



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

November 21, 2005

MEMORANDUM TO: Mr. Jon G. Nance, P.E.
Division 5 Engineer

FROM: Philip S. Harris, III, P.E. *PSH*
Natural Environment Unit Head
Project Development and
Environmental Analysis Branch

SUBJECT: Wake County; Division 5; East Wake Expressway; I-540 from south of
existing US-64 (R-2000G) to the US-64 Bypass (R-2547 BB); State
Project No. 8.1402202; TIP Project No. R-2641

Attached is the modification to the DWQ Water Quality Certification and the Neuse Buffer Certification for the above referenced project. All environmental permits have been received for the construction of this project.

PSH/gyb

Attachment

cc: Mr. Art McMillan, P.E.
Mr. Omar Sultan
Mr. Jay Bennett, P.E.
Mr. David Chang, P.E.
Mr. Randy Garris, P.E.
Mr. Greg Perfetti, P.E.
Mr. Mark Staley
Mr. John F. Sullivan, III, FHWA
Mr. Chris Murray, Division 5 DEO
Ms. Cathy Houser, PE

PROJECT COMMITMENTS

East Wake Expressway

I-540 from south of existing US-64 (R-2000G) to the US-64 Bypass (R-2547BB)

Wake County

State Project No. 8.1402202

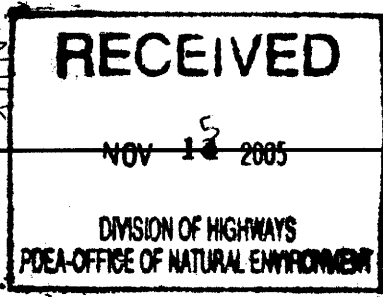
Federal Aid Project No. NHF-DPI-0199(004)

TIP No. R-2641

In addition to the standard Individual Section 404 and 401 Permit Conditions, State Consistency Conditions, NCDOT's Guidelines for Best Management Practices for Protection of Surface Waters, the following special commitments have been agreed to by NCDOT:

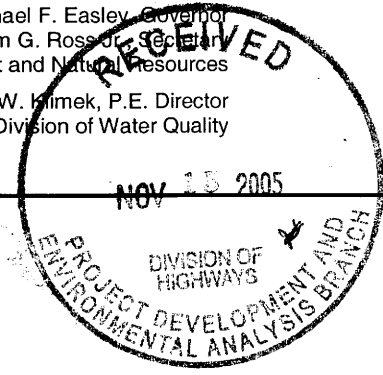
Commitments Developed through Permit Modification

No new special permit conditions are stated in the attached permit. All other conditions written into previous Permits, Water Quality Certifications, and Neuse River Buffer Certifications for R-2547 and R-2641 still apply.



Michael F. Easley, Governor
William G. Ross, Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality



Beauregard

November 3, 2005
Wake County
DWQ Project No. 011689
TIP No. R-2641

Dr. Greg Thorpe, PhD., Manager
Planning & Environmental Branch
N.C. Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina, 27699-1548

Dear Dr. Thorpe:

Re: Modification to Certification Pursuant to Section 401 of the Federal Clean Water Act and the Neuse River Riparian Rules, Proposed East Wake Expressway, connecting Northern Wake Expressway to the Knightdale Bypass in Wake County (TIP R-2641).
WQC Project No. 011689

Attached hereto is a modification to Certification No. 3377 issued to the North Carolina Department of Transportation on April 10, 2002. The attached modification authorizes changes to the project design as described in your submittal dated October 18, 2005 (dated received October 28, 2005). The modification authorizes an additional 926 square feet of Zone 1 and 86 square feet of Zone 2 buffer impacts for site 5 at Station 202+30 for the purpose of mechanized clearing to enable pipe installation. The only modifications to the design of the project authorized by this certification are those submitted in your October 18, 2005 application. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated April 10, 2002 and all other corresponding modifications still apply except where superceded by this certification.

If we can be of further assistance, do not hesitate to contact Christina Breen at 919-733-9604.

