

# PRELIMINARY INFORMATION SHEET (BRIDGE)

LRFD

INDEX OF SHEETS

FINAL HYDRAULIC REPORT

PLAN SHEETS

1	TITLE SHEET
2	PRELIMINARY INFORMATION SHEET
3	TYPICAL SECTIONS - TYP 1
4	TYPICAL SECTIONS - TYP 2
5	PROJECT NOTES
6-8	QUANTITY SHEETS
9	CONVENTIONAL SYMBOLOLOGY LEGEND
10	TIE SHEET
11	PLAN LAYOUT SHEET - PL 1
12	DRAINAGE DETAIL SHEET - DDS 1
13	PROFILE SHEET - PRO 1
14	TRAFFIC CONTROL SHEET - TCS 1
15	DETOUR PROFILE SHEET - TFS 1
16	UTILITY LAYOUT SHEET - UTL 1
17	TRAFFIC SIGNS AND LINES LAYOUT - TSL 1
18	TRAFFIC SIGN SUMMARY SHEET - TSS1
19	BORING INFORMATION SHEET
20-22	BORING LOG 1-3
23	PLAN AND ELEVATION
24	FRAMING PLAN
25	NEXT BEAM DETAILS 1
26	NEXT BEAM DETAILS 2
27	CURTAIN WALL DETAILS 1
28	CURTAIN WALL DETAILS 2
29	BEARING DETAILS
30	ABUTMENT 1 MASONRY 1
31	ABUTMENT 1 MASONRY 2
32	ABUTMENT 1 FOOTING REINFORCEMENT 1
33	ABUTMENT 1 FOOTING REINFORCEMENT 2
34	ABUTMENT 1 & WW 1 REINFORCEMENT
35	ABUTMENT 2 MASONRY
36	ABUTMENT 2 FOOTING REINFORCEMENT
37	ABUTMENT 2 REINFORCEMENT
38	WINGWALL 2, 3 & 4 REINFORCEMENT
39	ABUTMENT & WINGWALL SECTIONS
40	BRIDGE RAIL DETAILS 1
41	APPROACH RAIL DETAILS
42	REINFORCING STEEL SCHEDULE
43-47	ROADWAY CROSS SECTIONS - RXS 1-5
48-50	CHANNEL CROSS SECTIONS - CXS 1-3
51	EPSC NARRATIVE SHEET - ECN 1
52	EPSC CONSTRUCTION SITE PLAN - ECP 1
53-55	EPSC DETAIL SHEET - ECD 1-3
56	R.O.W. DETAIL SHEET #1
57	ROW LAYOUT SHEET 1 OF 1

STANDARDS LIST

B-71	STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	07-08-2005
C-10	CURBING	02-11-2008
D-1	PRECAST REINFORCED CONCRETE DROP INLET DETAILS	06-01-1994
D-3	TREATED GUTTERS	06-01-1994
D-9	REINFORCED CONCRETE DROP INLET WITH VERTICAL CURB & THROAT ADAPTER	06-01-1994
D-11	STEEL OR IRON GRATES & COVERS (TYPE A)	06-01-1994
E-120	STANDARD SIGN PLACEMENT - EXPRESSWAY & FREEWAY	08-08-1995
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-140	REGULATORY SIGN DETAILS	08-30-1996
E-171A	TRAFFIC CONTROL SIGNALS GENERAL NOTES AND DETAILS	08-09-1995
E-172	VEHICLE DETECTOR LOOP DETAILS	08-08-1995
E-183	PAVEMENT MARKING DETAILS	06-01-1994
G-1B	BOX BEAM GUARD RAIL	08-07-1995
J-3	MAIL BOX SUPPORT DETAILS	08-22-2012
S-352A	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONC. COMBINATION	08-22-2012
S-352B	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONC. COMBINATION	08-22-2012
S-352C	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONC. COMBINATION	08-22-2012
T-1	TRAFFIC CONTROL GENERAL NOTES	08-06-2012
T-10	CONVENTIONAL ROADS AND CONSTRUCTION APPROACH SIGNING	08-06-2012
T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	08-06-2012
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	08-06-2012
T-38	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING	04-09-2014
T-42	BRIDGE NUMBER PLAQUE	08-06-2012
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

