



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0016

JOHN ELIAS BALDACCI
GOVERNOR

DAVID A. COLE
COMMISSIONER

September 18, 2008
Subject: **Minot**
Federal Project No. 16572.00
State Pin No. 016572.00
Amendment No. 1

Dear Sir/Ms:

Make the following changes to the Bid Documents:

In the Bid Book, Plans Section (after page 18), **REMOVE** in its entirety, Plan pages CT1 through CT7 labeled "INCORPORATED FOR REFERENCE" and **REPLACE** with the attached new Plans (7 sheets numbered CT1 through CT7, LOCATION PLAN).

In the Bid Book, Plan Section, following Plan Sheet CT7, **ADD** the attached Plan Sheets (10 Sheets numbered S1 through S10, KEY PLAN)

In The Bid Book, after page 29 (Location Map), **ADD** the attached 2 page "**SPECIAL PROVISION, SECTION 104, Utilities**".

The following questions have been received:

Question: Who is responsible for the excavation and backfilling?

Response: Shaw Brothers will be responsible for all excavation and backfill requirements, along with creating a pad for the operation of the crane.

Question: We think a crane larger than the 45 ton capacity specified in the bid documents may be required. Will the Department revise or provide another bid item with a higher capacity crane?

Response: The actual crane is to be sized and operated by the contractor to handle a 25 ton lift as described at the pre-bid onsite meeting of October 17, 2008 and the contractor shall include this information when bidding item 631.231 Crane

Question: Who is responsible for the water control?



PRINTED ON RECYCLED PAPER

Response: Shaw Brothers will be responsible for the water control during the excavation and the low bidder will be responsible for the water control during the installation of the structure.

Question: Can the electrical lines over the upstream portion of the project be shut off during the installation of the structure?

Response: The contractor will be required to coordinate all activities with Tim Lenay of Central Maine Power Company, Phone: (207) 753-3107.

Question: When will this project be awarded?

Response: Once the apparent low bidder has been notified of the intent to award this project, it is expected that the project will be awarded within 24 hrs of the receipt of the certificate of insurance.

Question: The spacing of the #4 Ties on Detail 2-CT3 of sheet CT3 are 1'-0" O.C. and the spacing of the #4 Ties on Details C & D on sheet CT4 are 4'-0" O.C., which is correct.

Response: Both spacing's are correct on the plans as shown. The 4' O.C. spacing on sheet CT4 is for the wings only.

The following Contractors attended the mandatory pre-bid meeting held on site in Minot, September 17, 2008 at 9:00AM.

<u>Name</u>	<u>Company</u>
Kyle Hall	MaineDOT
Brent Chesley	Wyman & Simpson
Robert Hough	MaineDOT
Dan Callahan	TCI
Jeff White	A & O Construction Services
Millard Pray	CPM Constructors
Rich Tibbets	Contech
Justin Loveitt	Shaw Brothers
Charlie Guy	MaineDOT
Ryan Hodgeman	MaineDOT
Rick Paraschak	MaineDOT
Tim Cusick	MaineDOT
Rick Bryant	CMP
Cameron Brown	Contech
Kevin Hanlon	MaineDOT

Failure to have attended this meeting is a non-curable bid defect.

Consider these changes and information prior to submitting your bid on **September 24, 2008.**

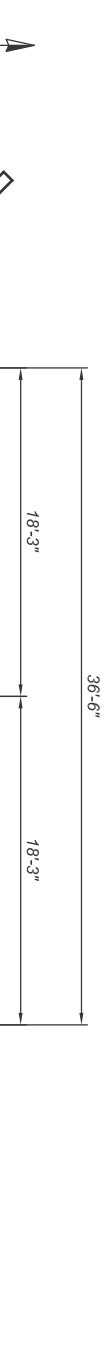
Sincerely,

A handwritten signature in black ink, appearing to read "Scott Bickford". The signature is written in a cursive style with a large, sweeping initial "S".

Scott Bickford
Contracts & Specifications Engineer

ROUTE 119

MINOT, MAINE



NOTES

GENERAL NOTES:

1. This bridge has been designed for general site conditions. The project engineer shall be responsible for the structure's suitability to the existing site conditions and for the hydraulic evaluation -- including scour and confirmation of soil conditions.
2. Prior to construction, contractor must verify all elevations shown through the engineer.
3. Only CONTECH Bridge Solutions Inc. the CON/SPAN® approved precaster in Maine may provide the structure designed in accordance with these plans.
4. The use of another precast structure with the design assumptions used for the CON/SPAN® structure may lead to serious design errors. Use of any other precast structure with this design and drawings voids any certification of this design and warranty. CONTECH Bridge Solutions Inc. assumes no liability for design of any alternate or similar type structures.
5. Alternate structures may be considered, provided that signed and sealed design drawings (and calculations) are submitted to the engineer 2 weeks prior to the bid date for review and approval.
6. Proposed alternates to a CON/SPAN® Bridge System must submit at least two (2) independently verified full scale load tests that confirm the proposed design methodology of the three sided/arch structure(s). The proposed alternate, upon satisfactory confirmation of design methodology, may be considered an acceptable alternate.

DESIGN DATA

Design Loading:
 Bridge Units: HS25-44
 Headwalls: Earth Pressure + Live Load Impact
 Wingwalls: Earth Pressure + Live Load Surcharge
 Design Fill Height: 2'-0" min. to 3'-4" max.
 from top of crown to top of pavement.
 Design Method: Load factor per AASHTO Specification
 Assumed net allowable soil bearing pressure: 6000 PSF *
 Assumed gross allowable soil bearing pressure: 6000 PSF *

*At the time of design, a geotechnical report for the project site was not available. It is the project engineer's, owner's and/or the contractor's responsibility to verify that the actual site conditions at the time of construction are consistent with the assumed allowable soil bearing pressure with a geotechnical investigation from a qualified geotechnical engineer.

MATERIALS

Precast units shall be constructed and installed in accordance with CON/SPAN® Specifications.
 Concrete for Footings shall have a minimum compressive strength of 4000 psi. Reinforcing steel for footings shall conform to ASTM A615 or A996-Grade 60.

LOCATION PLAN

not to scale

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Level:	Date:	By:
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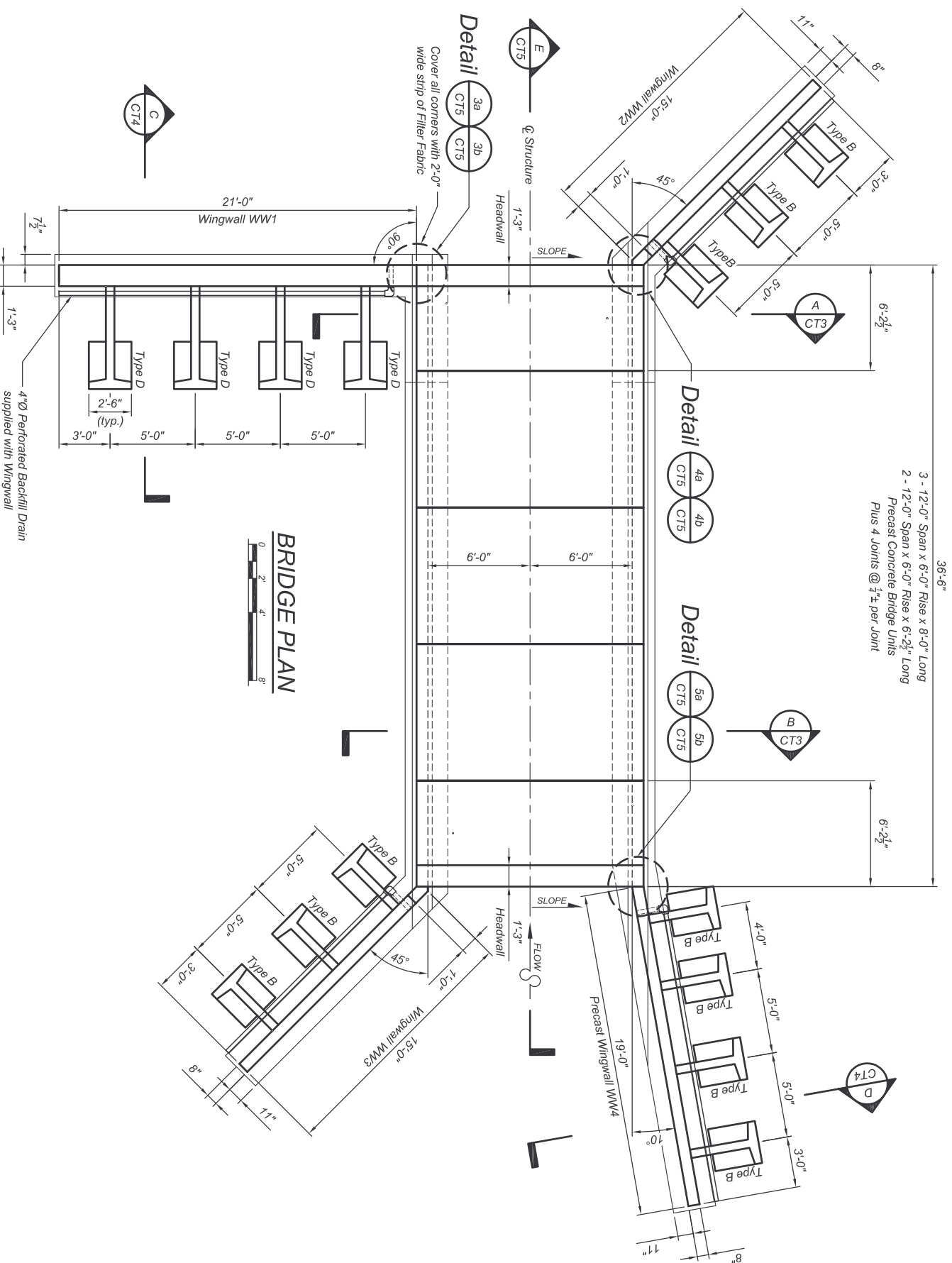
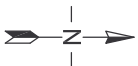
REVISIONS	

Company:

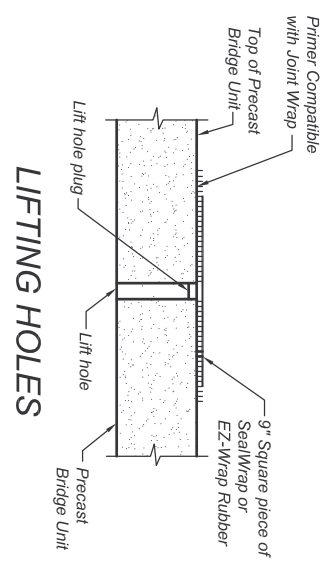
 632 Plank Road, Suite 108, Clifton Park, New York 12065
 800-526-3999, 518-371-2870, 518-371-2872 FAX

CONTECH Product:		Project Status:		APPROVAL ONLY: NOT FOR CONSTRUCTION	
	ROUTE 119 MINOT, MAINE	Designed K/JG	Drawn RJB	Checked MRW	Approved WDL
			Date Drawn: 9/2/2008	Job No. 18042	

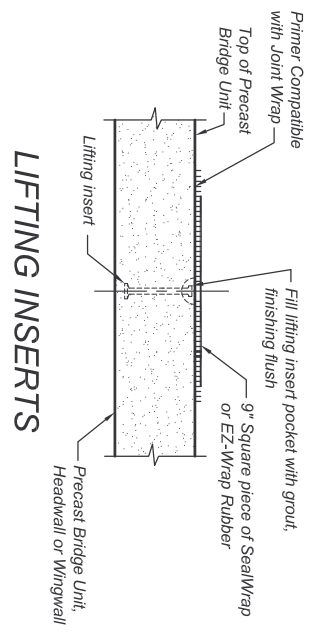
Sheet No.
CT1 of CT7



BRIDGE PLAN



LIFTING HOLES



LIFTING INSERTS

TYPICAL LIFT POINT SEALING DETAIL

not to scale

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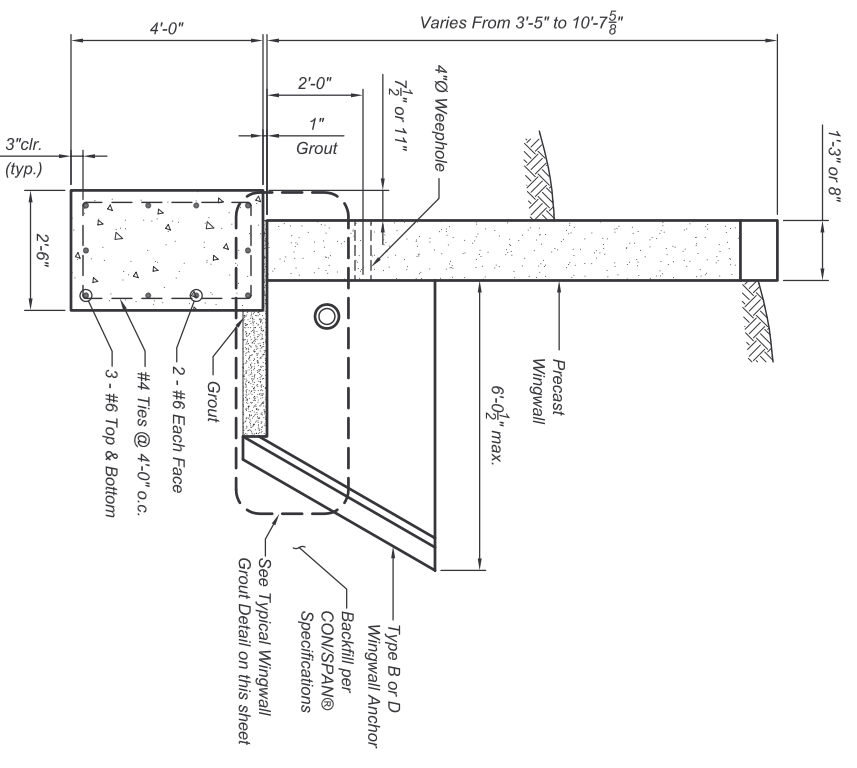
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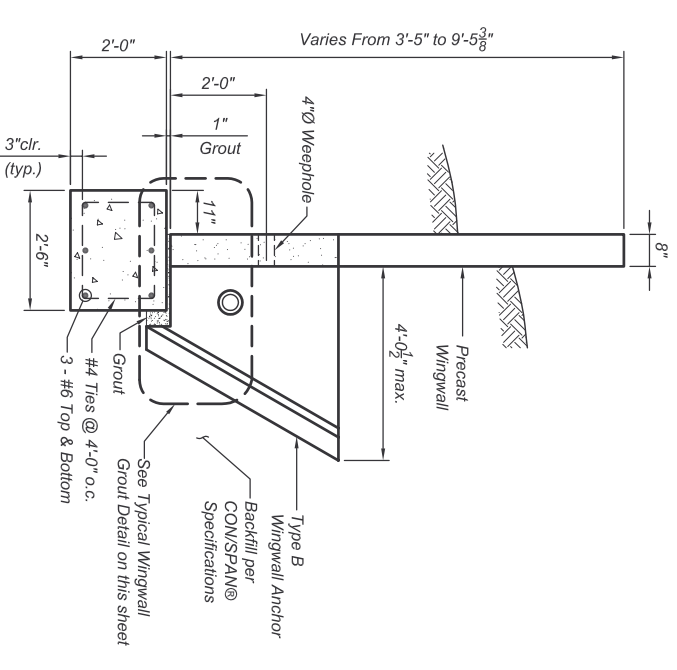
ROUTE 119
MINOT, MAINE

Project Status:	Designed	Drawn	Date Drawn:	9/2/2008
Designed:	KJG	RJB	Job No.:	18042
Checked:	MRW	WDL	Sheet No.:	CT2 of CT7