Sincerely,

Alan W. Klimek
Alan W. Klimek, P.E.
Director

Modification to WQC No. 3377

- cc: Wilmington District US Army Corps of Engineers
- Mr. Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office
- Mr. Jon G. Nance, PE, Division 5 Engineer, 2612 N. Duke Street, Durham, NC 27704
- Mr. Chris Murray, Division 5 Environmental Officer, 2612 N. Duke Street, Durham, NC 27704
- Ms. Rachelle Beauregard, NEU, 2728-168 Capital Blvd, Parker Lincoln Bldg, Raleigh, NC 27604
- Mr. William Gilmore, EEP, 1652 MSC, Raleigh, NC 27699
- DWQ Raleigh Regional Office
- Central Files
- File Copy

RECEIVED

NORTH CAROLINA 401 WATER QUALITY CERTIFICATION

THIS CERTIFICATION 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 Division of Water Quality (DWQ) Regulations in 15 NCAC 2H, Section .0500. Attached hereto is a modification to Certification No. 3377 issued to the North Carolina Department of Transportation on April 10, 2002. The attached modification authorizes changes to the project design as described in your submittal dated October 18, 2005. The modification authorizes the following:

Buffer Impacts in the Neuse River Basin

Site	Zone 1 (sq. ft)	Zone 2 (sq. ft.)	Total (sq.ft.)
5 (Station No. 202+30)	41,440	29,815	71,255
New Site 5 Impacts	926	86	1,012
Revised Site 5 Total	42,366	29,901	72,267

The only modifications to the design of the project authorized by this certification are those submitted in your October 18, 2005 application. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated April 10, 2002 and all other corresponding modifications still apply except where superseded by this certification.

The application provides adequate assurance that the proposed impacts to the stream and riparian buffer zones in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application, as described in the Public Notice. Should your project change, you are required to notify the DWQ 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, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations.

Condition(s) of Certification:

- Mitigation for the additional impacts to 926 square feet of protected riparian buffers in Zone 1 and 86 square feet of protected riparian buffers in Zone 2 will be mitigated for as described below:

Zone of Impact	Additional Impacts (Square Feet)	Replacement Ratio	Total Additional Square Feet of Mitigation Required
Zone 1	926	3:1	2,778
Zone 2	86	1.5:1	129
Total	1,012		2,907

We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through an in lieu payment to the North Carolina Ecosystem Enhancement Program (NCEEP), and that the EEP has agreed to implement the mitigation for the project. Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided through an in-lieu payment to the North Carolina Ecosystem

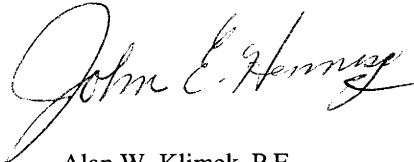
Enhancement Program (NCEEP) at a rate of \$0.96 per square foot for 2,907 square feet of additional buffer impact. Therefore, a total payment of \$ 2,790.72 shall be submitted to the NCEEP to offset the impacts.

2. Native riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
3. All other conditions written into previous Water Quality Certifications and Neuse River Riparian Buffer Certifications for this project still apply.

Violations of any condition herein set forth shall result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or coastal Area Management Act Permit. This Certification shall expire upon expiration of the 404 or CAMA permit.

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, P.O. Box 27447, Raleigh, N.C. 27611-7447. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 3rd day of November 2005
DIVISION OF WATER QUALITY



Alan W. Klimek, P.E.
Director

Modification to WQC No. 3377

Certification of Completion

DWQ Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of Wetland Permit: _____

Certificate of Completion

Upon completion of all work approved within the **401 Water Quality Certification and Buffer Rules**, and any subsequent modifications, the applicant is required to return this certificate to the 401/Wetlands Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to DWQ by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the **401 Water Quality Certification and Buffer Rules**, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the **401 Water Quality Certification and Buffer Rules**, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

If this project was designed by a Certified Professional

I, _____, as a duly registered Professional _____ (i.e., Engineer, Landscape Architect, Surveyor, etc.) in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project, for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the **401 Water Quality Certification and Buffer Rules**, the approved plans and specifications, and other supporting materials.

