PREDESIGN/PRESURVEY REPORT

Project No.:
TIP No.:
Let Date:
WBS No.:

Bridge No.: 400272
Road No.: SR3368 Watchtower Rd
Stream: Little Alamance Creek

County: Guilford

Type of Request:

Date: 8/28/2014 **Name**: SMQ **Assigned to:**

Checked by:

Prior Survey Date (attach copy of prior survey): Yes

Study by Scour Section: Attached

Flood Zone: Yes **Detail Study:** DS **Date:** 06/18/07 **Panel No.:** 8709

BM Info:

Quad Map: Climax (NE) **Drainage Area:** 5.17 Sq Mi **From:** USGS Region 1

Q25: 1453cfs **Q50:** 1771cfs **Q100:** 2059cfs **Method:** Rurual USGS SI Report 2009-5158

EXISTING BRIDGE INFORMATION

Location: 0.95 Mi. E. JCT. SR3381

Average Daily Traffic: 440 2001 Year

Length: 35 Feet **Bed-to-Crown:** 11 Feet **Water Depth:** 1 Feet

Type of Structure: Timber deck on timber joists,End&Interior bents:Timber caps,posts&piles,concrete encsd

Type of Span(s): 2@17'3"

Upstream Structure: P273

Location: 0.5 Mi. E. JCT SR3381

Bed-to-Crown: 9 Feet **Prior Survey:** Date 6-78 (6.492302)

Downstream Structure: Str: 267

Location: 0.45 Mi. S. JCT. SR3381

Bed-to-Crown: 13 Feet **Prior Survey:** No

SCS Watershed:

ENVIRONMENTAL

Trout Stream: No **Anadromous Fish:** No **Primary Nursery Area:** No

High Quality Waters: No **Nutrient Sensitive Waters:** Yes

Near Water Supply Intake: No **CAMA County:** No

Stream Classification: WS-IV: Water Supply IV - Highly Developed Notes: None

DENR River Basin Info: Cape Fear

MAINTENANCE COORDINATION

Bridge Maintenance – Contact Superintendent and Supervisor.

High Water:

Relocation: **New Alignment Staked:** **BM Information:**

Road Maintenance – Contact District Engineer and County Maintenance Engineer.

High Water:

Road to be Paved: **Relocation of Vicinity of Bridge:**

New Alignment Staked: **BM Information:**

Initiated as: **Date Initiated:**

Man-days Estimated:

Date Surveyed: **Date Completed:**

Personnel	Hours	Pay Period

Comments:

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation			
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	Without Floodway	With Floodway	Increase
South Little Alamance Creek (Stream No. 71)								
232	23,230	140	1,055	3.3	656.3	656.3	657.2	0.9
272	27,150	250	1,684	1.8	666.2	666.2	667.2	1.0

Table 22 - Floodway Data

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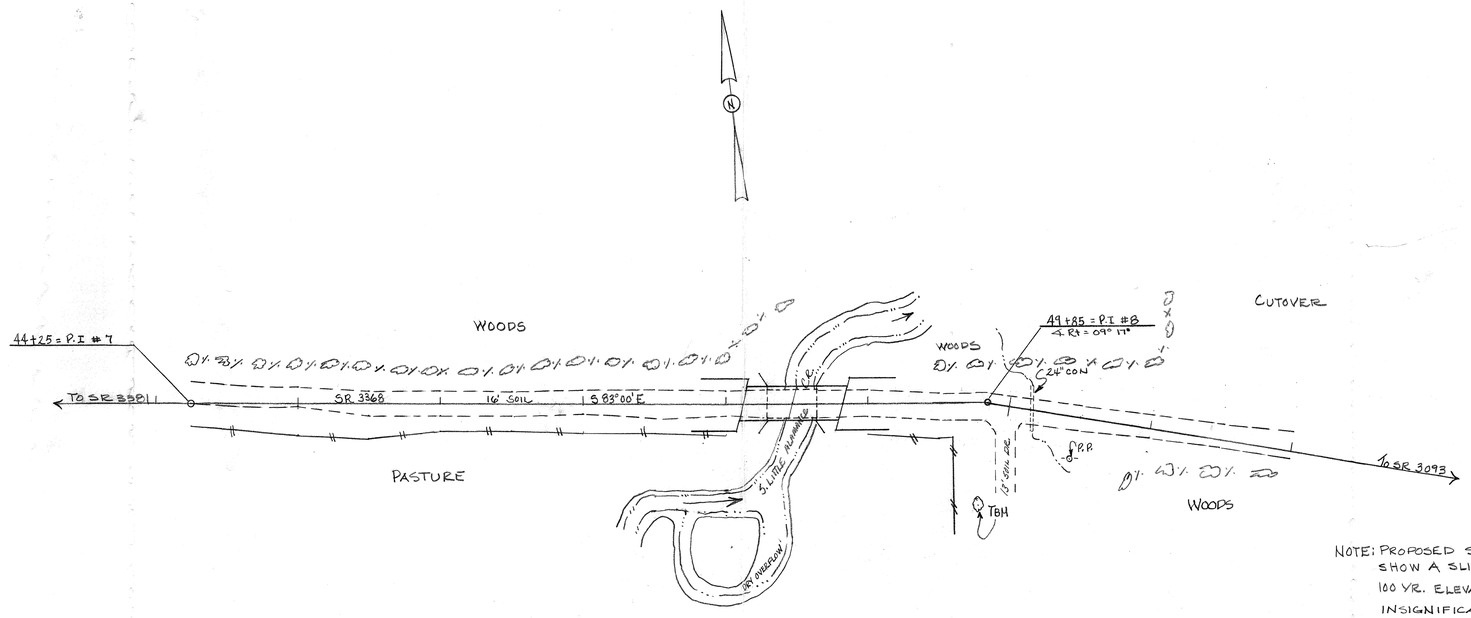
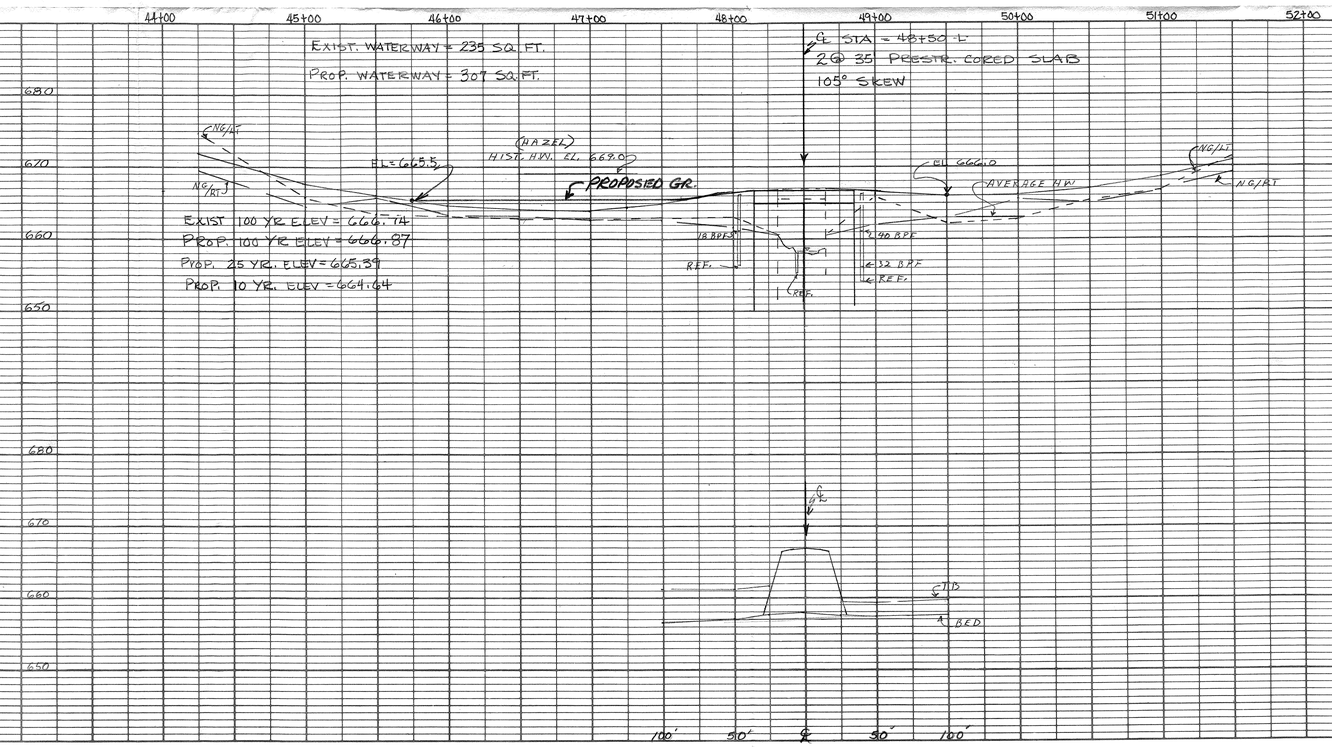


