

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011 AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FIFTH EDITION, DATED 2012 AND ITS LATEST REVISIONS AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS THIRD EDITION, DATED 2010 AND ITS LATEST REVISIONS.
2. THE BRIDGE WAS DESIGNED FOR THE HL-93 LIVE LOADS.
3. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS OTHERWISE NOTED.
4. ADJUSTMENTS TO THE BITUMINOUS WEARING SURFACE ON THE BRIDGE SHALL BE MADE TO ACCOUNT FOR THE DIFFERENCE BETWEEN BEAM CAMBER AND THE THEORETICAL ROADWAY PROFILE. THE WEARING SURFACE SHALL BE SHIMMED TRANSVERSELY AS NECESSARY TO ACCOUNT FOR POTENTIAL DIFFERENTIAL CAMBER OF THE ADJACENT BEAMS.

EARTHWORK AND RELATED ITEMS

5. TEMPORARY CONSTRUCTION FILLS WITHIN THE WATERCOURSE FOR ANY PURPOSE SHALL CONSIST OF CLEAN STONE FILL ONLY. NO OTHER FILLING IN THE STREAM SHALL OCCUR WITHOUT THE APPROVAL OF THE RIVER MANAGEMENT ENGINEER.
6. THE BACKFILL BEHIND THE ABUTMENTS SHALL NOT BE PLACED HIGHER THAN THE BRIDGE SEATS UNTIL CONSTRUCTION ON THE ABUTMENTS AND DECK IS COMPLETED.
7. THE "STONE FILL, TYPE III" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEXT BEAMS ARE SET.
8. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE:
 - REMOVAL OF EXISTING SUPERSTRUCTURE INCLUDING: BRIDGE PAVEMENT, STEEL AND CONCRETE BEAMS, CONCRETE BRIDGE DECK AND BRIDGE CURB AND RAIL.
 - CUTTING AND PARTIAL REMOVAL OF THE EXISTING SUBSTRUCTURES TO THE ELEVATIONS SHOW IN THE PLANS, INCLUDING CUTTING OFF THE EXISTING REINFORCING STEEL.

CONCRETE AND REINFORCING

9. SUBSTRUCTURE CONCRETE SHALL BE HIGH PERFORMANCE CONCRETE, CLASS B. PAYMENT WILL BE MADE UNDER CONTRACT ITEMS 501.34.
10. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES.
11. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
12. THE CONTRACTOR MAY CHOOSE TO HAVE THE CURBS ON THE BRIDGE PRECAST WITH THE FASCIA NEXT BEAM OR TO CAST THE CURBS IN PLACE AFTER THE FASCIA NEXT BEAMS HAVE BEEN SET. CONCRETE FOR CAST-IN-PLACE CURBS SHALL MEET THE REQUIREMENTS OF SECTION 501 FOR CONCRETE, HIGH PERFORMANCE CLASS A AND WILL BE PAID FOR UNDER CONTRACT ITEM 501.33. CONCRETE FOR PRECAST CURBS SHALL MEET THE REQUIREMENTS OF SECTION 540 AND WILL BE PAID FOR UNDER CONTRACT ITEM 900.640 SPECIAL PROVISION (PRESTRESSED CONCRETE NEXT D BEAMS)(NEXT 28 D).
13. ALL REINFORCING STEEL BELOW THE BRIDGE SEAT AND IN THE WINGWALLS SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL I REINFORCING AND WILL BE PAID FOR UNDER CONTRACT ITEM 507.11. REINFORCING IN THE APPROACH SLABS AND APPROACH SLAB CLOSURE POURS SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL I REINFORCING. ALL COSTS ASSOCIATED WITH THE APPROACH SLAB CLOSURE POUR REINFORCING SHALL BE INCLUDED IN THE BID PRICE FOR EACH 540.10 AND 900.645, "SPECIAL PROVISION, (CONTRACTOR-FABRICATED PRECAST CONCRETE STRUCTURE)" CONTRACT ITEM AS APPROPRIATE. LONGITUDINAL REINFORCING STEEL IN THE BRIDGE CURBS SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL II REINFORCING AND WILL BE PAID FOR UNDER CONTRACT ITEM 507.12.
14. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:

SPACING:	+/- 1 INCH
CLEARANCE:	+/- ¼ INCH
15. THE METHOD OF FORMING FOR SUBSEQUENT POURS AFTER PLACING PRECAST/PRESTRESSED SUPERSTRUCTURE UNITS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR IS ENCOURAGED TO WORK WITH THE FABRICATOR IF ADDITIONAL SUPPORTS ARE REQUIRED. IN NO CASE SHALL THE CONTRACTOR ATTACH ADDITIONAL FORM OR SCREED SUPPORTS BY DRILLING OR SIMILAR MEANS INTO ANY PRECAST/PRESTRESSED SUPERSTRUCTURE UNIT.

