STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

November 3, 2009

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN: Mr. Steve Lund
NCDOT Coordinator

Subject: **Notice of Use for Section 404 Nationwide Permit 13** for the proposed replacement of Bridge No. 221 over West Fork Twelve Mile Creek on SR 1315 in Union County, Federal Aid Project No. BRZ-1315(6); Division 10; TIP No. B-4650

Dear Mr. Lund:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 221 over West Fork Twelve Mile Creek on SR 1315. There will be 75 feet of stream bank stabilization shoring under the bridge and where two (2) lateral ditches adjoin West Fork Twelve Mile Creek. NCDOT does not propose mitigation for stream bank stabilization activities. Stabilizing the bank of a stream does not require fill in the stream bed and, therefore, under Section 404 of the Clean Water Act, does not constitute Loss of Waters of the U.S. and is not subject to compensatory mitigation. Furthermore, the proposed bank stabilization activities are necessary to prevent erosion and sedimentation, i.e. preventing bank destabilization and minimizing impacts to the environment.

Please see enclosed copies of the Jurisdictional Determination Notification, Stormwater Management Plan, permit drawings, and design plans. A Categorical Exclusion was completed in November 2007 and distributed shortly thereafter. Additional copies are available upon request.

Please note that this project is an accelerated bridge project on NCDOT's Maintenance of Effort list. The NCDOT Administration has deemed these projects highest priority. This project calls for a letting date of March 16, 2010 and a review date of January 26, 2010; however, the let date may advance as additional funding becomes available.

The NCDOT is not seeking written approval from the USACE or the DWQ due to the use of a NW13 with minimal impacts from bank stabilization along with this project not being located in a trout county.

A copy of this Notice of Use will be posted on the NCDOT Website at: http://www.ncdot.org/doh/preconstruct/pe/. If you have any questions or need additional information, please contact Bill Barrett via e.mail at wabarrett@ncdot.gov or via phone at (919) 431-6688.

Sincerely,

for Gregory J. Thorpe, Ph.D.
Environmental Management Director

w/attachment
Mr. Brian Wrenn, NCDWQ (2 Copies)
Ms. Marla Chambers, NCWRC
Ms. Marella Buncick, USFWS

w/o attachment (see website for attachments)
Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Mark Staley, Roadside Environmental
Mr. Barry Moose, P.E., Division Engineer
Mr. Larry Thompson, DEO
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Mr. Tracy Walter, PDEA Project Planning Engineer

Turchy

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. 200630055 County: **Union** U.S.G.S. Quad: Waxhaw

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: Gregory J. Thorpe, Director
Address: Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center, Raleigh, NC 27699-1548
Telephone No.: 919-733-3141

Property description:

Size (acres)	7 approx.	Nearest Town	Waxhaw
Nearest Waterway	West Fork Twelvemile Creek	River Basin	Catawba
USGS HUC	03050103	Coordinates	N 34.9841 W 80.7362
Location description	Bridge No. 221 on SR 1315 north of Waxhaw, TIP B-4650		

Indicate Which of the Following Apply:

_ Based on preliminary information, there may be wetlands on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. 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 property 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.

X There are surface waters on the above described property 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.

_ We strongly suggest you have the wetlands on your property delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.

_ The wetland on your property have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

X The surface waters have been delineated and surveyed and are accurately depicted on the GPS plat provided by EcoScience Corporation and dated 29 August 2005. 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 no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (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 property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Washington, NC, at (252) 946-6481 to determine their requirements.

Action ID: _____
200630055

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact Steven Lund at 828-271-7980.

Basis For Determination: West Fork Twelvemile Creek exhibits a distinct ordinary high water mark and flows directly to Twelvemile Creek that is a tributary to the Catawba River that is a navigable water.

Remarks: Consultant's report dated 29 August 2005 identifies West Fork Twelvemile Creek and 1 unnamed tributary in the project area consisting of an approximate 400-foot wide corridor centered on the existing bridge site.

Corps Regulatory Official: Steven W. Lund, Project Manager, Asheville Regulatory Field Office

Date: November 21, 2005 Expiration Date: November 21, 2010

Corps Regulatory Official (Initial): SWL

FOR OFFICE USE ONLY:

- A plat or sketch of the property and the wetland data form must be attached to the file copy of this form.
- A copy of the "Notification Of Administrative Appeal Options And Process And Request For Appeal" form must be transmitted with the property owner/agent copy of this form.
- If the property contains isolated wetlands/waters, please indicate in "Remarks" section and attach the "Isolated Determination Information Sheet" to the file copy of this form.

Copy Furnished: Ms. Heather Jean Saunders, EcoScience Corporation, 1101 Haynes Street, Suite 101, Raleigh, NC 27604

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: NC Dept. of Transportation	File Number: 200630055	Date: Nov. 21, 2005
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact:
Mr. Steven W. Lund, Regulatory Project Manager CESAW-RG-A Asheville Regulatory Field Office 151 Patton Avenue, Room 208 Asheville, North Carolina 28801-5006	Mr. Michael F. Bell, Administrative Appeal Review Officer CESAD-ET-CO-R U.S. Army Corps of Engineers, South Atlantic Division 60 Forsyth Street, Room 9M15 Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

DIVISION ENGINEER:
Commander
U.S. Army Engineer Division, South Atlantic
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-3490

STORMWATER MANAGEMENT PLAN

Project: 33816.1.1
TIP No. B-4650
Union County 10/27/2009

Hydraulics Project Manager: W. Henry Wells, Jr., P.E., PLS, CPESC (Sungate Design Group, PA)
Marshal Clawson, P.E. (NCDOT Hydraulics Unit)

ROADWAY DESCRIPTION

The project B-4650 consists of constructing a new bridge 110 feet long to replace the existing bridge #221 in Union County on SR 1315 over West Fork Twelve Mile Creek. The total project length is 0.106 miles. The project creates impacts to West Fork Twelve Mile Creek, which is located in the Catawba River Basin. The project drainage systems consist of a grated inlet with associated pipe system, and class 'B' rip rap at the outlet of the system.

