

PRELIMINARY INFORMATION SHEET

INDEX OF SHEETS

INDEX OF SHEETS	LIST OF STANDARDS
1.	TITLE SHEET
2.	PRELIMINARY INFORMATION SHEET
3.	TYPICAL SECTIONS
4 - 6.	QUANTITY SHEET #1, #2 & #3
7.	EARTHWORKS SHEET
8 - 9.	R.O.W. SHEETS
10 - 13.	BLANK
14.	TIE SHEET
15.	LAYOUT SHEET
16.	PROFILE SHEET
17.	DRAINAGE & UTILITIES SHEET
18.	DRAINAGE DETAIL SHEET
19 - 20.	EROSION CONTROL NARRATIVE #1 - #2
21.	EROSION AND SEDIMENT PREVENTION PLANS - EXISTING CONDITIONS
22.	EROSION AND SEDIMENT PREVENTION PLANS - EROSION CONTROL PLAN
23.	EROSION AND SEDIMENT PREVENTION PLANS - FINAL CONDITIONS
24.	EROSION AND SEDIMENT PREVENTION PLANS - CONSTRUCTION ENTRANCE
25.	EROSION AND SEDIMENT PREVENTION PLANS - CHECK DAMS
26.	EROSION AND SEDIMENT PREVENTION PLANS - DROP INLET PROTECTION
27.	EROSION AND SEDIMENT PREVENTION PLANS - DITCH AND SLOPE PROTECTION
28.	EROSION AND SEDIMENT PREVENTION PLANS - SILT FENCE
29.	EAST STREET DETOUR LAYOUT
30.	DETOUR DETAILS
31.	BORING PLAN SHEET
32 - 34.	BORING LOGS #1 - #3
35.	PLAN & ELEVATION
36.	GENERAL NOTES
37.	DECK DETAILS
38.	BRIDGE ENDS
39.	BEARING DEVICE DETAILS
40.	EXPANSION JOINT TYPICAL SECTION
41.	SIDEWALK EXPANSION JOINT DETAILS
42.	ROADWAY EXPANSION JOINT DETAILS
43.	DOWNSPOUT DETAILS
44 - 47.	WATERLINE SHEETS
48.	BLANK
49.	APPROACH SLAB DETAILS
50.	STRUCTURAL CONNECTION DETAILS
51.	FRAMING DETAILS
52.	SUPERSTRUCTURE DETAILS
53.	ABUTMENT #1 DETAILS
54.	ABUTMENT #1, FOOTING AND SUB-FOOTING ELEVATION
55.	ABUTMENT #2 DETAILS
56.	CORNER DETAIL
57.	FOOTING REINFORCING
58.	WINGWALL ELEVATIONS
59.	RETAINING WALL
60.	RAIL LAYOUT
61 - 62.	CONCRETE BRIDGE RAIL DETAILS
63.	REINFORCING STEEL SCHEDULE
64.	BANKING DIAGRAM
65.	PRECAST DROP INLET
66 - 69.	BLANKS
70 - 74.	ROADWAY CROSS SECTIONS
75 - 84.	CHANNEL CROSS SECTIONS

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA Date: October 2003

DRAINAGE AREA : 61.4 sq. mi.
 CHARACTER OF TERRAIN : Hilly to mountainous. A mixture of forested and open areas.
 STREAM CHARACTERISTICS : Steep upstream. Nearly level downstream. High steep banks.
 NATURE OF STREAMBED : All exposed ledge with scattered cobbles in some areas.

PEAK FLOW DATA

Q 2.33 =	1570 cfs	Q 50 =	3730 cfs
Q 10 =	2680 cfs	Q 100 =	4400 cfs
Q 25 =	3290 cfs	Q 500 =	6400 cfs

DATE OF FLOOD OF RECORD: November 1927
 ESTIMATED DISCHARGE: unknown
 WATER SURFACE ELEV.: unknown
 NATURAL STREAM VELOCITY: @ Q25 = 6.0 fps through bridge area. 18.7 fps upstream.
 ICE CONDITIONS: moderate
 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: 6% HEADWATERS: X
 UNIFORM: _____
 IMMEDIATELY ABOVE SITE: _____

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span rolled beam bridge with temporary Mabey bridge over it.
 YEAR BUILT: Bridge built in 1939. Mabey bridge installed over it in 2001.
 CLEAR SPAN(NORMAL TO STREAM): 42' minimum (47' along road)
 VERTICAL CLEARANCE ABOVE STREAMBED: 27' (bottom of beam elev. 734.5')
 WATERWAY OF FULL OPENING: 1,170 sq. ft.
 DISPOSITION OF STRUCTURE: Complete removal.
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Ledge

