

Unless otherwise noted (ASTM A 706 specified on sheet M1 for Mark MK-FA2)

Pipes (to avoid confusion on material specification) (typ, all sheets)

ASTM A 775

ASTM A 775

using an abrasive wheel

two part

as specified in 501.16(d)(2)

**ABUTMENT GENERAL NOTES**

- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
- MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
- REINFORCING STEEL SHALL BE GR-40, ASTM A-615 (AASHTO M31) LEVEL 1 (EPOXY COATED) (AS NOTED ON SHOP DRAWINGS).
- THE TOP OF ABUTMENTS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
- SHEAR KEY SURFACES SHALL BE SAND-BLASTED CLEAN. **N/A**
- ABUTMENTS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. THE PINS OF THE SHACKLES SHALL BE PLACED THROUGH THE LIFTING LOOPS. SEE DETAIL, SHEET F71. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. ABUTMENTS SHALL BE STORED & TRANSPORTED WITH TIMBER SUPPORTS AT SIX POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC. ONCE ABUTMENTS HAVE BEEN ERECTED, CUT LIFTING LOOPS AT RECESS, EPOXY PAINT AND PATCH AS REQUIRED (BY OTHERS).
- MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. PS10.02 AND PS10.06 RESPECTIVELY.  
DESIGN MIX: J.P.C. BRIDGE MIX #448NSCC
- 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.

**SOLID SLAB GENERAL NOTES**

- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 6,000 PSI.
- MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 4,000 PSI (UNLESS NOTED OTHERWISE).
- REINFORCING STEEL SHALL BE GR-40, ASTM A-615 (AASHTO M31) LEVEL 1 (EPOXY COATED).
- PRESTRESSING STRANDS SHALL CONFORM TO ASTM A-416 (AASHTO M202) AND SHALL CONSIST OF 0.60" x 270 KSI 7-WIRE LOW RELAXATION STRANDS.
- 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.)
- ENDS OF PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH END OF SOLID SLABS (UNLESS NOTED OTHERWISE) AND EPOXY PAINTED.
- ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" UNLESS NOTED OTHERWISE).
- THE TOP OF SLABS SHALL RECEIVE A TURF DRAG FINISH (UNLESS NOTED OTHERWISE).
- SHEAR KEY SURFACES SHALL BE SAND-BLASTED CLEAN.
- SLABS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL FORCES ARE APPLIED TO EACH OF THE TWO LIFTING INSERTS AT EACH END OF THE SLAB. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. SLABS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 2'-0" OF THE SLAB ENDS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
- MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. PS10.02 AND PS10.05 RESPECTIVELY.  
DESIGN MIX: J.P.C. BRIDGE MIX #426M1 (NO DCI)
- 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 SLAB IS FINISHED, A COVER OF RIGID INSULATION AND POLY WILL BE PLACED OVER THE UNITS. 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 ACCELERATE EARLY AGE STRENGTH GAIN, LIVE STEAM MAY BE UTILIZED. ACCELERATED CURING PER PCI 191.16.4.19 REQUIREMENTS.
- TRANSVERSE POST-TENSIONING SEQUENCE:  
A. ERECT SOLID SLABS, AND POST-TENSION TENDONS TO APPROXIMATELY 3,000 PSI.  
B. GROUT SHEAR KEYS.  
C. ONCE SHEAR KEY GROUT HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 1,500 PSI, POST TENSION TENDONS TO 47,000 LBS.
- OWNER SHALL PROVIDE APPROPRIATE WATERPROOFING TO GROUDED AND/OR EPOXIED SHEAR KEYS. J.P. CARRARA & SONS, INC. SHALL NOT BE HELD LIABLE FOR PROBLEMS ASSOCIATED WITH MOISTURE INFILTRATING GROUDED AND/OR EPOXIED SHEAR KEYS.

A template shall be used to layout the anchor bolt ducts in the abutments. The same template shall be used to layout the anchor bolt ducts in the solid slabs (required per note 7, sheet 59/69 of contract plans). All templates shall be clearly marked to identify location and orientation.

D. Excess tendon length shall be cut using an abrasive wheel.  
E. Apply 2 part epoxy to exposed tendon and chuck.

Omit length (determined by others)

**EXAMPLE PRESTRESSING STRAND ELONGATION CALC. AND TENSIONING**  
(NOT TO BE USED FOR CONSTRUCTION)

SIZE & GRADE: 0.60" x 270 KSI  
AREA: 0.217 IN<sup>2</sup>  
TENSION: 44,000 LB. EACH STRAND  
GRIP-TO-GRIP: 252'-0" = 252.00'  
E<sub>s</sub> = 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:  
 $\Delta P = \frac{0.5 \times 41,000}{19.977} = 1,026$  LBS

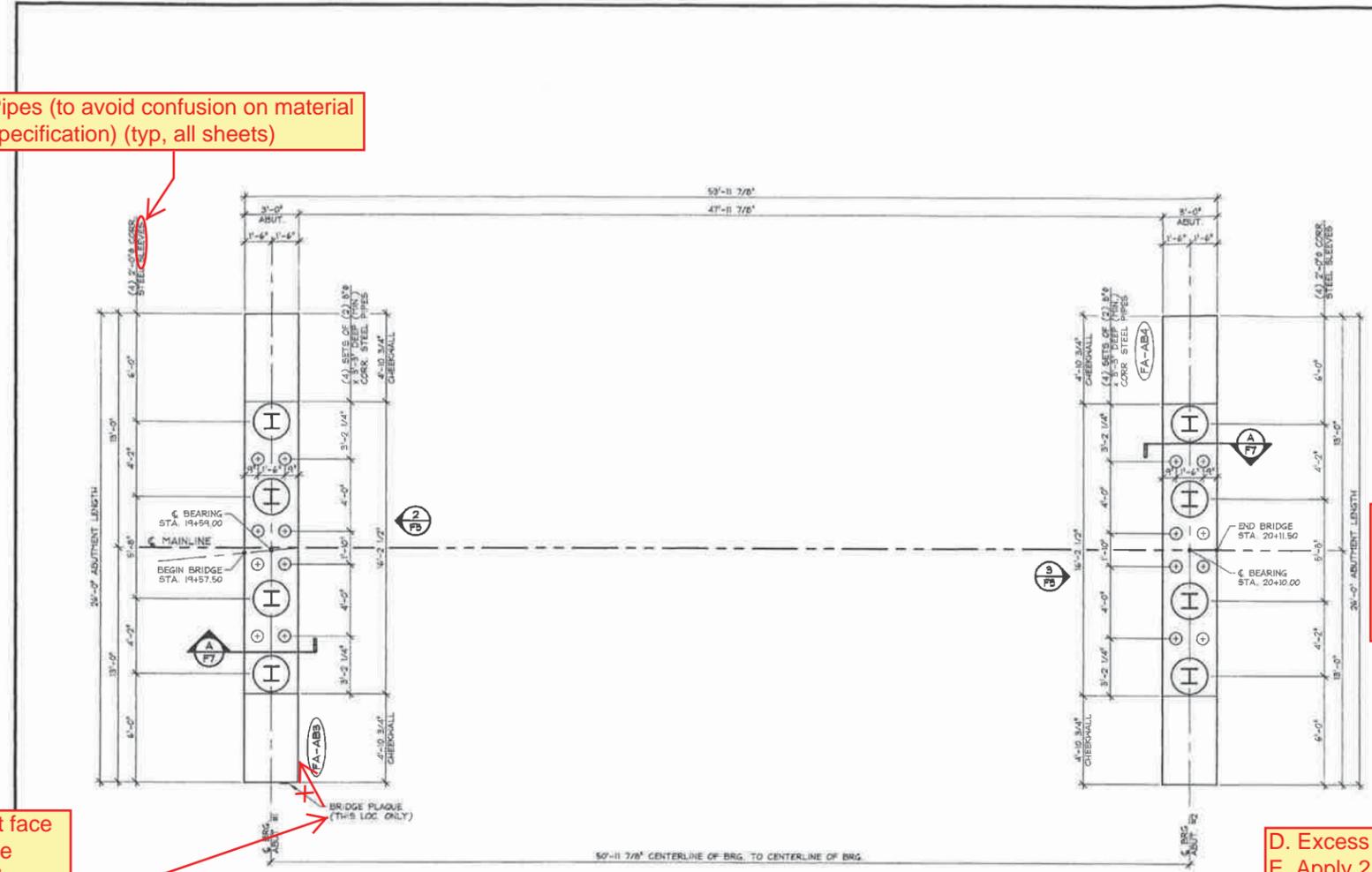
TOTAL TENSIONING FORCE = 44,000 + 1,026 = 45,026 LBS.

**STRAND TENSIONING PROCEDURE:**

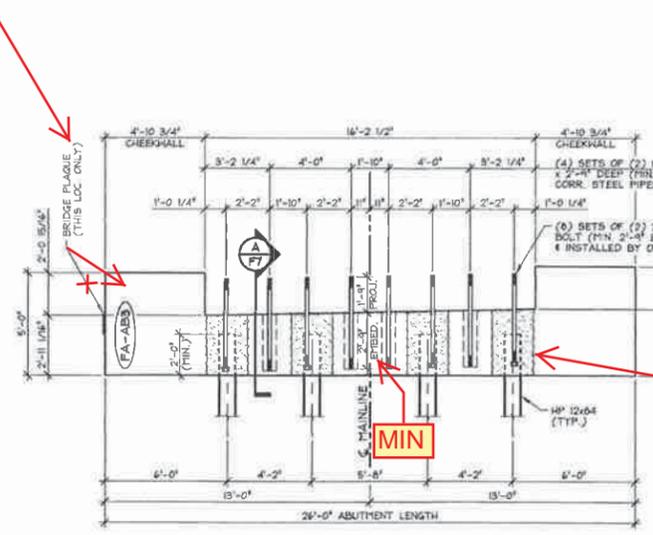
- PULL EACH STRAND INITIALLY TO 3,000+ LBS, AND MARK STRAND.
- THEN PULL EACH STRAND TO A TOTAL TENSION OF 45,026 LBS, AND MEASURE ELONGATION AFTER SEATING. IT MUST BE BETWEEN 19' AND 21'.

