

PRELIMINARY INFORMATION SHEET

INDEX OF SHEETS

1.	Title		
2.	Preliminary Information		
3.	Typical Sections Bridge		
4.	Typical Sections Channel		STANDARD DRAWINGS
5.	Typical Sections Roadway		
6.	Quantities 1	B-5	SLOPE GRADING, EMBANKMENTS, MUCK 6/1/1994
7.	Quantities 2		
8.	Quantities 3	B-12	SIDE ROAD INTERSECTION, DEPRESSED RAMP 6/1/1994
9.	Right-of-Way Detail Sheet 1		
10.	Right-of-Way Detail Sheet 2	B-71	RESIDENTIAL AND COMMERCIAL DRIVES 2/1/2004
11.	Right-of-Way Layout Plan		
12.	Survey Plan 1	E-100	CONSTRUCTION APPROACH SIGNS 1/2/2004
13.	Survey Plan 2		
14.	Survey Plan 3		
15.	Survey Ties	E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS 1/2/2004
16.	Layout Plan		
17.	Profile Mainline	E-101	CONSTRUCTION SIGN DETAILS 5/30/2003
18.	Profile Mainline Approaches		
19.	Profile Mainline Material Transition Detail	E-102	CONSTRUCTION SIGN DETAILS 6/30/2003
20.	Profile TH8 & Drive 2		
21.	Utilities Plan 1	E-102A	CONSTRUCTION SIGN DETAILS 5/1/2004
22.	Utilities Plan 2		
23.	Resource Plan	E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS 3/1/2004
24.	Erosion Notes		
25.	Erosion Existing Site Plan	E-107	DELINEATION, BARRICADES AND DETOURS FOR U-TURNS ON DIVIDED HIGHWAY 6/30/2003
26.	Erosion Construction Site Plan		
27.	Erosion Final Site Plan	E-107A	BREAKAWAY BARRICADE DETAILS 8/8/1995
28.	Erosion Details 1		
29.	Erosion Details 2	E-123	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS 3/16/2004
30.	Erosion Details 3		
31.	Erosion Details 4	E-134	BRIDGE NUMBER PLAQUE 8/8/1995
32.	Erosion Details 5		
33.	Erosion Details 6	E-141	REGULATORY SIGN DETAILS 9/20/1995
34.	Traffic Control Construction Site Plan		
35.	Traffic Control Final Site Plan	E-143	REGULATORY SIGN DETAILS 6/15/2004
36.	Traffic Sign Summary		
37.	Boring Information	E-150	WARNING SIGN DETAILS 5/1/2004
38.	Boring Logs		
39.	Plan & Elevation	E-152	WARNING SIGN DETAILS 5/1/2004
40.	General Notes		
41.	Superstructure Details 21" X 36" Voided Slab	G-1	STEEL BEAM GUARDRAIL (50MPH & OVER) HEAVY DUTY STEEL BEAM GUARDRAIL TWISTED END TERMINAL ANCHOR FOR STEEL BEAM RAIL 1/3/2000
42.	Superstructure Details 21" X 48" Voided Slab		
43.	Superstructure Details Bridge End & Bearings		
44.	Superstructure Details Curb & Rail		
45.	Superstructure Details Deck Overlay		
46.	Superstructure Details Typical Section & Deck Overlay Reinforcing	G-1D	STEEL BEAM GUARDRAIL (40MPH & LESS) HEAVY DUTY STEEL BEAM GUARDRAIL STEEL BEAM MEDIAN BARRIER ANCHOR FOR STEEL BEAM RAIL 1/3/2000
47.	Superstructure Details Approach Slabs		
48.	Substructure Details Abutment 1		
49.	Substructure Details Abutment 2		
50.	Substructure Details Wing Walls		
51.	Substructure Details Piles	J-3	MAILBOX SUPPORT DETAILS 8/7/1995
52.	Bridge Railing NETC 2 Rail		
53.	Bridge Railing NETC 2 Rail Steel Beam Approach Rail	SB-R6-82	BRIDGE RAILING - HEAVY DUTY STEEL BEAM 1/6/1995
54.	Reinforcing Steel Schedule		
55.	Mainline Sections 1		
56.	Mainline Sections 2		
57.	Mainline Sections 3		
58.	Mainline Sections 4		
59.	Mainline Sections 5		
60.	Mainline Sections 6		
61.	Mainline Sections 7		
62.	Mainline Sections Abutments		
63.	Channel Sections 1		
64.	Channel Sections 2		
65.	Channel Sections 3		
66.	TH8 Sections 1		
67.	TH8 Sections 2		
68.	Drive 1 Sections		

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA Date: 9/14/04
 DRAINAGE AREA : 32.9 square miles
 CHARACTER OF TERRAIN : Rolling to mountainous
 STREAM CHARACTERISTICS : Sinuous
 NATURE OF STREAMBED : Cobbles, gravel, sand and silt

PEAK FLOW DATA
 Q 2.33 = 900 cfs Q 50 = 2700 cfs
 Q 10 = 1800 cfs Q 100 = 3100 cfs
 Q 25 = 2300 cfs Q 500 = 4400 cfs

DATE OF FLOOD OF RECORD : Unknown
 ESTIMATED DISCHARGE : Unknown
 WATER SURFACE ELEV. : Unknown
 NATURAL STREAM VELOCITY : @ Q50 = 4.5 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 : 3.0% HEADWATERS :
 UNIFORM : x
 IMMEDIATELY ABOVE SITE :