Signature: _____ Registration No. _____ Date _____

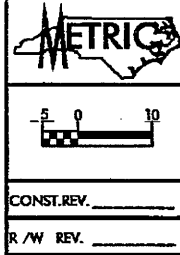
Site Information TIP Number	Site Number	Permit Version	Wetland Impacts (ac)		Excavation/tech. Clearing Wetlands in Wetlands		Surface Water Impacts (ac)		Channel Impacts (ft)		Buffer Impacts (sq ft)		
			Fill in Wetlands	Temp. Fill Wetlands	Fill in Wetlands	Temp. Fill Wetlands	Fill in Natural SW	Fill in Pond	Fill in Temp Fill in SW	Existing Channel	Relocated Channel	Enclosed Channel	Zone 1
R-2641	2	10/19/2001	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0	0	23,142	18,729
		5/11/2004	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0	0	23,142	18,729
		Change	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
R-2641	3	10/19/2001	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0	0	13,455	10,979
		5/11/2004	0.00	0.00	0.00	0.00	1.70	0.00	0.00	0	0	0	0
		Change	0.00	0.00	0.00	0.00	1.27	0.00	0.00	0	0	-13,455	-10,979
R-2641	4	10/19/2001	0.14	0.00	0.00	0.03	0.00	0.00	0.00	0	0	8,396	5,597
		5/11/2004	0.11	0.00	0.00	0.03	0.00	0.00	0.00	0	0	0	0
		Change	-0.03	0.00	0.00	0.00	0.00	0.00	0.00	0	0	-8,396	-5,597
R-2641	5	10/19/2001	0.00	0.00	0.00	0.00	1.22	0.00	0.00	0	0	0	0
		5/11/2004	0.00	0.00	0.00	0.00	1.22	0.00	0.00	0	0	41,440	29,815
		Revised 10/19/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	926	86
		Change	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	42,366	29,901
R-2641	5a	10/19/2001	0.15	0.00	0.00	0.01	0.00	0.00	0.00	0	0	0	0
		5/11/2004	0.13	0.00	0.00	0.01	0.00	0.00	0.00	0	0	6,706	5,339
		Change	-0.03	0.00	0.00	0.00	0.01	0.00	0.00	0	0	6,706	5,339
R-2641	6	10/19/2001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
		5/11/2004	0.010*	0.034	0.00	0.000	0.00	0.00	0.00	0	0	0	0
		Change	0.010	0.034	0.00	0.000	0.00	0.00	0.00	0	0	0	0
R-2641	7	10/19/2001	0.56	0.00	0.00	0.05	0.00	0.00	0.00	0	0	54,895	32,506
		5/11/2004	0.32	0.00	0.02	0.02	0.00	0.00	0.00	0	0	0	0
		Change	-0.24	0.00	0.02	-0.03	0.00	0.00	0.00	0	0	-54,895	-32,506
R-2547BB	8	10/19/2001											
		Current											
		Change											
R-2547BB	9	10/19/2001	1.40	0.00	0.00	0.12	0.04	0.00	0.00	285	0	35,197	23,357
		5/11/2004	1.27	0.00	0.05	0.08	0.06	0.00	0.00	449	0	35,197	22,388
		Change	-0.13	0.00	0.05	-0.04	0.02	0.00	0.00	164	0	0	-969
R-2547BB	10	10/19/2001	1.038	0.000	0.000	0.099	0.00	0.00	0.00	0	0	0	0
		5/11/2004	1.24	0.00	0.14	0.02	0.00	0.00	0.00	0	0	0	0
		Change	0.20	0.00	0.14	-0.07	0.00	0.00	0.00	0	0	0	0
Total Impacts		10/19/2001	3.28	0.00	0.00	0.31	0.04	2.27	0.00	285	0	135,084	91,168
		5/11/2004	3.06	0.00	0.21	0.16	0.07	3.54	0.00	552	0	106,485	76,271
		Revised 10/19/05	-0.22	0.03	0.21	-0.15	0.03	1.27	0.00	266	0.00	-27,673	-14,811
		Change	-0.16	wetlands			1.27	ponds		266	stream**	-42,484	buffers***
R-2547BB		10/19/2001	2.43	0.00	0.00	0.22	0.04	0.00	0.00	285	0	35,197	23,357
		5/11/2004	2.51	0.00	0.19	0.10	0.06	0.00	-0.00	449	0	35,197	22,388
		Change	0.07	0.00	0.19	-0.12	0.02	0.00	0.00	164	0	0	-969
R-2641		10/19/2001	0.85	0.00	0.00	0.09	0.00	2.27	0.00	0	0	99,887	67,811
		5/11/2004	0.56	0.00	0.02	0.05	0.01	3.54	0.00	102	0	71,288	53,883
		Revised 10/19/05	-0.29	0.00	0.02	-0.03	0.01	1.27	0.00	102	0	-27,673	-13,842
		Change											

