STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

December 17, 2007

Mr. Brian Wrenn
NC Division of Water Quality
401 Wetlands Certification Unit
1650 Mail Service Center
Raleigh, NC 27699-1650

SUBJECT: WQC No. 3704 request for T.I.P. No. B-4063, Chatham County.

REFERENCE: NW 23/33 permit application, dated October 1, 2007

Dear Mr. Wrenn:

An October 1, 2007 permit application was made by the NCDOT for Section 404 Nationwide permits 23 & 33. Since all general conditions are being adhered to, no written concurrence from the DWQ was requested. However, the USACE issued a GP 31, necessitating written concurrence for a Section 401 WQC No. 3704.

Please process NCDOT's permit application for this project for a WQC No. 3704 from the DWQ (debit $240.00 for a Minor Water Quality Certification from WBS Element #33427.1.1). All actions proposed in the October application are still valid with the exception of Site 1 in the permit application. Site 1 was modified after the permit application was sent to the USACE. The 72-inch pipe located at Site 1 was skewed to the southwest to facilitate better stream flow. The stream impacts at station –L- 18+65 to 19+30 LT changed from 52-feet of temporary stream impacts to 66-feet of permanent stream impacts. I have enclosed 5 copies of the updated permit plans and impact summary sheet.

This project has a let date of April 15, 2008, with a review date of February 27, 2007.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-715-1500
FAX: 919-715-1501
WEBSITE: WWW.NCDOT.ORG

LOCATION:
2728 CAPITAL BLVD., SUITE 240
RALEIGH NC 27604

Thanks for your assistance with this. Please contact Sara Easterly at 715-5499 if any more information is needed.

Sincerely,

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

Cc: w/attachment
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Ms. Polly Lespinasse, NCDWQ

Cc: w/o attachment
Dr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Art King, Division 8 Environmental Officer
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
Mr. Wade Kirby, PDEA Project Planning Engineer

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 18+65 to 19+30 LT	72" Crosspipe						0.01		66		
1	-L- 19+25 to 19+67 RT	72" Crosspipe						0.01	>0.01	48	14	
2	-L- 22+81 +/- RT	1 @90' Steel Girder Bridge						>0.01		6		
2	-L- 22+85 +/- LT	1 @90' Steel Girder Bridge							0.01		34	
2	-L- 22+97 +/- LT	1 @90' Steel Girder Bridge						>0.01		6		
TOTALS:								0.02	0.01	126	48	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CHATHAM COUNTY
WBS - 33427.1.1 (B-4063)

