 9
105+50.00
105+00.00
104+50.00
104+00.00
103+50.00
103+00.00
2.68
2.43
2.54
2.47
2.56
2.40
0.060
4:1
10.7:1
16:1
6.9:1
3:1
2:1
ROCK PLATING
1.00
1.05
1.10
0.85



REVISIONS

8/17/99

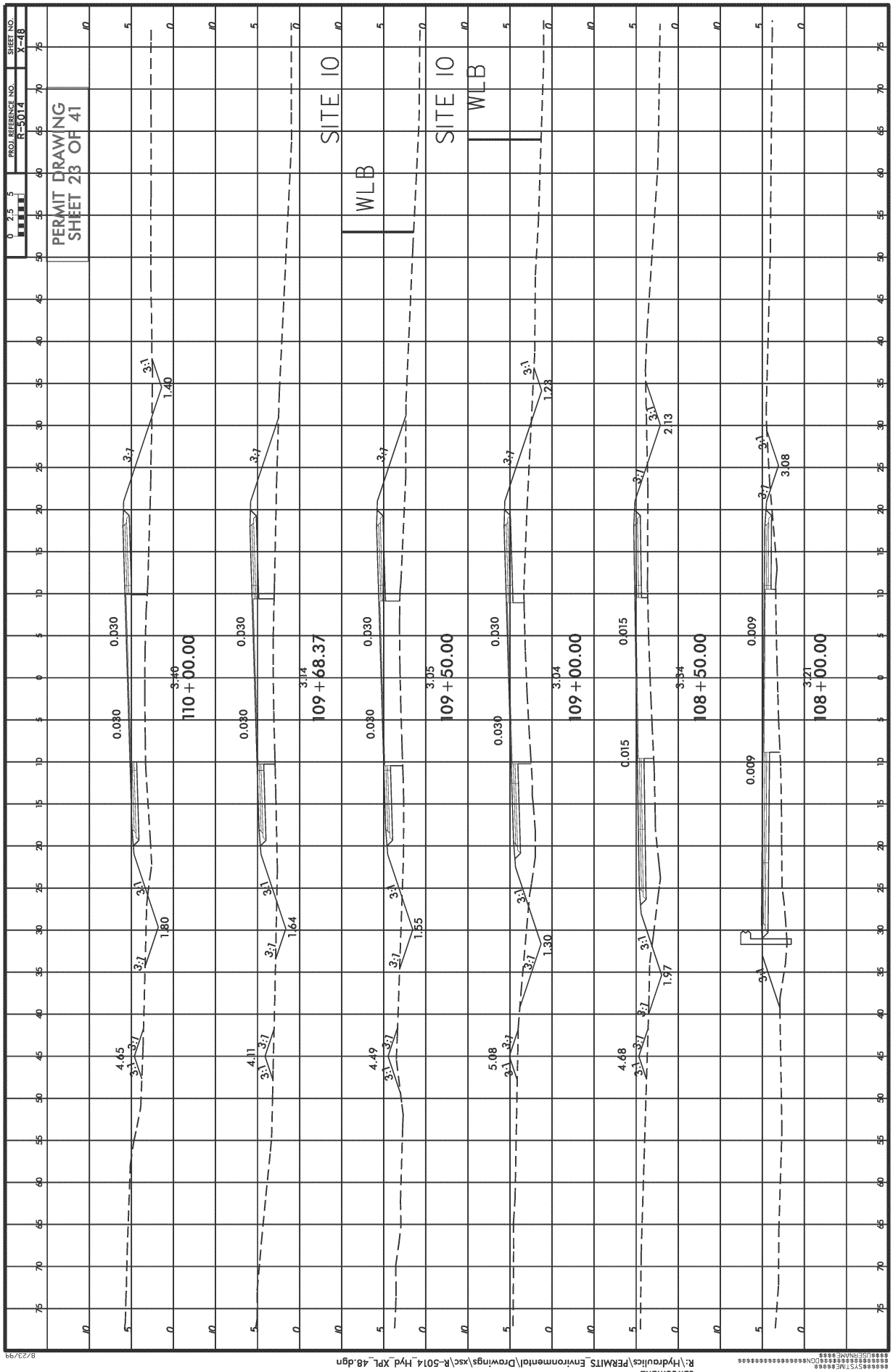
P-78

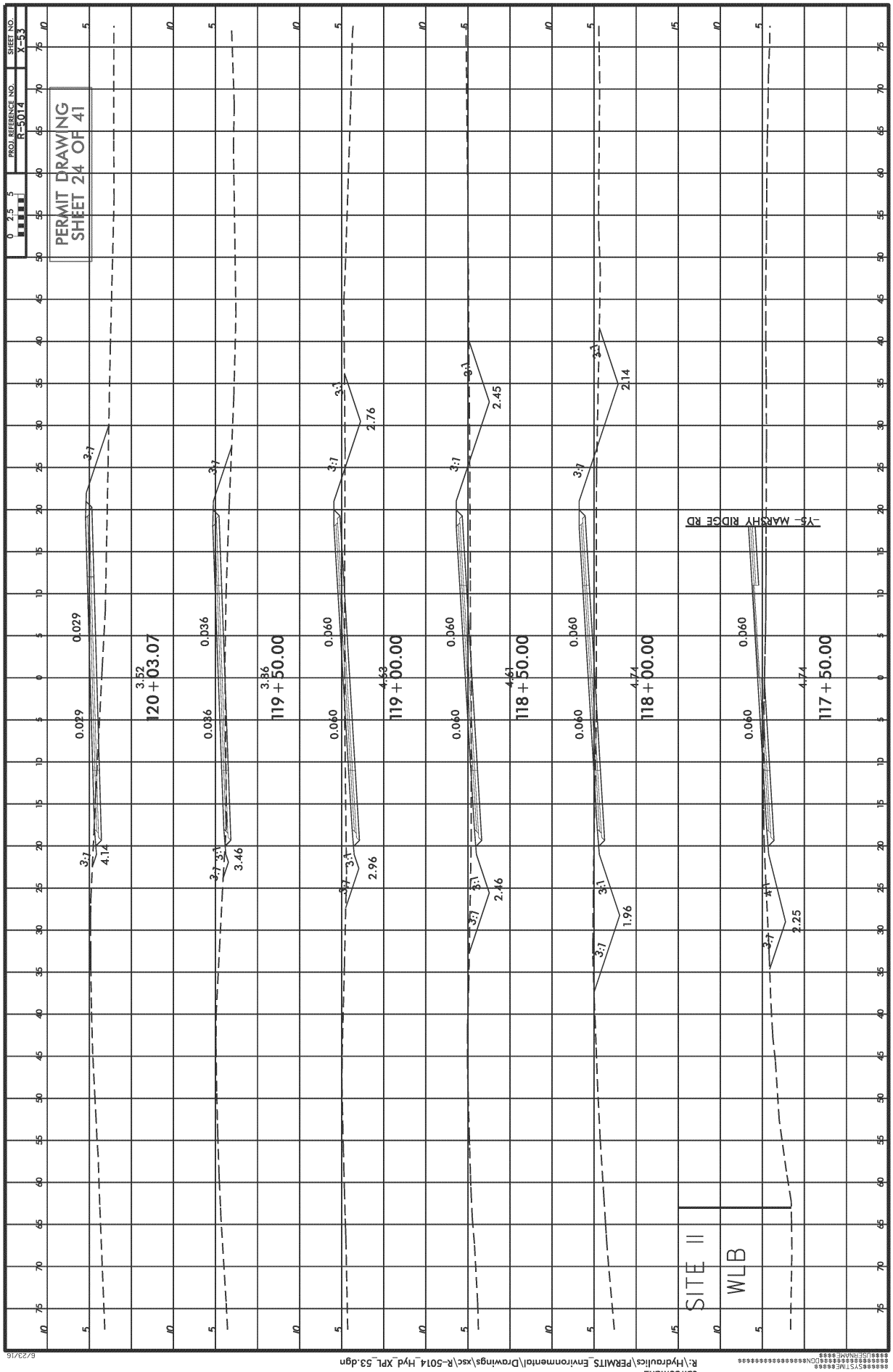


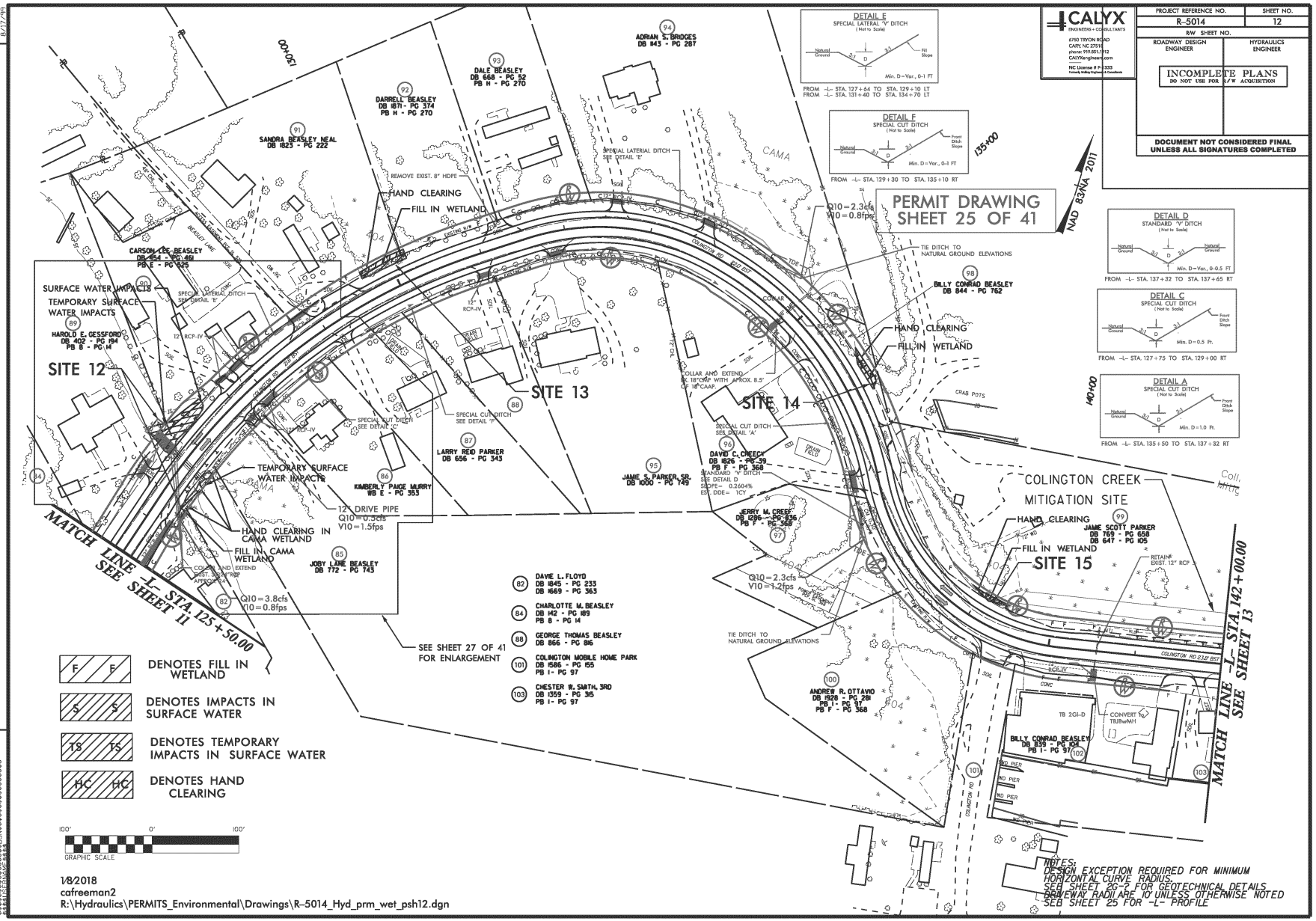
REVISIONS

8/17/99

P-79


PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-48
PERMIT DRAWING
SHEET 23 OF 41
SITE IO
WLB
SITE IO
WLB
110+00.00
109+68.37
109+50.00
109+00.00
108+50.00
108+00.00
0.030
0.015
0.009
3:1
1.40
1.80
1.64
1.55
1.30
1.23
1.97
2.13
3.08
4.65
4.11
4.49
5.08
4.68
3.46
3.14
3.05
3.04
3.34
3.21

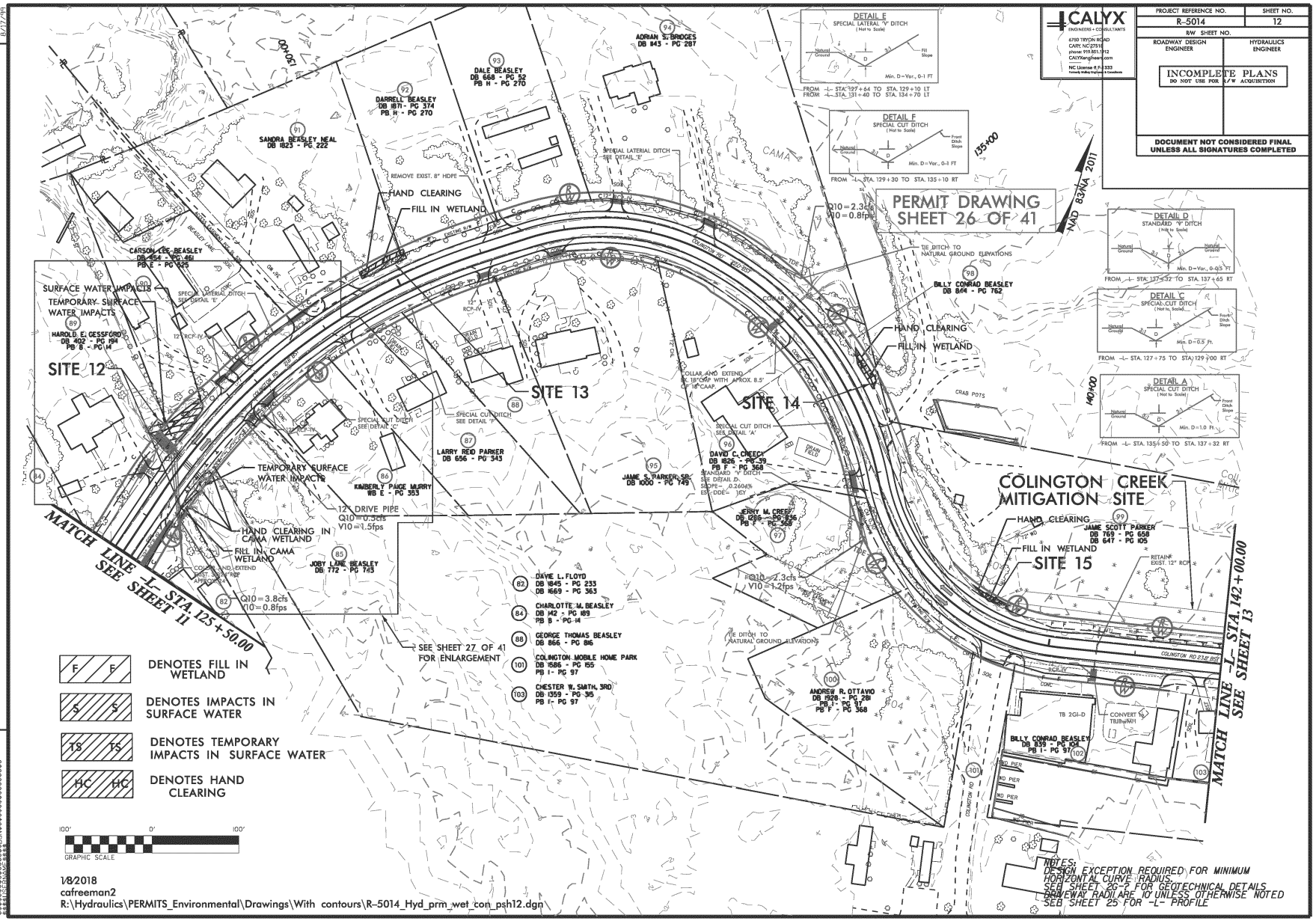

PERMIT DRAWING
SHEET 24 OF 41
PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-53
0 2.5 5
120+03.07
119+50.00
119+00.00
118+50.00
118+00.00
117+50.00
3.52
3.86
4.53
4.61
4.74
4.74
0.029
0.036
0.060
3:1
4.14
3.46
2.96
2.46
1.96
2.25
2.76
2.45
2.14
-Y5- MARCHY RIDGE RD
SITE II
WLB



REVISIONS

8/17/99

P-82


CALYX
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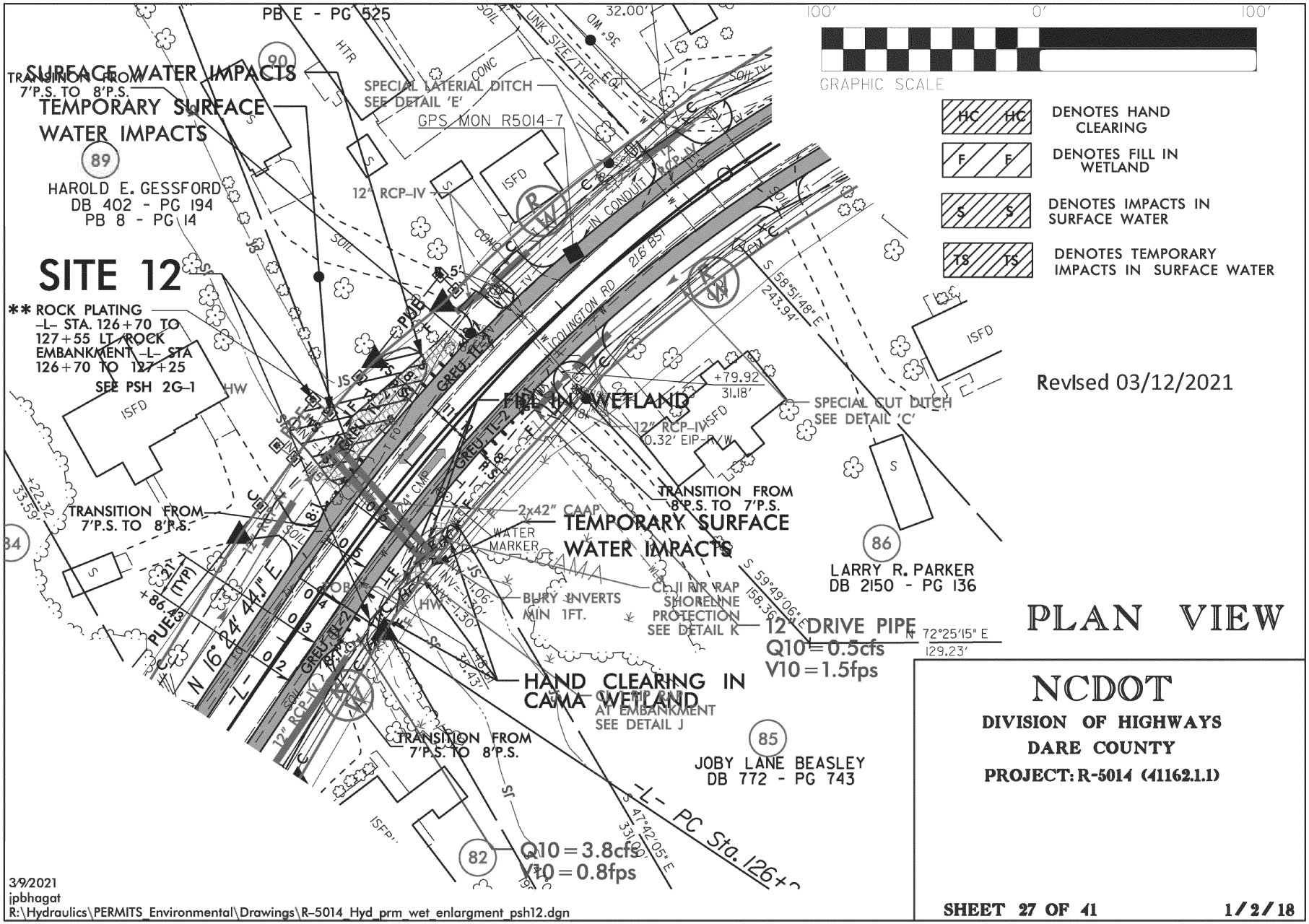
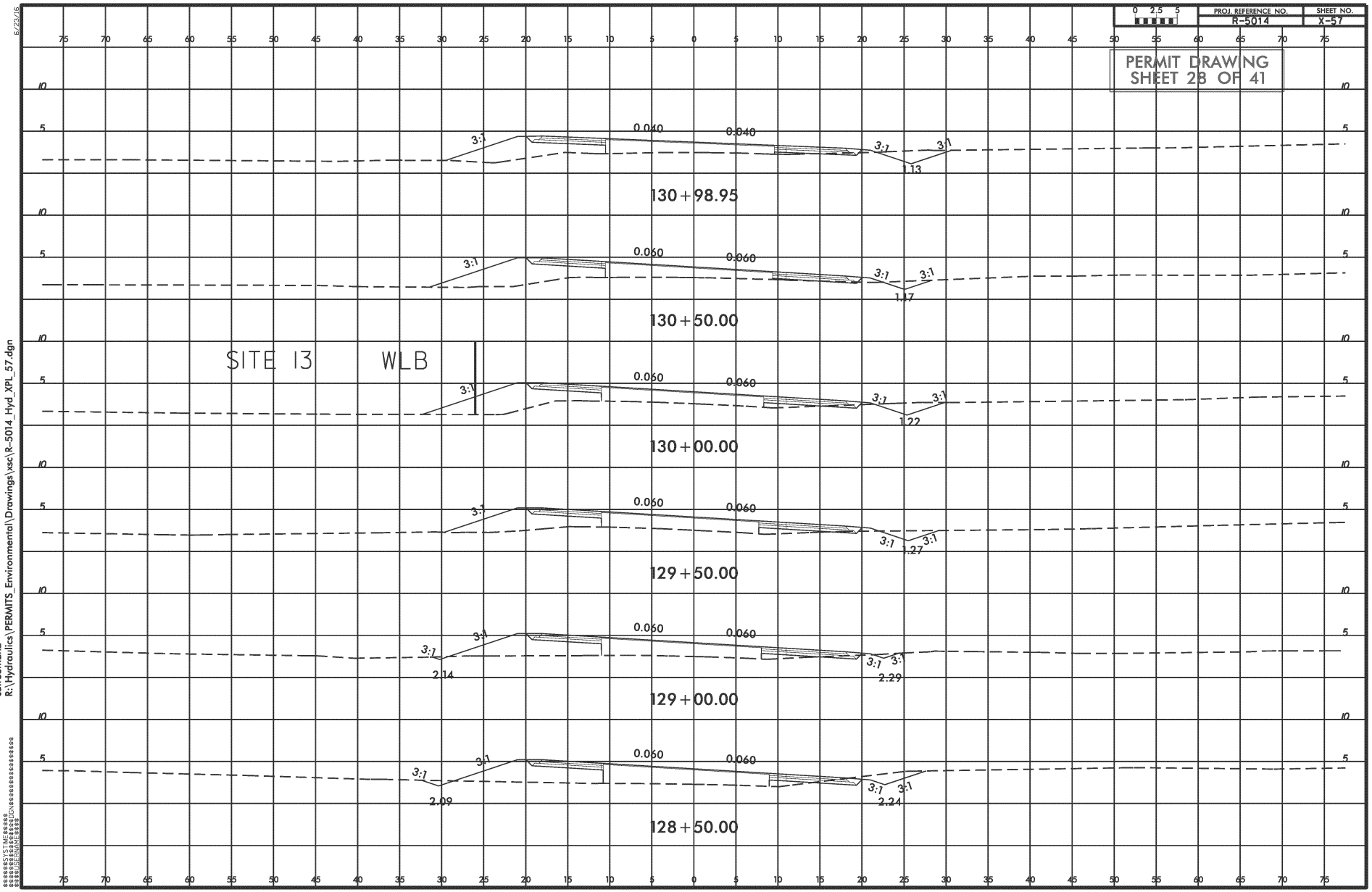
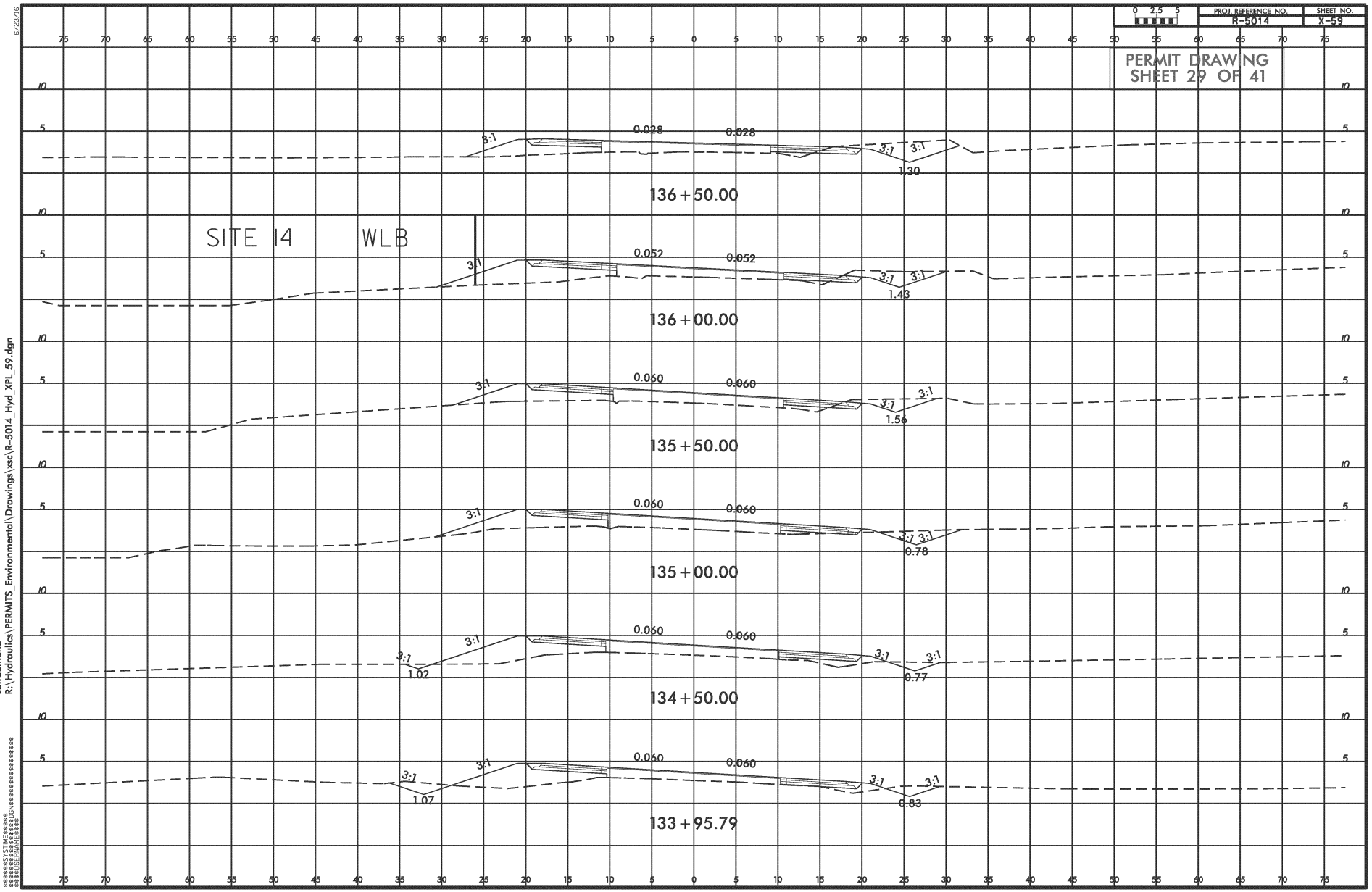
6750 TRYON ROAD
CARY, NC 27511
phone: 919.851.1912
CALYXengineers.com
NC License # F-0333
Formerly Mulkey Engineers & Consultants
PROJECT REFERENCE NO.
R-5014
SHEET NO.
12
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PERMIT DRAWING
SHEET 26 OF 41
NAD 83/NA 2011
DETAIL E
SPECIAL LATERAL "V" DITCH
(Not to Scale)
Min. D=Var., 0-1 FT
FROM -L- STA. 127+64 TO STA. 129+10 LT
FROM -L- STA. 131+40 TO STA. 134+70 LT
DETAIL F
SPECIAL CUT DITCH
(Not to Scale)
Min. D=Var., 0-1 FT
FROM -L- STA. 129+30 TO STA. 135+10 RT
DETAIL D
STANDARD "V" DITCH
(Not to Scale)
Min. D=Var., 0-0.5 FT
FROM -L- STA. 137+32 TO STA. 137+65 RT
DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Min. D=0.5 Ft.
FROM -L- STA. 127+75 TO STA. 129+00 RT
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)
Min. D=1.0 Ft.
FROM -L- STA. 135+50 TO STA. 137+32 RT
SITE 12
SITE 13
SITE 14
SITE 15
COLINGTON CREEK MITIGATION SITE
MATCH LINE -L- STA. 125+50.00 SEE SHEET 11
MATCH LINE -L- STA. 142+00.00 SEE SHEET 13
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
HAND CLEARING
FILL IN WETLAND
HAND CLEARING IN CAMA WETLAND
FILL IN CAMA WETLAND
12" DRIVE PIPE
Q10=0.3cfs
V10=1.5fps
Q10=3.8cfs
V10=0.8fps
Q10=2.3cfs
V10=0.8fps
Q10=2.3cfs
V10=1.2fps
REMOVE EXIST. 8" HDPE
SPECIAL LATERAL DITCH SEE DETAIL 'E'
SPECIAL CUT DITCH SEE DETAIL 'F'
SPECIAL CUT DITCH SEE DETAIL 'C'
SPECIAL CUT DITCH SEE DETAIL 'A'
STANDARD "V" DITCH SEE DETAIL D
SLOPE= 0.2604%
ESV DDE= 1CY
TIE DITCH TO NATURAL GROUND ELEVATIONS
COLLAR AND EXTEND 18" CMP WITH APPROX. 8.5' OF 18" CAAP.
COLLAR AND EXTEND 18" CMP WITH APPROX. 8.5' OF 18" CAAP.
RETAIN EXIST. 12" RCP
CONVERT TO TB2GI-D
COLINGTON RD 23.8' BSL
COLINGTON RD
CAMA
CRAB POTS
DRAIN FIELD
SEE SHEET 27 OF 41 FOR ENLARGEMENT
SANDRA BEASLEY NEAL DB 1823 - PG 222
DARRELL BEASLEY DB 1871 - PG 374 PB H - PG 270
DALE BEASLEY DB 668 - PG 52 PB H - PG 270
ADRIAN S. BRIDGES DB 843 - PG 287
CARSON LEE BEASLEY DB 454 - PG 460 PB E - PG 625
HAROLD E. GESSFORD DB 402 - PG 194 PB B - PG 14
KIMBERLY PAGE MURRY WB E - PG 353
JOBY LANE BEASLEY DB 772 - PG 745
LARRY REED PARKER DB 656 - PG 543
JAME S. PARKER, SR. DB 1000 - PG 749
DAVID C. CREEC DB 1826 - PG 39 PB F - PG 368
JERRY M. CREEC DB 1209 - PG 836 PB F - PG 368
BILLY CONRAD BEASLEY DB 864 - PG 762
JAME SCOTT PARKER DB 769 - PG 658 DB 647 - PG 105
DAVE L. FLOYD DB 1845 - PG 233 DB 1669 - PG 363
CHARLOTTE M. BEASLEY DB 142 - PG 189 PB B - PG 14
GEORGE THOMAS BEASLEY DB 866 - PG 816
COLINGTON MOBILE HOME PARK DB 1586 - PG 155 PB 1 - PG 97
CHESTER W. SMITH, 3RD DB 1359 - PG 345 PB 1 - PG 97
ANDREW R. OTTAVIO DB 1928 - PG 281 PB 1 - PG 97 PB F - PG 368
BILLY CONRAD BEASLEY DB 839 - PG 104 PB 1 - PG 97
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES HAND CLEARING
GRAPHIC SCALE
1/8/2018
cafreeman2
R:\Hydraulics\PERMITS_Environmental\Drawings\With contours\R-5014_Hyd_prm_wet_con_psh12.dgn
NOTES:
DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS.
SEE SHEET 26-3 FOR GEOTECHNICAL DETAILS
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
SEE SHEET 25 FOR -L- PROFILE