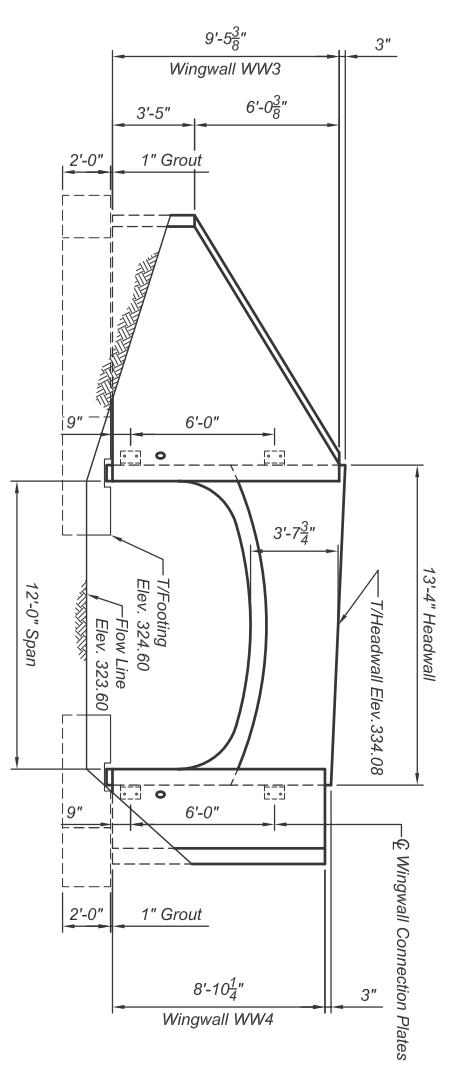
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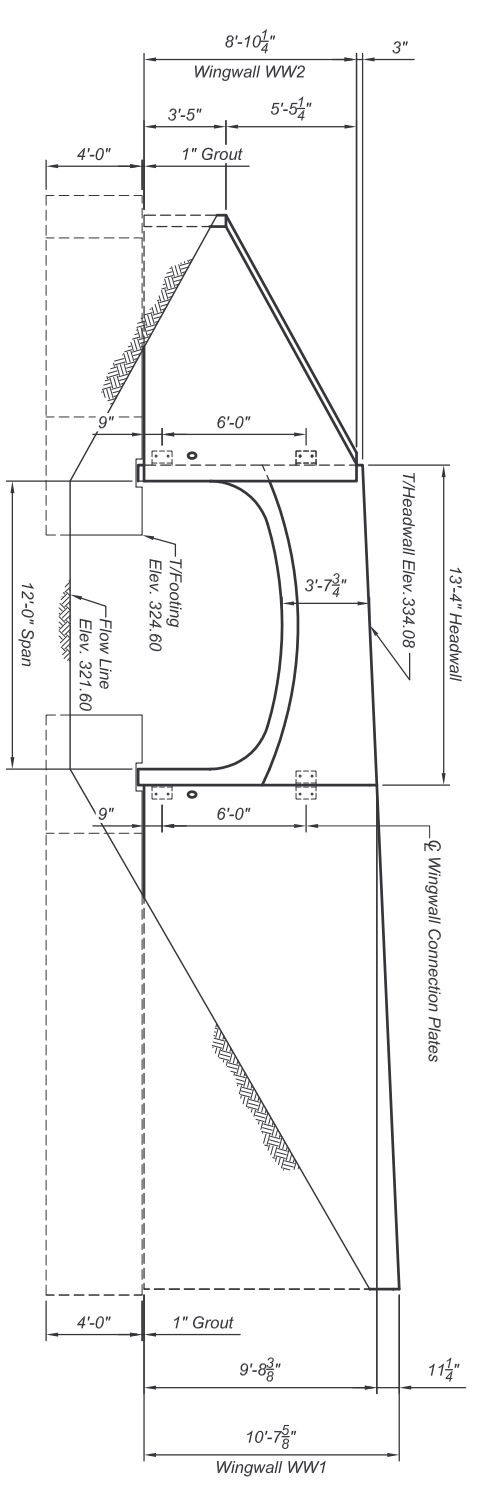
SECTION C
CT2



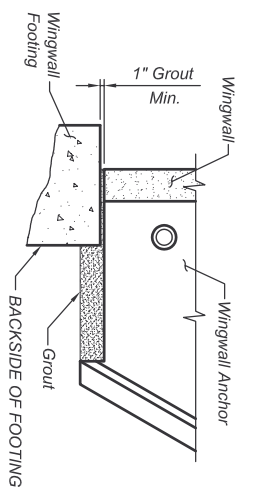
SECTION D
CT2



UPSTREAM END ELEVATION



DOWNSTREAM END ELEVATION



- Notes:
- Minimum 1" Grout under wingwall leg & anchor stem.
 - Area between wingwall footing and wingwall anchor shall be grouted solid before backfill.
 - FORM BACKSIDE OF FOOTING TO DIMENSIONS SHOWN ON FOUNDATION PLAN.

TYPICAL WINGWALL GROUT DETAIL
not to scale

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2		
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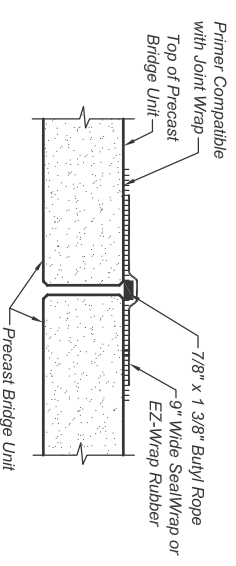
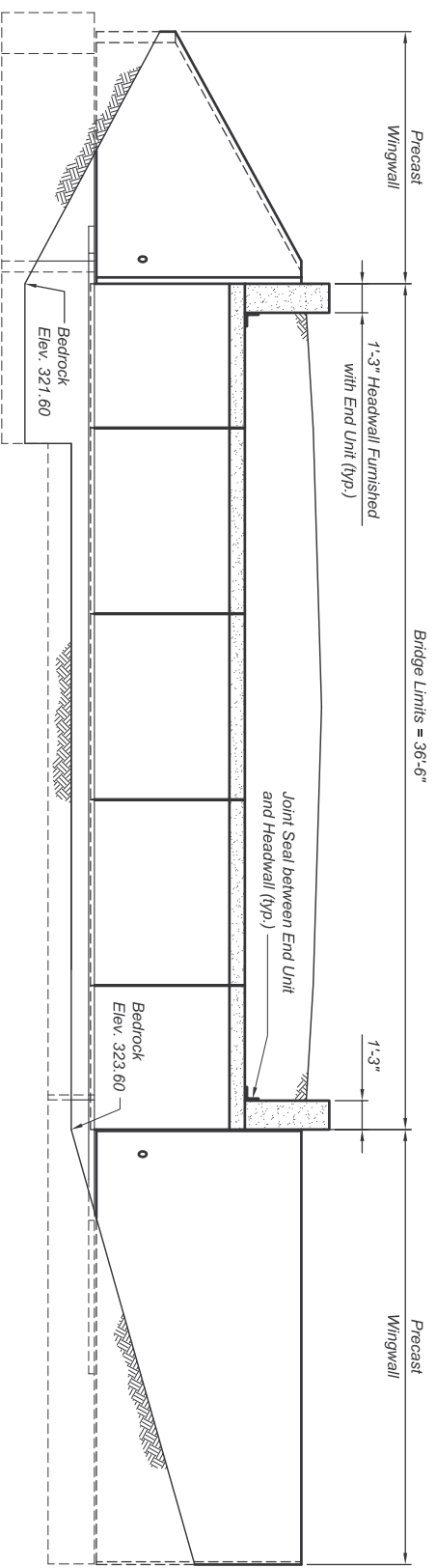
CONTECH Product:

CONSPAN
BRIDGE SYSTEMS

ROUTE 119
MINOT, MAINE

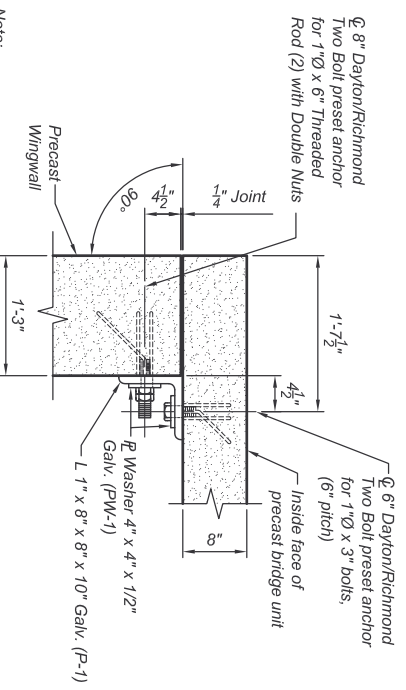
Project Status:	APPROVAL ONLY: NOT FOR CONSTRUCTION
Designed:	KJG
Drawn:	RJB
Checked:	MRW
Approved:	WDL
Date Drawn:	9/2/2008
Job No.:	18042

Sheet No.:	CT4	of	CT7
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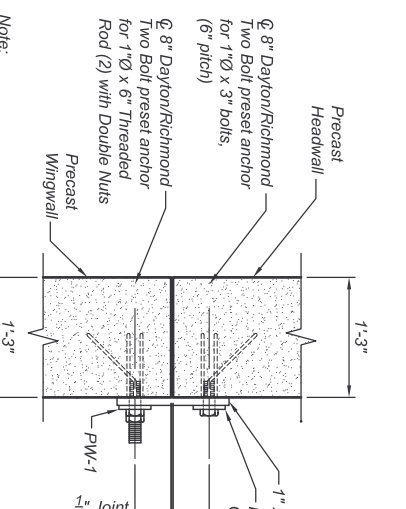
TYPICAL JOINT SEAL DETAIL
not to scale

SECTION
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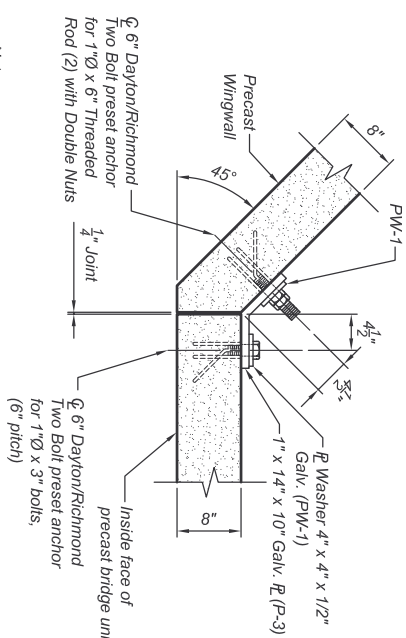
Note:
Connection R's (P-1) must be positioned with small \emptyset holes toward precast bridge unit

DETAIL @ Unit Leg
3a
CT2



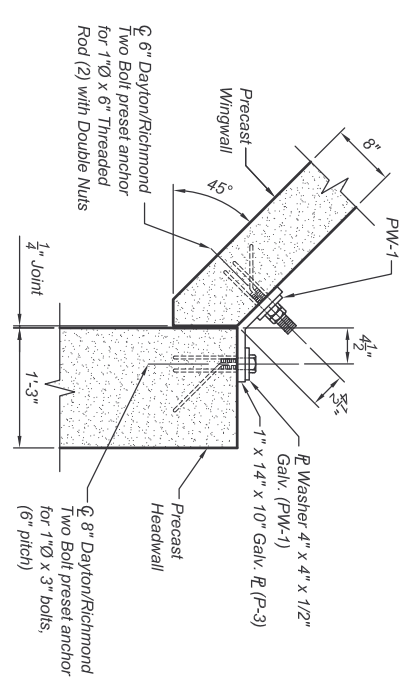
Note:
Connection R's (P-2) must be positioned with small \emptyset holes toward precast headwall

DETAIL @ Headwall
3b
CT2



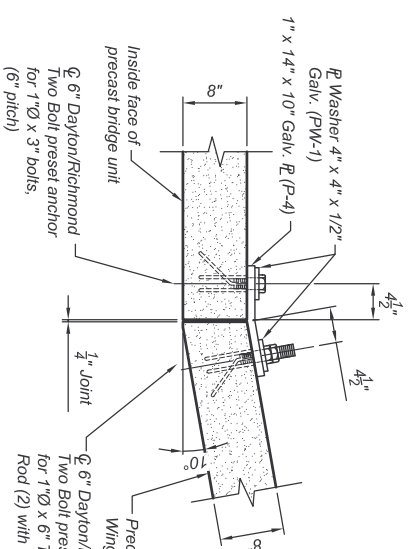
Note:
Connection R's (P-3) must be positioned with small \emptyset holes toward precast bridge unit

DETAIL @ Unit Leg
4a
CT2

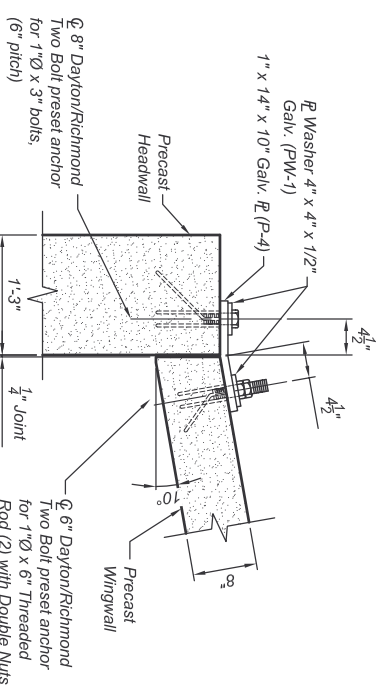


Note:
Connection R's (P-3) must be positioned with small \emptyset holes toward precast headwall

DETAIL @ Headwall
4b
CT2



DETAIL @ Unit Leg
5a
CT2



DETAIL @ Headwall
5b
CT2

Note:
Connection R's (P-4) must be positioned with small \emptyset holes toward precast headwall

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If discrepancies between the applied information and actual field conditions are encountered on site, work progress, the discrepancies must be reported to CONTECH Bridge Solutions Inc. immediately for resolution. The design, CONTECH Bridge Solutions Inc. accepts no liability for design errors or omissions. Approval is required by design.

6	Level:	
5	Date:	
4	By:	
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Level:	Date:	Description:	By:

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518-371-2872 FAX

CONTECH Product:

ROUTE 119
MINOT, MAINE

Project Status:

Designed	KJG	Drawn	RJB	Date Drawn:	9/2/2008
Checked	MRW	Approved	WDL	Job No:	18042

APPROVAL ONLY:

NOT FOR CONSTRUCTION

Sheet No: **CTS** of **CT7**

SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF CON/SPAN® BRIDGE SYSTEMS

1. Description

- 1.1. Type - This work shall consist of furnishing and constructing a CON/SPAN® bridge system in accordance with these specifications and in reasonably close conformity with the lines, grades, design and dimensions shown on the plans or as established by the Engineer. In situations where two or more specifications apply to this work, the most stringent requirements shall govern.

- 1.2. Designation - Precast reinforced concrete CON/SPAN® bridge units manufactured in accordance with this specification shall be designated by span and rise. Precast reinforced concrete wingwalls and headwalls manufactured in accordance with this specification shall be designated by length, height, and deflection angle.

2. Design

- 2.1. Specifications - The precast elements are designed in accordance with the "Standard Specifications for Highway Bridges," 17th Edition, adopted by the American Association of State Highway and Transportation Officials, 2002. A minimum of one foot of cover above the crown of the bridge units is required in the installed condition. (Unless noted otherwise on the shop drawings and designed accordingly.)

3. Materials

- 3.1. Concrete - The concrete for the precast elements shall be air-entrained when installed in areas subject to freeze-thaw conditions, composed of Portland cement, fine and coarse aggregates, admixtures and water. Air-entrained concrete shall contain 6 ± 2 percent air. The air-entraining admixture shall conform to AASHTO M154. The minimum concrete compressive strength shall be as shown on the shop drawings.
 - 3.1.1. Portland Cement - Shall conform to the requirements of ASTM Specifications C150, Type I, Type II, or Type III cement.
 - 3.1.2. Coarse Aggregate - Shall consist of stone having a maximum size of 1 1/4 inch. Aggregate shall meet requirements for ASTM C33.
 - 3.1.3. Water Reducing Admixture - The manufacturer may submit, for approval by the Engineer, a water-reducing admixture for the purpose of increasing workability and reducing the water requirement for the concrete.
 - 3.1.4. Calcium Chloride - The addition to the mix of calcium chloride or admixtures containing calcium chloride will not be permitted.
 - 3.1.5. Mixture - The aggregates, cement and water shall be proportioned and mixed in a batch mixer to produce a homogeneous concrete meeting the strength requirements of this specification. The proportion of Portland cement in the mixture shall not be less than 564 pounds (6 sacks) per cubic yard of concrete.
- 3.2. Steel Reinforcement
 - 3.2.1. The minimum steel yield strength shall be 60,000 psi, unless otherwise noted on the shop drawings.
 - 3.2.2. All reinforcing steel for the precast elements shall be fabricated and placed in accordance with the detailed shop drawings submitted by the manufacturer.
 - 3.2.3. Reinforcement shall consist of welded wire fabric conforming to ASTM Specification A 185 or A 497, or deformed billet steel bars conforming to ASTM Specification A 615, Grade 60. Longitudinal distribution reinforcement may consist of welded wire fabric or deformed billet-steel bars.
 - 3.3. Steel Hardware
 - 3.3.1. Bolts and threaded rods for wingwall connectors shall conform to ASTM A 307. Nuts shall conform to AASHTO M292 (ASTM A194) Grade 2H. All bolts, threaded rods and nuts used in wingwall connectors shall be mechanically zinc coated in accordance with ASTM B695, Class 50.
 - 3.3.2. Structural Steel for wingwall connection plates and plate washers shall conform to AASHTO M 270 (ASTM A 709) Grade 36 and shall be hot dip galvanized as per AASHTO M111 (ASTM A 123).
 - 3.3.3. Inserts for wingwalls shall be 1" diameter Two-Bolt Preset Wingwall Anchors as manufactured by Dayton/Richmond Concrete Accessors, Mansburg, Ohio, (800) 745-3700.
 - 3.3.4. Ferrule Loop Inserts shall be F-64 Ferrule Loop Inserts as manufactured by Dayton/Richmond Concrete Accessors, Mansburg, Ohio, (800) 745-3700.
 - 3.3.5. Hook Bolts used in attached headwall connectors shall be ASTM A307.
 - 3.3.6. Inserts for detached headwall connectors shall be AISI Type 304 stainless steel, F-38 Expanded Coil Inserts as manufactured by Dayton/Richmond Concrete Accessors, Mansburg, Ohio, (800) 745-3700. Coil rods and nuts used in headwall connectors shall be AISI Type 304 stainless steel. Washers used in headwall connectors shall be either AISI Type 304 stainless steel plate washers or AASHTO M270 (ASTM A709) Grade 36 plate washers hot dip galvanized as per AASHTO M111 (ASTM A123).
 - 3.3.7. Reinforcing bar splices shall be made using the Dowel Bar Splicer System as manufactured by Dayton/Richmond Concrete Accessors, Mansburg, Ohio, (800) 745-3700, and shall consist of the Dowel Bar Splicer (DB-SAE) and Dowel-In (DI).

