

PRELIMINARY INFORMATION SHEET (BRIDGE)

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STANDARDS LIST

B-71	STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	07-08-2005
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
G-1BM	BOX BEAM GUARD RAIL	06-13-1997
J-3	MAIL BOX SUPPORT DETAILS	08-07-1995
S-364A	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	02-10-2014
S-364B	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-10-2014
S-364C	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	02-10-2014
S-364D	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	04-23-2012
T-1	TRAFFIC CONTROL GENERAL NOTES	04-25-2016
T-2	TRAFFIC SIGN GENERAL NOTES	04-25-2016
T-10	CONVENTIONAL ROADS 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-36	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING	08-06-2012
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: July 2015

DRAINAGE AREA : 9.2 sq. mi.

CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested with some development

STREAM CHARACTERISTICS : Sinusoidal, semi-alluvial. Grade transition from steep to flatter.

NATURE OF STREAMBED : Sand, gravel, cobbles, boulders and ledge

PEAK FLOW DATA

Q 2.33 =	550 cfs	Q 50 =	1800 cfs
Q 10 =	1100 cfs	Q 100 =	2100 cfs
Q 25 =	1500 cfs	Q 500 =	3000 cfs

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span steel beam bridge with concrete deck

CLEAR SPAN(NORMAL TO STREAM): 40'

VERTICAL CLEARANCE ABOVE STREAMBED: 9'

WATERWAY OF FULL OPENING: 328 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	1029.9'	VELOCITY =	9.8 fps
Q10 =	1031.0'	"	12.4 fps
Q25 =	1031.8'	"	13.8 fps
Q50 =	1032.5'	"	14.6 fps
Q100 =	1033.1'	"	15.1 fps

DATE OF FLOOD OF RECORD : Unknown

ESTIMATED DISCHARGE: Unknown

WATER SURFACE ELEV.: Unknown

NATURAL STREAM VELOCITY : @ Q50 = 14.7 fps

ICE CONDITIONS : Moderate

DEBRIS: Moderate

DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes

IS ORDINARY RISE RAPID? Yes

IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No

IF YES, DESCRIBE: _____

IS THE ROADWAY OVERTOPPED BELOW Q100: No

FREQUENCY: Above Q100

RELIEF ELEVATION: 1036.2'

DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 1035.9' upstr., 1033.9' dnstr.

VERTICAL CLEARANCE: @ Q50 = 3.4' upstr. & 1.4' dnstr. above approach W.S.E.

WATERSHED STORAGE: < 1% HEADWATERS: _____

UNIFORM: X

IMMEDIATELY ABOVE SITE: _____

SCOUR: 0' of contraction scour up to Q500.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span concrete T-beam bridge

YEAR BUILT: Built 1927, reconstructed 1964

CLEAR SPAN(NORMAL TO STREAM): 22'

VERTICAL CLEARANCE ABOVE STREAMBED: 8'

WATERWAY OF FULL OPENING: 175 sq. ft.

DISPOSITION OF STRUCTURE: Remove and replace with new bridge.

TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs.

PERMIT INFORMATION

AVERAGE DAILY FLOW: - DEPTH OR ELEVATION: _____

ORDINARY LOW WATER: - _____

ORDINARY HIGH WATER: - _____

WATER SURFACE ELEVATIONS AT:

Q2.33 =	1030.3'	VELOCITY =	9.8 fps
Q10 =	1032.5'	"	12.4 fps
Q25 =	1033.9'	"	13.8 fps
Q50 =	1035.0'	"	14.6 fps
Q100 =	1036.0'	"	15.1 fps

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: No temporary bridge required. Use phased construction.

CLEAR SPAN (NORMAL TO STREAM): _____

VERTICAL CLEARANCE ABOVE STREAMBED: _____

WATERWAY AREA OF FULL OPENING: _____

LONG TERM STREAMBED CHANGES: Scour hole through bridge and at outlet.