*Site is bridged - impacts not included in calculations

**Stream impact totals include streams requiring mitigation and those that do not require mitigation

***Buffer impact totals include all sites (including those under 0.33 ac that do not require mitigation)

Bold indicates changes from 10/19/05 revision (additional 926 sq ft of Zone 1 and 86 sq ft of Zone 2 at Site 5)



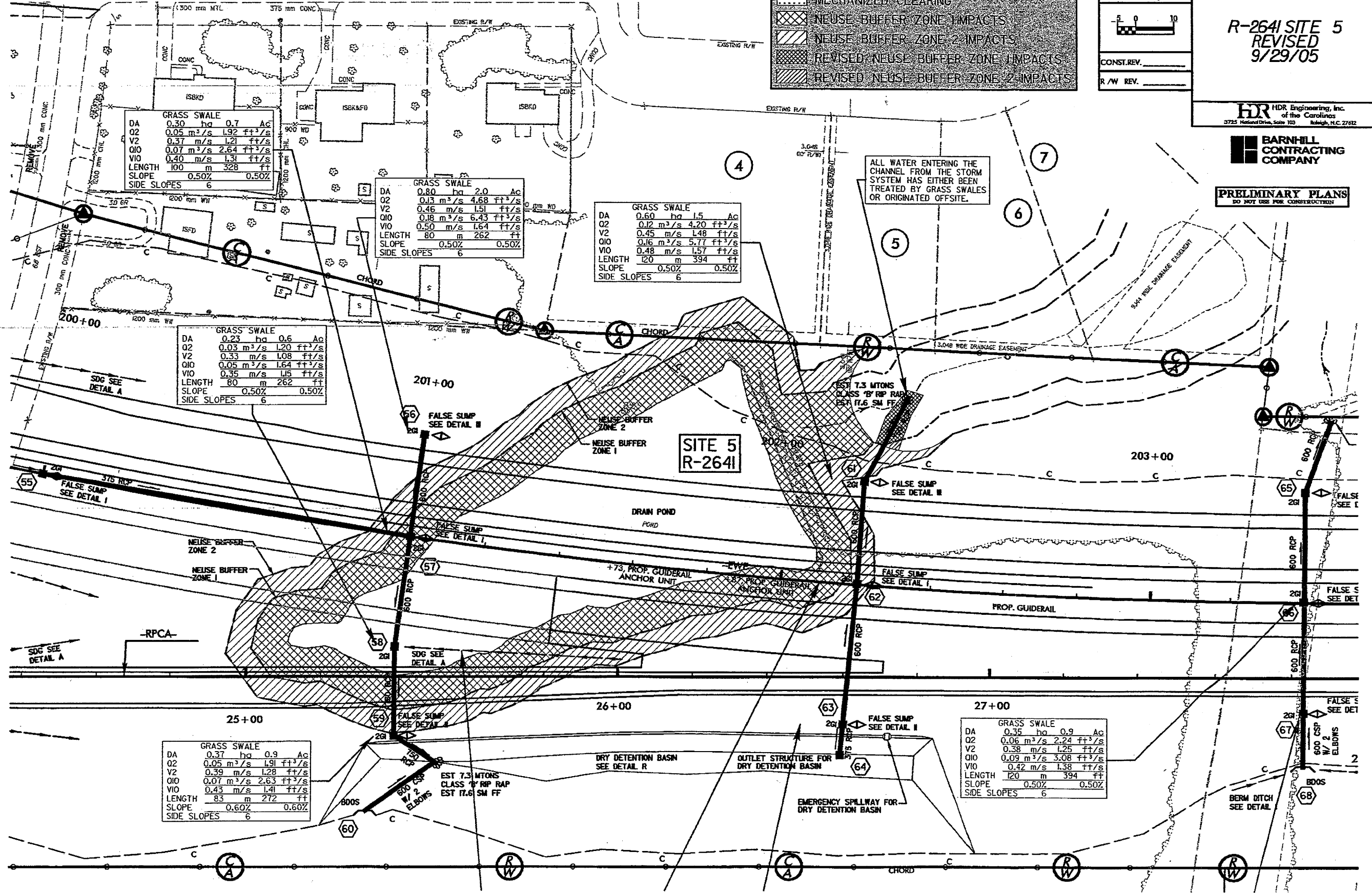
R-2641 SITE 5
REVISED
9/29/05

HDR HDR Engineering, Inc. of the Carolinas
3725 Midland Drive, Suite 103 Raleigh, N.C. 27612

BARNHILL CONTRACTING COMPANY

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MECHANIZED CLEARING
NEUSE BUFFER ZONE 1 IMPACTS
NEUSE BUFFER ZONE 2 IMPACTS
REVISED NEUSE BUFFER ZONE 1 IMPACTS
REVISED NEUSE BUFFER ZONE 2 IMPACTS



GRASS SWALE

DA	0.30	ha	0.7	Ac
Q2	0.05	m ³ /s	1.92	ft ³ /s
V2	0.37	m/s	1.21	ft/s
Q10	0.07	m ³ /s	2.64	ft ³ /s
V10	0.40	m/s	1.31	ft/s
LENGTH	100	m	328	ft
SLOPE	0.50%		0.50%	
SIDE SLOPES	6		6	

GRASS SWALE

DA	0.80	ha	2.0	Ac