\*NOTE: FORCES READ ON STRESSING JACK GAUGES MUST BE MADE TO CORRESPOND TO ABOVE VALUES BASED ON CALIBRATION DATA FOR SPECIFIC JACK USED.

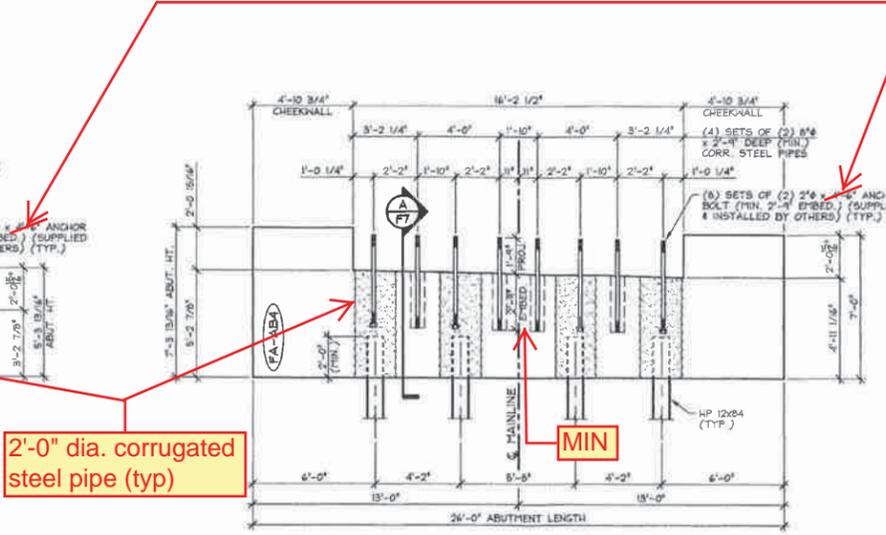
Place on front face so it will not be covered by fill (dimensions for location noted on sheet AB2)



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



2 ABUTMENT #1 ELEVATION  
1/4" = 1'-0"



3 ABUTMENT #2 ELEVATION  
1/4" = 1'-0"

2'-0" dia. corrugated steel pipe (typ)

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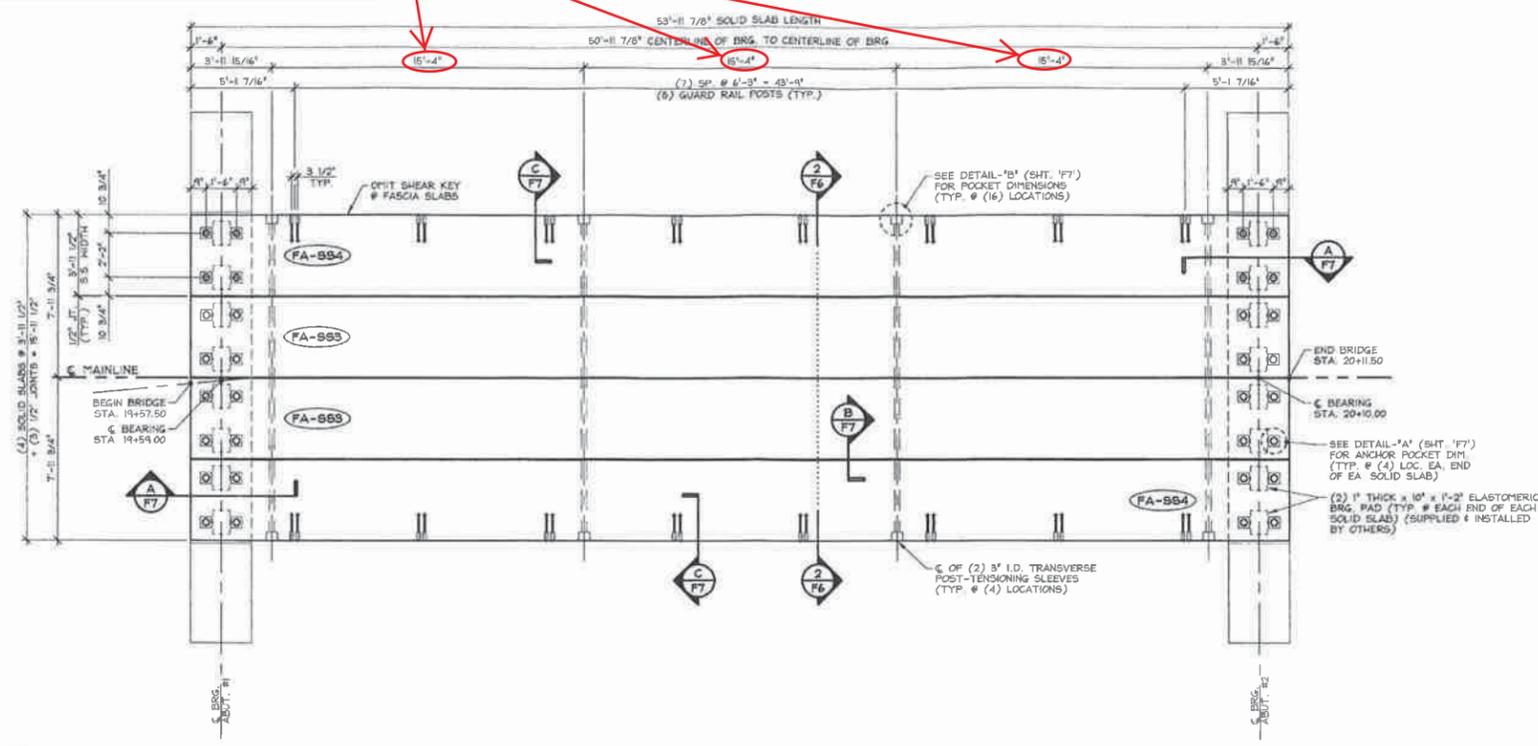
CK'D BY RK/JW OK'D BY RY

January 14, 2015

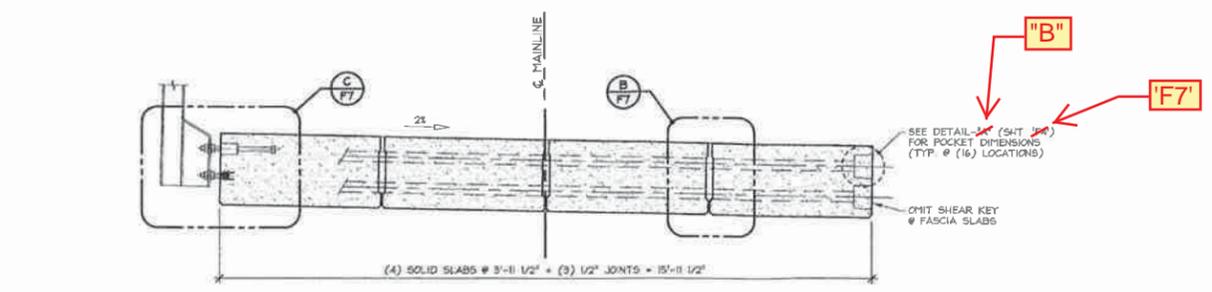
RESUBMIT No Approved AsNoted  
BY RY DATE 02/09/2015

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 244 DICE DR., WOODBURY, VERMONT 05793 Phone: (802)388-8351 Fax: (802)388-9010	A.L. St. ONGE CONTRACTOR MONTGOMERY, VERMONT
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN		DATE: NOV. 10, 2014
TOWN OF FAIRFIELD ELM BROOK ROAD, TOWN HIGHWAY 47 (CLASS 3) BRIDGE NO. 46 PROJECT NO. BRO 1448(41)		SCALE: NOTED
PRECAST ABUTMENT LAYOUT & ELEVATIONS		CHKD: B.C. DFTM: B.L.
		JOB NO: 23446-014
		DWG. NO: F5

Transverse PT duct spacing should be 15'-6"/15'/15'-6" per sheet 55/69 of contract plans (typ sheets SS3 and SS4)



1 PRESTRESSED SOLID SLAB LAYOUT  
1/4" = 1'-0"



2 PRESTRESSED SOLID SLAB TRANSVERSE SECTION  
1/2" = 1'-0"

Vermont Agency of Transportation  
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 January 14, 2015  
 RESUBMIT No Approved AsNoted  
 BY RY DATE 02/09/2015

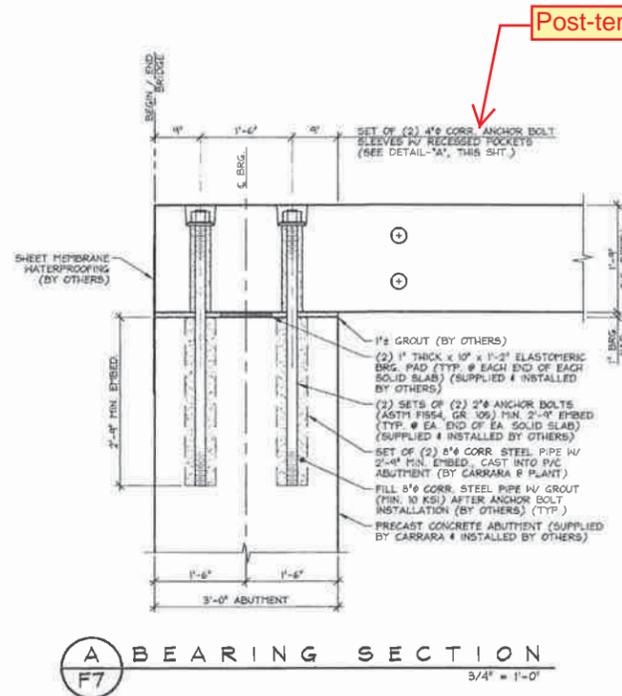
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 244 CREEK ST., MONTPELIER, VERMONT 05703 Phone: (802)388-6361 Fax: (802)388-8010		A.L. ST. ONGE CONTRACTOR MONTPELIER, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN		DATE: NOV. 10, 2014 SCALE: NOTED
	TOWN OF FAIRFIELD ELM BROOK ROAD, TOWN HIGHWAY 47 (CLASS 3) BRIDGE NO.: 46 PROJECT NO.: BRO 1448(41)		CHKD: B.C. DFTM: B.L. JOB NO: 29446-014
	PRESTRESSED SOLID SLAB LAYOUT & SECTION		DWG. NO: F6

