GENERAL SPECIAL PROVISIONS FOR ALL PROJECTS
2006 STANDARD SPECIFICATIONS

SECTION 101 – DEFINITIONS AND TERMS

1. 101.01 ABBREVIATIONS, is hereby corrected by deleting "American Railway Association" as the respective expression for ANSI and replacing it with "American National Standards Institute".

2. 101.01 ABBREVIATIONS, is hereby further corrected by deleting "American Wood-Preservers' Association" as the respective expression for ASTM and replacing it with "American International Standards Worldwide".

3. 101.01 ABBREVIATIONS, is hereby still further corrected by adding the abbreviation "AWPA" and its respective expression "American Wood-Preservers' Association" to the list of abbreviations immediately after "ASTM" and its respective expression.

4. 101.02 DEFINITIONS, is hereby modified by deleting the definition for ACTUAL COMPLETION DATE and replacing it with a new definition for ACTUAL COMPLETION DATE as follows:

   ACTUAL COMPLETION DATE – Date noted in the Completion and Acceptance memorandum on which designated responsible Agency personnel have reviewed the project(s) and determined that all Contract work is complete and all Contract requirements have been met, generally considered to be the last day the Contractor performed physical work on any Contract item.

5. 101.02 DEFINITIONS, is hereby further modified by adding the following as the last sentence of the definition for CONTRACTOR:

   The Contractor will act in an independent capacity and not as officers or employees of the State.

SECTION 105 – CONTROL OF THE WORK

6. 105.03 PLANS AND WORKING DRAWINGS, part (b) Working Drawings, subpart (3)b.4. Required Construction Drawings, is hereby modified by adding the following as the fifth row in the table:

501 HPC Structural Concrete (stay-in-place corrugated metal forms (SIPCMF))	Structures Engineer	For Approval

7. 105.03 PLANS AND WORKING DRAWINGS, part (b) Working Drawings, subpart (3)b.4. Required Construction Drawings, is hereby further modified by adding the following as the twelfth row in the table:

522 Lumber and Timber (erection plan)	Construction Engineer	Documentation Only

8. 105.30 VALUE ENGINEERING, is hereby modified by being deleted in its entirety and replaced with the following:

9. 105.30 VALUE ENGINEERING.

(a) General. The intent of value engineering (VE) is to provide an incentive to the Contractor to initiate, develop, and present to the Engineer for consideration cost reduction proposals involving changes in the drawings, designs, specifications, or other requirements of the Contract. These provisions do not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a VE proposal.

The change in cost proposals contemplated are those that would require a Change Order/Supplemental Agreement (COSA) modifying the Contract and would produce an overall savings to the public by providing items or methods other than those specified in the Contract and/or reduce future maintenance costs without impairing essential functions and characteristics such as service life, safety, durability, reliability, economy of operation, ease of maintenance, and necessary standardized features. A VE proposal shall contain proven features that have been used under similar conditions, and is presented as such, and does not contain equivalent options already provided in the Contract.

(b) Procedure.

(1) General. Unless mutually agreed otherwise, the VE proposal approval process will occur in three steps:

a. A conceptual VE proposal submission and review.

b. A detailed VE proposal submission and evaluation, and if approved.

c. A COSA modifying the Contract, including the amount of payment due to the Contractor and credit due to the Agency.

(2) Conceptual Value Engineering Proposal (CVEP). To begin the VE proposal approval process, the Contractor shall submit a written Conceptual Value Engineering Proposal (CVEP) to the Engineer for consideration. The CVEP is not a formal and complete submittal based upon detailed technical analysis, but instead relays a conceptual idea based upon the Contractor's knowledge and expertise. The CVEP should include the following information based upon the Contractor's best knowledge and understanding:

a. General Description. A narrative that describes the proposed change in concept and includes the basic differences between the existing Contract and the proposed change.

b. Advantages and Disadvantages. A listing and brief description of the comparative advantages and disadvantages of the CVEP including effects on the service life, safety, durability, reliability, economy of operation, ease of maintenance, and any other factors significantly altered by the CVEP.

c. Impacts to Permits and/or Third-Party Agreements. A description of steps necessary to address existing permits, new permits, or third party agreements that may be impacted or required in order to initiate the proposed change(s). In addition, the Contractor shall describe its expectation of securing or modifying these documents, who is responsible for securing them, and required timeframe(s).

d. Identification of Prior Similar CVEPs. If the CVEP was submitted previously on another Agency project, the date, the project name and number, and the action taken by the Agency shall be indicated.

e. Known Use or Testing. A description of any previous use or testing of the concept(s) included in the CVEP that is known to the Contractor, including the tester, the conditions, and the results.

f. Estimate of Net Savings. An estimate of the Net Savings as defined in part (c) below. This amount shall not include the cost to prepare and submit the CVEP)

g. Estimate of Development Costs. A scope of work and related cost estimate to develop and submit a Detailed Value Engineering Proposal (DVEP). This estimate should include a detailed estimate of both the engineering costs the Contractor will incur in preparing the DVEP (the "Internal DVEP Costs") and the cost the Contractor will incur to obtain specialty engineering services that the Contractor cannot perform and which are necessary to prepare the DVEP (the "External DVEP Costs") (collectively, the "DVEP Costs"). If the Contractor establishes, to the satisfaction of the Construction Engineer, that it does not have the financial resources to incur the DVEP Costs, the Agency may, in its sole discretion, decide to advance the Contactor up to 50% of the DVEP Costs. In no event will the Agency pay more than 50% of the DVEP Costs, nor will the DVEP Costs exceed 50% of the Net Savings amount, as defined in part (c) below.

h. Savings and Schedule Impacts. An estimate of the time necessary for the Contractor to submit a DVEP and the time-sensitivity of the savings identified. Such estimate shall specify the date by which the Agency must approve the DVEP to obtain the maximum cost reduction, and the latest date by which the Agency must approve the DVEP for the Contractor to avoid significant impacts on the estimated Net Savings or the Contractor's schedule of work. If the Agency determines that the time for response is insufficient for review, the Contractor will be promptly notified.

i. Agency Review. The Engineer will use best efforts to review a conforming CVEP and respond to the Contractor within 14 calendar days of receipt. The Agency may, at its sole discretion:

1. Invite the Contractor to submit a DVEP;

2. Reject the CVEP for reasons that will be described briefly; or

3. Request additional information.

(3) DVEP. If invited by the Agency as provided in subpart (b)(2)i.1., the Contractor may submit a DVEP. DVEPs will be processed in the same manner as prescribed for any other alterations of the Contract that require a COSA and shall contain, as a minimum, the following information:

a. Description. A description of what is being changed, altered, or deleted, and why, and what is being proposed to improve upon the originally designed feature.

b. Itemization. An itemization of the requirements of the Contract (plans, specifications, pay items, and unit prices) that must be changed and a recommendation of how to make each change, including a description of the advantages and disadvantages and where these items have been successfully used on other projects before or tested elsewhere.

c. Computation of Net Savings. A detailed computation of the estimated net savings to be generated as defined in part (c), actual DVEP development costs, and estimated savings and schedule impacts, including approval date(s) required. If the Agency determines that the time for response is insufficient for review, the Contractor will be promptly notified.

d. Prediction of Other Costs. A prediction of any effects the proposed changes would have on other costs to the Agency, including environmental effects, traffic impacts, and preventive action or treatment costs.

e. Plans and Specifications. A complete set of Plans and Specifications, prepared as Construction Drawings in accordance with Subsection 105.03, showing the proposed revisions relative to the original Contract features and requirements. All DVEPs that require engineering design, computations, or analysis shall be prepared under the responsible charge of and sealed by a Professional Engineer licensed in the State of Vermont.

f. Contract Completion. A statement as to the effect the proposal would have on the time for the completion of the Contract. Extension to the original Contract Completion Date will generally not be approved.

(4) Evaluation of DVEP. The Agency will evaluate the DVEP and consider the following:

a. The Agency may request any additional information that it determines is necessary to properly evaluate the DVEP. Where design changes are proposed, such additional information may include results of field investigations and surveys, design computations, specifications, and any field changes already incorporated into the project. The Contractor shall promptly provide any such requested information.

b. The Agency may require the Contractor to provide additional information to verify the Contractor's cost analysis.

c. When the Agency is acting as the contracting authority for a locally owned facility, the local governing body must also provide approval. The Contractor shall present their proposal to the local governing body and allow sufficient time to present the proposal and receive comments.

(5) Evaluation Response. The Agency will use its best effort to evaluate a conforming DVEP and provide the Contractor with a written response within 30 calendar days of receipt of all of the information it has determined was necessary to properly evaluate the DVEP. Such response will include a brief description of the Agency's reason(s) for its decision. The Agency, at its sole discretion, will either accept the DVEP, accept it with conditions, or reject it.

(6) No Liability for Delay. The Agency shall not be liable for any delay in acting upon any VE proposal submitted. The Contractor may withdraw in whole or in part any VE proposal not accepted within the period specified in the proposal. The decision of the Engineer as to the acceptance or rejection of VE proposals will be final and will not be subject to the provisions of Subsections 105.02 or 105.20.

(7) Contingencies. The Agency may approve a DVEP with contingencies, which if not met by the Contractor, will prompt the Agency to reject the DVEP before the execution of a COSA. Contingencies may include but not be limited to the necessary approvals of permits, amendments, execution or amendments to third-party agreements, specific deadlines for completion of submittals, or execution of permits, agreements, and/or amendments thereof.

(8) Rejection/Termination. If the Agency rejects the DVEP, the DVEP process will terminate. The Agency, in its sole discretion, will determine whether to reimburse the Contractor for DVEP Costs, and if so, what percentage of those costs. In no event will the Agency pay more than 50% of the DVEP Costs. These costs will not include the cost to prepare the CVEP.

(c) Accepted Proposals; COSA. If a DVEP is accepted, or if it is accepted with conditions and the Contractor wants to proceed, the necessary Contract modifications will be effected by execution of a COSA which will provide for equitable price adjustments giving the Contractor and the Agency equal shares in the net savings. Unless and until a proposal is effected by such Contract modification, the Contractor shall remain obligated to perform in accordance with the terms of the existing Contract. In addition to the requirements of Subsections 109.04 and 109.05, the DVEP will set forth the credit due the Agency calculated as the difference between the cost of performing the work, as originally specified, and the amount payable to the Contractor for the revised work. The payment for this Contract modification will only include the following amounts:

(1) The cost of performing the work as revised by the DVEP at agreed upon unit or lump sum prices;

(2) The DVEP development costs that the Agency agreed to reimburse the Contractor as provided in subpart (b)(2)g., if any; and

(3) Fifty percent (50%) of the Net Savings (NS) generated by the DVEP as determined by the Agency, calculated as follows:

$$NS = EGS + CSP - CUDC - AVEC$$

Where:

NS = Net Savings generated by the DVEP.

EGS = Estimated Gross Savings is an agreed upon difference between the cost of performing the Work as originally specified in the Contract and the cost of performing the Work as revised by the DVEP.

