



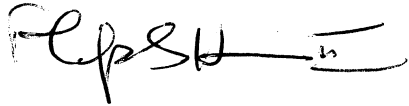
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

September 29, 2004

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

FROM: Philip S. Harris, III, P.E., Manager  
Office of the Natural Environment  
Project Development and  
Environmental Analysis Branch 

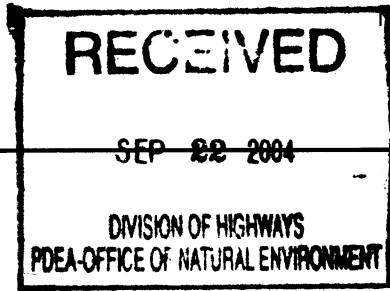
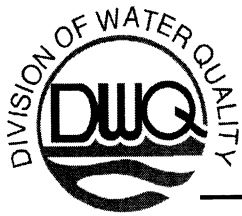
SUBJECT: Granville County; Division 5; Replace Bridge No. 72 over Hachers Run  
on SR 1004; Project No. 8.2370901; TIP Project No. B-3643

Attached is the modification of the Tar-Pamlico Buffer Certification.

PSH/mka

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



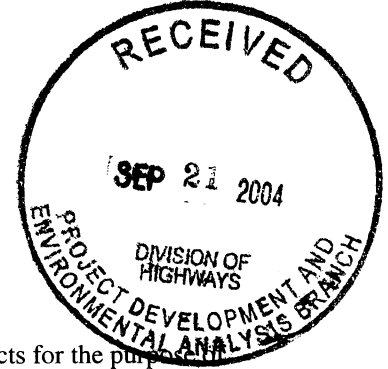
Michael F. Easley, Governor  
 William G. Ross Jr., Secretary  
 North Carolina Department of Environment and Natural Resources  
 Alan W. Klimek, P.E. Director  
 Division of Water Quality

*Fewlner*

September 9, 2004  
 Granville County  
 DWQ Project No. 031389  
 TIP No. B-3643

**APPROVAL of Tar-Pamlico Buffer Certification Modification**

Dr. Gregory J. Thorpe, PhD, Manager  
 Planning and Environmental Branch  
 North Carolina Department of Transportation  
 1548 Mail Service Center  
 Raleigh, North Carolina, 27699-1548



Dear Dr. Thorpe:

You have our approval, in accordance with the conditions listed below, for the following impacts for the project replacing Bridge No. 72 over Hachers Run on SR 1004 in Granville County.

Impact Locations	Old Riparian Buffer Impacts (Square Feet)	New Riparian Buffer Impacts (Square Feet)	Net Riparian Buffer Impact Increase (Square Feet)
STA 14+33	3,178 (1,811 Zone 1 + 1,367 Zone 2)	5,313 (3,241 Zone 1 + 2,072 Zone 2)	2,135 (1,430 Zone 1 + 705 Zone 2)

The project shall be constructed in accordance with your modified application dated received August 10, 2004. This approval shall act as your Authorization Certificate as required within the Tar-Pamlico Area Protection Rules (15A NCAC 2B .0259). In addition, you should get any other required federal, state or local permits before you go ahead with your project including, but not limited to, Sediment and Erosion Control.

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 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, 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). For this approval to remain valid, you must adhere to the conditions listed in the attached certification.

- 1.) Upon completion of the project, the NCDOT shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the Buffer Rules Authorization has been completed. The responsible party shall complete the attached form and return it to the 401/Wetlands Unit of the Division of Water Quality upon completion of the project.
- 2.) All stormwater runoff shall be directed to sheetflow through stream buffers at nonerosive velocities, unless approved otherwise by this certification.
- 3.) During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.
- 4.) Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
- 5.) The dimension, pattern and profile of the stream above and below the crossing should not be modified by widening the stream channel or reducing the depth of the stream. Disturbed floodplains and streams should be restored to natural geomorphic conditions.

