STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

May 30, 2013

US Army Corps of Engineers
Regulatory Field Office
2407 West 5th Street
Washington, NC 27889

Attention: Mr. Thomas Steffens
NCDOT Coordinator

Subject: **Request for Modification to the Individual Section 404 Permit, Section 401 Water Quality Certification and Neuse Riparian Buffer Authorization** for the construction of the US 70 Bypass from east of SR 1556 (Wayne Memorial Drive) to east of SR 1323 (Promise Land Road) in Wayne and Lenoir Counties. State Project No. 34461.3.8. TIP No. R-2554BB&C.

Reference: Section 404 Individual Permit issued July 21, 2008 (SAW 2008-00252) for R-2554
Section 401 Water Quality Certification and Neuse Riparian Buffer Authorization issued May 16, 2008 (20080570) for R-2554
Section 404 Individual Permit Modification issued March 13, 2012 for R-2554A
Section 401 Water Quality Certification and Neuse Riparian Buffer Authorization Modification issued March 8, 2012 for R-2554A
Section 404 Individual Permit Modification issued January 29, 2013 for R-2554BB&C
Section 401 Water Quality Certification and Neuse Riparian Buffer Authorization Modification issued December 27, 2012 for R-2554BB&C

Dear Sir:

The North Carolina Department of Transportation (NCDOT) requests a modification to the existing Individual Section 404 Permit, Section 401 Water Quality Certification and Neuse Riparian Buffer Authorization for the R-2554 BB and C project. This modification is being requested due to clarifications or revisions needed on the previous modifications dated December 27, 2012 and January 29, 2013, a study area change between the planning phase and final design, and a topographic error on plan sheets 47 and 47A. Enclosed with this request are updated permit drawings, an updated impact summary sheet, and updated borrow site mapping.

**MAILING ADDRESS:**
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-707-6000
FAX: 919-212-5785

*WEBSITE:NCDOT.GOV*

**LOCATION:**
CENTURY CENTER, BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

Impacts to Waters of the U.S.

A jurisdictional wetland located at approximately Sta. 10+30 to 14+30 along SR17REV (Beston Road) was inadvertently omitted due to the change in study area. This area was not included in the Natural Resources Technical Report or wetland file initially used to create the plan sheets for the project as it was outside the study area. This wetland was discovered during permitted waterline relocations which are independent of the R-2554 project. The impacts for the service road which is within this additional study area, include 0.50 acre of fill in wetlands. Additionally there will be 0.11 acre of hand clearing in an area that was previously impacted by the utility relocations. This new area is being referred to on the permit drawings and summary impact table as Site 15C.

In addition to the study area change described above, a break in the topographic mapping caused an error on plan sheets 47 and 47A at Permit Site 12C. This was noticed while surveying the slope stake limits and the error results in the slope stake being approximately 12' beyond what was permitted. Permit Site 12C impacts will change slightly, adding 0.04 acre of additional fill while the amount of mechanized clearing remains unchanged.

The project's permit impact summary table has been updated to include these impacts, as have the permit drawings. The total amount of fill for R-2554 BB&C is 17.36 acres and 1.37 acres of hand clearing.

Neuse Riparian Buffers

The Gray Borrow Site was originally planned as an expansion of the existing landowner's pond which would have included Neuse Riparian Buffer impacts; however, the land owner was not interested in the conservation easement after further evaluation. The Gray Borrow Site will now be constructed as a separate pond and will not impact Neuse Riparian Buffers, and therefore not necessitate buffer mitigation as required in the Neuse Buffer Authorization. Revised graphics for the site are attached.

Mitigation

The October 31, 2012 BB&C modification request made note of three stream relocations at sites 4BB, 9BB, and 3C, which were also mentioned during the 4C meeting on September 20, 2012. The total stream relocation impacts were 1,044 linear feet which were included in the tables detailing the impacts. NCDOT requests these be removed from requiring mitigation as they are relocations of currently channelized streams with vertical side slopes and will be replaced with channels having stable 3:1 or better side slopes. This would result in a reduction of the required mitigation amount by 1,044 linear feet and thus 6,735 linear feet of required mitigation, prior to inclusion of the onsite mitigation, rather than the 7,779 linear feet.

The table labeled "Section BB&C Onsite Stream Restoration" on page 1 of the 401 Water Quality Certification included a note at the bottom of the table which appears to be incorrect. This note should read as follows: "*6,735 ft stream mitigation required minus 2,360 ft onsite = 4,375 linear feet required."

Compensatory mitigation for the remaining 4,375 linear feet of stream impacts will be debited from the Claridge Nursery Mitigation Site. In the event that mitigation credits remain per the as-

built reports once construction of R-2554 is complete, they will be placed on the NCDOT Debit Ledger for use on future projects.

There is 0.56 acre of onsite wetland mitigation available which will cover the additional 0.54 acre of impacts for Sites 15C and 12C, leaving 0.02 acre.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Chris Manley at cdmanley@ncdot.gov or (919) 707-6135. A copy of this permit modification request will be posted on the DOT website at: http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html.

Sincerely,

for Gregory J. Thorpe, Ph.D., Manager
Project Development & Environmental Analysis Unit

cc:

NCDOT Permit Application Standard Distribution List

## 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) |
| 1 BB | 153+00/157+34-LREV- | Bridge | 0.07 | *<0.01 | | | 1.26 | | | | | |
| 3 BB | 244+33/255+95 -LREV- | 7' X 7' Culverts | | | | | | 0.14 | 0.02 | 1197 | 176 | |
| 4 BB | 296+26 / 302+83 -LREV- | (2) 10' X 10' Culvert | | | | | | 0.12 | 0.01 | **965 | 45 | |
| 6 BB | 335+74 / 337+19 -LREV- | Roadway Fill | 0.14 | | | 0.02 | | | | | | |
| 7 BB | 336+68 / 340+55 -LREV- | Roadway Fill | 0.23 | | | 0.07 | | | | | | |
| 9 BB | 11+00 -SR13REV- / 54+00 -SR12- | Roadway Fill | | | | | | 0.12 | <0.01 | **1763 | 10 | 1322 |
| 10 BB | 37+29 / 38+45 -SR13REV- | 30" RCP | 0.02 | | | 0.03 | | <0.01 | <0.01 | 14 | 16 | |
| | | Bank Stabilization | | | | | | 0.01 | | 26 | | |
| 12 BB | 28+17 / 29+18 -SR11- | 54" RCP | | | | | | 0.01 | | 94 | | |
| | | Bank Stabilization | | | | | | <0.01 | | 41 | | |
| 13 BB | 26+58 /27+15 -Y15- | 48" RCP | | | | | | <0.01 | <0.01 | 75 | 9 | |
| | | Bank Stabilization | | | | | | <0.01 | | 13 | | |
| 1C | 405+27/416+09 -LREV- | 9' X 9' / 10' X 8' Culverts | | | | | | 0.22 | 0.02 | 956 | 100 | |
| | | Fill in Pond | | | | | | 0.15 | | | | |
| 2C | 16+16/16+97 -Y19RPBREV- | Fill in Pond | | | | | | 0.06 | | | | |
| 3C | 413+17/416+76 -LREV- | Roadway Fill | | | | | | 0.03 | <0.01 | **712 | 30 | |
| | | Fill in Pond | | | | | | 0.07 | | | | |
| | | Bank Stabilization | | | | | | <0.01 | | 12 | | |
| 4C | 469+76/481+68 -LREV- | Roadway Fill | 0.39 | | | | | 0.05 | <0.01 | 489 | 4 | |
| | | Mitigation | | | | | | | 0.03 | | 89 | 1038 |
| | | Work Bridge | | | | | | | *<0.01 | | *58 | |
| 5C | 505+27 / 506+07 -LREV- | 6' X 6' Culvert | | | | | | 0.03 | 0.01 | 273 | 29 | |
| 6C | 526+80 / 534+93 -LREV- | Roadway Fill | 1.72 | | | 0.12 | | | | | | |
| 7C | 547+25 / 557+29 -LREV- | Roadway Fill | 2.80 | | | 0.24 | | | | | | |
| 8C | 597+09 / 599+86 -LREV- | Roadway Fill | 0.16 | | | 0.06 | | | | | | |
| 9C | 604+62 / 611+75 -LREV- | Roadway Fill | 2.01 | | | 0.25 | | | | | | |
| | | Pond | | | | | | 0.29 | | | | |
| 10C | 641+00 / 644+35 -LREV- | 7' X 7' Culvert | 1.03 | | 0.03 | 0.19 | | 0.01 | <0.01 | 288 | 37 | |
| 11C | 698+77 / 704+07 -LREV- | 11' X 7' Culvert | 1.48 | | 0.02 | 0.22 | | 0.12 | 0.01 | 346 | 40 | |
| 12C | 12+51 / 34+02 -FLYREV- | Roadway Fill | 4.03 | | | 0.51 | | 0.04 | <0.01 | 394 | 10 | |
| | | Bank Stabilization | | | | | | <0.01 | | 19 | | |
| 13C | 754+57/773+80 -LREV- | Roadway Fill | 0.73 | | | 0.14 | | | | | | |
| 14C | 29+09 / 34+18 -Y26REV- | 11' X 7' Culvert | 2.05 | | 0.07 | 0.20 | | 0.08 | 0.02 | 365 | 81 | |
| 15C | 10+30 / 14+30 -SR17REV- | Roadway Fill | 0.50 | | | | 0.11 | | | | | |
| TOTALS: | | | 17.36 | <0.01 | 0.12 | 2.05 | 1.37 | 1.55 | 0.12 | 8042 | 734 | 2360 |