P-83


PB E - PG 525
SURFACE WATER IMPACTS
TRANSITION FROM 7'P.S. TO 8'P.S.
TEMPORARY SURFACE WATER IMPACTS
SPECIAL LATERAL DITCH SEE DETAIL 'E'
GPS MON R5014-7
HAROLD E. GESSFORD
DB 402 - PG 194
PB 8 - PG 14
SITE 12
** ROCK PLATING -L- STA. 126+70 TO 127+55 LT ROCK EMBANKMENT -L- STA 126+70 TO 127+25
SEE PSH 2G-1
FILL IN WETLAND
SPECIAL CUT DITCH SEE DETAIL 'C'
TRANSITION FROM 8'P.S. TO 7'P.S.
TEMPORARY SURFACE WATER IMPACTS
LARRY R. PARKER
DB 2150 - PG 136
BURY INVERTS MIN 1FT.
CLASS II RIP RAP SHORELINE PROTECTION SEE DETAIL K
12" DRIVE PIPE
Q10 = 0.5cfs
V10 = 1.5fps
HAND CLEARING IN CAMA WETLAND
AT EMBANKMENT SEE DETAIL J
JOBY LANE BEASLEY
DB 772 - PG 743
Q10 = 3.8cfs
V10 = 0.8fps
-L- PC Sta. 126+
GRAPHIC SCALE
DENOTES HAND CLEARING
DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
Revised 03/12/2021
PLAN VIEW
NCDOT
DIVISION OF HIGHWAYS
DARE COUNTY
PROJECT: R-5014 (41162.1.1)
SHEET 27 OF 41
1/2/18
3/9/2021
jpbhagat
R:\Hydraulics\PERMITS_Environmental\Drawings\R-5014_Hyd_prm_wet_enlargment_psh12.dgn


PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-57
PERMIT DRAWING
SHEET 28 OF 41
130+98.95
130+50.00
SITE 13
WLB
130+00.00
129+50.00
129+00.00
128+50.00
0.040
0.060
3:1
1.13
1.17
1.22
1.27
2.14
2.29
2.09
2.24


PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-59
PERMIT DRAWING
SHEET 29 OF 41
SITE 14 WLB
136+50.00
136+00.00
135+50.00
135+00.00
134+50.00
133+95.79
0.028
0.052
0.060
3:1
1.30
1.43
1.56
0.78
1.02
0.77
1.07
0.83
10/24/2017
cafreeman2
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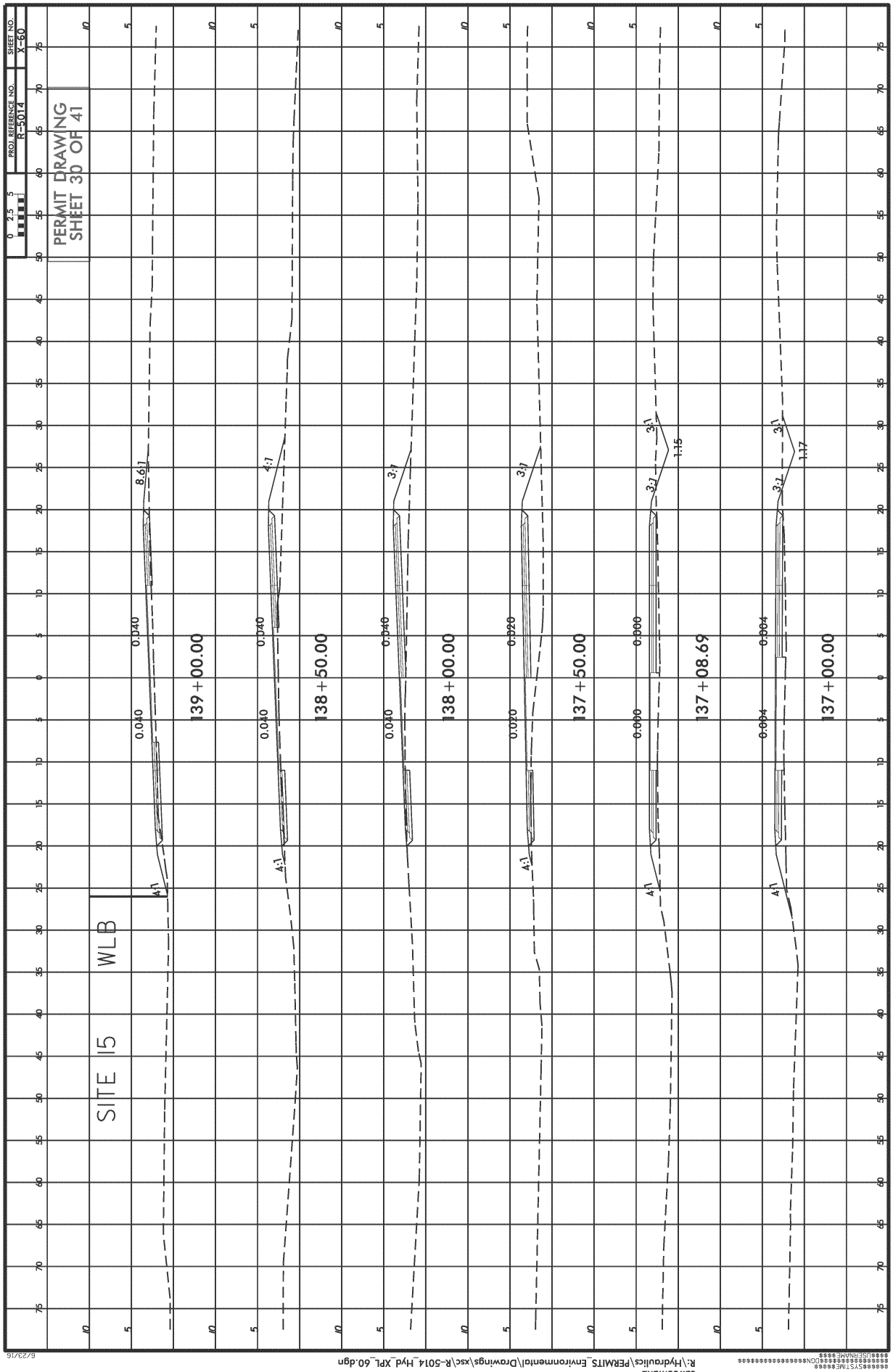
PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-60
PERMIT DRAWING
SHEET 30 OF 41
SITE 15 WLB
139+00.00
138+50.00
138+00.00
137+50.00
137+08.69
137+00.00
0.040
0.020
0.000
0.004
4:1
8.6:1
3:1
1.15
1.17

Revised 3/12/2021

PROJECT REFERENCE NO.	SHEET NO.
R-5014	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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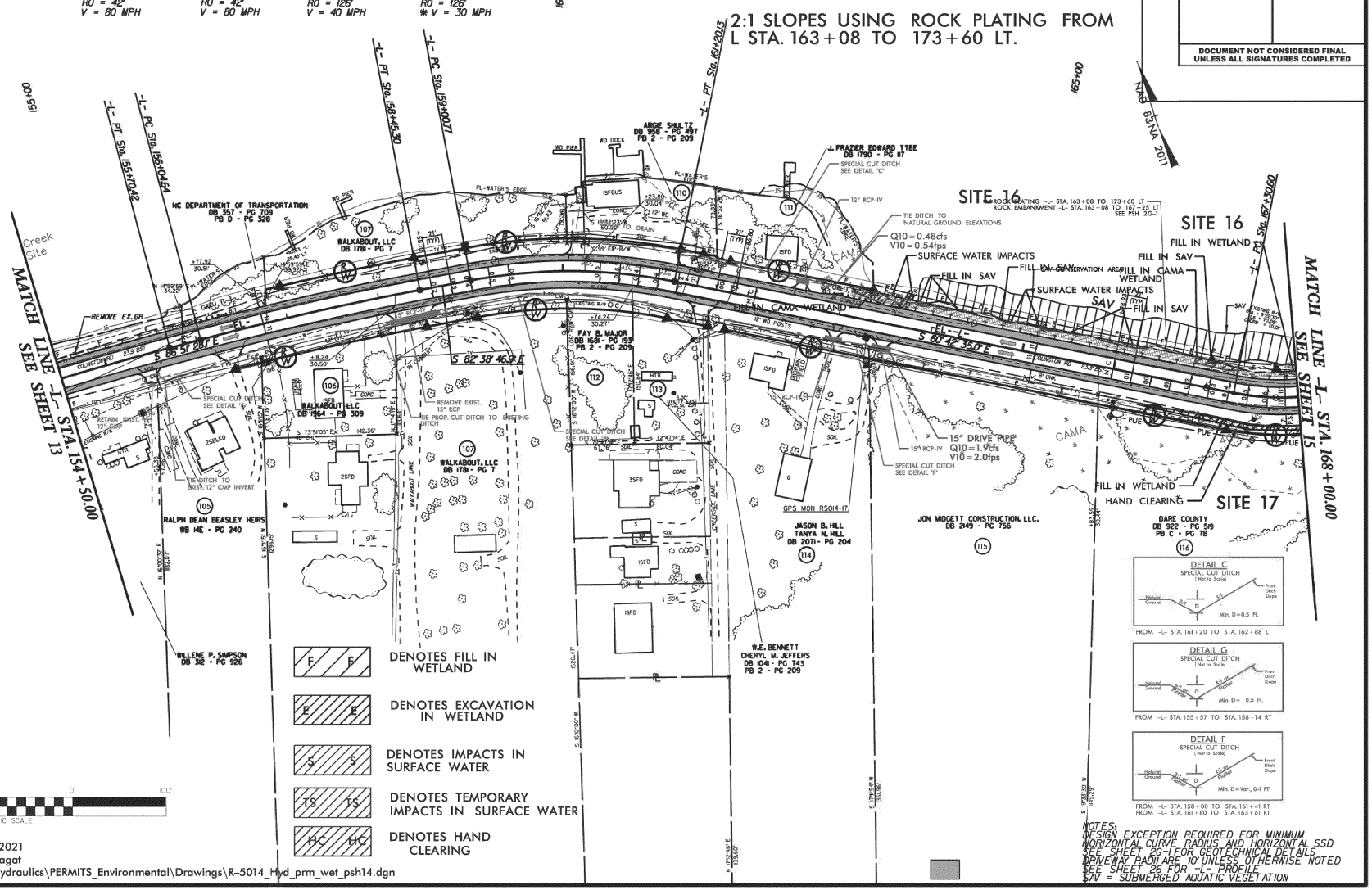
6750 TRYON ROAD
CARY, NC 27511
phone 919 851 1912
CALYXengineers.com
NC License # F-1333
Harvey Mackay Engineer & Consultants

PERMIT DRAWING
SHEET 31 OF 41

-L-			
PI Sta 151+21.17	PI Sta 157+25.02	PI Sta 160+11.81	PI Sta 168+56.10
Δ = 14° 36' 20.0" (RT)	Δ = 4° 12' 41.2" (RT)	Δ = 21° 56' 11.8" (RT)	Δ = 53° 18' 40.2" (LT)
D = 1° 37' 00.0"	D = 1° 45' 00.0"	D = 10° 00' 00.0"	D = 22° 55' 05.9"
L = 903.44'	L = 240.65'	L = 219.37'	L = 232.61'
T = 454.18'	T = 120.38'	T = 111.04'	T = 125.49'
R = 3,544.07'	R = 3,274.04'	R = 572.96'	R = 250.00'
SE = 2%	SE = 2%	SE = 6%	SE = 6%
RO = 42'	RO = 42'	RO = 126'	RO = 126'
V = 80 MPH	V = 80 MPH	V = 40 MPH	* V = 30 MPH



DETAIL C
SPECIAL CUT DITCH
FROM -L- STA. 161+20 TO STA. 162+88 LT

DETAIL G
SPECIAL CUT DITCH
FROM -L- STA. 155+57 TO STA. 156+14 RT

DETAIL F
SPECIAL CUT DITCH
FROM -L- STA. 158+00 TO STA. 161+41 RT
FROM -L- STA. 161+80 TO STA. 163+61 RT

NOTES:
DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS AND HORIZONTAL SSD
SEE SHEET 2G-1 FOR GEOTECHNICAL DETAILS
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
SEE SHEET 2B FOR -L- PROFILE
SAV = SUBMERGED AQUATIC VEGETATION

REVISIONS:
RIGHT OF WAY REVISION - 11/29/2018 - CHANGED THE PROPERTY OWNER NAME ON PARCEL 107 & 115.
RIGHT OF WAY REVISION - 11/29/2018 - COMBINED PARCEL 107 & 108 ELIMINATED PARCEL 108.
RIGHT OF WAY REVISION - 11/29/2018 - COMBINED PARCEL 109 & 110 ELIMINATED PARCEL 109.
RIGHT OF WAY REVISION - 11/29/2018 - ADJUSTED PARCEL 111 TO 35 FT ALONG THE FRONTAGE OF PARCEL 107 & 110 DUE TO THIS TEMPORARY CONSTRUCTION EASEMENT (TCE) WAS ADDED ON PARCEL 107 & 110 AND ADJUSTED ON PARCEL 111.
RIGHT OF WAY REVISION - 12/06/2018 - MODIFIED RIGHT OF WAY ON PARCEL 107. REMOVED RIGHT OF WAY MONUMENT ON PARCEL 107.

8/17/2021

P-88

Revised 3/12/2021

PERMIT DRAWING
SHEET 32 OF 41

CALYX
ENGINEERS + CONSULTANTS
6750 TRYON ROAD
CARY, NC 27511
phone: 919.851.1912
CALYXengineers.com
NC License # F-1333
Formerly Kimley-Horn & Associates

PROJECT REFERENCE NO.	SHEET NO.
R-5014	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

RIGHT OF WAY REVISION - 11/29/2018 - CHANGED THE PROPERTY OWNER NAME ON PARCEL 107 & 115.
RIGHT OF WAY REVISION - 11/29/2018 - COMBINED PARCEL 107 & 108 ELIMINATED PARCEL 108.
RIGHT OF WAY REVISION - 11/29/2018 - COMBINED PARCEL 109 & 110 ELIMINATED PARCEL 109.
RIGHT OF WAY REVISION - 11/29/2018 - REVISED PARCEL 111 TO 35 FT ALONG THE FRONTAGE OF PARCEL 107 & 110 DUE TO THIS TEMPORARY CONSTRUCTION EASEMENT ITEM WAS ADDED ON PARCEL 107 & 110 AND ADJUSTED ON PARCEL 111.
RIGHT OF WAY REVISION - 12/06/2018 - MODIFIED RIGHT OF WAY ON PARCEL 107. REMOVED RIGHT OF WAY MONUMENT ON PARCEL 107.

8/17/09

PI Sta 151+21.17
Δ = 14° 36' 20.0" (RT)
D = 1° 37' 00.0"
L = 903.44'
T = 454.18'
R = 3,544.07'
SE = 2%
RO = 42'
V = 80 MPH

PI Sta 157+25.08
Δ = 4° 12' 41.2" (RT)
D = 1° 45' 00.0"
L = 240.65'
T = 120.38'
R = 3,274.04'
SE = 2%
RO = 42'
V = 80 MPH

PI Sta 160+11.81
Δ = 21° 56' 11.8" (RT)
D = 10° 00' 00.0"
L = 219.37'
T = 111.04'
R = 572.96'
SE = 6%
RO = 126'
V = 40 MPH

PI Sta 168+56.10
Δ = 53° 18' 40.2" (LT)
D = 22° 55' 05.9"
L = 232.61'
T = 125.49'
R = 250.00'
SE = 6%
RO = 126'
* V = 30 MPH

2:1 SLOPES USING ROCK PLATING FROM L STA. 163+08 TO 173+60 LT.

MATCH LINE -L- STA. 154+50.00 SEE SHEET 13

MATCH LINE -L- STA. 168+00.00 SEE SHEET 15

SITE 16

SITE 17

ROCK PLATING -L- STA. 163+08 TO 173+60 LT
ROCK EMBANKMENT -L- STA. 163+08 TO 167+25 LT
SEE PSH 2G-1

Q10 = 0.48cfs
V10 = 0.54fps

Q10 = 1.9cfs
V10 = 2.0fps

15" DRIVE PIPE

SURFACE WATER IMPACTS

FILL IN SAV

FILL IN CAMA WETLAND

FILL IN WETLAND

HAND CLEARING

TIE DITCH TO NATURAL GROUND ELEVATIONS

SPECIAL CUT DITCH SEE DETAIL 'C'

SPECIAL CUT DITCH SEE DETAIL 'F'

REMOVE EX. GR

REMOVE EXIST. 15" RCP

TIE PROP. CUT DITCH TO EXISTING DITCH

NC DEPARTMENT OF TRANSPORTATION DB 357 - PG 709 PB D - PG 326

WALKABOUT, LLC DB 1781 - PG 7

WALKABOUT, LLC DB 1764 - PG 309

RALPH DEAN BEASLEY HEIRS WB 14E - PG 240

WILLENE P. SIMPSON DB 32 - PG 926

ARGIE SHULTZ DB 958 - PG 497 PB 2 - PG 209

J. FRAZIER EDWARD TTEE DB 1790 - PG 117

FAY B. MAJOR DB 158 - PG 193 PB 2 - PG 209

JASON B. HILL TANYA N. HILL DB 2071 - PG 204

JON MIDGETT CONSTRUCTION, LLC. DB 2149 - PG 756

DARE COUNTY DB 922 - PG 549 PB C - PG 78

W.E. BENNETT, CHERYL M. JEFFERS DB 1041 - PG 745 PB 2 - PG 209

GPS MON R5014-17

DETAIL G
SPECIAL CUT DITCH
(Not to Scale)
Min. D = 6.5 ft.
FROM -L- STA. 161+20 TO STA. 162+88 LT

DETAIL G
SPECIAL CUT DITCH
(Not to Scale)
Min. D = 9.5 ft.
FROM -L- STA. 165+57 TO STA. 156+14 RT

DETAIL F
SPECIAL CUT DITCH
(Not to Scale)
Min. D = Var., 0-1 ft.
FROM -L- STA. 158+00 TO STA. 161+41 RT
FROM -L- STA. 161+80 TO STA. 163+61 RT

DENOTES FILL IN WETLAND

DENOTES EXCAVATION IN WETLAND

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES HAND CLEARING

GRAPHIC SCALE 100' 0' 100'

NOTES:
DESIGN EXCEPTION REQUIRED FOR MINIMUM HORIZONTAL CURVE RADIUS AND HORIZONTAL SSD
SEE SHEET 2G-1 FOR GEOTECHNICAL DETAILS
DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
SEE SHEET 2G FOR -L- PROFILE
SAV = SUBMERGED AQUATIC VEGETATION

3/10/2021
jpbhagat
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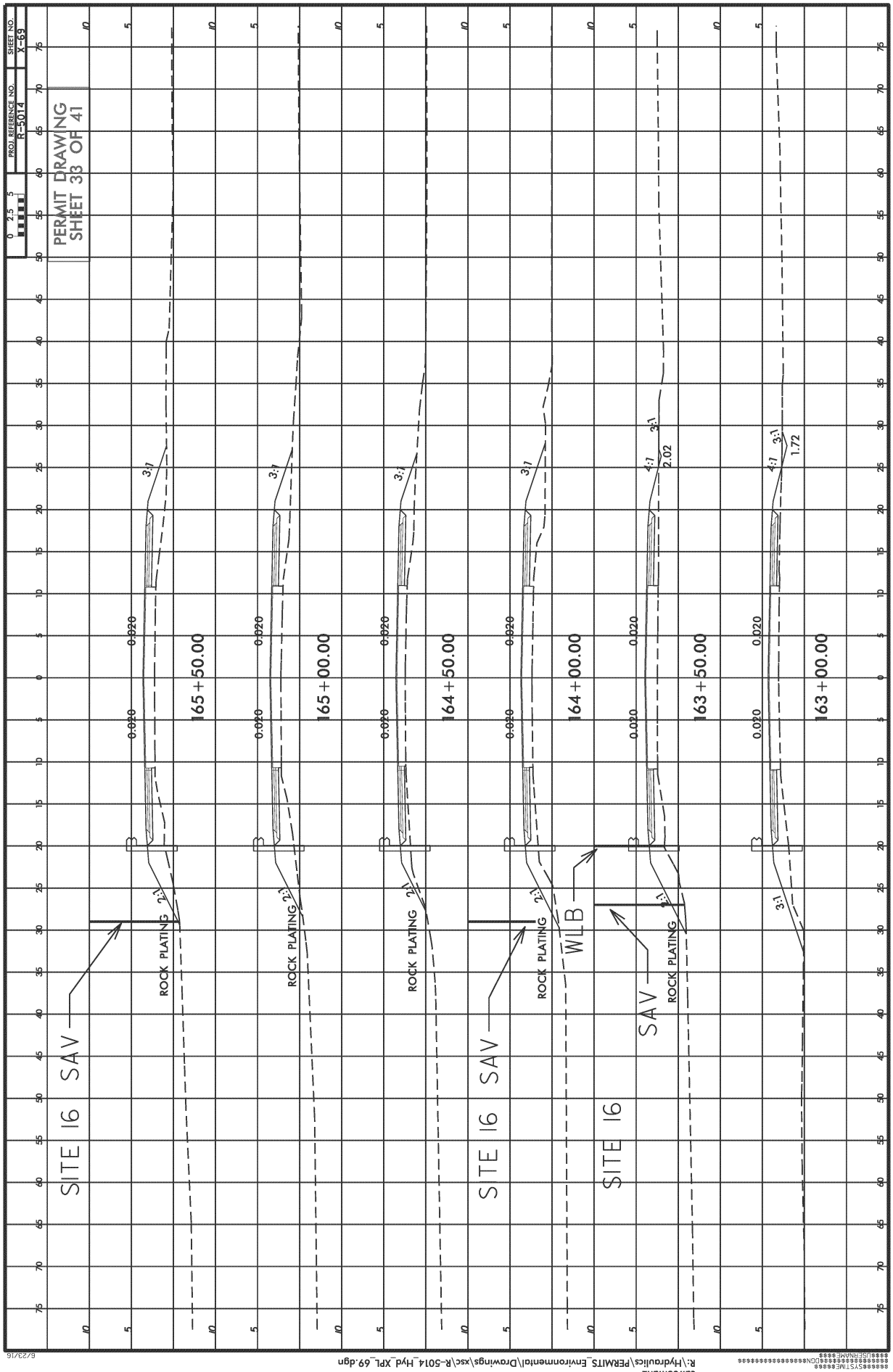

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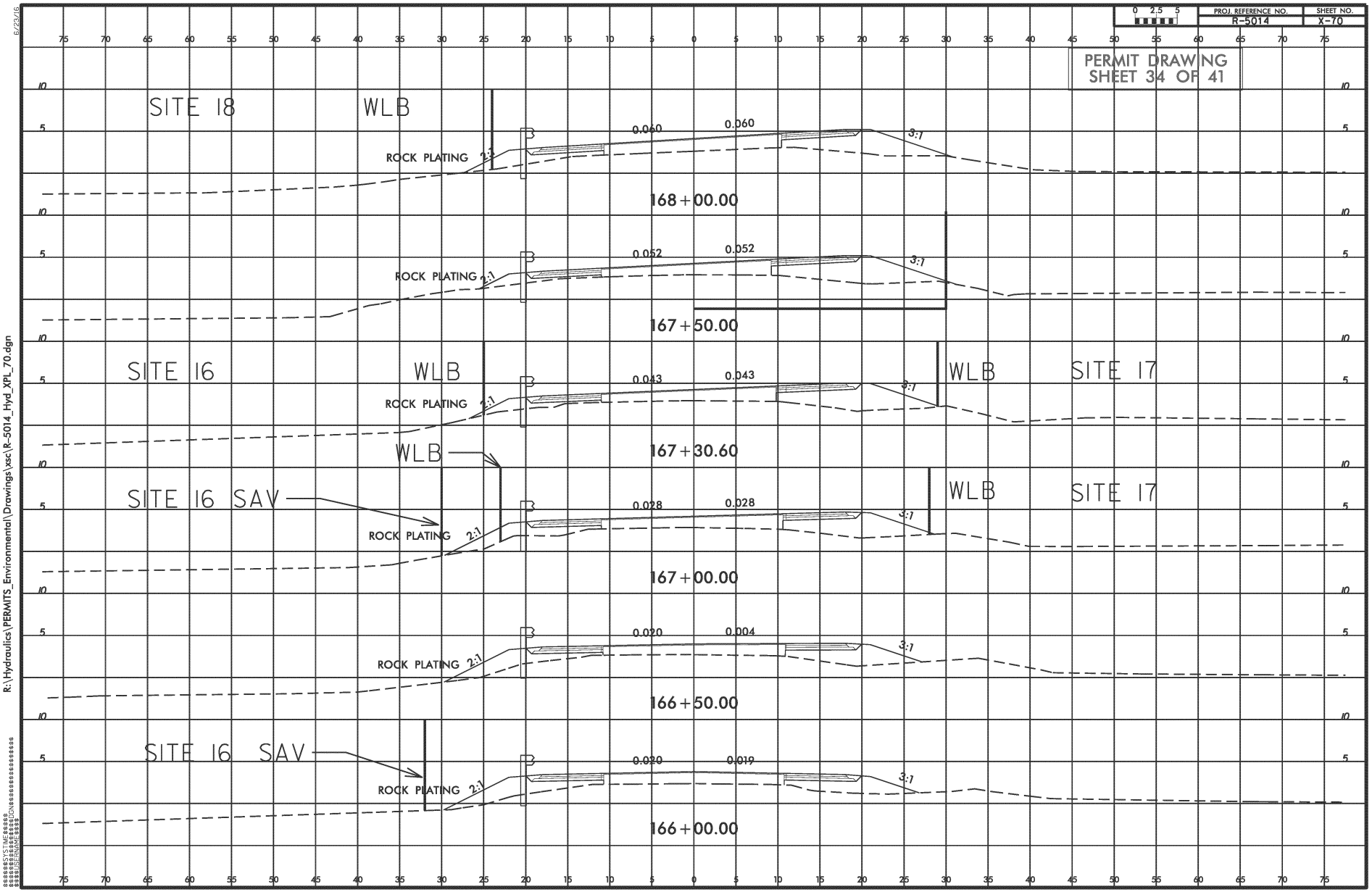
6/23/16


PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-70
PERMIT DRAWING
SHEET 34 OF 41
SITE 18
WLB
ROCK PLATING
2:1
3:1
0.060
0.060
168+00.00
0.052
0.052
167+50.00
SITE 16
WLB
0.043
0.043
WLB
SITE 17
167+30.60
WLB
SITE 16 SAV
0.028
0.028
WLB
SITE 17
167+00.00
0.020
0.004
166+50.00
SITE 16 SAV
0.020
0.019
166+00.00
10242017
cafreeman2
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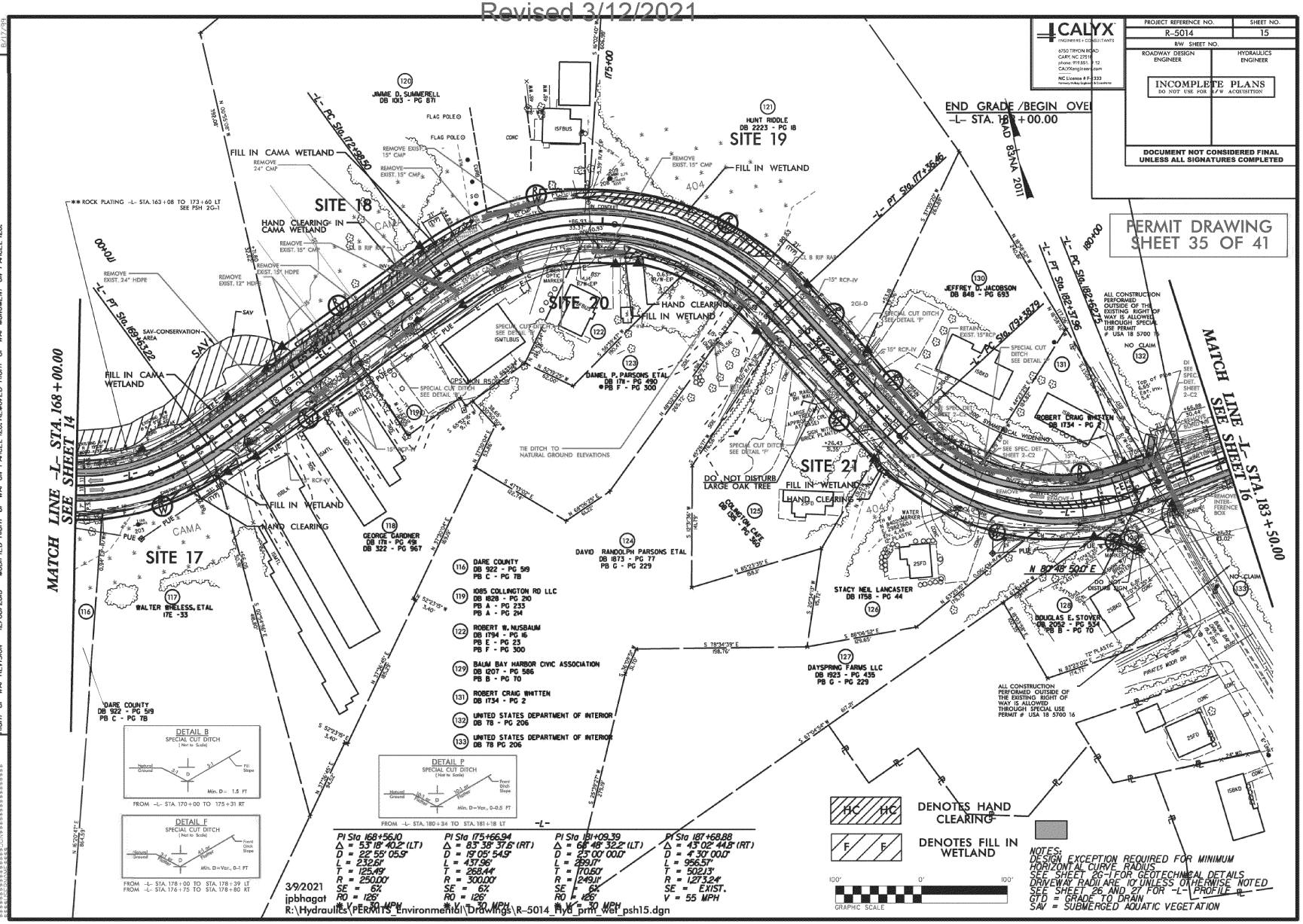
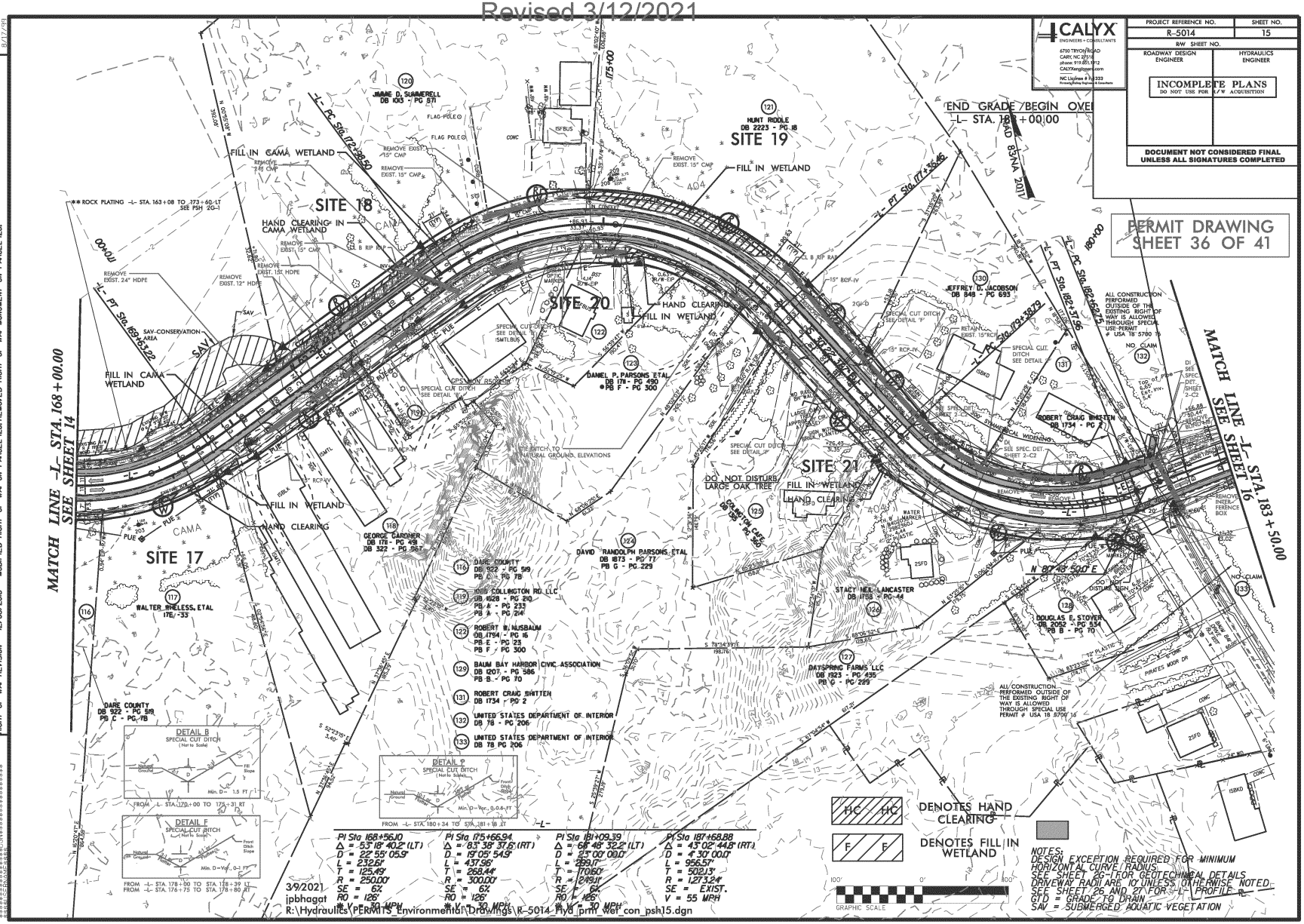
6/23/16

Revised 3/12/2021



Revised 3/12/2021



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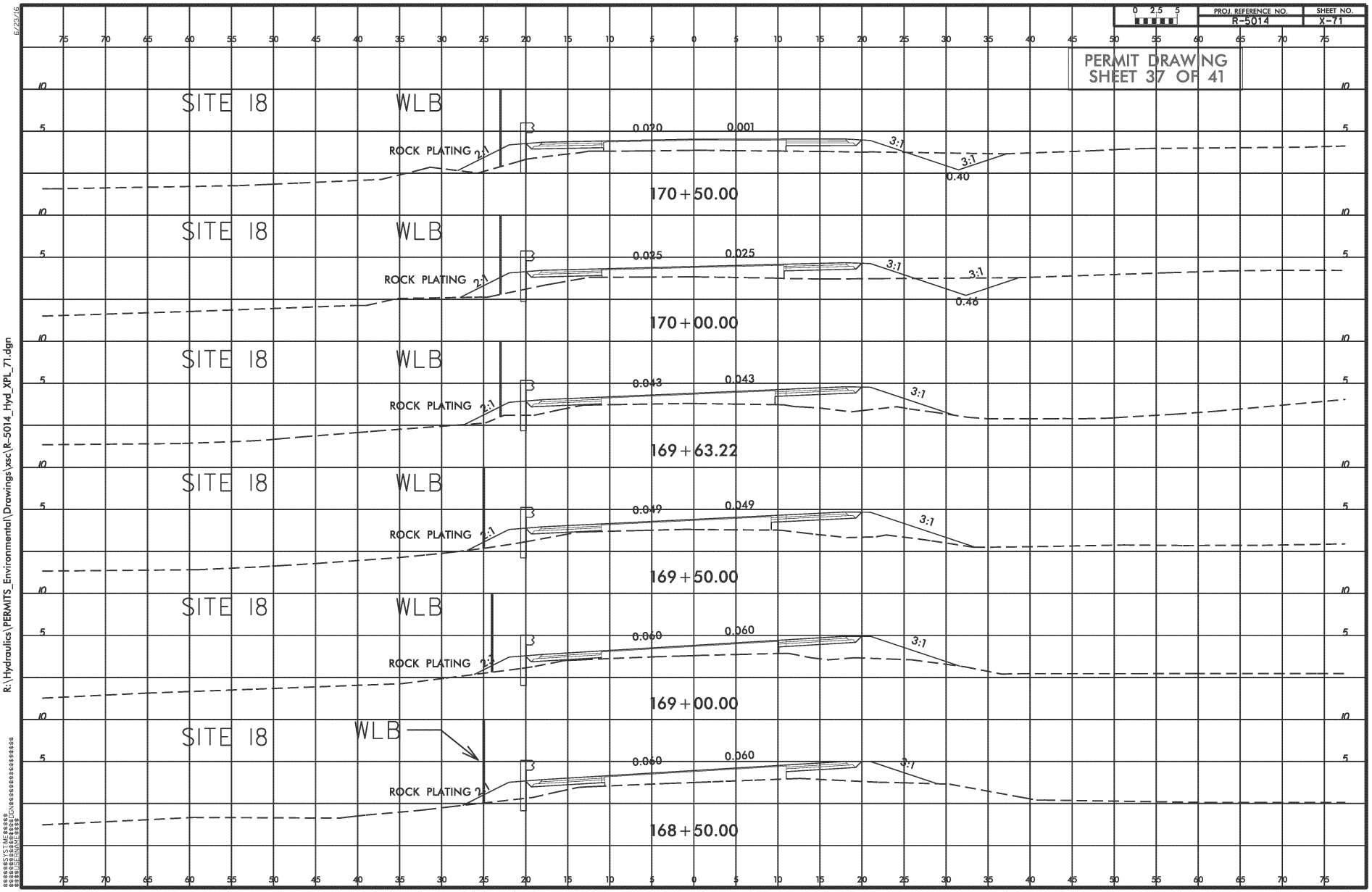
PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-71
PERMIT DRAWING
SHEET 37 OF 41
SITE 18
WLB
ROCK PLATING
2:1
3:1
0.020
0.001
0.40
170+50.00
0.025
0.025
0.46
170+00.00
0.043
0.043
169+63.22
0.049
0.049
169+50.00
0.060
0.060
169+00.00
168+50.00
10242017
cafreeman2
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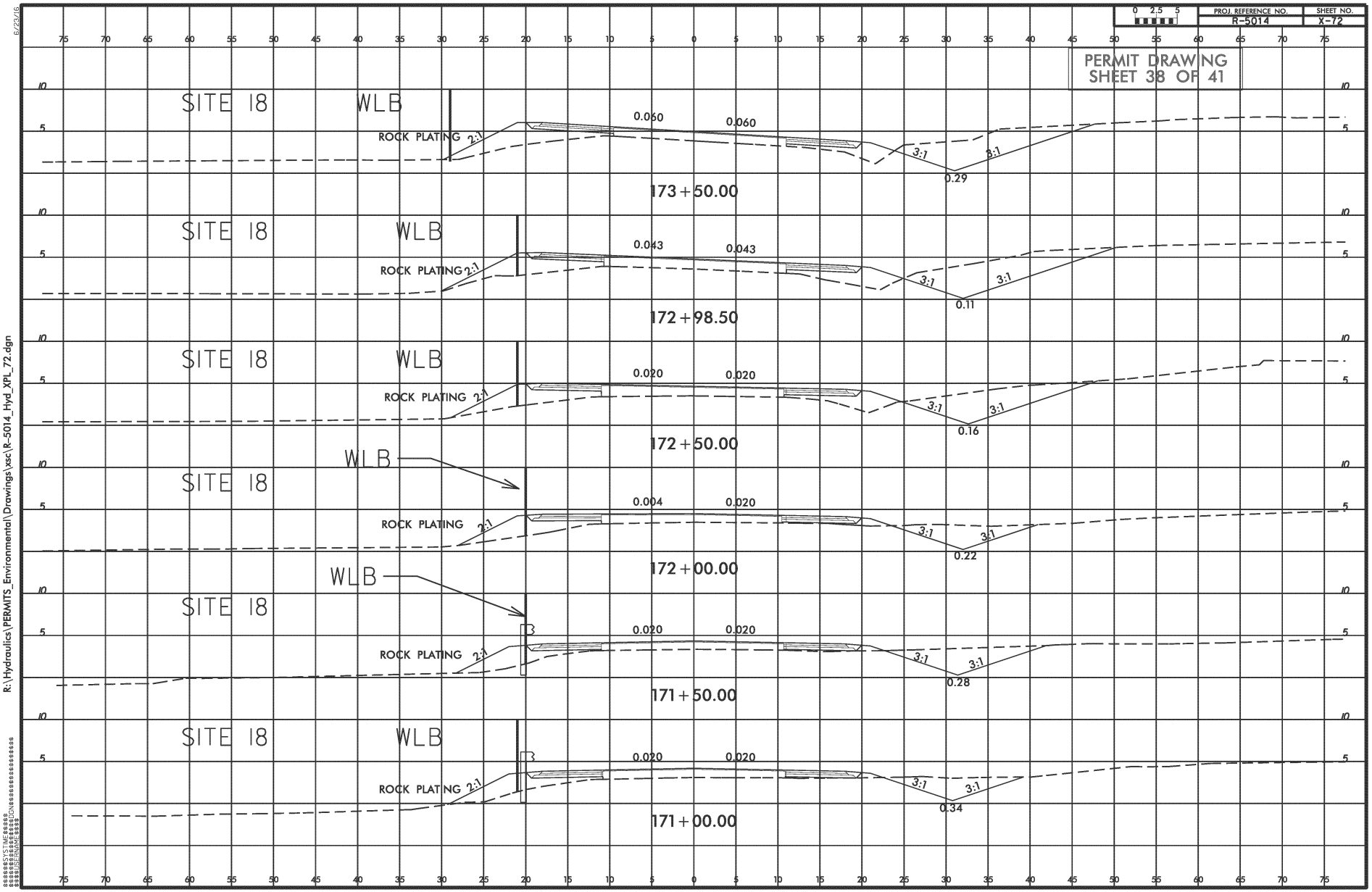
6/23/16


PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-72
PERMIT DRAWING
SHEET 38 OF 41
SITE 18
WLB
ROCK PLATING
2:1
3:1
0.060
0.060
0.29
173+50.00
0.043
0.043
0.11
172+98.50
0.020
0.020
0.16
172+50.00
0.004
0.020
0.22
172+00.00
0.020
0.020
0.28
171+50.00
0.020
0.020
0.34
171+00.00
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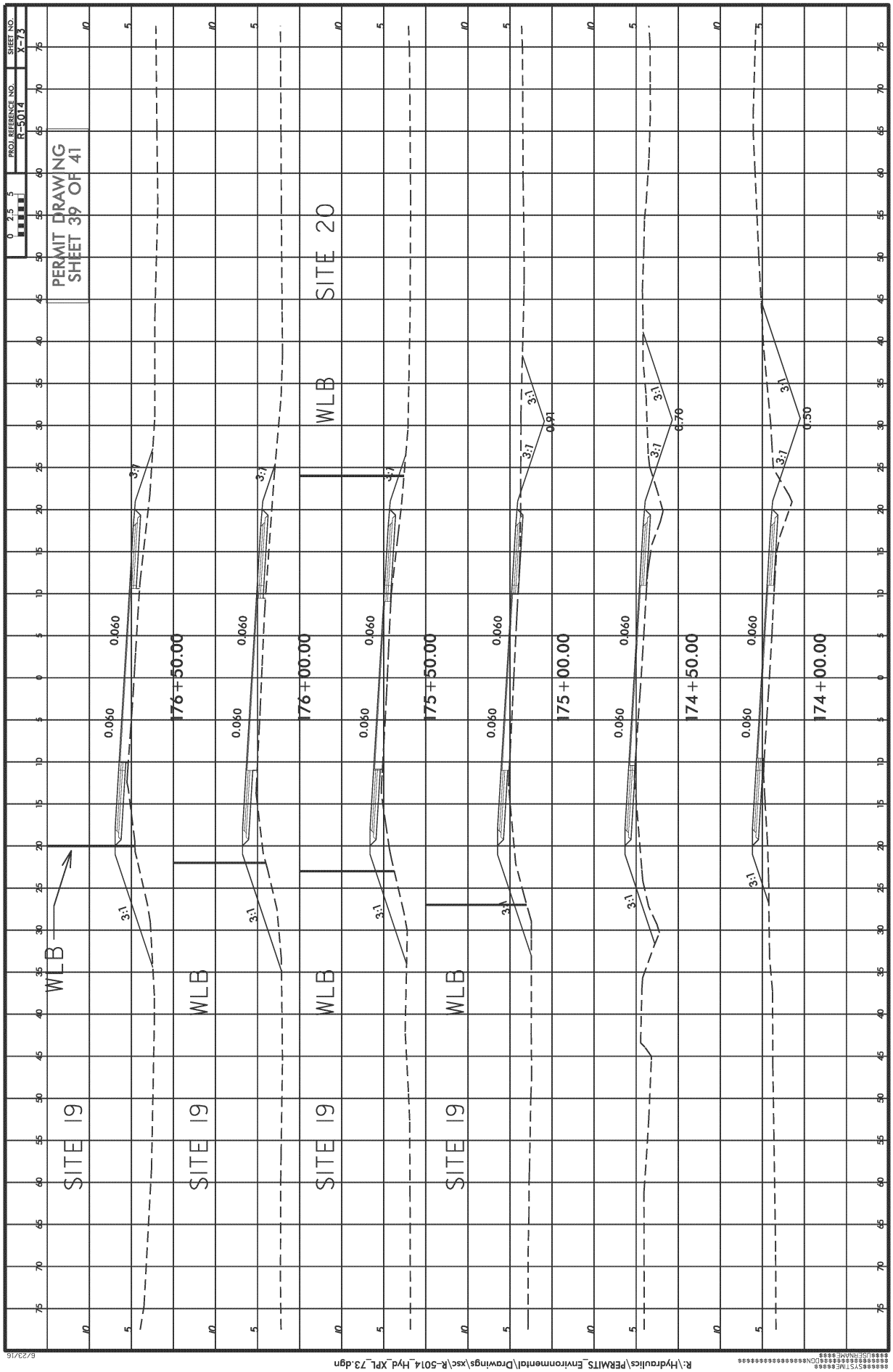
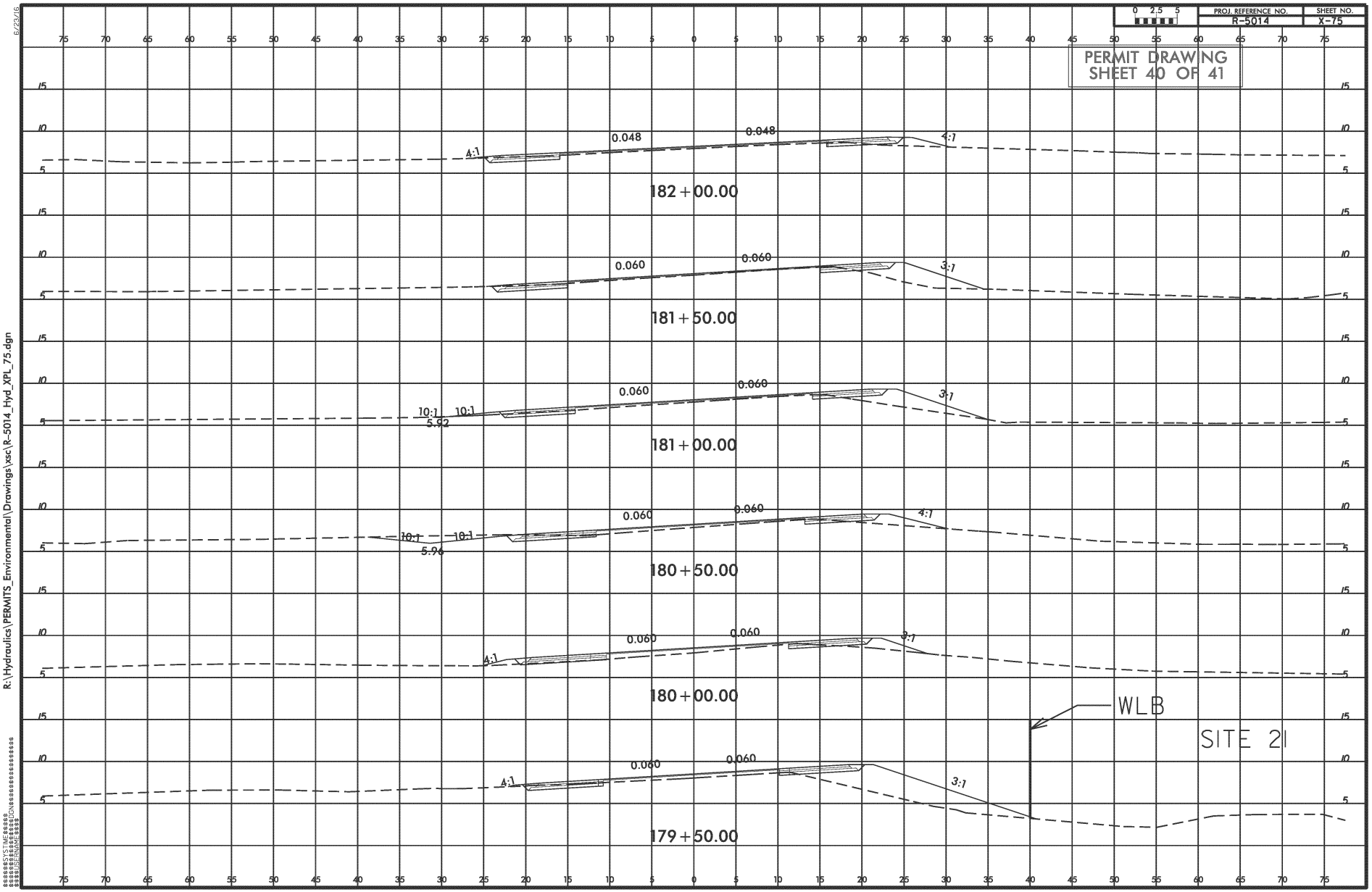

PROJ. REFERENCE NO.
R-5014
SHEET NO.
X-73
PERMIT DRAWING
SHEET 39 OF 41
SITE 19
WLB
SITE 20
176+50.00
176+00.00
175+50.00
175+00.00
174+50.00
174+00.00
0.060
3:1
0.91
0.70
0.50



10/24/2017
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Revised 3/12/2021

WETLAND AND SURACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	L Sta 53+87 to 55+73 Lt	Roadway fill	0.04				0.02					
2	**L Sta 56+26 to 56+50 Lt/Rt**	**Culvert Replacement**	**< 0.01**		**< 0.01**		**< 0.01**	**< 0.01**	**0.02**	**32**	**16**	
3	L Sta 61+37 Rt	Roadway fill	< 0.01				< 0.01					
4	L Sta 66+13 to 70+24 Lt	Roadway fill	0.22				0.05					
5	L Sta 71+55 to 73+86 Rt	Roadway fill / Culvert	0.28				0.03					
6	L Sta 75+16 TO 76+73 Rt	Culvert / Roadway fill	0.02				0.03					
7	L Sta 85+34 to 88+03 Rt	Roadway fill	0.04				0.02					
8	L Sta 93+00 to 96+16 Lt	Roadway fill	0.04				0.02					
9	**L Sta 103+90 to104+62 Lt/Rt**	**Culvert Replacement**	**< 0.01**				**< 0.01**	**< 0.01**	**0.03**	**23**	**18**	
9	**L Sta 103+90 to104+62 Lt/Rt**	**Bank Stabilization**						**0.01**		**55**		
10	L Sta 108+75 to 109+77 Rt	Tail Ditch					0.02					
11	L Sta 116+55 to 117+54 Lt	Roadway Ditch / Tail Ditch			< 0.01		< 0.01					
12	**L Sta 126+78 to 127+40 Lt**	**Culv Replacement/Rdy fill**	**< 0.01**				**< 0.01**	**< 0.01**	**0.02**		**27**	
12	**L Sta 126+78 to 127+40 Lt**	**Bank Stabilization**						**0.02**		**71**		
13	L Sta 129+64 to 130+19 Lt	Roadway fill	< 0.01				< 0.01					
14	L Sta 135+70 to 136+10 Lt	Roadway fill	< 0.01				< 0.01					
15	L Sta. 139+07 Lt	Roadway fill	< 0.01				< 0.01					
16	L Sta 163+08 to 167+40 Lt	Roadway fill	0.02					< 0.01				
17	L Sta 166+91 to 169+80 Rt	Roadway fill	< 0.01				0.03					
18	L Sta. 167+81 to 173+51 Lt	Roadway fill	0.07				0.03					
19	L Sta 174+77 to 176+84 Lt	Roadway fill	0.05				0.03					
20	L Sta. 175+29 to 175+95 Rt	Roadway fill	< 0.01				0.01					
21	L Sta 179+50 Rt	Roadway fill	< 0.01				< 0.01					
TOTALS*:			0.80		< 0.01		0.32	0.06	0.08	181	61	0

*Rounded totals are sum of actual impacts

NOTES: ***Quantities shown below are included in the above totals***

Site 2: 4.4 sqft of fill in CAMA wetland due to roadway fill.

Site 5: 0.10 acres total take of wetlands per 4B comment

Site 8: 0.04 acres of fill and 0.02 acres of hand clearing in CAMA wetland due to roadway fill.