4. Manufacture of Precast Elements

Subject to the provisions of Section 5, below, the precast element dimension and reinforcement details shall be as prescribed in the plan and shop drawings provided by the manufacturer.

- 4.1. Forms - The forms used in manufacture shall be sufficiently rigid and accurate to maintain the required precast element dimensions within the permissible variations given in Section 5 of these specifications. All casting surfaces shall be of a smooth material.

4.2. Placement of Reinforcement

- 4.2.1. Placement of Reinforcement in Precast Bridge Units - The cover of concrete over the outside circumferential reinforcement shall be 2 inches minimum. The cover of concrete over the inside circumferential reinforcement shall be 1 1/2 inches minimum, unless otherwise noted on the shop drawings. The clear distance of the end circumferential wires shall not be less than one inch nor more than two inches from the ends of each section. Reinforcement shall be assembled utilizing single or multiple layers of welded wire fabric (not to exceed 3 layers), supplemented with a single layer of deformed billet-steel bars, when necessary. Welded wire fabric shall be composed of circumferential and longitudinal wires meeting the spacing requirements of 4.3, below, and shall contain sufficient longitudinal wires extending through the bridge unit to maintain the shape and position of the reinforcement. Longitudinal distribution reinforcement may be welded wire fabric or deformed billet-steel bars and shall meet the spacing requirements of 4.3, below. The ends of the longitudinal distribution reinforcement shall be not more than 3 inches and not less than 1 1/2 inches from the ends of the bridge unit.
- 4.2.2. Bending of Reinforcement for Precast Bridge Units - The outside and inside circumferential reinforcing steel for the corners of the bridge shall be bent to such an angle that is approximately equal to the configuration of the bridge's outside corner.
- 4.2.3. Placement of Reinforcement for Precast Wingwalls and Headwalls - The cover of concrete over the longitudinal and transverse reinforcement shall be 2 inches minimum. The clear distance from the end of each precast element to the end of reinforcing steel shall not be less than 1/4 inch nor more than 3 inches. Reinforcement shall be assembled utilizing a single layer of welded wire fabric, or a single layer of deformed billet-steel bars. Welded wire fabric shall be composed of transverse and longitudinal wires meeting the spacing requirements of 4.3, below, and shall contain sufficient longitudinal wires extending through the element to maintain the shape and position of the reinforcement. Longitudinal reinforcement may be welded wire fabric or deformed billet-steel bars and shall meet the spacing requirements of 4.3, below.

4.3. Laps, Welds, and Spacing for Precast Bridge Units - Tension Splices

- 4.3.1. Laps, Welds, and Spacing for Precast Bridge Units - Tension splices in the circumferential reinforcement shall be made by lapping. Laps may be lapped together for assembly purposes. For smooth welded wire fabric, the overlap shall meet the requirements of AASHTO 8.30.2 and 8.32.6. For deformed welded wire fabric, the overlap shall meet the requirements of AASHTO 8.30.1 and 8.32.5. The overlap of welded wire fabric shall be measured between the outer-most longitudinal wires of each fabric sheet. For deformed billet-steel bars, the overlap shall meet the requirements of AASHTO 8.25. For splices other than tension splices, the overlap shall be a minimum of 12" for welded wire fabric or deformed billet-steel bars. The spacing center to center of the circumferential wires in a wire fabric sheet shall be not less than 2 inches nor more than 4 inches. The spacing center to center of the longitudinal wires shall not be more than 8 inches. The spacing center to center of the longitudinal distribution steel for either the reinforcement in the top slab shall be not more than 16 inches.
- 4.3.2. Laps, Welds, and Spacing for Precast Wingwalls and Headwalls - Splices in the reinforcement shall be made by lapping. Laps may be tack welded together for assembly purposes. For smooth welded wire fabric, the overlap shall meet the requirements of AASHTO 8.30.2 and 8.32.6. For deformed welded wire fabric, the overlap shall meet the requirements of AASHTO 8.30.1 and 8.32.5. The overlap shall meet the requirements of AASHTO 8.25. The spacing center-to-center of the wires in a wire fabric sheet shall be not less than 2 inches nor more than 8 inches.
- 4.4. Curing - The precast concrete elements shall be cured for a sufficient length of time so that the concrete will develop the specified compressive strength in 28 days or less. Any one of the following methods of curing or combinations thereof shall be used:
 - 4.4.1. Steam Curing - The precast elements may be dry-pressure steam cured by a system that will maintain a moist atmosphere.
 - 4.4.2. Water Curing - The precast elements may be water cured by any method that will keep the sections moist.
 - 4.4.3. Membrane Curing - A sealing membrane conforming to the requirements of ASTM Specification C309 may be applied and shall be left intact until the required concrete compressive strength is attained. The concrete temperature at the time of

strength is attained. The concrete temperature at the time of application shall be within +/- 10 degrees F of the atmospheric temperature. All surfaces shall be kept moist prior to the application of the compounds and shall be damp when the compound is applied.

4.5. Storage, Handling & Delivery

- 4.5.1. Storage - Precast concrete bridge elements shall be filled and stored in pre-cast position.
- 4.5.2. Position - Precast concrete headwall and wingwall units are cast, stored and shipped in a flat position. The precast elements shall be stored in such a manner to prevent cracking or damage. Store elements using timber supports as appropriate. The units shall not be moved until the concrete compressive strength has reached a minimum of 2500 psi, and they shall not be stored in an upright position.
- 4.5.2. Handling - Handling devices shall be permitted in each precast element for the purpose of handling and setting. Spreader beams may be required for the lifting of precast concrete bridge elements to preclude damage from bending or torsion forces.
- 4.4.3. Delivery - Precast concrete elements must not be shipped until the concrete has attained the specified design compressive strength, or as directed by the design Engineer. Precast concrete elements may be unloaded and placed on the ground at the site until installed. Store elements using timber supports as appropriate.

4.6. Quality Assurance

- 4.6.1. The Precaster shall demonstrate adherence to the standards set forth in the NPQA Quality Control Manual. The Precaster shall meet either Section 4.7.1 or 4.7.2
- 4.6.1. Certification - The Precaster shall be certified by the Precast/Prestressed Concrete Institute Plant Certification Program or the National Precast Concrete Association's Plant Certification Program prior to and during production of the products covered by this specification.
- 4.6.2. Qualifications, Testing and Inspection
 - 4.6.2.1. The Precaster shall have been in the business of producing precast concrete products similar to those specified for a minimum of three years. He shall maintain a permanent quality control department or retain an independent testing agency on a continuing basis. The agency shall issue a report, certified by a licensed engineer, detailing the ability of the Precaster to produce quality products consistent with industry standards.
 - 4.6.2.2. The Precaster shall show that the following tests are performed in accordance with the ASTM standards indicated. Tests shall be performed as indicated in Section 6 of these specifications.
 - 4.6.2.2.1. Air Content: C231 or C173
 - 4.6.2.2.2. Compressive Strength: C31, C39, C497
 - 4.6.2.3. The Precaster shall provide documentation demonstrating compliance with this section to CONTECH® Bridge Solutions at regular intervals or upon request.
 - 4.6.2.4. The Owner may place an inspector in the plant when the products covered by this specification are being manufactured.
 - 4.6.3. Documentation - The Precaster shall submit Precast Production Reports to CONTECH® Bridge Solutions as required.
5. Permissible Variations
 - 5.1. Bridge Units
 - 5.1.1. Internal Dimensions - The internal dimension shall vary not more than 1% from the design dimensions nor more than 1-1/2 inches whichever is less.
 - 5.1.2. Slab and Wall Thickness - The slab and wall thickness shall not be less than that shown in the design by more than 1/4 inch. A thickness more than that required in the design shall not be cause for rejection.
 - 5.1.3. Length of Opposite Surfaces - Variations in laying lengths of two opposite surfaces of the bridge unit shall not be more than 1/2 inch in any section, except where detailed ends for laying of curves are specified by the purchaser.
 - 5.1.4. Length of Section - The underrun in length of a section shall not be more than 1/2 inch in any bridge unit.
 - 5.1.5. Position of Reinforcement - The maximum variation in position of the reinforcement shall be ± 1/2 inch. In no case shall the cover over the reinforcement be less than 1 1/2 inches for the outside circumferential steel or less than 1 inch for the inside circumferential steel as measured to the external or internal surface of the bridge. These tolerances or cover requirements do not apply to mating surfaces of joints.
 - 5.1.6. Area of Reinforcement - The areas of steel reinforcement shall be the design steel areas as shown in the manufacturer's shop drawings. Steel areas greater than those required shall not be cause for rejection. The permissible variation in diameter of any
 - 5.2. Reinforcement shall conform to the tolerances prescribed in the ASTM Specification for that type of reinforcement.
 - 5.2.1. Wingwalls & Headwalls
 - 5.2.1. Wall Thickness - The wall thickness shall not vary from that shown in the design by more than 1/2 inch.
 - 5.2.2. Length/Height of Wall sections - The length and height of the wall shall not vary from that shown in the design by more than 1/2 inch.
 - 5.2.3. Position of Reinforcement - The maximum variation in the position of the reinforcement shall be ± 1/2 inch. In no case shall the cover over the reinforcement be less than 1 1/2 inches.
 - 5.2.4. Size of Reinforcement - The permissible variation in diameter of any reinforcing steel conform to the tolerances prescribed in the ASTM Specification for that type of reinforcing. Steel area greater than that required shall not be cause for rejection.
6. Testing/ Inspection
 - 6.1. Testing
 - 6.1.1. Type of Test Specimen - Concrete compressive strength shall be determined from compression tests made on cylinders or cores. For cylinder testing, a minimum of 3 cylinders shall be taken for each lot of bridge elements. (A lot is defined as the precast elements made using the same concrete mix during a single day's production.) For core testing, one core shall be cut from each of 3 precast elements selected at random from each group of 15 or fewer elements made using a single concrete mix in the same day's production. Each lot shall be considered separately for the purpose of testing and acceptance.
 - 6.1.2. Compression Testing - Cylinders shall be made and tested as prescribed by the ASTM C 39 Specification. Cores shall be obtained and tested for compressive strength in accordance with the provisions of the ASTM C42 Specification.
 - 6.1.3. Acceptability of Cylinder Tests - When the average compressive strength of all cylinders tested is equal to or greater than the design compressive strength, and not more than 10% of the cylinders tested have a compressive strength less than the design concrete strength, and no cylinder tested has a compressive strength less than 80% of the design compressive strength, then the lot shall be accepted. When the compressive strength of the cylinders tested does not conform to these acceptance criteria, the acceptability of the lot may be determined as described in section 6.1.4, below.
 - 6.1.4. Acceptability of Core Tests - The compressive strength of the concrete in a lot is acceptable when the average core test strength is equal to or greater than the design concrete strength. When the compressive strength of a core tested is less than the design concrete strength, the precast element from which that core was taken may be re-cored. When the compressive strength of the re-core is equal to or greater than the design concrete strength, the compressive strength of the concrete in that lot is acceptable.
 - 6.1.4.1. When the compressive strength of any re-core is less than the design concrete strength, the precast element from which that core was taken shall be rejected. Two precast elements from the remainder of the lot shall be selected at random and one core shall be taken from each. If the compressive strength of both cores is equal to or greater than the design concrete strength, the compressive strength of the remainder of that group is acceptable. If the compressive strength of either of the two cores tested is less than the design concrete strength, the remainder of the group shall be rejected or, at the option of the manufacturer, each precast element of the remainder of the group shall be cored and accepted individually, and any of these elements that have cores with less than the design concrete strength shall be rejected. Plugging Core Holes - The core holes shall be plugged and sealed by the manufacturer or a manner such that the elements will meet all of the test requirements of this specification. Precast elements so sealed shall be considered satisfactory for use.
 - 6.1.4.2. Test Equipment - Every manufacturer furnishing precast elements under this specification shall furnish all facilities and personnel necessary to carry out the test required. The quality of materials, the process of manufacture, and the finished precast elements shall be subject to inspection by the purchaser.
 - 6.2. Inspection - Every manufacturer furnishing precast elements under this specification shall furnish all facilities and personnel necessary to carry out the test required. The quality of materials, the process of manufacture, and the finished precast elements shall be subject to inspection by the purchaser.
7. Joints
 - 7.1. The bridge units shall be produced with flat butt ends. The ends of the bridge units shall be such that when the sections are laid together they will make a continuous line with a smooth interior free of appreciable irregularities, all compatible with the permissible variations in section 5, above. The joint width between adjacent precast units shall not exceed 3/4 inches.

8. Workmanship/ Finish

The bridge units, wingwalls, and headwalls shall be substantially free of fractures. The ends of the bridge units shall be normal to the walls and centerline of the bridge section, within the limits of the variations given in section 5, above, except where beveled ends are specified. The faces of the wingwalls and headwalls shall be parallel to each other, within the limits of variations given in section 5, above. The surface of the precast elements shall be a smooth steel form or troweled surface. Trapped air pockets causing surface defects shall be considered as part of a smooth, steel form finish.

9. Repairs

Precast elements may be repaired, if necessary, because of imperfections in manufacture or handling damage and will be acceptable if, in the opinion of the purchaser, the repairs are sound, properly finished and cured, and the repaired section conforms to the requirements of this specification.

10. Rejection

The precast elements shall be subject to rejection on account of any of the specification requirements. Individual precast elements may be rejected because of any of the following:

- 10.1. Fractures or cracks passing through the wall, except for a single end crack that does not exceed one half the thickness of the wall.
- 10.2. Defects that indicate proportioning, mixing, and molding not in compliance with section 4 of these specifications.
- 10.3. Honeycombed or open texture.
- 10.4. Damaged ends, where such damage would prevent making a satisfactory joint.

11. Marking

Each bridge unit shall be clearly marked by waterproof paint. The following shall be shown on the inside of the vertical leg of the bridge section:

Bridge Span X Bridge Rise
Date of Manufacture
Name or trademark of the manufacturer

Level:	Date:	Description:
6		
5		
4		
3		
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Level:	Date:	Description:
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Level:	Date:	Description:
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SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF CON/SPAN® BRIDGE SYSTEMS (CONT'D)

12. Installation Preparation

To ensure correct installation of the precast concrete bridge system, care and caution must be exercised in forming the support areas for bridge units, headwall, and wingwall elements. Exercising special care will facilitate the rapid installation of the precast components.

12.1. Footings

Do not over excavate foundations unless directed by site soil engineer to remove unsuitable soil.

The site soils engineer shall certify that the bearing capacity meets or exceeds the footing design requirements, prior to the contractor pouring of the footings. A copy of the report shall be submitted to CONTECH® Bridge Solutions prior to shipment of precast concrete elements.

The bridge units and wingwalls shall be installed on either precast or cast-in-place concrete footings. The size and elevation of the footings shall be as designed by the Engineer. A keyway shall be formed in the top surface of the bridge footing as specified on the plans. No keyway is required in the wingwall footings, unless otherwise specified on the plans.

The footings shall be given a smooth float finish and shall reach a compressive strength of 2,000 psi before placement of the bridge and wingwall elements. Backfilling shall not begin until the footing has reached the full design compressive strength without written approval from CONTECH® Bridge Solutions.

The footing surface shall be constructed in accordance with grades shown on the plans. When tested with a 10-foot straight edge, the surface shall not vary more than 1/4 inch in 10 feet.

If a precast concrete footing is used, the contractor shall prepare a 4-inch thick base layer of compacted granular material the full width of the footing prior to placing the precast footing.

The foundations for precast concrete bridge elements and wingwalls must be connected by reinforcement to form one monolithic body. Expansion joints shall not be used.

The contractor shall be responsible for the construction of the foundations per the plans and specifications.

13. Installation

13.1. General. The installation of the precast concrete elements shall be as explained in the publication CON/SPAN Bridge Systems Installation Handbook.

13.1.1. Lifting. It is the responsibility of the contractor to ensure that a crane of the correct lifting capacity is available to handle the precast concrete units. This can be accomplished by using the weights given for the precast concrete components and by determining the lifting reach for each crane unit. Site conditions must be checked well in advance of shipping to ensure proper crane location and to avoid any lifting restrictions. The lift anchors or hoists provided in each unit are the only means to be used to lift the elements. The precast concrete elements must not be supported or raised by other means than those given in the manuals and drawings without written approval from CONTECH® Bridge Solutions.

13.1.2. Construction equipment weight restrictions: In no case shall equipment operating in excess of the design load (HS20 or HS25) be permitted over the bridge units unless approved by CONTECH® Bridge Solutions.