*Temporary impacts are due to temporary work bridge. Work bridge spans are a minimum of 20' long with five 1' X 1' H-piles per bent.

** Selected Permit Sites that have stream relocations.
-Site 4BB has 600 linear feet of stream relocation.
-Site 9BB has 199 linear feet of stream relocation.
-Site 3C has 245 linear feet of stream relocation.
--Total stream relocation = 1,044 linear feet

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAYNE/LENOIR COUNTIES
WBS - 34461.3.8 (R-2554BB&C)



REVISED 05/17/13

ATN Revised 3/31/05

TIP PROJECT: R-2554BB&C

CONTRACT: C202771

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

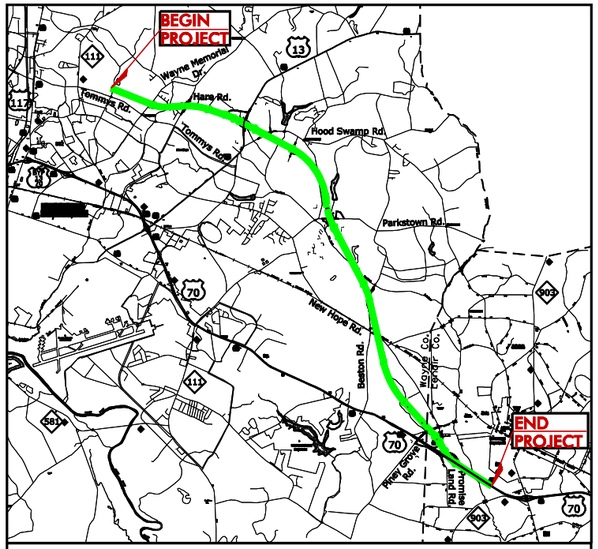
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | R-2554BB&C | 1 | |

| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 34461.3.8 | NHF-0070(147) | CONSTRUCTION |

# WAYNE–LENOIR COUNTIES

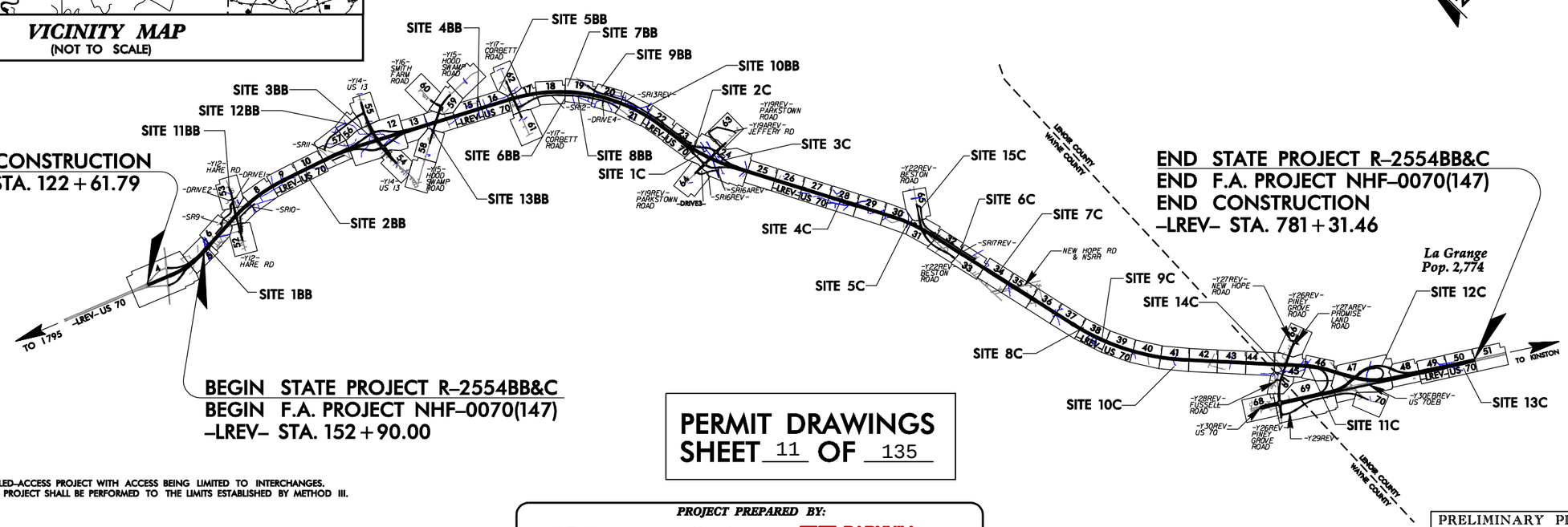
**LOCATION: US 70 (GOLDSBORO BYPASS) FROM EAST OF SR 1556 (WAYNE MEMORIAL DRIVE) TO EAST OF SR 1323 (PROMISE LAND ROAD)**

**TYPE OF WORK: DESIGN–BUILD AS SPECIFIED IN THE SCOPE OF WORK CONTAINED IN THE REQUEST FOR PROPOSALS**




VICINITY MAP
(NOT TO SCALE)

## R–2554BB&C WETLAND SITE MAP
REVISED: 05–17–2013




THIS IS A CONTROLLED–ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

**PERMIT DRAWINGS**
**SHEET 11 OF 135**

PROJECT PREPARED BY:
HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116
BARNHILL CONTRACTING COMPANY

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

### 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 2011 = 21400
ADT 2035 = 44500
DHV = 8 %
D = 55 %
T = 11 % *
V = 75 MPH
FUNCTIONAL CLASSIFICATION: INTERSTATE
* TTST=7% DUAL=4%

### PROJECT LENGTH
LENGTH ROADWAY TIP PROJECT R–2554BB&C = 11.646 MILES
LENGTH STRUCTURE TIP PROJECT R–2554BB&C = 0.256 MILES
TOTAL LENGTH TIP PROJECT R–2554BB&C = 11.902 MILES
BRIDGE LENGTH BASED ON CENTERLINE PROJECTION STATION

Prepared for the Office of:
**DIVISION OF HIGHWAYS**
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 25, 2012 (R-2554BB)
DECEMBER 23, 2002 (R-2554C)

