



EXISTING STRUCTURE	
1. STRUCTURE TYPE	SINGLE SPAN CONCRETE TEE BEAM BRIDGE OVERALL LENGTH 44 FT INVENTORY RATING H-15
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS	40 FT
3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM	36 FT
4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM)	442.50 SQ FT VERTICAL CLEARANCE ABOVE STREAMBED 10 FT
5. WATER SURFACE ELEVATION @ 0.25% SLOPE	574.4 WATER SURFACE ELEVATION @ 0.50% SLOPE 574.1
6. WATER SURFACE ELEVATION AT FLOOD OF RECORD	574.4 YEAR 1937 ESTIMATED DISCHARGE UNKNOWN
7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE	NO IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR ± 0.20 @ 572.2
8. ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF	UNLIMITED
9. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL	5'-0" x 3'-0" x 1'-0"
10. DISPOSITION OF STRUCTURE	REMOVE EXISTING STRUCTURE

  

NEW STRUCTURE	
1. STRUCTURE TYPE	SINGLE SPAN STEEL BEAM BRIDGE OVERALL LENGTH 62.0 FT
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS	58.0 FT
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER	12 FT
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM	56 FT
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM)	223 SQ FT
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES?	NO

  

HYDRAULIC DATA:			
1. Q	2.33	1600 CFS	WATER ELEVATION 567.4 VELOCITY 5.0 FPS
2. Q	10	3700 CFS	WATER ELEVATION 568.5 VELOCITY 9.1 FPS
3. Q	25	5500 CFS	WATER ELEVATION 570.9 VELOCITY 10.7 FPS
4. Q	50	8000 CFS	WATER ELEVATION 573.2 VELOCITY 12.9 FPS
5. Q	100	1100 CFS	WATER ELEVATION 575.1 VELOCITY 12.6 FPS
2. DRAINAGE AREA	48.58	SQ MILES	CHARACTER OF TERRAIN ROLLING TO HILLY
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM	N/A		IS ORDINARY RISE RAPID? NO
4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY?	NO		
5. NATURE OF NATURAL STREAMBED	SANDY SILT		
6. ESTIMATED SCOUR DEPTH	7.81 FT	LEFT COMMENT ON: DRIFT	SILTICE ICE MODERATE
7. WILL ALL WATER PASS THROUGH NEW STRUCTURE	NO	IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR ± 0.20 @ 572.2	
8. ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF	UNLIMITED		
9. VERTICAL CLEARANCE ABOVE 0.25% SLOPE	12 FT		
10. ALLOWABLE WATER SURFACE ELEVATION	570.0	LIMITED BY LOW STEEL BOTTOM OF BEAMS	
11. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS	NO	IF YES, DESCRIBE	
12. ORDINARY HIGH WATER	NO	DEPTH 1.0 FT	ORDINARY WATER 300 CFS DEPTH 4.5 FT
13. STREAMBANK OR CHANNEL PROTECTION REQUIRED	STONE FILL TYPE IV		
14. DISTANCE TO EXISTING UPSTREAM STRUCTURE	100 FT	SPAN 26 FT	WATERWAY AREA OF FULL OPENING 247 SQ FT
15. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE	100 FT	SPAN 37 FT	WATERWAY AREA OF FULL OPENING 204 SQ FT

  

ALLOWABLE STRESSES:	
1. DESIGN LIVE LOAD	HS 25-44
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL	4.0 KSI ON LEDGE
3. ALLOWABLE LOAD FOR PILING	TYPE ESTIMATED LENGTH
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL	AR50 TO 112 TO 6050 TENSION 27 KSI
5. ALLOWABLE STRESS FOR REINFORCING STEEL	GRADE 60 TENSION 24 KSI COMPRESSION 20 KSI
6. ALLOWABLE STRESS FOR CONCRETE	CLASS A f <sub>c</sub> 4.0 KSI f <sub>c</sub> 1.9 KSI CLASS B f <sub>c</sub> 3.5 KSI f <sub>c</sub> 1.9 KSI

  

TRAFFIC MAINTENANCE:	
1. IS TRAFFIC TO BE MAINTAINED?	YES IF YES, ON EXISTING STRUCTURE OR ON TEMPORARY BRIDGE
2. TEMPORARY BRIDGE REQUIREMENTS:	ONE OR TWO WAY TRAFFIC CONTROL SIGNALS REQUIRED
3. MINIMUM CLEAR SPAN	MINIMUM CLEAR HEIGHT MINIMUM WATERWAY AREA
4. ARE SIDEWALKS REQUIRED?	IF SO, ON WHAT SIDE?

ADDITIONAL DESIGN CONSIDERATIONS

40'-0" NORMAL TO STREAM

10'-0" TEMPORARY BRIDGE CLEARANCES

STRESS LEVELS	LOAD RATING (TONS)					
	H	HS	SS2	6 AXLE	3A STR.	4A STR.
INVENTORY						
0.85 F <sub>y</sub>						
POSTED						
0.87 F <sub>y</sub>						
OPERATING						
0.75 F <sub>y</sub>						

RECOMMENDED FOR APPROVAL STRUCTURES ENGINEER DATE

RECOMMENDED FOR APPROVAL CHIEF OF DESIGN DATE

APPROVED BY DIRECTOR OF ENGINEERING & CONSTRUCTION DATE

NO. DESCRIPTION BY & DATE

STATE OF VERMONT AGENCY OF TRANSPORTATION

TOWN OF RANDOLPH Bridge No. 34

Log No. Sum. Sta.

HIGHWAY NO. Vt. 14

Vt. 14 OVER SECOND BRANCH WHITE RIVER

PLAN, ELEVATION, INFORMATION SHEET

Designed by B. DONALD Drawn by B. DONALD

RANDOLPH BRS 0147(4)

R.O.W. SHEET 4 OF 9 SHEETS

JUL 17 1996 4