



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

March 13, 2020

N.C. Division of Coastal Management
1638 Mail Service Center
Raleigh, NC 27699-1638

ATTN: Ms. Cathy Brittingham, NCDOT Coordinator

Subject: DCM Consistency for the proposed US 70 Havelock Bypass in Craven County. TIP No. R-1015. WBS 34360.1.2.

Dear Ms. Brittingham:

The purpose of this letter and information package is to provide information on modifications to our plans for the Havelock Bypass, now under construction. These changes may require a revision to the Division of Coastal Management's CAMA Consistency Determination for the project. This package includes supplemental information in this letter, revised permit drawings and a revised Division of Mitigation Services acceptance letter.

Wetland and Stream Impacts:

These changes reflect both roadway design changes and changes in accommodations for Duke Energy. Coordination with Duke Energy resulted in a reduction in the number of access points to their transmission lines, and a reduction in impacts.

- Detail sheets updated (permit drawings 2 & 3)
- Site 1 (permit sheets 17&18) added riprap in the excavation area due to riprap pads at two pipes. A driveway was added, which did increase the impacts from fill, but decreased the mechanized clearing and excavation. The permitted total (1.16 acre) did not change.
- Site 3 (permit sheets) impacts increased from 29.33 to 29.42 acre (a change of 0.09) due to driveway changes and an error in the previous calculation.
- Update to permit sheets 124 & 125. Changes were outside of impacted areas
- Update to permit sheets 130 & 131. Changes were outside of impacted areas
- Site 47, (permit sheets 142 & 143) pipe shortened to eliminate easement on property, HW added. "Temporary Impacts in Surface Water" reduced by 0.01 ac. "Existing Channel Impacts Temp." reduced by 10'.
- Site 21 (permit sheets 148 & 149) pipe outlet shifted. Fill increased, excavation decreased, no change to total impacts permitted for site (0.85 acre).
- Summary sheets are updated to reflect changes to impacts and date (permit sheets 165, 166 & 167). Permanent fill in wetlands is increased slightly from 98.66 to 98.75 acres. Mechanized clearing is reduced from 11.43 to 11.38 acres. Changes at Site 47 caused reductions in temporary surface water and temporary channel impacts.

- Additional sheets have been prepared for the underground utility which requires additional impacts in wetland Sites 1, 2 and 3. The permit drawings showed underground utilities through these sections, but with no splice pits or hand holes, which are required. These supplemental drawings were revised by Division 2 to show the permanent hand holes and temporary splice pits with the total impacts required. These totals are not included in the summary sheet prepared by Hydraulics Unit. Impacts shown on the supplemental permit drawings are as follows:
 - = NE-03, 400 s.f. for splice pits and 15 s.f. for hand holes
 - = NE-04, 500 s.f. for splice pits and 30 s.f. for hand holes
 - = NE-05, 600 s.f. for splice pits and 30 s.f. for hand holes
 - = Additional total impacts needed = 1,575 s.f. (0.036 acre) of handclearing for bore holes.

The net increase in permanent wetland impacts from these changes is approximately 0.04 acre. An updated mitigation acceptance is attached.

Buffer Impacts:

- Site 7 (buffer sheet 13) reduced Allowable Zone 1 impacts by 281 s.f. The pipe was shortened to eliminate easement on property, and a headwall added.
- Summary updated (buffer sheet 18 & 19). Allowable Zone 1 impacts are reduced from 42,810 s.f. to 42,529 s.f. due to the changes at Site 7.

Considering these minor changes, NCDOT believes the project still complies with the enforceable policies of North Carolina's approved management program and will be conducted in a manner consistent with the Coastal Area Management Act. A copy of this request and its distribution list will be posted on the NCDOT website at: <https://xfer.services.ncdot.gov/pdea/PermApps/>

If you have any questions or need additional information, please contact Gordon Cashin at (919) 707-6107 or gcashin@ncdot.gov.

Sincerely,

DocuSigned by:
Mack C. Rivenbark III
AAAD1248B309416...

for Philip S. Harris III, P.E., C.P.M., Unit Head
Environment Analysis Unit

cc: Mr. Stephen Lane, NCDCM

cc: NCDOT Permit Application Standard Distribution List

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH, NC 27699-1598

Telephone: (919) 707-6000
Fax: (919) 250-4224
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH, NC 27610



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

TIM BAUMGARTNER
Director

March 12, 2020

Mr. Philip S. Harris, P.E., CPM
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Subject: DMS Mitigation Acceptance Letter:

R-1015, US 70 – Havelock Bypass from North of Pine Grove to North of the Carteret County Line, Craven County

References: USACE 404 Individual Permit issued April 18, 2019 (USACE Action ID 1993-02466)

NCDWR 401 Water Quality Certification issued April 3, 2019, correction letter dated November 25, 2019 (NCDWR ID 2018-1598)

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the additional compensatory wetland mitigation for the subject project. Based on the information supplied by you on March 12, 2020, the impacts are located in CU 03020204 of the Neuse River basin in the Southern Outer Coastal Plain (SOCP) Eco-Region, and are as follows:

Table 1 – Additional Impacts (feet / acres)

Neuse 03020204 SOCP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0	0.04	0	0	0

*NOTE: Some of the stream impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

This additional impact and associated mitigation needs were not projected by the NCDOT in the 2020 impact data. DMS is currently providing stream, wetland, and buffer mitigation for the impacts associated with this project located in cataloging unit 03020204 of the Neuse River basin as required by the 404 and 401 permits issued in April 2019, as shown in the below table (in mitigation credits)



Mr. Harris
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March 12, 2020
Page Two

Table 2 – Current Permitted Impacts and Associated Mitigation Requirements provided by DMS (based on issued permits) and Revised Anticipated Impacts (based on mitigation request)

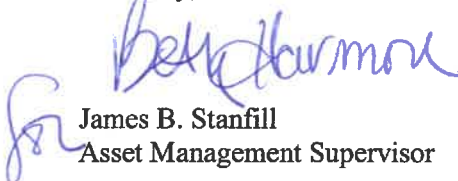
Impact Type	Total Permitted Impacts (feet / acre / sq ft)	Mitigation Provided by DMS per Issued Permits (Credits)	Additional Impact (for approval)	Revised Total Impacts*
Stream (warm)	2,870.0	5,740.0	0	2,870.0
Riparian Wetland	15.82	31.64	0	15.82
Non-Riparian Wetland	97.73	195.46	0.04	97.77
Riparian Buffer	89,824.0	210,473.0	0	89,824.0

*Some of the additional stream impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details. DMS will provide the amount of mitigation as determined by the regulatory agencies.

DMS commits to implementing additional sufficient compensatory wetland mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,


for James B. Stanfill
Asset Management Supervisor

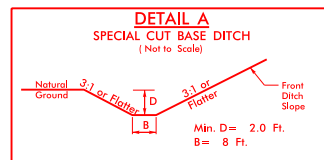
cc: Mr. Monte Matthews, USACE – Raleigh Regulatory Field Office
Ms. Amy Chapman, Division of Water Resources, Wetlands/401 Unit
File: R-1015 Additional



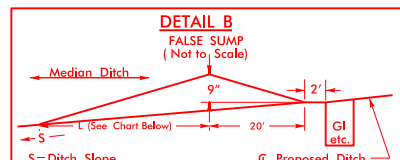
Details

PROJECT REFERENCE NO.	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

PERMIT DRAWING SHEET 2 OF 167



FROM STA. 32+60 TO STA. 64+74.20 -L- (LT)
 FROM STA. 0+00 TO STA. 7+00 -RP1B- (LT)
 FROM STA. 10+75 TO STA. 29+00 -RP1CD- (LT)

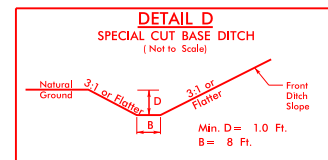


Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

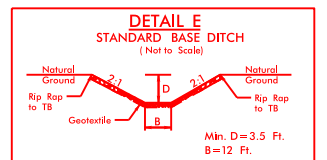
SEE PLANSHEETS FOR LOCATIONS



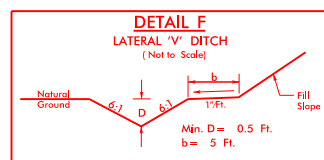
FROM STA. 79+50 TO STA. 86+87 -L- (LT)



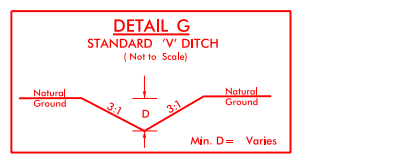
FROM STA. 74+26 TO STA. 76+06.30 -L- (RT)
 FROM STA. 0+00 TO STA. 7+50 -RP1CD- (RT)
 FROM STA. 330+40 TO STA. 336+35 -L- (LT)
 FROM STA. 330+17 TO STA. 335+00 -L- (RT)
 FROM STA. 356+50 TO STA. 361+50 -L- (LT)



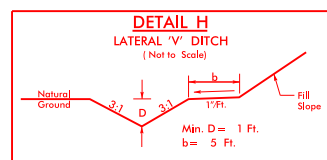
FROM -L- STA. 138+00 (LT) TO STA. 140+17 (RT)



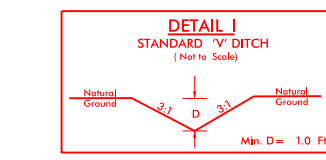
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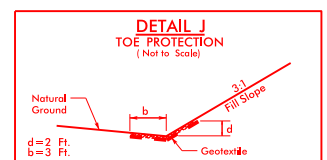
FROM -L- STA. 247+15 TO STA. 247+24 (RT)



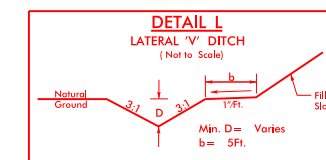
FROM STA. 165+23 TO STA. 169+60 -L- (RT)
 FROM STA. 219+40 TO STA. 223+55 -L- (LT)
 FROM STA. 363+57 TO STA. 364+30 -L- (RT)



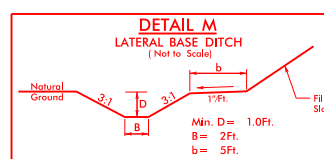
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 FROM STA. 350+75 (-213') TO STA. 351+46 (-182') -L- (LT)



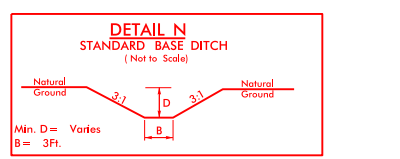
FROM STA. 214+74 TO STA. 218+15 -L- (RT)
 FROM STA. 16+60 TO STA. 19+49 -Y3RPB- (LT)
 FROM STA. 271+00 TO STA. 273+10 -L- (RT)
 FROM STA. 292+34 TO STA. 293+00 -L- (LT)
 FROM STA. 470+00 TO STA. 471+20 -L- (LT)
 FROM STA. 470+00 TO STA. 471+00 -L- (RT)



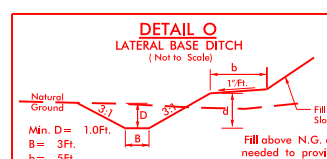
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 FROM STA. 267+67 TO STA. 271+88 -L- (RT)



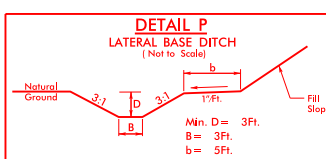
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 FROM STA. 250+09 TO STA. 253+89 -L- (RT)



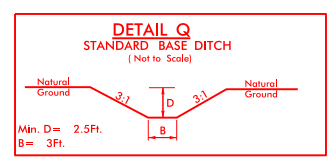
FROM STA. 50+30 TO STA. 51+45 -Y3- (RT)
 FROM STA. 52+76 TO STA. 53+50 -Y4- (LT)
 FROM STA. 56+71 TO STA. 56+83 -Y4- (RT)



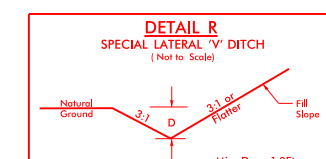
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FROM STA. 53+03 TO STA. 60+30 -Y3- (LT)

