

PRELIMINARY INFORMATION SHEET (BRIDGE)

INDEX OF SHEETS

FINAL HYDRAULIC REPORT

PLAN SHEETS

1	TITLE
2	PRELIMINARY INFORMATION SHEET
3 - 4	TYPICAL SECTIONS
5 - 6	PROJECT NOTES
7 - 9	QUANTITY SHEETS
10	LEGEND
11	TIES
12	ALIGNMENT
13	LAYOUT
14	PROFILE
15	BANKING DIAGRAM AND MATERIAL TRANSITION
16	RAIL LAYOUT
17	RAIL BREAKAWAY RADIUS DETAILS
18	UTILITY LAYOUT
19	REGIONAL SIGN PLAN
20	SIGNS AND PAVEMENT MARKINGS
21	BORING LAYOUT
22 - 25	BORING LOGS
26	FRAME LAYOUT
27	FRAME ELEVATIONS
28	ABUTMENT NO. 1 PLAN AND ELEVATION
29	ABUTMENT NO. 1 DETAILS
30	ABUTMENT NO. 2 PLAN AND ELEVATION
31	ABUTMENT NO. 2 DETAILS
32 - 35	MAINLINE CROSS SECTIONS
36	TH 9 CROSS SECTIONS
37 - 39	CHANNEL CROSS SECTIONS
40	EPSC NARRATIVE
41	EPSC EXISTING SITE PLAN
42	EPSC CONSTRUCTION SITE PLAN
43	EPSC FINAL SITE PLAN
44	EPSC DETAILS
45	R.O.W. DETAIL SHEET #1
46	ROW LAYOUT

STANDARDS LIST

E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-193	PAVEMENT MARKING DETAILS	08-18-1995
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	03-10-2017
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIUM)	03-10-2017
G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS	11-15-2002
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-40	DELINEATORS AND MILEPOSTS	01-02-2013
T-42	BRIDGE NUMBER PLAQUE	04-09-2014
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

STRUCTURES DETAIL SHEETS

SD-502.00	CONCRETE DETAILS AND NOTES	10-10-2012
HSD-621.05	STEEL BEAM GUARDRAIL, GALVANIZED/35 FOOT RADIUS	06-09-2015
HSD-621.06	MISCELLANEOUS GUARDRAIL DETAILS	02-27-2017

HYDROLOGIC DATA

Date: February 2018

DRAINAGE AREA : 6.5 sq. mi.
 CHARACTER OF TERRAIN : Mostly forested, rural
 STREAM CHARACTERISTICS : Sinuous and alluvial
 NATURE OF STREAMBED : Ledge, cobbles, gravel

PEAK FLOW DATA - ANNUAL EXCEEDANCE PROBABILITY (AEP)

43% =	300 cfs	2% =	1,000 cfs
10% =	600 cfs	1% =	1,200 cfs
4% =	800 cfs	0.2% =	1,680 cfs

DATE OF FLOOD OF RECORD : Unknown
 ESTIMATED DISCHARGE : Unknown
 WATER SURFACE ELEV. : Unknown
 NATURAL STREAM VELOCITY : @ 2% AEP = 11.0 fps
 ICE CONDITIONS : Moderate
 DEBRIS : Light
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
 IS ORDINARY RISE RAPID? No
 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 : Single span concrete T-beam
 YEAR BUILT : 1900
 CLEAR SPAN(NORMAL TO STREAM): 23'
 VERTICAL CLEARANCE ABOVE STREAMBED: 15'
 WATERWAY OF FULL OPENING: 300 sq. ft.
 DISPOSITION OF STRUCTURE: Remove and replace
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

43% AEP =	522.1'	VELOCITY =	5.6 fps
10% AEP =	524.0'	"	11.8 fps
4% AEP =	524.9'	"	13.5 fps
2% AEP =	525.7'	"	14.8 fps
1% AEP =	526.5'	"	15.9 fps *

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 535.2'
 DISCHARGE OVER ROAD @ 1% AEP: N/A