HYDROLOGIC DATA

Date: February 2014

DRAINAGE AREA : 29.04 sq. mi.  
 CHARACTER OF TERRAIN : Hilly to mountainous  
 STREAM CHARACTERISTICS : Perennial, flashy, sinuous  
 NATURE OF STREAMBED : Gravel, cobbles, small boulders, ledge

PEAK FLOW DATA

Q 2.33 =	900 cfs	Q 50 =	2875 cfs
Q 10 =	1825 cfs	Q 100 =	3300 cfs
Q 25 =	2350 cfs	Q 500 =	4620 cfs

DATE OF FLOOD OF RECORD : November 1927  
 ESTIMATED DISCHARGE : unknown  
 WATER SURFACE ELEV. : unknown  
 NATURAL STREAM VELOCITY : @ Q25 = 8.3 cfs  
 ICE CONDITIONS : moderate  
 DEBRIS : moderate  
 DOES THE STREAM REACH MAXIMUM HIGH-WATER ELEV. RAPIDLY? yes  
 IS ORDINARY RISE RAPID? yes  
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? no  
 IF YES, DESCRIBE :

WATERSHED STORAGE : <1% HEADWATERS :  
 UNIFORM : X  
 IMMEDIATELY ABOVE SITE :

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE : Rolled beam with wooden deck  
 YEAR BUILT : 1912  
 CLEAR SPAN(NORMAL TO STREAM) : 37'  
 VERTICAL CLEARANCE ABOVE STREAMBED : 16'  
 WATERWAY OF FULL OPENING : 500 sq. ft.  
 DISPOSITION OF STRUCTURE : Remove and replace  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE : Ledge

WATER SURFACE ELEVATIONS AT:

Q2.33 =	690.1'	VELOCITY =	8.2 fps
Q10 =	693.0'	"	9.5 fps
Q25 =	694.4'	"	10.5 fps
Q50 =	695.7'	"	11.1 fps
Q100 =	696.7'	"	11.7 fps

LONG TERM STREAMBED CHANGES : Minimal due to ledge

IS THE ROADWAY OVERTOPPED BELOW Q100 : no  
 FREQUENCY : N/A  
 RELIEF ELEVATION : 703.6'  
 DISCHARGE OVER ROAD @Q100 : None

UPSTREAM STRUCTURE

TOWN: Topsham DISTANCE: 3435'  
 HIGHWAY # : TH 65 STRUCTURE # : BR 12  
 CLEAR SPAN: 32' CLEAR HEIGHT: 7'  
 YEAR BUILT: 1963 FULL WATERWAY : 220 sq. ft.  
 STRUCTURE TYPE : Prestress Concrete

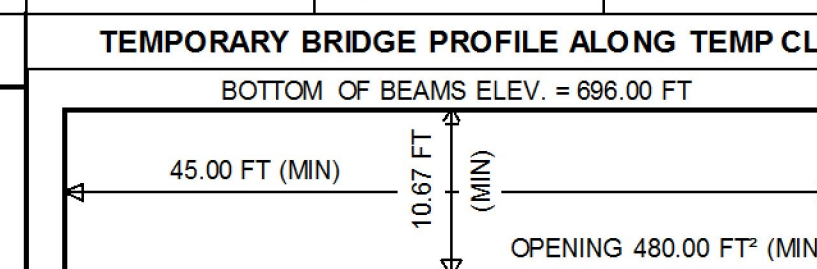
DOWNSTREAM STRUCTURE

TOWN: Corinth DISTANCE: 1410'  
 HIGHWAY # : TH 1 STRUCTURE # : BR 8  
 CLEAR SPAN: 31' CLEAR HEIGHT: 12'  
 YEAR BUILT: 1934 FULL WATERWAY : 370 sq. ft.  
 STRUCTURE TYPE : Concrete T-beam

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEM
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY	1.88	1.01					
POSTING							
OPERATING	2.44	1.31	2.2	1.35	1.74	1.57	1.79
COMMENTS:							

AS BUILT "REBAR" DETAIL		
LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:



TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	Notes
2014	60	20	55	9.2	5	20 year ESAL for flexible pavement from 2014 to 2024 : 5,000
2034	60	20	55	10.7	5	40 year ESAL for flexible pavement from 2014 to 2034 : 10,000 Design Speed : 15 mph