Jurisdiction Stream: West Fork Twelve Mile Creek

ENVIRONMENTAL DESCRIPTION

The project is located within the Catawba River Basin in Union County. There are no wetlands surrounding the project. There is no direct discharge of stormwater into West Fork Twelve Mile Creek.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

The primary goal of Best Management Practices (BMPs) is to prevent degradation of the states surface waters by the location, construction and operation of the highway system. The BMPs are activities, practices and procedures taken to prevent or reduce stormwater pollution. The BMP measures used on this project to reduce stormwater impacts are:

- No direct discharge from the bridge or roadway into West Fork Twelve Mile Creek.
- Rip Rap energy dissipater at the outlet of the pipe system.

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation in Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac)	WETLAND IMPACTS: Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	SURFACE WATER IMPACTS: Temp. SW impacts (ac)	SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft)	SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
	17+25-17+75 -L-	Bank Restoration						0.01		75		
TOTALS:								0.01		75		

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

UNION COUNTY
WBS - 33816.1.1 (B-4650)

SHEET 10/27/2009

ATN Revised 3/31/05

Permit Drawing
Sheet 1 of 9

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
2	MORGAN KEEGAN CO. INC	3208 PLANTATION RD CHARLOTTE, NC 28270
4	DAVID J. AND MARLENE M. GRIFFIN	6719 NEW TOWN RD WAXHAW, NC 28173

NCDOT

DIVISION OF HIGHWAYS

UNION COUNTY

PROJECT: 33816.1.1 (B-4650)

BRIDGE NO. 221 OVER WEST FORK TWELVE MILE CREEK ON SR 1315 (NEW TOWN RD)

SHEET **OF** **10/23/09**

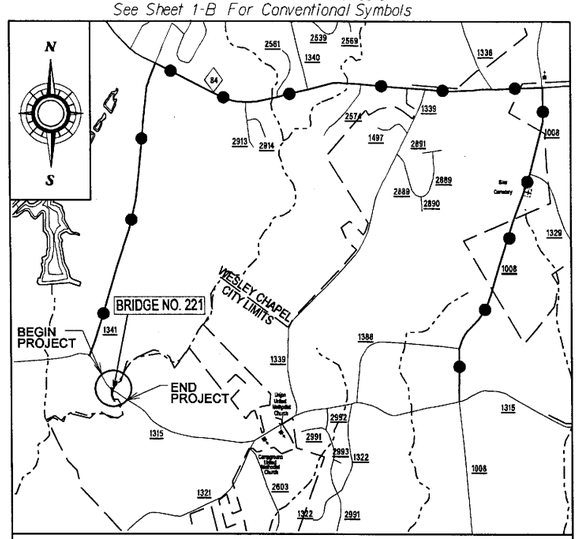
Permit Drawing
Sheet 2 of 9

09/08/99

TIP PROJECT: B-4650

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

LEGEND ——●——●—— Offsite Detour Route *

R/W PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UNION COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4650	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33816.1.1	BRZ-1315(6)	PE
33816.2.1	BRZ-1315(6)	RW /UTIL

LOCATION: BRIDGE NO. 221 OVER WEST FORK TWELVE MILE CREEK ON SR 1315 (NEWTOWN ROAD)

