



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY PERDUE
GOVERNOR

EUGENE CONTI
SECRETARY

August 4, 2009

MEMORANDUM TO: Mr. J. Wally Bowman, PE
Division Five Engineer

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

A handwritten signature in black ink, appearing to read "E. P. Harris".

SUBJECT: Wake County, Replace Bridge No.143 on SR 2217 (Milburnie Road) over
Beaver Dam Creek; T.I.P. Number B-4304; Federal Aid Project No. BRZ-
2217(1); State Project 8.2409501

Attached are the revised U.S. Army Corps of Engineers Section 404 Nationwide Permit Numbers 13 & 23 (replaces the previous NW 13 & 23, issued Sept. 17, 2008.) and N.C. Division of Water Quality Section 401 General Water Quality Certification modification for the above referenced project. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:
<http://www.ncdot.gov/doh/preconstruct/pe/neu/permit.html>

PSH/gyb

Attachment

Cc: W/attachment
Mr. Randy Garris, P.E. State Contract Officer
Mr. Chris Murray, Division Environmental Officer

Cc: W/o attachment (see website for attachments)
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Jay Bennett, P.E., Roadway Design
Dr. David Chang, P.E., Hydraulics
Mr. Art McMillan, P.E., Highway Design
Mr. Tom Koch, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. John F. Sullivan, FHWA
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Mike Robinson, P.E., State Bridge Construction Engineer
Ms. Beth Harmon, EEP
Mr. Bill Goodwin, P.E., PDEA Bridge Unit Head

PROJECT COMMITMENTS

Wake County
Bridge No. 143 on SR 2217 (Old Milburnie Road)
Over Beaver Dam Creek
Federal Aid Project No. BRZ-2217 (1)
State Project No. 8.2409501
WBS No. 33641.1.1
TIP No. B-4304

Commitments Developed Through Project Development and Design

Hydraulics Unit

Bridge deck drains will not be allowed to discharge directly into surface waters. All direct discharges will be outside Neuse River Riparian Buffers. All runoff will be diffused within the riparian buffer by dispersing concentrated flow entering Zone 2.

Structures Unit

Two-bar metal bicycle safe railing will be provided on the bridge.

Commitments Developed Through the Permitting Process

Division Construction/Roadside Environmental Unit

Streams within the project area are subject to the Neuse Buffer Regulations; therefore, NCDOT's Design Standards in Sensitive Watersheds will be implemented.

Commitments Developed Through 404/401 Permitting

Natural Environment Unit

404 Condition a: NCDOT shall provide compensatory mitigation for the unavoidable impacts to 0.92 acre of wooded riparian wetlands, associated with the proposed project, by debiting 0.92 acre of non-riverine wetland restoration from the Jeffreys Warehouse Mitigation Site (aka JALO), described in the September 17, 2004 "Jeffreys Warehouse Conceptual Mitigation Plan, Wayne County, North Carolina".

404 Condition b: The permittee shall monitor the required Jeffreys Warehouse wetland restoration in accordance with the Monitoring Plan, Wetlands, in the September 17, 2004 Mitigation Plan, Page 25.

401 Condition 1: Compensatory mitigation for impacts to 257 ft² of protected riparian buffers in Zone 1 and 1,921 ft² of protected riparian buffers in Zone 2 shall be required. Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided in the Neuse River Basin and done in accordance with 15A NCAC 2B.0233. This certification gives approval to the debiting of 3,653 ft² of riparian buffer mitigation from the Jeffreys Warehouse Mitigation Site.

No additional special conditions are required for the Permit Modification.