- 6.) Any riprap used must not interfere with thalweg performance and aquatic life passage during low flow conditions.
- 7.) All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
- 8.) Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
- 9.) The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by orange fabric fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
- 10.) There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.
- 11.) The NCDOT shall strictly adhere to sediment and erosion control Best Management Practices as described for High Quality Waters entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0024) throughout design and construction of the project.
- 12.) Pursuant to NCAC15A 2B.0259(6), sediment and erosion control devices shall not be placed in Zone 1 of any Tar-Pamlico Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1. Sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.
- 13.) The post-construction removal of any temporary bridge structures will need to return the project site to its preconstruction contours and elevations. The revegetation of the impacted areas with appropriate native species may also be necessary.
- 14.) When the old bridge is removed, no discharge of bridge material into surface waters is preferred. Strict adherence to the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.
- 15.) No live or fresh concrete shall come into contact with waters of the state until the concrete has hardened.
- 16.) Heavy equipment must be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into the stream.
- 17.) The presence of equipment in the channels must be minimized. Under no circumstances must rock, sand or other materials be dredged from the wetted stream channel under authorization of this permit.
- 18.) All work shall be performed during low or normal flow conditions.
- 19.) A copy of this Water Quality Certification shall be posted 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.
- 20.) No changes to the horizontal or vertical placement of the stormwater outfall locations, the horizontal or vertical placement of the culverts, the horizontal or vertical placement of bridges, the horizontal or vertical placement of grassed swales, or the horizontal or vertical placement of open ditches is permitted without written approval from the NC Division of Water Quality 401 Wetlands Unit. In addition, no changes to the flow spreader locations or designs, preformed scour hole locations or designs are permitted without written approval from the NC Division of Water Quality 401 Wetlands Unit. Any request for changes to the referenced items above will

require submittal of a modification request, with seven copies, and corresponding fees will need to be submitted to the North Carolina Division of Water Quality.

- 21.) All protected riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated with native woody species upon completion of the project construction. A post-construction as-built with the restoration activities included shall be submitted to the DWQ no later than 60 days after the project is closed out by the Department of Transportation.
- 22.) Prior to planting any of the native woody species required in Condition 21, a list of proposed species to be planted shall be submitted, for approval, to the NC Division of Water Quality.

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, P.O. Box 27447, Raleigh, N.C. 27611-7447. 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 Nicole Thomson at 919-715-3415.

Sincerely,



Alan W. Klimek, P.E.

#### Attachment

cc: Wilmington District US Army Corps of Engineers  
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  
NCDWQ Raleigh Regional Office  
File Copy  
Central Files

DWQ 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/Wetlands Unit, North Carolina Division of Water Quality, 1621 Mail Service Center, Raleigh, NC, 27699-1621. 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: \_\_\_\_\_