WATER SURFACE ELEVATIONS AT:

Q2.33 =	714.9'	VELOCITY =	6.8 fps *
Q10 =	717.5'	"	8.4 fps
Q25 =	718.7'	"	9.1 fps
Q50 =	719.5'	"	9.6 fps
Q100 =	720.6'	"	10.3 fps

LONG TERM STREAMBED CHANGES: None known and little expected due to ledge.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: Above Q100
 RELIEF ELEVATION: 740.4'
 DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Barton DISTANCE: 5,500'
 HIGHWAY #: T.H. 8 STRUCTURE #: 37
 CLEAR SPAN: 90' CLEAR HEIGHT: 7.5'
 YEAR BUILT: 1988 FULL WATERWAY: 600 sq. ft. +/-
 STRUCTURE TYPE: Single span plate girder bridge

DOWNSTREAM STRUCTURE

TOWN: Confluence with Barton River downstream DISTANCE: 3,800'
 HIGHWAY #: STRUCTURE #:
 CLEAR SPAN: CLEAR HEIGHT:
 YEAR BUILT: FULL WATERWAY:
 STRUCTURE TYPE:

LOAD FACTOR - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A STR.	4A STR.	5A SEMI
INVENTORY	31	49					
POSTED	44	69	77		64	66	73
OPERATING		82	92	104	77	78	

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2006	740	140	56	3	20
2026	990	160	56	2	20

20 year ESAL for flexible pavement from 2006 to 2026 : 137,000
 40 year ESAL for flexible pavement from 2006 to 2046 : 340,000
 Design Speed : 30 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span plate girder bridge.

CLEAR SPAN(NORMAL TO STREAM): 93.0' minimum (108' along road)
 VERTICAL CLEARANCE ABOVE STREAMBED: 29'
 WATERWAY OF FULL OPENING: 2,200 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	714.6'	VELOCITY =	4.7 fps *
Q10 =	717.0'	"	5.5 fps
Q25 =	718.1'	"	5.9 fps
Q50 =	718.8'	"	6.2 fps
Q100 =	719.8'	"	6.5 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: Above Q100
 RELIEF ELEVATION: 741.1'
 DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 736.3'
 VERTICAL CLEARANCE: @ Q100 = 16.5'

SCOUR: The new bridge will not constrict the channel. The stream bed is exposed ledge.
 Scour is not a concern provided abutments are founded on competent ledge.
 REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW: 90 cfs DEPTH OR ELEVATION:
 ORDINARY LOW WATER: 45 cfs 0.5' except in pools
 ORDINARY HIGH WATER: 600 cfs 3.0' except in pools **

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: No temporary required. The road will be closed during construction.
 CLEAR SPAN (NORMAL TO STREAM): _____
 VERTICAL CLEARANCE ABOVE STREAMBED: _____
 WATERWAY AREA OF FULL OPENING: _____

ADDITIONAL INFORMATION

* Velocities listed for the bridges are the highest total stream velocities through the bridge.
 Velocities are much higher in localized areas and upstream.
 ** Ordinary high water depths are measured from the average channel bottom, or from the low water surface elevation in pool areas.

- DESIGN CRITERIA**
- DESIGN LIVE LOAD AASHTO HS-25
 - DESIGN SPAN 110 ft.
 - ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
ON LEDGE 8 KSF
 - ALLOWABLE LOAD FOR PILING N/A
TYPE N/A
ESTIMATED LENGTH N/A
 - STRUCTURAL STEEL AASHTO M270/MM270 GRADE M 270, 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 N/A

- TRAFFIC MAINTENANCE**
- IS TRAFFIC TO BE MAINTAINED? NO, BRIDGE CLOSED
IF YES, ON EXISTING STRUCTURE? ---
OR ON TEMPORARY BRIDGE? ---
ONE OR TWO-WAY TRAVEL? ---
 - TRAFFIC CONTROL SIGNALS REQUIRED? ---
 - ARE SIDEWALKS REQUIRED? ---
IF SO, ON WHAT SIDE? ---
 - ALTERNATE ROUTE DETOUR WILL BE PROVIDED, SEE SHEET 29.

PROJECT NAME: BARTON
 PROJECT NUMBER: BRO 1449 (29)
 FILE NAME: /str5/01j168/sj168pi.xls PLOT DATE: 3/29/2007
 PROJECT LEADER: W. SYMONDS DRAWN BY: J. REED
 DESIGNED BY: J. REED CHECKED BY: T. SUMNER
PRELIMINARY INFORMATION SHEET SHEET 2 OF 84