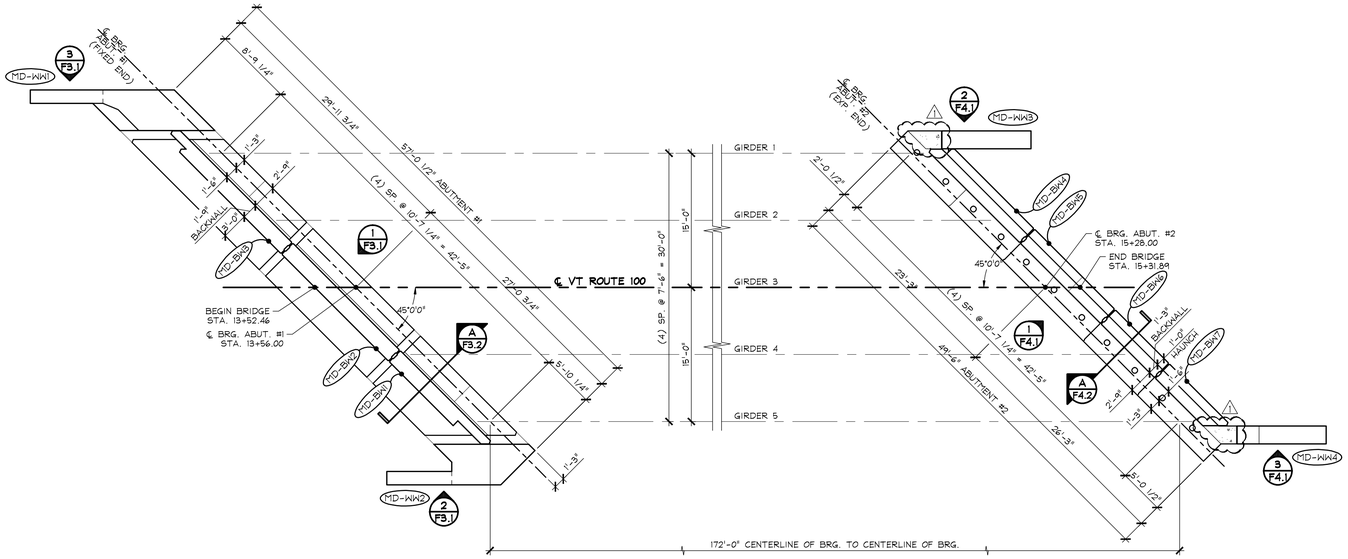
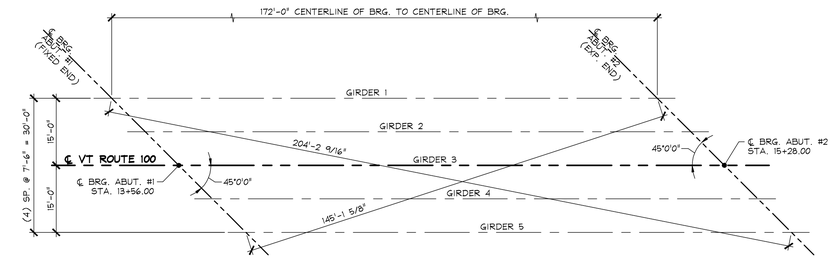


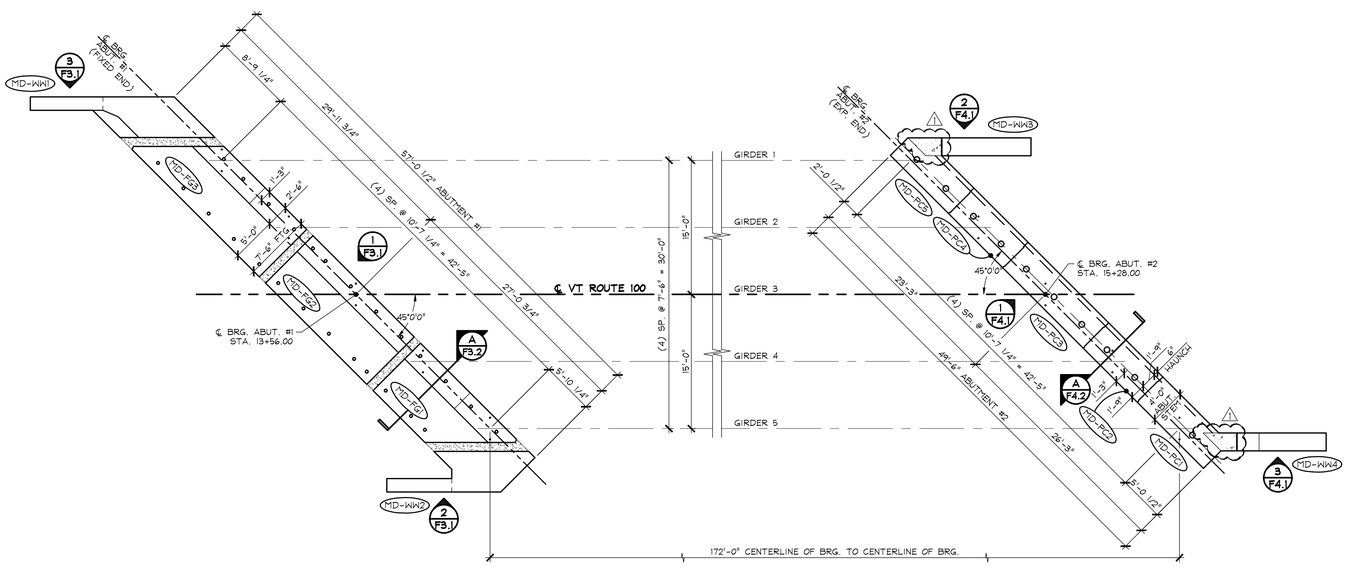
1/F2 PRECAST BACKWALL & WINGWALL LAYOUT

1/8" = 1'-0"



GRIDLINE LAYOUT

N.T.S.



2/F2 PRECAST FOOTING, ABUTMENT, & WINGWALL LAYOUT

1/8" = 1'-0"

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

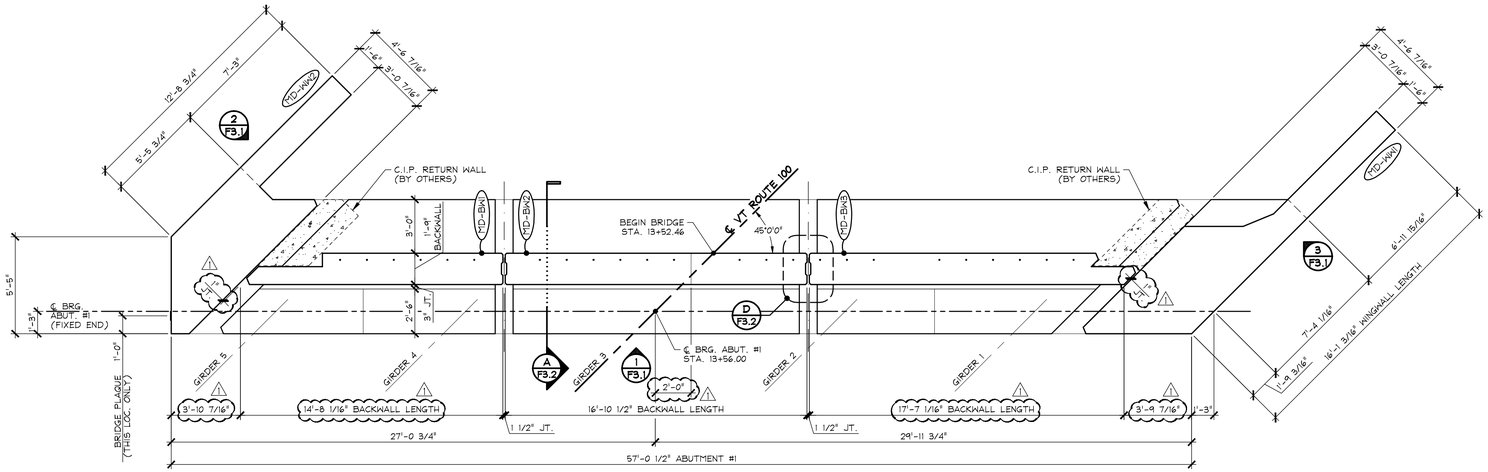
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST ABUTMENT
& BACKWALL LAYOUTS

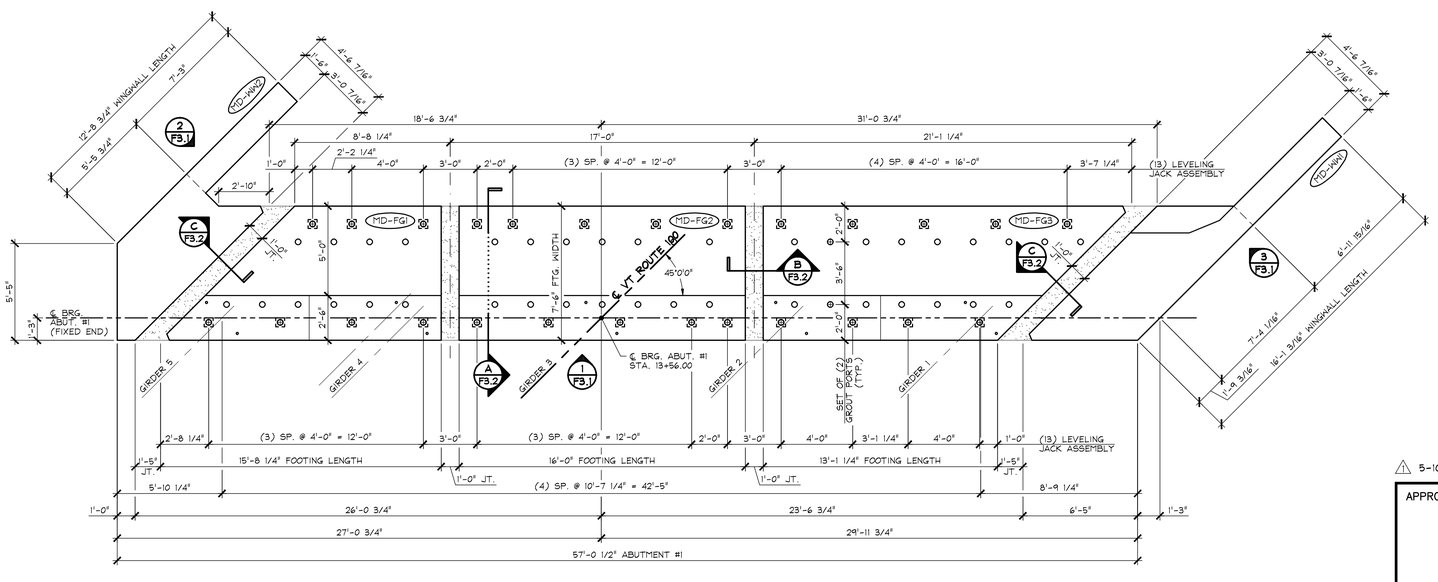
DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	F2

F:\VT-Bridges\23480-15 Waitsfield\23480-F2.dwg, 5/10/2016 10:32:28 AM



1/F3 ABUTMENT #1 - BACKWALL & WINGWALL LAYOUT

1/4" = 1'-0"



2/F3 ABUTMENT #1 - FOOTING & WINGWALL LAYOUT

1/4" = 1'-0"

FOOTING GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH FOR HANDLING SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-520, ASTM A955 M, STAINLESS STEEL (2304 DUPLEX [UNS-S32304]) (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF FOOTINGS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
5. FOOTINGS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. **THE PINS OF THE SHACKLES SHALL BE PLACED THROUGH THE LIFTING LOOPS. SEE DETAIL, SHEET 'F3.1'.** THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. FOOTINGS 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. P540.02 AND P540.05 RESPECTIVELY.
   DESIGN MIX: J.P.C. BRIDGE MIX #445MSCC
7. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI & VAOT REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
8. CURING METHOD: AS SOON AS THE TOP OF FOOTING IS FINISHED, A COVER OF POLY WILL BE PLACED OVER THE FOOTING. 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. UNITS SHALL NOT BE EXPOSED TO A TEMPERATURES LESS THAN 36°F UNTIL DESIGN STRENGTH IS ACHIEVED.
9. SHEAR KEY SURFACES SHALL BE ROUGHENED TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. FABRICATOR MAY UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.
10. DUNNAGE IS LOCATED AS NOTED ON DRAWINGS.

WING WALL GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH FOR HANDLING SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-520, ASTM A955 M, STAINLESS STEEL (2304 DUPLEX [UNS-S32304]) (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF WING WALLS SHALL RECEIVE A SMOOTH SCREED FINISH (UNLESS NOTED OTHERWISE).
5. WING WALLS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. **THE PINS OF THE SHACKLES SHALL BE PLACED THROUGH THE LIFTING LOOPS. SEE DETAIL, SHEET 'F3.1'.** THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. WING WALLS 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. P540.02 AND P540.05 RESPECTIVELY.
   DESIGN MIX: J.P.C. BRIDGE MIX #445MSCC
7. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI & VAOT REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
8. CURING METHOD: AS SOON AS THE TOP OF WING WALL IS FINISHED, A COVER OF POLY WILL BE PLACED OVER THE WING WALL. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED. UNITS SHALL NOT BE EXPOSED TO TEMPERATURE DIFFERENTIAL GREATER THAN 40°F. UNITS SHALL NOT BE EXPOSED TO A TEMPERATURES LESS THAN 36°F UNTIL DESIGN STRENGTH IS ACHIEVED.
9. DUNNAGE IS LOCATED AS NOTED ON DRAWINGS.

BACKWALL GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH FOR HANDLING SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-520, ASTM A955 M, STAINLESS STEEL (2304 DUPLEX [UNS-S32304]) (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF BACKWALL SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
5. BACKWALLS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. BACKWALLS 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. P540.02 AND P540.05 RESPECTIVELY.
   DESIGN MIX: J.P.C. BRIDGE MIX #445MSCC
7. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI & VAOT REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
8. CURING METHOD: AS SOON AS THE TOP OF BACKWALL IS FINISHED, A COVER OF POLY WILL BE PLACED OVER THE BACKWALL. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED. UNITS SHALL NOT BE EXPOSED TO TEMPERATURE DIFFERENTIAL GREATER THAN 40°F. UNITS SHALL NOT BE EXPOSED TO A TEMPERATURES LESS THAN 36°F UNTIL DESIGN STRENGTH IS ACHIEVED.
9. DUNNAGE IS LOCATED AS NOTED ON DRAWINGS.

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

ABUTMENT #1 LAYOUTS
FOOTINGS, BACKWALLS, & WINGWALLS

DATE: JAN. 12, 2016	
SCALE: NOTED	
CHKD: -	DFTM: B.L.
JOB NO: 23480-016	
DWG. NO: F3	

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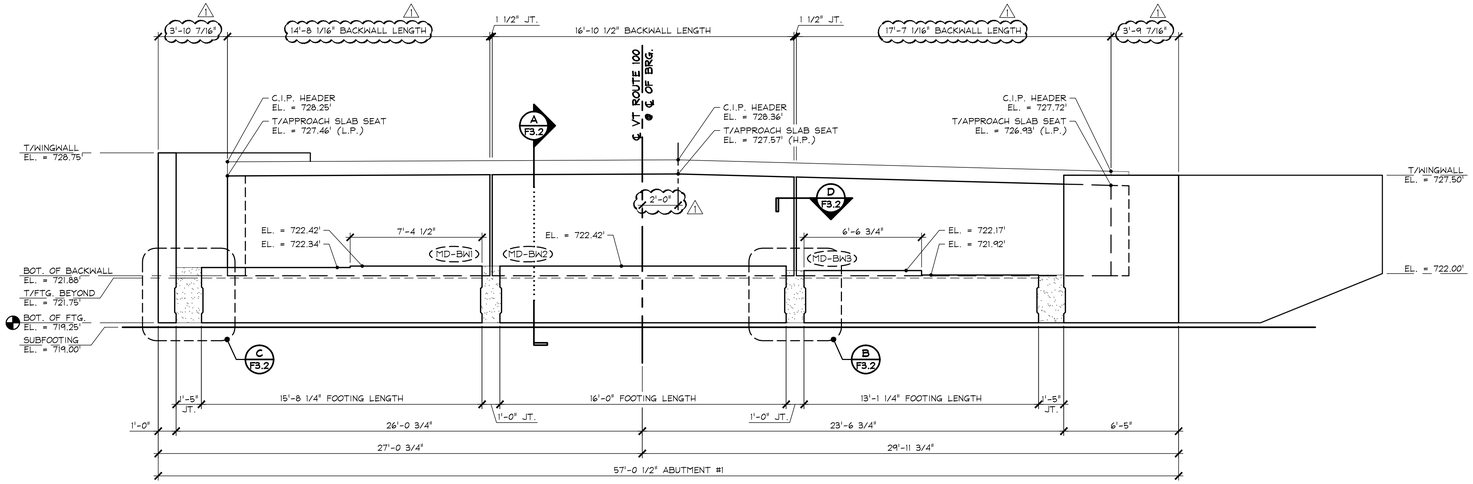
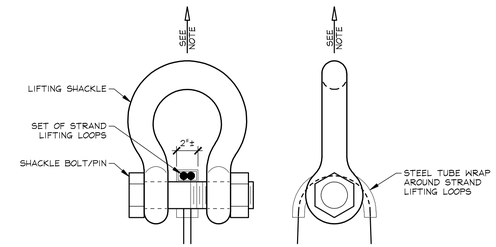


1 / F3.1 ABUTMENT #1 - FOOTING, BACKWALL, & WINGWALL ELEVATION

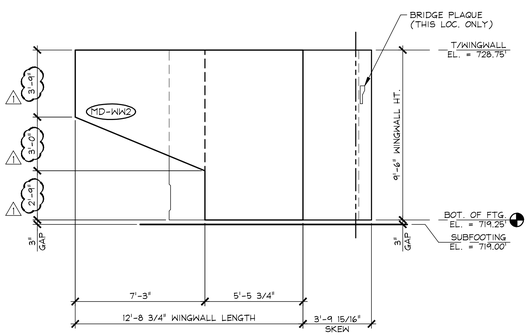
1/4" = 1'-0"



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

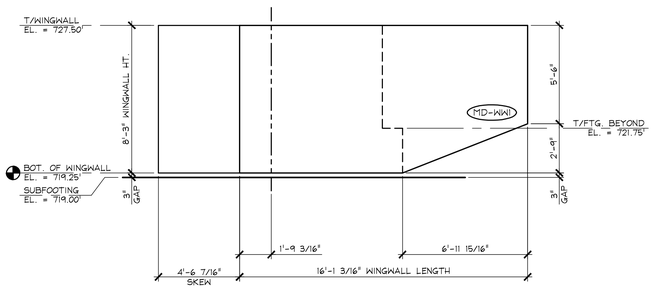
LIFTING SHACKLE DETAILS

PRECAST FOOTINGS N.T.S.



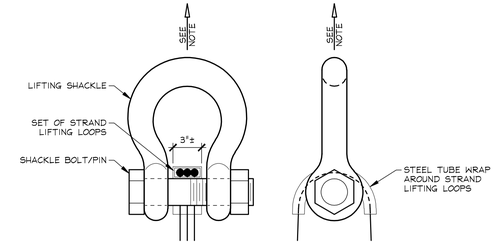
2 / F3.1 WINGWALL #2 ELEVATION

1/4" = 1'-0"



3 / F3.1 WINGWALL #1 ELEVATION

1/4" = 1'-0"



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

LIFTING SHACKLE DETAILS

PRECAST WING WALLS N.T.S.

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	A.L. ST. ONGE CONTRACTOR, INC. CONTRACTOR MONTGOMERY, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF WINDSOR	DATE: JAN. 12, 2016 SCALE: NOTED
	TOWN OF WAITSFIELD VT ROUTE 100 (MINOR ARTERIAL) BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)	CHKD: - DFTM: B.L. JOB NO: 23480-016
	ABUTMENT #1 ELEVATIONS	DWG. NO: F3.1

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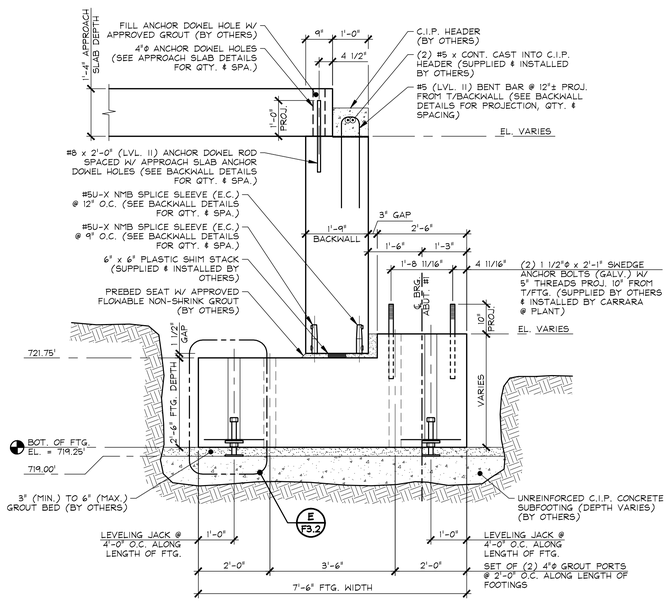
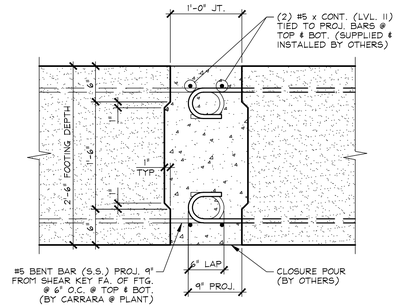


A F3.2 ABUTMENT #1 SECTION

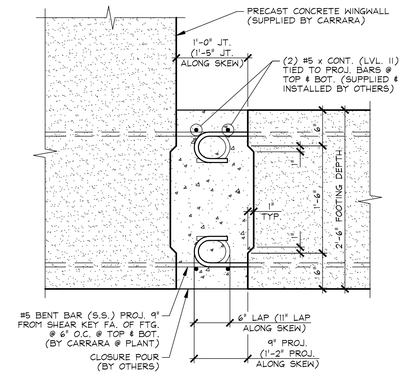
1/2" = 1'-0"

GROUT NMB SPLICE SLEEVES WITH SS MORTAR IN ACCORDANCE W/ MFR. INSTRUCTIONS



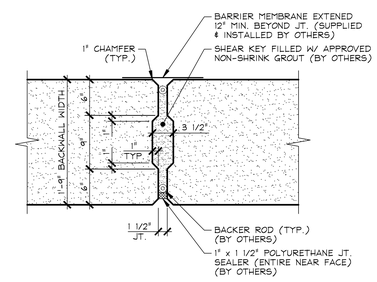
B F3.2 FOOTING CLOSURE POUR

1" = 1'-0"



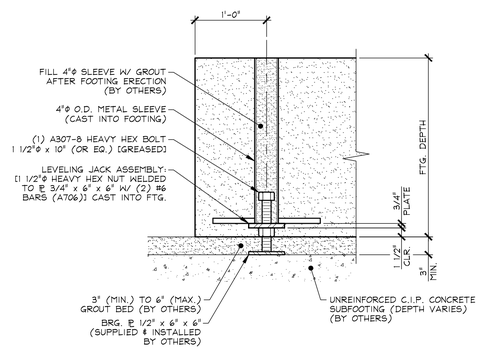
C F3.2 FOOTING CLOSURE POUR @ WINGWALL

1" = 1'-0"



D F3.2 BACKWALL VERTICAL JOINT

1" = 1'-0"



E F3.2 LEVELING JACK DETAIL

1" = 1'-0"

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

ABUTMENT #1 DETAILS

DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	F3.2

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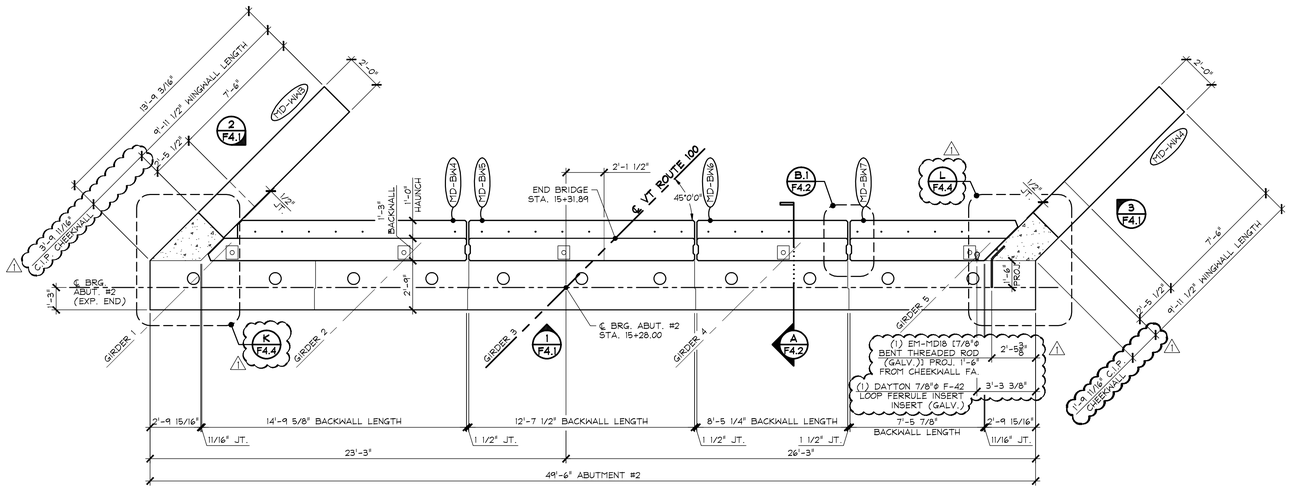
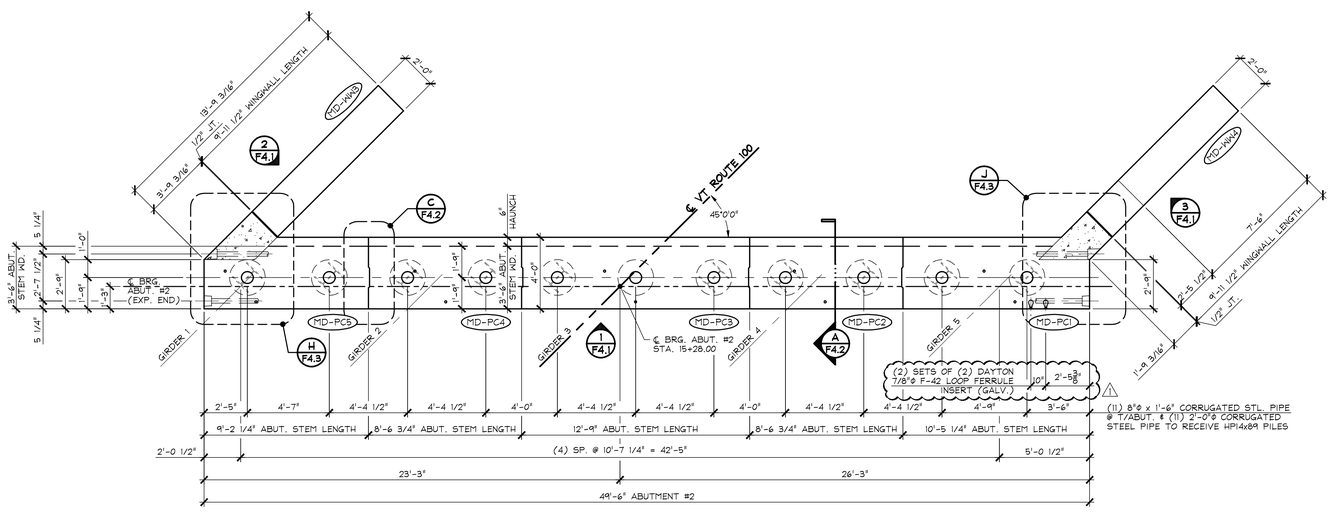


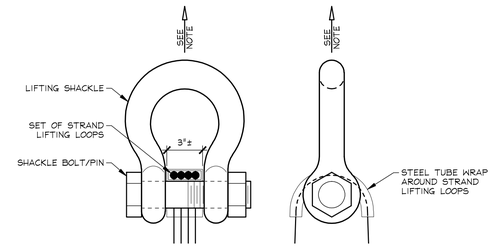
1 / F4 ABUTMENT #2 - BACKWALL & WINGWALL LAYOUT

1/4" = 1'-0"



2 / F4 ABUTMENT #2 - ABUTMENT & WINGWALL LAYOUT

1/4" = 1'-0"



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

LIFTING SHACKLE DETAILS

PRECAST ABUTMENT STEMS — N.T.S.

ABUTMENT STEM GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH FOR HANDLING SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-520, ASTM A955 M, STAINLESS STEEL (2304 DUPLEX [UNS-S32304]) (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 & INSERTS 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. P540.02 AND P540.05 RESPECTIVELY.

   DESIGN MIX: J.P.C. BRIDGE MIX #445MSCC
7. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI & VAOT REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
8. CURING METHOD: AS SOON AS THE TOP OF ABUTMENT IS 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. UNITS SHALL NOT BE EXPOSED TO A TEMPERATURES LESS THAN 36°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.
10. DUNNAGE IS LOCATED AS NOTED ON DRAWINGS.

WING WALL GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH FOR HANDLING SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-520, ASTM A955 M, STAINLESS STEEL (2304 DUPLEX [UNS-S32304]) (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF WING WALLS SHALL RECEIVE A SMOOTH SCREED FINISH (UNLESS NOTED OTHERWISE).
5. WING WALLS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. WING WALLS 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. P540.02 AND P540.05 RESPECTIVELY.

   DESIGN MIX: J.P.C. BRIDGE MIX #445MSCC
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8. CURING METHOD: AS SOON AS THE TOP OF WING WALL IS FINISHED, A COVER OF POLY WILL BE PLACED OVER THE WING WALL. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED. UNITS SHALL NOT BE EXPOSED TO TEMPERATURE DIFFERENTIAL GREATER THAN 40°F. UNITS SHALL NOT BE EXPOSED TO A TEMPERATURES LESS THAN 36°F UNTIL DESIGN STRENGTH IS ACHIEVED.
9. DUNNAGE IS LOCATED AS NOTED ON DRAWINGS.

BACKWALL GENERAL NOTES

1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH FOR HANDLING SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-520, ASTM A955 M, STAINLESS STEEL (2304 DUPLEX [UNS-S32304]) (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF BACKWALL SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
5. BACKWALLS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. BACKWALLS 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. P540.02 AND P540.05 RESPECTIVELY.

   DESIGN MIX: J.P.C. BRIDGE MIX #445MSCC
7. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI & VAOT REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
8. CURING METHOD: AS SOON AS THE TOP OF BACKWALL IS FINISHED, A COVER OF POLY WILL BE PLACED OVER THE BACKWALL. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED. UNITS SHALL NOT BE EXPOSED TO TEMPERATURE DIFFERENTIAL GREATER THAN 40°F. UNITS SHALL NOT BE EXPOSED TO A TEMPERATURES LESS THAN 36°F UNTIL DESIGN STRENGTH IS ACHIEVED.
9. DUNNAGE IS LOCATED AS NOTED ON DRAWINGS.

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

ABUTMENT #2 LAYOUTS
ABUTMENT STEMS, BACKWALLS, & WINGWALLS

DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	F4

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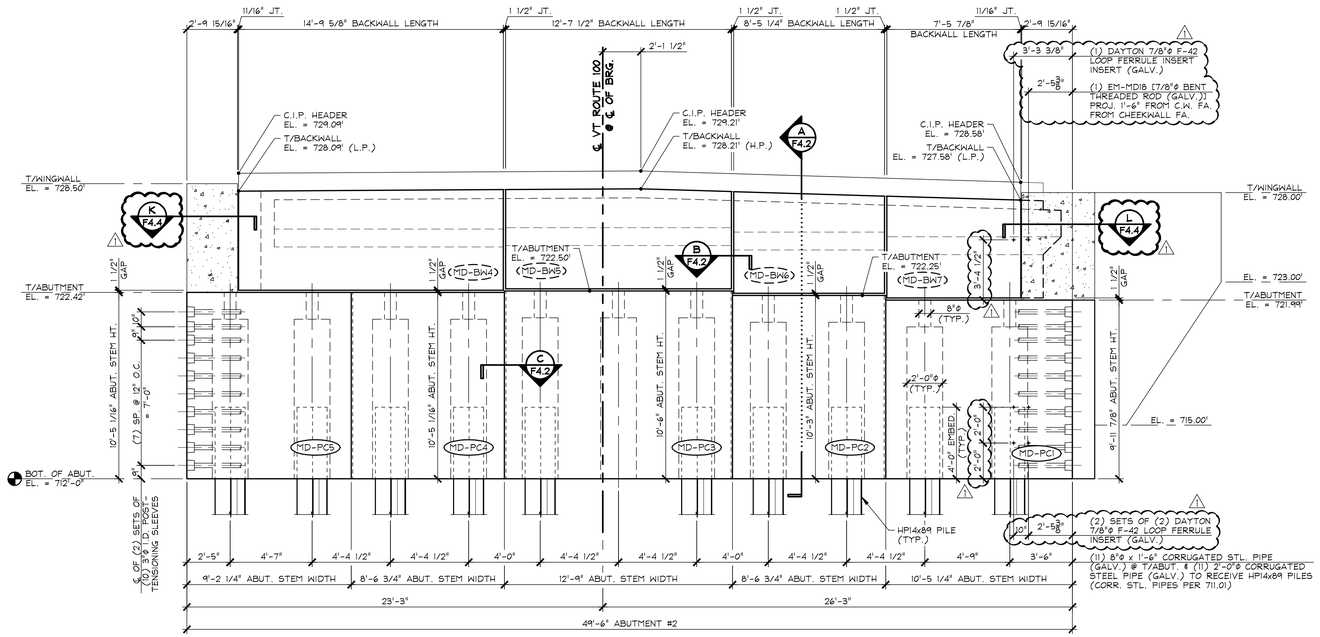
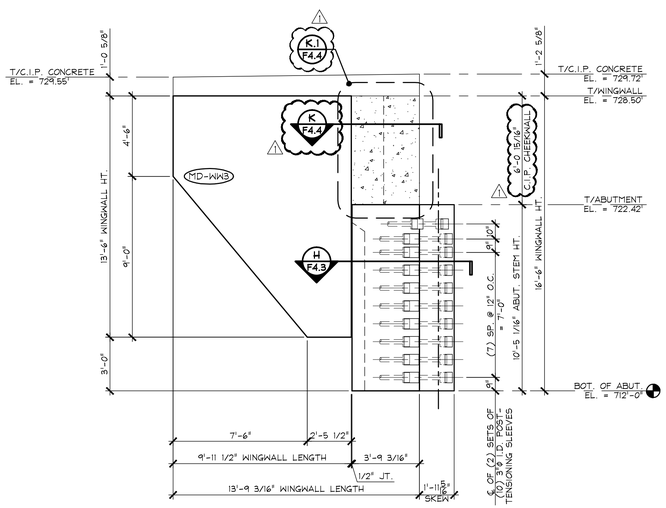


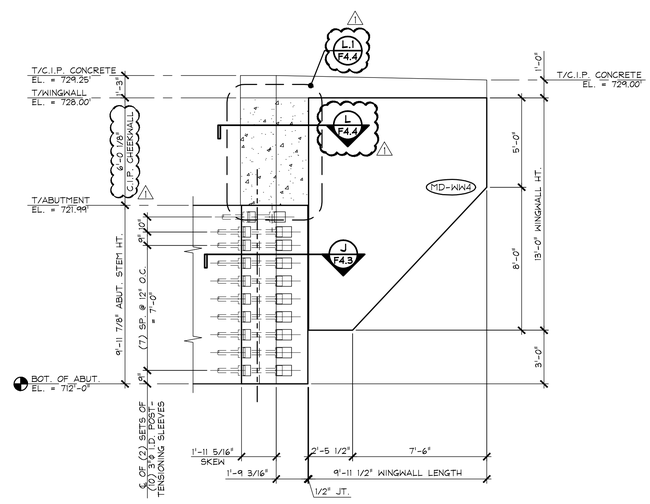
1 / F4.1 ABUTMENT #2 - ABUTMENT, BACKWALL, & WINGWALL ELEVATION

1/4" = 1'-0"



2 / F4.1 WINGWALL #3 ELEVATION

1/4" = 1'-0"



3 / F4.1 WINGWALL #4 ELEVATION

1/4" = 1'-0"

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

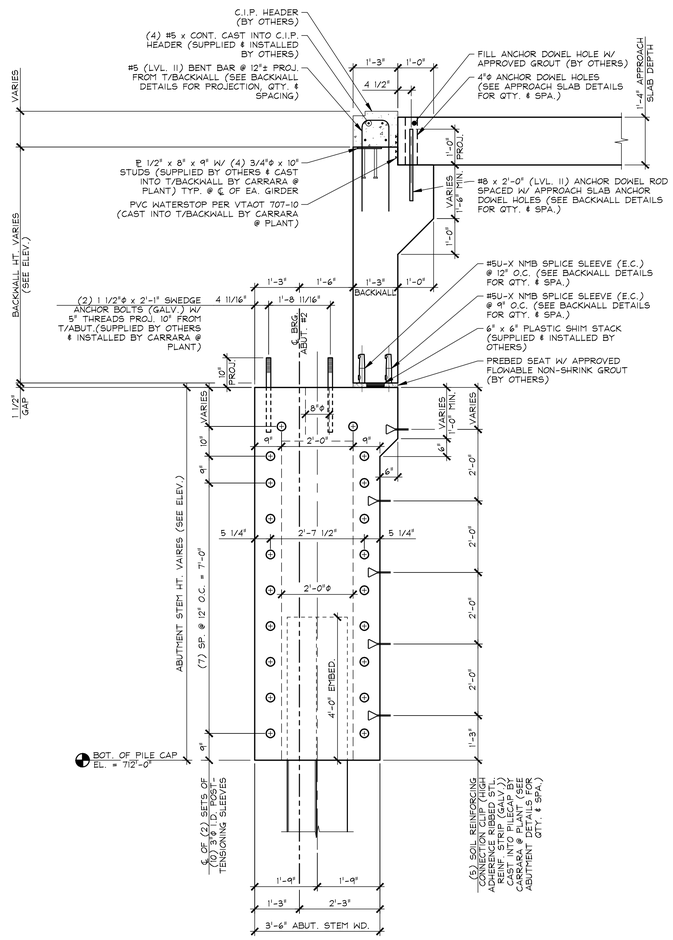
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

ABUTMENT #2 ELEVATIONS

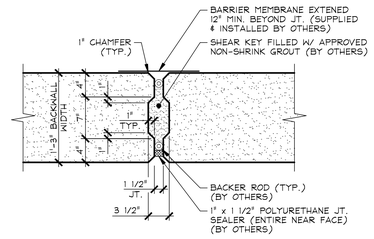
DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	F4.1

F:\VT-Bridges\23480-15 Waitsfield\23480-F4-1.dwg, 5/10/2016 10:29:37 AM

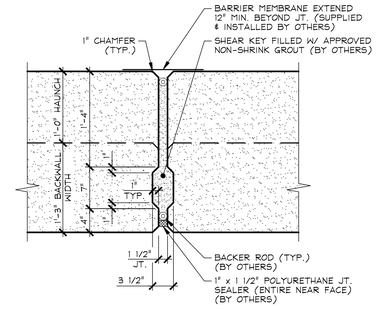


A F4.2 ABUTMENT #2 SECTION
1/2" = 1'-0"

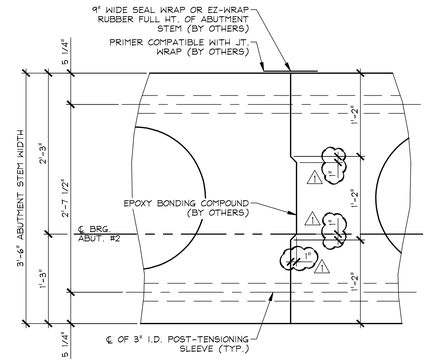
GROUT NMB SPLICE SLEEVES WITH SS MORTAR IN ACCORDANCE W/ MFR. INSTRUCTIONS



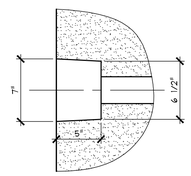
B F4.2 BACKWALL VERTICAL JOINT
1" = 1'-0"

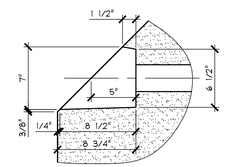


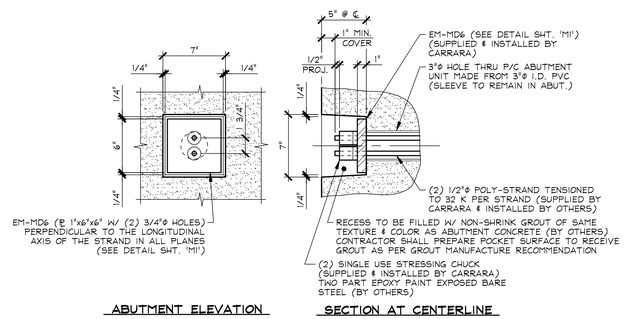
B.1 F4.2 BACKWALL VERTICAL JOINT @ HAUNCH
1" = 1'-0"



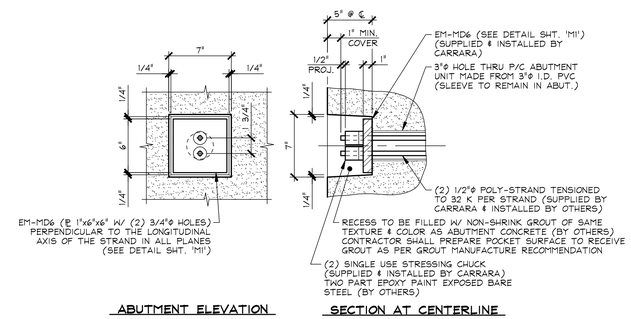
C F4.2 CONSTRUCTION JOINT SECTION @ P.T. SLEEVE
1" = 1'-0"