LETTING DATE:
JANUARY 25, 2012

PAUL A. MEEHAN, P.E.
PROJECT ENGINEER

CALVIN W. MOODY, III, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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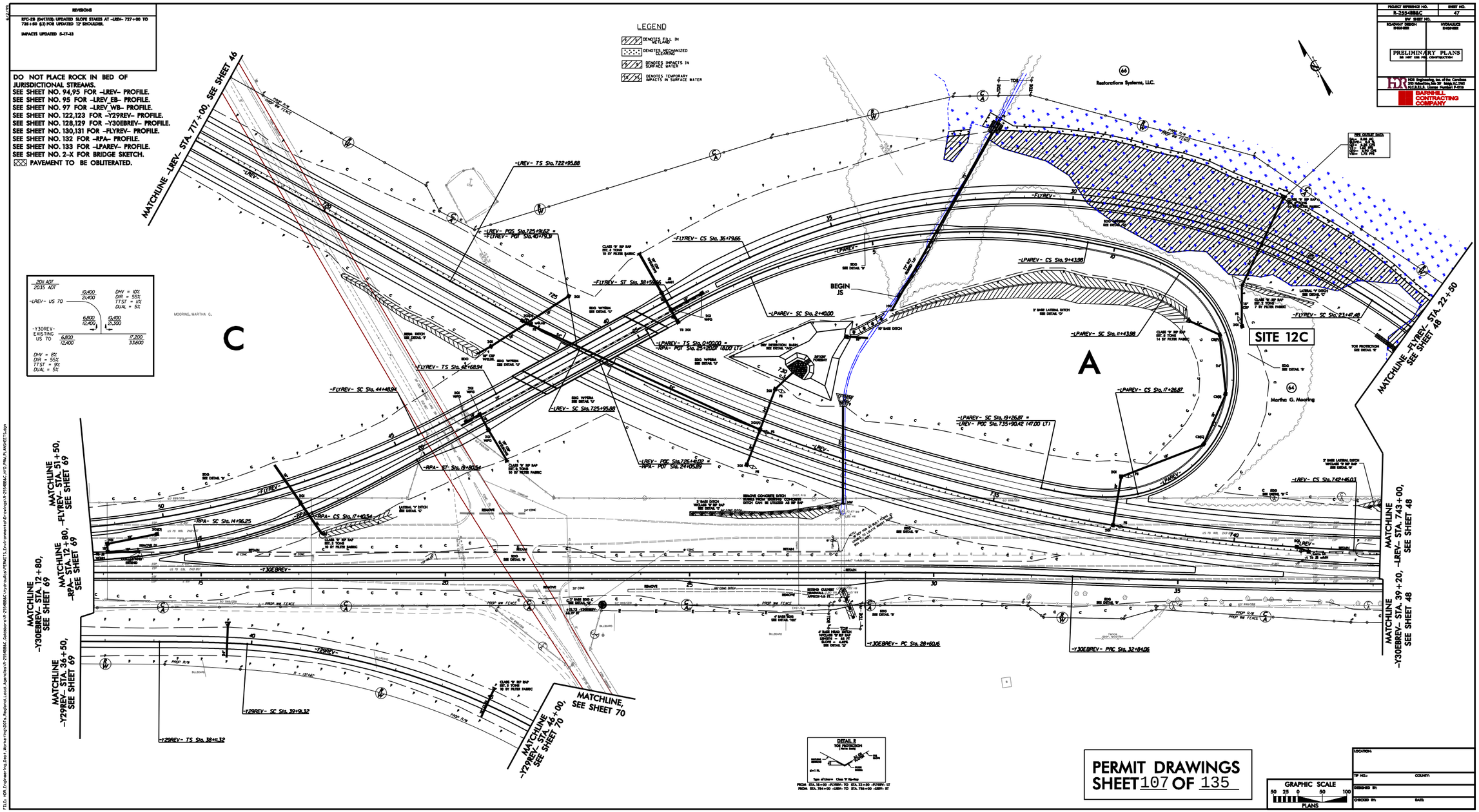
09/08/99

| REVISIONS |
|---|
| EFC-28 (04/17/13): UPDATED SLOPE STAKES AT -LREV- 727+00 TO 738+50 (LT) FOR UPDATED 12' SHOULDER. |
| IMPACTS UPDATED 8-17-13 |

DO NOT PLACE ROCK IN BED OF JURISDICTIONAL STREAMS.
SEE SHEET NO. 94,95 FOR -LREV- PROFILE.
SEE SHEET NO. 95 FOR -LREV_EB- PROFILE.
SEE SHEET NO. 97 FOR -LREV_WB- PROFILE.
SEE SHEET NO. 122,123 FOR -Y29REV- PROFILE.
SEE SHEET NO. 128,129 FOR -Y30EBREV- PROFILE.
SEE SHEET NO. 130,131 FOR -FLYREV- PROFILE.
SEE SHEET NO. 132 FOR -RPA- PROFILE.
SEE SHEET NO. 133 FOR -LPAREV- PROFILE.
SEE SHEET NO. 2-X FOR BRIDGE SKETCH.
PAVEMENT TO BE OBLITERATED.

| 2011 ADT / 2035 ADT | | |
|---|---|---|
| -LREV- US 70 | 10,400 / 21,400 | DHV = 10% DIR = 55% TTST = 10% DUAL = 5% |
| | 6,800 / 12,400 | 10,400 / 21,300 |
| -Y30REV- EXISTING US 70 | 6,800 / 12,400 | 17,200 / 33,600 |
| DHV = 8% DIR = 55% TTST = 9% DUAL = 5% | | |

LEGEND
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER




| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2554BBAC | 47 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
2415 Raleigh Ave, Ste 20 Dallas, NC 28034
NC#F-0116, Illinois Number F-0116

BARNHILL CONTRACTING COMPANY

PERMIT DRAWINGS
SHEET 107 OF 135

GRAPHIC SCALE
50 25 0 50 100
PLANS

| LOCATION: | |
|---|---|
| TIP NO.: | COUNTY: |
| DESIGNED BY: | |
| CHECKED BY: | DATE: |

PLOT DRIVEN: NCDOT.cdf COLOR: GRAYSCALE
CADD: GRAYSCALE
PLOT SCALE: 1:50 DATE: 5/17/2013
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TIME: 14:40:19 PM
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| REVISIONS |
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| RFC-28 (04/17/13): UPDATED SLOPE STAKES AT -LREV- 727+00 TO 738+50 (L1) FOR UPDATED 12' SHOULDER. |
| IMPACTS UPDATED 8-17-13 |

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PAVEMENT TO BE OBLITERATED.

| | | |
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| | 6,800 / 12,400 | 10,400 / 21,300 |
| -Y30REV- EXISTING US 70 | 6,800 / 12,400 | 17,200 / 33,600 |
| DHV = 8% DIR = 55% TTST = 9% DUAL = 5% | | |

LEGEND
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

MATCHLINE -LREV- STA. 717+00, SEE SHEET 46

MATCHLINE -FLYREV- STA. 22+50 SEE SHEET 48

MATCHLINE -FLYREV- STA. 51+50, SEE SHEET 69

MATCHLINE -LREV- STA. 12+80, -RPA- SEE SHEET 69

MATCHLINE -Y30EBREV- STA. 12+80, SEE SHEET 69

MATCHLINE -Y29REV- STA. 36+50, SEE SHEET 69

MATCHLINE -LREV- STA. 39+20, -LREV- STA. 743+00, SEE SHEET 48

MATCHLINE -Y30EBREV- STA. 39+20, SEE SHEET 48

MATCHLINE, SEE SHEET 70

MATCHLINE -Y29REV- STA. 46+00, SEE SHEET 70

SITE 12C

A

C

BEGIN JS

Restorations Systems, LLC.

Martha G. Mooring

MOORING, MARTHA G.