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

Action ID(s): **200420510**

County: **Wake** USGS Quad: **Raleigh East**

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION (Revised)

Property Owner: **NCDOT; Division of Highways
ATTN: Gregory J. Thorpe, Ph.D**
Mailing Address: **1598 Mail Service Center
Raleigh, North Carolina 27699-1598**
Telephone No.: **(919) 431-1587 (Greg Price)**

Location of property (road name/number, town, etc.): **TIP #B-4304; On SR 2217 (Old Milburnie Road), BR 143 over
Beaverdam Creek, northwest of Knightdale, North Carolina.**

Site Coordinates: **35.883°N -78.5222°W** Waterway: **Beaverdam Creek** River Basin: **Neuse** HUC: **03020201**

Description of projects area and activity (see page 2 for a summary of authorized impacts): **TIP #B-4304; Discharge of fill
material for riprap bank stabilization, mechanized clearing, culvert extension and approach fill, related to replacement
of Bridge No. 143 with a new bridge on new location, in accordance with the revised drawings submitted on 7/9/2009, and
subject to the attached special conditions.**

Applicable Law: Section 404 (Clean Water Act, 33 USC 1344)
 Section 10 (Rivers and Harbors Act, 33 USC 403)
Authorization: **Nationwide General Permit Number(s): 13 & 23**

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted plans. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order and/or appropriate legal action.

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

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Quality (telephone (919) 733-1786) to determine Section 401 requirements.

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

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact **Eric Alsmeyer** at telephone **(919) 554-4884, ext. 23**.

Corps Regulatory Official _____ Date: **7/30/2009** Verification Expiration Date: **7/30/2011**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at our website at <http://regulatory.usacesurvey.com/> to complete the survey online.

Copy Furnished: **NCDOT-NEU (Greg Price) by e-mail
NCDOT-NEU (Byron Moore) by e-mail**

Determination of Jurisdiction:

- Based on preliminary information, there appear to be waters of the US including wetlands within the above described project area. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).
- There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- There are waters of the US and/or wetlands within the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- The jurisdictional areas within the above described project area have been identified under a previous action. Please reference the jurisdictional determination issued on 7/1/2004; AID 200420510.

Basis of Jurisdictional Determination: **The impact area contains two perennial stream channels (Beaverdam Creek and an unnamed tributary) with indicators of ordinary high water marks, RPW's and tributaries of the Neuse River, a TNW, and adjacent, abutting wetlands.**

Summary of Authorized Impacts and Required Mitigation

Action ID #	NWP / GP #	Open Water (ac)		Wetland (ac)		Unimportant Stream (lf)		Important Stream (lf)	
		Temporary	Permanent	Temporary (Mech. Clearing)	Permanent	Temporary	Permanent	Temporary	Permanent
200420510	13		0.07						
	23			0.25	0.67				20
Impact Totals		0	0.07	0.25	0.67	0	0	0	20
Total Loss of Waters of the U.S. (ac)				0.67	Total Loss of Waters of the U.S. (lf)				10
Required Wetland Mitigation (ac)			0.92	Permittee	Required Stream Mitigation (lf)			0	

Special Permit Condition:

- a) NCDOT shall provide compensatory mitigation for the unavoidable impacts to 0.92 acre of wooded riparian wetlands, associated with the proposed project, by debiting 0.92 acre of non-riverine wetland restoration from the Jeffreys Warehouse Mitigation Site (aka JALO), described in the September 17, 2004 "Jeffreys Warehouse Conceptual Mitigation Plan, Wayne County, North Carolina".
- b) The permittee shall monitor the required Jeffreys Warehouse wetland restoration in accordance with the Monitoring Plan, Wetlands, in the September 17, 2004 Mitigation Plan, Page 25.

Additional Remarks:

No stream mitigation is required.

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This verification replaces the previous verification dated 9/17/2009. No additional compensatory mitigation will be required.

**WILMINGTON DISTRICT
POST-CONSTRUCTION COMPLIANCE FORM**

Action ID Number: 200420510

County: Wake

Permittee: NCDOT; Division of Highways; TIP #B-4304; On SR 2217 (Old Milburnie Road), BR 143 over Beaverdam Creek, northwest of Knightdale, North Carolina.