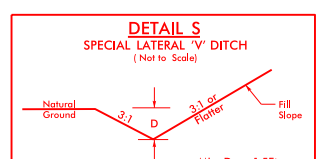


FROM STA. 52+60 TO STA. 52+92 -L- (LT)

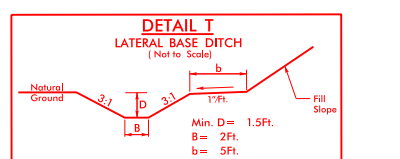


FROM STA. 68+34 TO STA. 73+89 -Y3- (LT)
 FROM STA. 246+22 TO STA. 248+00 -L- (LT)
 FROM STA. 58+00 TO STA. 59+25 -Y4- (RT)
 FROM STA. 469+33 TO STA. 470+27 -L- (LT)
 FROM STA. 529+15 TO STA. 530+50 -L- (LT)
 FROM STA. 531+50 TO STA. 533+55 -L- (LT)
 FROM STA. 526+50 TO STA. 530+14 -L- (RT)
 FROM STA. 32+80.84 TO STA. 33+38 -SERVRD- (RT)
 FROM STA. 35+17 TO STA. 37+10 -SERVRD- (RT)
 FROM STA. 91+56 TO STA. 92+95 -RP2A- (LT)
 FROM STA. 42+50 TO STA. 48+90 -SERVRD- (RT)
 FROM STA. 53+92 TO STA. 56+47 -SERVRD- (RT)
 FROM STA. 558+00 TO STA. 559+00 -L- (LT)
 FROM STA. 10+25 TO STA. 14+50 -SERVEXT- (LT)
 FROM STA. 53+92 TO STA. 56+47 -SERVRD- (RT)
 FROM STA. 552+25 TO STA. 556+50 -L- (LT)
 FROM STA. 16+00 TO STA. 17+80 -SERVEXT- (LT)

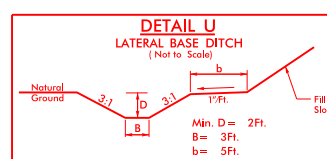
WETLAND AND SURFACE WATER IMPACTS PERMIT



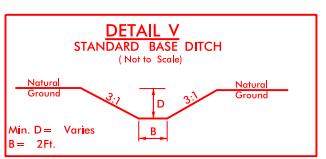
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 FROM STA. 65+00 TO STA. 67+86 -Y3- (LT)
 FROM STA. 63+00 TO STA. 65+86 -RP2AC- (RT)
 FROM STA. 53+50 TO STA. 58+30 -RP2AC- (RT)
 FROM STA. 37+45 TO STA. 42+50 -SERVRD- (RT)
 FROM STA. 48+90 TO STA. 53+92 -SERVRD- (RT)



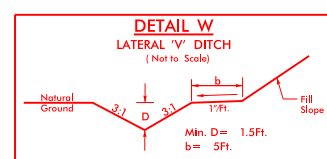
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 FROM STA. 37+00 TO STA. 43+34 -Y4- (LT)
 FROM STA. 38+00 TO STA. 43+50 -Y4- (RT)
 FROM STA. 10+52 TO STA. 12+00 -Y4DR- (LT)
 FROM STA. 45+26 TO STA. 49+73 -Y4- (RT)
 FROM STA. 48+30 TO STA. 49+74 -Y4- (RT)



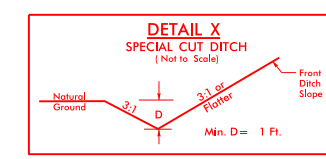
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 FROM STA. 47+50 TO STA. 51+00 -Y3- (LT)



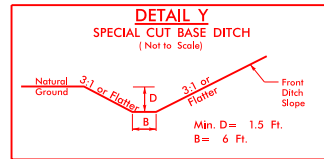
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 FROM STA. 10+20 TO STA. 10+71 -Y3- (LT)
 FROM STA. 379+47 TO STA. 380+98.5 -L- (RT)



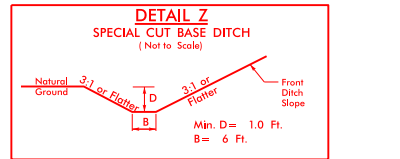
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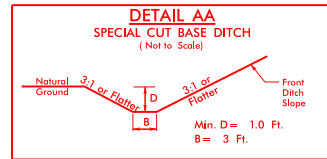
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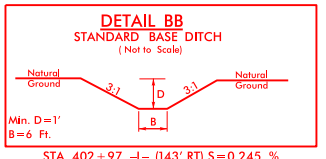
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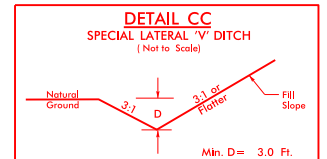
FROM STA. 313+00 TO STA. 319+50 -L- (LT)
 FROM STA. 329+67 TO STA. 330+40 -L- (LT)
 FROM STA. 361+50 TO STA. 372+10 -L- (LT)



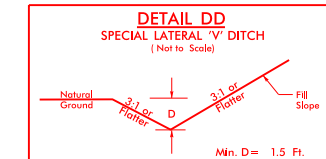
FROM STA. 342+60 TO STA. 345+56 -L- (RT)
 FROM STA. 352+35 TO STA. 356+50 -L- (LT)



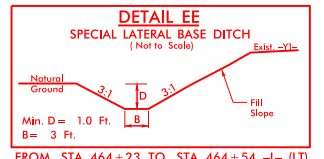
STA. 402+97 -L- (143' RT) S=0.245 %
 STA. 403+42 -L- (120' RT) S=0.213 %
 STA. 21+17 -RP2CD- (133' RT) S=0.200 %



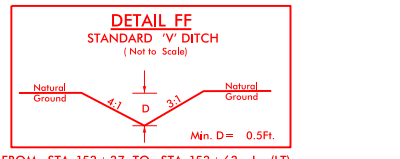
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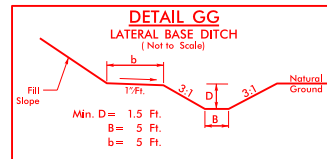
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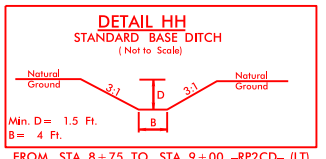
FROM STA. 464+23 TO STA. 464+54 -L- (LT)
 FROM STA. 464+83 TO STA. 465+29 -L- (LT)



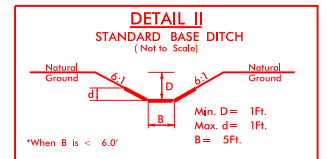
FROM STA. 153+37 TO STA. 153+63 -L- (LT)
 FROM STA. 486+30 TO STA. 486+76 -L- (LT)
 FROM STA. 21+18 (137') TO STA. 22+52 (117.3') -RP2CD- (RT)



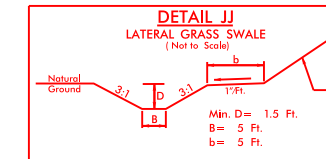
FROM STA. 71+92 TO STA. 74+75 -RP2AC- (RT)
 FROM STA. 519+38 TO STA. 520+10 -L- (LT)



FROM STA. 8+75 TO STA. 9+00 -RP2CD- (LT)



FROM STA. 512+94 TO STA. 514+35 -L- (RT)



FROM STA. 509+37 TO STA. 517+00 -L- (LT)

REVISIONS

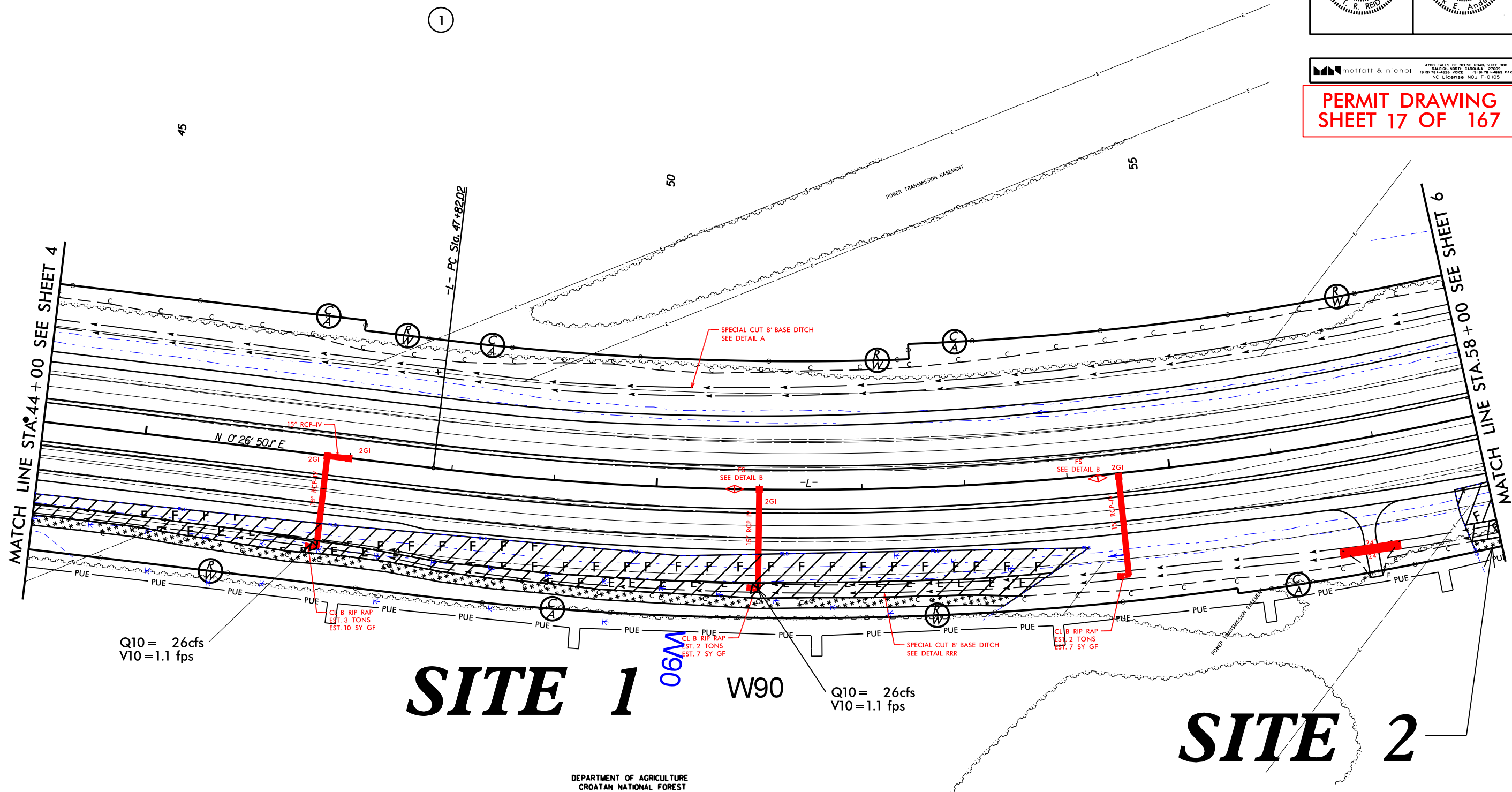
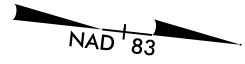
8/17/99

PROJECT REFERENCE NO. R-1015	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 015869 T. A. REID	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 BOOK E.A. ADDRESS

4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
919/781-4625 VOICE 919/781-4625 FAX
NC LICENSE NO. F-0105

**PERMIT DRAWING
SHEET 17 OF 167**

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST



MATCH LINE STA. 44+00 SEE SHEET 4

MATCH LINE STA. 58+00 SEE SHEET 6

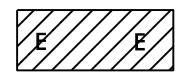
Q10 = 26cfs
V10 = 1.1 fps

Q10 = 26cfs
V10 = 1.1 fps

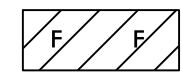
SITE 1

SITE 2

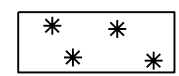
DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST



DENOTES EXCAVATION
IN WETLAND



DENOTES FILL IN
WETLAND



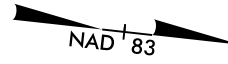
DENOTES MECHANIZED
CLEARING

REVISIONS
11/13/2018 - PARCEL 1 - ADDITIONAL PUE ON PARCEL 1 FROM -L- STA. 44+00 RT TO STA. 58+00 RT
- REVISED EXISTING R/W LINE

8/17/99

SYSTEMS DESIGN

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

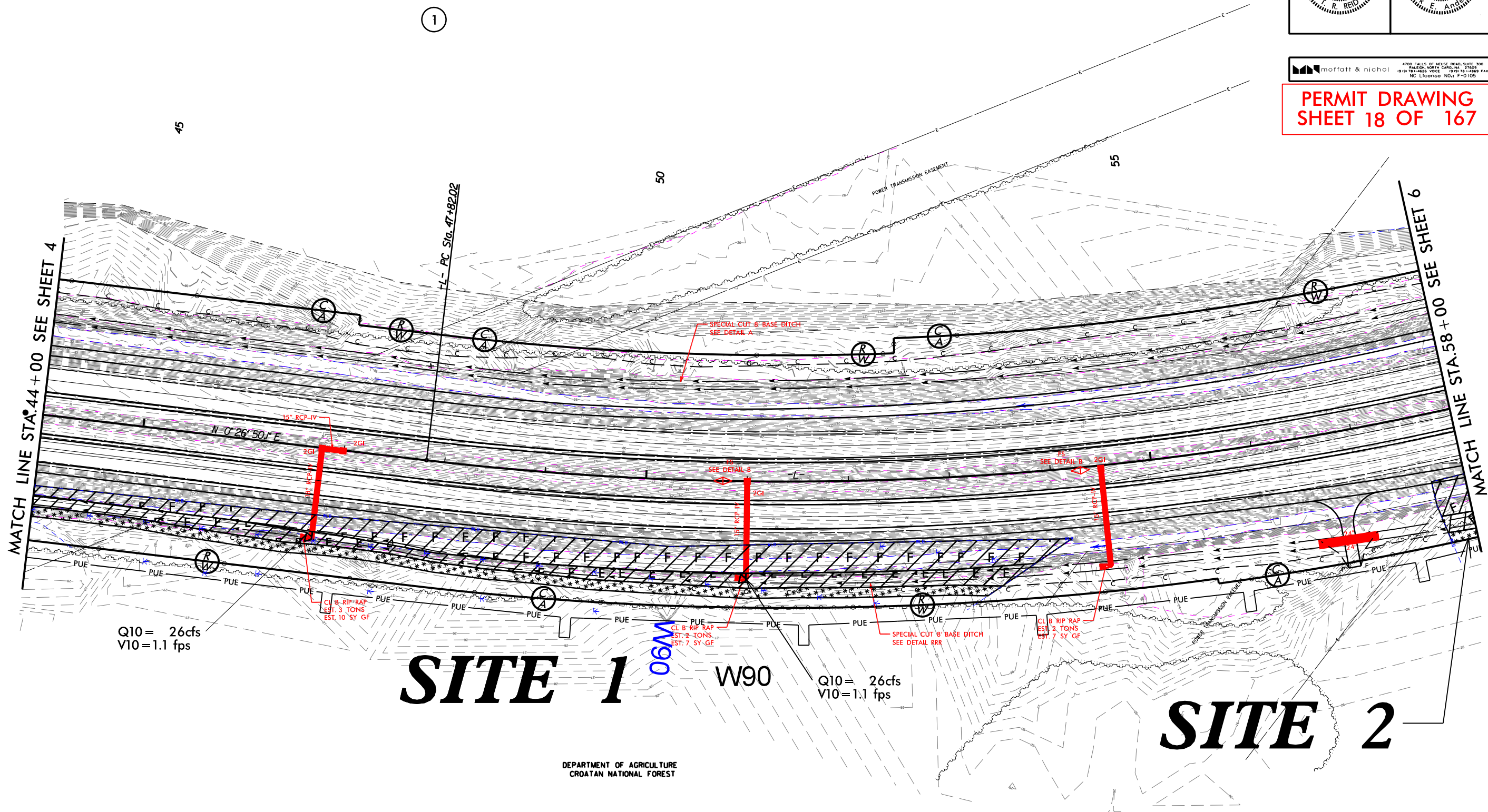


PROJECT REFERENCE NO. R-1015	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 015869 T. R. REID	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 BOOK E. A. ANDERSON

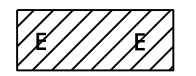
moffatt & nichol
4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
919/781-4625 VOICE 919/781-4625 FAX
NC LICENSE NO. F-0105

**PERMIT DRAWING
SHEET 18 OF 167**

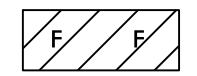
REVISIONS
11/13/2018 - PARCEL 1 - ADDITIONAL PUE ON PARCEL 1 FROM -L- STA. 44+00 RT TO STA. 58+00 RT
- REVISED EXISTING R/W LINE



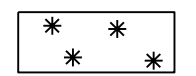
DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST



DENOTES EXCAVATION
IN WETLAND



DENOTES FILL IN
WETLAND



DENOTES MECHANIZED
CLEARING

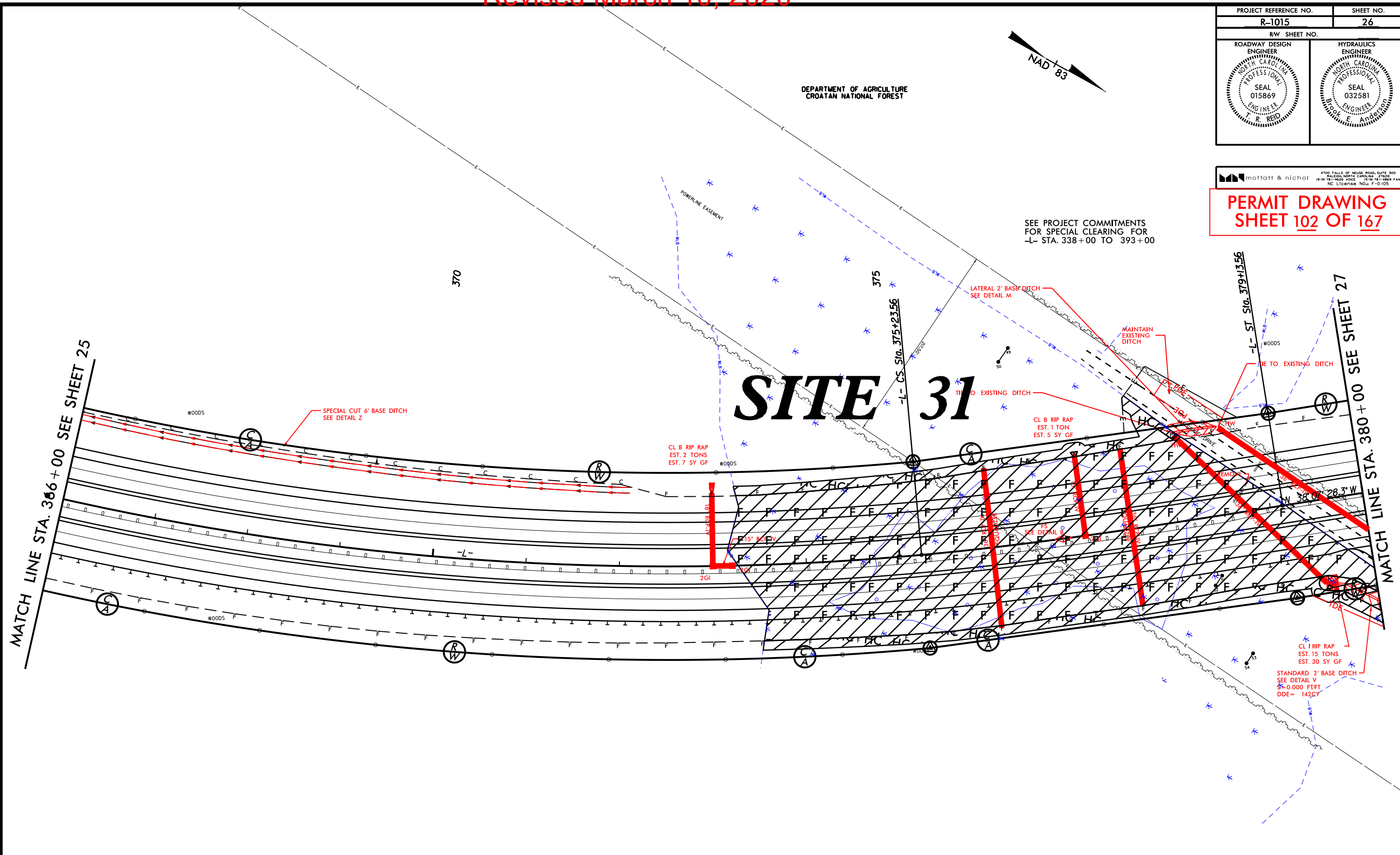
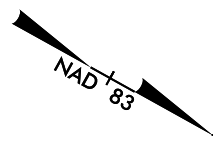
PROJECT REFERENCE NO. R-1015	SHEET NO. 26
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 015869 T. R. REID	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 BOOK ENGINEER

moffatt & nichol
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RALEIGH, NORTH CAROLINA 27609
919.781.4625 VOICE 919.781.4625 FAX
NC LICENSE NO. F-0105

PERMIT DRAWING
SHEET 102 OF 167

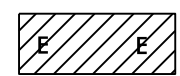
SEE PROJECT COMMITMENTS FOR SPECIAL CLEARING FOR -L- STA. 338+00 TO 393+00

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST



7/13/2018 - PARCEL 2 - ELIMINATED POE STATION -L- 369+50 TO 369+50 RT
 PARCEL 2 - ELIMINATED POE STATION -L- 370+05 TO 377+70 RT
 PARCEL 2 - ADDED POE STATION -L- 379+30 TO 380+00 RT
 PARCEL 2 - CHANGED IDE TO POE AND REVISED AREA STATION -L- 378+35 TO 378+66 LT
 PARCEL 2 - REVISED ICE AREA STATION -L- 377+58 TO 378+80 LT

2/26/2020
mgberry
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DENOTES EXCAVATION IN WETLAND