NOTE: PROPOSED STRUCTURE & GRADE CHANGE SHOW A SLIGHT INCREASE IN THE EXISTING 100 YR. ELEVATION, BELIEVE INCREASE IS INSIGNIFICANT. THERE APPEARS TO BE A PROBLEM WITH THE DESCRIBED B.M. FROM STUDY OF ± 0.50'. FOR EXACT STUDY, FLOODWAY INFORMATION WOULD HAVE TO BE OBTAINED AND M.S.L. DATUM TRANSFERRED TO SITE.



BENCH MARK: = RM-74 FLOOD STUDY
NAIL & CAP LEFT DOWNSTREAM
CORNER OF SR 3368 BRIDGE
OVER S. LITTLE ALAMANCE CR.
ELEV = 667.04
SEE NOTE RIGHT FOR POSSIBLE ERROR

TBM = RR SPIKE IN BASE OF
8" PINE 71' RT OF
STA. 49+90
ELEV = 671.36

NOTE: THIS SITE IS LOCATED IN A 100 YR. FLOOD ZONE, WITH A DETAILED STUDY.

D.A = 5.2 SQ. MI.
Q_{100} = 3,000 CFS
Q_{25} = 1950 CFS
n_n = 5.6

BED MATERIAL = SAND, COBBLES

HIST. HW. INFO.
VANCE NEECE
5253 WATCHTOWER RD.
JULIAN, N.C. 27283

N.C. D.O.T.
DIVISION OF HIGHWAYS
GUILFORD CO.
BR. #27 SR 3368
S. LITTLE ALAMANCE CR.
SCALE: 1" = 50' HORIZ.
1" = 10' VERT.
SURVEY BY: JEL, J.W.G., MAN
DRAWN BY: JEL
11-89
DESIGN GDJ

PLAN
NOTE BOOK No.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
NOTE BOOK No.
SURVEYED
PLOTTED
GRADES CHECKED
R. N.'S NOTED
STRUCTURE NOTATIONS CHECKED
BY
DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

May 27, 2010

MEMORANDUM TO: Mr. Don Idol
Assistant Bridge Inspection Engineer

FROM: Jerry Beard, P.E.
Scour Engineer
Hydraulic Design Unit

SUBJECT: **Transmittal of Bridge Scour Assessments**

The scour committee recommends, based on the Geotechnical Units low risk screening using NCHRP 24-25 "Guidelines for Risk-Based Management of Bridges with Unknown Foundations", that the code for Item 113 be changed to Z for the following bridges:

County Name	Bridge #	Item 113 Code
GUILFORD	400009	Z
GUILFORD	400016	Z
GUILFORD	400032	Z
GUILFORD	400079	Z
GUILFORD	400086	Z
GUILFORD	400104	Z
GUILFORD	400108	Z
GUILFORD	400114	Z
GUILFORD	400145	Z
GUILFORD	400159	Z
GUILFORD	400175	Z
GUILFORD	400183	Z
GUILFORD	400189	Z
GUILFORD	400193	Z
GUILFORD	400204	Z
GUILFORD	400205	Z
GUILFORD	400206	Z
GUILFORD	400207	Z
GUILFORD	400210	Z
GUILFORD	400214	Z
GUILFORD	400219	Z
GUILFORD	400222	Z
GUILFORD	400229	Z

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
HYDRAULICS UNIT
1590 MAIL SERVICE CENTER
RALEIGH NC 27699-1590

TELEPHONE 919-250-4100
FAX 919-250-4108

WEBSITE:
HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/HYDRO/

LOCATION:
CENTURY CENTER COMPLEX
BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

County Name	Bridge #	Item 113 Code
GUILFORD	400241	Z
GUILFORD	400244	Z
GUILFORD	400245	Z
GUILFORD	400248	Z
GUILFORD	400251	Z
GUILFORD	400254	Z
GUILFORD	400256	Z
GUILFORD	400258	Z
GUILFORD	400260	Z
GUILFORD	400262	Z
GUILFORD	400267	Z
GUILFORD	400269	Z
GUILFORD	400270	Z
GUILFORD	400271	Z
GUILFORD	400272	Z
GUILFORD	400280	Z
GUILFORD	400296	Z
GUILFORD	400314	Z
GUILFORD	400338	Z
GUILFORD	400351	Z
GUILFORD	400356	Z
GUILFORD	400376	Z
GUILFORD	400382	Z
GUILFORD	400401	Z
GUILFORD	400402	Z
GUILFORD	400427	Z
GUILFORD	400431	Z
GUILFORD	400439	Z
GUILFORD	400505	Z
GUILFORD	400584	Z

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SECRETARY

Code Z:

Bridge with "Unknown Foundation" that has not been evaluated for scour. Average Daily Traffic (ADT) is less than 1500. Bridge is considered low risk using NCHRP 24-25 "Guidelines for Risk-Based Management of Bridges with Unknown Foundations". A Plan of Action (POA) has been implemented.

POA

Monitor bridge foundation during biennial inspection cycle for case 1 or 2.

1) If mud line at any end bent or interior bent scours more than 4 feet from the established baseline contact the Hydraulics Unit. Establish a baseline using the 2008-2009 inspection soundings.
2) If footings have greater than 10% of the bearing undermined, contact the Hydraulics Unit.

If you have any questions or comments concerning the above please feel free to contact me at 250-4100.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
HYDRAULICS UNIT
1590 MAIL SERVICE CENTER
RALEIGH NC 27699-1590

TELEPHONE: 919-250-4100
FAX 919-250-4108

WEBSITE
HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/HYDRO/

LOCATION:
CENTURY CENTER COMPLEX
BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION TEMPORARY REPAIRS

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY GUILFORD **BRIDGE NUMBER** 400272 **INSPECTION CYCLE** 2 **YRS**

ROUTE SR3368 **ACROSS** ALAMANCE CREEK **M.P.** 0

LOCATION 0.95 MI. E. JCT. SR3381

SUPERSTRUCTURE TIMBER DECK ON TIMBER JOISTS

SUBSTRUCTURE END & INTERIOR BENTS:TIMBER CAPS,POSTS & PILES,CONC.ENC.