Date Permit Issued: 7/30/2009

Project Manager: Eric Alsmeyer

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

**US Army Corps of Engineers, Wilmington District
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587**

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

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

Signature of Permittee

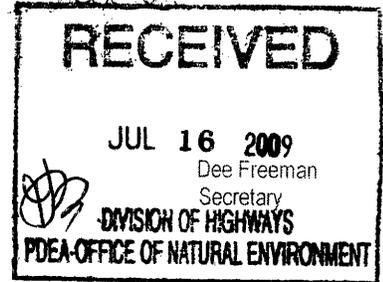
Date



North Carolina Department of Environment and Natural Resources

Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor



July 15, 2009
Wake County
NCDWQ Project No. 20081227 ver. 2
Bridge 143 on SR 2217
B-4304

MODIFICATION of APPROVAL of 401 WATER QUALITY CERTIFICATION and NEUSE BUFFER AUTHORIZATION, with ADDITIONAL CONDITIONS

Dr. Gregory J. Thorpe, Ph.D., Manager
NCDOT Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, NC 27699-1598

Dear Dr. Thorpe:

You have our approval, in accordance with the conditions listed below, for the following new impacts for the purpose of replacing Bridge 143 in Wake County:

New Stream Impacts in the Neuse River Basin

Site	Bank Stabilization in Perennial Stream (linear ft)	Total Additional Stream Impact (linear ft)
2	+10	+10
Total	+10	+10

Total Additional Stream Impact for Project: 10 linear feet.

New Wetland Impacts in the Neuse River Basin

Site	Excavation (ac)	Mechanized Clearing (ac)	Total Additional Wetland Impact (ac)
1	+0.01	-0.01	0
Total	+0.01	-0.01	0

Total Additional Wetland Impact for Project: 0 acres.

New Neuse Riparian Buffer Impacts

Site	Zone 1 Impact (sq ft)	minus Wetlands in Zone 1 (sq ft)	= Zone 1 Buffers (not wetlands) (sq ft)	Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Zone 2 Impact (sq ft)	minus Wetlands in Zone 2 (sq ft)	= Zone 2 Buffers (not wetlands) (sq ft)	Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
2	+598	+545	+53	N/A	+209	+209	0	N/A
Totals	+598	+545	+53	0	+209	+209	0	0

* n/a = Total for Site is less than 1/3 acre and 150 linear feet of impact, no mitigation required

Total Additional Buffer Impact for Project: 807 square feet.

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 2321 Crabtree Blvd., Raleigh, North Carolina 27604
Phone: 919-733-1786 \ FAX: 919-733-6893
Internet: <http://h2o.enr.state.nc.us/ncwetlands/>



The project shall be constructed in accordance with your application dated received August 13, 2008 and modification request received July 13, 2009. After reviewing your application, we have decided that these impacts are covered by General Water Quality Certification Numbers 3689 and 3701. This certification corresponds to the Nationwide Permits 23 and 13 issued by the Corps of Engineers. This approval is also valid for the Neuse Riparian Buffer Rules (15A NCAC 2B.0233). In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit.

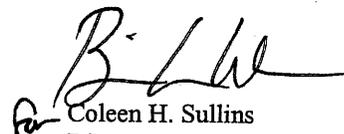
This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must notify the NCDWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). Additional buffer impacts may require compensatory mitigation as described in For this approval to remain valid, you must adhere to the conditions listed in the attached certification.

Conditions of Certification:

1. All conditions written into the previous Water Quality Certification dated August 19, 2008 for this project still apply.
2. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager

If you do not accept any of the conditions of this certification, you may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. To ask for a hearing, send a written petition that conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699. This certification and its conditions are final and binding unless you ask for a hearing. This letter completes the review of the Division of Water Quality under Section 401 of the Clean Water Act. If you have any questions, please contact Rob Ridings at 919-733-9817.

