

PRELIMINARY INFORMATION SHEET (BRIDGE)

LRFD

INDEX OF SHEETS						FINAL HYDRAULIC REPORT																	
PLAN SHEETS						STANDARDS LIST						HYDROLOGIC DATA						PROPOSED STRUCTURE					
1	TITLE SHEET	A-76	STANDARDS FOR TOWN & DEVELOPMENT ROADS	03-03-2003	DRAINAGE AREA: 14.9 SQ. MI. DATE: 02-20-2013						STRUCTURE TYPE: SINGLE SPAN STEEL GIRDER												
2	PRELIMINARY INFORMATION SHEET	B-5	SLOPE GRADING, EMBANKMENTS, MUCK	06-01-1994	CHARACTER OF TERRAIN: HILLY TO MOUNTAINOUS VALLEY SETTING						CLEAR SPAN (NORMAL TO STREAM): 110 FT												
3	TYPICAL ROADWAY SECTIONS	B-71	STANDARDS FOR RESIDENTIAL AND COMMERCIAL DRIVES	07-08-2005	STREAM CHARACTERISTICS: STRAIGHT TO SINUOUS, LITTLE TO NO FLOODPLAIN						VERTICAL CLEARANCE ABOVE STREAMBED: 8.5 FT												
4	BRIDGE, EARTHWORK, & CHANNEL SECTIONS	E-100	CONSTRUCTION APPROACH SIGNS	01-02-2004	NATURE OF STREAMBED: SAND AND GRAVEL						WATERWAY OF FULL OPENING: 935 SQ FT												
5	PROJECT NOTES	E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	01-02-2004	Q 2.33 = 1650 CFS Q50 = 5400 CFS						WATER SURFACE ELEVATIONS AT: ONE BRIDGE LENGTH UPSTREAM												
6-7	QUANTITY SHEETS	E-102	CONSTRUCTION SIGN DETAILS	06-30-2003	Q 10 = 3050 CFS Q 100 = 6700 CFS						Q 2.33 = 768.1 FT VELOCITY = 8.6 FT/SEC												
8	BRIDGE QUANTITY SHEET	E-102A	CONSTRUCTION SIGN DETAILS	05-01-2004	Q 25 = 4160 CFS Q 500 = 10500 CFS						Q 10 = 769.0 FT " 10.6 FT/SEC												
9	CONVENTIONAL SYMBOLOLOGY LEGEND	E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	03-01-2004	DATE OF FLOOD OF RECORD: AUGUST 28, 2011						Q 25 = 769.6 FT " 11.4 FT/SEC												
10	TIE SHEET	E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06-30-2003	ESTIMATED DISCHARGE: 6700 CFS						Q50 = 770.3 FT " 12.0 FT/SEC												
11	LAYOUT SHEET	E-107A	BREAKAWAY BARRICADE DETAILS	06-08-2009	WATER SURFACE ELEVATION: 773.5 +/-						Q 100 = 770.8 FT " 13.0 FT/SEC												
12	VT 131 PROFILE SHEET	E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	06-08-2009	NATURAL STREAM VELOCITY: 12.1 FPS @ Q50 = 5,400 CFS						IS THE ROADWAY OVERTOPPED BELOW Q100? YES												
13	RAIL LAYOUT SHEET	E-108A	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS FOR PAVING	06-08-2009	ICE CONDITIONS: LIGHT TO MODERATE						FREQUENCY: 25-YR												
14	TRAFFIC SIGNS AND LINES LAYOUT	E-119	UTILITY WORK ZONE	03-01-2004	DEBRIS: HEAVY						RELIEF ELEVATION: +/- 764.9 FT												
15	TRAFFIC SIGN SUMMARY SHEET	E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995	DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? YES						DISCHARGE OVER ROAD @ Q100: 677 CFS												
