

State of Vermont
Highway Division
Project Delivery Bureau
Structures Design Section
National Life Building
Montpelier, VT 05633-5001
www.vtrans.vermont.gov

[phone] 802-828-0161
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[ttd] 800-253-0191

February 10, 2016

CCS Constructors, Inc.
138 Munson Avenue
Morrisville, VT 05661

Project Name: New Haven BRF 0183(1)

Structure Identification: TH 2, Bridge 10

The precast concrete fabrication drawings associated with Items 540.10 Precast Concrete Structure (Abutment #1), (Abutment #2), (Approach Slab #1) and (Approach Slab #2) and Item 900.645 Special Provision (Precast Concrete/Steel Composite Pier Cap), has been reviewed and is being returned herewith.

Please incorporate all review comments and resubmit.

Sincerely,



Todd A. Sumner P.E.
Project Manager

REVIEWED

By Jim Wild (jim.wild@state.vt.us) at 10:26 am, Feb 09, 2016



Vermont Agency of Transportation

RECEIVED

ON: **January 28, 2016**

and Checked for

CONFORMANCE

BY: Todd A. Sumner DATE: 02/11/16

January 28th, 2016

CCS Constructors
Brian Richardson
138 Munson Ave.
Morrisville, VT 05661

RE: New Haven Vermont Shop Details – Submission Set Revisions

To whom it may concern,

This letter is being written as documentation that we have reviewed the shop details for interference between the structural steel components and the precast concrete components in accordance with project specifications. I am satisfied applying my PE stamp to the shop details for submission to VTrans and Parsons Brinkerhoff. It should be noted that Calderwood Engineering has not performed any calculations with respect to the structural capacity of the bridge, and that our stamp represents a review for interference and for conformance to contract details only. No structural calculations have been performed.

Please note that the Metallizing procedure is being revised and will be submitted under separate cover. Review comments are being addressed, but they will not affect steel details or concrete details.

The list of details attached to this letter to which we consider our stamp applied to and being submitted herein are as follows:

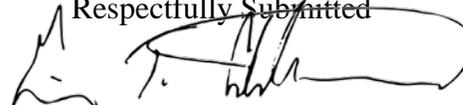
Steel Details:

1. 645-TR-4.pdf
2. CBS 645 for-approval REV3.pdf

Concrete Details:

1. 23475-15 River Road_rev2a.pdf
2. New Haven VT Bridge – JPC Lifting Design Calculations Supplement #1 1-20-16.pdf
3. 3523_001.pdf



Respectfully Submitted

Eric T. Calderwood, PE

RIVER ROAD BRIDGE No. 10
NEW HAVEN, VT

Vermont Agency of Transportation

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LIFT DESIGN CALCULATIONS

(SUPPLEMENT # 1)

ISSUE:

APPROACH SLABS:

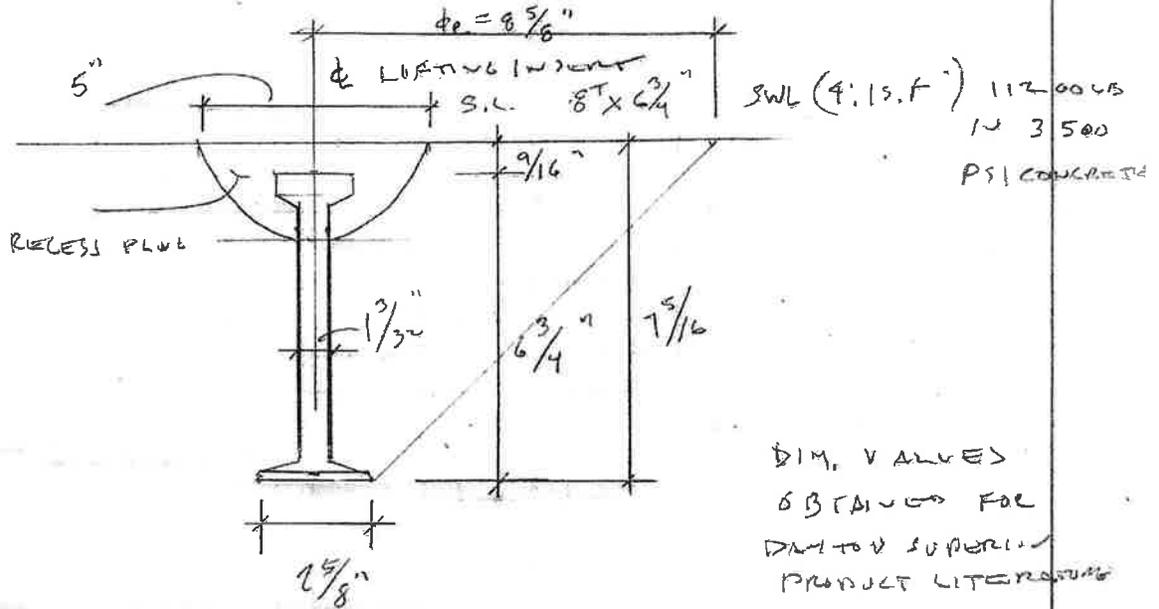
THIS SUPPLEMENT IS ISSUED IN RESPONSE TO MATHEW ON JPC DRAWINGS 'AS1' & 'AS2' REGARDING MINIMUM EDGE DISTANCE.

JPC RESPONSE:

THE MINIMUM EDGE DISTANCE OF 21" IS APPLICABLE WHEN 8" X 6 3/4" S.L. ANCHORS ARE USED IN SHEAR. IN THIS APPLICATION THE LIFTERS ARE PRINCIPALLY IN TENSION AND THE MIN. EDGE DISTANCE IS APPROX = $7 \frac{5}{16} + 2 \frac{5}{8} = 8 \frac{5}{16}$, SAY 10". SEE ATTACHED CALCULATION, PRODUCT LITERATURE, P. 26 FOR LIFT ANCHOR DIM. & INSTALLATION DIM. SHEAR CONE IS SIM. TO HEADED BAR, SEE FIG. 6.5.3 OF PCI DESIGN HANDBOOK ATTACHED.

LIFTING LOOP/LIFTING INVERT DESIGN CALCULATIONS
(SUPPLEMENT #1)

RESPONSE TO EDGE DISTANCE QUESTION:



CHECK APPROX MID EDGE DISTANCE OF 10" FOR TENSION LOAD APPLICATION

$$\phi_e = 7 \frac{5}{16} + \frac{1}{2} \times 2 \frac{5}{8} = 8 \frac{5}{8}, \text{ ROUNDED UP TO } 10"$$

TO ACCOUNT FOR EFFECT OF RECESS PLUG (BY ENGINEERING JUDGEMENT)

ALSO CHECK SWL (CONCRETE) OR INVERT

$$\phi P_{c1} = 10.7 f_c (l_c + d_h) \sqrt{f_c}$$

EQ 6.5.3 OF 5TH EDITION PCI DESIGN HANDBOOK

$$= 10.7 \times 7 \frac{5}{16} (7 \frac{5}{16} + 2 \frac{5}{8}) \sqrt{3500} = 46000 \text{ LB}$$

FOR S.F. = 4:1

$$SWL = \frac{46000}{4} = 11500 \text{ LB} \sim 11200 \text{ LB PUBLISHED VALUE, O.K.}$$

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ability of headed stud design. The design methods used here should be considered an interim step toward a final headed stud design procedure. It is recommended that this procedure be limited to headed studs with an embedment not greater than 8 in.

An important factor in the performance of headed studs when controlled by concrete capacity is the confinement of the failure area with reinforcement. In shear, design capacity is increased with such reinforcement. In tension, ductility can be provided. It is recommended that reinforcement be placed to cross failure planes around headed stud anchorages.

Welded headed studs are designed to resist direct tension, shear or a combination of the two. The design equations given below are applicable to studs which are welded to steel plates or other structural members, and embedded in unconfined concrete.

Where feasible, headed stud connections should be designed and detailed such that the connection failure is precipitated by failure (typically defined as yielding) of the stud material rather than failure of the surrounding concrete. The in-place strength should be taken as the smaller of the values based on concrete and steel.

6.5.2.1 Tension

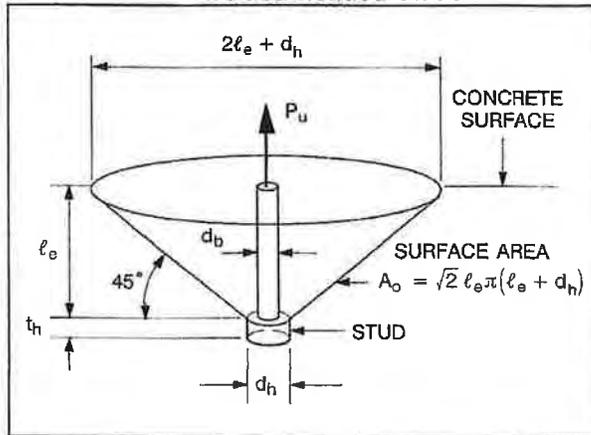
The design tensile strength governed by concrete failure is [9]:

$$\phi P_c = \phi A_o (2.8\lambda \sqrt{f'_c}) \quad (\text{Eq. 6.5.2})$$

where:

- $\phi = 0.85$
- $A_o =$ area of the assumed failure surface which, for a single stud not located near a free edge, is taken to be that of a 45° truncated cone as shown in Figure 6.5.3.

Figure 6.5.3 Shear cone development for welded headed studs



Using the 45° cone area and $\phi = 0.85$, Eq. 6.5.2 may be written as:

$$\phi P_c = 10.7\lambda (\ell_e + d_h)\lambda \sqrt{f'_c} \quad (\text{Eq. 6.5.3})$$

Note: The stud length is often used in place of the actual embedment length, ℓ_e , which is equal to the stud length minus the thickness of the head. This simplification is generally acceptable except in short stud. In short studs (length ≤ 4 in.), the use of actual embedment length is recommended. It should also be noted that short stud capacities are also sensitive to fabrication tolerances. Thus, use of a larger over factor of safety may be appropriate for short stud. See Sect. 6.3.

For a stud located closer to a free edge than the embedment length, ℓ_e , the design tensile strength given by Eq. 6.5.3, should be reduced by multiplying it by C_{es} :

$$C_{es} = \frac{d_e}{\ell_e} \leq 1.0 \quad (\text{Eq. 6.5.4})$$

where d_e is the distance measured from the stud axis to the free edge. If a stud is located in the corner of concrete member, Eq. 6.5.4 should be applied twice, once for each edge distance. Figure 6.15.6 lists values based on Eqs. 6.5.3 and 6.5.4.

For a group of studs, the concrete failure surface may be along a truncated pyramid rather than separate shear cones, as shown in Figure 6.5.4.

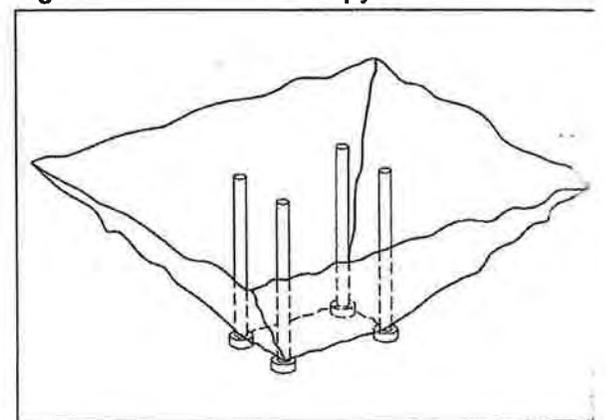
For this case, the design tensile strength is:

$$\phi P_c = \phi \lambda \left(\frac{2}{3}\right) \sqrt{f'_c} (2.8A_{\text{slope}} + 4A_{\text{flat}}) \quad (\text{Eq. 6.5.5})$$

where:

- $A_{\text{slope}} =$ sum of the areas of the sloping sides
- $A_{\text{flat}} =$ area of the flat bottom of the truncated pyramid

Figure 6.5.4 Truncated pyramid failure



Swift Lift System

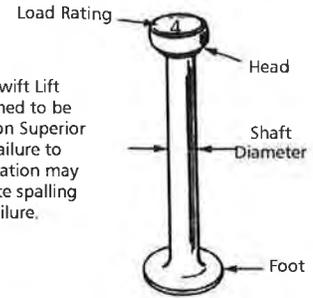
P52 Swift Lift® Anchor

The P52 Swift Lift Anchor is hot forged from carbon steel. The formed head provides spherical seating that the Lifting Eye engages, while a disc-shaped foot is embedded in the concrete.

Due to its being a forged part, the Swift Lift Anchor does not depend on welds or thread engagement to develop its safe working load. Forging provides maximum safety with its advantageous material structure. This allows the anchor to easily meet the OSHA requirement of a 4 to 1 factor of safety.

In addition to the carbon steel anchors, Type 304 or 316 Stainless Steel Swift Lift Anchors are available on special order. Use stainless steel anchors when maximum protection against corrosion is required.

For safety, refer to the P52 Swift Lift Anchor Selection Chart to determine the actual safe working load of an individual anchor. The MAXIMUM safe working load is clearly visible on the head of the anchor for easy recognition of the appropriate hardware and accessories for-use with each Swift Lift Anchor.



Caution: The Swift Lift Anchor is designed to be used with Dayton Superior components. Failure to use this combination may result in concrete spalling or premature failure.

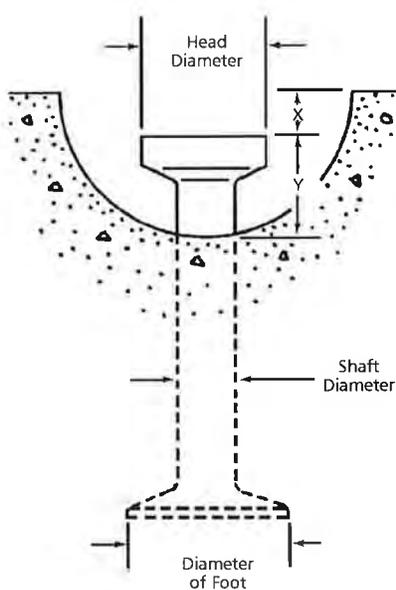
To Order:

Specify: (1) quantity, (2) name, (3) system size, (4) length

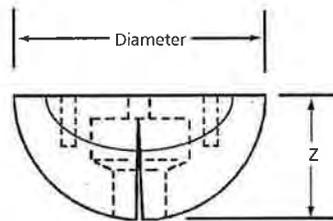
Example:

200, P52 Swift Lift Anchors, 4 ton, 9-1/2" long

P52 Swift Lift Anchor and Recess Plug Dimensions



P52 Swift Lift Anchor



Swift Lift Round Recess Plug

Swift Lift Round Recess Plug Dimensions		
Swift Lift Anchor	Diameter of Recess Plug	Dimension Z
1	2-7/16"	1-3/16"
2	3-5/16"	1-7/16"
4	4"	1-13/16"
8	5"	2-5/16"
20 Tons	6-3/8"	3-1/8"

Note: The diameter of the narrow recess plug is the same as the diameter of the round recess plug.

P52 Swift Lift Anchor Dimensions					
Swift Lift Anchor	Dimension X	Dimension Y	Shaft Diameter	Foot Diameter	Head Diameter
1	5/16"	7/8"	3/8"	1"	11/16"
2	7/16"	1-1/16"	9/16"	1-3/8"	1-1/32"
4	9/16"	1-5/16"	3/4"	1-7/8"	1-11/32"
8	9/16"	1-5/8"	1-3/32"	2-5/8"	1-7/8"
20 Tons	9/16"	2-5/8"	1-1/2"	3-3/4"	2-3/4"

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Swift Lift System

P52 Swift Lift® Anchor Tensile and Shear Capacity

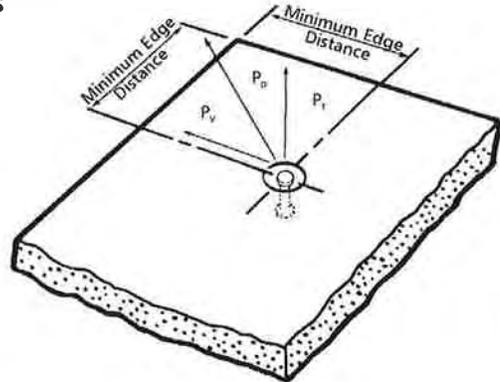
When anchors are used in the face of thin concrete elements

The following table lists the P52 Swift Lift Anchors that are currently manufactured. Other sizes and lengths are available on special order. However, the sizes and lengths of anchors shown will handle the majority of flat precast concrete elements.

When the P52 Swift Lift Anchor is properly embedded in normal weight concrete, the tabulated working loads are applicable for any direction of load. This applies even if the direction of load is parallel to the axis of the anchor, perpendicular to it or at any other angle.

Minimum distance between anchors is twice the minimum edge distance.

It is critical to remember that in order to obtain the safe working loads listed in the table below, the normal weight concrete must have obtained the minimum concrete strength shown, prior to initial load application.



Swift Lift Anchor Ton x Length	Safe Working Load	Minimum Concrete Strength	Minimum Edge Distance
1 ton x 2-5/8"	1,700 lbs.	3,500 psi	8"
1 ton x 3-3/8"	2,000 lbs.	2,200 psi	10"
1 ton x 4-3/4"	2,000 lbs.	1,600 psi	10"
1 ton x 8"	2,000 lbs.	1,600 psi	10"
1 ton x 9-1/2"	2,000 lbs.	1,600 psi	10"
2 ton x 2-3/4"	2,100 lbs.	3,500 psi	8"
2 ton x 3-3/8"	2,900 lbs.	3,500 psi	10"
2 ton x 4-3/4"	4,000 lbs.	3,500 psi	10"
2 ton x 5-1/2"	4,000 lbs.	1,600 psi	13"
2 ton x 6"	4,000 lbs.	1,600 psi	13"
2 ton x 6-3/4"	4,000 lbs.	1,600 psi	13"
2 ton x 11"	4,000 lbs.	1,600 psi	14"
4 ton x 3-3/4"	4,000 lbs.	3,500 psi	12"
4 ton x 4-1/4"	4,900 lbs.	3,500 psi	13"
4 ton x 4-3/4"	5,800 lbs.	3,500 psi	14"
4 ton x 5-1/2"	7,400 lbs.	3,500 psi	17"
4 ton x 5-3/4"	7,900 lbs.	3,500 psi	17"
4 ton x 7-1/8"	8,000 lbs.	1,800 psi	20"
4 ton x 9-1/2"	8,000 lbs.	1,600 psi	17"
4 ton x 14"	8,000 lbs.	1,600 psi	18"
4 ton x 19"	8,000 lbs.	1,600 psi	20"
8 ton x 4-3/4"	6,400 lbs.	3,500 psi	16"
8 ton x 5-1/4"	6,850 lbs.	3,500 psi	16"
✓ 8 ton x 6-3/4"	11,200 lbs.	3,500 psi	21"
8 ton x 10"	16,000 lbs.	3,500 psi	19"
8 ton x 13-3/8"	16,000 lbs.	1,600 psi	23"
8 ton x 26-3/4"	16,000 lbs.	1,600 psi	27"
20 ton x 10"	25,000 lbs.	3,500 psi	24"
20 ton x 19-3/4"	40,000 lbs.	3,500 psi	31"

Safe Working Loads provide a factor of safety of approximately 4 to 1 in normal weight concrete. Safe Working Load is based on anchor setback from face of concrete "X" dimension, as shown on page 26.

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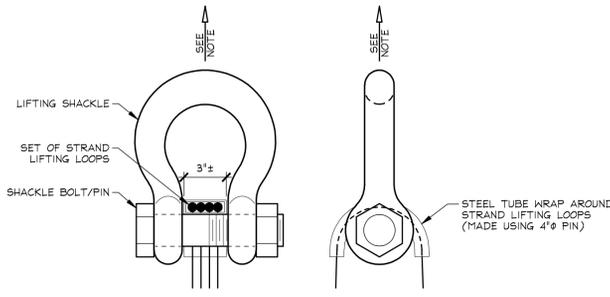
BY: **Todd A. Sumner** DATE: **02/11/16**

SUBMITTAL REVIEW

Review is only for general conformity to the contract drawings and specifications and shall not relieve the contractor of his entire responsibility under the contract, including among other things, dimensions to be confirmed and correlated at the job site, and information that pertains to the fabrication processes or to techniques of construction.

NO EXCEPTIONS TAKEN
 MAKE CORRECTIONS NOTED
 RESUBMITTAL NOT REQUIRED
 AMEND AND RESUBMIT
 REJECTED - SEE REMARKS

PE AMERICAS, INC.
BY: *R. Sand*
DATE: *2/4/16*



NOTE: PRECAST UNITS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL FORCES ARE APPLIED TO EACH SET OF LIFTING LOOPS AT EACH END OF PRECAST UNITS. SHACKLE BOLT/PIN SHALL BE PLACED UNDER LIFT LOOPS AS SHOWN. DESIGN AND CONFIGURATION OF RIGGING BY PURCHASER.

LIFTING SHACKLE DETAILS
N.T.S.

PIER CAP GENERAL NOTES

- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE (5,000 PSI) (UNLESS NOTED OTHERWISE).
- MIN. CONCRETE STRENGTH AT STRIPPING SHALL BE (3,500 PSI) (UNLESS NOTED OTHERWISE).
- REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL II (DUAL COATED) (AS NOTED ON SHOP DRAWINGS).
- SEE INDIVIDUAL PIER CAP DRAWINGS FOR CONCRETE FINISHES AND EXTENT OF WATERPROOF SEALER APPLICATION.
- PRECAST CONCRETE UNITS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. **THE PINS OF THE SHACKLES SHALL BE PLACED THROUGH THE LIFTING LOOPS. SEE DETAIL, THIS SHEET.** NON-PRESTRESSED UNITS SHALL BE STORED & TRANSPORTED WITH TIMBER SUPPORTS AT 5th POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
- MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.
DESIGN MIX: VERMONT HIGH PERFORMANCE CLASS A (VTHPCA)
- QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
- CURING METHOD: AS SOON AS THE TOP OF PRECAST CONCRETE UNITS ARE FINISHED, A COVER OF POLY WILL BE PLACED OVER THE UNIT. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED. CONCRETE TEMPERATURE WITHIN FORMS SHALL BE ABOVE 50°F AT ALL TIMES. AFTER FORM REMOVAL THE MAXIMUM TEMPERATURE DIFFERENTIAL BETWEEN THE CONCRETE SURFACE AND AMBIENT SHALL BE 40°F.