13.1.2.1. In the immediate area of the bridge units, the following restrictions for the use of heavy construction machinery during backfilling operations apply:

- No construction equipment shall cross the bare precast concrete bridge unit.
- After the compacted fill level has reached a minimum of 4 inches over the crown of the bridge, construction equipment with a weight of less than 10 tons may cross the bridge.
- After the compacted fill level has reached a minimum of 1 foot over the crown of the bridge, construction equipment with a weight of less than 30 tons may cross the bridge.
- After the compacted fill level has reached the design cover, or 2 feet minimum, over the crown of the precast concrete bridge, construction equipment within the design load limits for the road may cross the precast concrete bridge.

13.2. Leveling Pad/ Shimms. The bridge units and wingwalls shall be set on masonite or steel shimms measuring 6" x 6", minimum, unless shown otherwise on the plans. A minimum gap of 1/2 inch shall be provided between the footing and the bottom of the bridge's vertical legs or the bottom of the wingwall.

13.3. Placement of Bridge Units

The bridge units shall be placed as shown on the Engineer's plan drawings. Special care shall be taken in setting the elements to the true line and grade. The joint width between adjacent precast units shall not exceed 3/4 inches.

It is imperative that any lateral spreading of the bridge elements be avoided during and after their placement. Generally, horizontal cable ties are shipped in the larger bridge elements to prevent this spreading. If, due to site restrictions, these ties must be removed prior to placement of the bridge element, the contractor must provide hardwood wedges on site. These hardwood wedges are placed in the keyway outside the legs of the bridge elements, and smaller shimms and wedges are added before complete release of the bridge element from the crane. Also, a supply of 1/2 inch and 1/8-inch steel or masonite shimms for various shimming purposes should be on site, per section 13.2.

13.4. Placement of Wingwalls & Headwalls

The wingwalls and headwalls shall be placed as shown on the plan drawings. Special care shall be taken in setting the elements to the true line and grade.

13.5. Waterproofing Joint Protection and Subsurface Drainage

13.5.1. External Protection of Joints - The butt joint made by two adjoining bridge units shall be covered with a 7/8" x 1/8" preformed bituminous joint sealant and a minimum of a 9-inch wide joint wrap. The surface shall be free of dirt before applying the joint material. A primer compatible with the joint wrap to be used shall be applied for a minimum width of nine inches on each side of the joint. The external wrap shall be either EZ-WRAP RUBBER by PRESS-SEAL GASCKET CORPORATION, SEAL WRAP by MAR MAC MANUFACTURING CO. INC. or approved equal. The joint shall be covered continuously from the bottom of one bridge section leg, across the top of the bridge and to the opposite bridge section leg. Any gaps that result in the joint wrap shall be a minimum of six inches long with the overlap running downhill.

13.5.2. In addition to the joints between bridge units, the joint between the end bridge unit and the headwall shall also be sealed as described above. If precast wingwalls are used, the joint between the end bridge unit and the wingwall shall be sealed with a 2"-0" strip of filter fabric. Also, if lift holes are formed in the bridge units, they shall be primed and covered with a 9" x 9" square of joint wrap.

13.5.3. During the backfilling operation, care shall be taken to keep the joint wrap in its proper location over the joint.

13.5.4. Subsoil drainage shall be as directed by the engineer.

13.6. Grouting

13.6.1. Grouting shall not be performed when temperatures are expected to go below 35° for a period of 72 hours.

Fill the bridge-foundation keyway with cement grout. (Portland cement sand and water) with a minimum 28-day compressive strength of 3000 psi. Vibrate as required to ensure that the entire key around the bridge element is completely filled. If bridge elements have been set with temporary ties (cables, bars, etc.) grout must attain a minimum compressive strength of 1500 psi before ties may be removed.

13.6.2. All grout shall have a maximum aggregate size of 1/4 inch.

13.6.3. Lifting and erection anchor recesses shall be filled with grout.

13.7. Backfill

13.7.1. Do not perform backfilling during wet or freezing weather.

13.7.2. No backfill shall be placed against any structural elements until they have been approved by the Engineer.

13.7.3. Backfill shall be considered as all replaced excavation and new embankment adjacent to the precast concrete elements. The project construction and material specifications, which include the specifications for excavation for structures and roadway excavation and embankment construction, shall apply except as modified in this section.

13.7.4. Backfill Zones

- In-situ soil
- Zone A, constructed embankment or overfill
- Zone B, fill that is directly associated with precast concrete bridge installation.
- Zone C, road structure.

13.7.5. Required Backfill Properties

13.7.5.1. In-situ soil
Natural ground is to be sufficiently stable to allow effective support to the precast concrete bridge units. As a guide, the existing natural ground should be of similar quality and density to Zone B material for minimum lateral dimension of one bridge span outside of the bridge footing.

13.7.5.2. Zone A requires fill material with specifications and compaction procedures equal to that for normal road embankments.

13.7.5.3. Zone B

Generally, soils shall be reasonably free of organic matter, and, near concrete surfaces, free of stones larger than 3 inches in diameter. See charts for detailed descriptions of acceptable soils.

13.7.5.4. Zone C

Zone C is the road section of gravel, asphalt or concrete built in compliance with local engineering practices.

13.7.6. Placing and Compacting Backfill

Dumping for backfilling is not allowed any nearer than 3 ft from the bridge leg.

The fill must be placed and compacted in layers not exceeding 8 inches. The maximum difference in the surface levels of the fill on opposite sides of the bridge must not exceed 2 feet.

The fill behind wingwalls must be placed at the same time as that of the bridge fill. It must be placed in progressively placed horizontal layers not exceeding 8 inches per layer.

The backfill of Zone B shall be compacted to a minimum density of 95% of the Standard Proctor, as required by AASHTO T-99.

Soil within 1 foot of concrete surfaces should be hand-compacted. Elsewhere, use of rollers is acceptable. If vibrating roller-compactors are used, they should not be started or stopped within Zone B and the vibration frequency should be at least 30 revolutions per second.

The backfill material and compacting behind wingwalls should satisfy the criteria for the bridge backfill, Zone B.

Backfill against a waterproofed surface shall be placed carefully to avoid damage to the waterproofing material.

13.7.7. Bridge Units

For fill heights over 12 feet, no backfilling may begin until a backfill compaction testing plan has been coordinated with and approved by CONTECH® Bridge Solutions. Cost of the backfill compaction testing shall be included in the cost of the precast units. This included cost applies only to projects with fill heights over 12 feet (as measured from top crown of bridge to finished grade).

13.7.8. Wingwalls

Backfill in front of wingwalls shall be carried to ground lines shown in the plans.

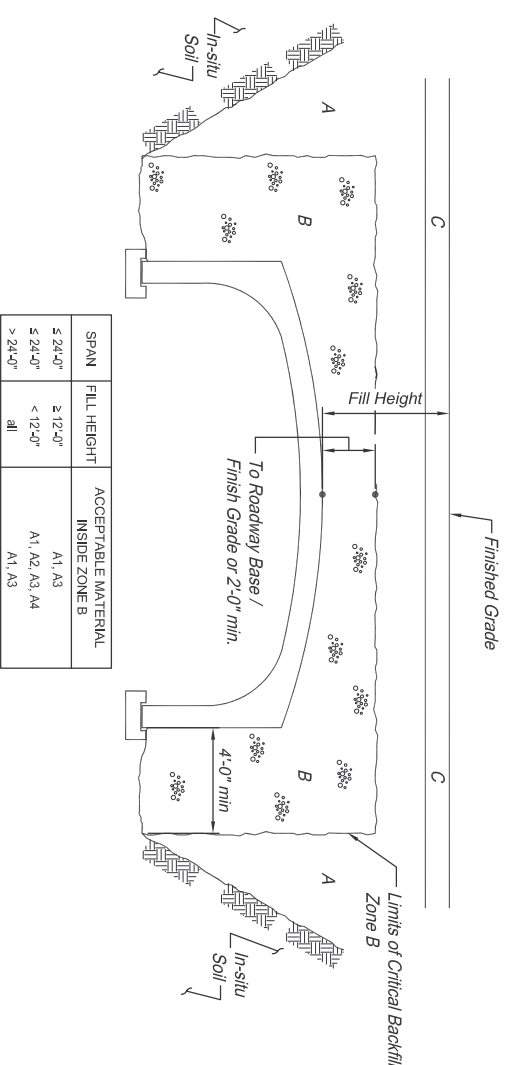
13.8. Monitoring

The contractor shall check settlements and horizontal displacement of foundation to ensure that they are within the allowable limit provided by the engineer. These measurements should give an indication of the settlements and deformations along the length of the foundations.

The first measurement row should take place after the erection of all precast bridge system elements, a second after completion of backfilling, and a third before opening of the bridge to traffic. Further measurements may be made according to local conditions.

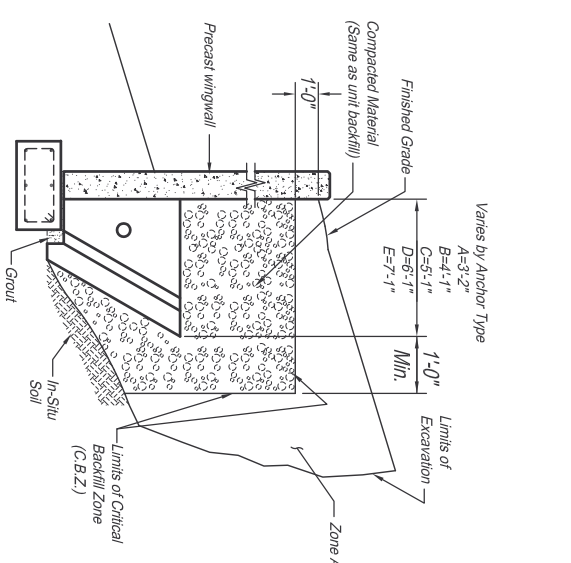
The maximum difference in vertical displacements 'V' should not exceed 1 inch along the length of one foundation.

Acceptable Soils for use in Zone B Backfill					
Typical USCS Materials	AASHTO Group	AASHTO SubGroup	Percent passing US Sieve No.		Soil Description
			#10	#40	
GM, GP, SP, SM, SW, SP, GM	A1	A-1a	50 max	30 max	15 max
GM, SM, ML, SP, GP, SC, GC, GM	A2	A-1b	50 max	25 max	6 max
SP, SM, SW	A3	A-2-5	51 min	10 max	6 max
ML, SM, SC	A4		36 min	10 max	10 max
				non-plastic	Fine sands
					Low-compressibility silts



SPAN	FILL HEIGHT	ACCEPTABLE MATERIAL INSIDE ZONE B
≤ 24'-0"	≤ 12'-0"	A1, A3
≤ 24'-0"	< 12'-0"	A1, A2, A3, A4
> 24'-0"	All	A1, A3

BACKFILL REQUIREMENTS



WALL BACKFILL REQUIREMENTS

Level:	Date:	Description:	By:
6			
5			
4			
3			
2			
1			

Level:	Date:	Description:	By:
6			
5			
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CONTECH® BRIDGE SOLUTIONS INC. 632 Plank Road Suite 108 Cifton Park, New York 12065 800-528-3999 518-571-2870 518-571-2872 FAX

CONTECH Product: CON/SPAN® BRIDGE SYSTEMS

CON/SPAN® BRIDGE SYSTEMS ROUTE 119 MINOT, MAINE

Project Status:	Designed:	Drawn:	Date Drawn:
	KJG	RJB	9/2/2008
Checked:	MWR	WDL	Job No. 18042

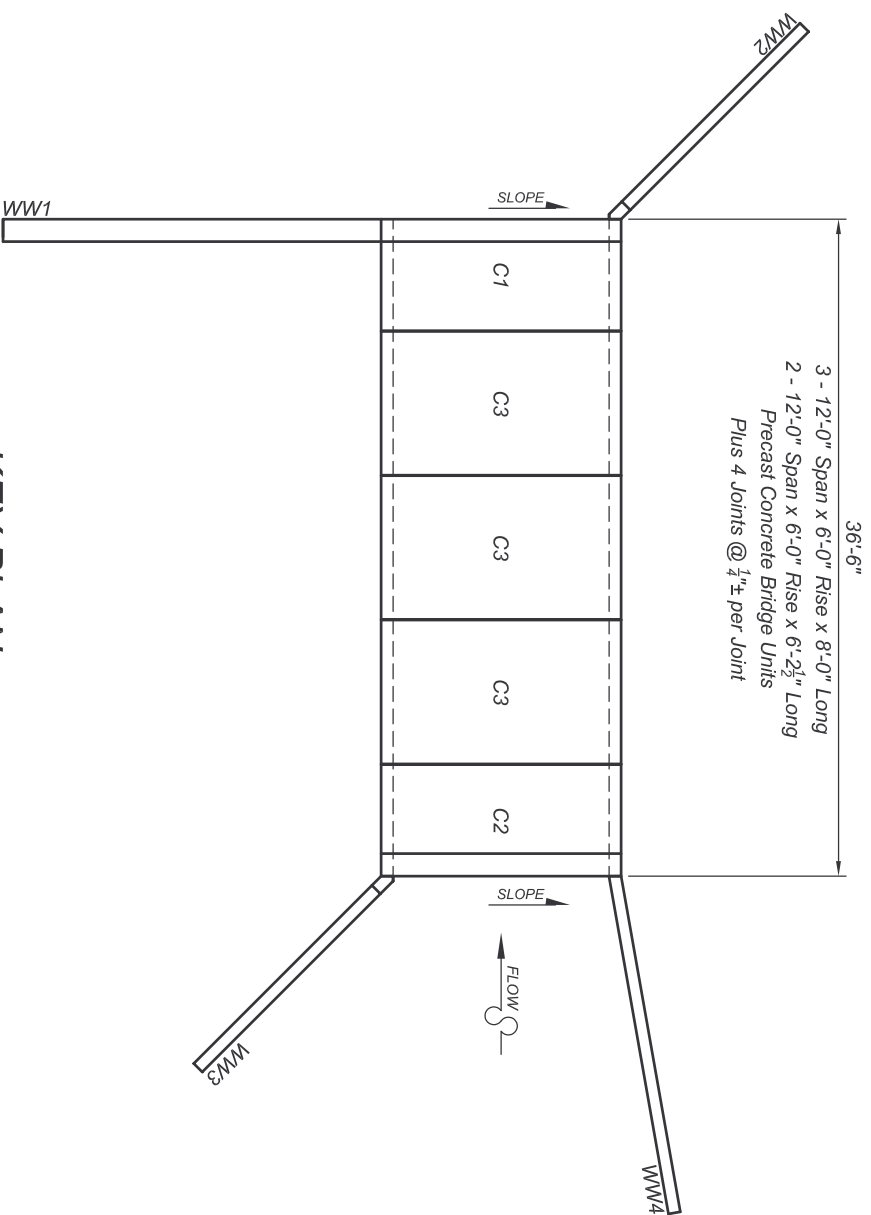
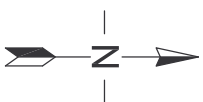
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Sheet No. CTT7 of CTT7

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ROUTE 119

MINOT, MAINE



KEY PLAN

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By:	

Company:

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 Clifton Park, New York 12065
 518-371-2872 FAX

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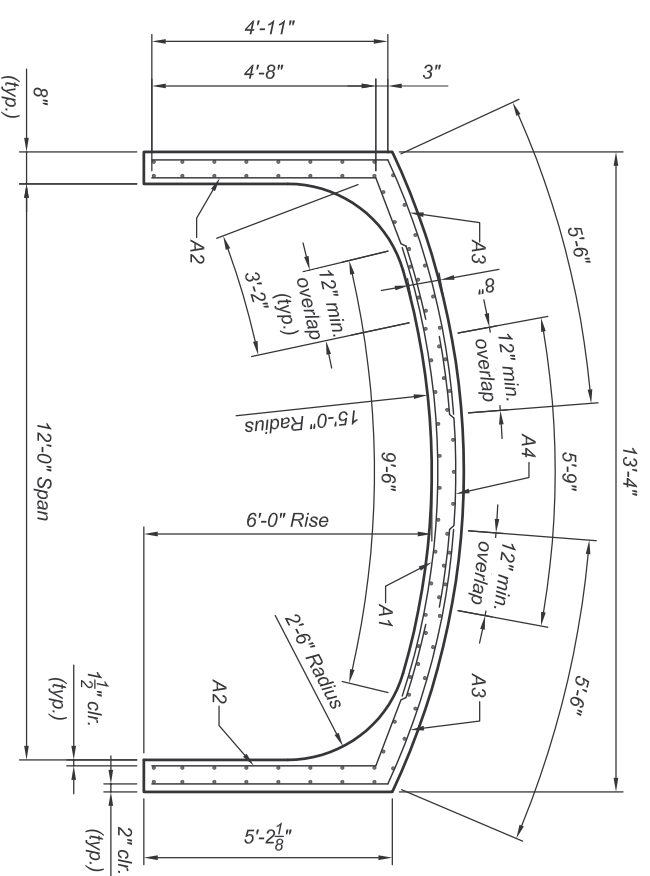
ROUTE 119
MINOT, MAINE

Project Status:	Designed	Drawn	Date Drawn:
Checked:	KJG	RJB	9/3/2008
MRW	WDL		18042

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Job No:	18042

Sheet No: **S1** of **S10**

- NOTES:
1. Minimum 28-Day Concrete Compressive Strength shall be 4000 psi.
 2. Overlap Length shall be measured from last crosswire.
 3. Dimensions shown are for form system "A".
 4. Minimum yield strength for welded wire fabric shall be 65,000 psi.
 5. Reinforcing shall be limited to a maximum of three layers of reinforcing (WWF or bars) per area (A1, A2, A3 or A4).
 6. All edges of Precast to have a 3/4" chamfer.
 7. Spacing of longitudinal reinforcement must be a maximum of 8" o.c. For multiple layers of mesh, only the outer most layer (A1a or A3a) must be a maximum of 8" o.c.