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURE, AND PAVING

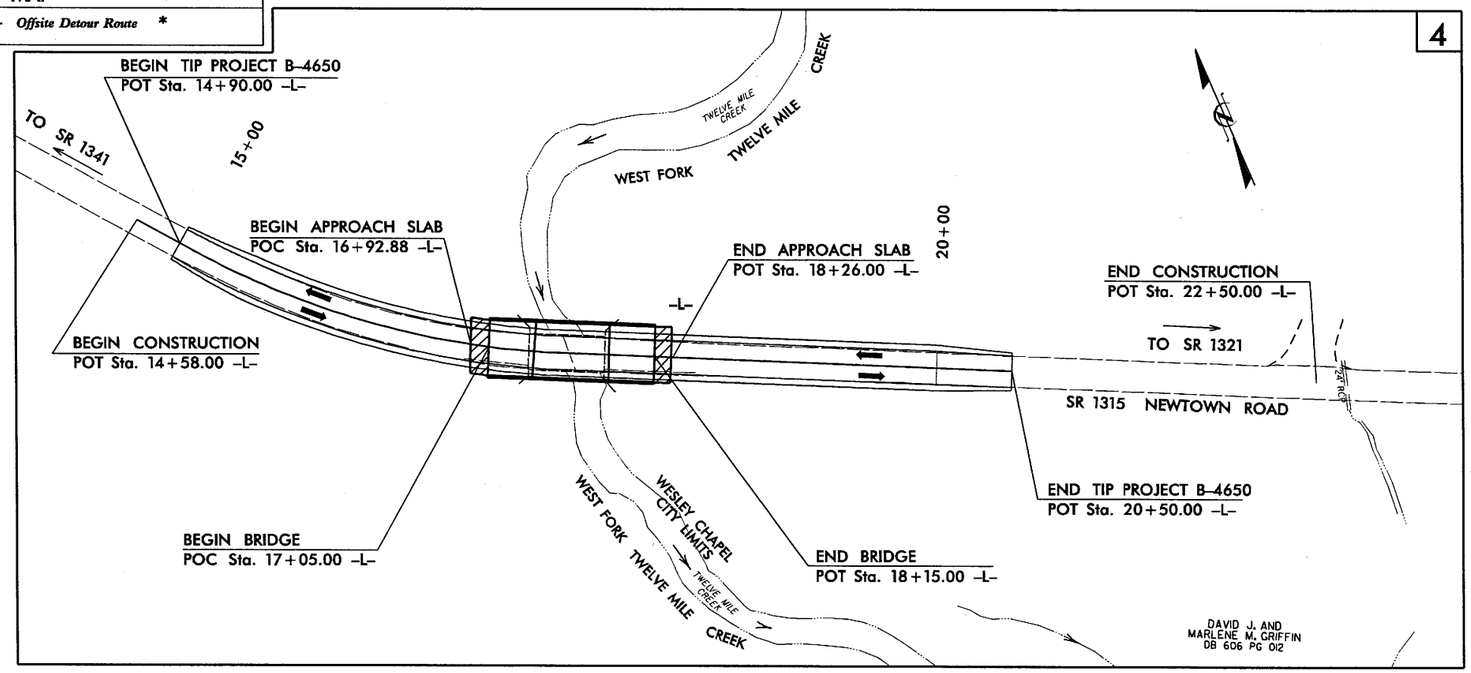
Permit Drawing Sheet 3 of 4

ENGLISH

** NOTE – DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K VALUE AND HORIZONTAL STOPPING SIGHT DISTANCE

WETLAND/STREAM IMPACTS

4



THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WESLEY CHAPEL

NCDOT CONTACT: DOUG TAYLOR, P.E. - PROJECT ENGINEER - ROADWAY DESIGN

"CLEARING ON THIS PROJECT SHALL BE ESTABLISHED BY METHOD III"

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2012 = 3,150
ADT 2032 = 6,650
DHV = 10 %
D = 70 %
T = 5 % *
** V = 50 MPH
FUNC. CLASS = RURAL MINOR COLLECTOR
* TTST 1% * DUAL 4%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4650 = 0.085 mi.

LENGTH STRUCTURE TIP PROJECT B-4650 = 0.021 mi.

TOTAL LENGTH TIP PROJECT B-4650 = 0.106 mi.

Prepared in the Office of:
WANG ENGINEERING COMPANY, INC.
CARY, N.C.
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 2, 2009

LETTING DATE:
MARCH 16, 2010

CLIFTON T. REGISTER, P.E.
PROJECT ENGINEER

SCOTT L. KENNEDY
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SUNGATE DESIGN GROUP, PA

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
WANG ENGINEERING

SIGNATURE: P.E.

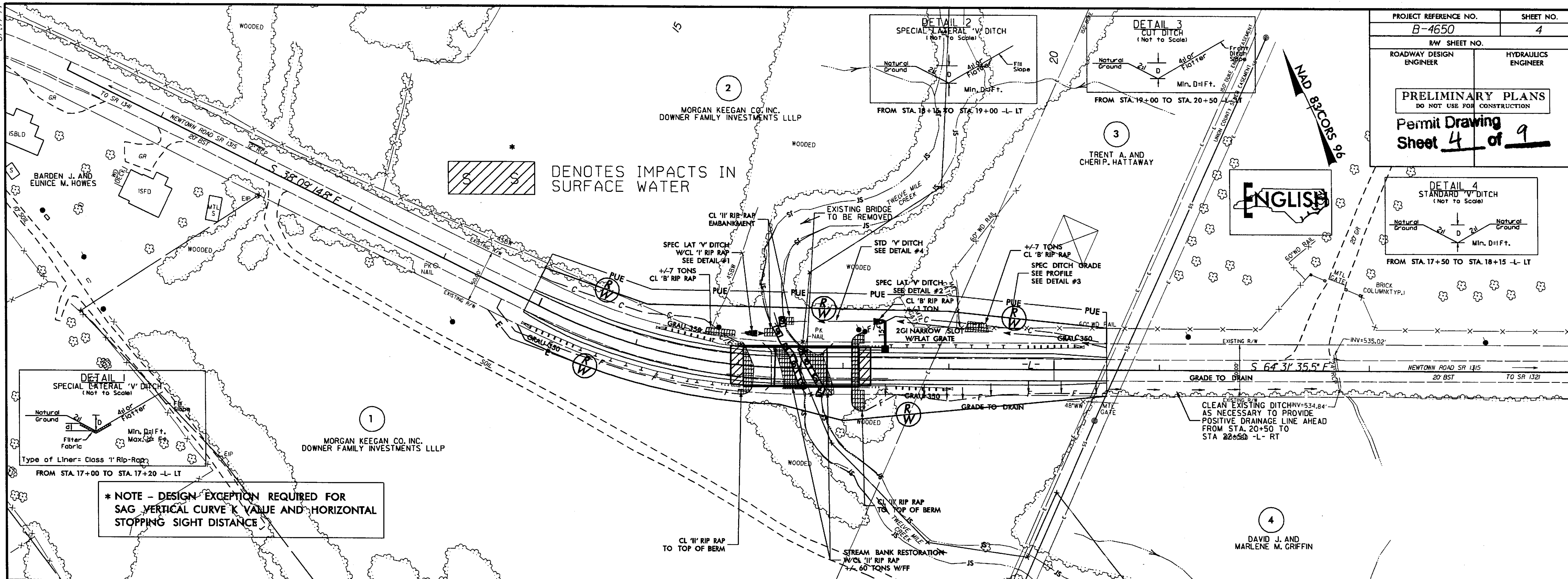
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
B-4650	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