APPROACH SLAB GENERAL NOTES

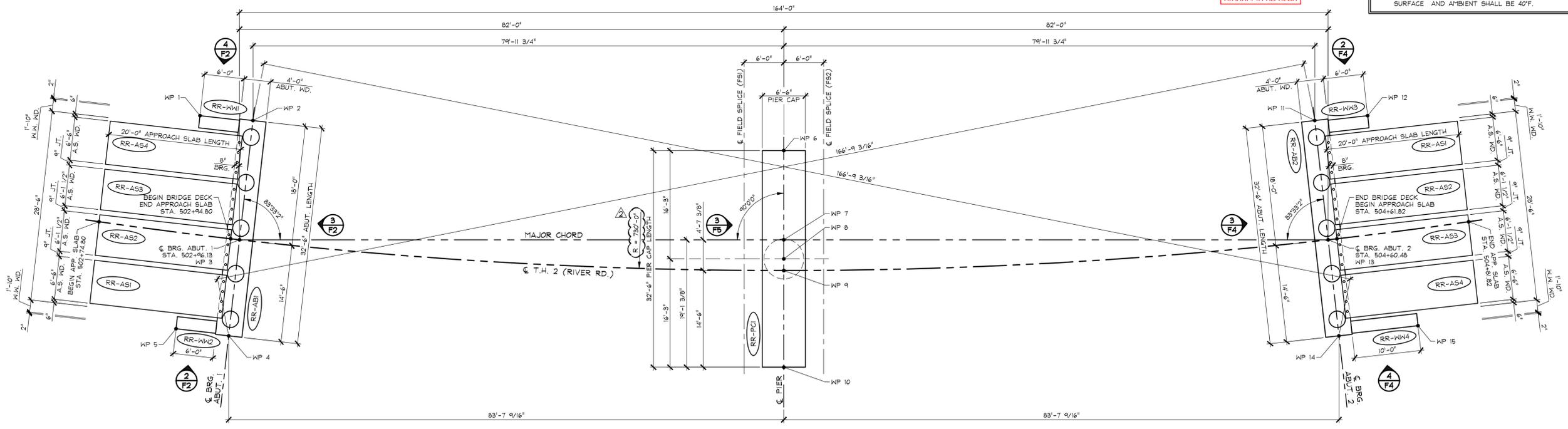
- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
- MIN. CONCRETE STRENGTH AT STRIPPING SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
- REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL II (DUAL COATED) (AS NOTED ON SHOP DRAWINGS).
- THE TOP OF APPROACH SLABS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
- REFER TO INDIVIDUAL SHOP DRAWINGS FOR FINISH OF SHEAR KEY SURFACES.
- PRECAST CONCRETE UNITS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. NON-PRESTRESSED UNITS SHALL BE STORED & TRANSPORTED WITH TIMBER SUPPORTS AT 5th POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
- MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.
DESIGN MIX: J.P.C. BRIDGE MIX #445MSCC
- QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
- CURING METHOD: AS SOON AS THE TOP OF PRECAST CONCRETE UNITS ARE FINISHED, A COVER OF RIGID INSULATION AND POLY WILL BE PLACED OVER THE UNIT. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED. CONCRETE TEMPERATURE WITHIN FORMS SHALL BE ABOVE 50°F AT ALL TIMES. AFTER FORM REMOVAL THE MAXIMUM TEMPERATURE DIFFERENTIAL BETWEEN THE CONCRETE SURFACE AND AMBIENT SHALL BE 40°F.

ABUTMENT & WING WALL GENERAL NOTES

- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
- MIN. CONCRETE STRENGTH AT STRIPPING SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
- REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL II (DUAL COATED) (AS NOTED ON SHOP DRAWINGS).
- SEE INDIVIDUAL ABUTMENT DRAWINGS FOR CONCRETE FINISHES AND EXTENT OF WATERPROOF SEALER APPLICATION.
- SEE INDIVIDUAL WING WALL DRAWINGS FOR CONCRETE FINISHES AND EXTENT OF WATERPROOF SEALER APPLICATION. CONCRETE MUST ACHIEVE 80% OF THE SPECIFIED DESIGN STRENGTH (4,000 PSI) PRIOR TO APPLICATION OF SEALER.
- PRECAST CONCRETE UNITS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. **THE PINS OF THE SHACKLES SHALL BE PLACED THROUGH THE LIFTING LOOPS. SEE DETAIL, THIS SHEET.** NON-PRESTRESSED UNITS SHALL BE STORED & TRANSPORTED WITH TIMBER SUPPORTS AT 5th POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
- MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.
DESIGN MIX:
WING WALLS: J.P.C. BRIDGE MIX #445MSCC
ABUTMENTS: J.P.C. BRIDGE MIX #445MSCC
- QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
- ABUTMENT CURING METHOD: AS SOON AS THE TOP OF PRECAST CONCRETE UNITS ARE FINISHED, A COVER OF POLY WILL BE PLACED OVER THE UNIT. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED. AMBIENT TEMPERATURE WITHIN THE ENCLOSURE SHALL BE RECORDED. CONCRETE TEMPERATURE WITHIN FORMS SHALL BE ABOVE 50°F AT ALL TIMES. AFTER FORM REMOVAL THE MAXIMUM TEMPERATURE DIFFERENTIAL BETWEEN THE CONCRETE SURFACE AND AMBIENT SHALL BE 40°F.
- WING WALL CURING METHOD: AS SOON AS THE TOP OF PRECAST CONCRETE UNITS ARE FINISHED, A COVER OF RIGID INSULATION AND POLY WILL BE PLACED OVER THE UNIT. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED. CONCRETE TEMPERATURE WITHIN FORMS SHALL BE ABOVE 50°F AT ALL TIMES. AFTER FORM REMOVAL THE MAXIMUM TEMPERATURE DIFFERENTIAL BETWEEN THE CONCRETE SURFACE AND AMBIENT SHALL BE 40°F.

the plant QSM should state these procedures

different manufacturers have different application conditions. If they are going to be this specify they should provide the product to be used



1 PRECAST CONCRETE & SURVEY LAYOUT
1/8" = 1'-0"

1-19-16 REVISED PER ENGINEER'S REVIEW
12-2-15 REVISED PER GENERAL CONTRACTOR'S ENGINEER REVIEW

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON	
	TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)	DATE: OCT. 15, 2015 SCALE: NOTED CHKD: A.S. DFTM: B.L. JOB NO: 23475-015
	PRECAST CONCRETE & SURVEY LAYOUT	DWG. NO: F1

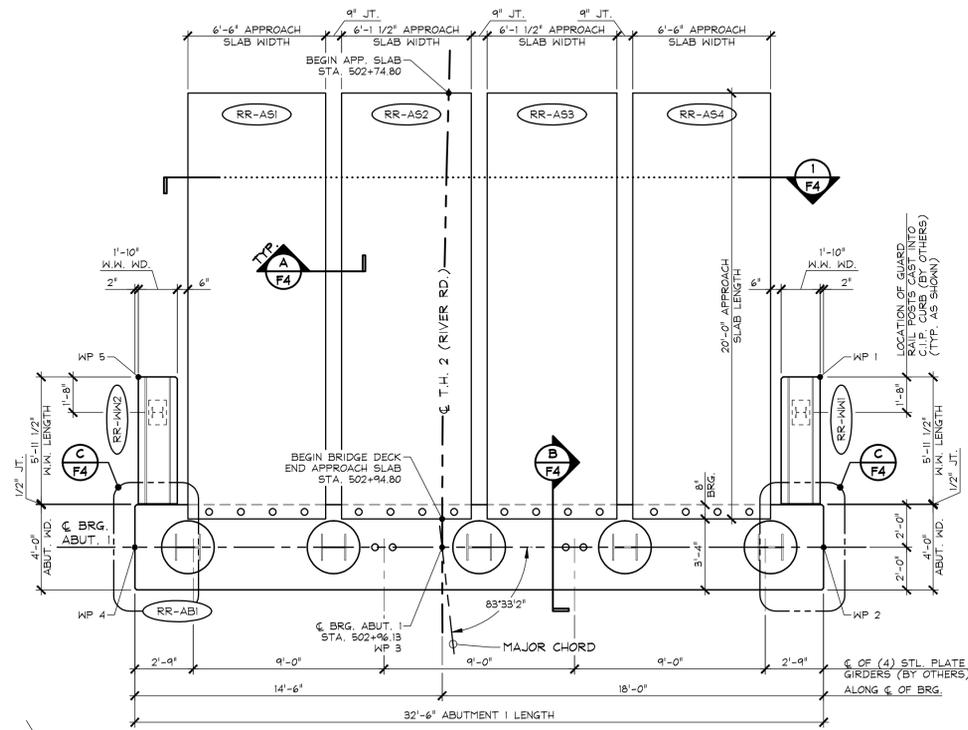
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BY: Todd A. Sumner DATE: 02/11/16

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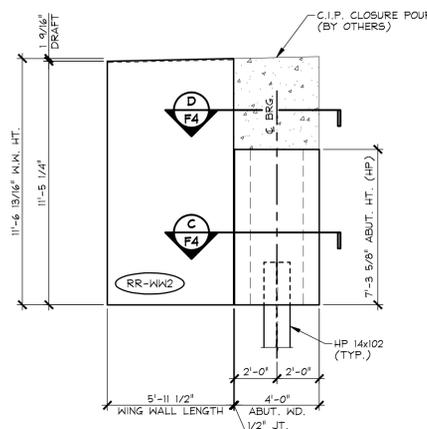
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- NO EXCEPTIONS TAKEN
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- REJECTED - SEE REMARKS

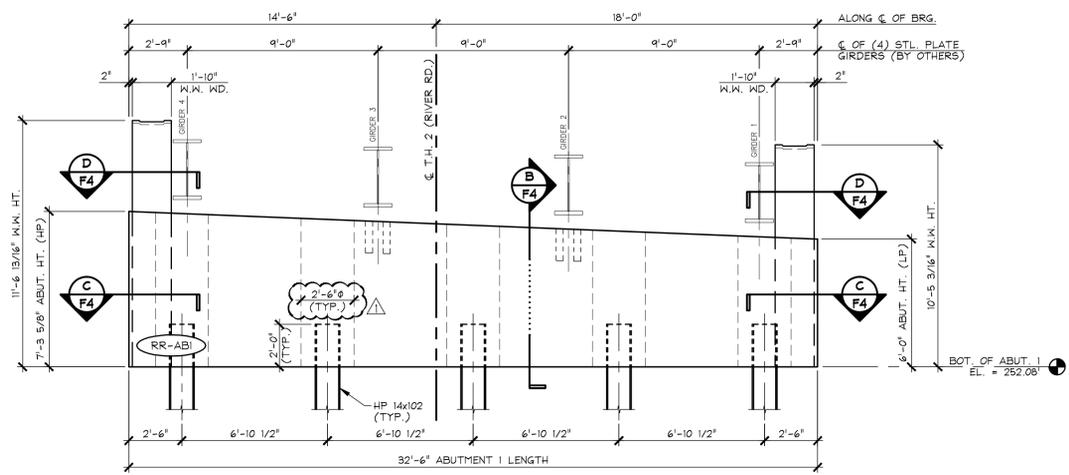
BY: *R. Sand*
 DATE: *2/14/16*



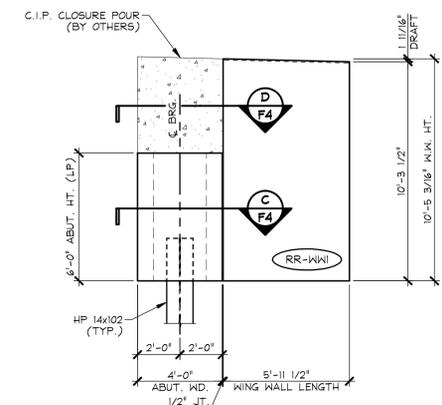
1 PRECAST ABUTMENT 1 & WING WALLS LAYOUT
 F2 1/4" = 1'-0"



2 WING WALL ELEVATION
 F2 "RR-WW2" 1/4" = 1'-0"



3 PRECAST ABUTMENT 1 ELEVATION
 F2 "RR-ABI" 1/4" = 1'-0"



4 WING WALL ELEVATION
 F2 "RR-WW1" 1/4" = 1'-0"

12-2-15 REVISED PER GENERAL CONTRACTOR'S ENGINEER REVIEW

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010		CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON	DATE: OCT. 15, 2015	SCALE: NOTED
	TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)	CHKD: A.S. DFTM: B.L.	JOB NO: 23475-015
	PRECAST ABUTMENT 1 & WING WALLS LAYOUT & ELEVATIONS	DWG. NO: F2	

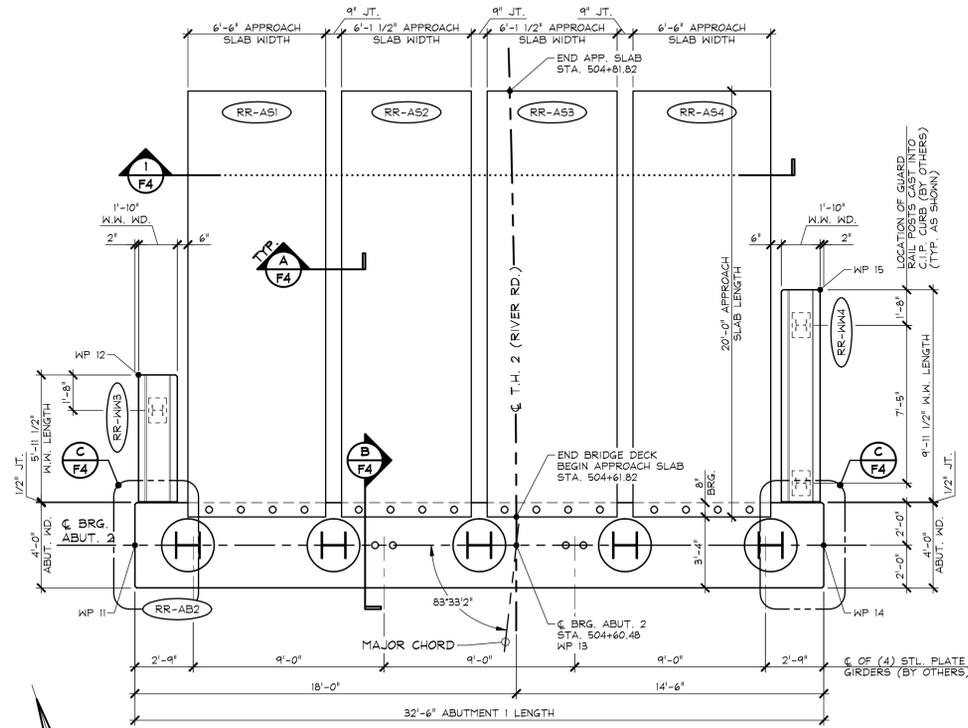
Vermont Agency of Transportation
RECEIVED
 ON: **January 28, 2016**
 and Checked for
CONFIRMANCE
 BY: *Todd A. Sumner* DATE: *02/11/16*

SUBMITTAL REVIEW

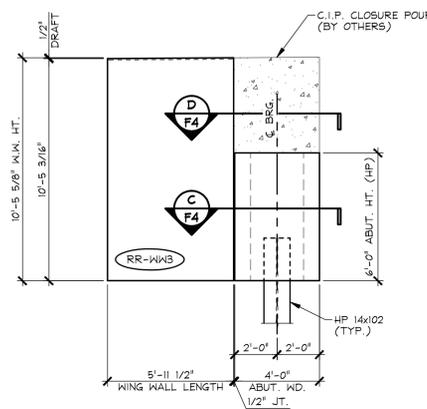
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- NO EXCEPTIONS TAKEN
- MAKE CORRECTIONS NOTED
- RESUBMITTAL NOT REQUIRED
- AMEND AND RESUBMIT
- REJECTED - SEE REMARKS

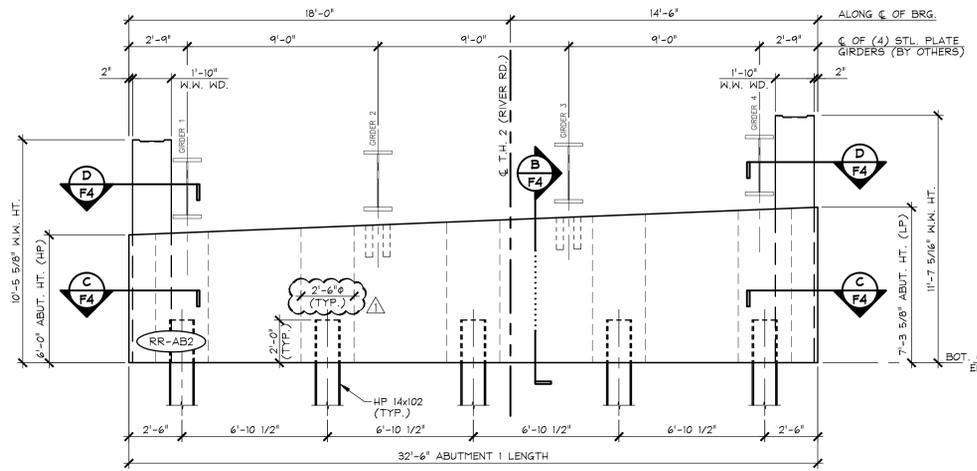
BY: *R. Blum*
 DATE: 2/4/16



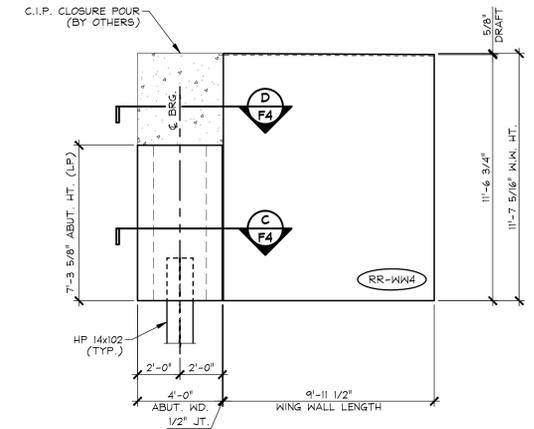
1 PRECAST ABUTMENT 2 & WING WALLS LAYOUT
 1/4" = 1'-0"



2 WING WALL ELEVATION
 RR-WW3
 1/4" = 1'-0"



3 PRECAST ABUTMENT 2 ELEVATION
 RR-AB2
 1/4" = 1'-0"



4 WING WALL ELEVATION
 RR-WW4
 1/4" = 1'-0"

12-2-15 REVISED PER GENERAL CONTRACTOR'S ENGINEER REVIEW

Vermont Agency of Transportation
RECEIVED
 ON: **January 28, 2016**
 and Checked for
CONFORMANCE
 BY: Todd A. Sumner DATE: 02/11/16

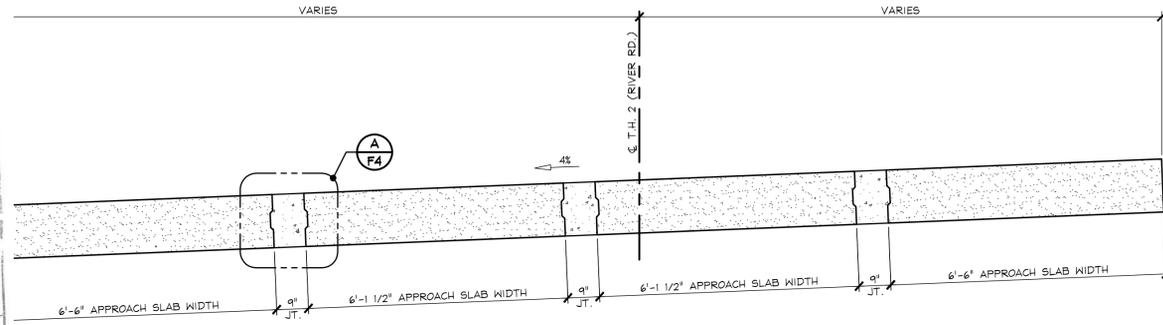
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010		CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON	DATE: OCT. 15, 2015	SCALE: NOTED
	TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)	CHKD: A.S. DFTM: B.L.	JOB NO: 23475-015
	PRECAST ABUTMENT 2 & WING WALLS LAYOUT & ELEVATIONS	DWG. NO: F3	

SUBMITTAL REVIEW

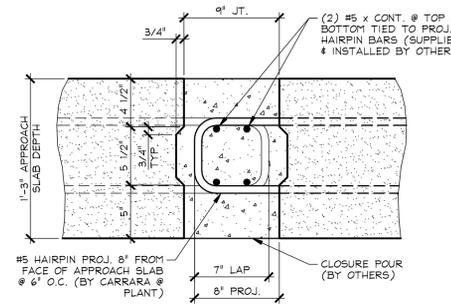
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- AMEND AND RESUBMIT
- REJECTED - SEE REMARKS