Q2	0.13	m ³ /s	4.68	ft ³ /s
V2	0.46	m/s	1.51	ft/s
Q10	0.18	m ³ /s	6.43	ft ³ /s
V10	0.50	m/s	1.64	ft/s
LENGTH	80	m	262	ft
SLOPE	0.50%		0.50%	
SIDE SLOPES	6		6	

GRASS SWALE

DA	0.60	ha	1.5	Ac
Q2	0.12	m ³ /s	4.20	ft ³ /s
V2	0.45	m/s	1.48	ft/s
Q10	0.16	m ³ /s	5.77	ft ³ /s
V10	0.48	m/s	1.57	ft/s
LENGTH	120	m	394	ft
SLOPE	0.50%		0.50%	
SIDE SLOPES	6		6	

GRASS SWALE

DA	0.23	ha	0.6	Ac
Q2	0.03	m ³ /s	1.20	ft ³ /s
V2	0.33	m/s	1.08	ft/s
Q10	0.05	m ³ /s	1.64	ft ³ /s
V10	0.35	m/s	1.15	ft/s
LENGTH	80	m	262	ft
SLOPE	0.50%		0.50%	
SIDE SLOPES	6		6	

GRASS SWALE

DA	0.35	ha	0.9	Ac
Q2	0.06	m ³ /s	2.24	ft ³ /s
V2	0.38	m/s	1.25	ft/s
Q10	0.09	m ³ /s	3.08	ft ³ /s
V10	0.42	m/s	1.38	ft/s
LENGTH	120	m	394	ft
SLOPE	0.50%		0.50%	
SIDE SLOPES	6		6	

GRASS SWALE

DA	0.37	ha	0.9	Ac
Q2	0.05	m ³ /s	1.91	ft ³ /s
V2	0.39	m/s	1.28	ft/s
Q10	0.07	m ³ /s	2.63	ft ³ /s
V10	0.43	m/s	1.41	ft/s
LENGTH	83	m	272	ft
SLOPE	0.60%		0.60%	
SIDE SLOPES	6		6	

REVISIONS

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