DENOTES HAND CLEARING



DENOTES FILL IN WETLAND



SEE SHEETS 62 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

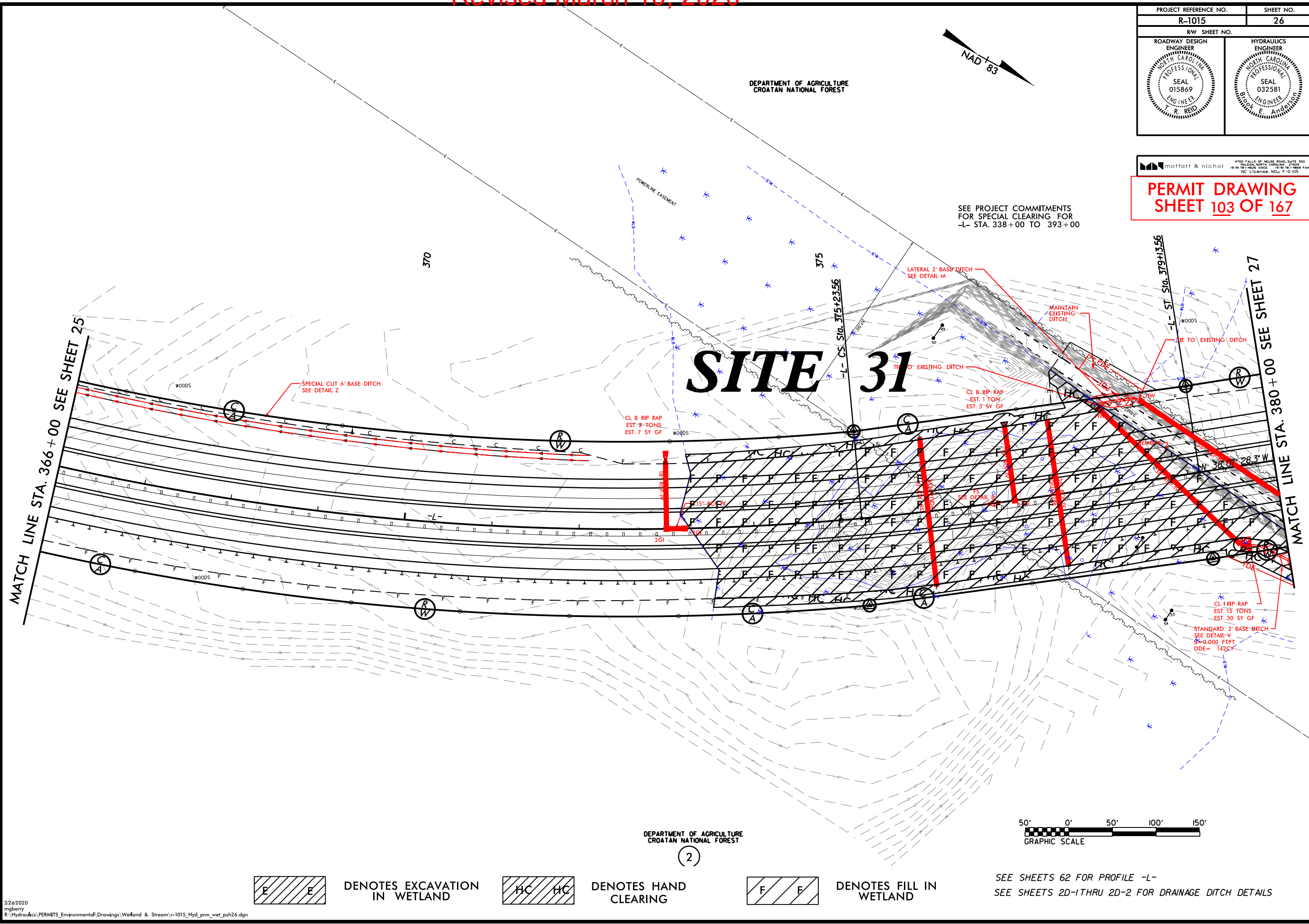
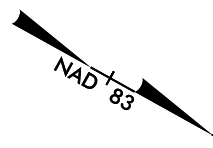
PROJECT REFERENCE NO. R-1015	SHEET NO. 26
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 015869 T. R. REID	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 E. ANDERSON

moffatt & nichol
4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
919/781-4626 VOICE 919/781-1868 FAX
NC LICENSE NO. F-0105

PERMIT DRAWING
SHEET 103 OF 167

SEE PROJECT COMMITMENTS FOR SPECIAL CLEARING FOR -L- STA. 338+00 TO 393+00

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST



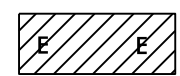
7/13/2018 --
 REVISIONS
 PARCEL 2 -- ELIMINATED POE STATION -L- 369+50 TO 369+50 RT
 PARCEL 2 -- ELIMINATED TCE STATION -L- 370+05 TO 371+70 RT
 PARCEL 2 -- ADDED TCE STATION -L- 379+30 TO 380+00 RT
 PARCEL 2 -- CHANGED TCE TO POE AND REVISED AREA STATION -L- 378+35 TO 378+66 LT
 PARCEL 2 -- REVISED TCE AREA STATION -L- 377+58 TO 378+80 LT

MATCH LINE STA. 366+00 SEE SHEET 25

MATCH LINE STA. 380+00 SEE SHEET 27

SITE 31

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST



DENOTES EXCAVATION IN WETLAND



DENOTES HAND CLEARING



DENOTES FILL IN WETLAND

SEE SHEETS 62 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

PROJECT REFERENCE NO. R-1015	SHEET NO. 33
RW SHEET NO.	
ROADWAY DESIGN ENGINEER T. R. REID SEAL 015869 NORTH CAROLINA PROFESSIONAL ENGINEER	HYDRAULICS ENGINEER T. R. REID SEAL 032581 NORTH CAROLINA PROFESSIONAL ENGINEER

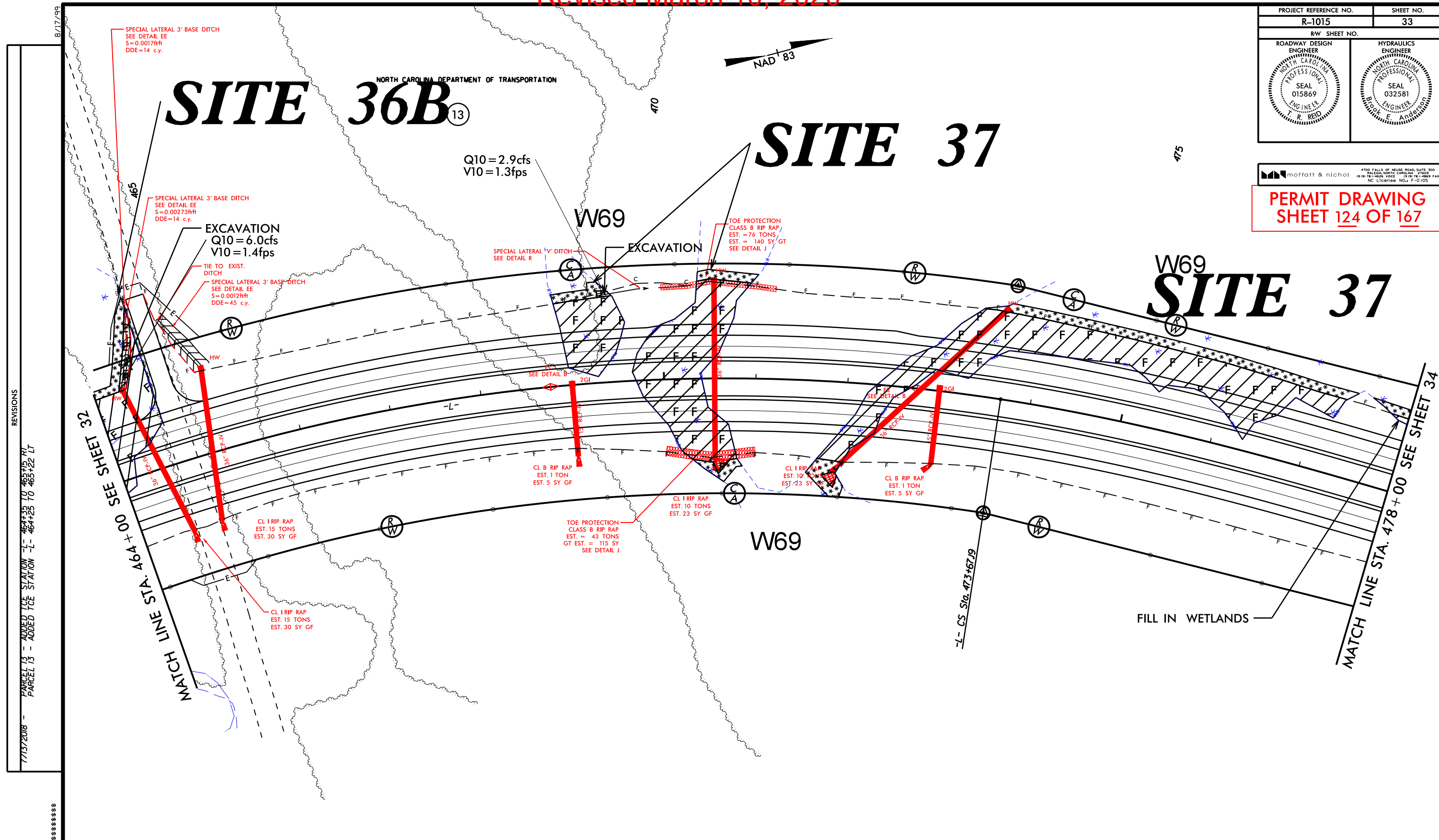
4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
919/781-4626 VOICE 919/781-4625 FAX
NC LICENSE NO. F-0105

PERMIT DRAWING
SHEET 124 OF 167

SITE 36B

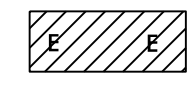
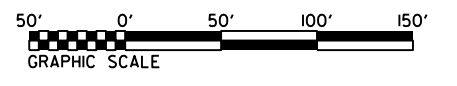
SITE 37

SITE 37

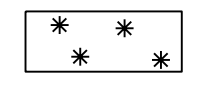


REVISIONS
7/13/2018 - PARCEL 13 - ADDED TCE STATION -L- 464+35 TO 465+15 RI
PARCEL 13 - ADDED TCE STATION -L- 464+25 TO 465+22 LT

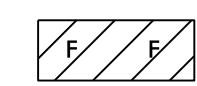
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION



DENOTES EXCAVATION IN WETLAND



DENOTES MECHANIZED CLEARING



SEE SHEET 65 FOR PROFILE -L-
DENOTES SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS
WETLAND

2/25/2020
mgberry
R:\Hydraulics\PERMITS_Environmental\Drawings\Wetland & Stream\1015_Hyd_perm_wat_psh33.dgn

PROJECT REFERENCE NO. R-1015	SHEET NO. 33
RW SHEET NO.	
ROADWAY DESIGN ENGINEER T. REID SEAL 015869	HYDRAULICS ENGINEER E. ANDERSON SEAL 032581

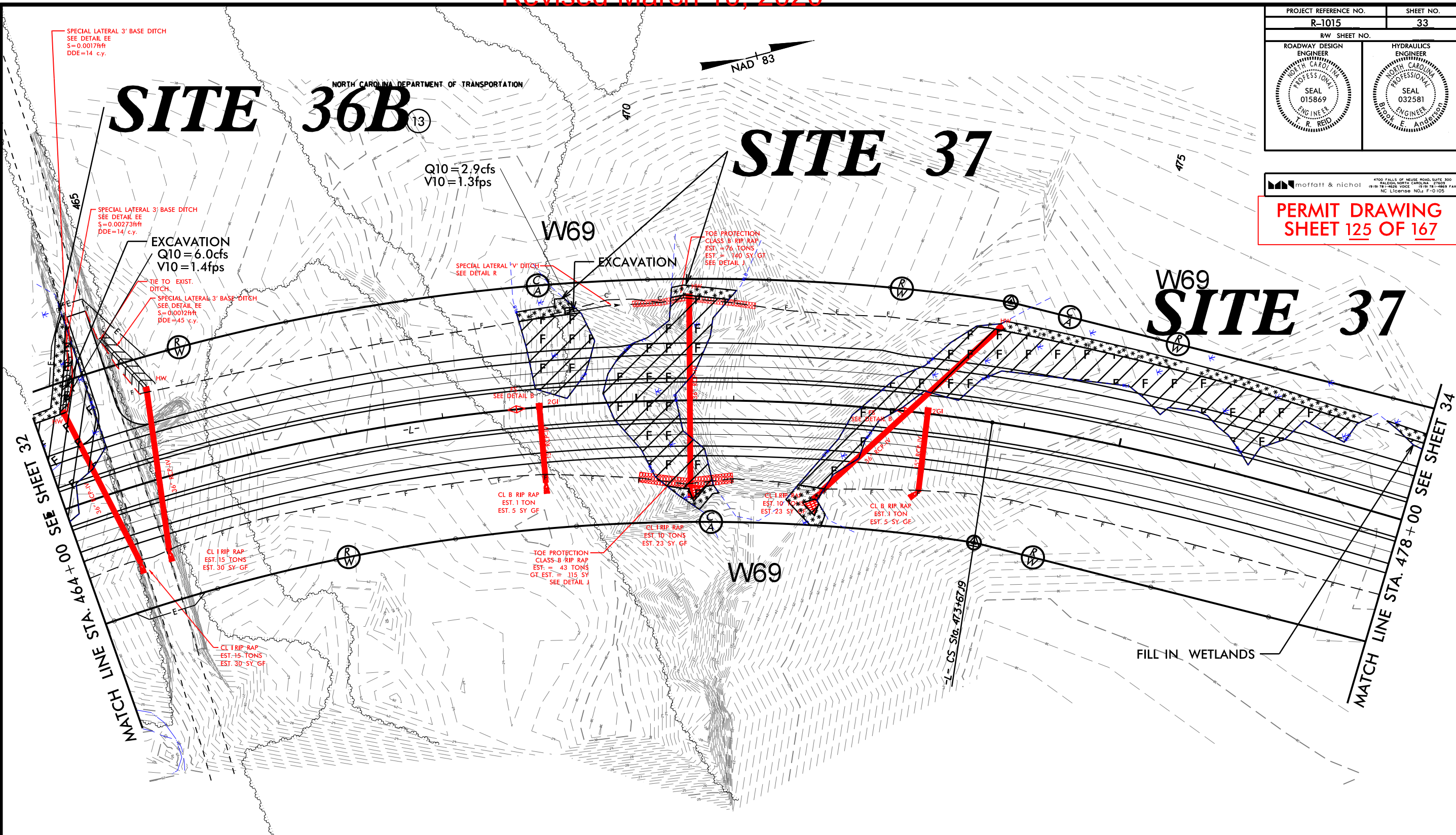
4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
919.781.4626 VOICE 919.781.4625 FAX
NC LICENSE NO. F-0105