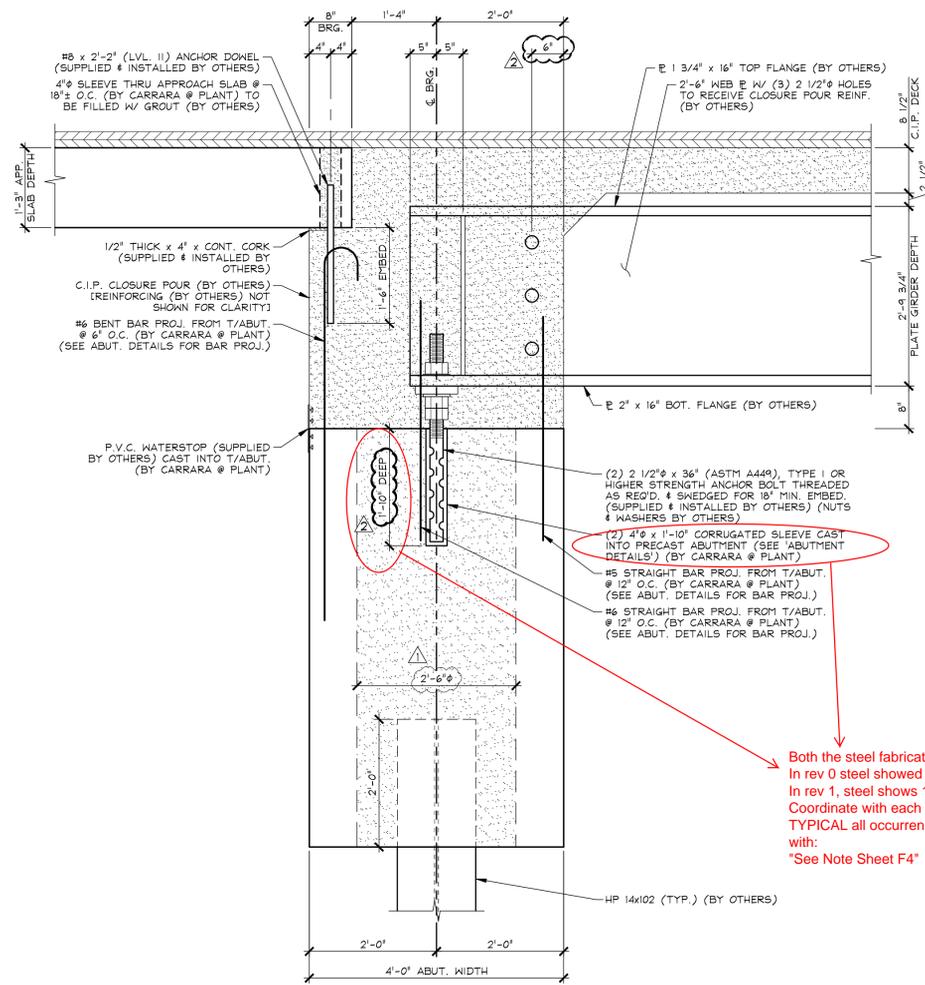
BY: *R. Bank*
 DATE: *2/14/16*



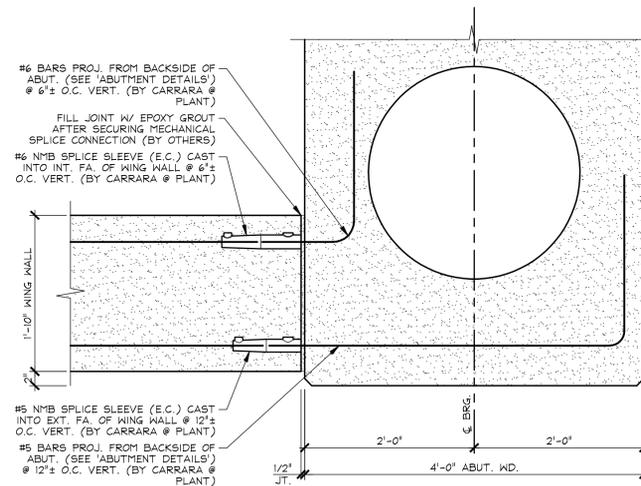
1 APPROACH SLAB TRANSVERSE SECTION
 F4 1/2" = 1'-0"



A SHEAR KEY SECTION @
 F4 APPROACH SLABS 1/2" = 1'-0"

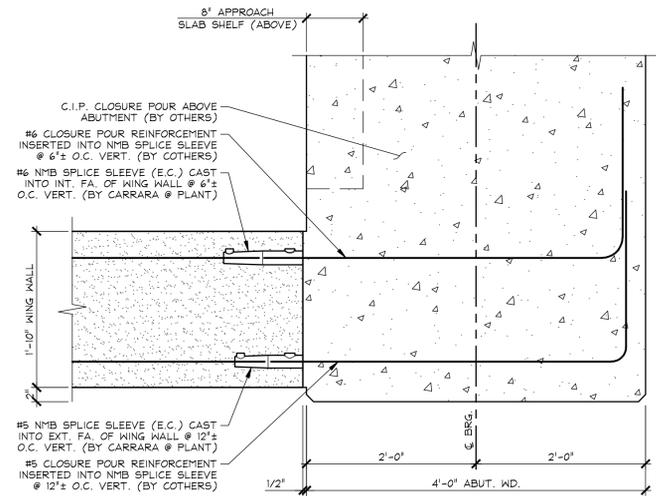


B BEARING SECTION
 F4 3/4" = 1'-0"



C WING WALL CONNECTION DETAIL
 F4 1" = 1'-0"

GENERAL NOTE:
 ALL SPLICE SLEEVES TO BE GROUTED W/ NMB SS MORTAR PER MANUFACTURERS INSTRUCTION, (BY OTHERS)



D WING WALL CONNECTION DETAIL
 F4 1" = 1'-0"

GENERAL NOTE:
 ALL SPLICE SLEEVES TO BE GROUTED W/ NMB SS MORTAR PER MANUFACTURERS INSTRUCTION, (BY OTHERS)

Both the steel fabricator and the precaster flipped these. In rev 0 steel showed 1'-10" and concrete showed 1'-6". In rev 1, steel shows 1'-6" and concrete shows 1'-10". Coordinate with each other. TYPICAL all occurrences. All other occurrences marked with: "See Note Sheet F4"

- 1-19-16 REVISED PER ENGINEER'S REVIEW
- 12-2-15 REVISED PER GENERAL CONTRACTOR'S ENGINEER REVIEW

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010	CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON		DATE: OCT. 15, 2015 SCALE: NOTED
TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)		CHKD: A.S. DFTM: B.L. JOB NO: 23475-015
APPROACH SLAB TRANSVERSE SECTION ABUTMENT & WING WALL DETAILS		DWG. NO: F4

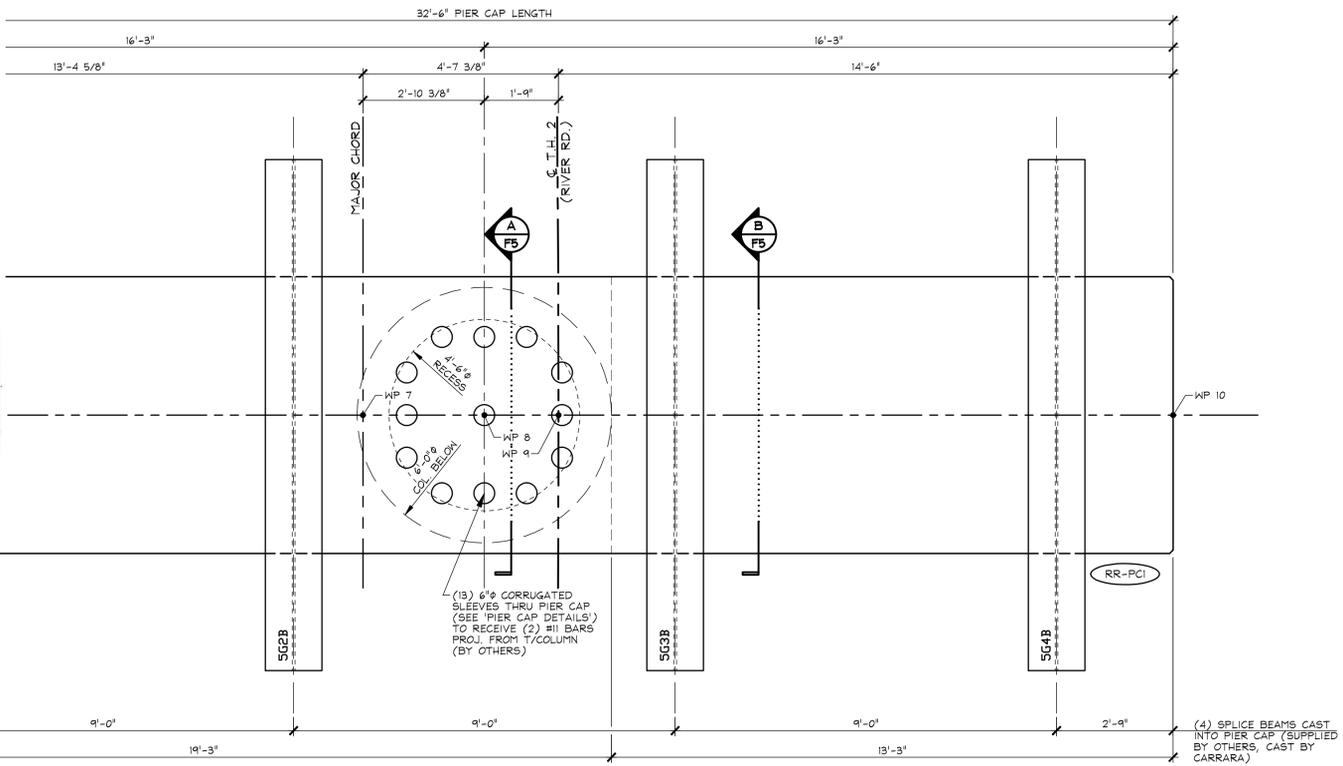
Vermont Agency of Transportation
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 BY: Todd A. Sumner DATE: 02/11/16

F:\VT-Bridges\23475-15 River Road\23475-F5.dwg, 1/20/2016 1:52:02 PM

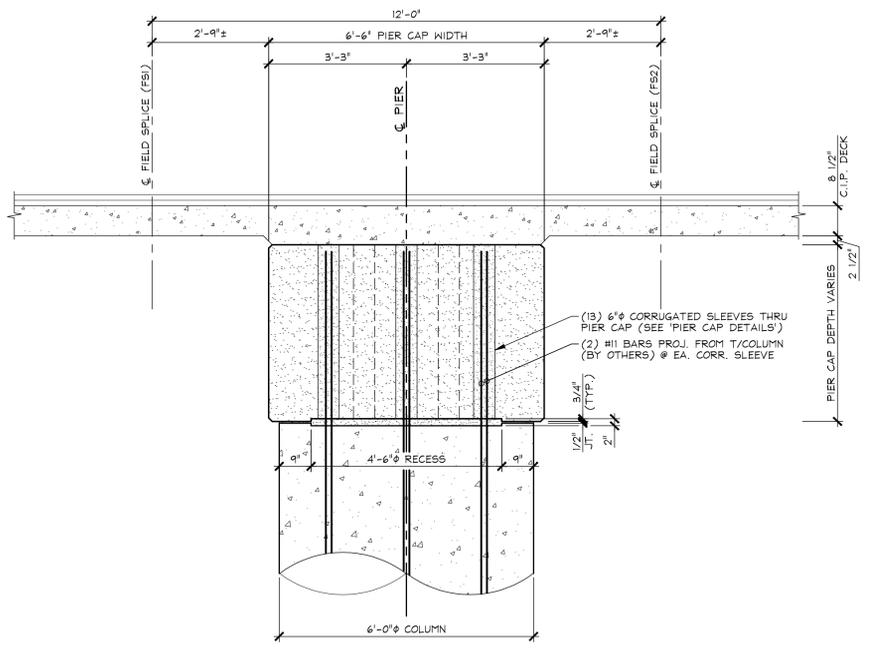
SUBMITTAL REVIEW
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 RESUBMITTAL NOT REQUIRED
 AMEND AND RESUBMIT
 REJECTED - SEE REMARKS

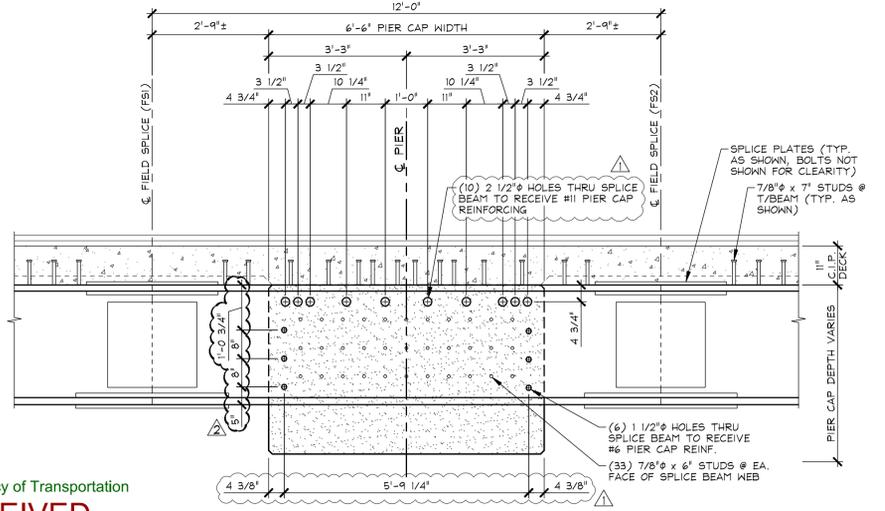
PE AMERICAS, INC.
 BY: *R. Bank*
 DATE: *2/14/16*



1 PRECAST CONCRETE PIER CAP PLAN
 F5 1/2" = 1'-0"



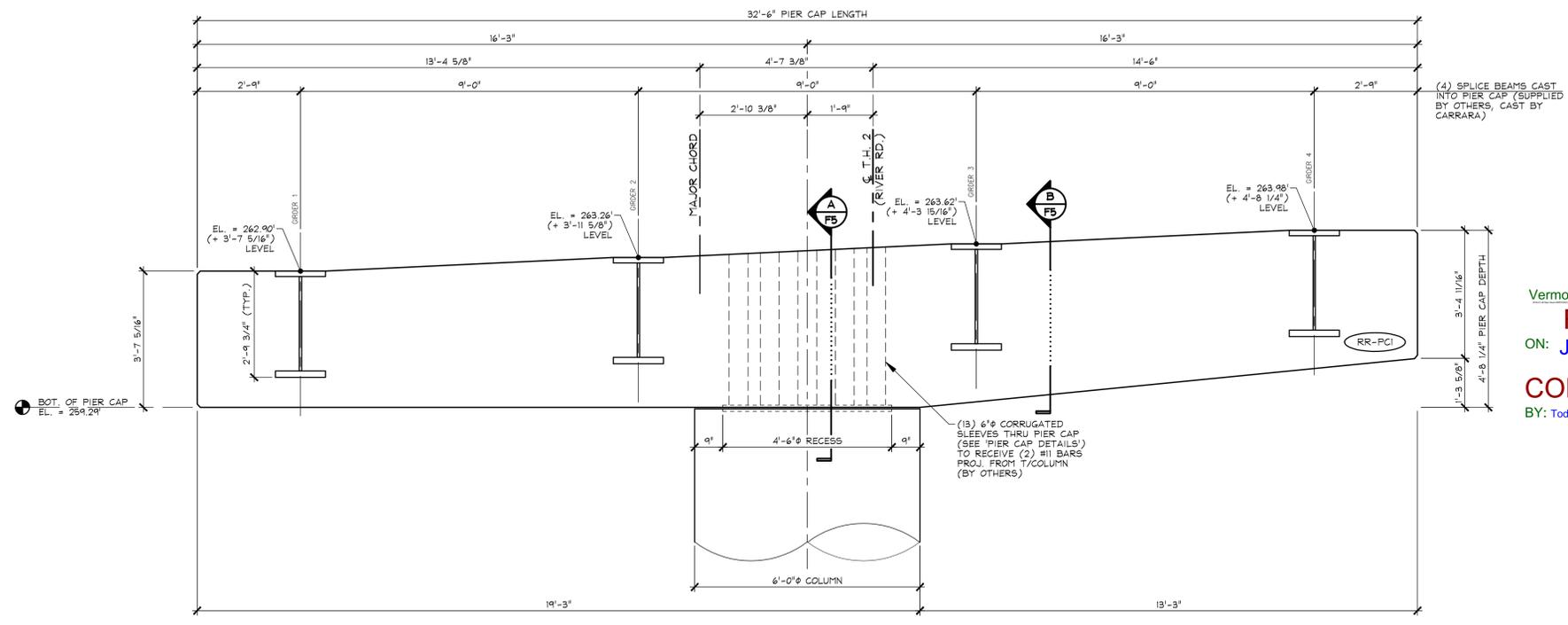
A PIER CAP SECTION AT COLUMN
 F5 1/2" = 1'-0"



B PIER CAP SECTION SPLICE BEAM
 F5 1/2" = 1'-0"

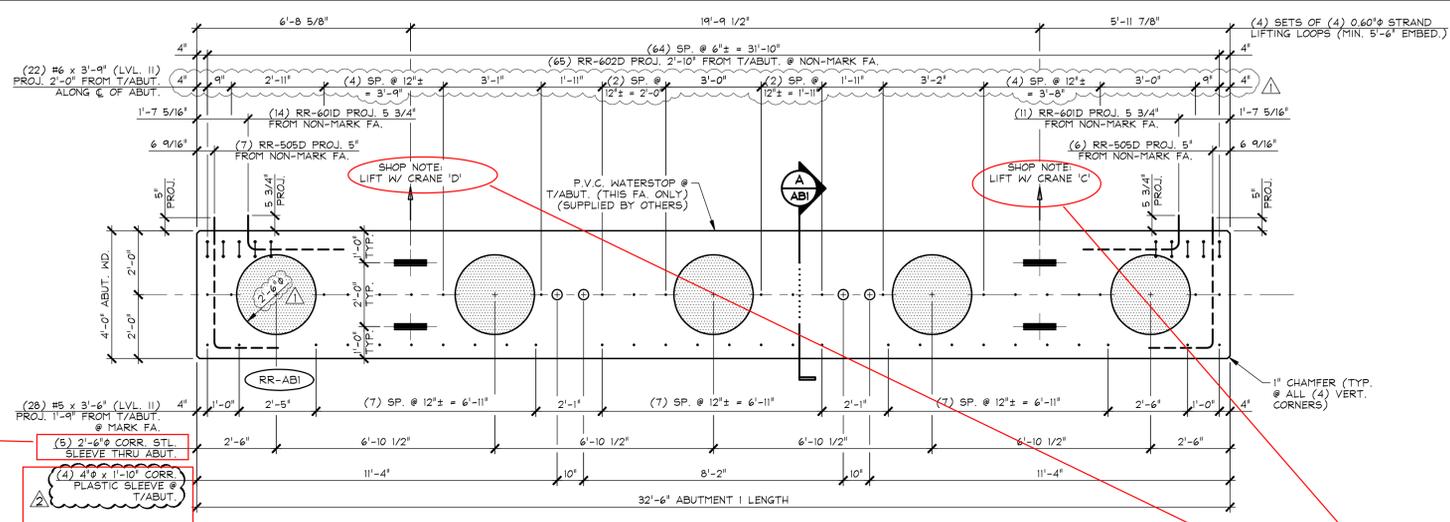
Vermont Agency of Transportation
RECEIVED
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1-19-16 REVISED PER ENGINEER'S REVIEW
 12-2-15 REVISED PER GENERAL CONTRACTOR'S ENGINEER REVIEW

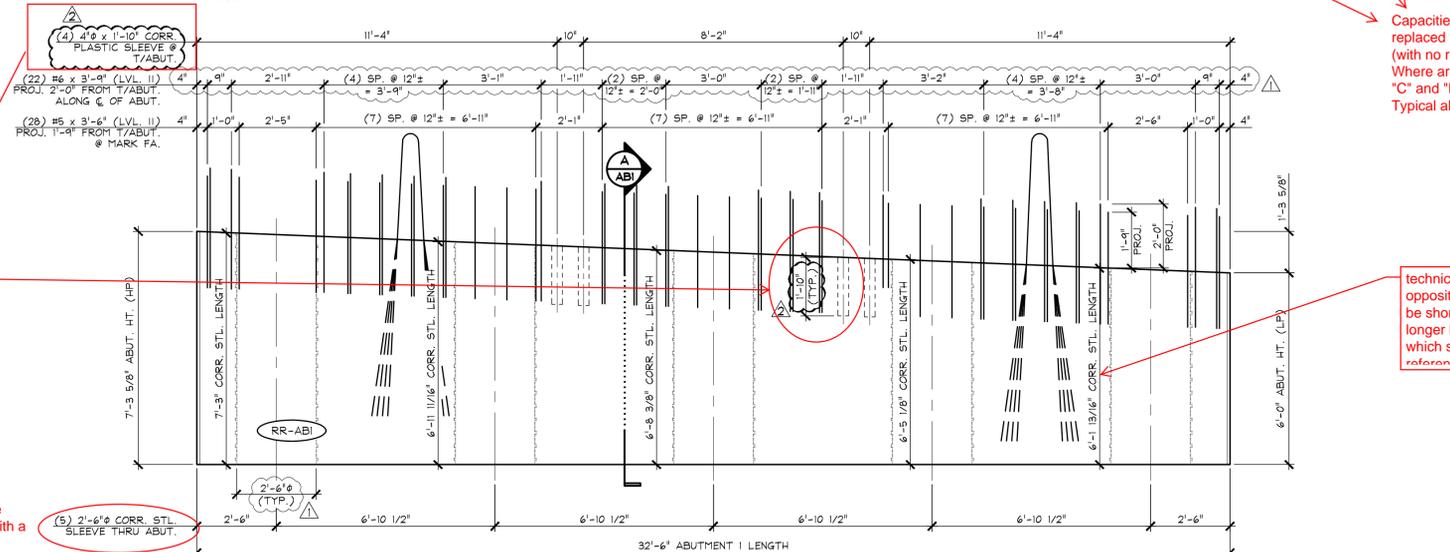


2 PRECAST CONCRETE PIER CAP ELEVATION
 F5 ELEVATIONS NOTED ARE ALONG CENTERLINE OF PIER CAP 1/2" = 1'-0"

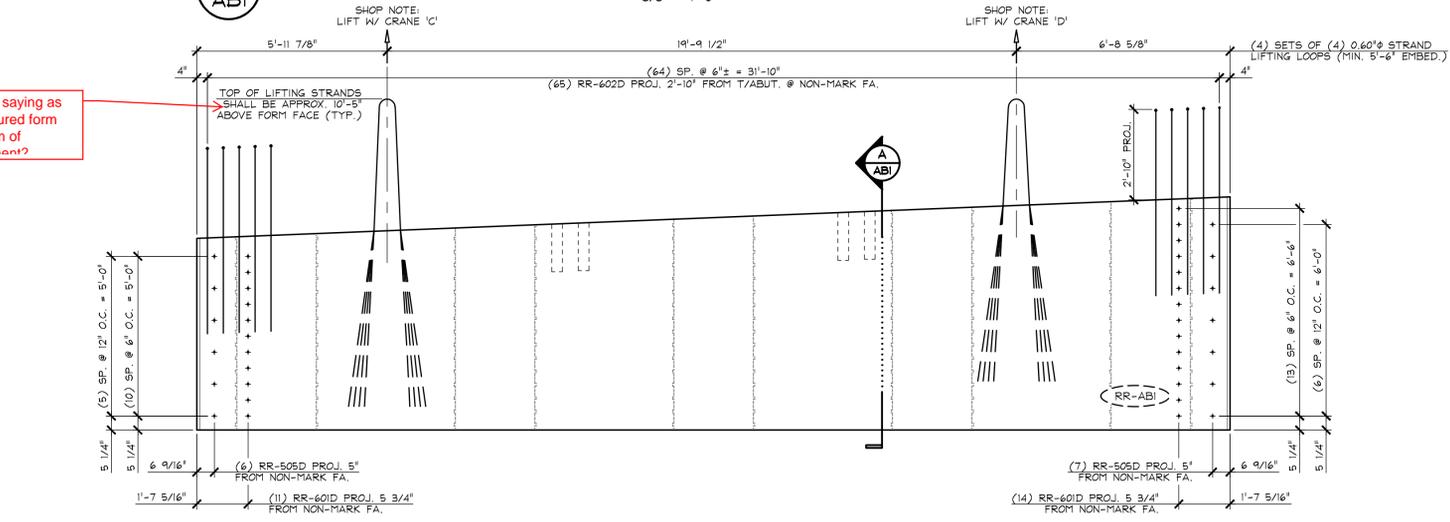
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON		DATE: OCT. 15, 2015 SCALE: NOTED
TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)		CHKD: A.S. DFTM: B.L. JOB NO: 23475-015
PRECAST PIER CAP LAYOUT, ELEVATIONS & SECTIONS		DWG. NO: F5