CSP = Cost Savings to the Public are those funds not expended by the public, including but not limited to reduced maintenance costs and reduced road user costs. CSP shall not include any cost savings attributable to a time period exceeding ten (10) years from the Contract Completion Date.

CUDC = Contractor’s Unreimbursed Development Costs related to the preparation of the DVEP, including costs of the Contractor’s design subconsultants and subcontractors, but excluding all such costs already paid by the Agency under subpart (b)(2)g. above.

AVEC = Agency’s VE Costs related to review, approval, and implementation of the DVEP including design costs, field inspection, and the value of any Agency-provided property.

The COSA effecting the necessary Contract modifications shall establish the net savings agreed upon and shall provide for such adjustment in the Contract price as will divide the net savings equally between the Contractor and the Agency. All reasonably incurred costs of developing the cost reduction proposal and implementing the changes, including any increased costs to the Agency resulting from its application, will be deducted from the total estimated decrease in the Contractor's costs of performance to arrive at the net savings.

(d) Subsequent Payment Adjustments. Upon completion of the portion of the work revised by the DVEP, the Agency, on its own initiative or upon request by the Contractor, may review the actual net savings realized by the DVEP. The Contractor will be afforded an opportunity to review and comment on such a review. If the actual net savings were greater than set forth in the COSA, the increased savings will be shared equally between the Agency and the Contractor. If the net savings were less than set forth in the COSA, the reduction in savings will be borne equally by the Agency and the Contractor by a reduction of amounts otherwise due the Contractor.

(e) General Conditions.

(1) DVEPs will remain the property of the Contractor, provided that the Agency will have the unrestricted right to use any approved DVEP, or any DVEP in which the Agency has reimbursed the Contractor for any portion of the development costs, on other Agency projects without notice, cost, or liability to the Contractor.

(2) Only the Contractor may submit DVEPs. The Contractor shall review, be responsible for, and submit all proposals initiated by the Contractor's subcontractors.

(3) The Contractor shall not anticipate Agency approval of a VE proposal when bidding or otherwise before approval of a DVEP. The Contractor is responsible for all delays caused by the VE proposal that were not negotiated in the COSA.

(4) If a VE proposal is rejected by the Agency, the Contractor shall perform the work in accordance with the Contract.

(5) Except as otherwise provided in this Subsection, the Contractor shall have no claim against the Agency for additional compensation or time resulting from the delayed review or rejection of a DVEP, including but not limited to development costs, loss of anticipated profits, and increased material or labor costs.

(6) Cost sharing applies only to the Contract for which the DVEP was submitted.

(7) Upon acceptance of a cost reduction proposal, any restrictions imposed by the Contractor on its use or on disclosure of the information submitted shall be void, and the Agency shall thereafter have the right to use, duplicate, and disclose in whole or in part any data necessary to the utilization of the proposal on this project or other projects.

(8) Any time savings realized by implementation of VE proposals may result in a corresponding adjustment in the Contract completion time. No incentive pay will be provided for early completion days resulting from time savings of any approved VE proposals.

(9) Because the Agency has no obligation to change the terms of the original Contract, all VE proposal decisions by the Agency are final and are not subject to the dispute resolution provisions provided in this Contract or otherwise available in law.

(10) The Contractor may withdraw any DVEP prior to the time the Contractor signs the COSA. If the Contractor elects to withdraw the DVEP in accordance with this provision, the Contractor waives its right under subpart (b)(2)(g) for reimbursement of DVEP costs, including any costs advanced to the Contractor. If such costs have been advanced, the Contractor shall reimburse the Agency for those costs within 30 calendar days of withdrawing its DVEP.

(11) Acceptance by the Agency of a DVEP does not indicate any assumption of liability by the Agency for any design errors and/or omissions associated with the implementation of the DVEP.

SECTION 106 – CONTROL OF MATERIAL

10. 106.03 SAMPLES AND TESTS, subpart (a)(1), is hereby modified by adding the phrase "Materials and Research" before the word "Engineer" in the second sentence of the second paragraph.

11. 106.03 SAMPLES AND TESTS, subpart (a)(8), is hereby modified by replacing the phrase "lot/day" with the word "lot" in both the first and second sentences.

12. 106.03 SAMPLES AND TESTS, subpart (b)(1), is hereby modified by replacing both occurrences of the word "day's" with the word "lot's" in the second sentence of the first paragraph.

13. 106.03 SAMPLES AND TESTS, subpart (b)(1), is hereby further modified by replacing the words "day" and "day's" with the words "lot" and "lot's", respectively, in the second paragraph.

SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

14. 107.16 RESPONSIBILITY FOR DAMAGE CLAIMS, part (a) General, is hereby modified by deleting the second and third sentences in their entirety and replacing them with the following:

The State shall notify the Contractor in the event of any such claim or suit, and the Contractor shall immediately retain counsel and otherwise provide a complete defense against the entire claim or suit.

15. 107.16 RESPONSIBILITY FOR DAMAGE CLAIMS, part (a) General, is hereby further modified by adding the following paragraphs:

After a final judgment or settlement the Contractor may request recoupment of specific defense costs and may file suit in Washington Superior Court requesting recoupment. The Contractor shall be entitled to recoup costs only upon a showing that such costs were entirely unrelated to the defense of any claim arising from an act or omission of the Contractor.

The Contractor shall indemnify the State and its officers and employees in the event that the State, its officers or employees become legally obligated to pay any damages or losses arising from any act or omission of the Contractor.

16. 107.16 RESPONSIBILITY FOR DAMAGE CLAIMS, part (b) Submission for Damage Claims, is hereby modified by being re-designated from part "(b)" to part "(c)".

17. 107.16 RESPONSIBILITY FOR DAMAGE CLAIMS, is hereby modified by adding the following new part (b):

(b) Right to Retention of Funds. So much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the Agency for such purpose may be retained for the use of the State. If no money is due, the Contractor's surety shall be held until such suit or suits, action or actions, or claim or claims for injuries or damages shall have been resolved and suitable evidence to that effect furnished by the Agency.

SECTION 108 – PROSECUTION AND PROGRESS

18. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (a) General; Request for Extension of Contract Completion Date, text is hereby modified by being deleted in its entirety and replaced with the following:

When a definite date or a fixed number of days for completion is specified in the proposal and Contract, and when the Contractor fails to substantially complete the work within the Contract time specified due to unforeseen conditions beyond the control and without fault or negligence of the Contractor, the Contractor will be credited additional contract completion time on a full day basis as provided in Subsection 108.11(b). The Finals Engineer will submit to the Contractor a "Request for Extension of Time Form" containing a preliminary review of extension of time in accordance with Subsection 108.11(b). If the Contractor concurs with the preliminary review, the Contractor shall sign and return the form to the Finals Engineer within 60 calendar days of the date of presentation (the "60 day period"). If the Contractor disputes the preliminary review, the Contractor shall notify the Finals Engineer within the 60 day period and provide supportive documentation regarding the dispute. Upon receipt of a dispute, the Finals Engineer will research, consult with the Resident Engineer and the Construction Engineer, and provide a response to the Contractor. The Contractor may appeal this decision as provided in Subsection 105.20. Notwithstanding Subsections 105.02 and 105.20, failure to notify the Finals Engineer of a dispute within the 60 day period shall constitute concurrence with the preliminary review and be deemed a waiver of the Contractor's right to appeal, in which case the extension of time will be processed without the Contractor's signature.

No extension of time will be required when a Substantial Completion Date is established prior to the Contract Completion Date, as modified by applicable change orders.

19. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (6), is hereby modified by deleting the fourth sentence in its entirety.

20. 108.12 FAILURE TO COMPLETE WORK ON TIME, part (c) Liquidated Damages; General; Days Charged, is hereby modified by deleting the DAILY CHARGE FOR LIQUIDATED DAMAGES FOR EACH WORKING DAY OF DELAY table in its entirety and replacing it with a new table as follows:

DAILY CHARGE FOR LIQUIDATED DAMAGES
FOR EACH WORKING DAY OF DELAY

Original Contract Amount		
From More Than	To And Including	Daily Charge Per Day of Delay
$ 0	$ 300,000	$ 700.00
300,000	500,000	900.00
500,000	1,000,000	1,300.00
1,000,000	1,500,000	1,500.00
1,500,000	3,000,000	1,900.00
3,000,000	5,000,000	2,200.00
5,000,000	10,000,000	2,700.00
10,000,000	20,000,000	4,200.00
20,000,000+	---------	6,600.00

21. 108.14 TERMINATION OF CONTRACT FOR CONVENIENCE, is hereby modified by being deleted in its entirety and replaced with the following:

22. 108.14 TERMINATION OF CONTRACT FOR CONVENIENCE.

(a) General. The Agency may, by written order to the Contractor, terminate the Contract or any portion thereof when such termination would be in the best interest of the Agency.

Any such termination shall be effected by delivery to the Contractor an Order of Termination specifying the termination is for the convenience of the Agency, the extent to which performance of work under the Contract is terminated, and the effective date of the termination.

In the event such termination occurs, without fault and for reasons beyond the control of the Contractor, all completed items of work as of the date of termination will be paid for at the Contract bid price. Payment for partially completed work will be made either at agreed prices or by force account methods provided elsewhere in the Contract.

Pursuant to Subsection 109.07, no compensation will be allowed for items eliminated from the Contract.

Upon request the Contractor shall make all Contract-related records available to the Agency.

(b) Contractor Obligations. After receipt of the Order of Termination and except as otherwise directed by the Engineer, the Contractor shall immediately proceed to:

(1) To the extent specified in the Order of Termination, stop work under the Contract on the date specified.

(2) Place no further orders or subcontracts for materials, services, and/or facilities except as may be necessary for completion of such portion(s) of the work under the Contract as is (are) not terminated.

(3) Terminate and cancel all orders or subcontracts for materials, services, and/or facilities except as may be necessary for completion of such portion(s) of the work under the Contract as is (are) not terminated.

(4) Submit to the Engineer a material inventory list, certified as to quantity and quality of materials in its possession or in transit to the project.

(5) Transfer to the Agency all completed or partially completed plans, drawings, information, and other property which, if the Contract had been completed, would be required to be furnished to the Agency.

(6) Take other action as may be necessary or as directed by the Engineer for the protection and preservation of the property related to the Contract which is in the possession of the Contractor and in which the Agency has or may acquire any interest.

(c) Claim by Contractor. After receipt of the Order of Termination from the Agency, the Contractor shall submit any claim for additional damages or costs not covered herein or elsewhere in the Contract within 60 days of the effective termination date, and not thereafter.

Should the Contractor fail to submit a claim within the 60 day period, the Agency may, at its sole discretion, based on information available to it, determine what, if any, compensation is due the Contractor and pay the Contractor the determined amount.

(d) Materials. At the option of the Agency, acceptable materials included in the material inventory in subpart (b)(4) above that have been obtained by the Contractor for the work but which have not been incorporated into the work may be purchased from the Contractor at actual cost delivered to a location prescribed by the Engineer or otherwise disposed of as mutually agreed.