16. BARS SHALL BE DRILLED AND GROUTED INTO THE EXISTING ABUTMENTS AND WINGWALLS AS SHOWN ON THE PLANS. THE DOWELS SHALL HAVE A 2'-0" MINIMUM EMBEDMENT IN THE SUBSTRUCTURE AND SHALL EXTEND A MINIMUM OF 1'-6" INTO THE NEW CONCRETE, UNLESS NOTED OTHERWISE.

NEXT D BEAMS

17. THE NEXT D BEAMS ARE A NON-PROPRIETARY SHAPE DEVELOPED BY PCI NORTHEAST (PCINE). STANDARDIZED SECTION PROPERTIES AND DETAILS MAY BE FOUND AT [HTTP://WWW.PCINE.ORG](http://www.pcine.org).
18. DESIGN VALUES

a. CONCRETE COMPRESSIVE STRENGTH: f'c = 10,000 PSI	
b. CONCRETE COMPRESSIVE STRENGTH AT RELEASE: f'ci = 8,000 PSI	
c. PRESTRESSING STRANDS: 0.6 INCH DIAMETER, 270 KSI, LOW-RELAXATION 7-WIRE STRANDS	
d. ASSUMED MODULUS OF ELASTICITY = 28,500 KSI	
e. JACKING FORCE PER STRAND = 47 KIPS	
f. SERVICE LOADS:	
MEMBER MOMENT:	343.1 K-FT
SUPERIMPOSED DEAD LOAD MOMENT:	70.3 K-FT
LIVE LOAD AND IMPACT MOMENT:	677.0 K-FT
DEAD LOAD REACTION:	42.6 KIPS
LIVE LOAD AND IMPACT REACTION:	78.8 KIPS
TOTAL REACTION:	121.4 KIPS
CAMBER AT RELEASE:	1.09 INCHES
FINAL CAMBER:	2.36 INCHES
19. ADDITIONAL LONGITUDINAL STEEL IN THE NEXT BEAM AND CURTAIN WALL CLOSURE POURS SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL II REINFORCING AND WILL BE PAID FOR UNDER CONTRACT ITEM 900.640 SPECIAL PROVISION (PRESTRESSED CONCRETE NEXT D BEAMS)(NEXT 28 D).
20. FORMING FOR ENDS OF FLANGES ALONG LONGITUDINAL CLOSURE POURS SHALL BE TREATED WITH CONCRETE SURFACE RETARDER, OR SIMILAR, TO PROVIDE A ROUGHENED / EXPOSED AGGREGATE SURFACE; AND SHALL BE POWER WASHED WITH WATER PRIOR TO ERECTION OF THE BEAMS.
21. THE CONCRETE FOR FLANGE CLOSURE POURS SHALL BE PAID FOR UNDER ITEM 900.608 SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ).
22. METHOD OF FORMING FLANGE CONNECTION SHALL BE DETERMINED BY THE CONTRACTOR. THE FORMS SHALL BE REMOVABLE AND ABLE TO ACCOMMODATE DIFFERENTIAL CAMBER. FORM SUPPORTS SHALL NOT BE ATTACHED TO ANY PREFABRICATED SUPERSTRUCTURE ELEMENT BY DRILLING OR SIMILAR MEANS.
23. THE FABRICATOR MAY ALTER THE DESIGN AS DETAILED IN THESE PLANS TO ACCOMMODATE THEIR SPECIFIC OPERATION. ANY ALTERATION SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT TO MEET SPECIFIED CRITERIA AND SHALL BE APPROVED BY THE PROJECT MANAGER.
24. PAYMENT FOR CURTAIN WALL CONCRETE AND REINFORCING STEEL, WITH THE EXCEPTION OF THAT REQUIRED FOR CLOSURE POURS, WILL BE INCLUDED UNDER CONTRACT ITEM 900.640 SPECIAL PROVISION (PRESTRESSED CONCRETE NEXT D BEAMS)(NEXT 28 D).

TRAFFIC CONTROL

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAILED TRAFFIC CONTROL PLAN TO THE ENGINEER FOR ALL STAGES OF CONSTRUCTION. NO WORK SHALL BEGIN UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED. SEE SPECIAL PROVISIONS FOR MORE DETAILS. ALL COST SHALL BE INCLUDED IN ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DETOUR AND CONSTRUCTION SIGNING. THE EXACT LOCATION WILL BE COORDINATED BY THE RESIDENT ENGINEER AND THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, DATED 2009, AND ITS LATEST REVISIONS AND THE LATEST EDITION OF THE STANDARD HIGHWAY SIGNS (SHS) BOOK.
27. THE PROPOSED DETOUR WILL USE VT 103 AND VT 100 TO MAINTAIN TRAFFIC WHILE VT 11 IS CLOSED TO THROUGH TRAFFIC FOR THE REPLACEMENT OF BRIDGE 41.

