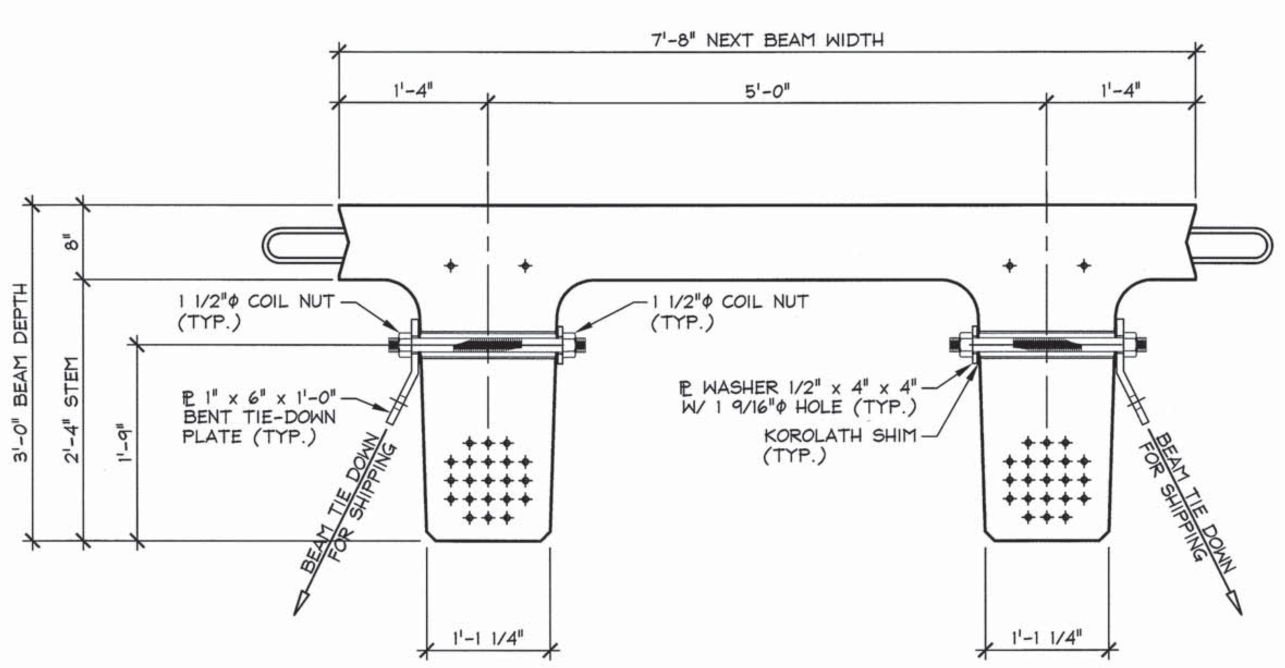
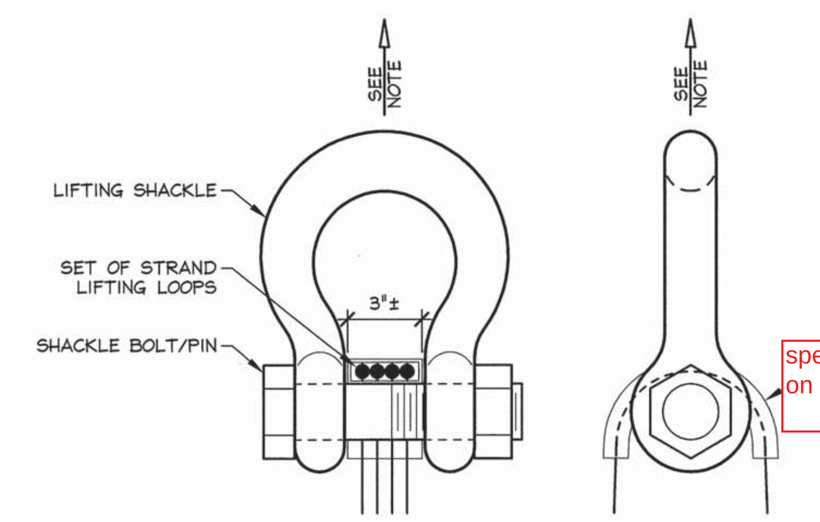


MODIFIED NEXT BEAM 36D HOLD-DOWN DETAIL FOR SHIPPING

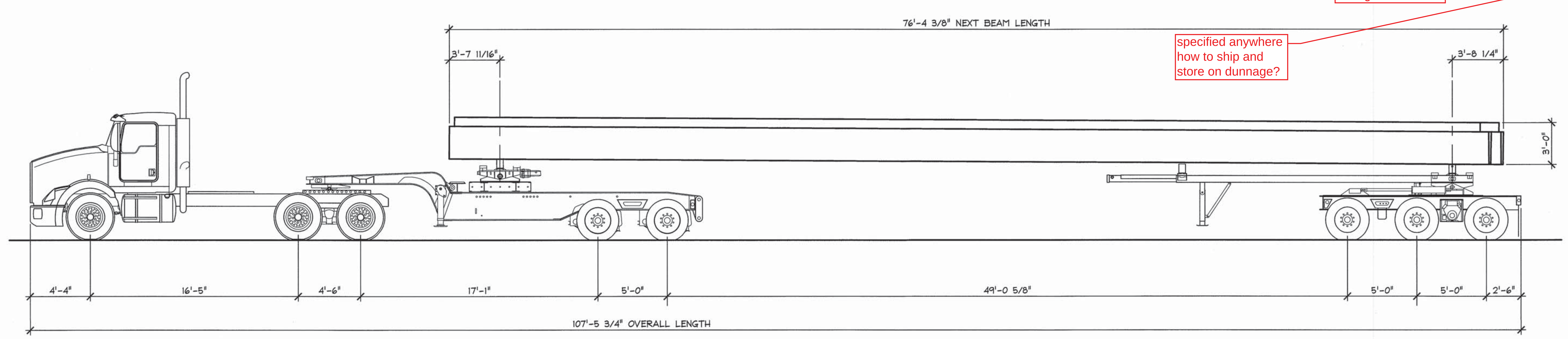
3/4" = 1'-0"



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

LIFTING SHACKLE DETAILS

N.T.S.



S H I P P I N G   E L E V A T I O N

3/16" = 1'-0"

ABUTMENT GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 5,000 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL I (BLACK) (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF ABUTMENTS SHALL RECEIVE A RAKE FINISH ROUGHENED TO 1/4" AMPLITUDE (UNLESS NOTED OTHERWISE).
5. ABUTMENTS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL AND VERTICAL FORCES ARE APPLIED TO EACH OF THE LIFTING LOOPS AT EACH END OF THE ABUTMENT. **THE PINS OF THE SHACKLES SHALL BE PLACED THROUGH THE LIFTING LOOPS. SEE DETAIL, THIS SHEET.** ABUTMENTS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 2'-0" OF THE ABUTMENT ENDS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
6. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.

   DESIGN MX: J.P.C. BRIDGE MIX #425M-NO DCI
   APPROVAL DATE: MARCH 21, 2015
7. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
8. CURING METHOD: AS SOON AS THE TOP OF ABUTMENTSS ARE FINISHED, A COVER OF POLY WILL BE PLACED OVER THE ABUTMENT. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED. AMBIENT ENCLOSURE TEMPERATURE SHALL BE MONITORED. UNITS SHALL NOT BE EXPOSED TO TEMPERATURE DIFFERENTIAL GREATER THAN 40°F UNTIL DESIGN STRENGTH IS ACHIEVED.
9. ~~ABUTMENT POST-TENSIONING SEQUENCE:~~
   - ~~A. ERECT PRECAST CONCRETE ABUTMENTS, AND POST-TENSION CENTER TENDON TO APPROXIMATELY 5,000 LBS.~~
   - ~~B. GROUT SHEAR KEY.~~
   - ~~C. ONCE SHEAR KEY GROUT HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI, POST-TENSION TENDONS TO 32,000 LBS.~~

APPROACH SLAB GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 3,000 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-60, ~~ASTM A-615 (AASHTO M31)~~ LEVEL II (DUAL COATED) (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF APPROACH SLABS SHALL RECEIVE A SMOOTH SCREED FINISH (UNLESS NOTED OTHERWISE).
5. APPROACH SLABS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. APPROACH SLABS SHALL BE STORED & TRANSPORTED WITH TIMBER SUPPORTS AT 5th POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
6. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.

   DESIGN MI : J.P.C. BRIDGE MIX #445MSCC
   APPROVAL DATE: MARCH 26 2015
7. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
8. CURING METHOD: AS SOON AS THE TOP OF APPROACH SLABS ARE FINISHED, A COVER OF POLY WILL BE PLACED OVER THE APPROACH SLAB. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED. UNITS SHALL NOT BE EXPOSED TO TEMPERATURE DIFFERENTIAL GREATER THAN 40°F UNTIL DESIGN STRENGTH IS ACHIEVED.
9. FABRICATOR MAY UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH. PROJECTING REINFORCEMENT TO BE SHIELDED FROM DAMAGE; ANY INADVERTENT DAMAGE TO EPOXY COATING SHALL BE TOUCHED UP W/ 2-PART KITS FROM DUAL COATED BAR SUPPLIER.

NEXT BEAM GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 10,000 PSI.
2. MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 8,000 PSI.
3. REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL II (DUAL COATED).
4. PRESTRESSING STRANDS SHALL CONFORM TO ASTM A-416 (AASHTO M203) AND SHALL CONSIST OF 0.60"φ x 270 KSI 7-WIRE LOW RELAXATION STRANDS.
5. PRESTRESSING STRANDS SHALL EACH BE PULLED TO HAVE A NET TENSION OF **44.0 K** AFTER ACCOUNTING FOR CHUCK SLIPPAGE. TENSION SHALL BE VERIFIED BY MEASURING STRAND ELONGATION. (SEE EXAMPLE ELONGATION CALCULATION AND TENSIONING PROCEDURE, THIS SHEET.)
6. ENDS OF PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH END OF NEXT BEAM STEMS (UNLESS NOTED OTHERWISE) AND COATED WITH TWO PART EPOXY PAINT SYSTEM.
7. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" (UNLESS NOTED OTHERWISE).
8. THE TOP OF BEAMS SHALL RECEIVE A SMOOTH SCREED FINISH (UNLESS NOTED OTHERWISE).
9. SHEAR KEY SURFACES SHALL BE ROUGHENED TO PROVIDE A 1/8" AMPLITUDE SURFACE PROFILE WITH SOME EXPOSED AGGREGATE. PROJECTING REINFORCEMENT TO BE SHIELDED FROM DAMAGE; ANY INADVERTENT DAMAGE TO EPOXY COATING SHALL BE TOUCHED UP W/ 2-PART KITS FROM DUAL COATED BAR SUPPLIER.
10. BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS 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.** BEAMS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 2'-0" OF THE BEAM ENDS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
11. MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. P510.02 AND P510.05 RESPECTIVELY.

    DESIGN MIX J.P.C. BRIDGE MIX #430M
    APPROVAL DATE: MARCH 21, 2015
12. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
13. CURING METHOD: AS SOON AS THE TOP OF BEAM IS FINISHED, A COVER OF INSULATED POLY. THE DESIRED CURING TEMPERATURE RANGE SHALL NOT DROP BELOW 50°F. THE TEMPERATURE SHALL BE RECORDED BY AUTOMATIC SENSOR INSTRUMENTS ON GRAPH CHARTS, SPACED NOT MORE THAN 100' APART AND WILL CONTINUE UNTIL RELEASE STRENGTH IS ACHIEVED. EACH CHART SHALL BE MARKED WITH THE CASTING DATED AND LOCATION OF THE RECORDER. IF NECESSARY TO MAINTAIN CASTING BED TEMPERATURE PRIOR TO CONCRETE PLACEMENT OR TO ACCELERATE EARLY AGE STRENGTH GAIN, EXTERNAL RADIANT HEAT MAY BE EMPLOYED VIA HOT WATER DUCTS BENEATH AND WITHIN THE PERIPHERY OF THE CASTING BED. MAXIMUM CURING TEMPERATURE SHALL NOT EXCEED PCI SPECIFIED LIMITS. UNITS SHALL NOT BE EXPOSED TO TEMPERATURE DIFFERENTIAL GREATER THAN 40°F UNTIL DESIGN STRENGTH IS ACHIEVED.
14. OWNER SHALL PROVIDE APPROPRIATE WATERPROOFING TO GROUTED AND/OR EPOXIED SHEAR KEYS. J.P. CARRARA & SONS, INC. SHALL NOT BE HELD LIABLE FOR PROBLEMS ASSOCIATED WITH MOISTURE INFILTRATING GROUTED AND/OR EPOXIED SHEAR KEYS.
15. MANUFACTURING TOLERANCES SHALL COMPLY WITH PCI MNL-116. SINCE PRESTRESSED PRODUCT CAMBER IS A RESULT OF REQUIRED DESIGN LOADS AND SPAN LENGTH, CAMBER TOLERANCES SHALL NOT APPLY.

EXAMPLE PRESTRESSING STRAND ELONGATION CALC. AND TENSIONING

(NOT TO BE USED FOR CONSTRUCTION)

SIZE & GRADE: 0.60"φ x 270 KSI

AREA: 0.217 IN^2

TENSION: 44,000 LB. EACH STRAND

GRIP-TO-GRIP: 252'-0" = 252.00'

Es = 28,600,000 PSI (ASSUMED FOR THESE CALCULATIONS; VALUE TO BE OBTAINED FOR STRAND SPOOL ACTUALLY USED)

EXAMPLE:

$$\Delta = \frac{PL}{AE} = \frac{(44,000 - 3,000) \times 252.00 \times 12}{0.217 \times 28,600,000} = 19.977''$$

THEREFORE: (TOLERANCES ± 5%)

Δ UPPER LIMIT = 1.05 x 19.977" = 20.98" = 21"

Δ LOWER LIMIT = 0.95 x 19.977" = 18.98" = 19"

EXTRA FORCE REQUIRED TO COMPENSATE FOR 1/2" CHUCK SLIPPAGE:

$$\Delta P = \frac{0.5 \times 41,000}{19.977} = 1,026 \text{ LBS.}$$

TOTAL TENSIONING FORCE = 44,000 + 1,026 = 45,026 LBS.

ADDITIONALLY, INCREASED ELONGATION AND THE CORRESPONDING FORCE DUE TO FORM SHORTENING SHALL BE ACCOUNTED FOR IN THE CALCULATIONS USED FOR CONSTRUCTION PER PROVISION PCI MNL-116 5.3.11.3.

STRAND TENSIONING PROCEDURE:

1. PULL EACH STRAND INITIALLY TO 3,000* LBS. AND MARK STRAND.
2. THEN PULL EACH STRAND TO A TOTAL TENSION OF 45,026* LBS. AND MEASURE ELONGATION AFTER SEATING. IT MUST BE BETWEEN 19"* AND 21"*.

   * NOTE: FORCES READ ON STRESSING JACK GAUGES MUST BE MADE TO CORRESPOND TO ABOVE VALUES BASED ON CALIBRATION DATA FOR SPECIFIC JACK USED.
3. STRANDS IN BOTTOM TWO ROWS SHALL BE RE-PULLED TO VERIFY SHORTENING EFFECT OF SELF STRESSING BED. RE-PULL FORCE SHALL NOT INCLUDE OVER-PULL FOR SHORTENING.