**Engineer's Certification**

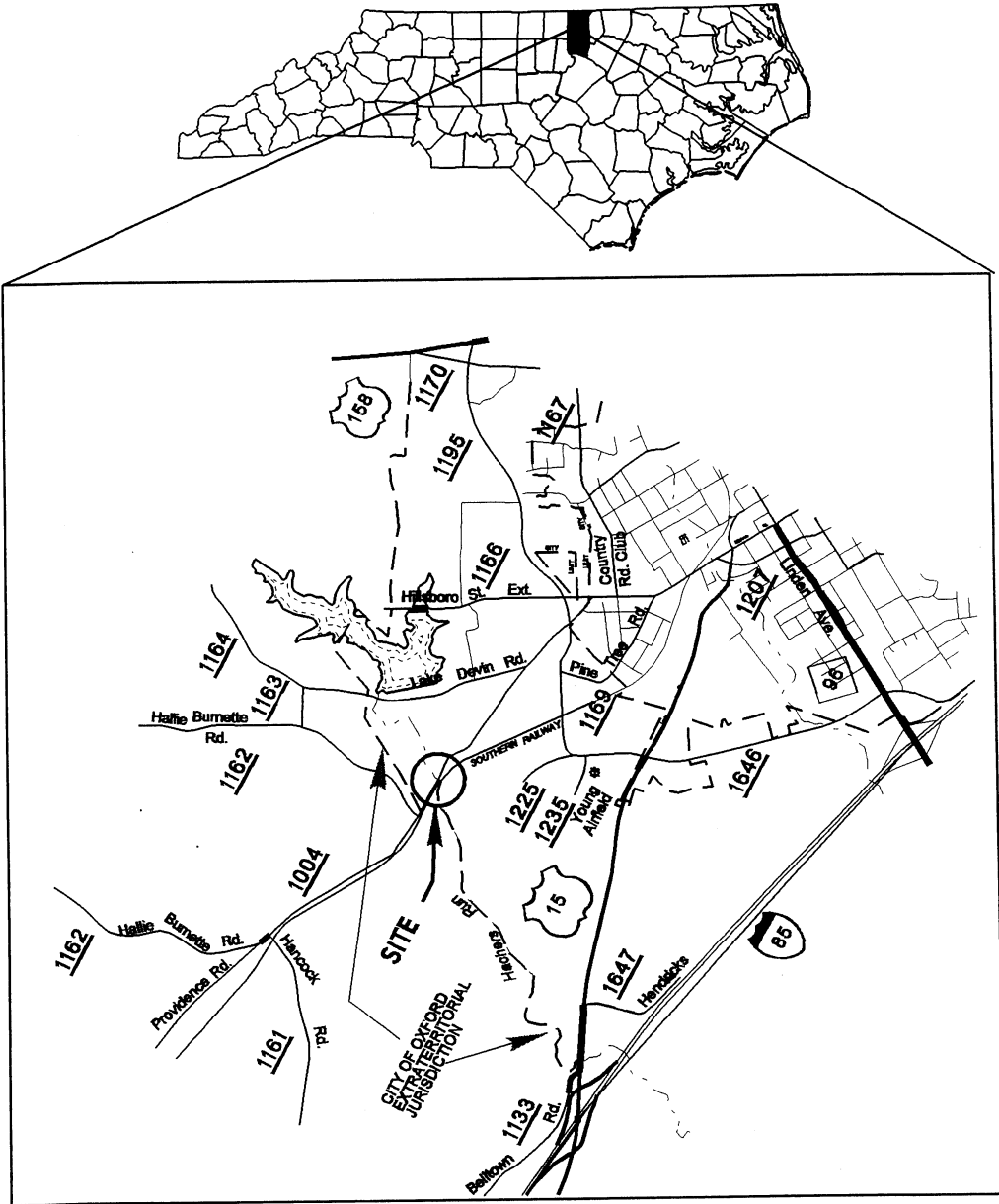
\_\_\_\_\_ Partial \_\_\_\_\_ Final

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 \_\_\_\_\_

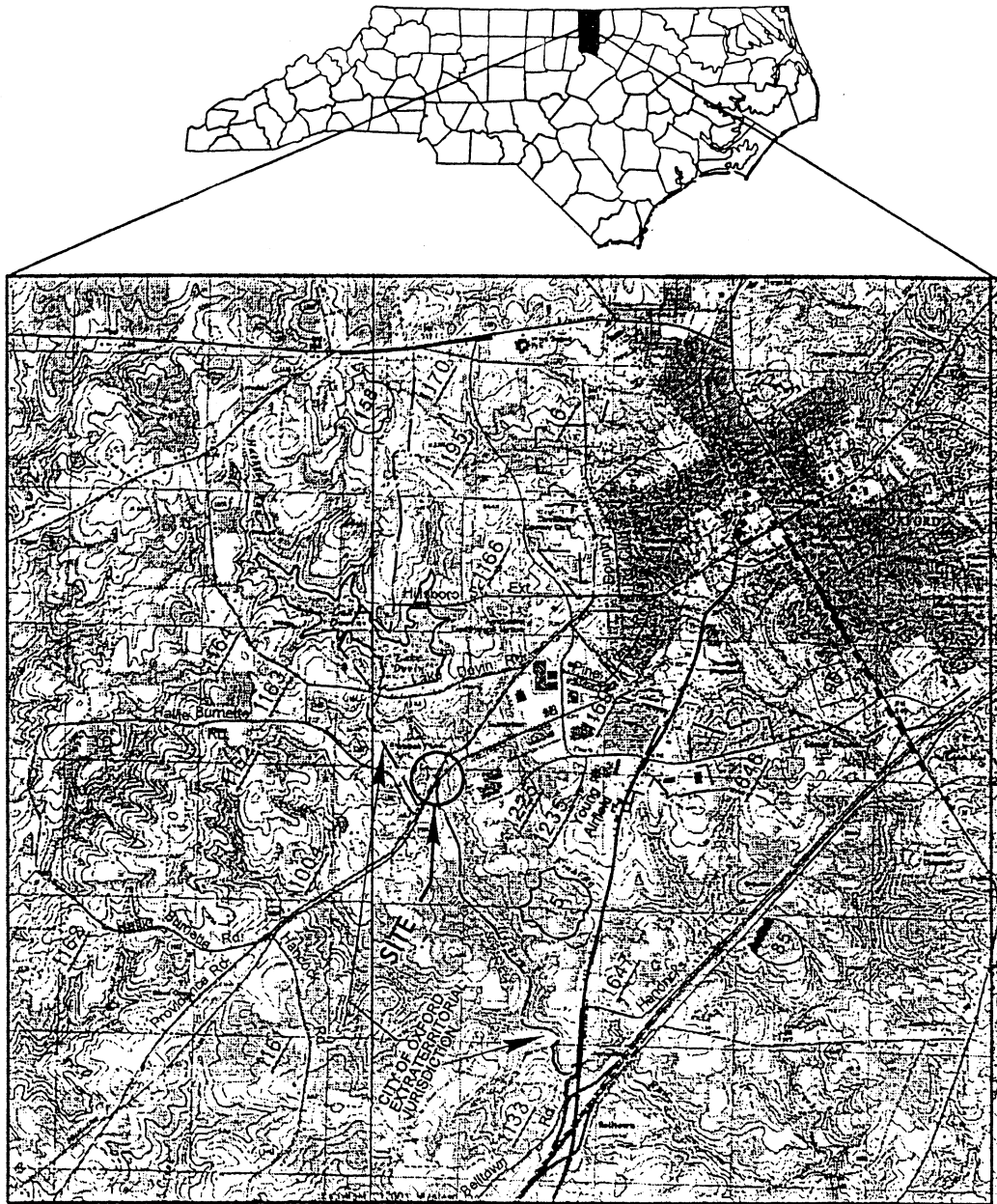
# VICINITY MAP



## BUFFER

N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
GRANVILLE COUNTY  
PROJECT: 8.2370901 (B-3643)  
BRIDGE NO. 72  
OVER HACHERS RUN  
ON SR 1004  
SHEET 1 OF 8 7104

# VICINITY MAP



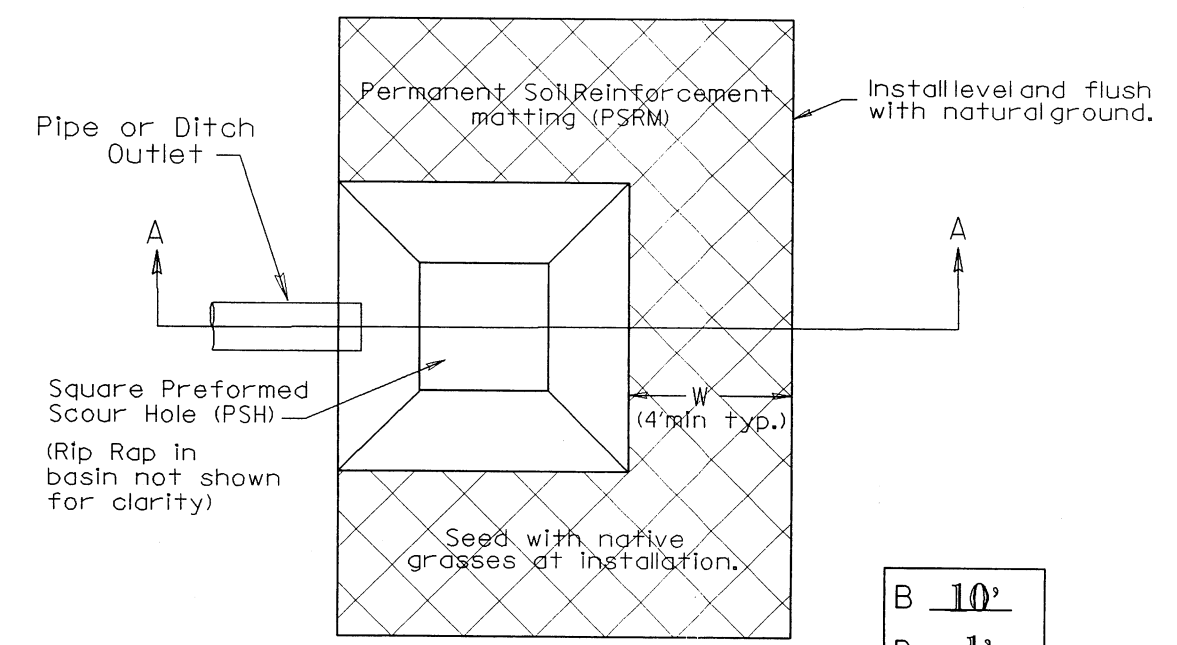