Site 11: 7.4 sqft of excavation in CAMA wetland due to Roadway ditch and 22.7 sqft of hand clearing in CAMA wetland for tail ditch construction.

Site 12: 7.4 sqft of fill and 0.008 acres of hand clearing in CAMA wetland due to roadway fill.

Sites 14 & 15: 132 sqft of fill and 0.01 acres of hand clearing in CAMA wetland due to roadway fill.

Site 16: 188 sqft of permanent fill in SAV due to 2:1 rock plated roadway fill slope. 653 sqft of fill in CAMA wetland due to roadway fill.

Site 17: 55 sqft of fill and 0.01 acres of hand clearing in CAMA wetland due to roadway fill. 32 sqft of fill in 404 wetland due to roadway fill.

Site 18: 0.07 acres of fill and 0.03 acres of hand clearing in CAMA wetland due to roadway fill.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
3/11/21
DARE
R-5014
41162.1.1

SHEET 41 OF 41

TIP PROJECT: R-5014

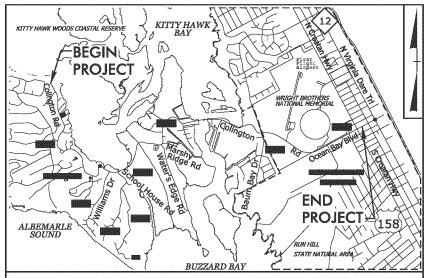
T.I.P. NO.	SHEET NO.
R-5014	UE-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NEU ENVIRONMENTAL PERMIT PLANS
DARE COUNTY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

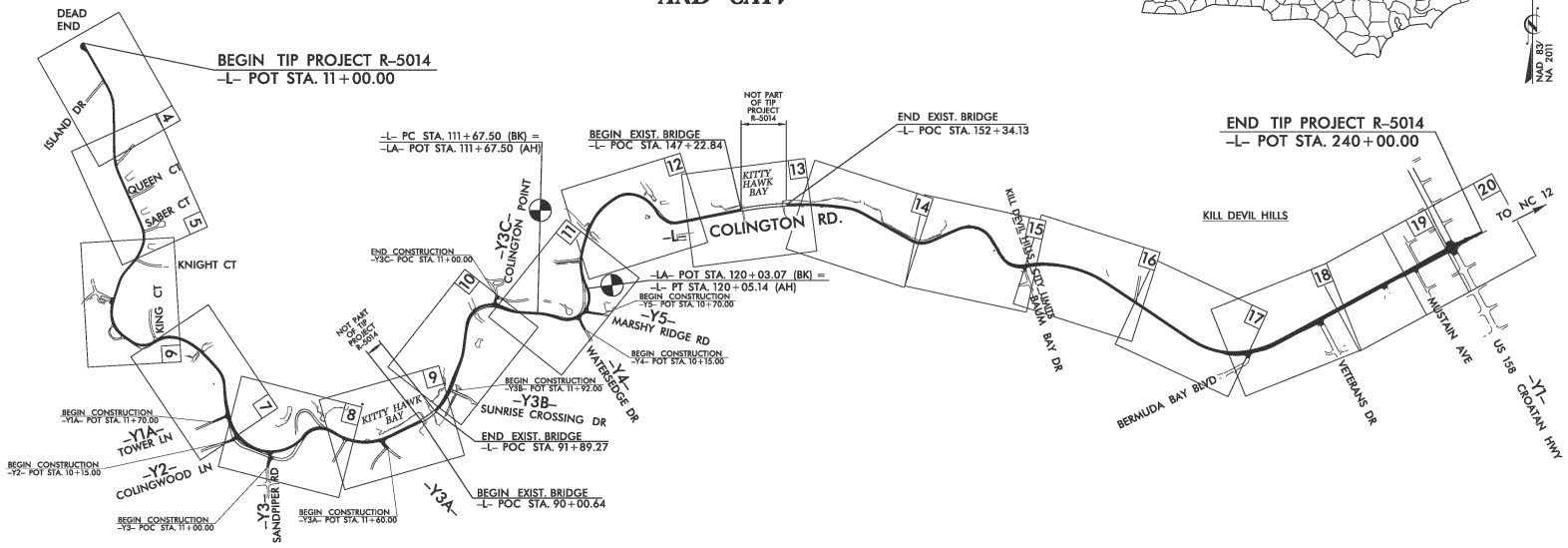
Utility Permit Drawing
Sheet 1 of 12



VICINITY MAP

LOCATION: SR 1217, COLINGTON RD. FROM DEAD END TO US 158 CROATAN HIGHWAY IN KILL DEVIL HILLS

TYPE OF WORK: RELOCATION OF WATER, POWER, PHONE AND CATV



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UE-1	NEU TITLE SHEET
UE-2 THRU UE-7	NEU PLAN SHEETS
UE-8 THRU UE-16	NEU PROFILE SHEETS

UTILITY OWNERS WITH CONFLICTS

(A) WATER - DARE COUNTY WATER
(B) WATER - KILL DEVIL HILLS
(C) POWER - DOMINION POWER
(D) TELEPHONE - CENTURYLINK
(E) CATV - CHARTER

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

BO HEMPHILL P.E.	UTILITIES REGIONAL ENGINEER
KELVIN MARTIN	UTILITIES ENGINEER
KYLE PLEASANT	UTILITIES AREA COORDINATOR
LARRY JAMES JR.	UTILITIES COORDINATOR

09/28/99
03-APR-2018 16:55
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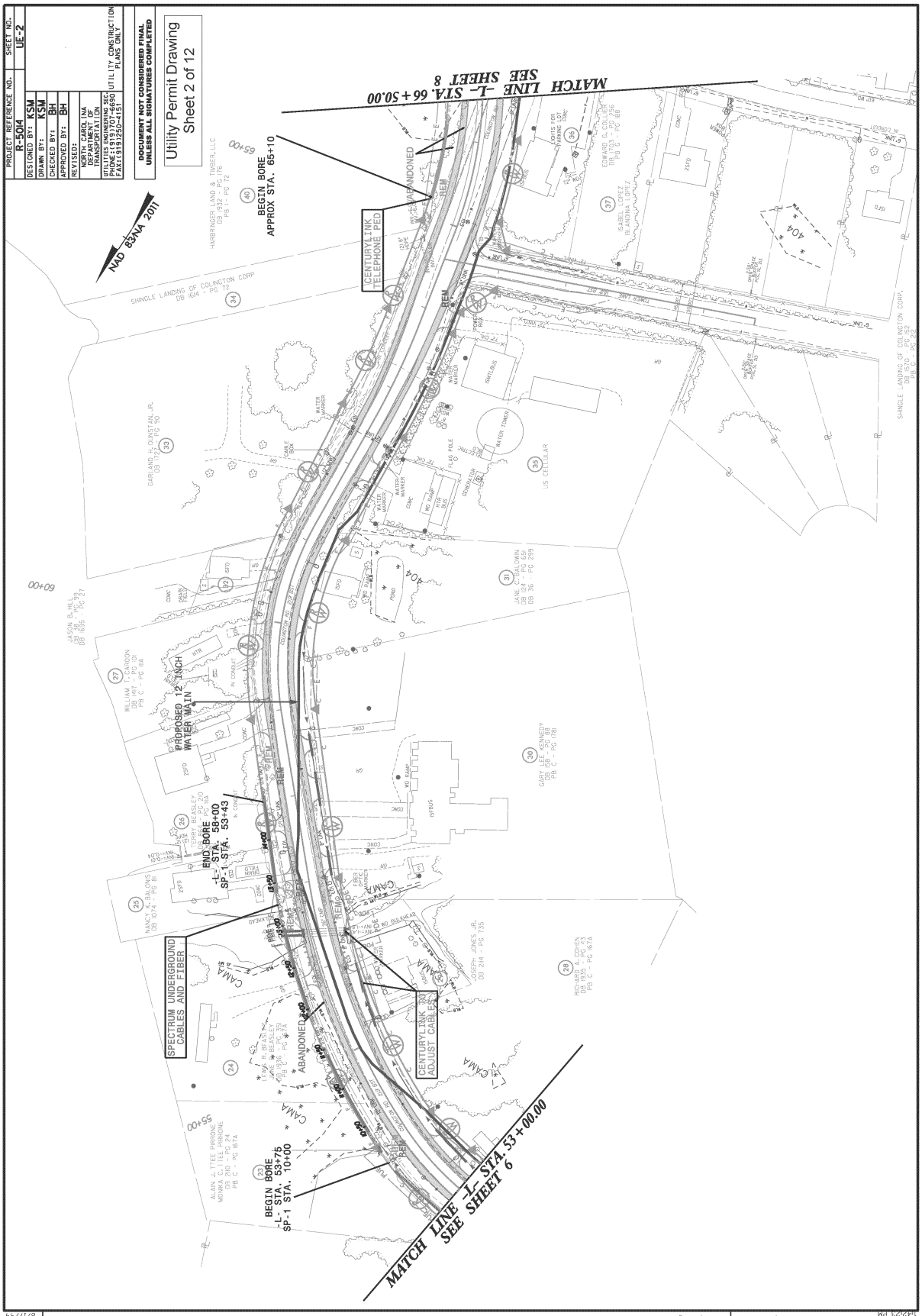
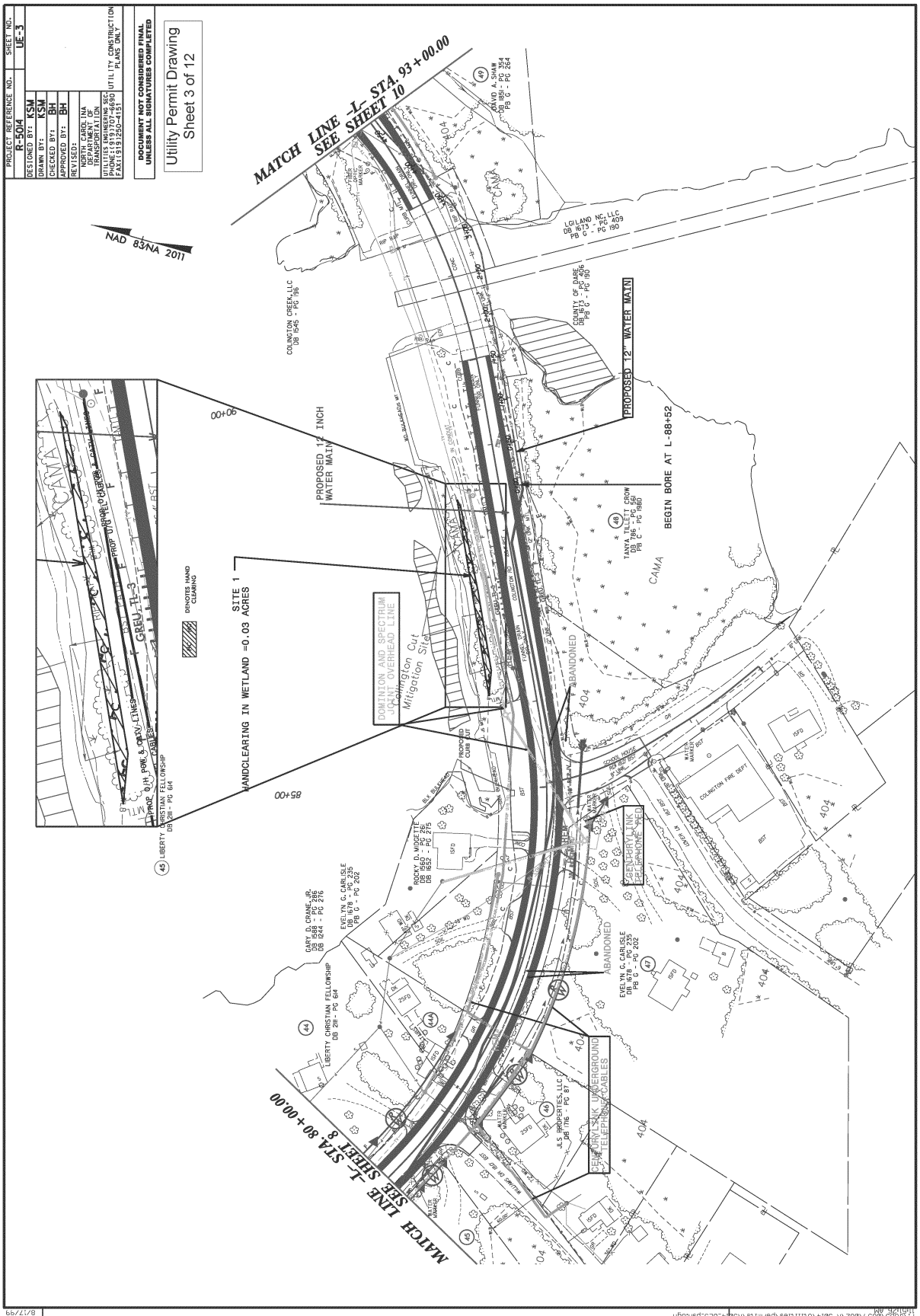
P-100


PROJECT REFERENCE NO.
R-5014
SHEET NO.
UE-2
DESIGNED BY: KSM
DRAWN BY: KSM
CHECKED BY: BH
APPROVED BY: BH
REVISED:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES UNIT
1590 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699-1590
PHONE:(919)707-6690
FAX:(919)250-4151
UTILITY CONSTRUCTION PLANS ONLY
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Utility Permit Drawing
Sheet 2 of 12
NAD 83/NA 2011
MATCH LINE -L- STA. 66+50.00
SEE SHEET 8
BEGIN BORE
APPROX STA. 65+10
CENTURYLINK TELEPHONE PED
ABANDONED
PROPOSED 12" INCH WATER MAIN
END BORE
-L- STA. 58+00
SP-1 STA. 53+43
SPECTRUM UNDERGROUND CABLES AND FIBER
CENTURYLINK TO ADJUST CABLES
BEGIN BORE
-L- STA. 53+75
SP-1 STA. 10+00
MATCH LINE -L- STA. 53+00.00
SEE SHEET 6
SHINGLE LANDING OF COLINGTON CORP
HARRINGER LAND & TIMBER, LLC
US CELLULAR
REVISIONS

P-101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R-5014
SHEET NO.
UE-3
DESIGNED BY: KSM
DRAWN BY: KSM
CHECKED BY: BH
APPROVED BY: BH
REVISED:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES UNIT, RALEIGH, N.C.
PHONE:(919)707-6690
FAX:(919)250-4151
UTILITY CONSTRUCTION PLANS ONLY
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Utility Permit Drawing
Sheet 3 of 12
NAD 83/NA 2011
MATCH LINE -L- STA. 93+00.00 SEE SHEET 10
MATCH LINE -L- STA. 80+00.00 SEE SHEET 8
PROPOSED 12" WATER MAIN
BEGIN BORE AT L-88+52
PROPOSED 12 INCH WATER MAIN
DENOTES HAND CLEANING
SITE 1
HANDCLEARING IN WETLAND =0.03 ACRES
DOMINION AND SPECTRUM JOINT OVERHEAD LINE
Lathington Cut Mitigation Site
GREU-TL-3
PROP O/H POWER & CATV LINES
PROP O/H FELL CABLES
LIBERTY CHRISTIAN FELLOWSHIP DB 208 - PG 644
COLINGTON CREEK, LLC DB 6445 - PG 196
LGI LAND NC, LLC DB 1673 - PG 409 PB G - PG 190
COUNTY OF DARE DB 613 - PG 406 PB G - PG 190
DAVID A. SHAW DB 1685 - PG 254 PB G - PG 254
TANYA TILLETT CROW DB 786 - PG 659 PB C - PG 1980
COLINGTON FIRE DEPT
ROCKED D. WIDGETTE DB 1652 - PG 215
EVELYN G. CARLISLE DB 1678 - PG 235 PB G - PG 202
CARY D. CRANE, JR. DB 1588 - PG 286 DB 1244 - PG 276
LIBERTY CHRISTIAN FELLOWSHIP DB 211 - PG 644
JLS PROPERTIES, LLC DB 1776 - PG 87
SPECTRUM & NK UNDERGROUND TELEPHONE CABLES
ABANDONED
CAMA
404
8/27/99
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-5014	UE-4
DESIGNED BY: KSM	
DRAWN BY: KSM	
CHECKED BY: BH	
APPROVED BY: BH	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Utility Permit Drawing
Sheet 4 of 12

NAD 83/NA 2011

PROPOSED 12 INCH WATER MAIN

EXTEND EXISTING 48" CMP

END BORE AT L-STA. 96+63

END BORE
L STA. 96+00
CL-1 STA. 30+09

BEGIN BORE
L STA. 94+00
CL-1 STA. 10+00

CENTURYLINK UNDERGROUND TELEPHONE CABLES

MATCH LINE -L- STA. 107+50.00
SEE SHEET 11

MATCH LINE -L- STA. 93+00.00
SEE SHEET 9

MATCH LINE -L- STA. 93+00.00
SEE SHEET 10

REVISIONS

8/17/99

3/29/2018
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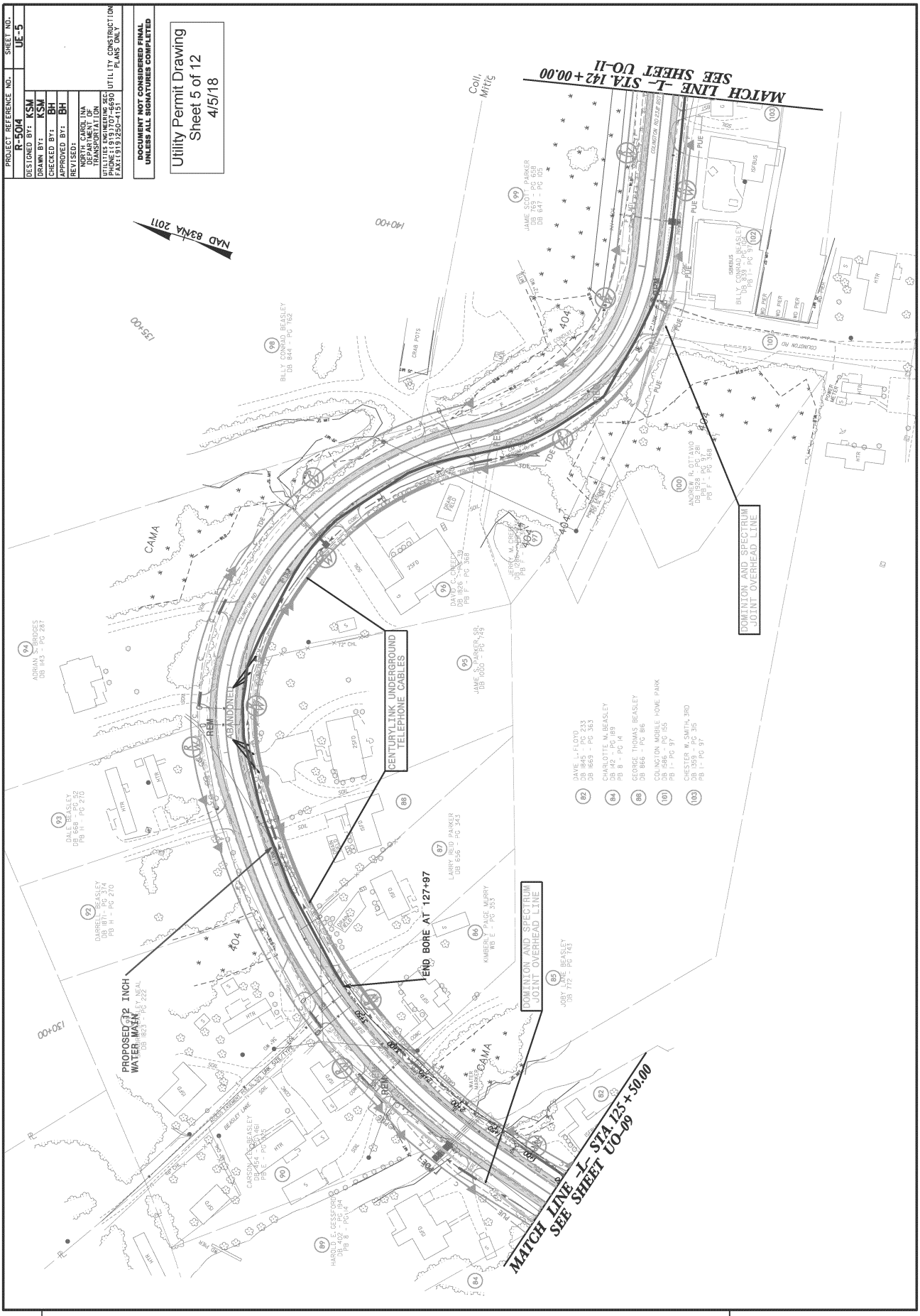
P-102

P-103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R-5014
SHEET NO.
UE-5
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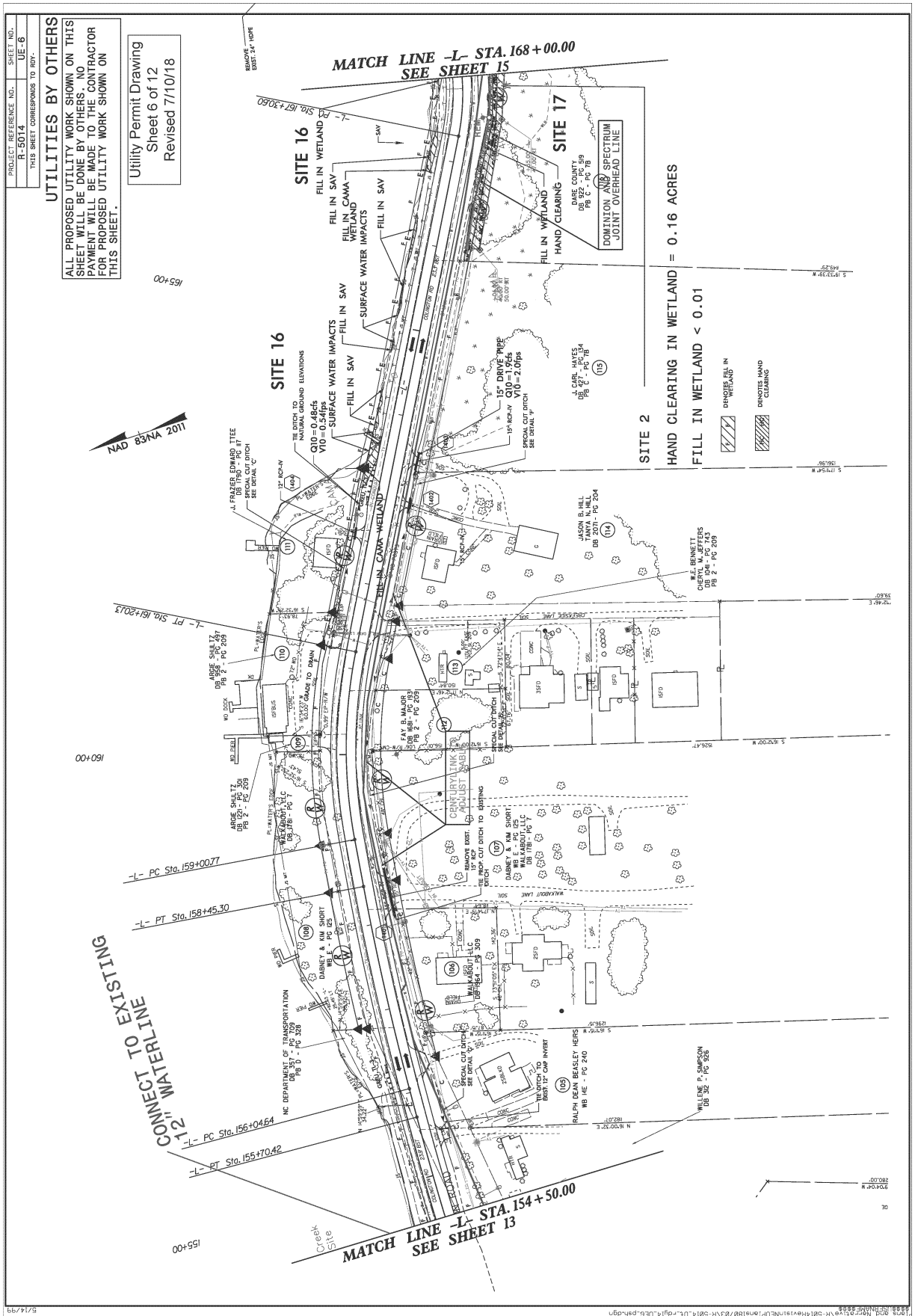
DRAWN BY: KSM
CHECKED BY: BH
APPROVED BY: BH
REVISED:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151
UTILITY CONSTRUCTION PLANS ONLY
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Utility Permit Drawing
Sheet 5 of 12
4/5/18
NAD 83/NA 2011
MATCH LINE -L- STA. 142+00.00
SEE SHEET UO-11
CENTURYLINK UNDERGROUND TELEPHONE CABLES
DOMINION AND SPECTRUM JOINT OVERHEAD LINE
DOMINION AND SPECTRUM JOINT OVERHEAD LINE
END BORE AT 127+97
PROPOSED 12 INCH WATER MAIN
MATCH LINE -L- STA. 125+50.00
SEE SHEET UO-09
REVISIONS

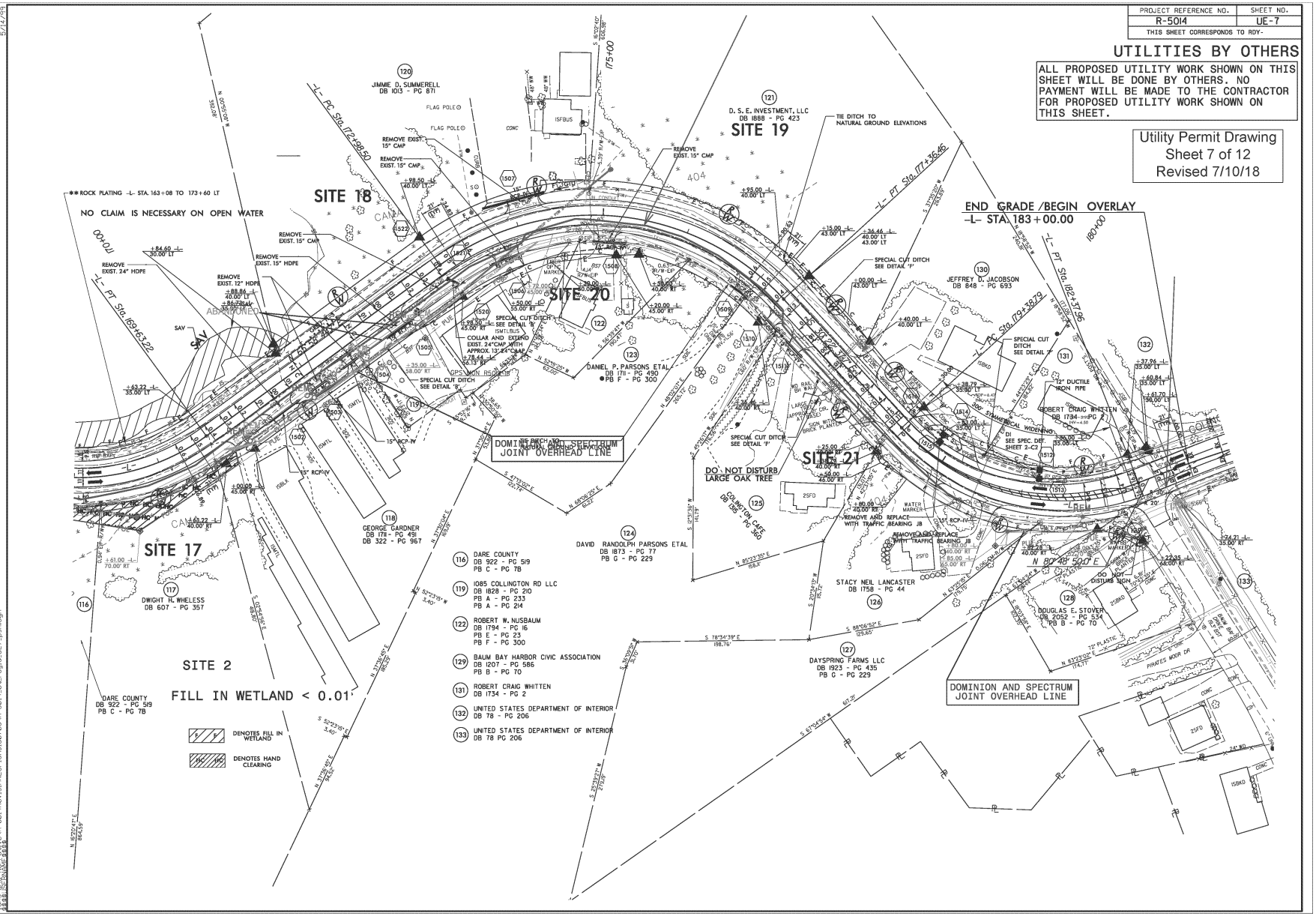

PROJECT REFERENCE NO.
R-5014
SHEET NO.
UE-6
THIS SHEET CORRESPONDS TO RDY-
UTILITIES BY OTHERS
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.
Utility Permit Drawing
Sheet 6 of 12
Revised 7/10/18
MATCH LINE -L- STA. 168+00.00
SEE SHEET 15
MATCH LINE -L- STA. 154+50.00
SEE SHEET 13
SITE 16
SITE 17
SITE 2
HAND CLEARING IN WETLAND = 0.16 ACRES
FILL IN WETLAND < 0.01
DENOTES FILL IN WETLAND
DENOTES HAND CLEARING
DOMINION AND SPECTRUM JOINT OVERHEAD LINE
CONNECT TO EXISTING 12" WATERLINE
NAD 83/NA 2011
-L- PC Sta. 159+00.77
-L- PT Sta. 158+45.30
-L- PC Sta. 156+04.64
-L- PT Sta. 155+70.42
-L- PT Sta. 161+20.13
-L- PC Sta. 161+30.60
FILL IN SAV
FILL IN CAMA WETLAND
SURFACE WATER IMPACTS
FILL IN WETLAND
HAND CLEARING
15" DRIVE PIPE
Q10=1.9cfs
V10=2.0fps
SPECIAL CUT DITCH
SEE DETAIL "P"
TIE DITCH TO NATURAL GROUND ELEVATIONS
Q10=0.48cfs
V10=0.54fps
J. CARL HAYES
DB 2017 - PG 204
PB 2 - PG 18
JASON B. HILL
TANYA N. HILL
DB 2071 - PG 204
W.E. BENNETT
CHERYL M. JEFFERS
DB 104 - PG 743
PB 2 - PG 203
J. L. FRAZIER EDWARD TTEE
DB 1790 - PG 87
ARGIE SHULTZ
DB 958 - PG 497
PB 2 - PG 209
ARGIE SHULTZ
DB 1225 - PG 301
PB 2 - PG 209
WALKABOUT, LLC
DB 1781 - PG 7
DABNEY & KIM SHORT
WB E - PG 125
NC DEPARTMENT OF TRANSPORTATION
DB 357 - PG 709
PB 0 - PG 328
WALKABOUT, LLC
DB 1864 - PG 309
RALPH DEAN BEASLEY HEIRS
WB HE - PG 240
WILLENE P. SIMPSON
DB 302 - PG 326
CONCRETE LANE
WALKABOUT LANE
CONCRETE DRIVE
REMOVE EXIST. PIPE
TIE PROP. CUT DITCH TO EXISTING DITCH
TIE DITCH TO EXIST. 12" CMP INVERT
CONCRETE ROAD TO DRAIN
CONCRETE DRIVE
CONCRETE DRIVE
CONCRETE DRIVE

