



**T.Y. LIN INTERNATIONAL**  
 THE STAMPED DOCUMENTS ARE HEREBY:  
 APPROVED \_\_\_\_\_  
 APPROVED AS NOTED \_\_\_\_\_  
 REVISE AND RESUBMIT \_\_\_\_\_  
 SEE TRANSMITTAL FOR ADDITIONAL INFORMATION AS APPLICABLE.  
 THIS REVIEW IS FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. ANY DEVIATION FROM THE PLANS OR SPECIFICATIONS NOT CLEARLY NOTED BY THE CONTRACTOR HAS NOT BEEN REVIEWED. REVIEW BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF THE CONTRACTUAL RESPONSIBILITY FOR ANY ERRORS OR DEVIATION FROM THE CONTRACT REQUIREMENTS.  
 JOSH OLUND REVIEWER April 14, 2017 DATE

**TYPICAL CLOSURE POUR**

Vermont Agency of Transportation  
**RECEIVED**  
 CK'D BY TYLin, R. Foster OK'D BY TYLin, R. Foster  
 April 13, 2017  
 RESUBMIT No Approved AsNoted  
 BY Kristin Higgins DATE 4/14/2017

**TYPICAL INTERIOR BAY**

**SECTION - TYPICAL DECK FORMING**

BRIDGE #9 SHOWN BRIDGE #11 SIMILAR WITH NO CROWN

**TYPICAL OVERHANG**

**GENERAL NOTES**

1. This drawing is provided as a service to illustrate the assembly of Harris' products only. It is not intended to be fully directive nor to cover engineering details of such products or equipment or materials not furnished by A.H. Harris nor the interconnection therewith. Inasmuch as A.H. Harris does not control jobsite assembly or procedures, grade or quality of material or equipment supplied by others, it is the responsibility of the contractor to integrate this drawing into a composite drawing suitably complete for construction purposes consistent with safe practice and overall project objectives.
2. All dimensions and details shown on this layout must be checked and verified by The quality control manager Jacob Hall, P.E. or his designee.
3. This print is the property of A.H. Harris & Sons, Inc. and is furnished for the exclusive use of our customer for this specific project. This drawing and the information contained hereon shall not be copied nor used by others without the express written consent of A.H. Harris & Sons, Inc.
4. All inserts and hangers shall be galvanized
5. All cut edges of galvanized SIP forms and support angles shall be touched up.

**SAFE WORKING LOAD CONSIDERATIONS**

- All safe working loads shown were established with the following factors considered:
1. All safe working loads shown are based on the item being new or in "as new" condition. The safe working load is considered to be the greatest load that should be applied to a product.
  2. All hangers shall have full bearing under the end section and shall be used only on the size beam for which they are manufactured.
  3. Hangers must be correctly positioned on top of the beam so that the coil bolts or coil rods are the proper distance from the edge of the beam flange. This is normally 1/4" from the beam flange to the centerline of coil bolt or coil rod. Improper positioning of the hanger can seriously compromise the hanger's safe working load. Refer to the various product application sketches.
  4. Coil nuts must have full bearing on hanger end sections. Use caution to ensure that the hangers and related hardware are not subjected to side loading.
  5. All coil bolts, coil rods and related hardware shall be of proper length, diameter and capacity.
  6. All coil bolts and coil rods must fully penetrate and extend through the coil nuts a minimum of one diameter for 1/2" coil bolt or coil rod.

**DRAWING STATUS**

PRELIMINARY DETAILS ONLY - NOT FOR CONSTRUCTION.  
 ISSUED FOR INFORMATIONAL PURPOSES ONLY.  
 ISSUED FOR ARCH/ENG APPROVAL.  
 ISSUED FOR CONTRACTOR APPROVAL.  
 ISSUED FOR CONSTRUCTION.  
 DESTROY ALL PREVIOUS COPIES.

**REVISIONS**

NO.	DATE	BY	REMARKS
1	2-3-17	RSJ	Revised OH Bracket notes & dims
2	3-30-17	JDH	REV. SIP forms & notes, focus added coil loop
3	4-7-17	JDH	REV. SIP FORM SUPPORT ANGLE & WELD DETAIL