Payment for materials included in the material inventory chosen to be purchased by the Agency will be made at actual cost delivered to the project or storage site designated by the Engineer, including transportation charges, to which 10 percent overhead and profit will be added.

(e) Idle Equipment. Idle equipment time claimed by the Contactor will be paid as follows:

(1) Contractor Owned Equipment. For the portion of any claim relating to idle equipment time for equipment owned by the Contractor, the Contractor will be entitled to recover equipment rates based on the Contractor's internal ownership costs. Recovery for idle equipment time shall not be based on published rental rates.

(2) Rented Or Leased Equipment. For the portion of any claim relating to idle equipment time for equipment rented or leased by the Contractor, the Contractor will be entitled to recover the lesser of the actual rental costs or fair market rental costs, and the amount shall not exceed 30 days rental.

(3) Limitations On Recovery For Idle Equipment. Claims for idle equipment time, whether for Contractor owned equipment or leased/rented equipment, following termination of the Contract pursuant to this Subsection are limited to a maximum of 30 days and may not include any operating expenses.

(f) Negotiation; No Anticipated Profit. Negotiation to settle a timely claim shall be for the sole purpose of reaching a settlement equitable to both the Contractor and the Agency. Settlement shall be based on actual costs incurred by the Contractor plus overhead and profit as specified in Subsection 109.06. Consequential damages, loss of overhead, loss of overhead contribution of any kind, and/or loss of anticipated profits on work not performed shall not be included in the Contractor's claim and will not be considered, allowed, or included as part of any settlement.

(g) Records. The Contractor shall make available to the Agency all cost records relevant to a determination of an equitable settlement.

(h) Contractual Responsibilities Continue. Termination of the Contract, or portion thereof, shall not relieve the Contractor of its contractual responsibilities for work completed and shall not relieve the Contractor's Surety of its obligation for and concerning any just claim arising out of the work performed.

SECTION 109 – MEASUREMENT AND PAYMENT

23. 109.08 PARTIAL AND FINAL PAYMENTS, part (d) Final Payments, text is hereby modified by being deleted in its entirety and replaced with the following:

Payment of the Final Estimate will be made when an agreement is reached between the Agency and the Contractor regarding the final quantities of all Contract pay items, the Acceptance Date as defined in Subsection 101.02 is established, all materials and certifications are accepted, and all other project requirements have been met. The Finals Engineer will present the Agency's determination of final quantities to the Contractor. If the Contractor wishes to dispute the final quantities, the Contractor shall notify the Finals Engineer within 60 calendar days of the date of presentation (the "60 day period") of final quantities. The Contractor shall indicate which specific quantities are being disputed and provide supportive documentation regarding the disputed quantities. The Contractor may request a 30 day extension to review the quantities by notifying the Finals Engineer within the 60 day period. Upon receipt of a dispute, the Finals Engineer will research, consult with the Resident Engineer and the Construction Engineer, and provide a response to the Contractor. The Contractor may appeal this decision as provided in Subsection 105.20. Notwithstanding Subsections 105.02 and 105.20, failure by the Contractor to notify the Finals Engineer of dispute of final quantities within the 60 day period (or 90 calendar days from the date of presentation if a 30 day extension is granted) will be deemed as agreement to the final quantities as presented, and deemed a waiver of the Contractor's right to appeal.

Following the resolution of final quantities, the Finals Engineer will present the Contractor with close-out documents consisting of the Final Estimate for signature and a "Status of Claims" form. Failure by the Contractor to sign the Final Estimate and "Status of Claims" form within 20 days will result in closure of the Contract, provided that there are no claims on file with the Agency.

At the discretion of the Finals Engineer, the Contractor may be presented with close-out documents concurrent with the final quantities. In such case, notwithstanding Subsections 105.02 and 105.20, failure by the Contractor to notify the Finals Engineer of dispute of final quantities within applicable time durations specified in this Subsection will be deemed as agreement to the final quantities as presented, and closure of the Contract without the Contractor's signature will result.

In cases when presentation of final quantities to the Contractor indicates that the Agency has overpaid the Contract, the Contractor shall remit payment to the Agency by the end of the 60 day period, unless the Contractor is appealing final quantities. Failure to make payment may result in notification to the Agency's Prequalification Committee by the Construction Engineer, and/or may result in set off pursuant to the Bulletin 3.5 Compliance requirements in the Contract.

24. 109.09 STATEMENT OF MATERIALS AND LABOR FORM FHWA-47, is hereby modified by being deleted in its entirety.

25. 109.10 FINAL PAY QUANTITY, is hereby made a new Subsection of this Section as follows:

26. 109.10 FINAL PAY QUANTITY. When a Contract item is designated in the Contract Documents as (FPQ), then this item shall be considered a Final Pay Quantity item. The Contract quantity shall be considered the final pay quantity for the item, unless the Plan dimensions of any portion for measurement of the item or the Contract quantity of that item are revised by the Engineer, or the Contract quantity of the item or any portion of the Contract quantity of the item is eliminated.

If the dimensions of any portion for measurement of the item or the Contract quantity of the item is revised, and the revision results in an increase or decrease in the Contract quantity of the item, the final pay quantity for the item will be revised in the amount represented by the changes in the dimensions or by the imposed revision. If the item is eliminated, the Contract quantity for the item will be eliminated. If a portion of the item is eliminated, the Contract quantity will be revised in the amount represented by the eliminated portion of the item.

No adjustment will be made to the Contract quantity for an FPQ pay item, except as allowed under this Subsection.

SECTION 208 – COFFERDAMS

27. 208.01 DESCRIPTION, is hereby modified by deleting the word "specifications" and replacing it with the phrase "Contract Documents" in the first paragraph.

28. 208.11 METHOD OF MEASUREMENT, part (c) Cofferdam Excavation, Rock, is hereby modified by deleting the word "footing" and replacing it with the phrase "foundation or component of a structure" in the first sentence of the third paragraph.

29. 208.11 METHOD OF MEASUREMENT, part (d), is hereby modified by being deleted in its entirety and replaced with a new part (d) Bottom of Excavation as follows:

(d) Bottom of Excavation. The bottom of excavation shall be as indicated on the Plans.

When a foundation seal is specified in the Contract, the bottom of excavation shall be considered to be the bottom of the excavation required for the foundation seal. For a seal proposed by the Contractor, no excavation shall be measured for payment below the bottom of excavation as indicated on the Plans.

30. 208.12 BASIS OF PAYMENT, is hereby modified by deleting the phrase "the Engineer (by written order) requires" and replacing it with the phrase "the Contract Documents or the Engineer (by written order) require" in the second sentence of the fifth paragraph.

SECTION 213 – MILLED RUMBLE STRIPS

31. 213.04 METHOD OF MEASUREMENT, is hereby modified by deleting the first sentence of the Subsection text in its entirety and replacing it with the following:

The quantity of Milled Rumble Strips to be measured for payment will be the longitudinal length in meters (linear feet) of treated surface measured on the pavement marking line adjacent to or within the installed rumble strip.

SECTION 301 – SUBBASE

32. 301.02 MATERIALS, is hereby modified by adding the following as the first entry in the Subsection listing in the first paragraph:

Coarse Aggregate for Concrete……704.02

33. 301.02 MATERIALS, is hereby further modified by adding the following paragraphs:

When specified for use on the project or as directed by the Engineer, Subbase, RAP shall include cold planed grindings which have been screened or crushed by the Contractor in order that 100% passes the 37.5 mm (1 ½ inch) sieve prior to blending.

The grindings shall be blended in equal proportions (50% by mass (weight)) with material meeting the requirements of Subbase of Crushed Gravel, Fine Graded as specified in Table 704.05A.

34. 301.03 GENERAL CONSTRUCTION REQUIREMENTS, is hereby modified by adding the following as the last sentence in the fifth paragraph:

If needed, the Contractor may use material meeting the requirements of Subsection 704.02, Table 704.02B as filler to achieve the design grade when the variation of the surface is less than 25 mm (1 inch).

35. 301.03 GENERAL CONSTRUCTION REQUIREMENTS, is hereby further modified by deleting the word "above" in the seventh paragraph.

36. 301.06 COMPACTION, is hereby modified by deleting the last sentence of the second paragraph in its entirety and replacing it with the following:

The maximum dry density shall be determined after any change in source, regardless of quantity, and confirmed by repetition of the selected test method at a frequency of 10,000 m^3 (12,500 yd^3) when the prescribed standard error can be attained by five or less replicate tests. If more than five replicate tests are required to meet the prescribed standard error, the maximum dry density shall be confirmed at a frequency of every 5000 m^3 (6250 yd^3). The Engineer may reduce this frequency with the approval of the Materials and Research Engineer after the initial two maximum dry density determinations.

37. 301.07 METHOD OF MEASUREMENT, is hereby modified by adding the phrase ", including any filler material used to achieve the design grade" to the end of the first paragraph.

38. 301.07 METHOD OF MEASUREMENT, is hereby further modified by adding the following as the fourth paragraph of the Subsection text:

The quantity of Subbase, RAP to be measured for payment will be the number of metric tons (tons) of material in place in the complete and accepted work, as determined from the load tickets.

39. 301.08 BASIS OF PAYMENT, is hereby modified by adding the phrase "blending," before the phrase "transporting," in the second sentence of the first paragraph.

40. 301.08 BASIS OF PAYMENT, is hereby further modified by adding the following as the third paragraph of the Subsection text:

No additional payment will be made for filler material used as a replacement for the specified subbase material.

41. 301.08 BASIS OF PAYMENT, is hereby still further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
301.40 Subbase, RAP	Metric Ton (Ton)

SECTION 303 – ASPHALT TREATED PERMEABLE BASE

42. 303.02 MATERIALS, is hereby modified by deleting the second sentence of the second paragraph (paragraph below the Subsection listing) in its entirety.

43. 303.02 MATERIALS, is hereby further modified by deleting the eighth row (beginning with the phrase "Asphalt Binder") in its entirety from the table in the third paragraph.

44. 303.02 MATERIALS, is hereby still further modified by adding the word "written" before the word "approval" in the third (last) sentence of the fourth (last) paragraph.

SECTION 310 – RECLAIMED STABILIZED BASE

45. 310.07 SHAPING AND COMPACTING, is hereby modified by adding the following as the second paragraph of the Subsection text:

When additional aggregate material is added to the previously reclaimed roadway to correct geometric deficiencies, said material shall be subject to a second pass of the reclamation equipment to achieve a homogenous subbase and shall be shaped, graded, and compacted.

46. 310.10 BASIS OF PAYMENT, is hereby modified by adding the following as the second paragraph of the Subsection text:

No additional compensation will be provided for multiple passes of the reclamation equipment and additional shaping, grading, and compacting.

SECTION 406 – MARSHALL BITUMINOUS CONCRETE PAVEMENT

47. 406.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 406.03B – DESIGN CRITERIA is hereby modified by adding the phrase "%" after the phrase "Air Voids" in the first column, second row entry.