UPSTREAM STRUCTURE

TOWN: Poultney DISTANCE: 11,730'
 HIGHWAY #: TH 9 STRUCTURE #: 84
 CLEAR SPAN: CLEAR HEIGHT:
 YEAR BUILT: FULL WATERWAY:
 STRUCTURE TYPE: Culvert

DOWNSTREAM STRUCTURE

TOWN: Poultney DISTANCE: 250'
 HIGHWAY #: STRUCTURE #:
 CLEAR SPAN: CLEAR HEIGHT:
 YEAR BUILT: FULL WATERWAY:
 STRUCTURE TYPE: Confluence with Poultney River

LRFD 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							
POSTING							
OPERATING							
COMMENTS:	TABLE TO BE COMPLETED BY CONTRACTOR'S DESIGNER.						

AS BUILT "REBAR" DETAIL

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

FRAME DESIGN CRITERIA

1. See Project Notes Sheets.

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2017 to 2037 : 421000
2017	1400	160	56	3.7	85	40 year ESAL for flexible pavement from 2017 to 2057 : 908000
2037	1400	160	56	5.1	120	Design Speed : 35 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Precast concrete rigid frame
 CLEAR SPAN(NORMAL TO STREAM): 33'
 VERTICAL CLEARANCE ABOVE STREAMBED: 12'
 WATERWAY OF FULL OPENING: 370 sq. ft.

WATER SURFACE ELEVATIONS AT:

43% AEP =	522.0'	VELOCITY =	5.6 fps
10% AEP =	523.1'	"	7.9 fps
4% AEP =	523.7'	"	9.2 fps
2% AEP =	524.3'	"	9.9 fps
1% AEP =	524.8'	"	10.5 fps *

IS THE ROADWAY OVERTOPPED BELOW 1% AEP: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 535.2'
 DISCHARGE OVER ROAD @ 1% AEP: N/A

BRIDGE LOW CHORD ELEVATION: 529.1'
 FREEBOARD: @ 2% AEP = 4.8'

SCOUR: N/A, foundations on ledge

REQUIRED CHANNEL PROTECTION: Stone Fill Type E4

PERMIT INFORMATION

AVERAGE DAILY FLOW: - DEPTH OR ELEVATION:
 ORDINARY LOW WATER: -
 ORDINARY HIGH WATER: -

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: None required
 CLEAR SPAN (NORMAL TO STREAM):
 VERTICAL CLEARANCE ABOVE STREAMBED:
 WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

* - Velocities are taken 65' downstream of the structure, approximate STA 50+25

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	dp: 3.0 INCH
3. DESIGN SPAN	L: 33.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND	fy: ---
6. PRESTRESSED CONCRETE STRENGTH	f'c: ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'ci: ---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'c: ---
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'c: 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'c: 3.5 KSI
11. CONCRETE, CLASS C	f'c: 3.0 KSI
12. REINFORCING STEEL	fy: 60 KSI
13. STRUCTURAL STEEL AASHTO M270	fy: ---
14. NOMINAL BEARING RESISTANCE OF SOIL	qn: 8.9 KSF
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: 0.45
16. NOMINAL BEARING RESISTANCE OF ROCK	qn: 70 KSF
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: 0.45
18. PILE RESISTANCE FACTOR	φ: ---
19. LATERAL PILE DEFLECTION	Δ: ---
20. BASIC WIND SPEED	V3s: ---
21. MINIMUM GROUND SNOW LOAD	pg: ---
22. SEISMIC DATA	PGA: 0 S: ---

23.	---
24.	---
25.	---
26.	---

PROJECT NAME: **POULTNEY**
 PROJECT NUMBER: **BF 0138(12)**
 FILE NAME: s13j276pi.dgn PLOT DATE: 8/23/2018
 PROJECT LEADER: R. YOUNG DRAWN BY: G. DARGAN
 DESIGNED BY: G. DARGAN CHECKED BY: G. LAROCHE
PRELIMINARY INFORMATION SHEET SHEET 2 OF 46