D F4.2 POST-TENSIONING POCKET DETAIL
1 1/2" = 1'-0"



E F4.2 POST-TENSIONING POCKET DETAIL
1 1/2" = 1'-0"

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

ABUTMENT #2 DETAILS

DATE: JAN. 12, 2016	
SCALE: NOTED	
CHKD: -	DFTM: B.L.
JOB NO: 23480-016	
DWG. NO: F4.2	

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THIS DETAIL HAS BEEN REPLACED
WITH CAST-IN-PLACE CHEEKWALL DETAILS
(SEE DETAIL "K/F4.4")

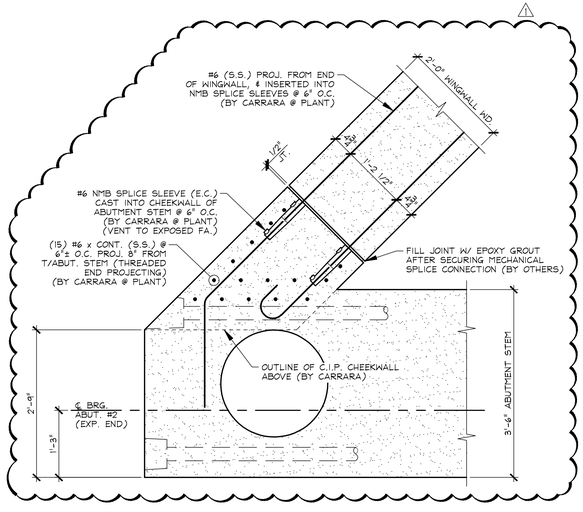
F / F4.3 WING WALL CONNECTION DETAIL

3/4" = 1'-0"

THIS DETAIL HAS BEEN REPLACED
WITH CAST-IN-PLACE CHEEKWALL DETAILS
(SEE DETAIL "L/F4.4")

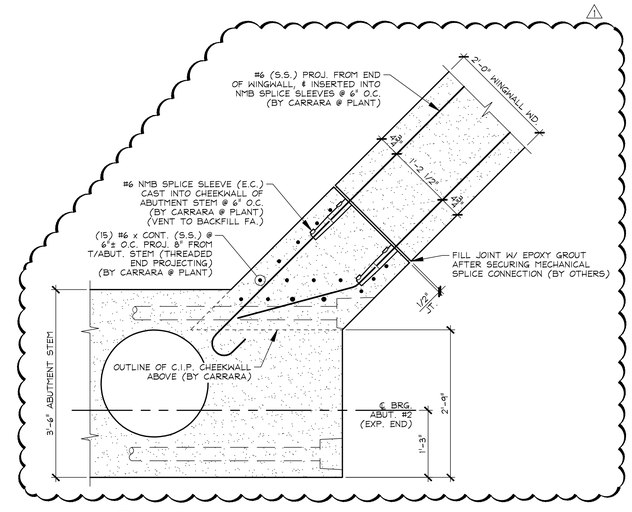
G / F4.3 WING WALL CONNECTION DETAIL

3/4" = 1'-0"



H / F4.3 WING WALL CONNECTION DETAIL

3/4" = 1'-0"



J / F4.3 WING WALL CONNECTION DETAIL

3/4" = 1'-0"

GENERAL NOTE:

ALL SPLICE SLEEVES TO BE GROUTED W/ N*MB SS MORTAR PER MANUFACTURERS INSTRUCTION, (BY OTHERS)

1 5-10-16 REVISED TO INCORPORATE C.I.P. CHEEKWALL

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	A.L. ST. ONGE CONTRACTOR, INC. CONTRACTOR MONTGOMERY, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF WINDSOR	DATE: JAN. 12, 2016 SCALE: NOTED
	TOWN OF WAITSFIELD VT ROUTE 100 (MINOR ARTERIAL) BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)	CHKD: - DFTM: B.L. JOB NO: 23480-016
	ABUTMENT #2 DETAILS	DWG. NO: F4.3

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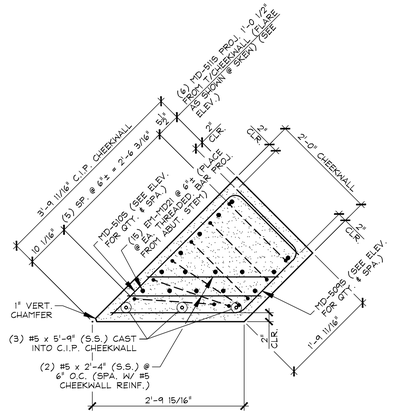
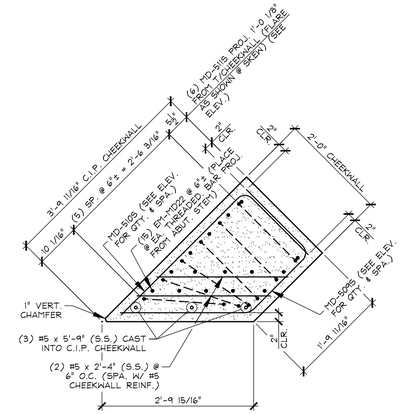


K.2 / F4.4 T/CHEEKWALL REINFORCING PLAN

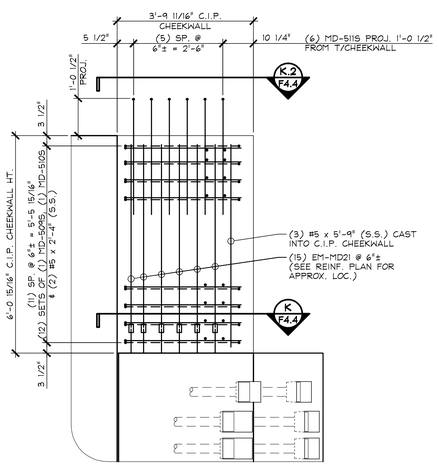
3/4" = 1'-0"



L.2 / F4.4 T/CHEEKWALL REINFORCING PLAN

3/4" = 1'-0"

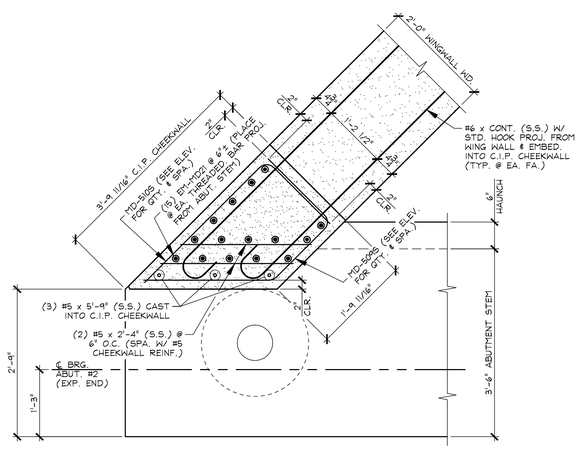
SEE ELEVATION "1/F4.1" FOR LOCATION OF EM-MD18 [7/8"ø BENT THREADED ROD (GALV.)] PROJECTING FROM FACE OF C.I.P. CHEEKWALL



K.1 / F4.4 C.I.P. CHEEKWALL REINFORCING ELEVATION

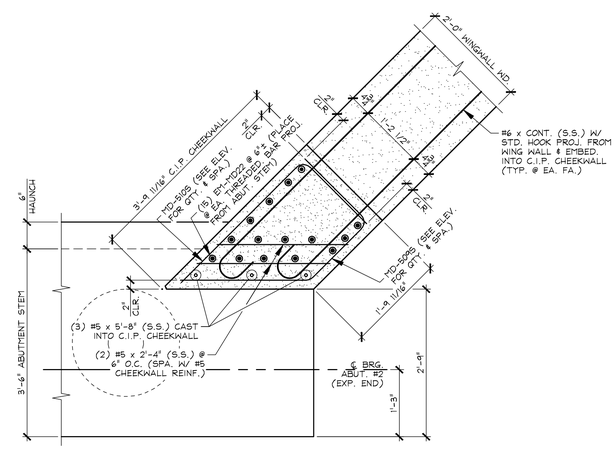
3/4" = 1'-0"

PROJECTING WING WALL REINFORCING NOT SHOWN FOR CLARITY



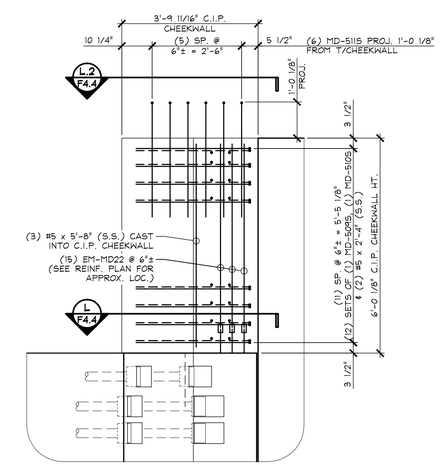
K / F4.4 C.I.P. CHEEKWALL REINFORCING PLAN

3/4" = 1'-0"



L / F4.4 C.I.P. CHEEKWALL REINFORCING PLAN

3/4" = 1'-0"



L.1 / F4.4 C.I.P. CHEEKWALL REINFORCING ELEVATION

3/4" = 1'-0"

PROJECTING WING WALL REINFORCING NOT SHOWN FOR CLARITY

⚠1 5-10-16 REVISED TO INCORPORATE C.I.P. CHEEKWALL

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

ABUTMENT #2
CAST-IN-PLACE CHEEKWALL DETAILS

DWG. NO: F4.4

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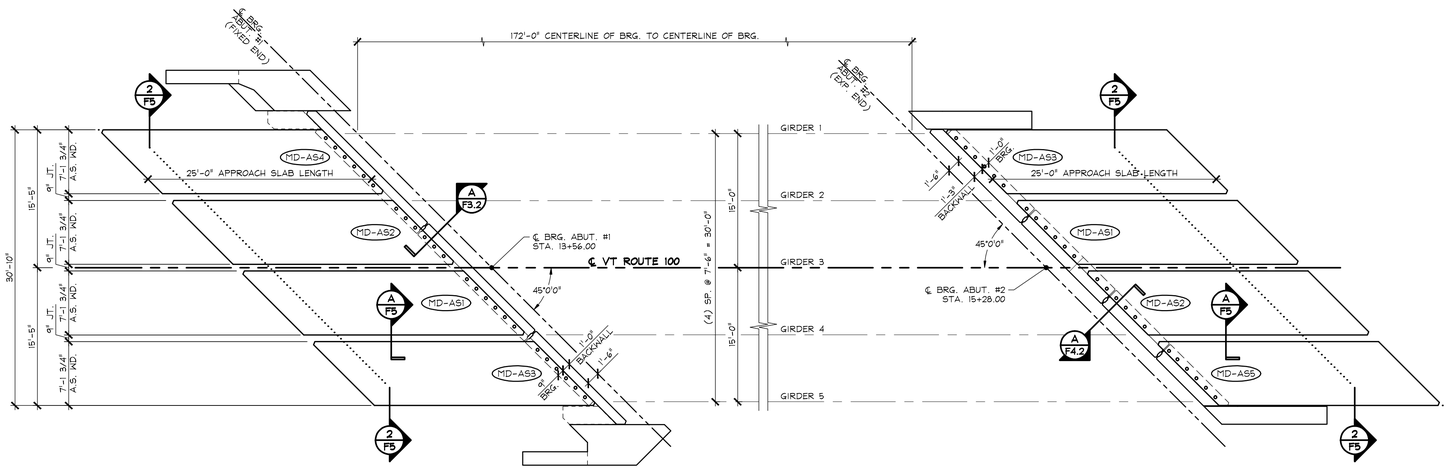
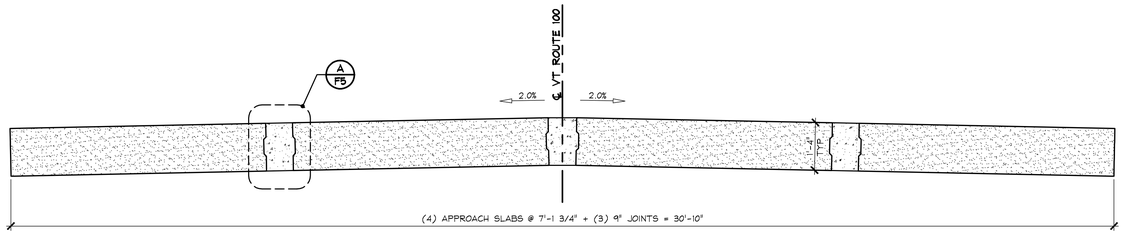
APPROACH SLAB GENERAL NOTES

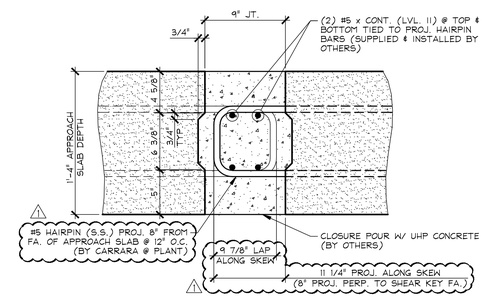
1. MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
2. MIN. CONCRETE STRENGTH FOR HANDLING SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
3. REINFORCING STEEL SHALL BE GR-520, ASTM A955 M, STAINLESS STEEL (2304 DUPLEX [UNS-S32304]) (AS NOTED ON SHOP DRAWINGS).
4. THE TOP OF APPROACH SLABS SHALL RECEIVE 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. P540.02 AND P540.05 RESPECTIVELY.
   DESIGN MIX: J.P.C. BRIDGE MIX #445MSCC
7. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI & VAOT REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
8. CURING METHOD: AS SOON AS THE TOP OF APPROACH SLAB IS 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. UNITS SHALL NOT BE EXPOSED TO A TEMPERATURES LESS THAN 36°F UNTIL DESIGN STRENGTH IS ACHIEVED.
9. SHEAR KEY SURFACES SHALL BE ROUGHENED TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. FABRICATOR MAY UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.
10. DUNNAGE IS LOCATED AS NOTED ON DRAWINGS (THIS SHEET).



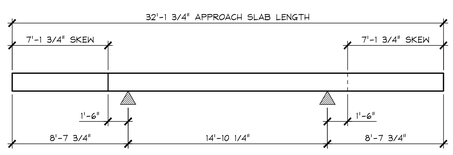
1 F5 PRECAST APPROACH SLAB LAYOUT
1/8" = 1'-0"



2 F5 APPROACH SLAB TRANSVERSE SECTION
1/2" = 1'-0"



A F5 SHEAR KEY SECTION @ APPROACH SLABS
1 1/2" = 1'-0"



TYP. STORAGE & SHIPPING DUNNAGE LOCATIONS
N.T.S.

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST APPROACH SLAB LAYOUT & DETAILS

DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	F5

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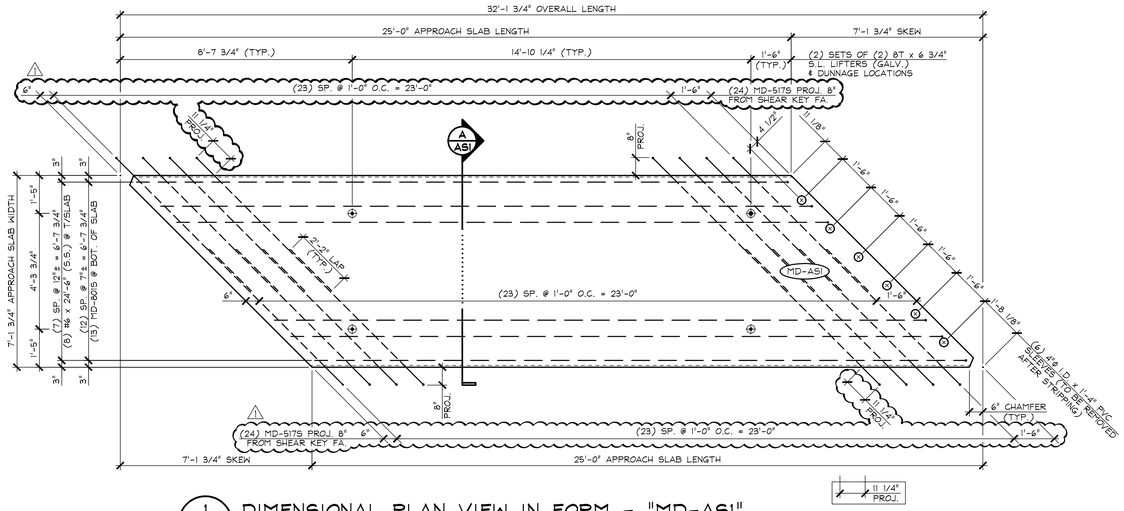
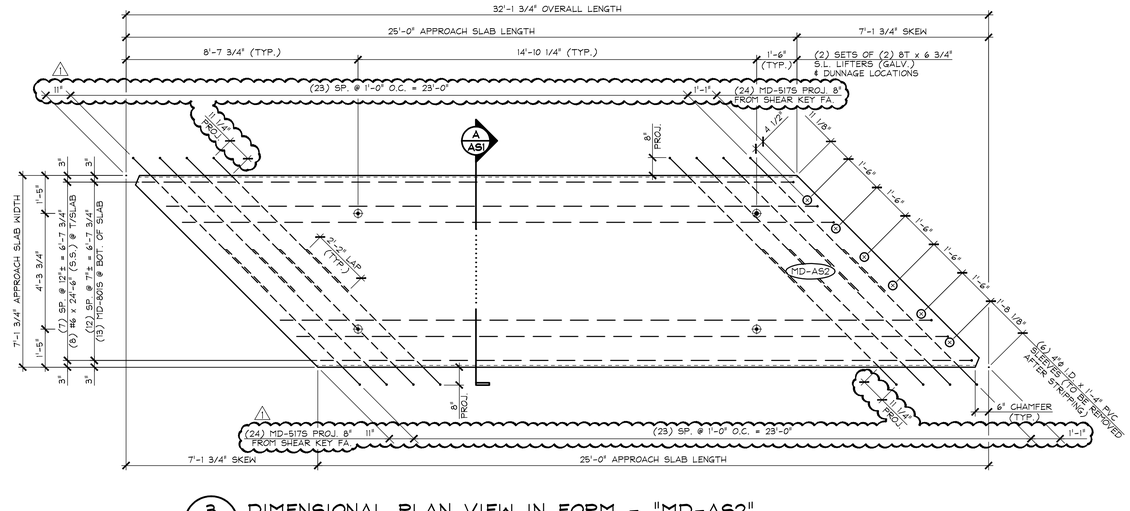


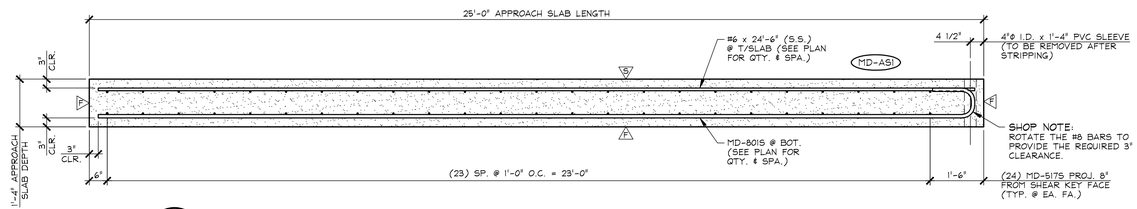
1 / AS1 DIMENSIONAL PLAN VIEW IN FORM - "MD-AS1"

3/8" = 1'-0"



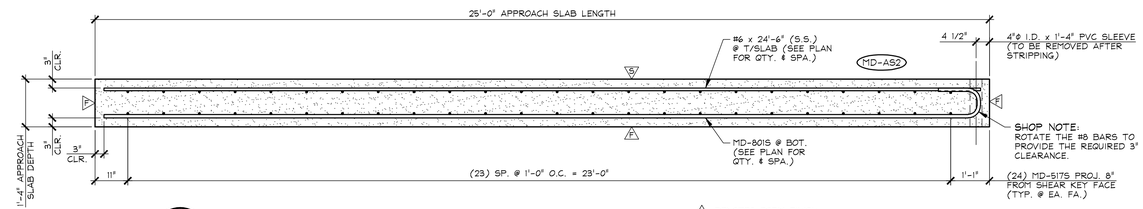
3 / AS1 DIMENSIONAL PLAN VIEW IN FORM - "MD-AS2"

3/8" = 1'-0"



2 / AS1 LONGITUDINAL SECTION - "MD-AS1"

1/2" = 1'-0"



4 / AS1 LONGITUDINAL SECTION - "MD-AS2"

1/2" = 1'-0"

F DENOTES FORM FINISH

S DENOTES SMOOTH SCREED FINISH

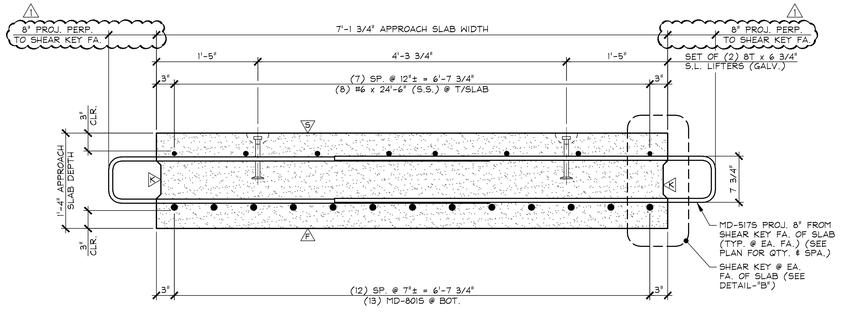
R DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK:	MD-AS1	QTY.:	2	WT.:	17.75 T	VOL.:	8.77 cy
MARK:	MD-AS2	QTY.:	2	WT.:	17.75 T	VOL.:	8.77 cy

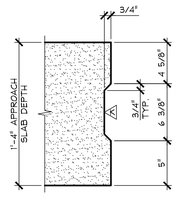
MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY./SLAB AS1	QTY./SLAB AS2
1	MD-517S	#5 BENT BAR (STAINLESS STEEL)	48	48
2				
3		#6 x 24'-6" (STAINLESS STEEL)	8	8
4				
5	MD-801S	#8 BENT BAR (STAINLESS STEEL)	13	13
6				
7				
8		4"Ø I.D. x 1'-4" PVC SLEEVE	6	6
9		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4	4
10				



A / AS1 TRANSVERSE SECTION

1" = 1'-0"



DETAIL - "B"

1 1/2" = 1'-0"

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

PRECAST APPROACH SLAB DETAILS

DWG. NO: AS1

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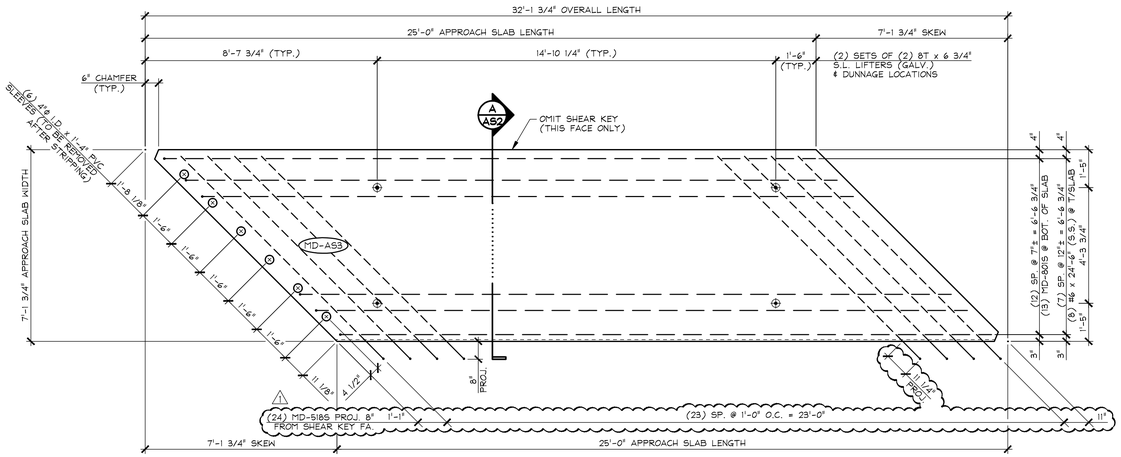
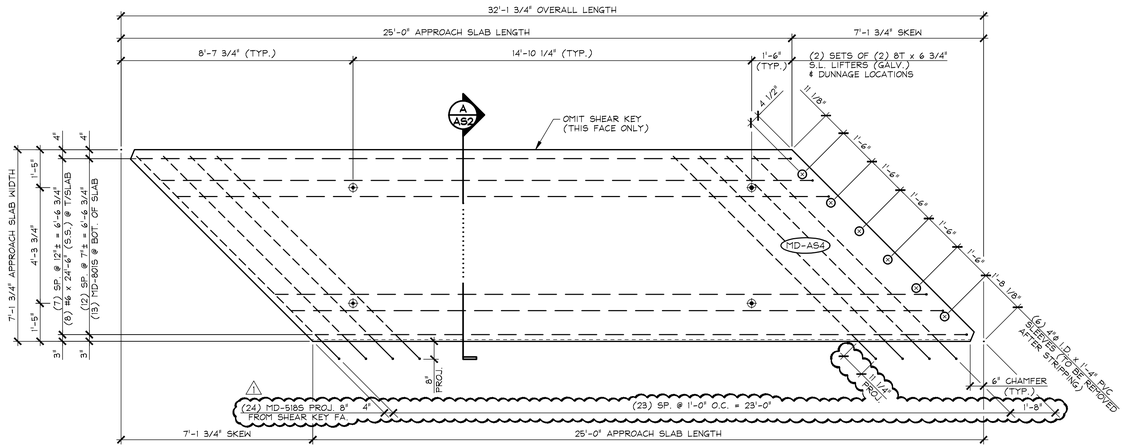


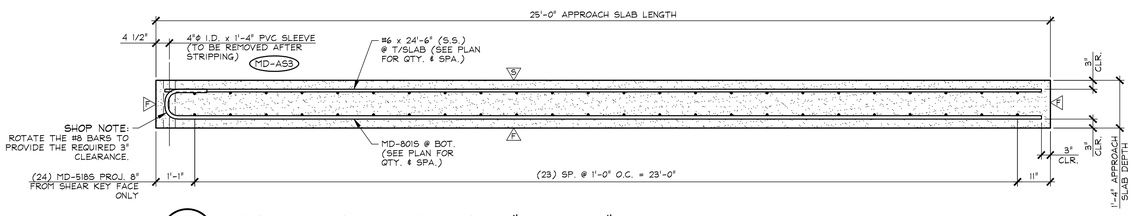
1 AS2 DIMENSIONAL PLAN VIEW IN FORM - "MD-AS3"

3/8" = 1'-0"



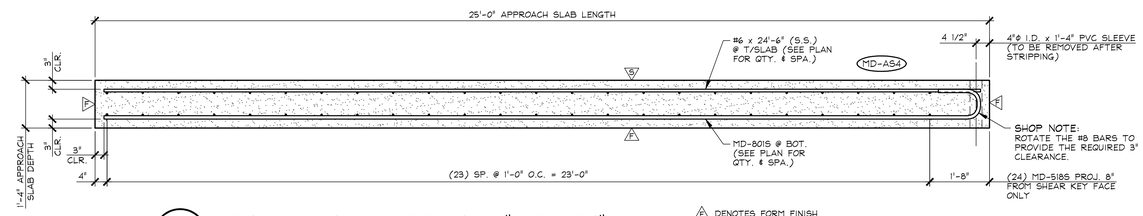
3 AS2 DIMENSIONAL PLAN VIEW IN FORM - "MD-AS4"

3/8" = 1'-0"



2 AS2 LONGITUDINAL SECTION - "MD-AS3"

1/2" = 1'-0"



4 AS2 LONGITUDINAL SECTION - "MD-AS4"

1/2" = 1'-0"

F DENOTES FORM FINISH

S DENOTES SMOOTH SCREED FINISH

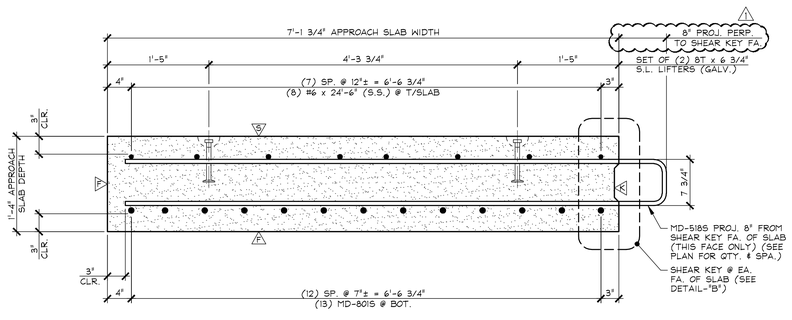
R DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK:	MD-AS3	QTY.:	2	WT.:	17.81 T	VOL.:	8.79 cy
MARK:	MD-AS4	QTY.:	1	WT.:	17.81 T	VOL.:	8.79 cy

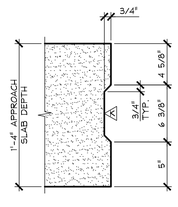
MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY./SLAB AS3	QTY./SLAB AS4
1	MD-518S	#5 BENT BAR (STAINLESS STEEL)	24	24
2				
3		#6 x 24'-6" (STAINLESS STEEL)	8	8
4				
5	MD-80IS	#8 BENT BAR (STAINLESS STEEL)	13	13
6				
7				
8		4"ø I.D. x 1'-4" PVC SLEEVE	6	6
9		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4	4
10				



A AS2 TRANSVERSE SECTION

1" = 1'-0"



DETAIL - "B"

1 1/2" = 1'-0"

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

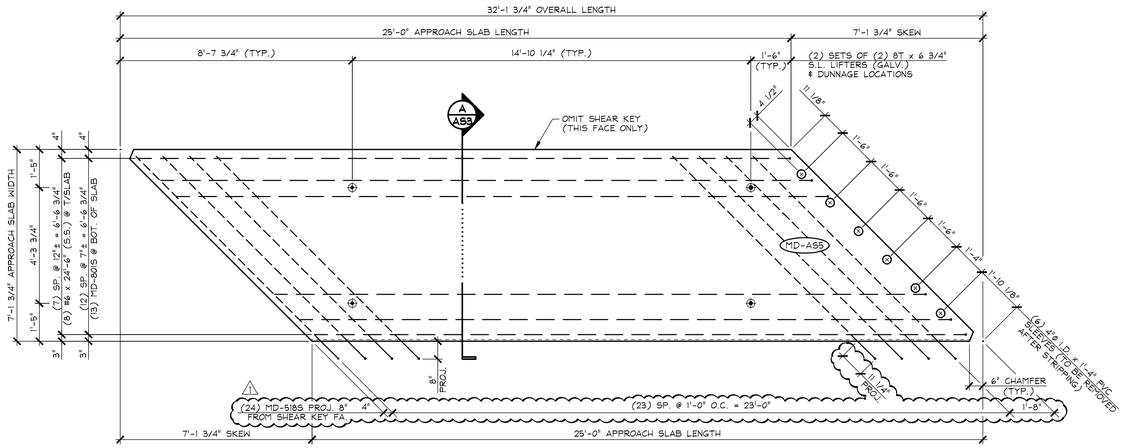
TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

PRECAST APPROACH SLAB DETAILS

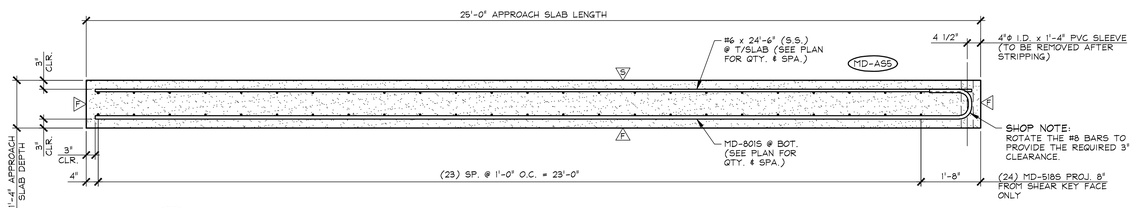
DWG. NO: AS2

F:\VT-Bridges\23480-15 Waitsfield\23480-AS2.dwg, 5/10/2016 10:19:25 AM



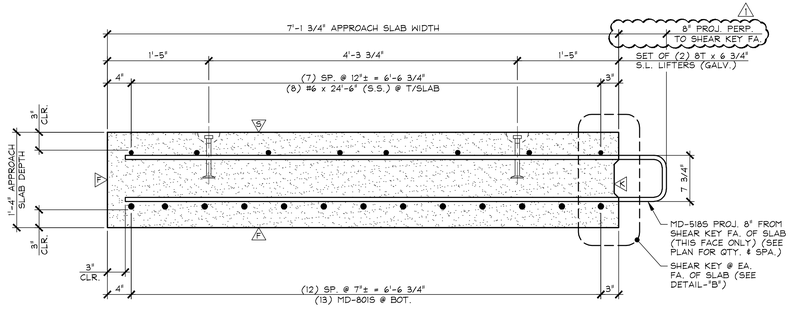
1 / AS3 DIMENSIONAL PLAN VIEW IN FORM - "MD-AS5"

3/8" = 1'-0"



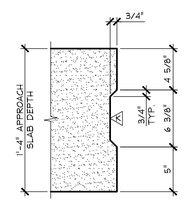
2 / AS3 LONGITUDINAL SECTION - "MD-AS5"

1/2" = 1'-0"



A / AS3 TRANSVERSE SECTION

1" = 1'-0"



DETAIL - "B"

1 1/2" = 1'-0"

F DENOTES FORM FINISH

S DENOTES SMOOTH SCREED FINISH

R DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-AS5	QTY.: 1	WT.: 17.81 T	VOL.: 8.79 cy
MARK:	QTY.:	WT.:	VOL.:

MATERIAL LIST / APPROACH SLAB

ITEM	MARK	DESCRIPTION	QTY./SLAB AS5	
1	MD-5185	#5 BENT BAR (STAINLESS STEEL)	24	
2				
3		#6 x 24'-6" (STAINLESS STEEL)	8	
4				
5	MD-8015	#8 BENT BAR (STAINLESS STEEL)	13	
6				
7				
8		4"φ I.D. x 1'-4" PVC SLEEVE	6	
9		8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	4	
10				

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

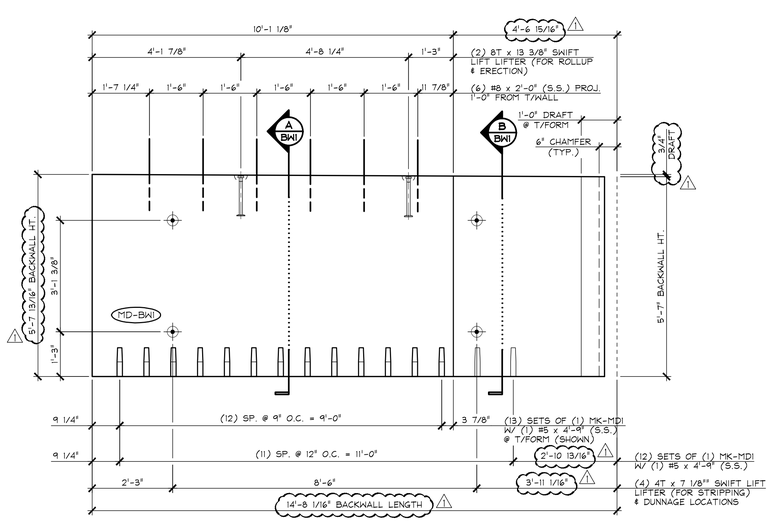
TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

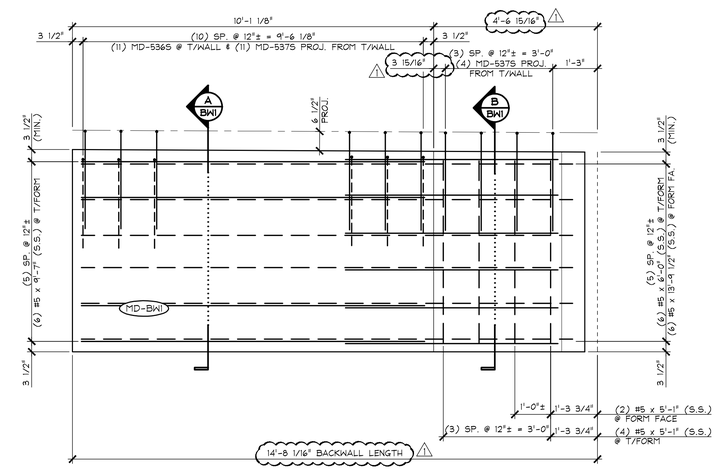
PRECAST APPROACH SLAB DETAILS

DWG. NO: AS3

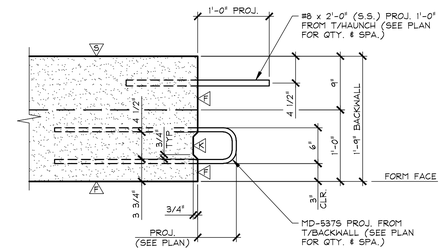
F:\VT-Bridges\23480-15 Waitsfield\23480-AS3.dwg, 5/10/2016 10:18:53 AM



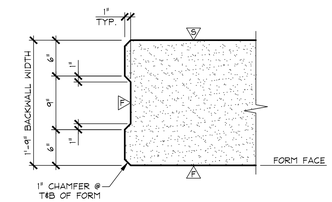
1 BW1 DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"



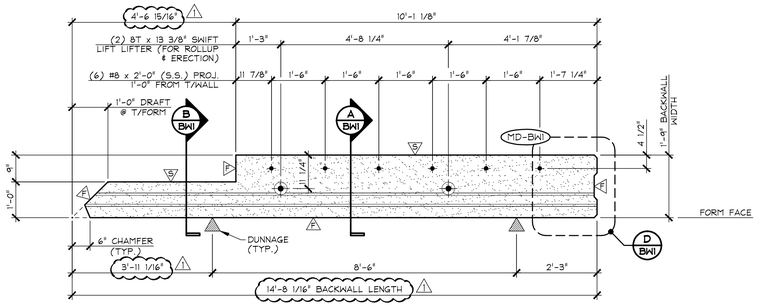
4 BW1 REINFORCING PLAN VIEW IN FORM
1/2" = 1'-0"



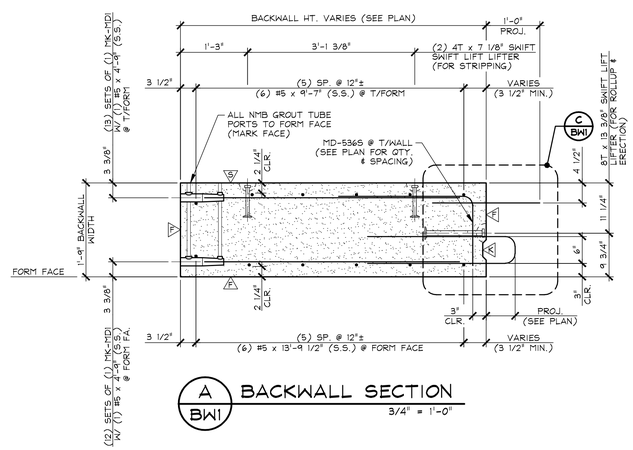
C BW1 TOP OF BACKWALL DETAIL
1" = 1'-0"



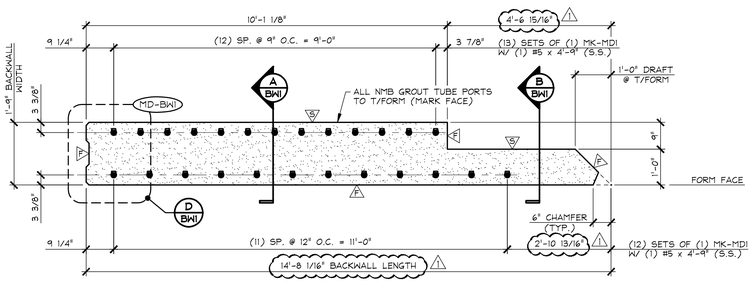
D BW1 VERTICAL SHEAR KEY DETAIL
1" = 1'-0"



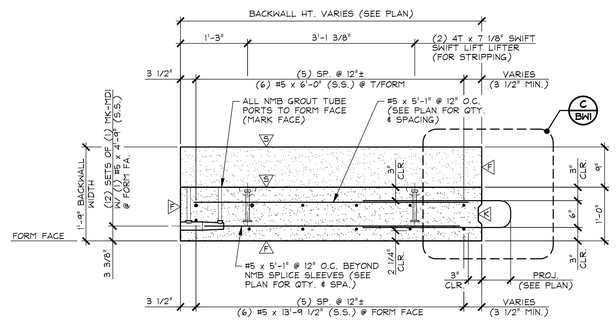
2 BW1 TOP OF BACKWALL ELEVATION
1/2" = 1'-0"



A BW1 BACKWALL SECTION
3/4" = 1'-0"



3 BW1 BOTTOM OF BACKWALL ELEVATION
1/2" = 1'-0"



B BW1 BACKWALL SECTION
3/4" = 1'-0"

F DENOTES FORM FINISH

S DENOTES SMOOTH SCREED FINISH

R DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-BW1	QTY.: 1	WT.: 9.13 T	VOL.: 4.51 cy