48. 406.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 406.03B – DESIGN CRITERIA is hereby further modified by deleting the seventh and eighth rows in their entirety and replacing them with the following:

Stability, Newtons (Pounds)	5340 (1200) min.	8010 (1800) min.
Flow, millimeters (0.01 inches)	2.0 – 4.5 (8.0 – 18.0)	2.0 – 4.0 (8.0 – 16.0)

49. 406.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, is hereby modified by adding the following new TABLE 406.03B1 – PG BINDER GRADE SELECTION directly below TABLE 406.03B – DESIGN CRITERIA:

TABLE 406.03B1 - PG BINDER GRADE SELECTION

RAP CONTENT	BINDER GRADE
< 15.0%	PG 58-28
15.0% ≤ to < 25.0%	PG 52-34
25.0% ≤ to ≤ 50.0%[1]	footnote 1

1 - The Contractor shall determine the grade of PG binder necessary so that when combined with the RAP asphalt cement, the composite asphalt material grades at a PG 58-28 as a minimum. The maximum acceptable low end temperature is -28°C (-18°F) and the minimum acceptable high end temperature is 58°C (136°F). The Engineer will sample haul units from the plant and have the material extracted for grading at the Agency's Materials and Research Laboratory in Berlin, VT to verify the binder grade of the mix being supplied. The Contractor's Quality Control Plan shall specify a grading frequency and include an action plan for when test results verify that the grade of PG binder is less than a PG 58-28.

50. 406.03 COMPOSITION OF MIXTURE, part (c) Mix Design, is hereby modified by adding the following as the last sentence of the third paragraph:

For mix designs containing RAP, the dry and wet mixing times shall be adjusted to assure moisture from the RAP is completely dissipated prior to adding the liquid PG binder.

51. 406.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, is hereby modified by adding the following to the listing in the eighth paragraph:

h. For mix designs containing ≥ 25.0 percent RAP, indicate the following: RAP percentage, PG Grade of virgin binder determined, testing frequency of mix to verify composite PG Grade, and actions to be taken when test results are outside of PG Grade limits.

52. 406.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 406.03D – MINIMUM QUALITY CONTROL GUIDELINES is hereby modified by adding the following as the bottom row and by adding footnote 7 as follows:

Determine composite PG binder grade(7)	1 per 5000 metric ton (ton)	AASHTO R 29

7 - For mix containing ≥ 25.0 percent RAP.

53. 406.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, TABLE 406.03E – ACCEPTANCE GUIDELINES, is hereby modified by deleting the third and fourth columns in their entirety and replacing them with the following:

TARGET LOT SIZE	TARGET SUBLOT SIZE
3000 Metric Ton (Ton)	500 Metric Ton (Ton)

54. 406.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (2) Lot Size, is hereby modified by being deleted in its entirety and replaced with the following:

(2) Lot Size. For the purpose of evaluating acceptance test properties, the number of lots to be applied to the project (or Contract as specified) for each applicable individual mix type (mix design) is defined by the following equation:

$$Lots_{Type} = \frac{QTotal_{Type}}{3000}$$

where,

$Lots_{Type}$ = the number of lots to be applied to the project (or Contract as specified) for each applicable individual mix type (mix design) rounded to the nearest whole number per the rounding procedure specified by Contract.

$QTotal_{Type}$ = total project (or Contract as specified) bituminous mix tonnage for each applicable individual mix type (mix design).

The representative tonnage of bituminous material within each lot ($QLot_{Type}$) is defined as:

$$QLot_{Type} = \frac{QTotal_{Type}}{Lots_{Type}}$$

If project yields are different than anticipated, the chance of a partial lot exists. If the final lot consists of less than four acceptance samples, it will be combined with the previous lot.

55. 406.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (3) Sublot Size, is hereby modified by being deleted in its entirety and replaced with the following:

(3) Sublot Size. The number of sublots will be determined by dividing the lot tonnage ($QLot_{Type}$) by 500 and rounding to the nearest whole number, per the rounding procedure specified by Contract. The resultant sublot size will be determined by dividing the lot size determined in subpart (2) above by the number of sublots determined herein.

56. 406.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (4) Pay Factor (PF) Determination, is hereby modified by adding the phrase "equals or" before the word "exceeds" in the first paragraph.

57. 406.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (5), Rejected Material, is hereby modified by being re-designated as Rejectable Material.

58. 406.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (5) Rejectable Material, item a. Rejection by Contractor, is hereby modified by replacing the phrase ", prior to sampling," with the phrase "at any time" in the first sentence.

59. 406.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (5) Rejectable Material, item b., is hereby modified by being deleted in its entirety and replaced with the following:

b. For those lots with a PWL less than 50% and greater than or equal to 25%, the PF for each lot of bituminous concrete mixture, based on "air voids" test results, will be determined using the following equation:

$$PF(av) = ((2.16PWL - 29)/100) - 1.0$$

For those lots with a PWL less than 25%, the Engineer will require complete removal of the representative lot and replacement with mix meeting Contract requirements at no additional cost to the Agency.

60. 406.05 BITUMINOUS MIXING PLANT AND TESTING, part (a) Requirements for All Plants, subpart (12) Testing Facilities, is hereby modified by adding the following at the end of the second paragraph:

An internet connection, which provides Agency personnel a minimum speed of 700 Kbps (Kilobits Per Second) download, without utilizing compression algorithms, shall be provided in the laboratory. The connection bandwidth speed shall be verifiable using an online speed test.

61. 406.08 MIXING, is hereby modified by adding the word "wet" before the word "mixing" in the second (last) sentence of the fourth paragraph.

62. 406.14 COMPACTION, is hereby corrected by deleting the text "1.000" and replacing it with the text "0.000" in the fourteenth paragraph.

63. 406.16 SURFACE TOLERANCE, is hereby modified by deleting the third sentence of the third paragraph in its entirety and replacing it as follows:

The corresponding Surface Tolerance Pay Factor (PF(r)) will be determined as follows and applied to the corresponding lot as defined below:

64. 406.16 SURFACE TOLERANCE, is hereby further modified by adding the following as the fourth (final) paragraph:

For the purpose of evaluating surface tolerance acceptance, a lot shall consist of the total project quantity of wearing surface of bituminous concrete pavement constructed and measured in place. Said measurement shall include all shoulders, side roads, drives, and any other miscellaneous mix as measured by the Engineer.

65. 406.18 METHOD OF MEASUREMENT, is hereby modified by adding the phrase "wearing surface of" after the phrase "the measured quantity of" and by deleting the phrase "that day" in the sixth paragraph.

SECTION 415 – COLD MIXED RECYCLED BITUMINOUS PAVEMENT

66. 415.02 MATERIALS, table in second paragraph, is hereby corrected by deleting the second row in its entirety and replacing it with the following:

37.5 mm (1 ½ inches)	100

SECTION 417 – BITUMINOUS CRACK SEALING

67. 417.05 PREPARATION, is hereby modified by designating the first paragraph under a part (a) General heading.

68. 417.05 PREPARATION, is hereby further modified by designating the second through fifth paragraphs under a part (b) Bituminous Crack Sealing heading.

69. 417.05 PREPARATION, is hereby still further modified by adding the following new part (c):

(c) Bituminous Crack Sealing, "Blow and Go" Method. Bituminous Crack Sealing, "Blow and Go" Method shall be performed in accordance with part (b) of this Subsection, with the exception that no routing or saw cutting will be required prior to cleaning and sealing the crack.

70. 417.07 METHOD OF MEASUREMENT, is hereby modified by adding the phrase "and Bituminous Crack Sealing, "Blow and Go" Method" after the phrase "Bituminous Crack Sealing".

71. 417.08 BASIS OF PAYMENT, is hereby modified by adding the phrase "and Bituminous Crack Sealing, "Blow and Go" Method" after the phrase "Bituminous Crack Sealing" in the first sentence.

72. 417.08 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
417.20 Bituminous Crack Sealing, "Blow and Go" Method	Kilogram (Pound)

SECTION 490 – SUPERPAVE BITUMINOUS CONCRETE PAVEMENT

73. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, is hereby modified by replacing the phrase "(for example 50, 75, or 100)" with the phrase "(50, 65, or 80)" in the first sentence of the first paragraph.

74. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby modified by deleting row 7 in its entirety and replacing it with a new row 7 as follows:

Voids in Mineral Aggregate (VMA) %	11.5 min.	12.5 min.	13.5 min	14.5 min.	15.5. min.	16.5 min.

75. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby further modified by deleting row 10 in its entirety and replacing it with new rows 10 and 11 as follows:

Compaction Parameters	$N_{initial}$ = 6 N_{design} = 50 N_{max} = 75	$N_{initial}$ = 7 N_{design} = 65 [1] N_{max} = 115	$N_{initial}$ = 8 N_{design} = 80 [2] N_{max} = 160
Voids Filled With Asphalt (VFA) %	70.0 – 80.0 [4,5]	65.0 - 78.0 [5]	65.0 – 75.0 [3,5]

76. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby still further modified by adding the following as the bottom rows:

PG BINDER GRADE SELECTION	
RAP CONTENT	BINDER GRADE
< 15.0%	PG 58-28
15.0% ≤ to < 25.0%	PG 52-34
25.0% ≤ to ≤ 50.0%[6]	footnote 6

77. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby still further modified by deleting footnotes 1, 2, and 3 in their entirety and replacing them with new footnotes 1, 2, 3, 4, 5, and 6 as follows:

(1) When estimated design traffic levels are between 300,000 and 1 million ESALs, the Agency may at its discretion specify $N_{initial}$ at 6, N_{design} at 50, and N_{max} at 75.

(2) When estimated design traffic levels are between 3 and < 10 million ESALs, the Agency may at its discretion specify $N_{initial}$ at 7, N_{design} at 65, and N_{max} at 115.

(3) For design traffic levels > 3,000,000 ESALs, the specified VFA range for 9.5 mm (3/8 inch) nominal maximum size mixtures shall be 73.0 to 76.0% and for 4.75 mm (3/16 inch) nominal maximum size mixtures shall be 75.0 to 78.0%.

(4) For a Type IS pavement with ESALs < 300,000, Table 490.03B will apply with the exception of the VFA percentage, which shall have a range from 67.0 to 80.0%. For a Type IVS, 9.5 mm (3/8 inch) pavement with ESALs < 1,000,000, Table 490.03B will apply with the exception of the VFA percentage, which shall have a range from 70.0 to 82.0%.

(5) For a Type MS pavement, all traffic levels (ESALs), Table 490.03B will apply with the exception of the VFA percentage, which shall have a lower limit of 64.0%.

(6) The Contractor shall determine the grade of PG binder necessary so that when combined with the RAP asphalt cement, the composite asphalt material grades at a PG 58-28 as a minimum. The maximum acceptable low end temperature is -28°C (-18°F) and the minimum acceptable high end temperature is 58°C (136°F). The Engineer will sample haul units from the plant and have the material extracted for grading at the Agency's Materials and Research Laboratory in Berlin, VT to verify the binder grade of the mix being supplied. The Contractor's Quality Control Plan shall specify a grading frequency and include an action plan for when test results verify that the grade of PG binder is less than a PG 58-28.

78. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, is hereby further modified by deleting the table below footnote 3 of TABLE 490.03B – DESIGN CRITERIA in its entirety and replacing it with the following:

Aggregate Consensus Properties	Traffic Level (ESALs)	
	< 30,000,000	≥ 30,000,000
Fractured Faces Coarse Aggregate, % min	95/90	100/100
Uncompacted Void Content of Fine Aggregate, % min	45	45
Sand Equivalent, % min	45	50
Flat and Elongated, % max	10	10

79. 490.03 COMPOSITION OF MIXTURE, part (c) Mix Design, is hereby modified by adding the following as the last sentence of the fourth paragraph:

For mix designs containing RAP, the dry and wet mixing times shall be adjusted to assure moisture from the RAP is completely dissipated prior to adding the liquid PG binder.

80. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, is hereby modified by deleting footnote 2 below TABLE 490.03C – PRODUCTION TESTING TOLERANCES in its entirety and replacing it with the following:

2 – The VFA value shall not exceed 80.0% at any time for Type I, II, III, and IV mixes. Type V mixes may be adjusted upward to 82.0% upon written approval of the Engineer, and only on a case by case basis.

81. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, is hereby further modified by adding the following as the second sentence of the seventh paragraph:

A single QC Plan shall be submitted for all applicable work under the Contract.

82. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, is hereby still further modified by adding the following to the listing in the eighth paragraph:

h. For mix designs containing ≥ 25.0 percent RAP, indicate the following: RAP percentage, PG Grade of virgin binder determined, testing frequency of mix to verify composite PG Grade, and actions to be taken when test results are outside of PG Grade limits.

83. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03D – MINIMUM QUALITY CONTROL GUIDELINES is hereby modified by adding the following as the bottom row and by adding footnote 7 as follows:

Determine composite PG binder grade(7)	1 per 5000 metric ton (ton)	AASHTO R 29

7 - For mix containing ≥ 25 percent RAP.

84. 490.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, TABLE 490.03E – ACCEPTANCE GUIDELINES, is hereby modified by deleting the third and fourth columns in their entirety and replacing them with the following:

TARGET LOT SIZE	TARGET SUBLOT SIZE
3000 Metric Ton (Ton)	500 Metric Ton (Ton)

85. 490.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (2) Lot Size, is hereby modified by being deleted in its entirety and replaced with the following:

(2) Lot Size. For the purpose of evaluating acceptance test properties, the number of lots to be applied to the project (or Contract as specified) for each applicable individual mix type (mix design) is defined by the following equation:

$$Lots_{Type} = \frac{QTotal_{Type}}{3000}$$

where,

$Lots_{Type}$ = the number of lots to be applied to the project (or Contract as specified) for each applicable individual mix type (mix design) rounded to the nearest whole number per the rounding procedure specified by Contract.

$QTotal_{Type}$ = total project (or Contract as specified) bituminous mix tonnage for each applicable individual mix type (mix design).

The representative tonnage of bituminous material within each lot ($QLot_{Type}$) is defined as:

$$QLot_{Type} = \frac{QTotal_{Type}}{Lots_{Type}}$$

If project yields are different than anticipated, the chance of a partial lot exists. If the final lot consists of less than four acceptance samples, it will be combined with the previous lot.

86. 490.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (3) Sublot Size, is hereby modified by being deleted in its entirety and replaced with the following:

(3) Sublot Size. The number of sublots will be determined by dividing the lot tonnage ($QLot_{Type}$) by 500 and rounding to the nearest whole number, per the rounding procedure specified by Contract. The resultant sublot size will be determined by dividing the lot size determined in subpart (2) above by the number of sublots determined herein.

87. 490.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (4) Pay Factor (PF) Determination, is hereby modified by adding the phrase "equals or" before the word "exceeds" in the first paragraph.

88. 490.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (5), Rejected Material, is hereby modified by being re-designated as Rejectable Material.

89. 490.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (5) Rejectable Material, item a. Rejection by Contractor, is hereby modified by replacing the phrase ", prior to sampling," with the phrase "at any time" in the first sentence.

90. 490.03 COMPOSITION OF MIXTURE, part (e) Quality Acceptance, subpart (5) Rejectable Material, item b., is hereby modified by being deleted in its entirety and replaced with the following:

b. For those lots with a PWL less than 50% and greater than or equal to 25%, the PF for each lot of bituminous concrete mixture, based on "air voids" test results, will be determined using the following equation:

$$PF(av) = ((2.16PWL - 29)/100) - 1.0$$

For those lots with a PWL less than 25%, the Engineer will require complete removal of the representative lot and replacement with mix meeting Contract requirements at no additional cost to the Agency.

91. 490.05 BITUMINOUS MIXING PLANT AND TESTING, part (a) Requirements for All Plants, subpart (12) Testing Facilities, is hereby modified by adding the following at the end of the second paragraph:

An internet connection, which provides Agency personnel a minimum speed of 700 Kbps (Kilobits Per Second) download, without utilizing compression algorithms, shall be provided in the laboratory. The connection bandwidth speed shall be verifiable using an online speed test.

92. 490.08 MIXING, is hereby modified by adding the word "wet" before the word "mixing" in the second (last) sentence of the fourth paragraph.

93. 490.14 COMPACTION, is hereby corrected by deleting the text "1.000" and replacing it with the text "0.000" in the fifteenth paragraph.

94. 490.14 COMPACTION, part (e) REJECTED MATERIAL, is hereby corrected by replacing the phrases "406.18" and "406.19" with the phrases "490.18" and "490.19", respectively, in the first sentence of the third (last) paragraph.

95. 490.16 SURFACE TOLERANCE, is hereby modified by deleting the third sentence of the third paragraph in its entirety and replacing it as follows:

The corresponding Surface Tolerance Pay Factor (PF(r)) will be determined as follows and applied to the corresponding lot as defined below:

96. 490.16 SURFACE TOLERANCE, is hereby further modified by adding the following as the fourth (final) paragraph:

For the purpose of evaluating surface tolerance acceptance, a lot shall consist of the total project quantity of wearing surface of bituminous concrete pavement constructed and measured in place. Said measurement shall include all shoulders, side roads, drives, and any other miscellaneous mix as measured by the Engineer.

97. 490.18 METHOD OF MEASUREMENT, is hereby modified by adding the phrase "wearing surface of" after the phrase "the measured quantity of" and by deleting the phrase "that day" in the sixth paragraph.

SECTION 501 – HPC STRUCTURAL CONCRETE

98. 501.02 MATERIALS, is hereby modified by adding the following as the tenth entry in the Subsection listing:

Stay-in-Place Corrugated Metal Forms (SIPCMF)……715.05

99. 501.02 MATERIALS, is hereby further modified by adding the following paragraph:

Precast concrete stay-in-place forms (prestressed deck panels) shall conform to the requirements of Section 510.

100. 501.03 CLASSIFICATION AND PROPORTIONING, Required Cementitious Materials (Metric Units), is hereby corrected by deleting the entry for HP Class AA of "355" in the tenth row and replacing it with "335".

101. 501.09 FORMS, is hereby modified by deleting the word "call" and replacing it with the word "allow" in the fourth sentence of the first paragraph.

102. 501.09 FORMS, is hereby further modified by adding the following new part (k):

(k) Stay-in-Place Corrugated Metal Forms (SIPCMF) for Superstructure Deck Slabs.

(1) Use. Use of SIPCMF for superstructure deck slab construction shall be subject to the following requirements:

a. Fascia overhangs shall be formed with removable forms. The forms used shall leave the resulting concrete flat-surfaced.

b. Any bay, constructed in stages such that a longitudinal joint is required, shall be formed with removable forms.

(2) Design Requirements. The following requirements shall govern the design of SIPCMF:

a. Design span shall be the clear span of form plus 50 mm (2 inches) measured parallel to the form flute (also referred to as the form valley).

b. Design load shall be the sum of the weight of forms, bar reinforcement, plastic concrete, and 2.7 kPa (55 psf) for construction loads.

c. Unit working stress shall not exceed 0.725 of the specified minimum yield strength of the material.

d. Dead load deflection shall not exceed 1/180 times the form span length or 13 mm (1/2 inch), whichever is less.

e. Physical design properties shall be computed with the requirements of the American Iron and Steel Institute Specifications for the Design of Cold Formed Steel Structural Members, latest edition.

(3) Construction Requirements. The following construction requirements shall apply to the use of SIPCMF:

a. The Contractor shall submit Construction Drawings for SIPCMF in accordance with Subsection 105.03. These Drawings shall contain the following information as a minimum:

1. A layout showing the compression and tension region of each beam/girder.

2. The method of SIPCMF attachment for the compression and tension regions.

3. Geometric properties of each type of panel being used.

4. Identification of the supplier of the SIPCMF.

5. The number, location, and type of panels being used within each girder bay.

6. Panel laps, taking into account the direction of concrete pours.

7. The specifications for the material used to fill the flutes.

8. Any other material data, erection information, or miscellaneous notes that may be required.

b. Handling and Installation. Care and protection shall be given the metal form sheets, supports, and accessory items during handling, shipping, and storage. During loading, hoisting, and unloading operations, extra precaution and care shall be taken to prevent damage to ends, corners, and edges of form sheets, supports, and accessory items. If the form units and accessories are to be stored prior to installation, they shall not be placed in contact with the ground and shall be adequately covered or protected to keep them dry.

Form supports shall be placed in direct contact with the flange of beam/girder/stringer or floorbeam. All attachments shall be made by permissible welds, bolts, clips, or other approved means. The welding of form supports to steel not considered weldable or to portions of flanges subject to tensile stresses shall not be permitted. Welds and welding shall be in accordance with Subsection 506.10, with the exception that a 3 mm (1/8 inch) fillet weld will be permitted.

Form sheets shall not be permitted to rest directly on the flanges. They shall be securely fastened to form supports by self-tapping screws and shall have a minimum bearing length of 25 mm (1 inch) at each end. Transverse construction joints shall be located at the bottom of a valley. A 6 mm (1/4 inch) diameter weep hole shall be drilled at the lower end of each flute or valley.

Screed and pouring runway supports shall not be located directly on the form sheets, form supports, or reinforcing steel. No loose sheets or miscellaneous hardware shall be left on the structural slab at the end of the working day.

The corrugated metal sheets shall be fabricated for the placement sequence used, with the joints between sections of sheets overlapped or securely fastened to eliminate differential deflections. Any exposed form metal where galvanizing has been damaged shall be cleaned and repaired to the satisfaction of the Engineer.

(4) Inspection Procedures. The following three step inspection procedure will be used to check the soundness of the concrete deck against the SIPCMF:

a. Not less than two days after completion of a concrete structural slab pour, but prior to the next slab pour, one panel of the SIPCMF shall be removed from the most recently completed pour of each span, at a location selected by the Engineer, in order to provide visual evidence that the concrete mix or the construction procedures are obtaining the desired results. If the concrete mix or the construction procedures are varied significantly within a pour, such as a change in the extent of vibration or change in the workability of the mix, another section of forming shall be removed to verify that the new procedures are yielding desirable results.

b. After the concrete has attained 85% of the specified design strength, the Engineer will spot-check the underside areas of the steel forms by sounding with a suitable weight hammer. If honeycomb or voided areas are detected, the SIPCMF at that location shall be removed for a visual inspection.

c. A minimum of two percent of the total SIPCMF area shall be removed for visual inspection of the concrete surface. The amount of sounding and form removal may be moderated, at the Engineer’s discretion, after a substantial amount of the slab has been constructed and inspected, if the Contractor’s methods of construction and results of the inspections as outlined above indicate that sound concrete is being obtained throughout the slab.