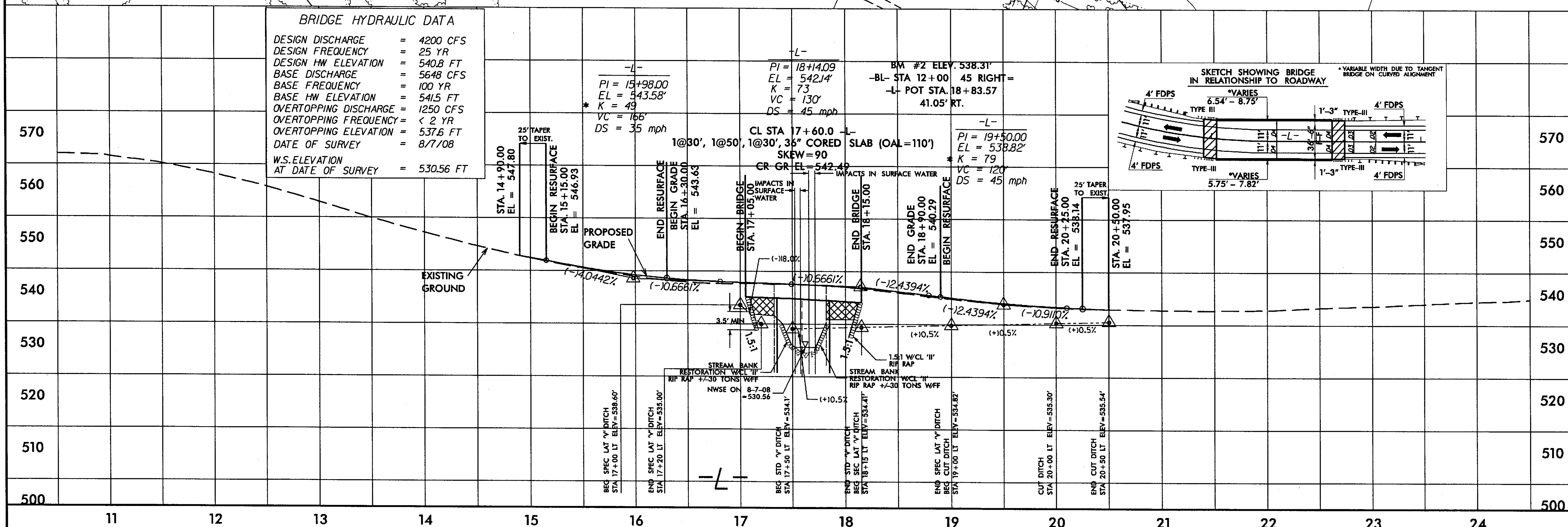
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

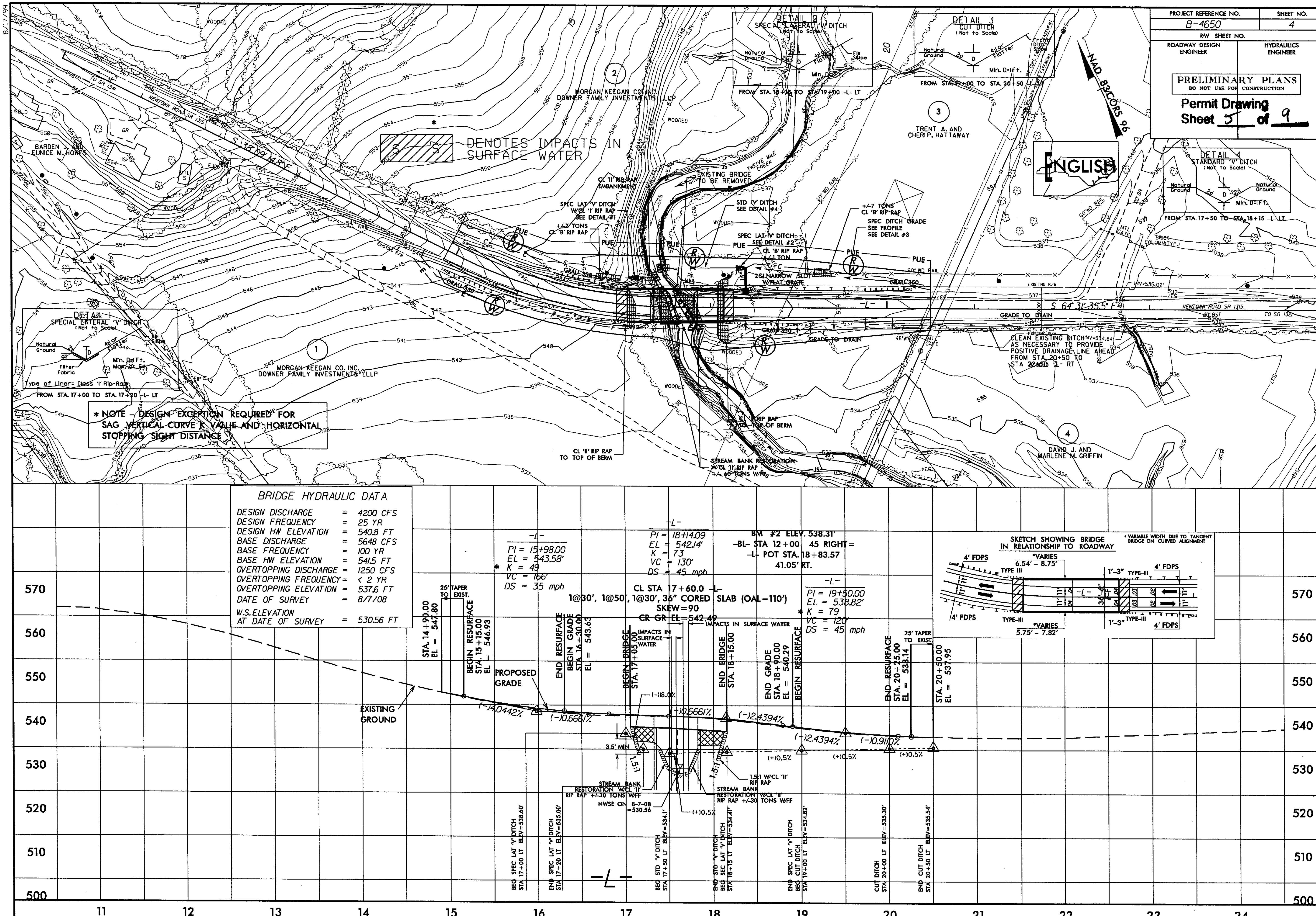
Permit Drawing
Sheet 4 of 9



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	4200 CFS
DESIGN FREQUENCY	=	25 YR
DESIGN HW ELEVATION	=	540.8 FT
BASE DISCHARGE	=	5648 CFS
BASE FREQUENCY	=	100 YR
BASE HW ELEVATION	=	541.5 FT
OVERTOPPING DISCHARGE	=	1250 CFS
OVERTOPPING FREQUENCY	=	< 2 YR
OVERTOPPING ELEVATION	=	537.6 FT
DATE OF SURVEY	=	8/7/08
W.S. ELEVATION AT DATE OF SURVEY	=	530.56 FT