N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
GRANVILLE COUNTY  
PROJECT: 8.2370901 (B-3643)  
BRIDGE NO. 72  
OVER HACHERS RUN  
ON SR 1004  
SHEET 2 OF 8 7104

HYDRAULICS  
ENGINEER  
7104

# PREFORMED SCOUR HOLE WITH LEVEL SPREADER APRON

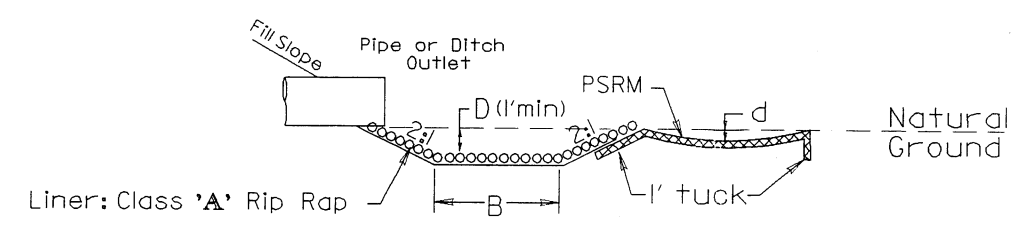
3 of 7

PLAN VIEW



B	10'
D	1'
W	4'
d	0.5'

SECTION A-A







PROJECT REFERENCE NO.	SHEET NO.
B-3643	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	7104

