

PRELIMINARY INFORMATION SHEET

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FINAL HYDRAULIC REPORT

HYDROLOGIC DATA Date: 6/9/99

DRAINAGE AREA: 15.8 sq mi
 CHARACTER OF TERRAIN: Mountainous, Rolling Hills to Open Fields
 STREAM CHARACTERISTICS: Perennial, Braided and Non Braided
 NATURE OF STREAMBED: Gravel to Cobble

PEAK FLOW DATA

Q 2.33 = 775 cfs	Q 50 = 3000 cfs
Q 10 = 1700 cfs	Q 100 = 3800 cfs
Q 25 = 2400 cfs	Q 500 = 4800 cfs

DATE OF FLOOD RECORD: Unknown
 ESTIMATED DISCHARGE: N/A
 WATER SURFACE ELEV.: N/A
 NATURAL STREAM VELOCITY: @ Q50 = 4.5 fps
 ICE CONDITIONS: Moderate
 DEBRIS: Moderate
 DOES THE STREAM REACH MAXIMUM HIGH-WATER 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: Two Span Steel Beam Bridge with Concrete Deck
 YEAR BUILT: 1934
 CLEAR SPAN(NORMAL TO STREAM): 118 ft (Two Span)
 VERTICAL CLEARANCE ABOVE STREAMBED: 10 ft (Under Open Span)
 WATERWAY OF FULL OPENING: 650 sf
 DISPOSITION OF STRUCTURE: Remove
 TYPE OF MATERIAL UNDER STRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT

Q2.33 = 844.7 ft	VELOCITY = 6.1 fps
Q10 = 845.5 ft	7.3 fps
Q25 = 847.4 ft	8.1 fps
Q50 = 848.0 ft	8.8 fps
Q100 = 848.3 ft	9.6 fps

LONG TERM STREAMBED CHANGES: Unknown

PROPOSED STRUCTURE

STRUCTURE TYPE: Single Span Steel Beam with Concrete Deck

CLEAR SPAN(NORMAL TO STREAM): 60.8 ft
 VERTICAL CLEARANCE ABOVE STREAMBED: 12.0 ft
 WATERWAY OF FULL OPENING: 620 sq ft

WATER SURFACE ELEVATIONS AT

Q2.33 = 844.7 ft	VELOCITY = 6.2 fps
Q10 = 845.4 ft	7.2 fps
Q25 = 847.4 ft	8.0 fps
Q50 = 848.1 ft	8.4 fps
Q100 = 848.8 ft	8.4 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: Above Q100
 RELIEF ELEVATION: 852.1 ft
 DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 852.0 ft
 VERTICAL CLEARANCE: @ Q100 = 3.2 ft

SCOUR: Contraction Scour @ Q100 = 0.0 ft and @ Q500 = 2.2 ft

REQUIRED CHANNEL PROTECTION: Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW: 30 cfs DEPTH OR ELEVATION: 0.3 ft
 ORDINARY LOW WATER: 15 cfs 0.3 ft
 ORDINARY HIGH WATER: 330 cfs 1.5 ft

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Traffic to be maintained on the Existing Bridge
 CLEAR SPAN (NORMAL TO STREAM): 118 ft (Two Span)
 VERTICAL CLEARANCE ABOVE STREAMBED: 10 ft (Under Open Span)
 WATERWAY AREA OF FULL OPENING: 628 sf

ADDITIONAL INFORMATION

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: Above Q100
 RELIEF ELEVATION: 851.5 ft
 DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Reading DISTANCE: 0.5 mi
 HIGHWAY #: VT 106 STRUCTURE #: Bridge 13
 CLEAR SPAN: 84 ft CLEAR HEIGHT: 10 ft
 YEAR BUILT: 1940 FULL WATERWAY: Unknown
 STRUCTURE TYPE: Single Span Steel Beam with Concrete Deck

DOWNSTREAM STRUCTURE

TOWN: West Windsor DISTANCE: 1.3 mi
 HIGHWAY #: TH-57 STRUCTURE #: Bridge 34
 CLEAR SPAN: 32 ft CLEAR HEIGHT: 9 ft
 YEAR BUILT: 1880 FULL WATERWAY: Unknown
 STRUCTURE TYPE: Single Span Wooden Covered Bridge

DESIGN CRITERIA

- DESIGN LIVE LOAD AASHTO: HS-25-44
- DESIGN SPAN: 65'-0"
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL: 8.7 tsf
- ALLOWABLE LOAD FOR PILING: N/A
- STRUCTURAL STEEL AASHTO GRADE: M270 GRADE 50
- REINFORCING STEEL GRADE: 60
- CONCRETE CLASS A: f'c: 4000 psi
- CONCRETE CLASS B: f'c: 3000 psi
- SILICA-FUME CONCRETE: f'c: 5000 psi
- SOIL UNIT WEIGHT: 140 pcf
- DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL: _____

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
 IF YES, ON EXISTING STRUCTURE YES
 OR ON TEMPORARY BRIDGE NO

2. TEMPORARY BRIDGE REQUIREMENTS: ONE OF TWO WAY
 TRAFFIC CONTROL SIGNALS REQUIRED: NO
 MINIMUM CLEAR SPAN (NORMAL TO STREAM): _____
 WATERWAY OF FULL OPENING: _____
 VERTICAL CLEARANCE ABOVE STREAMBED: _____
 ARE SIDEWALKS REQUIRED? NO
 IF SO, ON WHAT SIDE? _____
 STRUCTURE TYPE: _____

LOAD RATING (TONS)

LOADING LEVEL	TRUCK						
	H	HS	3S2	5 AXLE	3A STR	4A STR	5A SEM
INVENTORY	0	0					
POSTED	0	0	0	0	0	0	0
OPERATING	0	0	0	0	0	0	0

COMMENTS: 0

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
1999	1480	-	56	3	90
2019	2000	280	56	2	110

20 year ESAL for flexible pavement: 1999 to 2019 987,000
 20 year ESAL for flexible pavement: 1999 to 2039 3,192,000
 Design Speed: 50 mph

PROJECT NAME: READING
 PROJECT NUMBER: BRS 0148(6)S

FILE NAME: /sfr1/086/0148/0148pl.dwg PLOT DATE: 2/8/01
 PROJECT LEADER: G.S. ROGERS DRAWN BY: J. OLSOWIE
 DESIGNED BY: C. MEUNIER CHECKED BY: C. MEUNIER
 PRELIMINARY INFORMATION SHEET R.O.W Sheet No. 4 OF 17 Sheets