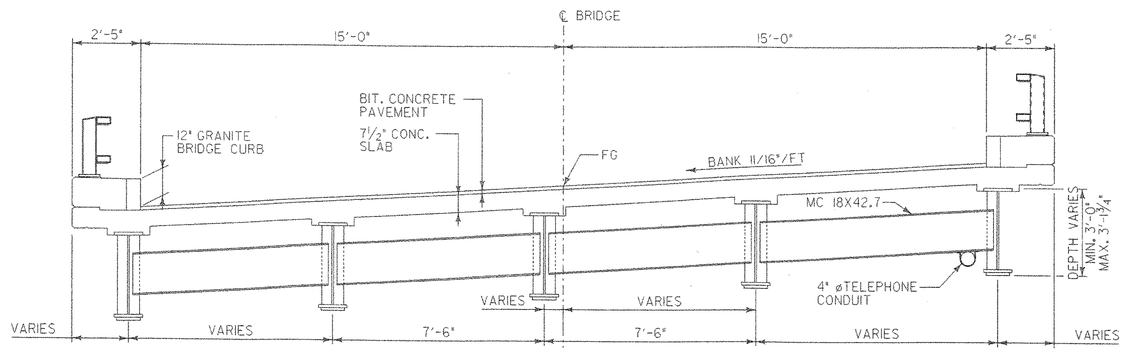
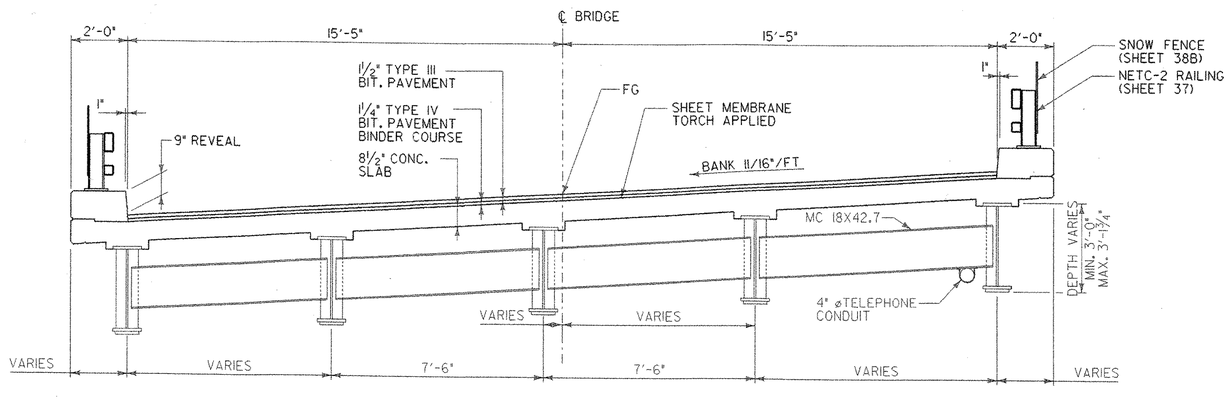


EXISTING BRIDGE

SCALE: 3/8" = 1'-0"



TYPICAL SECTION

SCALE: 3/8" = 1'-0"

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2001	2300	320	-	8%	-
2002	2400	330	-	8%	-

SCALE 3/8" = 1'-0

1 0 1 2 3 4

FINAL HYDRAULICS REPORT

HYDROLOGIC DATA

DRAINAGE AREA: _____
CHARACTER OF TERRAIN: _____
CHARACTER & TYPE OF STREAM: _____
NATURE OF STREAMBED: _____

Q2.33 * _____ Q50 = _____
Q10 = _____ Q100 = _____
Q25 = _____ Q500 = _____

DATE OF FLOOD OF RECORD: _____
WATER SURFACE ELEV.: _____ ESTIMATED DISCHARGE: _____
NATURAL STREAM VELOCITY @ Q50 = _____
ICE CONDITIONS: _____ DEBRIS: _____
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? _____
IS ORDINARY RISE RAPID? _____
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS?
IF YES, DESCRIBE: _____

WATERSHED STORAGE ___ HEADWATERS ___
UNIFORM THROUGHOUT WATERSHED ___ IMMEDIATELY ABOVE SITE ___

EXISTING STRUCTURE

STRUCTURE TYPE: _____
CLEAR SPAN (NORMAL TO STREAM): _____
VERTICAL CLEARANCE ABOVE STREAMBED: _____
WATERWAY OF FULL OPENING: _____
DISPOSITION OF STRUCTURE: _____