- NOTES:**
- 1) SEE SHEET 5 FOR -L- PROFILE
  - 2) SEE SHEET 2-A FOR DETAIL OF PREFORMED SCOUR HOLE
  - 3) THE BRIDGE IS DESIGNED ON THE LONG CHORD TO THE CURVE SET BY STRUCTURE DESIGN (SEE STRUCTURE PLANS)
  - 4) SEE SHEETS S-1 THRU S-17 FOR STRUCTURE PLANS

**BUFFER LEGEND**

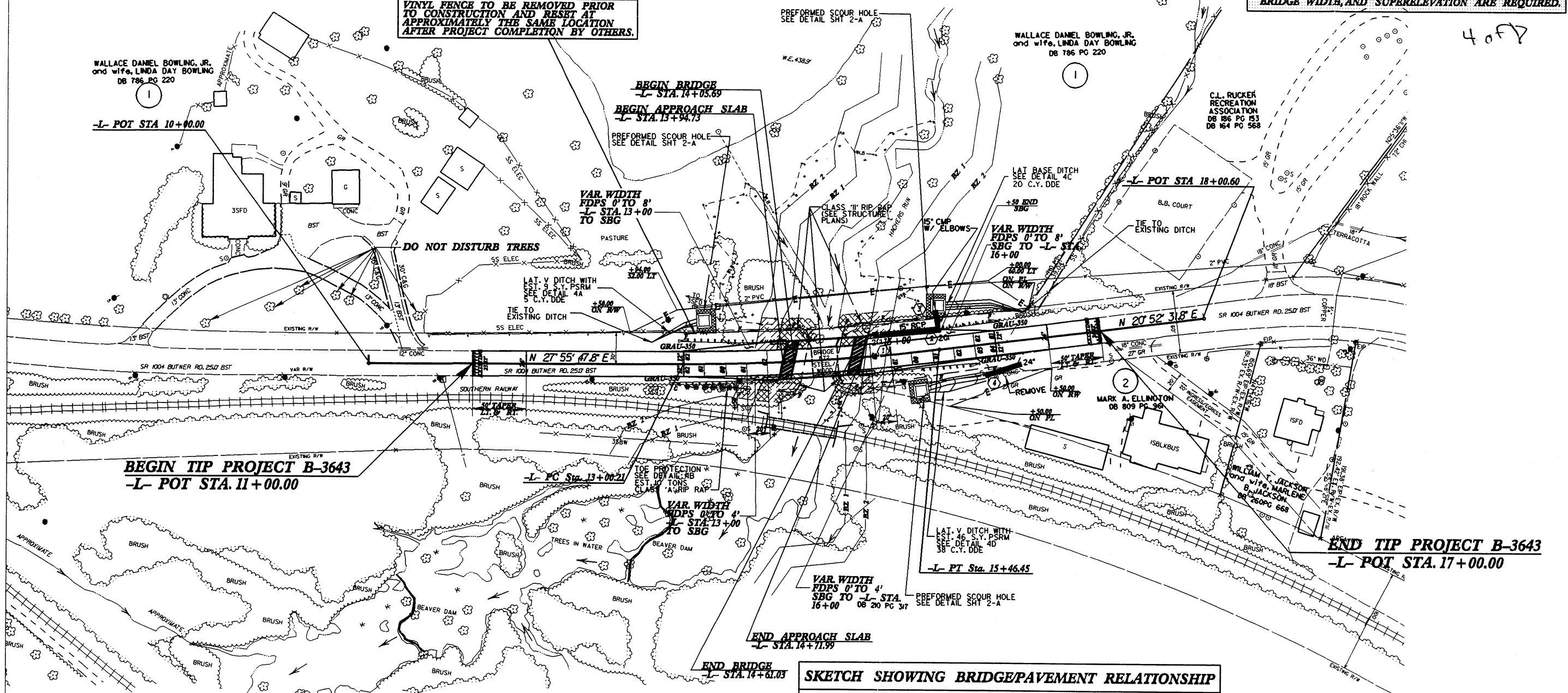
-  ALLOWABLE IMPACTS ZONE 1
-  ALLOWABLE IMPACTS ZONE 2
- BZ 1** — RIPARIAN BUFFER ZONE 1  
30 FT
- BZ 2** — RIPARIAN BUFFER ZONE 2  
20 FT

**-L-**

PI Sta 14+23.48  
 $\Delta = 7^{\circ}03'16.0''$  (LT)  
 $D = 2^{\circ}51'53.2''$   
 $L = 246.25'$   
 $T = 123.28'$   
 $R = 2,000.00'$   
 $*SE = 0.02$   
 $RO = 40'$

