

# PRELIMINARY INFORMATION SHEET (BRIDGE)

LRFD

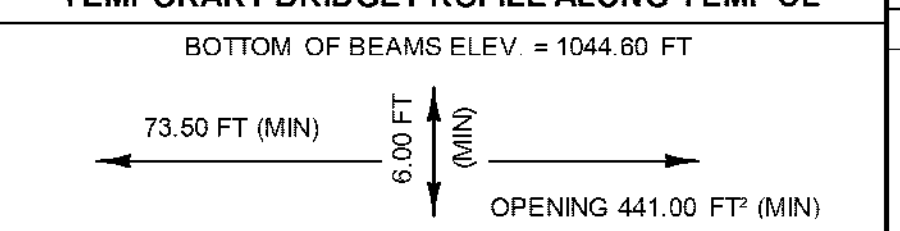
INDEX OF SHEETS						FINAL HYDRAULIC REPORT																	
<b>PLAN SHEETS</b>						<b>STANDARDS LIST</b>						<b>HYDROLOGIC DATA</b>						<b>PROPOSED STRUCTURE</b>					
1	TITLE SHEET	C-10	CURBING	02-11-2008	02-11-2008	DRAINAGE AREA:	8.6 sq. mi.	DATE:		<b>PROPOSED STRUCTURE</b>													
2	PRELIMINARY INFORMATION SHEET	E-100	CONSTRUCTION APPROACH SIGNS	01-02-2004	01-02-2004	CHARACTER OF TERRAIN:	Rolling, Mountainous, Narrow floodplain	<b>STRUCTURE TYPE:</b> Single span prestressed precast beam supported by integral abutments															
3	TYPICAL ROADWAY SECTIONS	E-101	CONSTRUCTION SIGN DETAILS	05-30-2003	05-30-2003	STREAM CHARACTERISTICS:	Meandering; Bend at bridge	<b>CLEAR SPAN (NORMAL TO STREAM):</b> 51.6 ft															
4	BRIDGE, EARTHWORK, & CHANNEL SECTIONS	E-102	CONSTRUCTION SIGN DETAILS	06-30-2003	06-30-2003	NATURE OF STREAMBED:	Cobbles, Gravel	<b>VERTICAL CLEARANCE ABOVE STREAMBED:</b> 7.5 ft															
5 - 6	QUANTITY SHEETS	E-102A	CONSTRUCTION SIGN DETAILS	05-01-2004	05-01-2004	<b>WATERWAY OF FULL OPENING:</b> 270 sq ft																	
7	BRIDGE QUANTITY SHEET	E-106	TRAFFIC CONTROL- MISCELLANEOUS DETAILS	03-01-2004	03-01-2004	<b>WATER SURFACE ELEVATIONS AT:</b>																	
8	PROJECT NOTES	E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06-30-2003	06-30-2003	Q 2.33 =	500 cfs	Q50 =	1550 cfs	<b>Q 2.33 =</b> 1040.3 ft <b>VELOCITY =</b> 11.4 fps													
9	EARTHWORKS	E-107A	BREAKAWAY BARRICADE DETAILS	06-08-2009	06-08-2009	Q 10 =	1000 cfs	Q 100 =	1800 cfs	<b>Q 10 =</b> 1041.0 ft      "      14.6 fps													
10	TIE SHEET	E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	06-08-2009	06-08-2009	Q 25 =	1300 cfs	Q 500 =	2500 cfs	<b>Q 25 =</b> 1041.4 ft      "      15.3 fps													
11 - 12	LAYOUT SHEETS	E-108A	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS FOR PAVING	06-08-2009	06-08-2009	<b>DATE OF FLOOD OF RECORD:</b> August 28, 2011																	
13 - 14	PROFILE SHEETS	E-110	MAJOR MAINTENANCE OPERATION LANE CLOSURE	08-08-1995	08-08-1995	<b>ESTIMATED DISCHARGE:</b> 1800 cfs																	
15	TRAFFIC SIGN SUMMARY SHEET	E-121	STANDARD SIGN PLACEMENT CONVENTIONAL ROAD	08-08-1995	08-08-1995	<b>WATER SURFACE ELEVATION:</b> Unknown																	
16	BORING INFORMATION & LAYOUT SHEET	E-134	BRIDGE NUMBER PLAQUE	08-08-1995	08-08-1995	<b>NATURAL STREAM VELOCITY:</b> 6.1 fps																	
17	BORING LOGS	E-151	WARNING SIGN DETAILS	05-01-2004	05-01-2004	<b>ICE CONDITIONS:</b> High Potential																	
18	PLAN & ELEVATION	E-155	WARNING SIGN DETAILS	05-01-2004	05-01-2004	<b>DEBRIS:</b> High Potential																	
19	FRAMING PLAN	E-164	SQUARE STEEL SIGN POST	06-08-2009	06-08-2009	<b>DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY?</b> No																	
20 - 21	NEXT D BEAM DETAILS	E-193	PAVEMENT MARKING DETAILS	08-18-1995	08-18-1995	<b>IS ORDINARY RISE RAPID?</b> No																	
22	APPROACH SLAB DETAILS	G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	01-03-2000	01-03-2000	<b>IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS?</b> No																	
23	ABUTMENT 1 PLAN, ELEVATION & SECTION	G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIUM)	01-03-2000	01-03-2000	<b>IF YES, DESCRIBE</b> N/A																	
24	ABUTMENT 2 PLAN, ELEVATION & SECTION	G-19	GENERIC PLANS FOR GUARDRAIL END TERMINALS	11-15-2002	11-15-2002	<b>WATERSHED STORAGE:</b> < 1% <b>HEADWATERS:</b>																	
25	ABUTMENT REINFORCEMENT	S-363	THREE BEAM TO STANDARD BEAM TRANSITION SECTION	04-23-2012	04-23-2012	<b>UNIFORM:</b> X																	
26	ABUTMENT CLOSURE POUR DETAILS	S-364A	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	04-23-2012	04-23-2012	<b>IMMEDIATELY ABOVE SITE:</b>																	
27	TRANSITION BARRIER DETAILS					<b>EXISTING STRUCTURE INFORMATION</b>																	
28	TL3 TRANSITION RAIL DETAILS					<b>STRUCTURE TYPE:</b> Single Span, Vertical Abutments																	
29	REINFORCING STEEL SCHEDULE					<b>YEAR BUILT:</b> 1947																	
30 - 31	RESOURCE LAYOUTS					<b>CLEAR SPAN (NORMAL TO STREAM):</b> 27																	
32	EPSC NARRATIVE					<b>VERTICAL CLEARANCE ABOVE STREAMBED:</b> 6.5 ft																	
33 - 34	EPSC EXISTING CONDITION LAYOUTS					<b>WATERWAY OF FULL OPENING:</b> Unknown																	
35 - 36	EPSC CONSTRUCTION CONDITION LAYOUTS					<b>DISPOSITION OF STRUCTURE:</b> Unstable/Compromised; Removed																	
37 - 38	EPSC FINAL CONDITION LAYOUTS					<b>TYPE OF MATERIAL UNDER SUBSTRUCTURE:</b> Unknown																	
39 - 41	EPSC DETAILS					<b>WATER SURFACE ELEVATIONS AT:</b>																	