-LREV- TS Sta. 722+95.88

-LREV- POS Sta. 725+95.82 = -FLYREV- POT Sta. 40+79.33

-FLYREV- CS Sta. 36+79.66

-FLYREV- ST Sta. 38+59.66

-LPAREV- SC Sta. 21+40.00

-LPAREV- TS Sta. 0+00.00 = -RPA- POT Sta. 25+20.07 (80.00 LT)

-FLYREV- TS Sta. 42+68.94

-FLYREV- SC Sta. 44+48.94

-LREV- SC Sta. 725+95.88

-LREV- POC Sta. 726+61.02 = -RPA- POT Sta. 24+05.89

-RPA- ST Sta. 19+80.54

-RPA- SC Sta. 14+96.25

-RPA- CS Sta. 17+40.54

-LPAREV- CS Sta. 9+43.98

-LPAREV- SC Sta. 11+43.98

-LPAREV- CS Sta. 17+26.87

-LPAREV- SC Sta. 19+26.87 = -LREV- POC Sta. 735+90.42 (47.00 LT)

-FLYREV- SC Sta. 23+47.48

-LREV- CS Sta. 742+46.03

-Y30EBREV- PC Sta. 28+60.06

-Y30EBREV- PRC Sta. 32+84.06

-Y29REV- SC Sta. 39+19.32

-Y29REV- TS Sta. 38+11.32

TOE OUTLET DATA
Qfull= 3.48 CFS
Qbf= 3.48 CFS
Vfull= 2.21 FPS
Vbf= 2.21 FPS
Dfull= 0.79 FT
Dbf= 0.79 FT

DETAIL 2
TOE PROTECTION
(Not to Scale)

Type of Liner = Class 'B' Rip-Rap
FROM STA. 38+59 -FLYREV- TO STA. 33+50 -FLYREV- LT
FROM STA. 784+00 -LREV- TO STA. 788+00 -LREV- RT

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2554BBAC | 47 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
2415 Raleigh Ave, Ste 37 Raleigh, NC 27608
NC C-0183, Illinois Number F-0716

BARNHILL CONTRACTING COMPANY

PERMIT DRAWINGS
SHEET 108 OF 135

GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION:
TIP NO.: COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

PLOT DRIVEN: NCDOT.pltf color-eng.100.pltf
CADD: Intergraph
FILE: HDR_Engineering_Inc_of_Georgia\Proj_Data\R-2554BBAC\Roadway\sheets\R-2554BBAC_Roadway01.dgn
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DATE: 3/17/2023
TIME: 1:44:06 PM

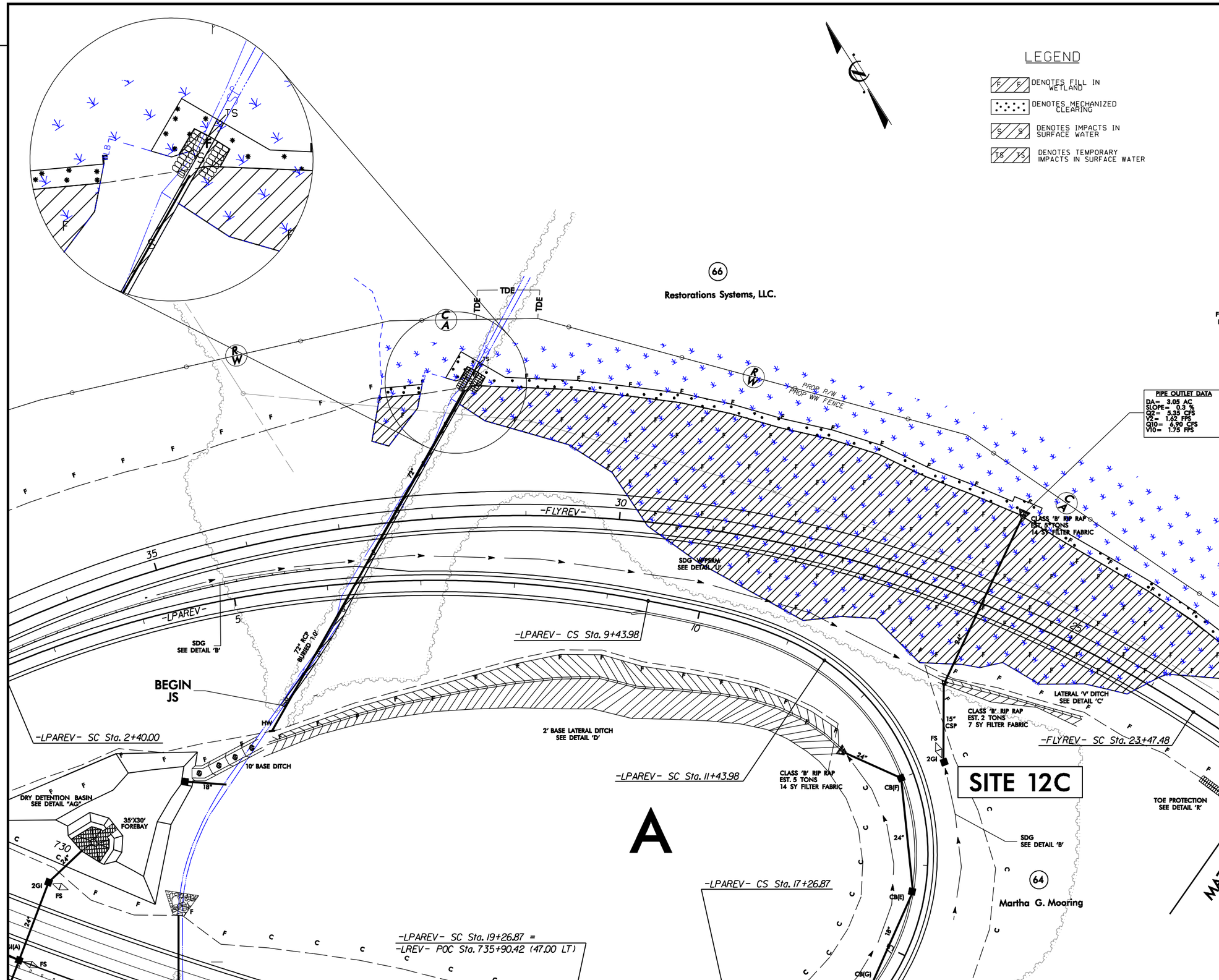
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2554BB&C | 47A |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY




PERMIT DRAWINGS
SHEET 109 OF 135

REVISIONS

IMPACTS UPDATED 5-17-13

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt PENTABLE: NCDOT_permits_NOCON.tbl
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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
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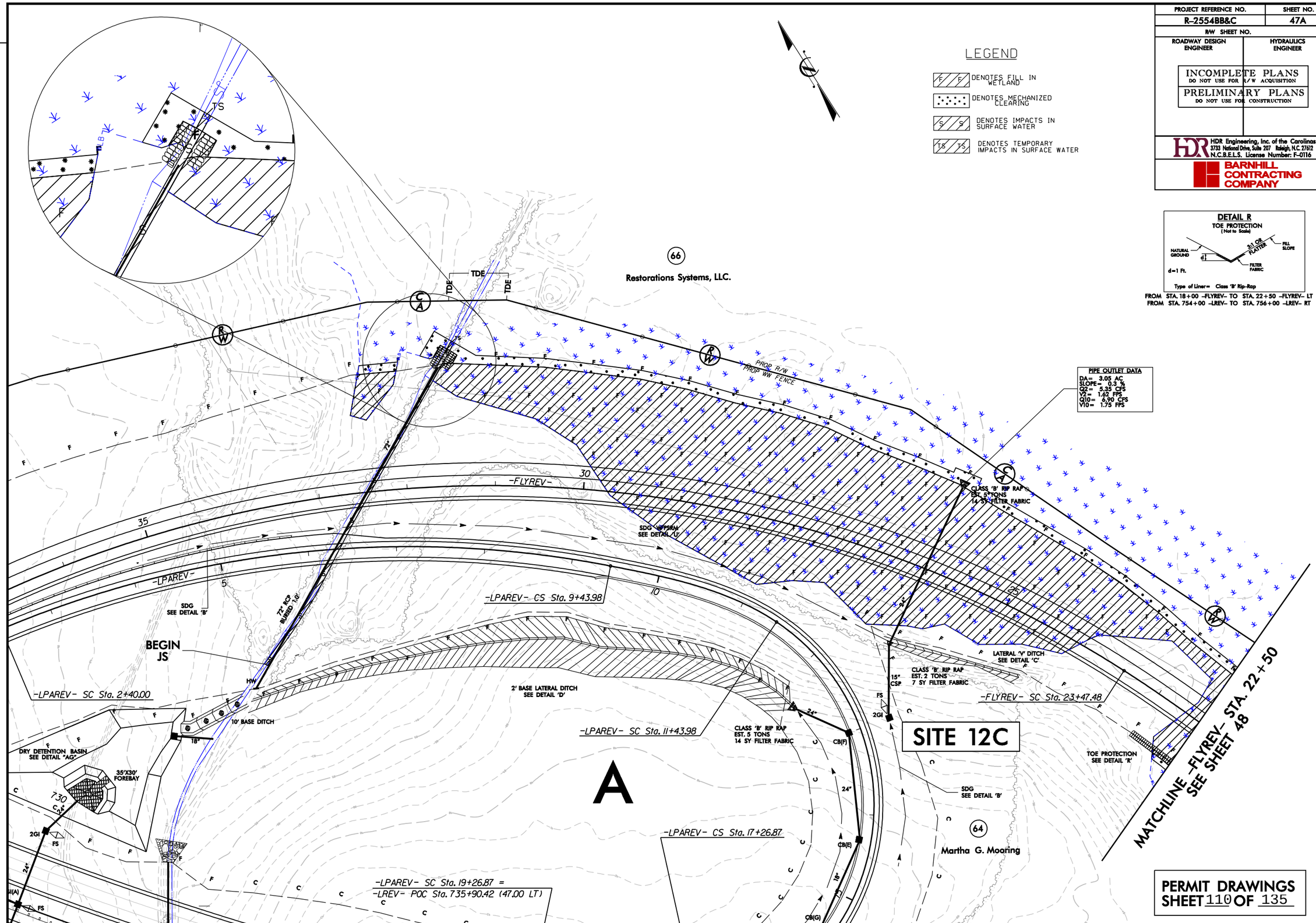
BARNHILL CONTRACTING COMPANY