**\*DESIGN EXCEPTIONS FOR SHOULDER WIDTH, BRIDGE WIDTH, AND SUPERELEVATION ARE REQUIRED.**

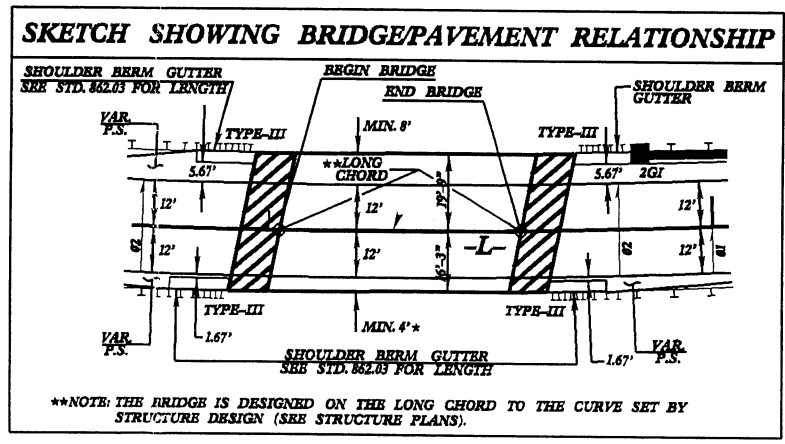
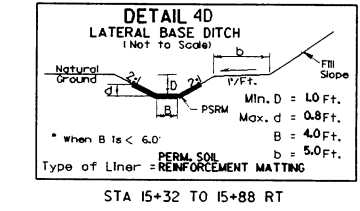
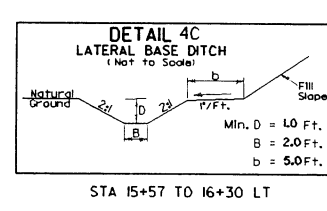
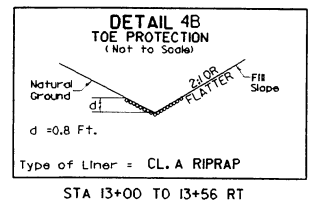
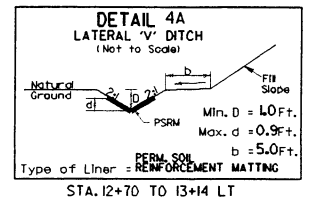
**VINYL FENCE TO BE REMOVED PRIOR TO CONSTRUCTION AND RESET AT APPROXIMATELY THE SAME LOCATION AFTER PROJECT COMPLETION BY OTHERS.**



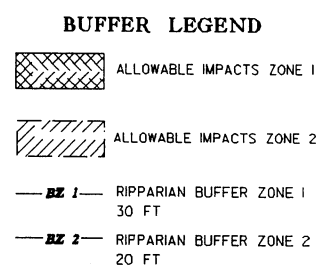
**BEGIN TIP PROJECT B-3643**  
-L- POT STA. 11+00.00