SPANS 2@17'3"

LONGITUDE 79° 39' 32.04" **LATITUDE** 35° 56' 45.20"

PRESENT CONDITION FAIR **INVENTORY RATING**

INSPECTION DATE 07/17/2012 **OPERATING RATING**

PRESENT POSTING Not Posted **PROPOSED POSTING**

COMPUTER UPDATE **ANALYSIS DATE**

POSTING LETTER DATE **SUFFICIENCY RATING**

OTHER SIGNS PRESENT 4 DELINEATORS 2 NARROW BRIDGE

LOOKING WEST

SIGN NOTICE ISSUED FOR		NUMBERED REQUIRED
No	WEIGHT LIMIT	
No	DELINEATORS	
No	NARROW BRIDGE	
No	ONE LANE BRIDGE	
No	LOW CLEARANCE	

NATIONAL BRIDGE INVENTORY-------- STRUCTURE INVENTORY AND APPRAISAL Run Date: 08/17/2012

IDENTIFICATION

(1) STATE NAME -NORTH CAROLINA BRIDGE **400272**
(8) STRUCTURE NUMBER(FEDERAL) 000000000810272
(5) INVENTORY ROUTE (ON/UNDER) - ON 31033680
(2) STATE HIGHWAY DEPARTMENT DISTRICT 2
(3) COUNTY CODE 81 (4) PLACE CODE 0
(6) FEATURE INTERSECTED - CLIMAX CREEK
(7) FACILITY CARRIED SR3368
(9) LOCATION 0.95 MI. E. JCT. SR3381
(11)MILEPOINT 0
(16)LAT 35° 56' 45.20" (17)LONG 79° 39' 32.04"
(98)BORDER BRIDGE STATE CODE PCT SHARE
(99)BORDER BRIDGE STRUCTURE NO

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE MAIN: Wood or Timber
TYPE - Stringer Mutlibeam or Girder CODE 702
(44) STRUCTURE TYPE APPR :
TYPE - CODE 000
(45) NUMBER OF SPANS IN MAIN UNIT 2
(46) NUMBER OF APPROACH SPANS
(107)DECK STRUCTURE TYPE - 8 CODE
(108)WEARING SURFACE / PROTECTIVE SYSTEM :
(A) TYPE OF WEARING SURFACE - CODE
(B) TYPE OF MEMBRANE - CODE
(C) TYPE OF DECK PROTECTION - CODE

AGE AND SERVICE

(27) YEAR BUILT 1956
(106)YEAR RECONSTRUCTED
(42) TYPE OF SERVICE : ON - Highway
UNDER - Waterway CODE 15
(28) LANES: ON STRUCTURE 2 UNDER STRUCTURE
(29) AVERAGE DAILY TRAFFIC 440
(30) YEAR OF ADT 2001 (109) TRUCK ADT PCT 6%
(19) BYPASS OR DETOUR LENGTH 1 MI

GEOMETRIC DATA

(48) LENGTH OF MAXIMUM SPAN 16 FT
(49) STRUCTURE LENGTH 35 FT
(50)CURB OR SIDEWALK: LEFT .333 FT RIGHT .333 FT
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 21.167 FT
(52) DECK WIDTH OUT TO OUT 22.167 FT
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 20 FT
(33) BRIDGE MEDIAN - No Median CODE 0
(34) SKEW 0° (35) STRUCTURE FLARED 0
(10) INVENTORY ROUTE MIN VERT CLEAR 999.9 FT
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 21.167 FT
(53) MIN VERT CLEAR OVER BRIDGE RDWY 999.9 FT
(54) MIN VERT UNDERCLEAR REF Not a Highway or Railroad 0 FT
(55) MIN LAT UNDERCLEAR RT REF Not a Highway or Railroad 000 FT
(56) MIN LAT UNDERCLEAR LT REF - 000 FT

NAVIGATION DATA

(38) NAVIGATION CONTROL - No Navigational Control CODE 0
(111)PIER PROTECTION - CODE
(39) NAVIGATION VERTICAL CLEARANCE 0
(116)VERT - LIFT BRIDGE NAV MIN VERT CLEAR FT
(40) NAVIGATION HORIZONTAL CLEARANCE 0 FT

SUFFICIENCY RATING = 20.53
STATUS = Structurally Deficient

CLASSIFICATION — CODE

(112)NBIS BRIDGE SYSTEM - YES
(104)HIGHWAY SYSTEM Is not on NHS 0
(26) FUNCTIONAL CLASS - Local 09
(100)STRAHNET HIGHWAY - Not a STRAHNET Route 0
(101)PARALLEL STRUCTURE - No Parallel Structure N
(102)DIRECTION OF TRAFFIC - 2-way Traffic 2
(103)TEMPORARY STRUCTURE - Temporary Structure/Conditions T
(110)DESIGNATED NATIONAL NETWORK - Not on the National Network 0
(20) TOLL On Free Road 3
(31) MAINTAIN - State Highway Agency 01
(22) OWNER - State Highway Agency 01
(37) HISTORICAL SIGNIFICANCE - Not Eligible 5

CONDITION — CODE

(58) DECK 5
(59) SUPERSTRUCTURE 5
(60) SUBSTRUCTURE 3
(61) CHANNEL & CHANNEL PROTECTION 5
(62) CULVERTS N

LOAD RATING AND POSTING — CODE

(31) DESIGN LOAD Unknown 0
(63) OPERATING RATING METHOD - Allowable Stress
(64) OPERATING RATING - HS-1 201
(65) INVENTORY RATING METHOD - Allowable Stress
(66) INVENTORY RATING - HS-1 201
(70) BRIDGE POSTING - No Posting Required 5
(41) STRUCTURE OPEN, POSTED ,OR CLOSED D
DESCRIPTION - Open Temporary Shoring

APPRAISAL — CODE

(67) STRUCTURAL EVALUATION 2
(68) DECK GEOMETRY 3
(69) UNDERCLEARANCES,VERTI & HORIZ N
(71) WATERWAY ADEQUACY 7
(72) APPROACH ROADWAY ALIGNMENT 7
(36) TRAFFIC SAFETY FEATURES 0000
(113)SCOUR CRITICAL BRIDGES U

PROPOSED IMPROVEMENTS

(75) TYPE OF WORK - CODE
(76) LENGTH OF STRUCTURE IMPROVEMENT
(94) BRIDGE IMPROVEMENT COST
(95) ROADWAY IMPROVEMENT COST
(96) TOTAL PROJECT COST
(97) YEAR OF IMPROVEMENT COST ESTIMATE
(114)FUTURE ADT 880 (115) YEAR FUTURE ADT 2025

INSPECTIONS

(90) INSPECTION DATE 07/17/2012
(92) CRITICAL FEATURE INSPECTION : (93) CFI DATE
A) FRACTURE CRIT DETAIL - NO A)
B) UNDERWATER INSP - NO B)
C) OTHER SPECIAL INSP NO C)
SCOUR

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE Run Date: 08/17/2012

COUNTY :	DIVISION :	DISTRICT:	STRUCTURE NUMBER :	LENGTH :
GUILFORD	7	2	400272	35 FEET

ROUTE CARRIED : SR3368

FEATURE INTERSECTED : CLIMAX CREEK

LOCATED : 0.95 MI. E. JCT. SR3381

BRIDGE NAME :

CITY :

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	440 2001	LT 227 RT 227

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1956	BMU			Unknown

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
	BMU		TAN	90	ON 2 UNDER

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT	11 FT	1 FT

SUPERSTRUCTURE : TIMBER DECK ON TIMBER JOISTS

SUBSTRUCTURE : END & INTERIOR BENTS:TIMBER CAPS, POSTS & PILES, CONCRETE.ENCASED

SPANS : 2@17' 3"

BEAMS OR GIRDERS : SPAN#1:21 LINES, SPAN#2:20 LINES OF 6"X12" TIMBER JOISTS @ VARIOUS CENTERS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
4X8"TIM,3. 0"AWS		22.167 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
21.167 FT	21.833 FT	LT .333 FT RT .333 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :			
HS-1	HS-1	Int Joist	SV	TTST	DATE	08/16/2012

