STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

LIST OF STANDARDS

B-5	SLOPE GRADING, EMBANKMENTS, MUCK	6/1/1994
B-71	RESIDENTIAL AND COMMERCIAL DRIVES	7/8/2005
E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	1/2/2004
E-101	CONSTRUCTION SIGN DETAILS	5/30/2003
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-140	REGULATORY SIGN DETAILS	8/30/1996
E-160	FLANGED CHANNEL STEEL SIGN POST	5/20/1999
E-193	PAVEMENT MARKING DETAILS	8/18/1995
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
SB-R6-82M	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	7/10/1997
SB-R7-90M	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	7/10/1997

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

DRAINAGE AREA : 15.6 sq. km
CHARACTER OF TERRAIN : Hilly to mountainous
STREAM CHARACTERISTICS : Incised, sinuous and stable channel
NATURE OF STREAMBED : Sand, gravel, cobbles and boulders

PEAK FLOW DATA

Q 2.33 =	12 cms	Q 50 =	34 cms
Q 10 =	23 cms	Q 100 =	40 cms
Q 25 =	29 cms	Q 500 =	54 cms

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q25 = 3.3 mps
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: 1%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Steel beam bridge with concrete deck.
YEAR BUILT: 1928
CLEAR SPAN(NORMAL TO STREAM): 6.0 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.8 m, maximum
WATERWAY OF FULL OPENING: 15.3 sq. m (average low beam elev. 293.1 m)
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring sheets.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	291.9 m	VELOCITY =	2.7 mps
Q10 =	292.4 m	"	3.4 mps
Q25 =	292.6 m	"	3.6 mps
Q50 =	292.8 m	"	3.8 mps
Q100 =	293.0 m	"	4.0 mps

LONG TERM STREAMBED CHANGES: There is approximately 0.3 m to 0.6 m of local scour through the bridge. Both abutment footings are exposed and have been undermined. *

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: above Q100
RELIEF ELEVATION: 293.6 m
DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Burke — DISTANCE: 200 m
HIGHWAY# : T.H. 7 — STRUCTURE #: 17
CLEAR SPAN: 6.8 m — CLEAR HEIGHT: 2.5 m
YEAR BUILT: 1928 (to be replaced w/ this project) — FULL WATERWAY: 14.9 sq. m
STRUCTURE TYPE: Steel beam bridge with concrete deck.

DOWNSTRUCTURE STRUCTURE

TOWN: Burke — DISTANCE: 630 m
HIGHWAY# : T.H. 8 — STRUCTURE #: 13
CLEAR SPAN: 7.2 m — CLEAR HEIGHT: 3.7 m
YEAR BUILT: 1928 — FULL WATERWAY: 26 sq. m
STRUCTURE TYPE: Steel beam bridge with concrete deck.

LOAD FACTOR - LOAD RATING (METRIC TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	32	45					
POSTED	46	63	88		51	54	79
OPERATING		75	105	100	61	64	

COMMENTS:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2008	1100	170	64	9	60
2028	1400	220	64	15.1	120

20 year ESAL for flexible pavement from 2008 to 2028 : 242,000
40 year ESAL for flexible pavement from 2008 to 2048 : 603,000
Design Speed : 50 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Concrete slab bridge

CLEAR SPAN(NORMAL TO STREAM): 9.0 m
VERTICAL CLEARANCE ABOVE STREAMBED: 3.7 m
WATERWAY OF FULL OPENING: 27.9 sq. m

WATER SURFACE ELEVATIONS AT:

Q2.33 =	291.8 m	VELOCITY=	2.6 mps
Q10 =	292.2 m	"	3.2 mps
Q25 =	292.4 m	"	3.4 mps
Q50 =	292.6 m	"	3.6 mps
Q100 =	292.8 m	"	3.7 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 293.6 m
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 294.0 m
VERTICAL CLEARANCE: @ Q100 = 1.2 m

SCOUR: 0.2 m of contraction scour up through the Q500.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	0.3 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	0.2 cms	Depth = 0.2 m
ORDINARY HIGH WATER:	5.2 cms	Depth = 0.5 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: No temporay bridge required. Maintain traffic on existing bridge.
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

* Information on historical stream bed changes and scour is from the 1997 USGS scour study.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 12.445 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 257 kPa
   ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING N/A
   TYPE N/A
   ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE N/A
6. REINFORCING STEEL GRADE 420
7. CONCRETE, HIGH PERFORMANCE CLASS A f'c: 30 Mpa
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 25 Mpa
8. DESIGN SOIL UNIT WEIGHT 22.00 kN/m³
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 227 kPa

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
   IF YES, ON EXISTING STRUCTURE? EXISTING STRUCTURE
   OR ON TEMPORARY BRIDGE?
   ONE OR TWO-WAY TRAVEL?
2. TRAFFIC CONTROL SIGNALS REQUIRED?
3. ARE SIDEWALKS REQUIRED?
   IF SO, ON WHAT SIDE?

BRIDGE #16

PROJECT NAME: BURKE BR #16
PROJECT NUMBER: BRZ 1447 (15)

FILE NAME: 87e043(br16)pi.xls
PROJECT MANAGER: C.P. WILLIAMS
DESIGNED BY: K.M. HIGGINS
PRELIMINARY INFORMATION SHEET

PLOT DATE: 2/1/2008
DRAWN BY: T. ANDERSON
CHECKED BY: K.M. HIGGINS
SHEET 2 OF 81