EXISTING STRUCTURE INFORMATION
 STRUCTURE TYPE : Single span concrete thru girder bridge
 YEAR BUILT : 1924
 CLEAR SPAN(NORMAL TO STREAM) : 34'
 VERTICAL CLEARANCE ABOVE STREAMBED : 12'
 WATERWAY OF FULL OPENING : 348 sq. ft.
 DISPOSITION OF STRUCTURE : Remove
 TYPE OF MATERIAL UNDER SUBSTRUCTURE : Refer to borings

WATER SURFACE ELEVATIONS AT :
 Q2.33 = 428.4 ft VELOCITY = 5.5 fps
 Q10 = 431.0 ft " 7.6 fps
 Q25 = 432.1 ft " 8.9 fps
 Q50 = 433.1 ft " 9.8 fps
 Q100 = 433.7 ft " 10.8 fps

LONG TERM STREAMBED CHANGES : Unknown

IS THE ROADWAY OVERTOPPED BELOW Q100 : Yes
 FREQUENCY : Just above Q50
 RELIEF ELEVATION : 433.2'
 DISCHARGE OVER ROAD @Q100 : 131 cfs

UPSTREAM STRUCTURE
 TOWN : Castleton DISTANCE : 1.53 mi.
 HIGHWAY # : Vt. 4A STRUCTURE # : B11
 CLEAR SPAN : 47' CLEAR HEIGHT : 7'
 YEAR BUILT : 1988 FULL WATERWAY : 403 sq. ft.
 STRUCTURE TYPE : Steel beam bridge

DOWNSTREAM STRUCTURE
 TOWN : Castleton DISTANCE : 0.40 mi.
 HIGHWAY # : Vt. 4A STRUCTURE # : B7
 CLEAR SPAN : 65' CLEAR HEIGHT : 7'
 YEAR BUILT : 1964 FULL WATERWAY : 340 sq. ft.
 STRUCTURE TYPE : Steel beam bridge

LOAD FACTOR - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A STR.	4A STR.	SA SEMI
INVENTORY	41	52					
POSTED	42	54	69		46	47	60
OPERATING		57	73	82	48	50	

COMMENTS : 0

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2006	2100	210	63	3	100
2026	2800	290	63	5	200

20 year ESAL for flexible pavement from 2006 to 2026 : 497000
 40 year ESAL for flexible pavement from 2006 to 2046 : 1301000
 Design Speed : 35 mph

PROPOSED STRUCTURE
 STRUCTURE TYPE : Single Span Prestressed Concrete Voided Slab Bridge
 CLEAR SPAN(NORMAL TO STREAM) : 50.6'
 VERTICAL CLEARANCE ABOVE STREAMBED : 12.5'
 WATERWAY OF FULL OPENING : 495 sq. ft.

WATER SURFACE ELEVATIONS AT :
 Q2.33 = 428.4 ft VELOCITY = 5.0 fps
 Q10 = 430.9 ft " 6.4 fps
 Q25 = 431.9 ft " 7.4 fps
 Q50 = 432.9 ft " 8.1 fps
 Q100 = 433.5 ft " 8.8 fps

IS THE ROADWAY OVERTOPPED BELOW Q100 : Yes
 FREQUENCY : Q75
 RELIEF ELEVATION : 433.3'
 DISCHARGE OVER ROAD @Q100 : 70 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE : 435.6'
 VERTICAL CLEARANCE : @ Q50 = 2.7'

SCOUR : 4 ft maximum contraction scour at Q500
 REQUIRED CHANNEL PROTECTION : Stone Fill, Type III

PERMIT INFORMATION
 AVERAGE DAILY FLOW : 65 cfs DEPTH OR ELEVATION :
 ORDINARY LOW WATER : 20 cfs Elevation = 424.0
 ORDINARY HIGH WATER : 400 cfs Elevation = 426.0

TEMPORARY BRIDGE REQUIREMENTS
 STRUCTURE TYPE : Single span bridge
 CLEAR SPAN(NORMAL TO STREAM) : 35 ft (minimum)
 VERTICAL CLEARANCE ABOVE STREAMBED : Bottom of beam elev. 432.0' (min.)
 WATERWAY AREA OF FULL OPENING : 315 sq. ft. (minimum)

ADDITIONAL INFORMATION

- DESIGN CRITERIA**
- DESIGN LIVE LOAD AASHTO : HS-25-44
 - DESIGN SPAN : 57'
 - ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL : NA
ON LEDGE : NA
 - ALLOWABLE LOAD FOR PILING : 184 kip
TYPE : HP 12x84 GR 50
ESTIMATED LENGTH : Abut 1 is approx 35'. Abut 2 is approx 40'.
 - STRUCTURAL STEEL AASHTO M270MM270 GRADE : 50W
 - REINFORCING STEEL GRADE : 60
 - CONCRETE, HIGH PERFORMANCE CLASS AA fc : 4000 psi
CONCRETE, HIGH PERFORMANCE CLASS B fc : 3500 psi
 - DESIGN SOIL UNIT WEIGHT : 140 pcf
 - DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL : NA

- TRAFFIC MAINTENANCE**
- IS TRAFFIC TO BE MAINTAINED? Yes
IF YES, ON EXISTING STRUCTURE?
OR ON TEMPORARY BRIDGE? 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 : Castleton
 PROJECT NUMBER : RS 0142(10)

FILE NAME : sf193pi.xls PLOT DATE : 1/24/2007
 PROJECT MANAGER : R. Whitcomb DRAWN BY : str3
 DESIGNED BY : T. Lackey CHECKED BY : C. Carlson
PRELIMINARY INFORMATION SHEET #1 SHEET 2 OF 68