SHEET 5 of 7

REVISED
11/8/2007

ATN Revised 3/31/05

PROJECT REFERENCE NO.	SHEET NO.
B-4063	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — HYDRAULICS ENGINEER

Permit Drawing

Sheet 6 of 7

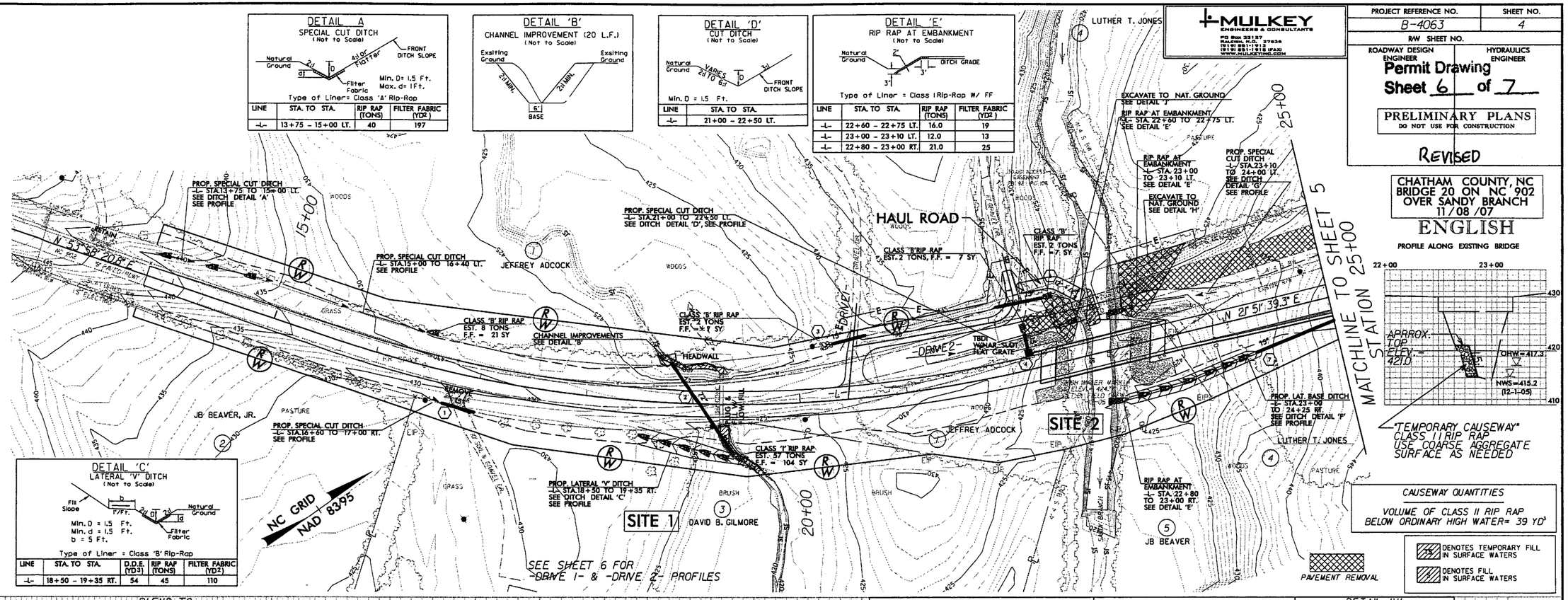
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISED

MULKEY ENGINEERS & CONSULTANTS
PO Box 33127, RALEIGH, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

CHATHAM COUNTY, NC
BRIDGE 20 ON NC 902
OVER SANDY BRANCH
11/08/07

ENGLISH



REVISIONS

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11/8/2007

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B-4063	4
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Permit Drawing
Sheet 7 of 7

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ENGLISH

PROFILE ALONG EXISTING BRIDGE

"TEMPORARY CAUSEWAY" CLASS II RIP RAP USE COARSE AGGREGATE SURFACE AS NEEDED

CAUSEWAY QUANTITIES

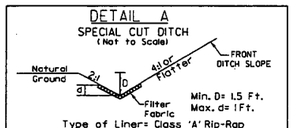
VOLUME OF CLASS II RIP RAP BELOW ORDINARY HIGH WATER= 39 YD³

DENOTES TEMPORARY FILL IN SURFACE WATERS

DENOTES FILL IN SURFACE WATERS

PAVEMENT REMOVAL

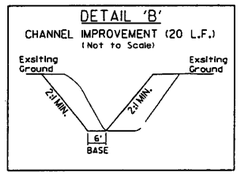
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



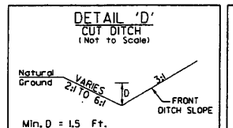
Type of Liner= Class 'A' Rip-Rap

LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD²)
-L-	13+75 - 15+00 LT.	40	197

DETAIL 'B'
CHANNEL IMPROVEMENT (20 L.F.)
(Not to Scale)



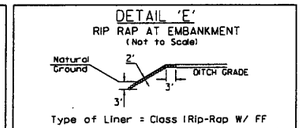
DETAIL 'D'
CUT DITCH
(Not to Scale)



Min. D = 1.5 Ft.