**END TIP PROJECT B-3643**  
-L- POT STA. 17+00.00

CERTAIN-TEED PRODUCTS CORPORATION



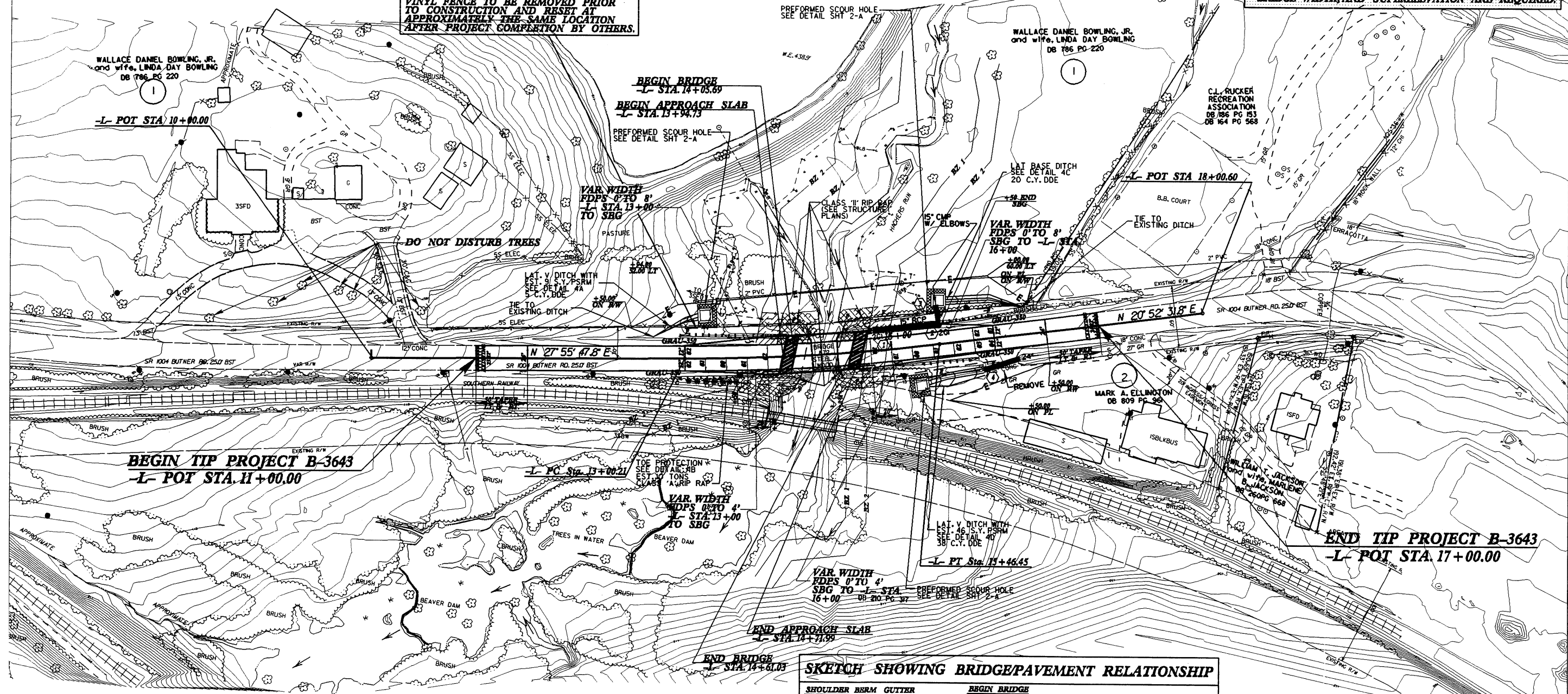
**NOTES:**  
 1.) SEE SHEET 5 FOR -L- PROFILE  
 2.) SEE SHEET 2-A FOR DETAIL OF PREFORMED SCOUR HOLE  
 3.) THE BRIDGE IS DESIGNED ON THE LONG CHORD TO THE CURVE SET BY STRUCTURE DESIGN (SEE STRUCTURE PLANS)  
 4.) SEE SHEETS S-1 THRU S-17 FOR STRUCTURE PLANS



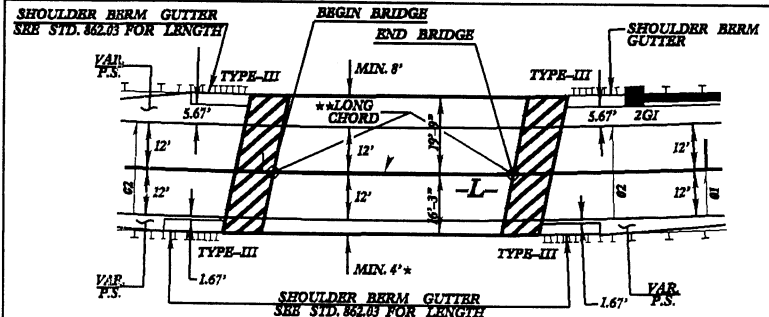
**-L-**  
 PI Sta 14+23.48  
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**\*DESIGN EXCEPTIONS FOR SHOULDER WIDTH, BRIDGE WIDTH, AND SUPERELEVATION ARE REQUIRED.**

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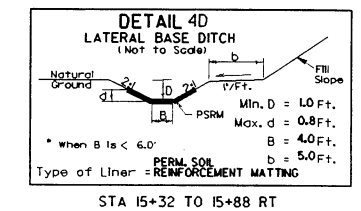
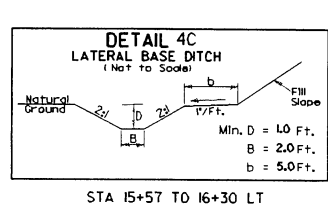
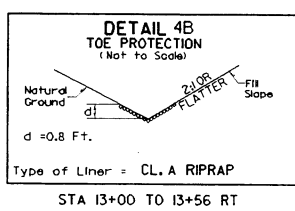
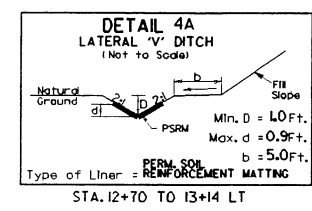


**SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP**



**\*\*NOTE: THE BRIDGE IS DESIGNED ON THE LONG CHORD TO THE CURVE SET BY STRUCTURE DESIGN (SEE STRUCTURE PLANS).**

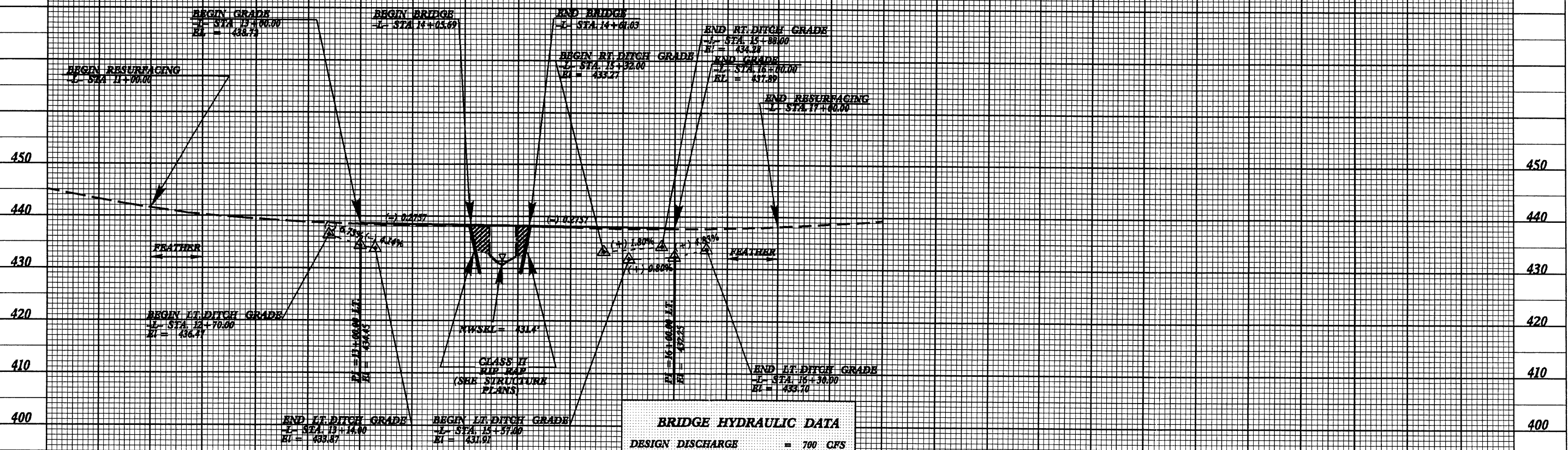
CERTAIN-TIED PRODUCTS CORPORATION



**-L-**

BM# 1 N 38° 39' 10.1"E 735.63' TO -L- STA 10+00.00  
NAIL SET IN 24" PINE TREE  
ELEV. 439.53'

BM# 2 -L- STA 15+28.69 161.83' (LT)  
NAIL SET IN 24" GUM TREE  
ELEV. 434.72'



BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 700 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 436.1 FT
BASE DISCHARGE	= 1050 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 437.3 FT
OVERTOPPING DISCHARGE	= 1320 CFS
OVERTOPPING FREQUENCY	= 200+ YRS
OVERTOPPING ELEVATION	= 438.3 FT
ESTIMATED NORMAL WATER SURFACE ELEVATION	= 431.4 FT
DATE OF SURVEY	= 82002

21" CORED SLAB  
1 @ 53' SPAN  
SKEW = 105°00'00"  
@ -L- STA. 14+33.31

DITCH LEGEND	
LEFT DITCH	---
RIGHT DITCH	---

NOTES:  
1.) SEE SHEET 4 FOR PLAN VIEW.  
2.) SEE SHEETS S-1 THRU S-17 FOR STRUCTURE PLANS.  
3.) END BENT EXCAVATION (ROADWAY PAY ITEM)

## BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT						BUFFER REPLACEMENT			
			TYPE		ALLOWABLE		MITIGABLE		ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )		
			ROAD CROSSING	PARALLEL IMPACT	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )			TOTAL (ft <sup>2</sup> )	
1	Bridge	-L- Sta 14+33+/-	X		3241.0	2072.0	5313.0					
<b>TOTAL:</b>					3241.0	2072.0	5313.0			0.0	0.0	0.0

N.C. DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
  
 GRANVILLE COUNTY  
 PROJECT: 8.2370901 (B-3643)  
  
 July-04  
 SHEET 1 OF 2

PROPERTY OWNER  
NAME AND ADDRESS

OWNER'S NAME

ADDRESS

WALLACE BOWLING

108 SHADOW DRIVE  
CARY, NC 27511

MARK ELLINGTON

521 N. COUNTRY CLUB DRIVE  
OXFORD, NC 27565

N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
GRANVILLE COUNTY

PROJECT: 8.2370901 (B-3643)

BRIDGE NO. 72

7104 OVER HACHERS RUN  
ON SR 1004

SHEET

8

OF

8