Sincerely,


For Coleen H. Sullins
Director

Attachments

Cc: Chris Murray, Division 5 Environmental Officer
Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office
Greg Price, NCDOT NEU
File Copy

NCDWQ Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to NCDWQ 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: _____

Engineer's Certification

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer 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. _____

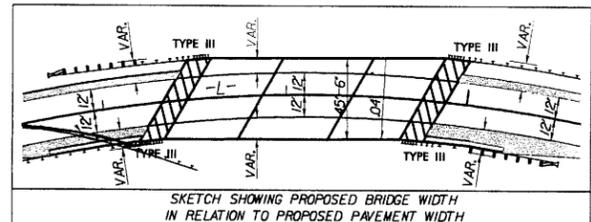
Date _____

STREAM & WETLAND IMPACTS

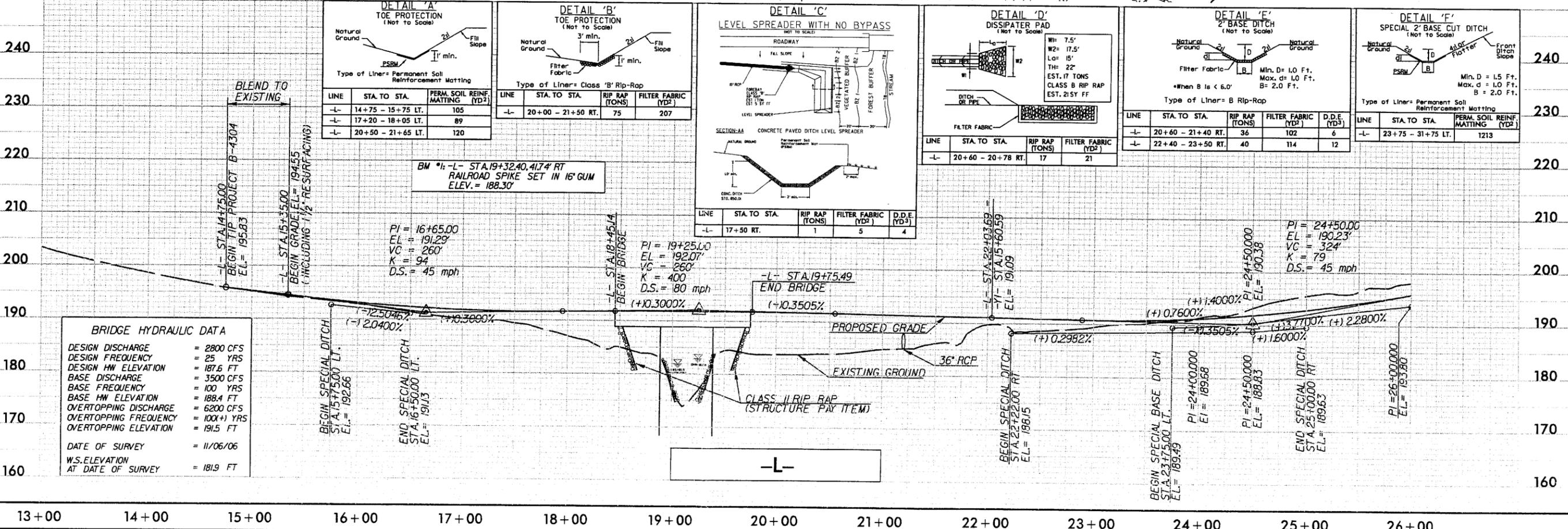
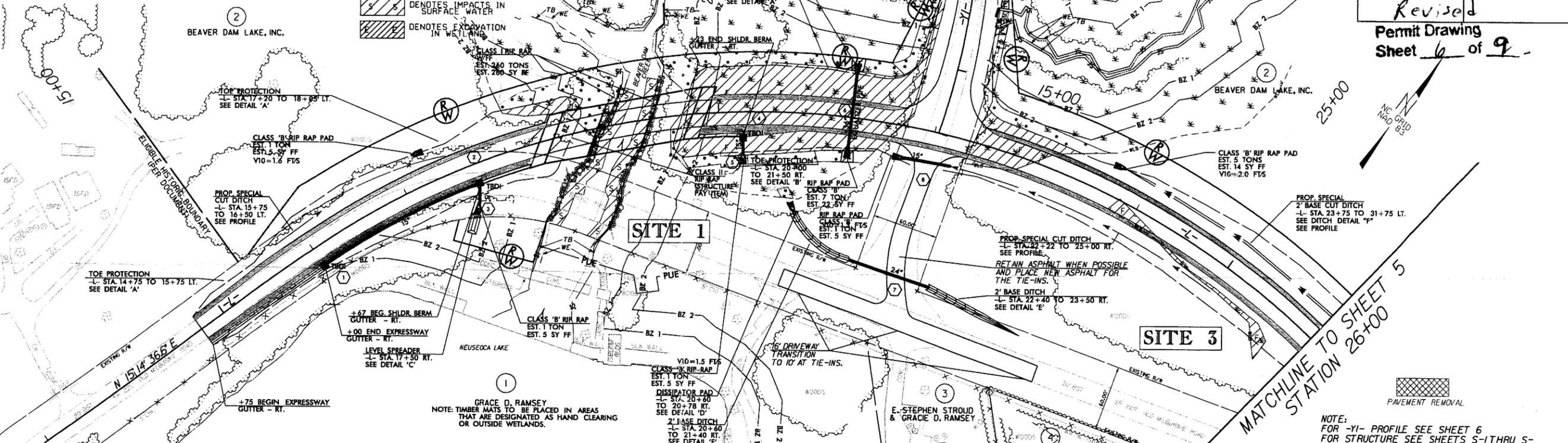
MULKEY
ENGINEERS & ARCHITECTS
1810 WEST 18TH AVENUE
DENVER, CO 80202
TEL: 303.733.1818
WWW.MULKEYINC.COM