## LEGEND

- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER




**PIPE OUTLET DATA**
DA= 3.05 AC
SLOPE= 0.3 %
Q2= 5.39 CFS
V2= 1.62 FPS
Q10= 6.90 CFS
V10= 1.75 FPS

**DETAIL R**
TOE PROTECTION
( Not to Scale)




Type of Liner= Class 'B' Rip-Rap

FROM STA. 18+00 -FLYREV- TO STA. 22+50 -FLYREV- LT
FROM STA. 754+00 -LREV- TO STA. 756+00 -LREV- RT

**REVISIONS**

IMPACTS UPDATED 5-17-13

PERMIT DRAWINGS
SHEET 110 OF 135

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
USER: cmyers
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| REVISIONS |
|---|
| EFC-28 (04/17/13): UPDATED SLOPE STAKES AT -LREV- 727+00 TO 735+50 (LT) FOR UPDATED 12' SHOULDER. |

DO NOT PLACE ROCK IN BED OF JURISDICTIONAL STREAMS.
SEE SHEET NO. 94,95 FOR -LREV- PROFILE.
SEE SHEET NO. 95 FOR -LREV_EB- PROFILE.
SEE SHEET NO. 97 FOR -LREV_WB- PROFILE.
SEE SHEET NO. 122,123 FOR -Y29REV- PROFILE.
SEE SHEET NO. 128,129 FOR -Y30EBREV- PROFILE.
SEE SHEET NO. 130,131 FOR -FLYREV- PROFILE.
SEE SHEET NO. 132 FOR -RPA- PROFILE.
SEE SHEET NO. 133 FOR -LPAREV- PROFILE.
SEE SHEET NO. 2-X FOR BRIDGE SKETCH.
PAVEMENT TO BE OBLITERATED.

| 2011 ADT / 2035 ADT | | |
|---|---|---|
| -LREV- US 70 | 10,400 / 21,400 | DHV = 10%, DIR = 55%, TTST = 10%, DUAL = 5% |
| | 6,800 / 12,400 | 10,400 / 21,300 |
| -Y30REV- EXISTING US 70 | 6,800 / 12,400 | 17,200 / 33,600 |
| DHV = 8%, DIR = 55%, TTST = 9%, DUAL = 5% | | |

LEGEND
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

SITE 12C

MATCHLINE -LREV- STA. 717+00, SEE SHEET 46
MATCHLINE -FLYREV- STA. 22+50 SEE SHEET 48
MATCHLINE -Y30EBREV- STA. 39+20, -LREV- STA. 743+00, SEE SHEET 48
MATCHLINE, SEE SHEET 70
MATCHLINE -Y29REV- STA. 46+00, SEE SHEET 70
MATCHLINE -Y29REV- STA. 36+50, SEE SHEET 69
MATCHLINE -Y30EBREV- STA. 12+80, SEE SHEET 69
MATCHLINE -RPA- STA. 12+80, -FLYREV- STA. 51+50, SEE SHEET 69

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2554BBC | 47 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
2415 Rexford Rd., Ste. 201 Charlotte, NC 28211
NC#F-0116 Illinois Number F-0116

BARNHILL CONTRACTING COMPANY

PERMIT DRAWINGS
SHEET 53 OF 70

GRAPHIC SCALE
50 25 0 50 100
PLANS

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|---|---|
| TIP NO.: | COUNTY: |
| DESIGNED BY: | |
| CHECKED BY: | DATE: |

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| REVISIONS |
|---|
| RPC-28 (04/17/13): UPDATED SLOPE STAKES AT -LREV- 727+00 TO 735+50 (LT) FOR UPDATED 12' SHOULDER. |

DO NOT PLACE ROCK IN BED OF JURISDICTIONAL STREAMS.
SEE SHEET NO. 94,95 FOR -LREV- PROFILE.
SEE SHEET NO. 95 FOR -LREV_EB- PROFILE.
SEE SHEET NO. 97 FOR -LREV_WB- PROFILE.
SEE SHEET NO. 122,123 FOR -Y29REV- PROFILE.
SEE SHEET NO. 128,129 FOR -Y30EBREV- PROFILE.
SEE SHEET NO. 130,131 FOR -FLYREV- PROFILE.
SEE SHEET NO. 132 FOR -RPA- PROFILE.
SEE SHEET NO. 133 FOR -LPAREV- PROFILE.
SEE SHEET NO. 2-X FOR BRIDGE SKETCH.
PAVEMENT TO BE OBLITERATED.

| 2011 ADT / 2035 ADT | | |
|---|---|---|
| -LREV- US TO | 10,400 / 21,400 | DHV = 10%, DIR = 55%, TTST = 10%, DUAL = 5% |
| | 6,800 / 12,400 | 10,400 / 21,300 |
| -Y30REV- EXISTING US TO | 6,800 / 12,400 | 17,200 / 33,600 |

DHV = 8%
DIR = 55%
TTST = 9%
DUAL = 5%

LEGEND
MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2

MATCHLINE -LREV- STA. 717+00, SEE SHEET 46

MATCHLINE -FLYREV- STA. 22+50 SEE SHEET 48

SITE 12C

MATCHLINE -Y30EBREV- STA. 12+80, SEE SHEET 69

MATCHLINE -RPA- STA. 12+80, -FLYREV- STA. 51+50, SEE SHEET 69

MATCHLINE -Y29REV- STA. 36+50, SEE SHEET 69

MATCHLINE -Y30EBREV- STA. 39+20, -LREV- STA. 743+00, SEE SHEET 48

MATCHLINE, SEE SHEET 70

MATCHLINE -Y29REV- STA. 46+00, SEE SHEET 70

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2554BBC | 47 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
2415 Rexford Rd., Ste. 201 Charlotte, NC 28211
NC#F-0116 (Licensed Business Number)

BARNHILL CONTRACTING COMPANY

PERMIT DRAWINGS
SHEET 54 OF 70

GRAPHIC SCALE
50 25 0 50 100
PLANS

| LOCATION: | |
|---|---|
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| DESIGNED BY: | |
| CHECKED BY: | DATE: |