PERMIT DRAWING
SHEET 125 OF 167

SITE 36B

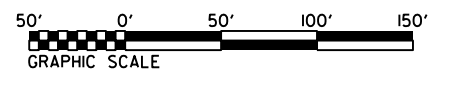
SITE 37

SITE 37



REVISIONS
7/13/2018 - PARCEL 13 - ADDED TCE STATION -L- 464+35 TO 465+15 RI
PARCEL 13 - ADDED TCE STATION -L- 464+25 TO 465+22 LT

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

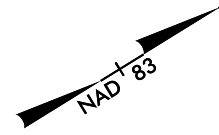


	DENOTES EXCAVATION IN WETLAND		DENOTES MECHANIZED CLEARING		DENOTES FILL IN WETLAND
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SEE SHEET 65 FOR PROFILE -L-
SEE SHEETS 120-1 THRU 122-2 FOR DRAINAGE DITCH DETAILS

2/25/2020
mgberry
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DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST



PROJECT REFERENCE NO. R-1015	SHEET NO. 35
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 015869 T. R. REID	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 B. R. ANDERSON

4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
919-781-4625 VOICE 919-781-4625 FAX
NC LICENSE NO. F-0105

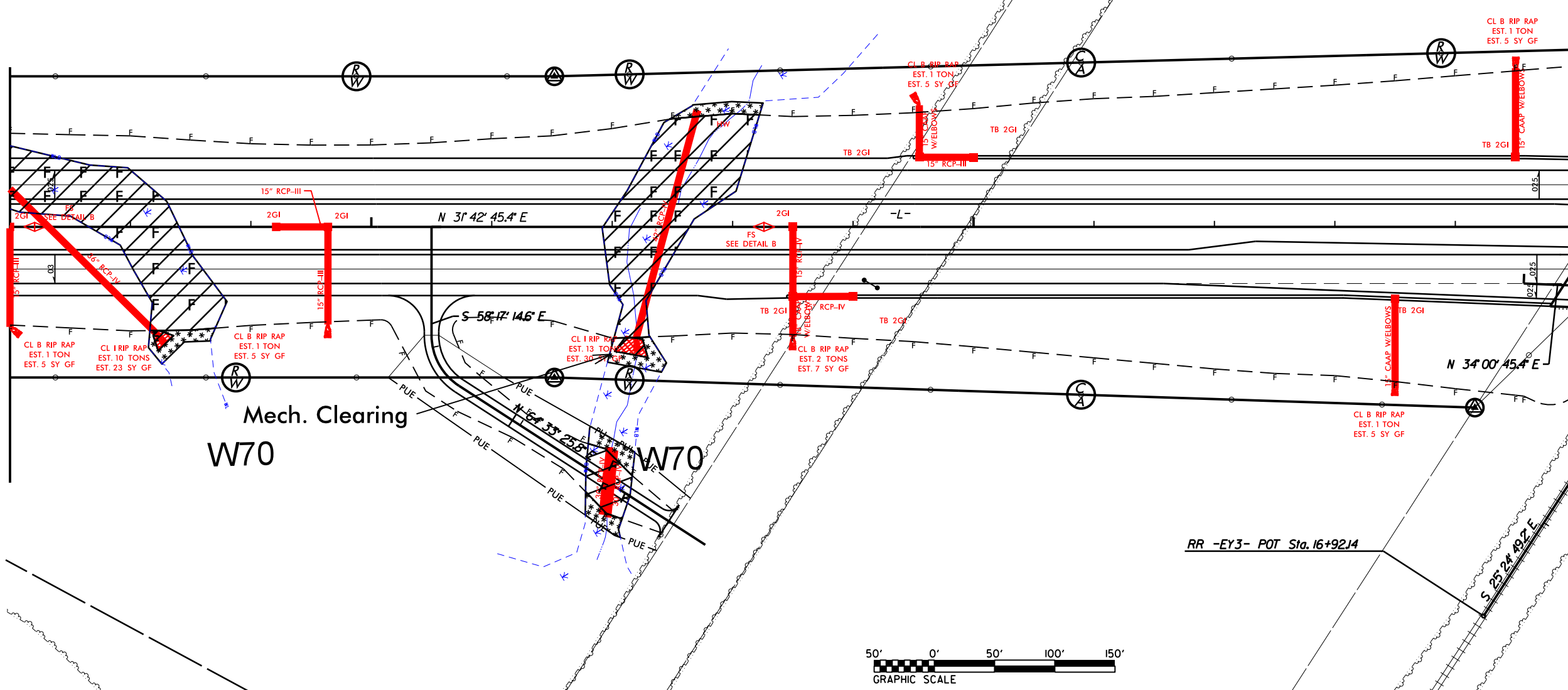
PERMIT DRAWING
SHEET 130 OF 167

SITE 38A

SITE 38B

MATCH LINE STA. 492 + 00 SEE SHEET 34

MATCH LINE STA. 505 + 00 SEE SHEET 36



REVISIONS
7/13/2018 - PARCEL 2 - CHANGED TCE TO PUE AND REVISED AREA STATION -L- 495+14 TO 496+10 RT



DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

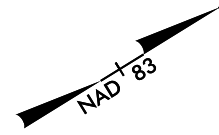
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

* * * DENOTES MECHANIZED CLEARING

F F DENOTES FILL IN WETLAND

SEE SHEET 66 FOR PROFILE -L-
SEE SHEET 85 FOR PROFILE -RP2C-
SEE SHEET 91 FOR PROFILE -G12-
SEE SHEET 2B-9 SKETCH 5 FOR PROPOSED BRIDGE SKETCH
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST



PROJECT REFERENCE NO. R-1015	SHEET NO. 35
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 015869 T. R. REID	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 B. R. ANDERSON

4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
919-781-4625 VOICE 919-781-4625 FAX
NC LICENSE NO. F-0105

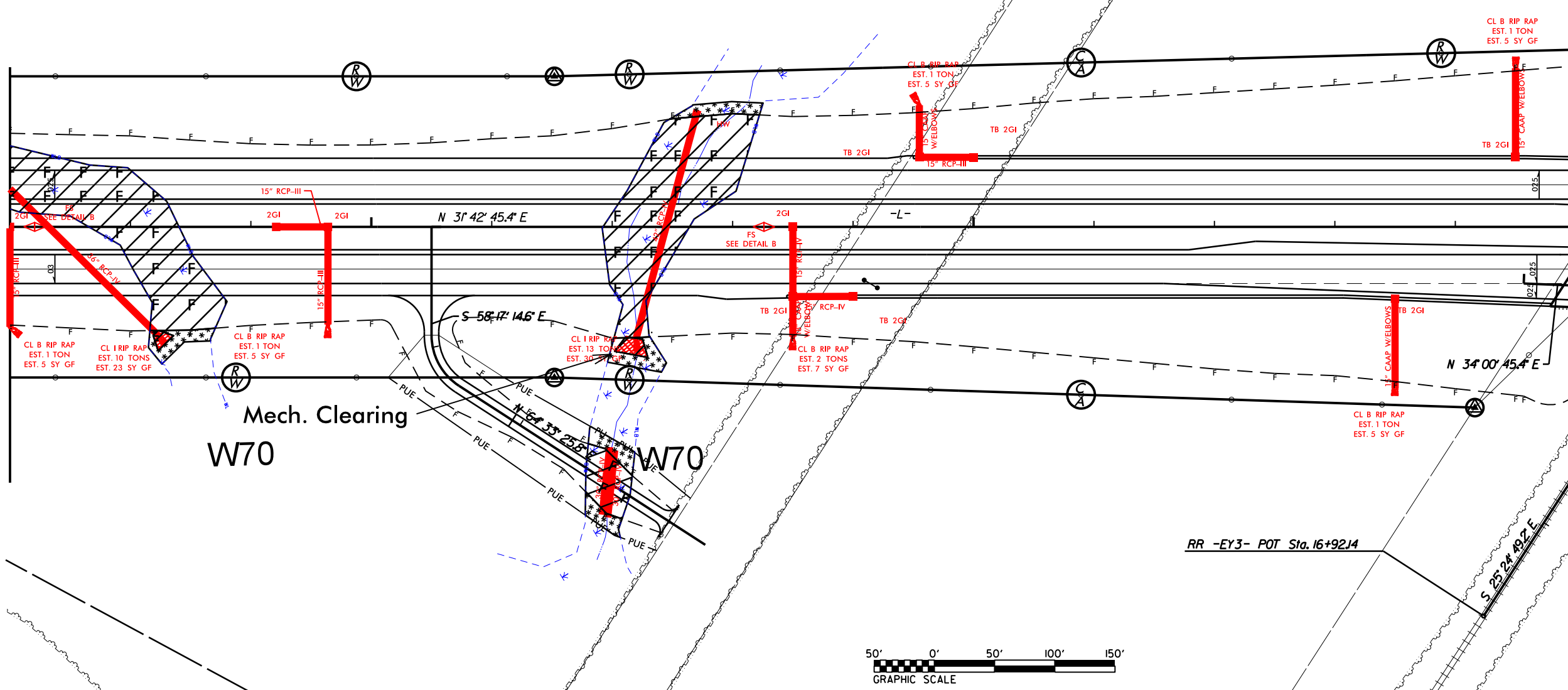
PERMIT DRAWING
SHEET 131 OF 167

SITE 38A

SITE 38B

MATCH LINE STA. 492+00 SEE SHEET 34

MATCH LINE STA. 505+00 SEE SHEET 36



REVISIONS
7/13/2018 - PARCEL 2 - CHANGED TCE TO PUE AND REVISED AREA STATION -L- 495+14 TO 496+10 RT



DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

* * * DENOTES MECHANIZED CLEARING

F F DENOTES FILL IN WETLAND

SEE SHEET 66 FOR PROFILE -L-
SEE SHEET 85 FOR PROFILE -RP2C-
SEE SHEET 91 FOR PROFILE -G12-
SEE SHEET 2B-9 SKETCH 5 FOR PROPOSED BRIDGE SKETCH
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

PROJECT REFERENCE NO. R-1015	SHEET NO. 39
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 015869 T. R. REID	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 ROBERT B. HARDISON

