

PRELIMINARY INFORMATION SHEET

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FINAL HYDRAULIC REPORT

HYDROLOGIC DATA Date: June 2007

DRAINAGE AREA : 15.7 sq. mi.
 CHARACTER OF TERRAIN : Mountainous, mostly forested
 STREAM CHARACTERISTICS : Sinuous, probably incised, semi-alluvial
 NATURE OF STREAMBED : Ledge, cobbles, gravel and sand

PEAK FLOW DATA

Q 2.33 =	1000 cfs	Q 50 =	3000 cfs
Q 10 =	1900 cfs	Q 100 =	3600 cfs
Q 25 =	2500 cfs	Q 500 =	5000 cfs

DATE OF FLOOD OF RECORD : Unknown
 ESTIMATED DISCHARGE : Unknown
 WATER SURFACE ELEV. : Unknown
 NATURAL STREAM VELOCITY : @ Q25 = 11.7 fps
 ICE CONDITIONS : Moderate to heavy
 DEBRIS : Moderate
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
 IS ORDINARY RISE RAPID? Yes
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
 IF YES, DESCRIBE:

WATERSHED STORAGE: < 1% HEADWATERS:
 UNIFORM: X
 IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Town Lattice Timber Covered Bridge
 YEAR BUILT: 1883
 CLEAR SPAN (NORMAL TO STREAM): 62'
 VERTICAL CLEARANCE ABOVE STREAMBED: 17' +/-
 WATERWAY OF FULL OPENING: 1,050 sq. ft.
 DISPOSITION OF STRUCTURE: Rehabilitate
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Ledge and gravel

WATER SURFACE ELEVATIONS AT:

Q2.33 =	574.6'	VELOCITY =	6.2 fps
Q10 =	576.3'	"	7.6 fps
Q25 =	577.3'	"	8.3 fps
Q50 =	578.1'	"	8.9 fps
Q100 =	579.0'	"	9.4 fps

LONG TERM STREAMBED CHANGES: None

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 591.6'
 DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Montgomery DISTANCE: 2,230'
 HIGHWAY #: 33 STRUCTURE #: 31
 CLEAR SPAN: 87' CLEAR HEIGHT: 23'
 YEAR BUILT: 1988 FULL WATERWAY: 1,260 sq. ft.
 STRUCTURE TYPE: Rolled beam

DOWNSTREAM STRUCTURE

TOWN: Montgomery DISTANCE: 8,500'
 HIGHWAY #: STRUCTURE #:
 CLEAR SPAN: CLEAR HEIGHT:
 YEAR BUILT: FULL WATERWAY:
 STRUCTURE TYPE: Confluence with Trout River

WORKING STRESS LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A STR.	4A STR.	5A SEM
INVENTORY	10	-	-	-	-	-	-
POSTED	10	-	-	-	-	-	-
OPERATING	-	-	-	-	-	-	-

COMMENTS: BOTTOM CHORD AND FLOOR BEAMS CONTROL THE LOAD RATING

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2007	<40	<10	NA	NA	NA
2027	<40	<10	NA	NA	NA

20 year ESAL for flexible pavement from 2007 to 2027 : <50,000
 40 year ESAL for flexible pavement from 2007 to 2047 : <50,000
 Design Speed : 15 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Rehabilitated covered bridge
 CLEAR SPAN (NORMAL TO STREAM): 62'
 VERTICAL CLEARANCE ABOVE STREAMBED: 17' +/-
 WATERWAY OF FULL OPENING: 1,050 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	574.6'	VELOCITY =	6.2 fps
Q10 =	576.3'	"	7.6 fps
Q25 =	577.3'	"	8.3 fps
Q50 =	578.1'	"	8.9 fps
Q100 =	579.0'	"	9.4 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 591.6'
 DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 588.8'
 VERTICAL CLEARANCE: @ Q25= 11.5'

SCOUR: Contraction scour = 1.4' at Q500

REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW: 32 cfs DEPTH OR ELEVATION:
 ORDINARY LOW WATER: 15 cfs Depth = 1.0'
 ORDINARY HIGH WATER: 430 cfs Depth = 2.5'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single Span Bridge
 CLEAR SPAN (NORMAL TO STREAM): 100' Min.
 VERTICAL CLEARANCE ABOVE STREAMBED: 16'
 WATERWAY AREA OF FULL OPENING: 1200 sq. ft.

ADDITIONAL INFORMATION

DESIGN CRITERIA

- DESIGN LIVE LOAD AASHTO H10
- DESIGN SPAN 62 FEET
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 4 KSF
ON LEDGE 20 KSF
- ALLOWABLE LOAD FOR PILING -
TYPE -
ESTIMATED LENGTH -
- STRUCTURAL STEEL AASHTO M270M/M270 GRADE 50W
- REINFORCING STEEL GRADE 60
- CONCRETE, HIGH PERFORMANCE CLASS A fc: 4000 PSI
CONCRETE, HIGH PERFORMANCE CLASS B fc: 3500 PSI
- DESIGN SOIL UNIT WEIGHT 140 PCF
- DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 3.5 KSF

TRAFFIC MAINTENANCE

- IS TRAFFIC TO BE MAINTAINED? YES
IF YES, ON EXISTING STRUCTURE? NO
OR ON TEMPORARY BRIDGE? YES
ONE OR TWO-WAY TRAVEL? ONE-LANE TRAFFIC
- TRAFFIC CONTROL SIGNALS REQUIRED? NO
- ARE SIDEWALKS REQUIRED? NO
IF SO, ON WHAT SIDE? -

PROJECT NAME: MONTGOMERY
 PROJECT NUMBER: BHO 1448(23)

FILE NAME: Z96J302PI.xls PLOT DATE: 7/23/08
 PROJECT MANAGER: J.H.WEAVER DRAWN BY: J.BICJA
 DESIGNED BY: J.BICJA CHECKED BY: S.T.JAMES
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