

GENERAL NOTES

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, DATED 2002, AND ITS LATEST REVISIONS.
- DIMENSIONS, ANGLES, BEARINGS, AND ELEVATIONS OF THE EXISTING BRIDGE SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND LIMITED FIELD INVESTIGATION AND MAY NOT ACCURATELY REFLECT ACTUAL FIELD CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING STRUCTURE, APPROACH, AND UTILITY COMPONENTS IMPACTED BY THE NEW WORK TO ASSURE CONSISTENCY WITH THE PROPOSED MODIFICATIONS. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ADVANCING THE WORK.
- ALL DIMENSIONS ARE HORIZONTAL AND VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT.
- THE CONTRACTOR SHALL NOT BE PERMITTED TO USE ANY EQUIPMENT OUTSIDE THE LIMITS OF EXISTING RIGHT-OF-WAY SHOWN ON THESE PLANS.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A SUITABLE STAGING AREA.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION, ESPECIALLY THE DISCHARGE OF RAW CONCRETE, INTO THE BROOK.
- THE EXISTING STONE RIPRAP IN FRONT OF THE ABUTMENTS SHOULD BE DISTURBED AS LITTLE AS POSSIBLE. ANY STONE THAT IS DISTURBED DURING CONSTRUCTION, INCLUDING THE STONE IN THE AREA OF THE NEW UNDERDRAIN AT WINGWALL NO. 2, SHALL BE REPLACED OR RESTORED TO ITS PRESENT CONDITION TO THE SATISFACTION OF THE RESIDENT ENGINEER. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 613.12.

SUPERSTRUCTURE BRACING NOTES

- SUPERSTRUCTURE BRACING WILL BE REQUIRED TO SUPPORT THE EXISTING DECK DURING PHASE REMOVAL OPERATIONS AS DEPICTED ON SHEET 15. THE SUPERSTRUCTURE BRACING SHOWN IS SCHEMATIC ONLY AND NOT INTENDED TO INDICATE A REQUIRED OR PREFERRED METHOD OF CONSTRUCTION.
- SUPERSTRUCTURE BRACING SHALL BE IN ACCORDANCE WITH SECTION 502 AND SUBMITTALS MADE PER SECTION 105. ALL COSTS FOR DESIGN, INSTALLATION, MAINTENANCE AND REMOVAL OF THE SUPERSTRUCTURE BRACING SHALL BE INCLUDED IN ITEM 527.10 (MOD.).
- SUPERSTRUCTURE BRACING SHALL BE DESIGNED IN ACCORDANCE WITH LATEST AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. THE MINIMUM LIVE LOAD SHALL BE HS20. THE BRACING SHALL ALSO BE DESIGNED TO PROVIDE ADEQUATE SUPPORT FOR THE TEMPORARY H-PILE BARRIER WHEN THE BARRIER IS SUBJECTED TO AASHTO RAIL IMPACT FORCE. DESIGN CALCULATIONS AND DRAWINGS SHALL BE SIGNED, STAMPED AND DATED BY A PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF VERMONT AND SUBMITTED IN ACCORDANCE WITH SECTION 105.
- ATTACHMENT OF THE SUPERSTRUCTURE BRACING TO THE EXISTING SUPERSTRUCTURE SHALL BE APPROVED BY THE ENGINEER. WELDING TO THE EXISTING WILL NOT BE PERMITTED WITHOUT PRIOR APPROVAL FROM THE RESIDENT ENGINEER.