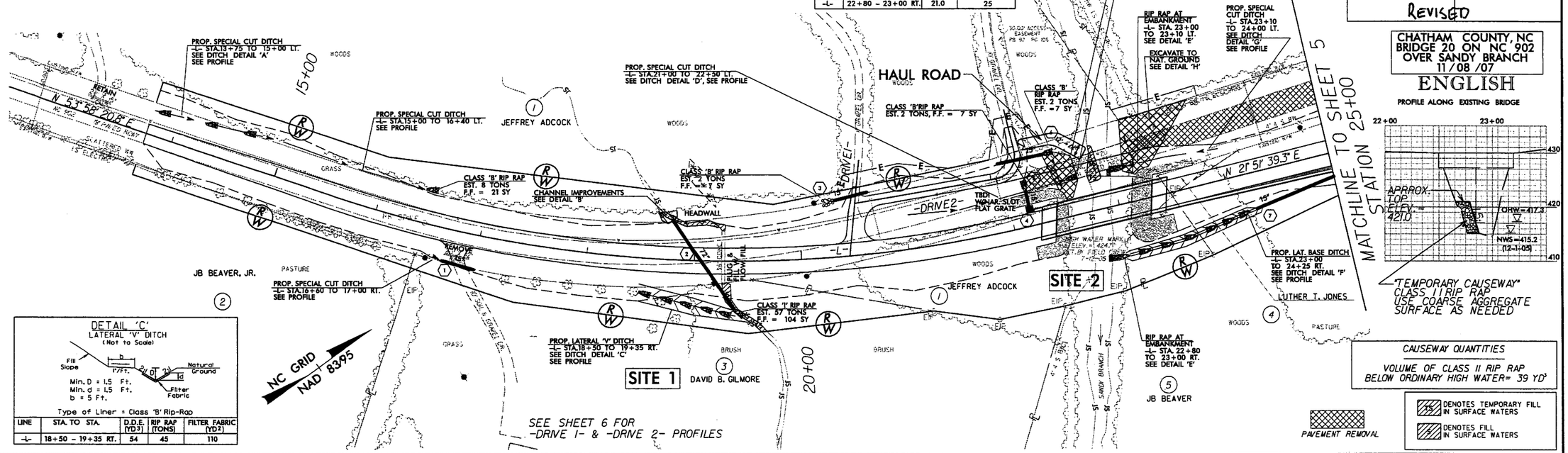
LINE	STA. TO STA.
-L-	21+00 - 22+50 LT.

DETAIL 'E'
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class 1 Rip-Rap W/ FF

LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD²)
-L-	22+60 - 22+75 LT.	16.0	19
-L-	23+00 - 23+10 LT.	12.0	13
-L-	22+80 - 23+00 RT.	21.0	25



DETAIL 'C'
LATERAL 'V' DITCH
(Not to Scale)

Min. D = 1.5 Ft.
Min. d = 1.5 Ft.
b = 5 Ft.

Type of Liner = Class 'B' Rip-Rap

LINE	STA. TO STA.	D.D.E. (YD³)	RIP RAP (TONS)	FILTER FABRIC (YD²)
-L-	18+50 - 19+35 RT.	54	45	110

DETAIL 'F'
LATERAL BASE DITCH
(Not to Scale)

Min. D = 1.5 Ft.
Min. d = 1.5 Ft.
B = 2 Ft.
b = 5 Ft.

Type of Liner = Class B Rip-Rap

LINE	STA. TO STA.	D.D.E. (YD³)	RIP RAP (TONS)	FILTER FABRIC (YD²)
-L-	23+00 - 24+25 RT.	65	70	190

DETAIL 'G'
CUT DITCH
(Not to Scale)

