

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AND ITS LATEST REVISIONS, AND THE 17TH EDITION OF AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.
2. THIS PROJECT INCLUDES ITEMS THAT ARE LISTED AS NON-PARTICIPATING. THESE DESIGNATE WORK IN WHICH THE COST IS NOT SHARED BY FEDERAL OR STATE GOVERNMENTS AND WILL BE BORNE ENTIRELY BY THE TOWN OF SPRINGFIELD.
3. THE CONTRACTOR IS CAUTIONED THAT WATER AND SEWER LINES ARE PRESENT WITHIN THE PROJECT AREA. THE PLANS SHOW THE APPROXIMATE LOCATION OF THE SEWER LINE ON NO. MAIN STREET. THE EXACT LOCATION AND ELEVATION OF THE LINE IS NOT KNOWN. THE SECTION OF NEW RETAINING WALL BETWEEN STA. 16+75 & 16+94 WAS ADDED SO SOIL NAILS WOULD NOT DAMAGE THE SEWER LINE. IT WAS ASSUMED THAT SOIL NAILS USED IN WALL FACING SECTIONS BEFORE STA. 16+75 WOULD PASS BENEATH THE SEWER LINE. IF IT IS DETERMINED IN THE FIELD THAT THE LOCATION OF THE LINE COULD STILL BE DAMAGED BY THE PRESENT DESIGN, THE PROJECT MANAGER SHALL BE CONTACTED ABOUT A POSSIBLE CHANGE IN DESIGN. IF A CHANGE IN DESIGN IS REQUIRED, THE CONTRACTOR SHALL ANTICIPATE A TWO WEEK TURN-A-ROUND TIME.
4. DURING CONSTRUCTION, TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON RIVER STREET AND SHALL BE CONTROLLED AS SHOWN ON THE TRAFFIC DETOUR SHEETS. CONCRETE BARRIER PLACED ON RIVER STREET IN THE FALL OF 2004 MUST BE REMOVED ONCE SNOW REMOVAL OPERATIONS COMMENCE. RE-INSTALLATION WILL NOT BE ALLOWED UNTIL THE CONTRACTOR IS GIVEN WRITTEN PERMISSION BY THE SPRINGFIELD PUBLIC WORKS DIRECTOR.
5. WHILE SLOPE EXCAVATION, DRAINAGE OR PAVING OPERATIONS ARE BEING CONDUCTED ON TH 325 (NORTH MAIN ST.), THE STREET MAY BE CLOSED TO THRU TRAFFIC. THE PUBLIC WORKS DIRECTOR SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO ANY CLOSING. THE STREET MUST BE PROPERLY BARRICADED AND SIGNED EACH TIME IT IS CLOSED. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL TEMPORARY ON AND OFF-PROJECT SIGNS AND BARRICADES AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT FOR THIS WORK, EXCLUDING CONCRETE BARRIER, SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 641.10, "TRAFFIC CONTROL".
6. CONCRETE BARRIER SHALL BE PAID FOR UNDER ITEM 621.90, "TEMPORARY TRAFFIC BARRIER". SEE SPECIAL PROVISIONS FOR ITEM 621 FOR FURTHER INFORMATION ON TRAFFIC CONTROL AND PAYMENT FOR CONCRETE BARRIER.
7. EXISTING SIGNS NOT RE-USED SHALL REMAIN THE PROPERTY OF THE TOWN OF SPRINGFIELD. THE CONTRACTOR SHALL STOCKPILE THESE SIGNS AT THE PROJECT SITE FOR REMOVAL BY TOWN FORCES. THE CONTRACTOR SHALL CONTACT THE PUBLIC WORKS DIRECTOR AT (802) 886-2208 WHEN THE SIGNS ARE READY FOR REMOVAL FROM THE PROJECT SITE.
8. REFERENCE SHEETS FROM THE RECORD PLANS FOR THE EXISTING METAL BIN WALLS ARE INCLUDED IN THE PLANS FOR THE CONTRACTOR'S USE (SHEETS 68 - 72). WHERE NEEDED, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING IN THE FIELD ANY DIMENSIONS OF EXISTING MATERIAL INCLUDED IN THESE REFERENCE SHEETS.
9. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION OF ALL WATERWAYS IN THE PROJECT AREA AS DIRECTED BY THE RESIDENT ENGINEER AND STANDARD SPECIFICATION SECTION 105.
10. FOR INFORMATION REGARDING UTILITIES, SEE THE SPECIAL PROVISIONS.
11. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT.