DESIGN LIVE LOAD: HL-93

Review comments:

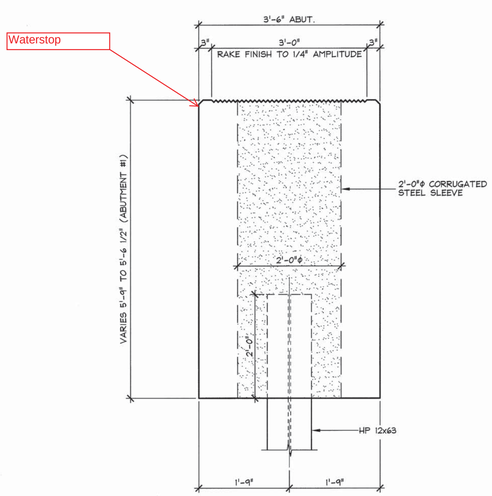
- Is this intended to be the concrete strength at form removal?
- All reinforcing steel located below the bridge seat shall be GR-60, ASTM A-615 (AASHTO M31) level I (Black), and all reinforcing located or extending above the bridge seat shall be ASTM A 1055 level II (dual coated).
- 540.02 and 540.05
- before design strength is acheived
- Precast pieces shall not be subject to a temperature lower than 36 degrees.
- at anytime, doesn't matter if at design strength or not
- specified anywhere how to ship and store on dunnage?
- Is this intended to be the form removal strength?
- ASTM A 1055
- 540.02 and 540.05
- before design strength
- Precast pieces shall not be subject to a temperature lower than 36 degrees.
- at anytime, doesn't matter if at design strength or not
- specified anywhere how to ship and store on dunnage?
- What is the method or protecting the exposed reinforcing steel.
- Camber Tolerances are still applicable.
- is profile specified? we went through this last year and thought it was to be at least 1/8" exposed coarse aggregate rim
- Per Project Note 47 the Fabricator is required to provide a calculated camber value.
- What is the method for detensioning.
- ASTM A 1055
- we went through this last year and thought it was to be at least 1/8" exposed coarse aggregate rim
- How will the roughened surface be achieved.
- at anytime when exposed.
- The maximum temperature differential should apply at all stages of curing, even if the strength has been achieved.
- our limit is 160F, PCI is 180F. Stick with ours

Vermont Agency of Transportation
RECEIVED
CK'D BY JG, SC, TM   OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes   Rejected
BY K. Higgins   DATE 03/03/2016

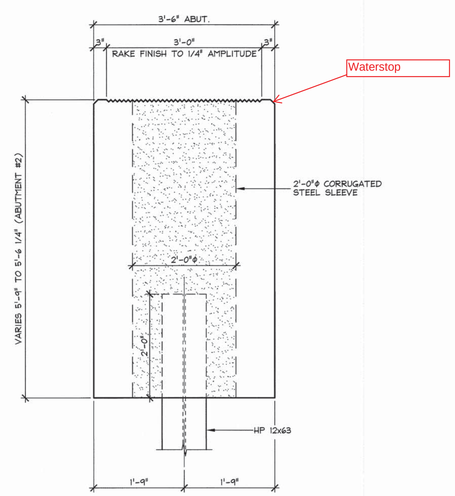
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	J.A. McDonald, Inc. CONTRACTOR LYNDON CENTER, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF RUTLAND	DATE: JAN. 8, 2016 SCALE: NOTED
	TOWN OF CLARENDON WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)	CHKD: B.C. DFTM: T.D. JOB NO: 23476-015
	COVER SHEET	DWG. NO: C1

F:\VT-Bridges\23476-15 Clarendon\claredon-C1.dwg, 2/15/2016 2:14:48 PM

1 F1 PRECAST ABUTMENT LAYOUT
1/4" = 1'-0"



A F1 ABUTMENT SECTION (ABUT. #1)
3/4" = 1'-0"



B F1 ABUTMENT SECTION (ABUT. #2)
3/4" = 1'-0"

Vermont Agency of Transportation
RECEIVED
Clarendon BRO(48)(48) Precast Rebuild 3-2-2016.pdf
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

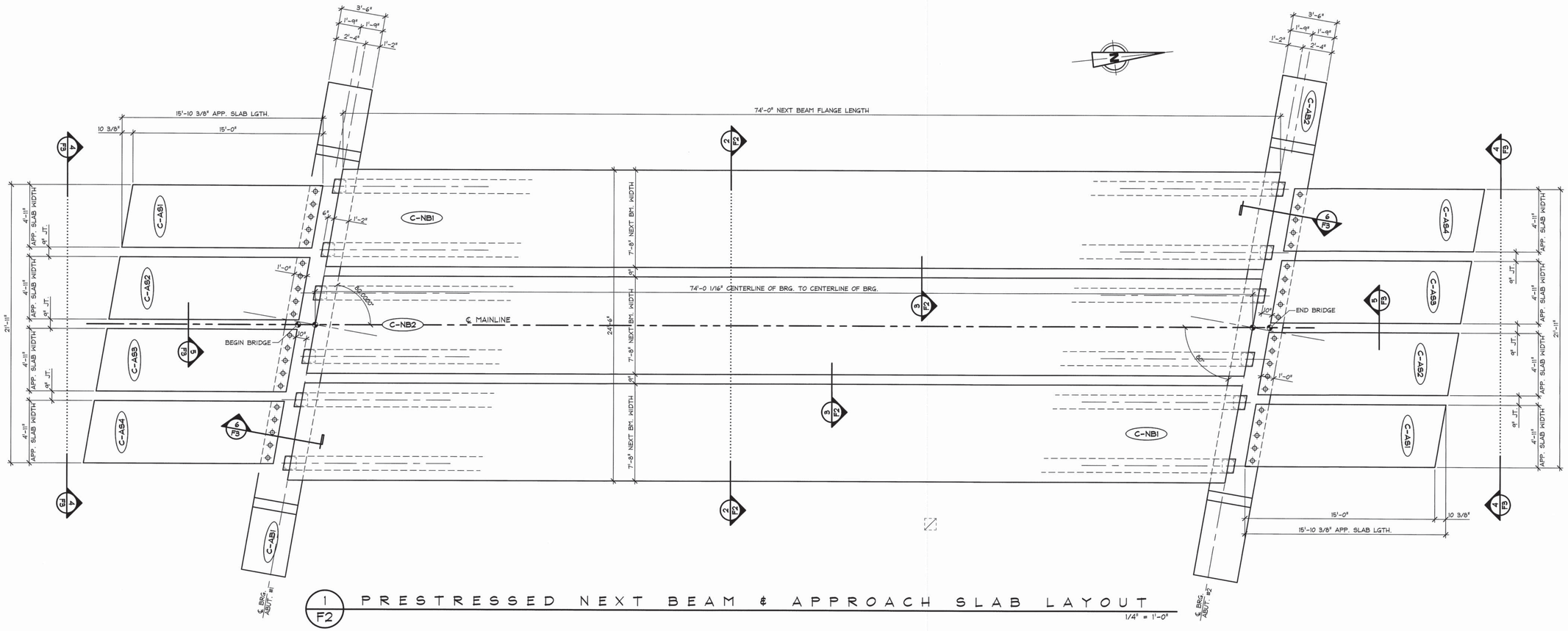
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

PRECAST ABUTMENT LAYOUT

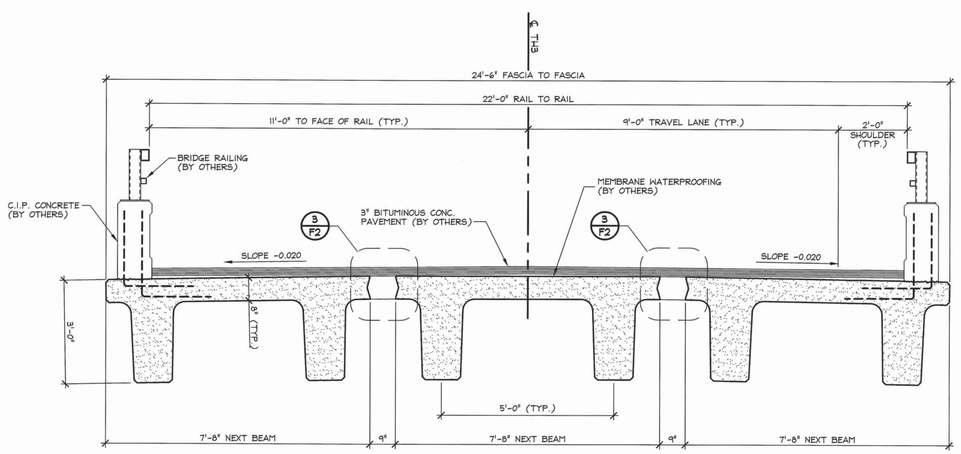
DATE:	JAN. 8, 2016
SCALE:	NOTED
CHKD:	DFTM: T.D.
JOB NO:	23476-015
DWG. NO:	F1

F:\VT-Bridges\23476-15 Clarendon\clarendon-F1.dwg, 2/15/2016 2:13:59 PM



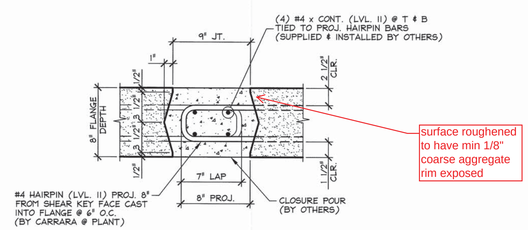
1 F2 PRESTRESSED NEXT BEAM & APPROACH SLAB LAYOUT

1/4" = 1'-0"



2 F2 TRANSVERSE SECTION THRU NEXT BEAMS

1/2" = 1'-0"



3 F2 NEXT BEAM CLOSURE POUR

1 1/2" = 1'-0"

Vermont Agency of Transportation

RECEIVED

Clarendon BRO(14)(48) Precast Recvd 3-2-2016.pdf

CK'D BY JG, SC, TM OK'D BY G. Laroche

February 15, 2016

RESUBMIT Yes Rejected

BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

DATE: JAN. 8, 2016
SCALE: NOTED

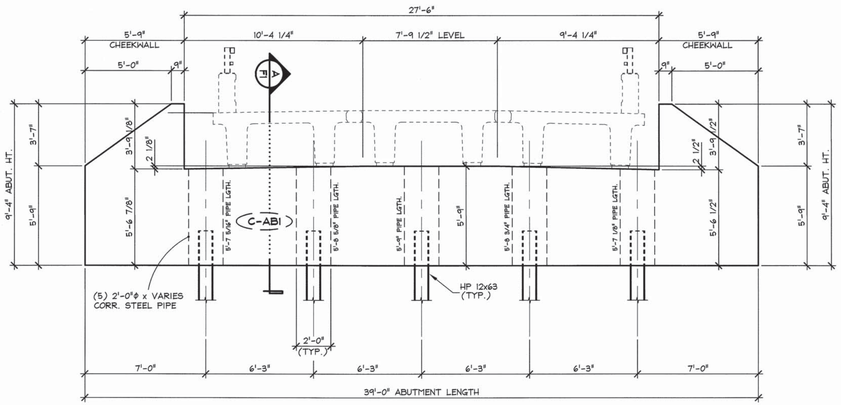
TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

CHKD: B.C. DFTM: T.D.
JOB NO: 23476-015

PRECAST NEXT BEAM LAYOUT

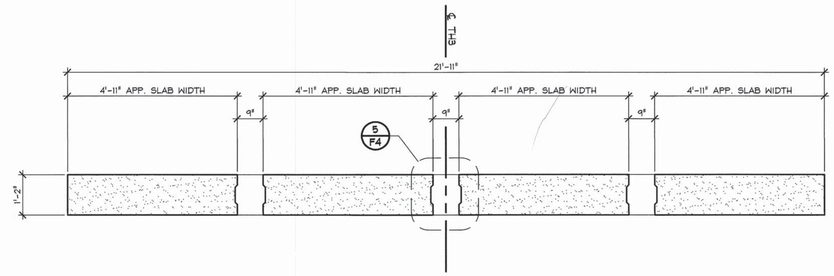
DWG. NO: F2

F:\VT-Bridges\23476-15 Clarendon\clarendon-F1.dwg, 2/15/2016 2:13:37 PM



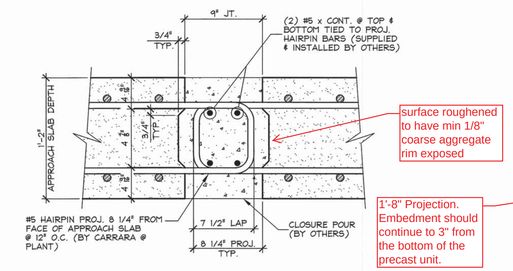
2 F3 PRECAST ABUTMENT #1 ELEVATION

1/4" = 1'-0"



4 F3 SECTION AT APPROACH SLABS

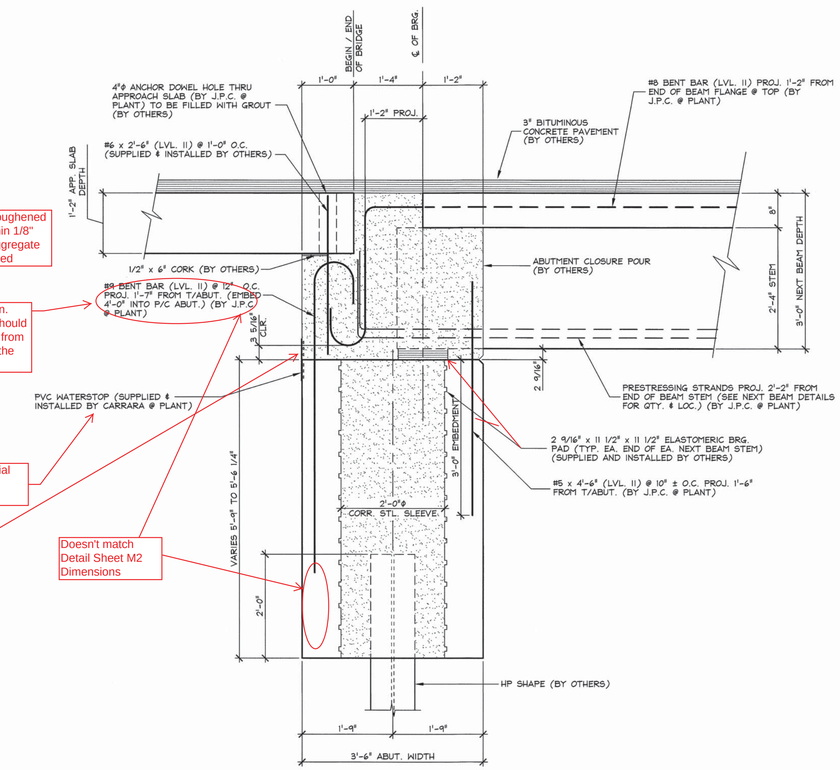
1/2" = 1'-0"



surface roughened to have min 1/8" coarse aggregate rim exposed

5 F3 APPROACH SLAB CLOSURE POUR

1 1/2" = 1'-0"



1'-8" Projection. Embedment should continue to 3" from the bottom of the precast unit.

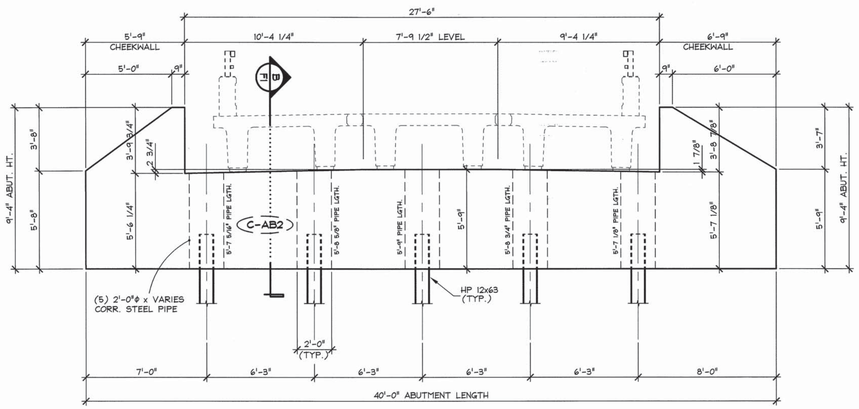
Provide Material Spec. for PVC Waterstop

where does this terminate horizontally?

Doesn't match Detail Sheet M2 Dimensions

6 F3 ABUTMENT SECTION

3/4" = 1'-0"



3 F3 PRECAST ABUTMENT #2 ELEVATION

1/4" = 1'-0"

Vermont Agency of Transportation
RECEIVED
Clarendon BRO(14)(18) Precast Precast 3-2-2016.pdf

CK'D BY JG, SC, TM OK'D BY G. Laroche

February 15, 2016

RESUBMIT Yes Rejected

BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

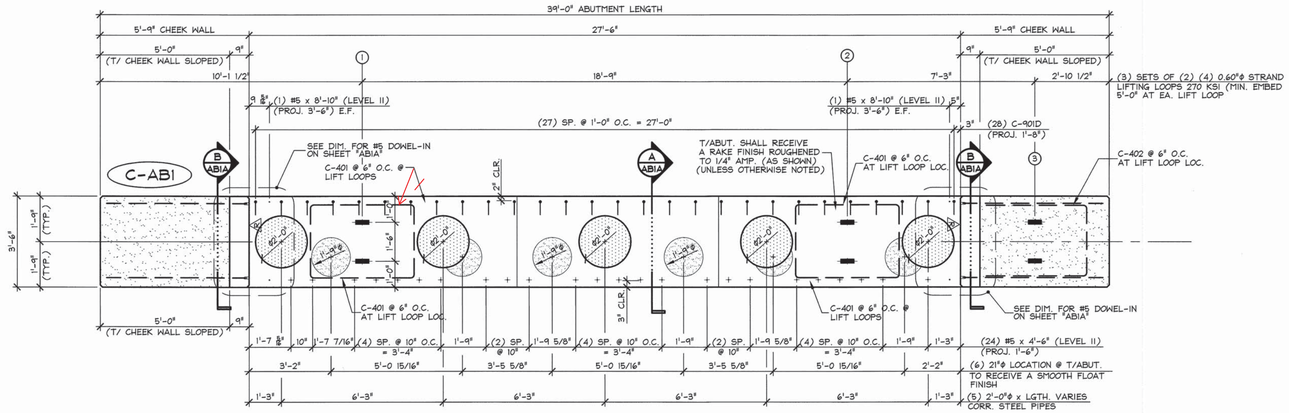
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

