

PRELIMINARY INFORMATION SHEET

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LIST OF STANDARDS

B-5	6/1/1994
B-11	6/1/1994
B-71	7/8/2005
C-1	1/3/2000
D-4	8/13/2007
D-9	6/1/2004
D-15	6/1/1994
D-30	8/13/2007
E-100	1/2/2004
E-100A	1/2/2004
E-101	5/30/2003
E-102	6/30/2003
E-102A	5/1/2004
E-106	3/1/2004
E-107	6/30/2003
E-107A	8/8/1995
E-108	8/18/1995
E-110	8/8/1995
E-121	8/8/1995
E-127	8/8/1995
E-134	8/8/1995
E-136B	8/8/1995
E-138	5/30/2003
E-141	9/20/1995
E-142	9/20/1995
E-143	6/15/2004
E-150	5/1/2004
E-151	5/1/2004
E-155	5/1/2004
E-160	5/20/1999
E-191	2/1/1999
E-192	10/12/2000
E-193	8/18/1995
G-1	1/3/2000
G-1D	1/3/2000
G-19	11/15/2002
J-1	6/1/1994
L-1	3/9/1995
L-2	7/24/1995

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 9/12/2007

DRAINAGE AREA : 143 sq mi.
 CHARACTER OF TERRAIN : Mountainous, rolling hills to farm lands
 STREAM CHARACTERISTICS : Perennial, medium size, moderate relief, straight
 NATURE OF STREAMBED : Gravel to cobble bottom

PEAK FLOW DATA

Q 2.33 =	5600 cfs	Q 50 =	21000 cfs
Q 10 =	12300 cfs	Q 100 =	25500 cfs
Q 25 =	17000 cfs	Q 500 =	36000 cfs

DATE OF FLOOD RECORD : November, 1927
 ESTIMATED DISCHARGE: Unknown
 WATER SURFACE ELEV.: Unknown
 NATURAL STREAM VELOCITY : @ Q50 = 8.2 fps
 ICE CONDITIONS : Moderate
 DEBRIS: Moderate
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
 IS ORDINARY RISE RAPID? No
 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: Single Span Steel Truss Bridge
 YEAR BUILT: 1928
 CLEAR SPAN (NORMAL TO STREAM): 107 ft
 VERTICAL CLEARANCE ABOVE STREAMBED: 15 ft
 WATERWAY OF FULL OPENING: 1590 sf
 DISPOSITION OF STRUCTURE: Remove
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	730.4 ft	VELOCITY =	5.7 fps
Q10 =	733.6 ft	"	10.0 fps
Q25 =	737.5 ft	"	10.1 fps
Q50 =	738.2 ft	"	11.6 fps
Q100 =	739.0 ft	"	11.8 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
 FREQUENCY: Below Q25
 RELIEF ELEVATION: 735.4 ft
 DISCHARGE OVER ROAD @Q100: 7000 cfs

UPSTREAM STRUCTURE

TOWN: Rochester DISTANCE: 5.5 mi
 HIGHWAY #: TH-42 STRUCTURE #: Bridge 35
 CLEAR SPAN: 121 ft (three span) CLEAR HEIGHT: 15 ft
 YEAR BUILT: 1983 FULL WATERWAY: Unknown
 STRUCTURE TYPE: Three Span Steel Beam Bridge with Concrete Deck

DOWNSTREAM STRUCTURE

TOWN: Stockbridge DISTANCE: 2.6 mi
 HIGHWAY #: TH-1 STRUCTURE #: Bridge 6
 CLEAR SPAN: 168 ft (three span) CLEAR HEIGHT: 25 ft
 YEAR BUILT: 1988 FULL WATERWAY: Unknown
 STRUCTURE TYPE: Three Span Plate Girder Bridge with Concrete Deck

LOAD FACTOR - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	35	64					
POSTED	49	89	111		93	95	106
OPERATING		106	132	144	111	114	

COMMENTS: STRENGTH CONTROLS. LANE LOAD CONTROLS FOR H & HS

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2007	1700	240	53	10	170
2027	2300	300	53	15	350

20 year ESAL for flexible pavement from 2007 to 2027 : 1,173,000
 40 year ESAL for flexible pavement from 2007 to 2047 : 2,958,000
 Design Speed : 40 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Two Span Plate Girder Bridge with Concrete Deck
 CLEAR SPAN (NORMAL TO STREAM): 136 ft
 VERTICAL CLEARANCE ABOVE STREAMBED: 19 ft
 WATERWAY OF FULL OPENING: 2,260 sf

WATER SURFACE ELEVATIONS AT:

Q2.33 =	730.9 ft	VELOCITY =	4.8 fps
Q10 =	733.7 ft	"	8.2 fps
Q25 =	735.0 ft	"	10.6 fps
Q50 =	736.5 ft	"	11.5 fps
Q100 =	738.0 ft	"	11.4 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
 FREQUENCY: Below Q50
 RELIEF ELEVATION: 735.6 ft
 DISCHARGE OVER ROAD @Q100: 3,670 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 739.3 ft @ pier location
 VERTICAL CLEARANCE: @ Q100 2.6 ft on the west side, inundated on the east side

SCOUR: Maximum total scour at the pier is 10 ft. This amount of scour occurs at all flows from Q10 up to Q500.
 REQUIRED CHANNEL PROTECTION: Type IV Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW:	300 cfs	DEPTH OR ELEVATION:	
ORDINARY LOW WATER:	130 cfs		1 ft
ORDINARY HIGH WATER:	2400 cfs		3 ft

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/A
 CLEAR SPAN (NORMAL TO STREAM):
 VERTICAL CLEARANCE ABOVE STREAMBED:
 WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

The existing bridge will be removed once new bridge is completed and the roadway approaches will be excavated and graded to match up and downstream channel banks.

DESIGN CRITERIA

- DESIGN LIVE LOAD AASHTO HS-25
- DESIGN SPAN 222.0 ft
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL ON LEDGE
- ALLOWABLE LOAD FOR PILING SEE GENERAL NOTES (SHEET 71) TYPE
- ESTIMATED LENGTH 80' +/-
- 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

TRAFFIC MAINTENANCE

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

PROJECT NAME: STOCKBRIDGE

PROJECT NUMBER: BRF 013-4(21)

FILE NAME: /78b238/str5/sf238pi.xls PLOT DATE: 1/28/2008
 PROJECT MANAGER: K. HIGGINS DRAWN BY: R. PELLETT
 DESIGNED BY: T. FILLBACH CHECKED BY: T. SUMNER
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