16	TRAFFIC DETOUR SIGNING PLAN	E-123	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS	03-16-2004	IS ORDINARY RISE RAPID? YES						AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 768.4 FT												
17	DETOUR DETAILS & NOTES	E-127	ROUTE MARKINGS AT RURAL INTERSECTIONS	08-08-1995	IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO						VERTICAL CLEARANCE: -1.9 FT @ Q100												
18	DETOUR SIGN DETAILS	E-134	BRIDGE NUMBER PLAQUE	08-08-1995	IF YES, DESCRIBE N/A						SCOUR: ABUTMENT SCOUR NOT ANTICIPATED FOR Q100 OR Q500												
19	BORING INFORMATION & LAYOUT SHEET	E-136B	STATE ROUTE MARKER SIGN DETAILS	08-08-1995	WATERSHED STORAGE: 1% HEADWATERS: X						CONTRACTION SCOUR NOT ANTICIPATED FOR Q100 OR Q500												
20-28	BORING LOGS	E-154	WARNING SIGN DETAILS	05-01-2004	UNIFORM: -						REQUIRED CHANNEL PROTECTION: 4 FT THICK, STONE FILL, TYPE IV												
29	PLAN & ELEVATION	E-155	WARNING SIGN DETAILS	05-01-2004	IMMEDIATELY ABOVE SITE: -						PERMIT INFORMATION												
30	SUPERSTRUCTURE PLAN	E-164	SQUARE STEEL SIGN POST	06-08-2009	EXISTING STRUCTURE INFORMATION						AVERAGE DAILY FLOW: 30 CFS DEPTH OR ELEVATION:												
31	SUPERSTRUCTURE DETAILS	E-193	PAVEMENT MARKING DETAILS	06-08-2009	STRUCTURE TYPE: TWO-SPAN BRIDGE						ORDINARY LOW WATER: 15 CFS 1.9 FT (BR. LENGTH UPSTREAM)												
32	FRAMING DETAILS	G-1B	BOX BEAM GUARD RAIL	06-01-1994	YEAR BUILT: 1947						ORDINARY HIGH WATER: 710 CFS 4.7 FT (BRIDGE LENGTH UPSTREAM)												
33	ABUTMENT 1 PLAN, ELEVATION, & SECTION	S-364A	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	04-23-2012	CLEAR SPAN (NORMAL TO STREAM): 82 FT						TEMPORARY BRIDGE REQUIREMENTS												
34	ABUT 2 PLAN & ELEV AND BRG DETAILS	S-364B	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	04-23-2012	VERTICAL CLEARANCE ABOVE STREAMBED: 9 FT						STRUCTURE TYPE: N/A												
35	ABUTMENT REINFORCEMENT	S-364C	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	04-23-2012	WATERWAY OF FULL OPENING: 738 SQ FT						CLEAR SPAN (NORMAL TO STREAM): N/A												
36	ABUTMENT CLOSURE POUR DETAILS	S-364D	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	04-23-2012	DISPOSITION OF STRUCTURE: COMPLETE REMOVAL						VERTICAL CLEARANCE ABOVE STREAMBED: N/A												
37	APPROACH SLAB DETAILS				TYPE OF MATERIAL UNDER SUBSTRUCTURE: SAND AND GRAVEL						WATERWAY AREA OF FULL OPENING: N/A												
38	REINFORCING STEEL SCHEDULE				WATER SURFACE ELEVATIONS AT: ONE BRIDGE LENGTH UPSTREAM						ADDITIONAL INFORMATION												
39-40	VT 131 CROSS SECTIONS				Q 2.33 = 768.1 FT VELOCITY = 8.9 FT/SEC						TRAFFIC MAINTENANCE NOTES												
41-42	CHANNEL CROSS SECTIONS				Q 10 = 769.1 FT " 10.1 FT/SEC						1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.												