PROJECT REFERENCE NO.
B-4650
SHEET NO.
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Permit Drawing
Sheet 5 of 9
NAD 83/CORS 96
ENGLISH
DENOTES IMPACTS IN SURFACE WATER
DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Type of Liner= Class 'I' Rip-Rap
FROM STA. 17+00 TO STA. 17+20 -L- LT
DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
FROM STA. 18+15 TO STA. 19+00 -L- LT
DETAIL 3
CUT DITCH
(Not to Scale)
FROM STA. 19+00 TO STA. 20+50 -L- LT
DETAIL 4
STANDARD 'V' DITCH
(Not to Scale)
FROM STA. 17+50 TO STA. 18+15 -L- LT
MORGAN KEEGAN CO. INC.
DOWNER FAMILY INVESTMENTS, LLLP
TRENT A. AND CHERI P. HATTAWAY
DAVID J. AND MARLENE M. GRIFFIN
BARDEN J. AND EUNICE M. HOWES
NEWTOWN ROAD SR 1315
TO SR 1301
S 64°31'35.5" E
EXISTING BRIDGE TO BE REMOVED
TWELVE MILE CREEK
GRADE TO DRAIN
CLEAN EXISTING DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE LINE AHEAD FROM STA. 20+50 TO STA 22+50 -L- RT
2GI NARROW SLOT W/FLAT GRATE
SPEC DITCH GRADE SEE PROFILE SEE DETAIL #3
+/-7 TONS CL 'B' RIP RAP
CL 'II' RIP RAP TO TOP OF BERM
STREAM BANK RESTORATION W/CL 'II' RIP RAP +/- 60 TONS W/FF
* NOTE - DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K VALUE AND HORIZONTAL STOPPING SIGHT DISTANCE
SKETCH SHOWING BRIDGE IN RELATIONSHIP TO ROADWAY
* VARIABLE WIDTH DUE TO TANGENT BRIDGE ON CURVED ALIGNMENT
4' FDPS
*VARIES 6.54' - 8.75'
*VARIES 5.75' - 7.82'
-L-
PI = 15+98.00
EL = 543.58'
* K = 49
VC = 166'
DS = 35 mph
-L-
PI = 18+14.09
EL = 542.14'
K = 73
VC = 130'
DS = 45 mph
-L-
PI = 19+50.00
EL = 538.82'
* K = 79
VC = 120'
DS = 45 mph
BM #2 ELEV. 538.31'
-BL- STA 12+00 45 RIGHT=
-L- POT STA. 18+83.57
41.05' RT.
CL STA 17+60.0 -L-
1@30', 1@50', 1@30', 36" CORED SLAB (OAL=110')
SKEW=90
CR GR EL=542.49
PROPOSED GRADE
EXISTING GROUND
IMPACTS IN SURFACE WATER
NWSE ON 8-7-08 =530.56
-L-

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	4200 CFS
DESIGN FREQUENCY	=	25 YR
DESIGN HW ELEVATION	=	540.8 FT
BASE DISCHARGE	=	5648 CFS
BASE FREQUENCY	=	100 YR
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09/08/09

TIP PROJECT: B-4650

CONTRACT:

See Sheet 1-A For Index of Sheets
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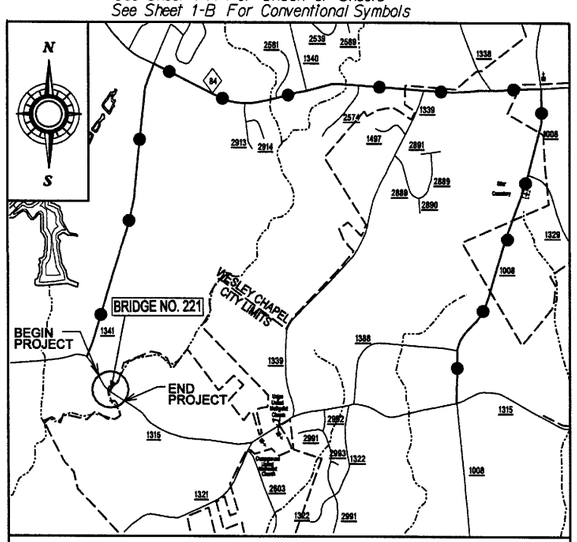

VICINITY MAP

LEGEND *Offsite Detour Route*

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UNION COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4650	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33816.1.1	BRZ-1315(6)	PE
33816.2.1	BRZ-1315(6)	RW /UTIL

Permit Drawing
Sheet 6 of 9

LOCATION: BRIDGE NO. 221 OVER WEST FORK TWELVE MILE CREEK ON SR 1315 (NEWTOWN ROAD)

