

GENERAL

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE 2014 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND THEIR LATEST REVISIONS.
- ALL PRECAST ELEMENTS TO BE FABRICATED TO THE SPECIFIED DIMENSIONS WITHIN THE TOLERANCES DICTATED IN THE PRECAST/PRESTRESSED CONCRETE INSTITUTE TOLERANCE MANUAL, FOR PRECAST AND PRESTRESSED CONCRETE CONSTRUCTION, MNL135-00 SECTION 10.25 – BOX CULVERT, AND ITS LATEST REVISIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING CONSISTENCY BETWEEN THE FABRICATOR'S SHOP DRAWINGS AND ENSURING THAT ALL PRECAST COMPONENTS FIT TOGETHER.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

EARTHWORK

- THE REMOVAL OF EXISTING STRUCTURE WILL BE PAID UNDER ITEM 529.15 "REMOVAL OF STRUCTURE". THIS WORK SHALL INCLUDE REMOVAL OF THE ENTIRE SUPERSTRUCTURE AND ANY PORTIONS OF THE EXISTING ABUTMENTS THAT FALL OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION.
- "STONE FILL, TYPE IV" AND "SPECIAL PROVISION (E-STONE TYPE E4)" SHALL BE PLACED TO A DEPTH OF 3 FT. UNDER THE BRIDGE, AS SHOWN IN THE PLANS, BEFORE NEW FRAME SECTIONS ARE SET.

TRAFFIC CONTROL

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF A SITE-SPECIFIC TRAFFIC CONTROL PLAN FOR ALL STAGES OF CONSTRUCTION. THE PLAN SHALL CLEARLY DETAIL HOW TRAFFIC WILL BE MAINTAINED. THE PLAN SHALL SPECIFY ALL CONSTRUCTION ACTIVITIES REQUIRING ALTERNATING ONE-WAY TRAFFIC, RELATE THOSE ACTIVITIES TO THE CONSTRUCTION SCHEDULE, AND SHOW APPROPRIATE TEMPORARY TRAFFIC CONTROL. ALL COSTS WILL BE INCLUDED IN ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
- TH 9 (FINEL HOLLOW ROAD) IS IN PROXIMITY OF THE PROJECT AND WILL REMAIN OPEN DURING THE BRIDGE CLOSURE PERIOD. TRAFFIC WILL BE MAINTAINED FROM SNR 140 ONTO TH 9 DURING THE BRIDGE CLOSURE PERIOD. IF THE TOWN ELECTS TO SIGN A LOCAL DETOUR NO SIGNS WILL BE PERMITTED IN A STATE HIGHWAY RIGHT OF WAY WITHOUT ACQUIRING A VSA, TITLE 19, SECTION 1111 PERMIT. ANY DETOUR SIGNING IS THE SOLE RESPONSIBILITY OF THE TOWN OF POULTNEY. TH 9 MAY BE LIMITED TO ONE-WAY TRAFFIC FOR SHORT DURATIONS IF CONSTRUCTION ACTIVITIES WARRANT A LANE CLOSURE.

SUBSTRUCTURE ON BEDROCK

- FOOTINGS AND SUBFOOTINGS SHALL BE FOUNDED UPON BEDROCK CLEANED OF ALL LOOSE ROCK AND DEBRIS.
- UPON COMPLETION OF EXCAVATION FOR SUBSTRUCTURES FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE ENGINEER SHALL NOTIFY THE PROJECT MANAGER AND THE VTRANS STATE GEOLOGIST. THE GEOLOGIST WILL DETERMINE IF THE BEDROCK IS COMPETENT TO OBTAIN THE REQUIRED NOMINAL BEARING RESISTANCE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 72 HOURS PRIOR TO WHEN THE ANALYSIS WILL BE NEEDED.
- BEDROCK THAT IS EXCAVATED FOR PLACEMENT OF FOOTINGS SHALL BE EXCAVATED TO PROVIDE A LEVEL SURFACE, AS INDICATED IN THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- A MAXIMUM OF 6" OVERBREAKAGE SHALL BE REPLACED WITH ITEM 541.30 "CONCRETE, CLASS C". OVERBREAKAGE BEYOND 6" SHALL BE REPLACED WITH "CONCRETE, CLASS C" AT THE EXPENSE OF THE CONTRACTOR.

- THE HORIZONTAL LIMITS OF THE SUBFOOTING SHALL BE A MINIMUM OF 0'-6" OUTSIDE THE LIMITS OF THE FOOTING.
- BEDROCK SHALL BE EXCAVATED DOWN (IF NECESSARY) TO ALLOW FOR THE INDICATED SUBFOOTING TO BE POURED USING ITEM 541.30 "CONCRETE, CLASS C" TO A MINIMUM THICKNESS OF 1'-0".
- DOWELS SHALL BE DRILLED AND GROUTED INTO THE BEDROCK AS SHOWN ON THE PLANS. THE DOWELS SHALL HAVE A 2'-0" MINIMUM EMBEDMENT INTO BEDROCK AND SHALL EXTEND THROUGH THE SUBFOOTING INTO THE SPREAD FOOTING TO 3" BELOW THE TOP OF FOOTING. DRILLING AND GROUTING OF DOWELS SHALL BE PAID UNDER ITEM 507.16 "DRILLING AND GROUTING DOWELS".