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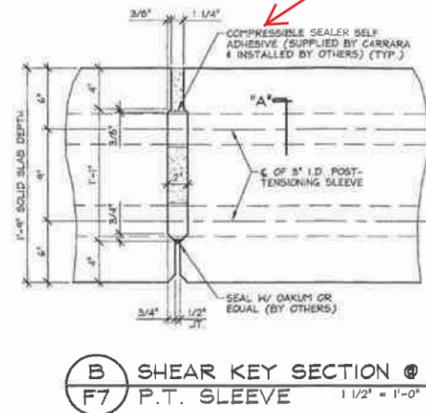
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January 14, 2015

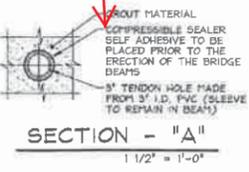
RESUBMIT No Approved AsNoted  
BY RY DATE 02/09/2015



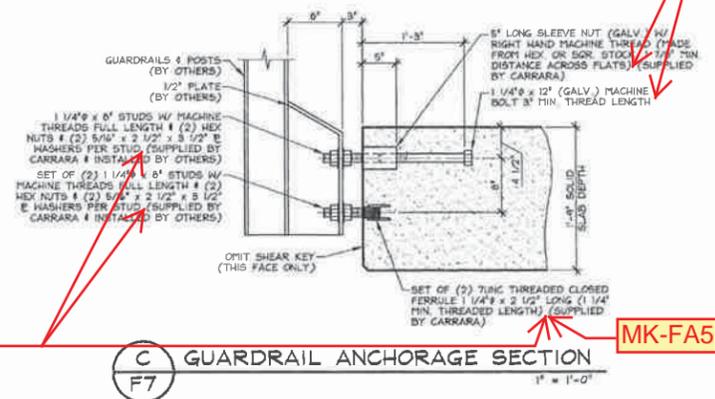
Post-tensioning duct



Compressible sealer not necessary per VTrans Structures Design Manual Section 5.3.6.4

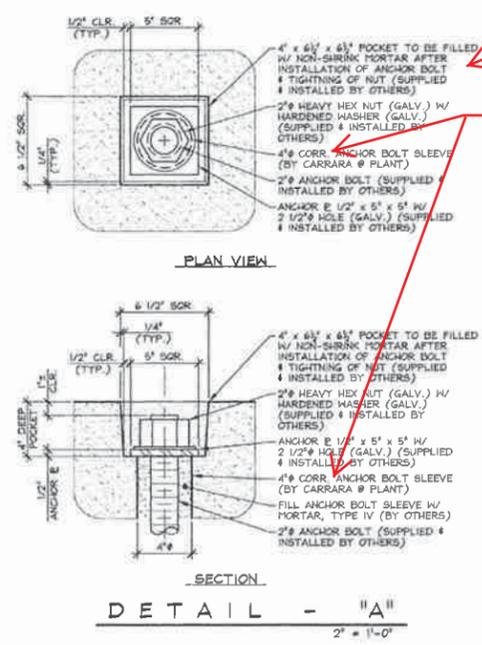


Galv.



MK-FA4

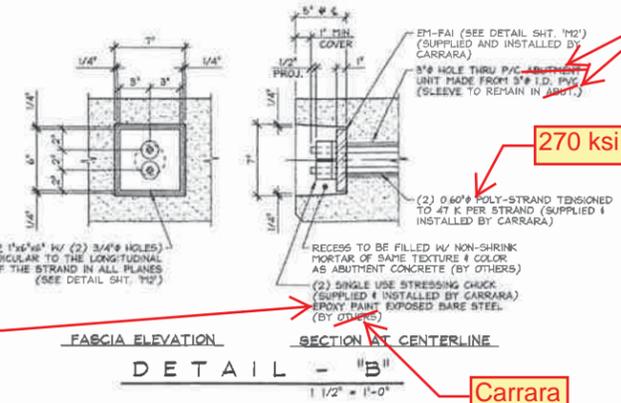
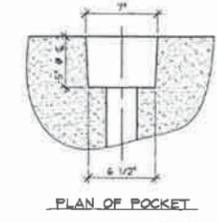
MK-FA5



type IV mortar

Post-tensioning duct

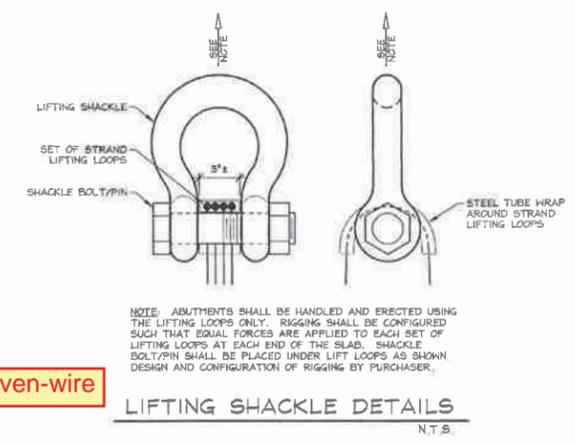
two part epoxy paint



Carrara

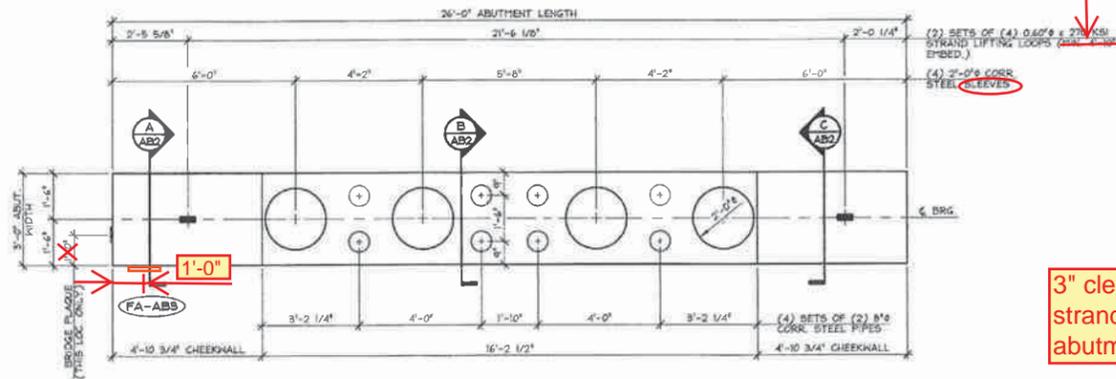
270 ksi, low relaxation seven-wire

Solid slab

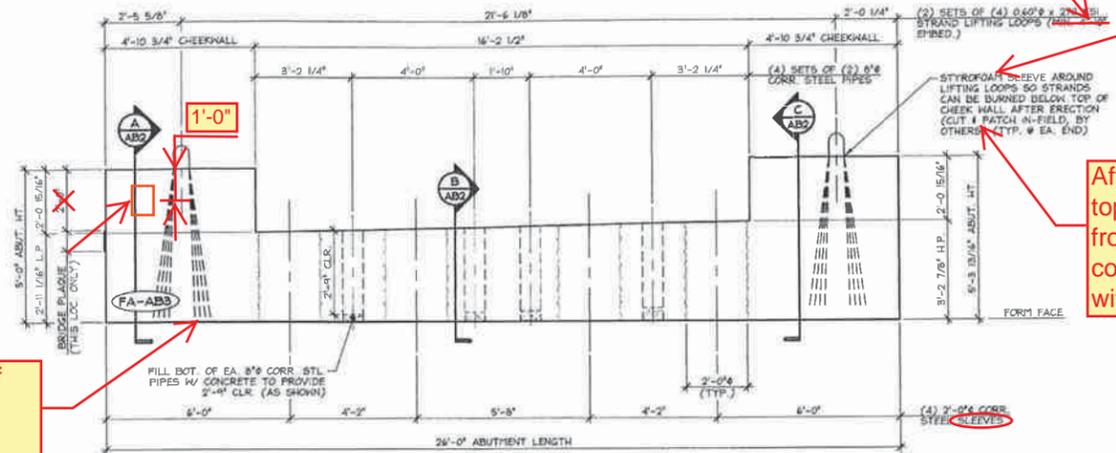


NOTE: ABUTMENTS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL FORCES ARE APPLIED TO EACH SET OF LIFTING LOOPS AT EACH END OF THE SLAB. SHACKLE BOLT/PIN SHALL BE PLACED UNDER LIFT LOOPS AS SHOWN DESIGN AND CONFIGURATION OF RIGGING BY PURCHASER.

