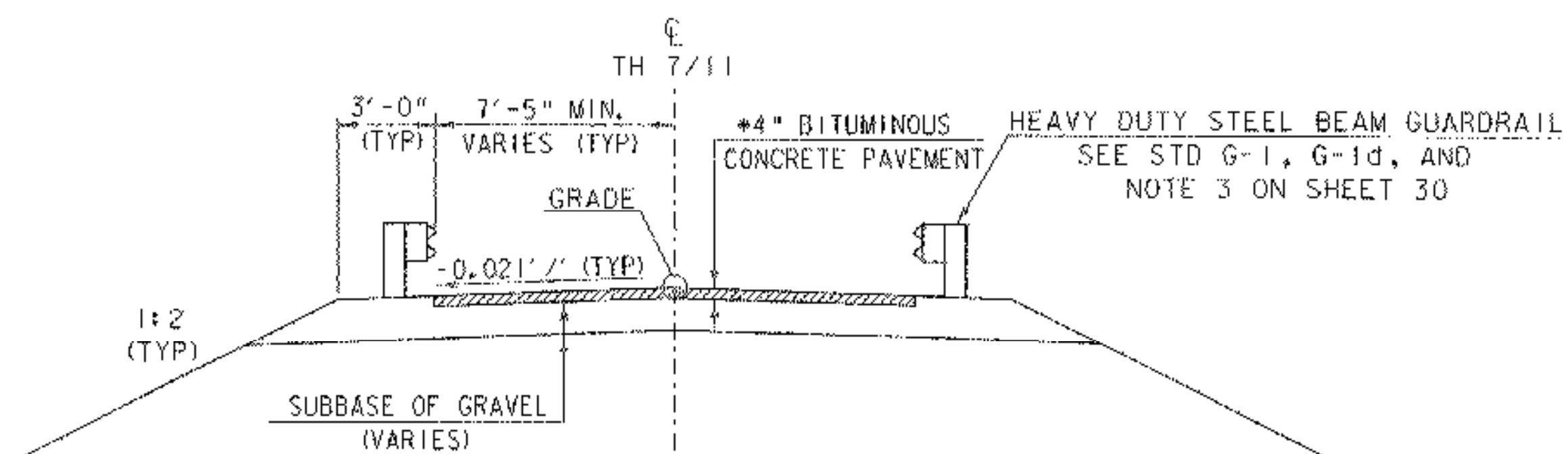


TYPICAL BRIDGE SECTION

SCALE 3/8" = 1'-0"
 1 0 1 2 3 4

NOTE: THE TRANSVERSE DECKING WAS INSTALLED AS PER PLAN. SUBSEQUENT TO FINAL INSPECTION AND ACCEPTANCE, THE TRANSVERSE DECKING DETERIORATED TO THE POINT THE TOWNS CLOSED THE BRIDGE. THE AGENCY, USING DISTRICT FORCES, REDECKED THE ENTIRE DECK WITH DOUGLADS FIR 2X8 PLANKING, PLACED LONGITUDINALLY, AND SECURELY LAG BOLTED IN PLACE. THE "REDECKING" WAS DONE IN APRIL 2009.



ROADWAY TYPICAL

SCALE 1/4" = 1'-0"
 1 0 2 4 6

#1 1/2" TYPE III OVER
 2 1/2" TYPE I

MATERIAL ITEM	TOLERANCE
PAVEMENT	± 1/4" TOTAL THICKNESS
BASE COURSE	± 1/2"
SUBBASE	± 1"

FINAL HYDRAULICS REPORT

HYDROLOGIC DATA

DRAINAGE AREA: 748 sq. mi.
 CHARACTER OF TERRAIN: Rolling hills
 CHARACTER & TYPE OF STREAM: Stream, semi-artificial, probably incised, not bridged or unbridged
 NATURE OF STREAMBED: Sand, gravel, cobbles, and ledge
 02.33= 5,000 cfs 050= 10,850 cfs
 010= 8,000 cfs 0100= 12,200 cfs
 025= 8,650 cfs 0500= 15,500 cfs
 DATE OF FLOOD OF RECORD: November, 1927
 WATER SURFACE ELEV. @ 224.5+ ESTIMATED DISCHARGE: 18,800 cfs
 NATURAL STREAM VELOCITY @ 025 = 6.4 fps
 ICE CONDITIONS: Moderate DERRIS: Slight
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? No
 IS ORDINARY RISE RAPID? No
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
 IF YES, DESCRIBE: Huntington Falls Dam is about 350 ft. downstream.
 WATERSHED STORAGE: N.A. HEADWATERS: UNIFORM THROUGHOUT WATERSHED IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: Single span steel truss bridge YEAR BUILT: 1908
 CLEAR SPAN (NORMAL TO STREAM): 140 ft.
 VERTICAL CLEARANCE ABOVE STREAMBED: 22 ft.
 WATERWAY OF FULL OPENING: 2,350 sq. ft.
 DISPOSITION OF STRUCTURE: Rehabilitation
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Abutment # 1 on ledge, # 2 on piling
 WATER SURFACE ELEV. @ 02.33= 218.7 VELOCITY= 3.3 fps
 010= 213.9 " 4.8 fps
 025= 220.7 " 5.4 fps
 050= 221.1 " 5.9 fps
 0100= 221.7 " 6.3 fps
 LONG TERM STREAM BED CHANGES: None noted
 Controlled by the downstream dam.
 IS THE ROADWAY OVERTOPPED BELOW THE 0100? No FREQUENCY:
 RELIEF ELEVATION: 226.3 DISCHARGE OVER ROAD @ 0100: 0
 UPSTREAM STRUCTURE: TOWN Middlebury Weyr. DISTANCE: 3.8 miles
 HIGHWAY NO.: T.H. 5 & T.H. 3 STRUCTURE NO.: 1
 STRUCTURE TYPE: Covered Bridge
 CLEAR SPAN: 171 ft. CLEAR HEIGHT: 20 ft.
 YEAR BUILT: 1830 FULL WATERWAY: N.A.
 DOWNSTREAM STRUCTURE: TOWN Weybridge DISTANCE: 1.3 miles
 HIGHWAY NO.: T.H. 2 STRUCTURE NO.: 6
 STRUCTURE TYPE: Two span steel beam bridge
 CLEAR SPAN: 118 ft. CLEAR HEIGHT: 22 ft.
 YEAR BUILT: 1971 FULL WATERWAY: N.A.