TH1/VT 11 WALL DESIGN AND CONSTRUCTION

12. THE EXISTING METAL BIN WALL SHALL BE REHABILITATED WITHIN THE LIMITS SHOWN ON THE PLANS. SEE SECTION 535 OF THE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS REGARDING THIS PORTION OF THE WORK.
13. AS SHOWN IN THE PLANS, THE REHABILITATED WALL SYSTEM SHALL CONSIST OF A CAST-IN-PLACE, REINFORCED CONCRETE WALL FACING PLACED DIRECTLY IN FRONT OF THE EXISTING METAL BIN WALL SECTIONS, SECURED TO THE EXISTING EMBANKMENT WITH SOIL NAILS DRILLED THROUGH THE EXISTING WALL. SOIL NAIL LENGTHS, SPACING AND INCLINATION SHALL BE AS SHOWN IN THE PLANS.

14. THE FOLLOWING PARAMETERS WERE USED IN DESIGN:

FRICTION ANGLE (EXISTING SLOPE MATERIAL)	34°
UNIT WEIGHT OF SOIL BEHIND EXISTING BINWALLS	125 PCF
COHESION	100 PCF
GLOBAL SLOPE STABILITY SAFETY FACTOR	1.35
INTERNAL STABILITY SAFETY FACTOR	1.35
FACING FLEXURE FACTOR OF SAFETY	1.5
FACING PUNCHING SHEAR FACTOR OF SAFETY	1.5
PULLOUT RESISTANCE FACTOR OF SAFETY	2.0
ULTIMATE BOND STRENGTH (GROUT AND SOIL)	1,220 PSF
BOREHOLE DIA. SIZE	6 IN
ULTIMATE BOND STRENGTH FOR 6 INCH HOLE	1,900 LB/FT
ALLOWABLE NAIL PULLOUT RESISTANCE=OD = 1900 LB/FT / 2.0 (FS) = 950 LB/FT	
ALLOWABLE STRESS (STEEL NAIL BAR)	0.6FY
(FY = YIELD STRESS = 75 KSI MIN.)	
CONCRETE F' C	3,500 PSI
NAIL GROUT F' C	3,000 PSI
ULTIMATE PLATE CAPACITY	33,000 LBS