MATERIAL LIST / BACKWALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5365	#5 BENT BAR (STAINLESS STEEL)	11
2	MD-5375	#5 BENT BAR (STAINLESS STEEL)	15
3		#5 x 4'-9" (STAINLESS STEEL)	25
4		#5 x 5'-1" (STAINLESS STEEL)	6
5		#5 x 6'-0" (STAINLESS STEEL)	6
6		#5 x 9'-7" (STAINLESS STEEL)	6
7		#5 x 13'-9 1/2" (STAINLESS STEEL)	6
8			
9		#8 x 2'-0" (STAINLESS STEEL)	6
10			
11			
12	MK-MD1	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	25
13			
14			
15			
16			
17		4T x 7 1/8" SWIFT LIFT LIFTER (GALV.)	4
18		8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	2
19			
20			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

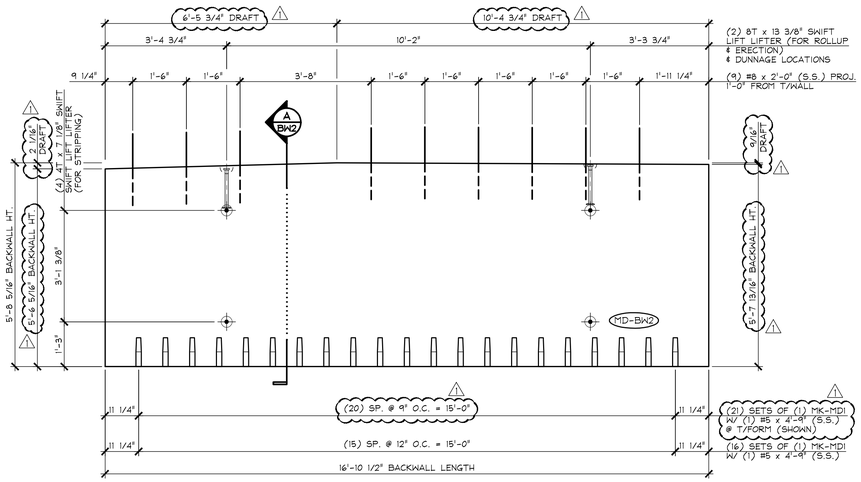
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

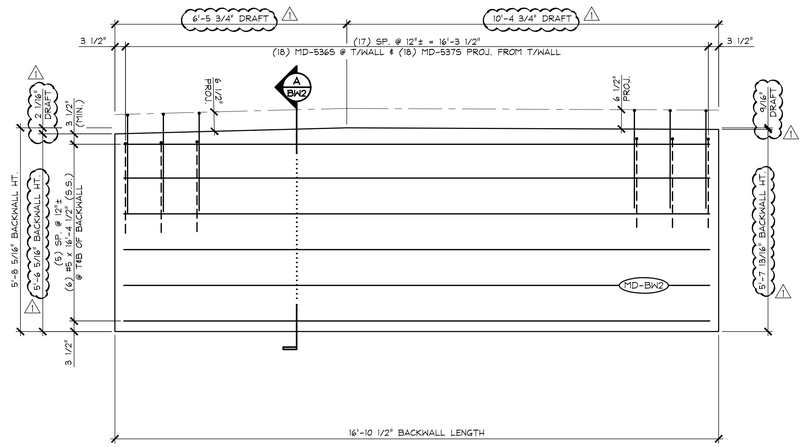
PRECAST BACKWALL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: BW1

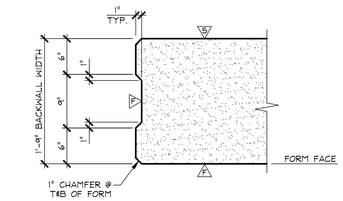
F:\VT-Bridges\23480-15 Waitsfield\23480-BW1.dwg, 5/10/2016 2:25:56 PM



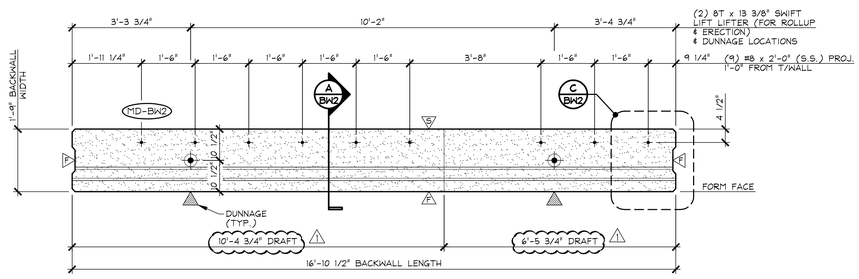
1 BW2 DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"



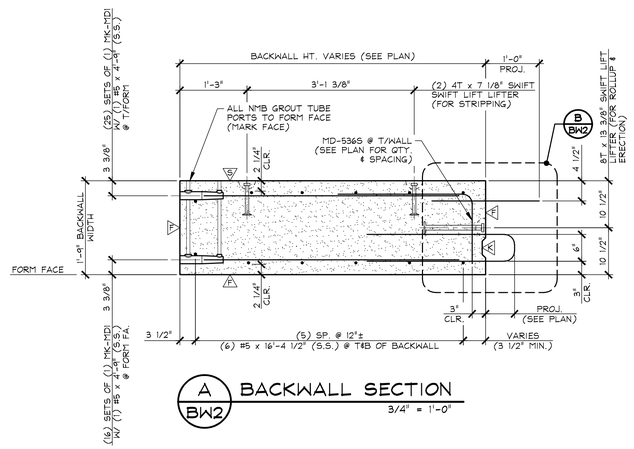
4 BW2 REINFORCING PLAN VIEW IN FORM
1/2" = 1'-0"



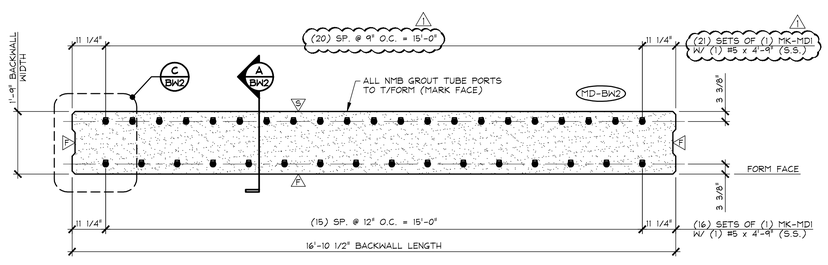
C BW2 VERTICAL SHEAR KEY DETAIL
1" = 1'-0"



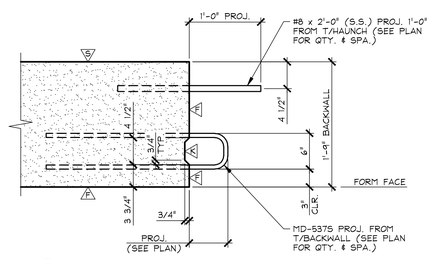
2 BW2 TOP OF BACKWALL ELEVATION
1/2" = 1'-0"



A BW2 BACKWALL SECTION
3/4" = 1'-0"



3 BW2 BOTTOM OF BACKWALL ELEVATION
1/2" = 1'-0"



B BW2 TOP OF BACKWALL DETAIL
1" = 1'-0"

A DENOTES FORM FINISH

B DENOTES SMOOTH SCREED FINISH

C DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-BW2	QTY.: 1	WT.: 12.48 T	VOL.: 6.16 cy

MATERIAL LIST / BACKWALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-536S	#5 BENT BAR (STAINLESS STEEL)	18
2	MD-537S	#5 BENT BAR (STAINLESS STEEL)	18
3		#5 x 4'-9" (STAINLESS STEEL)	37
4		#5 x 16'-4 1/2" (STAINLESS STEEL)	12
5			
6		#8 x 2'-0" (STAINLESS STEEL)	9
7			
8			
9			
10			
11	MK-MD1	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	37
12			
13			
14			
15			
16			
17		4T x 7 1/8" SWIFT LIFT LIFTER (GALV.)	4
18		8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	2
19			
20			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST BACKWALL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: BW2

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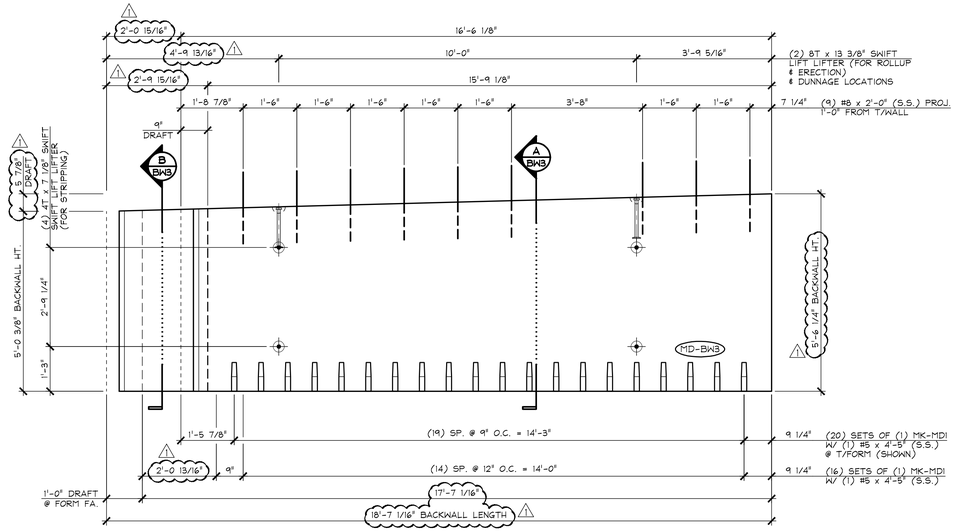
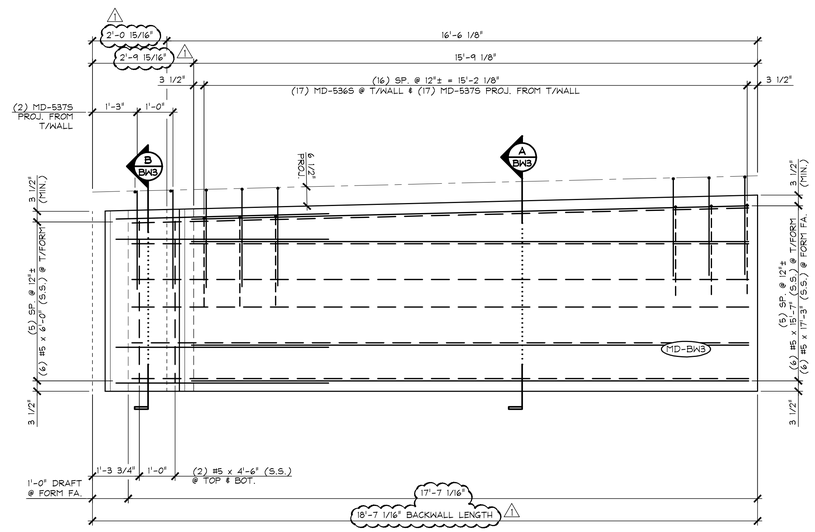


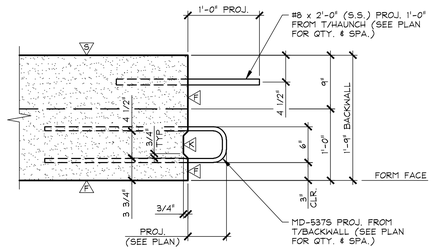
1 BW3 DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



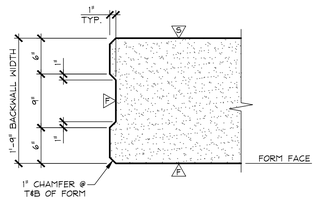
4 BW3 REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



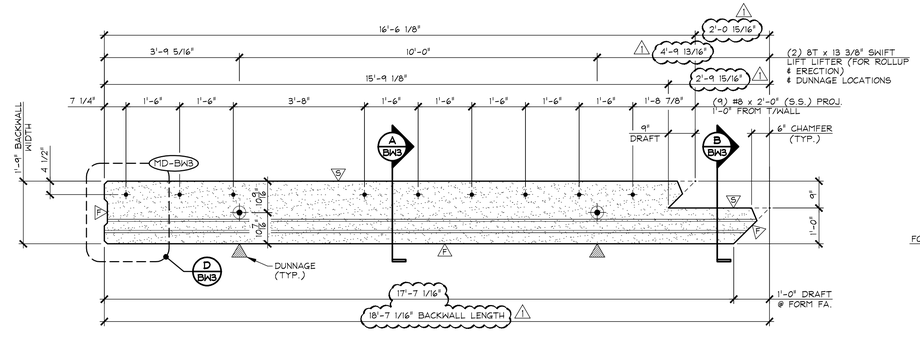
C BW3 TOP OF BACKWALL DETAIL

1" = 1'-0"



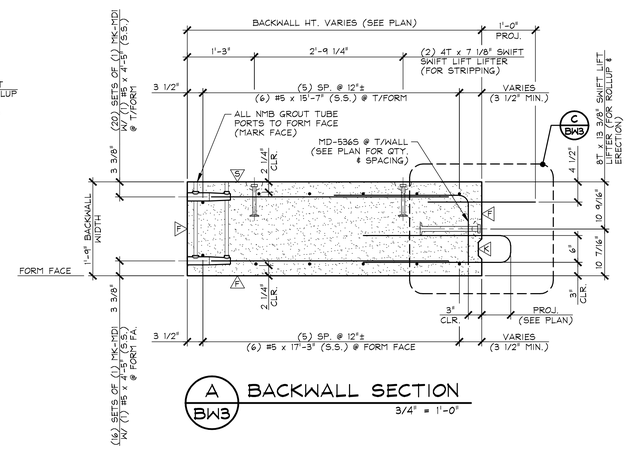
D BW3 VERTICAL SHEAR KEY DETAIL

1" = 1'-0"



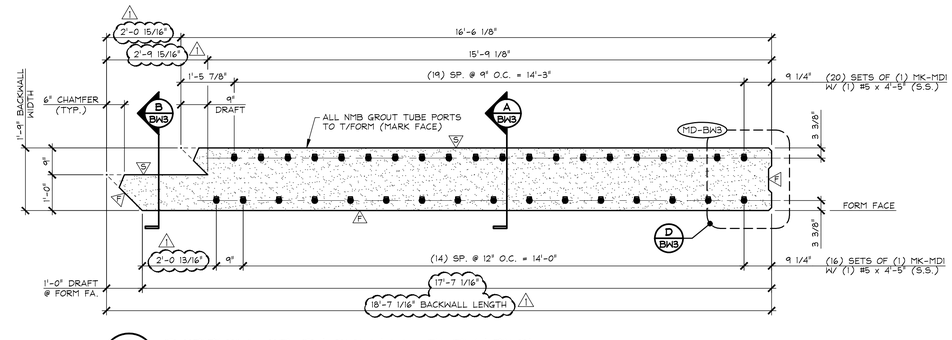
2 BW3 TOP OF BACKWALL ELEVATION

1/2" = 1'-0"



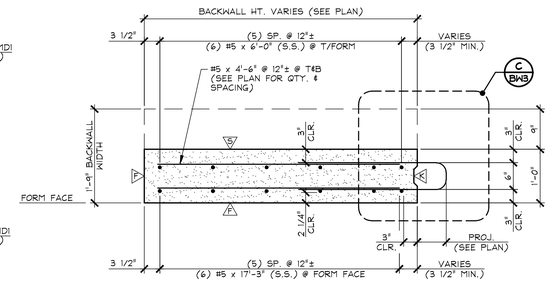
A BW3 BACKWALL SECTION

3/4" = 1'-0"



3 BW3 BOTTOM OF BACKWALL ELEVATION

1/2" = 1'-0"



B BW3 BACKWALL SECTION

3/4" = 1'-0"

Ⓕ DENOTES FORM FINISH

Ⓢ DENOTES SMOOTH SCREED FINISH

Ⓡ DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-BW3	QTY.: 1	WT.: 11.88 T	VOL.: 5.87 cy

MATERIAL LIST / BACKWALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-536S	#5 BENT BAR (STAINLESS STEEL)	17
2	MD-537S	#5 BENT BAR (STAINLESS STEEL)	19
3		#5 x 4'-5" (STAINLESS STEEL)	36
4		#5 x 4'-6" (STAINLESS STEEL)	4
5		#5 x 6'-0" (STAINLESS STEEL)	6
6		#5 x 15'-7" (STAINLESS STEEL)	6
7		#5 x 17'-3" (STAINLESS STEEL)	6
8			
9		#8 x 2'-0" (STAINLESS STEEL)	9
10			
11			
12	MK-MDI	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	36
13			
14			
15			
16			
17		4T x 7 1/8" SWIFT LIFT LIFTER (GALV.)	4
18		8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	2
19			
20			

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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Precast & Prestress Manufacturer
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CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST BACKWALL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: BW3

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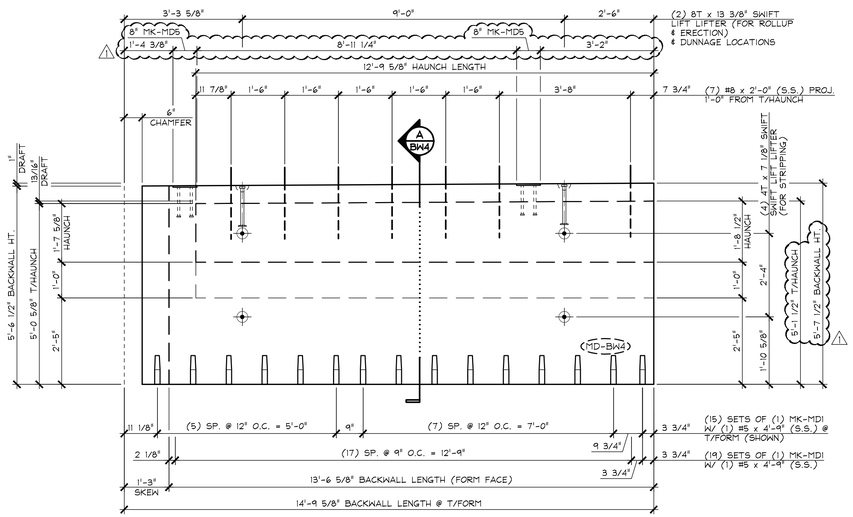
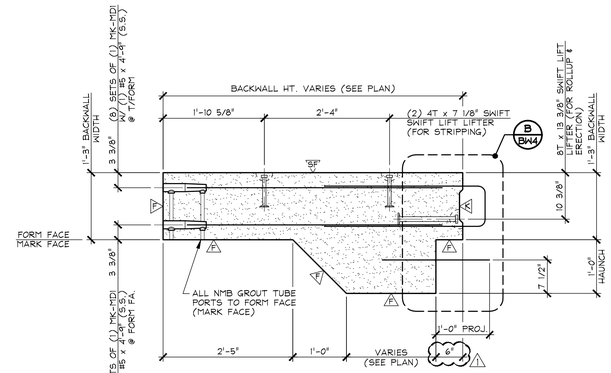


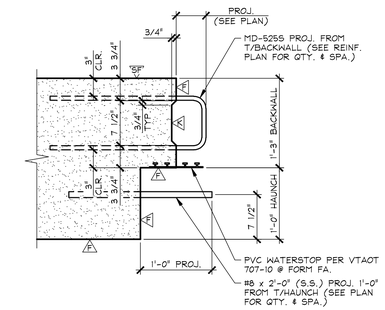
1 BW4 DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



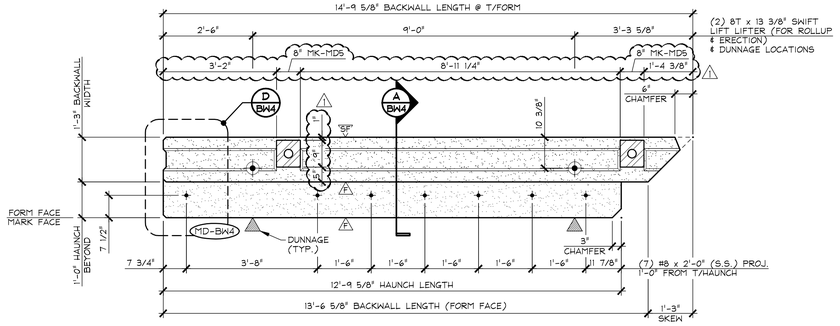
A BW4 DIMENSIONAL SECTION

3/4" = 1'-0"



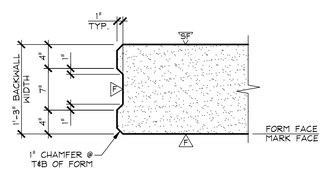
B BW4 TOP OF BACKWALL DETAIL

1" = 1'-0"



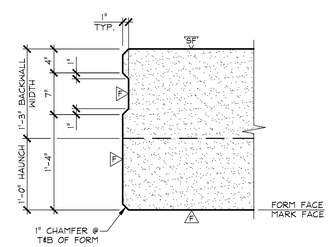
2 BW4 TOP OF BACKWALL ELEVATION

1/2" = 1'-0"



C BW4 VERTICAL SHEAR KEY DETAIL

1" = 1'-0"



D BW4 VERTICAL SHEAR KEY DETAIL AT HAUNCH

1" = 1'-0"

A DENOTES FORM FINISH

SF DENOTES SMOOTH FLOAT FINISH

A DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

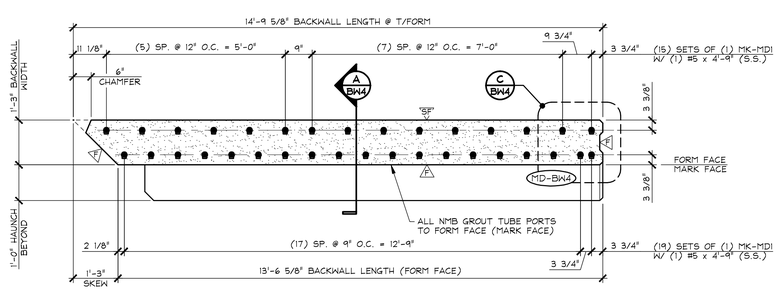
SHOP NOTE:
SEE DRAWING NO. "BW4.1" BACKWALL REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #4485M5CC

MARK: MD-BW4	QTY.: 1	WT.: 9.47 T	VOL.: 4.68 cy

MATERIAL LIST / BACKWALL

ITEM	MARK	DESCRIPTION	QTY.
1		#5 x 4'-9" (STAINLESS STEEL)	34
2			
3		#8 x 2'-0" (STAINLESS STEEL)	7
4			
5			
6			
7	MK-MD1	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	34
8	MK-MD5	℄ 1/2" x 8" x 9" W/ ANCHORS (GALV.) (SUPPLIED BY OTHERS)	2
9			
10		P.V.C. WATERSTOP PER VTAOT 707-10 (SUPPLIED BY OTHERS)	13.5 LF
11			
12		4T x 7 1/8" SWIFT LIFT LIFTER (GALV.)	4
13		8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	2
14			
15			



3 BW4 BOTTOM OF BACKWALL ELEVATION

1/2" = 1'-0"

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

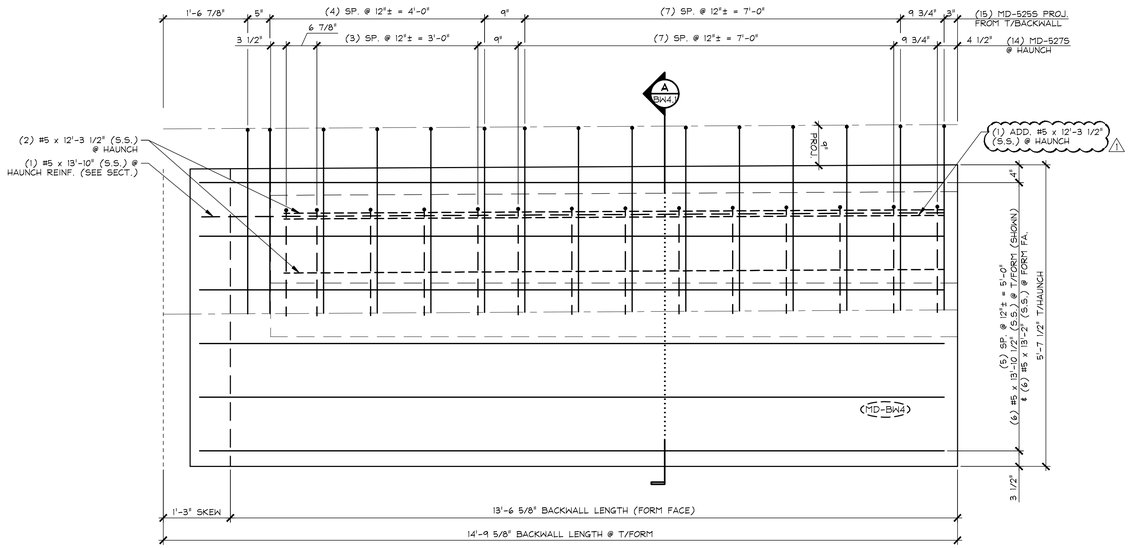
TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

PRECAST BACKWALL
DIMENSIONAL DETAILS

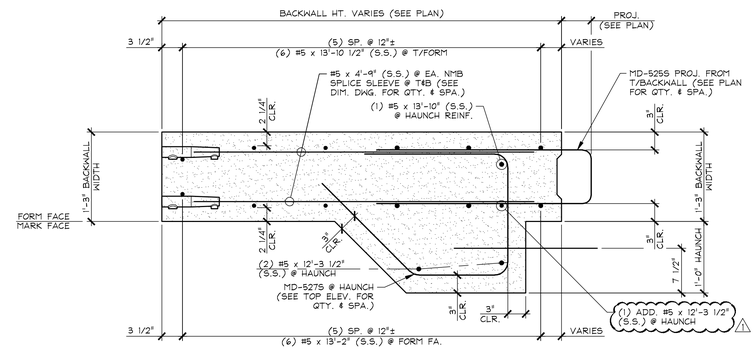
DWG. NO: BW4

F:\VT-Bridges\23480-15 Waitsfield\23480-BW4.dwg, 5/10/2016 10:24:02 AM



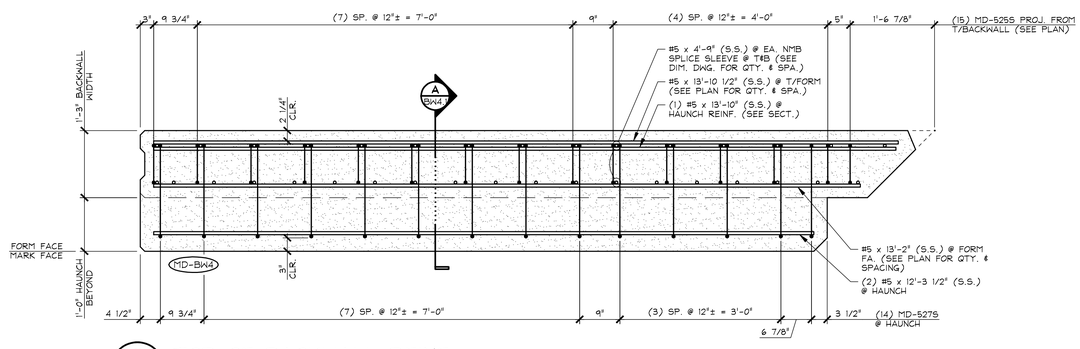
1 BW4.1 REINFORCING PLAN VIEW IN FORM

3/4" = 1'-0"



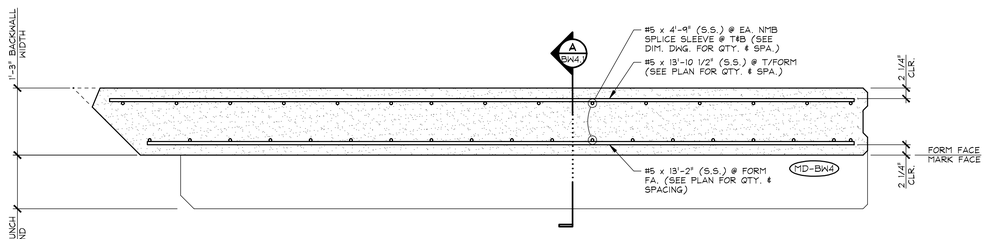
A BW4.1 BACKWALL REINFORCING SECTION

1" = 1'-0"



2 BW4.1 TOP OF BACKWALL REINF. ELEVATION

3/4" = 1'-0"



3 BW4.1 BOTTOM OF BACKWALL REINF. ELEVATION

3/4" = 1'-0"

MARK: MD-BW4	QTY.: 1		

MATERIAL LIST / BACKWALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5255	#5 BENT BAR (STAINLESS STEEL)	15
2	MD-5275	#5 BENT BAR (STAINLESS STEEL)	14
3		#5 x 13'-10 1/2" (STAINLESS STEEL)	6
4		#5 x 13'-2" (STAINLESS STEEL)	6
5		#5 x 13'-10" (STAINLESS STEEL)	1
6		#5 x 12'-3 1/2" (STAINLESS STEEL)	3
7			
8			
9			
10			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

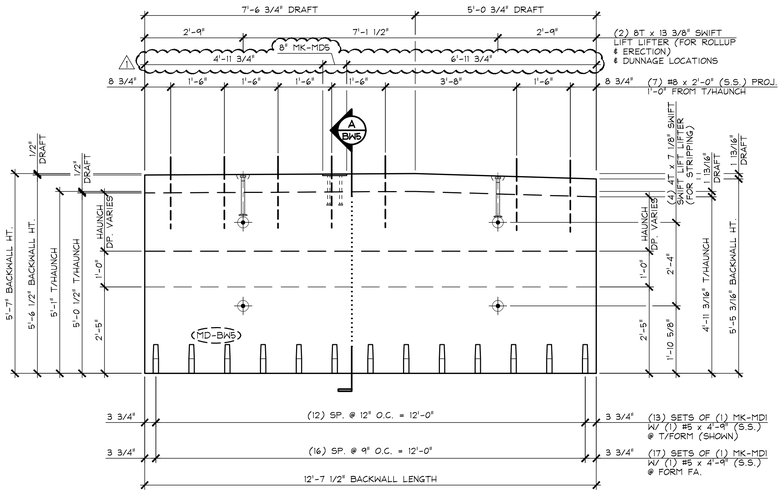
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

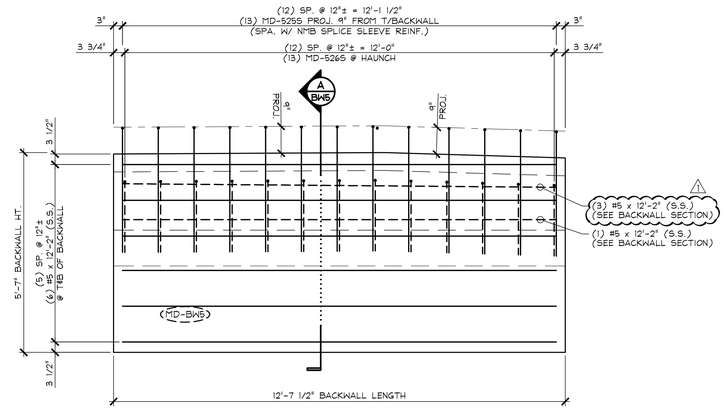
PRECAST BACKWALL
REINFORCING DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: BW4.1

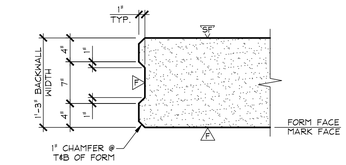
F:\VT-Bridges\23480-15 Waitsfield\23480-BW4-1.dwg, 5/10/2016 10:23:31 AM



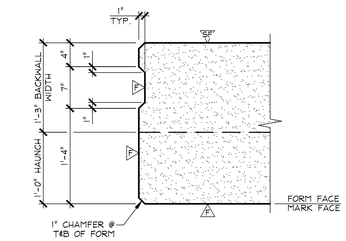
1 BW5 DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"



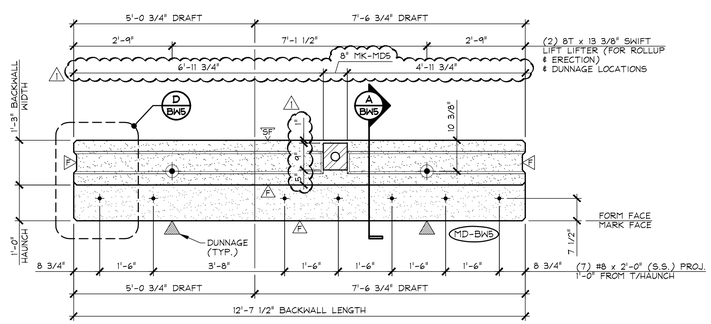
4 BW5 REINFORCING PLAN VIEW IN FORM
1/2" = 1'-0"



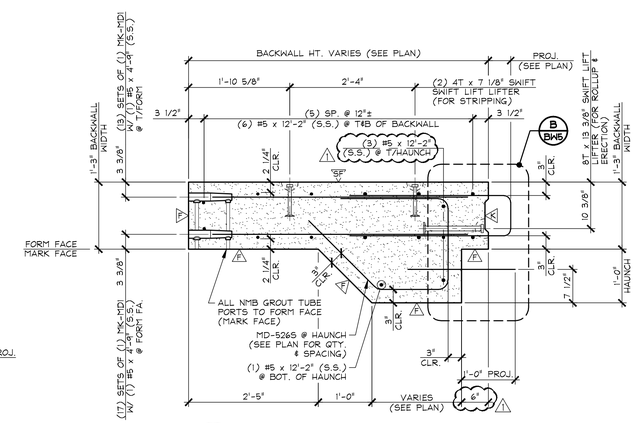
C BW5 VERTICAL SHEAR KEY DETAIL
1" = 1'-0"



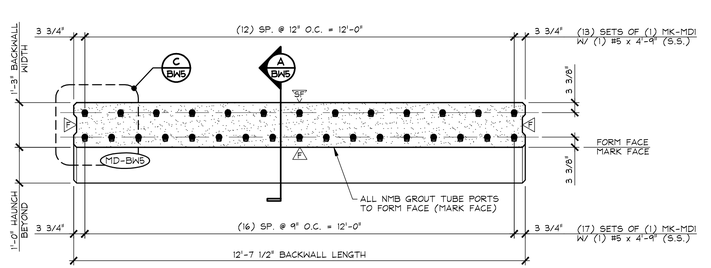
D BW5 VERTICAL SHEAR KEY DETAIL AT HAUNCH
1" = 1'-0"



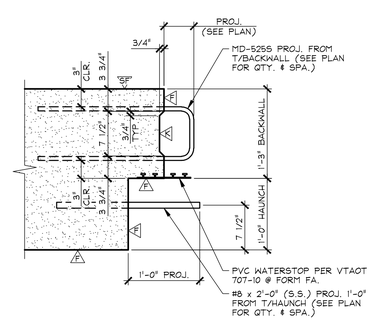
2 BW5 TOP OF BACKWALL ELEVATION
1/2" = 1'-0"



A BW5 BACKWALL SECTION
3/4" = 1'-0"



3 BW5 BOTTOM OF BACKWALL ELEVATION
1/2" = 1'-0"



B BW5 TOP OF BACKWALL DETAIL
1" = 1'-0"

△A DENOTES FORM FINISH

SP DENOTES SMOOTH FLOAT FINISH

△R DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-BW5	QTY.: 1	WT.: 8.63 T	VOL.: 4.26 cy

MATERIAL LIST / BACKWALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5255	#5 BENT BAR (STAINLESS STEEL)	13
2	MD-5265	#5 BENT BAR (STAINLESS STEEL)	13
3		#5 x 4'-9" (STAINLESS STEEL)	30
4		#5 x 12'-2" (STAINLESS STEEL)	△1 16
5			
6		#8 x 2'-0" (STAINLESS STEEL)	7
7			
8			
9			
10			
11	MK-MD1	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	30
12	MK-MD5	PL 1/2" x 8" x 9" W/ ANCHORS (GALV.) (SUPPLIED BY OTHERS)	1
13			
14		P.V.C. WATERSTOP PER VTAOT 707-10 (SUPPLIED BY OTHERS)	12.63 LF
15			
16		4T x 7 1/8" SWIFT LIFT LIFTER (GALV.)	4
17		8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	2
18			
19			
20			

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

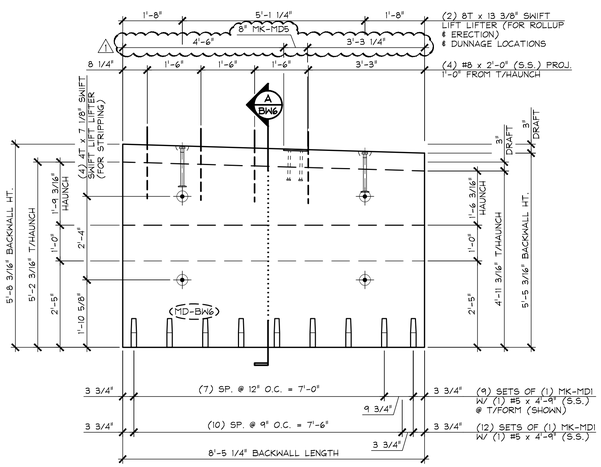
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

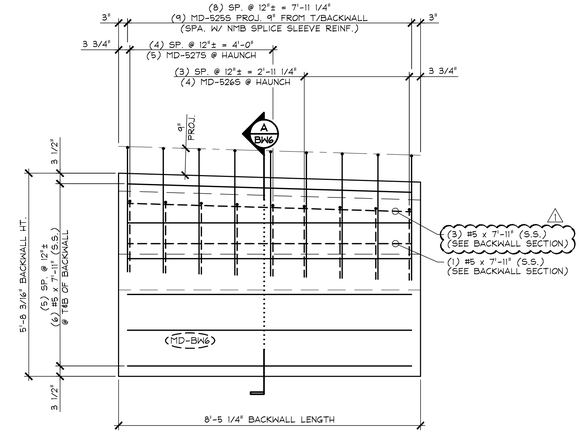
PRECAST BACKWALL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: BW5

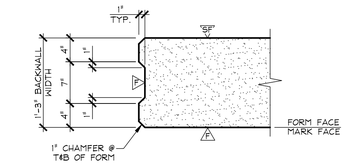
F:\VT-Bridges\23480-15 Waitsfield\23480-BW5.dwg, 5/10/2016 10:23:00 AM



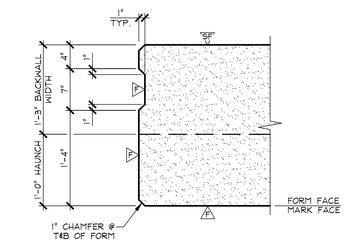
1 BW6 DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"



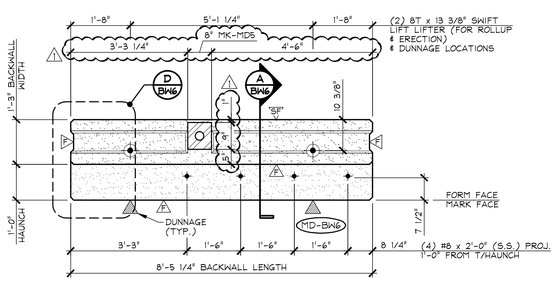
4 BW6 REINFORCING PLAN VIEW IN FORM
1/2" = 1'-0"



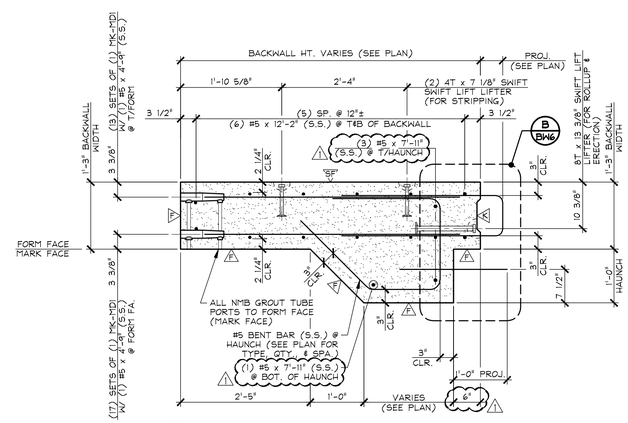
C BW6 VERTICAL SHEAR KEY DETAIL
1" = 1'-0"



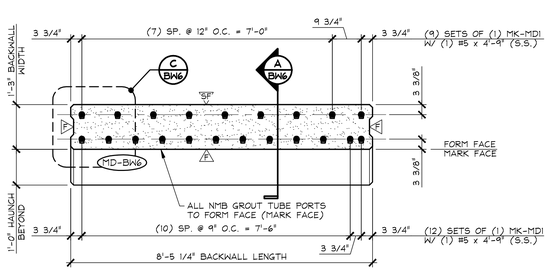
D BW6 VERTICAL SHEAR KEY DETAIL AT HAUNCH
1" = 1'-0"



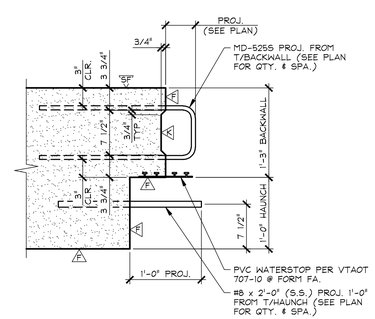
2 BW6 TOP OF BACKWALL ELEVATION
1/2" = 1'-0"



A BW6 BACKWALL SECTION
3/4" = 1'-0"



3 BW6 BOTTOM OF BACKWALL ELEVATION
1/2" = 1'-0"



B BW6 TOP OF BACKWALL DETAIL
1" = 1'-0"

△A DENOTES FORM FINISH

△SF DENOTES SMOOTH FLOAT FINISH

△R DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-BW6	QTY.: 1	WT.: 5.73 T	VOL.: 2.83 cy