42 - 44	VT 100A CROSS SECTIONS					Q 2.33 =	1039.9 ft	VELOCITY =	8.5 fps	<b>Q 2.33 =</b> 1039.9 ft <b>VELOCITY =</b> 8.5 fps													
45 - 46	CHANNEL SECTIONS					Q 10 =	1041.2 ft	"	10.7 fps	<b>Q 10 =</b> 1041.2 ft      "      10.7 fps													
						Q 25 =	1041.9 ft	"	11.6 fps	<b>Q 25 =</b> 1041.9 ft      "      11.6 fps													
						Q50 =	1042.4 ft	"	12.3 fps	<b>Q50 =</b> 1042.4 ft      "      12.3 fps													
						Q 100 =	1042.9 ft	"	12.9 fps	<b>Q 100 =</b> 1042.9 ft      "      12.9 fps													
						<b>LONG TERM STREAMBED CHANGES:</b> Abutment Scour, Bank Erosion																	
						<b>IS THE ROADWAY OVERTOPPED BELOW Q100?</b> No																	
						<b>FREQUENCY:</b> N/A																	
						<b>RELIEF ELEVATION:</b> N/A																	
						<b>DISCHARGE OVER ROAD @ Q100:</b> N/A																	
						<b>PERMIT INFORMATION</b>																	
						<b>AVERAGE DAILY FLOW:</b> Unknown <b>DEPTH OR ELEVATION:</b>																	
						<b>ORDINARY LOW WATER:</b> 10 cfs <b>EL:</b> 0.4 ft																	
						<b>ORDINARY HIGH WATER:</b> 250 cfs <b>EL:</b> 2.4 ft																	
						<b>TEMPORARY BRIDGE REQUIREMENTS</b>																	
						<b>STRUCTURE TYPE:</b> N/A - Structure already in place																	
						<b>CLEAR SPAN (NORMAL TO STREAM):</b>																	
						<b>VERTICAL CLEARANCE ABOVE STREAMBED:</b>																	
						<b>WATERWAY AREA OF FULL OPENING:</b>																	
						<b>ADDITIONAL INFORMATION</b>																	
						<b>TRAFFIC MAINTENANCE NOTES</b>																	
						1. MAINTAIN TWO-WAY TRAFFIC ON EXISTING TEMPORARY BRIDGE.																	
						2. TRAFFIC SIGNALS ARE NOT NECESSARY.																	
						3. SIDEWALKS ARE NOT NECESSARY.																	
						4. THE APPROACHES FOR THE TEMPORARY BRIDGE ARE PAVED.																	
						<b>DESIGN VALUES</b>																	
						1. DESIGN LIVE LOAD <b>HL-93</b>																	
						2. FUTURE PAVEMENT <b>d<sub>p</sub>: 0.0 INCH</b>																	
						3. DESIGN SPAN <b>L: 60.00 FT</b>																	
						4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS) <b>Δ: 1.38 INCH</b>																	
						5. PRESTRESSING STRAND (Ø 60 INCH DIAMETER - LOW RELAX) <b>f<sub>y</sub>: 270 KSI</b>																	
						6. PRESTRESSED CONCRETE STRENGTH <b>f'<sub>c</sub>: 8.0 KSI</b>																	
						7. PRESTRESSED CONCRETE RELEASE STRENGTH <b>f'<sub>cr</sub>: 6.0 KSI</b>																	
						8. CONCRETE, HIGH PERFORMANCE CLASS AA <b>f'<sub>c</sub>: ---</b>																	
						9. SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) <b>f'<sub>c</sub>: 7.0 KSI</b>																	
						10. CONCRETE, HIGH PERFORMANCE CLASS SCC <b>f'<sub>c</sub>: 4.0 KSI</b>																	
						11. CONCRETE, CLASS C <b>f'<sub>c</sub>: ---</b>																	
						12. REINFORCING STEEL <b>f<sub>y</sub>: 60 KSI</b>																	
						13. STRUCTURAL STEEL AASHTO M270 <b>f<sub>y</sub>: ---</b>																	
						14. SOIL UNIT WEIGHT <b>γ: 0.140 KCF</b>																	
						15. NOMINAL BEARING RESISTANCE OF SOIL <b>q<sub>n</sub>: ---</b>																	
						16. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) <b>φ: ---</b>																	
						17. NOMINAL BEARING RESISTANCE OF ROCK <b>q<sub>n</sub>: ---</b>																	
						18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) <b>φ: ---</b>																	
						19. NOMINAL AXIAL PILE RESISTANCE <b>q<sub>p</sub>: 545.0 KIPS</b>																	
						20. PILE YIELD STRENGTH ASTM A572 <b>f<sub>y</sub>: 50 KSI</b>																	
						21. PILE SIZE <b>HP 12X74</b>																	
						22. EST. PILE LENGTHS (TWO SUBSTRUCTURES) <b>L<sub>p</sub>: ---</b>																	
						(ABUTMENT 1 = 59 AND ABUTMENT 2 = 38) FT																	
						23. PILE RESISTANCE FACTOR <b>φ: 0.50</b>																	
						24. LATERAL PILE DEFLECTION <b>Δ: 0.26 INCH</b>																	
						25. BASIC WIND SPEED <b>V<sub>3s</sub>: ---</b>																	
						26. MINIMUM GROUND SNOW LOAD <b>p<sub>g</sub>: ---</b>																	
						27. SEISMIC DATA <b>PGA: 8 %g</b> <b>S<sub>s</sub>: 16 %g</b> <b>S<sub>1</sub>: 5 %g</b>																	
						<b>PROJECT NAME:</b> PLYMOUTH																	
						<b>PROJECT NUMBER:</b> ER BRS 0149(5)																	
						<b>FILE NAME:</b> z11c330pi.dgn <b>PLOT DATE:</b> 9/19/2012																	
						<b>PROJECT LEADER:</b> JOSH OLUND <b>DRAWN BY:</b> SCOTT MORGAN																	
						<b>DESIGNED BY:</b> DANIEL MYERS <b>CHECKED BY:</b> JOSH OLUND																	
						<b>PRELIMINARY INFORMATION SHEET</b> <b>SHEET 2 OF 46</b>																	