IS THE ROADWAY OVERTOPPED BELOW Q100: No

FREQUENCY: Above Q100

RELIEF ELEVATION: 1036.2'

DISCHARGE OVER ROAD @Q100: None

ADDITIONAL INFORMATION

UPSTREAM STRUCTURE

TOWN: Jay DISTANCE: 2,100'

HIGHWAY #: TH 23 STRUCTURE #: 13

CLEAR SPAN: 36' CLEAR HEIGHT: 10'

YEAR BUILT: 1955, reconstructed 2008 FULL WATERWAY: _____

STRUCTURE TYPE: I-beam bridge

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN ONE-WAY TRAFFIC ON THE EXISTING STRUCTURE.
2. INSTALL AND MAINTAIN TRAFFIC SIGNALS.
3. SIDEWALKS ARE NOT NECESSARY

DOWNSTREAM STRUCTURE

TOWN: Jay DISTANCE: 5,800'

HIGHWAY #: TH 1 STRUCTURE #: 6

CLEAR SPAN: 41' CLEAR HEIGHT: 8'

YEAR BUILT: 1971 FULL WATERWAY: _____

STRUCTURE TYPE: I-beam bridge

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	d_p : - - -
3. DESIGN SPAN	L : <u>45.41 FT</u>

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEM
TONNAGE	<u>20</u>	<u>36</u>	<u>36</u>	<u>66</u>	<u>30</u>	<u>34.5</u>	<u>38</u>
INVENTORY	<u>1.84</u>	1.11					
POSTING							
OPERATING	<u>2.39</u>	1.44	<u>2.53</u>	<u>1.33</u>	<u>1.76</u>	<u>1.60</u>	<u>2.01</u>
COMMENTS:							

4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ : - - -
5. PRESTRESSING STRAND	f_y : - - -
6. PRESTRESSED CONCRETE STRENGTH	f'_c : - - -
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci} : - - -
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c : <u>4.0 KSI</u>
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c : <u>4.0 KSI</u>
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c : <u>3.5 KSI</u>
11. CONCRETE, CLASS C	f'_c : <u>3.0 KSI</u>
12. REINFORCING STEEL	f_y : <u>60 KSI</u>
13. STRUCTURAL STEEL AASHTO M270	f_y : - - -

14. NOMINAL BEARING RESISTANCE OF SOIL	q_n : - - -
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ : - - -
16. NOMINAL BEARING RESISTANCE OF ROCK	q_n : <u>160 KSF</u>
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ : <u>0.45</u>

18. PILE RESISTANCE FACTOR	ϕ : - - -
19. LATERAL PILE DEFLECTION	Δ : - - -
20. BASIC WIND SPEED	V_{33} : - - -
21. MINIMUM GROUND SNOW LOAD	p_g : - - -
22. SEISMIC DATA	PGA : <u>0</u>
	S : - - -
	S_1 : - - -

PROJECT NAME: JAY

PROJECT NUMBER: BHF 0278(3)

FILE NAME: Jay PI sheet.xls PLOT DATE: 3/23/2016

PROJECT LEADER: M. Chenette DRAWN BY: L. Buxton

DESIGNED BY: G. Bogue CHECKED BY: M. Chenette

PRELIMINARY INFORMATION SHEET 1 SHEET 2A OF 72

STRUCTURES DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	02-09-2012
SD-502.00	CONCRETE DETAILS AND NOTES	10-10-2012
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG	08-29-2011
SD-601.00	STRUCTURAL STEEL DETAILS & NOTES	06-04-2010
SD-602.00	STRUCTURAL STEEL PLATE GIRDER AND NOTES	05-02-2011

HIGHWAY SAFETY & DESIGN DETAIL SHEETS

HSD-400.01	SAFETY EDGE DETAILS	03-29-2016
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REVISIONS

	09.27.16	UPDATED PLAN SHEETS LIST
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AS BUILT "REBAR" DETAIL

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2015 to 2035 : 478500
2015	1400	290	62	11.6	170	40 year ESAL for flexible pavement from 2015 to 2055 : 0
2035	1500	300	62	15.6	240	Design Speed : 40 mph

LRFR LOAD RATINGS CHANGED
SEE REVISED LOAD RATINGS
SHEET 2B