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 1144 OISE VILLE, WASHINGTON, VERMONT 05757 Phone: (802) 388-4581 Fax: (802) 388-8010	A.L. ST. ONGE CONTRACTOR MONTMERY, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN	DATE: NOV. 10, 2014 SCALE: NOTED
	TOWN OF FAIRFIELD ELM BROOK ROAD, TOWN HIGHWAY 47 (CLASS 3) BRIDGE NO.: 46 PROJECT NO.: BRO 1448(41)	CHKD: B.C. DFTM: B.L. JOB NO.: 25446-014
	SECTIONS & DETAILS	DWG. NO: F7



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



2 DIMENSIONAL ELEVATION VIEW IN FORM  
AB2 3/8" = 1'-0"

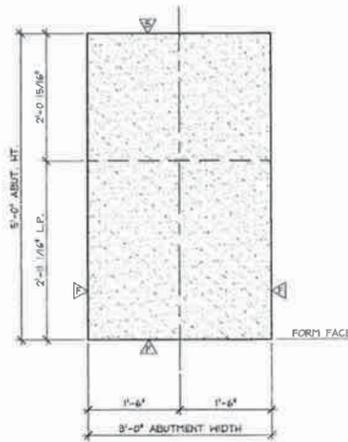
Revise calcs, 4'-6" max embedment to maintain clear cover top and bottom

Pocket shall be deep enough so strands can be cut a minimum of 3" below top of cheek wall

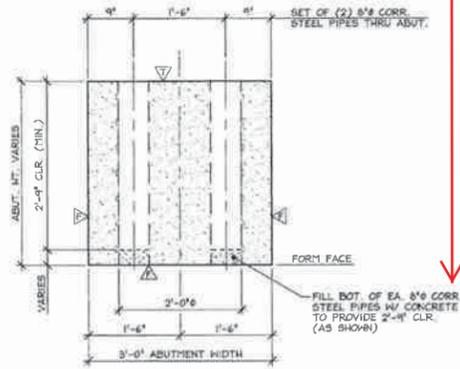
After strands are cut 3" below top of cheekwall, clean all debris from pocket including any loose concrete before filling pocket with Mortar, Type IV

3" clear (from end of strand to bottom of abutment) (typ)

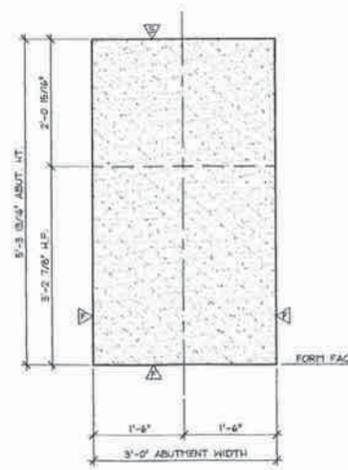
2'-9" is the minimum embedment for the anchor bolt. Bearing fabrication drawings have anchor bolts detailed at 55" which will result in 2'-10" embedment. Verify fill depth with contractor. (typ)



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



B ABUTMENT SECTION  
AB2 3/4" = 1'-0"



C ABUTMENT SECTION  
AB2 3/4" = 1'-0"

Pipe, AASHTO M 36, Type I

- △ DENOTES FORM FINISH
- △ DENOTES FLOAT FINISH
- △ DENOTES SMOOTH TROWEL FINISH

MARK: FA-AB3	QTY.: 1	WT.: 19.12 T	VOL.: 9.44 cy
MATERIAL LIST / ABUTMENT			
ITEM	MARK	DESCRIPTION	QTY.
1			
2			
3			
4			
5			
6		BRIDGE PLAQUE (SUPPLIED BY OTHERS)	1
7		SET OF (4) 0.60" x 270 KSI STRAND LIFTING LOOPS	2
8		8" x 3'-2" (MAX.) CORRUGATED STEEL SHEET (GALV.)	8
9		2'-0" x 3'-2 3/4" CORRUGATED STEEL SHEET (GALV.)	4
10			

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January 14, 2015

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APPROVAL STAMP:

J.P. CARRARA & SONS INC.  
Precast & Prestress Manufacturer  
2884 CASE ST., MIDDLEBURY, VERMONT 05753 Phone:(802)386-6301 Fax:(802)386-8010

A.L. ST. ONGE  
CONTRACTOR  
MONTOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF FRANKLIN

DATE: NOV. 10, 2014

TOWN OF FAIRFIELD  
ELM BROOK ROAD, TOWN HIGHWAY 47 (CLASS B)  
BRIDGE NO.: 46 PROJECT NO.: BRO 1448(41)

SCALE: NOTED

CHKD: B.C. DFTM: B.L.  
JOB NO: 23446-014

PRECAST ABUTMENT  
DIMENSIONAL DETAILS

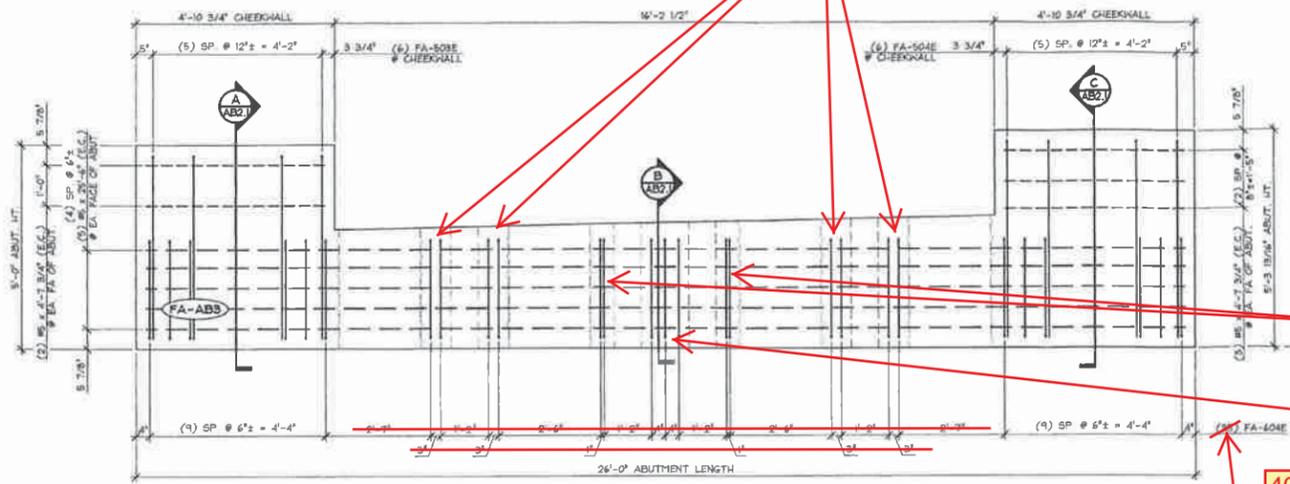
DWG. NO: AB2

3 stirrups are required per sheet 60/69 of contract plans. Place outer stirrups against pipes and center inner stirrup.

Place stirrups against pipes

4 stirrups are required per sheet 60/69 of contract plans. Place outer stirrups against pipes and equally space inner stirrups.

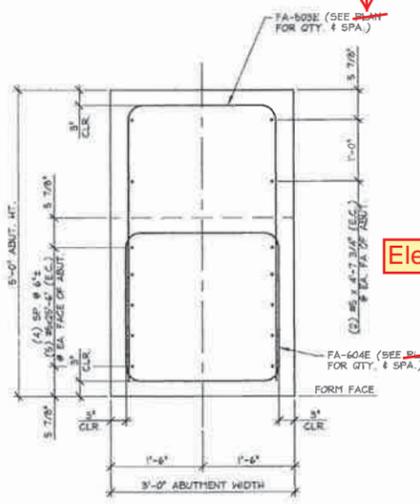
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1 REINFORCING ELEVATION VIEW IN FORM AB2.1 1/2" = 1'-0"

Elevation

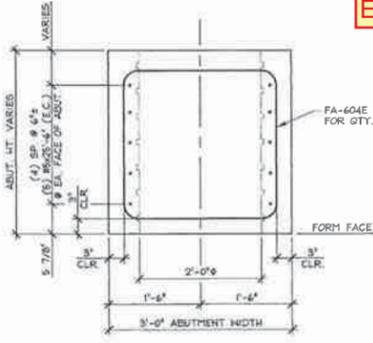
Elevation



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

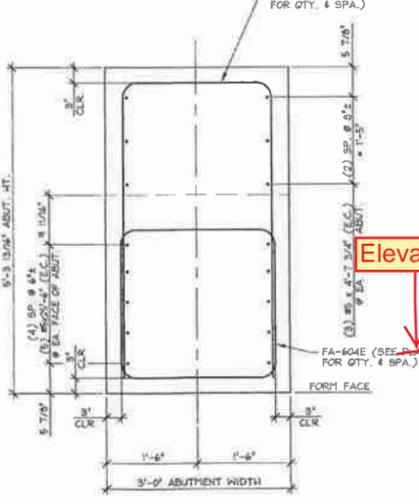
Elevation

Elevation



B ABUTMENT SECTION AB2.1 3/4" = 1'-0"

Elevation



C ABUTMENT SECTION AB2.1 3/4" = 1'-0"

MARK: FA-AB3 QTY.: 1			
MATERIAL LIST / ABUTMENT			
ITEM	MARK	DESCRIPTION	QTY.
1	FA-509E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	6
2	FA-504E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	6
3		#5 x 25'-6" (LEVEL 1, EPOXY COATED)	10
4		#5 x 4'-7 3/4" (LEVEL 1, EPOXY COATED)	10
5			
6	FA-604E	#6 BENT BAR (LEVEL 1, EPOXY COATED)	40
7			
8			
9			
10			

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January 14, 2015

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BY RY DATE 02/09/2015

APPROVAL STAMP:

J.P. CARRARA & SONS INC.  
Precast & Prestress Manufacturer  
2441 GEE STR. BRIDGEVILLE, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010

A.L. ST. ONGE  
CONTRACTOR  
MONTMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF FRANKLIN

DATE: NOV. 10, 2014

SCALE: NOTED

TOWN OF FAIRFIELD  
ELM BROOK ROAD, TOWN HIGHWAY 47 (CLASS B)  
BRIDGE NO.: 46 PROJECT NO.: BRO 1448(41)

CHKD: B.C. DFTM: B.L.