TYPE OF MATERIAL UNDER SUBSTRUCTURE: _____

WATER SURFACE ELEV. @ Q2.33 * _____ VELOCITY = _____
Q10 = _____ = _____
Q25 = _____ = _____
Q50 = _____ = _____
Q100 = _____ = _____

LONG TERM STREAM BED CHANGES: _____

IS THE ROADWAY OVERTOPPED BELOW THE Q100? _____ FREQUENCY: _____
RELIEF ELEVATION: _____ DISCHARGE OVER ROAD @ Q100: _____

UPSTREAM STRUCTURE: TOWN: _____ DISTANCE: _____
HIGHWAY NO.: _____ STRUCTURE NO.: _____
STRUCTURE TYPE: _____
CLEAR SPAN: _____ CLEAR HEIGHT: _____
YEAR BUILT: _____ FULL WATERWAY: _____

DOWNSTREAM STRUCTURE: TOWN: _____ DISTANCE: _____
HIGHWAY NO.: _____ STRUCTURE NO.: _____
STRUCTURE TYPE: _____
CLEAR SPAN: _____ CLEAR HEIGHT: _____
YEAR BUILT: _____ FULL WATERWAY: _____

PROPOSED STRUCTURE

STRUCTURE TYPE: _____

CLEAR SPAN (NORMAL TO STREAM): _____
VERTICAL CLEARANCE ABOVE STREAMBED: _____
WATERWAY OF FULL OPENING: _____

WATER SURFACE ELEV. @ Q2.33 * _____ VELOCITY = _____
Q10 * _____ = _____
Q25 = _____ = _____
Q50 * _____ = _____
Q100 = _____ = _____

IS THE ROADWAY OVERTOPPED BELOW THE Q100? _____ FREQUENCY: _____
RELIEF ELEVATION: _____ DISCHARGE OVER ROAD @ Q100: _____

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: _____
VERTICAL CLEARANCE @ Q 100 = _____

SCOUR: _____
REQUIRED CHANNEL PROTECTION: _____

PERMIT INFORMATION

AVERAGE DAILY FLOW: _____ ELEV. = _____
ORDINARY LOW WATER: _____ ELEV. = _____
ORDINARY HIGH WATER: _____ ELEV. = _____

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: _____

CLEAR SPAN (NORMAL TO STREAM): _____ TOTAL _____

VERTICAL CLEARANCE ABOVE STREAMBED: _____ ELEV. _____
WATERWAY OF FULL OPENING: _____

DESIGN CRITERIA:

1. DESIGN LIVE LOAD AASHTO HS - 25 FOR DECK AND SUPERSTRUCTURE
2. DESIGN SPAN 54-79-54-94-94
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING 20 TONS TYPE TIMBER ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO GRADE ASTM-A36-62 PAINTED
6. REINFORCING STEEL GRADE 60
7. CONCRETE CLASS A f'_c = 4000 PSI
   CONCRETE CLASS B f'_c = 3500 PSI
   SILICA-FUME CONCRETE f'_c = 5000 PSI

TRAFFIC MAINTENANCE:

1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE NO OR ON TEMPORARY BRIDGE YES
   SEE SPECIAL PROVISIONS 528.11
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TWO TRAFFIC CONTROL SIGNALS REQUIRED N/A
   MINIMUM CLEAR SPAN (NORMAL TO STREAM): N/A VERTICAL CLEARANCE ABOVE STREAMBED: N/A
   WATERWAY AT FULL OPENING: N/A
   ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE? N/A

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	H	HS	3S2	6 AXLE	3A.STR.	4A.STR.	5A.SEMI
INVENTORY A = 2.17	26	46					
POSTED A = 1.55	37	65	75		55	61	70
OPERATING A = 1.30		77	89	104	65	73	

STRENGTH RF = $\frac{\phi M_N - 1.3\, M_{DL}}{A \times M_{LL+I}}$

SERVICEABILITY RF = $B\left[\frac{.95\, F_Y S_{LL+I} - M_{DL}\frac{S_{LL+I}}{S_{DL}} - M_{SDL}\frac{S_{LL+I}}{S_{SDL}}}{1.67\, M_{LL+I}}\right]$

STONE & WEBSTER, INC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HARTLAND	Bridge No. 38
	Log Sta.
Highway No. I-91	Surv. Sta.

PRELIMINARY INFORMATION SHEET

Designed By E. JOHNSTON	Drawn By N. HERRERA
Checked By E. JOHNSTON Date DEC. 2000	Bridge Design Supervisor E. JOHNSTON Date FEB. 2001
PROJECT HARTLAND	PROJECT NO. IM 091-1(36)
I.G.C. Info. za272pis.dgn	
Bridge Sheet No.	Sheet 2 of 85

04-FEB-2003

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