MATERIAL LIST / BACKWALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5255	#5 BENT BAR (STAINLESS STEEL)	6
2	MD-5265	#5 BENT BAR (STAINLESS STEEL)	4
3	MD-5275	#5 BENT BAR (STAINLESS STEEL)	5
4		#5 x 4'-9" (STAINLESS STEEL)	21
5		#5 x 7'-11" (STAINLESS STEEL)	△1 (10)
6			
7		#8 x 2'-0" (STAINLESS STEEL)	4
8			
9			
10			
11	MK-MD1	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	21
12	MK-MD5	PL 1/2" x 8" x 9" W/ ANCHORS (GALV.) (SUPPLIED BY OTHERS)	1
13			
14		P.V.C. WATERSTOP PER VTAOT 707-10 (SUPPLIED BY OTHERS)	8.44 LF
15			
16		4T x 7 1/8" SWIFT LIFT LIFTER (GALV.)	4
17		8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	2
18			
19			
20			

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

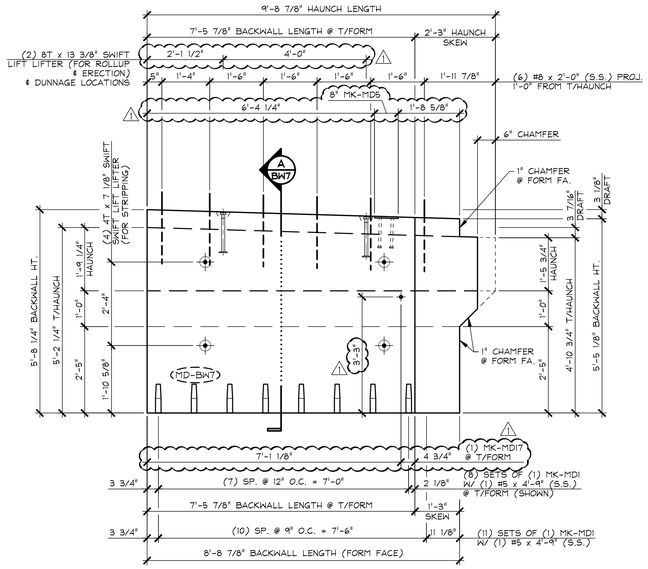
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

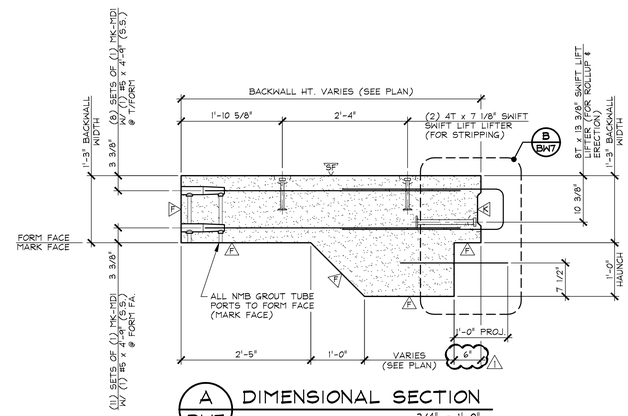
PRECAST BACKWALL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: BW6

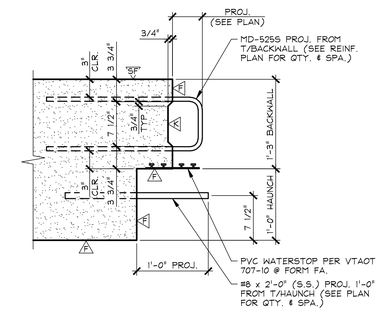
F:\VT-Bridges\23480-15 Waitsfield\23480-BW6.dwg, 5/10/2016 10:22:30 AM



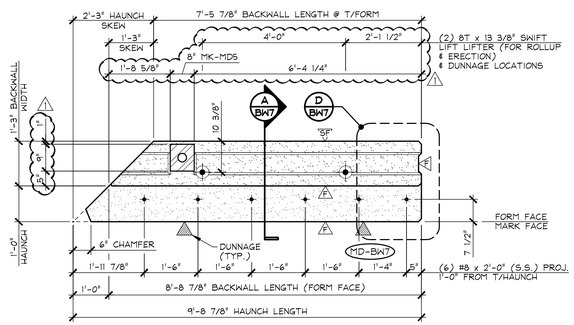
1 BW7 DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"



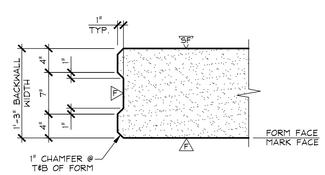
A BW7 DIMENSIONAL SECTION
3/4" = 1'-0"



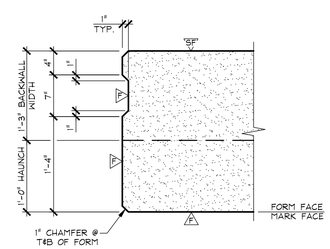
B BW7 TOP OF BACKWALL DETAIL
1" = 1'-0"



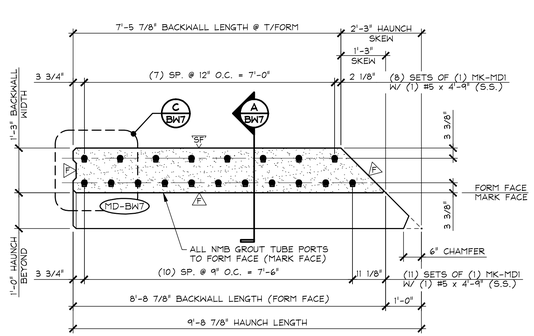
2 BW7 TOP OF BACKWALL ELEVATION
1/2" = 1'-0"



C BW7 VERTICAL SHEAR KEY DETAIL
1" = 1'-0"



D BW7 VERTICAL SHEAR KEY DETAIL AT HAUNCH
1" = 1'-0"



3 BW7 BOTTOM OF BACKWALL ELEVATION
1/2" = 1'-0"

F DENOTES FORM FINISH

SF DENOTES SMOOTH FLOAT FINISH

K DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
SEE DRAWING NO. "BW7.1" BACKWALL REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-BW7	QTY.: 1	WT.: 5.40 T	VOL.: 2.67 cy

MATERIAL LIST / BACKWALL

ITEM	MARK	DESCRIPTION	QTY.
1		#5 x 4'-9" (STAINLESS STEEL)	19
2			
3		#8 x 2'-0" (STAINLESS STEEL)	6
4			
5			
6			
7	MK-MD1	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	19
8	MK-MD5	PL 1/2" x 8" x 9" W/ ANCHORS (GALV.) (SUPPLIED BY OTHERS)	1
9	MK-MD17	DAYTON 7/8"ϕ F-42 LOOP FERRULE INSERT (GALV.)	1
10			
11		P.V.C. WATERSTOP PER VTAOT 707-10 (SUPPLIED BY OTHERS)	8.75 LF
12			
13		4T x 7 1/8" SWIFT LIFT LIFTER (GALV.)	4
14		8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	2
15			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

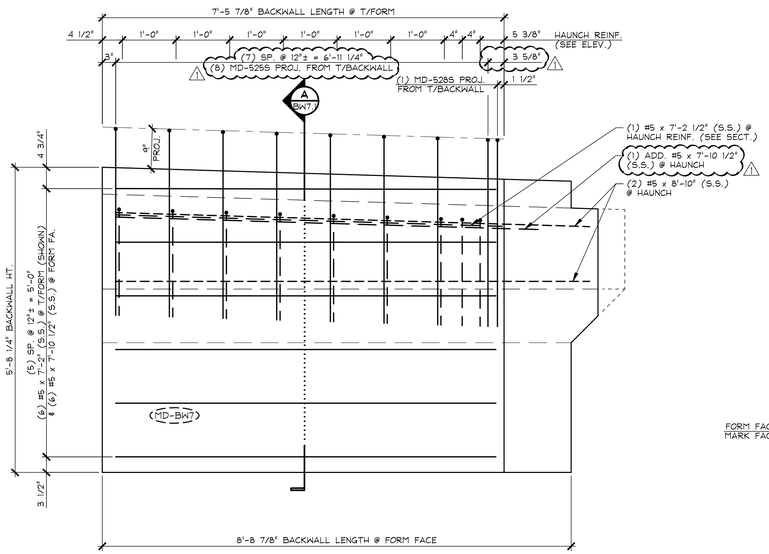
TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

PRECAST BACKWALL
DIMENSIONAL DETAILS

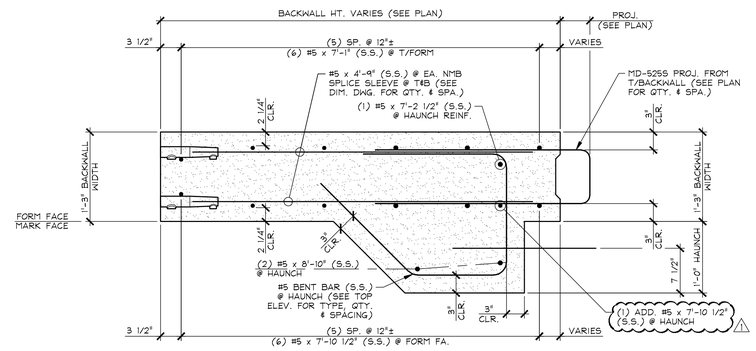
DWG. NO: BW7

F:\VT-Bridges\23480-15 Waitsfield\23480-BW7.dwg, 5/10/2016 10:21:57 AM



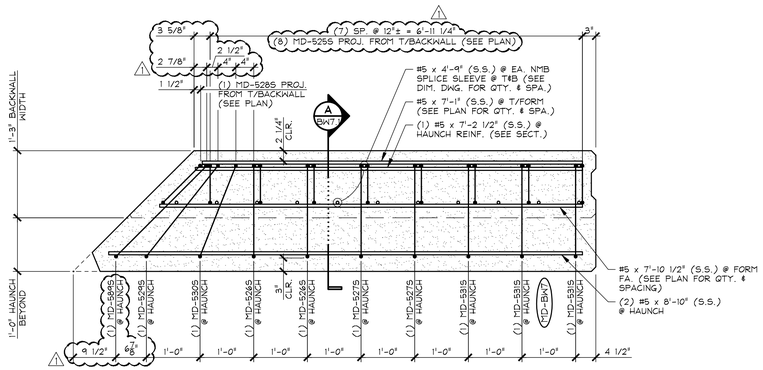
1 BW7.1 REINFORCING PLAN VIEW IN FORM

3/4" = 1'-0"



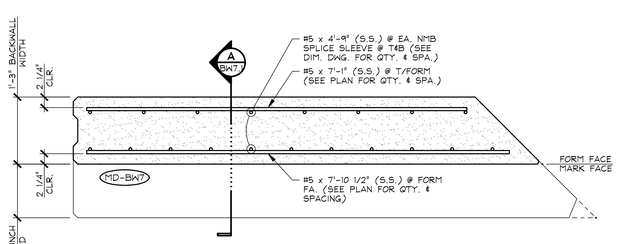
A BW7.1 BACKWALL REINFORCING SECTION

1" = 1'-0"



2 BW7.1 TOP OF BACKWALL REINF. ELEVATION

3/4" = 1'-0"



3 BW7.1 BOTTOM OF BACKWALL REINF. ELEVATION

3/4" = 1'-0"

MARK: MD-BW7	QTY.: 1		

MATERIAL LIST / BACKWALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-525S	#5 BENT BAR (STAINLESS STEEL)	8
2	MD-526S	#5 BENT BAR (STAINLESS STEEL)	2
3	MD-527S	#5 BENT BAR (STAINLESS STEEL)	2
4	MD-528S	#5 BENT BAR (STAINLESS STEEL)	1
5	MD-529S	#5 BENT BAR (STAINLESS STEEL)	1
6	MD-530S	#5 BENT BAR (STAINLESS STEEL)	1
7	MD-531S	#5 BENT BAR (STAINLESS STEEL)	3
8	MD-568S	#5 BENT BAR (STAINLESS STEEL)	1
9		#5 x 7'-1" (STAINLESS STEEL)	6
10		#5 x 7'-10 1/2" (STAINLESS STEEL)	7
11		#5 x 8'-10" (STAINLESS STEEL)	2
12		#5 x 7'-2 1/2" (STAINLESS STEEL)	1
13			
14			
15			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

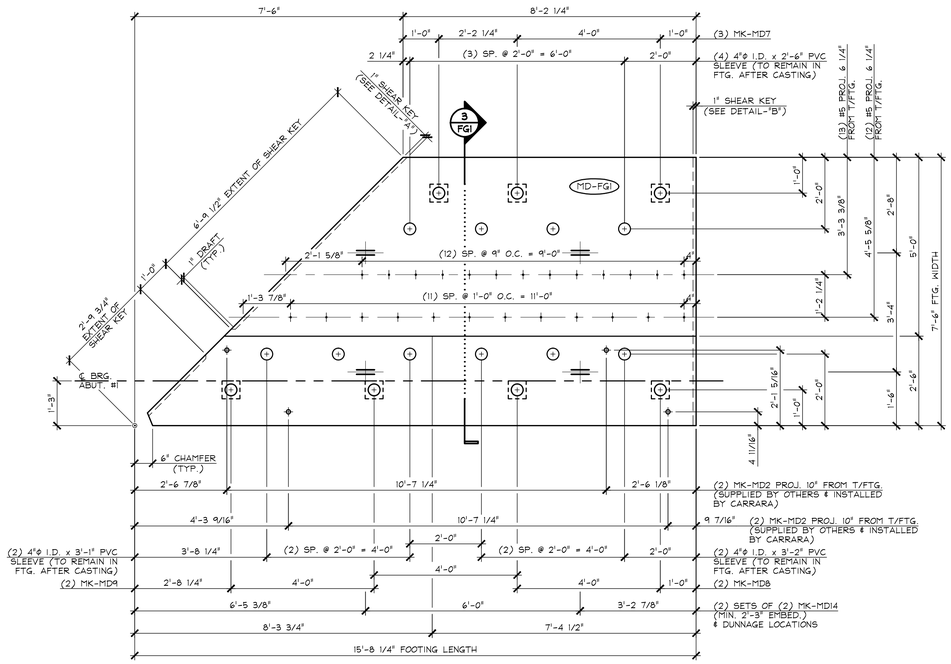
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST BACKWALL
REINFORCING DETAILS

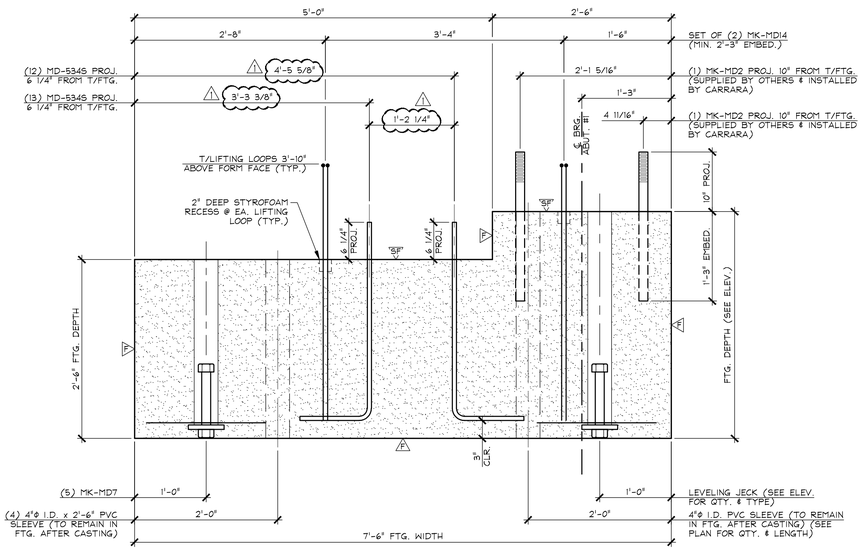
DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: BW7.1

F:\VT-Bridges\23480-15 Waitsfield\23480-BW7-1.dwg, 5/10/2016 10:21:26 AM



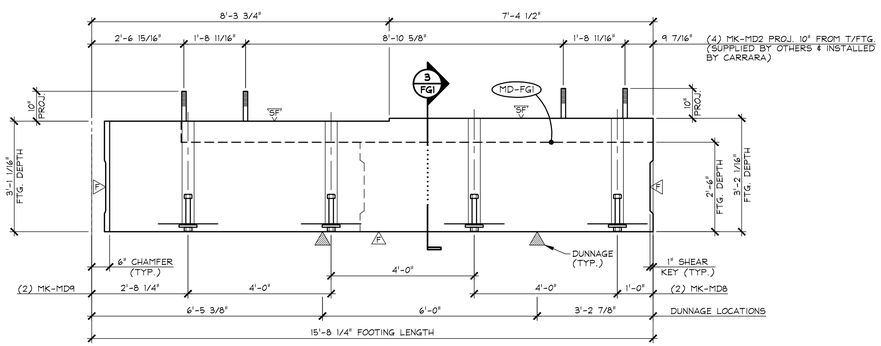
1 FG1 DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



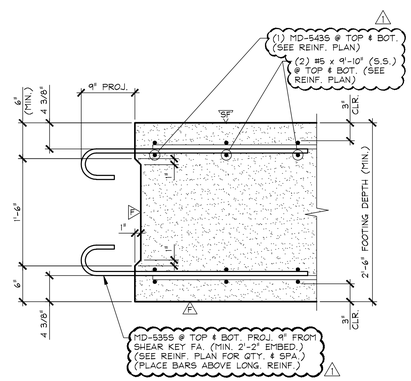
3 FG1 DIMENSIONAL SECTION

1" = 1'-0"



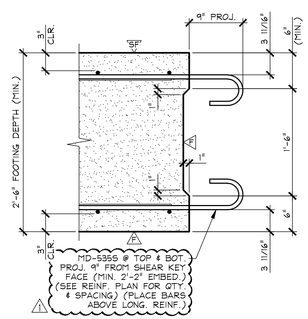
2 FG1 DIMENSIONAL ELEVATION

1/2" = 1'-0"



DETAIL - "A"

1" = 1'-0"



DETAIL - "B"

1" = 1'-0"

SHOP NOTE:
SEE DRAWING NO. "FG1.1"
FOOTING REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 7,000 PSI
HANDLING STRENGTH = 5,500 PSI
MIX #426M

FA DENOTES FORM FINISH
SF DENOTES SMOOTH FLOAT FINISH

MARK: MD-FG1	QTY.: 1	WT.: 17.92 T	VOL.: 8.85 cy

MATERIAL LIST / FOOTING

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5345	#5 BENT BAR (STAINLESS STEEL)	25
2			
3			
4	MK-MD2	1 1/2"Φ x 2'-1" SWEDGE HANCHOR BOLT W/ 5" THREADS (GALV.)	4
5	MK-MD7	LEVELING JACK ASSEMBLY	3
6	MK-MD8	LEVELING JACK ASSEMBLY	2
7	MK-MD9	LEVELING JACK ASSEMBLY	2
8	MK-MD14	SET OF (2) 1/2"Φ STRAND LIFTING LOOPS	4
9		4"Φ I.C. x 2'-6" PVC SLEEVE	4
10		4"Φ I.C. x 3'-1" PVC SLEEVE	2
11		4"Φ I.C. x 3'-2" PVC SLEEVE	2
12			
13			
14			
15			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

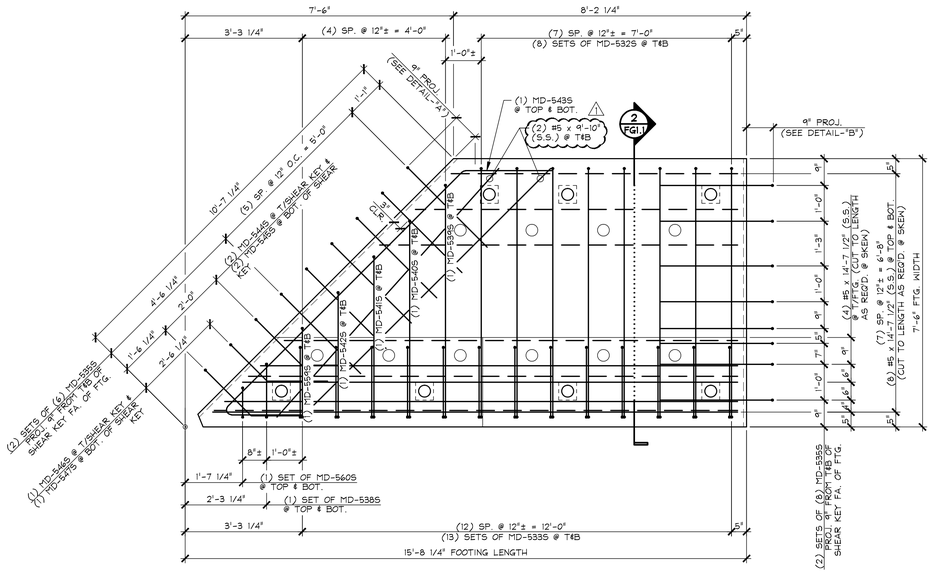
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST FOOTING
DIMENSIONAL DETAILS

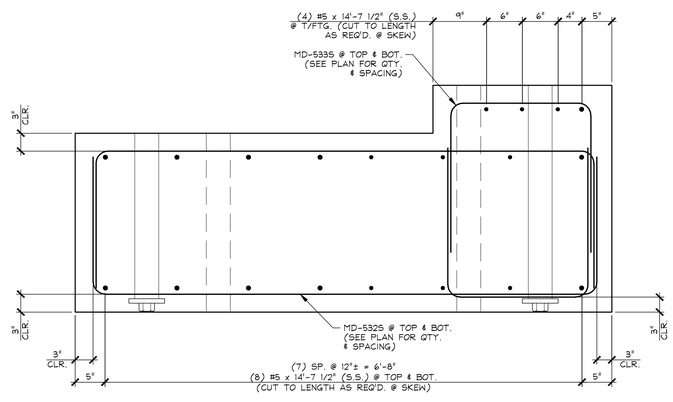
DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: FG1

F:\VT-Bridges\23480-15 Waitsfield\23480-FTG1.dwg, 5/10/2016 10:35:41 AM



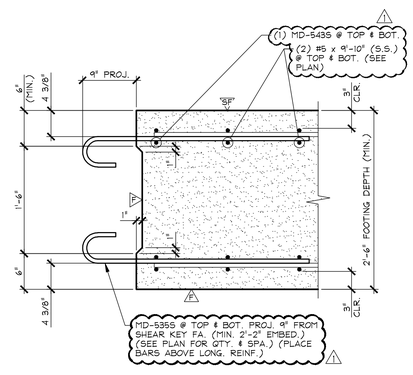
1 FG1.1 REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



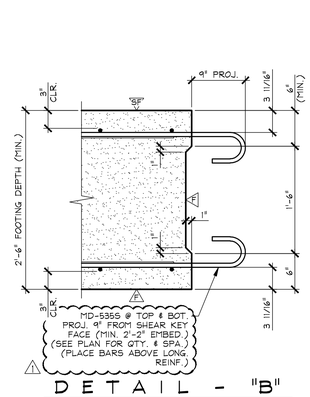
2 FG1.1 REINFORCING SECTION

1" = 1'-0"



DETAIL - "A"

1" = 1'-0"



DETAIL - "B"

1" = 1'-0"

△1 5-10-16 REVISED AS NOTED

MARK: MD-FG1 QTY.: 1

MATERIAL LIST / FOOTING

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5325	#5 BENT BAR (STAINLESS STEEL)	16
2	MD-5335	#5 BENT BAR (STAINLESS STEEL)	26
3	MD-5355	#5 BENT BAR (STAINLESS STEEL)	28
4	MD-5385	#5 BENT BAR (STAINLESS STEEL)	2
5	MD-5395	#5 BENT BAR (STAINLESS STEEL)	2
6	MD-5405	#5 BENT BAR (STAINLESS STEEL)	2
7	MD-5415	#5 BENT BAR (STAINLESS STEEL)	2
8	MD-5425	#5 BENT BAR (STAINLESS STEEL)	2
9	MD-5435	#5 BENT BAR (STAINLESS STEEL)	2
10	MD-5445	#5 BENT BAR (STAINLESS STEEL)	2
11	MD-5455	#5 BENT BAR (STAINLESS STEEL)	2
12	MD-5465	#5 BENT BAR (STAINLESS STEEL)	1
13	MD-5475	#5 BENT BAR (STAINLESS STEEL)	1
14	MD-5595	#5 BENT BAR (STAINLESS STEEL)	2
15	MD-5605	#5 BENT BAR (STAINLESS STEEL)	2
16		#5 x 14'-7 1/2" (STAINLESS STEEL)	20
17		△1 #5 x 9'-10" (STAINLESS STEEL)	4
18			
19			
20			

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

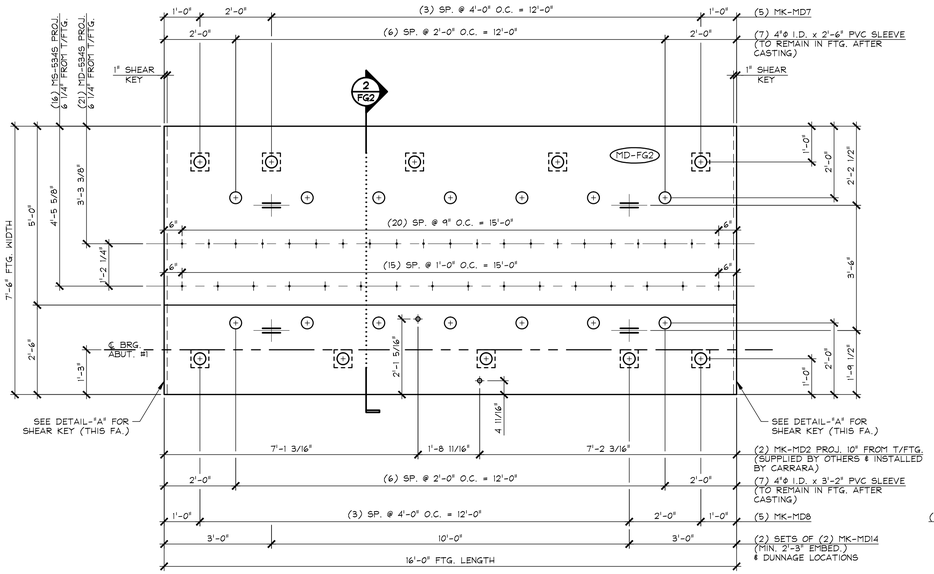
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST FOOTING
REINFORCING DETAILS

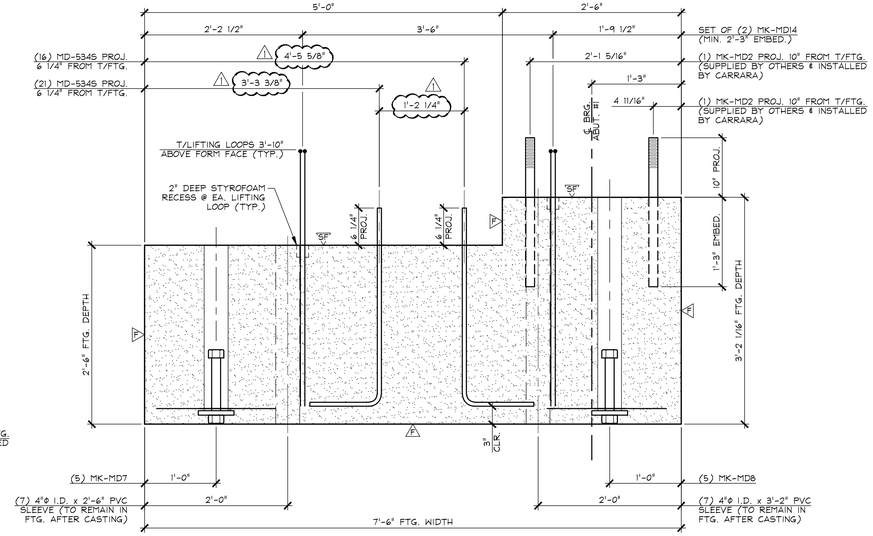
DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: FG1.1

F:\VT-Bridges\23480-15 Waitsfield\23480-FTG1-1.dwg, 5/10/2016 2:29:41 PM



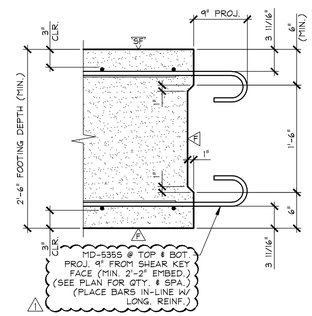
1 FG2 DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



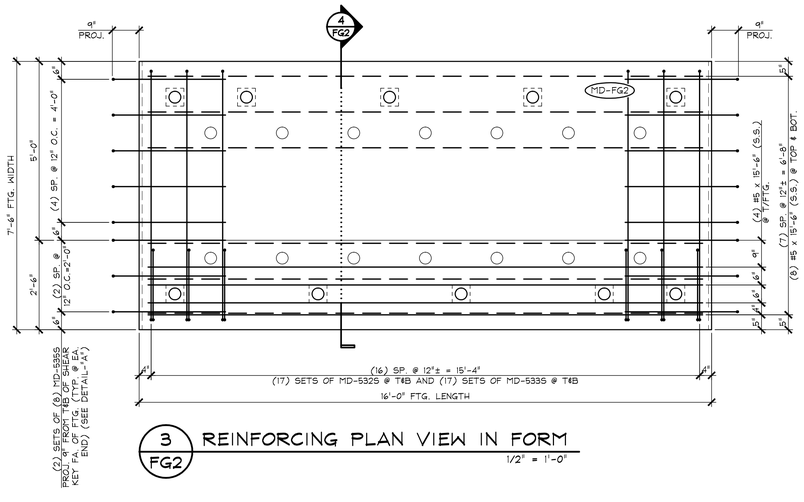
2 FG2 DIMENSIONAL SECTION

1" = 1'-0"



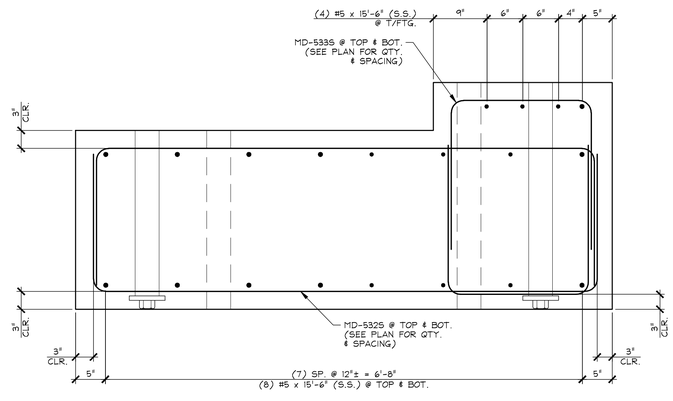
DETAIL - "A"

1" = 1'-0"



3 FG2 REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



4 FG2 REINFORCING SECTION

1" = 1'-0"

△1 DENOTES FORM FINISH

△2 DENOTES SMOOTH FLOAT FINISH

SHOP NOTE:
28-DAY STRENGTH = 7,000 PSI
HANDLING STRENGTH = 5,500 PSI
MIX #426M

MARK: MD-FG2	QTY.: 1	WT.: 24.01 T	VOL.: 11.86 cy

MATERIAL LIST / FOOTING

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5325	#5 BENT BAR (STAINLESS STEEL)	34
2	MD-5335	#5 BENT BAR (STAINLESS STEEL)	34
3	MD-5345	#5 BENT BAR (STAINLESS STEEL)	37
4	MD-5355	#5 BENT BAR (STAINLESS STEEL)	32
5		#5 x 15'-6" (STAINLESS STEEL)	20
6			
7	MK-MD2	1 1/2"Φ x 2'-1" SWEDGE HANCHOR BOLT W/ 5" THREADS (GALV.)	2
8	MK-MD7	LEVELING JACK ASSEMBLY	5
9	MK-MD8	LEVELING JACK ASSEMBLY	5
10	MK-MD14	SET OF (2) 1/2"Φ STRAND LIFTING LOOPS	4
11		4"Φ I.C. x 2'-6" PVC SLEEVE	7
12		4"Φ I.C. x 3'-2" PVC SLEEVE	7
13			
14			
15			

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

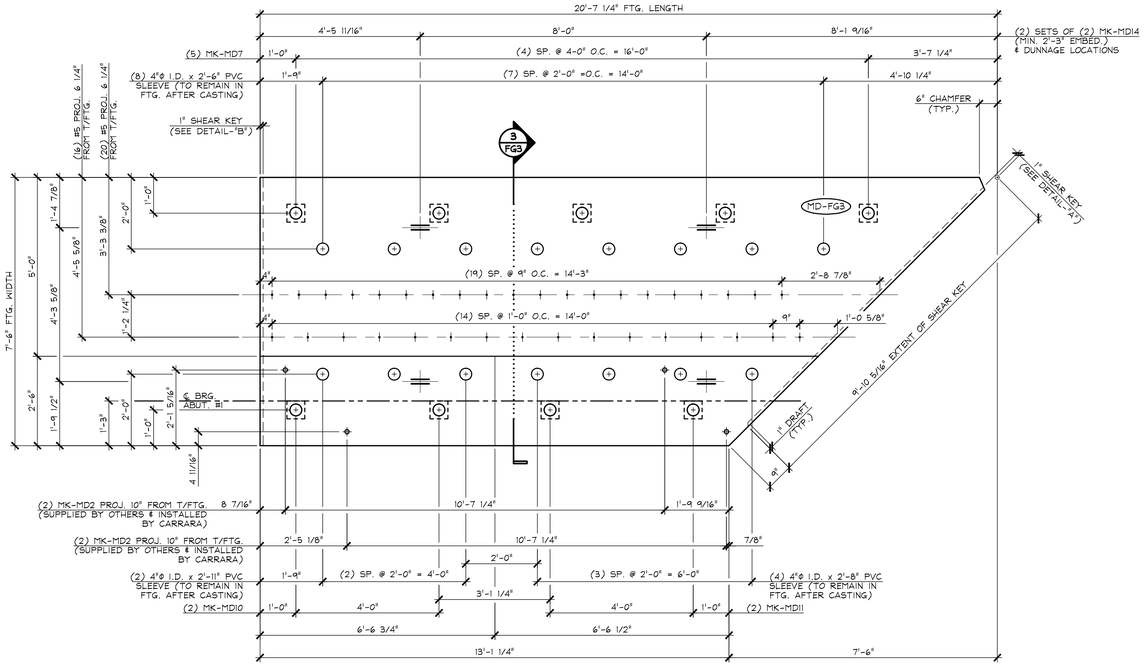
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST FOOTING DETAILS

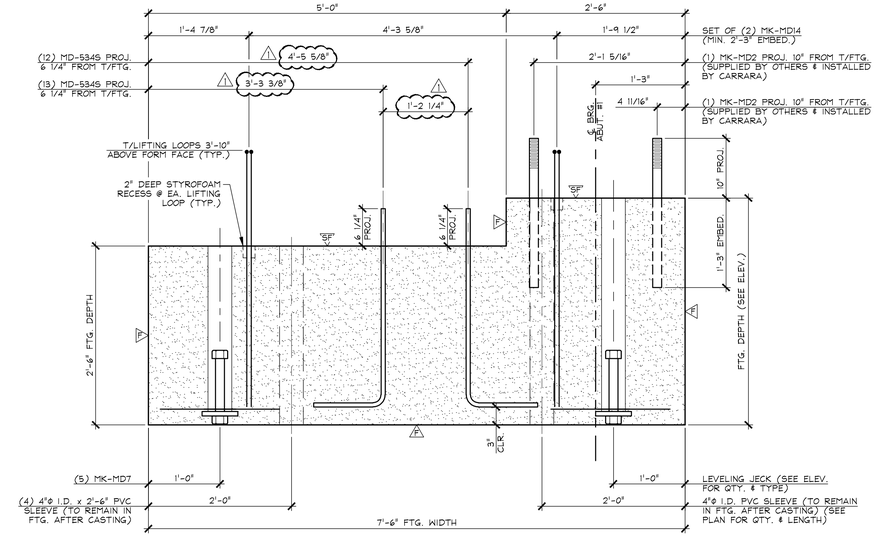
DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: FG2

F:\VT-Bridges\23480-15 Waitsfield\23480-FTG2.dwg, 5/10/2016 10:34:34 AM



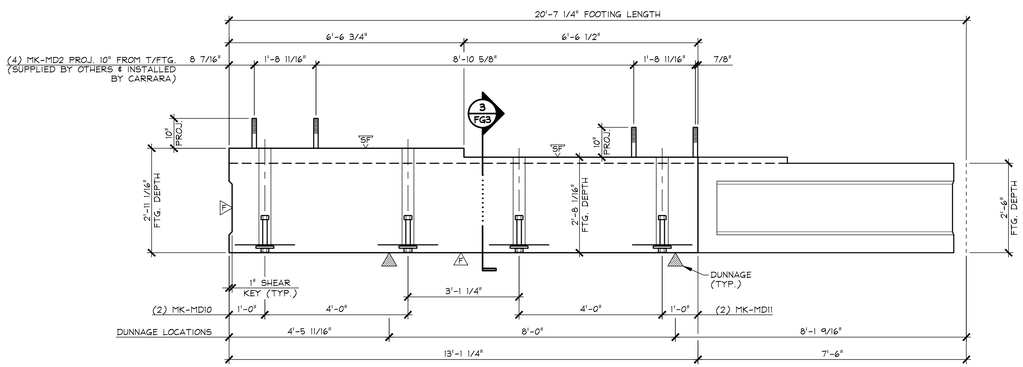
1 FG3 DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



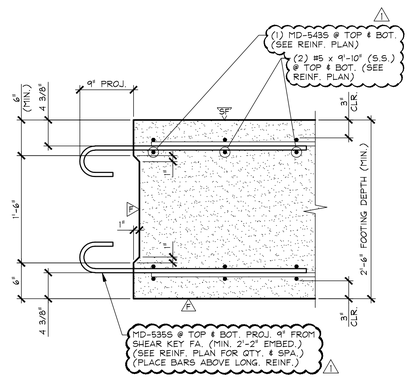
3 FG3 DIMENSIONAL SECTION

1" = 1'-0"



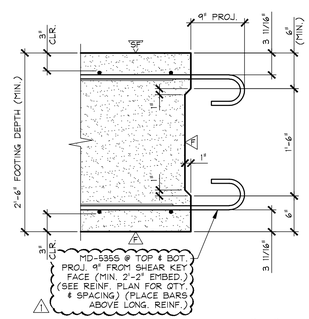
2 FG3 DIMENSIONAL ELEVATION

1/2" = 1'-0"



DETAIL - "A"

1" = 1'-0"



DETAIL - "B"

1" = 1'-0"

SHOP NOTE:
SEE DRAWING NO. "FG3.1"
FOOTING REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 7,000 PSI
HANDLING STRENGTH = 5,500 PSI
MIX #426M

F DENOTES FORM FINISH

SF DENOTES SMOOTH FLOAT FINISH

MARK: MD-FG3	QTY.: 1	WT.: 23.90 T	VOL.: 11.80 cy

MATERIAL LIST / FOOTING

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5345	#5 BENT BAR (STAINLESS STEEL)	36
2			
3			
4	MK-MD2	1 1/2"Φ x 2'-1" SWEDGE HANCHOR BOLT W/ 5" THREADS (GALV.)	4
5	MK-MD7	LEVELING JACK ASSEMBLY	5
6	MK-MD10	LEVELING JACK ASSEMBLY	2
7	MK-MD11	LEVELING JACK ASSEMBLY	2
8	MK-MD14	SET OF (2) 1/2"Φ STRAND LIFTING LOOPS	4
9		4"Φ I.C. x 2'-6" PVC SLEEVE	8
10		4"Φ I.C. x 2'-11" PVC SLEEVE	3
11		4"Φ I.C. x 2'-8" PVC SLEEVE	4
12			
13			
14			
15			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

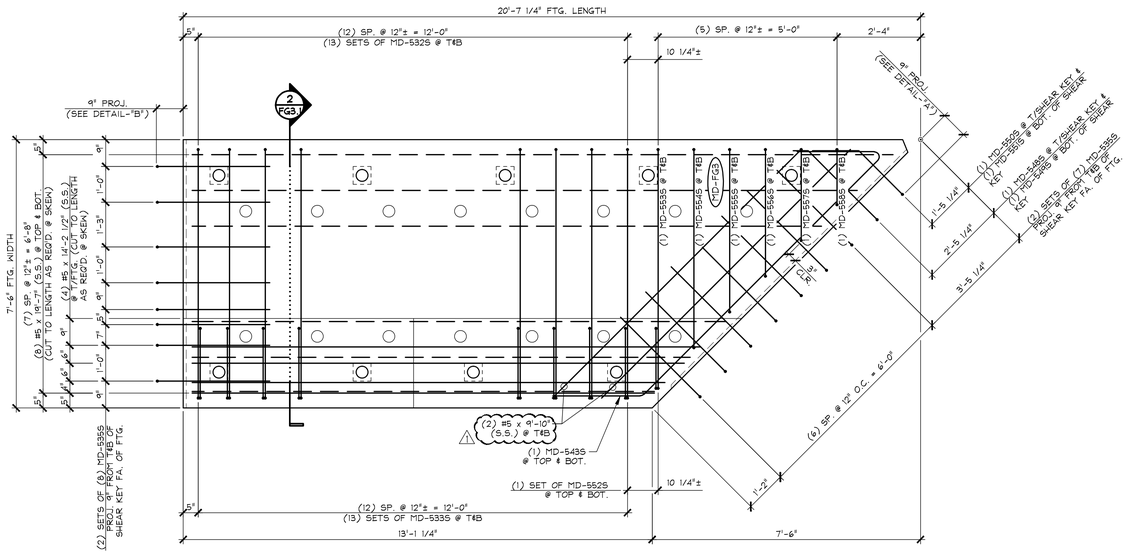
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST FOOTING
DIMENSIONAL DETAILS