PROJECT REFERENCE NO.	SHEET NO.
R-5014	UE-7
THIS SHEET CORRESPONDS TO RDY-	

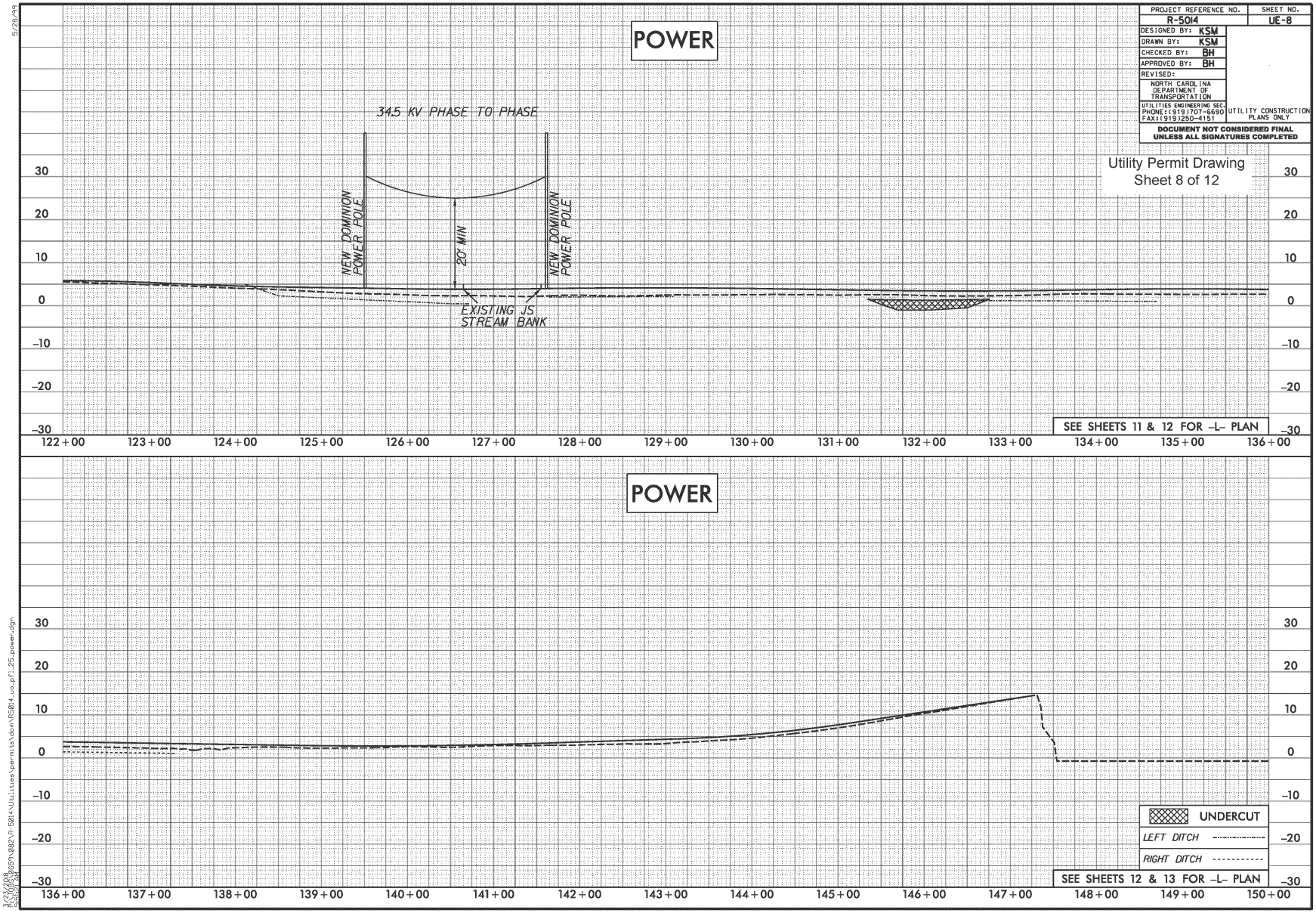
UTILITIES BY OTHERS

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

Utility Permit Drawing
Sheet 7 of 12
Revised 7/10/18



P-105


POWER
34.5 KV PHASE TO PHASE
NEW DOMINION POWER POLE
20' MIN
NEW DOMINION POWER POLE
EXISTING JS STREAM BANK
30
20
10
0
-10
-20
-30
122+00
123+00
124+00
125+00
126+00
127+00
128+00
129+00
130+00
131+00
132+00
133+00
134+00
135+00
136+00
SEE SHEETS 11 & 12 FOR -L- PLAN
POWER
136+00
137+00
138+00
139+00
140+00
141+00
142+00
143+00
144+00
145+00
146+00
147+00
148+00
149+00
150+00
UNDERCUT
LEFT DITCH
RIGHT DITCH
SEE SHEETS 12 & 13 FOR -L- PLAN
PROJECT REFERENCE NO.
R-5014
SHEET NO.
UE-8
DESIGNED BY: KSM
DRAWN BY: KSM
CHECKED BY: BH
APPROVED BY: BH
REVISED:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151
UTILITY CONSTRUCTION PLANS ONLY
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Utility Permit Drawing
Sheet 8 of 12
5/28/99
3/23/2018
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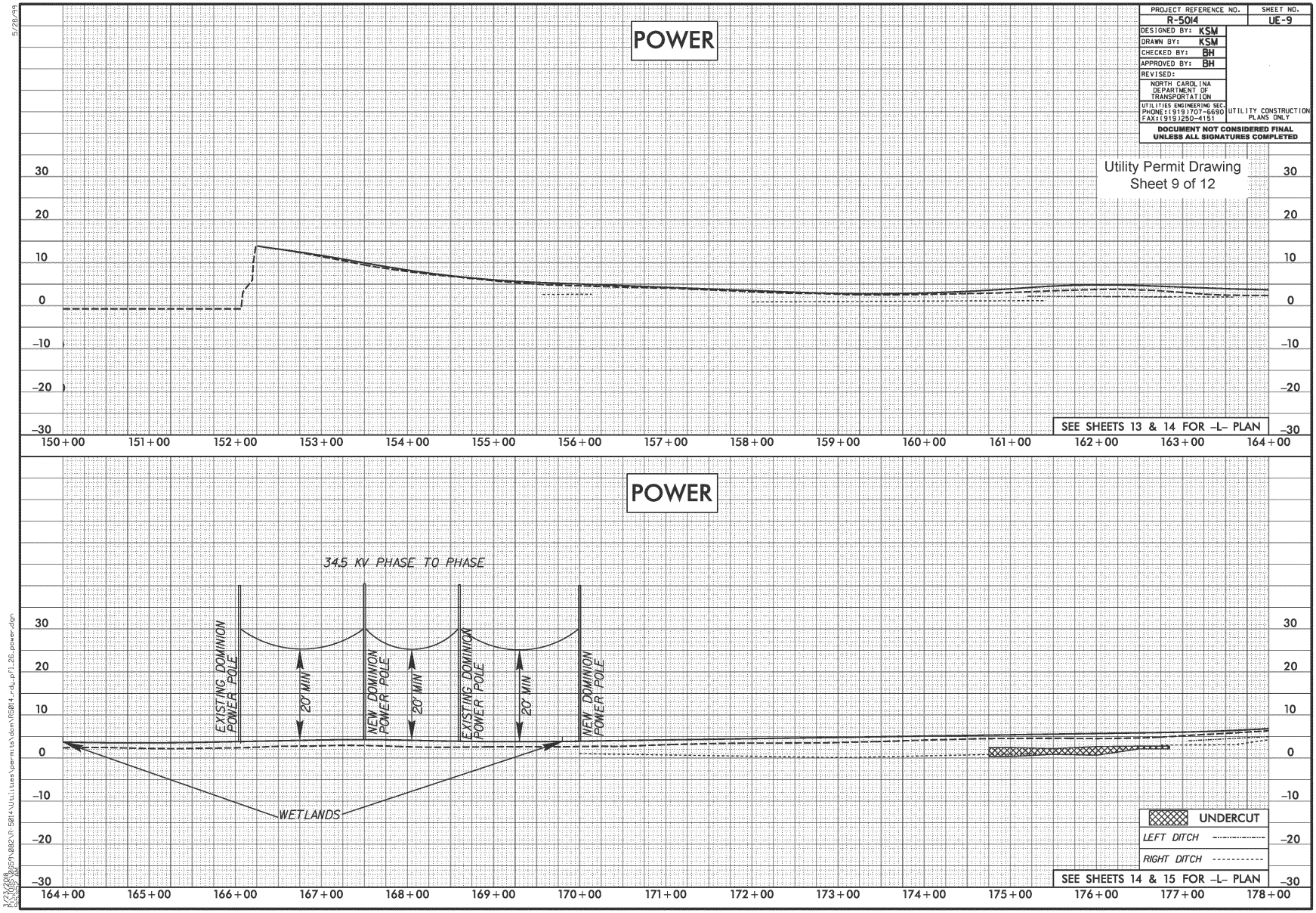
P-106


POWER
PROJECT REFERENCE NO.
R-5014
SHEET NO.
UE-9
DESIGNED BY: KSM
DRAWN BY: KSM
CHECKED BY: BH
APPROVED BY: BH
REVISED:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151
UTILITY CONSTRUCTION PLANS ONLY
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Utility Permit Drawing
Sheet 9 of 12
SEE SHEETS 13 & 14 FOR -L- PLAN
150+00
151+00
152+00
153+00
154+00
155+00
156+00
157+00
158+00
159+00
160+00
161+00
162+00
163+00
164+00
POWER
34.5 KV PHASE TO PHASE
EXISTING DOMINION POWER POLE
20' MIN
NEW DOMINION POWER POLE
20' MIN
EXISTING DOMINION POWER POLE
20' MIN
NEW DOMINION POWER POLE
WETLANDS
UNDERCUT
LEFT DITCH
RIGHT DITCH
SEE SHEETS 14 & 15 FOR -L- PLAN
164+00
165+00
166+00
167+00
168+00
169+00
170+00
171+00
172+00
173+00
174+00
175+00
176+00
177+00
178+00
5/28/99
3/23/2018
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Bentley Systems

P-107

PROJECT REFERENCE NO.	SHEET NO.
R-5014	UE-10

DESIGNED BY: WAW
DRAWN BY: WAW
CHECKED BY: BH
APPROVED BY: BH
REVISED:

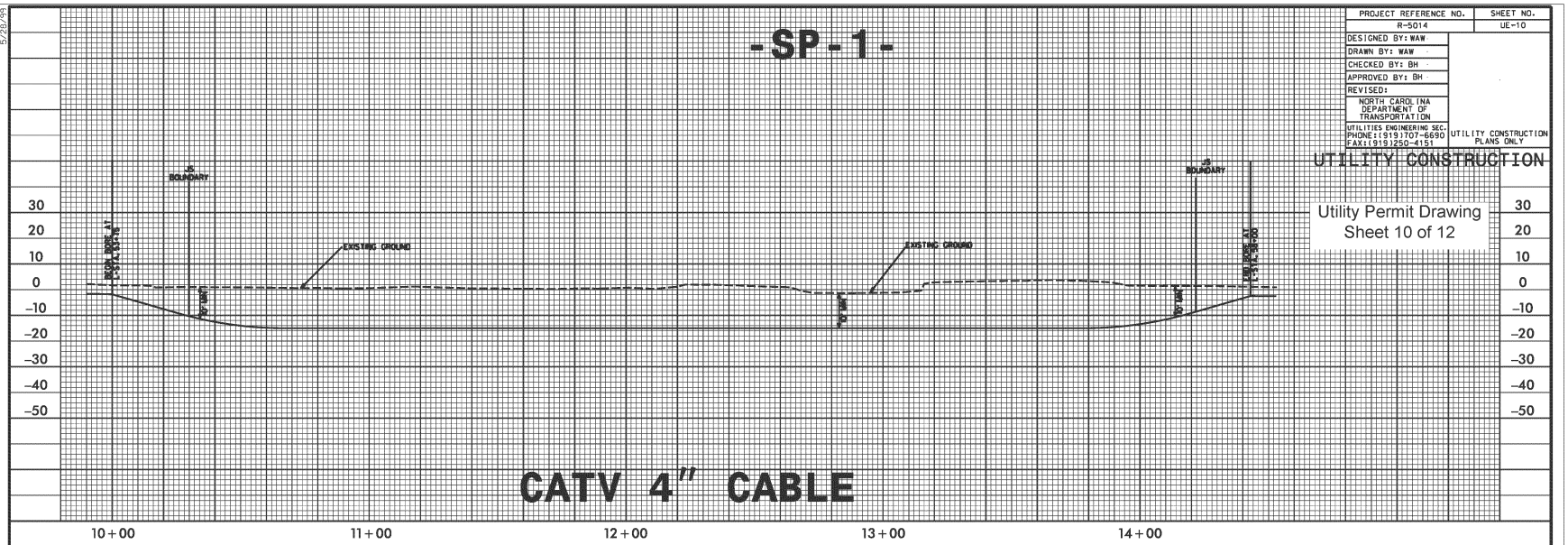
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

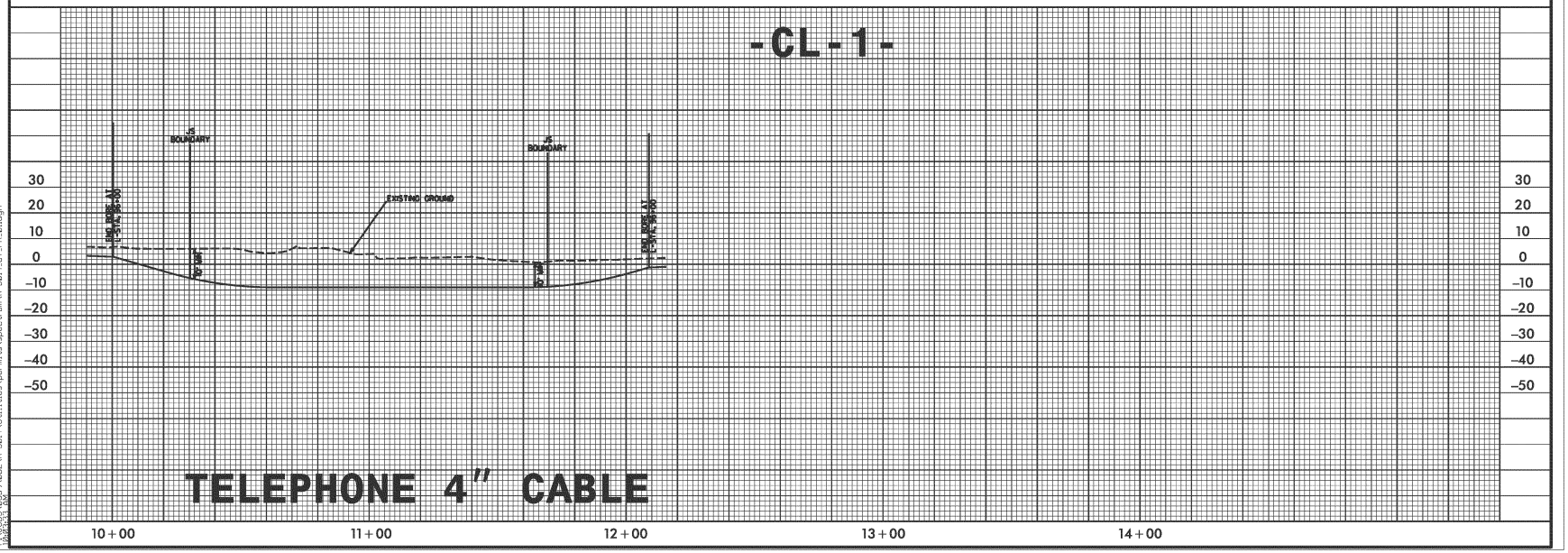
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

Utility Permit Drawing
Sheet 10 of 12





5/28/99

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P-108

PROJECT REFERENCE NO.	SHEET NO.
R-5014	UE-12

DESIGNED BY: KSM
DRAWN BY: KSM
CHECKED BY: BH
APPROVED BY: BH
REVISED:

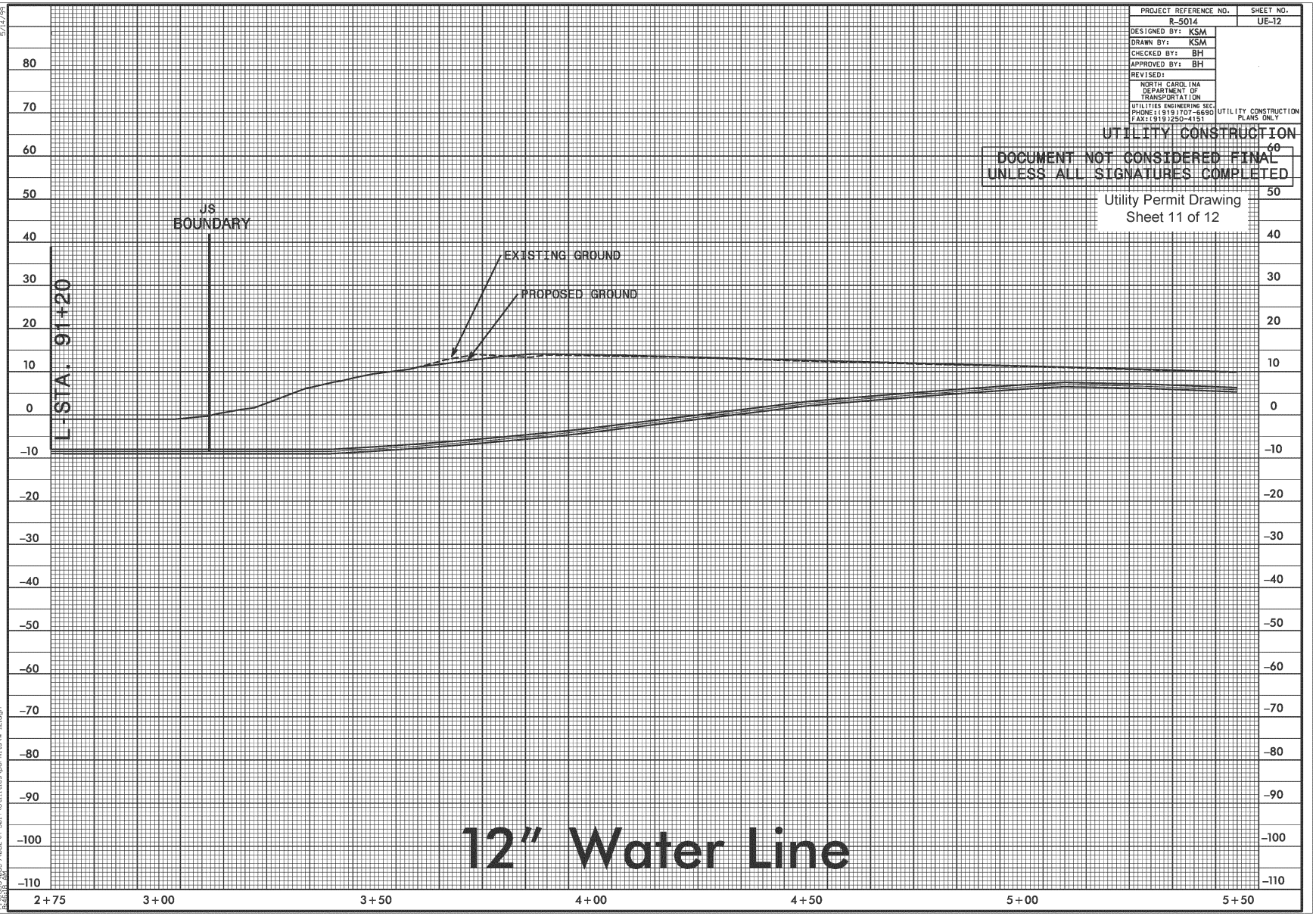
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Utility Permit Drawing
Sheet 11 of 12



5/14/99

5/30/99
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P-109

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
Util 1	-L-86+18 to 88+48	Overhead Power,CATV ,Poles					0.03					
Util 2	L-164+56 to 168+42	Overhead Power,CATV ,Poles		>0.01			0.16					
TOTALS*:			0.00	>0.01	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
14 March 2018
Dare County
R-5014
41162.1.1
SHEET 12 OF 12

Revised 2013 10 24

P-110

P-111

R-5014
PROPOSED UTILITY NARRATIVE
DARE COUNTY

Date: March 19, 2018

Power
Owner: Dominion Power

Contact info: James Pulley (252) 332-1813
james.a.pulley@dom.com

Dominion Power will install a new pole line over a JS mitigation stream from L line station 126+60 left to 127+60 left. This aerial line will not require any poles to be set in wetlands and the minimum attachment at the lowest sag will be 20'.
Dominion Power will install a new pole line over 404 and CAMA wetlands from L line station 166+00 right to 170+00 right. This new line will require a new pole to be set in a 404 wetland at L line station 167+50 right. All other poles are existing and to remain.

Wetland impacts

- Dominion will hand clear .03 acres of wetlands from L line station 86+18 left to 88+48 left.
- Dominion will hand clear .157 of wetlands from L line station 164+54 right to 168+42 right and temp fill less than .01 acres to set a pole.

Phone
Owner: CenturyLink

Contact info: Bruce Herrington (252) 207-2400
bherrington@terratechllc.net

CenturyLink will be installing new underground cable by method of directional drill at the following locations. The locations are 404 and CAMA wetland areas.

- L line station 65+10 left to 71+15 left (404 wetland)
- L line station 74+75 right to 77+10 right (404 wetland)
- L line station 94+00 right to 96+00 right (CAMA wetland)

CATV
Owner: Spectrum

Contact Info: Cindy Muscia (252) 715-2106
cindy.muscia@chartercom.com

Spectrum will be attached to the Dominion poles over the JS mitigation area wetland area described in the Dominion section. They will also be installing underground cable by method of directional drill at L line station 53+75 left to 58+00 left.

Water
Owner: Town of Kill Devil Hills

Contact Info: Steve Albright (252) 480-4086
steve@kdhnc.com

The Town of Kill Devil Hills will be replacing an existing 8" AC waterline with new 8" PVC C900 waterline from L line Station. 210+00 right to 232+00 left. This new line will not impact or be constructed around any environmental wetlands and should not need permitting.
This relocation work will not be done near or around any wetlands.

Water
Owner: Dare County Water

Contact Info: Ken Flatt (252) 475-5990
kenf@darenc.com

Dare County Water has an existing 8" AC water line that will be abandoned and replaced with the NCDOT contractor installing a new 12" PVC water line for most of the project and will need to directional bore sensitive wetland areas at the following locations.

