

CONCRETE

- 38. CONCRETE FOR THE DECK, CURBS AND ABUTMENTS ABOVE THE BRIDGE SEAT OR CONSTRUCTION JOINT SHALL BE ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A (FPQ)".
- 39. ALL OTHER SUBSTRUCTURE CONCRETE SHALL BE ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B" UNLESS OTHERWISE NOTED.
- 40. NO CONCRETE IN ABUTMENT NO. 1 OR ABUTMENT NO. 1 WINGWALLS SHALL BE PLACED ABOVE THE BRIDGE SEAT ELEVATIONS UNTIL THE GIRDERS OR SLABS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED.
- 41. IN ACCORDANCE WITH SUBSECTION 506.23 (a) AND AS DIRECTED BY THE RESIDENT ENGINEER, THE CONTRACTOR SHALL TAKE MEASURES NECESSARY TO PROTECT ALL SUBSTRUCTURE CONCRETE FROM STAINING DUE TO OXIDE FORMATION ON THE STRUCTURAL STEEL PRIOR TO PLACEMENT OF THE DECK. THESE MEASURES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B". ANY SUCH STAINING THAT OCCURS PRIOR TO DECK PLACEMENT SHALL BE REMOVED AT NO ADDITIONAL COST TO THE STATE.
- 42. THE DECK IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A TRANSVERSE CONSTRUCTION JOINT SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM 96 HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.
- 43. RELATIVE TO GRADE, ALL DECK POURS SHALL BEGIN FROM THE LOW ELEVATION END AND PROCEED TOWARDS THE HIGH ELEVATION END.
- 44. STAY-IN-PLACE CORRUGATED METAL FORMS (SIPCMF) SHALL BE USED TO FORM THE UNDERSIDE OF THE CONCRETE BRIDGE DECK BETWEEN THE STEEL GIRDERS. THE SIPCMF AND THEIR COMPONENTS, ATTACHMENTS, ETC. SHALL BE GALVANIZED OR STAINLESS STEEL. THE SIPCMF SHALL BE LOCATED TO MAINTAIN A CONSTANT CONCRETE DECK THICKNESS OF 9" FROM THE TOP OF THE SIPCMF'S CORRUGATIONS. THE CORRUGATIONS SHALL BE FILLED WITH FOAM OR A LIGHT WEIGHT MATERIAL APPROVED BY THE MANUFACTURER OR AS DIRECTED BY THE ENGINEER.
- 45. FLEMING BRACKETS OR SIMILAR FALSE WORK SHALL BE DESIGNED BY THE CONTRACTOR AND PLACED AT A MAXIMUM SPACING OF 4'-0". THE BRACKETS SHALL BEAR NEAR THE BOTTOM FLANGE AND IN NO CASE SHALL THEY BEAR ABOVE THE BOTTOM QUARTER OF THE WEB DEPTH.
- 46. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH X 1 INCH UNLESS OTHERWISE NOTED.
- 47. ITEM 514.10, "WATER REPELLENT, SILANE", SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON THE BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES.
- 48. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
- 49. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
- 50. MINIMUM COVER FOR REINFORCING STEEL SHALL BE 2" ALONG THE BACK FACES OF WALLS AGAINST EARTH, 1/2" ALONG THE BOTTOM SURFACE OF THE DECK AND 3" ELSEWHERE, UNLESS OTHERWISE NOTED.
- 51. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).
- 52. ALL REINFORCEMENT IN THE DECK, CURBS, BACKWALL AND WINGWALLS ABOVE THE HORIZONTAL CONSTRUCTION JOINT AT ABUTMENT NO. 2, AND THE REINFORCEMENT ABOVE THE CONSTRUCTION JOINT FOR THE INTEGRAL ABUTMENT AND WINGWALLS AT ABUTMENT NO. 1 SHALL BE ITEM 507.12 "REINFORCING STEEL, LEVEL 11" IN ACCORDANCE WITH SECTION 507. ALL OTHER REINFORCING STEEL SHALL BE ITEM 507.11 "REINFORCING STEEL, LEVEL 1" IN ACCORDANCE WITH SECTION 507.
- 53. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:

SPACING +/- 1"
 CLEARANCE +/- 1/4"

CONCRETE CONTINUED

- 54. CUTTING AND REPAIRING DAMAGED AREAS OF COATED REINFORCING STEEL SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 507.04.
- 55. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.