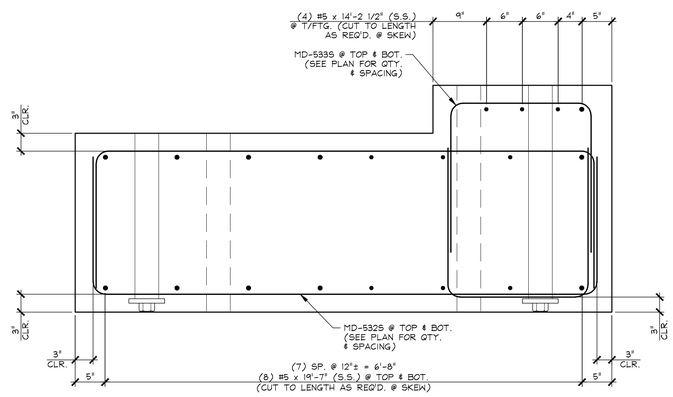
DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: FG3

F:\VT-Bridges\23480-15 Waitsfield\23480-FTG3.dwg, 5/10/2016 10:34:00 AM



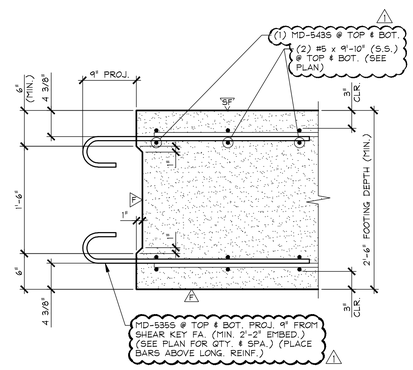
1 FG3.1 REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



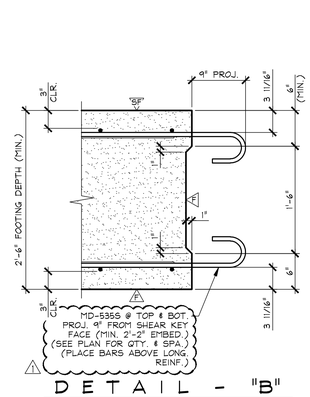
2 FG3.1 REINFORCING SECTION

1" = 1'-0"



DETAIL - "A"

1" = 1'-0"



DETAIL - "B"

1" = 1'-0"

MARK: MD-FG3	QTY.: 1

MATERIAL LIST / FOOTING

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5325	#5 BENT BAR (STAINLESS STEEL)	26
2	MD-5335	#5 BENT BAR (STAINLESS STEEL)	26
3	MD-5355	#5 BENT BAR (STAINLESS STEEL)	30
4	MD-5485	#5 BENT BAR (STAINLESS STEEL)	1
5	MD-5495	#5 BENT BAR (STAINLESS STEEL)	1
6	MD-5505	#5 BENT BAR (STAINLESS STEEL)	1
7	MD-5515	#5 BENT BAR (STAINLESS STEEL)	1
8	MD-5525	#5 BENT BAR (STAINLESS STEEL)	2
9	MD-5535	#5 BENT BAR (STAINLESS STEEL)	2
10	MD-5545	#5 BENT BAR (STAINLESS STEEL)	2
11	MD-5555	#5 BENT BAR (STAINLESS STEEL)	2
12	MD-5565	#5 BENT BAR (STAINLESS STEEL)	2
13	MD-5575	#5 BENT BAR (STAINLESS STEEL)	2
14	MD-5585	#5 BENT BAR (STAINLESS STEEL)	2
15		#5 x 14'-2 1/2" (STAINLESS STEEL)	4
16		#5 x 19'-7" (STAINLESS STEEL)	16
17		#5 x 9'-10" (STAINLESS STEEL)	4
18			
19			
20			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

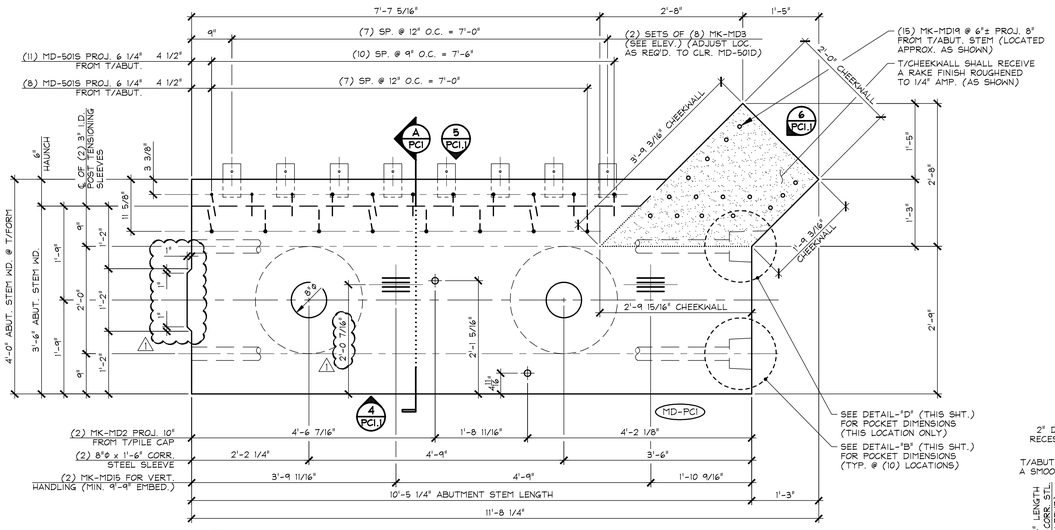
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST FOOTING
REINFORCING DETAILS

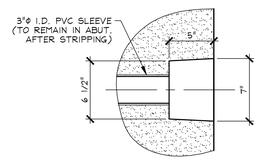
DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: FG3.1

F:\VT-Bridges\23480-15 Waitsfield\23480-FTG3-1.dwg, 5/10/2016 10:37:16 AM



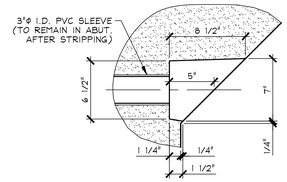
2 PC1 DIMENSIONAL PLAN VIEW IN FORM

AT TOP OF ABUTMENT STEM 3/4" = 1'-0"



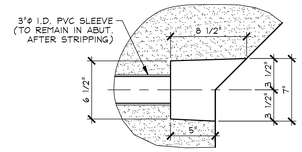
DETAIL - "B"

1 1/2" = 1'-0"



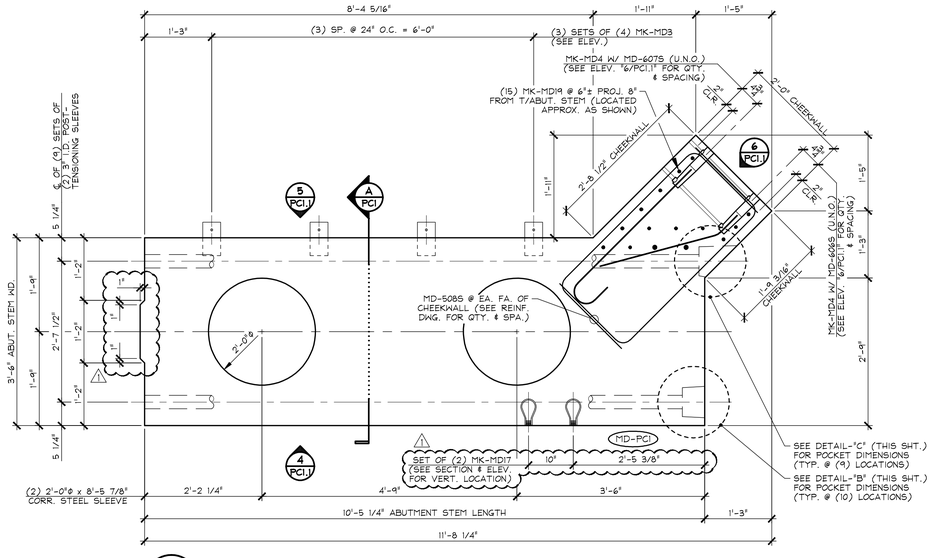
DETAIL - "C"

1 1/2" = 1'-0"



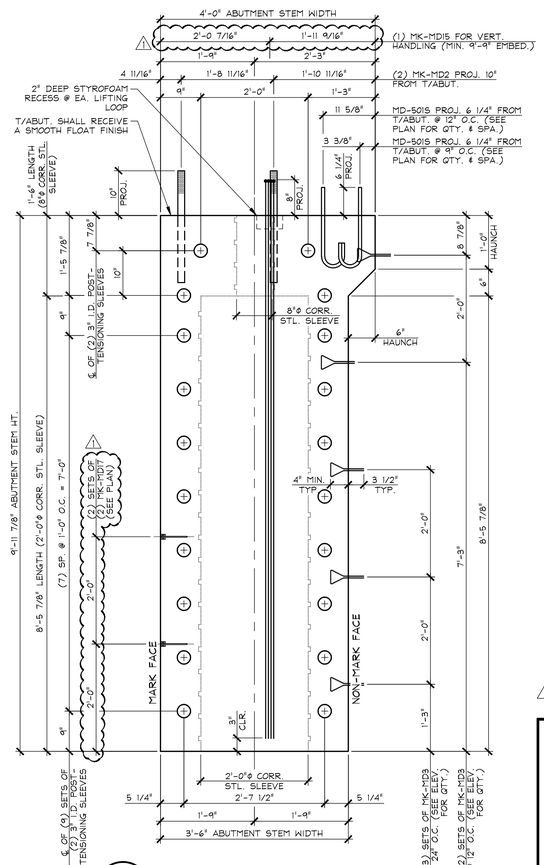
DETAIL - "D"

1 1/2" = 1'-0"



1 PC1 DIMENSIONAL PLAN VIEW IN FORM

AT BOTTOM OF FORM 3/4" = 1'-0"



A PC1 DIMENSIONAL SECTION

3/4" = 1'-0"

SHOP NOTE:
SEE DRAWING NO. "PC1.2" AND "PC1.3" ABUTMENT REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK:	MD-PC1	QTY.:	1	WT.:	25.56 T	VOL.:	12.62 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5015	#5 BENT BAR (STAINLESS STEEL)	19
2	~~MD-5065~~	~~#5 BENT BAR (STAINLESS STEEL)~~	~~-~~
3			
4	MD-6025	#6 BENT BAR (STAINLESS STEEL)	1
5	MD-6035	#6 BENT BAR (STD. HOOK) (STAINLESS STEEL)	1
6	MD-6065	#6 BENT BAR (STAINLESS STEEL)	12
7	MD-6075	#6 BENT BAR (STD. HOOK) (STAINLESS STEEL)	12
8			
9		8"ø x 1'-6" CORRUGATED STEEL SLEEVE (GALV.)	2
10		2'-0"ø x 8'-5 7/8" CORRUGATED STEEL SLEEVE (GALV.)	2
11	MK-MD2	1 1/2"ø x 2'-1" SWEDGE HANGHOR BOLT W/ 5" THREADS (GALV.)	2
12	MK-MD3	SOIL REINFORCING CONNECTION CLIP (HIGH ADHERENCE RIBBED STEEL REINFORCING STRIP) (GALV.)	28
13	MK-MD4	NMB SPLICE SLEEVE 6U-X(PG) (EPOXY COATED)	26
14	MK-MD15	SET OF (4) 0.60"ø STRAND LIFTING LOOPS	2
15		~~20" T x 14 3/4" SWIFT LIFT LIFTER (GALV.)~~	~~-~~
16	MK-MD17	DAYTON 7/8"ø F-42 LOOP FERRULE INSERT (GALV.)	4
17	MK-MD19	#6 x 10'-5 1/2" (S.S.) W/ THREADED END TO RECEIVE COUPLER	15
18			
19			
20			

△1 5-10-16 REVISED AS NOTED AND OMIT PRECAST CHEEKWALL

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST ABUTMENT STEM
DIMENSIONAL PLAN, SECTIONS & DETAILS

DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	PC1

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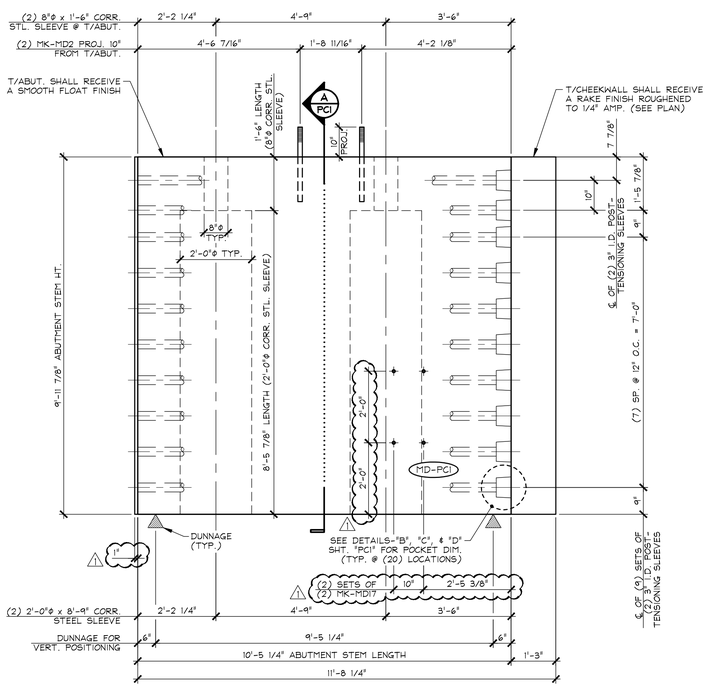
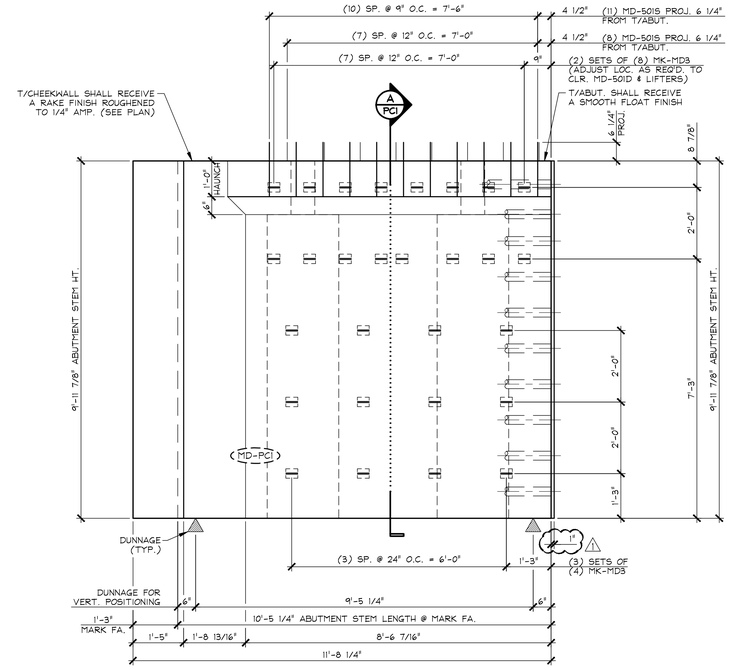
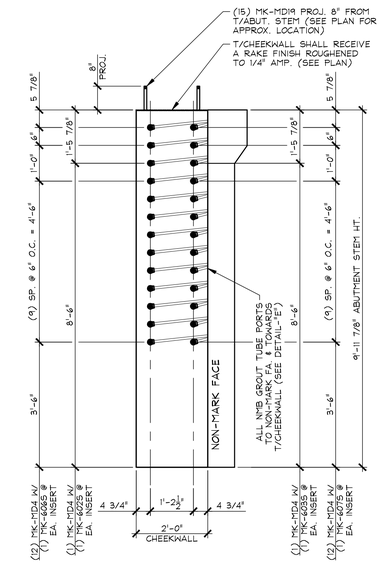


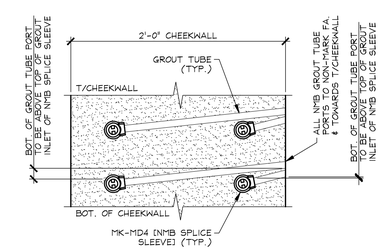
4 PC1.1 DIMENSIONAL ELEVATION
MARK FACE 1/2" = 1'-0"



5 PC1.1 DIMENSIONAL ELEVATION
NON-MARK FACE 1/2" = 1'-0"



6 PC1.1 CHEEKWALL ELEVATION
1/2" = 1'-0"



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

⚠ 5-10-16 REVISED AS NOTED AND OMIT PRECAST CHEEKWALL

APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010	A.L. ST. ONGE CONTRACTOR, INC. CONTRACTOR MONTGOMERY, VERMONT
	STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF WINDSOR	DATE: JAN. 12, 2016 SCALE: NOTED
	TOWN OF WAITSFIELD VT ROUTE 100 (MINOR ARTERIAL) BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)	CHKD: - DFTM: B.L. JOB NO: 23480-016
	PRECAST ABUTMENT STEM DIMENSIONAL ELEVATIONS	DWG. NO: PC1.1

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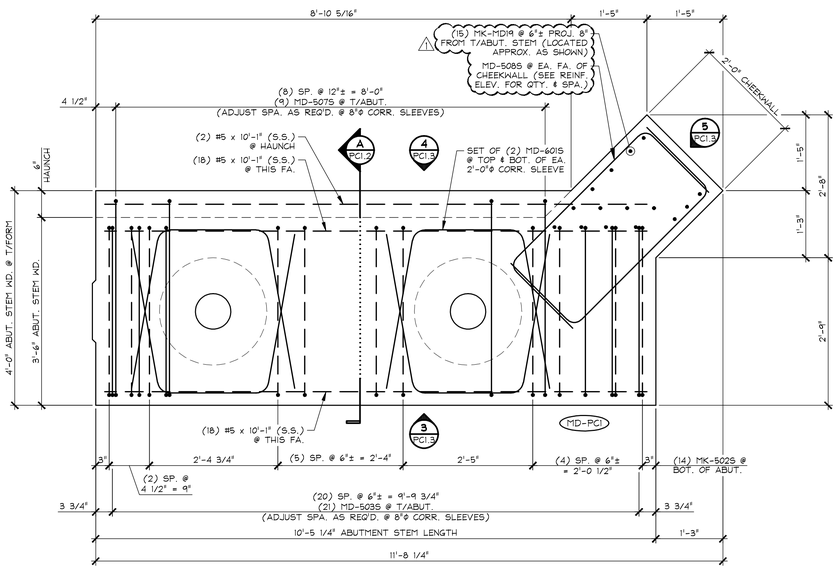
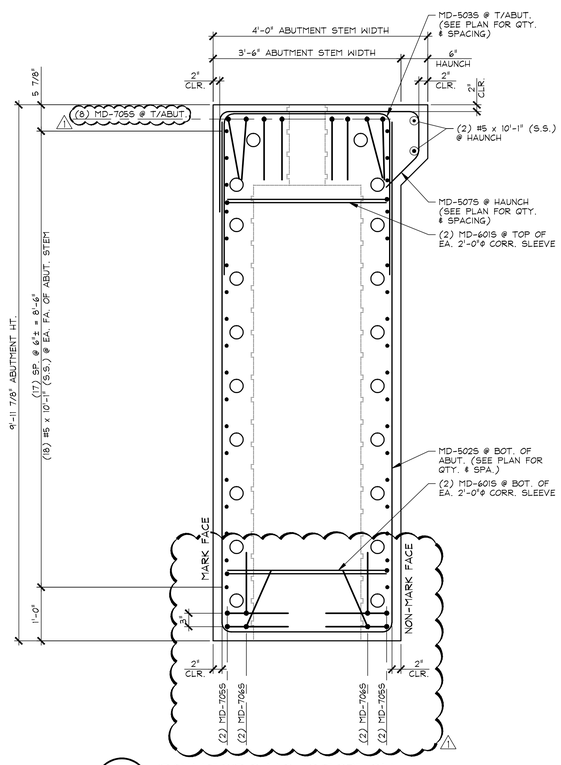


1 PC1.2 REINFORCING PLAN VIEW IN FORM

#7 LONGITUDINAL REINFORCING NOT SHOWN FOR CLARITY

3/4" = 1'-0"



A PC1.2 REINFORCING SECTION

3/4" = 1'-0"

SHOP NOTE:
ADJUST REINFORCING AS REQUIRED TO CLEAR SLEEVES, ANCHOR BOLTS, PROJECTING BARS, INSERTS, ETC.

MARK: MD-PC1 QTY.: 1

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5025	#5 BENT BAR (STAINLESS STEEL)	14
2	MD-5035	#5 BENT BAR (STAINLESS STEEL)	21
3	MD-5075	#5 BENT BAR (STAINLESS STEEL)	9
4	MD-5085	#5 BENT BAR (STAINLESS STEEL)	40
5	~~MD-5095~~	~~#5 BENT BAR (STAINLESS STEEL)~~	~~32~~
6	~~MD-5105~~	~~#5 BENT BAR (STAINLESS STEEL)~~	~~12~~
7	~~MD-5115~~	~~#5 BENT BAR (STAINLESS STEEL)~~	~~4~~
8		#5 x 10'-1" (STAINLESS STEEL)	38
9			
10	MD-6015	#6 BENT BAR (STAINLESS STEEL)	8
11		~~#6 x 15'-9" (STAINLESS STEEL)~~	~~18~~
12			
13	MD-7055	#7 BENT BAR (STAINLESS STEEL)	12
14	MD-7065	#7 BENT BAR (STAINLESS STEEL)	4
15			

△1 5-10-16 REVISED AS NOTED AND OMIT PRECAST CHEEKWALL

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST ABUTMENT STEM REINFORCING PLANS & SECTIONS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: PC1.2

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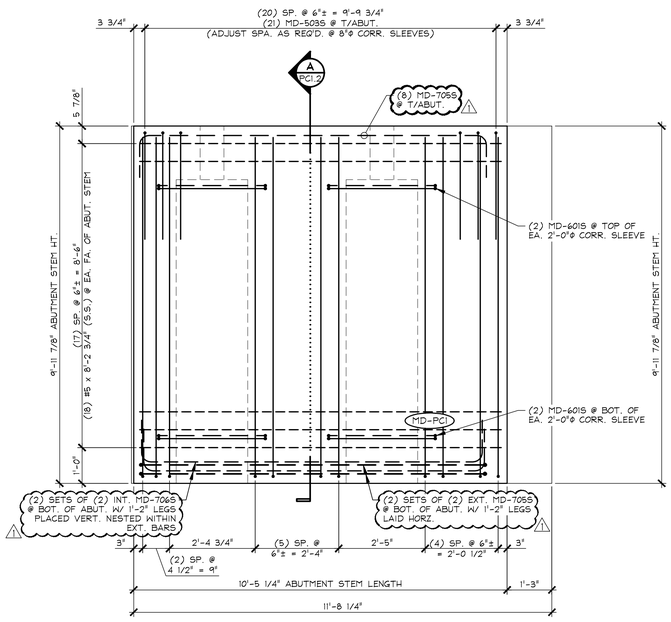
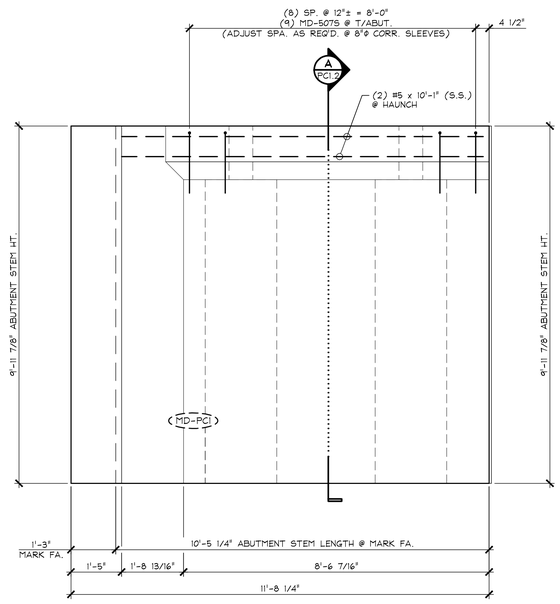
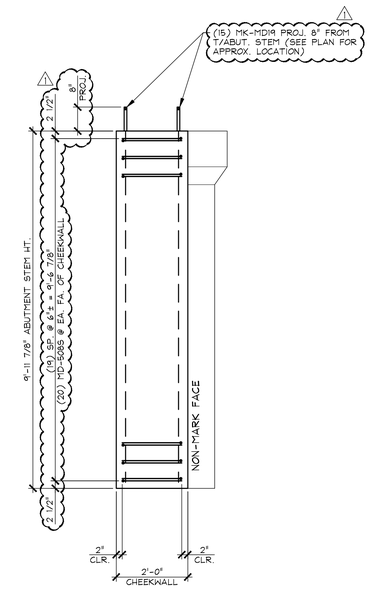


3 PC1.3 REINFORCING ELEVATION MARK FACE 1/2" = 1'-0"



4 PC1.3 REINFORCING ELEVATION NON-MARK FACE 1/2" = 1'-0"



5 PC1.3 CHEEKWALL REINFORCING ELEVATION 1/2" = 1'-0"

1 5-10-16 REVISED AS NOTED AND OMIT PRECAST CHEEKWALL

SHOP NOTE:
ADJUST REINFORCING AS REQUIRED TO CLEAR SLEEVES, ANCHOR BOLTS, PROJECTING BARS, INSERTS, ETC.

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

PRECAST ABUTMENT STEM REINFORCING ELEVATIONS

DWG. NO: PC1.3

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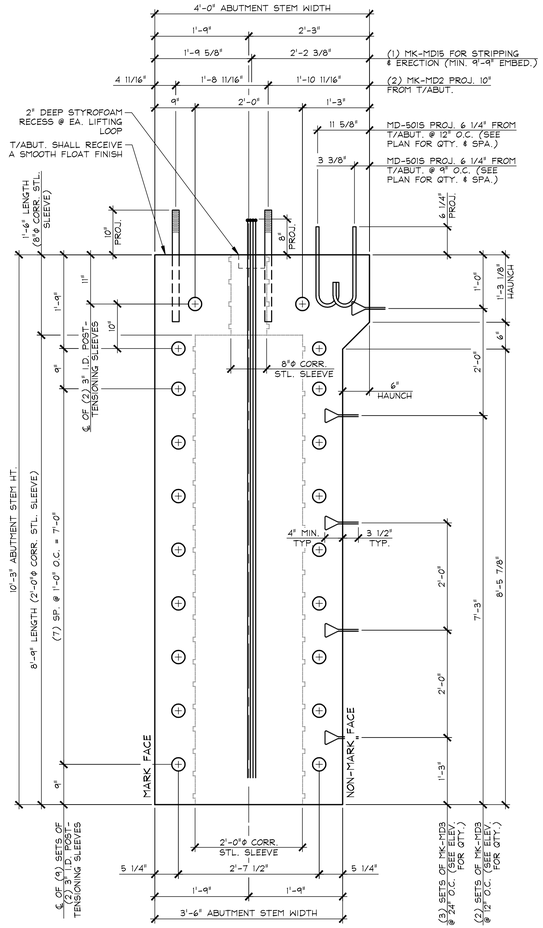
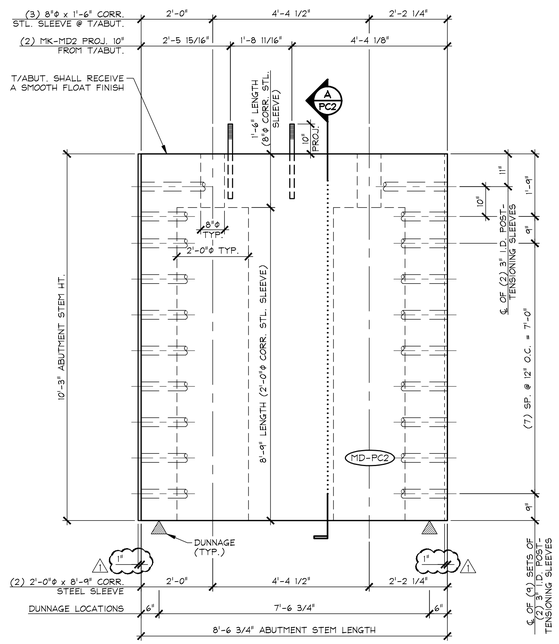
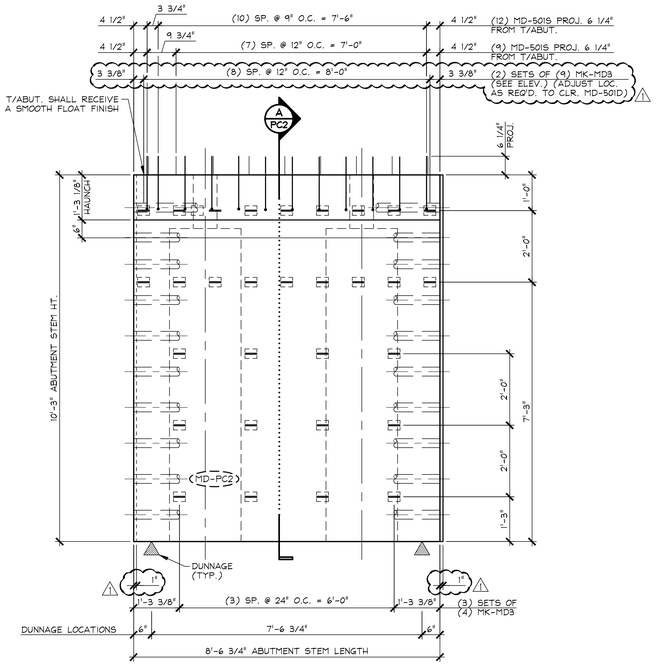


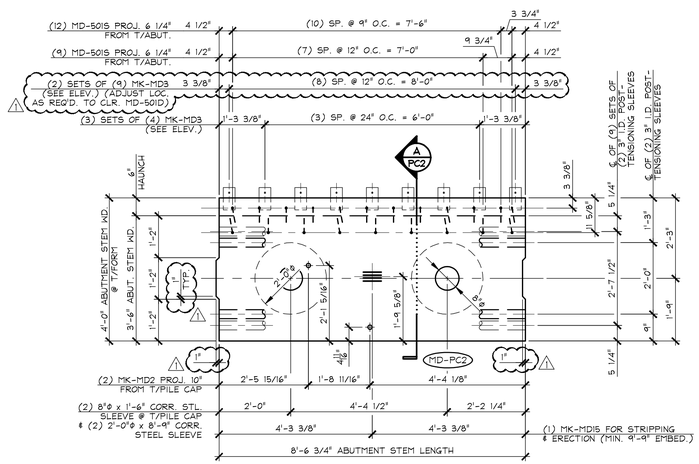
A PC2 DIMENSIONAL SECTION
3/4" = 1'-0"



1 PC2 DIMENSIONAL ELEVATION
MARK FACE
1/2" = 1'-0"



2 PC2 DIMENSIONAL ELEVATION
NON-MARK FACE
1/2" = 1'-0"



3 PC2 DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"

SHOP NOTE:
SEE DRAWING NO. "PC2.1" FOR ABUTMENT REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-PC2	QTY.: 1	WT.: 19.32 T	VOL.: 9.54 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MD-501S	#5 BENT BAR (STAINLESS STEEL)	21
2			
3			
4			
5			
6			
7		8"ϕ x 1'-6" CORRUGATED STEEL SLEEVE (GALV.)	2
8		2'-0"ϕ x 8'-9" CORRUGATED STEEL SLEEVE (GALV.)	2
9	MK-MD2	1 1/2"ϕ x 2'-1" SWEDGE HANCHOR BOLT W/ 5" THREADS (GALV.)	2
10	MK-MD3	SOIL REINFORCING CONNECTION CLIP (HIGH ADHERENCE RIBBED STEEL REINFORCING STRIP) (GALV.) △1	32
11	MK-MD15	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	1
12			
13			
14			
15			

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST ABUTMENT STEM
DIMENSIONAL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: PC2

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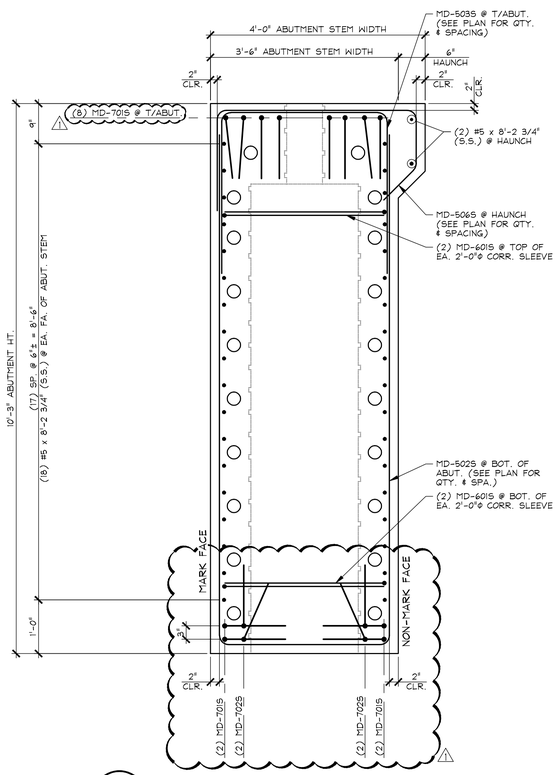
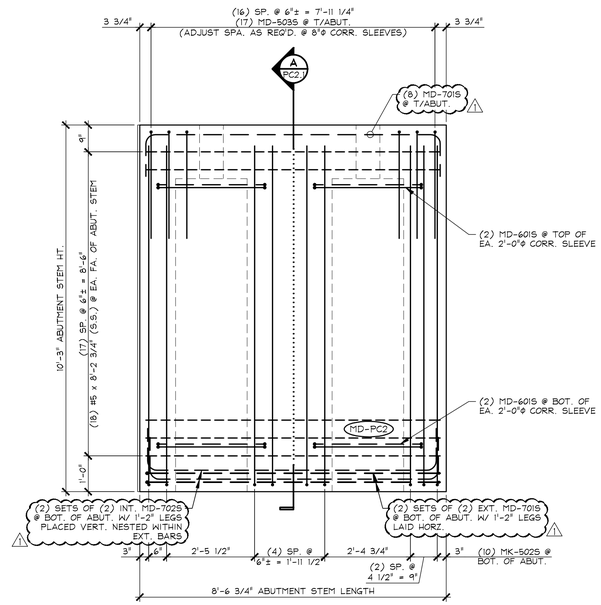
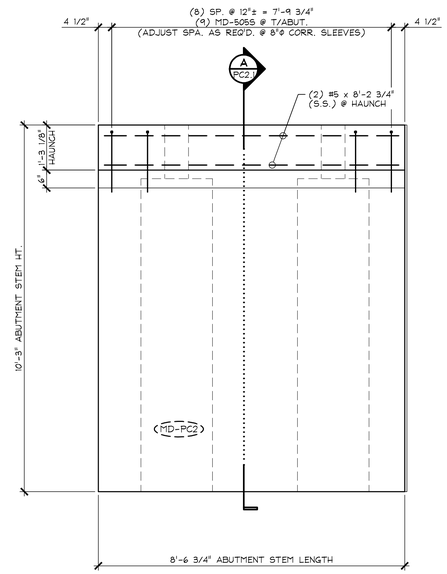


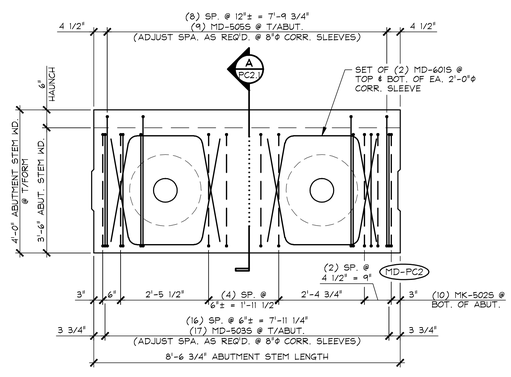
A PC2.1 REINFORCING SECTION 3/4" = 1'-0"



1 PC2.1 REINFORCING ELEVATION MARK FACE 1/2" = 1'-0"



2 PC2.1 REINFORCING ELEVATION NON-MARK FACE 1/2" = 1'-0"



3 PC2.1 REINFORCING PLAN VIEW IN FORM 1/2" = 1'-0"

LONGITUDINAL REINFORCING NOT SHOWN FOR CLARITY

SHOP NOTE:
ADJUST REINFORCING AS REQUIRED TO CLEAR SLEEVES, ANCHOR BOLTS, PROJECTING BARS, INSERTS, ETC.