SYSTEM : Secondary S.R. Route

GREEN LINE ROUTE : N

UNDER ROUTES AND CLEARANCES

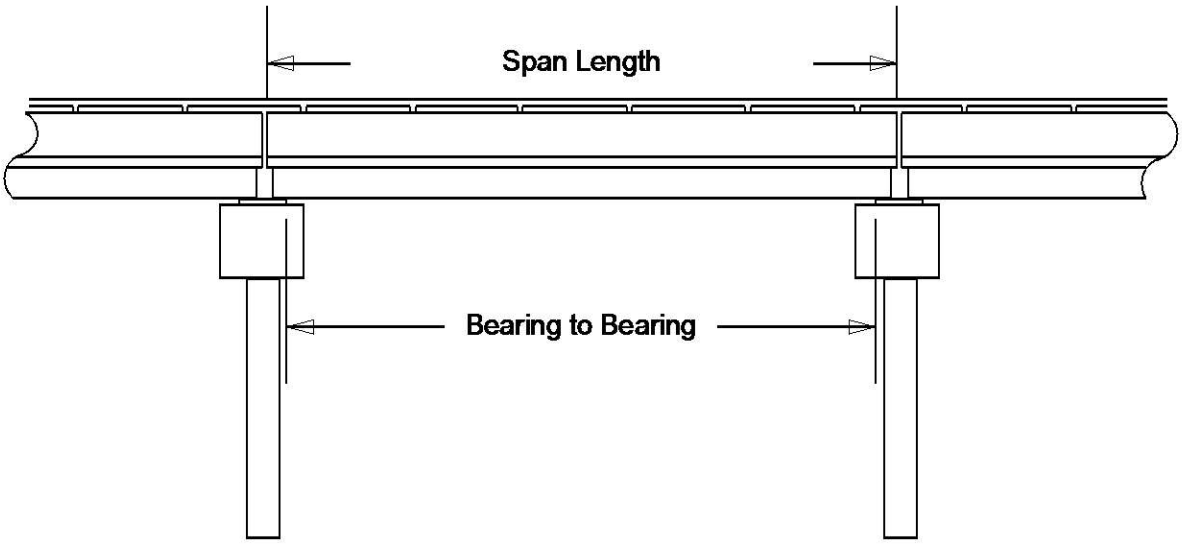
REMARKS :

JOIST 20 IN SPAN 1 REPLACED SINCE LAST INSPECTION

ABUTMENT 2 PILES 1,4,6,9 ARE DECAYED AND NO LONGER IN USE (SEE ABUTMENT 2 SKETCH)

Structure Data Worksheet

County: GUILFORD **Structure No:** 400272 **Date:** 07/17/2012 **Inspected By:** RLA

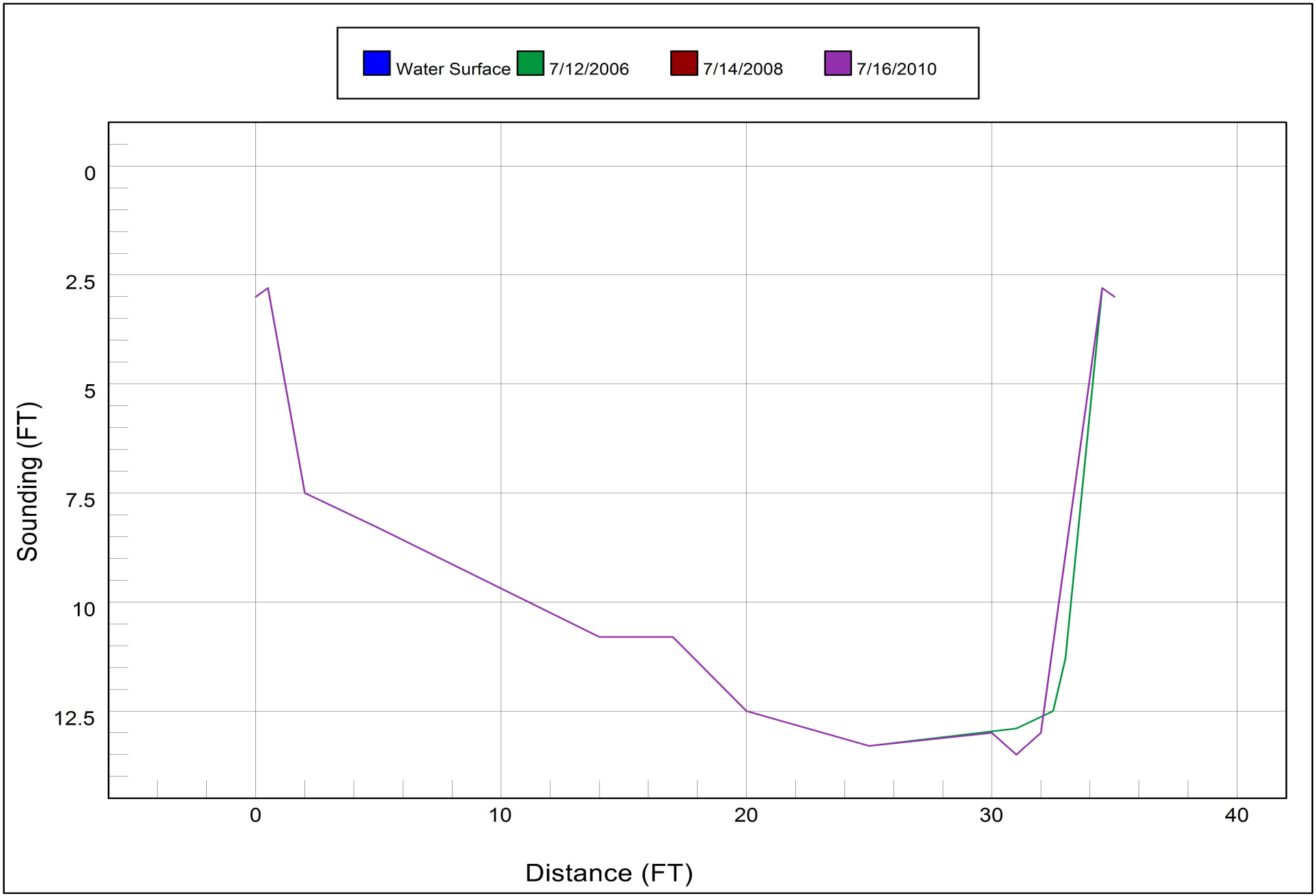


Span No	Span Length	Bearing to Bearing	Comments
1	17.250	16.375	NBIS 15.250
2	17.250	16.375	MEAS. VERIFIED 7/17/12...MYW

Bridge: 400272 County GUILFORD Date: 07/17/2012

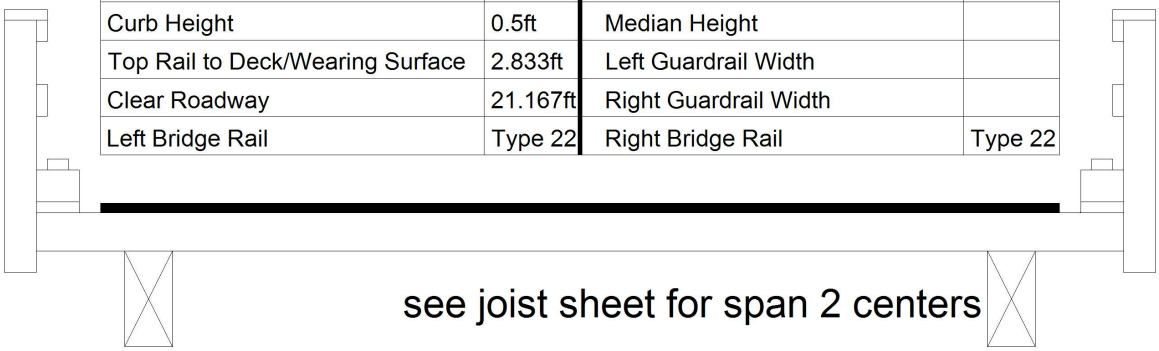
STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



Bridge Inspection Field Sketch

Deck Width/Out to Out	22.167ft	Wearing Surface	0.25ft
Between Rails	21.833ft	Median Width	
Curb Height	0.5ft	Median Height	
Top Rail to Deck/Wearing Surface	2.833ft	Left Guardrail Width	
Clear Roadway	21.167ft	Right Guardrail Width	
Left Bridge Rail	Type 22	Right Bridge Rail	Type 22



Measurements for Span #	1	span 2 similiar	
Deck Thickness	0.312	Left Overhang	1.583
Top of Rail to Bottom of Beam	4.292	Right Overhang	1.583

