

PRELIMINARY INFORMATION SHEET

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LIST OF STANDARDS

A-7803-31-2004

A-8003-31-2004

B-506-01-1994

E-10001-02-2004

E-100A01-02-2004

E-10206-30-2003

E-102A05-01-2004

E-10603-01-2004

E-10706-30-2003

E-107A08-08-1995

E-11103-11-1997

F-206-01-1994

G-101-03-2000

G-1D01-03-2000

G-1606-01-1994

SCOPE OF WORK

1. REHABILITATION OF EXISTING TRUSSES, STORED IN A VAOT MAINTENANCE FACILITY IN CLARENDON, VT, OFF OF VT. ROUTE 7B. REHABILITATION INCLUDES COMPLETE REPLACEMENT OF INBOARD ANGLE ON TRUSS LOW CHORD, IN KIND REPLACEMENT OF ALL INBOARD GUSSET PLATES, LATERAL BRACING CONNECTION PLATES, PARTIAL REPLACEMENT OF EXISTING TRUSS MEMBERS, COMPLETE REPLACEMENT OF SELECT DIAGONALS AND REPLACEMENT OF CORRODED RIVETS WITH HIGH STRENGTH BOLTS THROUGHOUT THE TRUSSES.

2. BLAST CLEANING AND PAINTING OF ALL REMAINING EXISTING STEEL.

3. CONSTRUCTION OF NEW CAST-IN-PLACE CONCRETE SUBSTRUCTURES ON PILE FOUNDATIONS.

4. INSTALLATION OF NEW TRUSS FLOOR SYSTEM, INCLUDING NEW TIMBER PLANK DECK, STRINGERS, FLOORBEAMS AND CONNECTIONS.

5. RELATED APPROACH WORK INCLUDING CONSTRUCTION OF EARTHEN APPROACH RAMP AND NEW APPROACH RAILING.

HYDROLOGIC DATA

Date:

DRAINAGE AREA :94.9 sq-mi

CHARACTER OF TERRAIN :Generally forested, ranging from mountainous to valley floor.

STREAM CHARACTERISTICS :Sinuous planform, perennial subcritical flow.

NATURE OF STREAMBED :Gravel bed with sand and cobbles present.

PEAK FLOW DATA

Q 2.33 =2600 cfs

Q 50 =7980 cfs

Q 10 =5260 cfs

Q 100 =9210 cfs

Q 25 =N/A

Q 500 =12400 cfs

DATE OF FLOOD OF RECORD :1927

ESTIMATED DISCHARGE :Unknown

WATER SURFACE ELEV.:Unknown

NATURAL STREAM VELOCITY :2-3 ft/sec

ICE CONDITIONS :Moderate

DEBRIS :Moderate

DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY?No

IS ORDINARY RISE RAPID?No

IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS?Yes

IF YES, DESCRIBE :Minor backwater from Vermont Route 140 bridge approximately 800 ft downstream.

WATERSHED STORAGE:Minimal

HEADWATERS:

UNIFORM:x

IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE:There is presently no bridge at this site.

YEAR BUILT:

CLEAR SPAN(NORMAL TO STREAM):

VERTICAL CLEARANCE ABOVE STREAMBED:

WATERWAY OF FULL OPENING:

DISPOSITION OF STRUCTURE:

TYPE OF MATERIAL UNDER SUBSTRUCTURE:

WATER SURFACE ELEVATIONS AT:

Q2.33 =566.7 ft

Q10 =569.3 ft

Q25 =N/A

Q50 =572.0 ft

Q100 =572.7 ft

VELOCITY =5.4 fps

"6.7 fps

"N/A

"6.9 fps

"7.0 fps

LONG TERM STREAMBED CHANGES:

IS THE ROADWAY OVERTOPPED BELOW Q100:

FREQUENCY:

RELIEF ELEVATION:

DISCHARGE OVER ROAD @Q100:

UPSTREAM STRUCTURE

TOWN:Wallingford

DISTANCE:3700 ft

HIGHWAY #:US Route 7

STRUCTURE #:79

CLEAR SPAN:117' (west) 135' (east)

CLEAR HEIGHT:-

YEAR BUILT:1996

FULL WATERWAY:5505 sq-ft

STRUCTURE TYPE:2 span continuous welded plate girder

DOWNSTREAM STRUCTURE

TOWN:Wallingford

DISTANCE:800 ft

HIGHWAY #:Vermont Route 140

STRUCTURE #:54

CLEAR SPAN:127'