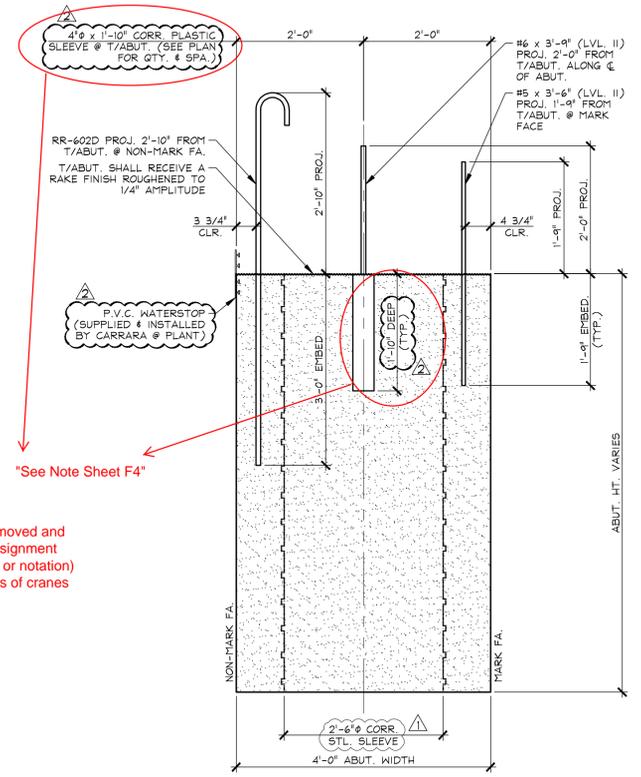
1 PRECAST ABUTMENT PLAN VIEW IN FORM
3/8" = 1'-0"



2 MARK FACE ABUTMENT ELEVATION
3/8" = 1'-0"



3 NON-MARK FACE ABUTMENT ELEVATION
3/8" = 1'-0"



A DIMENSIONAL SECTION
3/4" = 1'-0"

SUBMITTAL REVIEW

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 AMEND AND RESUBMIT
 REJECTED - SEE REMARKS

PE AMERICAS, INC.
 BY: *R. Smith*
 DATE: 2/4/16

this should have been bubbled with a revision triangle

"See Note Sheet F4"

this should have been bubbled with a revision triangle

is this saying as measured form bottom of abutment?

Capacities of cranes removed and replaced with a letter assignment (with no revision bubble or notation) Where are the capacities of cranes 'C' and 'D' provided? Typical all occurrences.

technically the opposite side will be shorter or longer based on which side is referenced

SHOP NOTE:
ALL ABUTMENT SURFACES SHALL RECEIVE A FORM FINISH (U.O.)

SHOP NOTE:
SEE DRAWING NO. 'ABI.1' FOR ABUTMENT REINFORCING

SHOP NOTE:
f_c = 5,000 PSI
f_t = 3,500 PSI
MIX #445MSSC

MARK:	RR-ABI	QTY.:	1	WT.:	54.3 T	VOL.:	28.13 cy
MATERIAL LIST / ABUTMENT							
ITEM	MARK	DESCRIPTION	QTY.				
1	RR-505D	#5 BENT BAR (LEVEL II, DUAL COATED)	13				
2		#5 x 3'-6" (LEVEL II, DUAL COATED)	28				
3							
4							
5	RR-601D	#6 BENT BAR (LEVEL II, DUAL COATED)	25				
6	RR-602D	#6 BENT BAR (LEVEL II, DUAL COATED)	65				
7		#6 x 3'-9" (LEVEL II, DUAL COATED)	22				
8							
9							
10							
11		P.V.C. WATERSTOP (SUPPLIED BY CARRARA)	32.3 LF				
12		2'-6" x 7'-3" CORRUGATED STEEL SLEEVE	1				
13		2'-6" x 6'-11 1/16" CORRUGATED STEEL SLEEVE	1				
14		2'-6" x 6'-8 3/8" CORRUGATED STEEL SLEEVE	1				
15		2'-6" x 6'-5 1/8" CORRUGATED STEEL SLEEVE	1				
16		2'-6" x 6'-1 13/16" CORRUGATED STEEL SLEEVE	1				
17		4'0" x 1'-10" CORRUGATED PLASTIC SLEEVE	4				
18		SET OF (4) 0.60" STRAND LIFTING LOOPS	4				
19							
20							

- 1-19-16 REVISED PER ENGINEER'S REVIEW
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 Precast & Prestress Manufacturer
 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

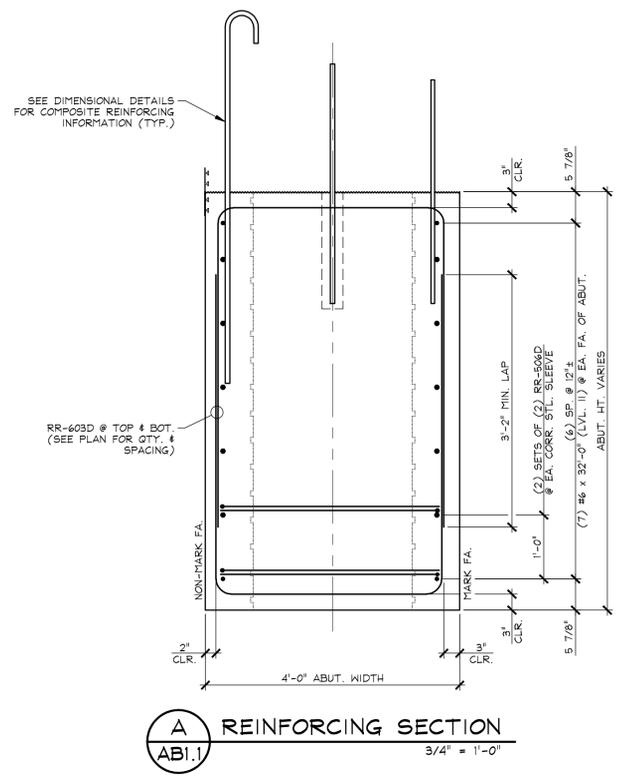
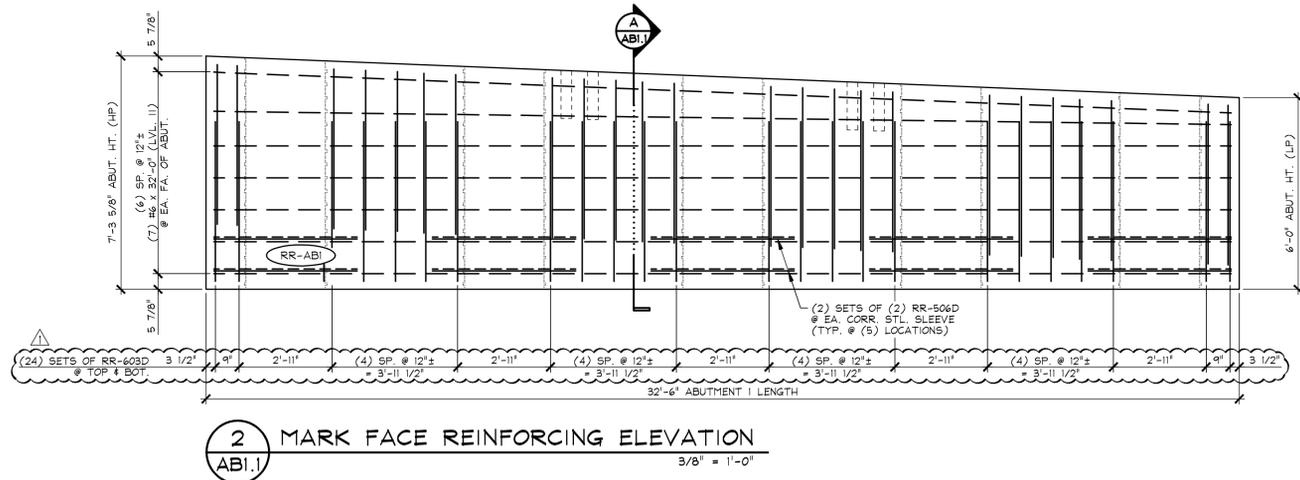
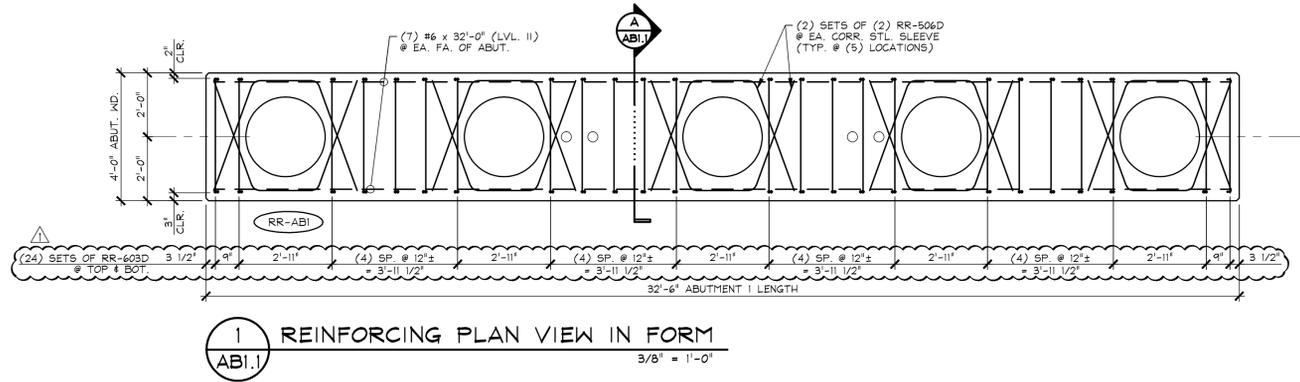
CCS CONSTRUCTORS, INC.
 CONTRACTOR
 MORRISVILLE, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
 COUNTY OF ADDISON

TOWN OF NEW HAVEN
 T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR)
 BRIDGE NO.: 10 PROJECT NO.: BRF 0183 (1)

DATE: OCT. 15, 2015
 SCALE: NOTED
 CHKD: A.S. DFTM: B.L.
 JOB NO: 23475-015
 DWG. NO: **ABI**

Vermont Agency of Transportation
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CONFORMANCE
 BY: Todd A. Sumner DATE: 02/11/16



1 REINFORCING PLAN VIEW IN FORM
AB1.1 3/8" = 1'-0"

2 MARK FACE REINFORCING ELEVATION
AB1.1 3/8" = 1'-0"

A REINFORCING SECTION
AB1.1 3/4" = 1'-0"

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 MAKE CORRECTIONS NOTED
 RESUBMITTAL NOT REQUIRED
 AMEND AND RESUBMIT
 REJECTED - SEE REMARKS

BY: *R. Blanch*
DATE: *2/4/16*

PE AMERICAS, INC.

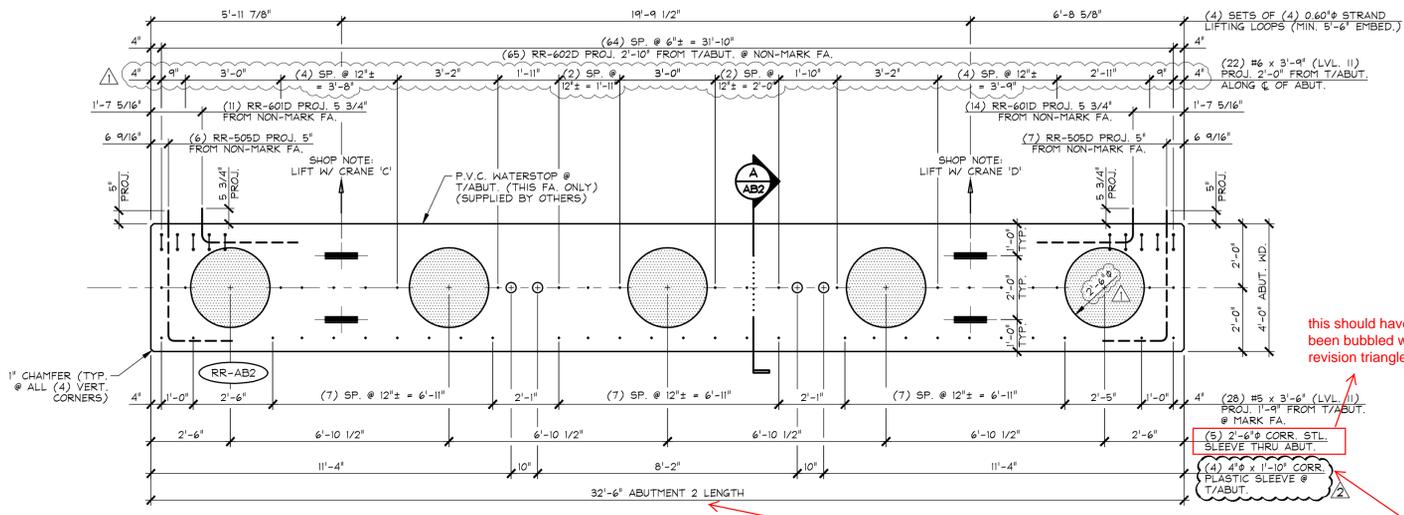
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BY: *Todd A. Sumner* DATE: *02/11/16*

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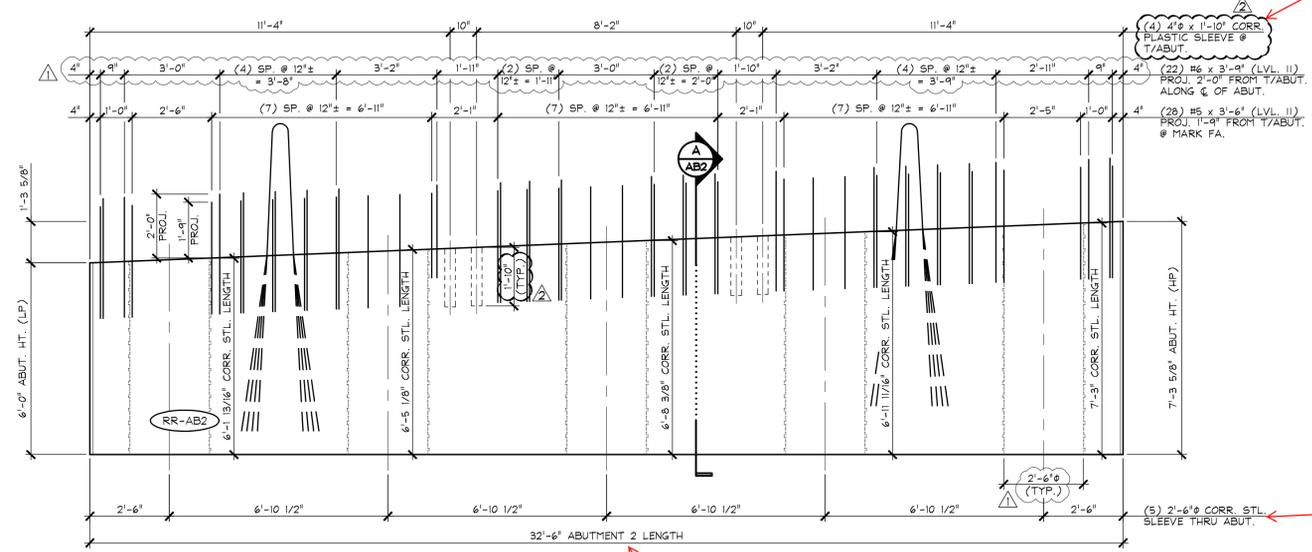
J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2144 GAGE ST., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010		CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT	
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON		DATE: OCT. 15, 2015 SCALE: NOTED	
TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRF 0183 (1)		CHKD: A.S. DFTM: B.L. JOB NO: 23475-015	
PRECAST ABUTMENT REINFORCING DETAILS		DWG. NO: AB1.1	

MARK:	RR-ABI	QTY.:	1
MATERIAL LIST / ABUTMENT			
ITEM	MARK	DESCRIPTION	QTY.
1	RR-506D	#5 BENT BAR (LEVEL II, DUAL COATED)	20
2			
3	RR-603D	#6 BENT BAR (LEVEL II, DUAL COATED)	46
4		#6 x 32'-0" (LEVEL II, DUAL COATED)	14
5			
6			
7			
8			
9			
10			



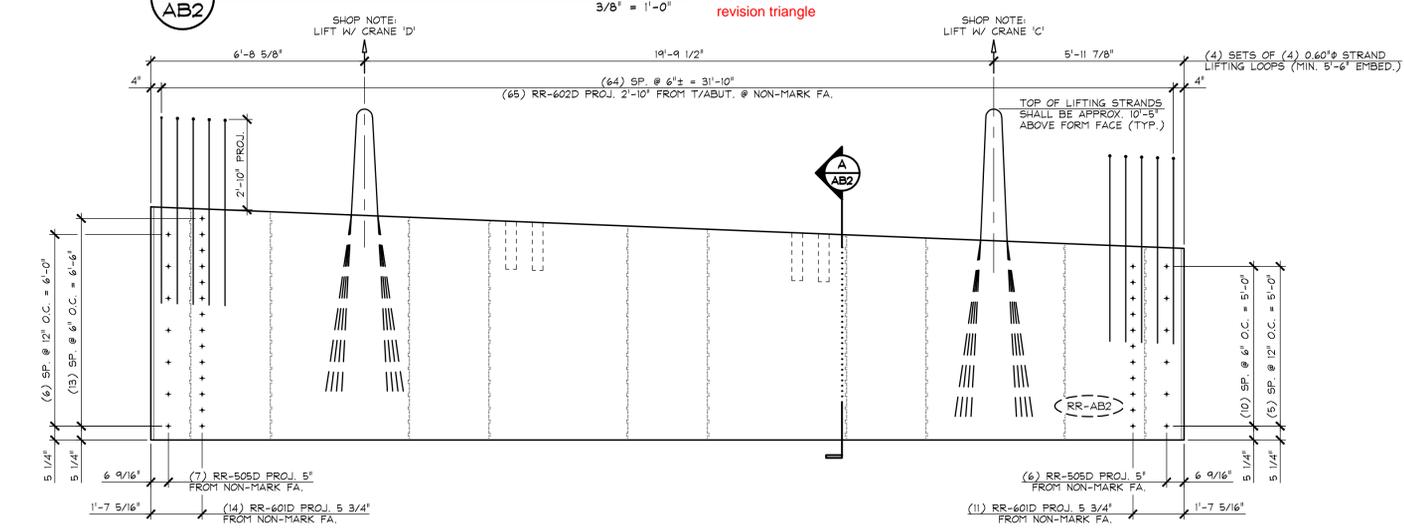
1 PRECAST ABUTMENT PLAN VIEW IN FORM
3/8" = 1'-0"

this should have been bubbled with a revision triangle

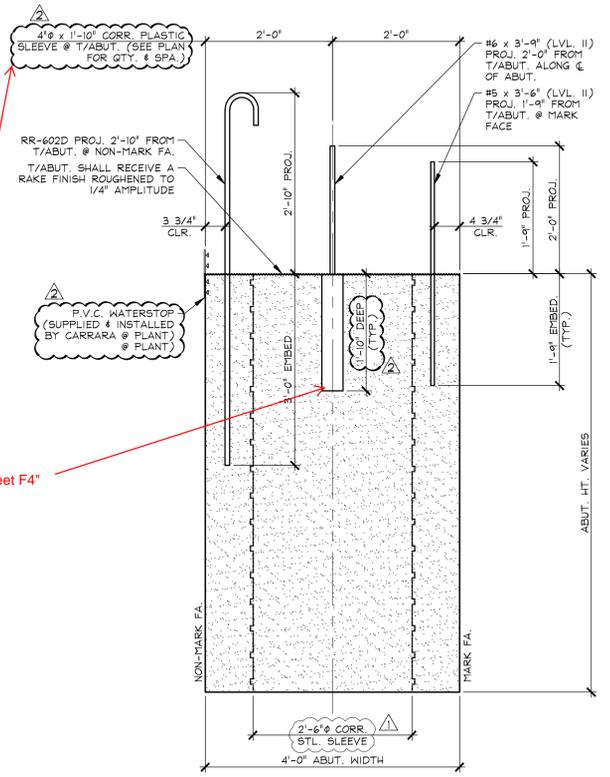


2 MARK FACE ABUTMENT ELEVATION
3/8" = 1'-0"

this should have been bubbled with a revision triangle



3 NON-MARK FACE ABUTMENT ELEVATION
3/8" = 1'-0"



A DIMENSIONAL SECTION
3/4" = 1'-0"

SHOP NOTE:
ALL ABUTMENT SURFACES SHALL RECEIVE A FORM FINISH (U.O.)