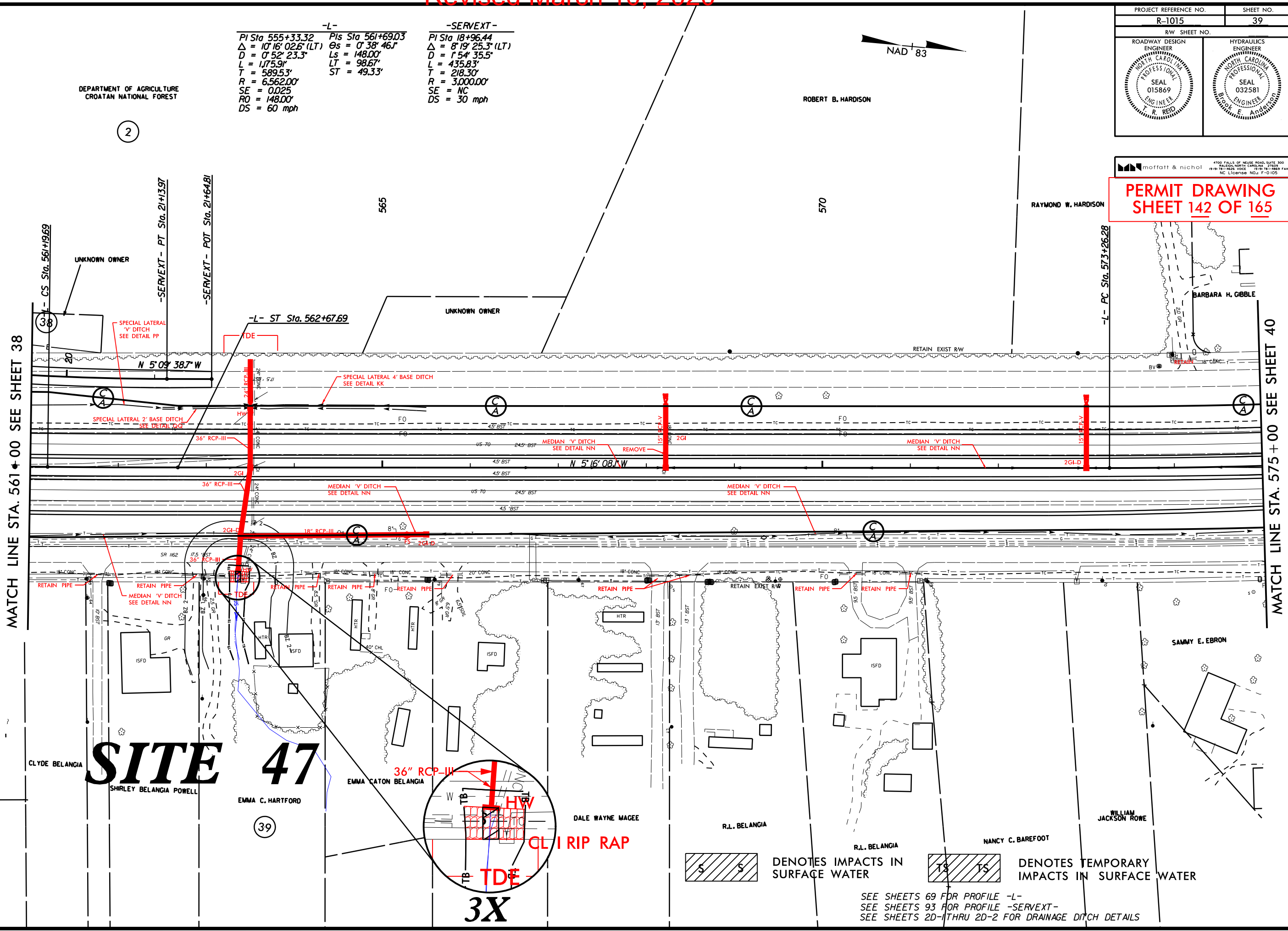
4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27607
(919) 781-4626 VOICE (919) 781-7888 FAX
NC LICENSE NO. F-0105

PERMIT DRAWING
SHEET 142 OF 165

-L-
 PI Sta 555+33.32 Δ = 10° 16' 02.6" (LT)
 D = 0° 52' 23.3" Ls = 148.00'
 L = 1,175.9' T = 589.53'
 R = 6,562.00' SE = 0.025
 RO = 148.00' DS = 60 mph

-SERVEXT-
 PI Sta 561+69.03 Δ = 0° 38' 46.1"
 Ls = 148.00' LT = 98.67'
 ST = 49.33'

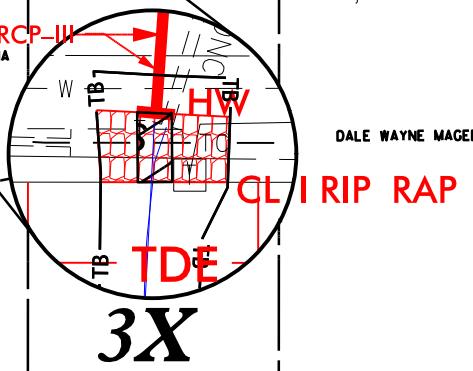
-SERVEXT-
 PI Sta 18+96.44 Δ = 8° 19' 25.3" (LT)
 D = 1° 54' 35.5" Ls = 148.00'
 L = 435.83' T = 218.30'
 R = 3,000.00' SE = NC
 DS = 30 mph



MATCH LINE STA. 561 + 00 SEE SHEET 38

MATCH LINE STA. 575 + 00 SEE SHEET 40

SITE 47
 SHIRLEY BELANGIA POWELL
 EMMA C. HARTFORD



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SEE SHEETS 69 FOR PROFILE -L-
 SEE SHEETS 93 FOR PROFILE -SERVEXT-
 SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

REVISIONS
 7/13/2018 - PARCEL 38 - REVISED TDE STATION -L- 563+14 TO 563+64 RT
 PARCEL 38 - ADDED TCE STATION -L- 561+00 TO 561+78 LT

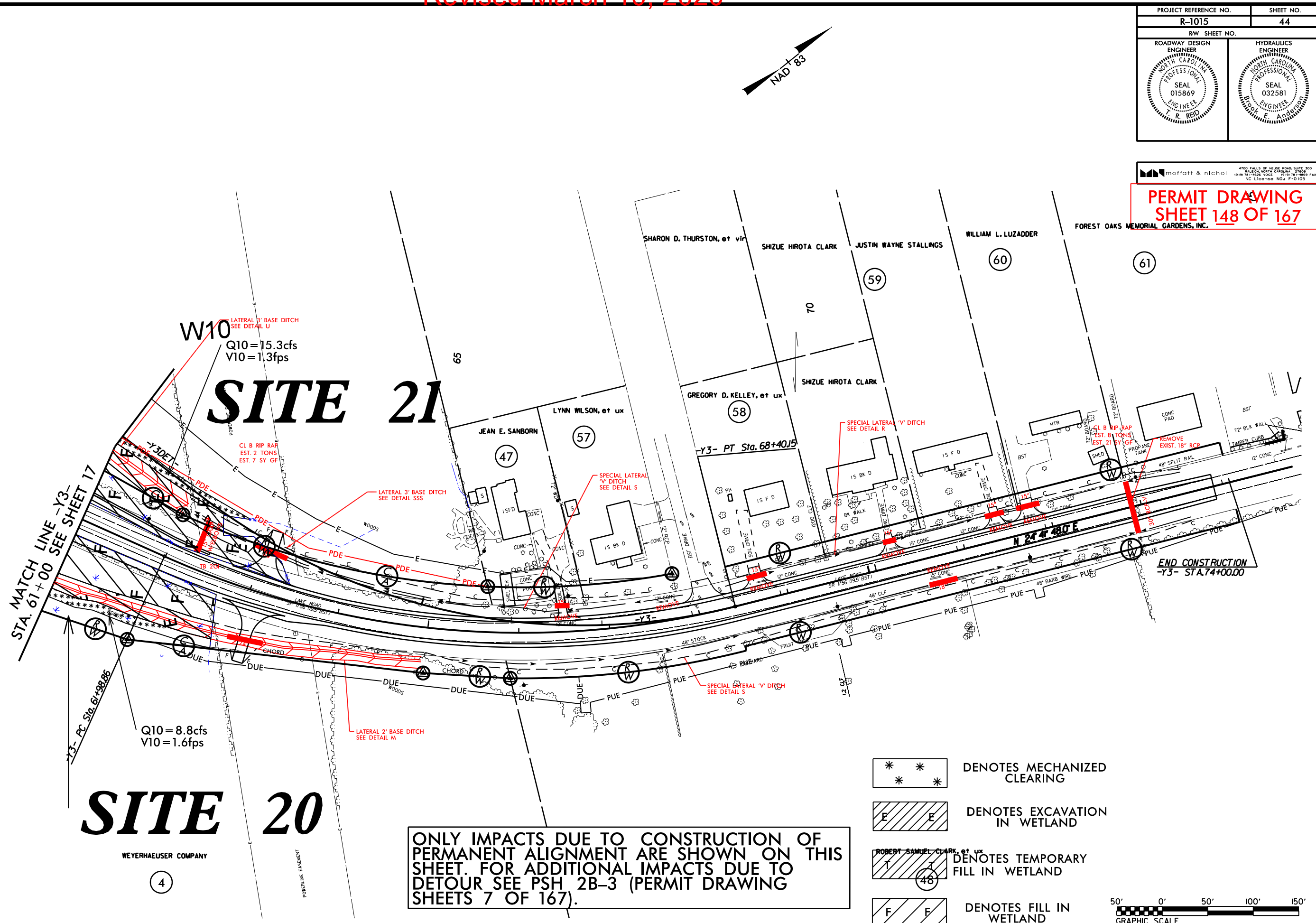
PROJECT REFERENCE NO. R-1015	SHEET NO. 44
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 015869 T. R. REID	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 BOOK E ADDRESS

4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
TEL: 919.781.4625 VOICE TEL: 919.781.4625 FAX
NC LICENSE NO. F-0105

PERMIT DRAWING SHEET 148 OF 167

REVISIONS

7/13/2018 - PARCELS 4, 4B - CHANGED PUE TO DUE AND REVISED AREA STA. 62+32 TO 66+40 RT. 8/14/2018 - PARCELS 4, 4B - REVISED DUE PARCELS 4B - ADDED RW AND REMOVED ICE STATION -Y3- 61+00 TO 66+40 RT. 11/13/2018 - REVISED DUE ON PARCELS 4 AND 4B FROM PARCELS 4, 4B - ADDED PDE STATION -Y3- 61+00 TO 66+40 RT. PARCELS 4, 4B - ADDED PUE STATION -Y3- 61+00 TO 66+40 RT. PARCELS 4, 4B - ADDED PUE STATION -Y3- 61+00 TO 66+40 RT. PARCELS 4, 4B - ADDED PUE STATION -Y3- 61+00 TO 66+40 RT. PARCELS 4, 4B - ADDED PUE STATION -Y3- 61+00 TO 66+40 RT. PARCELS 4, 4B - ADDED PUE STATION -Y3- 61+00 TO 66+40 RT.



ONLY IMPACTS DUE TO CONSTRUCTION OF PERMANENT ALIGNMENT ARE SHOWN ON THIS SHEET. FOR ADDITIONAL IMPACTS DUE TO DETOUR SEE PSH 2B-3 (PERMIT DRAWING SHEETS 7 OF 167).