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURE, AND PAVING

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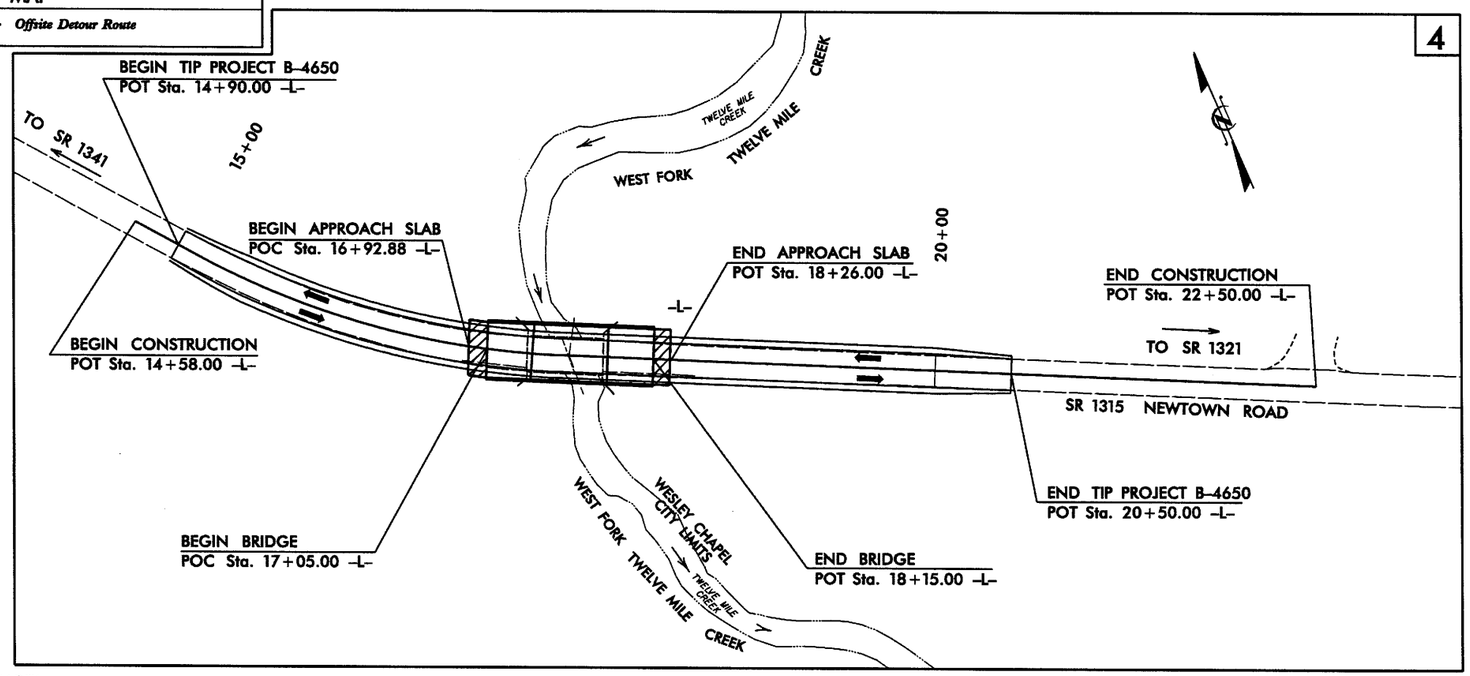

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NCDOT CONTACT: DOUG TAYLOR, P.E., PROJECT ENGINEER - ROADWAY DESIGN

"CLEARING ON THIS PROJECT SHALL BE ESTABLISHED BY METHOD III"

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

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PROJECT LENGTH

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LENGTH STRUCTURE TIP PROJECT B-4650 = 0.021 mi.

TOTAL LENGTH TIP PROJECT B-4650 = 0.106 mi.

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2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 2, 2009

LETTING DATE: MARCH 16, 2010

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PROJECT ENGINEER

SCOTT L. KENNEDY
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SUNGATE DESIGN GROUP, PA

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
WANG ENGINEERING

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
B-4650	1-B

Permit Drawing Sheet 7 of 9

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — IP
- Property Corner
- Property Monument — CM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign
- Well
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

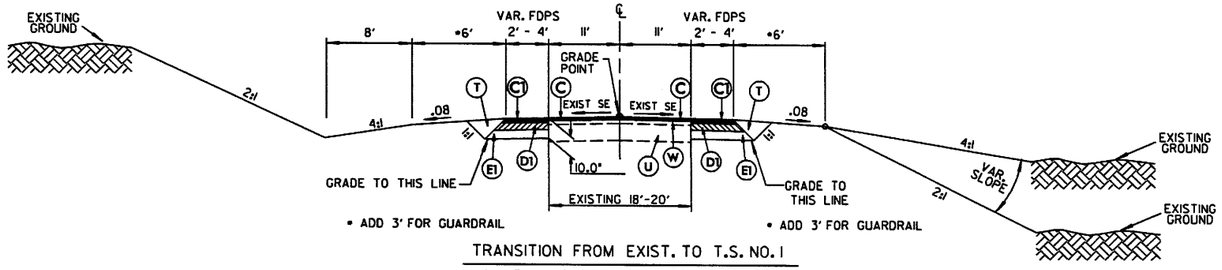
MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
B-4650	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 8 of 9
WANG ENGINEERING