SHOP NOTE:
SEE DRAWING NO. "AB2.1" FOR ABUTMENT REINFORCING

SHOP NOTE:
F_c = 5,000 PSI
F_s = 3,500 PSI
MIX #445MSSC

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PE AMERICAS, INC.
 BY: *R. Saub*
 DATE: 2/4/16

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- 12-2-15 REVISED PER GENERAL CONTRACTOR'S ENGINEER REVIEW

MATERIAL LIST / ABUTMENT			
ITEM	MARK	DESCRIPTION	QTY.
1	RR-505D	#5 BENT BAR (LEVEL II, DUAL COATED)	13
2		#5 x 3'-6" (LEVEL II, DUAL COATED)	28
3			
4			
5	RR-601D	#6 BENT BAR (LEVEL II, DUAL COATED)	25
6	RR-602D	#6 BENT BAR (LEVEL II, DUAL COATED)	65
7		#6 x 3'-9" (LEVEL II, DUAL COATED)	22
8			
9			
10			
11		P.V.C. WATERSTOP (SUPPLIED BY CARRARA)	32.3 LF
12		2'-6" x 7'-3" CORRUGATED STEEL SLEEVE	1
13		2'-6" x 6'-11 11/16" CORRUGATED STEEL SLEEVE	1
14		2'-6" x 6'-8 3/8" CORRUGATED STEEL SLEEVE	1
15		2'-6" x 6'-5 1/8" CORRUGATED STEEL SLEEVE	1
16		2'-6" x 6'-11 13/16" CORRUGATED STEEL SLEEVE	1
17		4" x 1'-6" CORRUGATED PLASTIC SLEEVE	4
18		SET OF (4) 0.60" STRAND LIFTING LOOPS	4
19			
20			

APPROVAL STAMP:

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 Precast & Prestress Manufacturer
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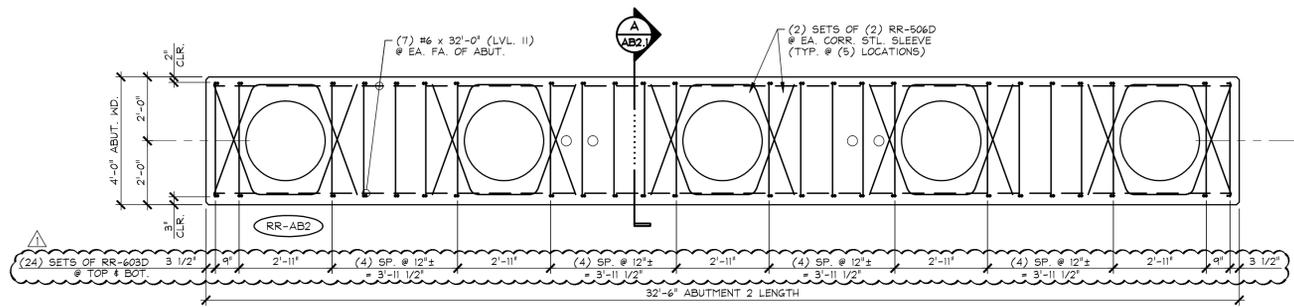
CCS CONSTRUCTORS, INC.
 CONTRACTOR
 MORRISVILLE, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
 COUNTY OF ADDISON

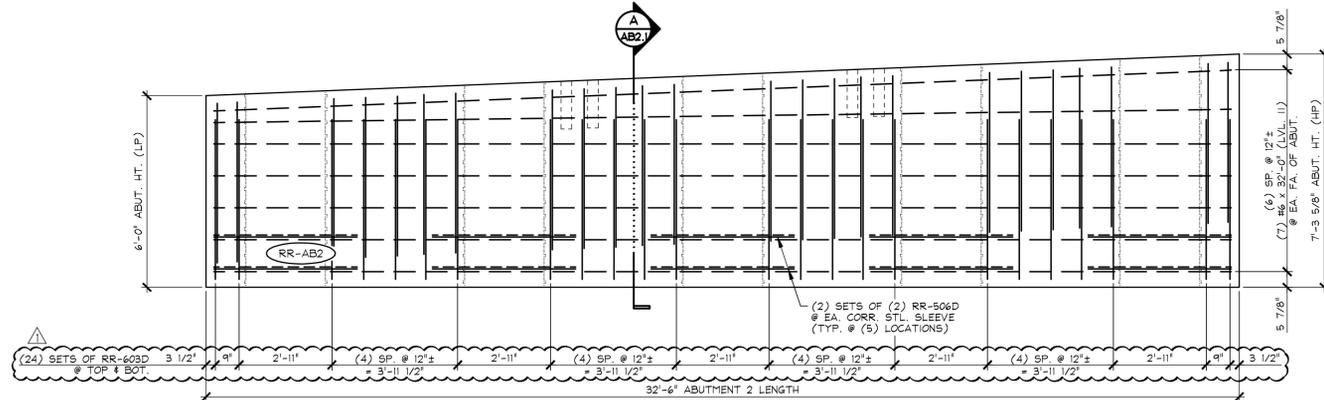
TOWN OF NEW HAVEN
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 BRIDGE NO.: 10 PROJECT NO.: BRF 0183 (1)

DATE: OCT. 15, 2015
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 DWG. NO: AB2

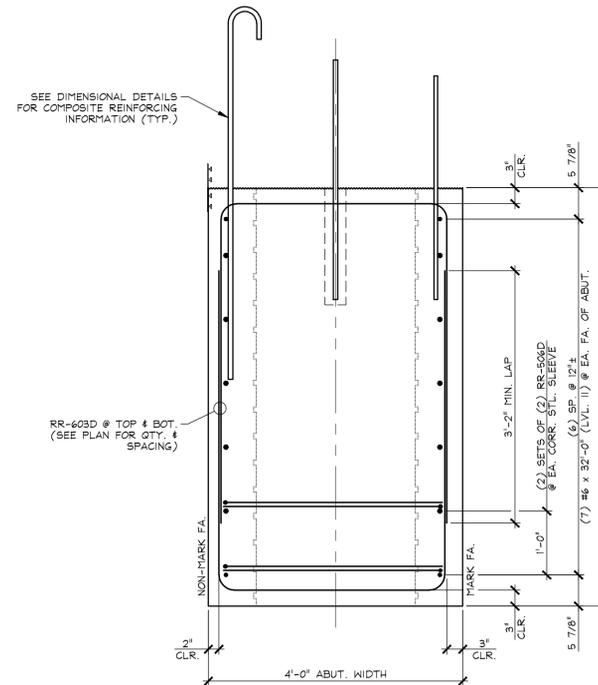
Vermont Agency of Transportation
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 BY: Todd A. Sumner DATE: 02/11/16



1 REINFORCING PLAN VIEW IN FORM
 AB2.1 3/8" = 1'-0"



2 MARK FACE REINFORCING ELEVATION
 AB2.1 3/8" = 1'-0"



A REINFORCING SECTION
 AB2.1 3/4" = 1'-0"

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BY: *R. Sanchez*
 DATE: 2/14/16
 PE AMERICAS, INC.

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J.P. CARRARA & SONS INC.
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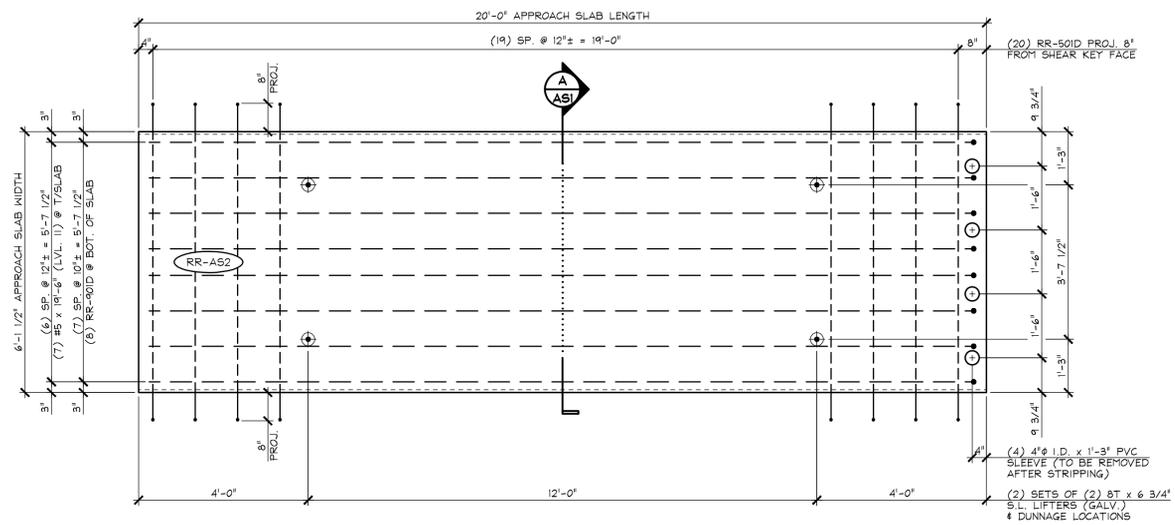
STATE OF VERMONT AGENCY OF TRANSPORTATION
 COUNTY OF ADDISON

TOWN OF NEW HAVEN
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 BRIDGE NO.: 10 PROJECT NO.: BRF 0183 (1)

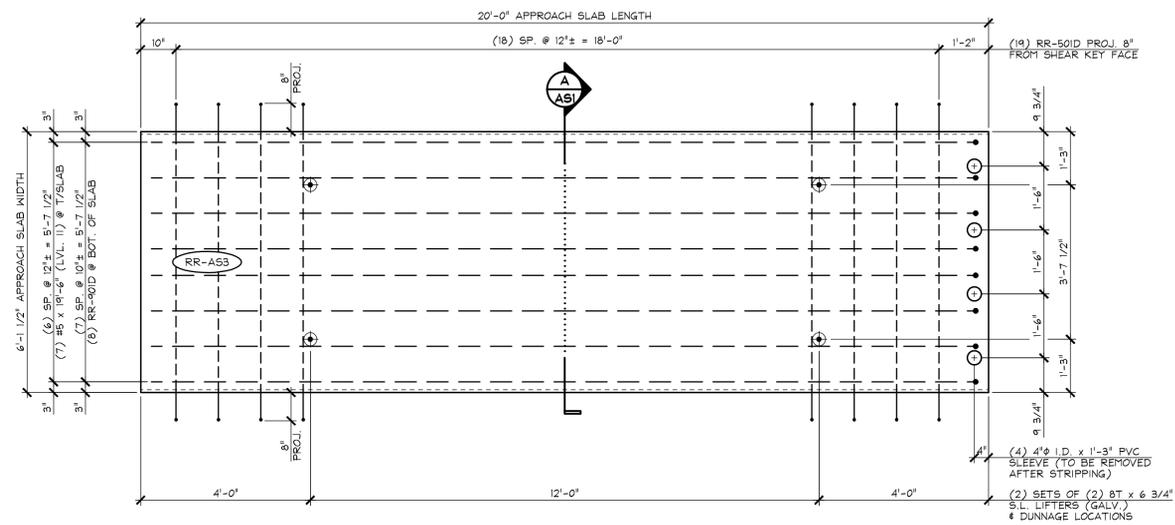
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MARK: RR-AB2		QTY.: 1	
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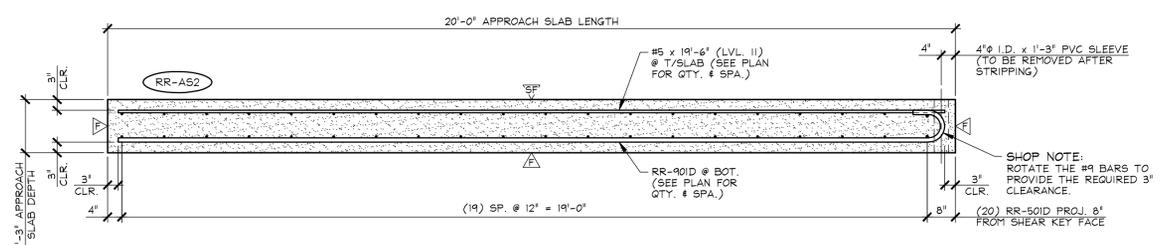
PRECAST ABUTMENT REINFORCING DETAILS
 DWG. NO: AB2.1



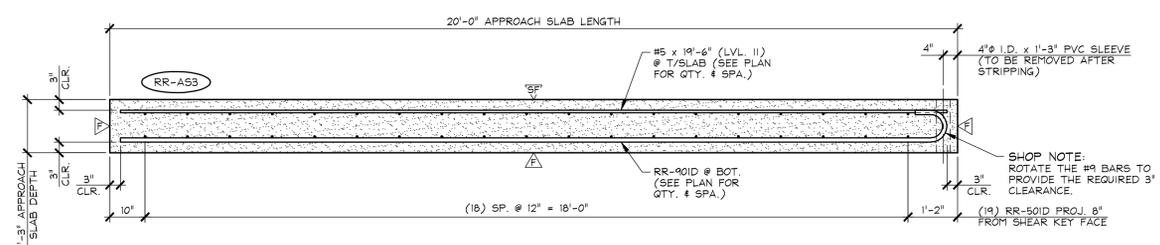
1 DIMENSIONAL PLAN VIEW IN FORM - "RR-AS2"
ASI 1/2" = 1'-0"



3 DIMENSIONAL PLAN VIEW IN FORM - "RR-AS3"
ASI 1/2" = 1'-0"



2 LONGITUDINAL SECTION - "RR-AS2"
ASI 1/2" = 1'-0"



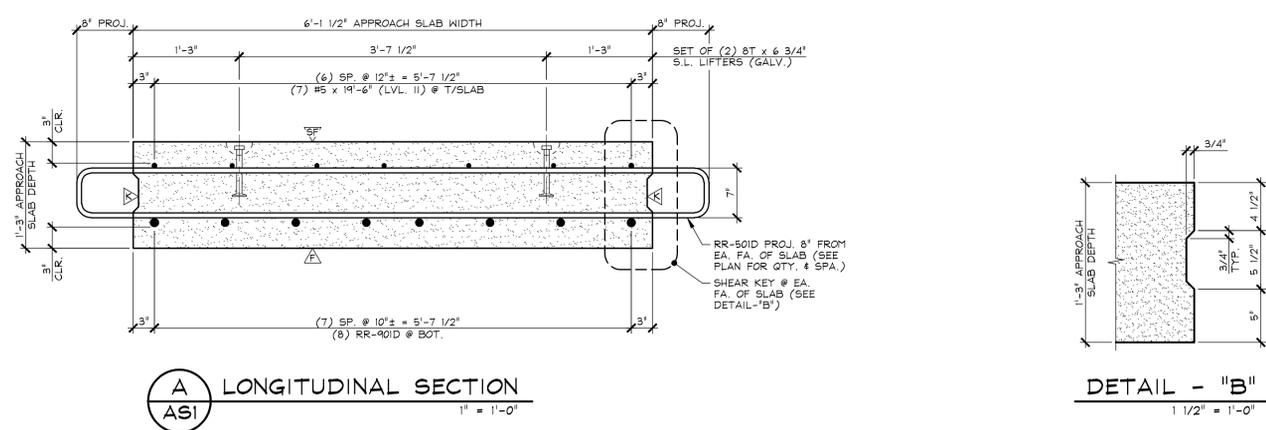
4 LONGITUDINAL SECTION - "RR-AS3"
ASI 1/2" = 1'-0"

△ DENOTES FORM FINISH
◻ DENOTES SMOOTH FLOAT FINISH
◻ DENOTES ROUGHENED FINISH

SHOP NOTE:
F_c = 5,000 PSI
F_{ci} = 3,500 PSI
MIX #445MSCC

is the characteristics of the roughened surface specified?

MARK:	RR-AS2	QTY.:	2	WT.:	11.41 T	VOL.:	5.64 cy
MARK:	RR-AS3	QTY.:	2	WT.:	11.41 T	VOL.:	5.64 cy
MATERIAL LIST / APPROACH SLAB							
ITEM	MARK	DESCRIPTION	QTY./SLAB				
			AS2	AS3			
1	RR-50/D	#5 BENT BAR (LEVEL II, DUAL COATED)	20	19			
2		#5 x 19'-6" (LEVEL II, DUAL COATED)	7	7			
3							
4	RR-90/D	#9 BENT BAR (LEVEL II, DUAL COATED)	8	8			
5							
6							
7							
8		4" I.D. x 1'-3" PVC SLEEVE	4	4			
9		8T x 6 3/4" SKIFF LIFT LIFTER (GALV.)	4	4			
10							



A LONGITUDINAL SECTION
ASI 1" = 1'-0"

DETAIL - "B"
1 1/2" = 1'-0"

SUBMITTAL REVIEW

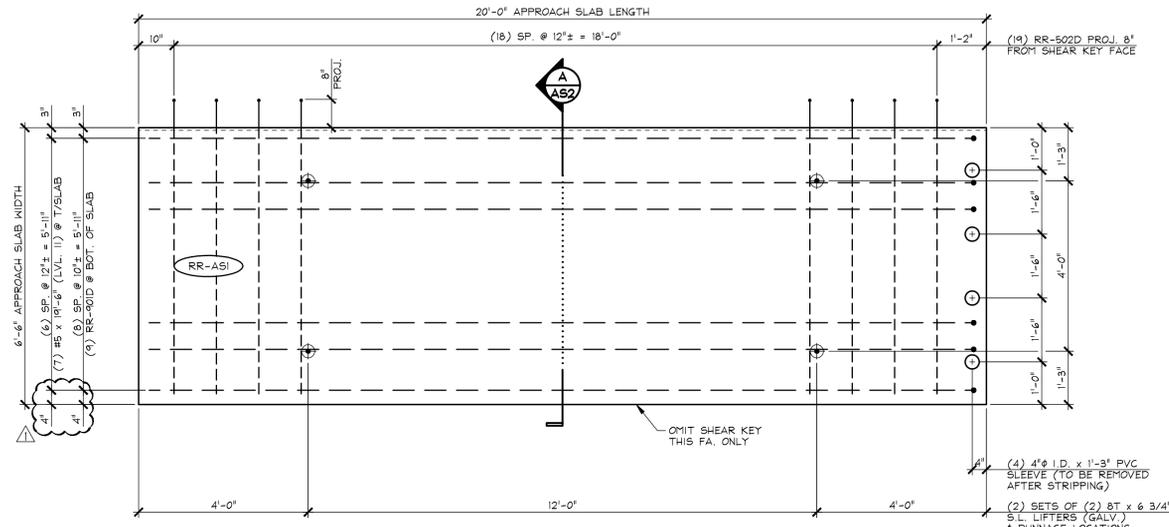
Review is only for general conformity to the contract drawings and specifications and shall not relieve the contractor of his entire responsibility under the contract, including among other things, dimensions to be confirmed and correlated at the job site, and information that pertains to the fabrication processes or to techniques of construction.

NO EXCEPTIONS TAKEN
 MAKE CORRECTIONS NOTED
 RESUBMITTAL NOT REQUIRED
 AMEND AND RESUBMIT
 REJECTED - SEE REMARKS

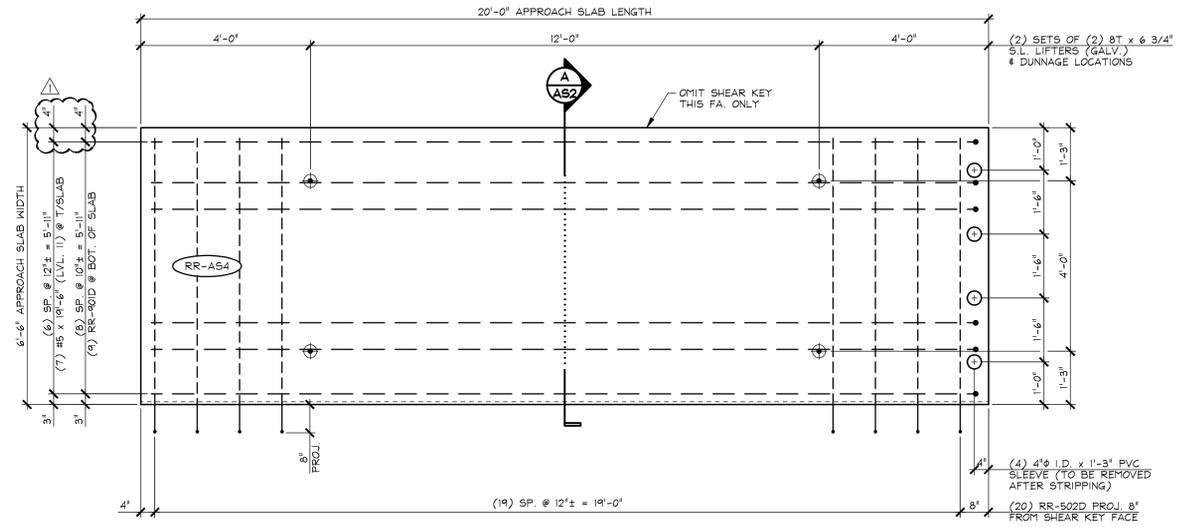
PE AMERICAS, INC.
 BY: *R. Smith*
 DATE: 2/14/16

Vermont Agency of Transportation
RECEIVED
 ON: **January 28, 2016**
 and Checked for
CONFORMANCE
 BY: Todd A. Sumner DATE: 02/11/16

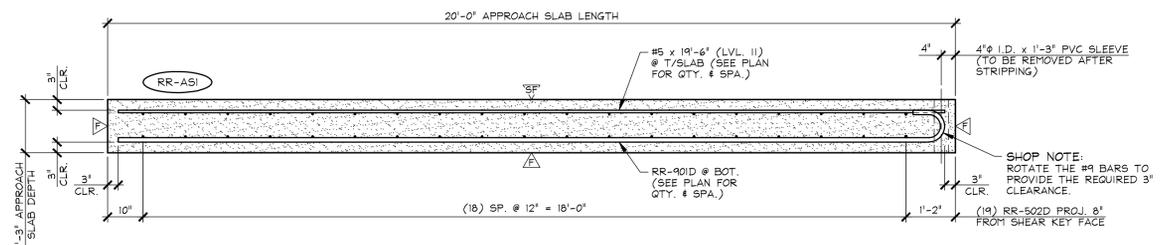
MP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 246 C&E STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON		DATE: OCT. 15, 2015
TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)		SCALE: NOTED
PRECAST APPROACH SLAB DETAILS		CHKD: A.S. DFTM: B.L. JOB NO: 23475-015
		DWG. NO: ASI



