

PRELIMINARY INFORMATION SHEET

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LIST OF STANDARDS

E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	1/2/2004
E-102	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	5/1/2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	6/30/2003
E-107A	BREAKAWAY BARRICADE DETAILS	8/8/1995
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
E-134	BRIDGE NUMBER PLAQUE	8/8/1995
E-138	MILE MARKER DETAILS - STATE & TOWN HIGHWAYS	5/30/2003
E-141	REGULATORY SIGN DETAILS	9/20/1995
E-142	REGULATORY SIGN DETAILS	9/20/1995
E-143	REGULATORY SIGN DETAILS	6/15/2004
E-146	REGULATORY SIGN DETAILS	9/20/1995
E-152	WARNING SIGN DETAILS	5/1/2004
E-160	FLANGED CHANNEL STEEL SIGN POST	5/20/1999
G-1	STEEL BEAM GUARDRAIL (50MPH & OVER) HEAVY DUTY STEEL BEAM GUARDRAIL TWISTED END TERMINAL ANCHOR FOR STEEL BEAM RAIL	1/3/2000
G-1D	STEEL BEAM GUARDRAIL (40MPH & LESS) HEAVY DUTY STEEL BEAM GUARDRAIL STEEL BEAM MEDIAN BARRIER ANCHOR FOR STEEL BEAM RAIL	1/3/2000
G-16	STEEL BEAM GUARDRAIL ATTACHMENTS TO EXISTING BRIDGE	6/1/1994
G-18	TERMINAL CONNECTOR FOR STEEL BEAM GUARDRAIL	6/1/1994
SB-R6-82	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER BRIDGE RAILING - HEAVY DUTY STEEL BEAM	1/6/1995

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 2/7/05

DRAINAGE AREA : 153 Square Miles
 CHARACTER OF TERRAIN : Mostly Forested, Hilly to Mountainous
 STREAM CHARACTERISTICS : Sinuous, Wide Flood Plain
 NATURE OF STREAMBED : Sand and Gravel with Some Silt Closer to Dam

PEAK FLOW DATA

Q 2.33 =	4,000 cfs	Q 50 =	11,000 cfs
Q 10 =	6,850 cfs	Q 100 =	13,000 cfs
Q 25 =	9,000 cfs	Q 500 =	18,200 cfs

DATE OF FLOOD OF RECORD :
 ESTIMATED DISCHARGE :
 WATER SURFACE ELEV. :
 NATURAL STREAM VELOCITY : @ Q25 = 7.4 fps
 ICE CONDITIONS : Moderate
 DEBRIS : Light
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
 IS ORDINARY RISE RAPID? No
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
 IF YES, DESCRIBE : The Smith Hydroelectric Dam is approximately 1,200 feet downstream.

WATERSHED STORAGE : >1% HEADWATERS:
 UNIFORM : x
 IMMEDIATELY ABOVE SITE :

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE : Steel Warren Pony Truss
 YEAR BUILT : 1934
 CLEAR SPAN(NORMAL TO STREAM): 99'
 VERTICAL CLEARANCE ABOVE STREAMBED: 19'
 WATERWAY OF FULL OPENING: 1400 Sq. Ft.
 DISPOSITION OF STRUCTURE: Rehabilitation
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	463.4'	VELOCITY =	6.3 fps
Q10 =	466.1'	"	8.1 fps
Q25 =	467.8'	"	9.3 fps
Q50 =	469.2'	"	10.2 fps
Q100 =	470.5'	"	11.1 fps

LONG TERM STREAMBED CHANGES:

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY:
 RELIEF ELEVATION: 472.9'
 DISCHARGE OVER ROAD @Q100: 0 cfs

UPSTREAM STRUCTURE

TOWN: Bradford DISTANCE: 1,750'
 HIGHWAY #: 191 STRUCTURE #: B 59N
 CLEAR SPAN: 271' CLEAR HEIGHT: 36'
 YEAR BUILT: 1973 FULL WATERWAY: 9,700 Sq. Ft.
 STRUCTURE TYPE: 2-Span Plate Girder

DOWNSTREAM STRUCTURE

TOWN: Bradford DISTANCE: 1,650'
 HIGHWAY #: US 5 STRUCTURE #: Br 91
 CLEAR SPAN: 88' CLEAR HEIGHT: 16'
 YEAR BUILT: 1939 FULL WATERWAY: 1,470 Sq. Ft.
 STRUCTURE TYPE: Riveted 2-Girder

LOAD FACTOR - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEM
INVENTORY	14	19					
POSTED	17	25	30		17	18	30
OPERATING		28	35	31	19	20	

COMMENTS: H TRUCK REPRESENT H-15 TRUCK

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2006	1400	200	61	2	20
2026	1900	260	61	2	30

20 year ESAL for flexible pavement from 2006 to 2026 : 86 000
 40 year ESAL for flexible pavement from 2006 to 2046 : 197 000
 Design Speed : 25 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Rehabilitation of Existing Structure

CLEAR SPAN(NORMAL TO STREAM): 103'
 VERTICAL CLEARANCE ABOVE STREAMBED: 19'
 WATERWAY OF FULL OPENING: 1,540 Sq. Ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	463.3'	VELOCITY =	6.1 fps
Q10 =	466.0'	"	7.9 fps
Q25 =	467.7'	"	9.0 fps
Q50 =	469.1'	"	10.0 fps
Q100 =	470.4'	"	10.8 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY:
 RELIEF ELEVATION: 473.1
 DISCHARGE OVER ROAD @Q100: 0 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 473.3'
 VERTICAL CLEARANCE: @ Q25 = 5.6'

SCOUR: Abutments will be poured onto ledge

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW: 126 cfs DEPTH OR ELEVATION:
 ORDINARY LOW WATER: 68 cfs Elevation = 461.5'
 ORDINARY HIGH WATER: 256 cfs Elevation = 461.5'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Road will be closed
 CLEAR SPAN(NORMAL TO STREAM):
 VERTICAL CLEARANCE ABOVE STREAMBED:
 WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO H 15
2. DESIGN SPAN 105 FEET
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
ON LEDGE 8 ksf Abutment No. 1 and 5.6 ksf Abutment No. 2
4. ALLOWABLE LOAD FOR PILING N/A
TYPE
5. ESTIMATED LENGTH
6. STRUCTURAL STEEL AASHTO M270M/M270 GRADE 36 OR 50 PAINTED
6. REINFORCING STEEL GRADE 60
7. CONCRETE, HIGH PERFORMANCE CLASS A fc: N/A
CONCRETE, HIGH PERFORMANCE CLASS B fc: 3500 psi
8. DESIGN SOIL UNIT WEIGHT 140 pcf
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

TRAFFIC MAINTENANCE

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

PROJECT NAME: BRADFORD

PROJECT NUMBER: STP 1447 (28)

FILE NAME: s96j286.xls.dgn PLOT DATE: 12/1/2006
 PROJECT MANAGER: C.P.WILLIAMS DRAWN BY: M.FESSEL
 DESIGNED BY: M.GAGULIC CHECKED BY: R.S.YOUNG
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