CLEAR HEIGHT:22'

YEAR BUILT:Unknown

FULL WATERWAY:1587 sq-ft

STRUCTURE TYPE:Steel Truss

LOAD FACTORLOAD RATING (TONS)

LOADING LEVELS

TRUCK

HHS3S26 AXLE3A STR4A STR5A SEMI

INVENTORY23

POSTED

OPERATING41

COMMENTS:

TRAFFIC DATA

YEAR

ADT

DHV

% D

% T

ADTT

2007N/AN/AN/AN/AN/A

2027N/AN/AN/AN/AN/A

20 year ESAL for flexible pavement fromN/AtoN/A:N/A

40 year ESAL for flexible pavement fromN/AtoN/A:N/A

Design Speed :N/A mph

FINAL HYDRAULIC REPORT

PROPOSED STRUCTURE

STRUCTURE TYPE:Warren Pony Truss - Adaptive Reuse of Historic Bridge

CLEAR SPAN(NORMAL TO STREAM):117.0 ft

VERTICAL CLEARANCE ABOVE STREAMBED:16.2 ft

WATERWAY OF FULL OPENING:1240 sq-ft

WATER SURFACE ELEVATIONS AT:

Q2.33 =567.0 ft

Q10 =569.4 ft

Q25 =N/A

Q50 =572.0 ft

Q100 =572.7 ft

VELOCITY=5.2 fps

"6.6 fps

"N/A

"6.9 fps

"6.9 fps

IS THE ROADWAY OVERTOPPED BELOW Q100:No

FREQUENCY:

RELIEF ELEVATION:

DISCHARGE OVER ROAD @Q100:

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE:573.78 ft

VERTICAL CLEARANCE:Q50 = 1.8 ft Q100 = 1.1 ft

SCOUR:1.0 ft of contraction scour during Q10. Larger flood events exceed main channel banks and bypass the bridge in the in the right overbank.

REQUIRED CHANNEL PROTECTION:Stone Fill Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:162 cfs

ORDINARY LOW WATER:-

ORDINARY HIGH WATER:-

DEPTH OR ELEVATION:

Elev. 562.5 ft

Elev. 564.5 ft

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE:No temporary bridge required.

CLEAR SPAN (NORMAL TO STREAM):

VERTICAL CLEARANCE ABOVE STREAMBED:

WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

All elevations are referenced to NAVD88.

Flow overtops main channel banks in the right approach between the 10 and 50-year flood events.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTOPedestrian LL (trusses), H-10 (floorbeams & stringers)

2. DESIGN SPAN117'-0"

3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOILN/A

ON LEDGE N/A

4. ALLOWABLE LOAD FOR PILING54 kips

TYPEConcrete filled 12.75" O.D. x 3/8" steel pipe piling, ASTM A-252 Grade 2 (Fy = 35 ksi)

ESTIMATED LENGTH51' (Abutment 1) 53' (Abutment 2)

5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE50 Painted

6. REINFORCING STEEL GRADE60

7. CONCRETE, HIGH PERFORMANCE CLASS A f c:N/A

CONCRETE, HIGH PERFORMANCE CLASS B f c:3,500psi (substructures, pipe piling and metal hand rail foundations)

8. DESIGN SOIL UNIT WEIGHT140 pcf

9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOILN/A

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED?Yes, on Waldo Lane

IF YES, ON EXISTING STRUCTURE?No

OR ON TEMPORARY BRIDGE?No

ONE OR TWO-WAY TRAVEL?N/A

2. TRAFFIC CONTROL SIGNALS REQUIRED?No

3. ARE SIDEWALKS REQUIRED?No

IF SO, ON WHAT SIDE?N/A

PROJECT NAME:WALLINGFORD

PROJECT NUMBER:STP ST WALK(14)

FILE NAME:202F136PRELIM.XLS

PROJECT LEADER:S. SCRIBNER

DESIGNED BY:D. D'AMATO

PRELIMINARY INFORMATION SHEET

PLOT DATE:08/07/2008

DRAWN BY:D. D'AMATO

CHECKED BY:P. HALSTEAD

SHEET2OF26

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