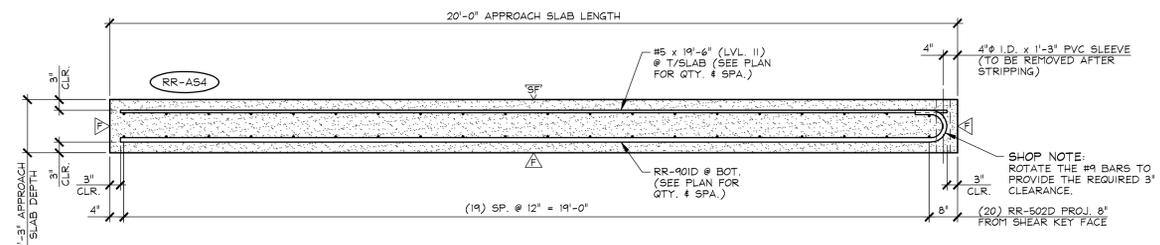
1 DIMENSIONAL PLAN VIEW IN FORM - "RR-AS1"
AS2 1/2" = 1'-0"



3 DIMENSIONAL PLAN VIEW IN FORM - "RR-AS4"
AS2 1/2" = 1'-0"



2 LONGITUDINAL SECTION - "RR-AS1"
AS2 1/2" = 1'-0"

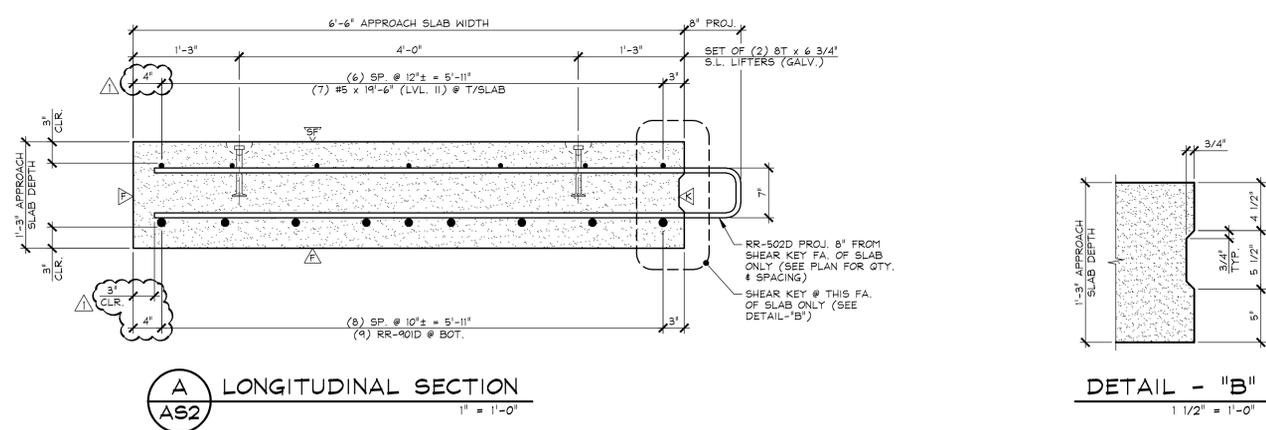


4 LONGITUDINAL SECTION - "RR-AS4"
AS2 1/2" = 1'-0"

△ DENOTES FORM FINISH
 ▽ DENOTES SMOOTH FLOAT FINISH
 ▽ DENOTES ROUGHENED FINISH

SHOP NOTE:
 Fc = 5,000 PSI
 Fci = 3,500 PSI
 MIX #445MSCC

MARK:	RR-AS1	QTY.:	2	WT.:	12.15 T	VOL.:	6.00 cy
MARK:	RR-AS4	QTY.:	2	WT.:	12.15 T	VOL.:	6.00 cy
MATERIAL LIST / APPROACH SLAB							
ITEM	MARK	DESCRIPTION	QTY./SLAB				
			AS1	AS4			
1	RR-502D	#5 BENT BAR (LEVEL II, DUAL COATED)	19	20			
2		#5 x 19'-6" (LVL. II) @ T/SLAB	7	7			
3							
4	RR-901D	#9 BENT BAR (LEVEL II, DUAL COATED)	9	9			
5							
6							
7							
8		4" I.D. x 1'-3" PVC SLEEVE	4	4			
9		8T x 6 3/4" SKIFF LIFT LIFTER (GALV.)	4	4			
10							



A LONGITUDINAL SECTION
AS2 1" = 1'-0"

DETAIL - "B"
1 1/2" = 1'-0"

SUBMITTAL REVIEW

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 MAKE CORRECTIONS NOTED
 RESUBMITTAL NOT REQUIRED
 AMEND AND RESUBMIT
 REJECTED - SEE REMARKS

PE AMERICAS, INC.
 BY: *R. Bank*
 DATE: 2/14/16

Vermont Agency of Transportation
RECEIVED
 ON: January 28, 2016
 and Checked for
CONFORMANCE
 BY: Todd A. Sumner DATE: 02/11/16

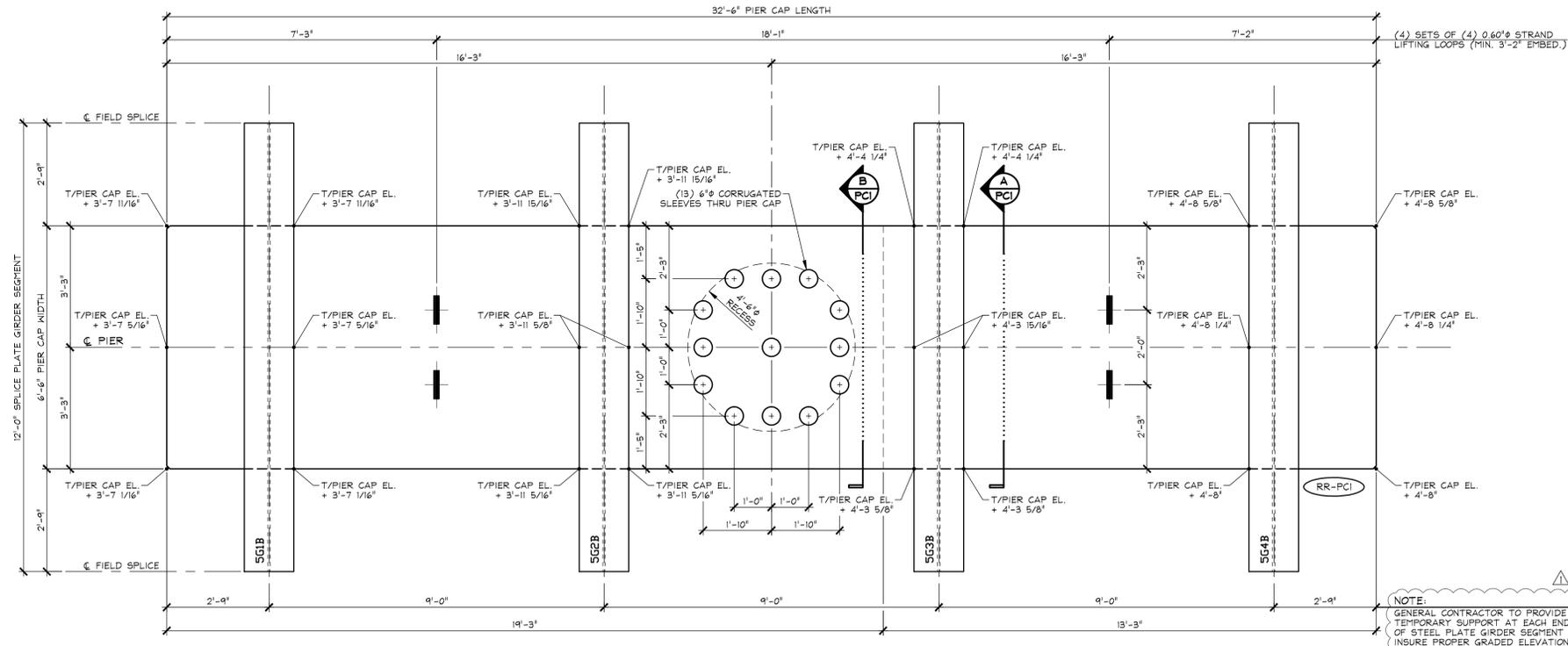
D PER ENGINEER'S REVIEW

J.P. CARRARA & SONS INC.
 Precast & Prestress Manufacturer
 2464 C&E STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9810

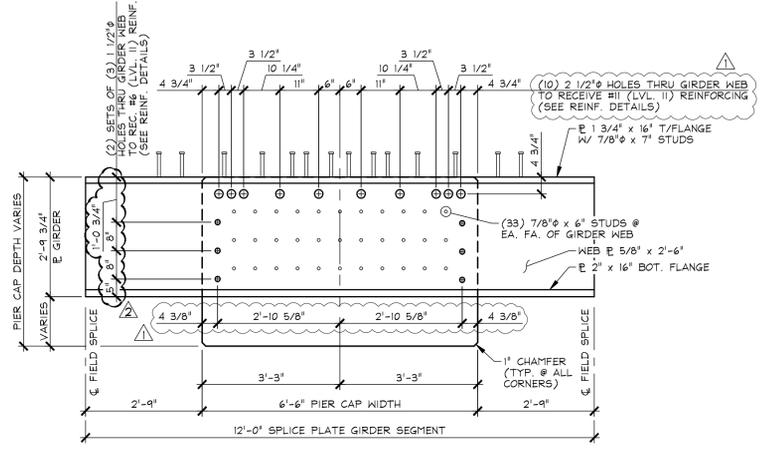
CCS CONSTRUCTORS, INC.
 CONTRACTOR
 MORRISVILLE, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON
 TOWN OF NEW HAVEN
 T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR)
 BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)

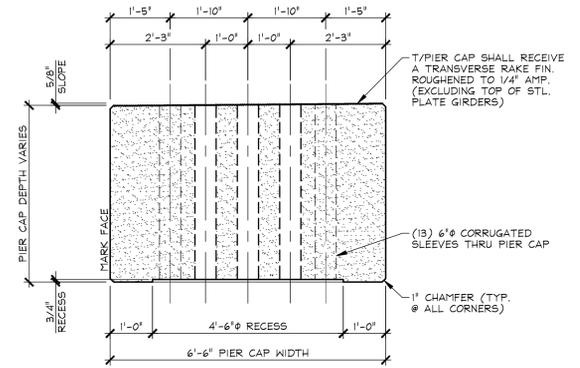
DATE: OCT. 15, 2015
 SCALE: NOTED
 CHKD: A.S. DFTM: B.L.
 JOB NO: 23475-015
 DWG. NO: AS2



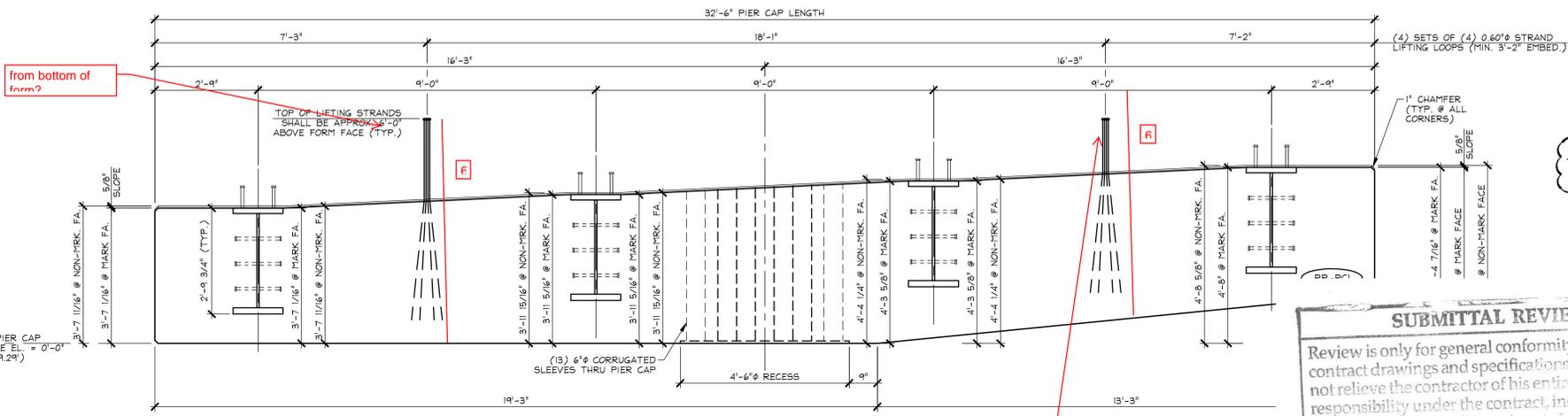
1 PRECAST CONCRETE PIER CAP PLAN VIEW IN FORM
1/2" = 1'-0"



A PRECAST CONCRETE PIER CAP SECTION
1/2" = 1'-0"



B PRECAST CONCRETE PIER CAP SECTION
1/2" = 1'-0"



2 PRECAST CONCRETE PIER CAP ELEVATION
1/2" = 1'-0"

NOTE:
GENERAL CONTRACTOR TO PROVIDE TEMPORARY SUPPORT AT EACH END OF STEEL PLATE GIRDER SEGMENT TO INSURE PROPER GRADED ELEVATION.

SHOP NOTE:
ALL PIER CAP SURFACES SHALL RECEIVE A FORM FINISH (U.N.O.)

SHOP NOTE:
SEE DRAWING NO. "PCI.1" FOR PIER CAP REINFORCING

SHOP NOTE:
Pc = 5,000 PSI
Pci = 3,500 PSI
(MIX: VTHPCA)

MARK:	RR-PCI	QTY:	1	WT. INCLUDING STL. BM:	67.96 T	VOL:	30.39 cy
MATERIAL LIST / PIER CAP							
ITEM	MARK	DESCRIPTION				QTY.	
1							
2							
3							
4							
5							
6							
7		6" x 4'-2" CORRUGATED PLASTIC SLEEVE				13	
8		SPLICE PLATE GIRDER SEGMENT (SUPPLIED BY OTHERS)				4	
9		SET OF (4) 0.60" STRAND LIFTING LOOPS				4	
10							

SUBMITTAL REVIEW

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 AMEND AND RESUBMIT
 REJECTED - SEE REMARKS

BY: *R. Bland*
 DATE: 2/4/16

if this is also 6' from bottom of form, that would place the top of the litter at a higher elevation than the other one

Vermont Agency of Transportation
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 BY: Todd A. Sumner DATE: 02/11/16

J.P. CARRARA & SONS INC.
 Precast & Prestress Manufacturer
 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010

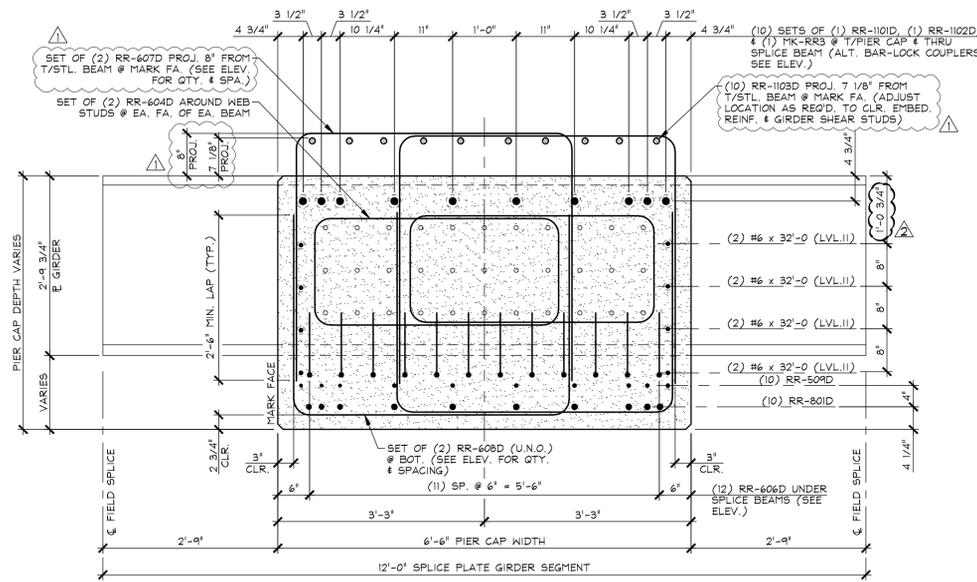
CCS CONSTRUCTORS, INC.
 CONTRACTOR
 MORRISVILLE, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
 COUNTY OF ADDISON

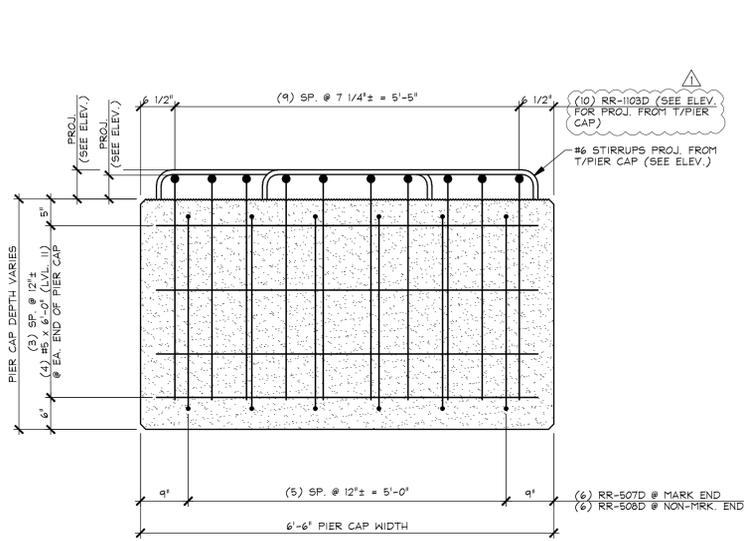
TOWN OF NEW HAVEN
 T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR)
 BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)

DATE: OCT. 15, 2015
 SCALE: NOTED
 CHKD: A.S. DFTM: B.L.
 JOB NO.: 23475-015
 DWG. NO.: **PCI**

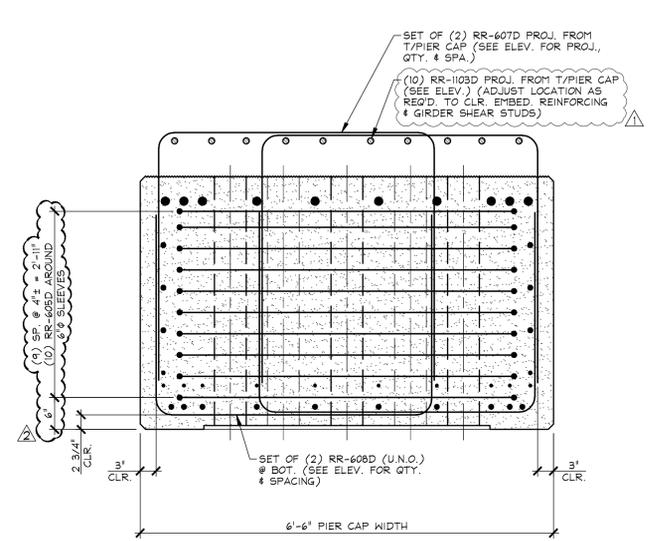
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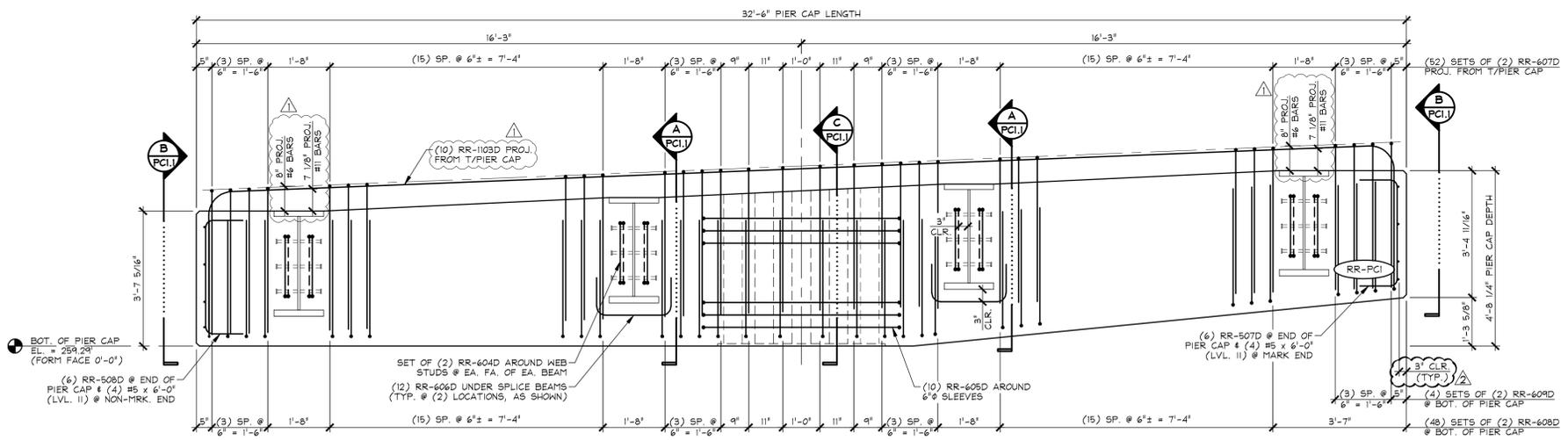
A PRECAST PIER CAP REINFORCING SECTION
PCI.1 @ SPLICE PLATE GIRDER SEGMENT 3/4" = 1'-0"



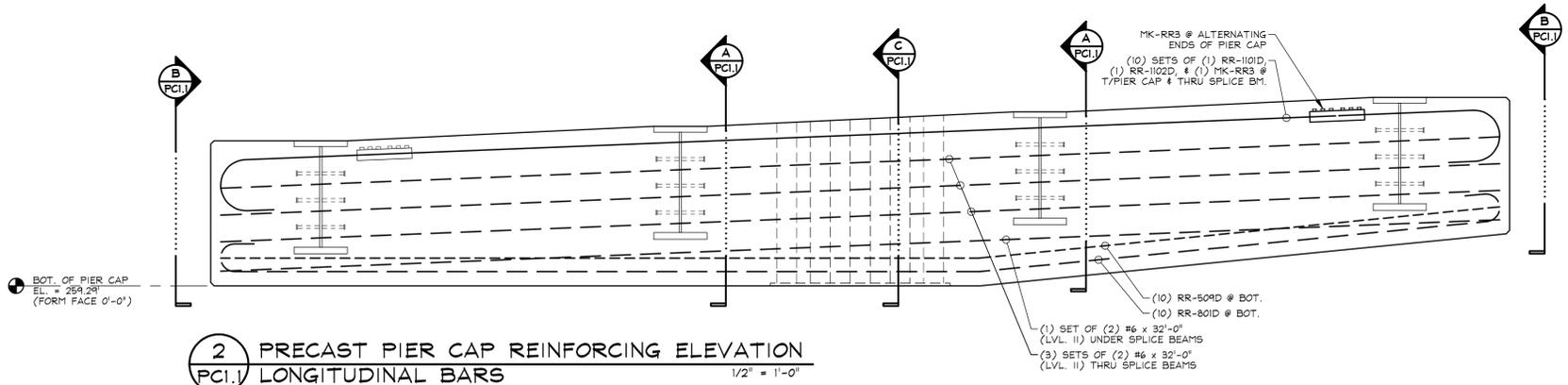
B PRECAST PIER CAP REINFORCING SECTION
PCI.1 @ PIER CAP END 3/4" = 1'-0"