PRECAST UNIT REINFORCEMENT

Weight of Required Reinforcement = 100 lbs/ft

Sheet no.	Circumferential Area Req'd (in ² /ft)	Longitudinal Area Req'd (in ² /ft)	Mesh Size	Length (ft)	Circumferential Area Supl'd (in ² /ft)	Longitudinal Area Supl'd (in ² /ft)
1	A1 = 0.60	0.13		9'-6"		
2	A2 = 0.24	0.13		7'-10"		
3	A3 = 0.30	0.13		10'-5"		
4	A4 = 0.24	0.13		5'-9"		
5						
6						
7						

Cover = 2'-0" min. \ 3'-4" max.

Design Loading: HS20-44

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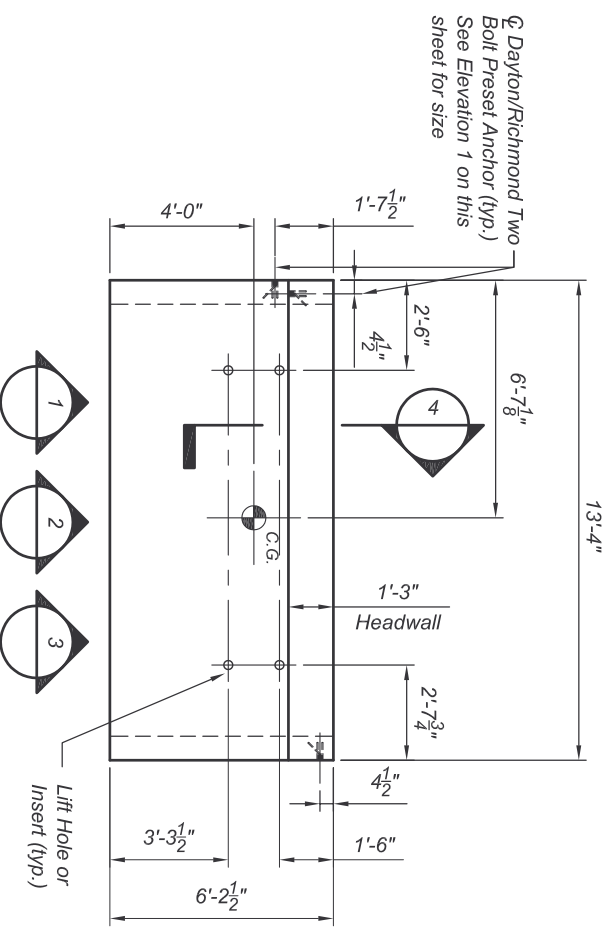
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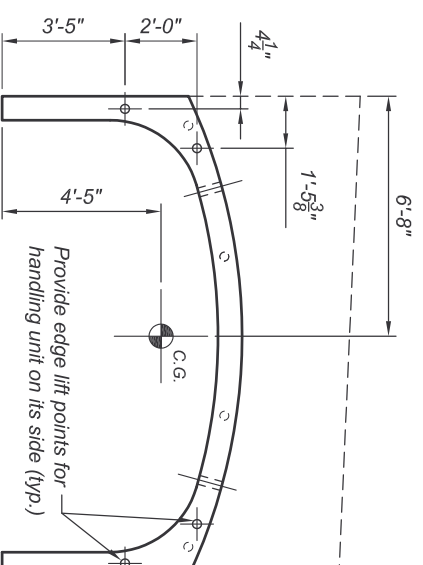
Project Status:	Designed	Drawn	Date Drawn:
	KJG	RJB	9/3/2008
Checked:	MRW	WDL	Job No: 18042

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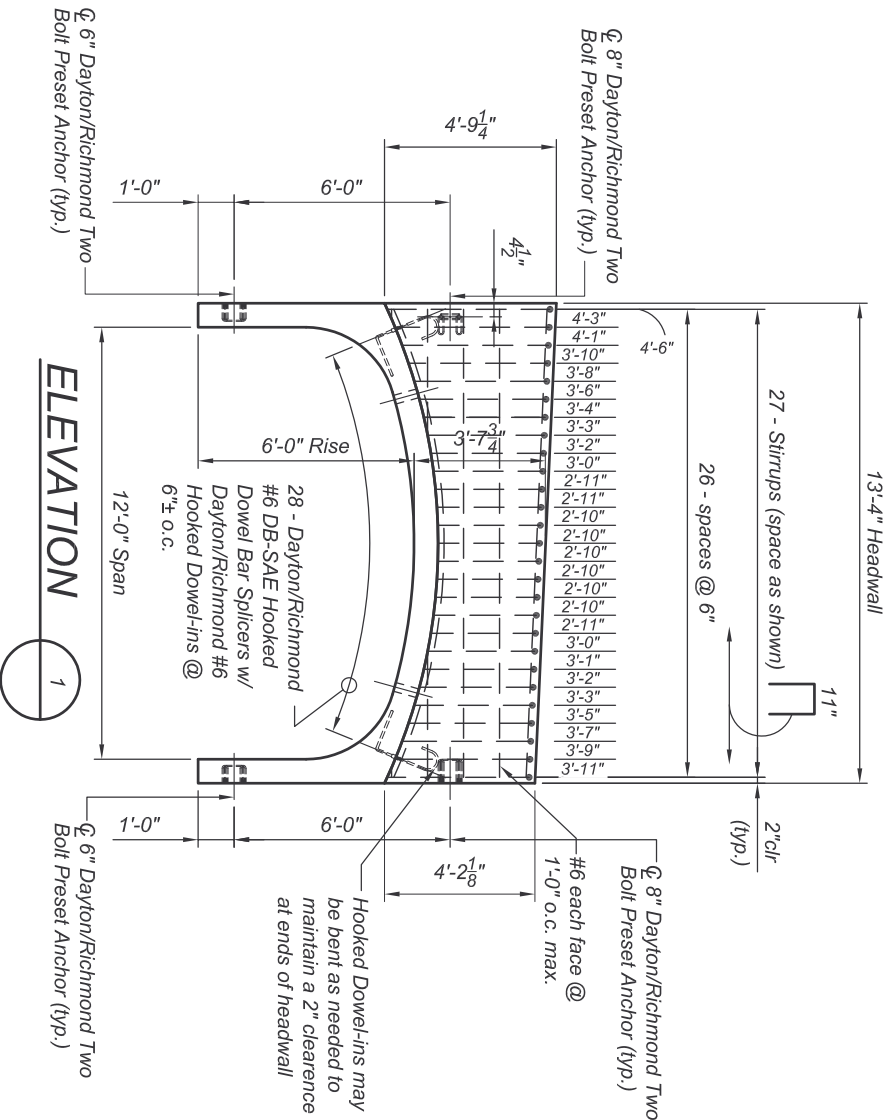
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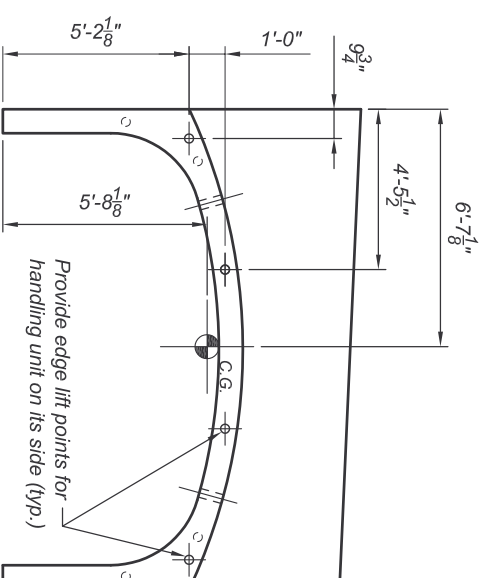
PLAN - C1
 Unit Weight = 7.7 Tons
 Headwall Weight = 4.3 Tons
 Total Weight = 12.0 Tons



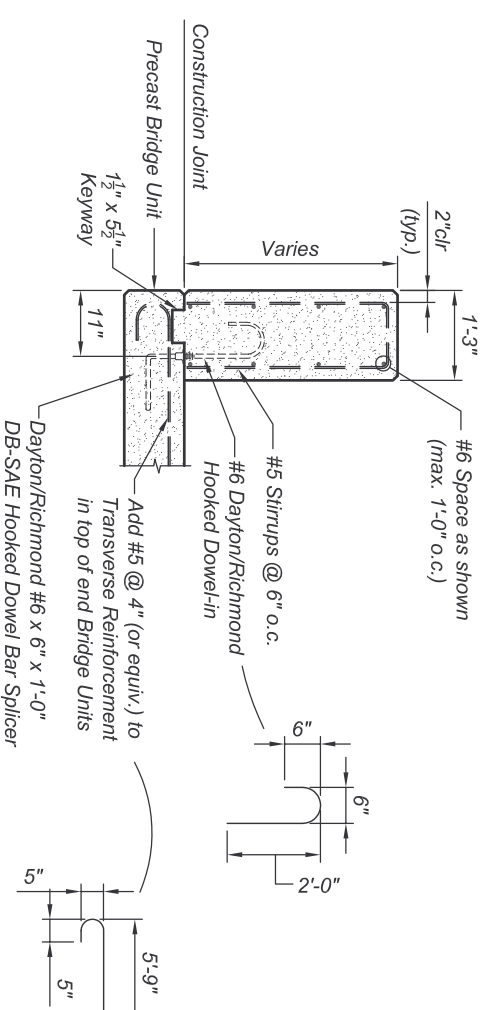
ELEVATION 2
 WITHOUT HEADWALL



ELEVATION 1



ELEVATION 3
 WITH HEADWALL



SECTION 4

- Notes:**
- All edges of Precast to have a 3/4" chamfer
 - Elevation is looking at back face of Headwall
 - See Sheet S2 for Bridge Unit Dimensions
 - Bridge Unit will not hang level. Adjust cable lengths as required

Headwall		Arch Unit	
Concrete	Reinf. Steel	Concrete	Reinf. Steel
28-day: 60,000 psi 4000 psi	uncoated	28-day: 60,000 psi 4000 psi	uncoated
		WWF	65,000 psi uncoated

Wherever the reinforcing is cut for the placement of lift holes or other blockouts, reinforcing bars or wires of equivalent cross-sectional area shall be placed symmetrically around the hole. At least one bar must be on each side of the hole, and the development length of the bar must be achieved on either side of the cut.

NOTICE
 The design and information shown on this drawing is provided as a guide only. It is the responsibility of the user to verify the accuracy of the information and to ensure that the design meets all applicable codes and standards. The user shall be responsible for any modifications or deviations from the design shown on this drawing. The user shall be responsible for any damage or injury resulting from the use of this drawing. The user shall be responsible for any cost associated with the use of this drawing. The user shall be responsible for any liability associated with the use of this drawing.

Level	Date	By
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Revision	Description
1	

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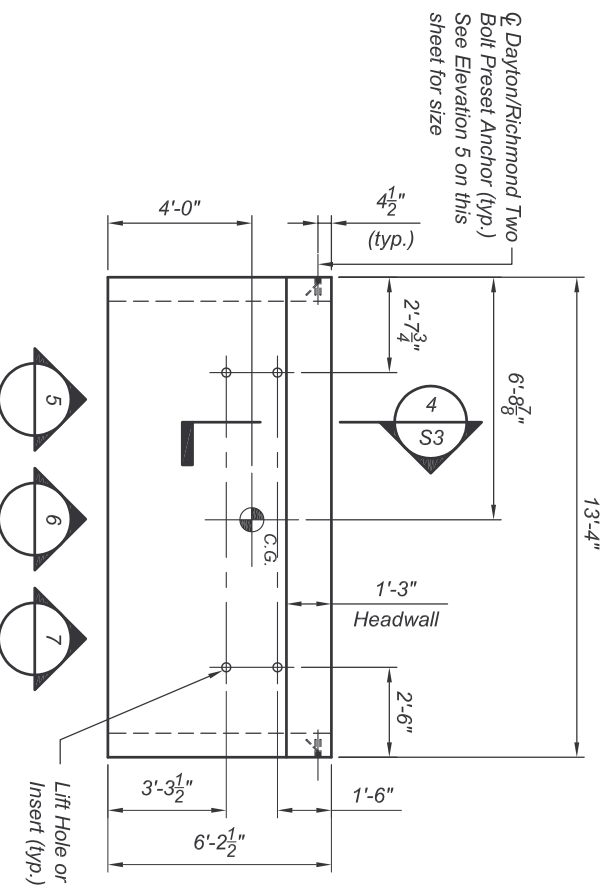
CONTECH Product:
CONSPAN
 BRIDGE SYSTEMS

ROUTE 119
MINOT, MAINE

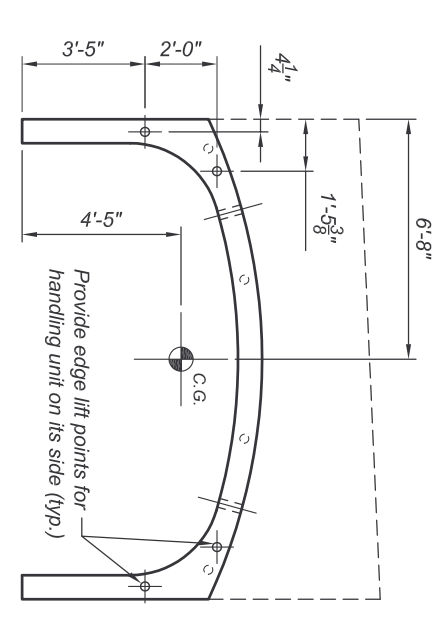
Project Status	Design	Drawn	Date Drawn
Designed	KJG	RJB	9/3/2008
Checked	MRW	WDL	

Approval Only	Job No.
NOT FOR CONSTRUCTION	18042

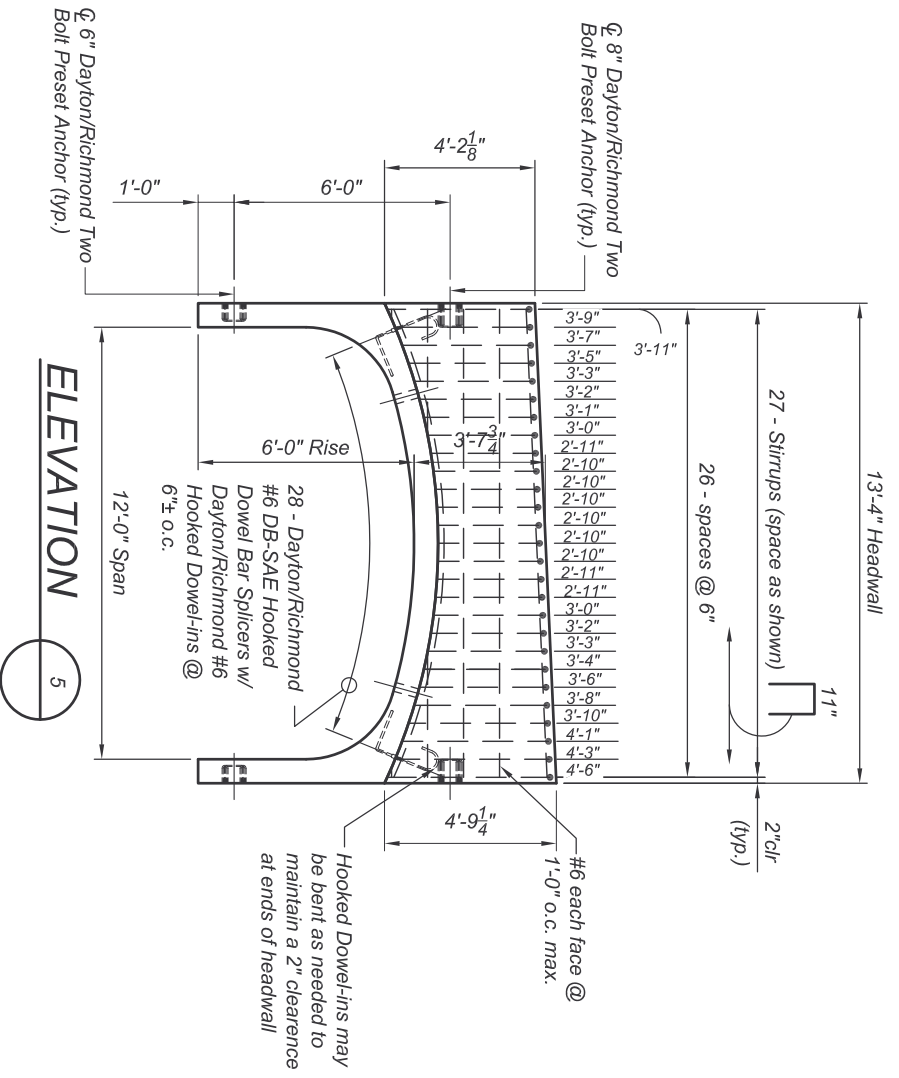
Sheet No.	of
S3	S10



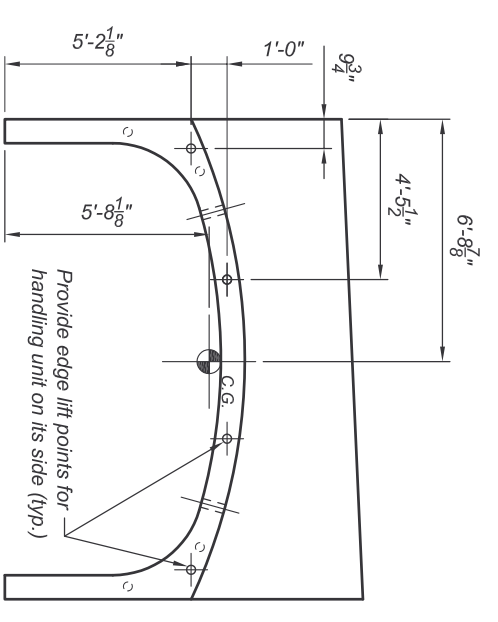
PLAN - C2
 Unit Weight = 7.7 Tons
 Headwall Weight = 4.3 Tons
 Total Weight = 12.0 Tons



ELEVATION 6
 WITHOUT HEADWALL



ELEVATION 5



ELEVATION 7
 WITH HEADWALL

Notes:
 - All edges of Precast to have a 3/4" chamfer
 - Elevation is looking at back face of Headwall
 - See Sheet S2 for Bridge Unit Dimensions
 - Bridge Unit will not hang level. Adjust cable lengths as required

Headwall		Arch Unit	
Concrete	Reinf. Steel	Concrete	Reinf. Steel
28-day: 4000 psi	60,000 psi uncoated	28-day: 4000 psi uncoated	65,000 psi uncoated

Wherever the reinforcing is cut for the placement of lift holes or other blockouts, reinforcing bars or wires of equivalent cross-sectional area shall be placed symmetrically around the hole. At least one bar must be on each side of the hole, and the development length of the bar must be achieved on either side of the cut.