**A.H. HARRIS**  
 FORMWORK SOLUTIONS  
 6 COMMERCE BLVD., PLAINVILLE, MA 02762  
 774-847-9046

**BRIDGE DECK FORMING LAYOUT**  
 BRIDGE #9 & #11  
 RTE 110, CHELSEA, VT  
 CPM CONSTRUCTORS

DRAWN BY R. Johnson	DATE 02-01-2017	PROJECT NUMBER NNE-16-009
CHECKED BY	DATE	DRAWING NUMBER NNE-16-009-01

**FRAMING NOTES**

1. Unless noted otherwise, joists and bunks (stringers) shall be constructed of spruce-pine-fir species, No. 2 grade (NELMA) or better.
2. Reference design values for SPF No. 2 (NELMA) are as follows:  
 Fb = 775 psi  
 Fv = 135 psi  
 Fp = 335 psi  
 E = 1,100,000 psi  
 Reference design values for SPF No. 2 (NLGA) are as follows:  
 Fb = 875 psi  
 Fv = 135 psi  
 Fp = 425 psi  
 E = 1,400,000 psi  
 The above reference design values do not include the applicable adjustment factors per the 2005 national design specification for wood construction. The applicable adjustment factors have been applied to the calculations and design of this layout.
3. Deflection of framing members is limited to 1/360th of span but not more than 1/4".
4. The deck forms have been designed and shall be constructed in accordance with the requirements and recommendations of the 2005 National Design Specification for Wood Construction as well as the requirements and recommendations of A.C.I.

**SAFETY CONCERNS**

Incorrect use of hangers, insufficient bolt penetration through a coil nut, or altering a hanger in any way can result in premature failure and expose workers to unsafe conditions.

Reusable bridge deck forming accessories are subject to wear, misuse, overloading, corrosion, deformation, alteration and other factors which may affect safe working loads. Coil bolts, coil rods and similar accessories may sustain excessive thread wear, field alterations or bending and straightening.

It is the responsibility of the user to continually inspect reusable accessories for wear and/or misuse and to discard them if wear or misuse is detected. Do not straighten bent forming accessories - discard them. Discard any reusable forming accessory that has been subjected to 70% or more of ultimate load of the product. Such items may have been stretched to a point where they have become brittle hard.

We recommend that all users of bridge deck forming products establish a quality control program to monitor and inspect their deck forming accessories. The frequency of inspections is best determined by the user and is dependent on the type of product use, frequency of use, duration of use and the environmental conditions during use.

The user of bridge deck products must evaluate the product application, determine appropriate safety factor, calculate the applied loads and control all field conditions to prevent application of loads in excess of the products' safe working loads.

**DECK DESIGN NOTES**

1. Design loads used for the shoring shown on this layout are as follows:  
 150 lb per cu ft concrete  
 50 lb per sq ft construction live load  
 actual weight of formwork & shoring components as required
2. The design of the shoring does not include provisions for concrete placement using motorized buggies. Further, the shoring system as shown has been designed with the assumption that adequate lateral restraint will be provided by the contractor. The overhang brackets have not been designed for the load(s) from screeding and/or finishing machine(s). These loads must be applied directly to the bridge girders.
3. The contractor and engineer of record must ensure that the bridge girders can adequately resist all lateral and torsional loads imposed by the overhang brackets. A.H. Harris & Sons, Inc. has not investigated the effects of these loads and does not assume any responsibility for the adequacy of the bridge girders.
4. When establishing deck elevations, allow for the take-up of material and lumber compression.
5. Plyform design is based upon the Douglas Fir Plywood. Unless noted otherwise, all plyform is assumed to be B-B used the weak way.
6. All lumber sizes implied by the suggested forming details must be confirmed by the contractor before proceeding with construction. When lumber sizes are specifically stated, the contractor must determine the appropriate grade based upon actual design stresses.
7. The determination of the required concrete strength necessary to permit removal of the shoring and formwork shall be made by the project engineer based upon the actual in-place strength of the newly-cast structure.
8. Overhang brackets and associated connecting hardware are owned by the contractor. The design of all formwork deck conditions using these brackets is based on the assumption that they are in like-new condition, having been fully inspected by the contractor prior to being put into service on this project. A.H. Harris & Sons, Inc. in no way assumes responsibility for equipment not owned by us.

**CONTRACTOR NOTE :**  
 All equipment supplied by A.H. Harris, while under the control of our customer, shall not be modified UNLESS:  
 1) It is specifically required by our drawings, or  
 2) Written authorization has been obtained from an A.H. Harris representative prior to any modification.  
 Equipment altered in any way (by cutting, drilling, welding, etc.) shall result in damages charges up to the full replacement cost of the damaged component(s).

THIS DRAWING WAS PREPARED FOR INFORMATIONAL PURPOSES ONLY  
 FOR CONSTRUCTION USE ONLY IF REVIEWED AND STAMPED BY A LICENSED PE.