C PRECAST PIER CAP REINFORCING SECTION
PCI.1 @ 6" Ø SLEEVES 3/4" = 1'-0"



1 PRECAST PIER CAP REINFORCING ELEVATION
PCI.1 STIRRUPS 1/2" = 1'-0"



2 PRECAST PIER CAP REINFORCING ELEVATION
PCI.1 LONGITUDINAL BARS 1/2" = 1'-0"

SUBMITTAL REVIEW

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 RESUBMITTAL NOT REQUIRED
 AMEND AND RESUBMIT
 REJECTED - SEE REMARKS

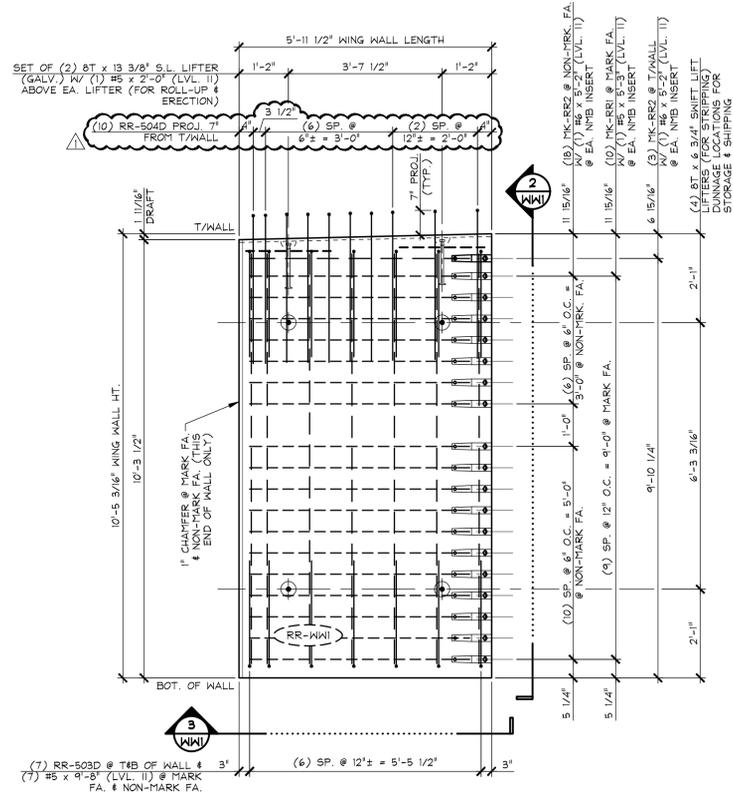
PE AMERICAS, INC.
 BY: *R. Lamb*
 DATE: 2/14/16

Vermont Agency of Transportation
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 and Checked for
CONFORMANCE
 BY: Todd A. Sumner DATE: 02/11/16

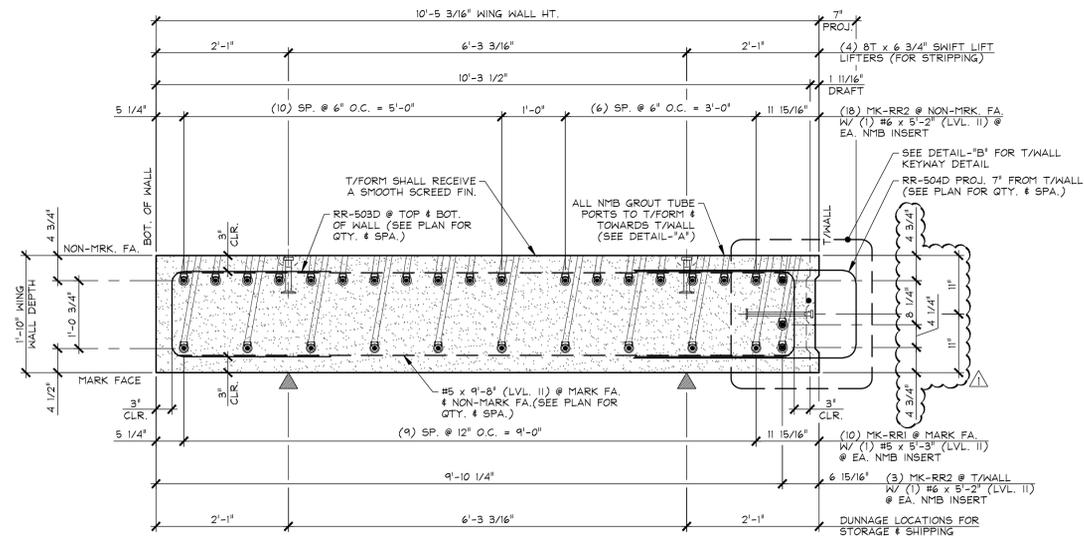
- 1-19-16 REVISED PER ENGINEER'S REVIEW
- 12-2-15 REVISED PER GENERAL CONTRACTOR'S ENGINEER REVIEW

MATERIAL LIST / PIER CAP		
DESCRIPTION	QTY.	
D #5 BENT BAR (LEVEL II, DUAL COATED)	6	
D #5 BENT BAR (LEVEL II, DUAL COATED)	6	
D #5 BENT BAR (LEVEL II, DUAL COATED)	10	
#5 x 6'-0" (LEVEL II, DUAL COATED)	8	
5		
6 RR-604D #6 BENT BAR (LEVEL II, DUAL COATED)	16	
7 RR-605D #6 BENT BAR (LEVEL II, DUAL COATED)	10	
8 RR-606D #6 BENT BAR (LEVEL II, DUAL COATED)	24	
9 RR-607D #6 BENT BAR (LEVEL II, DUAL COATED)	104	
10 RR-608D #6 BENT BAR (LEVEL II, DUAL COATED)	96	
11 RR-609D #6 BENT BAR (LEVEL II, DUAL COATED)	8	
12 #6 x 32'-0" (LEVEL II, DUAL COATED)	8	
13		
14 RR-801D #8 BENT BAR (LEVEL II, DUAL COATED)	10	
15		
16 MK-RR3 D-250 BAR-LOCK L-SERIES COUPLER, 11L (EPOXY COATED)	10	
17 RR-1101D #11 BENT BAR (LEVEL II, DUAL COATED)	10	
18 RR-1102D #11 BENT BAR (LEVEL II, DUAL COATED)	10	
19 RR-1103D #11 BENT BAR (LEVEL II, DUAL COATED)	10	
20 RR-1104D #11 BENT BAR (LEVEL II, DUAL COATED)	10	

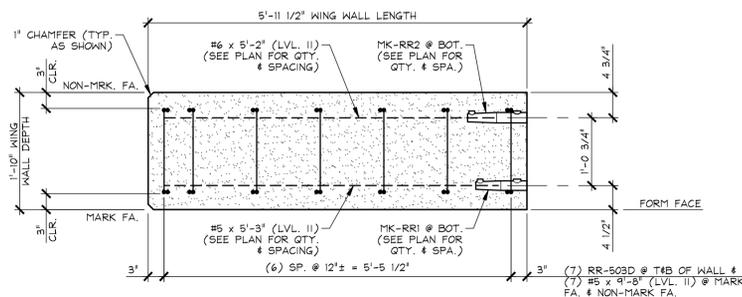
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010	CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON		DATE: OCT. 15, 2015 SCALE: NOTED
TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)		CHKD: A.S. DFTM: B.L. JOB NO: 23475-015
PRECAST PIER CAP REINFORCING DETAILS		DWG. NO: PCI.1



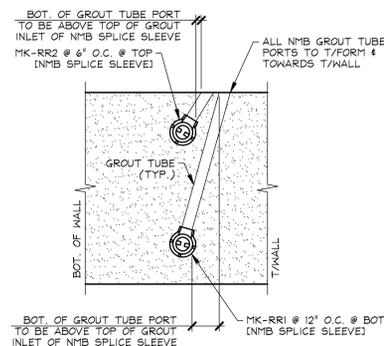
1 PLAN VIEW IN FORM
1/2" = 1'-0"



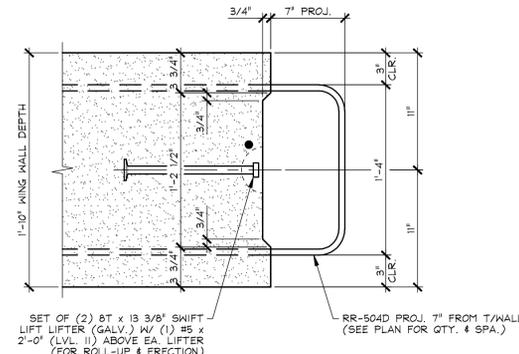
2 SIDE ELEVATION IN FORM
3/4" = 1'-0"



3 BOTTOM ELEVATION
3/4" = 1'-0"



DETAIL - "A"
N.T.S.



DETAIL - "B"
1 1/2" = 1'-0"

SHOP NOTE:
ALL WING WALL SURFACES SHALL RECEIVE A FORM FINISH (U.N.O.)

SHOP NOTE:
f_c = 5,000 PSI
f_{ci} = 3,500 PSI
MIX #445MSCC

MATERIAL LIST / WING WALL				
ITEM	MARK	DESCRIPTION	QTY.	
1	RR-503D	#5 BENT BAR (LEVEL II, DUAL COATED)	14	
2	RR-504D	#5 BENT BAR (LEVEL II, DUAL COATED)	10	
3		#5 x 5'-3" (LEVEL II, DUAL COATED)	10	
4		#5 x 9'-8" (LEVEL II, DUAL COATED)	14	
5		#5 x 2'-0" (LEVEL II, DUAL COATED)	2	
6				
7		#6 x 5'-2" (LEVEL II, DUAL COATED)	21	
8				
9				
10				
11	MK-RR1	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	10	
12	MK-RR2	NMB SPLICE SLEEVE 6U-X(PG) (EPOXY COATED)	21	
13		8T x 13 3/8\"/>	2	
14		8T x 6 3/4\"/>	4	
15				

1-19-16 REVISED PER ENGINEER'S REVIEW

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010	CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON	DATE: OCT. 15, 2015 SCALE: NOTED
	TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)	CHKD: A.S. DFTM: B.L. JOB NO: 23475-015
	PRECAST WING WALL DETAILS	DWG. NO: WW1

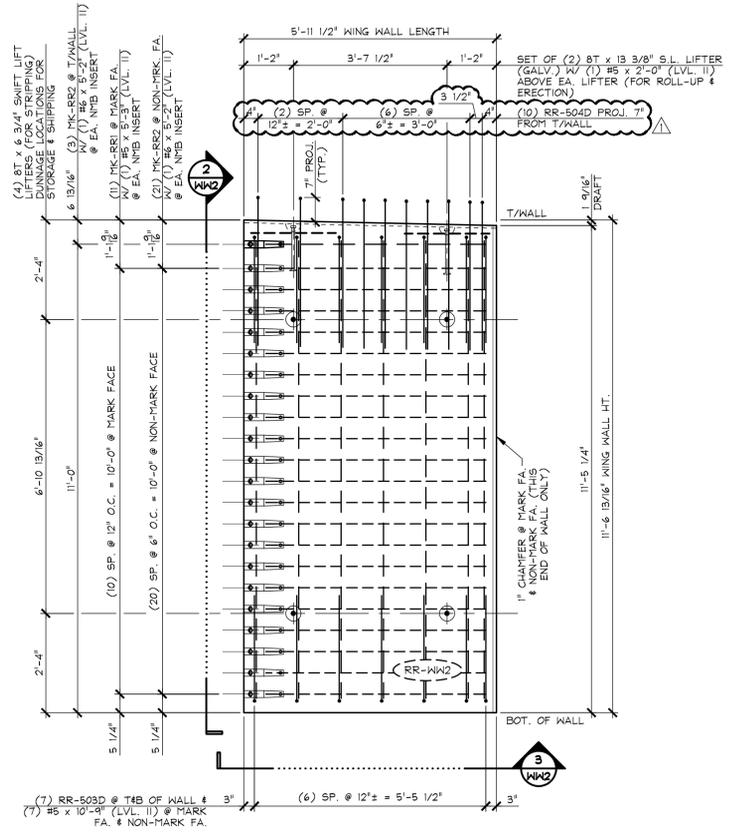
Vermont Agency of Transportation
RECEIVED
ON: **January 28, 2016**
and Checked for
CONFORMANCE
BY: Todd A. Sumner DATE: 02/11/16

SUBMITTAL REVIEW

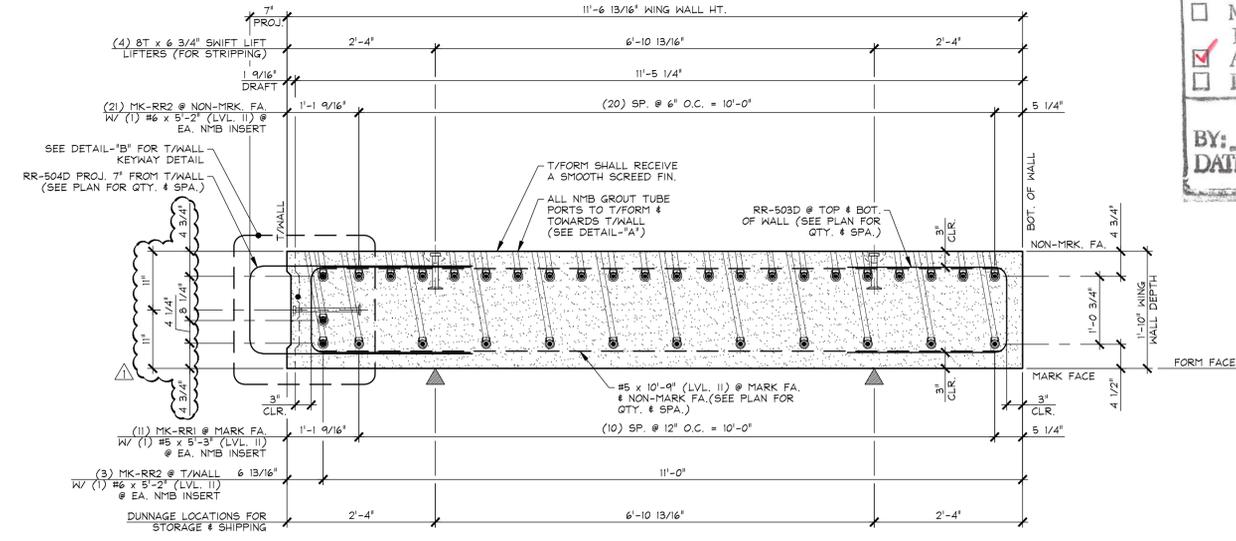
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 MAKE CORRECTIONS NOTED
 RESUBMITTAL NOT REQUIRED
 AMEND AND RESUBMIT
 REJECTED - SEE REMARKS

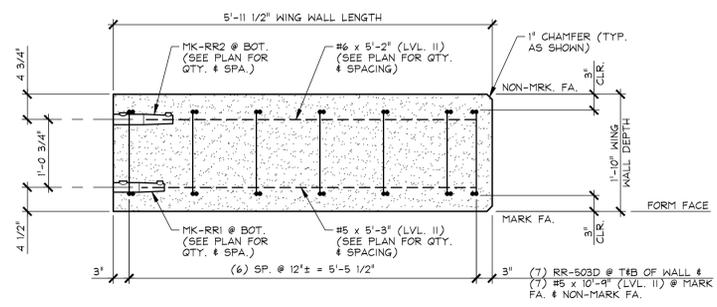
PB AMERICAS, INC.
BY: *R. Sand*
DATE: **2/4/16**



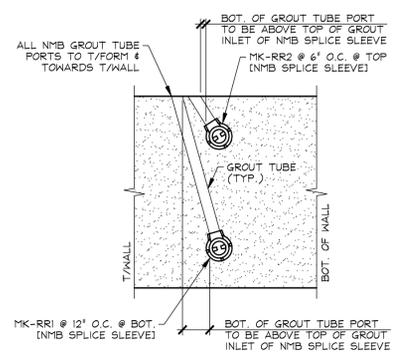
1 PLAN VIEW IN FORM
 WW2
 1/2" = 1'-0"



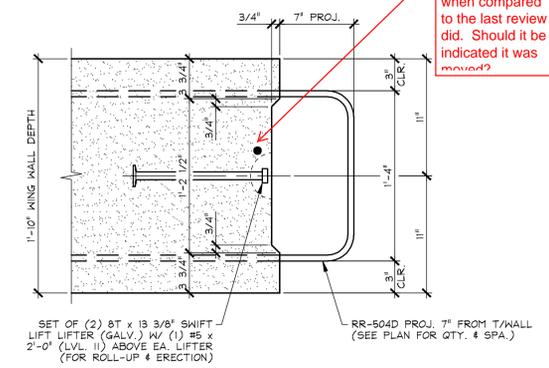
2 SIDE ELEVATION IN FORM
 WW2
 3/4" = 1'-0"



3 BOTTOM ELEVATION
 WW2
 3/4" = 1'-0"



DETAIL - "A"
 N.T.S.



DETAIL - "B"
 1/2" = 1'-0"

this was moved when compared to the last review I did. Should it be indicated it was moved?

SHOP NOTE:
 ALL WING WALL SURFACES SHALL RECEIVE A FORM FINISH (U.N.O.)

SHOP NOTE:
 f'c = 5,000 PSI
 f'ci = 3,500 PSI
 MIX #445M5CC

MATERIAL LIST / WING WALL			
ITEM	MARK	DESCRIPTION	QTY.
1	RR-503D	#5 BENT BAR (LEVEL II, DUAL COATED)	14
2	RR-504D	#5 BENT BAR (LEVEL II, DUAL COATED)	10
3		#5 x 5'-3" (LEVEL II, DUAL COATED)	11
4		#5 x 10'-9" (LEVEL II, DUAL COATED)	14
5		#5 x 2'-0" (LEVEL II, DUAL COATED)	2
6			
7		#6 x 5'-2" (LEVEL II, DUAL COATED)	24
8			
9			
10			
11	MK-RR1	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	11
12	MK-RR2	NMB SPLICE SLEEVE 6U-X(PG) (EPOXY COATED)	24
13		8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	2
14		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4
15			

1-19-16 REVISED PER ENGINEER'S REVIEW

APPROVAL STAMP: Vermont Agency of Transportation RECEIVED ON: January 28, 2016 and Checked for CONFORMANCE BY: Todd A. Sumner DATE: 02/11/16	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010	CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON	DATE: OCT. 15, 2015 SCALE: NOTED
	TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)	CHKD: A.S. DFTM: B.L. JOB NO: 23475-015

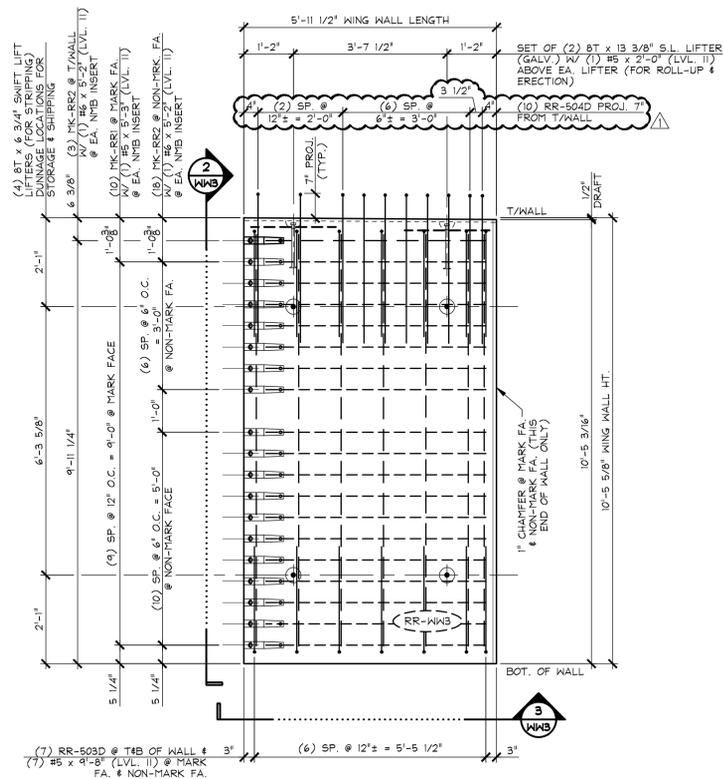
PRECAST WING WALL DETAILS
 DWG. NO: **WW2**

SUBMITTAL REVIEW

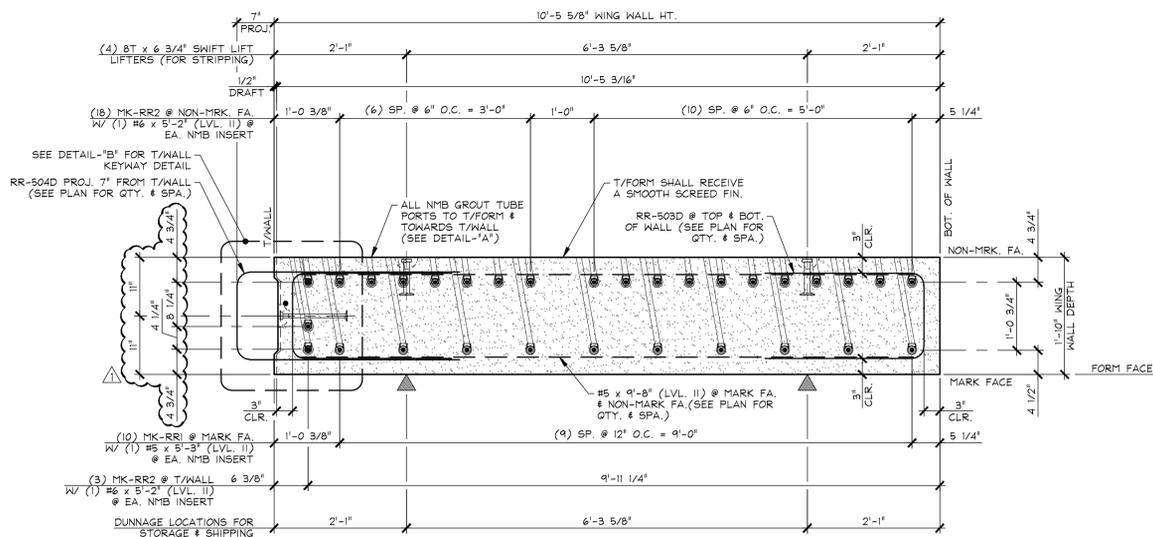
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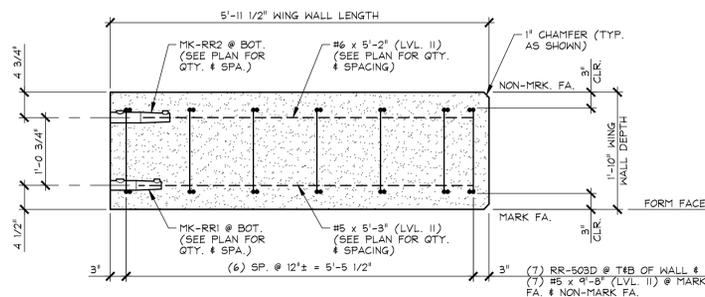
PE AMERICAS, INC.
 BY: *R. Smith*
 DATE: 2/14/16



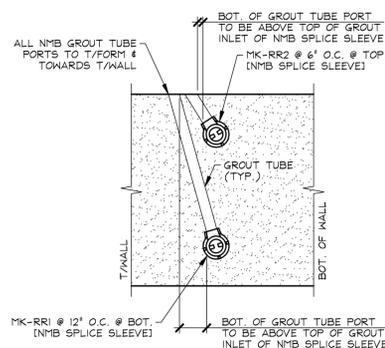
1 PLAN VIEW IN FORM
1/2" = 1'-0"



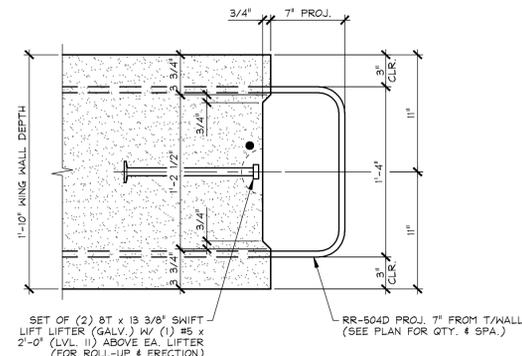
2 SIDE ELEVATION IN FORM
3/4" = 1'-0"



3 BOTTOM ELEVATION
3/4" = 1'-0"



DETAIL - "A"
N.T.S.