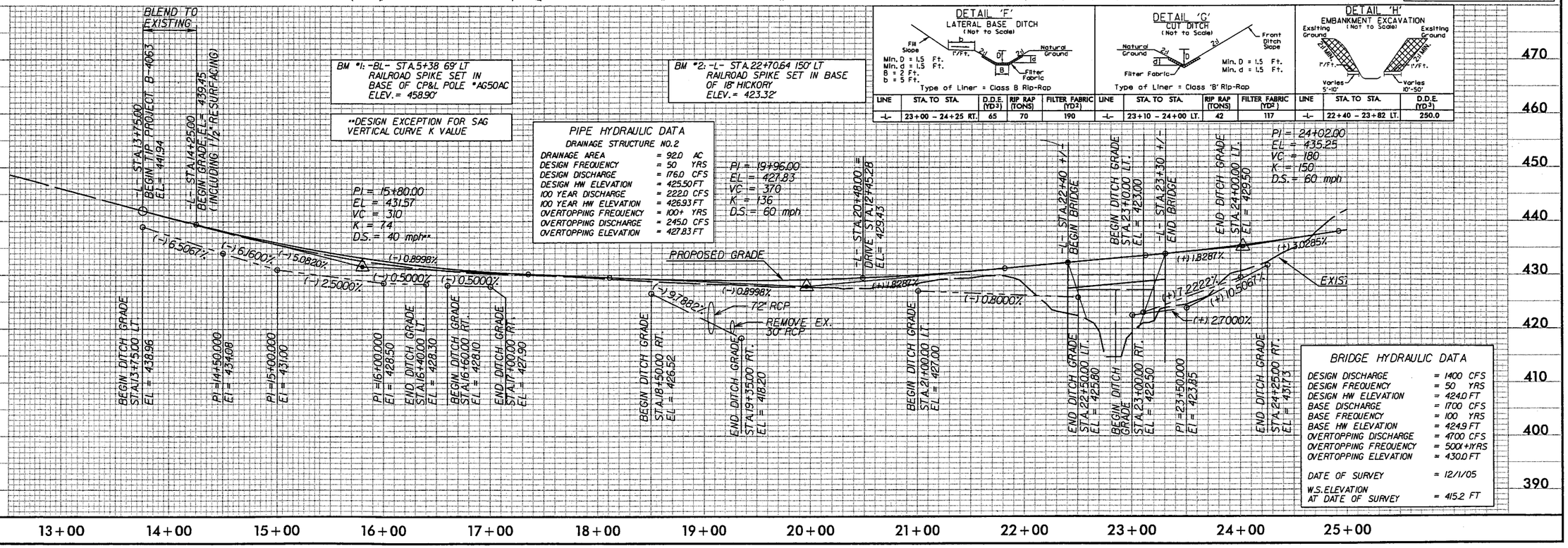
Min. D = 1.5 Ft.
Min. d = 1.5 Ft.

Type of Liner = Class 'B' Rip-Rap

LINE	STA. TO STA.	RIP RAP (TONS)	FILTER FABRIC (YD²)
-L-	23+10 - 24+00 LT.	42	117

DETAIL 'H'
EMBANKMENT EXCAVATION
(Not to Scale)

LINE	STA. TO STA.	D.D.E. (YD³)
-L-	22+40 - 23+82 LT.	250.0



PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.2

DRAINAGE AREA	= 92.0 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 176.0 CFS
DESIGN HW ELEVATION	= 425.50 FT
100 YEAR DISCHARGE	= 222.0 CFS
100 YEAR HW ELEVATION	= 426.93 FT
OVERTOPPING FREQUENCY	= 100+ YRS
OVERTOPPING DISCHARGE	= 245.0 CFS
OVERTOPPING ELEVATION	= 427.83 FT

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1400 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 424.0 FT
BASE DISCHARGE	= 1700 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 424.9 FT
OVERTOPPING DISCHARGE	= 4700 CFS
OVERTOPPING FREQUENCY	= 500X+YRS
OVERTOPPING ELEVATION	= 430.0 FT
DATE OF SURVEY	= 12/1/05
W.S. ELEVATION AT DATE OF SURVEY	= 415.2 FT

REVISIONS

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