JOB NO: 23446-014

PRECAST ABUTMENT  
REINFORCING DETAILS

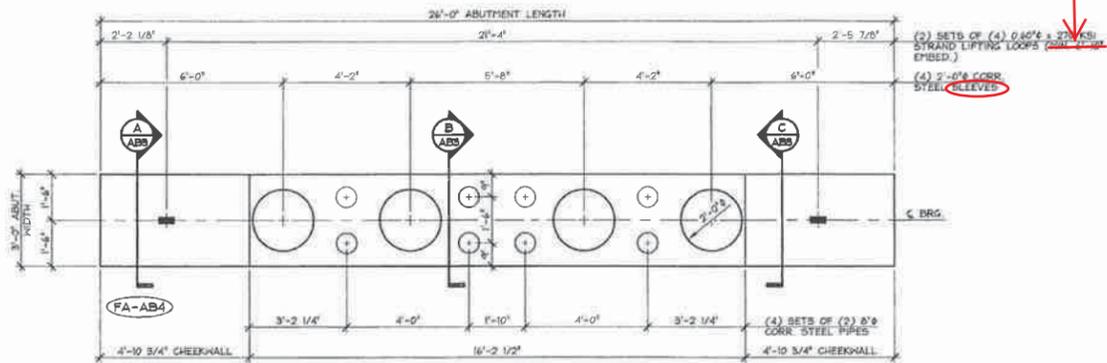
DWG. NO: AB2.1

Revise calcs, 6'-6" max embedment to maintain clear cover top and bottom

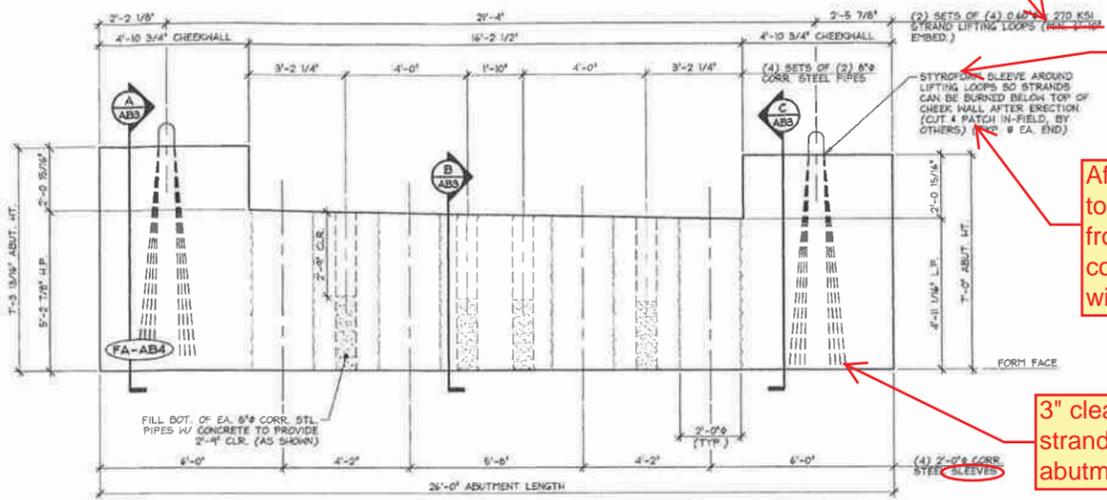
Pocket shall be deep enough so strands can be cut a minimum of 3" below top of cheek wall

After strands are cut 3" below top of cheek wall, clean all debris from pocket including any loose concrete before filling pocket with Mortar, Type IV

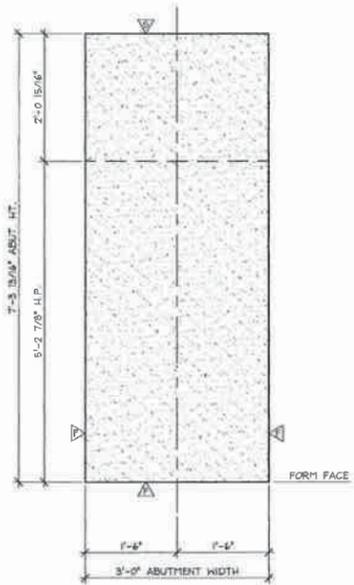
3" clear (from end of strand to bottom of abutment) (typ)



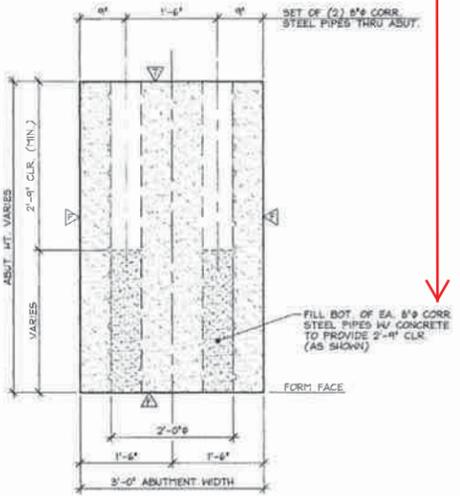
1 DIMENSIONAL PLAN VIEW IN FORM  
AB3 3/8" = 1'-0"



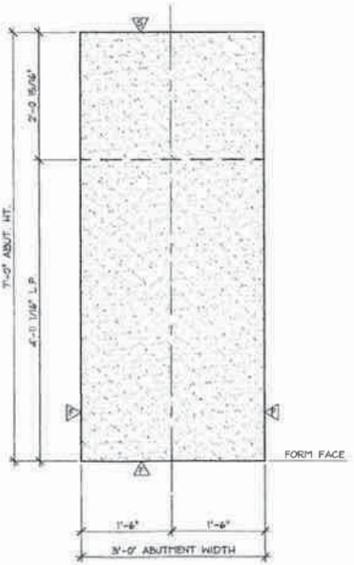
2 DIMENSIONAL ELEVATION VIEW IN FORM  
AB3 3/8" = 1'-0"



A ABUTMENT SECTION  
AB3 3/4" = 1'-0"



B ABUTMENT SECTION  
AB3 3/4" = 1'-0"



C ABUTMENT SECTION  
AB3 3/4" = 1'-0"

2'-9" is the minimum embedment for the anchor bolt. Bearing fabrication drawings have anchor bolts detailed at 55" which will result in 2'-10" embedment. Verify fill depth with contractor. (typ)

Pipe, AASHTO M 36, Type I

- △ DENOTES FORM FINISH
- △ DENOTES FLOAT FINISH
- △ DENOTES SMOOTH TROWEL FINISH

MARK: FA-AB4	QTY: 1	WT: 28.94 T	VOL: 14.29 cy
MATERIAL LIST / ABUTMENT			
ITEM	MARK	DESCRIPTION	QTY.
1			
2			
3			
4			
5			
6			
7		SET OF (4) 0.60" x 270 KSI STRAND LIFTING LOOPS	2
8		8" x 5'-2" (MAX.) CORRUGATED STEEL PIPE (GALV.)	8
9		2'-0" x 5'-2 3/4" CORRUGATED STEEL PIPE (GALV.)	4
10			

Vermont Agency of Transportation  
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APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 24th ORE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)368-6361 Fax: (802)368-9010	A.L. ST. ONGE CONTRACTOR MONTOMERY, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN	DATE: NOV. 10, 2014 SCALE: NOTED
	TOWN OF FAIRFIELD ELM BROOK ROAD, TOWN HIGHWAY 47 (CLASS 3) BRIDGE NO.: 46 PROJECT NO.: BRO 1448(41)	CHKD: B.C. DFTM: B.L. JOB NO: 28446-014
	PRECAST ABUTMENT DIMENSIONAL DETAILS	DWG. NO: <b>AB3</b>

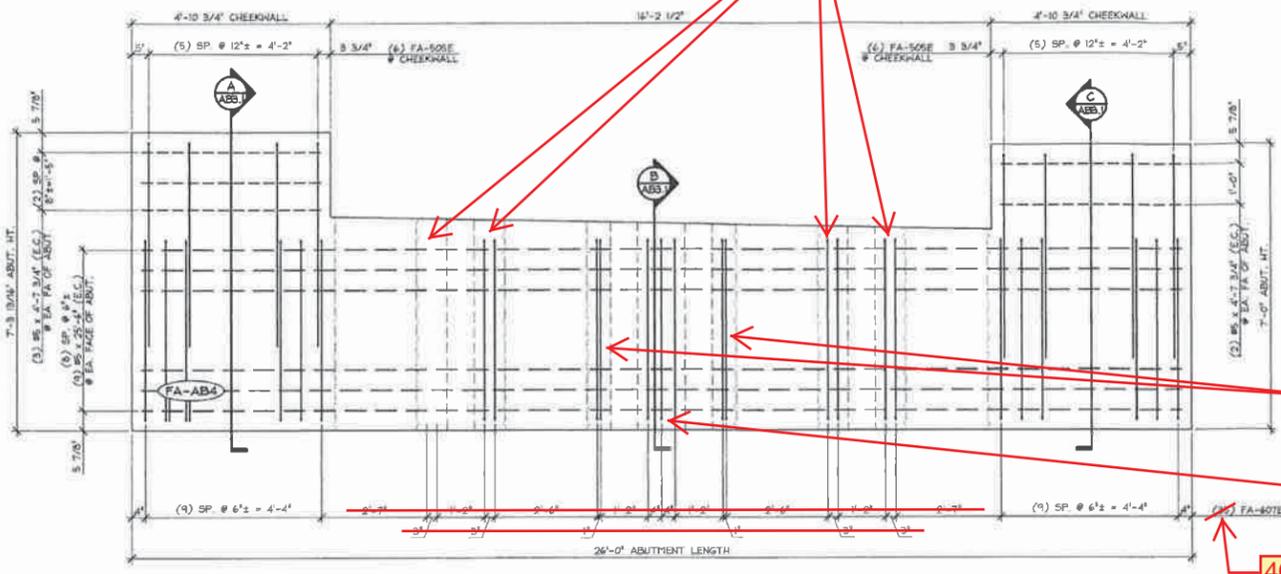
3 stirrups are required per sheet 60/69 of contract plans. Place outer stirrups against pipes and center inner stirrup.