MARK: MD-PC2 QTY.: 1

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5025	#5 BENT BAR (STAINLESS STEEL)	10
2	MD-5035	#5 BENT BAR (STAINLESS STEEL)	17
3	MD-5065	#5 BENT BAR (STAINLESS STEEL)	9
4		#5 x 8'-2 3/4" (STAINLESS STEEL)	38
5			
6	MD-6015	#6 BENT BAR (STAINLESS STEEL)	8
7			
8	MD-7015	#7 BENT BAR (STAINLESS STEEL)	12
9	MD-7025	#7 BENT BAR (STAINLESS STEEL)	4
10			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST ABUTMENT STEM REINFORCING DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: PC2.1

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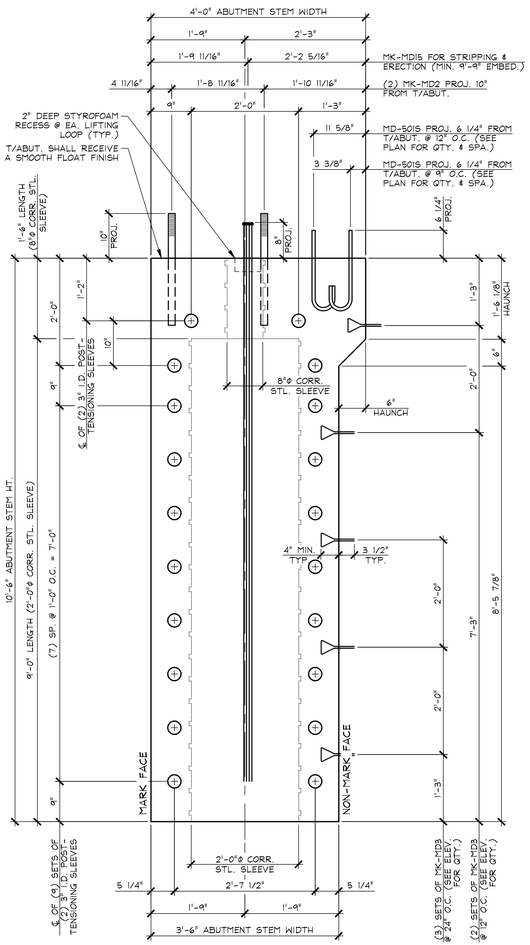
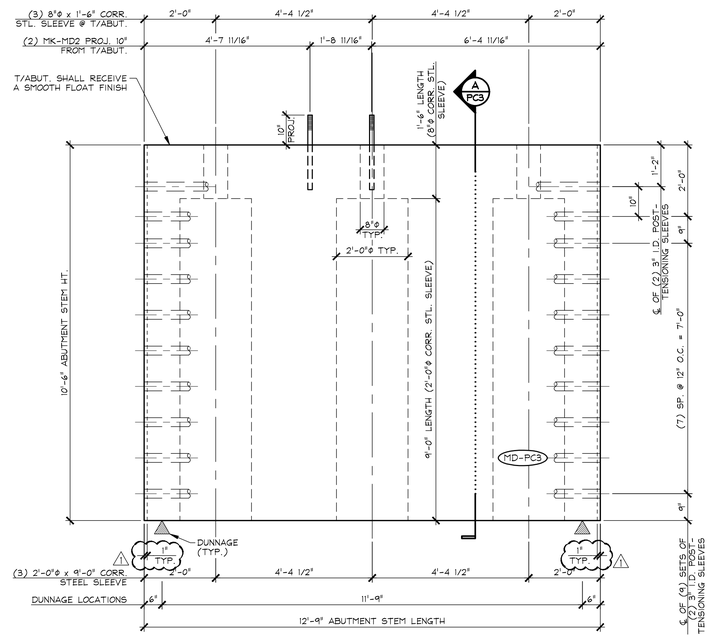
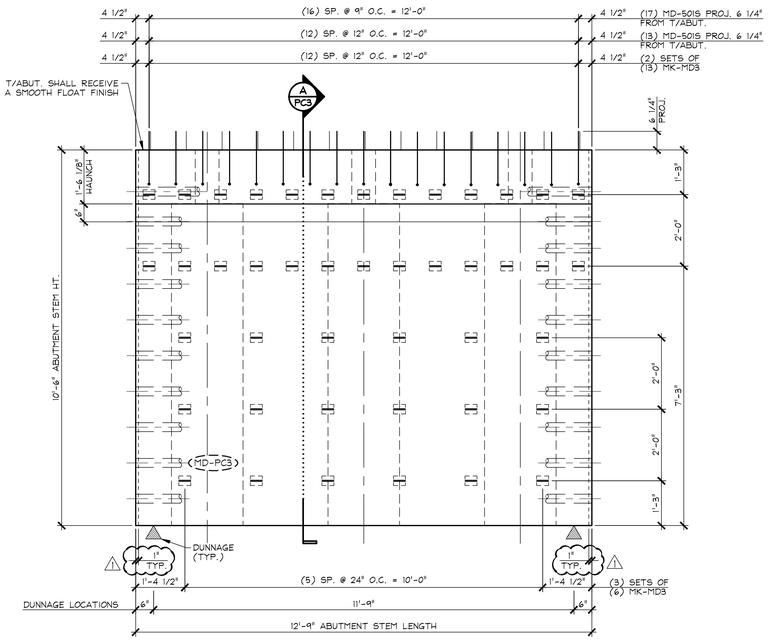


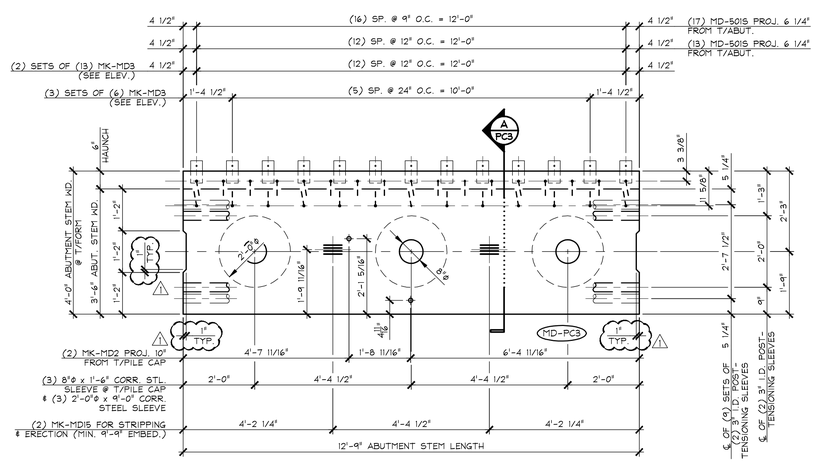
A PC3 DIMENSIONAL SECTION
3/4" = 1'-0"



1 PC3 DIMENSIONAL ELEVATION
MARK FACE 1/2" = 1'-0"



2 PC3 DIMENSIONAL ELEVATION
NON-MARK FACE 1/2" = 1'-0"



3 PC3 DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"

SHOP NOTE:
SEE DRAWING NO. "PC3.1" FOR ABUTMENT REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-PC3	QTY.: 1	WT.: 29.40 T	VOL.: 14.52 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MD-501S	#5 BENT BAR (STAINLESS STEEL)	30
2			
3			
4			
5			
6			
7		8"ϕ x 1'-6" CORRUGATED STEEL SLEEVE (GALV.)	3
8		2'-0"ϕ x 9'-0" CORRUGATED STEEL SLEEVE (GALV.)	3
9	MK-MD2	1 1/2"ϕ x 2'-1" SWEDGE HANCHOR BOLT W/ 5" THREADS (GALV.)	2
10	MK-MD3	SOIL REINFORCING CONNECTION CLIP (HIGH ADHERENCE RIBBED STEEL REINFORCING STRIP) (GALV.)	44
11	MK-MD15	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	2
12			
13			
14			
15			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST ABUTMENT STEM
DIMENSIONAL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: PC3

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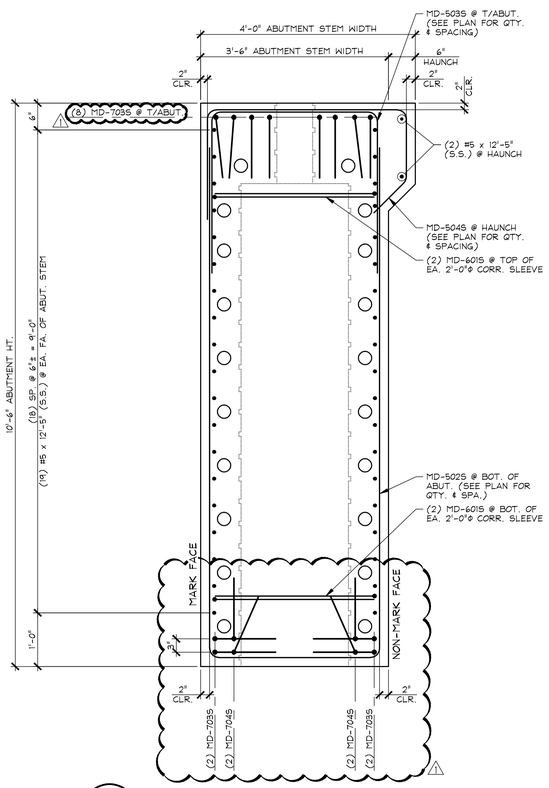
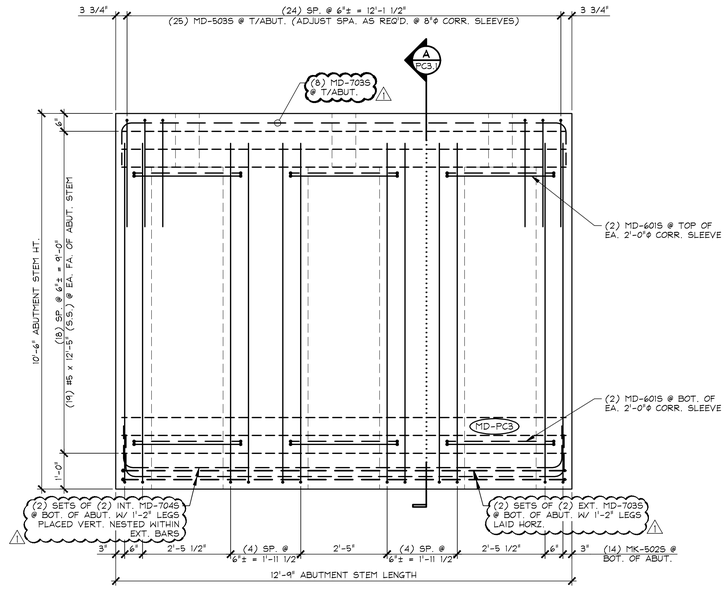
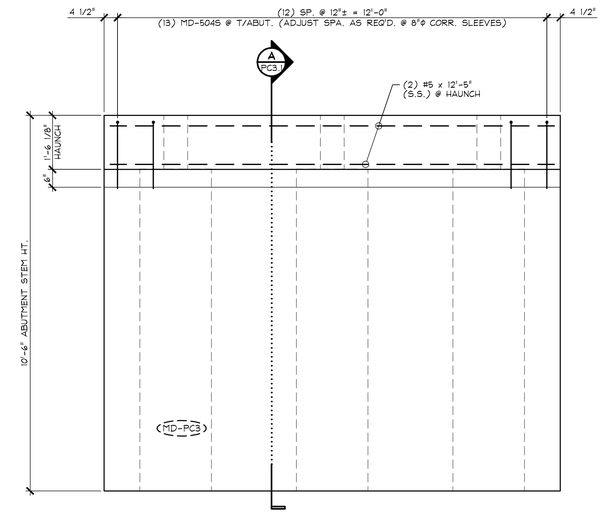


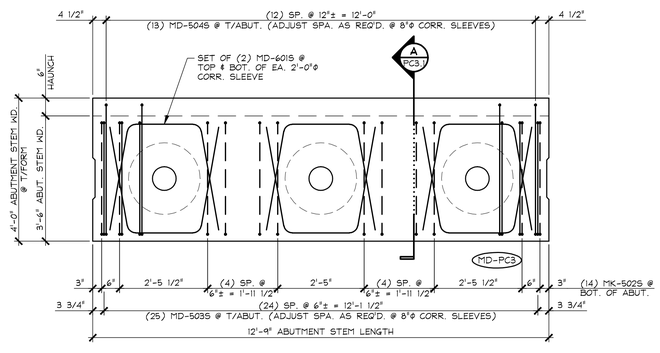
A PC3.1 REINFORCING SECTION
3/4" = 1'-0"



1 PC3.1 REINFORCING ELEVATION
MARK FACE 1/2" = 1'-0"



2 PC3.1 REINFORCING ELEVATION
NON-MARK FACE 1/2" = 1'-0"



3 PC3.1 REINFORCING PLAN VIEW IN FORM
LONGITUDINAL REINFORCING NOT SHOWN FOR CLARITY 1/2" = 1'-0"

SHOP NOTE:
ADJUST REINFORCING AS REQUIRED TO CLEAR SLEEVES, ANCHOR BOLTS, PROJECTING BARS, INSERTS, ETC.

MARK: MD-PC3 QTY.: 1

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5025	#5 BENT BAR (STAINLESS STEEL)	14
2	MD-5035	#5 BENT BAR (STAINLESS STEEL)	25
3	MD-5045	#5 BENT BAR (STAINLESS STEEL)	13
4		#5 x 12'-5" (STAINLESS STEEL)	40
5			
6	MD-6015	#6 BENT BAR (STAINLESS STEEL)	12
7			
8	MD-7035	#7 BENT BAR (STAINLESS STEEL)	12
9	MD-7045	#7 BENT BAR (STAINLESS STEEL)	4
10			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

PRECAST ABUTMENT STEM
REINFORCING DETAILS

DWG. NO: PC3.1

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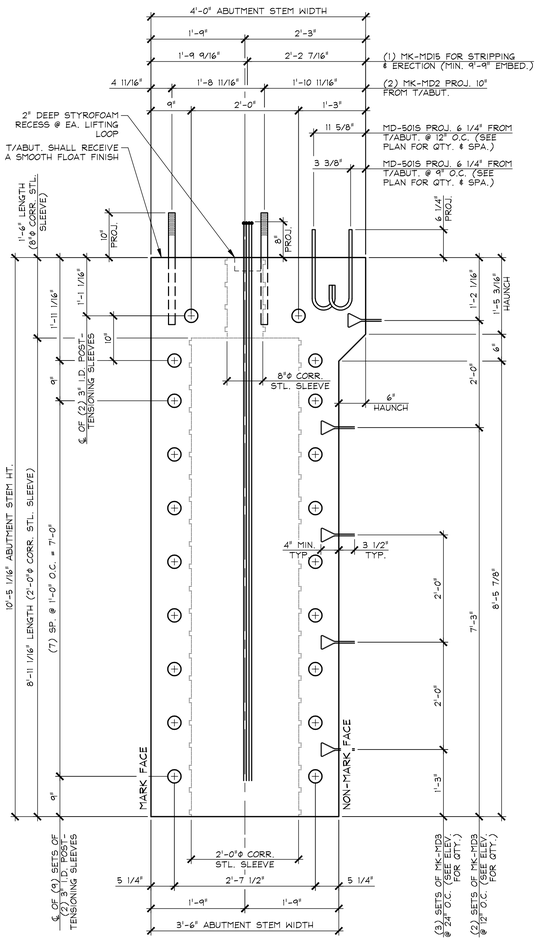
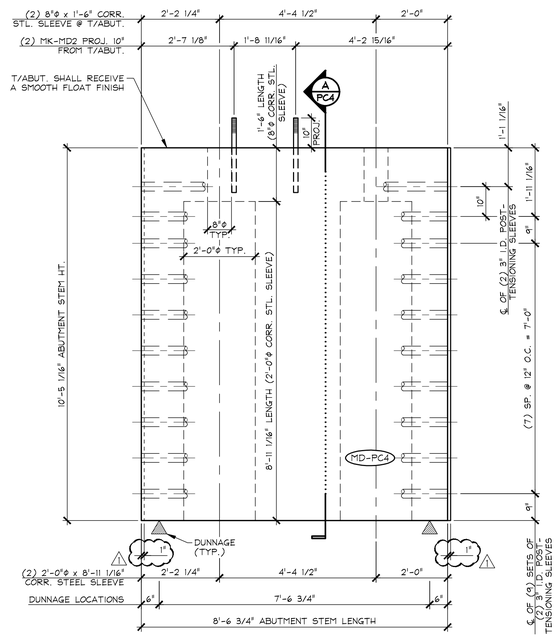
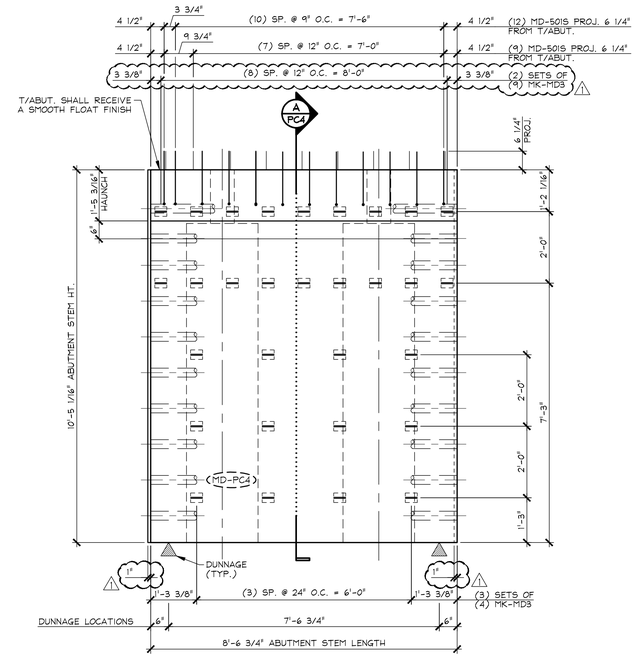


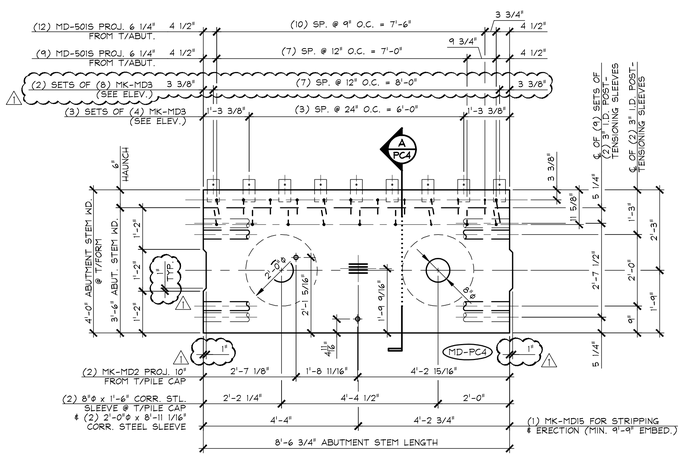
A PC4 DIMENSIONAL SECTION
3/4" = 1'-0"



1 PC4 DIMENSIONAL ELEVATION
MARK FACE
1/2" = 1'-0"



2 PC4 DIMENSIONAL ELEVATION
NON-MARK FACE
1/2" = 1'-0"



3 PC4 DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"

SHOP NOTE:
SEE DRAWING NO. "PC4.1" FOR ABUTMENT REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-PC4	QTY.: 1	WT.: 19.68 T	VOL.: 9.72 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MD-501S	#5 BENT BAR (STAINLESS STEEL)	21
2			
3			
4			
5			
6			
7		8"ϕ x 1'-6" CORRUGATED STEEL SLEEVE (GALV.)	2
8		2'-0"ϕ x 8'-11 1/16" CORRUGATED STEEL SLEEVE (GALV.)	2
9	MK-MD2	1 1/2"ϕ x 2'-1" SWEDGE HANCHOR BOLT W/ 5" THREADS (GALV.)	2
10	MK-MD3	SOIL REINFORCING CONNECTION CLIP (HIGH ADHERENCE RIBBED STEEL REINFORCING STRIP) (GALV.)	△3 30
11	MK-MD15	SET OF (4) 0.60"ϕ STRAND LIFTING LOOPS	1
12			
13			
14			
15			

△3 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST ABUTMENT STEM
DIMENSIONAL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: PC4

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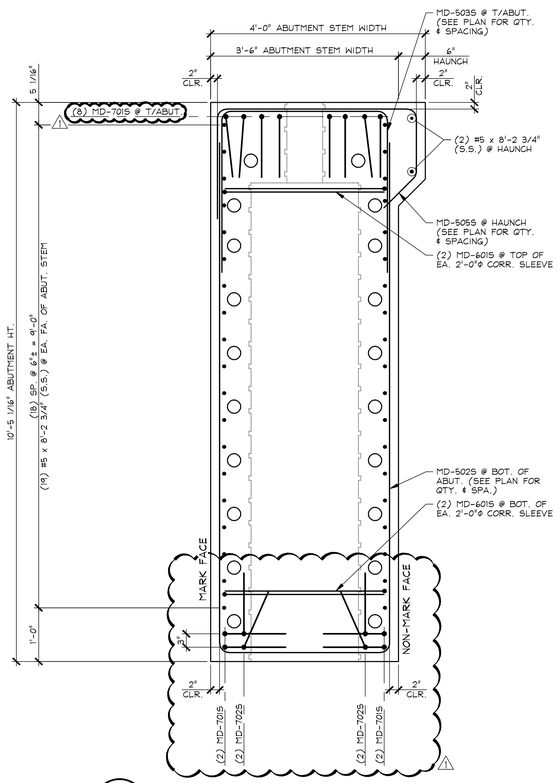
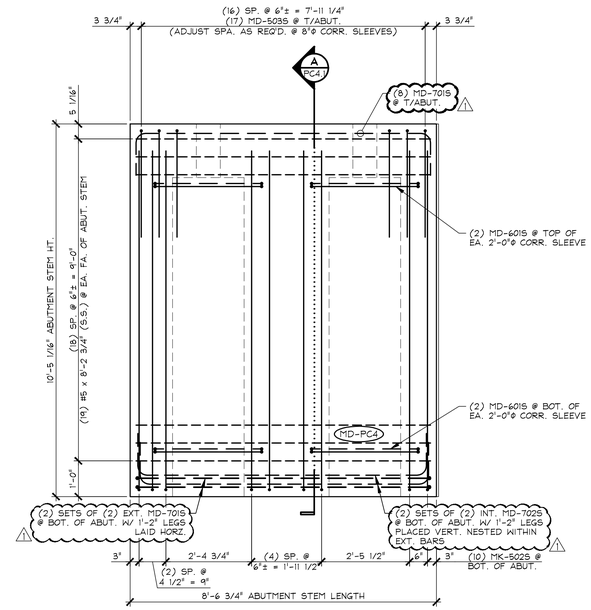
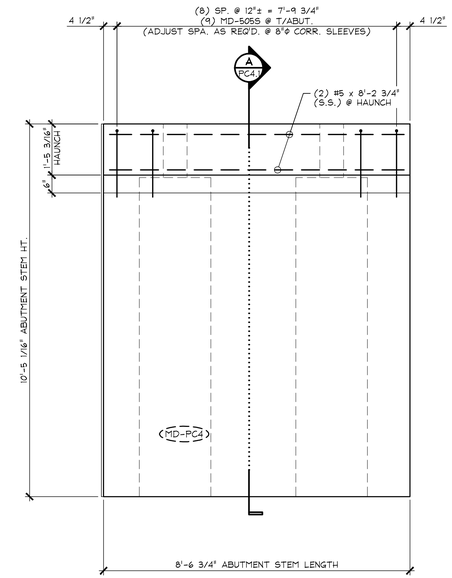


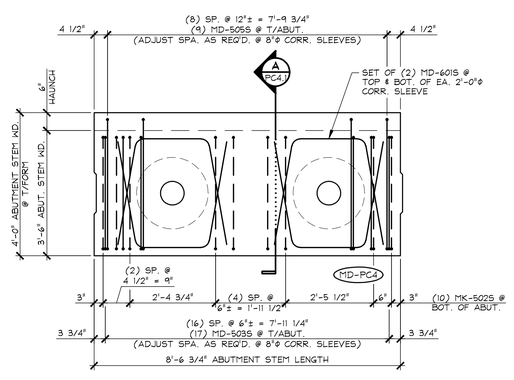
A PC4.1 REINFORCING SECTION
3/4" = 1'-0"



1 PC4.1 REINFORCING ELEVATION MARK FACE
1/2" = 1'-0"



2 PC4.1 REINFORCING ELEVATION NON-MARK FACE
1/2" = 1'-0"



3 PC4.1 REINFORCING PLAN VIEW IN FORM
LONGITUDINAL REINFORCING NOT SHOWN FOR CLARITY
1/2" = 1'-0"

SHOP NOTE:
ADJUST REINFORCING AS REQUIRED TO CLEAR SLEEVES, ANCHOR BOLTS, PROJECTING BARS, INSERTS, ETC.

MARK: MD-PC4 | QTY.: 1

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5025	#5 BENT BAR (STAINLESS STEEL)	10
2	MD-5035	#5 BENT BAR (STAINLESS STEEL)	17
3	MD-5055	#5 BENT BAR (STAINLESS STEEL)	9
4		#5 x 8'-2 3/4" (STAINLESS STEEL)	40
5			
6	MD-6015	#6 BENT BAR (STAINLESS STEEL)	8
7			
8	MD-7015	#7 BENT BAR (STAINLESS STEEL)	12
9	MD-7025	#7 BENT BAR (STAINLESS STEEL)	4
10			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

PRECAST ABUTMENT STEM
REINFORCING DETAILS

DWG. NO: PC4.1

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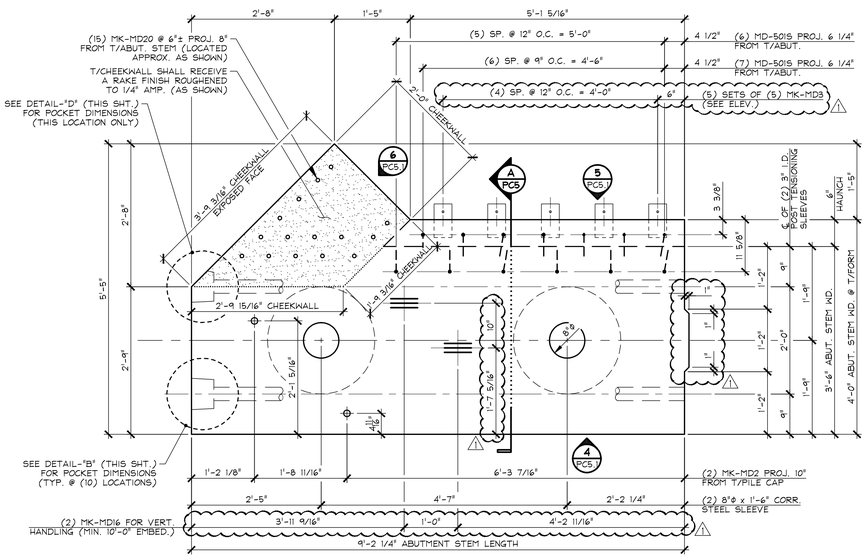
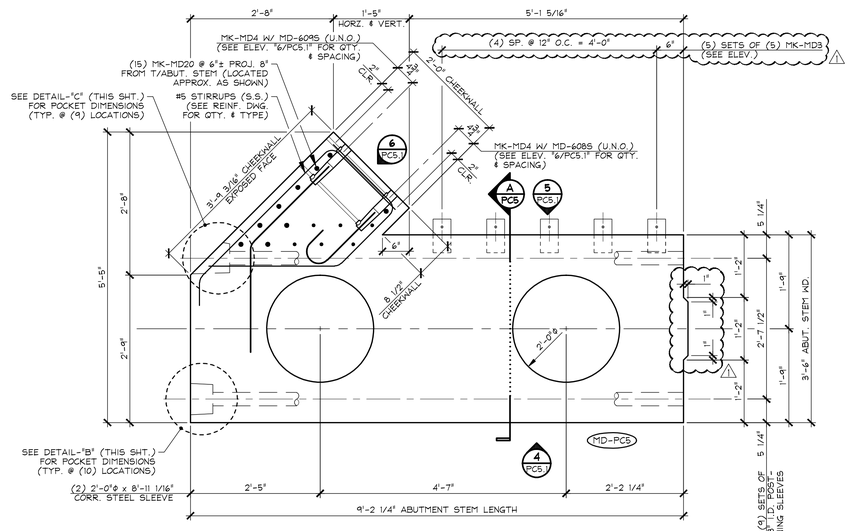


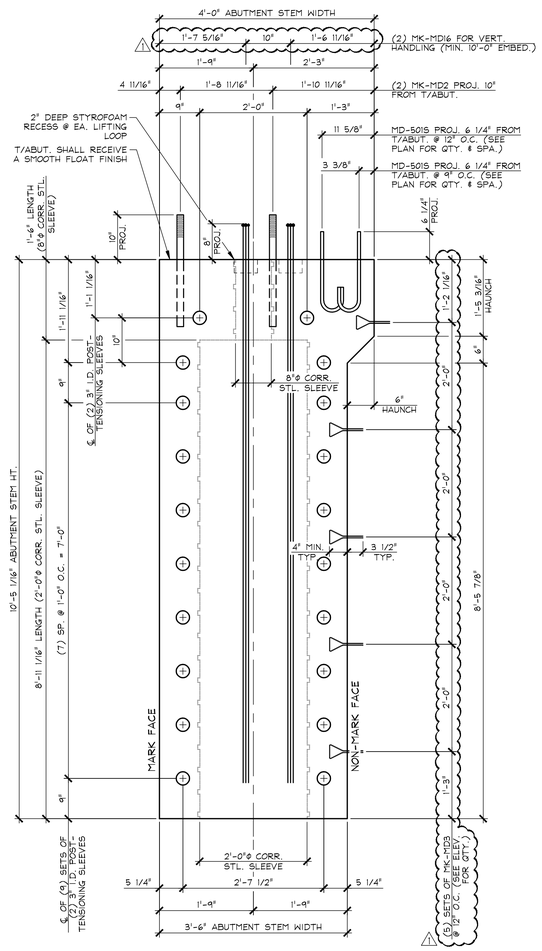
2 PC5 DIMENSIONAL PLAN VIEW IN FORM

AT TOP OF ABUTMENT STEM 3/4" = 1'-0"



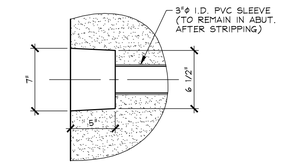
1 PC5 DIMENSIONAL PLAN VIEW IN FORM

AT BOTTOM OF FORM 3/4" = 1'-0"



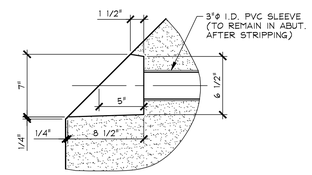
A PC5 DIMENSIONAL SECTION

3/4" = 1'-0"



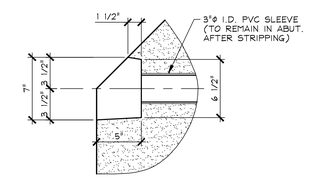
DETAIL - "B"

1 1/2" = 1'-0"



DETAIL - "C"

1 1/2" = 1'-0"



DETAIL - "D"

1 1/2" = 1'-0"

SHOP NOTE:
SEE DRAWING NO. "PC5.2" AND "PC5.3" ABUTMENT REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
△1 HANDLING STRENGTH = 4,000 PSI
MIX #448MSCC

MARK: MD-PC5	QTY.: 1	WT.: 22.65 T	VOL.: 11.19 cy

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MD-501S	#5 BENT BAR (STAINLESS STEEL)	13
2	~~MD-502S~~	~~#5 BENT BAR (STAINLESS STEEL)~~	~~—~~
3			
4	MD-602S	#6 BENT BAR (STAINLESS STEEL)	
5	MD-603S	#6 BENT BAR (STD. HOOK) (STAINLESS STEEL)	1
6	MD-608S	#6 BENT BAR (STAINLESS STEEL)	13
7	△1 MD-609S	#6 BENT BAR (STAINLESS STEEL)	13
8			
9		8"ϕ x 1'-6" CORRUGATED STEEL SLEEVE (GALV.)	2
10		2'-0"ϕ x 8'-11 1/16" CORRUGATED STEEL SLEEVE (GALV.)	2
11	MK-MD2	1 1/2"ϕ x 2'-1" SWEDGE HANCHOR BOLT W/ 5" THREADS (GALV.)	2
12	MK-MD3	SOIL REINFORCING CONNECTION CLIP (HIGH ADHERENCE RIBBED STEEL REINFORCING STRIP) (GALV.)	25
13	MK-MD4	NMB SPLICE SLEEVE 6U-X(PG) (EPOXY COATED)	△1 28
14	MK-MD16	SET OF (3) 0.60"ϕ STRAND LIFTING LOOPS	2
15		~~20-T x 19 3/4" SWIFT LIFT LIFTER (GALV.)~~	~~—~~
16	△1 MK-MD20	#6 x 10'-11" (S.S.) W/ THREADED END TO RECEIVE COUPLER	15
17			
18			
19			
20			

△1 5-10-16 REVISED AS NOTED AND OMIT PRECAST CHEEKWALL

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST ABUTMENT STEM
DIMENSIONAL PLAN, SECTIONS & DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: PC5

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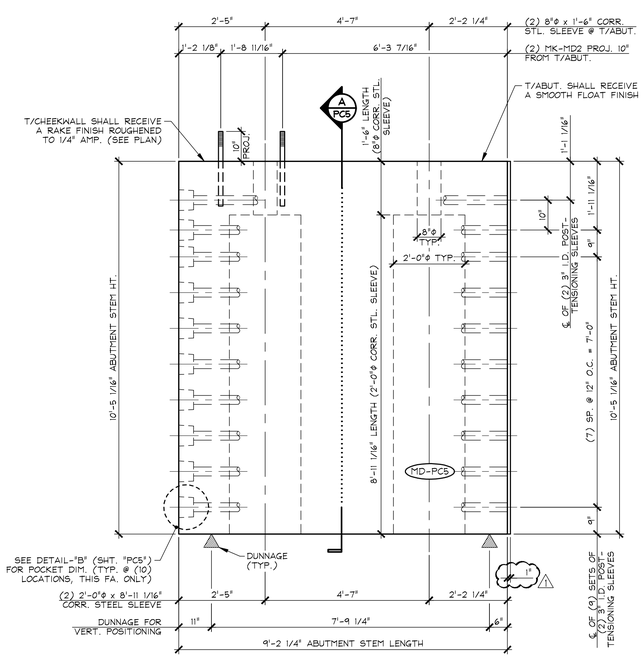
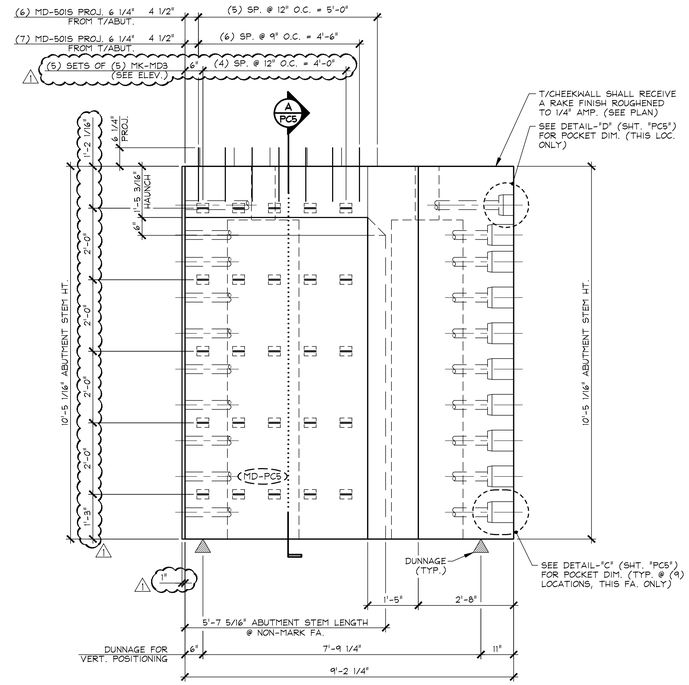
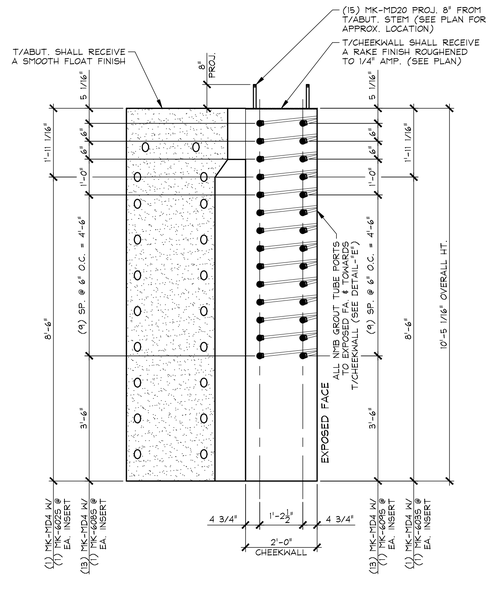


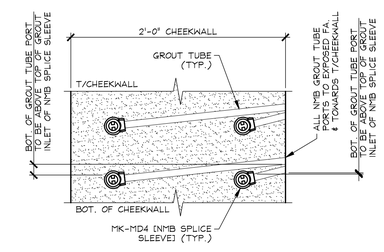
4 PC5.1 DIMENSIONAL ELEVATION MARK FACE 1/2" = 1'-0"



5 PC5.1 DIMENSIONAL ELEVATION NON-MARK FACE 1/2" = 1'-0"



6 PC5.1 CHEEKWALL ELEVATION 1/2" = 1'-0"



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

5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST ABUTMENT STEM
DIMENSIONAL ELEVATIONS

DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	PC5.1

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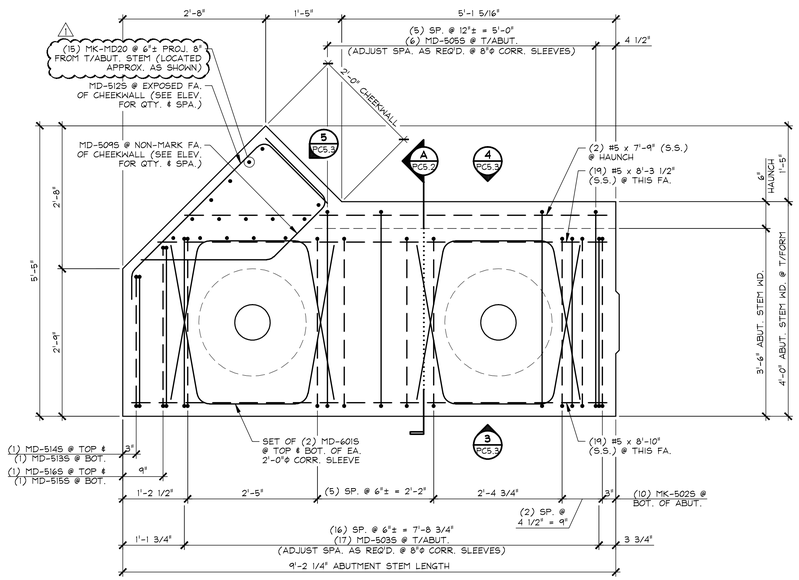
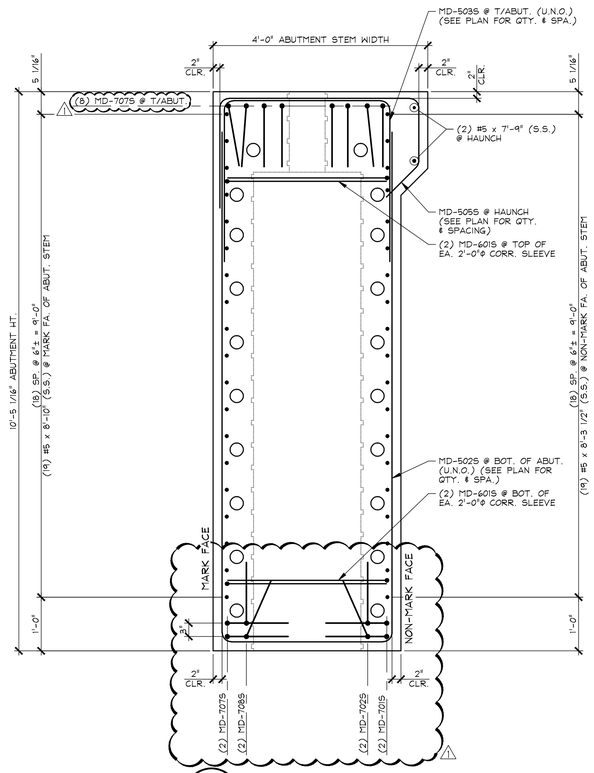


1 PC5.2 REINFORCING PLAN VIEW IN FORM
3/4" = 1'-0"



A PC5.2 REINFORCING SECTION
3/4" = 1'-0"

SHOP NOTE:
ADJUST REINFORCING AS REQUIRED TO CLEAR SLEEVES, ANCHOR BOLTS, PROJECTING BARS, INSERTS, ETC.

MARK: MD-PC5 | QTY.: 1

MATERIAL LIST / ABUTMENT

ITEM	MARK	DESCRIPTION	QTY.
1	MD-502S	#5 BENT BAR (STAINLESS STEEL)	10
2	MD-503S	#5 BENT BAR (STAINLESS STEEL)	17
3	MD-505S	#5 BENT BAR (STAINLESS STEEL)	6
4	MD-509S	#5 BENT BAR (STAINLESS STEEL)	21
5	~~MD-510S~~	~~#5 BENT BAR (STAINLESS STEEL)~~	~~12~~
6	~~MD-511S~~	~~#5 BENT BAR (STAINLESS STEEL)~~	~~6~~
7	MD-512S	#5 BENT BAR (STAINLESS STEEL)	21
8	MD-513S	#5 BENT BAR (STAINLESS STEEL)	1
9	MD-514S	#5 BENT BAR (STAINLESS STEEL)	1
10	MD-515S	#5 BENT BAR (STAINLESS STEEL)	1
11	MD-516S	#5 BENT BAR (STAINLESS STEEL)	1
12		#5 x 8'-10" (STAINLESS STEEL)	19
13		#5 x 8'-3 1/2" (STAINLESS STEEL)	19
14		#5 x 7'-9 (STAINLESS STEEL)	2
15			
16			
17	MD-601S	#6 BENT BAR (STAINLESS STEEL)	8
18		~~#6 x 16'-2" (STAINLESS STEEL)~~	~~16~~
19			
20			
21	MD-701S	#7 BENT BAR (STAINLESS STEEL)	2
22	MD-702S	#7 BENT BAR (STAINLESS STEEL)	2
23	MD-707S	#7 BENT BAR (STAINLESS STEEL)	10
24	MD-708S	#7 BENT BAR (STAINLESS STEEL)	2
25			

△1 5-10-16 REVISED AS NOTED AND OMIT PRECAST CHEEKWALL

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

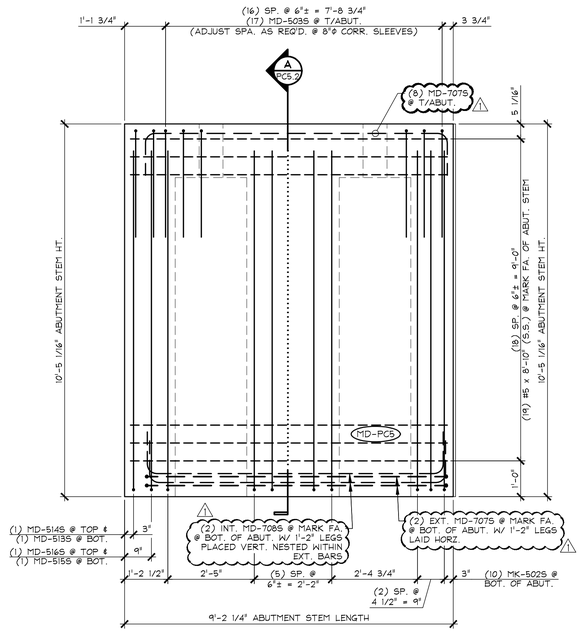
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

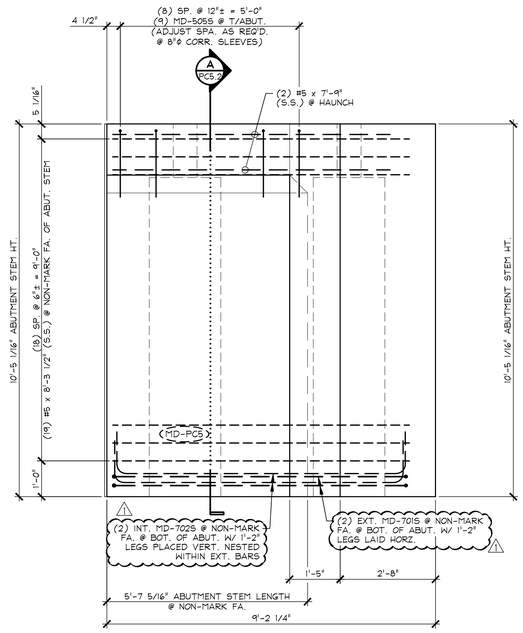
PRECAST ABUTMENT STEM
DIMENSIONAL PLAN, SECTIONS & DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: PC5.2

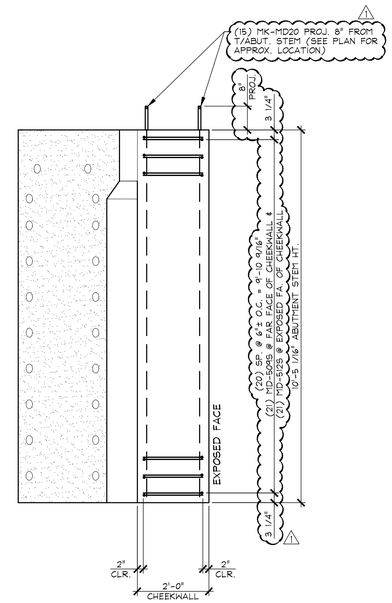
F:\VT-Bridges\23480-15 Waitsfield\23480-PC5-2.dwg, 5/10/2016 10:39:39 AM



3 REINFORCING ELEVATION
PC5.3 MARK FACE 1/2" = 1'-0"



4 REINFORCING ELEVATION
PC5.3 NON-MARK FACE 1/2" = 1'-0"



5 CHEEKWALL REINFORCING
PC5.3 ELEVATION 1/2" = 1'-0"

SHOP NOTE:
ADJUST REINFORCING AS REQUIRED TO CLEAR SLEEVES, ANCHOR BOLTS, PROJECTING BARS, INSERTS, ETC.