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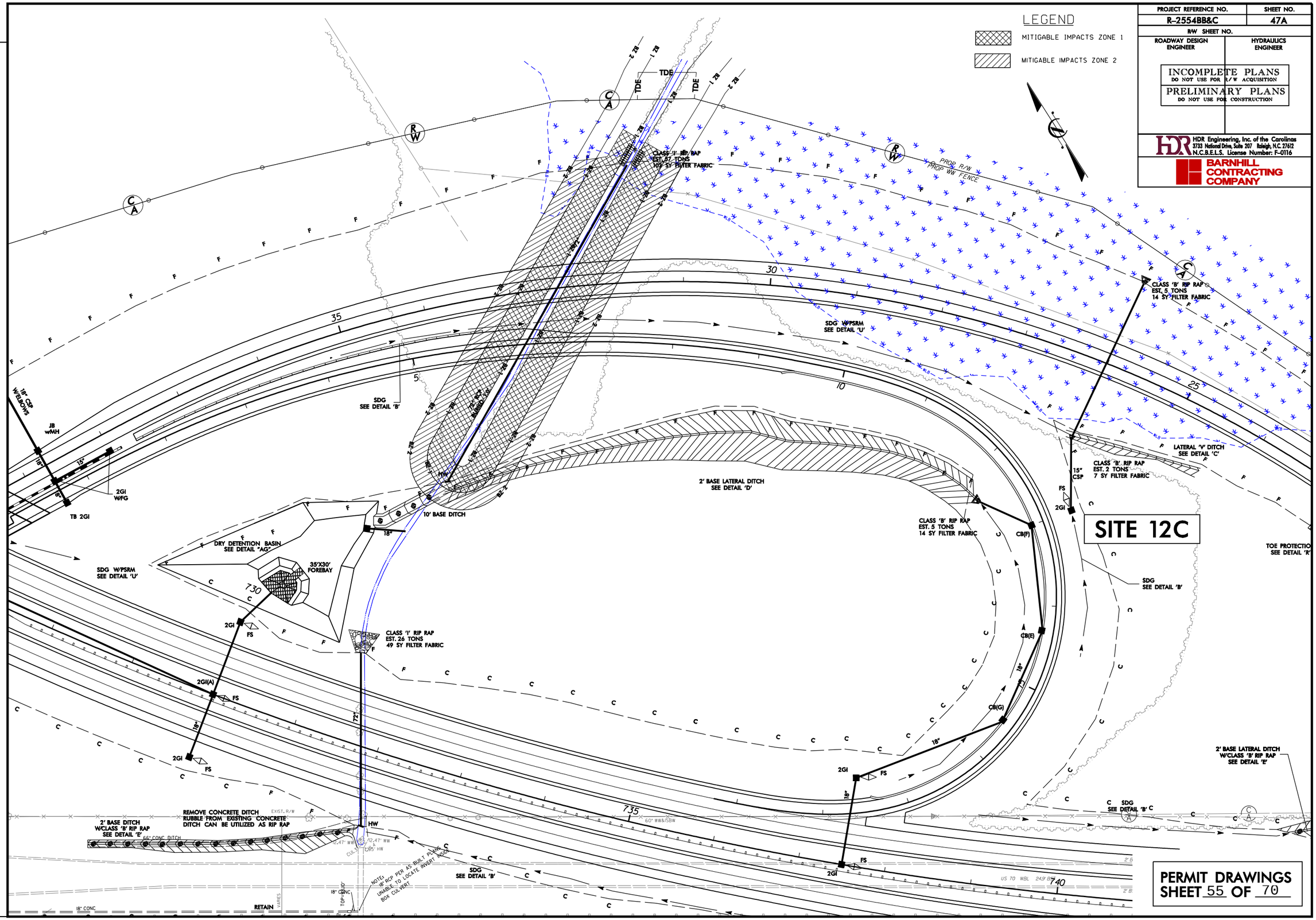
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2554BB&C | 47A |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY




REVISIONS

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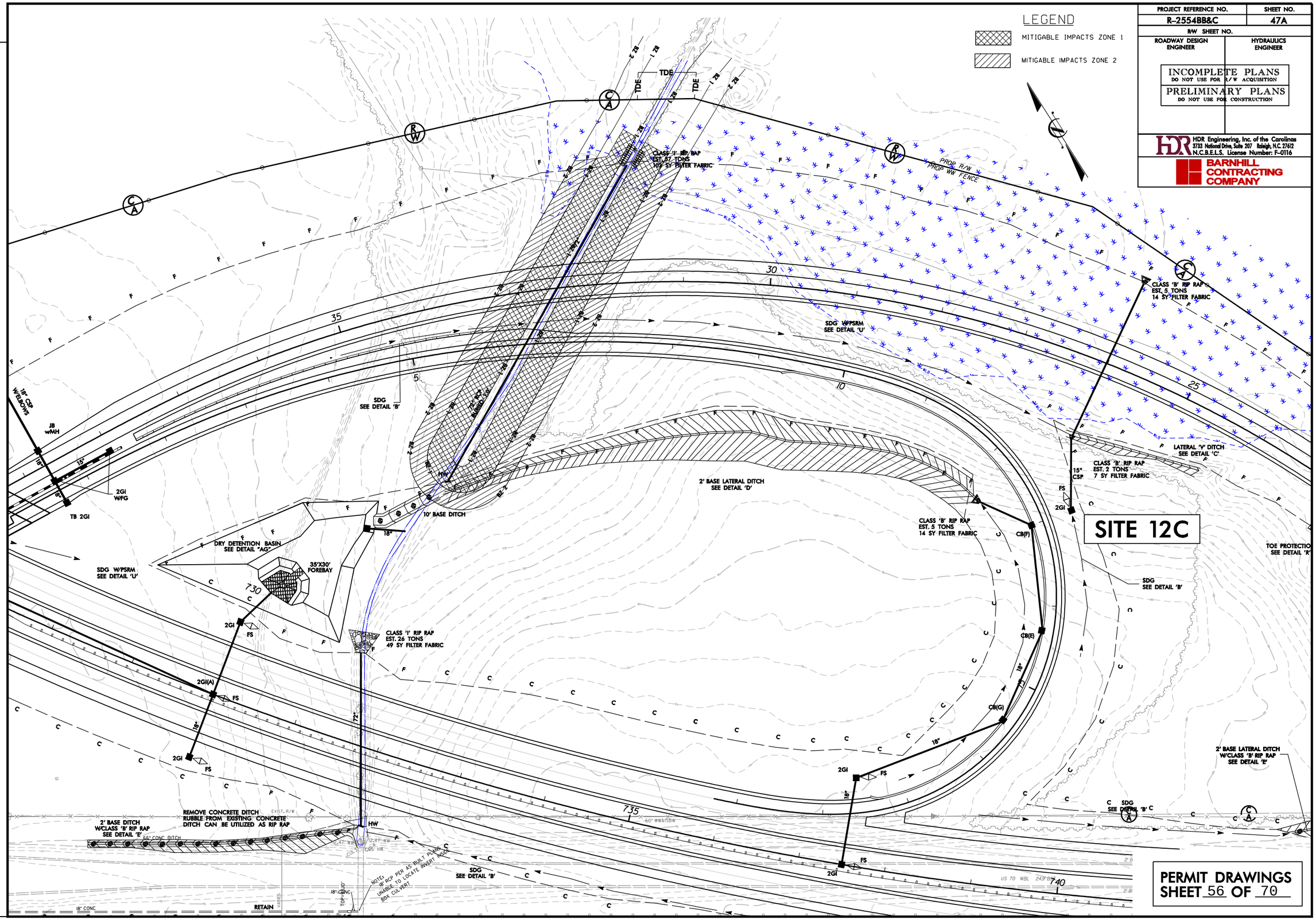
|---|---|
| R-2554BB&C | 47A |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY




REVISIONS

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2554BB&C | 65 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