Stirrups in AB4 may be made up of pairs of U-stirrups if a minimum lap length of 37" is provided for each leg.

Place stirrups against pipes

4 stirrups are required per sheet 60/69 of contract plans. Place outer stirrups against pipes and equally space inner stirrups.

40



1 REINFORCING ELEVATION VIEW IN FORM  
ABS.1 1/2" = 1'-0"

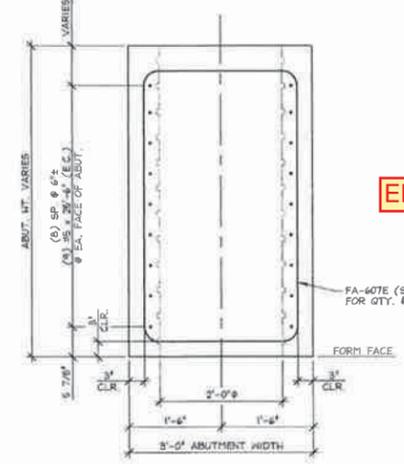
Elevation

Elevation



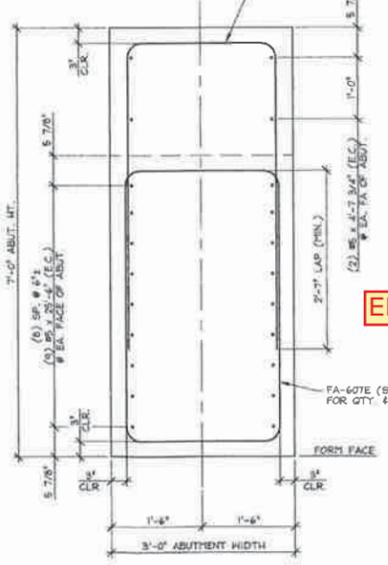
A ABUTMENT SECTION  
ABS.1 3/4" = 1'-0"

Elevation



B ABUTMENT SECTION  
ABS.1 3/4" = 1'-0"

Elevation



C ABUTMENT SECTION  
ABS.1 3/4" = 1'-0"

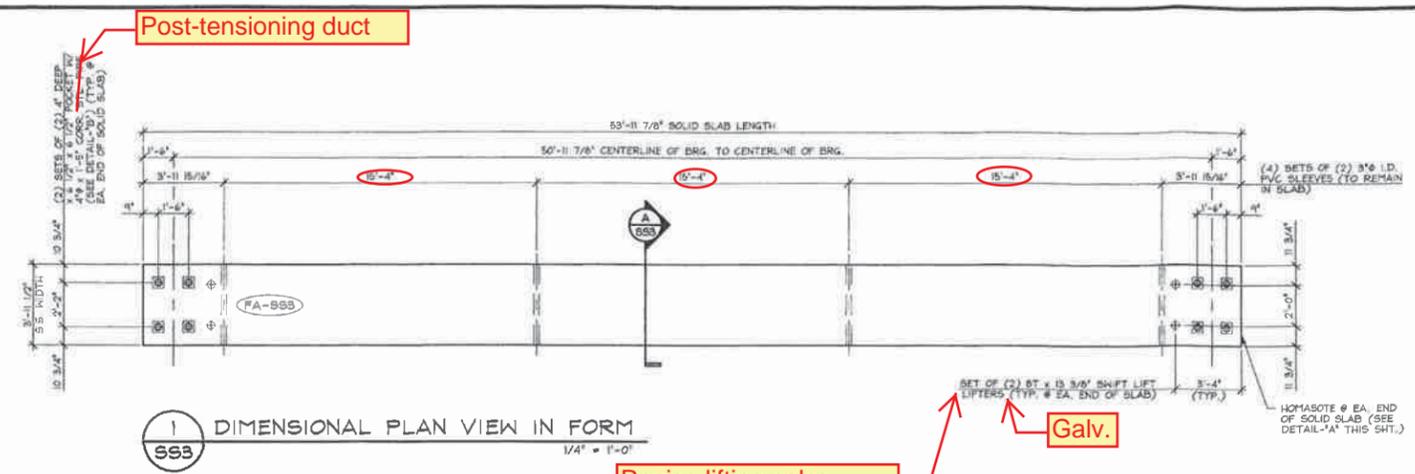
Elevation

Vermont Agency of Transportation  
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RESUBMIT No Approved AsNoted  
BY RY DATE 02/09/2015

MARK: FA-AB4 QTY.: 1			
MATERIAL LIST / ABUTMENT			
ITEM	MARK	DESCRIPTION	QTY.
1	FA-606E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	12
2		#5 x 25'-6" (LEVEL 1, EPOXY COATED)	18
3		#5 x 4'-7 3/4" (LEVEL 1, EPOXY COATED)	10
4			
5	FA-607E	#6 BENT BAR (LEVEL 1, EPOXY COATED)	40
6			
7			
8			
9			
10			

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	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN		DATE: NOV. 10, 2014 SCALE: NOTED
	TOWN OF FAIRFIELD ELM BROOK ROAD, TOWN HIGHWAY 47 (CLASS B) BRIDGE NO.: 46 PROJECT NO.: BRO 1448(41)		CHKD: B.C. DFTM: B.L. JOB NO: 23446-014
	PRECAST ABUTMENT REINFORCING DETAILS		DWG. NO: AB3.1

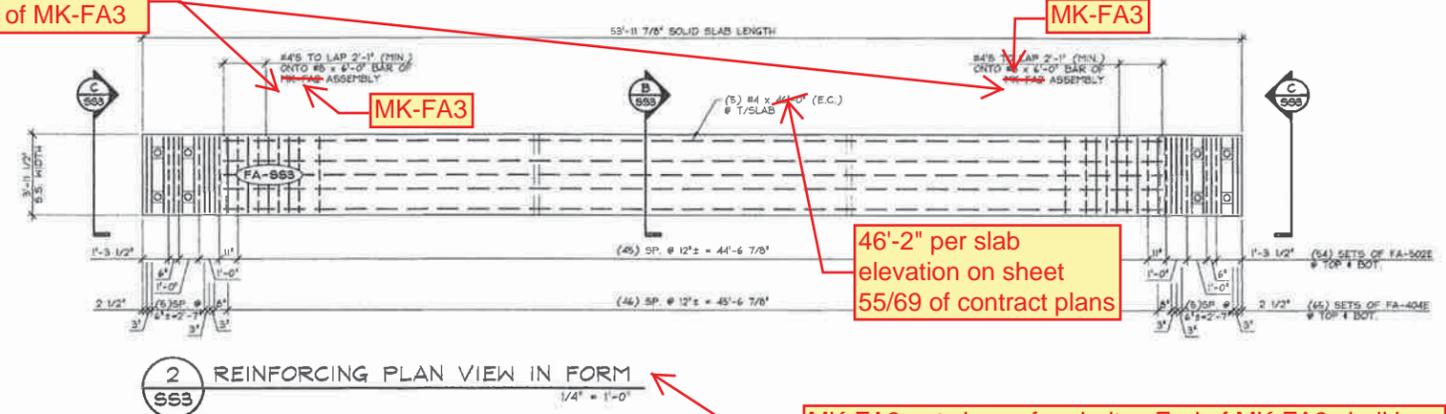


Post-tensioning duct

Galv.

Revise lifting calcs

and lap 14'-1" (min) onto #8 x 18'-0" bar of MK-FA3



MK-FA3

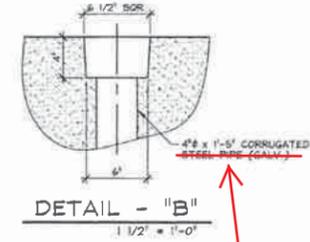
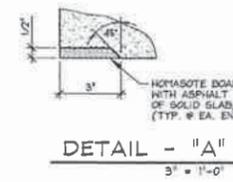
MK-FA3

46'-2" per slab elevation on sheet 55/69 of contract plans

2 REINFORCING PLAN VIEW IN FORM S53

MK-FA3 not shown for clarity. End of MK-FA3 shall be located 2 1/2" from end of slab. CL of 2 1/2" bar shall be located 4 1/4" from end of slab. (typ each end)

Pairs of U-stirrups do not meet the requirements of Article 5.11.2.6.4 in the AASHTO LRFD Bridge Design Specifications. One piece closed stirrups shall be used as shown on the contract plans.