Beam No	Beam Type	Spacing	Comments
1	Timber (Rectangular)	.833ft	
2	Timber (Rectangular)	.500ft	
3	Timber (Rectangular)	1.000ft	
4	Timber (Rectangular)	1.000ft	
5	Timber (Rectangular)	1.000ft	
6	Timber (Rectangular)	1.000ft	
7	Timber (Rectangular)	1.000ft	
8	Timber (Rectangular)	1.000ft	
9	Timber (Rectangular)	1.000ft	
10	Timber (Rectangular)	1.000ft	
11	Timber (Rectangular)	1.000ft	
12	Timber (Rectangular)	1.000ft	
13	Timber (Rectangular)	1.000ft	
14	Timber (Rectangular)	1.000ft	
15	Timber (Rectangular)	1.000ft	
16	Timber (Rectangular)	1.000ft	
17	Timber (Rectangular)	1.000ft	
18	Timber (Rectangular)	1.000ft	
19	Timber (Rectangular)	.583ft	
20	Timber (Rectangular)	1.000ft	
21	Timber (Rectangular)		

Title
data

Description
data MEAS. VERIFIED 7/17/12...MYW

Bridge No: 400272 | **Drawn By:** MYW | **Date:** 07/14/08 | **File Name:** S0058001475

Bridge Inspection Field Sketch

joist centers span 2

j-1 to j-2- 1.000

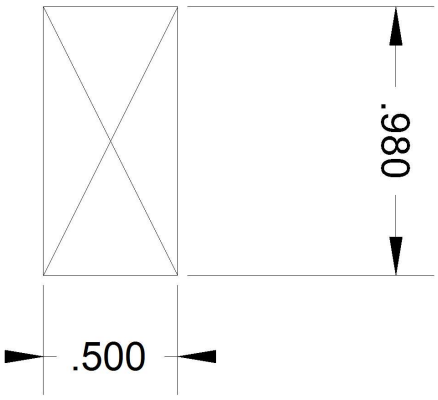
j-2 to j-3- 1.000

j-3 thru j-18- 1.000

j-18 to j-18- 1.000

j-19 to j-20- 1.000

all joists

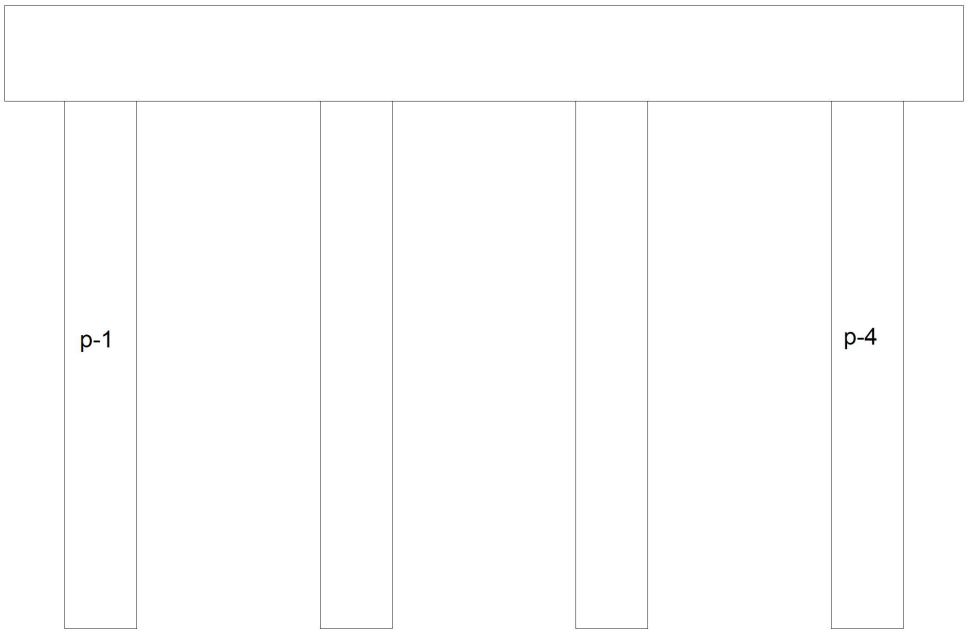


MEAS. VERIFIED 7/17/12...MYW

Title	Description
joist centers span 2	joist centers span 2

Bridge No: 400272	Drawn By: MYW	Date: 07/14/08	File Name: S0058001476

Bridge Inspection Field Sketch



Abutment #	1		
Cap - Beam Type (Wood or Steel)			
Cap Size	20.167ft Long	0.812ft Wide	0.979ft High
Left Overhang	1.083ft	Lt Cap/Beam Overhang	.417ft
Right Overhang	1.083ft	Rt Cap/Beam Overhang	.583ft

Pile #	Material	Pile Type	Spacing	Length	Width/Diam.	Height	Orientation
1	Wood or Timber	Post and Sills	6.000		1.000		
2	Wood or Timber	Post and Sills	6.000		1.000		
3	Wood or Timber	Post and Sills	6.000		1.000		
4	Wood or Timber	Post and Sills			1.000		

MEAS. VERIFIED 7/17/12...MYW

Title

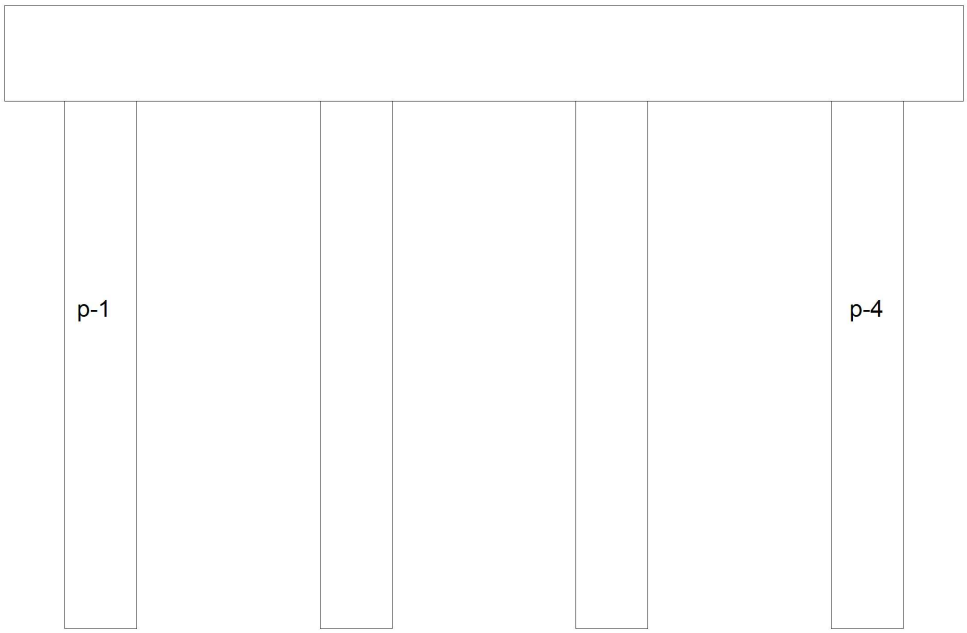
a-1 piles

Description

a-1 piles

Bridge No: 400272 **Drawn By:** MYW **Date:** 07/14/08 **File Name:** S0058001477

Bridge Inspection Field Sketch



Bent #	1		
Cap - Beam Type (Wood or Steel)			
Cap Size	20.167ft Long	0.812ft Wide	0.979ft High
Left Overhang	1.000ft	Lt Cap/Beam Overhang	.417ft
Right Overhang	1.167ft	Rt Cap/Beam Overhang	.583ft