DETAIL - "B"
1/2" = 1'-0"

SHOP NOTE:
ALL WING WALL SURFACES SHALL RECEIVE A FORM FINISH (U.N.O.)

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,500 PSI
MIX #445M5CC

MATERIAL LIST / WING WALL			
ITEM	MARK	DESCRIPTION	QTY.
1	RR-503D	#5 BENT BAR (LEVEL II, DUAL COATED)	14
2	RR-504D	#5 BENT BAR (LEVEL II, DUAL COATED)	10
3		#5 x 5'-3" (LEVEL II, DUAL COATED)	10
4		#5 x 9'-8" (LEVEL II, DUAL COATED)	14
5		#5 x 2'-0" (LEVEL II, DUAL COATED)	2
6			
7		#6 x 5'-2" (LEVEL II, DUAL COATED)	21
8			
9			
10			
11	MK-RR1	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	10
12	MK-RR2	NMB SPLICE SLEEVE 6U-X(PG) (EPOXY COATED)	21
13		8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	2
14		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4
15			

1-19-16 REVISED PER ENGINEER'S REVIEW

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010	CCS CONSTRUCTORS, INC. CONTRACTOR MORRISVILLE, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF ADDISON	DATE: OCT. 15, 2015 SCALE: NOTED
	TOWN OF NEW HAVEN T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR) BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)	CHKD: A.S. DFTM: B.L. JOB NO: 23475-015
PRECAST WING WALL DETAILS		DWG. NO: WW3

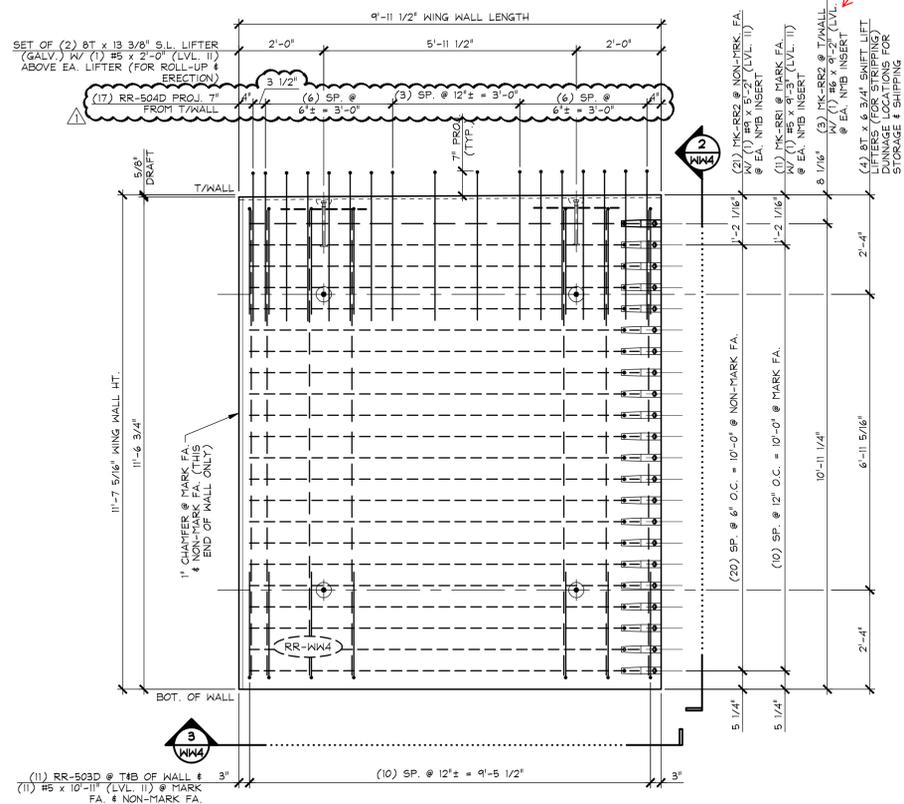
Vermont Agency of Transportation
RECEIVED
ON: **January 28, 2016**
and Checked for
CONFORMANCE
BY: Todd A. Sumner DATE: 02/11/16

SUBMITTAL REVIEW

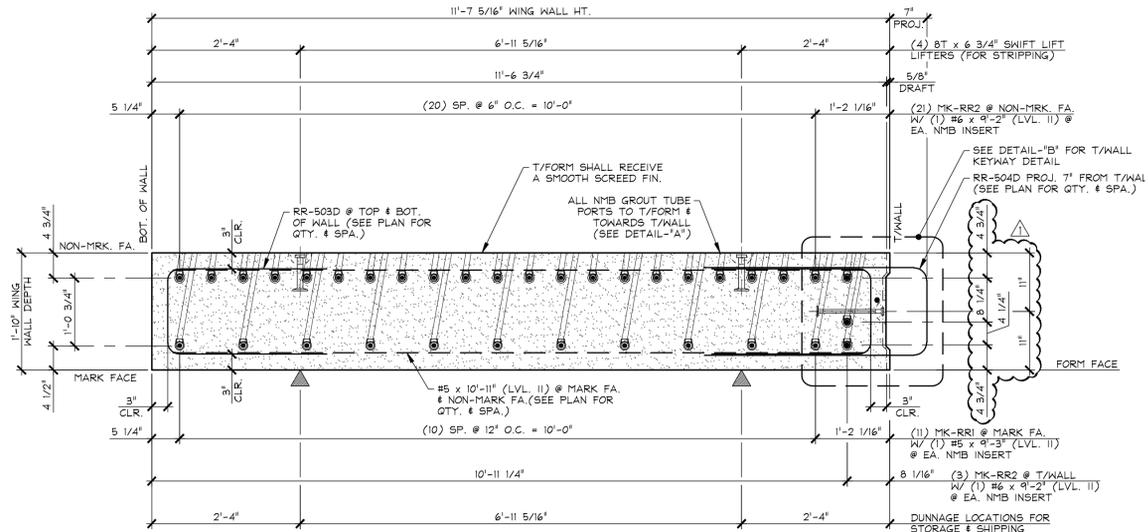
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NO EXCEPTIONS TAKEN
 MAKE CORRECTIONS NOTED
 RESUBMITTAL NOT REQUIRED
 AMEND AND RESUBMIT
 REJECTED - SEE REMARKS

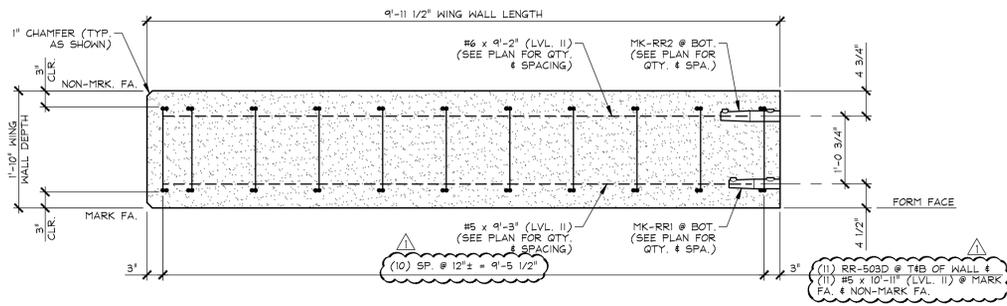
PE AMERICAS, INC.
BY: *R. Bank*
DATE: *2/14/16*



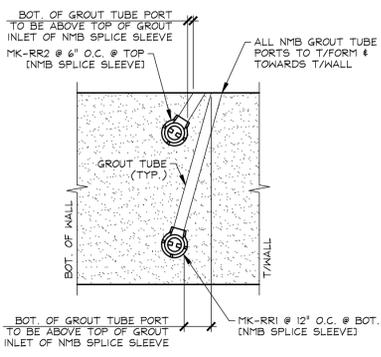
1 PLAN VIEW IN FORM
1/2" = 1'-0"



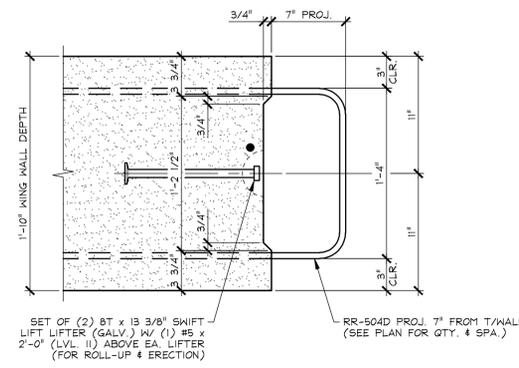
2 SIDE ELEVATION IN FORM
3/4" = 1'-0"



3 BOTTOM ELEVATION
3/4" = 1'-0"



DETAIL - "A"
N.T.S.



DETAIL - "B"
1 1/2" = 1'-0"

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SHOP NOTE:
f'c = 5,000 PSI
Fes = 3,500 PSI
MIX #445M5CC

MATERIAL LIST / WING WALL			
ITEM	MARK	DESCRIPTION	QTY.
1	RR-503D	#5 BENT BAR (LEVEL II, DUAL COATED)	22
2	RR-504D	#5 BENT BAR (LEVEL II, DUAL COATED)	17
3		#5 x 9'-3" (LEVEL II, DUAL COATED)	11
4		#5 x 10'-11" (LEVEL II, DUAL COATED)	22
5		#5 x 2'-0" (LEVEL II, DUAL COATED)	2
6			
7		#6 x 9'-2" (LEVEL II, DUAL COATED)	24
8			
9			
10			
11	MK-RR1	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	11
12	MK-RR2	NMB SPLICE SLEEVE 6U-X(PG) (EPOXY COATED)	24
13		8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	2
14		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4
15			

SUBMITTAL REVIEW

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BY: *R. Sumner*
 DATE: 2/14/16

PE AMERICAS, INC.

1-19-16 REVISED PER ENGINEER'S REVIEW

APPROVAL STAMP:

Vermont Agency of Transportation
RECEIVED
 ON: January 28, 2016
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 BY: Todd A. Sumner DATE: 02/11/16

J.P. CARRARA & SONS INC.
 Precast & Prestress Manufacturer
 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010

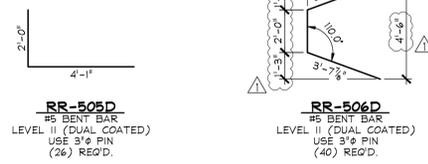
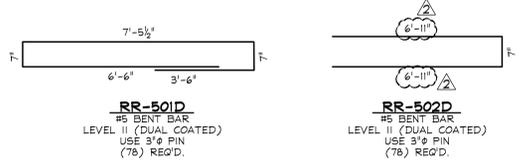
CCS CONSTRUCTORS, INC.
 CONTRACTOR
 MORRISVILLE, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
 COUNTY OF ADDISON

TOWN OF NEW HAVEN
 T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR)
 BRIDGE NO.: 10 PROJECT NO.: BRP 0183 (1)

DATE: OCT. 15, 2015
 SCALE: NOTED
 CHKD: A.S. DFTM: B.L.
 JOB NO: 23475-015
 DWG. NO: WW4

PRECAST WING WALL DETAILS



PRECAST APPROACH SLABS

PRECAST WING WALLS

PRECAST ABUTMENTS

MISCELLANEOUS MATERIALS				
ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1				
2				
3	56		#5 x 19'-6" (LEVEL II, DUAL COATED)	
4				
5				
6	32		4" I.D. x 1'-3" PVC SLEEVE	
7	32		8T x 6 3/4" SWIFT LIFT LIFTER	GALVANIZED
8				
9				
10				
11	8		#5 x 2'-0" (LEVEL II, DUAL COATED)	
12	32		#5 x 5'-3" (LEVEL II, DUAL COATED)	INCLUDES (1) ADDITIONAL SAMPLE
13	28		#5 x 9'-8" (LEVEL II, DUAL COATED)	
14	14		#5 x 10'-9" (LEVEL II, DUAL COATED)	
15	11		#5 x 9'-3" (LEVEL II, DUAL COATED)	
16	22		#5 x 10'-11" (LEVEL II, DUAL COATED)	
17				
18	67		#6 x 5'-2" (LEVEL II, DUAL COATED)	INCLUDES (1) ADDITIONAL SAMPLE
19	24		#6 x 9'-2" (LEVEL II, DUAL COATED)	
20				
21	MK-RR1	42	NMB SPLICE SLEEVE 5U-X(PG)	EPOXY COATED
22	MK-RR2	90	NMB SPLICE SLEEVE 6U-X(PG)	EPOXY COATED
23	8		8T x 13 3/8" SWIFT LIFT LIFTER	GALVANIZED
24	16		8T x 6 3/4" SWIFT LIFT LIFTER	GALVANIZED
25				
26	56		#5 x 3'-6" (LEVEL II, DUAL COATED)	
27				
28	44		#6 x 3'-9" (LEVEL II, DUAL COATED)	
29	28		#6 x 32'-0" (LEVEL II, DUAL COATED)	
30				
31	64.6 LF		P.V.C. WATERSTOP	SUPPLIED BY CARRARA
32	2		2'-6" x 7'-3" CORRUGATED STEEL SLEEVE	
33	2		2'-6" x 6'-11 1/16" CORRUGATED STEEL SLEEVE	
34	2		2'-6" x 6'-8 3/8" CORRUGATED STEEL SLEEVE	
35	2		2'-6" x 6'-5 1/8" CORRUGATED STEEL SLEEVE	
36	2		2'-6" x 6'-1 13/16" CORRUGATED STEEL SLEEVE	
37	8		4" x 1'-10" CORRUGATED PLASTIC SLEEVE	
38	8		SET OF (4) 0.60" STRAND LIFTING LOOPS	
39				
40				
41	13		6" x 4'-2" CORRUGATED PLASTIC SLEEVE	
42	4		SPLICE PLATE GIRDER SEGMENT	SUPPLIED BY OTHERS
43	4		SET OF (4) 0.60" STRAND LIFTING LOOPS	
44				
45	MK-RR3	10	D-250 BAR-LOCK L-SERIES COUPLER, IIL	EPOXY COATED
46				
47	8		#5 x 6'-0" (LEVEL II, DUAL COATED)	
48				
49	8		#6 x 32'-0" (LEVEL II, DUAL COATED)	
50				
51	MK-RR1	3	NMB SPLICE SLEEVE 5U-X(PG)	EPOXY COATED
52	MK-RR2	3	NMB SPLICE SLEEVE 6U-X(PG)	EPOXY COATED
53	MK-RR3	3	D-250 BAR-LOCK L-SERIES COUPLER, IIL	EPOXY COATED
54				
55				
56				
57	2		#8 x 2'-6" (LEVEL II, DUAL COATED)	
58	2		#8 x 2'-6" (LEVEL II, DUAL COATED)	
59				
60				

SUBMITTAL REVIEW

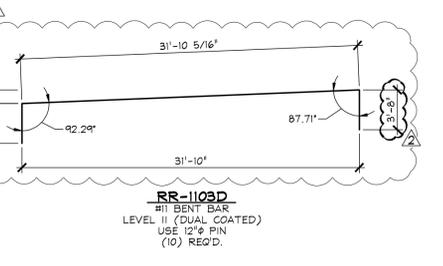
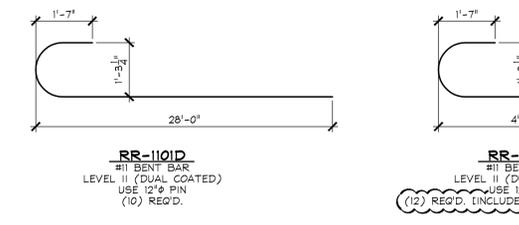
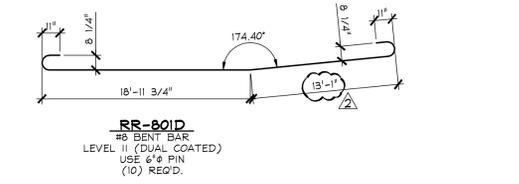
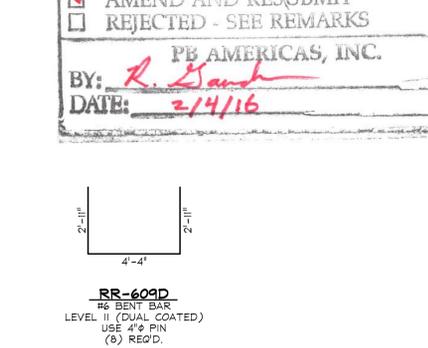
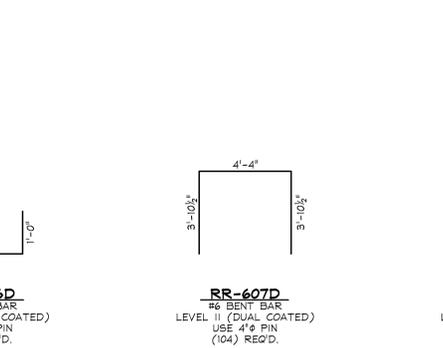
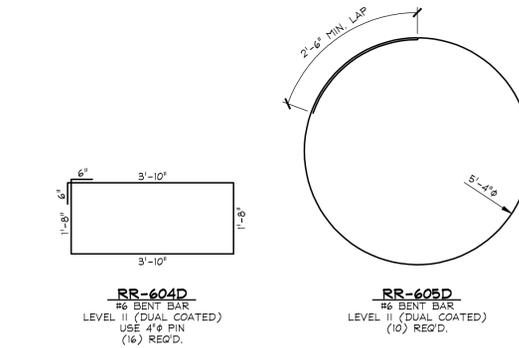
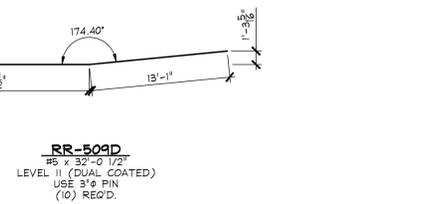
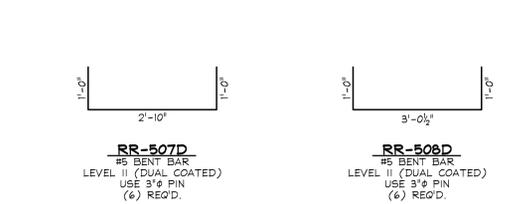
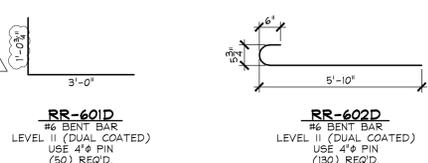
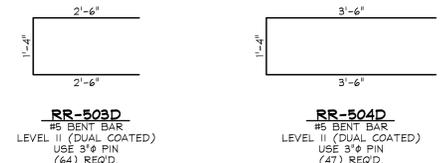
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BY: *R. Bank*
 DATE: *2/14/16*

PE AMERICAS, INC.

have extra for samples to be sent in for testing. 3 of each size.



THIS DETAILS HAS BEEN OMITTED

1-19-16 REVISED PER ENGINEER'S REVIEW
 12-2-15 REVISED PER GENERAL CONTRACTOR'S ENGINEER REVIEW

PRECAST PIER CAP

Vermont Agency of Transportation
RECEIVED
 ON: **January 28, 2016**
 and Checked for
CONFORMANCE
 BY: Todd A. Sumner DATE: 02/11/16

APPROVAL STAMP:

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 T.H. 2 (RIVER ROAD) (CLASS 2 - MAJOR COLLECTOR)
 BRIDGE NO.: 10 PROJECT NO.: BRF 0183 (1)

MATERIALS LIST

CCS CONSTRUCTORS, INC.
 CONTRACTOR
 MORRISVILLE, VERMONT

DATE: OCT. 15, 2015
 SCALE: NOTED
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 JOB NO: 23475-015
 DWG. NO: M1