If, after removing a section of form, the concrete is found to be defective, additional panels shall be removed as directed by the Engineer. All defective concrete shall be repaired to match the adjacent concrete in section and color to the satisfaction of the Engineer.

The Contractor shall provide all facilities required for the safe, suitable, and convenient means of access to the forms for the Engineer's inspection procedures.

The form sections shall be removed by a metal saw or air-carbon-arc gouging with minimum damage to the concrete. Cuts shall only be sufficiently deep to sever the form. Any other method of removal shall be submitted to the Structures Engineer for approval. Cuts parallel to the corrugations in the forms shall be located on the sloping surface midway between a crest and valley. Cuts parallel to the supporting beams/girders shall be made through the supporting angles taking care not to damage the structural steel beams/girders.

The Contractor will not be required to replace the forms which have been removed.

103. 501.19 METHOD OF MEASUREMENT, is hereby modified by inserting the word "superstructure" before the phrase "precast concrete stay-in-place forms" in the first sentence.

SECTION 502 – SHORING SUPERSTRUCTURES

104. 502.03 CONSTRUCTION REQUIREMENTS, is hereby modified by adding the following paragraphs:

When components and/or materials that are not otherwise specified for removal are removed from the structure during shoring operations and the components and/or materials are to be re-installed in the construction, the components and/or materials shall be carefully removed and salvaged by the Contractor.

Components and/or materials to be retained and re-installed shall be stored at the location specified in the Contract or as directed by the Engineer.

The Contractor shall take every precaution necessary to prevent damage to remaining components and/or materials and those to be retained for re-installation. Damage to remaining structure components and/or materials and to those to be re-installed shall be repaired or replaced by the Contractor both to the satisfaction of the Engineer and at no additional cost to the Agency.

105. 502.04 METHOD OF MEASUREMENT, is hereby modified by adding the following as the second paragraph of the Subsection text:

Unless otherwise specified in the Contract, all work for removing, salvaging, stockpiling, and re-installing existing structure components and/or materials during the Contractor's shoring operations will not be measured for payment, but will be considered incidental to Shoring Superstructure.

SECTION 503 – PREPARING SUBSURFACE FOR DRIVING PILING

106. 503.01A MATERIALS, is hereby made a new Subsection of this Section as follows:

107. 503.01A MATERIALS. Materials shall meet the requirements of the following Subsections:

Aggregate for Bituminous Surface Treatment……704.11
Corrugated Polyethylene Pipe……710.03
Polyvinyl Chloride (PVC) Plastic Pipe……710.06
Steel Tubing……714.11

108. 503.02A CONSTRUCTION REQUIREMENTS FOR PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES, is hereby made a new Subsection of this Section as follows:

109. 503.02A CONSTRUCTION REQUIREMENTS FOR PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES. The pre-excavation of integral abutment piles shall consist of augering, pre-boring, or some other means of excavation to produce an excavation to the depth and diameter specified in the Contract Documents. The excavation shall be maintained during the pile driving operations by temporary casings. Unless otherwise specified in the Contract, the depth of pre-excavation shall be 2.4 meters (8 feet) from the top of the pile cut-off elevation.

Temporary casings may be either rigid or flexible. Rigid casings shall be smooth-walled unperforated pipes made of steel tubing or PVC plastic pipe. Rigid casings shall include all necessary lifting mechanisms for removal prior to placement. Flexible casings shall be corrugated polyethylene pipe. The inner diameter of the pipe shall be 100 mm (4 inches) larger than the diagonal width of the pile.

Following installation of the piles, the pre-excavation shall be backfilled with peastone meeting the requirements of Subsection 704.11. Rigid casings shall not be left in place without the written approval of the Structures Engineer. Flexible casings may be left in place.

110. 503.03 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Pre-Excavation of Integral Abutment Piles to be measured for payment will be the total number of meters (linear feet) of excavation to the depth specified in the Contract Documents or as ordered by the Engineer, measured to the nearest meter (linear foot) from the top of the ground at the time of excavation to the bottom of the excavation.

111. 503.04 BASIS OF PAYMENT, is hereby modified by adding the following paragraph and pay item:

The accepted quantity of Pre-Excavation of Integral Abutment Piles will be paid for at the Contract unit price per meter (linear foot). Payment shall be full compensation for all excavation as well as furnishing, transporting, storing, and installing the materials specified, including the temporary casing and peastone, and for removing the temporary casing. No additional compensation will be made for temporary casing left in place at the Contractor's request.

Payment will be made under:

Pay Item	Pay Unit
503.20 Pre-Excavation of Integral Abutment Piles	Meter (Linear Foot)

SECTION 505 – PILING

112. 505.03 FURNISHING OF PILING, is hereby modified by adding the following new part (e):

(e) Steel Piling for Integral Abutments. Steel piling up to and including 10 meters (35 feet) in length shall be furnished in one unwelded piece.

Steel piling over 10 meters (35 feet) in length shall be furnished with not more than the number of splices allowed by Table 505.05B.

Steel piling shall be of the size, type, and material specification indicated in the Plans. No substitutions for the number, size, and material specification of the pile will be allowed without the written authorization of the Project Manager.

113. 505.04 DRIVING OF PILING, part (b) Pile Loading Tests, is hereby modified by adding the phrase "When not driven as a permanent production pile," at the beginning of the second sentence of the first paragraph.

114. 505.04 DRIVING OF PILING, part (b) Pile Loading Tests, is hereby further modified by adding the following as the first sentence of the third paragraph:

A static load test pile shall not be used as a permanent production pile.

115. 505.04 DRIVING OF PILING, part (b) Pile Loading Tests, is hereby still further modified by deleting the word "The" and replacing it with the phrase "A dynamic load" at the beginning of the second sentence of the third paragraph.

116. 505.04 DRIVING OF PILING, part (b) Pile Loading Tests, is hereby still further modified by deleting the text of subpart (3) of the third paragraph in its entirety and by re-designating subpart (4) as subpart (3).

117. 505.04 DRIVING OF PILING, part (e) Steel Piling, is hereby modified by adding the phrase ", including test piling," after the phrase "the driving point of all piling" in the first sentence of the first paragraph.

118. 505.04 DRIVING OF PILING, part (e) Steel Piling, subpart (3) of the first paragraph, is hereby modified by adding the phrase ", in addition to pile points supplied for all permanent production and test piling," after the phrase "One extra pile point of each type and size supplied".

119. 505.04 DRIVING OF PILING, is hereby modified by adding the following new part (f):

(f) Steel Piling for Integral Abutments. In addition to meeting all of the requirements for steel piling in Subsections 505.04(a) and 505.04(e), Steel Piling for Integral Abutments shall be installed to the following tolerances:

Piling shall be installed such that no portion of the top 3 meters (10 feet) of the pile is out of plumb more than 20 mm in 1000 mm (1 inch in 4 feet). For piles that cannot be inspected internally after installation, the Contractor shall check the pile for plumb prior to installing the last 1.5 meters (5 feet) of pile, or after installation is completed provided that the exposed portion of the pile is a minimum of 1.5 meters (5 feet) in length. The Engineer may require that driving be stopped in order to check the pile for plumb. Pulling laterally on piles to correct out-of-plumb errors, or splicing a section that meets the tolerances for plumb in this section on an out-of-plumb section will not be permitted.

No pile shall be nearer than 150 mm (6 inches) to the face of the concrete stem.

If the location and/or out-of-plumb tolerances specified herein are exceeded, the extent of corrective measures will be evaluated by the Engineer. If in the judgment of the Engineer corrective measures are necessary, suitable measures shall be designed and constructed by the Contractor. The Contractor shall bear all costs, including delays, associated with the corrective action.

120. 505.05 SPLICES, is hereby modified by adding the following new part (c):

(c) Splices for Steel Piling for Integral Abutments. Splices shall be made in accordance with the details shown in the Plans at locations approved by the Engineer.

Splices will be allowed as shown in the following table:

TABLE 505.05B
ALLOWABLE SPLICES

Length of Steel Piling		Maximum Number of Splices Allowed
Meters	Feet	
Over 10 to and including 18	Over 35 to and including 60	1
Over 18 to and including 37	Over 60 to and including 120	3
Over 37 to and including 55	Over 120 to and including 180	5

The splicing sequence shall be arranged to exclude splices from the upper 6 meter (20 foot) section of the piles. The total number of splices in the upper 6 meter (20 foot) section of the piles shall be limited to one per abutment.

121. 505.08 METHOD OF MEASUREMENT, part (a) Piling, subpart (1) is hereby modified by adding the following paragraph:

Steel Piling for Integral Abutments will be the total number of meters (linear feet) for each pile driven, accepted, and left in place, measured to the nearest meter (linear foot).

122. 505.08 METHOD OF MEASUREMENT, part (b) Pile Loading Tests, is hereby modified by deleting the word "no" before the word "measurement" and by adding the phrase "or Steel Piling for Integral Abutments, as applicable," after the phrase "Steel Piling" in the second paragraph.

123. 505.08 METHOD OF MEASUREMENT, part (b) Pile Loading Tests, is hereby further modified by adding the following paragraph:

If a test pile is driven outside of foundation limits, no measurement for payment as Steel Piling or Steel Piling for Integral Abutments, as applicable, will be made for the test pile.

124. 505.09 BASIS OF PAYMENT, is hereby modified by adding the following new part (c) immediately after part (b):

(c) Steel Piling for Integral Abutments of the size specified will be paid for at the Contract unit price per meter (linear foot).

125. 505.09 BASIS OF PAYMENT, is hereby further modified by deleting the phrase "for furnishing, transporting, handling, and driving the test pile, complete with tip, end plate, or stinger plate as required;" in the second sentence of the third paragraph.

126. 505.09 BASIS OF PAYMENT, is hereby still further modified by adding the following as the fourth paragraph of the Subsection text:

Payment for furnishing and driving test piling driven outside of foundation limits will be included in the unit price bid for Dynamic Pile Loading Test.