PRECAST ABUTMENT ELEVATIONS & DETAILS

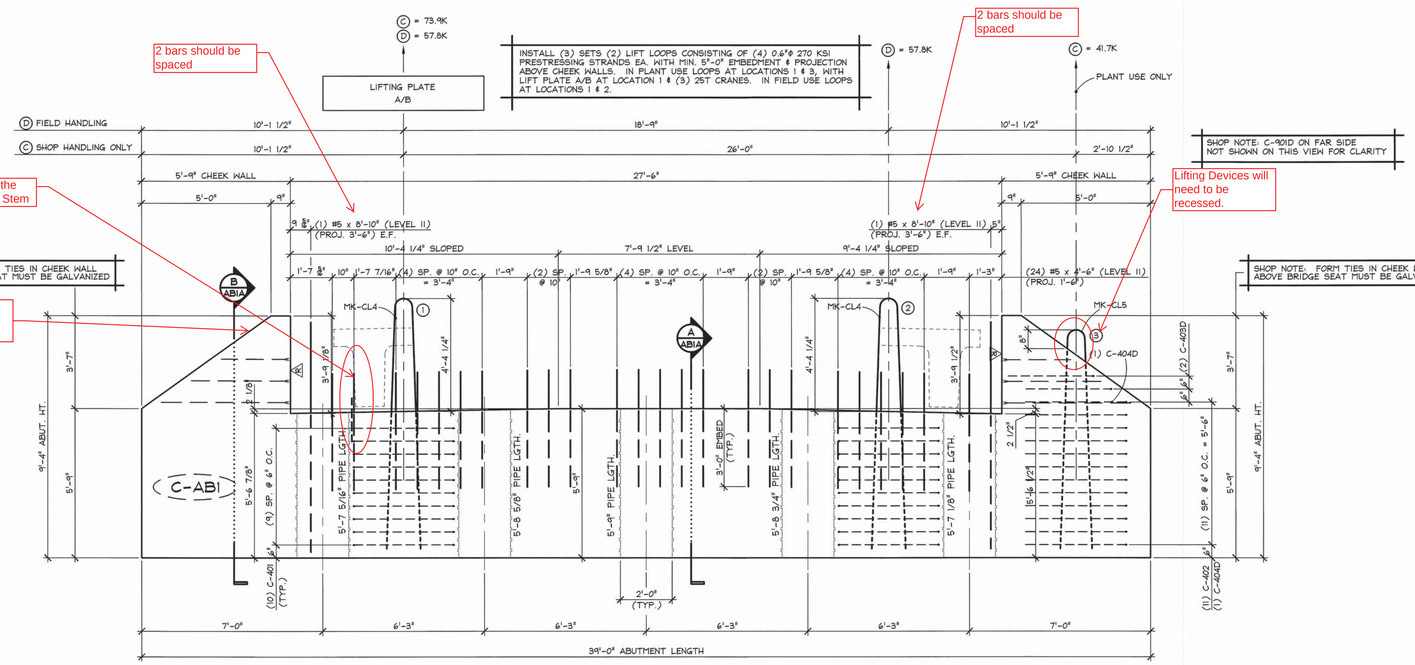
DATE:	JAN. 8, 2016
SCALE:	NOTED
CHKD:	DFTM: T.D.
JOB NO:	23476-015
DWG. NO:	F3

F:\VT-Bridges\23476-15 Clarendon\clarendon-F1.dwg, 2/15/2016 2:13:15 PM



PLAN VIEW IN FORM

DENOTES ROUGHENED SURFACE AT INTERIOR VERTICAL FACE OF CHEEK WALL



NON MARK FACE ELEVATION

1 ABI — ABUTMENT DIMENSIONAL DETAILS

3/8" = 1'-0"

SHOP NOTE:
ALL EDGES OF ABUTMENT SHALL RECEIVE A 1" CHAMFER (U.N.O.)

MARK: C-ABI	QTY.: 1	WT.: 57.71 T	VOL.: 28.5 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1			
2	C-401	#4 BENT BAR (LEVEL I)	20
3	C-402	#4 BENT BAR (LEVEL I)	11
4	C-403D	#4 BENT BAR (LEVEL II, DUAL COATED)	2
5	C-404D	#4 BENT BAR (LEVEL II DUAL COATED)	1
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20		2'-0"ϕ x 5'-7 5/16" CORRUGATED STEEL PIPE (GALV.)	1
21		2'-0"ϕ x 5'-8 5/8" CORRUGATED STEEL PIPE (GALV.)	1
22		2'-0"ϕ x 5'-9" CORRUGATED STEEL PIPE (GALV.)	1
23		2'-0"ϕ x 5'-8 3/4" CORRUGATED STEEL PIPE (GALV.)	1
24		2'-0"ϕ x 5'-7 1/8" CORRUGATED STEEL PIPE (GALV.)	1
25			
26	MK-CL4	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	4
27	MK-CL5	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	2

SHOP NOTE:
28 DAYS = 5,000 PSI
RELEASE = 5,000 PSI

Stripping? and is that strength corrrect?

MIX DESIGN:
MIX NO. 425M-NO DCI
APPROVED 3-21-2015

newer approved mix now

Vermont Agency of Transportation
RECEIVED
Clarendon BRO1448(48) Project Phase 3 & 3.01 ...
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

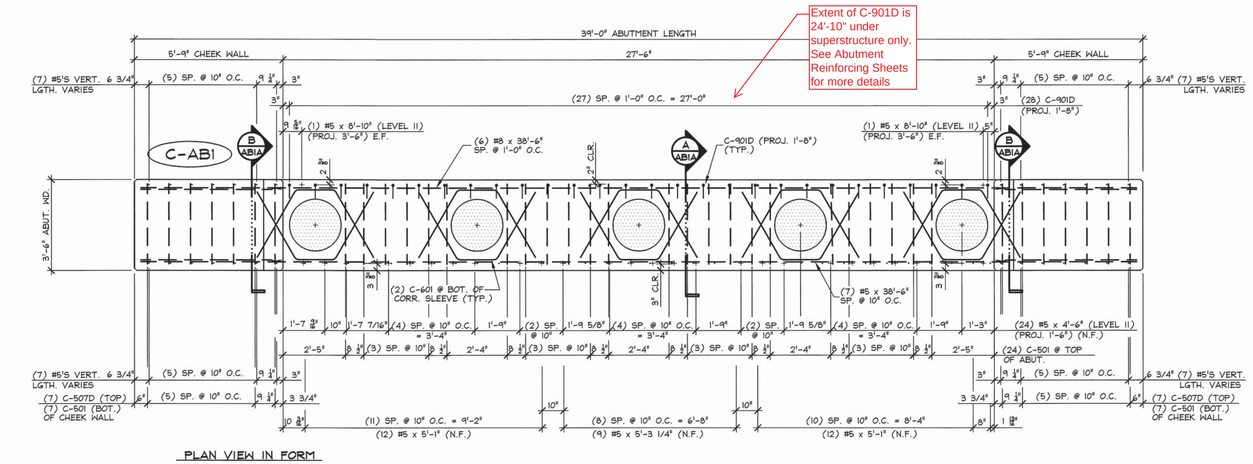
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1448(48)

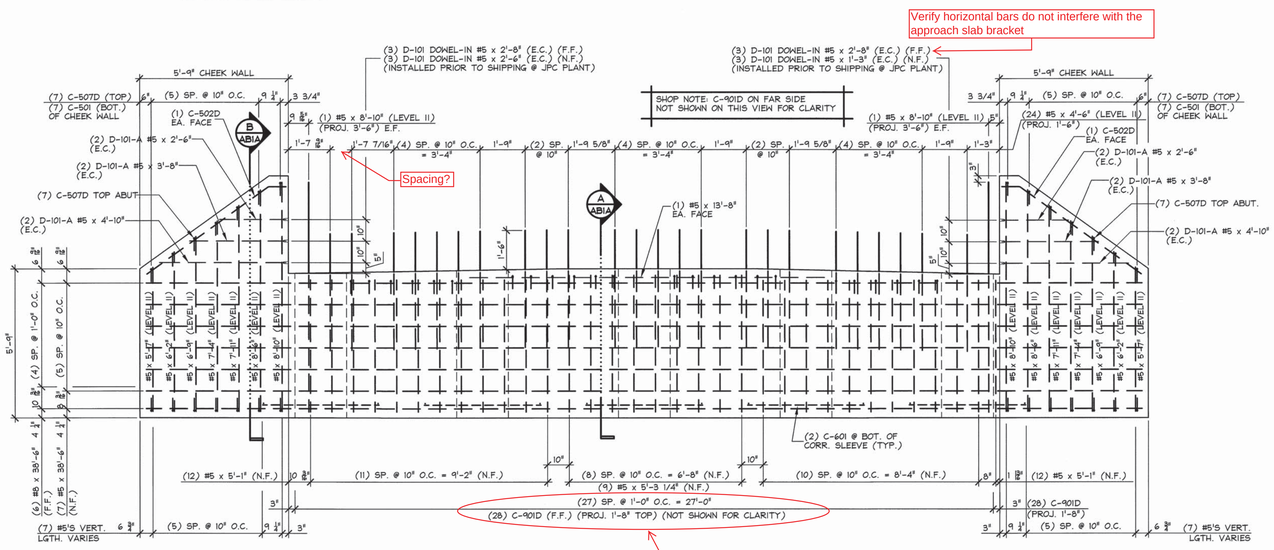
PRECAST ABUTMENT DETAILS

DATE: JAN. 8, 2016
SCALE: NOTED
CHKD: DFTM: T.D.
JOB NO: 23476-015
DWG. NO: ABI

F:\VT-Bridges\23476-15 Clarendon\clarendon-ABI.dwg, 2/15/2016 2:00:05 PM

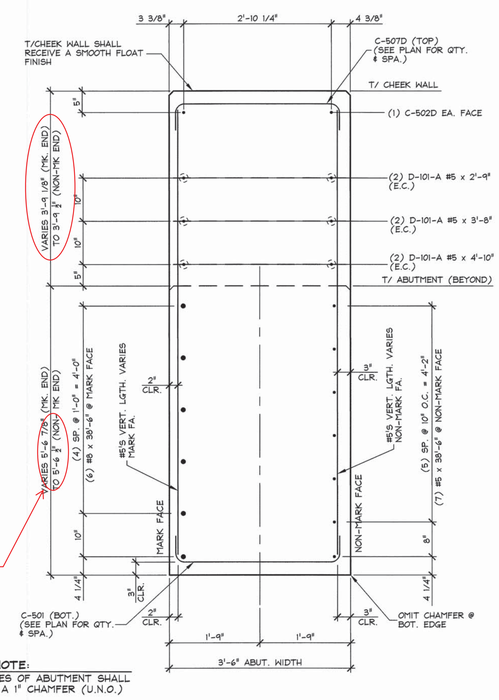


PLAN VIEW IN FORM



NON MARK FACE ELEVATION

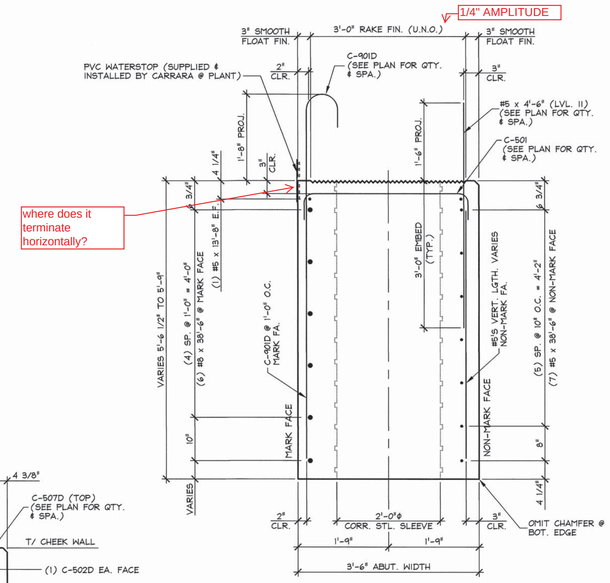
1 ABIA ABUTMENT REINFORCING DETAILS 3/8" = 1'-0"



Why do the vertical dimensions vary from NF to FF or MARK FACE TO NON MARK FACE?

SHOP NOTE:
ALL EDGES OF ABUTMENT SHALL RECEIVE A 1" CHAMFER (U.N.O.)

B ABIA ABUTMENT SECTION (C-ABI) 3/4" = 1'-0"



A ABIA ABUTMENT SECTION (C-ABI) 3/4" = 1'-0"

SHOP NOTE:
ALL EDGES OF ABUTMENT SHALL RECEIVE A 1" CHAMFER (U.N.O.)

MARK: C-ABI	QTY.: 1	WT.: 57.71 T	VOL.: 28.50 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1		DAYTON D-101-A #5 x 2'-6" (EPOXY COATED)	4
2		DAYTON D-101-A #5 x 3'-8" (EPOXY COATED)	4
3		DAYTON D-101-A #5 x 4'-10" (EPOXY COATED)	4
4			
5		DAYTON D-101 DOWEL-IN #5 x 2'-8" (EPOXY COATED)	6
6		DAYTON D-101 DOWEL-IN #5 x 2'-6" (EPOXY COATED)	3
7		DAYTON D-101 DOWEL-IN #5 x 1'-3" (EPOXY COATED)	3
8			
9	C-501	#5 BENT BAR (LEVEL I)	38
10	C-502D	#5 BENT BAR (LEVEL II, DUAL COATED)	4
11	C-507D	#5 BENT BAR (LEVEL II, DUAL COATED)	14
12	C-601	#6 BENT BAR (LEVEL I)	10
13	C-901D	#9 BENT BAR (LEVEL II, DUAL COATED)	28
14		#8 x 38'-6" (LEVEL I)	6
15		#5 x 38'-6" (LEVEL I)	7
16		#5 x 13'-8" (LEVEL I)	2
17		#5 x 8'-10" (LEVEL II, DUAL COATED)	8
18		#5 x 8'-6" (LEVEL II DUAL COATED)	4
19		#5 x 7'-11" (LEVEL II, DUAL COATED)	4
20		#5 x 7'-4" (LEVEL II, DUAL COATED)	4
21		#5 x 6'-9" (LEVEL II, DUAL COATED)	4
22		#5 x 6'-2" (LEVEL II DUAL COATED)	4
23		#5 x 5'-7" (LEVEL II DUAL COATED)	4
24		#5 x 5'-3 1/4" (LEVEL I)	9
25		#5 x 5'-1" (LEVEL I)	24
26		#5 x 4'-6" (LEVEL II, DUAL COATED)	24
27			

Vermont Agency of Transportation
RECEIVED
Clarendon BRO\14448\Precast Plank 3-2-2016.pdf
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

DATE: JAN. 8, 2016
SCALE: NOTED

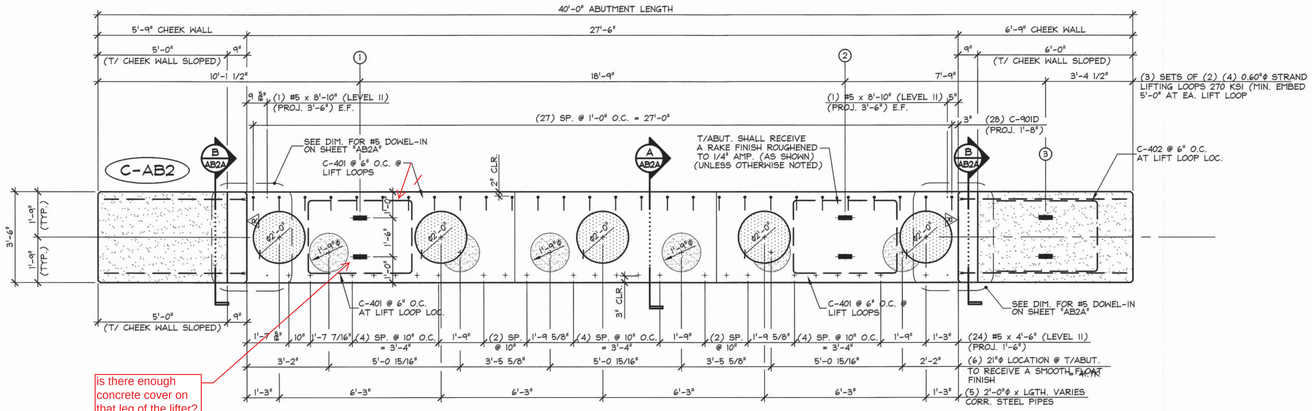
TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

CHKD: DFTM: T.D.
JOB NO: 23476-015

PRECAST ABUTMENT DETAILS

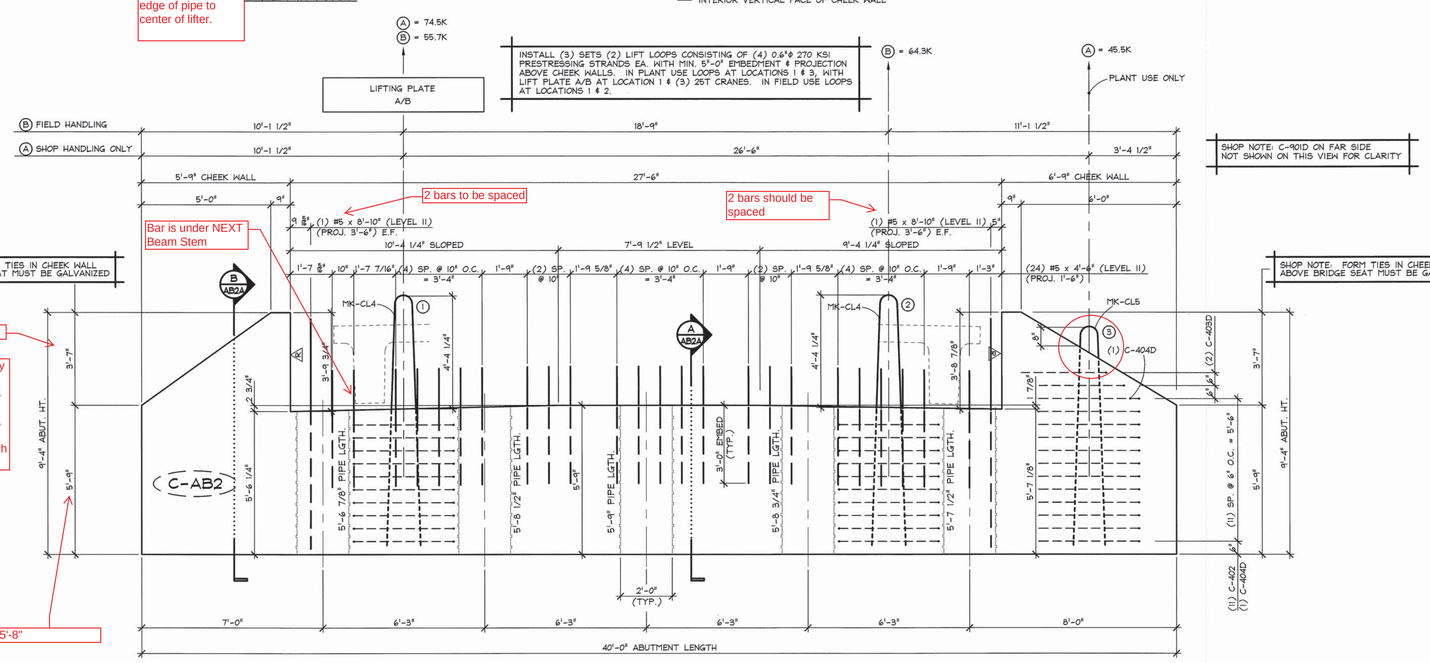
DWG. NO: AB1A

F:\VT-Bridges\23476-15 Clarendon\clarendon-AB1A.dwg, 2/15/2016 1:59:29 PM



is there enough concrete cover on that leg of the lifter? I calculate 4" from edge of pipe to center of lifter.

