CONCRETE GENERAL NOTES

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"

2. REINFORCING STEEL SIZE AND SPACING SHOWN ON THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER’S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST ASHTEIL BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

CONSTRUCTION JOINT DETAILS

1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LINT HARM.

2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.

TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.

P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.

TYPICAL CONCRETE EXPANSION JOINT

1. THE SURFACE OF THE CONCRETE EXPANSION JOINTS SHALL BE CLEANED AND FREE OF LINT HARM.

2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.

TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.

P.V.C. WATERSTOP FOR EXPANSION JOINTS

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.
CONCRETE CURB JOINT NOTES

1. Concrete curbs may be placed in one continuous operation if an approved shrinkage reducing admixture listed in the special provisions is used with the concrete mix design. Payment for the shrinkage reducing admixture will be incidental to the bridge curb concrete item.

2. If the contractor chooses not to use an approved shrinkage reducing admixture, the curbs shall be constructed with construction joints spaced at a maximum of 15'-0" center to center and 2'-0" minimum from the center of nearest bridge railing post.

3. On multi-span continuous superstructures, regardless of whether approved shrinkage reducing admixture is used, curb joints shall be located over the centerline of piers and 7'-3" each side of the centerline of each pier.

4. When curb joints are used, the curbs shall be placed in alternate sections with a minimum of 48 hour delay between adjacent placements.

5. Longitudinal reinforcing shall be continuous through curb construction joints. Curb stirrup bars shall be turned as necessary to maintain cover on the flared curb ends.

6. The joint spacing and details shown shall apply to sidewalks when shown in the plans.

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

REVISIONS

MAY 7, 2010 APPROVED FOR USE BY HIGH STRUCTURES SECTION
JUNE 4, 2010 MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012 MODIFIED HORIZ. JOINT WINGWALL ADD 6" MIN. DIMENSION
ASPHALTIC PLUG JOINT NOTES

INSTALLATION:
1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" of BINDER ABOVE THE ROD.
5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

WEATHER LIMITATIONS
APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:
1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

ASPHALTIC PLUG JOINT DETAIL "A" - NEW

NOTE:
PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP, SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.

ASPHALTIC PLUG JOINT DETAIL "B" - NEW

NOTE:
PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP, SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.

DETAILS ON THIS SHEET ARE NOT TO SCALE.
NOTES FOR ITEM 516.11, "BRIDGE EXPANSION JOINT, VERMONT".

1. Fabric trough shall be thoroughly cleaned and flushed after paving operation. A dry bed of 1/2"-3" wash of prepared fabric material shall be coated to the bottom of the fabric trough using an adhesive approved by the manufacturer. The adhesive shall be applied 1/2" from the continuous end of the trough. Prepared fabric material shall be continuous for the full length of the joint.

2. The expansion device shall be coated to protect the finish during placing of bridge deck concrete.

3. See "Joint Gap Dimension Table" for distance "A" values in temperature range provided.

4. Joint bracket length "A" varies dependent on the bridge skid angle. The bracket must be located such that the threaded rods are not less than 1/4" from girders or flange sides.

5. All steel components shall be galvanized or metalized and meet the requirements of subsection 516.02. Prior to galvanizing or metalizing, all corners and edges of steel plates, shapes, etc., shall be ground to a 1/4" radius. These plates shall conform to the requirements of "Tab A". The "milled stud anchor plate" and "milled stud may be supplied without galvanizing or metalizing.

6. The "4"x4"x1/2" angles may be furnished as one continuous piece or spliced as shown in the field splice detail when specified. The "3/4"x5/8" bars each side of the joint shall be provided in the equal lengths.

7. Projected threads of the 3/4" bolts in the joint shall be breakable to the contractor prior to placing adjacent concrete. This will facilitate bolt removal if required in the future.

8. Fill counterbored holes with hot poured joint sealer (Std. Spec. 707.04) after bolt installation. Payment for the work shall be incidental to the bridge expansion joint, Vermont.