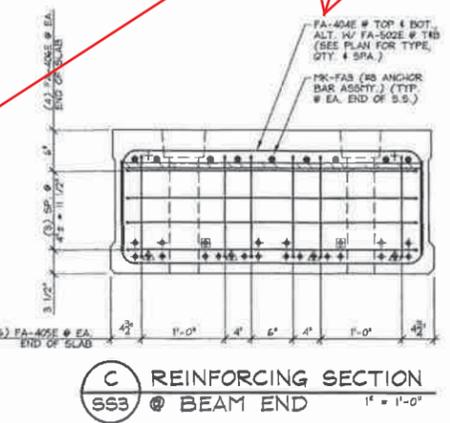
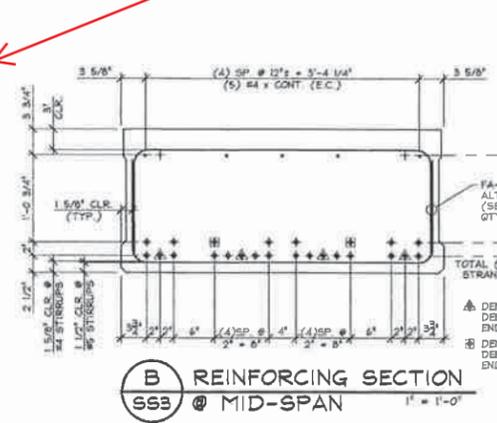
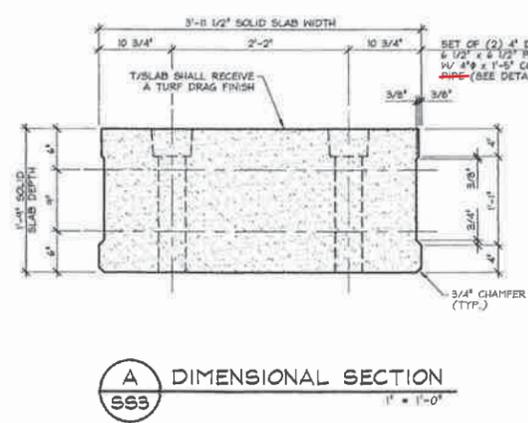


DETENSING SCHEDULE N.T.S.

1	7	11	21	22	12	8	2
3	5	9	15	17	19	23	24
20	20	18	16	14	10	6	4

Post-tensioning duct

Post-tensioning duct (material per note 20, sheet 40/69 of contract plans)



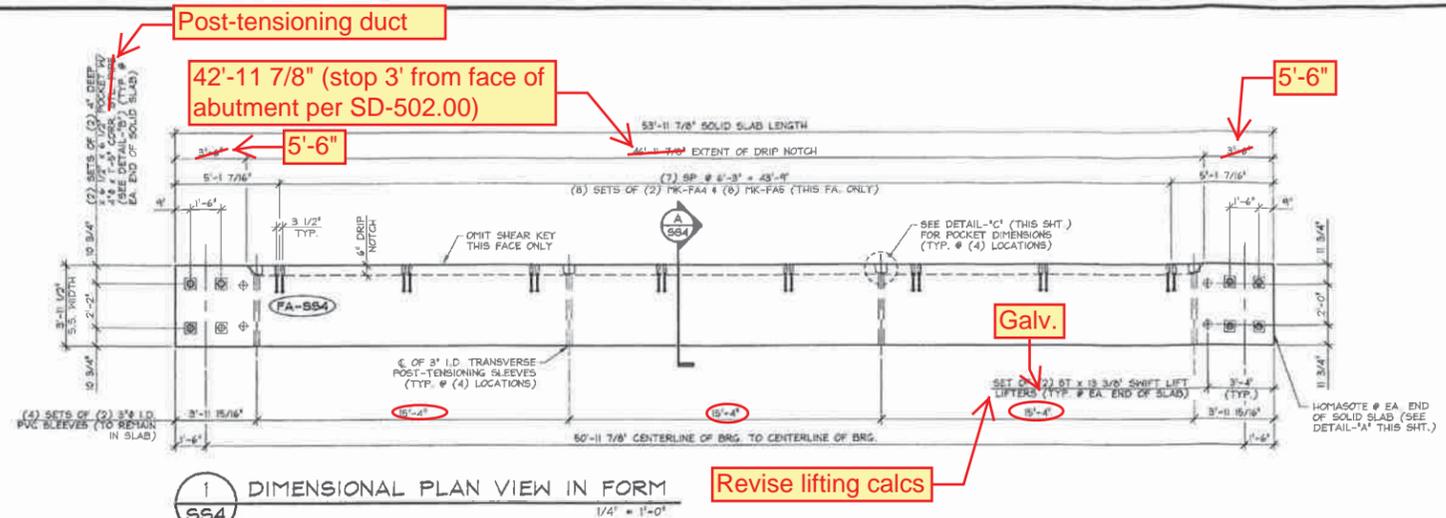
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 January 14, 2015  
 RESUBMIT No Approved AsNoted  
 BY RY DATE 02/09/2015

MARK: FA-SS3	QTY.: 2	WT.: 27.42 T	VOL.: 13.54 cy
MATERIAL LIST / SOLID SLAB			
ITEM	MARK	DESCRIPTION	QTY.
1	FA-404E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	130
2	FA-405E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	12
3	FA-406E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	8
4	#4 x 18'-0"	(LEVEL 1, EPOXY COATED)	5
5			
6	FA-502E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	108
7			
8	MK-FA3	ANCHOR BAR 3/4" THICK x 2 1/2" x 3'-8" (ASTM A36) W/ (3) #8 x 18'-0" & (6) #8 x 6'-0" (ASTM A-706) (GALV. ASSMT.)	2
9		#1 x 18'-0" SHIFTS LIFT LIFTERS	4
10		4" x 1'-5" CORRUGATED STEEL PIPE (GALV.)	8

46'-2"

Galv.

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STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN		DATE: NOV. 10, 2014 SCALE: NOTED
TOWN OF FAIRFIELD ELM BROOK ROAD, TOWN HIGHWAY 47 (CLASS 3) BRIDGE NO.: 46 PROJECT NO.: BRO 1448(41)		CHKD: B.C. DFTM: B.L. JOB NO.: 23446-014
PRESTRESSED SOLID SLAB DETAILS		DWG. NO: S53



Post-tensioning duct

42'-11 7/8" (stop 3' from face of abutment per SD-502.00)

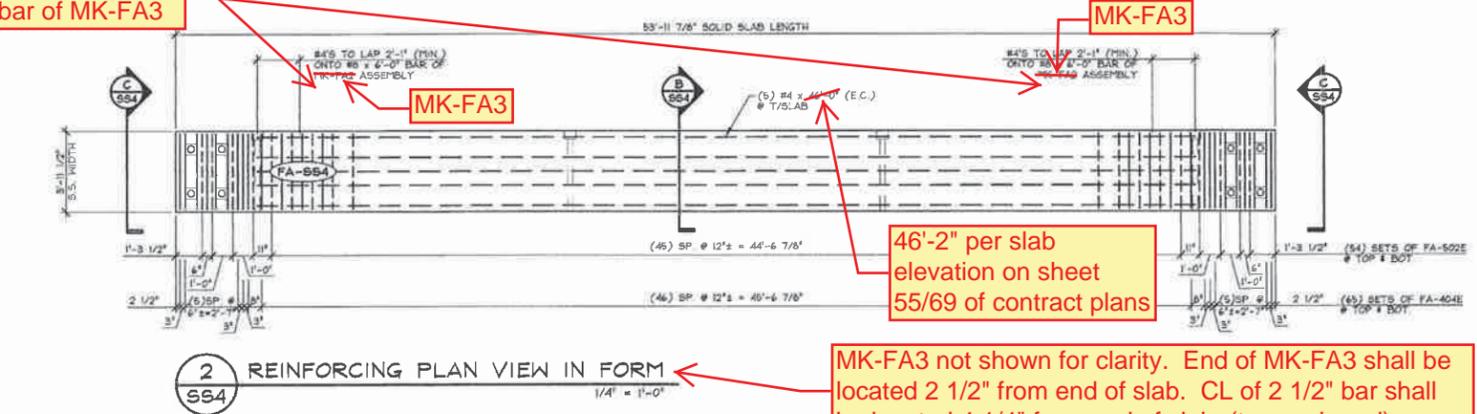
5'-6"

5'-6"

Galv.

Revise lifting calcs

and lap 14'-1" (min) onto #8 x 18'-0" bar of MK-FA3

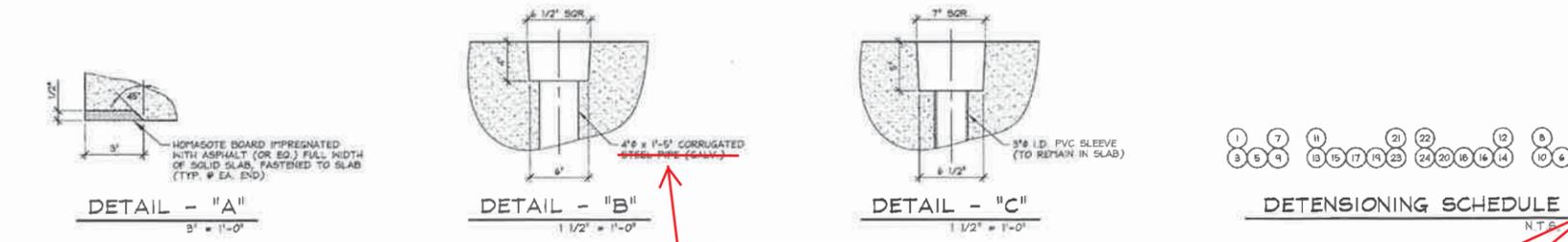


MK-FA3

MK-FA3

46'-2" per slab elevation on sheet 55/69 of contract plans

MK-FA3 not shown for clarity. End of MK-FA3 shall be located 2 1/2" from end of slab. CL of 2 1/2" bar shall be located 4 1/4" from end of slab. (typ each end)



DETAIL - "A"

DETAIL - "B"

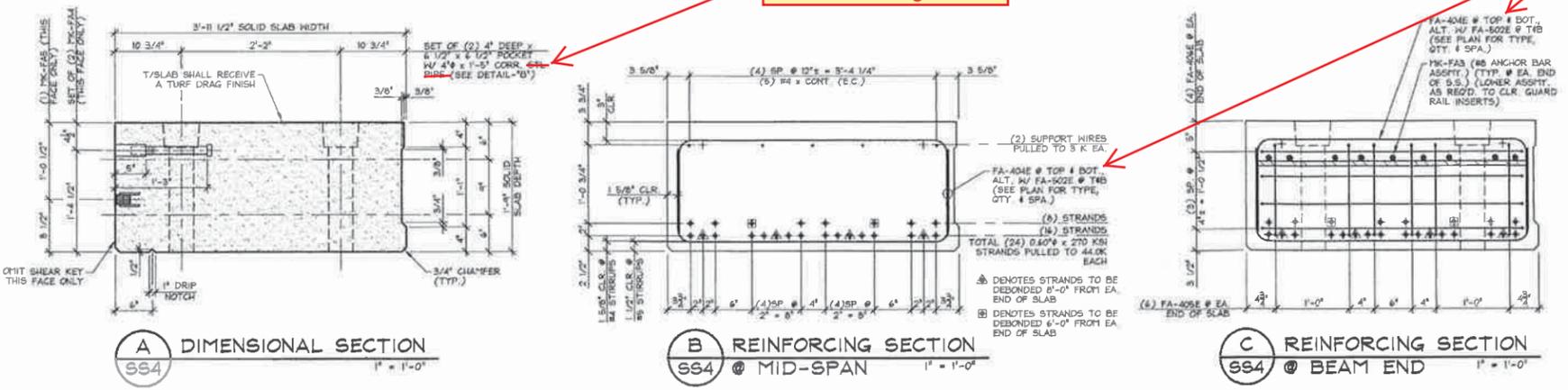
DETAIL - "C"



DETENSING SCHEDULE

Pairs of U-stirrups do not meet the requirements of Article 5.11.2.6.4 in the AASHTO LRFD Bridge Design Specifications. One piece closed stirrups shall be used as shown on the contract plans.