N VIEW IN FORM



NON MARK FACE ELEVATION

1 AB2 ABUTMENT DIMENSIONAL DETAILS

3/8" = 1'-0"

SHOP NOTE:
28 DAYS = 5,000 PSI
RELEASE = 5,000 PSI

same question as above

MIX DESIGN:
MIX NO. 425M-NO DCI
APPROVED 3-21-2015

SHOP NOTE:
ALL EDGES OF ABUTMENT SHALL RECEIVE A 1" CHAMFER (U.N.O.)

MARK: C-AB2	QTY.: 1	WT.: 59.32 T	VOL.: 29.30 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1			
2	C-401	#4 BENT BAR (LEVEL 1)	20
3	C-402	#4 BENT BAR (LEVEL 1)	11
4	C-403D	#4 BENT BAR (LEVEL II, DUAL COATED)	2
5	C-404D	#4 BENT BAR (LEVEL II, DUAL COATED)	1
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20		2'-0"ϕ x 5'-6 7/8" CORRUGATED STEEL PIPE (GALV.)	1
21		2'-0"ϕ x 5'-8 1/2" CORRUGATED STEEL PIPE (GALV.)	1
22		2'-0"ϕ x 5'-9" CORRUGATED STEEL PIPE (GALV.)	1
23		2'-0"ϕ x 5'-8 3/4" CORRUGATED STEEL PIPE (GALV.)	1
24		2'-0"ϕ x 5'-7 1/2" CORRUGATED STEEL PIPE (GALV.)	1
25			
26	MK-CL4	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	4
27	MK-CL5	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	2

Vermont Agency of Transportation
RECEIVED
Clarendon BRO(14)48(18) Precast Panel 3-2-2016.pdf
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

DATE: JAN. 8, 2016
SCALE: NOTED

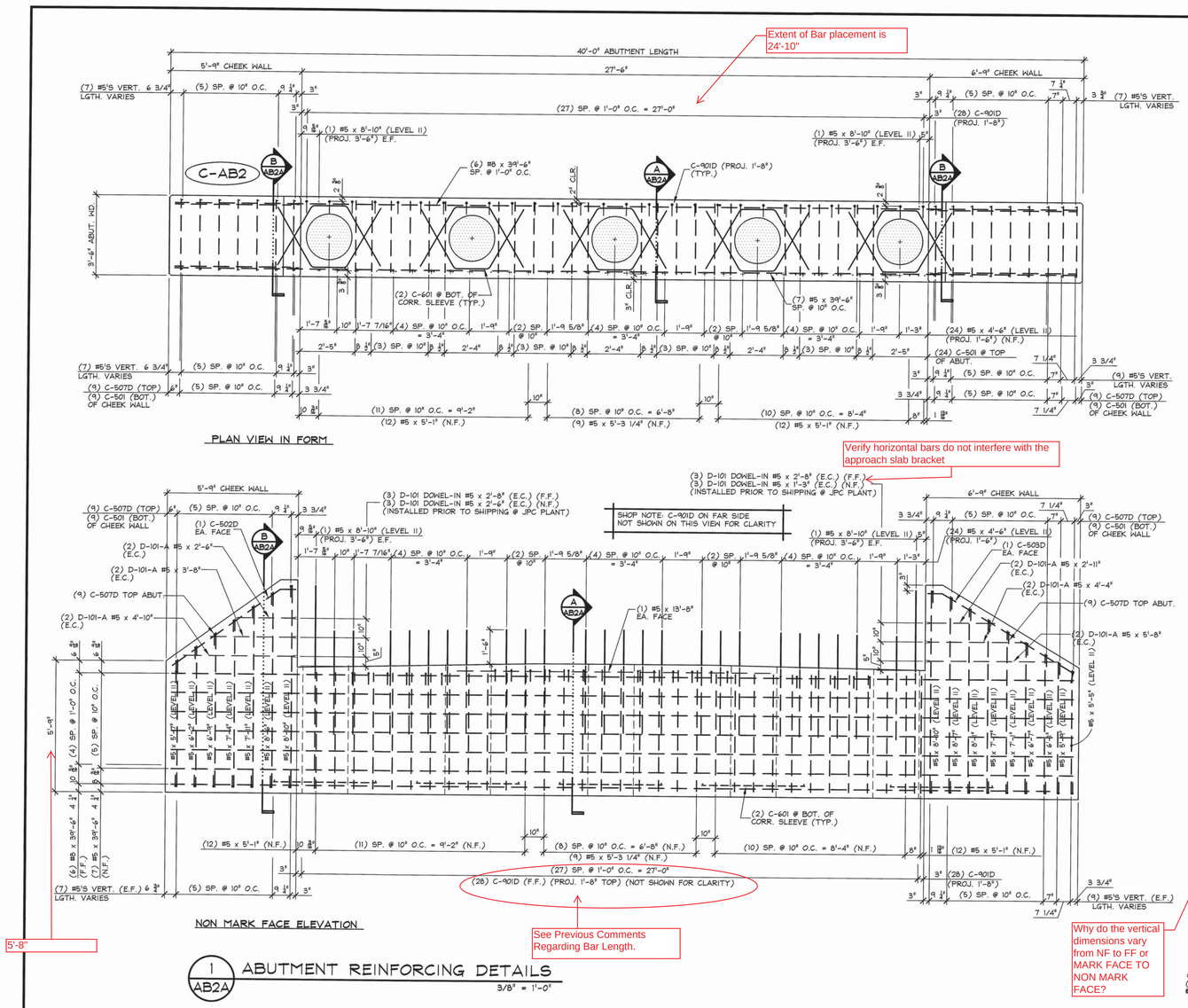
TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

CHKD: DFTM: T.D.
JOB NO: 23476-015

PRECAST ABUTMENT DETAILS

DWG. NO: AB2

F:\VT-Bridges\23476-15 Clarendon\clarendon-AB2.dwg, 2/15/2016 1:58:59 PM

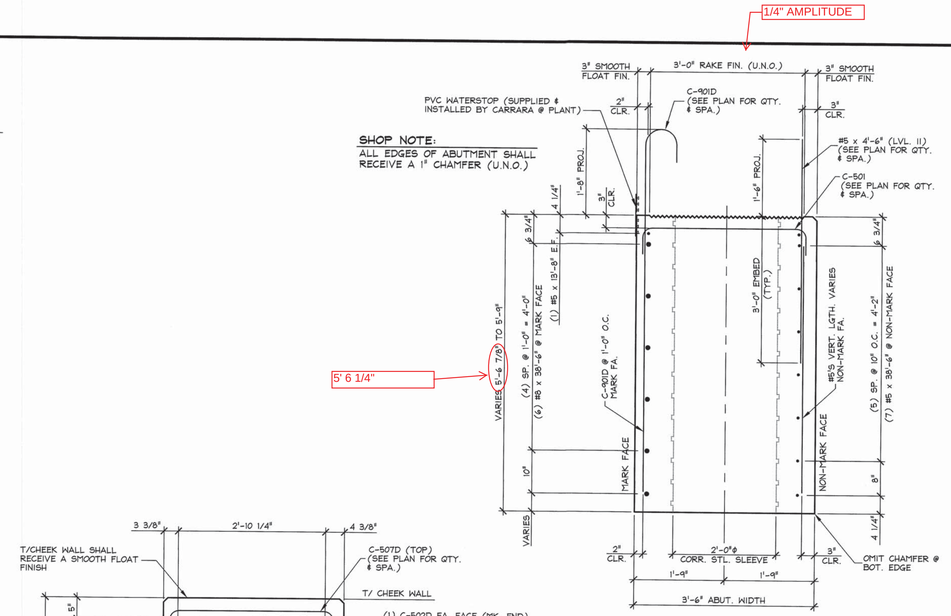


PLAN VIEW IN FORM

See Previous Comments Regarding Bar Length.

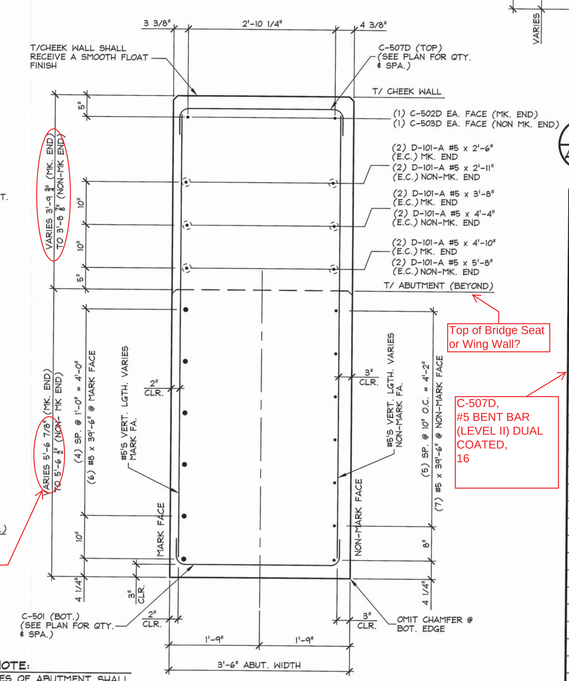
NON MARK FACE ELEVATION

1 AB2A ABUTMENT REINFORCING DETAILS 3/8" = 1'-0"



SHOP NOTE:
ALL EDGES OF ABUTMENT SHALL RECEIVE A 1" CHAMFER (U.N.O.)

A AB2A ABUTMENT SECTION (C-AB2) 3/4" = 1'-0"



Why do the vertical dimensions vary from NF to FF or MARK FACE TO NON MARK FACE?

SHOP NOTE:
ALL EDGES OF ABUTMENT SHALL RECEIVE A 1" CHAMFER (U.N.O.)

B AB2A ABUTMENT SECTION (C-AB2) 3/4" = 1'-0"

MARK: C-AB2	QTY.: 1	WT.: 59.32 T	VOL.: 29.30 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1		DAYTON D-101-A #5 x 2'-6" (EPOXY COATED)	2
2		DAYTON D-101-A #5 x 3'-8" (EPOXY COATED)	2
3		DAYTON D-101-A #5 x 4'-10" (EPOXY COATED)	2
4		DAYTON D-101-A #5 x 2'-11" (EPOXY COATED)	2
5		DAYTON D-101-A #5 x 4'-4" (EPOXY COATED)	2
6		DAYTON D-101-A #5 x 5'-8" (EPOXY COATED)	2
7			
8	C-501	#5 BENT BAR (LEVEL I)	40
9	C-502D	#5 BENT BAR (LEVEL II DUAL COATED)	2
10	C-503D	#5 BENT BAR (LEVEL II DUAL COATED)	2
11	C-601	#6 BENT BAR (LEVEL I)	10
12	C-901D	#8 BENT BAR (LEVEL II, DUAL COATED)	28
13		#8 x 39'-6" (LEVEL I)	6
14		#5 x 39'-6" (LEVEL I)	7
15		#5 x 13'-8" (LEVEL I)	2
16		#5 x 8'-10" (LEVEL II DUAL COATED)	8
17		#5 x 8'-6" (LEVEL II DUAL COATED)	2
18		#5 x 7'-11" (LEVEL II DUAL COATED)	2
19		#5 x 7'-4" (LEVEL II DUAL COATED)	2
20		#5 x 6'-9" (LEVEL II DUAL COATED)	2
21		#5 x 6'-2" (LEVEL II DUAL COATED)	2
22		#5 x 5'-7" (LEVEL II DUAL COATED)	2
23		#5 x 5'-3 1/4" (LEVEL I)	9
24		#5 x 5'-1" (LEVEL I)	24
25		#5 x 4'-6" (LEVEL II, DUAL COATED)	24
26		#5 x 8'-7" (LEVEL II DUAL COATED)	2
27		#5 x 8'-1" (LEVEL II DUAL COATED)	2
28		#5 x 7'-7" (LEVEL II DUAL COATED)	2
29		#5 x 7'-1" (LEVEL II DUAL COATED)	2
30		#5 x 6'-7" (LEVEL II DUAL COATED)	2
31		#5 x 6'-1" (LEVEL II DUAL COATED)	2
32			
33		#5 x 5'-9" (LEVEL II DUAL COATED)	2
34		#5 x 5'-5" (LEVEL II DUAL COATED)	2
35			
36		DAYTON D-101 DOWEL-IN #5 x 2'-8" (EPOXY COATED)	6
37		DAYTON D-101 DOWEL-IN #5 x 2'-6" (EPOXY COATED)	3
38		DAYTON D-101 DOWEL-IN #5 x 1'-3" (EPOXY COATED)	3
39			
40			

Vermont Agency of Transportation
RECEIVED
Clarendon BRO(14)(48) Precast Revsd 3-2-2016.pdf
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

DATE: JAN. 8, 2016
SCALE: NOTED

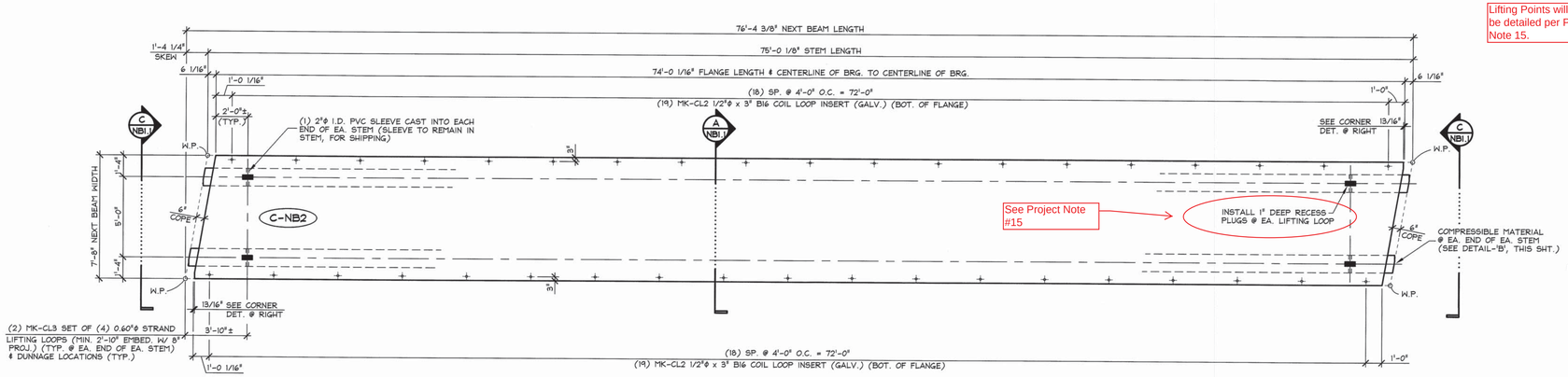
TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

CHKD: DFTM: T.D.
JOB NO: 23476-015

PRECAST ABUTMENT DETAILS

DWG. NO: AB2A

F:\VT-Bridges\23476 15 Clarendon\clarendon-AB2A.dwg, 2/15/2016 1:58:19 PM

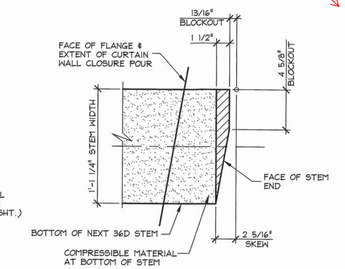


1 NB1 DIMENSIONAL PLAN VIEW IN FORM "C-NB2"

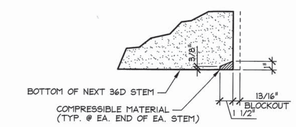
1/4" = 1'-0"

Lifting Points will need to be detailed per Project Note 15.