1 5-10-16 REVISED AS NOTED AND OMIT PRECAST CHEEKWALL

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
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A.L. ST. ONGE CONTRACTOR, INC.
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STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST ABUTMENT STEM REINFORCING ELEVATIONS

DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	PC5.3

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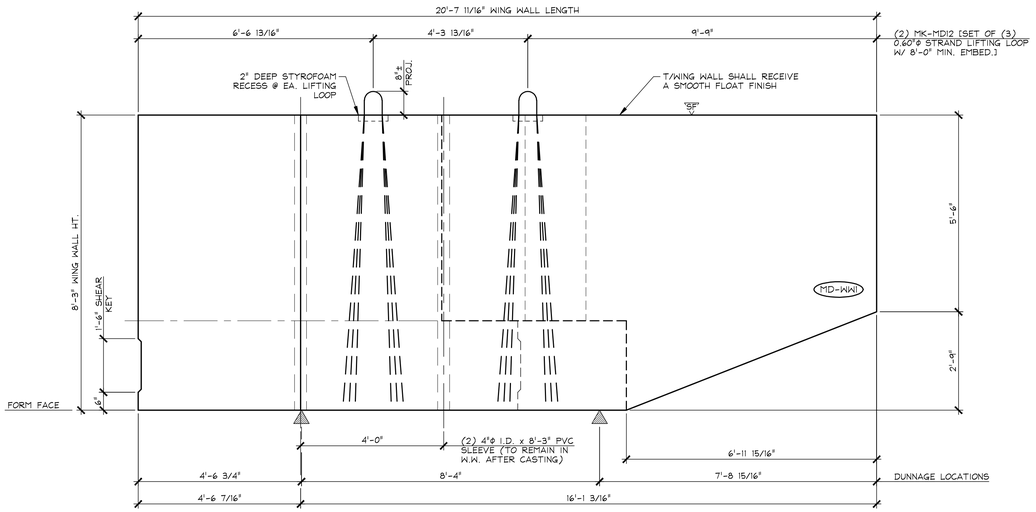
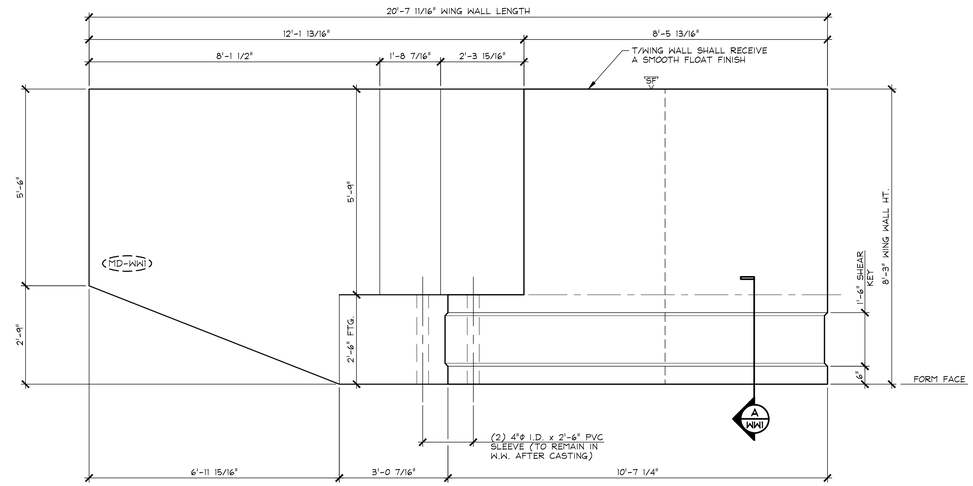
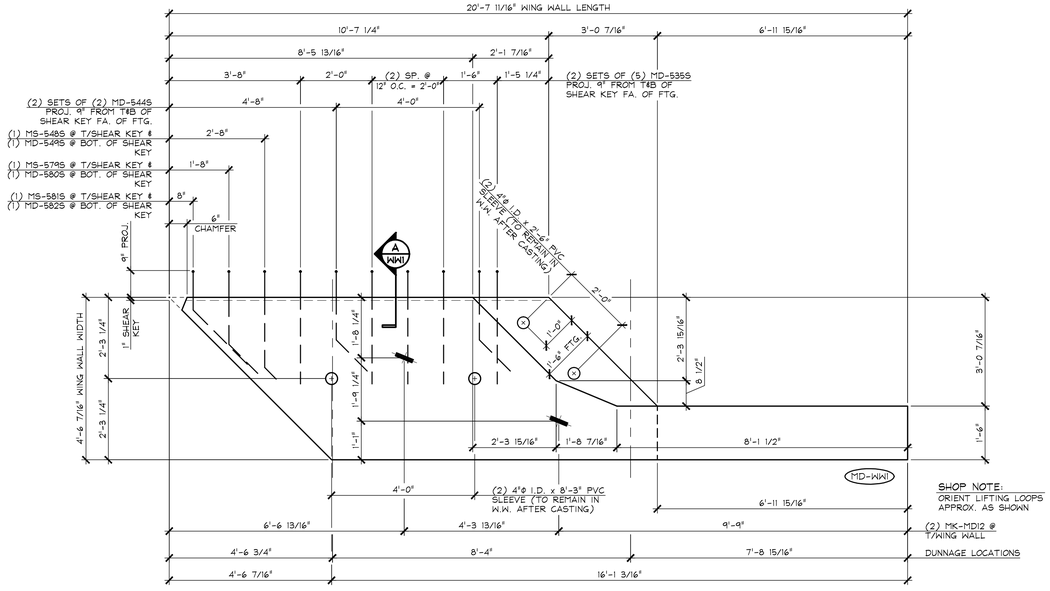


1 WW1 DIMENSIONAL ELEVATION
MARK FACE 1/2" = 1'-0"

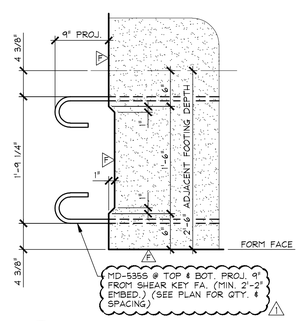


2 WW1 DIMENSIONAL ELEVATION
NON-MARK FACE 1/2" = 1'-0"



SHOP NOTE:
ORIENT LIFTING LOOPS APPROX. AS SHOWN

3 WW1 DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"



A WW1 SHEAR KEY DETAIL
1" = 1'-0"

SHOP NOTE:
SEE DRAWING NO. "WW1.1" FOOTING REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #44SMSCC

F DENOTES FORM FINISH
SF DENOTES SMOOTH FLOAT FINISH

MARK: MD-WW1	QTY.: 1	WT.: 31.81 T	VOL.: 15.71 cy

MATERIAL LIST / WING WALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-535S	#5 BENT BAR (STAINLESS STEEL)	10
2	MD-544S	#5 BENT BAR (STAINLESS STEEL)	4
3	MD-548S	#5 BENT BAR (STAINLESS STEEL)	1
4	MD-549S	#5 BENT BAR (STAINLESS STEEL)	1
5	MD-579S	#5 BENT BAR (STAINLESS STEEL)	1
6	MD-580S	#5 BENT BAR (STAINLESS STEEL)	1
7	MD-581S	#5 BENT BAR (STAINLESS STEEL)	1
8	MD-582S	#5 BENT BAR (STAINLESS STEEL)	1
9			
10		4"ϕ I.D. x 8'-3" PVC SLEEVE	2
11		4"ϕ I.D. x 2'-6" PVC SLEEVE	2
12	MK-MD12	SET OF (3) 0.60"ϕ STRAND LIFTING LOOPS	2
13			
14			
15			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST WING WALL
DIMENSIONAL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: WW1

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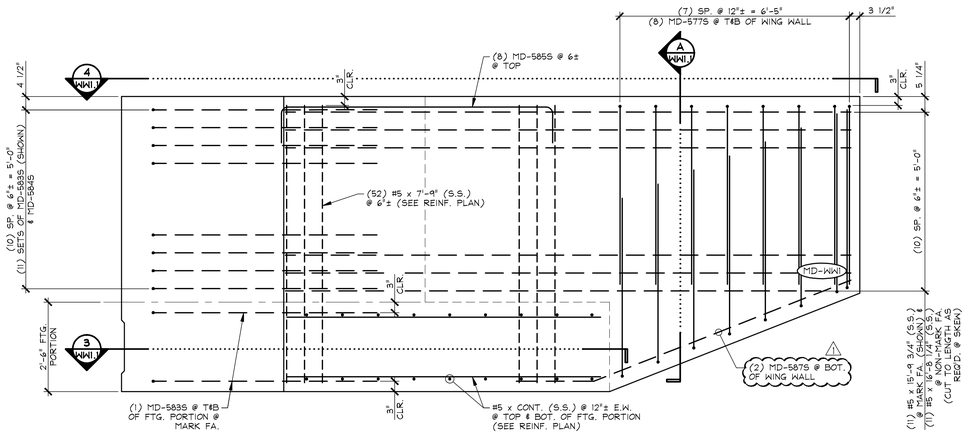
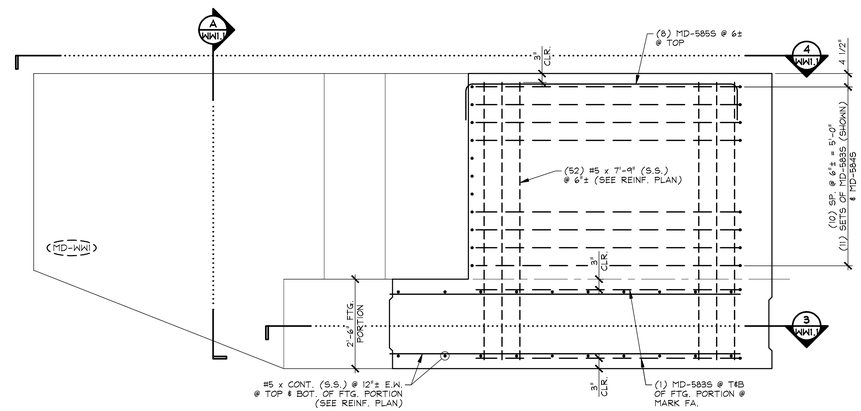
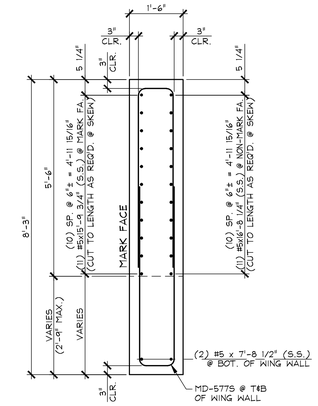


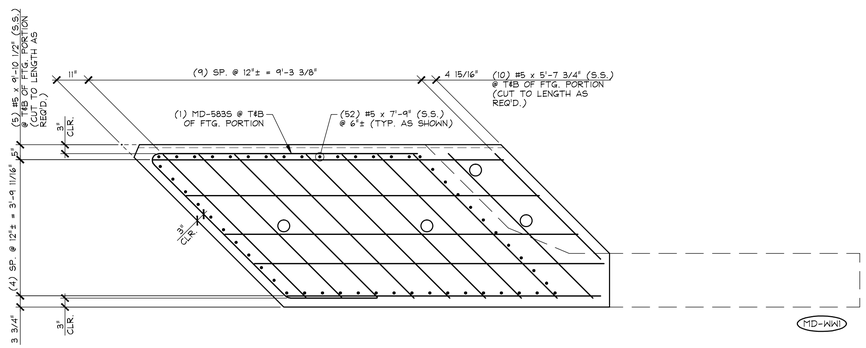
1 WW1.1 REINFORCING ELEVATION MARK FACE 1/2" = 1'-0"



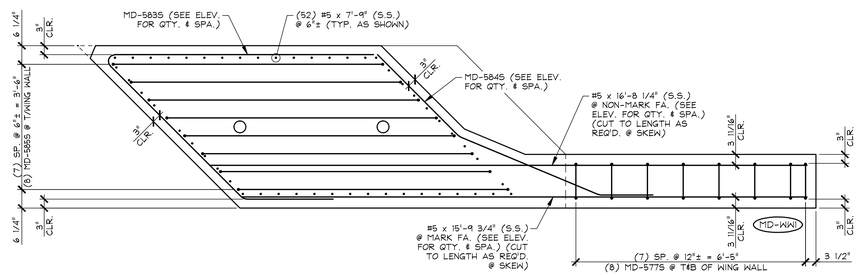
2 WW1.1 REINFORCING ELEVATION NON-MARK FACE 1/2" = 1'-0"



A WW1.1 REINFORCING SECTION 1/2" = 1'-0"



3 WW1.1 REINFORCING PLAN VIEW IN FORM FOOTING PORTION 1/2" = 1'-0"



4 WW1.1 REINFORCING PLAN VIEW IN FORM 1/2" = 1'-0"

MARK: MD-WW1		QTY.: 1	
MATERIAL LIST / WING WALL			
ITEM	MARK	DESCRIPTION	QTY.
1	MD-577S	#5 BENT BAR (STAINLESS STEEL)	16
2	MD-583S	#5 BENT BAR (STAINLESS STEEL)	13
3	MD-584S	#5 BENT BAR (STAINLESS STEEL)	11
4	MD-585S	#5 BENT BAR (STAINLESS STEEL)	8
5	MD-587S	#5 BENT BAR (STAINLESS STEEL)	2
6		#5 x 16'-8 1/4" (STAINLESS STEEL)	11
7		#5 x 15'-9 3/4" (STAINLESS STEEL)	11
8		~~#5 x 7'-8 1/2" (STAINLESS STEEL)~~	~~2~~
9		#5 x 9'-10 1/2" (STAINLESS STEEL)	10
10		#5 x 5'-7 3/4" (STAINLESS STEEL)	20
11		#5 x 7'-9" (STAINLESS STEEL)	52
12			
13			
14			
15			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

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CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST WING WALL
REINFORCING DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: WW1.1

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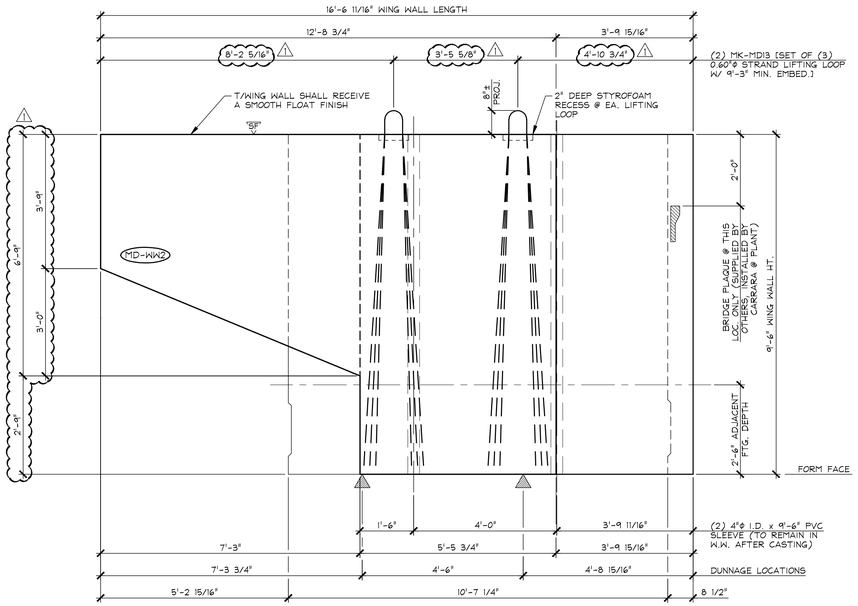
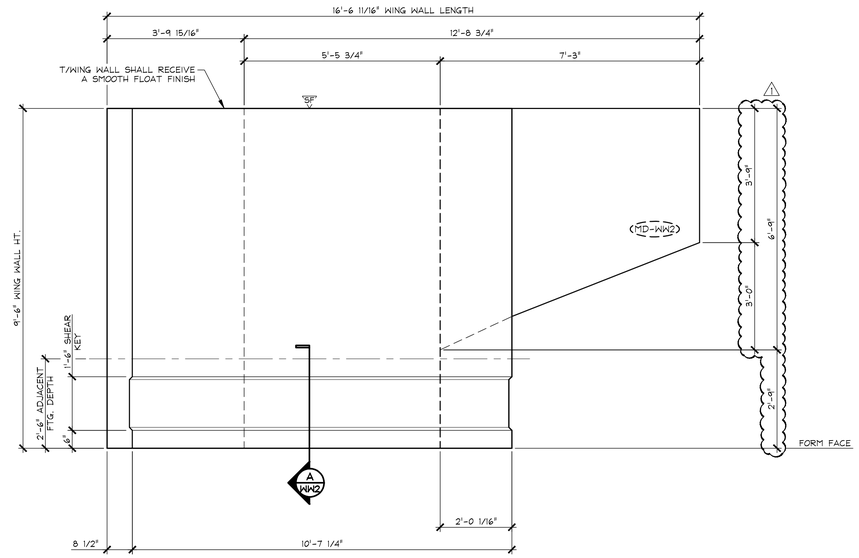
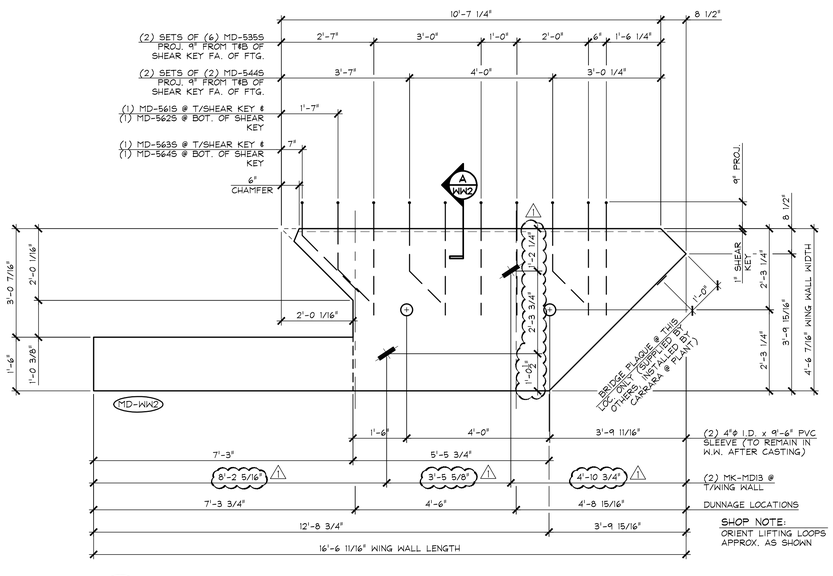


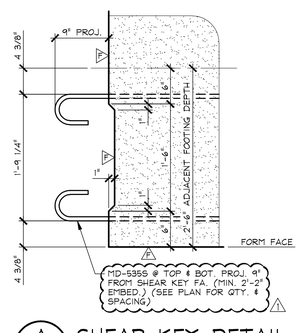
1 WW2 DIMENSIONAL ELEVATION MARK FACE 1/2" = 1'-0"



2 WW2 DIMENSIONAL ELEVATION NON-MARK FACE 1/2" = 1'-0"



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



A WW2 SHEAR KEY DETAIL 1" = 1'-0"

SHOP NOTE:
SEE DRAWING NO. #WW2.1" FOOTING REINFORCING

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

SF DENOTES FORM FINISH
SF DENOTES SMOOTH FLOAT FINISH

MARK: MD-WW2	QTY.: 1	WT.: 30.30 T	VOL.: 14.96 cy

MATERIAL LIST / WING WALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5355	#5 BENT BAR (STAINLESS STEEL)	12
2	MD-5445	#5 BENT BAR (STAINLESS STEEL)	4
3	MD-5615	#5 BENT BAR (STAINLESS STEEL)	1
4	MD-5625	#5 BENT BAR (STAINLESS STEEL)	1
5	MD-5635	#5 BENT BAR (STAINLESS STEEL)	1
6	MD-5645	#5 BENT BAR (STAINLESS STEEL)	1
7			
8			
9		BRIDGE PLAQUE (SUPPLIED BY OTHERS)	1
10		4"Φ I.D. x 9'-6" PVC SLEEVE	2
11	MK-MD13	SET OF (3) 0.60"Φ STRAND LIFTING LOOPS	2
12			
13			
14			
15			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST WING WALL
DIMENSIONAL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: WW2

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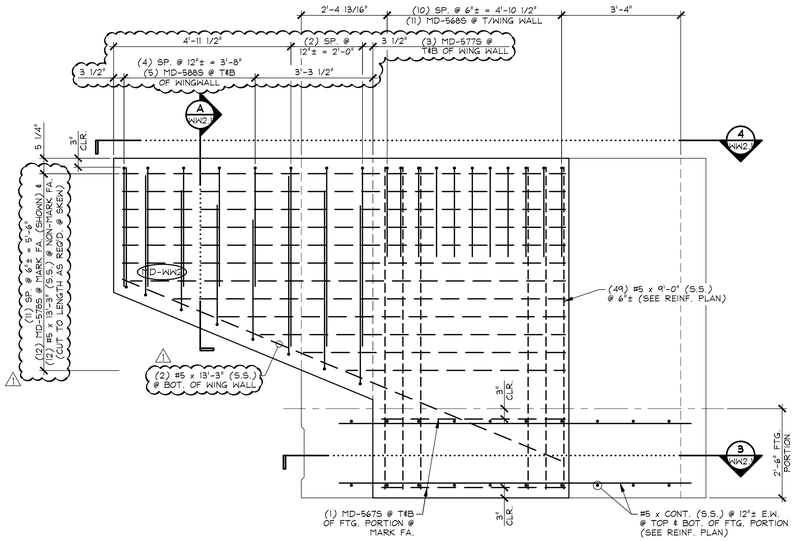
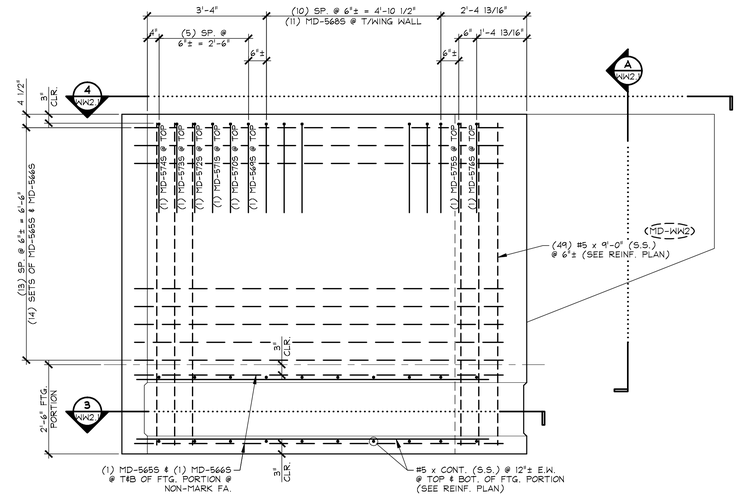
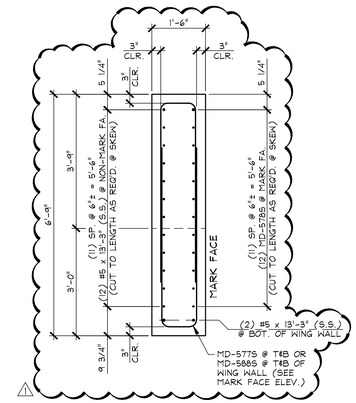


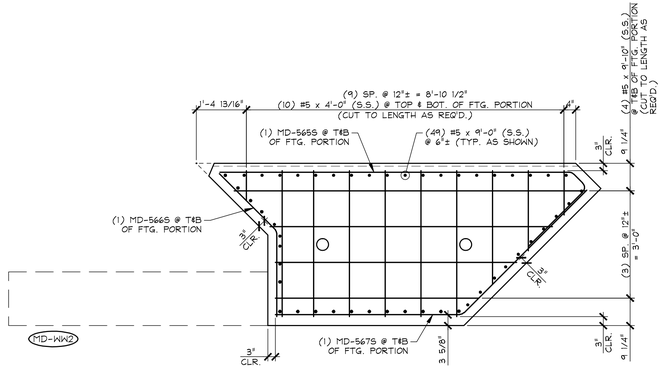
1 WW2.1 REINFORCING ELEVATION MARK FACE 1/2" = 1'-0"



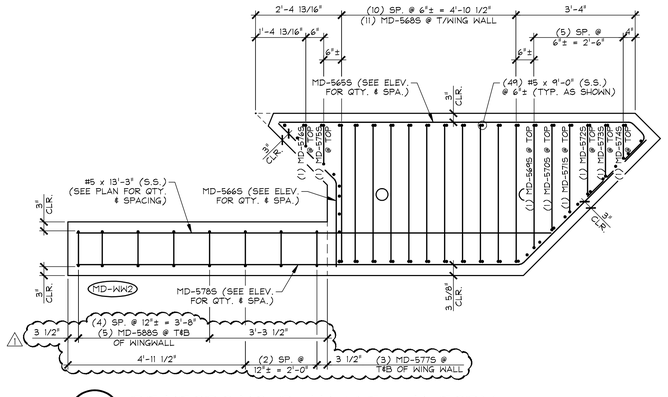
2 WW2.1 REINFORCING ELEVATION NON-MARK FACE 1/2" = 1'-0"



A WW2.1 REINFORCING SECTION 1/2" = 1'-0"



3 WW2.1 REINFORCING PLAN VIEW IN FORM FOOTING PORTION 1/2" = 1'-0"



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

MARK: MD-WW2	QTY.: 1		
MATERIAL LIST / WING WALL			
ITEM	MARK	DESCRIPTION	QTY.
1	MD-565S	#5 BENT BAR (STAINLESS STEEL)	16
2	MD-566S	#5 BENT BAR (STAINLESS STEEL)	16
3	MD-567S	#5 BENT BAR (STAINLESS STEEL)	2
4	MD-568S	#5 BENT BAR (STAINLESS STEEL)	11
5	MD-569S	#5 BENT BAR (STAINLESS STEEL)	1
6	MD-570S	#5 BENT BAR (STAINLESS STEEL)	1
7	MD-571S	#5 BENT BAR (STAINLESS STEEL)	1
8	MD-572S	#5 BENT BAR (STAINLESS STEEL)	1
9	MD-573S	#5 BENT BAR (STAINLESS STEEL)	1
10	MD-574S	#5 BENT BAR (STAINLESS STEEL)	1
11	MD-575S	#5 BENT BAR (STAINLESS STEEL)	1
12	MD-576S	#5 BENT BAR (STAINLESS STEEL)	1
13	MD-577S	#5 BENT BAR (STAINLESS STEEL)	6
14	MD-578S	#5 BENT BAR (STAINLESS STEEL)	12
15	MD-588S	#5 BENT BAR (STAINLESS STEEL)	10
16		#5 x 9'-0" (STAINLESS STEEL)	49
17		#5 x 4'-0" (STAINLESS STEEL)	20
18		#5 x 9'-10" (STAINLESS STEEL)	8
19		#5 x 13'-3" (STAINLESS STEEL)	14
20		~~#5 x 19'-3" (STAINLESS STEEL)~~	~~2~~

5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

PRECAST WING WALL
REINFORCING DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: WW2.1

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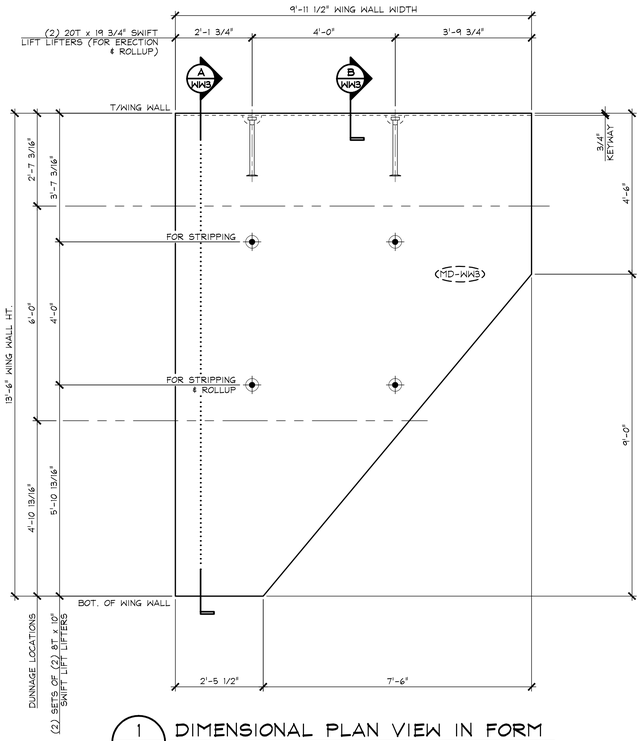
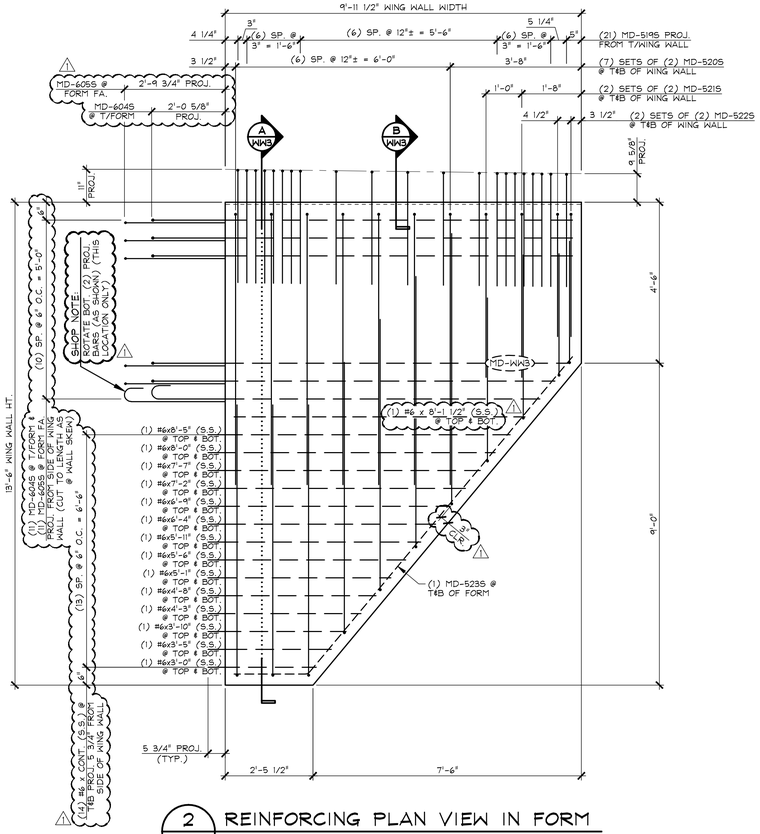


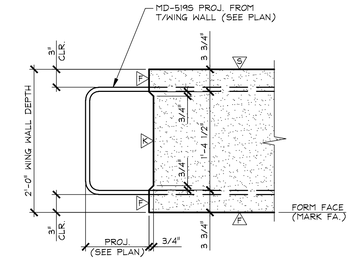
1 WW3 DIMENSIONAL PLAN VIEW IN FORM

1/2" = 1'-0"



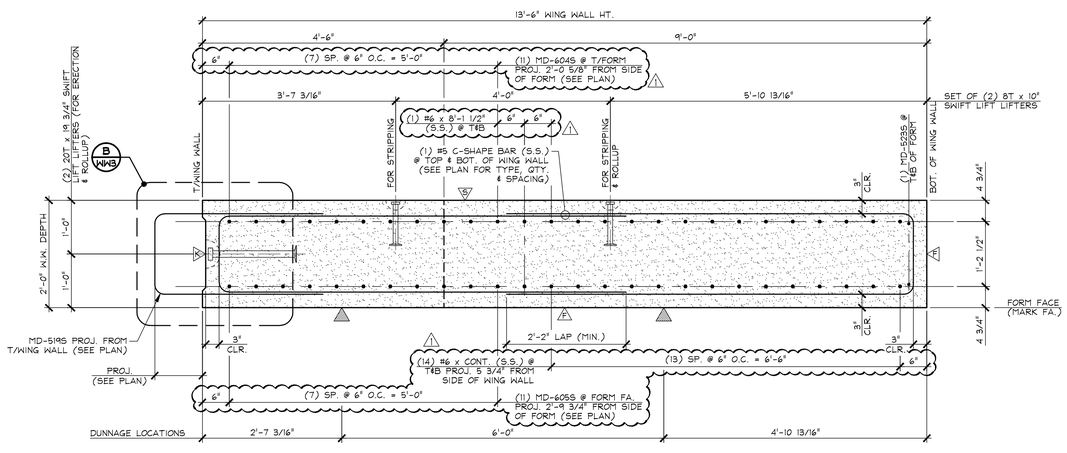
2 WW3 REINFORCING PLAN VIEW IN FORM

1/2" = 1'-0"



B WW3 TOP OF WINGWALL SECTION

1" = 1'-0"



A WW3 WING WALL SECTION

3/4" = 1'-0"

F DENOTES FORM FINISH

S DENOTES SMOOTH SCREED FINISH

R DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-WW3	QTY.: 1	WT.: 15.04 T	VOL.: 7.43 cy

MATERIAL LIST / WING WALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5195	#5 BENT BAR (STAINLESS STEEL)	21
2	MD-5205	#5 BENT BAR (STAINLESS STEEL)	14
3	MD-5215	#5 BENT BAR (STAINLESS STEEL)	4
4	MD-5225	#5 BENT BAR (STAINLESS STEEL)	4
5	MD-5235	#5 BENT BAR (STAINLESS STEEL)	2
6			
7	MD-6045	#6 BENT BAR (STAINLESS STEEL)	11
8	MD-6055	#6 BENT BAR (STAINLESS STEEL)	11
9		~~#6 x 10'-2" (STAINLESS STEEL)~~	~~16~~
10		~~#6 x 10'-1" (STAINLESS STEEL)~~	~~2~~
11		~~#6 x 9'-8" (STAINLESS STEEL)~~	~~2~~
12		~~#6 x 9'-3" (STAINLESS STEEL)~~	~~2~~
13		~~#6 x 8'-10" (STAINLESS STEEL)~~	~~2~~
14		#6 x 8'-5" (STAINLESS STEEL)	2
15		#6 x 8'-0" (STAINLESS STEEL)	2
16		#6 x 7'-7" (STAINLESS STEEL)	2
17		#6 x 7'-2" (STAINLESS STEEL)	2
18		#6 x 6'-9" (STAINLESS STEEL)	2
19		#6 x 6'-4" (STAINLESS STEEL)	2
20		#6 x 5'-11" (STAINLESS STEEL)	2
21		#6 x 5'-6" (STAINLESS STEEL)	2
22		#6 x 5'-1" (STAINLESS STEEL)	2
23		#6 x 4'-8" (STAINLESS STEEL)	2
24		#6 x 4'-3" (STAINLESS STEEL)	2
25		#6 x 3'-10" (STAINLESS STEEL)	2
26		#6 x 3'-5" (STAINLESS STEEL)	2
27		#6 x 3'-0" (STAINLESS STEEL)	2
28		#6 x 8'-1 1/2" (STAINLESS STEEL)	2
29		8T x 10' SWIFT LIFT LIFTER (GALV.)	4
30		20T x 19 3/4" SWIFT LIFT LIFTER (GALV.)	2

5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

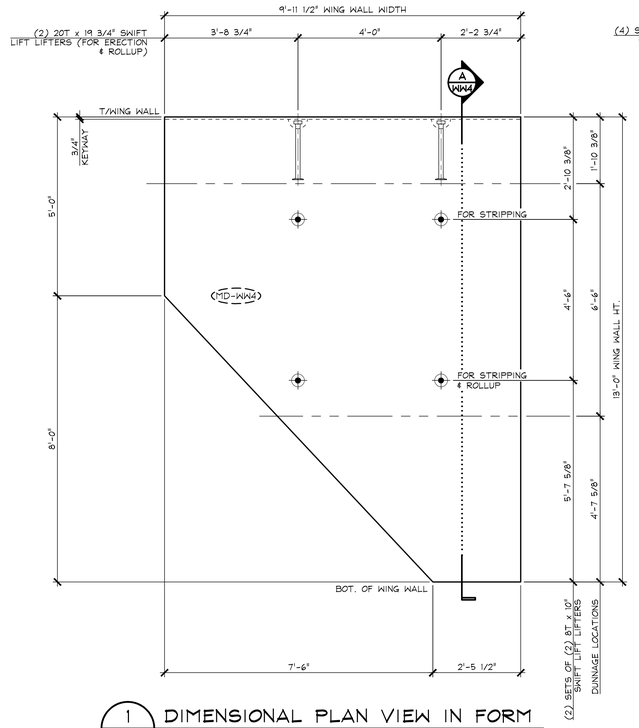
TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

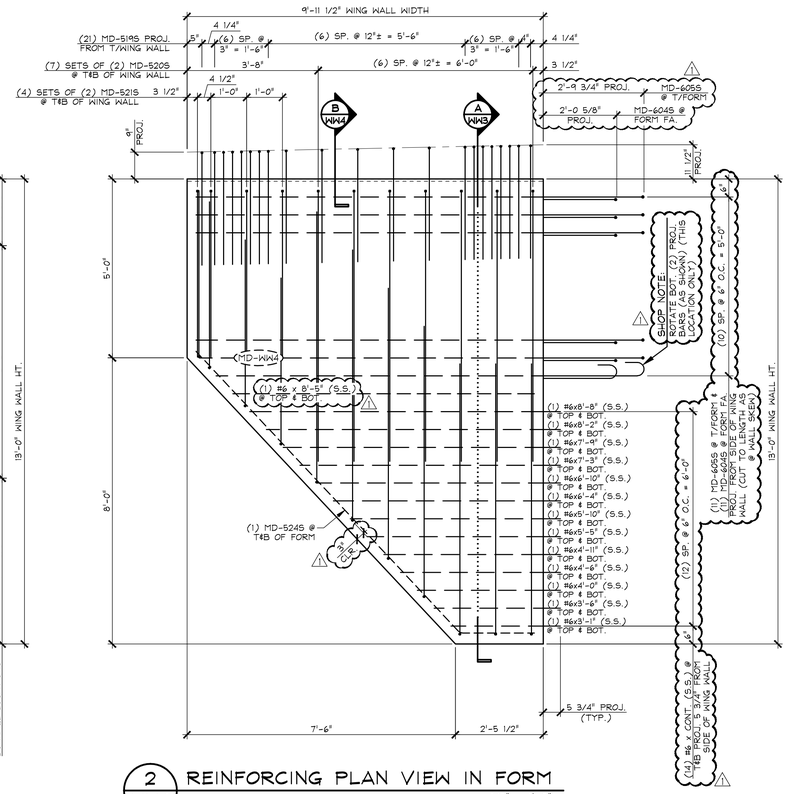
PRECAST WING WALL DETAILS

DWG. NO: WW3

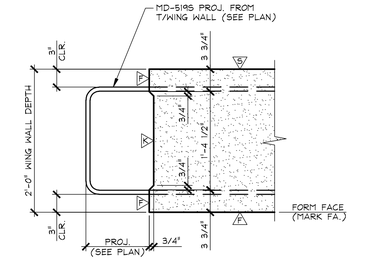
F:\VT-Bridges\23480-15 Waitsfield\23480-WW3.dwg, 5/10/2016 4:07:03 PM



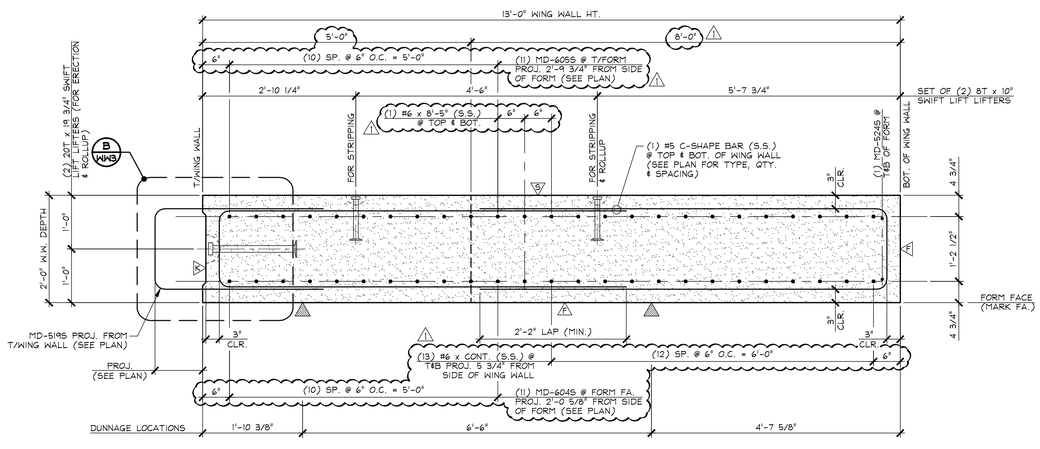
1 WW4 DIMENSIONAL PLAN VIEW IN FORM
1/2" = 1'-0"



2 WW4 REINFORCING PLAN VIEW IN FORM
1/2" = 1'-0"



B WW3 TOP OF WINGWALL SECTION
1" = 1'-0"



A WW4 WING WALL SECTION
3/4" = 1'-0"

A DENOTES FORM FINISH

S DENOTES SMOOTH SCREED FINISH

R DENOTES ROUGHENED SURFACE TO PROVIDE AN 1/8" AMPLITUDE EXPOSED AGGREGATE PROFILE. UTILIZE A SURFACE RETARDER WITH WATER BLAST, SAND BLAST, OR A COMBINATION OF BOTH TO ACHIEVE THE DESIRED SHEAR KEY SURFACE FINISH.