H-PILES

- PILE SOCKETS SHALL BE PRE-DRILLED PER THE REQUIREMENTS OF ITEM 900.640 "SPECIAL PROVISION (PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES, EARTH) AND ITEM 900.640 "SPECIAL PROVISION (PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES, ROCK). PILES SHALL BE SEATED ON OR WITHIN THE BEDROCK WITH A PILE DRIVING IMPACT HAMMER TO A NOMINAL RESISTANCE OF 305 KIPS AND MEET ALL MINIMUM DEPTH REQUIREMENTS SHOWN ON THE PLANS. ANY WORK REQUIRED FOR DRIVING SHALL BE PAID FOR UNDER ITEM 504.10 "FURNISHING EQUIPMENT FOR DRIVING PILE".
- PAYMENT FOR PRE-EXCAVATION OF PILES WILL BE PAID FOR UNDER ITEM 900.640 "SPECIAL PROVISION (PRE-EXCAVATION OF INTEGRAL ABUTMENTS PILES, EARTH)" AND ITEM 900.640 "SPECIAL PROVISION (PRE-EXCAVATION OF INTEGRAL ABUTMENTS PILES, ROCK)" AS APPROPRIATE.
- ALL PRE-EXCAVATED HOLES SHALL BE A MINIMUM OF 27 INCHES IN DIAMETER. THE ENTIRE PRE-EXCAVATED HOLE SHALL BE BACKFILLED WITH SAND PRIOR TO DRIVING PILES. SAND SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 703.03. REFER TO THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
- FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL IN-PLACE LENGTHS MAY VARY BASED ON BEDROCK LOCATION.
- THE TOPS OF THE PILES SHALL NOT VARY FROM THE POSITION SHOWN ON THE PLANS BY MORE THAN 3 INCHES. THE PILE ORIENTATION SHALL NOT VARY BY MORE THAN 5 DEGREES. THE CONTRACTOR SHALL DEMONSTRATE TO THE SATISFACTION OF THE ENGINEER HOW THE TOLERANCES WILL BE MET. THESE MEASURES SHALL BE DEMONSTRATED IN A SUBMITTAL TO BE ACCEPTED BEFORE PILE PLACEMENT COMMENCES.

CONCRETE

- ALL LIFTING POINTS SHALL BE REMOVABLE OR COVERABLE TO THE MINIMUM CLEAR COVER FOR REINFORCING STEEL SPECIFIED IN THE PLANS. THE LIFTING POINTS SHALL BE DETAILED IN THE APPROPRIATE FABRICATION DRAWING. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE PRECAST ITEM.
- ALL RECESSED LIFTING POINTS AND BLOCK OUTS SHALL BE FILLED WITH A TYPE IV MORTAR PER SUBSECTION 540.11 AND 707.03. PAYMENT WILL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE PRECAST ITEM. NO MEMBRANE IS PERMITTED TO BE PLACED OVER CURING GROUT UNTIL THE GROUT HAS REACHED A MOISTURE CONTENT OF 6% OR LESS.
- THE CONTRACTOR SHALL DETERMINE THE METHOD OF FORMING FOR SUBSEQUENT POURS AFTER PLACING ANY PRECAST UNIT. THE CONTRACTOR IS ENCOURAGED TO WORK WITH THE FABRICATOR IF ADDITIONAL SUPPORTS ARE REQUIRED. IN NO CASE SHALL THE CONTRACTOR ATTACH ADDITIONAL FORM OR SCREED SUPPORTS BY DRILLING OR SIMILAR MEANS INTO ANY PRECAST UNIT.
- WATER REPELLENT, SILANE SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 514 AND SHALL BE FIELD APPLIED TO ALL EXPOSED EXTERIOR SURFACES OF THE PRECAST CONCRETE STRUCTURE. SILANE WILL BE PAID UNDER 514.10 "WATER REPELLENT, SILANE".

- HIGH PERFORMANCE CONCRETE, RAPID-SET SHALL BE CURED ACCORDING TO THE FOLLOWING REQUIREMENTS:

- WET CURING SHALL OCCUR FOR A MINIMUM OF 24 HOURS.
- CONSTRUCTION OF FRAME UNITS AND BACKFILLING OR PLACING ANY MATERIAL MAY COMMENCE WHEN FIELD-CURED TEST CYLINDERS REACH A COMPRESSIVE STRENGTH OF AT LEAST 2500 PSI. DYNAMIC COMPACTION METHODS UTILIZING FULL-SIZE COMPACTION EQUIPMENT ARE PERMITTED. THE STRUCTURE MAY BE BACKFILLED OVER THE TOP OF FRAME UNITS AND LOADED WITH CONSTRUCTION AND TRAFFIC LOADS WHEN FIELD-CURED CYLINDERS REACH A COMPRESSIVE STRENGTH OF AT LEAST 4000 PSI.