NOTICE

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CONTECH Product:

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Project Status:

Designed	Drawn	Checked	Approved
KJG	RJB	MRW	WDL

APPROVAL ONLY:
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Date Drawn: 9/3/2008

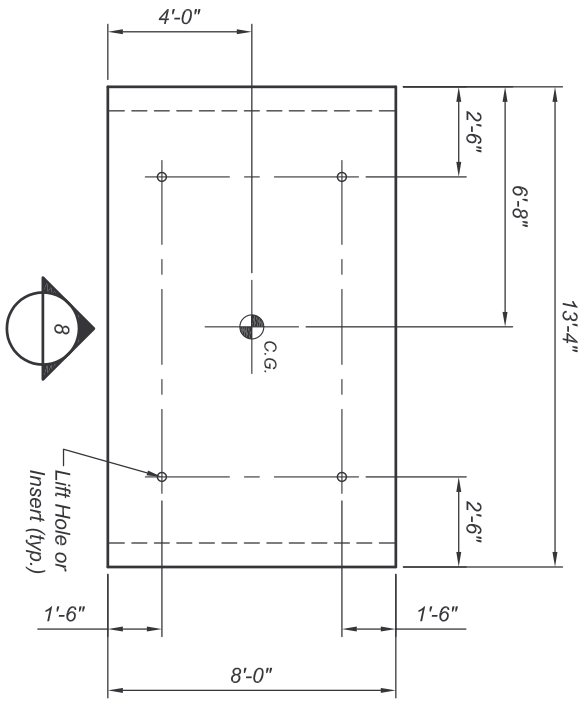
Job No: 18042

Sheet No: **S4** of **S10**

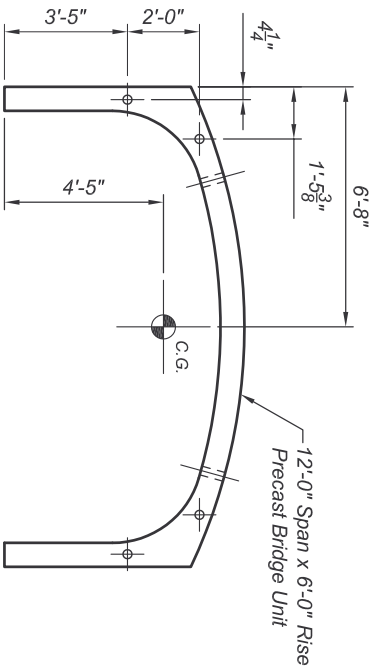
Notes:
 - All edges of Precast to have a 3/4" chamfer
 - See Sheet S2 for Bridge Unit Dimensions
 - Bridge Unit will not hang level. Adjust cable lengths as required

Arch Unit		
Concrete	Reinf. Steel	WWF
28-day:	60,000 psi	65,000 psi
4000 psi	uncoated	uncoated

Whenever the reinforcing is cut for the placement of lift holes or other blockouts, reinforcing bars or wires of equivalent cross-sectional area shall be placed symmetrically around the hole. At least one bar must be on each side of the hole, and the development length of the bar must be achieved on either side of the cut.



PLAN - C3
 Total Weight = 9.9 Tons



ELEVATION

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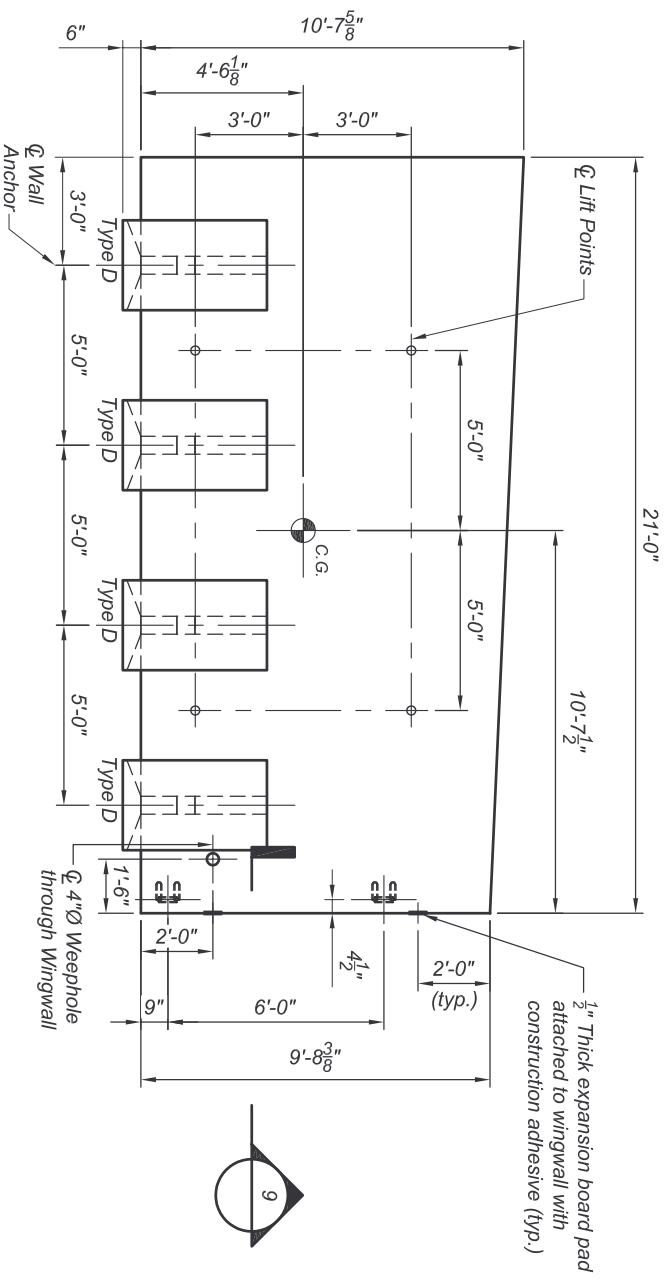
Company:
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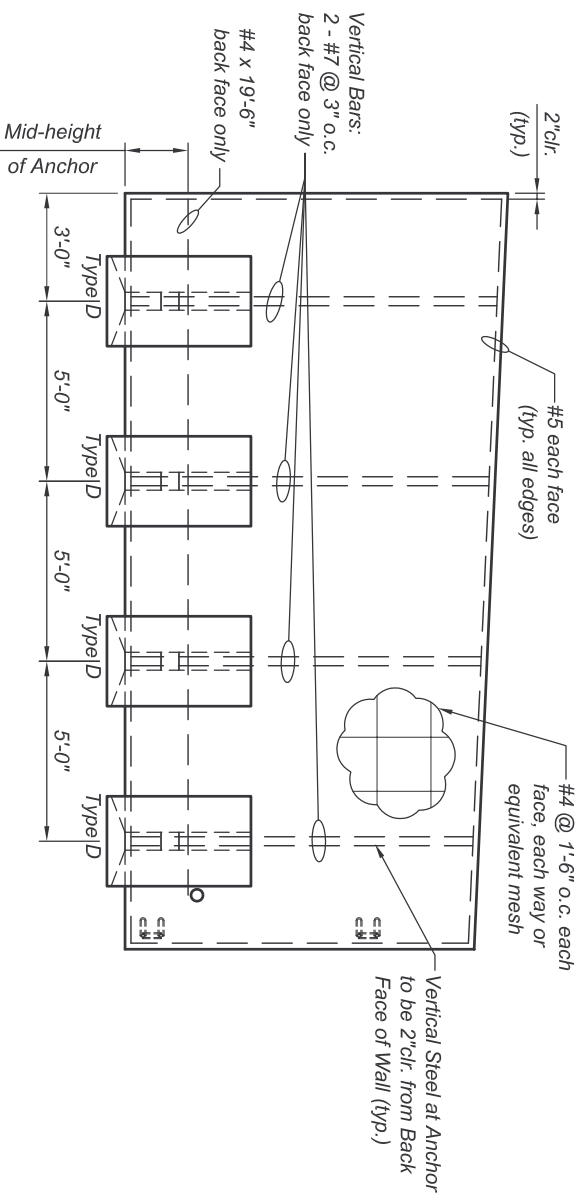
Project Status:	Designed	Drawn	Date Drawn:
Checked:	KJG	RJB	9/3/2008
Approved:	MRW	WDL	18042

APPROVAL ONLY:
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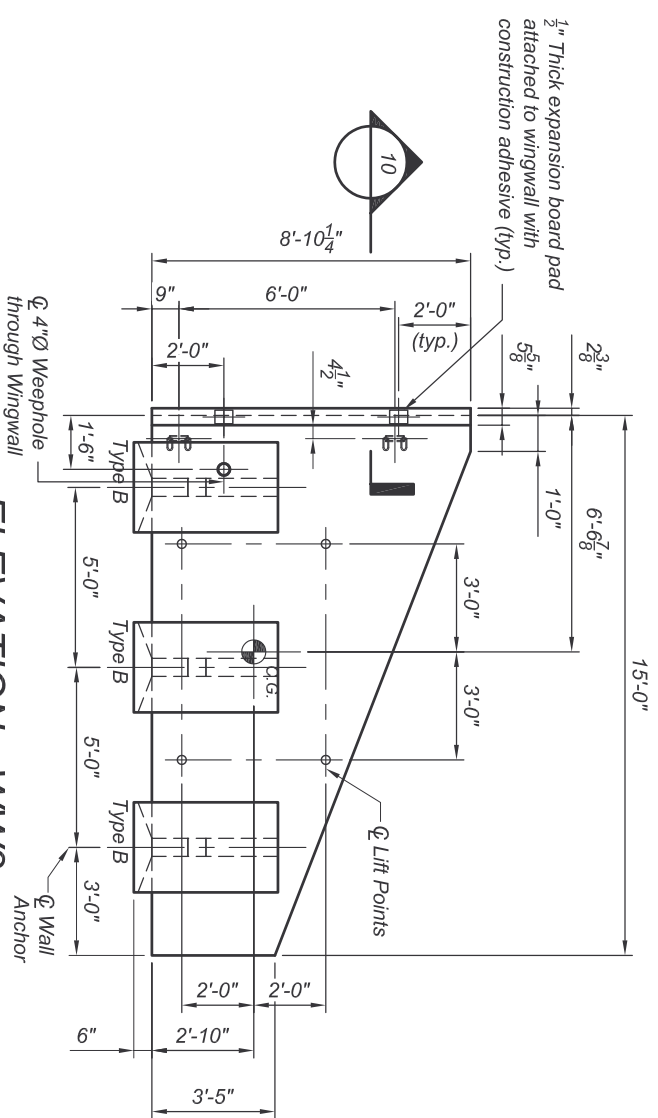
Sheet No: **S5** of **S10**



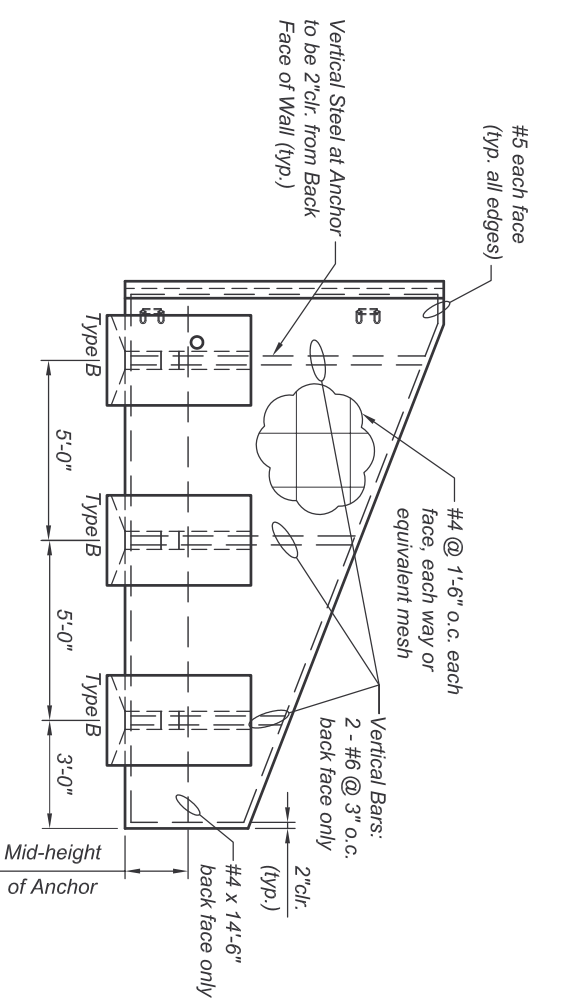
ELEVATION - WW1
Total Weight = 24.1 Tons



REINFORCING DETAIL - WW1
(For Anchor Reinforcing See Sheet S8)



ELEVATION - WW2
Total Weight = 7.0 Tons

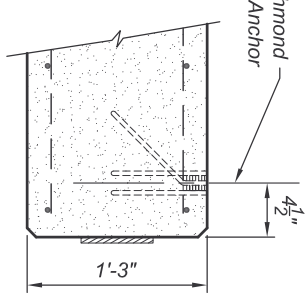


REINFORCING DETAIL - WW2
(For Anchor Reinforcing See Sheet S8)

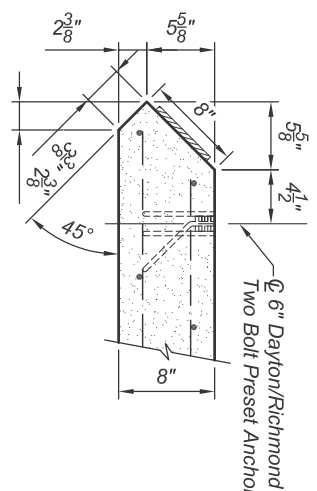
Notes:
 - All edges of Precast to have a 3/4" chamfer
 - Elevation is looking at back face of Wingwall
 - Back face denotes anchor side of Wingwall
 - Wingwall will not hang level. Adjust cable lengths as required

Wingwall		WWF	
Concrete	Rein. Steel	Concrete	Rein. Steel
28-day	60,000 psi	28-day	65,000 psi
4000 psi	uncoated	4000 psi	uncoated

Wherever the reinforcing is cut for the placement of lift holes or other blockouts, reinforcing bars or wires of equivalent cross-sectional area shall be placed symmetrically around the hole. At least one bar must be on each side of the hole, and the development length of the bar must be achieved on either side of the cut.