PROJECT REFERENCE NO. B-4304	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Revised
Permit Drawing
Sheet 6 of 9



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



ROW REVISION - PARCEL 1; ADDED PERM. UTILITY EASEMENT
DATE:

REVISIONS

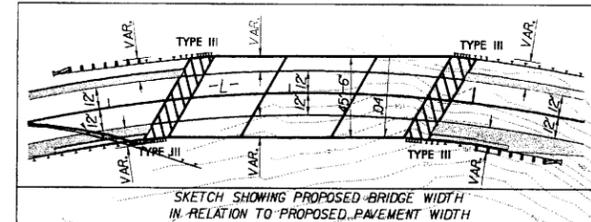
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STREAM & WETLAND IMPACTS

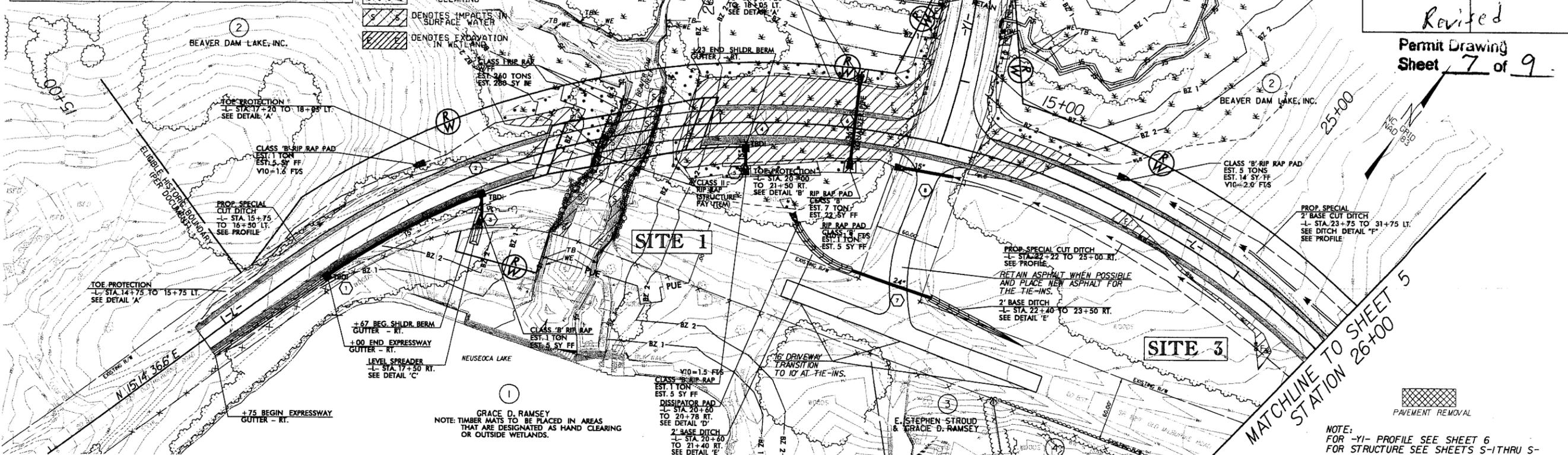
MULKEY
ENGINEERS & CONSULTANTS
10101 15th St. N.E.
Bellevue, WA 98004
206.835.1111
www.mulkeyinc.com