REINFORCING STEEL

- CUTTING AND REPAIRING DAMAGED AREAS OF COATED REINFORCING STEEL SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 507.04.
- REINFORCING STEEL CLEAR COVER REQUIREMENTS ARE STATED ACCORDING TO THE FOLLOWING, UNLESS OTHERWISE NOTED IN THE PLANS:

A. UNDERSIDE OF FRAME ROOF	1.5 INCHES
B. EXPOSED TO EARTH OR WEATHER	2.0 INCHES
C. TOP OF FRAME	2.5 INCHES
D. DIRECT EXPOSURE TO DEICING SALTS (FRAME FASCIA OR CURB)	3.0 INCHES
E. CAST AGAINST EARTH	3.0 INCHES
- TEST BARS SHALL BE PROVIDED IN ACCORDANCE WITH THE "VERMONT AGENCY OF TRANSPORTATION MATERIAL SAMPLING MANUAL" AVAILABLE ON THE AGENCY WEBSITE. A MINIMUM OF TWO TEST SECTIONS ARE REQUIRED FOR EACH SIZE, BRAND, AND GRADE OR TYPE OF REINFORCING. SEE THE MANUAL FOR ACCEPTABLE DIMENSIONS OF TEST SECTIONS. ALL COSTS ASSOCIATED WITH PROVIDING BARS FOR TESTING WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE PRECAST ITEM.

PRECAST ABUTMENTS

- GALVANIZE ANCHOR ASSEMBLIES AFTER FABRICATION ACCORDING TO AASHTO M232/M 232.
- CORRUGATED STEEL PIPE SHALL MEET THE REQUIREMENTS OF SUBSECTION 711.01 AND SHALL BE GALVANIZED PER SUBSECTION 726.08 OF THE STANDARD SPECIFICATIONS. ALL COSTS ASSOCIATED WITH PLACING THE CORRUGATED STEEL PIPE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE PRECAST ABUTMENT ITEM.

STRUCTURAL ELEMENT	CONCRETE		REINFORCING STEEL	
	TO MEET THE REQUIREMENTS FOR:	PAYMENT TO BE INCLUDED IN:	TO MEET THE REQUIREMENTS FOR:	PAYMENT TO BE INCLUDED IN:
ABUTMENT NO. 1 SUBFOOTING (INCLUDES DOWEL REINFORCING STEEL LABELED A5)	SUBFOOTING - 541.30 "CONCRETE, CLASS C" GROUTING DOWELS - 507.16 "DRILLING AND GROUTING DOWELS"	ITEM 541.30 "CONCRETE, CLASS C" ITEM 507.16 "DRILLING AND GROUTING DOWELS"	DOWELS - 507.13 "REINFORCING STEEL, LEVEL III (STAINLESS STEEL)" SUBFOOTING REINFORCEMENT (IF NEEDED) - 507.11 "REINFORCING STEEL, LEVEL I (EPOXY COATED)"	ITEM 507.13 "REINFORCING STEEL, LEVEL III (STAINLESS STEEL)" ITEM 507.11 "REINFORCING STEEL, LEVEL I (EPOXY COATED)"
RIGID FRAME OR ARCH TYPE PRECAST CONCRETE STRUCTURE (INCLUDES REINFORCING STEEL DESIGNED BY FABRICATOR)	540.10 "PRECAST CONCRETE STRUCTURE (33' X 6.25' FRAME)"	ITEM 540.10 "PRECAST CONCRETE STRUCTURE (33' X 6.25' FRAME)"	507.11 "REINFORCING STEEL, LEVEL I (EPOXY COATED)"	ITEM 540.10 "PRECAST CONCRETE STRUCTURE (33' X 6.25' FRAME)"
ABUTMENT NO. 1 (INCLUDES REINFORCING STEEL LABELED A1-A4)	540.10 "PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 1)" OR 900.645 "SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURE) (ABUTMENT NO. 1)"	ITEM 540.10 "PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 1)" OR ITEM 900.645 "SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURE) (ABUTMENT NO. 1)"	507.11 "REINFORCING STEEL, LEVEL I (EPOXY COATED)"	ITEM 540.10 "PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 1)" OR ITEM 900.645 "SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURE) (ABUTMENT NO. 1)"
ABUTMENT NO. 2 (INCLUDES REINFORCING STEEL LABELED A6-A10)	540.10 "PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 2)" OR 900.645 "SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURE) (ABUTMENT NO. 2)"	ITEM 540.10 "PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 2)" OR ITEM 900.645 "SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURE) (ABUTMENT NO. 2)"	507.11 "REINFORCING STEEL, LEVEL I (EPOXY COATED)"	ITEM 540.10 "PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 2)" OR ITEM 900.645 "SPECIAL PROVISION (CONTRACTOR FABRICATED PRECAST CONCRETE STRUCTURE) (ABUTMENT NO. 2)"
ABUTMENT NO. 1 AND NO. 2 GROUTING	541.58 "MORTAR, TYPE IV"	RESPECTIVE PRECAST CONCRETE ITEM	N/A	N/A
ABUTMENT NO. 2 PILE CAVITIES	900.608 "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)"	ITEM 900.608 "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)"	N/A	N/A

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DESIGNED BY:	G. LAROCHE
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