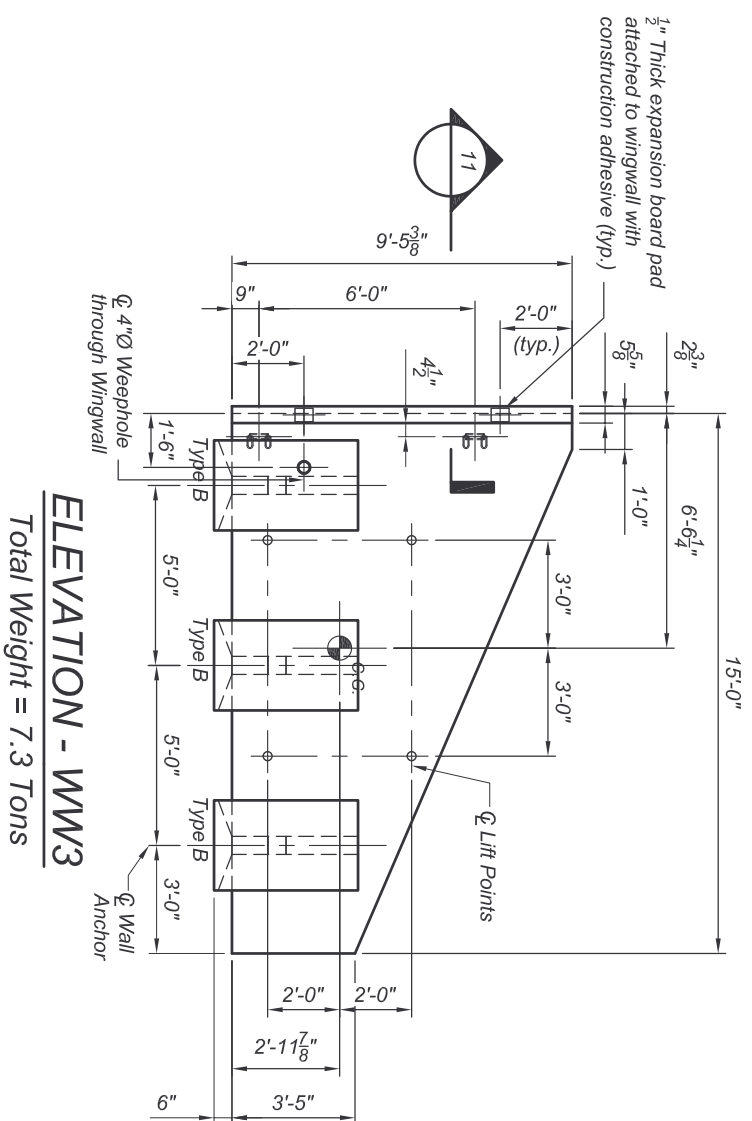


SECTION 9

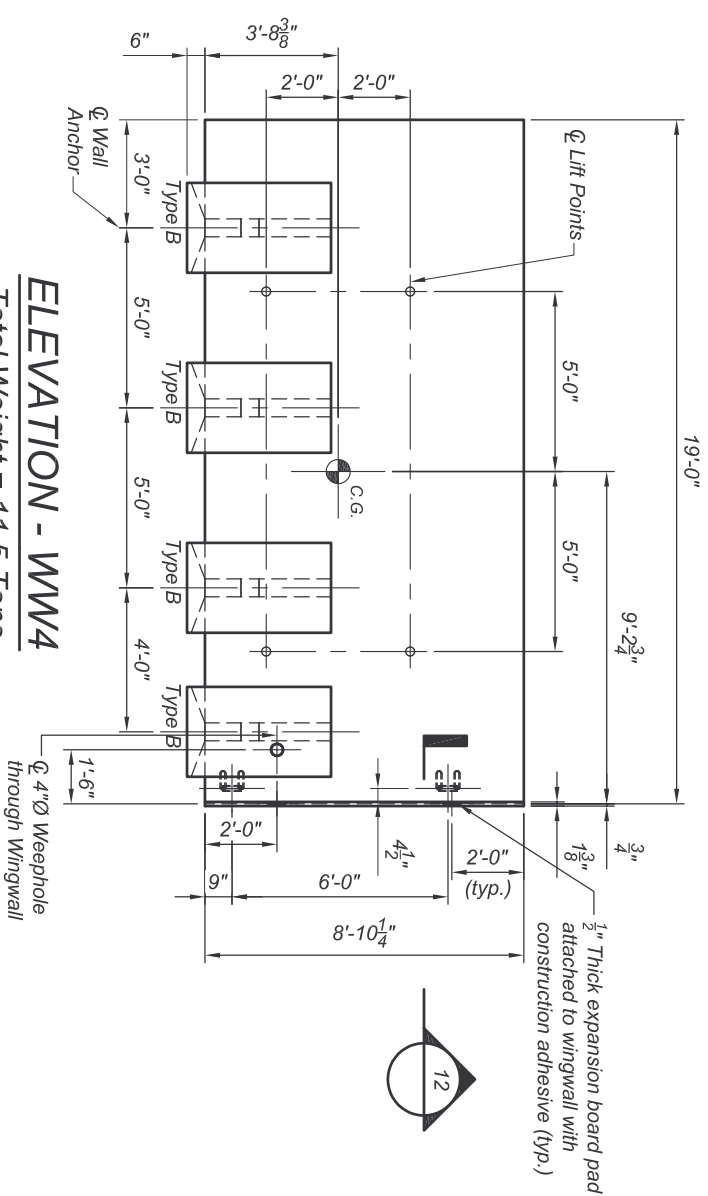


SECTION 10

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6	Level:	
5	Level:	
4	Level:	
3	Level:	
2	Level:	
1	Level:	
Date: _____ By: _____		Revisions: _____ Description: _____ Date: _____ By: _____
Company: CONTECH BRIDGE SOLUTIONS INC. 632 Plank Road, Suite 108 800-526-3999 518-371-2870		CONTECH Product: CONISPAN BRIDGE SYSTEMS ROUTE 119 MINOT, MAINE
Project Status: _____ Designer: KJG Checker: MRW		APPROVAL ONLY: NOT FOR CONSTRUCTION Date Drawn: 9/3/2008 Approved: WDL Job No: 18042
Sheet No: S6 of S10		



ELEVATION - WW3
Total Weight = 7.3 Tons

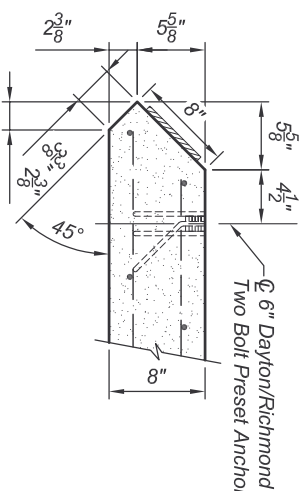


ELEVATION - WW4
Total Weight = 11.5 Tons

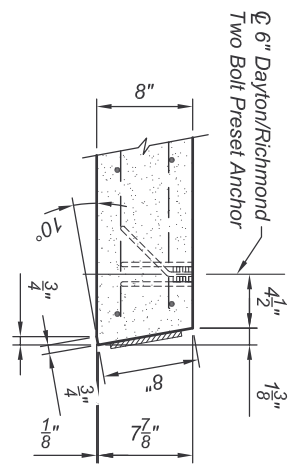
- Notes:
- All edges of Precast to have a 3/4" chamfer
 - Elevation is looking at back face of Wingwall
 - Back face denotes anchor side of Wingwall
 - Wingwall will not hang level. Adjust cable lengths as required

Wingwall		WWF
Concrete	Rein. Steel	WWF
28-day	60,000 psi	65,000 psi
4000 psi	uncoated	uncoated

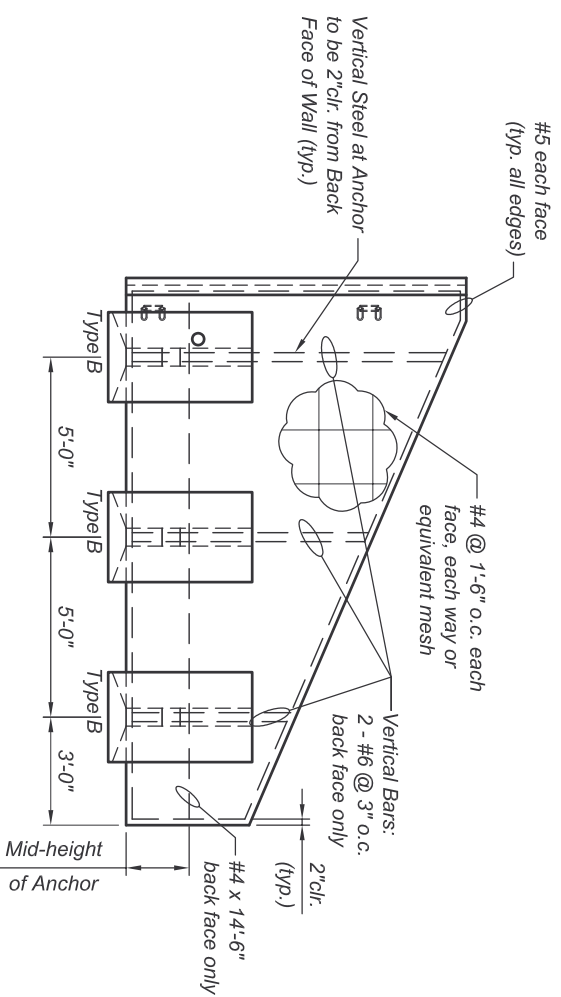
Wherever the reinforcing is cut for the placement of lift holes or other blockouts, reinforcing bars or wires of equivalent cross-sectional area shall be placed symmetrically around the hole. At least one bar must be on each side of the hole, and the development length of the bar must be achieved on either side of the cut.



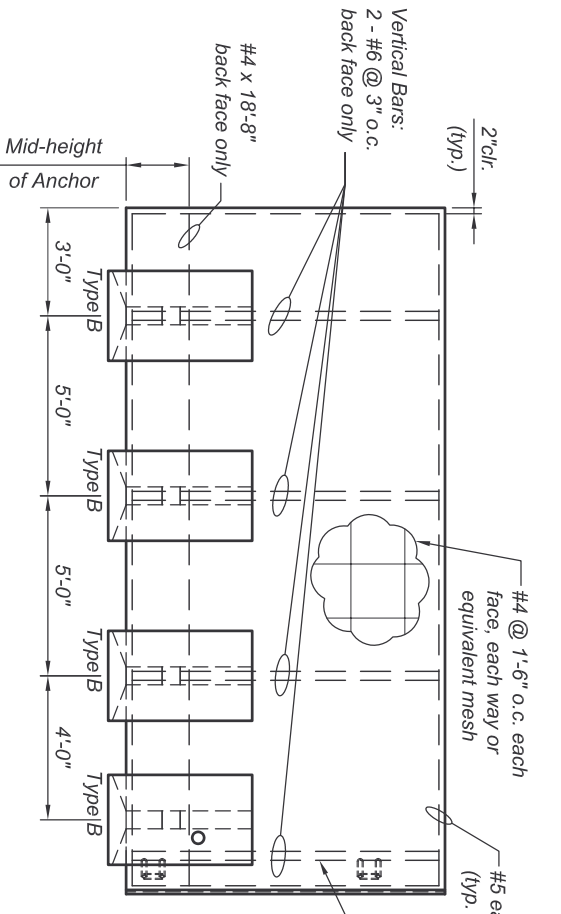
SECTION 11



SECTION 12

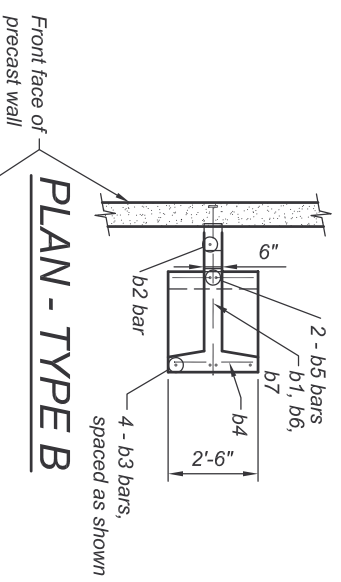


REINFORCING DETAIL - WW3
(For Anchor Reinforcing See Sheet S8)

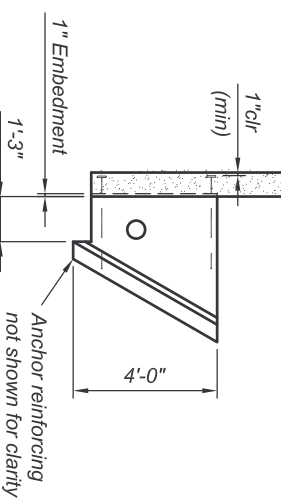


REINFORCING DETAIL - WW4
(For Anchor Reinforcing See Sheet S8)

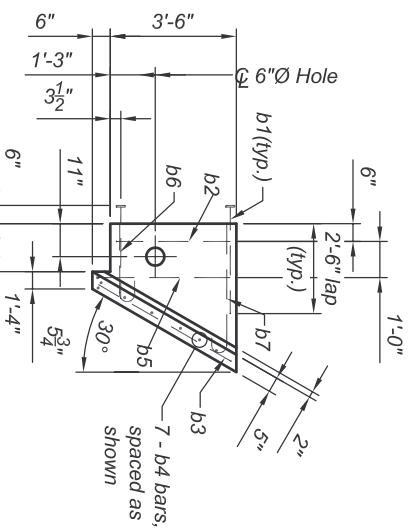
<p>NOTICE: The design and information shown on this drawing is provided as a guide only. It is the responsibility of the user to verify the accuracy of the design and information shown on this drawing. The user shall be responsible for any errors or omissions in the design and information shown on this drawing. The user shall be responsible for any errors or omissions in the design and information shown on this drawing. The user shall be responsible for any errors or omissions in the design and information shown on this drawing.</p>		
6	Level:	
5	Date:	
4	Description:	
3	By:	
2		
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<p>REVISIONS</p>		
<p>Company: CONTECH BRIDGE SOLUTIONS INC. 632 Plank Road, Suite 108, Clifton Park, New York 12065 800-528-3999, 518-371-2870, 518-371-2872 FAX</p>		
<p>CONTECH Product: CONSPAN BRIDGE SYSTEMS</p>		
<p>Project Status: APPROVAL ONLY: NOT FOR CONSTRUCTION</p>		
Designed:	Drawn:	Date Drawn:
KJG	RJB	9/3/2008
Checked:	Approved:	Job No.:
MRW	WDL	18042
<p>Sheet No. S7 of S10</p>		



Wall reinforcing not shown for clarity. See wingwall shop drawings for wall reinforcing.



SECTION - TYPE B

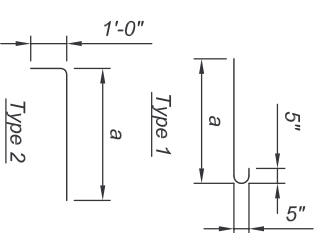


PRECAST ANCHOR TYPE B

Total Weight = .765 Tons

BAR LIST - TYPE B					
MARK	QTY.	SIZE	TYPE	LENGTH	FINISH
b1	2	#6	3	—	Epoxy*
b2	1	#5	Str.	3'-2"	Black
b3	4	#5	Str.	4'-3"	Black
b4	7	#5	Str.	2'-2"	Black
b5	2	#5	3'-8"	2	Black
b6	1	#5	2'-2"	1	Black
b7	1	#5	3'-7"	1	Black

Note: "Str." denotes straight bar.
Standard Clearance = 2"

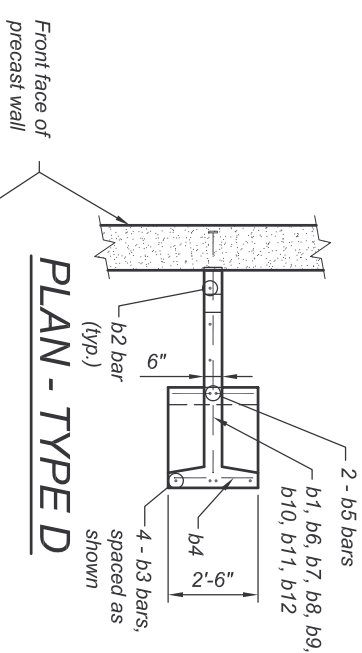


#8 HRC 150 or #8 HRC 120 Head (or equal) welded to #6 bar

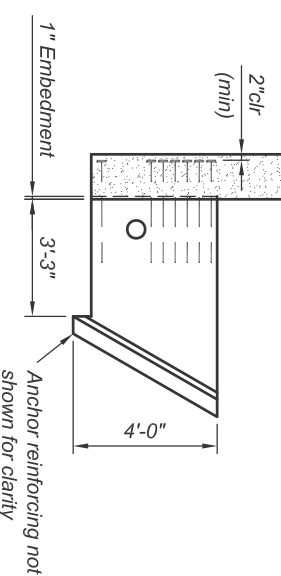
Type 3 (Epoxy Coated*)

*Note: Epoxy coating is not required on headed ends of Type 3 bars, but will not be detrimental if provided.

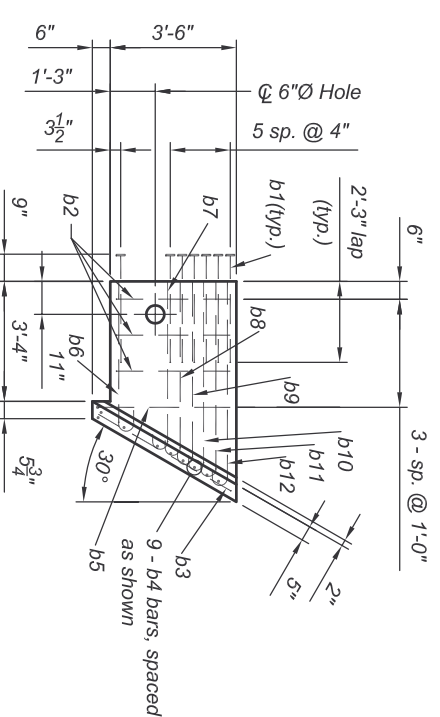
*Note: HRC heads provided by Headed Reinforcement Corp.