9. The expansion joint, including the fabric trough, shall be shop assembled and shipped as one unit. If the expansion joint has a field splice detail, the fabric trough shall be shipped with one unit and assembled with the second unit prior to concrete placement.

10. Temporary shipping attachments shall be attached by bolting girders only when specified for future use.

11. Base deck "riser plate" as shown in physical section at girders drawing shall be included on bridges with bare concrete deck. No. 52" flat washers shall be included for both sides and match the lengths of the 1/2" bars. The riser plate can be removed if the deck is milled in the future.

BRIDGE EXPANSION JOINT, VERMONT

SD-516.11a
1. Trough shall be folded at high ends. Trough shall slope at min 2% down toward the nearest drainage spout hopper location.

2. Bolts, nuts and washers for fold shall meet requirements of subsection 714.04 and shall be galvanized.

Joint bracket length 6" varies dependent on the bridge skew angle see note 4 on SD-516.11a.

1"x5/8" BAR each side of fold with washer on bolt through fabric.

Fabric trough fold line, high end only.

Non-ferrous material on bottom of fabric trough.

Bolt through fabric with washer on each side of fold.

Drip bead (see note 1, on SD-516.11a) and plate (see note 11, on bare deck joint). Small radius provided on each bracket.

Welded stud anchor per bridge layout (see note 4, on SD-516.11a).

Note 4 on SD-516.11a) bridge skew angle (see variances dependent on the joint bracket length "X".

Expansion joint plan scale 1/4" = 1'-0".

Elevation view 3" = 1'-0".

Plan view 3" = 1'-0".

Joint assembly detail scale 1/4" = 1'-0".

Plate washer detail scale 3/8" = 1'-0".

Fabric trough fold line, high end only.

Joint gap dimension table:

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<thead>
<tr>
<th>Temp (°F)</th>
<th>Expansion Length (in)</th>
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</tr>
</tbody>
</table>

1) Expansion Length: Length of span, from Expansion Joint to nearest Fixed Bearing.
2) "A" Distance: measured distance during joint placement.
3) Temp: Approximate temperature of steel during joint placement.

Bridge expansion joint, Vermont.

Structures detail SD-516.11b.
HAUNCH AND SHEAR CONNECTOR DETAIL

NOTE: THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY HOLES RESULTING FROM FORMING SYSTEMS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

HAUNCH AND SHEAR CONNECTOR DETAIL

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FACIAL OR DORS OR AS INDICATED ON PROJECT PLANS.

DETAIL OF PILE SPlice

DETAIL OF PILE SPlice

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FACIAL OR DORS OR AS INDICATED ON PROJECT PLANS.

STRUCTURAL STEEL DETAILS & NOTES

JUNE 4, 2010

REVISIONS

MAY 7, 2010
APPROVED FOR USE BY VAOT STRUCTURES SECTION

AUGUST 2009
MODIFIED NOTES

MAY 7, 2010
APPROVED FOR USE BY VAOT STRUCTURES SECTION
WELDED PLATE GIRDER DETAILS FOR STEEL MEMBERS

INTERMEDIATE CONNECTION PLATES AND/OR STIFFENERS FOR WELDED PLATE GIRDERS

INTERMEDIATE CONNECTION PLATES ARE ONLY USED WHEN PLATE DOES NOT OCCUR AT AN ABUTMENT OR PIER.

NO WELD FOR 1/4" MIN., 1/2" MAX. EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE.

1" COPE

1" MIN.

DIAPHRAGM FOR 24" TO 48" BRIDGE BEAMS

IF CLEARANCE CANNOT BE MET, DIAPHRAGM MAY BE SLOPED.

LEVEL 3 SPACING

5" 3" 2" 1"

TIGHT FIT (TYP)

WELD LOCATION DETAIL AT CROSS FRAMES AND LATERAL BRACING

X NO WELD FOR 1/4" MIN., 1/2" MAX.

MAY 2, 2011

ADD INTERMEDIATE DIAPHRAGMS DETAIL & ADD NOT TO SCALE NOTE