PROJECT REFERENCE NO. B-4304	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

Revised
Permit Drawing
Sheet **7** of **9**



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



ROW REVISION DATE: PARCEL 1; ADDED PERM. UTILITY EASEMENT

REVISIONS

DETAIL 'A'
TOE PROTECTION
(Not to Scale)

LINE	STA. TO STA.	PERM. SOIL REINF. MATTING (YD ²)
-L-	14+75 - 15+75 LT.	105
-L-	17+20 - 18+05 LT.	89
-L-	20+50 - 21+65 LT.	120

DETAIL 'B'
TOE PROTECTION
(Not to Scale)

LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD ²)
-L-	20+00 - 21+50 RT.	75	207

DETAIL 'C'
LEVEL SPREADER WITH NO BYPASS
(Not to Scale)

LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD ²)	D.D.E. (YD ³)
-L-	17+50 RT.	1	5	4

DETAIL 'D'
DISSIPATER PAD
(Not to Scale)

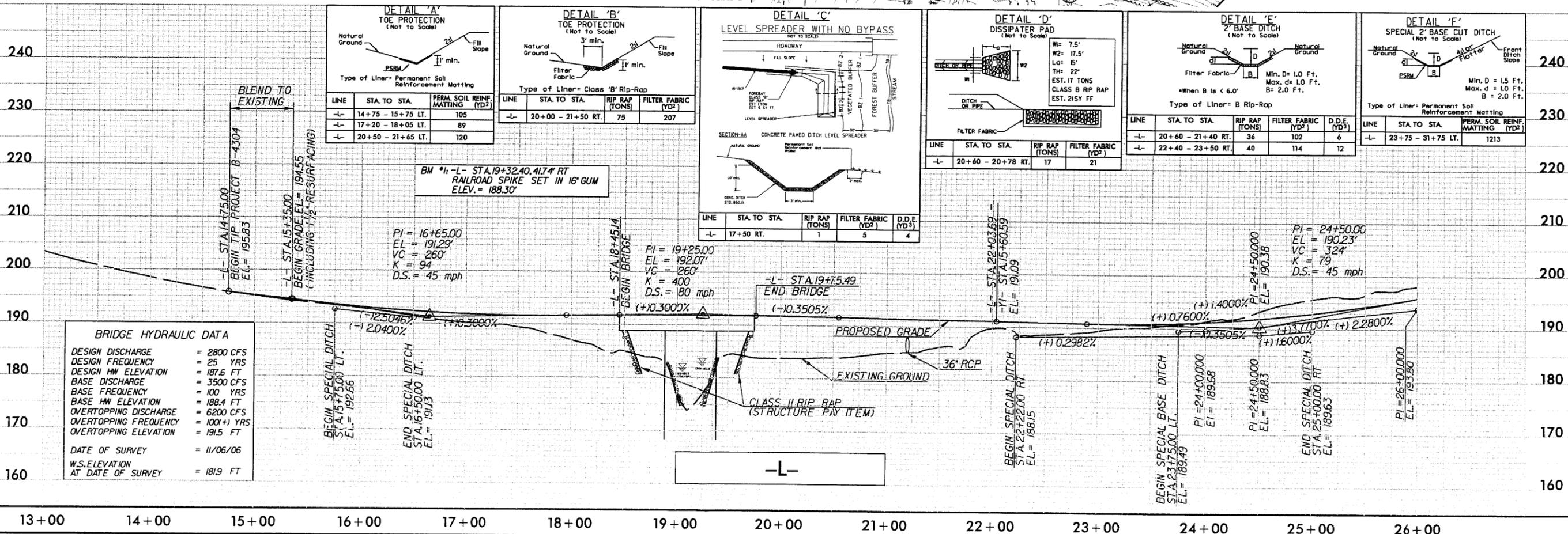
LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD ²)
-L-	20+60 - 20+78 RT.	17	21