Wall reinforcing not shown for clarity. See wingwall shop drawings for wall reinforcing.



SECTION - TYPE D



PRECAST ANCHOR TYPE D

Total Weight = 1.028 Tons

BAR LIST - TYPE D					
MARK	QTY.	SIZE	TYPE	LENGTH	FINISH
b1	7	#6	3	—	Epoxy*
b2	3	#5	Str.	3'-2"	Black
b3	4	#5	Str.	4'-3"	Black
b4	9	#5	Str.	2'-2"	Black
b5	2	#5	3'-8"	2	Black
b6	1	#5	4'-2"	1	Black
b7	1	#5	4'-8"	1	Black
b8	1	#5	4'-10"	1	Black
b9	1	#5	5'-1"	1	Black
b10	1	#5	5'-3"	1	Black
b11	1	#5	5'-5"	1	Black
b12	1	#5	5'-8"	1	Black

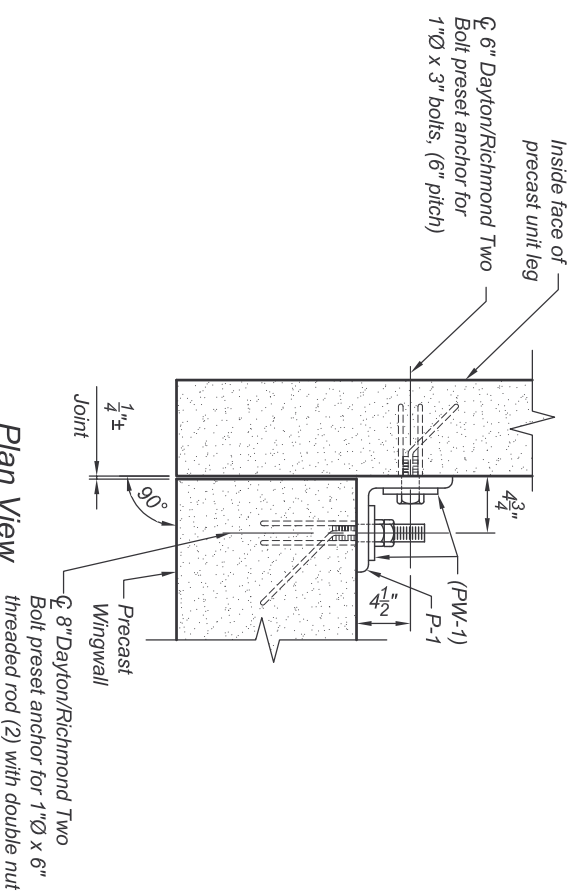
Note: "Str." denotes straight bar.
Standard Clearance = 2"

Level	Date	Description	By
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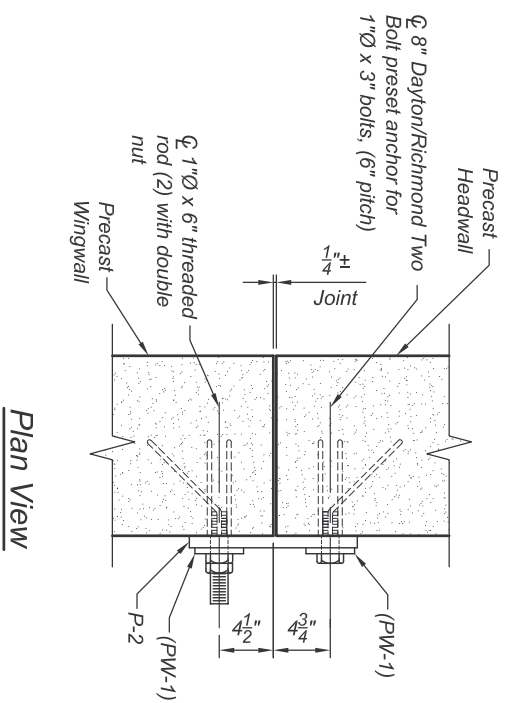
Company:
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CONTECH Product:
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ROUTE 119
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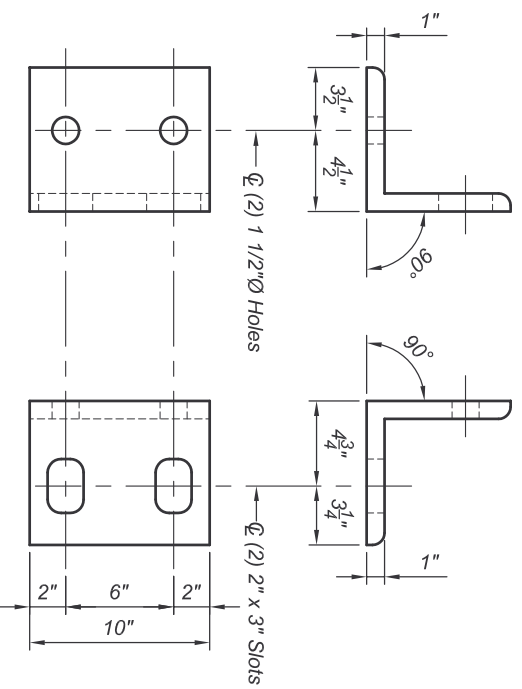
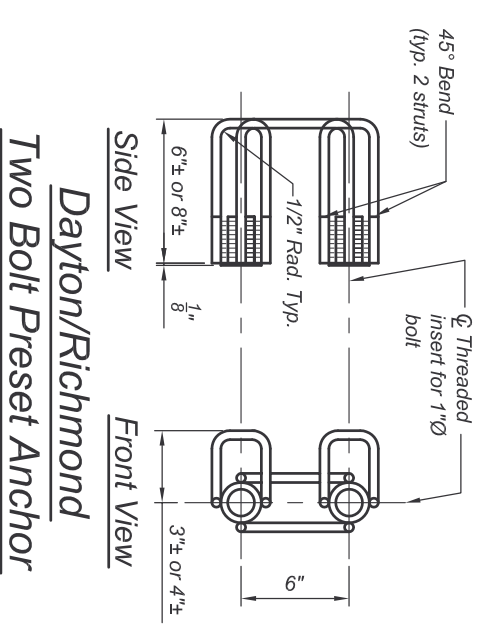
Project Status:		APPROVAL ONLY: NOT FOR CONSTRUCTION	
Designed	KJG	Drawn	RJB
Checked	MRW	Approved	WDL
Date Drawn:	9/3/2008	Job No.:	18042



Typical Connection Detail - P-1

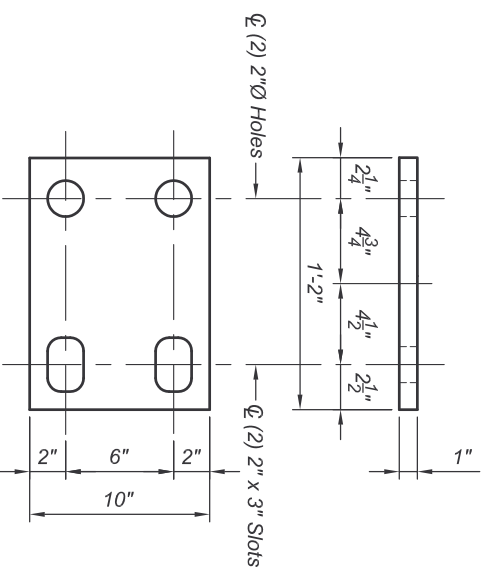


Typical Connection Detail - P-2



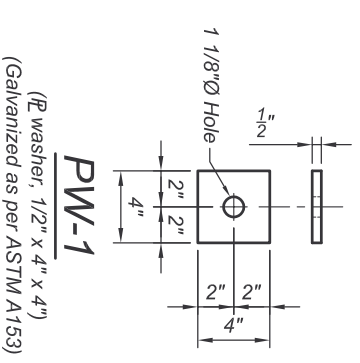
(L 8" x 8" x 1" x 10" Galv.)
(Galvanized as per ASTM A153)

PLATE P-1
Total Required = 1
(4) PW-1 Req'd. per Plate



(R 1" x 14" x 10")
(Galvanized as per ASTM A153)

PLATE P-2
Total Required = 1
(4) PW-1 Req'd. per Plate



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Level:			
Date:			
By:			

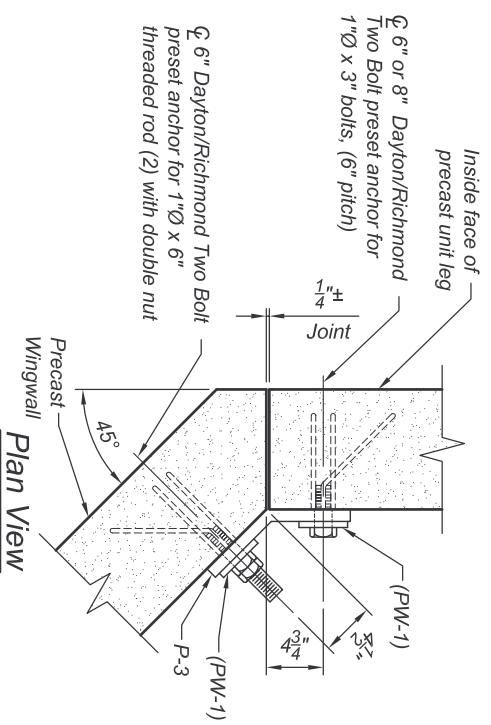
REVISIONS

Company:
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BRIDGE SOLUTIONS INC.
632 Plank Road, Suite 108
800-526-3999 518-371-2870
Clifton Park, New York 12065
518-371-2872 FAX

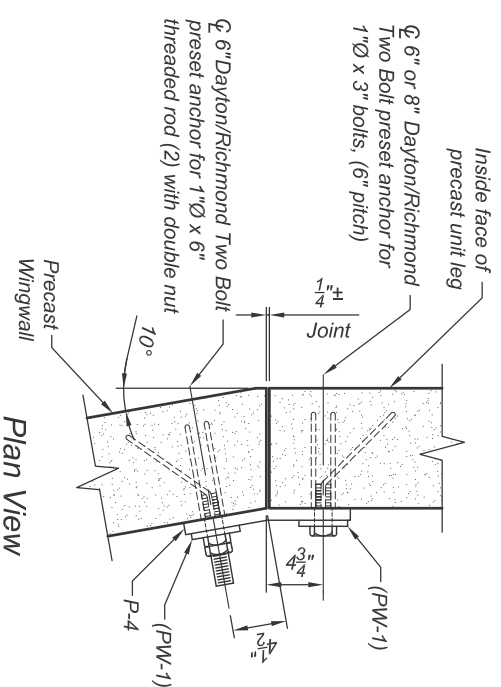
CONTECH Product:
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BRIDGE SYSTEMS
ROUTE 119
MINOT, MAINE

Project Status:	Designed	Drawn	Checked	Approved	Job No.
	KJG	RJB	MRW	WDL	18042
APPROVAL ONLY: NOT FOR CONSTRUCTION					
Date Drawn:	9/3/2008				

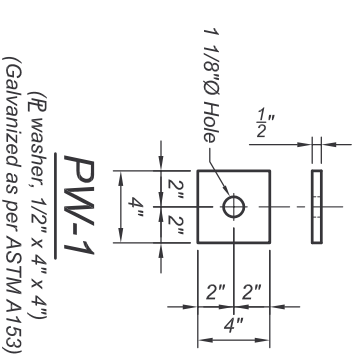
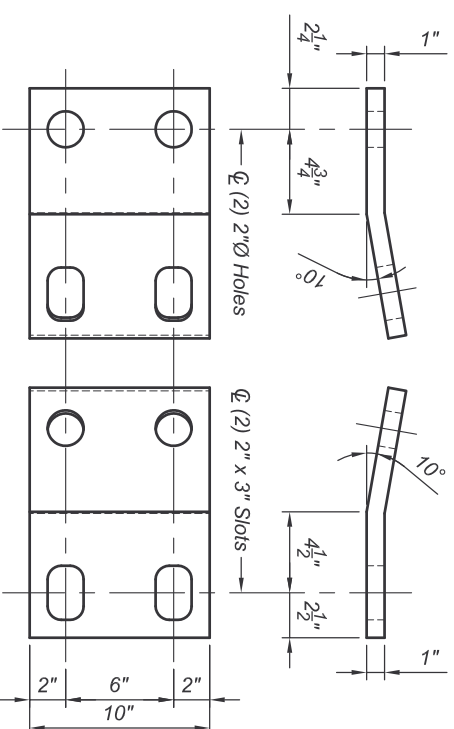
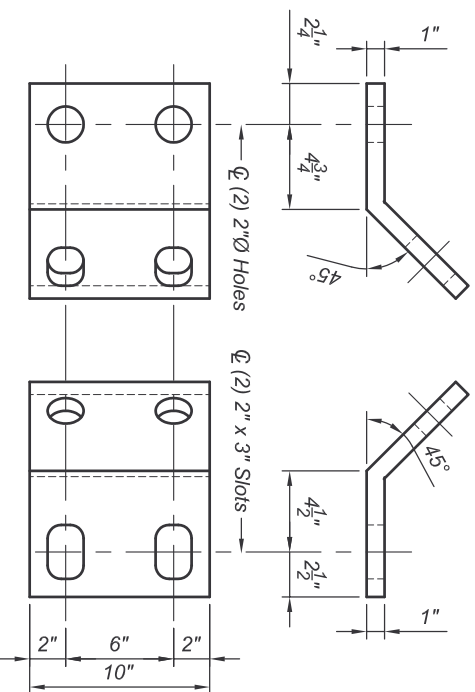
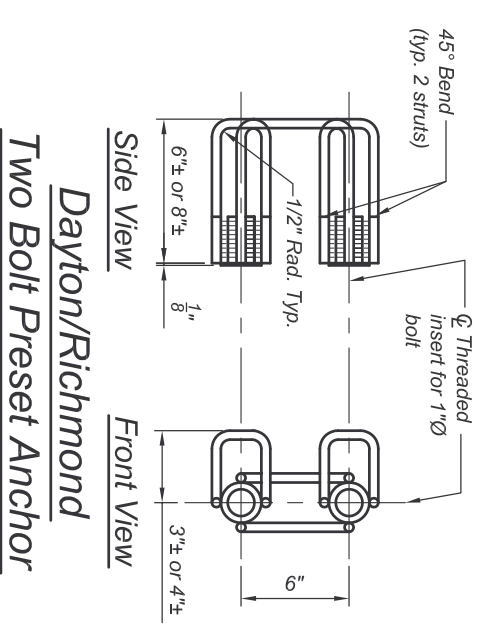
Sheet No. **S9** of **S10**



Typical Connection Detail - P-3



Typical Connection Detail - P-4



PW-1
(R washer, 1/2" x 4" x 4")
(Galvanized as per ASTM A153)

PLATE P-3
Total Required = 4 (4) PW-1 Req'd. per Plate

PLATE P-4
Total Required = 2 (4) PW-1 Req'd. per Plate

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Level:	
Date:	
By:	

REVISIONS

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Project Status:	Designed	Drawn	Date Drawn:
Checked:	KJG	RJB	9/3/2008
Approved:	MRW	WDL	18042

Approval ONLY: NOT FOR CONSTRUCTION	Sheet No:
	S10 of S10

SPECIAL PROVISIONS
SECTION 104
Utilities

MEETING

A Preconstruction Utility Conference of the proposed work **maybe** required.

GENERAL INFORMATION

These Special Provisions outline the arrangements that have been made by the Department for utility work to be undertaken in conjunction with this project. The following list identifies all known utilities having facilities presently located within the limits of this project or intending to install facilities during project construction.

Overview:

Utility/Railroad	Aerial	Underground
Central Maine Power	X	
Time Warner Cable	X	
Maine Telephone Co.	X	

SAFE PRACTICES AROUND UTILITY FACILITIES

The **Contractor** shall be responsible for complying with M.R.S.A. Title35-A, Chapter 7-A Sections 751 -761 Overhead High-Voltage Line Safety Act. Prior to commencing any work that may come within ten (10) feet of any aerial electrical line; the Contractor shall notify the aerial utilities as per section 757 of the above act.

Temporary de-energizing of the power line may be requested by the **Contractor** for use of the crane within the 10 foot safety clear area. According to **Central Maine Power**, the power can only be shut down for a short period of time.(one hour or less) The **Contractor** must schedule with **Central Maine Power** the date and time the shut down will occur.

The **Department** will notify the homes where power will be disrupted after the pre-construction meeting or an accurate schedule for construction is approved.

The Contractor shall not excavate around any pole or guy anchor to a depth that compromises the stability of the pole.

Any times and dates are estimates only and are dependent upon favorable weather, working conditions, and freedom from emergencies. The **Contractor** shall have no claim against the Department if, because of the pre-mentioned conditions, **Central Maine Power** cannot de-energize as planned.

Utility working days are Monday through Friday, conditions permitting.

In all cases, **Central Maine Power** shall be notified, by the **Contractor**, well in advance (one or two weeks) before work around their lines is to commence.

THE CONTRACTOR SHALL PLAN AND CONDUCT HIS WORK ACCORDINGLY.

<u>Utility Contacts</u>	<u>Coordinator</u>	<u>Phone</u>
Central Maine Power	Tim Laney	753-3107