Use a 3" x 3" chamfer on Acute Corners of the Flange



PLAN

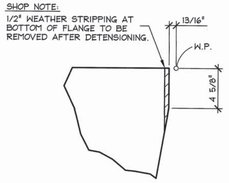


SECTION

DETAIL - "B"

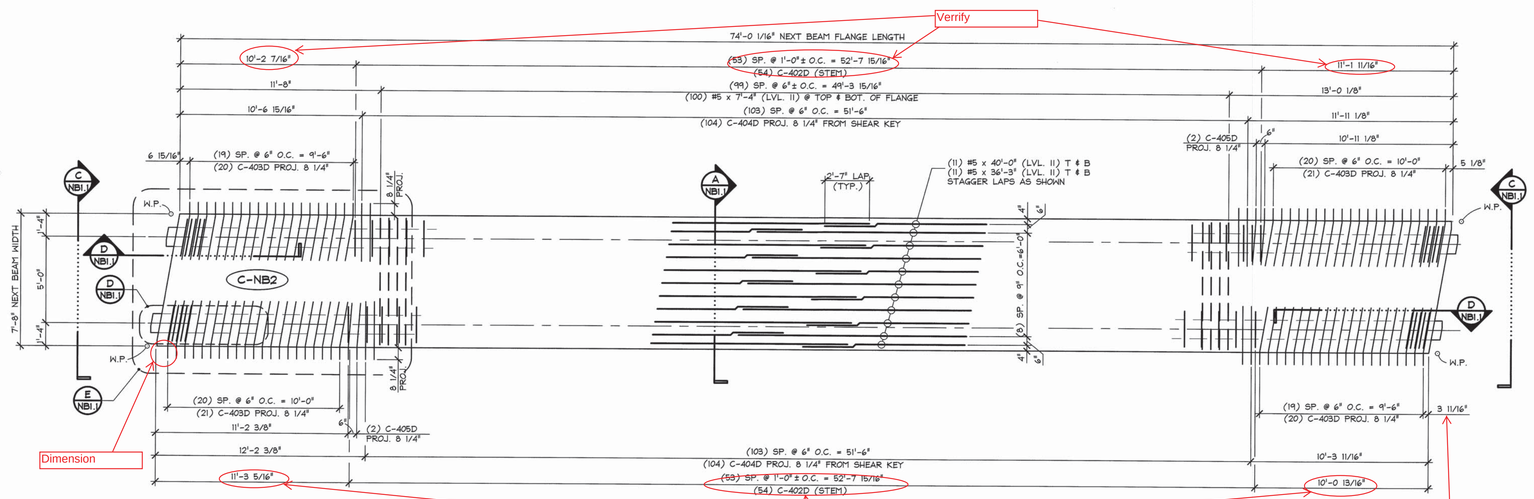
1 1/2" = 1'-0"

SHOP NOTE:
1/2" WEATHER STRIPPING AT BOTTOM OF FLANGE TO BE REMOVED AFTER DETENSIONING.



CORNER FLANGE B/O

(TYP. AS SHOWN) 1 1/2" = 1'-0"



2 NB1 REINFORCING PLAN VIEW IN FORM "C-NB2"

1/4" = 1'-0"

C-403D bars conflict from NB2 to (NB3, OR NB1 REVERSED)) Either Provide additional details, or revise dimensions so bars no longer conflict each other.

SHOP NOTE:
f'c = 10,000 PSI
f'ci = 8,000 PSI
MIX #430M

MARK: C-NB2	QTY.: 1	WT.: 59.42 T	VOL.: 29.34 cy

MATERIAL LIST / NEXT BEAM

ITEM	MARK	DESCRIPTION	QTY.
1			
2	MK-CL2	1/2"ϕ x 3" B16 COIL LOOP INSERT (GALV.)	38
3	MK-CL3	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS x 3'-6" LONG	4
4			
5	C-401D	#4 BENT BAR (LEVEL II, DUAL COATED)	104
6	C-402D	#4 BENT BAR (LEVEL II, DUAL COATED)	108
7	C-403D	#4 BENT BAR (LEVEL II, DUAL COATED)	82
8	C-404D	#4 BENT BAR (LEVEL II, DUAL COATED)	208
9	C-405D	#4 BENT BAR (LEVEL II, DUAL COATED)	4
10			
11	C-501D	#5 BENT BAR (LEVEL II, DUAL COATED)	16
12	C-502D	#5 BENT BAR (LEVEL II, DUAL COATED)	40
13			
14	C-801D	#8 BENT BAR (LEVEL II, DUAL COATED)	28
15			
16		#4 x 7'-5 1/2" (LEVEL II, DUAL COATED)	18
17		#5 x 7'-5 1/2" (LEVEL II, DUAL COATED)	84
18		#5 x 7'-4 1/2" (LEVEL II, DUAL COATED)	4
19		#5 x 7'-4 1/4" (LEVEL II, DUAL COATED)	4
20		#5 x 4'-6" (LEVEL II, DUAL COATED)	12
21		#5 x 7'-4" (LEVEL II, DUAL COATED)	200
22		#5 x 40'-0" (LEVEL II, DUAL COATED)	22
23		#5 x 36'-3" (LEVEL II, DUAL COATED)	22
24			
25			

Vermont Agency of Transportation
RECEIVED
Operation BRIDGE MANAGEMENT Product Release 5.0 (BRIDGE.net)
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

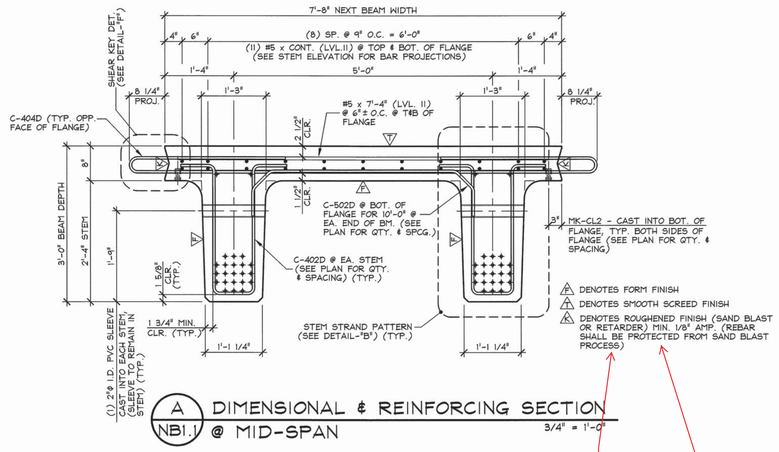
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

PRESTRESSED NEXT BEAM
PLAN VIEWS

DATE: JAN. 8, 2016
SCALE: NOTED
CHKD: DFTM: T.D.
JOB NO: 23476-015
DWG. NO: NB1

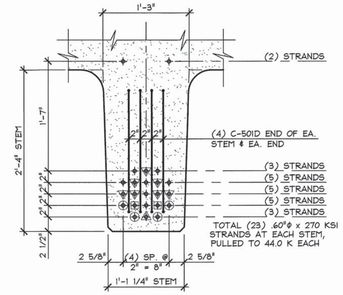
F:\VT-Bridges\23476-15 Clarendon\claredon-NB1.dwg, 2/15/2016 2:03:20 PM



A NB1.1 DIMENSIONAL & REINFORCING SECTION @ MID-SPAN
3/4" = 1'-0"

I believe from last year these shear keys are to have a min of 1/8" coarse aggregate rim exposed

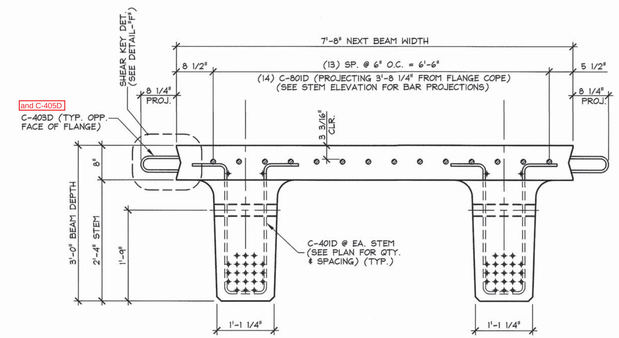
Will the roughened finish be achieved through sand blasting and retarder?



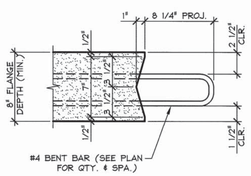
B NB1.1 STEM STRAND PATTERN
1" = 1'-0"

PRESTRESSING NOTATIONS

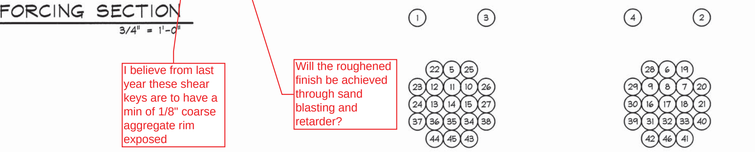
- DENOTES STRAIGHT STRANDS TO BE DEBONDED 6" FROM EA. END OF EA. STEM
- DENOTES STRAIGHT STRANDS TO BE DEBONDED 2'-0" FROM EA. END OF EA. STEM
- DENOTES STRAIGHT STRANDS TO BE DEBONDED 4'-0" FROM EA. END OF EA. STEM
- DENOTES FULLY BONDED STRAIGHT STRANDS EXTENDED 2'-2" FROM EA. END OF EA. STEM (90° BEND @ 8" OUT)
- DENOTES FULLY BONDED STRAIGHT STRANDS TO BE CUT FLUSH W/ EA. END OF EA. STEM



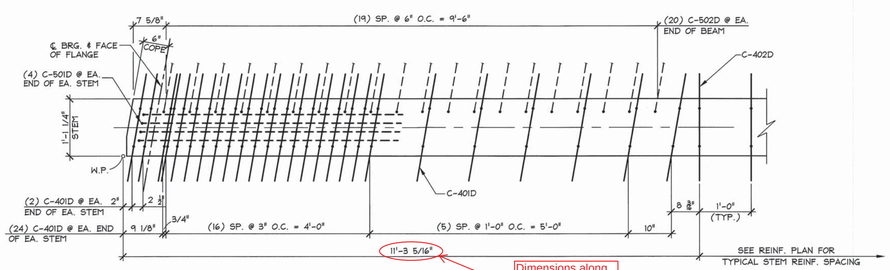
C NB1.1 DIMENSIONAL & REINFORCING SECTION @ BEAM END
3/4" = 1'-0"



F NB1.1 SHEAR KEY DETAIL
1 1/2" = 1'-0"

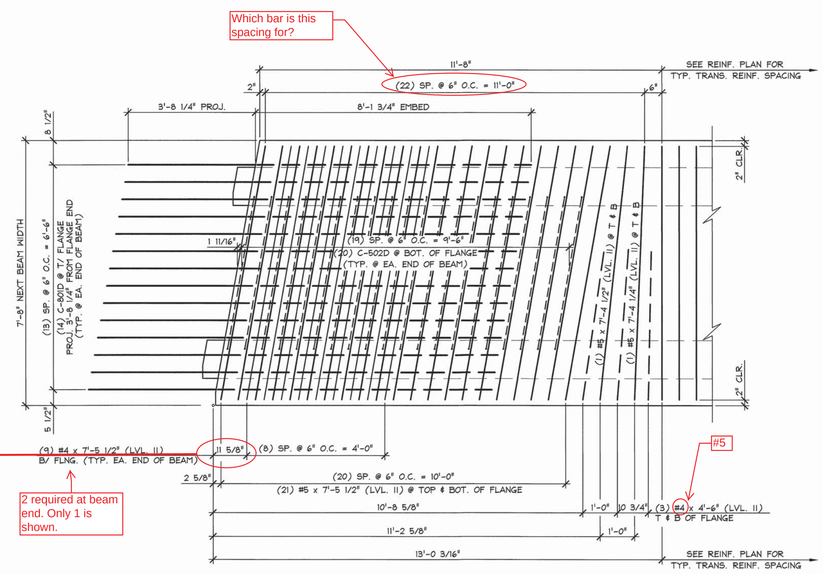


DETENSIONING SCHEDULE
N.T.S.



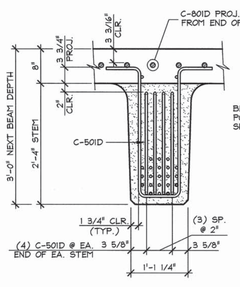
STEM PLAN

Dimensions along C-401D do not add up.

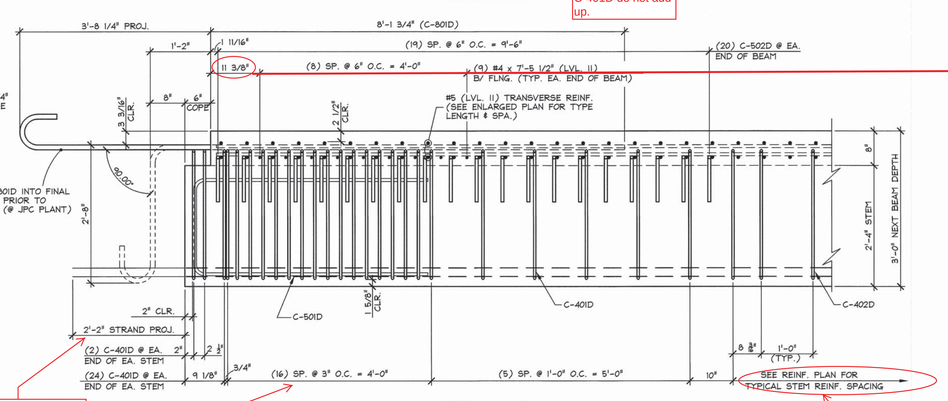


2 required at beam end. Only 1 is shown.

E NB1.1 ENLARGED TRANSVERSE REINFORCING PLAN
LONGITUDINAL REINFORCING & STEM STIRRUPS NOT SHOWN FOR CLARITY
1/2" = 1'-0"



STEM SECTION



STEM ELEVATION

Strands require 90 deg bend. Label work to be done by others.

Doesn't match Stem Plan

D NB1.1 END BLOCK STEM REINFORCING DETAILS
3/4" = 1'-0"

C-403D, C-404D, C405D should either be detailed here or there should be a note that they are ommited for clarity

The configuration of the end zone reinforcing steel appears to be OK unless noted otherwise. When the reinforcement is independently laid out the bar location dimensions specified have minor spaces between each bar, or conflicting locations with C-403D, C-404D. If the bars are meant to be touching/bundled please make note to maintain the minimum reinforcement spacing between each series of bars.

Vermont Agency of Transportation
RECEIVED
Clarendon-BRO(4448)(48) Prestress Precast 2-3-2016.pdf

CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

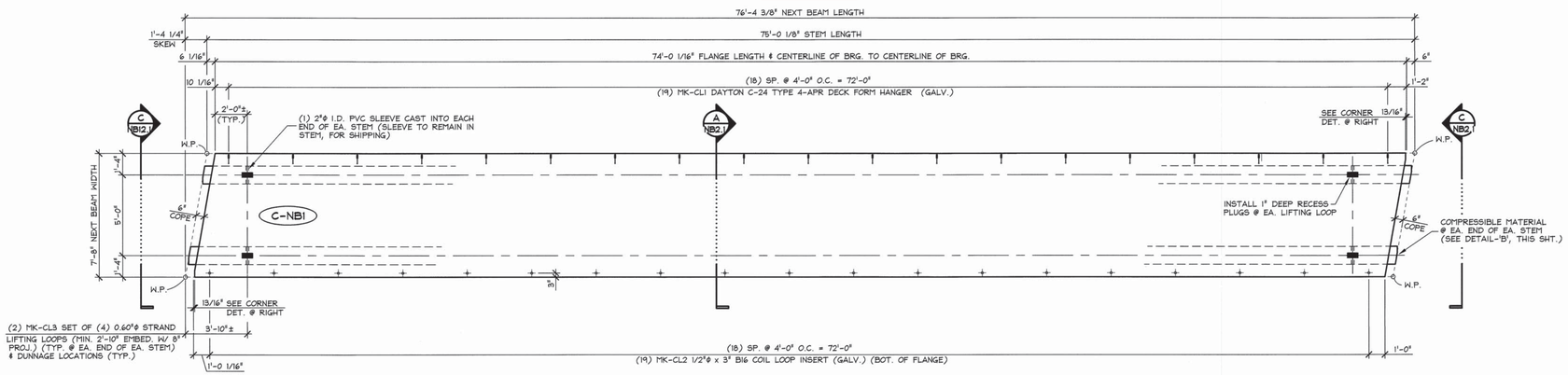
TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

PRESTRESSED NEXT BEAM DETAILS

DATE: JAN. 8, 2016
SCALE: NOTED
CHKD: DFTM: T.D.
JOB NO: 23476-015
DWG. NO: NB1.1

F:\VT-Bridges\23476-15 Clarendon\clarendon-NB1.1.dwg, 2/15/2016 2:02:38 PM

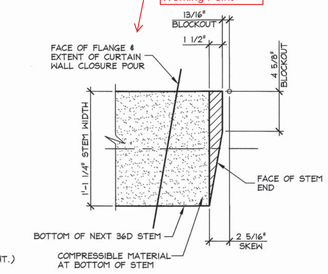
Extent of drip notch should be drawn on plan view.