- L line station 88+52 to station 96+63 (CAMA wetland and JS stream)
- L line station 123+99 right to 127+97 right (CAMA wetland)
- L line station 174+30 right to 178+10 right (404 wetland)

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
			ROADWAY ITEMS			
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	Lump Sum	L.S.	
0004	0008000000-E	200	SUPPLEMENTARY CLEARING & GRUBBING	1 ACR		
0005	0022000000-E	225	UNCLASSIFIED EXCAVATION	7,350 CY		
0006	0036000000-E	225	UNDERCUT EXCAVATION	9,180 CY		
0007	0106000000-E	230	BORROW EXCAVATION	21,150 CY		
0008	0134000000-E	240	DRAINAGE DITCH EXCAVATION	40 CY		
0009	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	8,280 SY		
0010	0177000000-E	250	BREAKING OF EXISTING ASPHALT PAVEMENT	410 SY		
0011	0195000000-E	265	SELECT GRANULAR MATERIAL	9,180 CY		
0012	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	24,900 SY		
0013	0199000000-E	SP	TEMPORARY SHORING	343 SF		
0014	0222000000-E	SP	GEOTEXTILE FOR ROCK EMBANKMENTS	600 SY		
0015	0223000000-E	275	ROCK PLATING	1,280 SY		
0016	0255000000-E	SP	GENERIC GRADING ITEM HAULING AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	100 TON		
0017	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	1,710 TON		
0018	0320000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	2,600 SY		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0019	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (12")	1,332 LF		
0020	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	2,580 LF		
0021	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	900 LF		
0022	0448400000-E	310	24" RC PIPE CULVERTS, CLASS IV	360 LF		
0023	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	8 LF		
0024	0546000000-E	310	**" CAA PIPE CULVERTS, *****" THICK (18", 0.105")	12 LF		
0025	0546000000-E	310	**" CAA PIPE CULVERTS, *****" THICK (36", 0.135")	12 LF		
0026	0546000000-E	310	**" CAA PIPE CULVERTS, *****" THICK (42", 0.135")	128 LF		
0027	0546000000-E	310	**" CAA PIPE CULVERTS, *****" THICK (48", 0.164")	216 LF		
0028	0546000000-E	310	**" CAA PIPE CULVERTS, *****" THICK (60", 0.164")	172 LF		
0029	0986000000-E	SP	GENERIC PIPE ITEM 35" X 24" CORRUGATED ALUMINUM PIPE ARCH, 0.105" THICK (12 GAUGE)	72 LF		
0030	0992000000-E	SP	GENERIC PIPE ITEM ALUMINUM HEADWALL, 0.150" THICK (CONTRACTOR DESIGNED)	6 EA		
0031	0995000000-E	340	PIPE REMOVAL	2,155 LF		
0032	0996000000-N	350	PIPE CLEAN OUT	6 EA		
0033	1011000000-N	500	FINE GRADING	Lump Sum	L.S.	
0034	1077000000-E	SP	#57 STONE	240 TON		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0035	1099500000-E	505	SHALLOW UNDERCUT	5,500 CY		
0036	1099700000-E	505	CLASS IV SUBGRADE STABILIZA-TION	10,945 TON		
0037	1111000000-E	SP	CLASS IV AGGREGATE STABILIZA-TION	5,000 TON		
0038	1220000000-E	545	INCIDENTAL STONE BASE	1,625 TON		
0039	1308000000-E	607	MILLING ASPHALT PAVEMENT, ***" TO ******" (0" TO 3")	1,130 SY		
0040	1330000000-E	607	INCIDENTAL MILLING	2,500 SY		
0041	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	17,580 TON		
0042	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	7,900 TON		
0043	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	13,470 TON		
0044	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	2,075 TON		
0045	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	2,320 TON		
0046	2022000000-E	815	SUBDRAIN EXCAVATION	448 CY		
0047	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	2,000 SY		
0048	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	336 CY		
0049	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	2,000 LF		
0050	2070000000-N	815	SUBDRAIN PIPE OUTLET	4 EA		
0051	2077000000-E	815	6" OUTLET PIPE	24 LF		
0052	2253000000-E	840	PIPE COLLARS	4.06 CY		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0053	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	36 EA		
0054	2364000000-N	840	FRAME WITH TWO GRATES, STD 840.16	26 EA		
0055	2366000000-N	840	FRAME WITH TWO GRATES, STD 840.24	4 EA		
0056	2367000000-N	840	FRAME WITH TWO GRATES, STD 840.29	2 EA		
0057	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	1 EA		
0058	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	1 EA		
0059	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	1 EA		
0060	2396000000-N	840	FRAME WITH COVER, STD 840.54	1 EA		
0061	2451000000-N	852	CONCRETE TRANSITIONAL SECTION FOR DROP INLET	1 EA		
0062	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	440 LF		
0063	2591000000-E	848	4" CONCRETE SIDEWALK	320 SY		
0064	2605000000-N	848	CONCRETE CURB RAMPS	5 EA		
0065	2612000000-E	848	6" CONCRETE DRIVEWAY	2,005 SY		
0066	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	100 SY		
0067	2845000000-N	858	ADJUSTMENT OF METER BOXES OR VALVE BOXES	114 EA		
0068	3030000000-E	862	STEEL BEAM GUARDRAIL	3,525 LF		
0069	3045000000-E	862	STEEL BEAM GUARDRAIL, SHOP CURVED	125 LF		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0070	3140000000-E	862	25' CLEAR SPAN GUARDRAIL SEC-TIONS	2 EA		
0071	3145000000-E	862	EXTRA LENGTH GUARDRAIL POST (**' STEEL) (8')	25 EA		
0072	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	5 EA		
0073	3180000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE ********** (III, SHOP CURVED)	2 EA		
0074	3195000000-N	862	GUARDRAIL END UNITS, TYPE AT-1	3 EA		
0075	3287000000-N	SP	GUARDRAIL END UNITS, TYPE TL-3	11 EA		
0076	3288000000-N	SP	GUARDRAIL END UNITS, TYPE TL-2	8 EA		
0077	3360000000-E	863	REMOVE EXISTING GUARDRAIL	2,878 LF		
0078	3628000000-E	876	RIP RAP, CLASS I	60 TON		
0079	3635000000-E	876	RIP RAP, CLASS II	450 TON		
0080	3642000000-E	876	RIP RAP, CLASS A	220 TON		
0081	3649000000-E	876	RIP RAP, CLASS B	301 TON		
0082	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	1,370 SY		
0083	3984000000-E	SP	GENERIC WALL ITEM TIMBER RETAINING WALL (# 1)	200 SF		
0084	3984000000-E	SP	GENERIC WALL ITEM TIMBER RETAINING WALL (# 2)	600 SF		
0085	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	20 LF		
0086	4082000000-E	903	SUPPORTS, WOOD	1,400 LF		
0087	4096000000-N	904	SIGN ERECTION, TYPE D	2 EA		
0088	4102000000-N	904	SIGN ERECTION, TYPE E	90 EA		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0089	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (B)	1 EA		
0090	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (B)	1 EA		
0091	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (D)	2 EA		
0092	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (E)	5 EA		
0093	4141000000-N	907	DISPOSAL OF SUPPORT, WOOD	6 EA		
0094	4158000000-N	907	DISPOSAL OF SIGN SYSTEM, WOOD	73 EA		
0095	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	186 SF		
0096	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	384 SF		
0097	4415000000-N	1115	FLASHING ARROW BOARD	1 EA		
0098	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	1 EA		
0099	4430000000-N	1130	DRUMS	150 EA		
0100	4435000000-N	1135	CONES	100 EA		
0101	4445000000-E	1145	BARRICADES (TYPE III)	300 LF		
0102	4455000000-N	1150	FLAGGER	1,102 DAY		
0103	4507000000-E	1170	WATER FILLED BARRIER	301 LF		
0104	4510000000-N	1190	LAW ENFORCEMENT	240 HR		
0105	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	285 EA		
0106	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	101,491 LF		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0107	4695000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	1,680 LF		
0108	4720000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)	12 EA		
0109	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	88 EA		
0110	4770000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)	8,000 LF		
0111	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	282,775 LF		
0112	4820000000-E	1205	PAINT PAVEMENT MARKING LINES (8")	1,410 LF		
0113	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	2,286 LF		
0114	4840000000-N	1205	PAINT PAVEMENT MARKING CHARAC-TER	36 EA		
0115	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	93 EA		
0116	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	8,000 LF		
0117	4891000000-E	1205	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	1,800 LF		
0118	4900000000-N	1251	PERMANENT RAISED PAVEMENT MARKERS	362 EA		
0119	5325200000-E	1510	2" WATER LINE	50 LF		
0120	5325400000-E	1510	4" WATER LINE	20 LF		
0121	5325600000-E	1510	6" WATER LINE	500 LF		
0122	5325800000-E	1510	8" WATER LINE	90 LF		
0123	5326200000-E	1510	12" WATER LINE	15,500 LF		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0124	5329000000-E	1510	DUCTILE IRON WATER PIPE FITTINGS	54,770 LB		
0125	5536000000-E	1515	2" VALVE	4 EA		
0126	5538000000-E	1515	4" VALVE	1 EA		
0127	5540000000-E	1515	6" VALVE	23 EA		
0128	5546000000-E	1515	8" VALVE	4 EA		
0129	5558000000-E	1515	12" VALVE	30 EA		
0130	5589100000-E	1515	1" AIR RELEASE VALVE	10 EA		
0131	5643000000-E	1515	**" WATER METER (1")	1 EA		
0132	5643100000-E	1515	3/4" WATER METER	18 EA		
0133	5648000000-N	1515	RELOCATE WATER METER	8 EA		
0134	5649000000-N	1515	RECONNECT WATER METER	67 EA		
0135	5666000000-N	1515	FIRE HYDRANT	6 EA		
0136	5672000000-N	1515	RELOCATE FIRE HYDRANT	13 EA		
0137	5678600000-E	1515	8" LINE STOP	1 EA		
0138	5709300000-E	1520	6" FORCE MAIN SEWER	100 LF		
0139	5800000000-E	1530	ABANDON 6" UTILITY PIPE	900 LF		
0140	5801000000-E	1530	ABANDON 8" UTILITY PIPE	2,510 LF		
0141	5804000000-E	1530	ABANDON 12" UTILITY PIPE	1,270 LF		
0142	5815000000-N	1530	REMOVE WATER METER	18 EA		
0143	5815500000-N	1530	REMOVE FIRE HYDRANT	2 EA		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0144	5835700000-E	1540	16" ENCASEMENT PIPE	330 LF		
0145	5888000000-E	SP	GENERIC UTILITY ITEM POLYETHYLENE ENCASEMENT WATER LINE	100 LF		
0146	5894000000-E	SP	GENERIC UTILITY ITEM REINFORCED CONCRETE ENCASEMENT AND SUPPORTS	50 CY		
0147	6000000000-E	1605	TEMPORARY SILT FENCE	40,020 LF		
0148	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	375 TON		
0149	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	730 TON		
0150	6012000000-E	1610	SEDIMENT CONTROL STONE	535 TON		
0151	6015000000-E	1615	TEMPORARY MULCHING	7.5 ACR		
0152	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	500 LB		
0153	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEED-ING	2.5 TON		
0154	6024000000-E	1622	TEMPORARY SLOPE DRAINS	585 LF		
0155	6029000000-E	SP	SAFETY FENCE	9,400 LF		
0156	6030000000-E	1630	SILT EXCAVATION	970 CY		
0157	6036000000-E	1631	MATTING FOR EROSION CONTROL	29,800 SY		
0158	6037000000-E	SP	COIR FIBER MAT	1,680 SY		
0159	6038000000-E	SP	PERMANENT SOIL REINFORCEMENT MAT	100 SY		
0160	6042000000-E	1632	1/4" HARDWARE CLOTH	1,200 LF		
0161	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	780 SY		
0162	6071012000-E	SP	COIR FIBER WATTLE	3,000 LF		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0163	6071020000-E	SP	POLYACRYLAMIDE (PAM)	400 LB		
0164	6071030000-E	1640	COIR FIBER BAFFLE	145 LF		
0165	6084000000-E	1660	SEEDING & MULCHING	9 ACR		
0166	6087000000-E	1660	MOWING	6 ACR		
0167	6090000000-E	1661	SEED FOR REPAIR SEEDING	100 LB		
0168	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	0.25 TON		
0169	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	200 LB		
0170	6108000000-E	1665	FERTILIZER TOPDRESSING	5.75 TON		
0171	6111000000-E	SP	IMPERVIOUS DIKE	620 LF		
0172	6114500000-N	1667	SPECIALIZED HAND MOWING	10 MHR		
0173	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	25 EA		
0174	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	8 EA		
0175	7048500000-E	1705	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	5 EA		
0176	7060000000-E	1705	SIGNAL CABLE	2,790 LF		
0177	7108000000-E	1705	VEHICLE SIGNAL HEAD (12", 1 SECTION)	2 EA		
0178	7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	6 EA		
0179	7132000000-E	1705	VEHICLE SIGNAL HEAD (12", 4 SECTION)	1 EA		
0180	7144000000-E	1705	VEHICLE SIGNAL HEAD (12", 5 SECTION)	2 EA		
0181	7300000000-E	1715	UNPAVED TRENCHING (**********) (1, 2")	1,760 LF		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0182	7300000000-E	1715	UNPAVED TRENCHING (**********) (2, 2")	39 LF		
0183	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 2")	345 LF		
0184	7301000000-E	1715	DIRECTIONAL DRILL (**********) (2, 2")	90 LF		
0185	7324000000-N	1716	JUNCTION BOX (STANDARD SIZE)	26 EA		
0186	7444000000-E	1725	INDUCTIVE LOOP SAWCUT	2,170 LF		
0187	7456000000-E	1726	LEAD-IN CABLE (**********) (14-2)	6,545 LF		
0188	7588000000-N	SP	METAL POLE WITH SINGLE MAST ARM	3 EA		
0189	7613000000-N	SP	SOIL TEST	3 EA		
0190	7614100000-E	SP	DRILLED PIER FOUNDATION	45 CY		
0191	7631000000-N	SP	MAST ARM WITH METAL POLE DESIGN	3 EA		
0192	7636000000-N	1745	SIGN FOR SIGNALS	2 EA		
0193	7642200000-N	1743	TYPE II PEDESTAL WITH FOUNDATION	5 EA		
0194	7684000000-N	1750	SIGNAL CABINET FOUNDATION	1 EA		
0195	7696000000-N	1751	CONTROLLERS WITH CABINET (**********) (2070E, BASE MOUNTED)	1 EA		
0196	7744000000-N	1751	DETECTOR CARD (TYPE 170)	17 EA		
0197	7901000000-N	1753	CABINET BASE EXTENDER	1 EA		
0198	7960000000-N	SP	METAL POLE FOUNDATION REMOVAL	2 EA		

County : Dare

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0199	7972000000-N	SP	METAL POLE REMOVAL	2 EA		

1321/Nov08/Q777190.06/D804390762000/E199 Total Amount Of Bid For Entire Project :

* C204688
41162.3.1
STP-1217(6)
DARE
R-5014

Advertised DBE Goal: 8.0%
DBE Participation Submitted: 8.03%

PROPOSAL LENGTH 4.204 MILES

TYPE OF WORK GRADING, DRAINAGE, PAVING, AND SAFETY IMPROVEMENTS.

LOCATION SR-1217 (COLINGTON RD) FROM DEAD END TO US-158 (CROATAN HWY) IN KILL DEVIL HILLS.

EST CONST PROGRESS.... FY-2022..31% OF BID
FY-2023..59% OF BID
FY-2024..10% OF BID

RPN 004 4 BIDDER(S) DBE GOAL 8.00 %

ESTIMATE 19,856,572.65

DATE AVAILABLE JAN 31 2022
INTER COMPLETION OCT 15 2023 COMPLETE ALL WORK EXCEPT PLANTING, REFORESTATION OR PERMANENT VEGETATION ESTABLISHMENT
FINAL COMPLETION APR 12 2024

	$ TOTALS	% DIFF
FSC II LLC DBA FRED SMITH COMPANY RALEIGH, NC	19,955,000.00	+0.5
JSMITH CIVIL LLC PIKEVILLE, NC	20,297,689.00	+2.2
BRANCH CIVIL INC ROANOKE, VA	21,960,585.00	+10.6
BARNHILL CONTRACTING CO ROCKY MOUNT, NC	23,705,843.16	+19.4

Vendor 1 of 4: FSC II LLC DBA FRED SMITH COMPANY (5072)
Call Order 004 (Proposal: C204688)

Bid Information

Proposal County: DARE

Vendor Address: P. O. BOX 31768
RALEIGH , NC , 27622

Signature Check: Thomas Tyree Johnson Jr.

Time Bid Received: December 21, 2021 01:10 PM

Amendment Count: 0

Bid Checksum: D03F2AFD11

Bid Total: $19,955,000.00

Items Total: $19,955,000.00

Time Total: $0.00

Bidding Errors:
None.

DBE Load Information

Letting ID: L211221
Letting Date: 12/21/2021
Call Order: 004
Contract ID: C204688
Project: STP-1217(6)STP-1217(6)STP-1217(6)STP-1217(6)
Bid Total: $19,955,000.00
DBE Goal: 8.00% ($1,596,400.00)

Vendor ID: 5072
Vendor Name: FSC II LLC dba Fred Smith Company
DBE Entered: 8.03% ($1,602,149.15)

Vendor ID	DBE Name	Is Supplier?	City/State	Goods/Service	Amount
12536	ARBOREX TREE SERVICES	False	2526 FERDINAND DRIVE , KNIGHTDALE, NC 27545	SubContractor	160,000.00
4247	SEAL BROTHERS CONTRACTING LLC	False	131 W. CLEVE STREET , MOUNT AIRY, NC 27030	SubContractor	171,825.00
10713	NORTHEASTERN LAWN CARE INC	False	117 TERRILLYNN DRIVE , ELIZABETH CITY, NC 27906	SubContractor	914,911.20
11852	SADLER LANDSCAPING LLC	False	953 BLACK ROCK ROAD , MERRY HILL, NC 27957	SubContractor	102,271.25
12044	LMJ PAVEMENT MARKING LLC	False	76 OAK FERN LANE , WILLOW SPRING, NC 27592	SubContractor	33,024.20
7672	COASTAL ENGINEERING & SURVEYING INC	False	P.O. BOX 1129 , KITTY HAWK, NC 27949	SubContractor	167,840.00
4761	TRAFFIC CONTROL SAFETY SERVICES, INC.	False	POST OFFICE BOX 24511 , WINSTON-SALEM, NC 27114	SubContractor	52,277.50

BondID: SNC21475303
Surety Registry Agency: Surety2000
Verified?: 1
Surety Agency: Birmingham Branch (Inactive)
Bond Execution Date: 12/20/2021 10:58:19 AM

Line Number	Item Number	Quantity	Unit	Unit Price	Extension Price
Section 0001 ROADWAY ITEMS					
0001	0000100000-N MOBILIZATION	1.000	LS	$997,500.0000	$997,500.00
0002	0000400000-N CONSTRUCTION SURVEYING	1.000	LS	$225,000.6500	$225,000.65
0003	0001000000-E CLEARING & GRUBBING .. ACRE(S)	1.000	LS	$1,430,000.0000	$1,430,000.00
0004	0008000000-E SUPPLEMENTARY CLEARING & GRUB-BING	1.000	ACR	$1.0000	$1.00
0005	0022000000-E UNCLASSIFIED EXCAVATION	7350.000	CY	$28.0000	$205,800.00
0006	0036000000-E UNDERCUT EXCAVATION	9180.000	CY	$27.0000	$247,860.00
0007	0106000000-E BORROW EXCAVATION	21150.000	CY	$25.0000	$528,750.00
0008	0134000000-E DRAINAGE DITCH EXCAVATION	40.000	CY	$40.0000	$1,600.00
0009	0156000000-E REMOVAL OF EXISTING ASPHALT PAVEMENT	8280.000	SY	$5.5000	$45,540.00
0010	0177000000-E BREAKING OF EXISTING ASPHALT PAVEMENT	410.000	SY	$2.2500	$922.50
0011	0195000000-E SELECT GRANULAR MATERIAL	9180.000	CY	$25.0000	$229,500.00
0012	0196000000-E GEOTEXTILE FOR SOIL STABILIZA-TION	24900.000	SY	$2.5000	$62,250.00
0013	0199000000-E TEMPORARY SHORING	343.000	SF	$100.0000	$34,300.00
0014	0222000000-E GEOTEXTILE FOR ROCK EMBANK- MENTS	600.000	SY	$3.2500	$1,950.00
0015	0223000000-E ROCK PLATING	1280.000	SY	$110.0000	$140,800.00
0016	0255000000-E GENERIC GRADING ITEM HAULING AND DISPOSAL OF PETRO- LEUM CONTAMINATED SOIL	100.000	TON	$95.0000	$9,500.00
0017	0318000000-E FOUNDATION CONDITIONING MATE- RIAL, MINOR STRUCTURES	1710.000	TON	$55.0000	$94,050.00
0018	0320000000-E FOUNDATION CONDITIONING GEO- TEXTILE	2600.000	SY	$1.5000	$3,900.00
0019	0448000000-E ****" RC PIPE CULVERTS, CLASS IV (12")	1332.000	LF	$68.0000	$90,576.00
0020	0448200000-E 15" RC PIPE CULVERTS, CLASS IV	2580.000	LF	$68.0000	$175,440.00
0021	0448300000-E 18" RC PIPE CULVERTS, CLASS IV	900.000	LF	$73.0000	$65,700.00
0022	0448400000-E 24" RC PIPE CULVERTS, CLASS IV	360.000	LF	$97.0000	$34,920.00
0023	0448500000-E 30" RC PIPE CULVERTS, CLASS IV	8.000	LF	$121.0000	$968.00

0024	0546000000-E	12.000	LF	$175.0000	$2,100.00
	" CAA PIPE CULVERTS, ***" THICK (18", 0.105")				
0025	0546000000-E	12.000	LF	$308.5000	$3,702.00
	" CAA PIPE CULVERTS, ***" THICK (36", 0.135")				
0026	0546000000-E	128.000	LF	$470.0000	$60,160.00
	" CAA PIPE CULVERTS, ***" THICK (42", 0.135")				
0027	0546000000-E	216.000	LF	$475.0000	$102,600.00
	" CAA PIPE CULVERTS, ***" THICK (48", 0.164")				
0028	0546000000-E	172.000	LF	$650.0000	$111,800.00
	" CAA PIPE CULVERTS, ***" THICK (60", 0.164")				
0029	0986000000-E	72.000	LF	$225.0000	$16,200.00
	GENERIC PIPE ITEM 35" X 24" CORRUGATED ALUMINUM PIPE ARCH, 0.105" THICK (12 GAUGE)				
0030	0992000000-E	6.000	EA	$51,500.0000	$309,000.00
	GENERIC PIPE ITEM ALUMINUM HEADWALL, 0.150" THICK (CONTRACTOR DESIGNED)				
0031	0995000000-E	2155.000	LF	$30.0000	$64,650.00
	PIPE REMOVAL				
0032	0996000000-N	6.000	EA	$800.0000	$4,800.00
	PIPE CLEAN OUT				
0033	1011000000-N	1.000	LS	$900,437.0000	$900,437.00
	FINE GRADING				
0034	1077000000-E	240.000	TON	$65.0000	$15,600.00
	#57 STONE				
0035	1099500000-E	5500.000	CY	$25.0000	$137,500.00
	SHALLOW UNDERCUT				
0036	1099700000-E	10945.000	TON	$52.0000	$569,140.00
	CLASS IV SUBGRADE STABILIZA- TION				
0037	1111000000-E	5000.000	TON	$40.0000	$200,000.00
	CLASS IV AGGREGATE STABILIZA- TION				
0038	1220000000-E	1625.000	TON	$80.0000	$130,000.00
	INCIDENTAL STONE BASE				
0039	1308000000-E	1130.000	SY	$14.0000	$15,820.00
	MILLING ASPHALT PAVEMENT, ***"TO ******" (0" TO 3")				
0040	1330000000-E	2500.000	SY	$18.0000	$45,000.00
	INCIDENTAL MILLING				
0041	1491000000-E	17580.000	TON	$110.0000	$1,933,800.00
	ASPHALT CONC BASE COURSE, TYPE B25.0C				
0042	1503000000-E	7900.000	TON	$100.0000	$790,000.00
	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C				
0043	1519000000-E	13470.000	TON	$95.0000	$1,279,650.00
	ASPHALT CONC SURFACE COURSE, TYPE S9.5B				
0044	1575000000-E	2075.000	TON	$550.0000	$1,141,250.00
	ASPHALT BINDER FOR PLANT MIX				
0045	1693000000-E	2320.000	TON	$155.0000	$359,600.00
	ASPHALT PLANT MIX, PAVEMENT REPAIR				
0046	2022000000-E	448.000	CY	$20.0000	$8,960.00
	SUBDRAIN EXCAVATION				
0047	2026000000-E	2000.000	SY	$2.5000	$5,000.00
	GEOTEXTILE FOR SUBSURFACE DRAINS				

0048	2036000000-E	336.000	CY	$60.0000	$20,160.00
	SUBDRAIN COARSE AGGREGATE				
0049	2044000000-E	2000.000	LF	$12.0000	$24,000.00
	6" PERFORATED SUBDRAIN PIPE				
0050	2070000000-N	4.000	EA	$450.0000	$1,800.00
	SUBDRAIN PIPE OUTLET				
0051	2077000000-E	24.000	LF	$25.0000	$600.00
	6" OUTLET PIPE				
0052	2253000000-E	4.060	CY	$800.0000	$3,248.00
	PIPE COLLARS				
0053	2286000000-N	36.000	EA	$2,600.0000	$93,600.00
	MASONRY DRAINAGE STRUCTURES				
0054	2364000000-N	26.000	EA	$650.0000	$16,900.00
	FRAME WITH TWO GRATES, STD 840.16				
0055	2366000000-N	4.000	EA	$675.0000	$2,700.00
	FRAME WITH TWO GRATES, STD 840.24				
0056	2367000000-N	2.000	EA	$675.0000	$1,350.00
	FRAME WITH TWO GRATES, STD 840.29				
0057	2374000000-N	1.000	EA	$725.0000	$725.00
	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)				
0058	2374000000-N	1.000	EA	$750.0000	$750.00
	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)				
0059	2374000000-N	1.000	EA	$750.0000	$750.00
	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)				
0060	2396000000-N	1.000	EA	$600.0000	$600.00
	FRAME WITH COVER, STD 840.54				
0061	2451000000-N	1.000	EA	$1,000.0000	$1,000.00
	CONCRETE TRANSITIONAL SECTION FOR DROP INLET				
0062	2549000000-E	440.000	LF	$29.0000	$12,760.00
	2'-6" CONCRETE CURB & GUTTER				
0063	2591000000-E	320.000	SY	$49.0000	$15,680.00
	4" CONCRETE SIDEWALK				
0064	2605000000-N	5.000	EA	$3,000.0000	$15,000.00
	CONCRETE CURB RAMPS				
0065	2612000000-E	2005.000	SY	$68.0000	$136,340.00
	6" CONCRETE DRIVEWAY				
0066	2655000000-E	100.000	SY	$64.5000	$6,450.00
	5" MONOLITHIC CONCRETE ISLANDS(KEYED IN)				
0067	2845000000-N	114.000	EA	$65.0000	$7,410.00
	ADJUSTMENT OF METER BOXES OR VALVE BOXES				
0068	3030000000-E	3525.000	LF	$28.0000	$98,700.00
	STEEL BEAM GUARDRAIL				
0069	3045000000-E	125.000	LF	$32.0000	$4,000.00
	STEEL BEAM GUARDRAIL, SHOP CURVED				
0070	3140000000-E	2.000	EA	$2,500.0000	$5,000.00
	25' CLEAR SPAN GUARDRAIL SEC- TIONS				
0071	3145000000-E	25.000	EA	$70.0000	$1,750.00
	EXTRA LENGTH GUARDRAIL POST (**' STEEL) (8')				
0072	3150000000-N	5.000	EA	$50.0000	$250.00

		ADDITIONAL GUARDRAIL POSTS			
0073	3180000000-N	2.000	EA	$2,800.0000	$5,600.00
		GUARDRAIL ANCHOR UNITS, TYPE ********** (III, SHOP CURVED)			
0074	3195000000-N	3.000	EA	$800.0000	$2,400.00
		GUARDRAIL END UNITS, TYPE AT-1			
0075	3287000000-N	11.000	EA	$3,750.0000	$41,250.00
		GUARDRAIL END UNITS, TYPE TL-3			
0076	3288000000-N	8.000	EA	$3,450.0000	$27,600.00
		GUARDRAIL END UNITS, TYPE TL-2			
0077	3360000000-E	2878.000	LF	$1.0000	$2,878.00
		REMOVE EXISTING GUARDRAIL			
0078	3628000000-E	60.000	TON	$103.0000	$6,180.00
		RIP RAP, CLASS I			
0079	3635000000-E	450.000	TON	$107.0000	$48,150.00
		RIP RAP, CLASS II			
0080	3642000000-E	220.000	TON	$100.0000	$22,000.00
		RIP RAP, CLASS A			
0081	3649000000-E	301.000	TON	$101.0000	$30,401.00
		RIP RAP, CLASS B			
0082	3656000000-E	1370.000	SY	$3.2500	$4,452.50
		GEOTEXTILE FOR DRAINAGE			
0083	3984000000-E	200.000	SF	$237.5000	$47,500.00
		GENERIC WALL ITEM TIMBER RETAINING WALL (# 1)			
0084	3984000000-E	600.000	SF	$121.0000	$72,600.00
		GENERIC WALL ITEM TIMBER RETAINING WALL (# 2)			
0085	4072000000-E	20.000	LF	$12.5000	$250.00
		SUPPORTS, 3-LB STEEL U-CHANNEL			
0086	4082000000-E	1400.000	LF	$11.5000	$16,100.00
		SUPPORTS, WOOD			
0087	4096000000-N	2.000	EA	$150.0000	$300.00
		SIGN ERECTION, TYPE D			
0088	4102000000-N	90.000	EA	$75.0000	$6,750.00
		SIGN ERECTION, TYPE E			
0089	4110000000-N	1.000	EA	$225.0000	$225.00
		SIGN ERECTION, TYPE *** (GROUND MOUNTED) (B)			
0090	4116100000-N	1.000	EA	$250.0000	$250.00
		SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (B)			
0091	4116100000-N	2.000	EA	$200.0000	$400.00
		SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (D)			
0092	4116100000-N	5.000	EA	$100.0000	$500.00
		SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (E)			
0093	4141000000-N	6.000	EA	$25.0000	$150.00
		DISPOSAL OF SUPPORT, WOOD			
0094	4158000000-N	73.000	EA	$25.0000	$1,825.00
		DISPOSAL OF SIGN SYSTEM, WOOD			
0095	4400000000-E	186.000	SF	$23.0000	$4,278.00
		WORK ZONE SIGNS (STATIONARY)			
0096	4405000000-E	384.000	SF	$23.0000	$8,832.00
		WORK ZONE SIGNS (PORTABLE)			