127. 505.09 BASIS OF PAYMENT, is hereby still further modified by adding the following pay items:

Pay Item	Pay Unit
505.10 Steel Piling, HP 250 X 62 (HP 10 X 42)	Meter (Linear Foot)
505.155 Steel Piling, HP 310 X 93 (HP 12 X 63)	Meter (Linear Foot)
505.165 Steel Piling, HP 310 X 125 (HP 12 X 84)	Meter (Linear Foot)
505.25 Steel Piling for Integral Abutments, HP 310 X 79 (HP 12 X 53)	Meter (Linear Foot)
505.255 Steel Piling for Integral Abutments, HP 310 X 93 (HP 12 X 63)	Meter (Linear Foot)
505.26 Steel Piling for Integral Abutments, HP 310 X 110 (HP 12 X 74)	Meter (Linear Foot)
505.265 Steel Piling for Integral Abutments, HP 310 X 125 (HP 12 X 84)	Meter (Linear Foot)
505.27 Steel Piling for Integral Abutments, HP 360 X 108 (HP 14 X 73)	Meter (Linear Foot)
505.28 Steel Piling for Integral Abutments, HP 360 X 132 (HP 14 X 89)	Meter (Linear Foot)
505.29 Steel Piling for Integral Abutments, HP 360 X 152 (HP 14 X 102)	Meter (Linear Foot)
505.30 Steel Piling for Integral Abutments, HP 360 X 174 (HP 14 X 117)	Meter (Linear Foot)

SECTION 506 – STRUCTURAL STEEL

128. 506.18 ERECTION, part (b) Bearings and Anchorages, subpart (3), is hereby modified by adding the following as the last sentence of the first paragraph:

Additional aggregates shall not be added to the material during field mixing.

129. 506.18 ERECTION, part (b) Bearings and Anchorages, subpart (3), is hereby further modified by adding the following as the second, third, fourth, and fifth paragraphs of the Subsection text:

Prior to ordering materials and starting the work, the Contractor shall submit a drilling and mortaring proposal to the Engineer for approval, including a premixed mortar material brand name.

The drilled holes to be mortared shall be thoroughly cleaned, wetted, and free of standing water.

The mortar shall be mixed in a mechanical mixer according to the manufacturer’s recommendations and shall be readily pourable so that when poured it completely fills the remaining hole cavities. The placement of mortar for each bearing shall be continuous and complete at all hole locations.

All exposed mortar shall be cured for a period of not less than three (3) days by the wetted burlap method in accordance with Section 501. Curing shall commence as soon as practical after mortar placement. The Contractor shall not apply any forces to the anchor bolts during the curing period.

130. 506.19 BOLTING AND CONNECTIONS, part (a) General, is hereby modified by adding the following paragraph:

Bolt holes shall be fabricated to the requirements of the AASHTO *LRFD Bridge Construction Specifications*, Section 11.4.8, except that holes shall not be punched full-size in curved girder or curved rolled beam cross frames, lateral bracing components, and connection plates. In addition, all gusset plates and splice plates shall be considered main load carrying members and holes shall not be punched full-size.

SECTION 507 – REINFORCING STEEL

131. 507.11 BASIS OF PAYMENT, is hereby modified by deleting the phrase "including grouting of dowels" in the second sentence of the first paragraph and replacing it with the word "specified".

132. 507.11 BASIS OF PAYMENT, is hereby further modified by adding the following as the second paragraph of the Subsection text:

The accepted quantity of Drilling and Grouting Dowels will be paid for at the Contract unit price per meter (linear foot). Payment will be full compensation for drilling the dowel hole, grouting the dowel in the hole, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

SECTION 510 – PRESTRESSED CONCRETE

133. 510.13 GROUT, is hereby modified by re-designating part "(a)" to part "(b)", part "(b)" to part "(c)", and part "(c)" to part "(d)".

134. 510.13 GROUT, is hereby further modified by adding the following new part (a):

(a) The Fabricator shall sandblast surfaces to be grouted to ensure a clean, oil-free, roughened surface.

135. 510.16 BASIS OF PAYMENT, is hereby modified by adding the phrase "sandblasting, " after the phrase "repairing," in the second sentence of the first paragraph.

SECTION 513 – PROTECTIVE COATINGS

136. 513.04 SURFACE PREPARATION, part (c) Testing Equipment, is hereby modified by being deleted in its entirety and replaced with the following:

(c) Testing Equipment. For shop or field painting the Contractor shall provide (for the Contractor's use) quality control testing equipment as specified in Subsection 631.07. If required by the Contract for field testing by the Engineer, the Contractor shall provide the testing equipment specified in accordance with Section 631.

137. 513.06 APPLICATION, part (e) Weathered Galvanized Surfaces, is hereby corrected by deleting the phrase "513.04(e)" and replacing it with the phrase "513.04(f)".

138. 513.07 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

Unless otherwise specified in the Contract Documents, no measurement for payment will be made for protective coatings testing equipment provided by the Contractor.

SECTION 516 – EXPANSION DEVICES

139. 516.02 MATERIALS, is hereby modified by adding the following at the end of the Subsection listing:

Epoxy Bonding Compound……719.02

140. 516.05 INSTALLATION, is hereby modified by deleting the third sentence of the third paragraph in its entirety.

SECTION 522 – LUMBER AND TIMBER

141. 522.04 DRAWINGS, is hereby modified by adding the following paragraphs:

The Contractor shall prepare and submit Construction Drawings for structural timber erection in accordance with Section 105.

The erection plan shall include methods and sequence of structural timber erection, temporary bracing requirements, the equipment to be used for the erection, the necessary computations to indicate the magnitude of stress in the segments during erection and to demonstrate that all of the erection equipment has adequate capacity for the work to be performed, and provisions for all stages of construction, including temporary stoppages. The Contractor shall follow the erection plan as submitted.

142. 522.06 HANDLING, is hereby modified by adding the following paragraph:

Cranes, lifting devices, and other equipment for all structural timber erection shall be of adequate design and capacity to safely erect, align, and secure all members and components in their final positions without damage. The Contractor is solely responsible for the methods and equipment employed for the erection of the structural timber members.

143. 522.07 FRAMING, is hereby modified by adding the following as the last sentence of the first paragraph:

Except as directed by the Engineer, structure framing and boarding shall be constructed square, plumb, and straight.

144. 522.15 METHOD OF MEASUREMENT, is hereby modified by adding the following sentence at the end of the first paragraph:

For longitudinal nail-laminated decking, longitudinal plank decking, and runners, member length will be measured as the overall superstructure length of in place decking and runners, measured to the next 0.25 m (1 foot) increment.

145. 522.16 BASIS OF PAYMENT, is hereby modified by deleting the second sentence of the first paragraph in its entirety and replacing it with the following:

Payment for each quantity will be full compensation for detailing, fabricating, furnishing, transporting, handling, placing or erecting, and painting or treating the material specified, including all hardware and timber connectors; for providing all falsework, forms, bracing, sheeting, or other timber used for erection purposes; for furnishing and implementing the erection plan, when required; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

146. 522.16 BASIS OF PAYMENT, is hereby further modified by deleting the second paragraph of part 2. in its entirety and replacing it with the following:

Payments for the quantity of Structural Glued Laminated Timber will be full compensation for detailing, fabricating, furnishing, transporting, handling, placing or erecting, and painting or treating the material specified, including all hardware and timber connectors; for providing all falsework, forms, bracing, sheeting, or other timber used for erection purposes; for furnishing and implementing the erection plan, when required; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

SECTION 524 – JOINT SEALER

147. 524.02 MATERIALS, is hereby modified by deleting the third (last) paragraph in its entirety.

148. 524.09 BASIS OF PAYMENT, is hereby modified by adding the phrase ", including saw cutting where required," after the phrase "for preparing" in the second sentence.

SECTION 525 – METAL RAILINGS

149. 525.01 DESCRIPTION, is hereby modified by being deleted in its entirety and replaced with the following:

150. 525.01 DESCRIPTION. This work shall consist of furnishing and erecting hand railing or bridge railing, and performing repairs to existing bridge railing.

151. 525.02 MATERIALS, is hereby modified by adding the following paragraph:

Where required in the Contract Documents, aluminum bridge railing shall be anodized to a black satin finish in accordance with ASTM B 580 following fabrication.

152. 525.03 FABRICATION DRAWINGS, is hereby modified by adding the following paragraph:

These requirements do not apply to work performed under part (e) of Subsection 525.05.

153. 525.05 INSTALLATION, is hereby modified by adding the following new part (e):

(e) Bridge Railing Repair. Bridge railing repair of the Type specified shall be performed at the locations indicated in the Plans and as directed by the Engineer.

(1) Bridge Railing Repair, Type I. Type I bridge railing repair shall consist of installing new heavy duty steel beam panels and offset blocks on existing fascia-mounted or curb-mounted posts spaced at 1.9 meters (6.25 feet) or less.

(2) Bridge Railing Repair, Type II. Type II bridge railing repair shall consist of installing new nested heavy duty steel beam panels and offset blocks on existing fascia-mounted or curb-mounted posts spaced greater than 1.9 meters (6.25 feet).

(3) Bridge Railing Repair, Type III. Type III bridge railing repair shall consist of installing new heavy duty steel beam panels and offset blocks on new fascia-mounted or curb-mounted posts utilizing existing anchor bolts.

154. 525.06 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Bridge Railing Repair of the Type specified to be measured for payment will be the number of meters (feet) of railing repaired in the complete and accepted work, measured within the limits shown on the Plans or as directed by the Engineer. No additional measurement will be made for nested beam panels.

155. 525.07 BASIS OF PAYMENT, is hereby modified by adding the phrase "anodizing," after the phrase "applying grease rustproof compound," in the second (last) sentence of the second paragraph.

156. 525.07 BASIS OF PAYMENT, is hereby further modified by adding the following paragraphs:

The accepted quantity of Bridge Railing Repair of the Type specified will be paid for at the Contract unit price per meter (linear foot). Payment will be full compensation for detailing, treating, furnishing, handling, and placing railing components; for bolts and hardware necessary for installing railing components; for all work necessary for verifying and adjusting post height and/or bolt spacing of existing posts; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Removal and disposal of existing railing components required for performing Bridge Railing Repair of the Type specified will be paid for under Contract item 525.10.

157. 525.07 BASIS OF PAYMENT, is hereby still further modified by adding the following pay items:

Payment will be made under:

Pay Item		Pay Unit
525.11	Resetting Railing	Meter (Linear Foot)
525.225	Bridge Railing, Anodized 3 Rail Aluminum	Meter (Linear Foot)
525.235	Bridge Railing, Anodized Aluminum/Pedestrian	Meter (Linear Foot)
525.50	Bridge Railing Repair, Type I	Meter (Linear Foot)
525.55	Bridge Railing Repair, Type II	Meter (Linear Foot)
525.60	Bridge Railing Repair, Type III	Meter (Linear Foot)

SECTION 528 – TEMPORARY BRIDGE

158. 528.04 DESIGN AND CONSTRUCTION DETAILS, part (c) Railing, is hereby corrected by replacing the phrase "621.06" with the phrase "621.07" in the first paragraph.

159. 528.07 BASIS OF PAYMENT, is hereby modified by deleting the third (last) sentence of the second paragraph and replacing it with the following:

When the temporary bridge and its approaches have been removed, a further payment of 15 percent of the lump sum price will be allowed. The remaining 10 percent of the lump sum price will be paid when the site is cleaned up and vegetation has been established to the satisfaction of the Engineer.