1 NB2 DIMENSIONAL PLAN VIEW IN FORM "C-NB1"

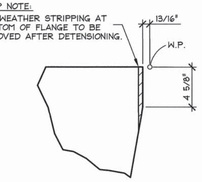
1/4" = 1'-0"

Provide a dimension from Face of Flange to Working Point



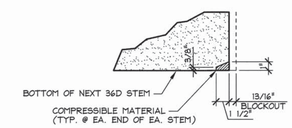
PLAN

SHOP NOTE:
1/2" WEATHER STRIPPING AT BOTTOM OF FLANGE TO BE REMOVED AFTER DETENSIONING.



CORNER FLANGE B/O

(TYP. AS SHOWN) 1 1/2" = 1'-0"

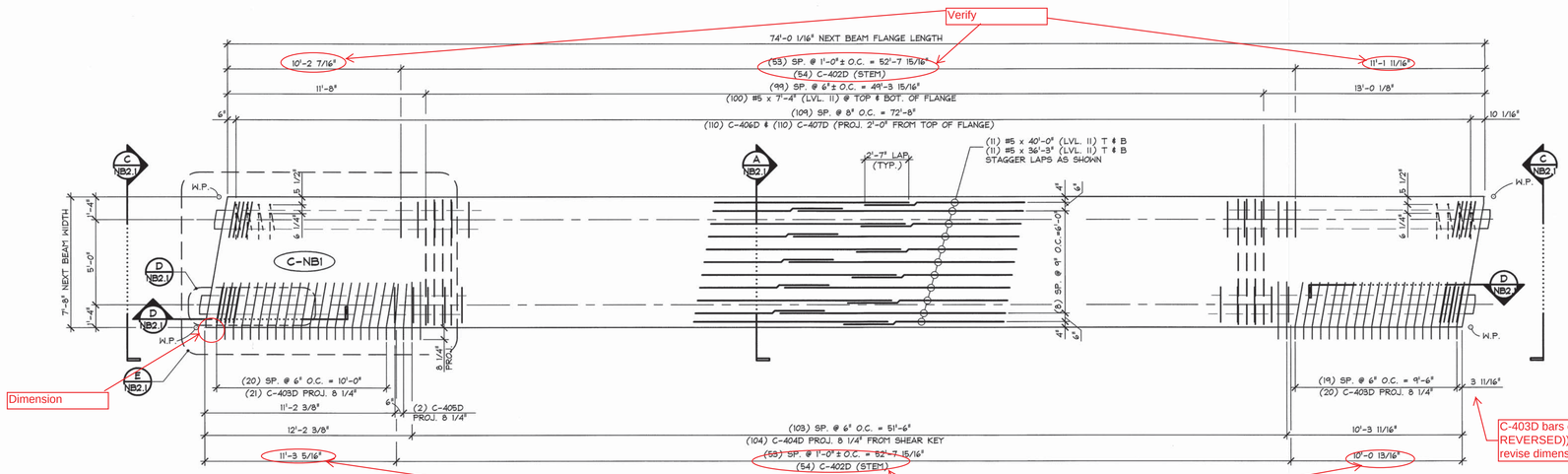


SECTION

DETAIL - "B"

1 1/2" = 1'-0"

Verify



2 NB2 REINFORCING PLAN VIEW IN FORM "C-NB1"

1/4" = 1'-0"

Verify

C-403D bars conflict from NB2 to (NB3, OR NB1 REVERSED)) Either Provide additional details, or revise dimensions so bars no longer conflict each

SHOP NOTE:
f'c = 10,000 PSI
f'ci = 8,000 PSI
MIX #480M

108 (54 on each stem)

MARK: C-NB1	QTY.: 2	WT.: 59.42 T	VOL.: 29.34 cy

MATERIAL LIST / NEXT BEAM

ITEM	MARK	DESCRIPTION	QTY.
1	MK-CL1	DAYTON C-24 TYPE 4-APR DECK FORH HANGER (GALV.)	19
2	MK-CL2	1/2"ø x 3" B16 COIL LOOP INSERT (GALV.)	19
3	MK-CL3	SET OF (4) 0.60"ø STRAND LIFTING LOOPS x 3'-6" LONG	4
4			
5	C-401D	#4 BENT BAR (LEVEL II, DUAL COATED)	108
6	C-402D	#4 BENT BAR (LEVEL II, DUAL COATED)	106
7	C-403D	#4 BENT BAR (LEVEL II, DUAL COATED)	41
8	C-404D	#4 BENT BAR (LEVEL II, DUAL COATED)	104
9	C-405D	#4 BENT BAR (LEVEL II, DUAL COATED)	2
10	C-406D	#4 BENT BAR (LEVEL II, DUAL COATED)	110
11	C-407D	#4 BENT BAR (LEVEL II, DUAL COATED)	110
12			
13	C-501D	#5 BENT BAR (LEVEL II, DUAL COATED)	16
14	C-502D	#5 BENT BAR (LEVEL II, DUAL COATED)	40
15			
16	C-801D	#8 BENT BAR (LEVEL II, DUAL COATED)	28
17			
18		#4 x 7'-5 1/2" (LEVEL II, DUAL COATED)	18
19		#5 x 7'-5 1/2" (LEVEL II, DUAL COATED)	84
20		#5 x 7'-4 1/2" (LEVEL II, DUAL COATED)	4
21		#5 x 7'-4 1/4" (LEVEL II, DUAL COATED)	4
22		#5 x 4'-6" (LEVEL II, DUAL COATED)	12
23		#5 x 7'-4" (LEVEL II, DUAL COATED)	200
24		#5 x 40'-0" (LEVEL II, DUAL COATED)	22
25		#5 x 36'-3" (LEVEL II, DUAL COATED)	22

Vermont Agency of Transportation
RECEIVED
Clarendon BRO1443(48) Precast Result 2-2-2016.pdf
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

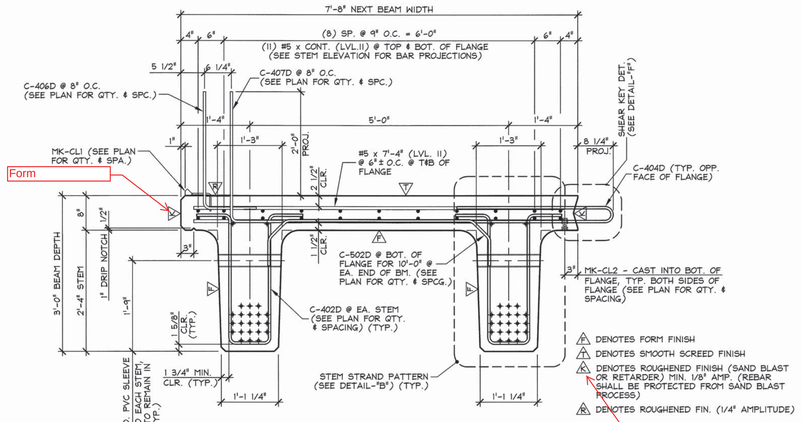
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

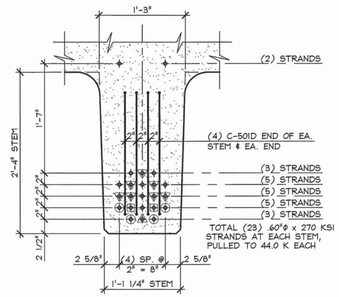
PRESTRESSED NEXT BEAM PLAN VIEWS

DATE: JAN. 8, 2016
SCALE: NOTED
CHKD: DFTM: T.D.
JOB NO: 23476-015
DWG. NO: NB2

F:\VT-Bridges\23476-15 Clarendon\clarendon-NB2.dwg, 2/15/2016 2:02:07 PM



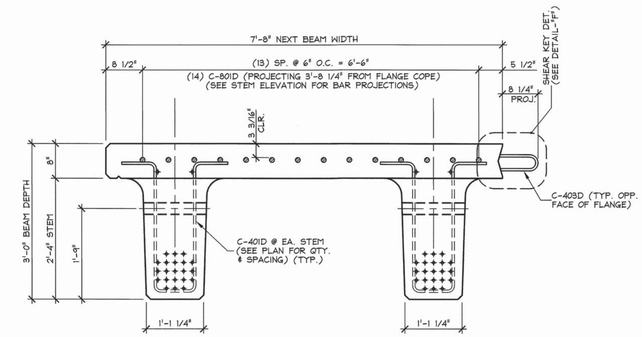
A NB2.1 DIMENSIONAL & REINFORCING SECTION
3/4" = 1'-0"



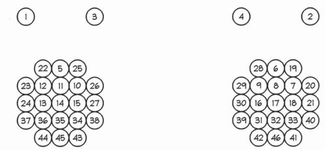
B NB2.1 STEM STRAND PATTERN
1" = 1'-0"

PRESTRESSING NOTATIONS

- DENOTES STRAIGHT STRANDS TO BE DEBONDED 6" FROM EA. END OF EA. STEM
- DENOTES STRAIGHT STRANDS TO BE DEBONDED 2'-0" FROM EA. END OF EA. STEM
- DENOTES STRAIGHT STRANDS TO BE DEBONDED 4'-0" FROM EA. END OF EA. STEM
- DENOTES FULLY BONDED STRAIGHT STRANDS EXTENDED 2'-2" FROM EA. END OF EA. STEM (90° BEND @ 8" OUT)
- DENOTES FULLY BONDED STRAIGHT STRANDS TO BE CUT FLUSH W/ EA. END OF EA. STEM

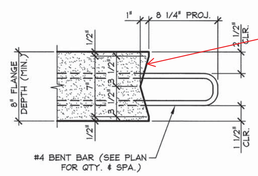


C NB2.1 DIMENSIONAL & REINFORCING SECTION
3/4" = 1'-0"

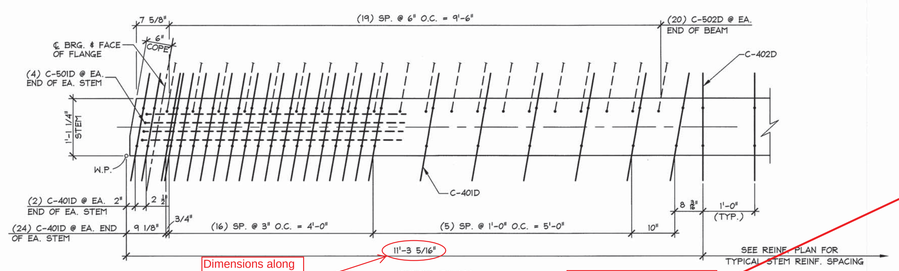


DETENSIONING SCHEDULE
N.T.S.

LABEL THE FINISH REQUIRED... REFERENCE PROJECT NOTE 63. EXPOSED AGGREGATE 1/8" MINIMUM AMPLITUDE, OR THE APPROPRIATE DESIGNATION IN ALL LOCATIONS ON THE PLANS A SPECIFIC FINISH IS REQUIRED.



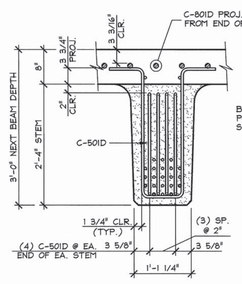
F NB2.1 SHEAR KEY DETAIL
1 1/2" = 1'-0"



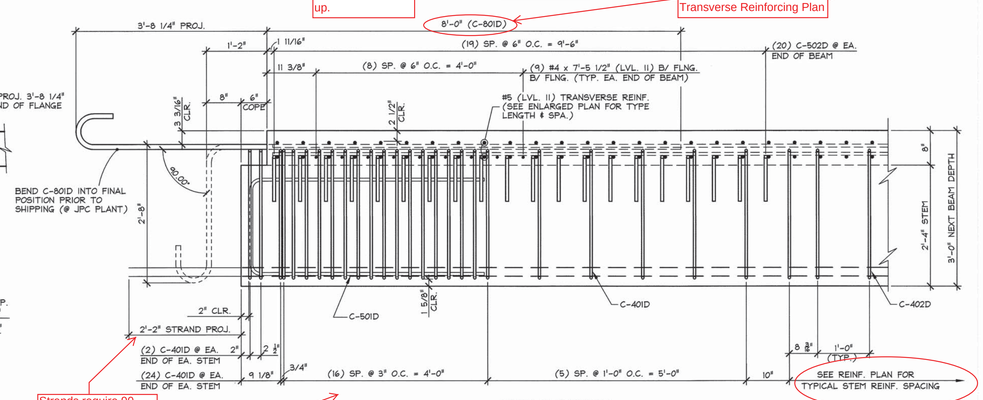
Dimensions along C-401D do not add up.

STEM PLAN

Doesn't match Enlarged Transverse Reinforcing Plan



STEM SECTION



STEM ELEVATION

Performed by others.

HOW WILL THE 90 DEG BEND BE ACCOMPLISHED?

Strands require 90 deg bend. Label work to be done by others.

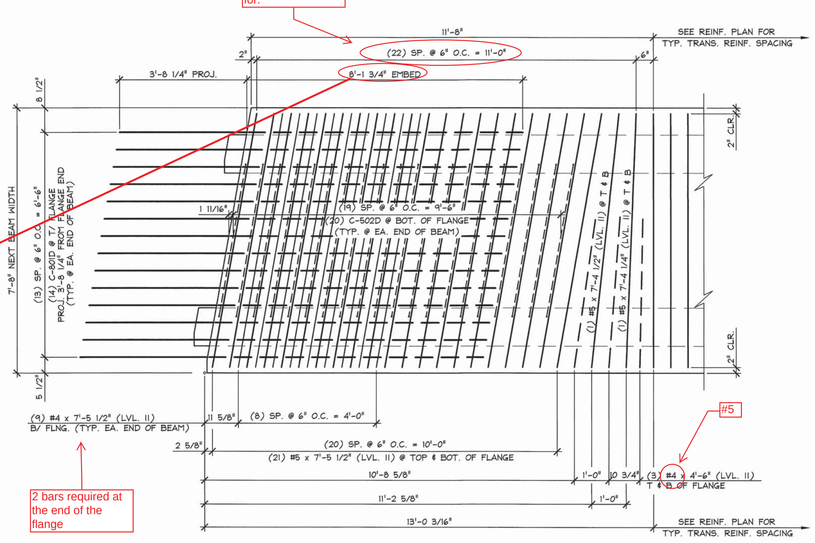
Doesn't match Stem Plan

D NB2.1 END BLOCK STEM REINFORCING DETAILS
3/4" = 1'-0"

C-403D, C-404D, C-405D NOT DETAILED HERE AS THEY SHOULD BE. THERE IS NO MENTION THESE BARS ARE OMMITTED FOR CLARITY.

The configuration of the end zone reinforcing steel appears to be OK unless noted otherwise. When the reinforcement is independently laid out the bar location dimensions specified have minor spaces between each bar, or conflicting locations with C-403D, C-404D. If the bars are meant to be touching/ bundled please make note to maintain the minimum reinforcement spacing between each series of bars.

Clarify which spacing this bar is for.