SEWER LINE NOTES

- THE CONTRACTOR SHALL CONFIRM THE LOCATION OF EXISTING SEWER SYSTEM AND THAT THE PROPOSED MODIFICATIONS ARE CONSISTENT WITH EXISTING SEWER LINE. SEE GENERAL NOTE 2.
- THE EXISTING SEWER SYSTEM SHALL BE RETAINED AND TEMPORARILY SUPPORTED AS NECESSARY. THE EXISTING BRIDGE SUPPORT HARDWARE ELEMENTS SHALL BE RETAINED WHERE POSSIBLE AS DETERMINED BY THE RESIDENT ENGINEER.
- EXISTING SMH RIM ELEVATIONS SHALL BE ADJUSTED BY THE CONTRACTOR TO THE SATISFACTION OF THE RESIDENT ENGINEER. COST SHALL BE INCLUDED IN ITEM 604.42.
- ITEM 628.60, SEWER MAIN ON BRIDGE (8") SHALL INCLUDE:
 - FURNISHING ALL MATERIALS, TOOLS, LABOR, EQUIPMENT, AND INCIDENTALS TO MAINTAIN THE EXISTING SEWER MAIN ON THE BRIDGE AND ACROSS THE STREAM.
 - THREE INCHES POLYURETHANE INSULATION WITH ALUMINUM OR HDPE JACKET
 - BRIDGE HANGERS AND SUPPORTING SYSTEM (EXCLUDING DIAPHRAGMS) IF NEEDED
 - METAL SLEEVES AT ABUTMENTS
 - LINK-SEAL CONNECTIONS AT ABUTMENTS
- THE EXISTING SEWER SERVICES SHALL BE MAINTAINED DURING CONSTRUCTION AND WILL REQUIRE TEMPORARY SUPPORT DURING CONSTRUCTION. THE CONTRACTOR SHALL DEVELOP A PROPOSED SCHEME AND SUBMIT HIS/HER PLANS FOR THE TEMPORARY SUPPORT TO THE STRUCTURES PROGRAM MANAGER FOR APPROVAL PRIOR TO IMPLEMENTING THE PLAN. SUBMITTALS SHALL BE MADE IN ACCORDANCE WITH SECTION 105. ALL COSTS SHALL BE INCLUDED IN ITEM 628.60.

CONCRETE AND REINFORCING STEEL NOTES

- ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).
- REINFORCING PLACEMENT TOLERANCES SHALL BE:

SPACING: +/- ONE-INCH
CLEARANCE: +/- ONE-QUARTER INCH
- MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

ALONG TOP SURFACE OF DECK SLAB: 2.5 INCHES
ALONG BOTTOM SURFACE OF DECK SLAB: 1.5 INCHES
ALONG BACK FACES OF WALLS AGAINST EARTH: 2 INCHES
ELSEWHERE, UNLESS OTHERWISE NOTED: 3 INCHES
- ALL DECK, CURB, AND CURTAIN WALL CONCRETE SHALL BE CONCRETE HPC A, AND BE PAID AS ITEM 501.33 CONCRETE, HIGH PERFORMANCE CLASS A. ALL SUBSTRUCTURE CONCRETE SHALL BE CONCRETE HPC B, AND BE PAID AS ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B, UNLESS NOTED OTHERWISE.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED ONE-INCH BY ONE-INCH, OR AS OTHERWISE INDICATED ON THE PLANS.
- WATER REPELLENT (MOD - SILANE) SHALL BE APPLIED TO ALL EXPOSED CONCRETE SUPERSTRUCTURE SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES. WATER REPELLENT (MOD - SILANE) SHALL ALSO BE APPLIED TO THE EXPOSED SUBSTRUCTURE CONCRETE, NEW AND EXISTING. EXISTING CONCRETE TO BE COATED SHALL BE PRESSURE WASHED AND ALLOWED TO AIR DRY PRIOR TO SILANE APPLICATION, AT THE DISCRETION OF THE RESIDENT ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO THE ITEM.
- JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
- THE KEY IN CONSTRUCTION JOINTS SHALL BE UPWARD, MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.
- SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL.
- ABUTMENT CONCRETE REPAIR AREAS SHALL BE IDENTIFIED IN THE FIELD. A THOROUGH INSPECTION BY THE ENGINEER SHALL BE MADE OF ALL SUBSTRUCTURE AREAS AT THE TIME OF THE CONSTRUCTION. AREAS OF CONCRETE FOUND TO HAVE SPALLED, DELAMINATED OR TO BE OTHERWISE UNSOUND SHALL BE REPAIRED. ABUTMENT CONCRETE REPAIRS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 580. SEE CONCRETE SUBSTRUCTURE REPAIR DETAIL ON SHEET 24.
- DRILL AND GROUT BARS INTO THE EXISTING ABUTMENTS SHALL INCORPORATE A CHEMICAL ADHESIVE INSTEAD OF GROUT. HOLES SHALL BE DRILLED ONE INCH LARGER THAN DOWEL SIZE. THE CHEMICAL ADHESIVE MUST BE FROM THE APPROVED PRODUCTS LISTED IN THE SPECIAL PROVISIONS OR APPROVED IN ADVANCE OF USE BY THE STRUCTURES PROGRAM MANAGER. COST SHALL BE INCLUDED IN ITEM 507.16 (MOD).
- THE CONTRACTOR SHALL PROVIDE ADDITIONAL TEMPORARY SUPPORT TO THE STEEL BEAMS IN THE BAY BETWEEN BEAM NOS. 1 & 2 TO CARRY THE LOADING OF THE TEMPORARY DECK FALSEWORK. ALL COSTS SHALL BE INCLUDED IN ITEM 501.33.