PROPOSED STRUCTURE

STRUCTURE TYPE : NEXT beam bridge  
 CLEAR SPAN(NORMAL TO STREAM) : 46'  
 VERTICAL CLEARANCE ABOVE STREAMBED : ~17'  
 WATERWAY OF FULL OPENING : 720 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	688.8'	VELOCITY =	9.0 fps
Q10 =	691.2'	"	10.7 fps
Q25 =	692.3'	"	11.9 fps
Q50 =	693.3'	"	13.0 fps
Q100 =	694.1'	"	13.7 fps

IS THE ROADWAY OVERTOPPED BELOW Q100 : no  
 FREQUENCY : N/A  
 RELIEF ELEVATION : 703.4'  
 DISCHARGE OVER ROAD @Q100 : None  
 AVERAGE LOW ELEVATION OF SUPERSTRUCTURE : 701.2'  
 VERTICAL CLEARANCE : @ Q25 = 8.9'

SCOUR : Abutments will be founded on ledge and streambed is mostly ledge, so scour is not a concern.  
 REQUIRED CHANNEL PROTECTION : N/A

PERMIT INFORMATION

AVERAGE DAILY FLOW : 60 cfs DEPTH OR ELEVATION:  
 ORDINARY LOW WATER : 30 cfs 683.2'  
 ORDINARY HIGH WATER : 390 cfs 688.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE : Bridge - to be removed before winter  
 CLEAR SPAN (NORMAL TO STREAM) : 45' minimum  
 VERTICAL CLEARANCE ABOVE STREAMBED : Minimum elevation 696.0'  
 WATERWAY AREA OF FULL OPENING : 480 sq. ft.

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN ONE-WAY TRAFFIC ON A TEMPORARY BRIDGE.
2. INSTALL AND MAINTAIN TRAFFIC SIGNALS.
3. SIDEWALKS ARE NOT NECESSARY
4. THE APPROACHES FOR THE TEMPORARY BRIDGE SHALL BE PAVED.

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	d <sub>p</sub> : ---
3. DESIGN SPAN	L: 60.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX)	f <sub>y</sub> : 270 KSI
6. PRESTRESSED CONCRETE STRENGTH	f' <sub>c</sub> : 7.0 KSI
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f' <sub>cr</sub> : 5.5 KSI
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f' <sub>c</sub> : ---
9. CONCRETE, HIGH PERFORMANCE CLASS A	f' <sub>c</sub> : ---
10. CONCRETE, HIGH PERFORMANCE CLASS B	f' <sub>c</sub> : 3.5 KSI
11. CONCRETE, CLASS C	f' <sub>c</sub> : ---
12. REINFORCING STEEL	f <sub>y</sub> : 60 KSI
13. STRUCTURAL STEEL AASHTO M270	f <sub>y</sub> : ---
14. SOIL UNIT WEIGHT	γ: 0.140 KCF
15. NOMINAL BEARING RESISTANCE OF SOIL	q <sub>n</sub> : 3.0 KSF
16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: 0.45
17. NOMINAL BEARING RESISTANCE OF ROCK	q <sub>n</sub> : 10.0 KSF
18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: 0.45
19. NOMINAL AXIAL PILE RESISTANCE	q <sub>p</sub> : ---
20. PILE YIELD STRENGTH ASTM A572	f <sub>y</sub> : ---
21. PILE SIZE	---
22. EST. PILE LENGTH	L <sub>p</sub> : ---
23. PILE RESISTANCE FACTOR	φ: ---
24. LATERAL PILE DEFLECTION	Δ: ---
25. BASIC WIND SPEED	V <sub>3s</sub> : ---
26. MINIMUM GROUND SNOW LOAD	p <sub>g</sub> : ---
27. SEISMIC DATA	P <sub>gA</sub> : --- S <sub>s</sub> : --- S <sub>1</sub> : ---

PROJECT NAME : CORINTH  
 PROJECT NUMBER : BRO 1447(29)

FILE NAME : z01j292\_pi.xls PLOT DATE : 7/9/2014  
 PROJECT LEADER : G. BOGUE DRAWN BY : J. SOTER  
 DESIGNED BY : M. CHENETTE CHECKED BY : G. BOGUE  
 PRELIMINARY INFORMATION SHEET SHEET 2 OF 57