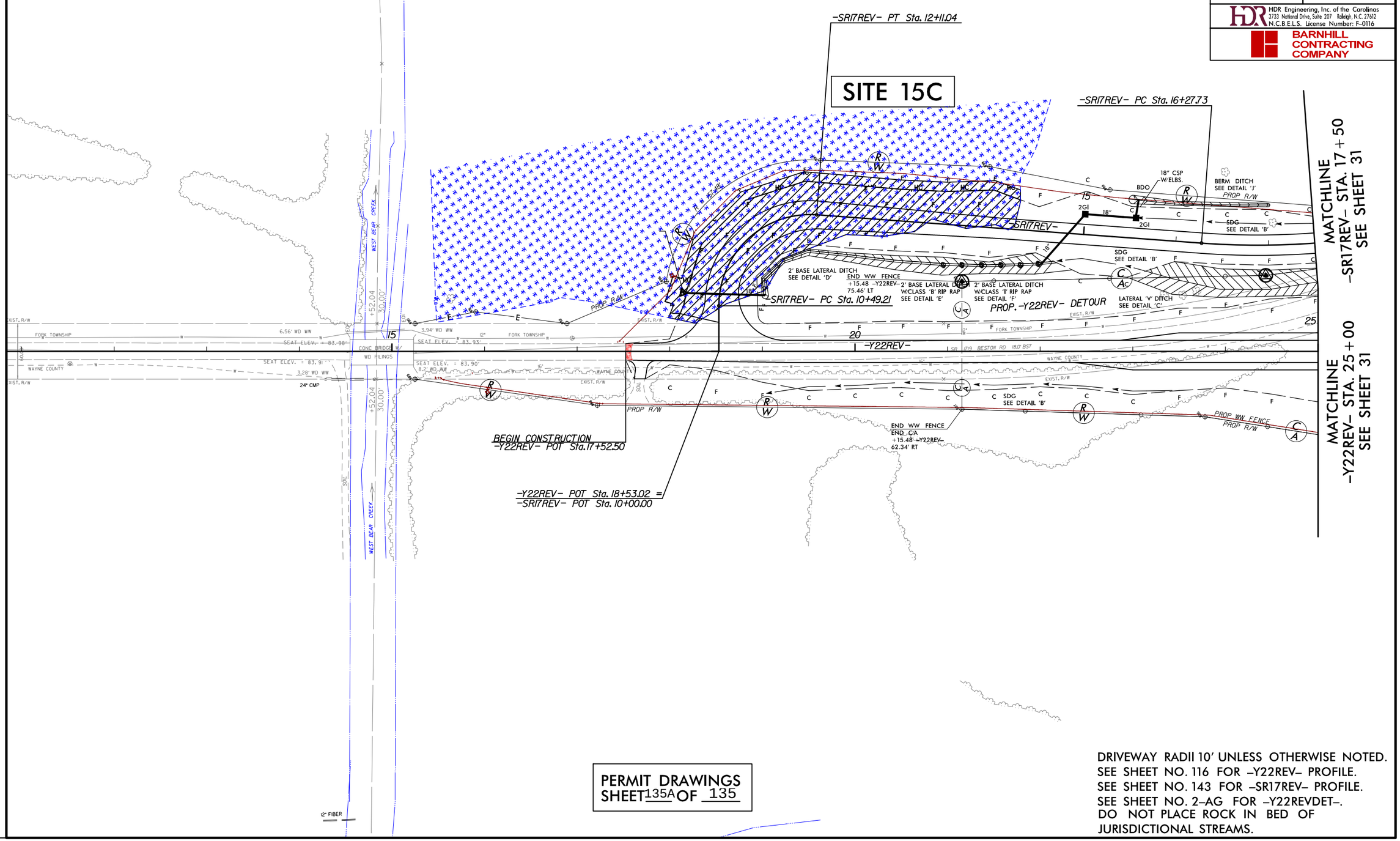
HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

LEGEND

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING




PERMIT DRAWINGS
SHEET 135A OF 135

DRIVEWAY RADII 10' UNLESS OTHERWISE NOTED.
SEE SHEET NO. 116 FOR -Y22REV- PROFILE.
SEE SHEET NO. 143 FOR -SR17REV- PROFILE.
SEE SHEET NO. 2-AG FOR -Y22REVDET-.
DO NOT PLACE ROCK IN BED OF JURISDICTIONAL STREAMS.

REVISIONS

SHEET ADDED 4-15-13

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| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-2554BB&C | 65 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

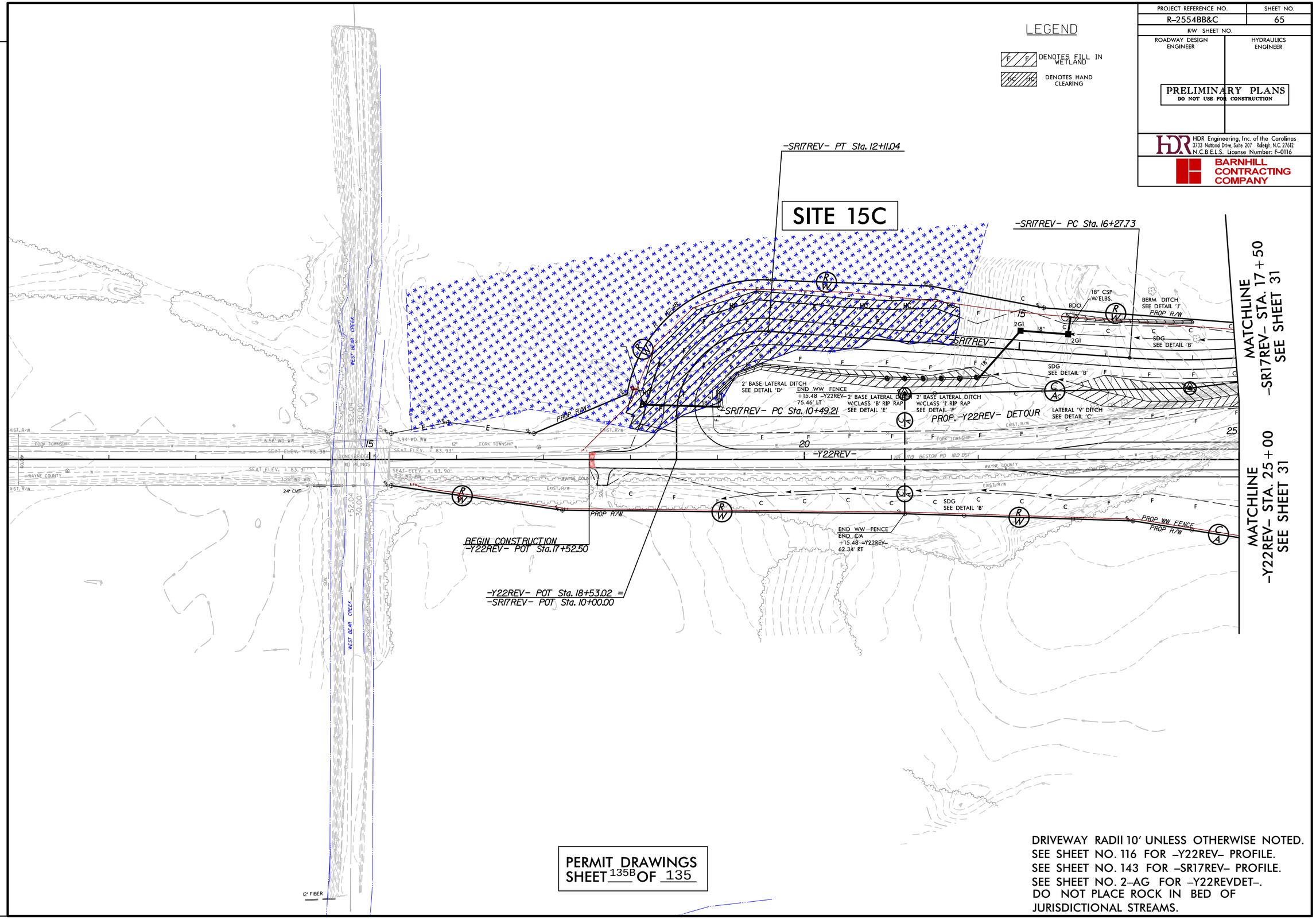
HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

BARNHILL CONTRACTING COMPANY

LEGEND

F F DENOTES FILL IN WETLAND

HC HC DENOTES HAND CLEARING




PERMIT DRAWINGS
SHEET 135B OF 135

DRIVEWAY RADII 10' UNLESS OTHERWISE NOTED.
SEE SHEET NO. 116 FOR -Y22REV- PROFILE.
SEE SHEET NO. 143 FOR -SR17REV- PROFILE.
SEE SHEET NO. 2-AG FOR -Y22REVDET-.
DO NOT PLACE ROCK IN BED OF JURISDICTIONAL STREAMS.