15. SOIL NAILING MAY BE DONE DURING WINTER MONTHS PROVIDED ADEQUATE MEASURES ARE TAKEN TO PREVENT FREEZING OF THE GROUT. HOWEVER, COLD WEATHER CONCRETE OPERATIONS WILL NOT BE ALLOWED ON ANY PORTION OF THE REINFORCED CONCRETE FACING, NEW RETAINING WALL, SIDEWALKS OR STEPS.
16. FOR DESIGN PURPOSES, ANY POTENTIAL CONTRIBUTION OF THE EXISTING METAL BIN WALL TO PERMANENT WALL SUPPORT HAS BEEN IGNORED. FOR SOIL CHARACTERISTICS USED IN DESIGN, SEE NOTE 12 AND PROJECT BORINGS ON SHEETS 27 - 33 OF THE PLANS.
17. PROOF AND VERIFICATION TESTS WILL BE REQUIRED ON SOIL NAILS. A MINIMUM OF TWO SACRIFICIAL NAILS SHALL BE INSTALLED FOR VERIFICATION TESTS AT LOCATIONS AGREED UPON BY THE CONTRACTOR AND ENGINEER. THE LOCATIONS MUST BE SELECTED TO APPROXIMATE THE SAME SOIL CONDITIONS INTO WHICH THE PRODUCTION NAILS WILL BE INSERTED. APPROXIMATELY 5% OF THE PERMANENT NAILS SHALL BE PROOF LOAD TESTED TO 1.5 TIMES THE DESIGN LOAD. NAILS FAILING TO MEET THE REQUIRED PROOF LOADING SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. SEE SPECIAL PROVISION FOR ITEM 535 FOR INFORMATION ON THIS TESTING.
18. FORM LINERS SHALL BE USED FOR ALL EXPOSED WALL FACINGS TO SIMULATE A CEMENT RUBBLE MASONRY APPEARANCE. THE SIMULATED COLUMNS AT CONSTRUCTION AND EXPANSION JOINTS MAY HAVE THE HORIZONTAL SCORE MARKS PROVIDED BY CONVENTIONAL FORMING METHODS OR BY A FORM LINER PROCESS. THE METHOD SHALL BE INCLUDED IN THE PACKAGE SUBMITTED FOR APPROVAL AS DESCRIBED IN THE SPECIAL PROVISIONS. THE PAYMENT FOR ALL FORM LINER WORK SHALL BE UNDER ITEM 602.25, STONE MASONRY FACING (MODIFIED FORM LINER). SEE SPECIAL PROVISIONS FOR DETAILS CONCERNING THIS ITEM.
19. THE FORM LINER PATTERN SHALL BE "MINNEHAHA BLEND", CUSTOM ROCK DURA FORM PATTERN #12010, OR AN APPROVED EQUIVALENT. ANY PROPOSED SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE PROJECT MANAGER.
20. HORIZONTAL CONSTRUCTION JOINTS HAVE NOT BEEN SHOWN IN THE FACING DETAILS. THE CONTRACTOR MAY PROPOSE THE USE OF HORIZONTAL JOINTS BUT THE FORM LINER PATTERN SHALL BE CONTINUOUS THROUGH AND ACROSS ALL HORIZONTAL CONSTRUCTION JOINTS.
21. THE 1" PREMOULDED EXPANSION MATERIAL USED IN VERTICAL EXPANSION JOINTS SHALL BE A COLOR CLOSELY MATCHING THAT OF THE ADJACENT CONCRETE. PAYMENT FOR THE EXPANSION MATERIAL SHALL BE INCIDENTAL TO THE CONCRETE PAY ITEM.
22. ALL CONCRETE FORMED WITH LINERS SHALL BE COLORED. THE PIGMENT COLOR SHALL BE BAYFERROX 330 APPLIED AT 2 LBS. PER 94 LB. BAG OF CEMENT. THE CONCRETE CAP SHALL NOT BE COLORED.
23. PRIOR TO PLACING ANY PERMANENT FORM LINERS, THE CONTRACTOR SHALL CONSTRUCT A TEST PANEL UTILIZING THE FORM LINER SYSTEM. THE SIZE OF THE TEST PANEL SHALL BE AS ORDERED BY THE RESIDENT ENGINEER BUT SHALL BE A MINIMUM FACE SIZE OF 4' BY 8'. THE CONTRACTOR SHALL DEMONSTRATE FORM LINER APPLICATION AND COLORING OF CONCRETE FOR THE APPROVAL OF THE RESIDENT ENGINEER PRIOR TO PERFORMING ANY PERMANENT WORK ON THE WALL. ALL COSTS INVOLVED IN THE TEST PANEL SHALL BE INCIDENTAL TO ITEM 602.25, STONE MASONRY FACING (MODIFIED FORM LINER).
24. CONCRETE FOR WALL FACING AND FACING PAD SHALL BE HIGH PERFORMANCE CLASS B AND SHALL BE PAID FOR UNDER ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B".
25. MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS INDICATED IN THE PLANS.
26. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:
SPACING: +/- ONE INCH
CLEARANCE: +/- ONE QUARTER INCH

TH 325 WALL REMOVAL

27. THE EXISTING METAL BIN WALL SHALL BE REMOVED. THE EXISTING SLOPE SHALL BE CUT BACK AND GRADED AS SHOWN IN THE PLANS.
28. REMOVAL AND DISPOSAL OF ALL METAL PORTIONS OF THE EXISTING BIN WALL SHALL BE PAID FOR UNDER ITEM 529.15, "REMOVAL OF STRUCTURE".