SUBSTRUCTURE ON LEDGE

- 56. FOOTINGS AND SUB-FOOTINGS SHALL BE FOUNDED ON LEDGE WHICH HAS BEEN CLEANED OF ALL LOOSE ROCK AND DEBRIS TO ENSURE THAT SUBSTRUCTURES ARE PLACED ON COMPETENT ROCK.
- 57. UPON COMPLETION OF THE EXCAVATION FOR SUBSTRUCTURES FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE RESIDENT 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 GEOLOGIST 72 HOURS PRIOR TO WHEN THE ANALYSIS WILL BE NEEDED.
- 58. LEDGE THAT IS EXCAVATED FOR PLACEMENT OF FOOTINGS SHALL BE EXCAVATED TO PROVIDE A LEVEL SURFACE OR AS DIRECTED BY THE RESIDENT ENGINEER.
- 59. THE SUBSTRUCTURE UNITS AT ABUTMENT NO. 2 HAVE BEEN DESIGNED FOR THE TOP OF FOOTING ELEVATIONS SHOWN ON THE PLANS. IF THE LEDGE ELEVATION IS GREATER THAN 1'-0" BELOW THE DESIGN BOTTOM OF FOOTING, A SUBFOOTING SHALL BE POURED SO THAT THE DESIGN TOP OF FOOTING IS AT THE REQUIRED ELEVATION. CONCRETE FOR SUBFOOTING SHALL BE PAID FOR AS CLASS B CONCRETE.
- 60. THE LIMITS OF THE SUBFOOTING (IF REQUIRED) SHALL BE 1'-0" OUTSIDE THE LIMITS OF THE FOOTING.
- 61. WHERE LEDGE IS WITHIN ONE FOOT FROM THE BOTTOM OF THE ABUTMENT NO. 2 FOOTING AS DESIGNED, THE FOOTING MAY BE POURED TO THE TOP OF THE LEDGE USING ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B".
- 62. WHERE LEDGE IS BELOW TOP OF ABUTMENT NO. 2 FOOTING BY LESS THAN THE DEPTH OF FOOTING, THE LEDGE SHALL BE EXCAVATED DOWN TO THE INDICATED BOTTOM OF FOOTING FOR THE FULL WIDTH (TOE TO HEEL) OF THE CONFIGURATION.
- 63. IF LEDGE IS ABOVE THE DESIGN TOP OF ABUTMENT NO. 2 FOOTING, THE FOOTING MAY BE RAISED. BEFORE ANY UPWARD ADJUSTMENT IS MADE IN FOOTING ELEVATION, THE PROJECT MANAGER SHALL BE CONTACTED AND PROVIDED WITH A LEDGE PROFILE. NO FURTHER WORK SHALL BE DONE UNTIL APPROVAL OF THE CONFIGURATION IS RECEIVED.
- 64. #8 DOWELS SHALL BE DRILLED AND GROUTED INTO THE LEDGE AS SHOWN ON THE PLANS. THE DOWELS SHALL HAVE A 2'-0" EMBEDMENT INTO THE LEDGE AND SHALL EXTEND INTO THE FOOTING A MINIMUM OF 1'-6". IN AREAS WHERE A SUBFOOTING IS REQUIRED #8 DOWELS WILL ALSO BE USED AT THE INTERFACE BETWEEN SUBFOOTING AND FOOTING. THE DRILLING AND GROUTING SHALL BE PAID FOR UNDER THE ITEM 507.16, "DRILLING AND GROUTING DOWELS".



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