REVISIONS

SHEET ADDED 4-15-13

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# USGS Jason Quadrangle: Vicinity Map

**Figure 1**

HDR ONE COMPANY | *Many Solutions*

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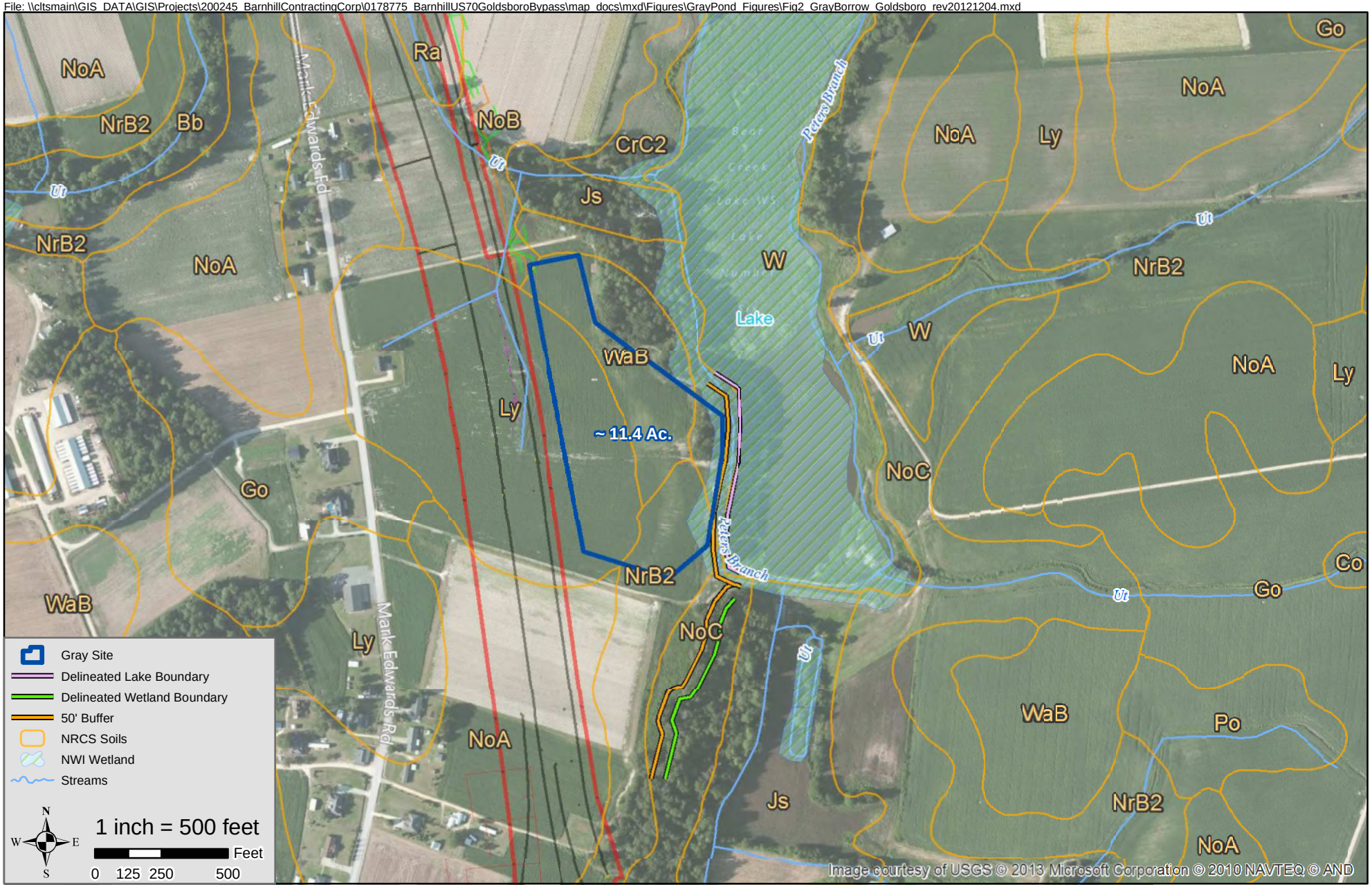


HDR ONE COMPANY | Many Solutions

# NRCS Soils/National Wetlands Inventory (NWI) Map

**Figure 2**

Bing 2010 Aerial

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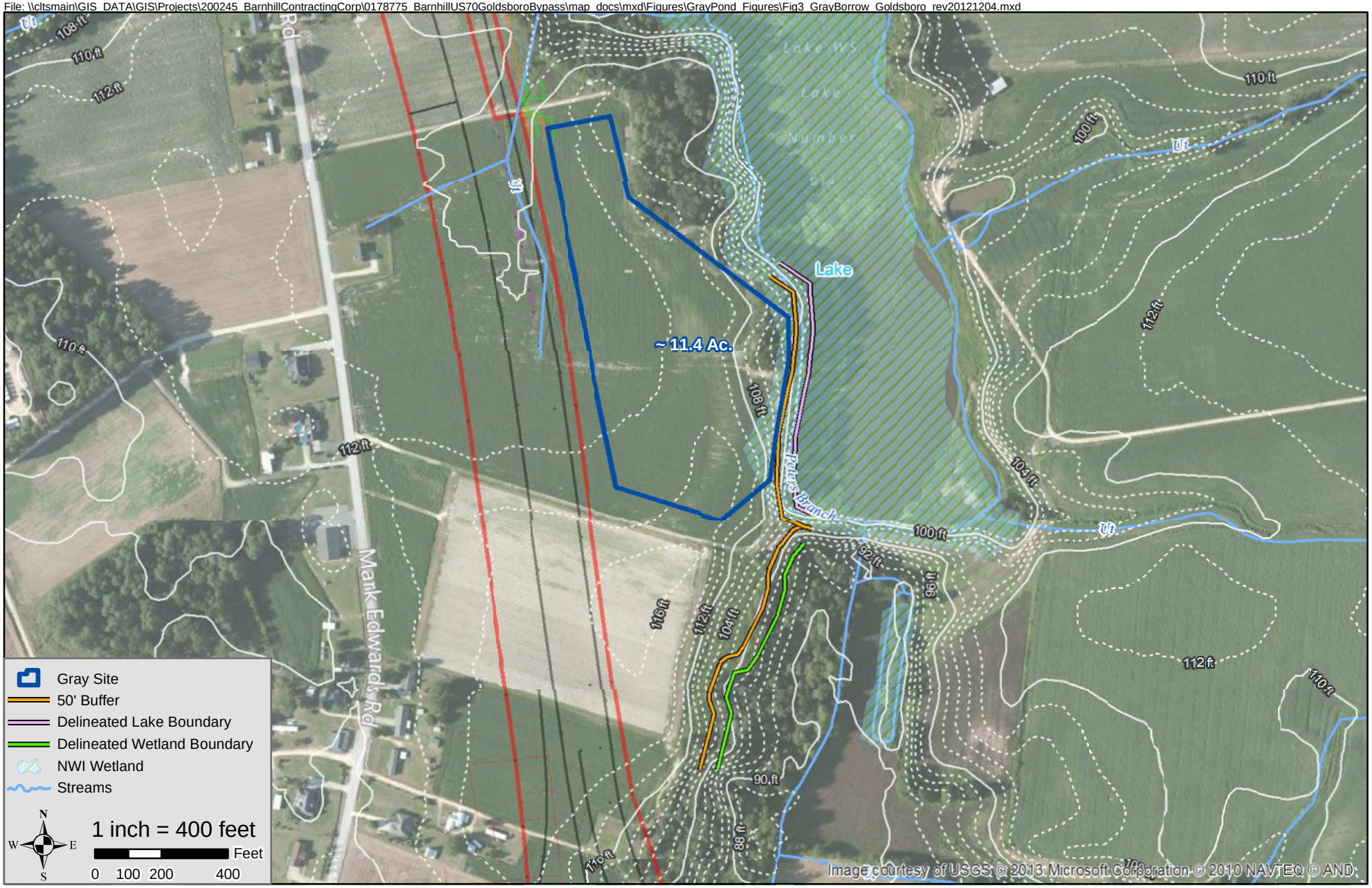


HDR ONE COMPANY | Many Solutions

# Elevation Map

**Figure 3**

Bing 2010 Aerial

Barnhill Contracting | R-2554BB&C (Goldsboro Bypass) | Borrow Site Environmental Review