0097	4415000000-N	1.000	EA	$3,000.0000	$3,000.00
	FLASHING ARROW BOARD				
0098	4420000000-N	1.000	EA	$15,000.0000	$15,000.00
	PORTABLE CHANGEABLE MESSAGE SIGN				
0099	4430000000-N	150.000	EA	$47.0000	$7,050.00
	DRUMS				
0100	4435000000-N	100.000	EA	$25.0000	$2,500.00
	CONES				
0101	4445000000-E	300.000	LF	$28.0000	$8,400.00
	BARRICADES (TYPE III)				
0102	4455000000-N	1102.000	DAY	$900.0000	$991,800.00
	FLAGGER				
0103	4507000000-E	301.000	LF	$70.0000	$21,070.00
	WATER FILLED BARRIER				
0104	4510000000-N	240.000	HR	$60.0000	$14,400.00
	LAW ENFORCEMENT				
0105	4650000000-N	285.000	EA	$10.0000	$2,850.00
	TEMPORARY RAISED PAVEMENT MARKERS				
0106	4685000000-E	101491.000	LF	$0.6000	$60,894.60
	THERMOPLASTIC PAVEMENT MARKINGLINES (4", 90 MILS)				
0107	4695000000-E	1680.000	LF	$2.5000	$4,200.00
	THERMOPLASTIC PAVEMENT MARKINGLINES (8", 90 MILS)				
0108	4720000000-E	12.000	EA	$115.0000	$1,380.00
	THERMOPLASTIC PAVEMENT MARKINGCHARACTER (90 MILS)				
0109	4725000000-E	88.000	EA	$190.0000	$16,720.00
	THERMOPLASTIC PAVEMENT MARKINGSYMBOL (90 MILS)				
0110	4770000000-E	8000.000	LF	$2.5000	$20,000.00
	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)				
0111	4810000000-E	282775.000	LF	$0.1000	$28,277.50
	PAINT PAVEMENT MARKING LINES (4")				
0112	4820000000-E	1410.000	LF	$1.0000	$1,410.00
	PAINT PAVEMENT MARKING LINES (8")				
0113	4835000000-E	2286.000	LF	$3.0000	$6,858.00
	PAINT PAVEMENT MARKING LINES (24")				
0114	4840000000-N	36.000	EA	$45.0000	$1,620.00
	PAINT PAVEMENT MARKING CHARAC-TER				
0115	4845000000-N	93.000	EA	$45.0000	$4,185.00
	PAINT PAVEMENT MARKING SYMBOL				
0116	4850000000-E	8000.000	LF	$0.7500	$6,000.00
	REMOVAL OF PAVEMENT MARKING LINES (4")				
0117	4891000000-E	1800.000	LF	$11.0000	$19,800.00
	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)				
0118	4900000000-N	362.000	EA	$10.0000	$3,620.00
	PERMANENT RAISED PAVEMENT MARKERS				
0119	5325200000-E	50.000	LF	$70.0000	$3,500.00
	2" WATER LINE				
0120	5325400000-E	20.000	LF	$175.0000	$3,500.00
	4" WATER LINE				

0121	5325600000-E 6" WATER LINE	500.000	LF	$119.0000	$59,500.00
0122	5325800000-E 8" WATER LINE	90.000	LF	$409.0000	$36,810.00
0123	5326200000-E 12" WATER LINE	15500.000	LF	$150.0000	$2,325,000.00
0124	5329000000-E DUCTILE IRON WATER PIPE FITTINGS	54770.000	LB	$14.5000	$794,165.00
0125	5536000000-E 2" VALVE	4.000	EA	$1,700.0000	$6,800.00
0126	5538000000-E 4" VALVE	1.000	EA	$2,200.0000	$2,200.00
0127	5540000000-E 6" VALVE	23.000	EA	$2,000.0000	$46,000.00
0128	5546000000-E 8" VALVE	4.000	EA	$2,700.0000	$10,800.00
0129	5558000000-E 12" VALVE	30.000	EA	$4,950.0000	$148,500.00
0130	5589100000-E 1" AIR RELEASE VALVE	10.000	EA	$2,100.0000	$21,000.00
0131	5643000000-E **" WATER METER (1")	1.000	EA	$2,500.0000	$2,500.00
0132	5643100000-E 3/4" WATER METER	18.000	EA	$2,450.0000	$44,100.00
0133	5648000000-N RELOCATE WATER METER	8.000	EA	$1,800.0000	$14,400.00
0134	5649000000-N RECONNECT WATER METER	67.000	EA	$1,800.0000	$120,600.00
0135	5666000000-N FIRE HYDRANT	6.000	EA	$8,500.0000	$51,000.00
0136	5672000000-N RELOCATE FIRE HYDRANT	13.000	EA	$8,500.0000	$110,500.00
0137	5678600000-E 8" LINE STOP	1.000	EA	$21,000.0000	$21,000.00
0138	5709300000-E 6" FORCE MAIN SEWER	100.000	LF	$116.5000	$11,650.00
0139	5800000000-E ABANDON 6" UTILITY PIPE	900.000	LF	$18.0000	$16,200.00
0140	5801000000-E ABANDON 8" UTILITY PIPE	2510.000	LF	$20.0000	$50,200.00
0141	5804000000-E ABANDON 12" UTILITY PIPE	1270.000	LF	$25.0000	$31,750.00
0142	5815000000-N REMOVE WATER METER	18.000	EA	$500.0000	$9,000.00
0143	5815500000-N REMOVE FIRE HYDRANT	2.000	EA	$1,500.0000	$3,000.00
0144	5835700000-E 16" ENCASEMENT PIPE	330.000	LF	$475.0000	$156,750.00
0145	5888000000-E	100.000	LF	$175.0000	$17,500.00

	GENERIC UTILITY ITEM POLYETHYLENE ENCASEMENT WATER LINE				
0146	5894000000-E	50.000	CY	$400.0000	$20,000.00
	GENERIC UTILITY ITEM REINFORCED CONCRETE ENCASEMENT AND SUPPORTS				
0147	6000000000-E	40020.000	LF	$2.7500	$110,055.00
	TEMPORARY SILT FENCE				
0148	6006000000-E	375.000	TON	$68.0000	$25,500.00
	STONE FOR EROSION CONTROL, CLASS A				
0149	6009000000-E	730.000	TON	$68.0000	$49,640.00
	STONE FOR EROSION CONTROL, CLASS B				
0150	6012000000-E	535.000	TON	$45.0000	$24,075.00
	SEDIMENT CONTROL STONE				
0151	6015000000-E	7.500	ACR	$875.0000	$6,562.50
	TEMPORARY MULCHING				
0152	6018000000-E	500.000	LB	$4.0000	$2,000.00
	SEED FOR TEMPORARY SEEDING				
0153	6021000000-E	2.500	TON	$1,500.0000	$3,750.00
	FERTILIZER FOR TEMPORARY SEED-ING				
0154	6024000000-E	585.000	LF	$13.0000	$7,605.00
	TEMPORARY SLOPE DRAINS				
0155	6029000000-E	9400.000	LF	$2.2500	$21,150.00
	SAFETY FENCE				
0156	6030000000-E	970.000	CY	$5.0000	$4,850.00
	SILT EXCAVATION				
0157	6036000000-E	29800.000	SY	$1.5500	$46,190.00
	MATTING FOR EROSION CONTROL				
0158	6037000000-E	1680.000	SY	$3.7500	$6,300.00
	COIR FIBER MAT				
0159	6038000000-E	100.000	SY	$4.7500	$475.00
	PERMANENT SOIL REINFORCEMENT MAT				
0160	6042000000-E	1200.000	LF	$7.0000	$8,400.00
	1/4" HARDWARE CLOTH				
0161	6048000000-E	780.000	SY	$55.5000	$43,290.00
	FLOATING TURBIDITY CURTAIN				
0162	6071012000-E	3000.000	LF	$9.0000	$27,000.00
	COIR FIBER WATTLE				
0163	6071020000-E	400.000	LB	$9.0000	$3,600.00
	POLYACRYLAMIDE (PAM)				
0164	6071030000-E	145.000	LF	$8.0000	$1,160.00
	COIR FIBER BAFFLE				
0165	6084000000-E	9.000	ACR	$2,650.0000	$23,850.00
	SEEDING & MULCHING				
0166	6087000000-E	6.000	ACR	$300.0000	$1,800.00
	MOWING				
0167	6090000000-E	100.000	LB	$14.0000	$1,400.00
	SEED FOR REPAIR SEEDING				
0168	6093000000-E	0.250	TON	$1,000.0000	$250.00
	FERTILIZER FOR REPAIR SEEDING				
0169	6096000000-E	200.000	LB	$6.0000	$1,200.00
	SEED FOR SUPPLEMENTAL SEEDING				

0170	6108000000-E	5.750	TON	$945.0000	$5,433.75
	FERTILIZER TOPDRESSING				
0171	6111000000-E	620.000	LF	$365.0000	$226,300.00
	IMPERVIOUS DIKE				
0172	6114500000-N	10.000	MHR	$60.0000	$600.00
	SPECIALIZED HAND MOWING				
0173	6117000000-N	25.000	EA	$450.0000	$11,250.00
	RESPONSE FOR EROSION CONTROL				
0174	6117500000-N	8.000	EA	$1,000.0000	$8,000.00
	CONCRETE WASHOUT STRUCTURE				
0175	7048500000-E	5.000	EA	$900.0000	$4,500.00
	PEDESTRIAN SIGNAL HEAD (16", 1SECTION W/COUNTDOWN)				
0176	7060000000-E	2790.000	LF	$2.6000	$7,254.00
	SIGNAL CABLE				
0177	7108000000-E	2.000	EA	$710.0000	$1,420.00
	VEHICLE SIGNAL HEAD (12", 1 SECTION)				
0178	7120000000-E	6.000	EA	$1,050.0000	$6,300.00
	VEHICLE SIGNAL HEAD (12", 3 SECTION)				
0179	7132000000-E	1.000	EA	$1,250.0000	$1,250.00
	VEHICLE SIGNAL HEAD (12", 4 SECTION)				
0180	7144000000-E	2.000	EA	$1,560.0000	$3,120.00
	VEHICLE SIGNAL HEAD (12", 5 SECTION)				
0181	7300000000-E	1760.000	LF	$7.0000	$12,320.00
	UNPAVED TRENCHING (**********) (1, 2")				
0182	7300000000-E	39.000	LF	$14.0000	$546.00
	UNPAVED TRENCHING (**********) (2, 2")				
0183	7301000000-E	345.000	LF	$20.0000	$6,900.00
	DIRECTIONAL DRILL (**********) (1, 2")				
0184	7301000000-E	90.000	LF	$22.7000	$2,043.00
	DIRECTIONAL DRILL (**********) (2, 2")				
0185	7324000000-N	26.000	EA	$285.0000	$7,410.00
	JUNCTION BOX (STANDARD SIZE)				
0186	7444000000-E	2170.000	LF	$6.5000	$14,105.00
	INDUCTIVE LOOP SAWCUT				
0187	7456000000-E	6545.000	LF	$1.8000	$11,781.00
	LEAD-IN CABLE (**********) (14-2)				
0188	7588000000-N	3.000	EA	$22,141.0000	$66,423.00
	METAL POLE WITH SINGLE MAST ARM				
0189	7613000000-N	3.000	EA	$2,150.0000	$6,450.00
	SOIL TEST				
0190	7614100000-E	45.000	CY	$1,175.0000	$52,875.00
	DRILLED PIER FOUNDATION				
0191	7631000000-N	3.000	EA	$750.0000	$2,250.00
	MAST ARM WITH METAL POLE DE- SIGN				
0192	7636000000-N	2.000	EA	$535.0000	$1,070.00
	SIGN FOR SIGNALS				
0193	7642200000-N	5.000	EA	$2,150.0000	$10,750.00
	TYPE II PEDESTAL WITH FOUND- ATION				
0194	7684000000-N	1.000	EA	$850.0000	$850.00

	SIGNAL CABINET FOUNDATION				
0195	7696000000-N	1.000	EA	$19,000.0000	$19,000.00
	CONTROLLERS WITH CABINET (**********) (2070E, BASE MOUNTED)				
0196	7744000000-N	17.000	EA	$165.0000	$2,805.00
	DETECTOR CARD (TYPE 170)				
0197	7901000000-N	1.000	EA	$690.0000	$690.00
	CABINET BASE EXTENDER				
0198	7960000000-N	2.000	EA	$2,550.0000	$5,100.00
	METAL POLE FOUNDATION REMOVAL				
0199	7972000000-N	2.000	EA	$575.0000	$1,150.00
	METAL POLE REMOVAL				
Section 0001 Total					$19,955,000.00
Item Total					$19,955,000.00

ELECTRONIC BID SUBMISSION

By submitting this bid electronically, I hereby acknowledge that all requirements included in the hard copy proposal, addendum, amendments, plans, standard specifications, supplemental specifications and special provisions are part of the bid and contract. Further, I acknowledge that I have read, understand, accept, acknowledge and agree to comply with all statements in this electronic bid.

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NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

The prequalified bidder declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating N.C.G.S. §133-24 within the last three years, and that the prequalified bidder intends to do the work with his own bonafide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. §133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

DEBARMENT CERTIFICATION OF PREQUALIFIED BIDDER

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation that is file with the Department, or has become erroneous because of changed circumstances.

2. The terms covered transaction, debarred, suspended, ineligible, lower tier

covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.

3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.

4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal- Aid Provision titled Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR 1273) provided by the Department, without subsequent modification, in all lower tier covered transactions.

5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.

6. 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 provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder 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 by the Federal Government.

DEBARMENT CERTIFICATION

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. 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;

c. 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 b. of this certification; and

d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion and debarment certification will result in the prequalified bidder’s bid being considered non-responsive.

EXPLANATION:

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Award Limits on Multiple Projects

By answering YES to this statement, the bidder acknowleges that they are using the award limits on multiple projects? **Yes** ○**No** ◉

A bidder who desires to bid on more than one project on which bids are to be opened on the same date, and who also desires to avoid receiving an award of more projects than he is equipped to handle, may bid on any number of projects but may limit the total amount of work awarded to him on selected projects by completing the AWARD LIMITS ON MULTIPLE PROJECTS.

The Award Limits on Multiple Projects must be filled in on each project bid for which the Bidder desires protection.

It is the desire of the Bidder to be awarded contracts, the value of which

will not exceed a total of for those

projects indicated herein, for which bids will be opened on (MM/DD/YY)

The Award Limits shall apply to the following projects:

Contract Number
County

Contract Number
County

Contract Number
County

Contract Number
County

Contract Number
County

Contract Number
County

It is agreed that if I am (we are) the low Bidder(s) on indicated projects, the total value of which is more than the above stipulated award limits, the Board of Transportation will award me (us) projects from among those indicated

that have a total value not to exceed the award limit and will result in the lowest total bids to the Department of Transportation.

DBE List Summary

Project: STP-1217(6)
Bid Total: 19,955,000.00

Goal: 8.00% (1,596,400.00)
Total Entered: 8.03% (1,602,149.15)

Bidder ID: 5072
Business Name: FSC II LLC dba Fred Smith Company

ID	Name	Is Supplier?	Item Count	Amount	Is Complete?
12536	ARBOREX TREE SERVICES	False	1	160,000.00	True
4247	SEAL BROTHERS CONTRACTING LLC	False	6	171,825.00	True
10713	NORTHEASTERN LAWN CARE INC	False	6	914,911.20	True
11852	SADLER LANDSCAPING LLC	False	14	102,271.25	True
12044	LMJ PAVEMENT MARKING LLC	False	11	33,024.20	True
7672	COASTAL ENGINEERING & SURVEYING INC	False	1	167,840.00	True
4761	TRAFFIC CONTROL SAFETY SERVICES, INC.	False	8	52,277.50	True

Name: ARBOREX TREE SERVICES ID: 12536

Address: 2526 FERDINAND DRIVE , KNIGHTDALE, NC 27545

Used As: SubContractor DBE Items Total:$160,000.00

Items for ARBOREX TREE SERVICES

0001 ROADWAY ITEMS				
0003	0001000000-E CLEARING & GRUBBING .. ACRE(S)	1.000 LS	$160,000.0000	$160,000.00
Section 0001 Total				$160,000.00
Item Total				$160,000.00

Name: SEAL BROTHERS CONTRACTING LLC ID: 4247

Address: 131 W. CLEVE STREET , MOUNT AIRY, NC 27030

Used As: SubContractor DBE Items Total:$171,825.00

Items for SEAL BROTHERS CONTRACTING LLC

0001 ROADWAY ITEMS					
0147	6000000000-E	40020.000	LF	$2.7500	$110,055.00
	TEMPORARY SILT FENCE				
0155	6029000000-E	9400.000	LF	$2.1500	$20,210.00
	SAFETY FENCE				
0160	6042000000-E	1200.000	LF	$7.0000	$8,400.00
	1/4" HARDWARE CLOTH				
0162	6071012000-E	3000.000	LF	$9.0000	$27,000.00
	COIR FIBER WATTLE				
0164	6071030000-E	145.000	LF	$8.0000	$1,160.00
	COIR FIBER BAFFLE				
0173	6117000000-N	12.5	EA	$400.0000	$5,000.00
	RESPONSE FOR EROSION CONTROL				
Section 0001 Total					$171,825.00
Item Total					$171,825.00

Name: NORTHEASTERN LAWN CARE INC ID: 10713

Address: 117 TERRILLYNN DRIVE , ELIZABETH CITY, NC 27906

Used As: SubContractor DBE Items Total:$914,911.20

Items for NORTHEASTERN LAWN CARE INC

0001 ROADWAY ITEMS					
0006	0036000000-E UNDERCUT EXCAVATION	9180.000	CY	$17.4200	$159,915.60
0007	0106000000-E BORROW EXCAVATION	21150.000	CY	$18.0000	$380,700.00
0011	0195000000-E SELECT GRANULAR MATERIAL	9180.000	CY	$17.4200	$159,915.60
0041	1491000000-E ASPHALT CONC BASE COURSE, TYPE B25.0C Note: will haul for $90 per hour	6000	TON	$15.8800	$95,280.00
0042	1503000000-E ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C Note: will haul for $90 per ton	2000	TON	$15.8800	$31,760.00
0043	1519000000-E ASPHALT CONC SURFACE COURSE, TYPE S9.5B Note: will haul for $90 per hour	5500	TON	$15.8800	$87,340.00
Section 0001 Total					$914,911.20
Item Total					$914,911.20

Name: SADLER LANDSCAPING LLC ID: 11852

Address: 953 BLACK ROCK ROAD , MERRY HILL, NC 27957

Used As: SubContractor DBE Items Total:$102,271.25

Items for SADLER LANDSCAPING LLC

0001 ROADWAY ITEMS					
0001	0000100000-N MOBILIZATION	1.000	LS	$2,500.0000	$2,500.00
0151	6015000000-E TEMPORARY MULCHING	7.500	ACR	$875.0000	$6,562.50
0152	6018000000-E SEED FOR TEMPORARY SEEDING	500.000	LB	$3.9200	$1,960.00
0153	6021000000-E FERTILIZER FOR TEMPORARY SEED-ING	2.500	TON	$1,500.0000	$3,750.00
0157	6036000000-E MATTING FOR EROSION CONTROL	29800.000	SY	$1.5500	$46,190.00
0158	6037000000-E COIR FIBER MAT	1680.000	SY	$3.7500	$6,300.00
0159	6038000000-E PERMANENT SOIL REINFORCEMENT MAT	100.000	SY	$4.7500	$475.00
0165	6084000000-E SEEDING & MULCHING	9.000	ACR	$2,650.0000	$23,850.00
0166	6087000000-E MOWING	6.000	ACR	$300.0000	$1,800.00
0167	6090000000-E SEED FOR REPAIR SEEDING	100.000	LB	$14.0000	$1,400.00
0168	6093000000-E FERTILIZER FOR REPAIR SEEDING	0.250	TON	$1,000.0000	$250.00
0169	6096000000-E SEED FOR SUPPLEMENTAL SEEDING	200.000	LB	$6.0000	$1,200.00
0170	6108000000-E FERTILIZER TOPDRESSING	5.750	TON	$945.0000	$5,433.75
0172	6114500000-N SPECIALIZED HAND MOWING	10.000	MHR	$60.0000	$600.00
Section 0001 Total					$102,271.25
Item Total					$102,271.25

Name: LMJ PAVEMENT MARKING LLC ID: 12044

Address: 76 OAK FERN LANE , WILLOW SPRING, NC 27592

Used As: SubContractor DBE Items Total:$33,024.20

Items for LMJ PAVEMENT MARKING LLC

0001 ROADWAY ITEMS					
0001	0000100000-N MOBILIZATION	1.000	LS	$6,600.0000	$6,600.00
0085	4072000000-E SUPPORTS, 3-LB STEEL U-CHANNEL	20.000	LF	$12.3100	$246.20
0086	4082000000-E SUPPORTS, WOOD	1400.000	LF	$11.2700	$15,778.00
0087	4096000000-N SIGN ERECTION, TYPE D	2.000	EA	$150.0000	$300.00
0088	4102000000-N SIGN ERECTION, TYPE E	90.000	EA	$75.0000	$6,750.00
0089	4110000000-N SIGN ERECTION, TYPE *** (GROUND MOUNTED) (B)	1.000	EA	$225.0000	$225.00
0090	4116100000-N SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (B)	1.000	EA	$250.0000	$250.00
0091	4116100000-N SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (D)	2.000	EA	$200.0000	$400.00
0092	4116100000-N SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (E)	5.000	EA	$100.0000	$500.00
0093	4141000000-N DISPOSAL OF SUPPORT, WOOD	6.000	EA	$25.0000	$150.00
0094	4158000000-N DISPOSAL OF SIGN SYSTEM, WOOD	73.000	EA	$25.0000	$1,825.00
Section 0001 Total					$33,024.20
Item Total					$33,024.20

Name: COASTAL ENGINEERING & SURVEYING INC ID: 7672

Address: P.O. BOX 1129 , KITTY HAWK, NC 27949

Used As: SubContractor DBE Items Total:$167,840.00

Items for COASTAL ENGINEERING & SURVEYING INC

0001 ROADWAY ITEMS					
0002	0000400000-N CONSTRUCTION SURVEYING	1.000	LS	$167,840.0000	$167,840.00
Section 0001 Total					$167,840.00
Item Total					$167,840.00

Name: TRAFFIC CONTROL SAFETY SERVICES, INC. ID: 4761

Address: POST OFFICE BOX 24511 , WINSTON-SALEM, NC 27114

Used As: SubContractor DBE Items Total:$52,277.50

Items for TRAFFIC CONTROL SAFETY SERVICES, INC.

0001 ROADWAY ITEMS					
0095	4400000000-E WORK ZONE SIGNS (STATIONARY)	186.000	SF	$20.0000	$3,720.00
0096	4405000000-E WORK ZONE SIGNS (PORTABLE)	384.000	SF	$8.7500	$3,360.00
0097	4415000000-N FLASHING ARROW BOARD	1.000	EA	$2,500.0000	$2,500.00
0098	4420000000-N PORTABLE CHANGEABLE MESSAGE SIGN	1.000	EA	$10,800.0000	$10,800.00
0099	4430000000-N DRUMS	150.000	EA	$36.9500	$5,542.50
0100	4435000000-N CONES	100.000	EA	$20.0000	$2,000.00
0101	4445000000-E BARRICADES (TYPE III)	300.000	LF	$26.0000	$7,800.00
0103	4507000000-E WATER FILLED BARRIER	301.000	LF	$55.0000	$16,555.00
Section 0001 Total					$52,277.50
Item Total					$52,277.50

THIS PROPOSAL CONTAINS THE FOLLOWING ERRORS/WARNINGS (IF ANY)

This Bid contains 0 amendment files

Electronic Bid Submission

By submitting this bid electronically, I hereby acknowledge that all requirements included in the hard copy proposal, addendum, amendments, plans, standard specifications, supplemental specifications and special provisions are part of the bid and contract. Further, I acknowledge that I have read, understand, accept, acknowledge and agree to comply with all statements in this electronic bid.

I hereby certify that I have the authority to submit this bid.

Signature _____

Agency _____

Date _____

Signature _____

Agency _____

Date _____

Signature _____

Agency _____

Date _____

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
			ROADWAY ITEMS			
0001	0000100000-N	800	MOBILIZATION	Lump Sum LS	997,500.00	997,500.00
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum LS	225,000.65	225,000.65
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	Lump Sum LS	1,430,000.00	1,430,000.00
0004	0008000000-E	200	SUPPLEMENTARY CLEARING & GRUB-BING	1 ACR	1.00	1.00
0005	0022000000-E	225	UNCLASSIFIED EXCAVATION	7,350 CY	28.00	205,800.00
0006	0036000000-E	225	UNDERCUT EXCAVATION	9,180 CY	27.00	247,860.00
0007	0106000000-E	230	BORROW EXCAVATION	21,150 CY	25.00	528,750.00
0008	0134000000-E	240	DRAINAGE DITCH EXCAVATION	40 CY	40.00	1,600.00
0009	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	8,280 SY	5.50	45,540.00
0010	0177000000-E	250	BREAKING OF EXISTING ASPHALT PAVEMENT	410 SY	2.25	922.50
0011	0195000000-E	265	SELECT GRANULAR MATERIAL	9,180 CY	25.00	229,500.00
0012	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZA-TION	24,900 SY	2.50	62,250.00
0013	0199000000-E	SP	TEMPORARY SHORING	343 SF	100.00	34,300.00
0014	0222000000-E	SP	GEOTEXTILE FOR ROCK EMBANK-MENTS	600 SY	3.25	1,950.00
0015	0223000000-E	275	ROCK PLATING	1,280 SY	110.00	140,800.00
0016	0255000000-E	SP	GENERIC GRADING ITEM HAULING AND DISPOSAL OF PETRO-LEUM CONTAMINATED SOIL	100 TON	95.00	9,500.00
0017	0318000000-E	300	FOUNDATION CONDITIONING MATE-RIAL, MINOR STRUCTURES	1,710 TON	55.00	94,050.00
0018	0320000000-E	300	FOUNDATION CONDITIONING GEO-TEXTILE	2,600 SY	1.50	3,900.00

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0019	0448000000-E	310	****" RC PIPE CULVERTS, CLASS IV (12")	1,332 LF	68.00	90,576.00
0020	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	2,580 LF	68.00	175,440.00
0021	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	900 LF	73.00	65,700.00
0022	0448400000-E	310	24" RC PIPE CULVERTS, CLASS IV	360 LF	97.00	34,920.00
0023	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	8 LF	121.00	968.00
0024	0546000000-E	310	**" CAA PIPE CULVERTS, *****" THICK (18", 0.105")	12 LF	175.00	2,100.00
0025	0546000000-E	310	**" CAA PIPE CULVERTS, *****" THICK (36", 0.135")	12 LF	308.50	3,702.00
0026	0546000000-E	310	**" CAA PIPE CULVERTS, *****" THICK (42", 0.135")	128 LF	470.00	60,160.00
0027	0546000000-E	310	**" CAA PIPE CULVERTS, *****" THICK (48", 0.164")	216 LF	475.00	102,600.00
0028	0546000000-E	310	**" CAA PIPE CULVERTS, *****" THICK (60", 0.164")	172 LF	650.00	111,800.00
0029	0986000000-E	SP	GENERIC PIPE ITEM 35" X 24" CORRUGATED ALUMINUM PIPE ARCH, 0.105" THICK (12 GAUGE)	72 LF	225.00	16,200.00
0030	0992000000-E	SP	GENERIC PIPE ITEM ALUMINUM HEADWALL, 0.150" THICK (CONTRACTOR DESIGNED)	6 EA	51,500.00	309,000.00
0031	0995000000-E	340	PIPE REMOVAL	2,155 LF	30.00	64,650.00
0032	0996000000-N	350	PIPE CLEAN OUT	6 EA	800.00	4,800.00
0033	1011000000-N	500	FINE GRADING	Lump Sum LS	900,437.00	900,437.00
0034	1077000000-E	SP	#57 STONE	240 TON	65.00	15,600.00

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0035	1099500000-E	505	SHALLOW UNDERCUT	5,500 CY	25.00	137,500.00
0036	1099700000-E	505	CLASS IV SUBGRADE STABILIZA-TION	10,945 TON	52.00	569,140.00
0037	1111000000-E	SP	CLASS IV AGGREGATE STABILIZA-TION	5,000 TON	40.00	200,000.00
0038	1220000000-E	545	INCIDENTAL STONE BASE	1,625 TON	80.00	130,000.00
0039	1308000000-E	607	MILLING ASPHALT PAVEMENT, ***" TO *******" (0" TO 3")	1,130 SY	14.00	15,820.00
0040	1330000000-E	607	INCIDENTAL MILLING	2,500 SY	18.00	45,000.00
0041	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	17,580 TON	110.00	1,933,800.00
0042	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	7,900 TON	100.00	790,000.00
0043	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	13,470 TON	95.00	1,279,650.00
0044	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	2,075 TON	550.00	1,141,250.00
0045	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	2,320 TON	155.00	359,600.00
0046	2022000000-E	815	SUBDRAIN EXCAVATION	448 CY	20.00	8,960.00
0047	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	2,000 SY	2.50	5,000.00
0048	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	336 CY	60.00	20,160.00
0049	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	2,000 LF	12.00	24,000.00
0050	2070000000-N	815	SUBDRAIN PIPE OUTLET	4 EA	450.00	1,800.00
0051	2077000000-E	815	6" OUTLET PIPE	24 LF	25.00	600.00
0052	2253000000-E	840	PIPE COLLARS	4.06 CY	800.00	3,248.00
0053	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	36 EA	2,600.00	93,600.00