DETAIL 'E'
2' BASE DITCH
(Not to Scale)

LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD ²)	D.D.E. (YD ³)
-L-	20+60 - 21+40 RT.	36	102	6
-L-	22+40 - 23+50 RT.	40	114	12

DETAIL 'F'
SPECIAL 2' BASE CUT DITCH
(Not to Scale)

LINE	STA. TO STA.	PERM. SOIL REINF. MATTING (YD ²)
-L-	23+75 - 31+75 LT.	1213



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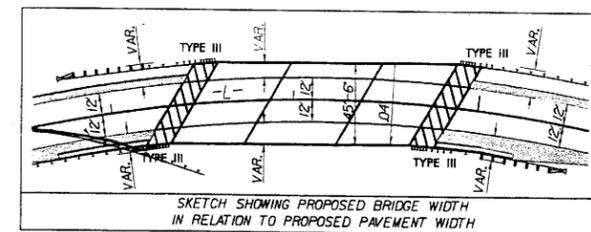
BUFFER IMPACTS

MULKEY
ENGINEERS & CONSULTANTS
100 BOX 231 ST
MADISON, TN 37111
WWW.MULKEYINC.COM

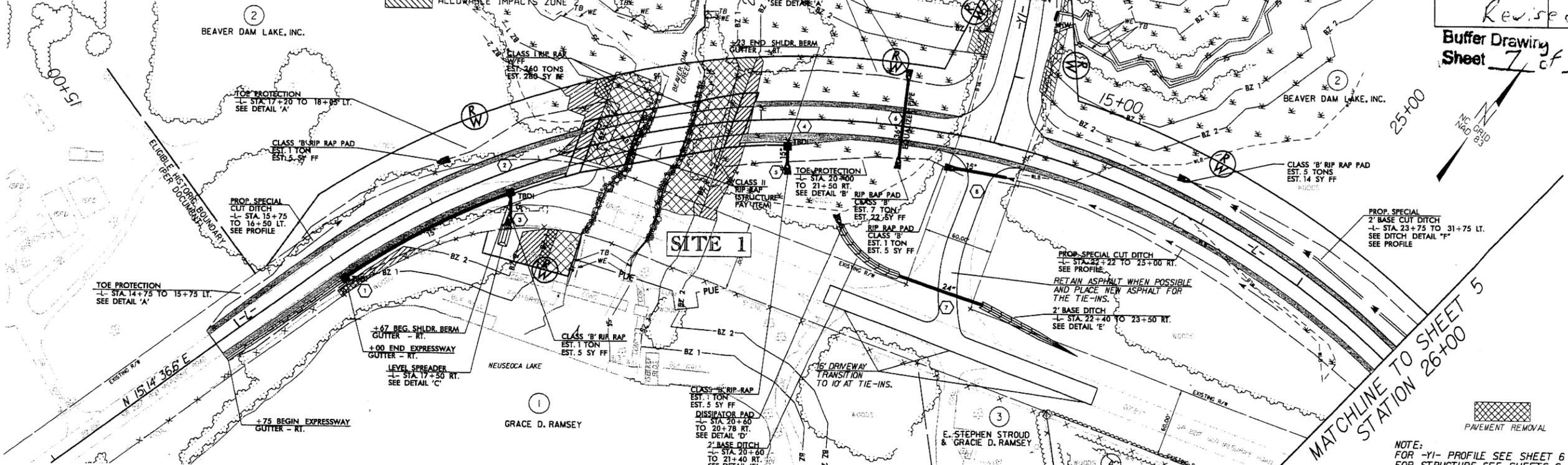
PROJECT REFERENCE NO. B-4304	SHEET NO. 4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Revised
Buffer Drawing
Sheet 7 of 7