Post-tensioning duct (material per note 20, sheet 40/69 of contract plans)



A DIMENSIONAL SECTION

B REINFORCING SECTION @ MID-SPAN

C REINFORCING SECTION @ BEAM END

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MATERIAL LIST / SOLID SLAB			
ITEM	MARK	DESCRIPTION	QTY.
1	FA-404E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	130
2	FA-405E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	12
3	FA-406E	#4 BENT BAR (LEVEL 1, EPOXY COATED)	8
4		#4 x 18'-0" (LEVEL 1, EPOXY COATED)	5
5			
6	FA-502E	#5 BENT BAR (LEVEL 1, EPOXY COATED)	108
7			
8			
9	MK-FAB	ANCHOR BAR 3/4" THICK x 2 1/2" x 3'-8" (ASTM A36) W/ (3) #8 x 18'-0" & (6) #8 x 6'-0" (ASTM A-706) (GALV. ASS'Y.)	2
10	MK-FA4	5" LG. SLEEVE NUT (GALV.) # 1 1/4" x 12" MACHINE BOLT (GALV.)	16
11	MK-FA5	2-BOLT FERRULE GUARD RAIL INSERT 1 1/4" x 7" (GALV.)	8
12		AT x 13 3/8" SHIFLIFT LIFTERS	4
13		4" x 1'-5" CORRUGATED POLY PIPE (GALV.)	8
14			
15			

APPROVAL STAMP:

**J.P. CARRARA & SONS INC.**  
Precast & Prestress Manufacturer  
194 DEE SR., VERDESBURG, VERMONT 05753 Phone: (802) 368-5361 Fax: (802) 368-9010

**A.L. ST. ONGE**  
CONTRACTOR  
MONTMERY, VERMONT

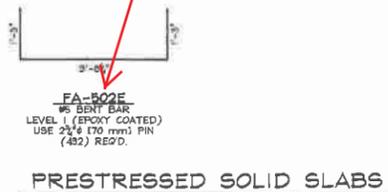
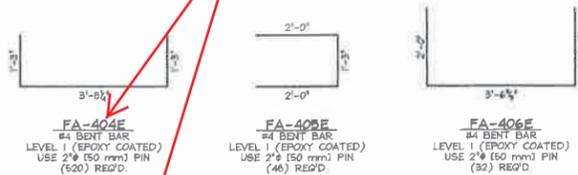
STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF FRANKLIN

TOWN OF FAIRFIELD  
ELM BROOK ROAD, TOWN HIGHWAY 47 (CLASS 3)  
BRIDGE NO.: 46 PROJECT NO.: BRO 1448(41)

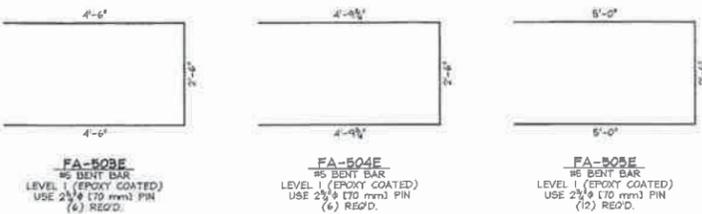
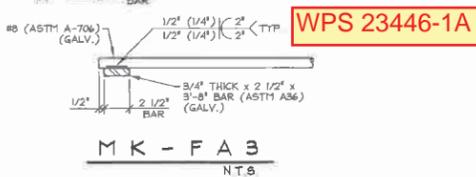
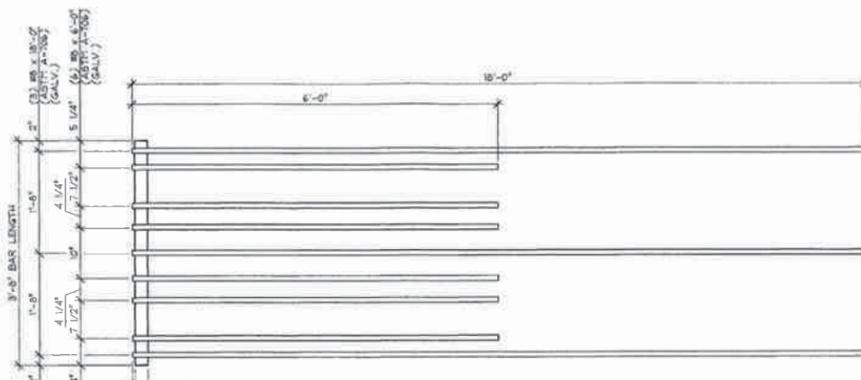
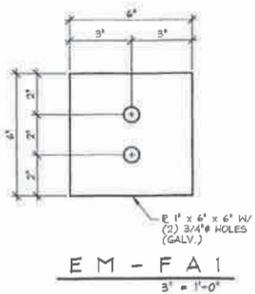
PRESTRESSED SOLID SLAB DETAILS

DATE: NOV. 10, 2014  
SCALE: NOTED  
CHKD: B.C. DFTM: B.L.  
JOB NO: 23446-014  
DWG. NO: **SS4**

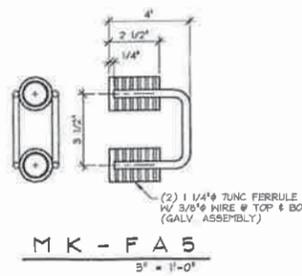
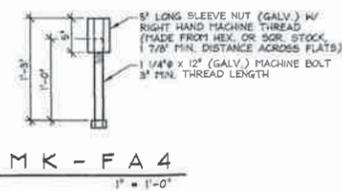
One piece closed stirrups are required as noted on drawings SS3 and SS4



PRESTRESSED SOLID SLABS



PRECAST ABUTMENTS



270 ksi, low relaxation, seven-wire

46'-2"

post-tensioning duct

Galvanized

material per note 20, sheet 40/69 of contract plans

Pipe, AASHTO M36, Type 1

MISCELLANEOUS MATERIALS				REMARKS
ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1	EM-FA1	16	E 1" x 6" x 6" W/ (2) 3/4" HOLES (GALV.)	FOR ERECTION; SEE DETAIL THIS SHEET
2		16	0.60" POLY-STRAND	FOR ERECTION
3		32	0.60" SINGLE USE STRESSING CHUCK	FOR ERECTION
4				
5				
6		20	#4 x 46'-2" (LEVEL 1, EPOXY COATED)	
7				
8				
9	MK-FAB	8	ANCHOR BAR 3/4" THICK x 2 1/2" x 3'-0" (ASTM A36) W/ (5) #8 x 18'-0" & (6) #8 x 6'-0" (ASTM A-706)	GALVANIZED ASSEMBLY, SEE DETAIL THIS SHEET
10	MK-FA4	32	5" LG SLEEVE NUT (GALV.) & 1 1/4" x 12" MACHINE BOLT	GALVANIZED, SEE DETAIL THIS SHEET
11	MK-FAB	16	2-BOLT FERRULE GUARD RAIL INSERT 1 1/4" TUNG	GALVANIZED, SEE DETAIL THIS SHEET
12		16	8T x 18 3/8" SWIFT LIFT LIFTER	
13		32	4" x 1'-5" CORRUGATED STEEL PIPE	GALVANIZED
14				
15				
16		28	#5 x 25'-6" (LEVEL 1, EPOXY COATED)	
17		20	#5 x 4'-7 3/4" (LEVEL 1, EPOXY COATED)	
18				
19		1	BRIDGE PLAQUE	SUPPLIED BY OTHERS
20		8	8" x 3'-2" (MAX.) CORRUGATED STEEL SLEEVE	GALVANIZED
21		8	8" x 5'-2" (MAX.) CORRUGATED STEEL SLEEVE	GALVANIZED
22		4	2'-0" x 3'-2 3/4" CORRUGATED STEEL SLEEVE	GALVANIZED
23		4	2'-0" x 5'-2 3/4" CORRUGATED STEEL SLEEVE	GALVANIZED
24		4	SET OF (4) 0.60" x 270 KSI STRAND LIFTING LOGS	
25				

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	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN		DATE: NOV. 10, 2014 SCALE: NOTED
	TOWN OF FAIRFIELD ELM BROOK ROAD, TOWN HIGHWAY 47 (CLASS B) BRIDGE NO.: 46 PROJECT NO.: BRO 1448(41)		CHKD: B.C. DFTM: B.L. JOB NO: 29446-014
	MATERIALS LIST		DWG. NO: M2