**STRUCTURES DETAILS SHEETS**

SD-501.00	CONCRETE DETAILS AND NOTES	05-07-2010
SD-502.00	CONCRETE DETAILS AND NOTES	06-04-2010
SD-516.10	BRIDGE JOINT, ASPHALTIC PLUG	05-07-2010
SD-601.00	STRUCTURAL STEEL, DETAILS & NOTES	06-04-2010

**AS BUILT "REBAR" DETAILS**

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 2014 to 2034 : 125000	40 year ESAL for flexible pavement from 2014 to 2054 : 287000	Design Speed : 50 mph
2014	680	95	58	7	25			
2034	720	100	58	10.2	35			

**LRFR LOAD RATING FACTORS**

LOADING LEVELS	TRUCK						
	H-20	HL-93	SS2	6 AXLE	3A STR	4A STR	5A SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY	2.25	1.20					
POSTING							
OPERATING	3.09	1.65	2.40	1.47	1.90	1.38	1.95
COMMENTS:	Service III not considered for Legal Loads						

**PILE DRIVING AND TESTING REQUIREMENTS**

- NOMINAL PILE DRIVING CAPACITY      **400.00 KIP**
- PILE TEST RESISTANCE FACTOR      **φ: 0.65**
- MAXIMUM PILE TIP ELEVATION      **See Below**
- PILES SHALL BE DRIVEN A MINIMUM OF 24 FEET BELOW THE BOTTOM OF ABUTMENT ELEVATIONS.