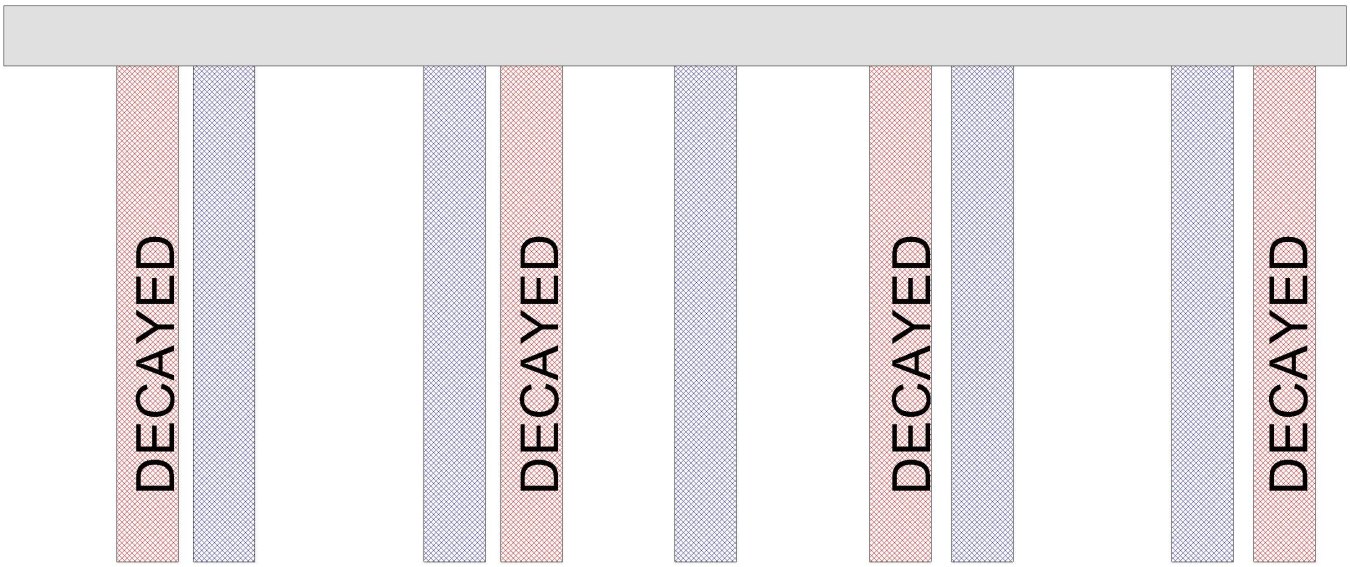
Pile #	Material	Pile Type	Spacing	Length	Width/Diam.	Height	Orientation
1	Wood or Timber	Post and Sills	6.000		1.000		
2	Wood or Timber	Post and Sills	6.000		1.000		
3	Wood or Timber	Post and Sills	6.000		1.000		
4	Wood or Timber	Post and Sills			1.000		

MEAS. VERIFIED 7/17/12...MYW

Title	Description
pier piles	pier piles

Bridge No:	Drawn By:	Date:	File Name:
400272	MYW	07/14/08	S0058001478

Bridge Inspection Field Sketch



Cap Information			Material Timber			
Length	Width	Height	Left Overhang	Right Overhang	Left Beam to End of Cap.	Right Beam to End of Cap.
21.833 ft.	0.812 ft.	0.979 ft.	2.333 ft.	2.25 ft.	.417 ft.	.583 ft.

Subcap Information			Material		
Length	Width	Height	Left Overhang	Right Overhang	Left Pile to Splice.

Sill Information			Material
Length	Width	Height	

Pile #	Material	Spacing	Width/Dia.	Height	Length	Orientation	Driven?	Replacement?	Removed?	Collar?
1	Timber	1.250 ft.	1.000 ft.				No	No	No	No
2	Timber	3.750 ft.	1.000 ft.	1.000 ft.			No	Yes	No	No
3	Timber	1.250 ft.	1.000 ft.	1.000 ft.			No	Yes	No	No
4	Timber	2.833 ft.	1.000 ft.				No	No	No	No
5	Timber	3.167 ft.	1.000 ft.	1.000 ft.			No	Yes	No	No
6	Timber	1.333 ft.	1.000 ft.				No	No	No	No
7	Timber	3.583 ft.	1.000 ft.	1.000 ft.			No	Yes	No	No
8	Timber	1.333 ft.	1.000 ft.	1.000 ft.			No	Yes	No	No
9	Timber		1.000 ft.				No	No	No	No

PILES 1,4,6,9 ARE DECAYED

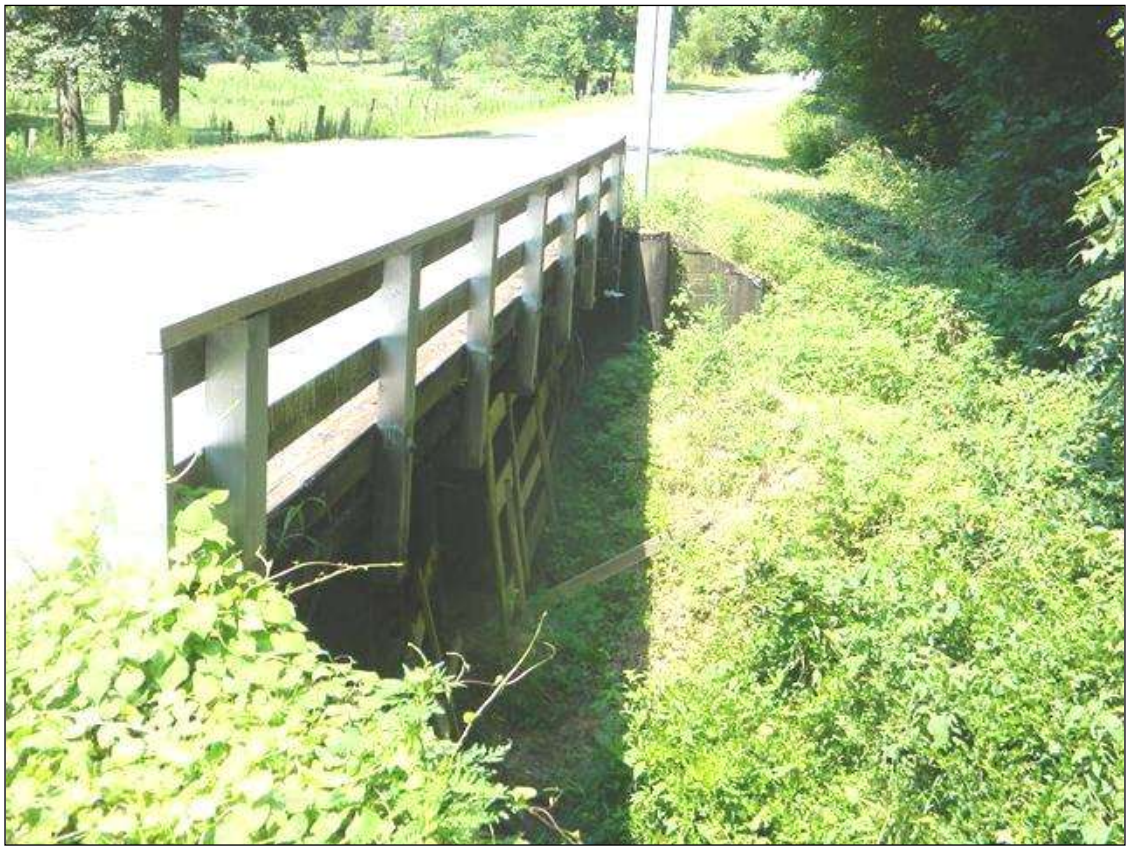
MEAS. VERIFIED 7/17/12...MYW

Bent/Abutment #: 2 Similar Bents:

Title	Description
abut. 2 piles	abut. 2 piles

Bridge No:	Drawn By:	Date:	File Name:
400272	MYW	07/14/08	S0058001479

Structure 400272 County GUILFORD Date: 07/17/2012 Structure Photos



LOOKING SOUTH

LOOKING NORTH

Structure 400272 County GUILFORD Date: 07/17/2012 Structure Photos

LOOKING SOUTH UPSTREAM FROM TOP

LOOKING NORTH DOWNSTREAM FROM TOP

PIER

SUPERSTRUCTURE SPAN 2, SPAN 1 SIMILAR

Structure 400272 County GUILFORD Date: 07/17/2012 Structure Photos

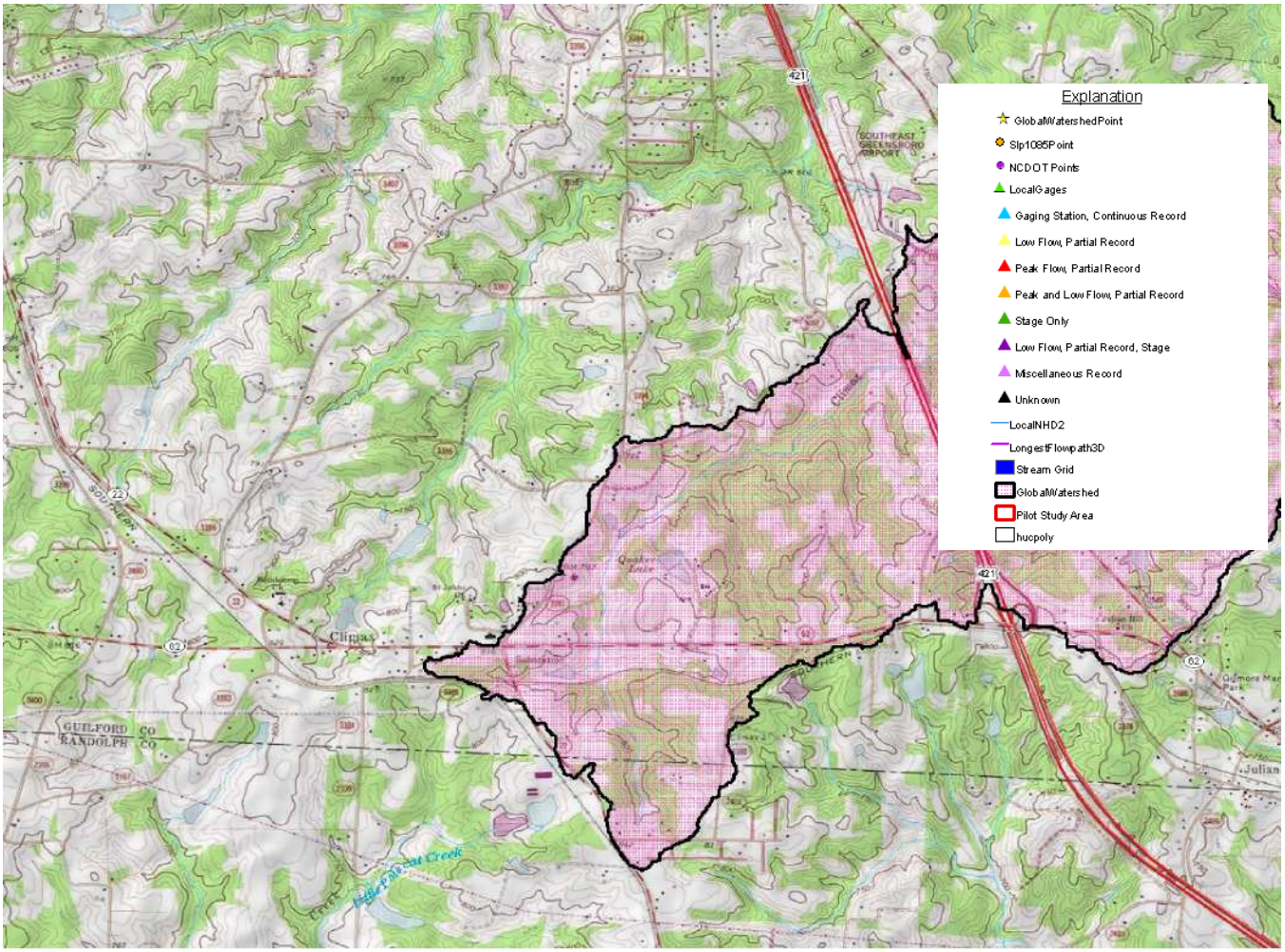
LOOKING SOUTH UPSTREAM

LOOKING NORTH DOWNSTREAM

ABUTMENT 1

USGS
North Carolina StreamStats

400272 Guilford



8/29/2014 7:03:08 AM

NORTH CAROLINA Cooperating Technical State
FEMA'S COOPERATING TECHNICAL PARTNER

This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long term approach to floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map flood hazard areas at the local level. As a part of this effort, the State of North Carolina has joined in a Cooperating Technical State agreement with FEMA to produce and maintain this digital FIRM.

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTP://FRIS.NC.GOV/FRIS

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A, V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with Average Depth Less Than One Foot or With Drainage Areas of Less Than One Square Mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes *Zone X*
OTHER AREAS	Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Accredited or Provisionally Accredited Levee, Dike, or Floodwall
	Non-accredited Levee, Dike, or Floodwall
	BM5510 North Carolina Geodetic Survey bench mark
	BM5510 National Geodetic Survey bench mark
	BM5510 Contractor Est. NCFMP Survey bench mark
	012 18.2 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
OTHER FEATURES	Hydrographic Feature
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. An accompanying Flood Insurance Study report, Letter of Map Revision (LOMR) or Letter of Map Amendment (LOMA) revising portions of this panel, and digital versions of this FIRM may be available. Visit the North Carolina Floodplain Mapping Program website at http://www.ncfloodmaps.com or contact the FEMA Map Service Center.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in the community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the North Carolina Floodplain Mapping Program (NCFMP). The source of this information can be determined from the metadata available in the digital FLOOD database and in the Technical Support Data Notebook (TSDN).

ACCREDITED LEVEE NOTES TO USERS: If an accredited levee note appears on this panel check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

PROVISIONALLY ACCREDITED LEVEE NOTES TO USERS: If a Provisionally Accredited Levee (PAL) note appears on this panel, check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations. If the community or owner does not provide the necessary data and documentation or if the data and documentation provided indicates the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

LIMIT OF MODERATE WAVE ACTION NOTES TO USERS: For some coastal flooding zones the AE Zone category has been divided by a Limit of Moderate Wave Action (LiMWA). The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LiMWA (or between the shoreline and the LiMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

Limit of Moderate Wave Action (LiMWA)

COASTAL BARRIER RESOURCES SYSTEM (CBRS) NOTE

This map may include approximate boundaries of the CBRS for informational purposes only. Flood insurance is not available within CBRS areas for structures that are newly built or substantially improved on or after the date(s) indicated on the map. For more information see http://www.fws.gov/habitatconservation/coastal_barrier.html, the FIS Report, or call the U.S. Fish and Wildlife Service Customer Service Center at 1-800-344-WILD.

CBRS Area

Otherwise Protected Area

SCALE

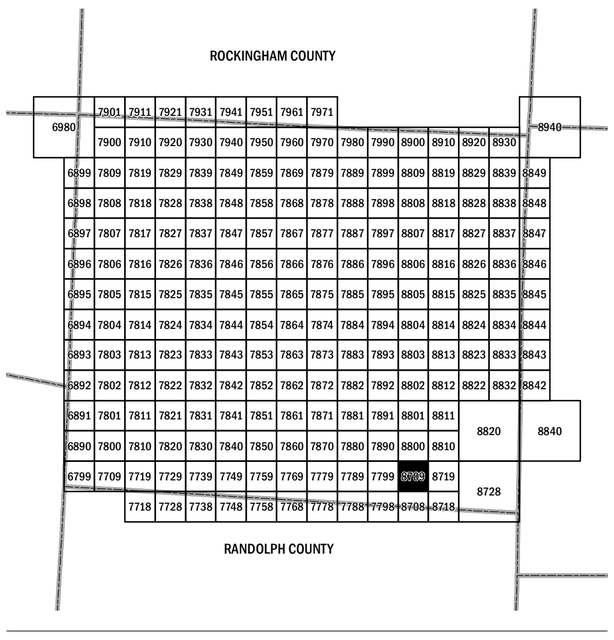
Map Projection:
North Carolina State Plane Projection Feet (Zone 3200)
Datum: NAD 1983 (Horizontal), NAVD 1988 (Vertical)

1 inch = 500 feet 1:6,000

0 250 500 1,000 Feet

0 75 150 300 Meters

PANEL LOCATOR



FEMA
National Flood Insurance Program

NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM
NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

NORTH CAROLINA

PANEL **8709**

FEMA

Panel Contains:

COMMUNITY	CID	PANEL	SUFFIX
GUILFORD COUNTY	370111	8709	J

MAP NUMBER
3710870900J

MAP REVISED
06/18/07

USGS
North Carolina StreamStats

Streamstats Ungaged Site Report

Date: Fri Aug 29 2014 07:01:41 Mountain Daylight Time
Site Location: North_Carolina
NAD27 Latitude: 35.9457 (35 56 45)
NAD27 Longitude: -79.6591 (-79 39 33)
NAD83 Latitude: 35.9458 (35 56 45)
NAD83 Longitude: -79.6589 (-79 39 32)
Drainage Area: 5.17 mi2
Percent Urban: 9.0 %
Percent Impervious: 1.4 %

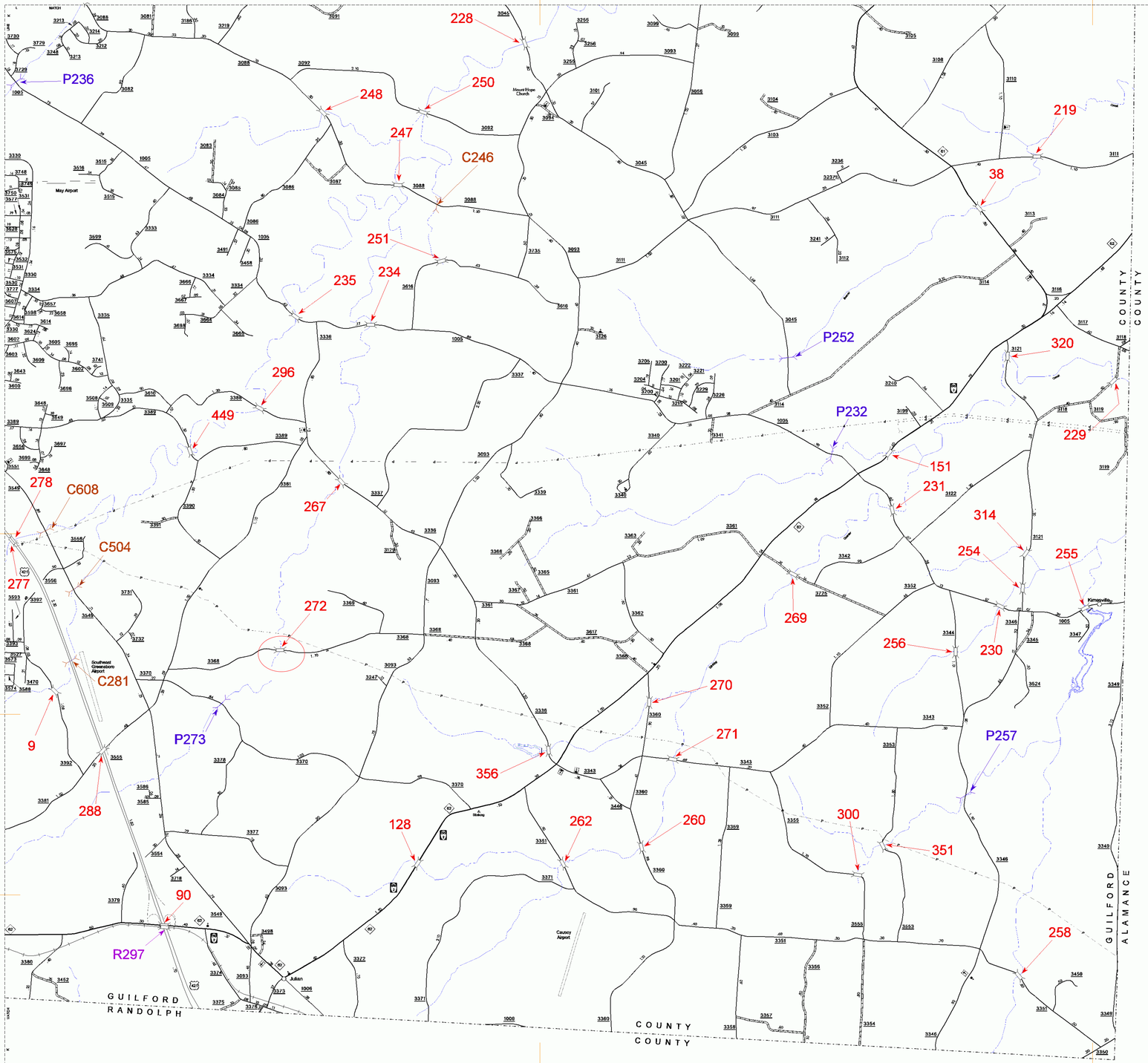
Peak Flows Region Grid Basin Characteristics			
100% Peak Southeast US 2009 5158 (5.17 mi2)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	5.17	1	9000
Percent Area in Region 1 (percent)	100.000	0	100
Percent Area in Region 2 (percent)	0.000	0	100
Percent Area in Region 3 (percent)	0.000	0	100
Percent Area in Region 4 (percent)	0.000	0	100
Percent Area in Region 5 (percent)	0.000	0	100

Urban Flows Region Grid Basin Characteristics			
100% Peak urban Blue Ridge-Piedmont FS007-00 (5.17 mi2)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	5.17	0.04	41
Area of Impervious Surfaces (percent)	1.37 (below min value 2)	2	54.6

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Peak Flows Region Grid Streamflow Statistics					
Statistic	Flow (ft^3/s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
PK2	460	35		265	800
PK5	827	34		479	1430
PK10	1100	35		626	1920
PK25	1450	38		800	2640
PK50	1770	40		944	3320
PK100	2060	42		1060	3990
PK200	2350	44		1170	4710
PK500	2790	48		1320	5890

Urban Flows Region Grid Streamflow Statistics					
Statistic	Flow (ft^3/s)	Standard Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
PK2U	139				
PK5U	289				
PK10U	421				
PK25U	714				
PK50U	901				
PK100U	1110				



Customized GIS Product Created for Bridge Maintenance
GIS NCDOT
Produced by Geographic Information Systems Unit - Aug 2006

NORMAL BRIDGE
"C" CULVERT
"D" PEDESTRIAN BRIDGE
"F" FERRY RAMP
"G" FEDERAL AGENCY STRUCTURE
"H" NON-SYSTEM STRUCTURE MAINTAINED BY NCDOT
"L" CANTILEVER SIGN STRUCTURE
"M" PRIVATELY OWNED STRUCTURE
"N" NCDOT OVERPASS STRUCTURES
"P" PIPE CULVERT
"R" RAILROAD COMPANY STRUCTURE
"S" OVERHEAD SIGN
"T" TUNNEL
"U" PEDESTRIAN, CATTLE UNDERPASS
"V" VEHICLE UNDERPASS LESS THAN 20'
"W" NCDOT AND PRIVATE PEDESTRIAN BRIDGES
"Y" SINGLE POLE SIGN STRUCTURE

N
W E
S

ENLARGED MUNICIPAL AND SUBURBAN AREAS

GUILFORD COUNTY

NORTH CAROLINA

BRIDGE LOCATION MAP

PREPARED BY THE

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
INFORMATION TECHNOLOGY - GIS UNIT

IN COOPERATION WITH THE

U.S.DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SCALE
1 0 1 MILE

10,000 FOOT GRID BASED ON NORTH CAROLINA PLANE COORDINATE SYSTEM

POLYCONIC PROJECTION

SHEET 10 OF 10

Disclaimer: The GIS Unit's goal is to provide the most accurate information as possible, the magnitude of the data prevents any guarantee of accuracy or completeness. If you find any information that is incorrect, please send your request to the GIS Unit.

Customized GIS map checked by Technology

PD&D

Data Comp.

COPIES OF THIS MAP ARE AVAILABLE TO THE PUBLIC AT A NOMINAL COST.
ADDRESS:
N.C. DEPARTMENT OF TRANSPORTATION
GIS/TRANSPORTATION SYSTEMS
3401 CARL SANDBURG CT.
RALEIGH, N.C. 27610

REVISED
1/7/03 RLN
2/6/03 RLN
3/31/03 RLN
8/26/03 RLN
11/7/03 RLN
2/17/04 RLN
4/15/04 RLN
6/28/04 RLN
8/13/04 RLN
8/30/04 RLN
1/31/05 RLN
12/12/05 RLN
1/13/06 TRP
7/12/06 TRP

GUILFORD