

March 17, 2016

Marc Boudreau  
J.A. McDonald, Inc.  
585 Gilman Rd.  
Lyndon Center, VT 05850

RE: US Route 2 Bridge No. 126, CONTECH project # 468920

Dear Mr. Boudreau,

This letter is our response to remarks on CONTECH's Precast Arch, Headwalls and Wingwalls, dated February 10, 2014. Responses to comments are as follows:

### **Arch Culvert, Headwall and Wingwall Shop Drawings**

#### *Sheet S2*

- The "Incremental Arch Leg Thicknesses" detail is for form setup. All other arch unit dimensions are shown in the Precast Unit Reinforcement" detail.

#### *Sheet S3/S5*

- The 10" dimension on the headwall is dimensioning the start of the headwall steel from the edge of the collar. See drawing for clarification.

#### *Sheet S7*

- The reinforcement clearance note has been updated to state "2" CLR. MIN. (TYP.)". See drawing for clarification.
- Similar to concrete, the mortar can be Type I, II or III. The Grout must follow the specifications for Grouting under Section 13.7.

#### *Sheet S9-S15*

- The reinforcement clearance note has been updated to state "2" CLR. MIN. (TYP.)". See drawing for clarification.
- The 2" Clearance is typical for all wingwall reinforcement.
- The expansion board is not dimensioned and is part of the manufacturing process. Typical dimension is a 4" x 4" piece.

#### *Sheet S16*

- The wingwall thickness has been specified for each wingwall type.

- The 2" Clearance is typical for all wingwall reinforcement.
- All button head bars are now specified "Epoxy Coated". Typical for all wingwall anchor types.
- Wingwall Anchor B has been updated to require "3" CLR. (MIN.)"

#### *Sheet S17*

- The wingwall thickness has been specified for each wingwall type.
- All button head bars are now specified "Epoxy Coated". Typical for all wingwall anchor types.

#### *Sheet S18*

- The wingwall thickness has been specified for each wingwall type.
- All button head bars are now specified "Epoxy Coated". Typical for all wingwall anchor types.

#### *Sheet S19*

- The joint between the wingwall and the inside face of the precast bridge unit does not require any type of joint filler. The back of the joint is covered with filter fabric prior to backfilling.

#### *Sheet S21*

- Section 4.5.1 references timber supports, however these supports are not required on this project.
- Section 5.1.5 has been updated to allow a ¼" variation in the positioning of reinforcement.

### **Arch Culvert, Headwall and Wingwall Shop Calculations**

- The approved mix design has been included in the Updated Calculations. Refer to pages 3 and 4.
- Wingwall graphics have been updated to account for 1" wingwall embedment. Refer to pages 112, 124, 126, 153 and 155 of the Updated Calculations.
- The 1" wingwall embedment has been removed on Wingwall D and E anchor graphics. Refer to pages 128, 139 and 141 of the Updated Calculations.

Please do not hesitate to contact me should you have any questions, comments, and/or concerns regarding the content of this letter. On behalf of the entire CONTECH team, we look forward to a successful project.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kate Kattelman".

**Kate D. Kattelman, P.E.**

Design Engineer – Precast Bridges