2 bars required at the end of the flange

E NB2.1 ENLARGED TRANSVERSE REINFORCING PLAN
LONGITUDINAL REINFORCING & STEM STIRRUPS NOT SHOWN FOR CLARITY
1/2" = 1'-0"

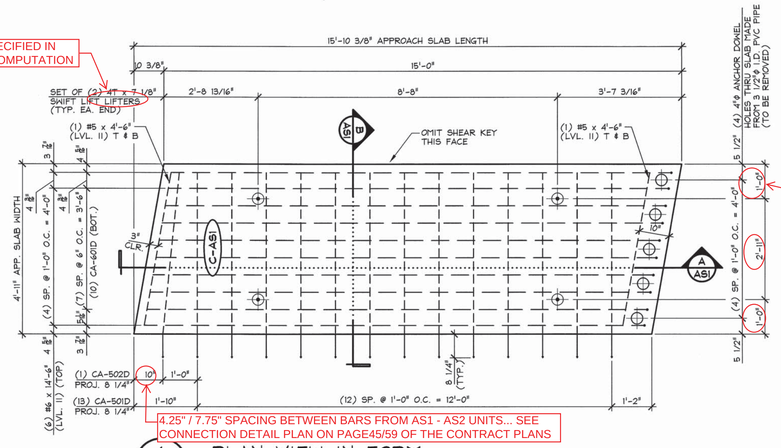
Vermont Agency of Transportation
RECEIVED
Clarendon #023-N0000 Precast Beam 3.2-2016.pdf

CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	J.A. McDonald, Inc. CONTRACTOR LYNDON CENTER, VERMONT
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF RUTLAND	DATE: JAN. 8, 2016 / SCALE: NOTED
TOWN OF CLARENDON WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)	CHKD: / DFTM: T.D. / JOB NO: 23476-015
PRESTRESSED NEXT BEAM DETAILS	DWG. NO: NB2.1

F:\VT-Bridges\23476-15 Clarendon\clarendon-NB2.1.dwg, 2/15/2016 2:01:16 PM

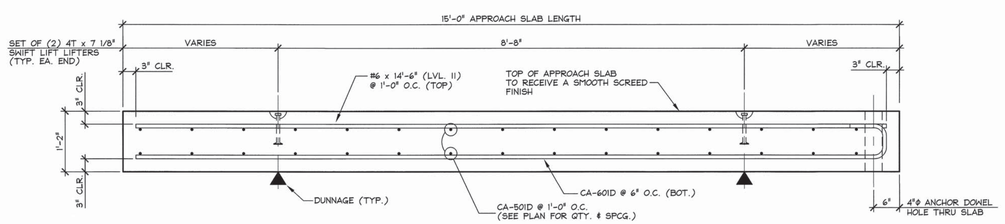
2T x 6" SPECIFIED IN LIFTING COMPUTATION



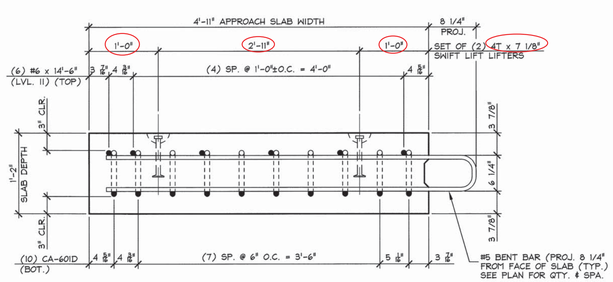
DOES NOT MEET MINIMUM EDGE DISTANCE OF 13" FOR 2T x 6" LIFTING DEVICE AS SPECIFIED

4.25" / 7.75" SPACING BETWEEN BARS FROM AS1 - AS2 UNITS... SEE CONNECTION DETAIL PLAN ON PAGE45/59 OF THE CONTRACT PLANS

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



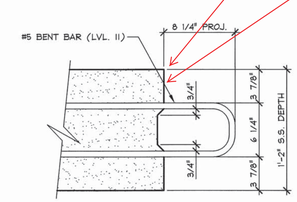
A AS1 LONGITUDINAL SECTION
3/4" = 1'-0"



B AS1 SECTION
1" = 1'-0"

1/8" coarse aggregate rim exposed

LABEL THE FINISH REQUIRED... REFERENCE PROJECT NOTE 63. EXPOSED AGGREGATE 1/8" MINIMUM AMPLITUDE



SHEAR KEY DETAIL
1 1/2" = 1'-0"

SHOP NOTE:
f'c = 5,000 PSI
f'ci = 3,000 PSI
MIX #448MSCC

MARK: C-AS1	QTY.: 2	WT.: 6.45 T	VOL.: 3.19 cy

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY.
1	CA-501D	#5 BENT BAR (LEVEL II, DUAL COATED)	13
2	CA-502D	#5 BENT BAR (LEVEL II, DUAL COATED)	1
3	CA-601D	#6 BENT BAR (LEVEL II, DUAL COATED	10
4			
5			
6		#6 x 14'-6" (LEVEL II DUAL COATED)	6
7		#5 x 4'-6" (LEVEL II DUAL COATED)	4
8			
9			
10			
11			
12			
13			
14		DAYTON 2T x 6" SWIFT LIFT (DOMESTIC)	4
15			

Vermont Agency of Transportation
RECEIVED
Clarendon BRO(14)43(48) Precast Recast 3-2-2016.pdf
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

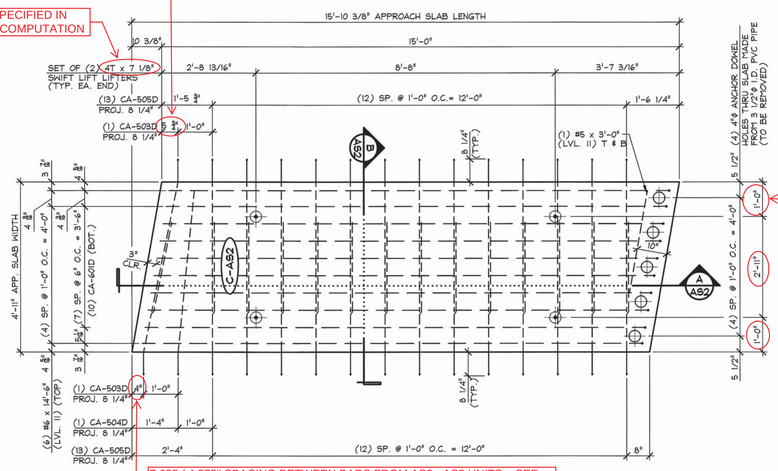
APPROACH SLAB DETAILS

DATE: JAN. 8, 2016
SCALE: NOTED
CHKD: DFTM: T.D.
JOB NO: 23476-015
DWG. NO: AS1

F:\VT-Bridges\23476-15 Clarendon\clarendon-AS1.dwg, 2/15/2016 2:17:04 PM

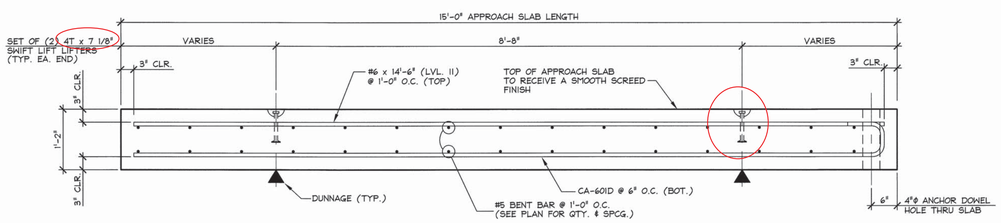
4.25" / 7.75" SPACING BETWEEN BARS FROM AS1 - AS2 UNITS... SEE CONNECTION DETAIL PLAN ON PAGE45/59 OF THE CONTRACT PLANS

2T x 6" SPECIFIED IN LIFTING COMPUTATION

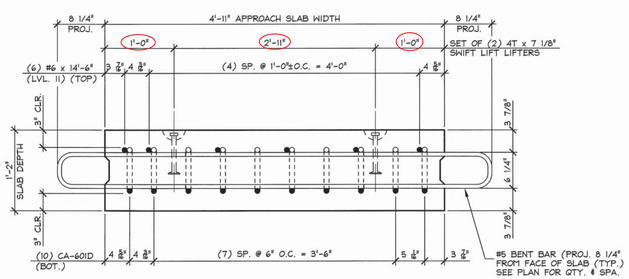


7.625 / 4.375" SPACING BETWEEN BARS FROM AS2 - AS3 UNITS... SEE CONNECTION DETAIL PLAN ON PAGE45/59 OF THE CONTRACT PLANS

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

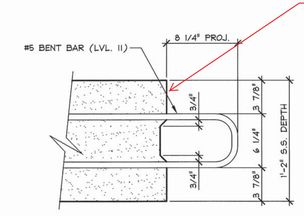


A / AS2 LONGITUDINAL SECTION
3/4" = 1'-0"



B / AS2 SECTION
1" = 1'-0"

LABEL THE FINISH REQUIRED... REFERENCE PROJECT NOTE 63. EXPOSED AGGREGATE 1/8" MINIMUM AMPLITUDE



SHEAR KEY DETAIL
1 1/2" = 1'-0"

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

MARK: C-AS2	QTY.: 2	WT.: 6.45 T	VOL.: 3.19 cy

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY.
1	CA-503D	#5 BENT BAR (LEVEL II, DUAL COATED)	2
2	CA-504D	#5 BENT BAR (LEVEL II, DUAL COATED)	1
3	CA-505D	#5 BENT BAR (LEVEL II, DUAL COATED)	26
4	CA-601D	#6 BENT BAR (LEVEL II, DUAL COATED	10
5			
6		#6 x 14'-6" (LEVEL II DUAL COATED)	6
7		#5 x 3'-0" (LEVEL II DUAL COATED)	2
8			
9			
10			
11			
12			
13			
14		DAYTON 2T x 6" SWIFT LIFT (DOMESTIC)	4
15			

Vermont Agency of Transportation
RECEIVED
Operator BRCLAESE, Process Receipt 3-2-2016.pdf
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

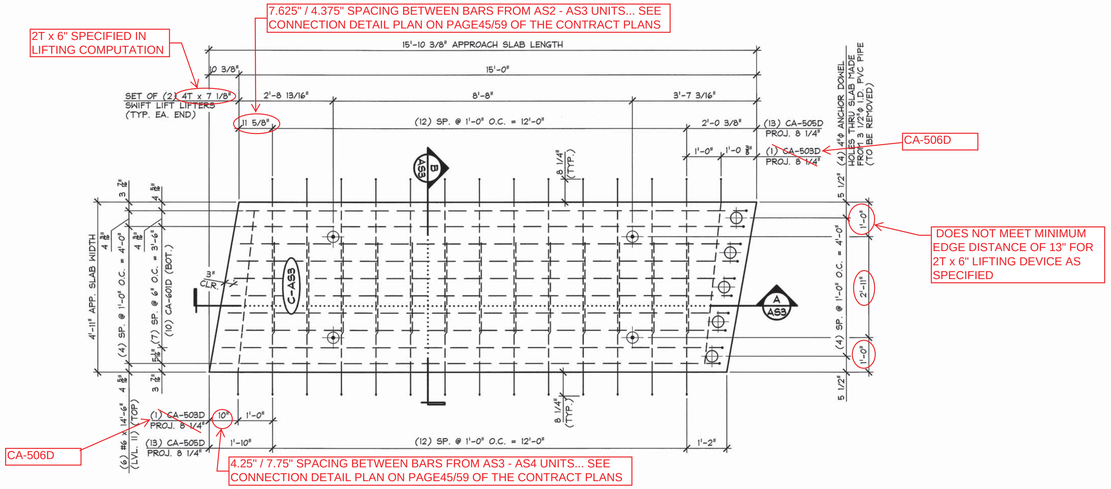
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

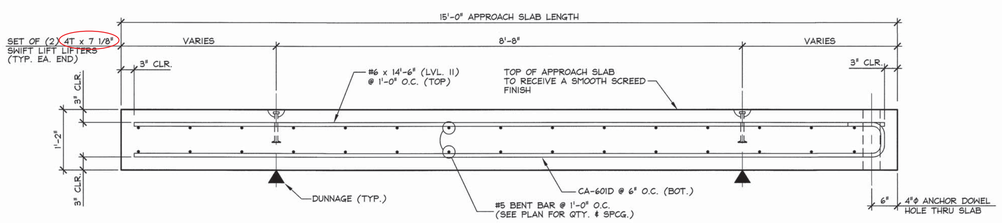
APPROACH SLAB DETAILS

DATE: JAN. 8, 2016
SCALE: NOTED
CHKD: DFTM: T.D.
JOB NO: 23476-015
DWG. NO: AS2

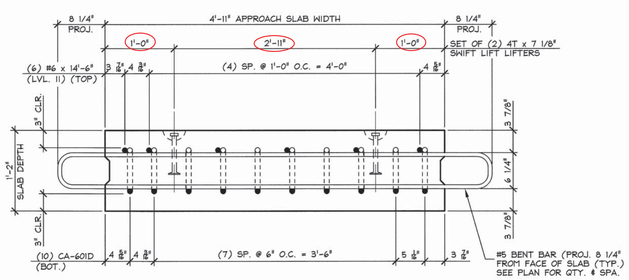
F:\VT-Bridges\23476-15 Clarendon\clarendon-AS2.dwg, 2/15/2016 2:16:29 PM



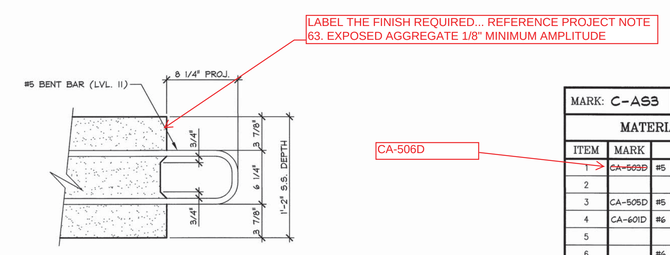
1 AS3 PLAN VIEW IN FORM
1/2" = 1'-0"



A AS3 LONGITUDINAL SECTION
3/4" = 1'-0"



B AS3 SECTION
1" = 1'-0"



SHEAR KEY DETAIL
1 1/2" = 1'-0"

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

MARK: C-AS3	QTY.: 2	WT.: 6.45 T	VOL.: 3.19 cy

MATERIAL LIST / APPROACH SLAB

CA-506D

ITEM	MARK	DESCRIPTION	QTY.
1	~~CA-503D~~	#5 BENT BAR (LEVEL II, DUAL COATED)	2
2			
3	CA-505D	#5 BENT BAR (LEVEL II, DUAL COATED)	26
4	CA-601D	#6 BENT BAR (LEVEL II, DUAL COATED	10
5			
6		#6 x 14'-6" (LEVEL II DUAL COATED)	6
7			
8			
9			
10			
11			
12			
13			
14		DAYTON 2T x 6" SWIFT LIFT (DOMESTIC)	4
15			

Vermont Agency of Transportation
RECEIVED
Operation: BRC2016EXE, Project Period: 2-2-2016,all
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

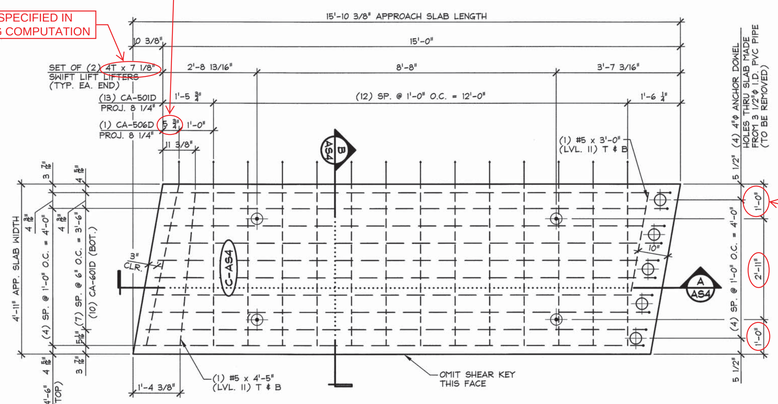
APPROACH SLAB DETAILS

DATE: JAN. 8, 2016
SCALE: NOTED
CHKD: DFTM: T.D.
JOB NO: 23476-015
DWG. NO: AS3

F:\VT-Bridges\23476-15 Clarendon\clarendon-AS3.dwg, 2/15/2016 2:15:56 PM

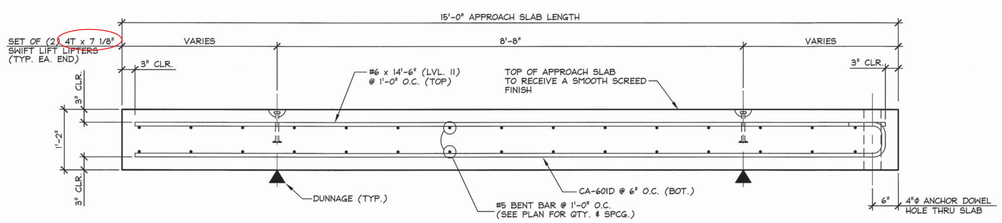
4.25" / 7.75" SPACING BETWEEN BARS FROM AS3 - AS4 UNITS... SEE CONNECTION DETAIL PLAN ON PAGE45/59 OF THE CONTRACT PLANS

2T x 6" SPECIFIED IN LIFTING COMPUTATION

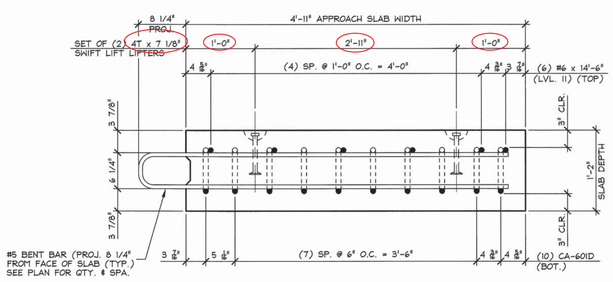


DOES NOT MEET MINIMUM EDGE DISTANCE OF 13" FOR 2T x 6" LIFTING DEVICE AS SPECIFIED

1 AS4 PLAN VIEW IN FORM
1/2" = 1'-0"

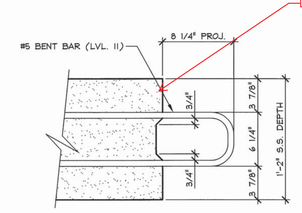


A AS4 LONGITUDINAL SECTION
3/4" = 1'-0"



B AS4 SECTION
1" = 1'-0"

LABEL THE FINISH REQUIRED... REFERENCE PROJECT NOTE 63. EXPOSED AGGREGATE 1/8" MINIMUM AMPLITUDE



SHEAR KEY DETAIL
1 1/2" = 1'-0"