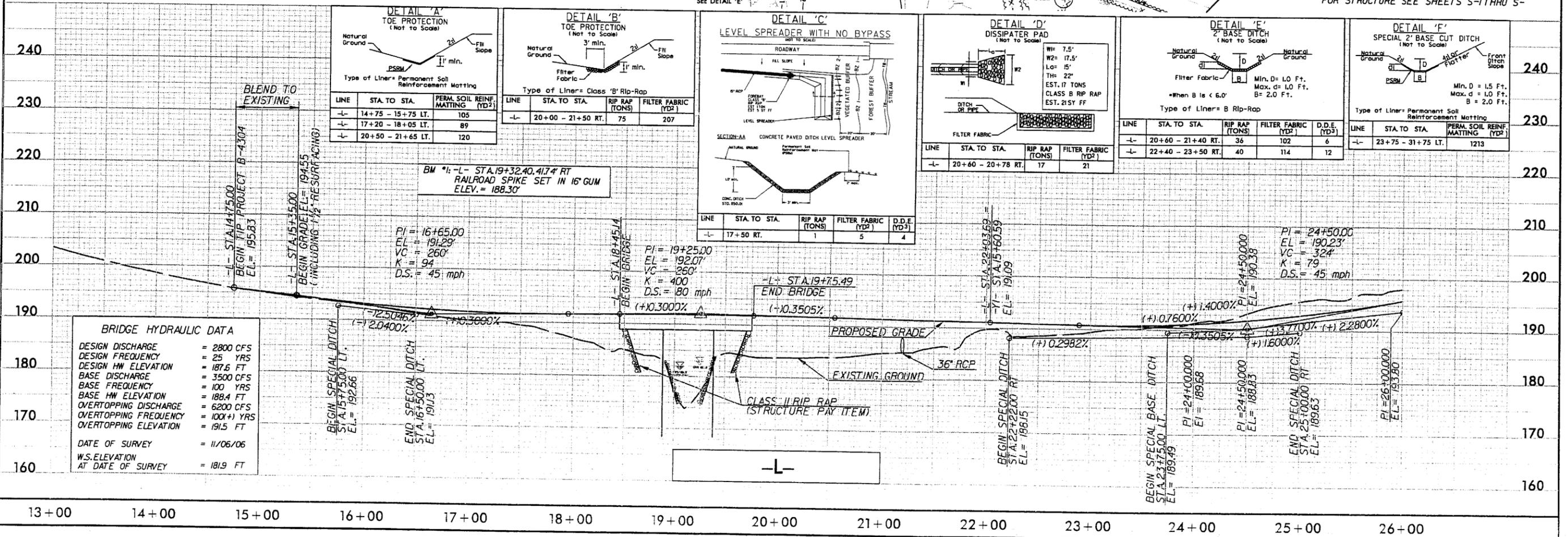
- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2
- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2



ROW REVISION - PARCEL 1; ADDED PERM. UTILITY EASEMENT
DATE:

REVISIONS

NOTE: FOR -YI- PROFILE SEE SHEET 6
FOR STRUCTURE SEE SHEETS 5-1 THRU 5-



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 2800 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 187.6 FT
BASE DISCHARGE	= 3500 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 188.4 FT
OVERTOPPING DISCHARGE	= 6200 CFS
OVERTOPPING FREQUENCY	= 100(+) YRS
OVERTOPPING ELEVATION	= 191.5 FT
DATE OF SURVEY	= 11/06/06
W.S. ELEVATION AT DATE OF SURVEY	= 181.9 FT

10/22/06 AM R:\Hydraulic\Permit\194301-hyd.pr h_bur_pah04.dgn