28. BRIDGE 41 SHALL BE CLOSED FOR NO MORE THAN 10 CONSECUTIVE CALENDAR DAYS. SEE SPECIAL PROVISIONS FOR WORK REQUIREMENTS AND INCENTIVE/DISINCENTIVE PROVISIONS FOR THE BRIDGE CLOSURE PERIOD. THE TOWN OF ANDOVER AND DISTRICT 2 SHALL BE NOTIFIED TWO WEEKS PRIOR TO THE CLOSURE.
29. TRAFFIC CONTROL WARNING SIGNS SHALL BE PROVIDED PER STANDARDS T-10 AND T-17. ADDITIONAL PROJECT CONSTRUCTION SIGNS SHALL BE INSTALLED AS REQUIRED BY THE RESIDENT ENGINEER.
30. ALL ON AND OFF PROJECT SIGNS AND BARRICADES AS REQUIRED FOR THE DETOUR AND/OR ORDERED BY THE RESIDENT ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION, "TRAFFIC CONTROL, ALL INCLUSIVE". ALL SIGNS AND BARRICADES SHALL BE INSPECTED DAILY AND REPAIRED AS NECESSARY. ALL SIGNS AND BARRICADES SHALL BE CLEARED OF DUST AND DEBRIS WEEKLY.
31. THE STATE ROUTE MARKERS USED FOR THE DETOUR AS SHOWN ON THE PLANS SHALL FOLLOW STANDARD E-136B. THESE SIGNS SHALL BE REMOVED AT THE END OF THE CONSTRUCTION PERIOD. THESE SIGNS AND THEIR REMOVAL SHALL BE PAID FOR UNDER ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
32. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PLACED AS SHOWN ON THE PLANS. THE PCMS'S SHALL BE PLACED AT THE PROJECT LOCATION 14 DAYS PRIOR TO THE BRIDGE CLOSURE TO WARN OF THE IMPENDING DETOUR. THE MESSAGES SHALL BE UPDATED AS CONSTRUCTION PROGRESSES. PAYMENT FOR THESE SIGNS WILL BE MADE FOR UNDER ITEM 641.17 "PORTABLE CHANGEABLE MESSAGE SIGN RENTAL".
33. THE MESSAGES ON THE PCMS'S AND THEIR PLACEMENT SHALL BE DETERMINED BY THE RESIDENT ENGINEER AS DETAILED ON THE "PROJECT SITE TRAFFIC CONTROL" PLAN.
34. INSTALLATION OF DETOUR SIGNS SHALL NOT BLOCK ANY EXISTING TRAFFIC CONTROL SIGN ASSEMBLIES. CONTRACTOR SHALL TRY TO MAINTAIN AT LEAST 200 FEET BETWEEN SIGN ASSEMBLIES.
35. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ADJUSTMENTS AS NEEDED TO THE TRAFFIC CONTROL PLAN DUE TO CONFLICTS WITH EXISTING SIGNS AND DRIVEWAYS. ALL EXISTING TRAFFIC CONTROL SIGNS THAT CONFLICT WITH THE DETOUR SHALL BE FULLY COVERED.
36. ALL SIGNS REMOVED OR COVERED BY THE CONTRACTOR SHALL BE REPLACED OR UNCOVERED WHEN THE TRAFFIC CONTROL SIGNS ARE REMOVED.
37. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION "TRAFFIC CONTROL, ALL INCLUSIVE".
38. FOR MORE INFORMATION REGARDING THE DETOUR SEE THE PROJECT SPECIAL PROVISIONS.

MISCELLANEOUS

39. ITEM 404.65 "EMULSIFIED ASPHALT" IS TO BE APPLIED AT A RATE OF 0.025 GAL/SY ON ALL COLD PLANED SURFACES AND BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.
40. THE CONTRACTOR SHALL BE AWARE THAT THE CHANNEL ON THE SOUTH EAST CORNER OF THE BRIDGE HAS CHANGED SIGNIFICANTLY SINCE THE PROJECT WAS SURVEYED IN 2012 DUE TO A STORM IN AUGUST 2014.

PROJECT NAME:	ANDOVER
PROJECT NUMBER:	BHF 016-1(29)
FILE NAME:	I2BI40/STR/sl2b140gn.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	D. PETERSON
GENERAL NOTES	
PLOT DATE:	22-JAN-2015
DRAWN BY:	S. PIRO
CHECKED BY:	D. PETERSON
SHEET	6 OF 48