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0054	2364000000-N	840	FRAME WITH TWO GRATES, STD 840.16	26 EA	650.00	16,900.00
0055	2366000000-N	840	FRAME WITH TWO GRATES, STD 840.24	4 EA	675.00	2,700.00
0056	2367000000-N	840	FRAME WITH TWO GRATES, STD 840.29	2 EA	675.00	1,350.00
0057	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	1 EA	725.00	725.00
0058	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	1 EA	750.00	750.00
0059	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	1 EA	750.00	750.00
0060	2396000000-N	840	FRAME WITH COVER, STD 840.54	1 EA	600.00	600.00
0061	2451000000-N	852	CONCRETE TRANSITIONAL SECTION FOR DROP INLET	1 EA	1,000.00	1,000.00
0062	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	440 LF	29.00	12,760.00
0063	2591000000-E	848	4" CONCRETE SIDEWALK	320 SY	49.00	15,680.00
0064	2605000000-N	848	CONCRETE CURB RAMPS	5 EA	3,000.00	15,000.00
0065	2612000000-E	848	6" CONCRETE DRIVEWAY	2,005 SY	68.00	136,340.00
0066	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	100 SY	64.50	6,450.00
0067	2845000000-N	858	ADJUSTMENT OF METER BOXES OR VALVE BOXES	114 EA	65.00	7,410.00
0068	3030000000-E	862	STEEL BEAM GUARDRAIL	3,525 LF	28.00	98,700.00
0069	3045000000-E	862	STEEL BEAM GUARDRAIL, SHOP CURVED	125 LF	32.00	4,000.00
0070	3140000000-E	862	25' CLEAR SPAN GUARDRAIL SEC-TIONS	2 EA	2,500.00	5,000.00

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0071	3145000000-E	862	EXTRA LENGTH GUARDRAIL POST (**' STEEL) (8')	25 EA	70.00	1,750.00
0072	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	5 EA	50.00	250.00
0073	3180000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE ********** (III, SHOP CURVED)	2 EA	2,800.00	5,600.00
0074	3195000000-N	862	GUARDRAIL END UNITS, TYPE AT-1	3 EA	800.00	2,400.00
0075	3287000000-N	SP	GUARDRAIL END UNITS, TYPE TL-3	11 EA	3,750.00	41,250.00
0076	3288000000-N	SP	GUARDRAIL END UNITS, TYPE TL-2	8 EA	3,450.00	27,600.00
0077	3360000000-E	863	REMOVE EXISTING GUARDRAIL	2,878 LF	1.00	2,878.00
0078	3628000000-E	876	RIP RAP, CLASS I	60 TON	103.00	6,180.00
0079	3635000000-E	876	RIP RAP, CLASS II	450 TON	107.00	48,150.00
0080	3642000000-E	876	RIP RAP, CLASS A	220 TON	100.00	22,000.00
0081	3649000000-E	876	RIP RAP, CLASS B	301 TON	101.00	30,401.00
0082	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	1,370 SY	3.25	4,452.50
0083	3984000000-E	SP	GENERIC WALL ITEM TIMBER RETAINING WALL (# 1)	200 SF	237.50	47,500.00
0084	3984000000-E	SP	GENERIC WALL ITEM TIMBER RETAINING WALL (# 2)	600 SF	121.00	72,600.00
0085	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	20 LF	12.50	250.00
0086	4082000000-E	903	SUPPORTS, WOOD	1,400 LF	11.50	16,100.00
0087	4096000000-N	904	SIGN ERECTION, TYPE D	2 EA	150.00	300.00
0088	4102000000-N	904	SIGN ERECTION, TYPE E	90 EA	75.00	6,750.00
0089	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (B)	1 EA	225.00	225.00

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0090	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (B)	1 EA	250.00	250.00
0091	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (D)	2 EA	200.00	400.00
0092	4116100000-N	904	SIGN ERECTION, RELOCATE TYPE **** (GROUND MOUNTED) (E)	5 EA	100.00	500.00
0093	4141000000-N	907	DISPOSAL OF SUPPORT, WOOD	6 EA	25.00	150.00
0094	4158000000-N	907	DISPOSAL OF SIGN SYSTEM, WOOD	73 EA	25.00	1,825.00
0095	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	186 SF	23.00	4,278.00
0096	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	384 SF	23.00	8,832.00
0097	4415000000-N	1115	FLASHING ARROW BOARD	1 EA	3,000.00	3,000.00
0098	4420000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN	1 EA	15,000.00	15,000.00
0099	4430000000-N	1130	DRUMS	150 EA	47.00	7,050.00
0100	4435000000-N	1135	CONES	100 EA	25.00	2,500.00
0101	4445000000-E	1145	BARRICADES (TYPE III)	300 LF	28.00	8,400.00
0102	4455000000-N	1150	FLAGGER	1,102 DAY	900.00	991,800.00
0103	4507000000-E	1170	WATER FILLED BARRIER	301 LF	70.00	21,070.00
0104	4510000000-N	1190	LAW ENFORCEMENT	240 HR	60.00	14,400.00
0105	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	285 EA	10.00	2,850.00
0106	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	101,491 LF	0.60	60,894.60
0107	4695000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)	1,680 LF	2.50	4,200.00

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0108	4720000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)	12 EA	115.00	1,380.00
0109	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	88 EA	190.00	16,720.00
0110	4770000000-E	1205	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)	8,000 LF	2.50	20,000.00
0111	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	282,775 LF	0.10	28,277.50
0112	4820000000-E	1205	PAINT PAVEMENT MARKING LINES (8")	1,410 LF	1.00	1,410.00
0113	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	2,286 LF	3.00	6,858.00
0114	4840000000-N	1205	PAINT PAVEMENT MARKING CHARAC-TER	36 EA	45.00	1,620.00
0115	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	93 EA	45.00	4,185.00
0116	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	8,000 LF	0.75	6,000.00
0117	4891000000-E	1205	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	1,800 LF	11.00	19,800.00
0118	4900000000-N	1251	PERMANENT RAISED PAVEMENT MARKERS	362 EA	10.00	3,620.00
0119	5325200000-E	1510	2" WATER LINE	50 LF	70.00	3,500.00
0120	5325400000-E	1510	4" WATER LINE	20 LF	175.00	3,500.00
0121	5325600000-E	1510	6" WATER LINE	500 LF	119.00	59,500.00
0122	5325800000-E	1510	8" WATER LINE	90 LF	409.00	36,810.00
0123	5326200000-E	1510	12" WATER LINE	15,500 LF	150.00	2,325,000.00
0124	5329000000-E	1510	DUCTILE IRON WATER PIPE FITTINGS	54,770 LB	14.50	794,165.00
0125	5536000000-E	1515	2" VALVE	4 EA	1,700.00	6,800.00

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0126	5538000000-E	1515	4" VALVE	1 EA	2,200.00	2,200.00
0127	5540000000-E	1515	6" VALVE	23 EA	2,000.00	46,000.00
0128	5546000000-E	1515	8" VALVE	4 EA	2,700.00	10,800.00
0129	5558000000-E	1515	12" VALVE	30 EA	4,950.00	148,500.00
0130	5589100000-E	1515	1" AIR RELEASE VALVE	10 EA	2,100.00	21,000.00
0131	5643000000-E	1515	**" WATER METER (1")	1 EA	2,500.00	2,500.00
0132	5643100000-E	1515	3/4" WATER METER	18 EA	2,450.00	44,100.00
0133	5648000000-N	1515	RELOCATE WATER METER	8 EA	1,800.00	14,400.00
0134	5649000000-N	1515	RECONNECT WATER METER	67 EA	1,800.00	120,600.00
0135	5666000000-N	1515	FIRE HYDRANT	6 EA	8,500.00	51,000.00
0136	5672000000-N	1515	RELOCATE FIRE HYDRANT	13 EA	8,500.00	110,500.00
0137	5678600000-E	1515	8" LINE STOP	1 EA	21,000.00	21,000.00
0138	5709300000-E	1520	6" FORCE MAIN SEWER	100 LF	116.50	11,650.00
0139	5800000000-E	1530	ABANDON 6" UTILITY PIPE	900 LF	18.00	16,200.00
0140	5801000000-E	1530	ABANDON 8" UTILITY PIPE	2,510 LF	20.00	50,200.00
0141	5804000000-E	1530	ABANDON 12" UTILITY PIPE	1,270 LF	25.00	31,750.00
0142	5815000000-N	1530	REMOVE WATER METER	18 EA	500.00	9,000.00
0143	5815500000-N	1530	REMOVE FIRE HYDRANT	2 EA	1,500.00	3,000.00
0144	5835700000-E	1540	16" ENCASEMENT PIPE	330 LF	475.00	156,750.00
0145	5888000000-E	SP	GENERIC UTILITY ITEM POLYETHYLENE ENCASEMENT WATER LINE	100 LF	175.00	17,500.00

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0146	5894000000-E	SP	GENERIC UTILITY ITEM REINFORCED CONCRETE ENCASEMENT AND SUPPORTS	50 CY	400.00	20,000.00
0147	6000000000-E	1605	TEMPORARY SILT FENCE	40,020 LF	2.75	110,055.00
0148	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	375 TON	68.00	25,500.00
0149	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	730 TON	68.00	49,640.00
0150	6012000000-E	1610	SEDIMENT CONTROL STONE	535 TON	45.00	24,075.00
0151	6015000000-E	1615	TEMPORARY MULCHING	7.5 ACR	875.00	6,562.50
0152	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	500 LB	4.00	2,000.00
0153	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEED-ING	2.5 TON	1,500.00	3,750.00
0154	6024000000-E	1622	TEMPORARY SLOPE DRAINS	585 LF	13.00	7,605.00
0155	6029000000-E	SP	SAFETY FENCE	9,400 LF	2.25	21,150.00
0156	6030000000-E	1630	SILT EXCAVATION	970 CY	5.00	4,850.00
0157	6036000000-E	1631	MATTING FOR EROSION CONTROL	29,800 SY	1.55	46,190.00
0158	6037000000-E	SP	COIR FIBER MAT	1,680 SY	3.75	6,300.00
0159	6038000000-E	SP	PERMANENT SOIL REINFORCEMENT MAT	100 SY	4.75	475.00
0160	6042000000-E	1632	1/4" HARDWARE CLOTH	1,200 LF	7.00	8,400.00
0161	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	780 SY	55.50	43,290.00
0162	6071012000-E	SP	COIR FIBER WATTLE	3,000 LF	9.00	27,000.00
0163	6071020000-E	SP	POLYACRYLAMIDE (PAM)	400 LB	9.00	3,600.00
0164	6071030000-E	1640	COIR FIBER BAFFLE	145 LF	8.00	1,160.00
0165	6084000000-E	1660	SEEDING & MULCHING	9 ACR	2,650.00	23,850.00

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0166	6087000000-E	1660	MOWING	6 ACR	300.00	1,800.00
0167	6090000000-E	1661	SEED FOR REPAIR SEEDING	100 LB	14.00	1,400.00
0168	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	0.25 TON	1,000.00	250.00
0169	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	200 LB	6.00	1,200.00
0170	6108000000-E	1665	FERTILIZER TOPDRESSING	5.75 TON	945.00	5,433.75
0171	6111000000-E	SP	IMPERVIOUS DIKE	620 LF	365.00	226,300.00
0172	6114500000-N	1667	SPECIALIZED HAND MOWING	10 MHR	60.00	600.00
0173	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	25 EA	450.00	11,250.00
0174	6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	8 EA	1,000.00	8,000.00
0175	7048500000-E	1705	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	5 EA	900.00	4,500.00
0176	7060000000-E	1705	SIGNAL CABLE	2,790 LF	2.60	7,254.00
0177	7108000000-E	1705	VEHICLE SIGNAL HEAD (12", 1 SECTION)	2 EA	710.00	1,420.00
0178	7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	6 EA	1,050.00	6,300.00
0179	7132000000-E	1705	VEHICLE SIGNAL HEAD (12", 4 SECTION)	1 EA	1,250.00	1,250.00
0180	7144000000-E	1705	VEHICLE SIGNAL HEAD (12", 5 SECTION)	2 EA	1,560.00	3,120.00
0181	7300000000-E	1715	UNPAVED TRENCHING (**********) (1, 2")	1,760 LF	7.00	12,320.00
0182	7300000000-E	1715	UNPAVED TRENCHING (**********) (2, 2")	39 LF	14.00	546.00
0183	7301000000-E	1715	DIRECTIONAL DRILL (**********) (1, 2")	345 LF	20.00	6,900.00
0184	7301000000-E	1715	DIRECTIONAL DRILL (**********) (2, 2")	90 LF	22.70	2,043.00

Contract Item Sheets For C204688

Line #	ItemNumber	Sec #	Description	Quantity Unit	Unit Bid Price	Amount Bid
0185	7324000000-N	1716	JUNCTION BOX (STANDARD SIZE)	26 EA	285.00	7,410.00
0186	7444000000-E	1725	INDUCTIVE LOOP SAWCUT	2,170 LF	6.50	14,105.00
0187	7456000000-E	1726	LEAD-IN CABLE (**********) (14-2)	6,545 LF	1.80	11,781.00
0188	7588000000-N	SP	METAL POLE WITH SINGLE MAST ARM	3 EA	22,141.00	66,423.00
0189	7613000000-N	SP	SOIL TEST	3 EA	2,150.00	6,450.00
0190	7614100000-E	SP	DRILLED PIER FOUNDATION	45 CY	1,175.00	52,875.00
0191	7631000000-N	SP	MAST ARM WITH METAL POLE DE-SIGN	3 EA	750.00	2,250.00
0192	7636000000-N	1745	SIGN FOR SIGNALS	2 EA	535.00	1,070.00
0193	7642200000-N	1743	TYPE II PEDESTAL WITH FOUND-ATION	5 EA	2,150.00	10,750.00
0194	7684000000-N	1750	SIGNAL CABINET FOUNDATION	1 EA	850.00	850.00
0195	7696000000-N	1751	CONTROLLERS WITH CABINET (**********) (2070E, BASE MOUNTED)	1 EA	19,000.00	19,000.00
0196	7744000000-N	1751	DETECTOR CARD (TYPE 170)	17 EA	165.00	2,805.00
0197	7901000000-N	1753	CABINET BASE EXTENDER	1 EA	690.00	690.00
0198	7960000000-N	SP	METAL POLE FOUNDATION REMOVAL	2 EA	2,550.00	5,100.00
0199	7972000000-N	SP	METAL POLE REMOVAL	2 EA	575.00	1,150.00

TOTAL AMOUNT OF BID FOR ENTIRE PROJECT **$19,955,000.00**

Contract No. C204688

County Dare

Rev. 1-16-18

EXECUTION OF CONTRACT
NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION

LIMITED LIABILITY COMPANY

The Contractor declares (or certifies, verifies, or states) under penalty of perjuryunder the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with this Contract, that the Contractor has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the Contractor intends to do the work with its own bonafide employees or subcontractors and did not bid for the benefit of another contractor.

By submitting this Execution of Contract, Non-Collusion and Debarment Certification, the Contractor is certifying his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

FSC II, LLC dba Fred Smith Company

Full Name of Firm

701 Corporate Center Drive, Suite 101, Raleigh, NC 27607

Address as Prequalified

Carl E. Collie

Signature of Witness

Thomas T Johnson Jr

Signature of ~~Member/Manager~~/Authorized Agent

Select appropriate title

Carl E. Collie

Print or type Signer's name

Thomas T. Johnson, Jr.

Print or type Signer's Name

Contract No. C204688
County Dare

Rev. 1-16-18

DEBARMENT CERTIFICATION

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation filed with the Department, or has become erroneous because of changed circumstances.

2. The terms *covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal,* and *voluntarily excluded,* as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.

3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.

4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal-Aid Provision titled *Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR* 1273) provided by the Department, without subsequent modification, in all lower tier covered transactions.

5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.

6. 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 provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder 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 by the Federal Government.

Contract No. C204688
County Dare

Rev. 1-16-18

DEBARMENT CERTIFICATION

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. 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;

c. 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 b. of this certification; and

d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion and debarment certification will result in the prequalified bidder's bid being considered non-responsive.

☐ Check here if an explanation is attached to this certification.

Contract No. **C204688**

County (ies): **Dare**

ACCEPTED BY THE
DEPARTMENT OF TRANSPORTATION

DocuSigned by:
Ronald E. Davenport, Jr.
E81B6038A47A442...

Contract Officer

01/20/2022

Date

Execution of Contract and Bonds
Approved as to Form:

DocuSigned by:
Scott Beaver
55FE7B40AA93401...

Attorney General

01/20/2022

Date

Contract No. C204688
County Dare

Rev 5-17-11

CONTRACT PAYMENT BOND

Date of Payment Bond Execution	January 3, 2022
Name of Principal Contractor	FSC II, LLC dba Fred Smith Company
Name of Surety:	Western Surety Company and Liberty Mutual Insurance Company
Name of Contracting Body:	**North Carolina Department of Transportation**
	Raleigh, North Carolina
Amount of Bond:	$19,955,000.00
Contract ID No.:	C204688
County Name:	Dare

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Contracting Body, numbered as shown above and hereto attached:

NOW THEREFORE, if the principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Contract No. C204688
County
Date

Rev 5-17-11

CONTRACT PAYMENT BOND

Affix Seal of Surety Company

Western Surety Company and Liberty Mutual Insurance Company

Print or type Surety Company Name

By Renee Ellis

Print, stamp or type name of Attorney-in-Fact

Renee Ellis

Signature of Attorney-in-Fact

Signature of Witness

Abigail Foster

Print or type Signer's name

2601 Bell Road, Montgomery, Alabama 36117

Address of Attorney-in-Fact

Contract No. C204688
County Dare

Rev 5-17-11

CONTRACT PAYMENT BOND

LIMITED LIABILITY COMPANY

SIGNATURE OF CONTRACTOR (Principal)

Name of Contractor FSC II, LLC dba Fred Smith Company

Full name of Firm

701 Corporate Center Drive, Suite 101, Raleigh, NC 27607

Address as prequalified

FSC II, LLC dba Fred Smith Company
CORPORATE SEAL
NC Limited Liability Company

By: Thomas J Johnson Jr

Signature of ~~Member~~, ~~Manager~~, Authorized Agent

Select appropriate title

THOMAS J. JOHNSON, JR.

Print or type Signer's name

Contract No. C204688
County Dare

Rev 5-17-11

CONTRACT PERFORMANCE BOND

Date of Performance Bond Execution: January 3, 2022

Name of Principal Contractor: FSC II, LLC dba Fred Smith Company

Name of Surety: Western Surety Company and Liberty Mutual Insurance Company

Name of Contracting Body: **North Carolina Department of Transportation**

Raleigh, North Carolina

Amount of Bond: $19,955,000.00

Contract ID No.: C204688

County Name: Dare

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL CONTRACTOR (hereafter, PRINCIPAL) and SURETY above named, are held and firmly bound unto the above named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the Contracting Body, numbered as shown above and hereto attached:

NOW THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Contracting Body, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Contract No. C204688
County Dare

Rev 5-17-11

CONTRACT PERFORMANCE BOND

Affix Seal of Surety Company

Western Surety Company and Liberty Mutual Insurance Company

Print or type Surety Company Name

By Renee Ellis

Print, stamp or type name of Attorney-in-Fact

Signature of Attorney-in-Fact

Signature of Witness

Abigail Foster

Print or type Signer's name

2601 Bell Road, Montgomery, Alabama 36117

Address of Attorney-in-Fact

Contract No. C204688
County Dare

Rev 5-17-11

CONTRACT PERFORMANCE BOND

LIMITED LIABILITY COMPANY

SIGNATURE OF CONTRACTOR (Principal)

Name of Contractor FSC II, LLC dba Fred Smith Company

Full name of Firm

701 Corporate Center Drive, Suite 101, Raleigh, NC 27607

Address as prequalified

FSC II, LLC dba Fred Smith Company
CORPORATE SEAL
NC Limited Liability C

By: Thomas J Johnson Jr

Signature of ~~Member~~, ~~Manager~~, Authorized Agent
Select appropriate title

THOMAS J. JOHNSON, JR.

Print or type Signer's name

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Thomas J. Gentile, Billie Jo Sanders, Renee Ellis, Paul B Scott Jr., David J Durden, Milton A Kopf III, Individually

of Montgomery, AL, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 2nd day of June, 2021.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota
County of Minnehaha } ss

On this 2nd day of June, 2021, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
March 2, 2026

M. BENT
NOTARY PUBLIC
SOUTH DAKOTA

M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 3rd day of January, 2022.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8206786-016010

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Billie Jo Sanders; David J. Durden; Joshua Price; Milton A. Kopf; Paul B. Scott Jr.; Renee Ellis; Thomas J. Gentile

all of the city of Montgomery state of AL each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 10th day of November, 2021.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 10th day of November, 2021 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 3rd day of January, 2022

By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

LMS-12873 LMIC OCIC WAIC Multi Co 02/21

DocuSign

Certificate Of Completion

Envelope Id: 5481BD65E9E546B6AB87B85369D9A28A
Status: Completed
Subject: Dare, C204688
Source Envelope:
Document Pages: 343
Signatures: 2
Certificate Pages: 5
Initials: 0
AutoNav: Enabled
EnvelopeId Stamping: Disabled
Time Zone: (UTC-05:00) Eastern Time (US & Canada)

Envelope Originator:
Nancy L. Gay
1020 Birch Ridge Dr
Raleigh, NC 27610-4328
nlgay@ncdot.gov
IP Address: 199.90.35.12

Record Tracking

Status: Original
1/20/2022 10:40:56 AM
Security Appliance Status: Connected
Storage Appliance Status: Connected

Holder: Nancy L. Gay
nlgay@ncdot.gov
Pool: StateLocal
Pool: North Carolina Department of Transportation

Location: DocuSign
Location: DocuSign

Signer Events	Signature	Timestamp
Scott Beaver skbeaver@ncdoj.gov Security Level: Email, Account Authentication (None)	DocuSigned by: Scott Beaver 55FE7B40AA93401... Signature Adoption: Pre-selected Style Using IP Address: 24.163.51.70	Sent: 1/20/2022 11:34:11 AM Viewed: 1/20/2022 11:43:17 AM Signed: 1/20/2022 11:45:38 AM
Electronic Record and Signature Disclosure: Accepted: 1/20/2022 11:43:17 AM ID: c0f7a7bd-4f73-4a9a-b95f-8c61da227e76		
Ronald E. Davenport, Jr. rondavenport@ncdot.gov Contract Officer North Carolina Department of Transportation Security Level: Email, Account Authentication (None)	DocuSigned by: Ronald E. Davenport, Jr. F81B6038A47A442... Signature Adoption: Pre-selected Style Using IP Address: 172.74.24.136 Signed using mobile	Sent: 1/20/2022 11:46:41 AM Viewed: 1/20/2022 11:58:55 AM Signed: 1/20/2022 11:59:09 AM
Electronic Record and Signature Disclosure: Not Offered via DocuSign		

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp
bmckay@ncdoj.gov agodotcontractreview@ncdoj.gov North Carolina Department of Transportation Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 1/20/2022 11:34:12 AM

Carbon Copy Events	Status	Timestamp
Lori Strickland lastrickland@ncdot.gov Administrative Specialist I North Carolina Department of Transportation Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 1/20/2022 12:00:25 PM
Michelle Taylor mataylor@ncdot.gov North Carolina Department of Transportation Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 1/20/2022 12:00:26 PM Viewed: 1/20/2022 12:02:28 PM
Nancy L. Gay nlgay@ncdot.gov CC+Contract Standards and Development Unit Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 1/20/2022 12:00:27 PM Resent: 1/20/2022 12:00:31 PM Viewed: 1/20/2022 12:08:15 PM
Mike Gwyn wmgwyn@ncdot.gov Administration Officer I North Carolina Department of Transportation Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 1/20/2022 12:00:27 PM Viewed: 1/20/2022 12:16:42 PM
Malcom Bell mjbell1@ncdot.gov Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	COPIED	Sent: 1/20/2022 12:00:28 PM

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	1/20/2022 11:10:36 AM
Certified Delivered	Security Checked	1/20/2022 11:58:55 AM
Signing Complete	Security Checked	1/20/2022 11:59:09 AM
Completed	Security Checked	1/20/2022 12:00:28 PM

Payment Events	Status	Timestamps

Electronic Record and Signature Disclosure

CONSUMER DISCLOSURE

From time to time, North Carolina Department of Transportation (we, us or Company) may be required by law to provide to you certain written notices or disclosures. Described below are the terms and conditions for providing to you such notices and disclosures electronically through your DocuSign, Inc. (DocuSign) Express user account. Please read the information below carefully and thoroughly, and if you can access this information electronically to your satisfaction and agree to these terms and conditions, please confirm your agreement by clicking the æI agreeÆ button at the bottom of this document.

Getting paper copies

At any time, you may request from us a paper copy of any record provided or made available electronically to you by us. For such copies, as long as you are an authorized user of the DocuSign system you will have the ability to download and print any documents we send to you through your DocuSign user account for a limited period of time (usually 30 days) after such documents are first sent to you. After such time, if you wish for us to send you paper copies of any such documents from our office to you, you will be charged a $0.00 per-page fee. You may request delivery of such paper copies from us by following the procedure described below.

Withdrawing your consent

If you decide to receive notices and disclosures from us electronically, you may at any time change your mind and tell us that thereafter you want to receive required notices and disclosures only in paper format. How you must inform us of your decision to receive future notices and disclosure in paper format and withdraw your consent to receive notices and disclosures electronically is described below.

Consequences of changing your mind

If you elect to receive required notices and disclosures only in paper format, it will slow the speed at which we can complete certain steps in transactions with you and delivering services to you because we will need first to send the required notices or disclosures to you in paper format, and then wait until we receive back from you your acknowledgment of your receipt of such paper notices or disclosures. To indicate to us that you are changing your mind, you must withdraw your consent using the DocuSign ôWithdraw Consentö form on the signing page of your DocuSign account. This will indicate to us that you have withdrawn your consent to receive required notices and disclosures electronically from us and you will no longer be able to use your DocuSign Express user account to receive required notices and consents electronically from us or to sign electronically documents from us.

All notices and disclosures will be sent to you electronically

Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through your DocuSign user account all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures electronically from us.

How to contact North Carolina Department of Transportation:
You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:
To contact us by email send messages to: bledwards1@ncdot.gov

To advise North Carolina Department of Transportation of your new e-mail address
To let us know of a change in your e-mail address where we should send notices and disclosures electronically to you, you must send an email message to us at bledwards1@ncdot.gov and in the body of such request you must state: your previous e-mail address, your new e-mail address. We do not require any other information from you to change your email address..
In addition, you must notify DocuSign, Inc to arrange for your new email address to be reflected in your DocuSign account by following the process for changing e-mail in DocuSign.
To request paper copies from North Carolina Department of Transportation
To request delivery from us of paper copies of the notices and disclosures previously provided by us to you electronically, you must send us an e-mail to bledwards1@ncdot.gov and in the body of such request you must state your e-mail address, full name, US Postal address, and telephone number. We will bill you for any fees at that time, if any.
To withdraw your consent with North Carolina Department of Transportation
To inform us that you no longer want to receive future notices and disclosures in electronic format you may:

i. decline to sign a document from within your DocuSign account, and on the subsequent page, select the check-box indicating you wish to withdraw your consent, or you may;
ii. send us an e-mail to bledwards1@ncdot.gov and in the body of such request you must state your e-mail, full name, IS Postal Address, telephone number, and account number. We do not need any other information from you to withdraw consent.. The consequences of your withdrawing consent for online documents will be that transactions may take a longer time to process..

Required hardware and software

Operating Systems:	Windows2000¬ or WindowsXP¬
Browsers (for SENDERS):	Internet Explorer 6.0¬ or above
Browsers (for SIGNERS):	Internet Explorer 6.0¬, Mozilla FireFox 1.0, NetScape 7.2 (or above)
Email:	Access to a valid email account
Screen Resolution:	800 x 600 minimum
Enabled Security Settings:	ò Allow per session cookies ò Users accessing the internet behind a Proxy Server must enable HTTP 1.1 settings via proxy connection

** These minimum requirements are subject to change. If these requirements change, we will provide you with an email message at the email address we have on file for you at that time providing you with the revised hardware and software requirements, at which time you will have the right to withdraw your consent.
Acknowledging your access and consent to receive materials electronically
To confirm to us that you can access this information electronically, which will be similar to

other electronic notices and disclosures that we will provide to you, please verify that you were able to read this electronic disclosure and that you also were able to print on paper or electronically save this page for your future reference and access or that you were able to e-mail this disclosure and consent to an address where you will be able to print on paper or save it for your future reference and access. Further, if you consent to receiving notices and disclosures exclusively in electronic format on the terms and conditions described above, please let us know by clicking the æI agreeÆ button below.
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