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

MARK: C-AS4	QTY.: 2	WT.: 6.45 T	VOL.: 3.19 cy

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY.
1	CA-501D	#5 BENT BAR (LEVEL II, DUAL COATED)	13
2	CA-506D	#5 BENT BAR (LEVEL II, DUAL COATED)	1
3	CA-601D	#6 BENT BAR (LEVEL II, DUAL COATED	10
4			
5			
6		#6 x 14'-6" (LEVEL II DUAL COATED)	6
7		#5 x 4'-5" (LEVEL II DUAL COATED)	2
8		#5 x 3'-0" (LEVEL II DUAL COATED)	2
9			
10			
11			
12			
13			
14		DAYTON 2T x 6" SWIFT LIFT (DOMESTIC)	4
15			

Vermont Agency of Transportation
RECEIVED
Clarendon-BRO(43)48(48) Project Rcvd# 3.2.2016.pdf
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

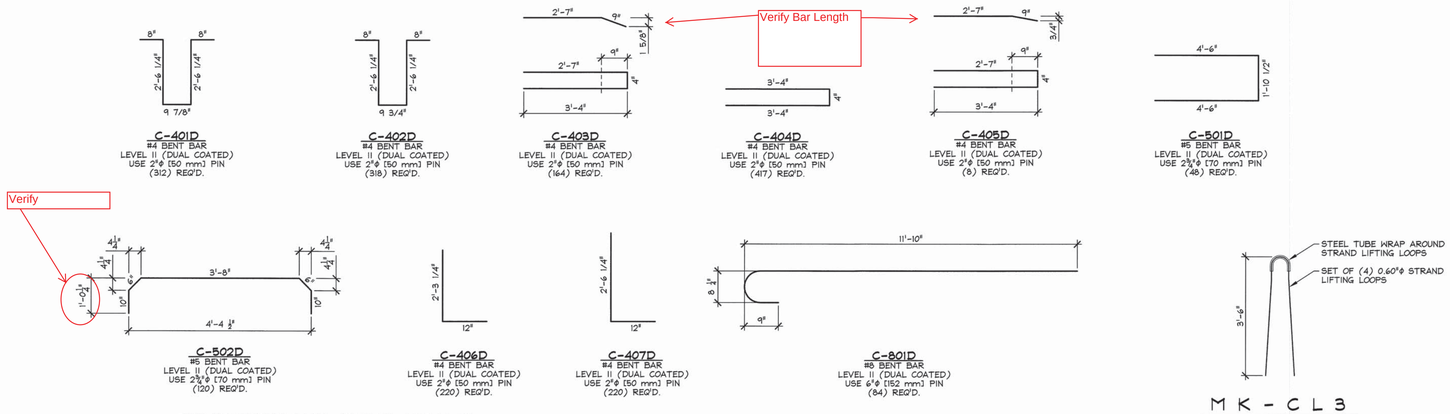
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

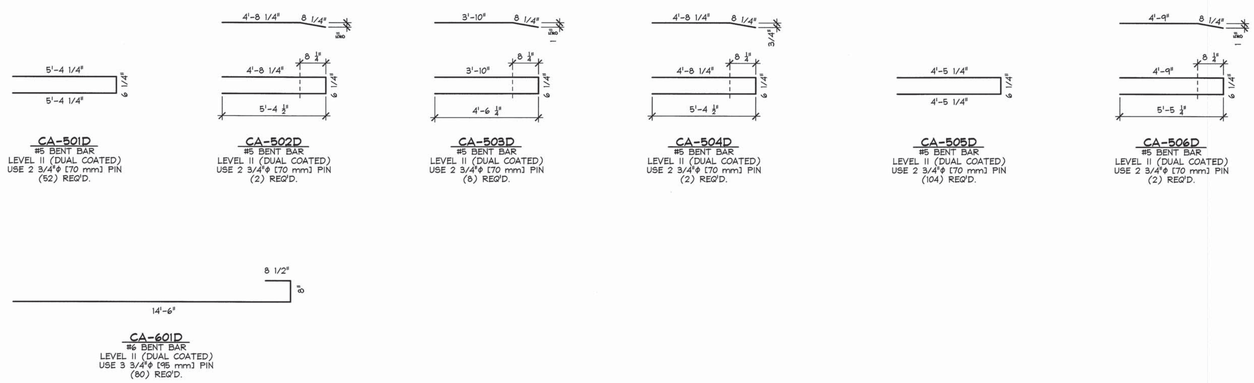
APPROACH SLAB DETAILS

DATE: JAN. 8, 2016
SCALE: NOTED
CHKD: DFTM: T.D.
JOB NO: 23476-015
DWG. NO: AS4

F:\VT-Bridges\23476-15 Clarendon\clarendon-AS4.dwg, 2/15/2016 2:15:25 PM



PRESTRESSED NEXT BEAMS



APPROACH SLABS

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS	
1	MK-CL1	38	DAYTON C-24 TYPE 4-APR DECK FORM HANGER (GALV.)	DOMESTIC ORIGIN (BUY AMERICAN)	PRESTRESSED NEXT BEAMS
2	MK-CL2	76	1/2"ϕ x 3" B16 COIL LOOP INSERT (GALV.)	DOMESTIC ORIGIN (BUY AMERICAN)	
3	MK-CL3	12	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS x 3'-6" LONG		
4	C-401D	312	#4 BENT BAR (LEVEL II, DUAL COATED)		
5	C-402D	324	#4 BENT BAR (LEVEL II, DUAL COATED)		
6	C-403D	125	#4 BENT BAR (LEVEL II, DUAL COATED)		
7	C-404D	417	#4 BENT BAR (LEVEL II, DUAL COATED)	+(1) SAMPLE	
8	C-405D	8	#4 BENT BAR (LEVEL II, DUAL COATED)		
9	C-406D	220	#4 BENT BAR (LEVEL II, DUAL COATED)		
10	C-407D	220	#4 BENT BAR (LEVEL II, DUAL COATED)		
11					
12	C-501D	48	#5 BENT BAR (LEVEL II, DUAL COATED)		
13	C-502D	120	#5 BENT BAR (LEVEL II, DUAL COATED)		
14					
15	C-801D	84	#5 BENT BAR (LEVEL II, DUAL COATED)		
16		2	#5 x 2'-6" (LEVEL II, DUAL COATED)	SAMPLES	
17		54	#4 x 7'-5 1/2" (LEVEL II, DUAL COATED)		
18		252	#5 x 7'-5 1/2" (LEVEL II, DUAL COATED)		
19		12	#5 x 7'-4 1/2" (LEVEL II, DUAL COATED)		
20		12	#5 x 7'-4 1/4" (LEVEL II, DUAL COATED)		
21		37	#5 x 4'-6" (LEVEL II, DUAL COATED)	+(1) SAMPLE	
22		600	#5 x 7'-4" (LEVEL II, DUAL COATED)		
23		66	#5 x 40'-0" (LEVEL II, DUAL COATED)		
24		66	#5 x 36'-3" (LEVEL II, DUAL COATED)		
25					

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS	
1	CA-501D	52	#5 BENT BAR (LEVEL II, DUAL COATED)		APPROACH SLABS
2	CA-502D	2	#5 BENT BAR (LEVEL II, DUAL COATED)		
3	CA-503D	8	#5 BENT BAR (LEVEL II, DUAL COATED)		
4	CA-504D	2	#5 BENT BAR (LEVEL II, DUAL COATED)		
5	CA-505D	104	#5 BENT BAR (LEVEL II, DUAL COATED)		
6	CA-506D	2	#5 BENT BAR (LEVEL II, DUAL COATED)		
7	CA-601D	80	#6 BENT BAR (LEVEL II, DUAL COATED)		
8					
9					
10		48	#6 x 14'-6" (LEVEL II, DUAL COATED)		
11		4	#5 x 4'-5" (LEVEL II, DUAL COATED)		
12		8	#5 x 4'-6" (LEVEL II, DUAL COATED)		
13		4	#5 x 3'-0" (LEVEL II, DUAL COATED)		
14					
15		2	#6 x 2'-6" (LEVEL II, DUAL COATED)	SAMPLES	
16					
17					
18		32	DAYTON 2T x 6" SWIFT LIFT	DOMESTIC ORIGIN (BUY AMERICAN)	
19					
20					

Vermont Agency of Transportation
RECEIVED
Clarendon-BRO(14)43(48) Precast Prestr 3-2-2016.pdf
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

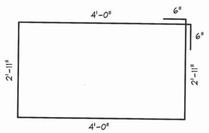
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

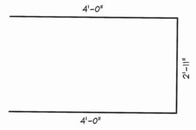
MATERIALS LIST
NEXT BEAMS & APPROACH SLABS

DATE: JAN. 8, 2016
SCALE: NOTED
CHKD: DFTM: T.D.
JOB NO: 23476-015
DWG. NO: M1

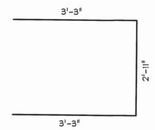
F:\VT-Bridges\23476-15 Clarendon\clarendon-M1.dwg, 2/15/2016 1:57:45 PM



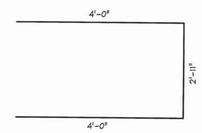
C-401
#4 BENT BAR
LEVEL I (BLACK)
USE 2"ϕ (50 mm) PIN
(40) REQ'D.



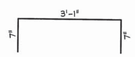
C-402
#4 BENT BAR
LEVEL I (BLACK)
USE 2"ϕ (50 mm) PIN
(21) REQ'D.



C-403D
#4 BENT BAR
LEVEL II (DUAL COATED)
USE 2"ϕ (50 mm) PIN
(4) REQ'D.

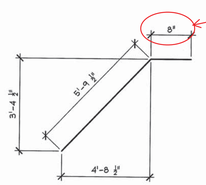


C-404
#4 BENT BAR
LEVEL II (DUAL COATED)
USE 2"ϕ (50 mm) PIN
(2) REQ'D.

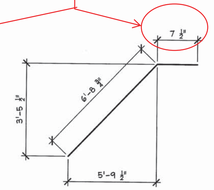


C-501
#5 BENT BAR
LEVEL I (BLACK)
USE 3"ϕ PIN
(78) REQ'D.

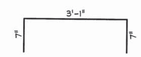
Verify



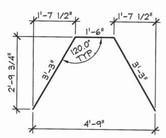
C-502D
#5 BENT BAR
LEVEL II (DUAL COATED
USE 3"ϕ PIN
(6) REQ'D.



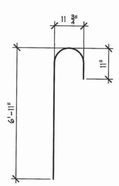
C-503D
#5 BENT BAR
LEVEL II (DUAL COATED
USE 3"ϕ PIN
(2) REQ'D.



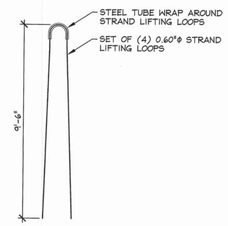
C-507D
#5 BENT BAR
LEVEL II (DUAL COATED
USE 3"ϕ PIN
(30) REQ'D.



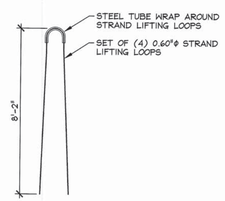
C-601
#6 BENT BAR
LEVEL I (BLACK)
USE 4"ϕ PIN
(21) REQ'D.



C-901D
#9 BENT BAR
LEVEL II (DUAL COATED)
USE 9 1/2"ϕ PIN
(56) REQ'D.



MK - CL4
N.T.S.



MK - CL5
N.T.S.

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1		9	DAYTON D-101-A #5 x 2'-6" (EPOXY COATED)	+(3) SAMPLES
2		6	DAYTON D-101-A #5 x 3'-8" (EPOXY COATED)	
3		6	DAYTON D-101-A #5 x 4'-10" (EPOXY COATED)	
4		2	DAYTON D-101-A #5 x 2'-11" (EPOXY COATED)	
5		2	DAYTON D-101-A #5 x 4'-4" (EPOXY COATED)	
6		2	DAYTON D-101-A #5 x 5'-8" (EPOXY COATED)	
7		12	DAYTON D-101 DOWEL-IN #5 x 2'-8" (EPOXY COATED)	
8		6	DAYTON D-101 DOWEL-IN #5 x 2'-6" (EPOXY COATED)	
9		9	DAYTON D-101 DOWEL-IN #5 x 1'-3" (EPOXY COATED)	+(3) SAMPLES
10				
11	C-401	40	#4 BENT BAR (LEVEL I)	+(1) SAMPLE
12	C-402	21	#4 BENT BAR (LEVEL I)	
13	C-403D	4	#4 BENT BAR (LEVEL II DUAL COATED)	
14	C-404D	2	#4 BENT BAR (LEVEL II DUAL COATED)	
15	C-501	78	#5 BENT BAR (LEVEL I)	
16	C-502D	6	#5 BENT BAR (LEVEL II DUAL COATED)	
17	C-503D	2	#5 BENT BAR (LEVEL II DUAL COATED)	
18	C-507D	30	#5 BENT BAR (LEVEL II DUAL COATED)	
19	C-601	21	#6 BENT BAR (LEVEL I)	+(1) SAMPLE
20	C-901D	56	#9 BENT BAR (LEVEL II, DUAL COATED)	SAMPLES TO BE SHOP CUT
21		6	#8 x 38'-6" (LEVEL I)	
22		7	#5 x 38'-6" (LEVEL I)	
23		6	#8 x 39'-6" (LEVEL I)	
24		7	#5 x 39'-6" (LEVEL I)	
25		4	#5 x 13'-8" (LEVEL I)	
26		16	#5 x 8'-10" (LEVEL I DUAL COATED)	
27		6	#5 x 8'-6" (LEVEL II DUAL COATED)	
28		6	#5 x 7'-11" (LEVEL II DUAL COATED)	
29		6	#5 x 7'-4" (LEVEL II DUAL COATED)	
30		6	#5 x 6'-9" (LEVEL II DUAL COATED)	
31		6	#5 x 6'-2" (LEVEL II DUAL COATED)	
32		6	#5 x 5'-7" (LEVEL II DUAL COATED)	
33		18	#5 x 5'-3 1/4" (LEVEL I)	
34		49	#5 x 5'-1" (LEVEL I)	+(1) SAMPLE
35		48	#5 x 4'-6" (LEVEL II, DUAL COATED)	
36		2	#5 x 8'-7" (LEVEL II DUAL COATED)	
37		2	#5 x 8'-1" (LEVEL II DUAL COATED)	
38		2	#5 x 7'-7" (LEVEL II DUAL COATED)	
39		2	#5 x 7'-1" (LEVEL II DUAL COATED)	
40		2	#5 x 6'-7" (LEVEL II DUAL COATED)	
41		2	#5 x 6'-1" (LEVEL II DUAL COATED)	
42		2	#5 x 5'-9" (LEVEL II DUAL COATED)	
43		2	#5 x 5'-5" (LEVEL II DUAL COATED)	
44		2	#9 x 2'-6" (LEVEL II DUAL COATED)	SAMPLES
45		1	2'-0"ϕ x 5'-7 5/16" CORRUGATED STEEL PIPE (GALV.)	DOMESTIC ORIGIN (BY AMERICAN)
46		1	2'-0"ϕ x 5'-8 5/8" CORRUGATED STEEL PIPE (GALV.)	DOMESTIC ORIGIN (BY AMERICAN)
47		1	2'-0"ϕ x 5'-8 3/4" CORRUGATED STEEL PIPE (GALV.)	DOMESTIC ORIGIN (BY AMERICAN)
48		1	2'-0"ϕ x 5'-7 1/8" CORRUGATED STEEL PIPE (GALV.)	DOMESTIC ORIGIN (BY AMERICAN)
49		1	2'-0"ϕ x 5'-7 5/16" CORRUGATED STEEL PIPE (GALV.)	DOMESTIC ORIGIN (BY AMERICAN)
50		1	2'-0"ϕ x 5'-8 5/8" CORRUGATED STEEL PIPE (GALV.)	DOMESTIC ORIGIN (BY AMERICAN)
51		2	2'-0"ϕ x 5'-9" CORRUGATED STEEL PIPE (GALV.)	DOMESTIC ORIGIN (BY AMERICAN)
52		1	2'-0"ϕ x 5'-8 3/4" CORRUGATED STEEL PIPE (GALV.)	DOMESTIC ORIGIN (BY AMERICAN)
53		1	2'-0"ϕ x 5'-7 1/8" CORRUGATED STEEL PIPE (GALV.)	DOMESTIC ORIGIN (BY AMERICAN)
54	MK-CL4	8	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	
55	MK-CL5	4	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	

PRECAST ABUTMENTS

Vermont Agency of Transportation
RECEIVED
Clarendon BRO(43)(48) Precast Resub 3-2-2016.pdf
CK'D BY JG, SC, TM OK'D BY G. Laroche
February 15, 2016
RESUBMIT Yes Rejected
BY K. Higgins DATE 03/03/2016

APPROVAL STAMP:

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

J.A. McDonald, Inc.
CONTRACTOR
LYNDON CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF RUTLAND

DATE: JAN. 8, 2016
SCALE: NOTED
CHKD: DFTM: T.D.
JOB NO: 23476-015

TOWN OF CLARENDON
WALKER MOUNTAIN ROAD, TH #3, RURAL COLLECTOR
BRIDGE NO.: 11 PROJECT NO.: BRO 1443(48)

MATERIALS LIST
ABUTMENTS

DWG. NO: M2

F:\VT-Bridges\23476-15 Clarendon\clarendon-M2.dwg, 2/15/2016 1:57:13 PM