- * * * * DENOTES MECHANIZED CLEARING
- E E DENOTES EXCAVATION IN WETLAND
- T T DENOTES TEMPORARY FILL IN WETLAND
- F F DENOTES FILL IN WETLAND



SEE SHEET 79 FOR PROFILE -Y3-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			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	42+12 TO 54+15 -L- RT	ROADWAY FILL	0.59		0.32	0.25						
2	57+70 TO 76+06 -L- RT	ROADWAY FILL	2.68		1.65	0.73						
	0+00 TO 33+68 -RP1CD- RT											
3	70+94 TO 122+68 -L- RT/LT	ROADWAY FILL	26.03		0.32	3.07						
	22+61 TO 29+63 -RP1AB- LT											
4	127+97 TO 132+42 -L- LT/RT	ROADWAY FILL	1.53			0.09						
5	136+88 TO 140+23 -L- LT/RT	ROADWAY FILL	0.10		0.06	0.07	0.08					
6	138+19 TO 149+15 -L- LT/RT	ROADWAY FILL	5.17			0.37						
7	154+60 TO 163+94 -L- LT/RT	ROADWAY FILL	2.52			0.32						
8	167+89 TO 168+21 -L- LT/RT	ROADWAY FILL	0.02			< 0.01						
9	170+05 TO 197+19 -L- LT/RT	Dual Bridges; 12@ 135', 72" MBT	4.90			0.64	3.95					
10	197+45 TO 210+28 -L- LT/RT	ROADWAY FILL	6.69			0.55						
11	211+31 TO 218+97 -L- LT/RT	ROADWAY FILL	2.82			0.21						
12	218+39 TO 224+77 -L- LT/RT	ROADWAY FILL	2.46		< 0.01	0.16						
13	229+73 TO 238+69 -L- LT/RT	ROADWAY FILL	6.85			0.37						
14	7+87 TO 11+18 -Y3RPB- LT/RT	72" RCP, BURIED	0.83			0.16		0.05	< 0.01	337.9	56.1855	
15	12+60 TO 13+72 -Y3RPB- LT/RT	ROADWAY FILL	0.32			0.03						
16	237+79 TO 244+33 -L- LT/RT	72" RCP, BURRIED 1'	2.42			0.22		0.03	< 0.01	200.9	58.8936	
17	52+61 TO 53+18 -Y3DET- LT/RT	72" RCP, BURRIED 1'	0.04		0.01	0.01		0.03	0.02	129.7	88.99	
17A	52+61 TO 53+18 -Y3DET- LT/RT	60" TEMP PIPE		0.05			0.01					
18	20+55 TO 24+91 -Y3RPD- LT/RT	ROADWAY FILL	0.98		0.02	0.10						
18A	55+30 TO 57+16-Y3DET- LT/RT	TEMP DETOUR		0.15			0.03					
19	16+94 TO 17+92 -Y3RPD- LT/RT	84" RCP, BURIED 1'	0.09			0.05		0.06	< 0.01	261.2	44.1	
TOTALS*:			67.06	0.20	2.38	7.41	4.07	0.16	0.04	930	248	0

*Rounded totals are sum of actual impacts

NOTES:
Bridge Impacts at Site 9: 0.02 acres for Temporary Bents, <0.01 acres for all permanent bents.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
03/05/2020
CRAVEN COUNTY
R-1015
34360.1.2
SHEET 165 OF 167

Revised 2016 09 09

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			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)
20	57+34 TO 62+48 -Y3- RT	ROADWAY FILL	1.46		0.10	0.18						
21	58+29 TO 63+51 -Y3- RT	ROADWAY FILL	0.56		0.21	0.08						
21A	58+89 TO 64+03Y3DET- LT/RT	TEMP DETOUR		0.25	0.11		0.12					
22	267+83 TO 273+90 -L- LT/RT	84" RCP, BURIED 1'	0.86			0.12		0.05	0.01	583.6	61.1099	
23	280+57 TO 293+27 -L- LT/RT	Dual Bridge; 7 @ 135', 72" MBT	1.03			0.15	3.05					
24	308+19 TO 314+60 -L- LT/RT	42" RCP	0.74		0.04	0.06						
25A	328+41 TO 336+80 -L- LT/RT	2 @ 72" RCP, BURIED 1'	1.80		0.10	0.12						
25B	325+13 TO 325+48 -L- RT	ROADWAY FILL	< 0.01			< 0.01						
26	337+97 TO 342+81 -L- RT	72" RCP, BURIED 1'	0.48		< 0.01		0.11					
27	340+63 TO 344+93 -L- LT	72" RCP, BURIED 1'	0.75		0.08		0.05					
28A	348+96 TO 349+65 -L- RT	ROADWAY FILL	0.01				0.02					
28B	351+33 TO 352+19 -L- RT	ROADWAY FILL	< 0.01				0.02					
29	355+33 TO 357+51 -L- LT	ROADWAY FILL	0.03		0.07		0.04					
30	355+83 TO 357+47 -L- RT	ROADWAY FILL	0.27				0.04					
31	373+16 TO 380+23 -L- LT/RT	ROADWAY FILL	2.22		0.07		0.32					
32	392+99 TO 399+33 -L- LT/RT	ROADWAY FILL	0.56			0.15						
33	408+22 TO 408+87 -L- LT	ROADWAY FILL	< 0.01			0.01						
34	409+25 TO 409+75 -L- RT	ROADWAY FILL	0.18			< 0.01						
35A	432+62 TO 449+72 -L- LT/RT	ROADWAY FILL	5.49			0.77						
35B	450+94 TO 454+47 -L- LT/RT	ROADWAY FILL	0.71			0.11						
36A	456+65 TO 461+70 -L- LT/RT	84" RCP, BURIED 1'	0.79			0.15						
36B	462+57 TO 464+60 -L- LT/RT	ROADWAY FILL	0.50		0.02	0.05						
37	468+85 TO 486+94 -L- LT/RT	ROADWAY FILL	3.43		0.01	0.50						
SUB TOTALS THIS SHEET*:			21.90	0.25	0.80	2.47	3.77	0.05	0.01	584	61	0

*Rounded totals are sum of actual impacts

NOTES:
Bridge Impacts at Site 23: 0.04 acres for Temporary Bents, <0.01 acres for all permanent bents.

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
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CRAVEN COUNTY
R-1015
34360.1.2
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Revised 2016 09 09


WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			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)
38A	489+64 TO 493+80 -L- LT/RT	ROADWAY FILL	0.49			0.03						
38B	496+92 TO 498+23 -L- LT/RT	ROADWAY FILL	0.30			0.06						
39	507+39 TO 518+70 -L- LT/RT	2 @ 10'X8' RCBC	2.99		0.07	0.20		0.22	0.03	984.87	116.37	
40	RP2AC/RP2A/LP2A	ROADWAY FILL	5.38		0.12	0.78						
41	41+40 TO 47+97 -RP2AC- LT/RT	EXTEND 3@ 9'X7' RCBC	0.03			0.12		0.05	0.08	48.71	56.79	
42	34+08 TO 37+91 -Y4- LT	72" RCP, BURIED 1'	0.01		0.04	0.06		< 0.01	< 0.01	20.43	11.6	
43	33+80 TO 35+02 -Y4- RT	72" RCP, BURIED 1'	< 0.01		0.01	0.04		< 0.01	< 0.01	41.75	10.35	
44	51+17 TO 53+70 -Y4- LT	2 @ 84" RCP, BURIED1'	0.24		0.02	0.09		0.02	< 0.01	121.5	10.7	
45	50+49 TO 57+08 -Y4DET- LT/RT	2 @ 84" RCP, BURIED1'	0.35			0.12		0.04	0.02	116.4	98.9	
45A	50+47 TO 57+03 -Y4DET-	TEMP DETOUR		0.51								
46	533+11 -L- RT	30" RCP						< 0.01	< 0.01	10.0	16.0	
47	563+36 -L- RT	36" RCP						< 0.01		12.0		
SUB TOTAL THIS SHEET:			9.79	0.51	0.27	1.50	0.19	0.34	0.13	1356	321	
SUB TOTAL SHEET 1:			67.06	0.20	2.38	7.41	4.07	0.16	0.04	930	248	
SUB TOTAL SHEET 2:			21.90	0.25	0.80	2.47	3.77	0.05	0.01	584	61	
TOTALS*:			98.75	0.96	3.45	11.38	8.03	0.55	0.18	2869	630	0

*Rounded totals are sum of actual impacts

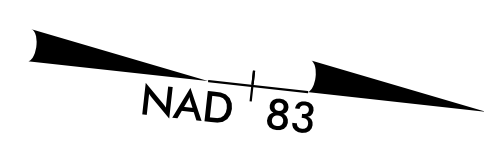
NOTES:
At Site 45/45A, 0.03 acre of Temporary Fill in Wetlands in the Hand Clearing area for erosion control measures.

NC DEPARTMENT OF TRANSPORTATION
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Revised 2016 09 09

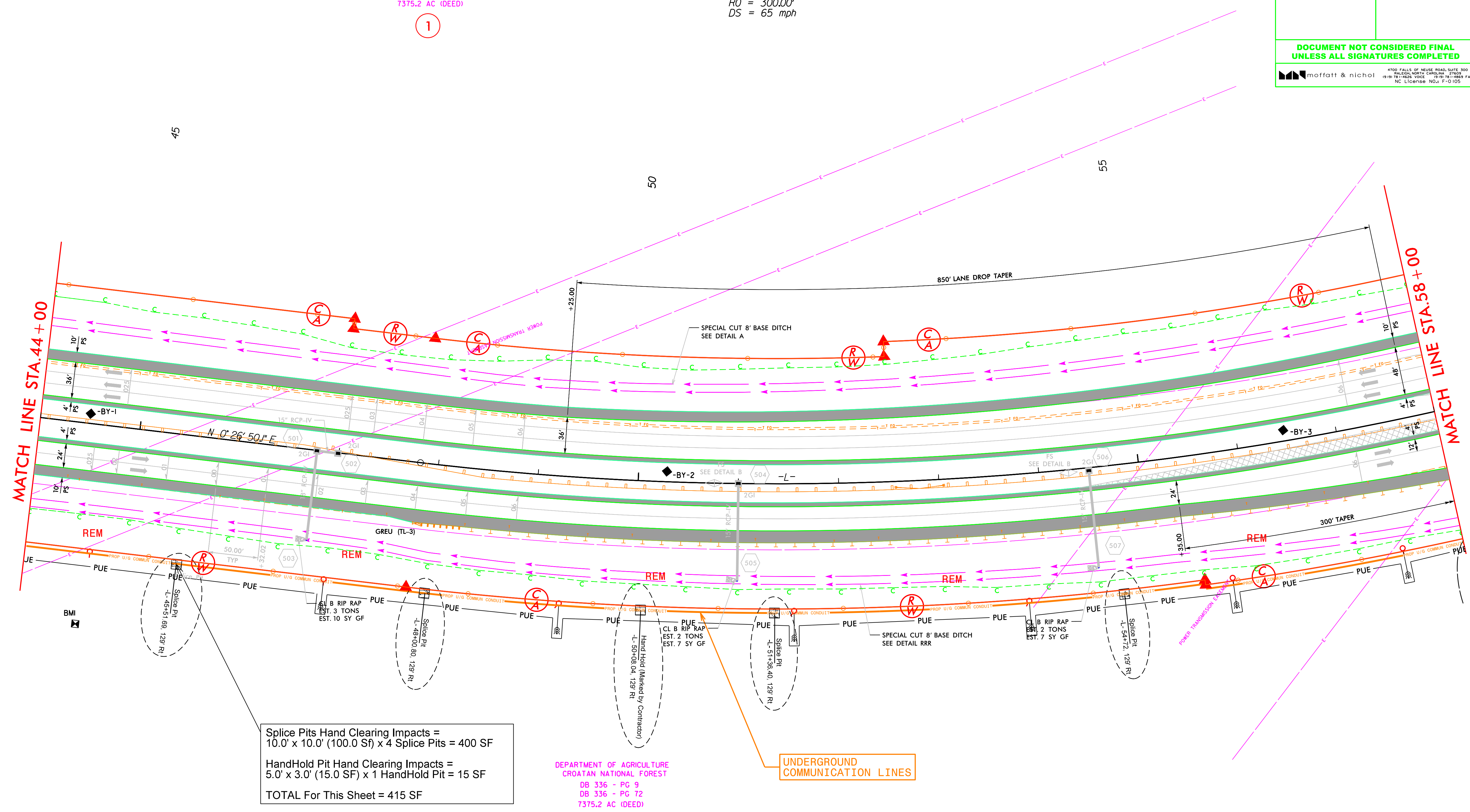
PROJECT REFERENCE NO. R-1015	SHEET NO. NE-03
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 <small>4700 FALLS OF REHE ROAD, SUITE 200 RALEIGH, NORTH CAROLINA 27603 919 781-4226 VOICE 919 781-7885 FAX NC License No. F-0105</small>	

-L-
 PI Sta 58+21.81
 $\Delta = 38^{\circ} 01' 15.2''$ (LT)
 $D = 1' 53' 54.5''$
 $L = 2,002.71'$
 $T = 1,039.80'$
 $R = 3,018.00'$
 $SE = 0.06$
 $RO = 300.00'$
 $DS = 65$ mph