REMOVAL NOTES

- REMOVAL OF PORTIONS OF THE EXISTING STRUCTURE SHALL BE IN ACCORDANCE WITH SECTION 529.
- REMOVAL OF THE EXISTING BRIDGE PAVEMENT SHALL BE PAID AS ITEM 529.10.
- ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE, SHALL INCLUDE:
 - REMOVAL OF EXISTING BRIDGE RAILING, CONCRETE CURB, CONCRETE BRIDGE DECK AND CURTAIN WALLS.
 - REMOVAL OF EXISTING STEEL BEAMS AND DIAPHRAGMS.
 - REMOVAL OF ALL BEARING DEVICES.
 - REMOVAL OF PORTIONS OF EXISTING ABUTMENTS AS SHOWN ON THE PLANS AND DIRECTED BY THE ENGINEER.
 - ERECTION, MAINTENANCE, AND REMOVAL OF TEMPORARY STRUCTURES TO PREVENT DEBRIS FROM FALLING INTO THE FREEMAN BROOK.
- THE CONTRACTOR'S METHODS FOR PARTIAL REMOVAL OF THE EXISTING STRUCTURES SHALL BE APPROVED BY THE STRUCTURES PROGRAM MANAGER PRIOR TO ANY REMOVAL WORK.
- LIMITS OF REMOVAL ON THE SUBSTRUCTURE UNITS ARE APPROXIMATE. THE RESIDENT ENGINEER SHALL ESTABLISH ACTUAL LIMITS AFTER A COOPERATIVE INSPECTION BY THE CONTRACTOR AND THE RESIDENT ENGINEER. EXISTING ELEVATIONS SHALL BE FIELD VERIFIED TO ENSURE THE REMOVAL LIMITS ARE ADEQUATE TO OBTAIN THE REQUIRED DIMENSIONS AND ELEVATIONS OF THE NEW CONSTRUCTION.
- EXISTING REINFORCING STEEL EXPOSED DURING REMOVAL OPERATIONS, WITHIN THE LIMITS OF THE NEW CONCRETE, SHALL BE RETAINED AND INCORPORATED INTO THE NEW CONCRETE. EXISTING REINFORCING STEEL TO BE RETAINED SHALL BE CLEANED OF ALL CONCRETE, DIRT, DETRIMENTAL SCALE, PAINT, OIL AND OTHER FOREIGN SUBSTANCES. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20.
- SAW CUTS SHALL BE ONE-INCH DEEP ALONG ALL EXPOSED REMOVAL LINES WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20.
- EXISTING REINFORCING STEEL THAT WILL NOT BE INCORPORATED INTO THE NEW CONCRETE SHALL BE REMOVED A MINIMUM OF ONE-INCH BELOW THE CONCRETE SURFACE. CAVITIES PRODUCED BY REINFORCING STEEL REMOVAL SHALL BE CLEANED, SATURATED WITH WATER, AND POINTED AND TRUED WITH MORTAR TYPE IV PER SECTION 501. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20.

- THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND ITS EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE EXISTING STRUCTURAL STEEL.

SUPERSTRUCTURE STEEL NOTES

- ALL NEW STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 50 (PAINTED) UNLESS OTHERWISE NOTED. STEEL BEAMS SHALL BE PAINTED GREEN.
- ITEM 506.50, STRUCTURAL STEEL (ROLLED BEAM) SHALL INCLUDE ROLLED BEAMS, CONNECTION PLATES, DIAPHRAGMS, AND ALL REQUIRED FASTENERS.
- ALL BOLTED FIELD CONNECTIONS SHALL BE MADE WITH 7/8-INCH DIAMETER HIGH STRENGTH BOLTS WITH 15/16-INCH DIAMETER HOLES UNLESS OTHERWISE NOTED.
- CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES PROGRAM MANAGER FOR APPROVAL.
- AFTER THE SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE BEAM SHALL BE TAKEN, AS DIRECTED BY THE RESIDENT ENGINEER, FOR USE IN DETERMINING THE FINAL GRADE AND HAUNCH DEPTHS.
- THE ENDS OF BEAMS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.
- THE CONTRACTOR MAY HOLD THE DIAPHRAGMS BETWEEN BEAM NOS. 3 & 4 IN PLACE WITH A SINGLE UNTIGHTENED BOLT IN EACH CONNECTION PLATE UNTIL THE PHASE II CONCRETE DECK POUR IS MADE. ONCE THE POUR IS COMPLETE, ALL BOLTS SHALL BE PLACED AND TIGHTENED. ALL COSTS SHALL BE INCLUDED IN ITEM 506.50.