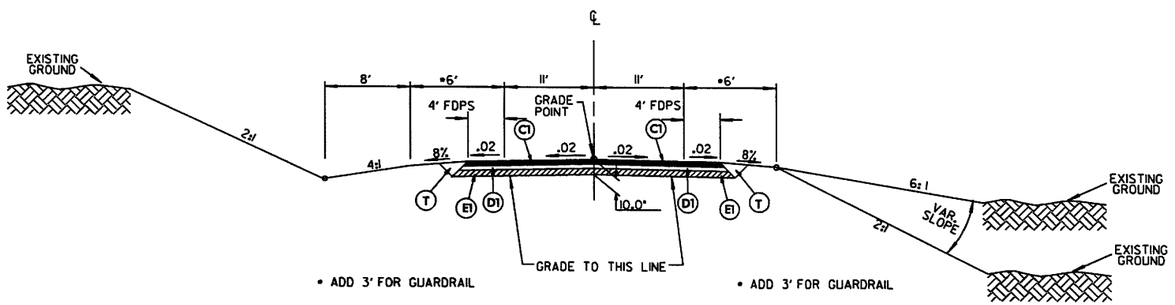
TRANSITION FROM EXIST. TO T.S. NO. 1

-L- Sta. 14+90.00 to Sta. 15+15.00
-L- Sta. 20+25.00 to Sta. 20+50.00

TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AS FOLLOWS

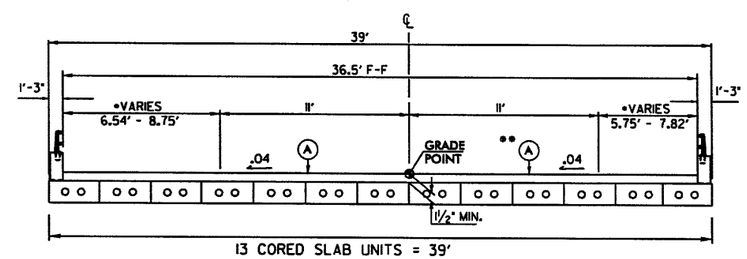
-L- Sta. 15+15.00 to Sta. 16+30.00
-L- Sta. 18+90.00 to Sta. 20+25.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 1 AS FOLLOWS

-L- Sta. 16+30.00 to Sta. 17+05.00 (BEGIN BRIDGE)
-L- Sta. 18+15.00 (END BRIDGE) to Sta. 18+90.00



13 CORED SLAB UNITS = 39'

Note: Widen to accomodate striping of horizontal curve.
Asphalt Depth Vaires Due to Camber.

• BICYCLE LANES

TYPICAL BRIDGE SECTION

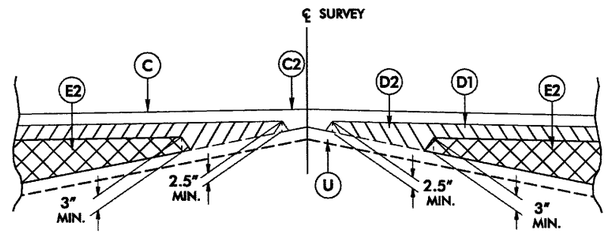
-L- Sta. 17+05.00 to Sta. 18+15.00

•• DEPTH OF CONCRETE OVERLAY WILL BE DETAILED IN STRUCTURE PLANS

PAVEMENT SCHEDULE

A	PROP. VARIABLE DEPTH PORTLAND CONCRETE PAVEMENT
C	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS PER SQ. YD.
C1	PROP. APPROX. 3.0" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" OR GREATER THAN 2" IN DEPTH.
D1	PROP. APPROX. 3.0" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS PER SQ. YD.
D2	PROP. VAR. DEPTH ASPH. CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH PAVEMENT (SEE WEDGING DETAILS)