SHOP NOTE:
28-DAY STRENGTH = 5,000 PSI
HANDLING STRENGTH = 3,500 PSI
MIX #445MSCC

MARK: MD-WW4	QTY.: 1	WT.: 14.92 T	VOL.: 7.37 cy

MATERIAL LIST / WING WALL

ITEM	MARK	DESCRIPTION	QTY.
1	MD-5195	#5 BENT BAR (STAINLESS STEEL)	21
2	MD-5205	#5 BENT BAR (STAINLESS STEEL)	14
3	MD-5215	#5 BENT BAR (STAINLESS STEEL)	4
4	MD-5245	#5 BENT BAR (STAINLESS STEEL)	4
5			
6	MD-6045	#6 BENT BAR (STAINLESS STEEL)	-
7	MD-6055	#6 BENT BAR (STAINLESS STEEL)	-
8		~~#6 x 10'-2" (STAINLESS STEEL)~~	~~18~~
9		~~#6 x 10'-1" (STAINLESS STEEL)~~	~~2~~
10		~~#6 x 9'-7" (STAINLESS STEEL)~~	~~2~~
11		~~#6 x 9'-2" (STAINLESS STEEL)~~	~~2~~
12		#6 x 8'-8" (STAINLESS STEEL)	2
13		#6 x 8'-2" (STAINLESS STEEL)	2
14		#6 x 7'-9" (STAINLESS STEEL)	2
15		#6 x 7'-3" (STAINLESS STEEL)	2
16		#6 x 6'-10" (STAINLESS STEEL)	2
17		#6 x 6'-4" (STAINLESS STEEL)	2
18		#6 x 5'-10" (STAINLESS STEEL)	2
19		#6 x 5'-5" (STAINLESS STEEL)	2
20		#6 x 4'-11" (STAINLESS STEEL)	2
21		#6 x 4'-6" (STAINLESS STEEL)	2
22		#6 x 4'-0" (STAINLESS STEEL)	2
23		#6 x 3'-6" (STAINLESS STEEL)	2
24		#6 x 3'-1" (STAINLESS STEEL)	2
25		#6 x 8'-5" (STAINLESS STEEL)	2
26			
27		8T x 10' SWIFT LIFT LIFTER (GALV.)	4
28		20T x 19 3/4" SWIFT LIFT LIFTER (GALV.)	2
29			
30			

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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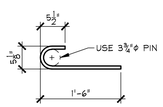
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

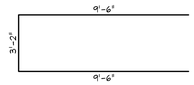
PRECAST WING WALL DETAILS

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: WW4

F:\VT-Bridges\23480-15 Waitsfield\23480-WW4.dwg, 5/10/2016 3:02:17 PM

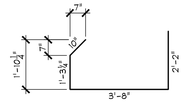


MD-501S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3 3/8"φ PIN
(104) REQ'D.

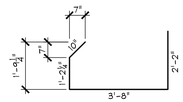


MD-502S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(58) REQ'D.

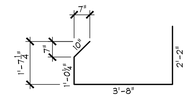
MD-503S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(97) REQ'D.



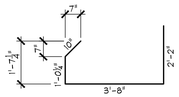
MD-504S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(22) REQ'D.



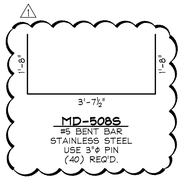
MD-505S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(15) REQ'D.



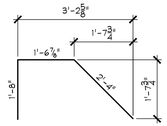
MD-506S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(9) REQ'D.



MD-507S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(9) REQ'D.



MD-508S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(40) REQ'D.

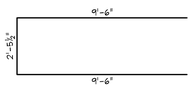


MD-509S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(21) REQ'D.

MD-510S
FOR ERECTION
SEE SHEET "M1.1"

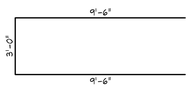
MD-511S
FOR ERECTION
SEE SHEET "M1.1"

MD-512S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(21) REQ'D.



MD-513S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(1) REQ'D.

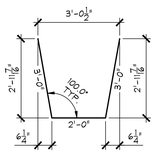
MD-514S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(1) REQ'D.



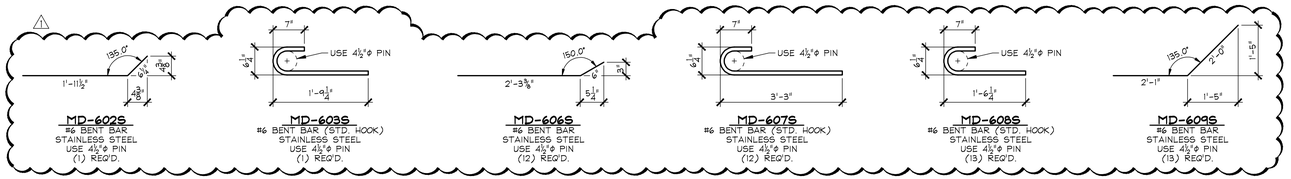
MD-515S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(1) REQ'D.

MD-516S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(1) REQ'D.

OMIT
MD-517S
#5 BENT BAR
STAINLESS STEEL
USE 3'φ PIN
(-) REQ'D.



MD-601S
#6 BENT BAR
STAINLESS STEEL
USE 4'φ PIN
(44) REQ'D.



MD-602S
#6 BENT BAR
STAINLESS STEEL
USE 4 1/2"φ PIN
(1) REQ'D.

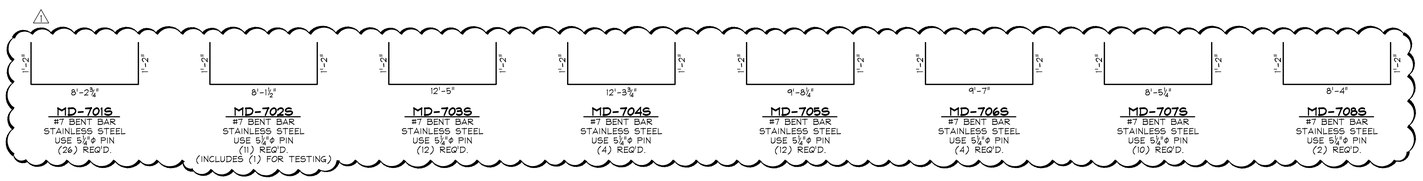
MD-603S
#6 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 4 1/2"φ PIN
(1) REQ'D.

MD-606S
#6 BENT BAR
STAINLESS STEEL
USE 4 1/2"φ PIN
(12) REQ'D.

MD-607S
#6 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 4 1/2"φ PIN
(12) REQ'D.

MD-608S
#6 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 4 1/2"φ PIN
(19) REQ'D.

MD-609S
#6 BENT BAR
STAINLESS STEEL
USE 4 1/2"φ PIN
(19) REQ'D.



MD-701S
#7 BENT BAR
STAINLESS STEEL
USE 5 1/4"φ PIN
(26) REQ'D.

MD-702S
#7 BENT BAR
STAINLESS STEEL
USE 5 1/4"φ PIN
(11) REQ'D.
(INCLUDES (1) FOR TESTING)

MD-703S
#7 BENT BAR
STAINLESS STEEL
USE 5 1/4"φ PIN
(12) REQ'D.

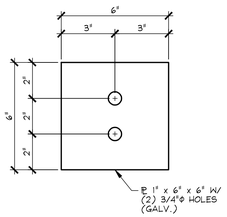
MD-704S
#7 BENT BAR
STAINLESS STEEL
USE 5 1/4"φ PIN
(4) REQ'D.

MD-705S
#7 BENT BAR
STAINLESS STEEL
USE 5 1/4"φ PIN
(12) REQ'D.

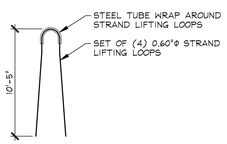
MD-706S
#7 BENT BAR
STAINLESS STEEL
USE 5 1/4"φ PIN
(4) REQ'D.

MD-707S
#7 BENT BAR
STAINLESS STEEL
USE 5 1/4"φ PIN
(10) REQ'D.

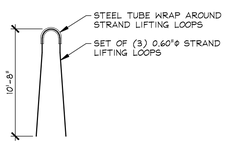
MD-708S
#7 BENT BAR
STAINLESS STEEL
USE 5 1/4"φ PIN
(2) REQ'D.



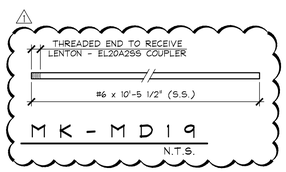
EM-MD6
3" = 1'-0"



MK-MD15
N.T.S.



MK-MD16
N.T.S.



MK-MD19
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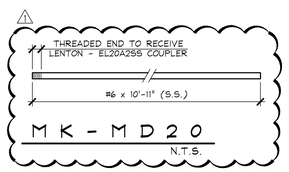

MK-MD20
N.T.S.

MISCELLANEOUS EMBEDDED MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1	EM-MD6	40	PL 1" x 6" x 6" W/ (2) 3/4"φ HOLES (GALV.)	FOR ERECTION; SEE DETAIL THIS SHEET
2		40	1/2"φ x 270 KSI (LOW LAX) x 52'-3" LONG POLY-STRAND	FOR ERECTION
3		80	1/2"φ SINGLE USE STRESSING CHUCK	FOR ERECTION
4				
5				
6	MK-MD2	10	1 1/2"φ x 2'-1" SWEDGE HANCHOR BOLT W/ 5" THREADS (GALV.)	SUPPLIED BY OTHERS
7	MK-MD3	157	SOIL REINFORCING CONNECTION CLIP (HIGH ADHERENCE RIBBED STEEL REINFORCING STRIP) (GALV.)	SUPPLIED BY OTHERS
8	MK-MD4	54	NMB SPLICE SLEEVE 6U-X(PG) (EPOXY COATED)	INCLUDES (3) FOR TESTING
9	MK-MD15	6	SET OF (4) 0.60"φ STRAND LIFTING LOOPS	SEE DETAIL THIS SHEET
10	MK-MD16	2	SET OF (4) 0.60"φ STRAND LIFTING LOOPS	SEE DETAIL THIS SHEET
11	MK-MD17	4	DAYTON 7/8"φ F-42 LOOP FERRULE INSERT	GALVANIZE
12	MK-MD19	15	#6 x 10'-5 1/2" (S.S.) W/ THREADED END TO RECEIVE COUPLER	SEE DETAIL THIS SHEET
13	MK-MD20	15	#6 x 10'-11" (S.S.) W/ THREADED END TO RECEIVE COUPLER	SEE DETAIL THIS SHEET
14				
15		~~9~~	~~20 T x 14 3/4" SNIFT LIFT LIFTER (GALV.)~~	~~(DOMESTIC ORIGIN (BUY AMERICAN))~~
16				
17		11	8"φ x 1'-6" CORRUGATED STEEL SLEEVE	GALVANIZE
18		2	2'-0"φ x 8'-5 7/8" CORRUGATED STEEL SLEEVE	GALVANIZE
19		2	2'-0"φ x 8'-9" CORRUGATED STEEL SLEEVE	GALVANIZE
20		3	2'-0"φ x 9'-0" CORRUGATED STEEL SLEEVE	GALVANIZE
21		4	2'-0"φ x 8'-11 1/16" CORRUGATED STEEL SLEEVE	GALVANIZE
22				
23		38	#5 x 10'-1" (STAINLESS STEEL)	
24		39	#5 x 8'-2 3/4" (STAINLESS STEEL)	INCLUDES (1) FOR TESTING
25		40	#5 x 12'-5" (STAINLESS STEEL)	
26		40	#5 x 8'-2 3/4" (STAINLESS STEEL)	
27		19	#5 x 8'-10" (STAINLESS STEEL)	
28		19	#5 x 8'-3 1/2" (STAINLESS STEEL)	
29		2	#5 x 7'-9 (STAINLESS STEEL)	
30				
31		~~14~~	~~#6 x 15'-8" (STAINLESS STEEL)~~	
32		~~14~~	~~#6 x 16'-2" (STAINLESS STEEL)~~	
33				
34		~~16~~	~~#7 x 10'-1" (STAINLESS STEEL)~~	
35		~~17~~	~~#7 x 8'-2 3/4" (STAINLESS STEEL)~~	~~INCLUDES (1) FOR TESTING~~
36		~~16~~	~~#7 x 12'-5" (STAINLESS STEEL)~~	
37		~~16~~	~~#7 x 8'-2 3/4" (STAINLESS STEEL)~~	
38		~~12~~	~~#7 x 8'-10" (STAINLESS STEEL)~~	
39		~~4~~	~~#7 x 8'-3 1/2" (STAINLESS STEEL)~~	
40				

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

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CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

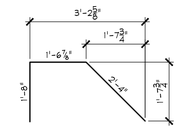
PRECAST ABUTMENT STEMS
EMBEDDED MATERIALS LIST

DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	M1

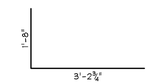
F:\VT-Bridges\23480-15 Waitsfield\23480-PCM1.dwg, 5/10/2016 10:38:16 AM

CAST-IN-PLACE CHEEKWALL MATERIALS

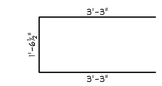
ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1	EM-MD18	1	7/8"ϕ BENT THREADED ROD (GALV.)	FOR ERECTION; SEE DETAIL THIS SHEET
2	EM-MD21	15	#6 x 5'-2 1/4" (S.S.) W/ LENTON COUPLER	FOR ERECTION; SEE DETAIL THIS SHEET
3	EM-MD22	15	#6 x 5'-1 1/2" (S.S.) W/ LENTON COUPLER	FOR ERECTION; SEE DETAIL THIS SHEET
4		3	#5 x 5'-9" (STAINLESS STEEL)	FOR ERECTION
5		3	#5 x 5'-8" (STAINLESS STEEL)	FOR ERECTION
6		48	#5 x 2'-4" (STAINLESS STEEL)	FOR ERECTION
7				
8				
9				
10				



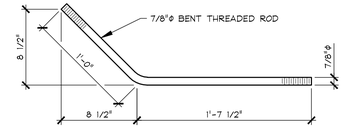
MD-509S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(24) REQ'D., FOR ERECTION



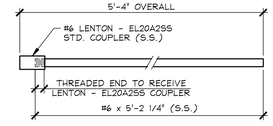
MD-510S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(24) REQ'D., FOR ERECTION



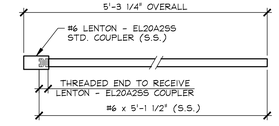
MD-511S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(12) REQ'D., FOR ERECTION



E M - M D 1 8
N.T.S.



E M - M D 2 1
N.T.S.



E M - M D 2 2
N.T.S.

⚠1 5-10-16 REVISED TO INCORPORATE C.I.P. CHEEKWALL

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

DATE: JAN. 12, 2016
SCALE: NOTED

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

CHKD: - DFTM: B.L.
JOB NO: 23480-016

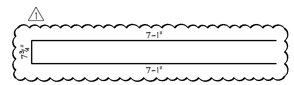
PRECAST ABUTMENT STEMS
CAST-IN-PLACE MATERIALS LIST

DWG. NO: M1.1

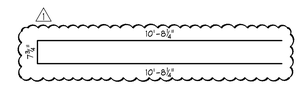
F:\VT-Bridges\23480-15 Waitsfield\23480-PCM1-1.dwg, 5/10/2016 10:47:25 AM

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1		48	4"φ I.D. x 1'-4" PVC SLEEVE	
2		32	8T x 6 3/4" SWIFT LIFT LIFTER (GALV.)	DOMESTIC ORIGIN (BUY AMERICAN)
3				
4		64	#6 x 24'-6" (STAINLESS STEEL)	
5				
6		2	#8 x 3'-0" (STAINLESS STEEL)	FOR TESTING
7				
8				
9				
10				



MD-517S
#5 BENT BAR
STAINLESS STEEL
USE 3"φ PIN
(192) REQ'D.



MD-518S
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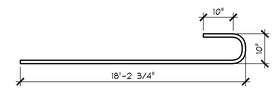
STAINLESS STEEL
USE 3"φ PIN
(96) REQ'D.



MD-801S
#8 BENT BAR
STAINLESS STEEL
USE 6"φ PIN
(104) REQ'D.

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

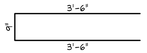
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

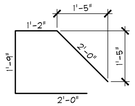
PRECAST APPROACH SLABS
MATERIALS LIST

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: M2

F:\VT-Bridges\23480-15 Waitsfield\23480-ASM2.dwg, 5/10/2016 10:20:36 AM



MD-525S
#5 BENT BAR
STAINLESS STEEL
USE 3"Φ PIN
(42) REQ'D.



MD-526S
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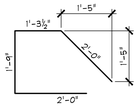
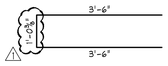
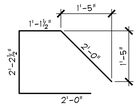
STAINLESS STEEL
USE 3"Φ PIN
(19) REQ'D.



MD-527S
#5 BENT BAR
STAINLESS STEEL
USE 3"Φ PIN
(21) REQ'D.



MD-528S
#5 BENT BAR
STAINLESS STEEL
USE 3"Φ PIN
(1) REQ'D.



MD-529S
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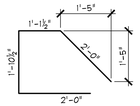
STAINLESS STEEL
USE 3"Φ PIN
(1) REQ'D.



MD-530S
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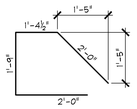
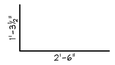
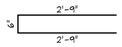
STAINLESS STEEL
USE 3"Φ PIN
(1) REQ'D.



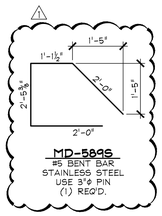
MD-531S
#5 BENT BAR
STAINLESS STEEL
USE 3"Φ PIN
(3) REQ'D.



MD-536S
#5 BENT BAR
STAINLESS STEEL
USE 3"Φ PIN
(46) REQ'D.



MD-537S
#5 BENT BAR
STAINLESS STEEL
USE 3"Φ PIN
(52) REQ'D.



MD-589S
#5 BENT BAR
STAINLESS STEEL
USE 3"Φ PIN
(1) REQ'D.

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1	MK-MD1	204	NMB SPLICE SLEEVE 5U-X(PG) (EPOXY COATED)	INCLUDES (3) FOR TESTING
2	MK-MD5	5	PL 1/2" x 8" x 9" W/ (3) 3"Φ HOLE & ANCHORS (GALV.)	SUPPLIED BY OTHERS
3				
4	MK-MD17	1	DAYTON 7/8"Φ F-42 LOOP FERRULE INSERT	GALVANIZE
5				
6		43.22 LF	P.V.C. WATERSTOP PER VTAOT 707-10	SUPPLIED BY OTHERS
7				
8		28	4T x 7 1/8" SWIFT LIFT LIFTER (GALV.)	DOMESTIC ORIGIN (BUY AMERICAN)
9		14	8T x 13 3/8" SWIFT LIFT LIFTER (GALV.)	DOMESTIC ORIGIN (BUY AMERICAN)
10				
11				
12		164	#5 x 4'-9" (STAINLESS STEEL)	
13		6	#5 x 13'-10 1/2" (STAINLESS STEEL)	
14		6	#5 x 13'-2" (STAINLESS STEEL)	
15		1	#5 x 13'-10" (STAINLESS STEEL)	
16		3	#5 x 12'-3 1/2" (STAINLESS STEEL)	
17		16	#5 x 12'-2" (STAINLESS STEEL)	
18		10	#5 x 7'-11" (STAINLESS STEEL)	
19		6	#5 x 7'-1" (STAINLESS STEEL)	
20		7	#5 x 7'-10 1/2" (STAINLESS STEEL)	
21		2	#5 x 8'-10" (STAINLESS STEEL)	
22		1	#5 x 7'-2 1/2" (STAINLESS STEEL)	
23		6	#5 x 5'-1" (STAINLESS STEEL)	
24		12	#5 x 6'-0" (STAINLESS STEEL)	
25		6	#5 x 9'-7" (STAINLESS STEEL)	
26		6	#5 x 13'-9 1/2" (STAINLESS STEEL)	
27		12	#5 x 16'-4 1/2" (STAINLESS STEEL)	
28		36	#5 x 4'-5" (STAINLESS STEEL)	
29		4	#5 x 4'-6" (STAINLESS STEEL)	
30		6	#5 x 15'-7" (STAINLESS STEEL)	
31		6	#5 x 17'-3" (STAINLESS STEEL)	
32				
33		48	#8 x 2'-0" (STAINLESS STEEL)	
34				
35				

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

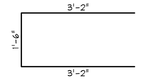
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

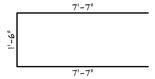
PRECAST BACKWALLS
MATERIALS LIST

DATE: JAN. 12, 2016
SCALE: NOTED
CHKD: - DFTM: B.L.
JOB NO: 23480-016
DWG. NO: M3

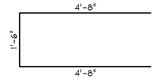
F:\VT-Bridges\23480-15 Waitsfield\23480-BWA3.dwg, 5/10/2016 10:26:32 AM



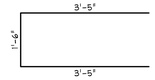
MD-519S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(42) REQ'D.



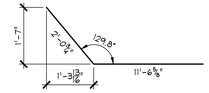
MD-520S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(28) REQ'D.



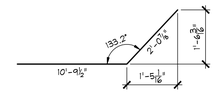
MD-521S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(8) REQ'D.



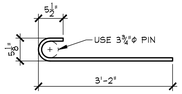
MD-522S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(4) REQ'D.



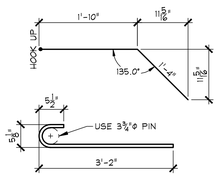
MD-523S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(2) REQ'D.



MD-524S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(4) REQ'D.



MD-535S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅜"ϕ PIN
(22) REQ'D.



MD-544S
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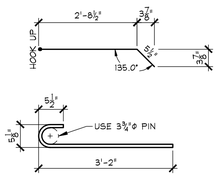
STAINLESS STEEL
USE 3⅜"ϕ PIN
(8) REQ'D.



MD-548S
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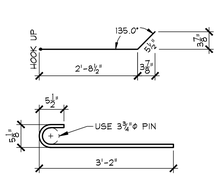
STAINLESS STEEL
USE 3⅜"ϕ PIN
(1) REQ'D.



MD-549S
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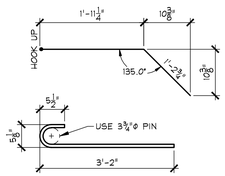
STAINLESS STEEL
USE 3⅜"ϕ PIN
(1) REQ'D.



MD-561S
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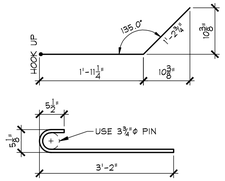
STAINLESS STEEL
USE 3⅜"ϕ PIN
(1) REQ'D.



MD-562S
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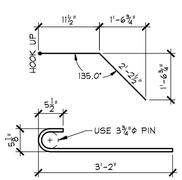
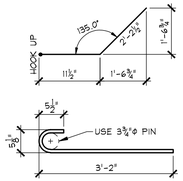
STAINLESS STEEL
USE 3⅜"ϕ PIN
(1) REQ'D.



MD-563S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅜"ϕ PIN
(1) REQ'D.



MD-564S
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STAINLESS STEEL
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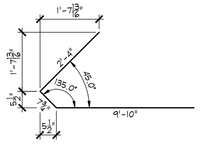
(1) REQ'D.



MD-565S
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USE 3"ϕ PIN
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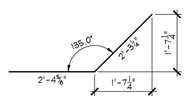

MD-566S
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USE 3"ϕ PIN
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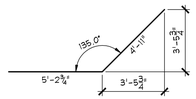
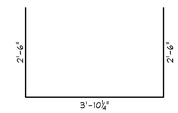


MD-567S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(2) REQ'D.



MD-568S
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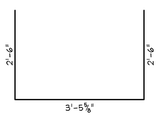
STAINLESS STEEL
USE 3"ϕ PIN
(11) REQ'D.



MD-569S
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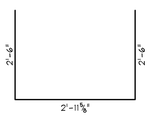
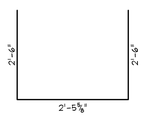
USE 3"ϕ PIN
(1) REQ'D.



MD-570S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(1) REQ'D.



MD-571S
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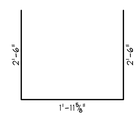
STAINLESS STEEL
USE 3"ϕ PIN
(1) REQ'D.



MD-572S
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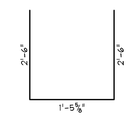
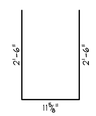
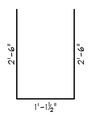
STAINLESS STEEL
USE 3"ϕ PIN
(1) REQ'D.



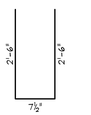
MD-573S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(1) REQ'D.



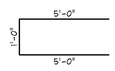
MD-574S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(1) REQ'D.



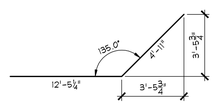
MD-575S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(1) REQ'D.



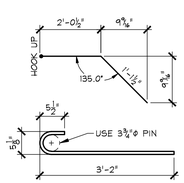
MD-576S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(1) REQ'D.



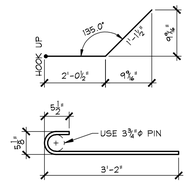
MD-577S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(22) REQ'D.



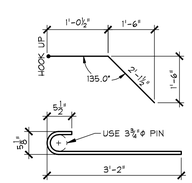
MD-578S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(12) REQ'D.



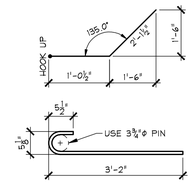
MD-579S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅜"ϕ PIN
(1) REQ'D.



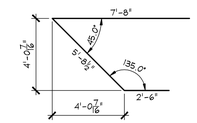
MD-580S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅜"ϕ PIN
(1) REQ'D.



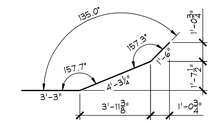
MD-581S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅜"ϕ PIN
(1) REQ'D.



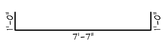
MD-582S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅜"ϕ PIN
(1) REQ'D.



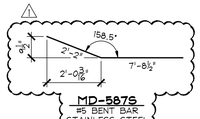
MD-583S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(13) REQ'D.



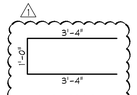
MD-584S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(11) REQ'D.



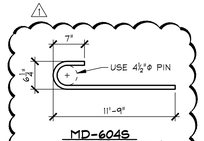
MD-585S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(8) REQ'D.



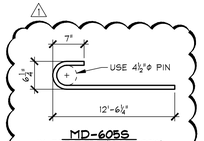
MD-587S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(2) REQ'D.



MD-588S
#5 BENT BAR
STAINLESS STEEL
USE 3"ϕ PIN
(10) REQ'D.



MD-604S
#6 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 4½"ϕ PIN
(22) REQ'D.



MD-605S
#6 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 4½"ϕ PIN
(22) REQ'D.

STRAIGHT BARS

ITEM	QTY.	DESCRIPTION
1	11	#5 x 16'-8 1/4" (STAINLESS STEEL)
2	11	#5 x 15'-9 3/4" (STAINLESS STEEL)
3	~~2~~	~~#5 x 7'-9 1/2" (STAINLESS STEEL)~~
4	10	#5 x 9'-10 1/2" (STAINLESS STEEL)
5	20	#5 x 5'-7 3/4" (STAINLESS STEEL)
6	52	#5 x 7'-9" (STAINLESS STEEL)
7	49	#5 x 9'-0" (STAINLESS STEEL)
8	20	#5 x 4'-0" (STAINLESS STEEL)
9	8	#5 x 9'-10" (STAINLESS STEEL)
10	14	#5 x 13'-3" (STAINLESS STEEL)
11	~~2~~	~~#5 x 12'-8" (STAINLESS STEEL)~~
12		
13		
14		
15	~~34~~	~~#6 x 10'-2" (STAINLESS STEEL)~~
16	~~4~~	~~#6 x 10'-11" (STAINLESS STEEL)~~
17	~~2~~	~~#6 x 9'-8" (STAINLESS STEEL)~~
18	~~2~~	~~#6 x 9'-3" (STAINLESS STEEL)~~
19	~~2~~	~~#6 x 8'-10" (STAINLESS STEEL)~~
20	4	#6 x 8'-5" (STAINLESS STEEL)

ITEM	QTY.	DESCRIPTION
21	2	#6 x 8'-0" (STAINLESS STEEL)
22	2	#6 x 7'-7" (STAINLESS STEEL)
23	2	#6 x 7'-2" (STAINLESS STEEL)
24	2	#6 x 6'-9" (STAINLESS STEEL)
25	5	#6 x 6'-4" (STAINLESS STEEL) (INCLUDES (1) FOR TESTING)
26	2	#6 x 5'-11" (STAINLESS STEEL)
27	2	#6 x 5'-6" (STAINLESS STEEL)
28	2	#6 x 5'-1" (STAINLESS STEEL)
29	2	#6 x 4'-8" (STAINLESS STEEL)
30	2	#6 x 4'-3" (STAINLESS STEEL)
31	2	#6 x 3'-10" (STAINLESS STEEL)
32	2	#6 x 3'-5" (STAINLESS STEEL)
33	2	#6 x 3'-0" (STAINLESS STEEL)
34	~~2~~	~~#6 x 9'-7" (STAINLESS STEEL)~~
35	~~2~~	~~#6 x 9'-2" (STAINLESS STEEL)~~
36	2	#6 x 8'-8" (STAINLESS STEEL)
37	2	#6 x 8'-2" (STAINLESS STEEL)
38	2	#6 x 7'-9" (STAINLESS STEEL)
39	2	#6 x 7'-3" (STAINLESS STEEL)
40	2	#6 x 6'-10" (STAINLESS STEEL)

ITEM	QTY.	DESCRIPTION
41	2	#6 x 5'-10" (STAINLESS STEEL)
42	2	#6 x 5'-5" (STAINLESS STEEL)
43	2	#6 x 4'-11" (STAINLESS STEEL)
44	2	#6 x 4'-6" (STAINLESS STEEL)
45	2	#6 x 4'-0" (STAINLESS STEEL)
46	2	#6 x 3'-6" (STAINLESS STEEL)
47	2	#6 x 3'-1" (STAINLESS STEEL)
48	2	#6 x 8'-11 1/2" (STAINLESS STEEL)
49		
50		
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52		
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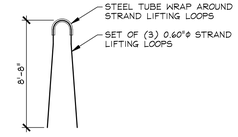
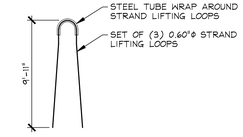
60		

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1		1	BRIDGE PLAQUE	SUPPLIED BY OTHERS
2		2	4"ϕ I.D. x 9'-6" PVC SLEEVE	
3		2	4"ϕ I.D. x 8'-3" PVC SLEEVE	
4		2	4"ϕ I.D. x 2'-6" PVC SLEEVE	
5				
6		8	8T x 10" SWIFT LIFT LIFTER (GALV.)	DOMESTIC ORIGIN (BUY AMERICAN)
7		4	20T x 19 3/4" SWIFT LIFT LIFTER (GALV.)	DOMESTIC ORIGIN (BUY AMERICAN)
8	MK-MD12	2	SET OF (3) 0.60"ϕ STRAND LIFTING LOOPS	SEE DETAIL THIS SHEET
9	MK-MD113	2	SET OF (3) 0.60"ϕ STRAND LIFTING LOOPS	SEE DETAIL THIS SHEET
10				



MK-MD12
N.T.S.



MK-MD13
N.T.S.

△1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

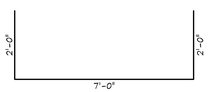
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BRF 013-4(39)

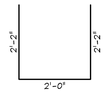
PRECAST WING WALLS
MATERIALS LIST

DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	M4

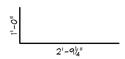
F:\VT-Bridges\23480-15 Waitsfield\23480-WM4.dwg, 5/10/2016 4:10:26 PM



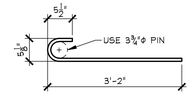
MD-532S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(76) REQ'D.



MD-533S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(86) REQ'D.

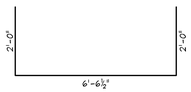


MD-534S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(98) REQ'D.

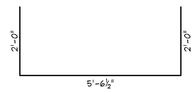


MD-535S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅞"Φ PIN
(90) REQ'D.

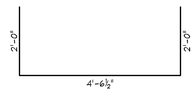
MD-538S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



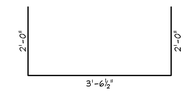
MD-539S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



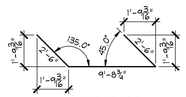
MD-540S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



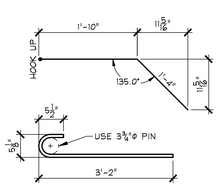
MD-541S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



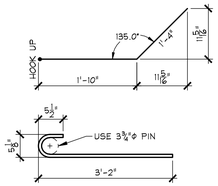
MD-542S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



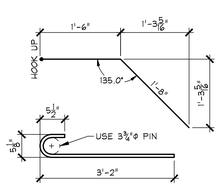
MD-543S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



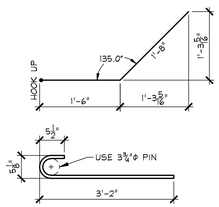
MD-544S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



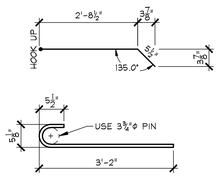
MD-545S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



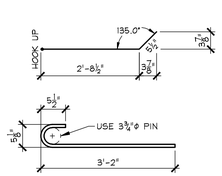
MD-546S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅞"Φ PIN
(1) REQ'D.



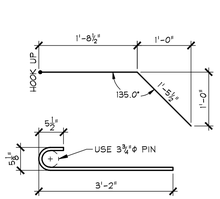
MD-547S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅞"Φ PIN
(1) REQ'D.



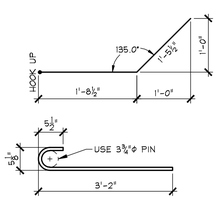
MD-548S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅞"Φ PIN
(1) REQ'D.



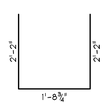
MD-549S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅞"Φ PIN
(1) REQ'D.



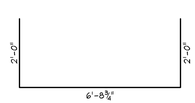
MD-550S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅞"Φ PIN
(1) REQ'D.



MD-551S
#5 BENT BAR (STD. HOOK)
STAINLESS STEEL
USE 3⅞"Φ PIN
(1) REQ'D.

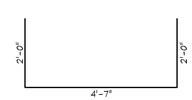


MD-552S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



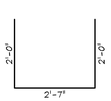
MD-553S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.

MD-554S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.

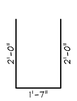


MD-555S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.

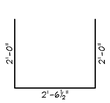
MD-556S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



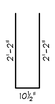
MD-557S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



MD-558S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



MD-559S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.



MD-560S
#5 BENT BAR
STAINLESS STEEL
USE 3⅞"Φ PIN
(2) REQ'D.

MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1	MK-MD2	10	1 1/2"Φ x 2'-1" SHEDGE HANCHOR BOLT W/ 5" THREADS (GALV.)	SUPPLIED BY OTHERS
2	MK-MD7	13	LEVELING JACK ASSEMBLY	SEE DETAIL, SHEET "M5.1"
3	MK-MD8	7	LEVELING JACK ASSEMBLY	SEE DETAIL, SHEET "M5.1"
4	MK-MD9	2	LEVELING JACK ASSEMBLY	SEE DETAIL, SHEET "M5.1"
5	MK-MD10	2	LEVELING JACK ASSEMBLY	SEE DETAIL, SHEET "M5.1"
6	MK-MD11	2	LEVELING JACK ASSEMBLY	SEE DETAIL, SHEET "M5.1"
7	MK-MD14	12	SET OF (2) 1/2"Φ STRAND LIFTING LOOPS	SEE DETAIL THIS SHEET
8				
9		19	4"Φ I.C. x 2'-6" PVC SLEEVE	
10		2	4"Φ I.C. x 3'-1" PVC SLEEVE	
11		9	4"Φ I.C. x 3'-2" PVC SLEEVE	
12		3	4"Φ I.C. x 2'-11" PVC SLEEVE	
13		4	4"Φ I.C. x 2'-8" PVC SLEEVE	
14				
15				
16		20	#5 x 14'-7 1/2" (STAINLESS STEEL)	
17		20	#5 x 15'-6" (STAINLESS STEEL)	
18		4	#5 x 14'-2 1/2" (STAINLESS STEEL)	
19		16	#5 x 19'-7" (STAINLESS STEEL)	
20		8	#5 x 9'-10" (STAINLESS STEEL)	
21				
22				
23				
24				
25				
26				
27				
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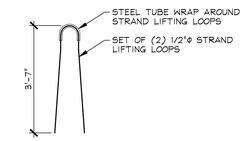
29				
30				



MK-MD14
N.T.S.

1 5-10-16 REVISED AS NOTED

APPROVAL STAMP:

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

A.L. ST. ONGE CONTRACTOR, INC.
CONTRACTOR
MONTGOMERY, VERMONT

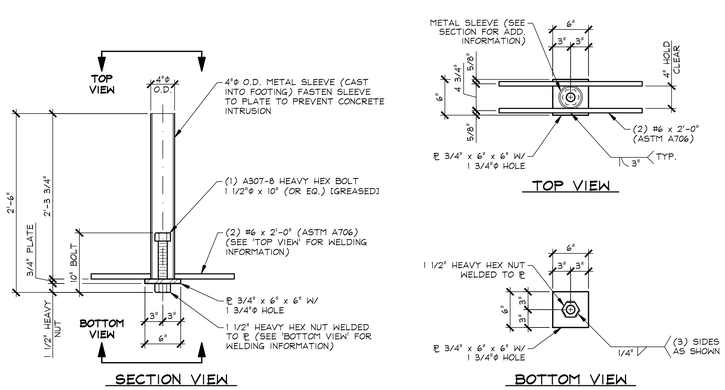
STATE OF VERMONT AGENCY OF TRANSPORTATION
COUNTY OF WINDSOR

TOWN OF WAITSFIELD
VT ROUTE 100 (MINOR ARTERIAL)
BRIDGE NO.: 177 PROJECT NO.: BF 013-4(39)

PRECAST FOOTING
MATERIALS LIST

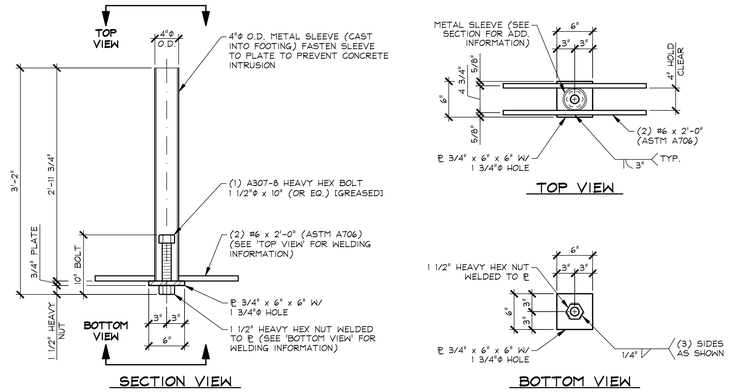
DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	M5

F:\VT-Bridges\23480-15 Waitsfield\23480-FM5.dwg, 5/10/2016 10:36:50 AM



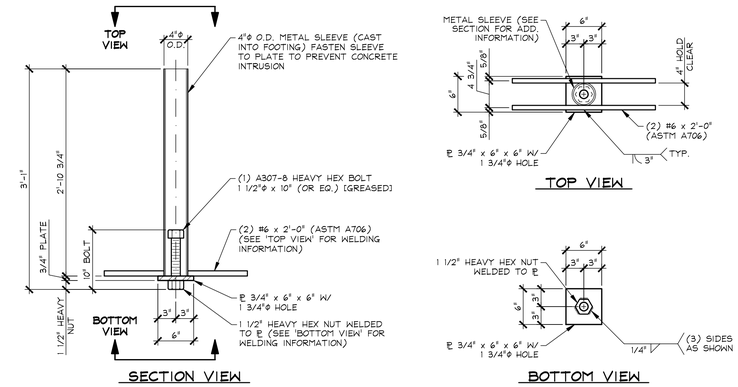
LEVELING JACK ASSEMBLY "MK-MD7"

(13) REQ'D. 1" = 1'-0"



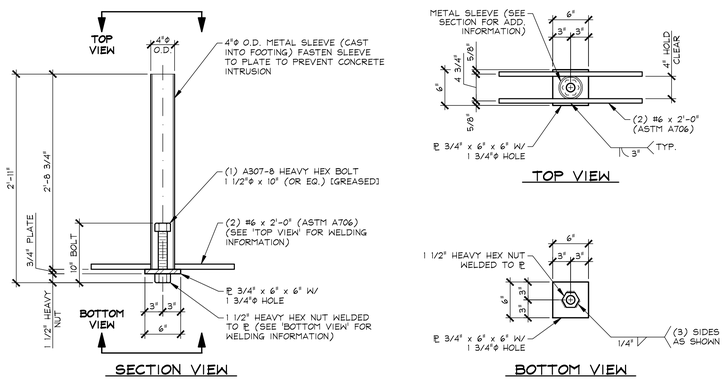
LEVELING JACK ASSEMBLY "MK-MD8"

(7) REQ'D. 1" = 1'-0"



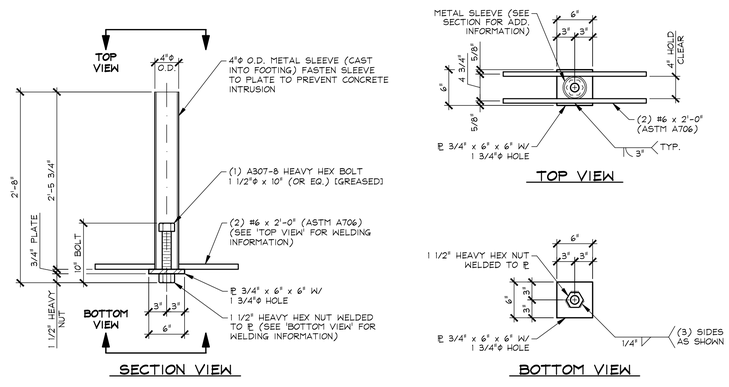
LEVELING JACK ASSEMBLY "MK-MD9"

(2) REQ'D. 1" = 1'-0"



LEVELING JACK ASSEMBLY "MK-MD10"

(2) REQ'D. 1" = 1'-0"



LEVELING JACK ASSEMBLY "MK-MD11"

(2) REQ'D. 1" = 1'-0"

APPROVAL STAMP:

J.P. CARRARA & SONS INC.
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PRECAST FOOTING
MATERIALS LIST

DATE:	JAN. 12, 2016
SCALE:	NOTED
CHKD: -	DFTM: B.L.
JOB NO:	23480-016
DWG. NO:	M5.1

F:\VT-Bridges\23480-15 Waitsfield\23480-FM5-1.dwg, 5/10/2016 10:36:18 AM