

INDEX OF SHEETS

TO BE COMPLETED AT A LATER DATE

GENERAL NOTES

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 1986 STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AND ITS LATEST REVISIONS.
- ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".
- ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER, TYPE III BOLTS MEETING ASTM DESIGNATION A-325. HOLES SHALL BE 15/16" DIAMETER. CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR.
- AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF BEAMS SHALL BE TAKEN AS DIRECTED BY THE ENGINEER FOR USE IN DETERMINING FINAL GRADE.
- ANY HOLES IN FASCIA BEAMS OR FASCIA GIRDER WEBS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTT HEAD OR HEX HEAD BOLTS.
- FASCIA OVERHANG BRACKETS SHALL BE SPACED AT A MAXIMUM OF FOUR (4) FEET.
- MINIMUM COVER FOR REINFORCING STEEL IN SUBSTRUCTURES SHALL BE TWO (2) INCHES ALONG BACK FACES OF WALLS AGAINST EARTH, AND THREE (3) INCHES ELSEWHERE.
- REINFORCING PLACEMENT TOLERANCES SHALL BE:
SPACING $\pm 1"$
CLEARANCE $\pm 1/4"$
- DECK CONCRETE SHALL BE "CONCRETE, CLASS A". ALL OTHER CONCRETE SHALL BE "CONCRETE, CLASS B" UNLESS OTHERWISE DESIGNATED ON THE PLANS.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" BY 1".
- SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 1/2" PER FOOT. ABUTMENT SEATS SHALL BE SLOPED FULL WIDTH TOWARD CENTER SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH WITH EITHER A WOOD OR MAGNESIUM FLOAT FINISH.
- THE DECK IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTORS CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A NINETY SIX HOUR DELAY BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANY OTHER POUR SHALL BE OBSERVED.
- IN STREAM CONSTRUCTION SHALL BE CONDUCTED DURING THE PERIOD OF JUNE 1 - OCTOBER 1, UNLESS THE CONTRACTOR OBTAINS PERMISSION FROM THE AGENCY OF ENVIRONMENTAL CONSERVATION TO DO WORK OUTSIDE OF THAT TIME FRAME.

14. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP BEADS.

15. THE FOLLOWING TABLE OF ALLOWABLE STRESSES AND WEIGHTS APPLY TO THESE PLANS FOR DESIGN PURPOSES:

CONCRETE: $f'_c = 3500$ PSI	$f_c = 1400$ PSI
AASHTO M270 GRADE 50W	AASHTO M270 GRADE 36
STRUCTURAL STEEL: F_y (working stress) = 27,000 PSI	20,000 PSI
F_u = 47,000 PSI	42,000 PSI
REINFORCING STEEL: $F_t = 24,000$ PSI	Grade 60

16. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES F.

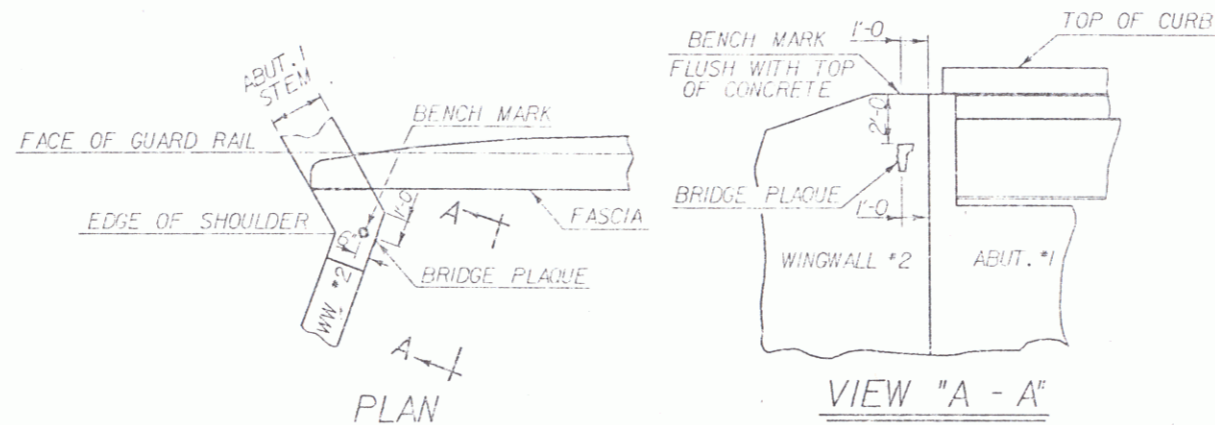
17. TRAFFIC SHALL BE ALLOWED ON THE NEW BRIDGE ONLY AFTER THE SPECIFIED CURE PERIOD HAS EXPIRED AND THE 28 DAY DESIGN STRENGTH HAS BEEN REACHED AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.

18. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

19. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.

20. THE EXISTING BRIDGE SUPERSTRUCTURE SHALL BE REMOVED IN ITS ENTIRETY TO EXISTING BRIDGE SEAT ELEVATIONS. PAYMENT FOR THIS WORK SHALL BE UNDER THE ITEM "PARTIAL REMOVAL OF STRUCTURE".

21. THE EXISTING ABUTMENTS AND WINGWALLS SHALL BE REMOVED IN THEIR ENTIRETY. ANY PORTIONS OUTSIDE THE PROJECT EXCAVATION LIMITS SHALL BE REMOVED WITH PAYMENT SUBSIDIARY TO ALL OTHER PROJECT ITEMS.



THE BRIDGE PLAQUE AND BENCH MARK WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

EXISTING STRUCTURE

- STRUCTURE TYPE: STEEL PONY TRUSS BRIDGE OVERALL LENGTH: 74 FEET INVENTORY RATING:
- SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS: 70 FEET
- CLEAR SPAN LENGTH(S) NORMAL TO STREAM: 60 FEET
- WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM): 716 SQ. FT. VERTICAL CLEARANCE ABOVE STREAMBED: 12 FEET
- WATER SURFACE ELEVATION @ 0.2 CFS: 1038.0 WATER SURFACE ELEVATION @ 0.50: 1041.8
- WATER SURFACE ELEVATION AT FLOOD OF RECORD: UNKNOWN YEAR: N/A ESTIMATED DISCHARGE: N/A
- DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? YES IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR? N/A
- ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF: N/A
- TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL: BOULDERS
- DISPOSITION OF STRUCTURE: REMOVAL

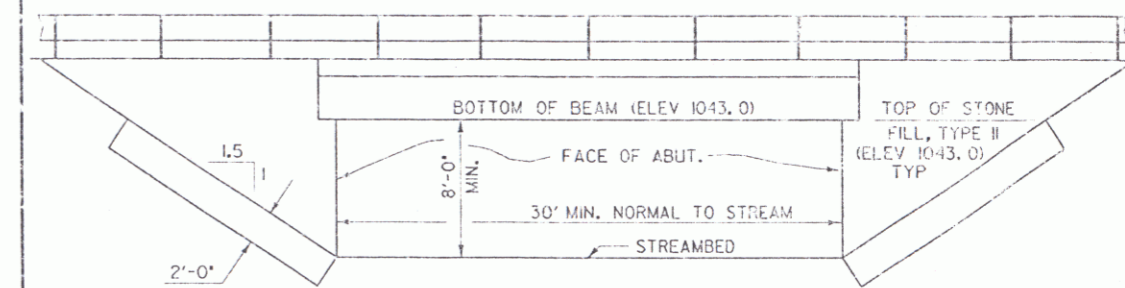
NEW STRUCTURE

- STRUCTURE TYPE: COMPOSITE ROLLED BEAM OVERALL LENGTH: 73.72 FEET
- SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS: 71.0 FEET
- VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER: 9.0 FEET
- CLEAR SPAN LENGTH(S) NORMAL TO STREAM: 60.0 FEET
- WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM): 680 SQ. FT.
- ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? NO