TRAFFIC CONTROL NOTES

- TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION BY UTILIZING A SINGLE TRAFFIC LANE WITH ALTERNATING EASTBOUND AND WESTBOUND TRAFFIC. PHASED CONSTRUCTION OF THE BRIDGE WILL BE REQUIRED. ALL WORK REQUIRED TO CONTROL TRAFFIC DURING CONSTRUCTION SHALL BE PAID AS ITEM 527.10 (MOD.). THE CONTRACTOR SHALL NOTIFY THE TOWN OF WARREN AT LEAST TWO (2) WEEKS PRIOR TO INCORPORATING THEIR ONE LANE TRAFFIC SCHEME.
- THE TRAFFIC CONTROL SIGNING AND PHASING DETAILS DEPICTED ON SHEETS 14 AND 15 ARE CONCEPTUAL AND SCHEMATIC ONLY. THE CONTRACTOR SHALL PREPARE A DETAILED TRAFFIC CONTROL PLAN, INCLUDING THEIR PLAN FOR PHASED CONSTRUCTION OF THE ROADWAY APPROACHES AND DRIVEWAYS.
- NO CONSTRUCTION SIGNS SHALL BE INSTALLED SO AS TO INTERFERE WITH OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES.
- THE ABUTMENT PHASED CONSTRUCTION JOINT DELINEATED ON THE PLANS IS APPROXIMATE AND HAS BEEN LOCATED AT THE ESTIMATED FACE OF EXISTING DECK REMOVAL. THE CONTRACTOR SHALL LOCATE ACTUAL ABUTMENT PHASED CONSTRUCTION JOINT IN HIS/HER TRAFFIC CONTROL PLAN SUBMITTAL.
- TEMPORARY EXCAVATION SUPPORTS SHALL BE REQUIRED TO SAFELY SEPARATE THE WORK AREA FROM TRAFFIC AND TO KEEP NEW FOOTING EXCAVATION LIMITS WITHIN THE EXISTING RIGHT-OF-WAY. DESIGN OF TEMPORARY EXCAVATION SUPPORTS SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AND DESIGN CALCULATIONS AND DRAWINGS SHALL BE SIGNED, STAMPED, AND DATED BY A PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF VERMONT AND SUBMITTED IN ACCORDANCE WITH SECTION 105. COST OF ALL THIS INCLUDING DESIGN, SHALL BE INCLUDED IN ITEM 527.10 (MOD.).
- THE COST OF ALL TEMPORARY TRAFFIC CONTROL ZONE DEVICES (EXCEPT TEMPORARY CONCRETE TRAFFIC BARRIERS) SHALL BE INCLUDED IN ITEM 641.10.
- HAZARD IDENTIFICATION BEACONS MAY BE BATTERY OPERATED AND SHALL BE CHECKED DAILY BY THE CONTRACTOR TO ENSURE THAT THESE FUNCTION ADEQUATELY. COST SHALL BE INCLUDED IN ITEM 641.10.
- THERE WILL BE A PERIOD WHEN TRAFFIC IS CARRIED ON THE BARE DECK. THE BARE DECK SHALL BE SANDBLASTED AND CLEANED PRIOR TO THE ULTIMATE APPLICATION OF SHEET MEMBRANE WATERPROOFING (MOD-TORCH APPLIED) AND PAVEMENT. COST SHALL BE INCLUDED IN ITEM 519.20 (MOD.).

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	WARREN	Bridge No.	7
Highway No.	TH 1	Log Sta.	
		Surv. Sta.	

BROOK ROAD OVER FREEMAN BROOK

GENERAL NOTES

Designed By	R. JOY	Drawn By	P. DUSTIN
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PROJECT	WARREN	PROJECT NO.	BHF 0188(7)
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