43	RESOURCE LAYOUT				Q 25 = 769.7 FT " 11.2 FT/SEC						2. TRAFFIC SIGNALS ARE NOT NECESSARY.												
44	EPSC NARRATIVE				Q50 = 770.3 FT " 12.1 FT/SEC						3. SIDEWALKS ARE NOT NECESSARY.												
45	EPSC EXISTING CONDITION LAYOUT				Q 100 = 770.8 FT " 12.8 FT/SEC						DESIGN VALUES												
46	EPSC CONSTRUCTION CONDITION LAYOUT				LONG TERM STREAMBED CHANGES: OVERTOPPING OF UPSTREAM LEFT						1. DESIGN LIVE LOAD HL-93												
47	EPSC FINAL CONDITION LAYOUT				BANK AND BREACH OF NORTHERN APPROACH						2. FUTURE PAVEMENT dp: 0.0 INCH												
48-49	EPSC DETAILS				IS THE ROADWAY OVERTOPPED BELOW Q100? YES						3. DESIGN SPAN L: 122.00 FT												
					FREQUENCY: 5-YR AND GREATER						4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS) Δ: ---												
					RELIEF ELEVATION: +/- 764.9 FT						5. PRESTRESSING STRAND fy: ---												
					DISCHARGE OVER ROAD @ Q100: 2406 CFS						6. PRESTRESSED CONCRETE STRENGTH f'c: ---												
					UPSTREAM STRUCTURE						7. PRESTRESSED CONCRETE RELEASE STRENGTH f'cl: ---												
					TOWN: CAVENDISH, VT DISTANCE: 1600 FT						8. SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) f'c: 7.0 KSI												
					HIGHWAY #: T.H. 6 STRUCTURE #: 43						9. CONCRETE, HIGH PERFORMANCE CLASS A f'c: 4.0 KSI												
					CLEAR SPAN: 43 FT CLEAR HEIGHT: 12 FT						10. CONCRETE, HIGH PERFORMANCE CLASS B f'c: ---												
					YEAR BUILT: 1974 FULL WATERWAY: 516 SF						11. CONCRETE, CLASS C f'c: ---												
					STRUCTURE TYPE: SINGLE SPAN STEEL ROLLED BEAM BRIDGE						12. REINFORCING STEEL fy: 60 KSI												
					DOWNSTREAM STRUCTURE						13. STRUCTURAL STEEL AASHTO M270 (WEATHERING) fy: 50 KSI												
					TOWN: N/A - CONFLUENCE WITH BLACK RIVER DISTANCE: 900 FT						14. SOIL UNIT WEIGHT γ: 0.140 KCF												
					HIGHWAY #: N/A STRUCTURE #: N/A						15. NOMINAL BEARING RESISTANCE OF SOIL qn: ---												
					CLEAR SPAN: N/A CLEAR HEIGHT: N/A						16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) φ: ---												
					YEAR BUILT: N/A FULL WATERWAY: N/A						17. NOMINAL BEARING RESISTANCE OF ROCK qn: ---												
					STRUCTURE TYPE: N/A						18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) φ: ---												
					LRFR LOAD RATING FACTORS						19. NOMINAL AXIAL PILE RESISTANCE qp: 1090.0 KIPS												
					LOADING LEVELS						20. PILE YIELD STRENGTH ASTM A572 fy: 50 KSI												
					TRUCK						21. PILE SIZE HP 12X74												
					H-20 HL-93 3S2 6 AXLE 3A STR 4A STR 5A SEMI						22. EST. PILE LENGTHS (TWO SUBSTRUCTURES) Lp: ---												
					TONNAGE 20 36 36 66 30 34.5 38						23. (ABUTMENT 1 = 28 AND ABUTMENT 2 = 80) FT												
					INVENTORY 2.78 1.15						24. PILE RESISTANCE FACTOR φ: 0.50												
					POSTING						25. LATERAL PILE DEFLECTION Δ: 0.62 INCH												
					OPERATING 3.54 1.49 1.90 1.11 1.97 1.72 1.73						26. BASIC WIND SPEED V3s: 100 MPH												
					COMMENTS:						27. MINIMUM GROUND SNOW LOAD pg: ---												
					AS BUILT "REBAR" DETAILS						27. SEISMIC DATA PGA: 7 %g Ss: 16 %g S1: 5 %g												
					LEVEL I LEVEL II LEVEL III						PROJECT NAME: CAVENDISH												
					TYPE: TYPE: TYPE:						PROJECT NUMBER: ER BRF 0146(13)												
					GRADE: GRADE: GRADE:						FILE NAME: z11c318brpi.dgn PLOT DATE: 7/19/2013												
					TEMPORARY BRIDGE PROFILE ALONG TEMP CL						PROJECT LEADER: J. OLUND DRAWN BY: S. MORGAN												
					BOTTOM OF BEAMS ELEV. = 0.00 FT						DESIGNED BY: J. OLUND CHECKED BY: D. MYERS												
					TRAFFIC DATA						PRELIMINARY INFORMATION SHEET SHEET 2 OF 49												
					YEAR ADT DHV % D % T ADTT																		
					20 year ESAL for flexible pavement from 2014 to 2034 : 1336000																		
					2014 2100 240 54 11.6 220																		
					40 year ESAL for flexible pavement from 2014 to 2054 : 2973000																		
					2034 2200 250 54 16.3 330																		
					Design Speed : 40 mph																		