HYDRAULIC DATA			
1. 0.2 CFS	600 CFS	WATER ELEVATION: 1038.0	VELOCITY: 5.0 FPS
0.18	1700 CFS	WATER ELEVATION: 1040.9	VELOCITY: 6.9 FPS
0.25	2300 CFS	WATER ELEVATION: 1041.1	VELOCITY: 7.7 FPS
0.50	2800 CFS	WATER ELEVATION: 1041.8	VELOCITY: 8.4 FPS
0.180	3250 CFS	WATER ELEVATION: 1042.3	VELOCITY: 8.9 FPS
2. DRAINAGE AREA: 103.50 FT.	CHARACTER OF TERRAIN: HILLY		
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? N/A			
4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? YES	IS ORDINARY RISE RAPID? YES		
5. NATURE OF NATURAL STREAMBED: BOULDERS & BOULDERS			
6. ESTIMATED SCOUR DEPTH: 2' TO 4'	COMMENT ON DRIFT: HEAVY	ICE: MODERATE	
7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? YES IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? N/A			
ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF: N/A			
8. VERTICAL CLEARANCE ABOVE 0.50: 9.1 FEET	LIMITED BY: BOTTOM OF BEAMS		
9. ALLOWABLE WATER SURFACE ELEVATION: 1045.9			
10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO	IF YES, DESCRIBE: N/A		
11. AVERAGE DAILY LOW FLOW: 59 CFS	DEPTH: 3.0 FEET	AVERAGE DAILY HIGH FLOW: 250 CFS	DEPTH: 4.5 FEET
12. STREAMWAY OR CHANNEL PROTECTION REQUIRED: STONE FILL, TYPE III			
13. DISTANCE TO EXISTING UPSTREAM STRUCTURE: 4.4 MI.	SPAN: 40 FEET	WATERWAY AREA OF FULL OPENING: 380 SQ. FT.	0
14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE: 3.4 MI.	SPAN: 128 FEET	WATERWAY AREA OF FULL OPENING: 380 SQ. FT.	50

ALLOWABLE STRESSES			
1. DESIGN LIVE LOAD AASHTO: HS 20 - 44			
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL: 4 KSF	ON LEDGE		
3. ALLOWABLE LOAD FOR PILING: N/A	TYPE: N/A	ESTIMATED LENGTH: N/A	
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO M 270 GRADE 50W	TENSION: 27,000 PSI		
5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60	TENSION: 24,000 PSI	COMPRESSION: 20,000 PSI	
6. ALLOWABLE STRESS FOR CONCRETE CLASS A	f_c : 3500 PSI	f_c : 1400 PSI	
	CLASS B	f_c : 3500 PSI	f_c : 1400 PSI

- | TRAFFIC MAINTENANCE | | | |
|---|--------------------------------------|---------------------------------------|--|
| 1. IS TRAFFIC TO BE MAINTAINED? YES | IF YES, ON EXISTING STRUCTURE: NO | OR ON TEMPORARY BRIDGE: YES, UPSTREAM | |
| 2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY: TWO WAY | TRAFFIC CONTROL SIGNALS REQUIRED: NO | | |
| MINIMUM CLEAR SPAN: 30 FEET | MINIMUM CLEAR HEIGHT: 8 FEET | MINIMUM WATERWAY AREA: 250 SQ. FT. | |
| ARE SIDEWALKS REQUIRED? NO | IF SO, ON WHAT SIDE? N/A | | |



TEMPORARY BRIDGE ELEVATION
N T S

LOAD RATING (TONS)	
STRESS LEVELS	TRUCK
INVENTORY	HS 352 6 AXLE 3A STR. 4A STR. 5A SEMI
0.55 Fy = 27 KSI	
POSTED	
0.67 Fy = 33 KSI	
OPERATING	
0.75 Fy = 37.5 KSI	

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of: BLOOMFIELD Bridge No. 36
Highway No. VT 105 Log Sta. 37.5
Surv. Sta. 1.5

REVISIONS		BY & DATE
NO.	DESCRIPTION	

GENERAL NOTES
VT RTE 105 OVER THE NULHEGAN RIVER
Designed By: S. FARNSWORTH Drawn By: R. WHITCOMB
Checked By: Date: Bridge Design Supervisor
C. MEUNIER 2/90 D. E. LATHROP Date 2/90

BLOOMFIELD
BRF 034-3(13)S
ROW SHEET 3 OF 7

JAN 06 1993