PROPOSED STRUCTURE

STRUCTURE TYPE: Rehabilitate existing single span steel truss bridge.
 CLEAR SPAN (NORMAL TO STREAM): 140 ft.
 VERTICAL CLEARANCE ABOVE STREAMBED: 23 ft.
 WATERWAY OF FULL OPENING: 2,500 sq. ft.
 WATER SURFACE ELEV. @ 02.33= 218.7 VELOCITY= 3.3 fps
 010= 213.9 " 4.8 fps
 025= 220.7 " 5.4 fps
 050= 221.1 " 5.9 fps
 0100= 221.7 " 6.3 fps
 IS THE ROADWAY OVERTOPPED BELOW THE 0100? No FREQUENCY:
 RELIEF ELEVATION: 226.5 DISCHARGE OVER ROAD @ 0100: 0
 AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 225.5
 VERTICAL CLEARANCE @ 0100 = 3.8 ft.
 SCOUR: Contractions scour = 8 ft. @ 0100 & 9 ft. @ 0500.
 REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW: 1,880 cfs
 ORDINARY LOW WATER: 670 cfs ELEV.: 216.0
 ORDINARY HIGH WATER: 2,150 cfs ELEV.: 218.0

ADDITIONAL COMMENTS

* The scour depths listed are based on free flow (live bed contraction scour). The operation of the downstream dam could affect scour depths at the bridge. The presence of ledge would limit the scour depth. The existing bridge has been in place since 1908, with no known scour related problems.

DESIGN CRITERIA

- DESIGN LIVE LOAD AASHTO: H-20
- DESIGN SPAN: 140'-0" C-C BEARING
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL: N/A ON LEDGE: 10 ksf
- ALLOWABLE LOAD FOR PILING: N/A ESTIMATED LENGTH: N/A
- STRUCTURAL STEEL AASHTO GRADE: M220 GR. 50
- REINFORCING STEEL GRADE: 60
- CONCRETE, HIGH PERFORMANCE CLASS A: f'c: 4000 PSI
- CONCRETE, HIGH PERFORMANCE CLASS B: f'c: 3500 PSI

TRAFFIC MAINTENANCE

- IS TRAFFIC TO BE MAINTAINED? No IF YES, ON EXISTING STRUCTURE: N/A OR ON TEMPORARY BRIDGE: N/A
- TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY: N/A TRAFFIC CONTROL SIGNALS REQUIRED: N/A
 MINIMUM CLEAR SPAN (NORMAL TO STREAM): VERTICAL CLEARANCE ABOVE STREAMBED:
 WATERWAY OF FULL OPENING:
 ARE SIDEWALKS REQUIRED? IF SO, ON WHAT SIDE?
 STRUCTURE TYPE: Not required. The road will be closed.

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	H	HS	3S2	6 AXLE	3A STR.	4A STR.	5A SEMI
INVENTORY A=2.173 B=1.00	16	23					
POSTED A=1.554 B=1.40	22	32	34		25	27	33
OPERATING A=1.302 B=1.67		38	40	34	30	32	

STATE OF VERMONT
 AGENCY OF TRANSPORTATION

Town of: NEW HAVEN-WEYBRIDGE Bridge No.: 26
 Highway No.: TH 7/TH 11 Log Sta.:
 Surv. Sta.:

TH 7/TH 11 OVER OTTER CREEK

PRELIMINARY INFORMATION

Designed By: W.B. SYMONDS Drawn By: W.B. SYMONDS
 Checked By: P.G. JARVIS Date: 4/98 Bridge Design Supervisor: C.P. WILLIAMS Date: 4/98

PROJECT: NEW HAVEN-WEYBRIDGE PROJECT NO.: BHO-BTN 2005 (1)

LOG. INFO: /str4/89j0812s081p1.dgn PI 01170 28-FEB-2007

Bridge Sheet No.: sj081p1.i Sheet 2 of 53

18 kip ESAL for flexible pavement from 1992 to 2012: <80,000
 18 kip ESAL for flexible pavement from to : N/A
 Design speed: 35 mph

STRENGTH RF = $\frac{0.75 M_n - 1.3 M_{DL}}{A \times M_{LL}}$ SERVICEABILITY RF = $\frac{.95 F_y S_{LL} - M_{DL}}{1.67 M_{LL}}$

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	% ADTT
1992	200	30		<1	
2012	270	35	57	<1	