NOTE: ALL SLOPES 1:1 UNLESS OTHERWISE SPECIFIED

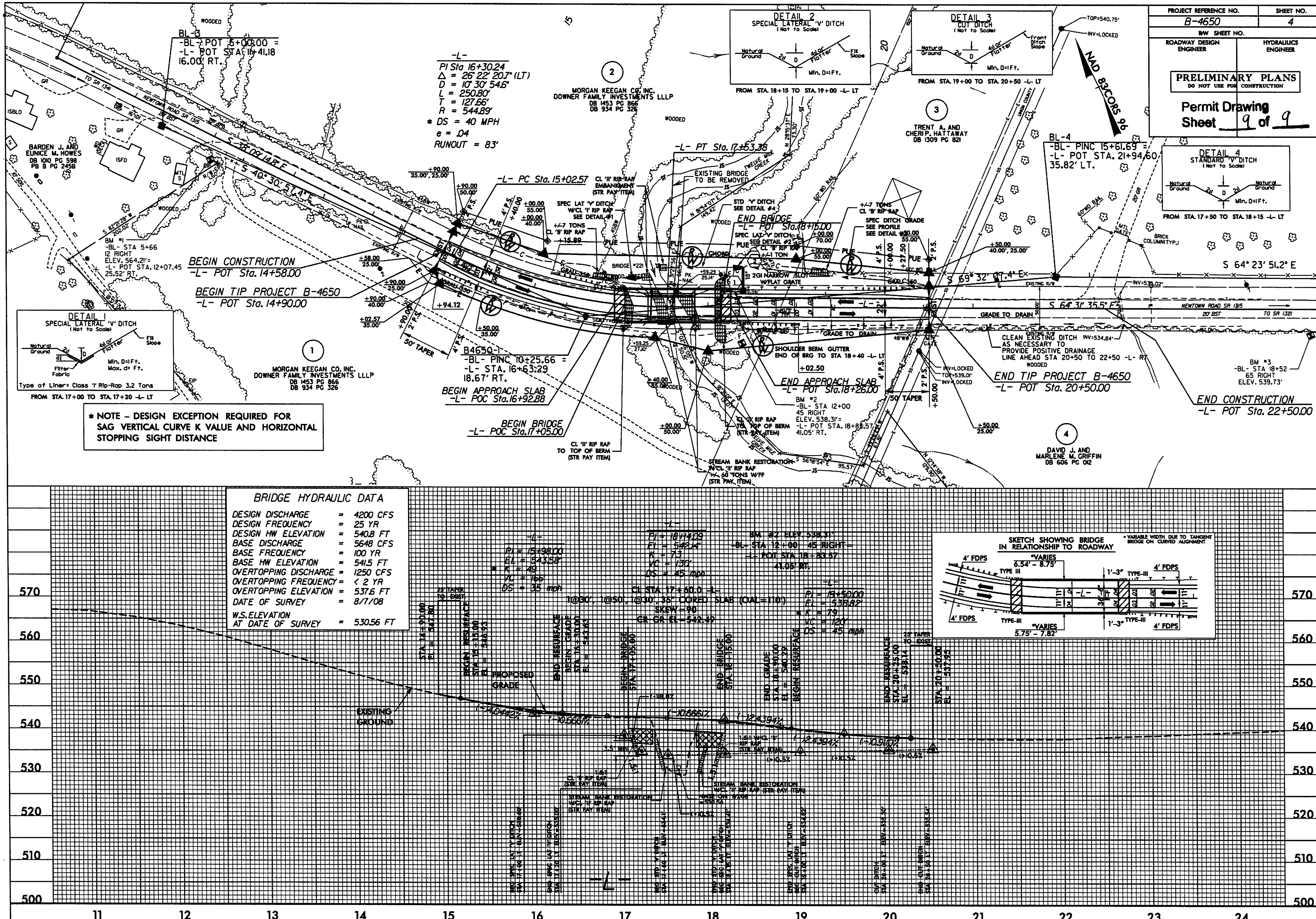


Detail Showing Method of Wedging

PROJECT REFERENCE NO.	SHEET NO.
B-4650	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing Sheet 9 of 9



NAD 83/CORS 96
-L-
PI Sta 16+30.24
Δ = 26° 22' 20.7" (LT)
D = 10° 30' 54.6"
L = 250.80'
T = 127.66'
R = 544.89'
* DS = 40 MPH
e = .04
RUNOUT = 83'
BL-3
-BL- POT 6+00.00 =
-L- POT STA 11+41.18
16.00' RT.
BL-4
-BL- PINC 15+61.69 =
-L- POT STA. 21+94.60
35.82' LT.
MORGAN KEEGAN CO. INC.
DOWNER FAMILY INVESTMENTS LLLP
DB 1453 PG 866
DB 934 PG 326
TRENT A. AND CHERI P. HATTAWAY
DB 1309 PG 821
BARDEN J. AND EUNICE M. HOWES
DB 1010 PG 598
PB 8 PG 245B
DAVID J. AND MARLENE M. GRIFFIN
DB 606 PG 012
DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Type of Liner= Class 'I' Rip-Rap 3.2 Tons
FROM STA. 17+00 TO STA. 17+20 -L- LT
DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
FROM STA. 18+15 TO STA. 19+00 -L- LT
DETAIL 3
CUT DITCH
(Not to Scale)
FROM STA. 19+00 TO STA. 20+50 -L- LT
DETAIL 4
STANDARD 'V' DITCH
(Not to Scale)
FROM STA. 17+50 TO STA. 18+15 -L- LT
BEGIN CONSTRUCTION
-L- POT Sta. 14+58.00
BEGIN TIP PROJECT B-4650
-L- POT Sta. 14+90.00
-L- PC Sta. 15+02.57
-L- PT Sta. 17+53.38
EXISTING BRIDGE TO BE REMOVED
B4650-1
-BL- PINC 10+25.66 =
-L- STA. 16+63.29
18.67' RT.
BEGIN APPROACH SLAB
-L- POC Sta. 16+92.88
BEGIN BRIDGE
-L- POC Sta. 17+05.00
END BRIDGE
-L- POT Sta. 18+15.00
END APPROACH SLAB
-L- POT Sta. 18+26.00
END TIP PROJECT B-4650
-L- POT Sta. 20+50.00
END CONSTRUCTION
-L- POT Sta. 22+50.00
BM #1
-BL- STA 5+66
12 RIGHT
ELEV. 564.21'=
-L- POT STA. 12+07.45
25.52' RT.
BM #2
-BL- STA 12+00
45 RIGHT
ELEV. 538.31'=
-L- POT STA. 18+83.57
41.05' RT.
BM #3
-BL- STA 18+52
65 RIGHT
ELEV. 539.73'
S 40° 30' 57.4" E
S 64° 31' 35.5" E
S 64° 23' 51.2" E
NEWTOWN ROAD SR 1315
TO SR 1321
CLEAN EXISTING DITCH AS NECESSARY TO PROVIDE POSITIVE DRAINAGE LINE AHEAD STA 20+50 TO 22+50 -L- RT
SHOULDER BERM GUTTER END OF BRG TO STA 18+40 -L- LT
STREAM BANK RESTORATION W/CL 'II' RIP RAP +/- 60 TONS W/FF (STR PAY ITEM)
* NOTE – DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K VALUE AND HORIZONTAL STOPPING SIGHT DISTANCE
SKETCH SHOWING BRIDGE IN RELATIONSHIP TO ROADWAY
* VARIABLE WIDTH DUE TO TANGENT BRIDGE ON CURVED ALIGNMENT
CL STA 17+60.0 -L-
1@30', 1@50', 1@30', 36" CORED SLAB (OAL=110')
SKEW=90
CR GR EL=542.49
PI = 15+98.00
EL = 543.58'
K = 49
VC = 166'
DS = 35 mph
PI = 18+14.09
EL = 542.14'
K = 73
VC = 130'
DS = 45 mph
PI = 19+50.00
EL = 538.82'
K = 79
VC = 120'
DS = 45 mph
PROPOSED GRADE
EXISTING GROUND

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	4200 CFS
DESIGN FREQUENCY	=	25 YR
DESIGN HW ELEVATION	=	540.8 FT
BASE DISCHARGE	=	5648 CFS
BASE FREQUENCY	=	100 YR
BASE HW ELEVATION	=	541.5 FT
OVERTOPPING DISCHARGE	=	1250 CFS
OVERTOPPING FREQUENCY	=	< 2 YR
OVERTOPPING ELEVATION	=	537.6 FT
DATE OF SURVEY	=	8/7/08
W.S. ELEVATION AT DATE OF SURVEY	=	530.56 FT