EARTHWORK AND RELATED ITEMS

29. TO HELP PREVENT SOIL EROSION, THE STONE LINED DITCHES SHOWN PERPENDICULAR TO AND ALONG NORTH MAIN STREET SHALL BE CONSTRUCTED IMMEDIATELY AFTER THE BIN-WALL REMOVAL AND BEFORE ANY ADDITIONAL SLOPE EXCAVATION.
30. UNIT PRICE BID FOR ITEM 201.10, CLEARING AND GRUBBING, SHALL BE FULL PAYMENT FOR ALL CLEARING AND GRUBBING REQUIRED FOR SLOPE AND DRAINAGE WORK DONE ON THE RIGHT SIDE OF NORTH MAIN ST.
31. SUITABLE TOPSOIL FROM NORTH MAIN ST. SLOPE EXCAVATION SHALL BE STOCKPILED FOR USE ON AREAS DESIGNATED IN THE PLANS. PAYMENT FOR TRANSPORTING FROM STOCKPILES AND PLACING TOPSOIL WILL BE MADE UNDER ITEM 651.35, "TOPSOIL."
32. AREAS SEEDED AND MULCHED AFTER OCTOBER 15TH SHALL RECEIVE AN APPLICATION OF WINTER RYE SEED AT THE RATE OF 60 LBS/ACRE. IN ADDITION, THE URBAN SEED FORMULA SHALL BE APPLIED AS SPECIFIED IN THE PLANS AFTER MAY 1ST.
33. UNIT PRICE BID FOR ITEM 201.30, THINNING AND TRIMMING, SHALL BE FULL PAYMENT FOR REMOVING ALL TREES, STUMPS AND BRUSH WITHIN THE LIMITS DEFINED BY THE BACK OF BIN WALL ALONG TH 1 (VT 11) LEFT UP TO THE PDF LINE OR, IN AREAS WHERE PDF LINE IS NOT SHOWN, TO THE BACK OF SIDEWALK ON NO. MAIN STREET.
34. EXISTING SIDEWALK AND CURB SHALL BE REMOVED WITHIN THE LIMITS SHOWN ON THE PLANS. PAYMENT FOR SIDEWALK REMOVAL AND DISPOSAL SHALL BE MADE UNDER ITEM 204.25, STRUCTURE EXCAVATION. PAYMENT FOR REMOVAL OF EXISTING CURB SHALL BE MADE UNDER ITEM 616.40, REMOVING AND RESETTING CURB.
35. NEW CAST-IN-PLACE SIDEWALK SHALL BE CONSTRUCTED WITHIN THE LIMITS SHOWN ON THE PLANS. PAYMENT FOR NEW SIDEWALK SHALL BE MADE UNDER ITEM 618.10, PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH.
36. AFTER THE GRANITE CURBING ALONG VT 11 LEFT AND NORTH MAIN STREET LEFT IS RESET, THE EXCAVATED AREA ADJACENT TO THE CURB SHALL BE BACKFILLED WITH SUBBASE MATERIAL TO THE BOTTOM OF THE EXISTING PAVEMENT DEPTH AND NEW BITUMINOUS CONCRETE PAVEMENT PLACED AND COMPACTED IN APPROPRIATE LIFTS TO MATCH THE EXISTING PAVEMENT SURFACE. UPON COMPLETION OF ALL WORK THAT WOULD CAUSE DAMAGE TO PAVED SURFACES, THE FULL WIDTH OF NORTH MAIN STREET AND THE LEFT SIDE OF VT 11 SHALL BE COLD PLANED AND RESURFACED.

PROJECT NOTES

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: STP 016-2 (10)S

FILE NAME: 00b124\structures\sbl24pn.l PLOT DATE: 17-AUG-2004
PROJECT MANAGER: R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: G. ROY CHECKED BY: R. WHITCOMB
SHEET 44 OF 72