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

1



Splice Pits Hand Clearing Impacts =
 10.0' x 10.0' (100.0 Sf) x 4 Splice Pits = 400 SF
 HandHold Pit Hand Clearing Impacts =
 5.0' x 3.0' (15.0 SF) x 1 HandHold Pit = 15 SF
TOTAL For This Sheet = 415 SF

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

1

UNDERGROUND
 COMMUNICATION LINES

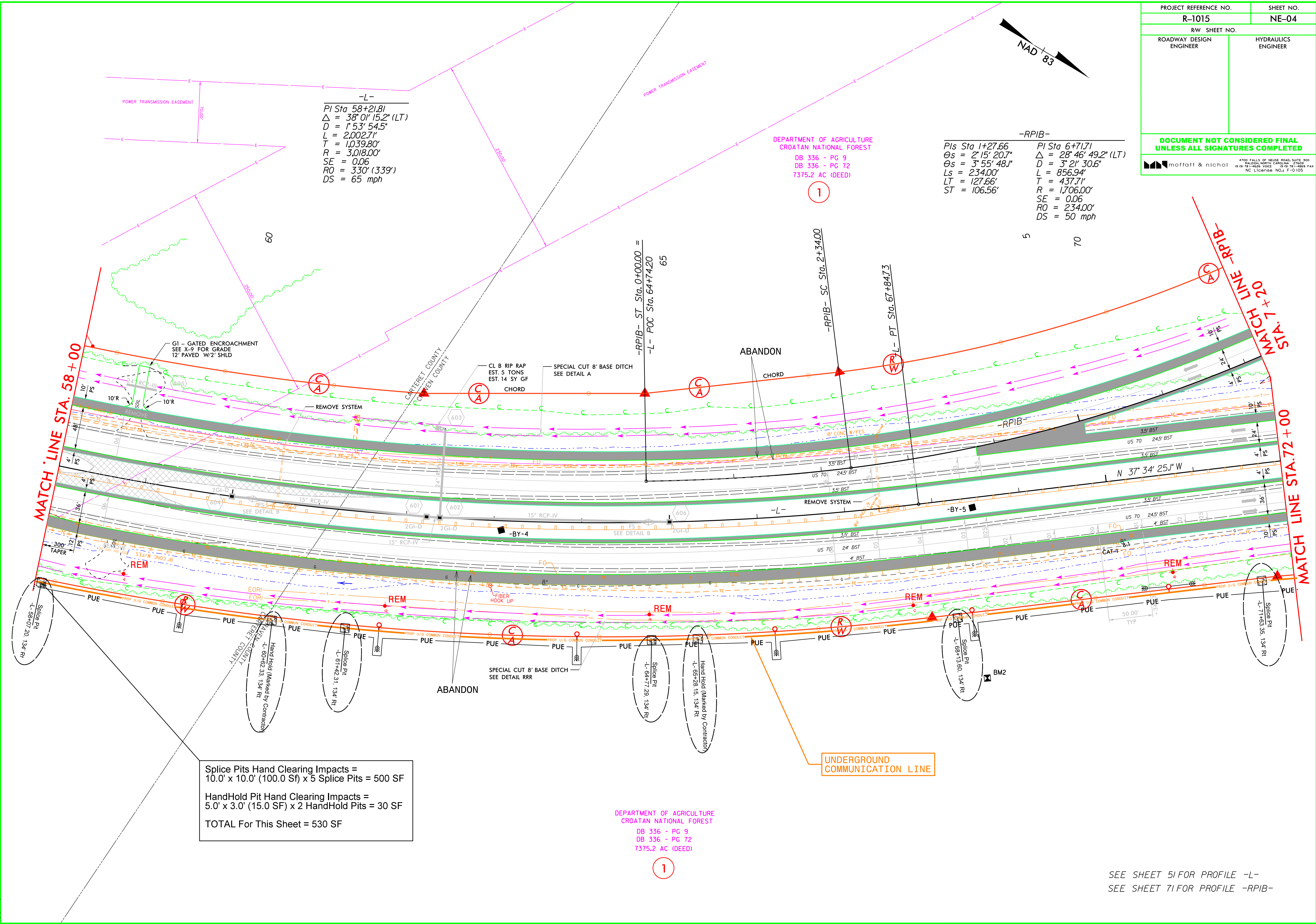
SEE SHEET 50 FOR PROFILE -L-

REVISIONS

8/17/99
 05-DEC-2018 11:45
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 moffatt & nichol

PROJECT REFERENCE NO. R-1015	SHEET NO. NE-04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
moftatt & nichol	

8/17/99
 REVISIONS
 05-DEC-2018 IP202
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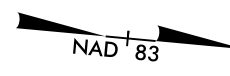
Splice Pits Hand Clearing Impacts =
 10.0' x 10.0' (100.0 Sf) x 5 Splice Pits = 500 SF
 HandHold Pit Hand Clearing Impacts =
 5.0' x 3.0' (15.0 Sf) x 2 HandHold Pits = 30 SF
TOTAL For This Sheet = 530 SF

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

SEE SHEET 51 FOR PROFILE -L-
 SEE SHEET 71 FOR PROFILE -RPIB-

PROJECT REFERENCE NO. R-1015	SHEET NO. 39
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 015869 T. R. REID	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 032581 E. A. HARDISON

moffatt & nichol
4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
919/781-4825 VOICE 919/781-1885 FAX
NC LICENSE NO. F-0105



ALLOWABLE IMPACTS ZONE 1

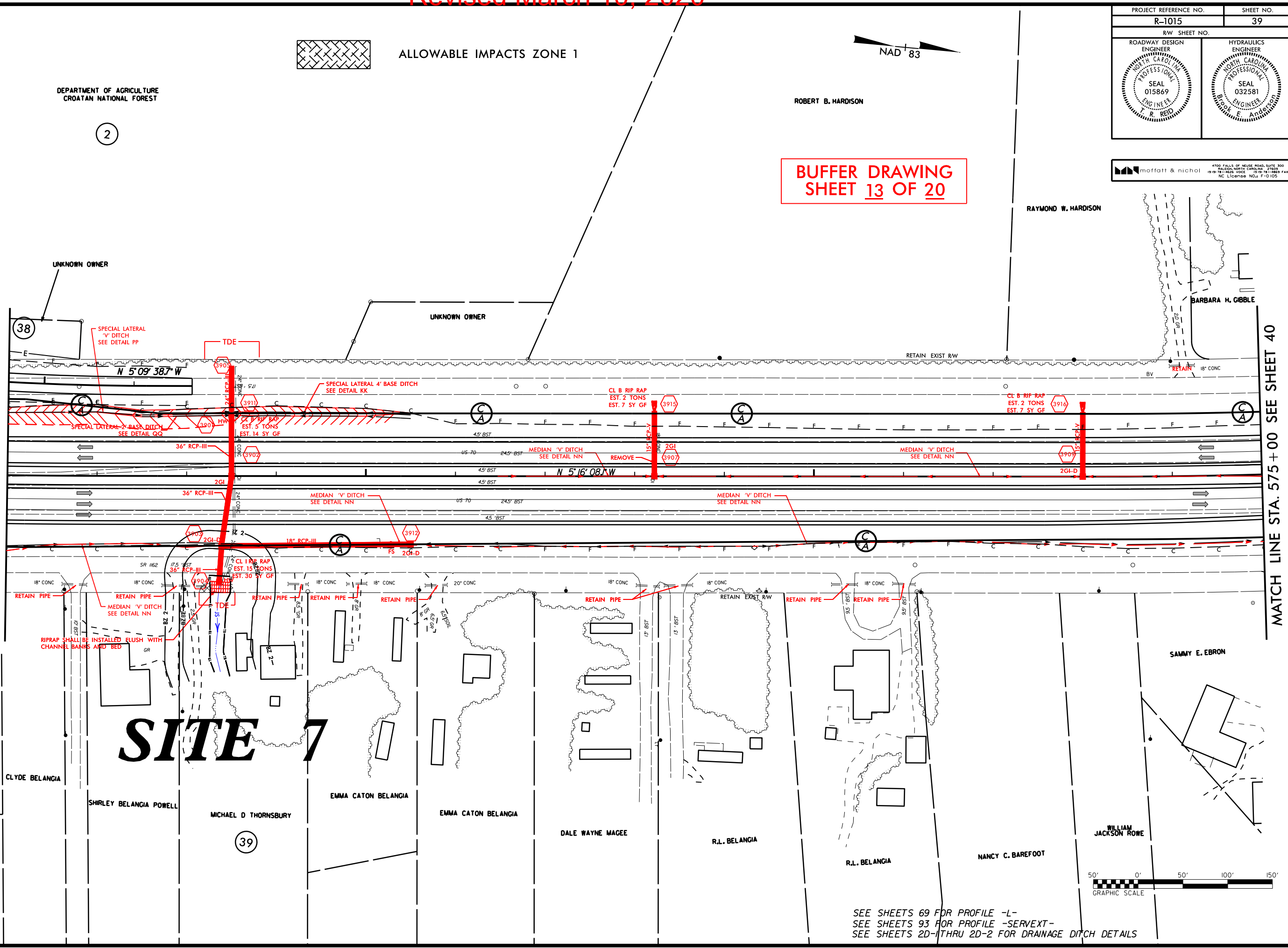
DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

BUFFER DRAWING SHEET 13 OF 20

2/25/2020
 R:\Hydro\Permits_Environmental\Drawings\Buffer\1-1015_Hyd_gm_bur_bak39.dgn
 7/13/2018 - PARCEL 38 - REVISED TDE STATION -L- 563+14 TO 563+64 RT
 PARCEL 38 - ADDED TCE STATION -L- 561+00 TO 561+78 LT
 \$\$\$\$\$\$SYTIME\$\$\$\$\$\$
 \$\$\$\$\$\$DESIGN\$\$\$\$\$\$
 \$\$\$\$\$\$DATE\$\$\$\$\$\$

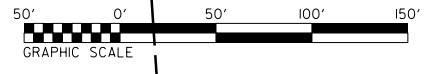
MATCH LINE STA. 561 + 00 SEE SHEET 38

MATCH LINE STA. 575 + 00 SEE SHEET 40



SITE 7

CLYDE BELANGIA
SHIRLEY BELANGIA POWELL
MICHAEL D THORNSBURY
EMMA CATON BELANGIA
EMMA CATON BELANGIA
DALE WAYNE MAGEE
R.L. BELANGIA
R.L. BELANGIA
NANCY C. BAREFOOT
SAMMY E. EBON
WILLIAM JACKSON ROWE



SEE SHEETS 69 FOR PROFILE -L-
SEE SHEETS 93 FOR PROFILE -SERVEXT-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	TEMP ROAD CROSSING	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
1	12 @ 135' Dual Bridge	-L- 170+00 to -L- 176+39		X		11874	8173	20048					
2	72" RCP-V, Buried 1'	-Y3RPB- 8+09 to -Y3RPB- 9+96	X						21342	12842	34184		
3	72" RCP-V, Buried 1'	-L- 242+20 to -L- 245+59	X						20168	13088	33256		
3	Temp. Detour	-L- 245+59 to -L- 246+42			X	4312	2113	6425					
4	84" RCP-V, Buried 1'	-Y3RPD- 16+26 to -Y3RPD-18+42	X						17227	9603	26830		
5	7@ 135' Dual Bridge	-L- 287+68 to -L- 290+04		X		11674	7869	19544					
6	2 @ 10'X8' RCBC	-L- 509+18 to -L- 511+11	X						55373	29278	84651		
7	36" RCP	-L- 563+14 to -L- 563+54	X			135							
8	72" RCP-IV, Buried 1'	-Y4- 33+67 to -Y4- 34+86	X			3321	1827	5148					
9	2@ 84" RCP, Buried 1'	-Y4- 51+04 to -Y4- 52+99	X						12648	6275	18923		
SUB TOTAL:						31317	19982	51164	126759	71086	197845		

NOTE: Site 9: Zone 1 Mitigable Impacts include 331 sqft of Bank Stabilization.

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

CRAVEN COUNTY
PROJECT: 34360.1.2 (R-1015)

2/25/2020
SHEET 18 OF 20