SECTION 529 – REMOVAL OF STRUCTURES AND BRIDGE PAVEMENT

160. 529.06 BASIS OF PAYMENT, is hereby modified by deleting the fourth (last) sentence of the first paragraph in its entirety and replacing it with the following:

Payment will be full compensation for the removal and disposal of the specified items; for removal, salvage, and stockpiling of components and materials specified in the Contract; for excavating, backfilling, regrading, and performing site restoration incidental to the removal of specified items; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

161. 529.06 BASIS OF PAYMENT, is hereby further modified by deleting the second paragraph in its entirety and replacing it with the following:

Removal of Bridge Pavement, when not included as a separate pay item, will not be paid for directly, but will be considered incidental to either Removal of Structure or Partial Removal of Structure as specified in the Plans.

SECTION 531 – BEARING DEVICES

162. 531.01 DESCRIPTION, is hereby modified by deleting the phrase "and pot bearing devices" and replacing it with the phrase "pot, and elastomeric pad bearing devices."

163. 531.04 FABRICATION, part (a) General, is hereby modified by deleting the fifth paragraph in its entirety and replacing it with the following:

Steel bearings, expansion fabric bearing pads, and fixed and expansion pot bearings shall be designed and fabricated in accordance with Section 14 of the AASHTO *LRFD Bridge Design Specifications* and Section 18 of the AASHTO *LRFD Bridge Construction Specifications*.

164. 531.04 FABRICATION, part (b) Surface Protection, is hereby modified by adding the phrase ", except interior surfaces of pot bearings" after the word "metalized" in the first sentence of the first paragraph.

165. 531.04 FABRICATION, part (c) Finish, is hereby modified by deleting the phrase "Division II of the AASHTO *Standard Specifications for Highway Bridges*" and replacing it with the phrase "the AASHTO *LRFD Bridge Construction Specifications*".

166. 531.04 FABRICATION, part (e) Sliding Surfaces, subpart (1) is hereby modified by being deleted in its entirety and replaced with the following:

(1) The minimum thickness of TFE material shall be as follows:

For all applications, the thickness of TFE shall be at least 1.6 mm (1/16 inch) after compression. The thickness of recessed sheet TFE shall be at least 4.8 mm (3/16 inch) when the maximum dimension of TFE is less than or equal to 610 mm (24 inches), and at least 6.4 mm (1/4 inch) when the maximum dimension of the TFE is greater than 610 mm (24 inches).

167. 531.04 FABRICATION, part (e) Sliding Surfaces, subpart (2)a. is hereby modified by being deleted in its entirety and replaced with the following:

a. The thickness of the stainless steel sheet shall be at least 1.9 mm (14 gauge) when the maximum dimension of the surface is less than or equal to 305 mm (12 inches), and at least 3.0 mm (11 gauge) when the maximum dimension is larger than 305 mm (12 inches).

168. 531.04 FABRICATION, part (h) Confined Elastomer (Pot) Bearings, is hereby modified by deleting the phrase "*Standard Specifications for Highway Bridges*" and replacing it with the phrase "*LRFD Bridge Construction Specifications*" in the first paragraph.

169. 531.04 FABRICATION, part (h) Confined Elastomer (Pot) Bearings, subpart (7), is hereby modified by deleting the phrase "Division II of the AASHTO *Standard Specifications for Highway Bridges*" and replacing it with the phrase "the AASHTO *LRFD Bridge Construction Specifications*".

170. 531.04 FABRICATION, is hereby modified by adding the following new part (i):

(i) Elastomeric Pad Bearings. The following shall apply to the design and fabrication of elastomeric pad bearings:

(1) Alternate configurations may be submitted for approval. Any alternate(s) shall be designed and certified to meet the design loads and criteria specified in the Contract Documents. The alternate(s) shall maintain the anchorage system shown in the Plans and shall be designed per Section 14 of the AASHTO LRFD Bridge Design Specifications. Bridge seat elevations may be revised to accommodate alternate configurations.

(2) Except as modified within the Contract Documents, all fabrication shall meet the requirements of AASHTO M 251.

(3) No fabric reinforcement shall be allowed in the fabrication of elastomeric pads for elastomeric bridge bearing devices.

(4) All required fabrication of steel components of the bearings shall occur before the vulcanization process.

(5) The steel surfaces to be bonded to elastomeric material during vulcanization shall not be metalized or galvanized.

171. 531.05 INSTALLATION, is hereby modified by adding the following paragraphs:

Elastomeric bridge bearing pads without external load plates may be placed on a concrete or steel surface provided that it is flat to within a tolerance of 0.005 of the nominal dimension for steel reinforced bearings and 0.01 of the nominal dimension for others. Bearings shall be placed on surfaces that are horizontal to within 0.01 radians (0.120 inch/12 inches). Any lack of parallelism between the top of the bearing and the underside of the girder that exceeds 0.01 radians shall be corrected by a method approved by the Engineer.

Exterior plates of the bearing shall not be welded unless at least 38 mm (1 ½ inches) of the steel exists between the weld and the elastomer. In no case shall the elastomer or the bond be subjected to temperature higher than 205°C (400°F).

172. 531.06 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase "materials including bearing pads" and replacing it with the phrase "components" in the second sentence.

173. 531.07 BASIS OF PAYMENT, is hereby modified by deleting the second sentence of the first paragraph in its entirety and replacing it with the following:

Payment will be full compensation for detailing, furnishing, handling, transporting, and placing the material specified, including surface preparation, protective coating, testing, anchor bolt assemblies, drilling for anchor bolts, mortar, proprietary anchoring systems, bearing device components, welding, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

174. 531.07 BASIS OF PAYMENT, is hereby further modified by adding the following paragraph:

Payment for alternate bearing designs and submittals will be considered incidental to the appropriate Section 531 pay item in the Contract.

SECTION 541 – STRUCTURAL CONCRETE

175. 541.02 MATERIALS, is hereby modified by adding the following paragraph:

Precast concrete stay-in-place forms (prestressed deck panels) shall conform to the requirements of Section 510.

176. 541.19 METHOD OF MEASUREMENT, is hereby modified by deleting the period and adding the phrase ", including the volume of superstructure precast concrete stay-in-place forms, but excluding the volume of steel or other stay-in-place forms and form filling materials." after the word "Engineer" at the end of the first sentence of the first paragraph.

SECTION 602 – MASONRY

177. 602.01 DESCRIPTION, is hereby modified by adding the phrase "rebuilding, repairing, or" after the word "or".

178. 602.02 MATERIALS, is hereby modified by adding the following as the second paragraph (after the Subsection listing):

Materials for Rebuilt and Repairing Stone Masonry shall be approved by the Engineer prior to use. New stone, as required, shall match as closely as practical the existing stone masonry color, texture, and size. If required to match the existing stone masonry, chemical treatment processes to aid in providing stone of similar color shall be investigated by the Contractor.

179. 602.06 REBUILT AND REPAIRING STONE MASONRY, is hereby made a new Subsection of this Section as follows:

602.06 REBUILT AND REPARING STONE MASONRY.

(a) General.

(1) Rebuilt Stone Masonry. The stone masonry of the existing substructure and wingwalls shall be mapped, removed, and rebuilt as indicated and specified in the Contract Documents.

Following backfill excavation, the existing stones, tree stumps, roots, and other foreign matter shall be removed in the areas shown on the Plans or where directed by the Engineer. The existing stones shall be re-set in their original locations, removing any gaps that occurred due to previous damage to the walls. Rebuilt Stone Masonry shall match securely into adjacent masonry.

(2) Repairing Stone Masonry. Earth, minor vegetation, and other foreign matter shall be removed and cavities in the stone substructure and wingwalls filled as indicated and specified in the Contract Documents.

(b) Construction Requirements.

(1) Rebuilt Stone Masonry. The work shall be performed by a stone mason who is highly knowledgeable and experienced in the construction of dry stone masonry walls and fascia. The Contractor's stone mason performing the work must demonstrate at least five years experience in the construction of dry stone masonry walls. Documentation of experience, including a list of previous projects and references, shall be submitted to the Engineer prior to commencement of the work.

The existing stone masonry in the areas of reconstruction shall be mapped out and documented. Each stone size and location shall be noted. The Contractor, prior to stone removal, shall submit documentation to the Engineer for approval.

Special care and precautions shall be taken during removal and storage of the existing stone masonry to ensure that the stone is not damaged.

All stones shall be carefully removed in the areas shown on the Plans. The Contractor shall shore the remaining portions of the walls to ensure that they do not shift during construction.

The existing stones shall be replaced in their original locations, removing any gaps that occurred due to previous damage to the walls. All joints in the reconstructed stone walls shall be no larger than 19 mm (3/4 inch) between stones. Any existing stones that are not suitable for replacement or missing shall be replaced by the Contractor with stones of similar size and appearance.

(2) Repairing Stone Masonry.

a. Examination. The Contractor and Engineer shall jointly examine the abutments and wingwalls to field verify the extent of the work.

All work shall be performed by stonemasons with a minimum of three (3) years experience with similar work.

b. Repair. Gaps between horizontal faces of existing stones less than 25 mm (1 inch) shall not be repaired. The size of these gaps shall equal the approximate diameter of a 22 mm (7/8 inch) diameter steel dowel bar.

Gaps between horizontal faces of existing stones between 25 mm (1 inch) and 150 mm (6 inches) shall have small stone blocks added, with the depth of the blocks as large as possible for good bearing. The minimum width of said blocks shall be 100 mm (4 inches).

Gaps between horizontal faces of existing stones greater than 150 mm (6 inches) shall have crushed gravel and stone blocks added. The crushed gravel shall be placed at the back of the stone and compacted in place up to 300 mm (12 inches) of the exposed wall face. The crushed gravel shall be compacted by tamping rods or other methods acceptable to the Engineer. Stone block(s) shall then be added to achieve a tight fit. New stone blocks shall not extend beyond the face of the stone wall.

180. 602.10 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraphs:

The quantity of Rebuilt Stone Masonry to be measured for payment will be the number of cubic meters (cubic yards) of stone masonry rebuilt in the complete and accepted work, measured in accordance with the dimensions shown on the Plans or as determined by the Engineer.

The quantity of Repairing Stone Masonry to be measured for payment will be the number of square meters (square yards) of stone masonry repaired in the complete and accepted work, measured as the total surface area of the repaired masonry.

181. 602.11 BASIS OF PAYMENT, is hereby modified by adding the phrase "of Cement Masonry, Dry Masonry, Stone Masonry Facing, and Repointing Masonry" after the word "quantities" in the first sentence of the first paragraph.

182. 602.11 BASIS OF PAYMENT, is hereby further modified by adding the following as the third and fourth paragraphs of the Subsection text:

The accepted quantity of Rebuilt Stone Masonry will be paid for at the Contract unit price per cubic meter (cubic yard). Payment will be full compensation for mapping, documenting, and removing existing stone masonry; furnishing new stone as needed; furnishing, transporting, handling, and placing the materials specified; backfilling when not paid under a separate Contract item; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Excavation adjacent to Rebuilt Stone Masonry and disposal of excess or unsuitable excavated material will be paid for at the Contract unit price per cubic meter (cubic yard) for Structure Excavation. Excavation shall be backfilled with material acceptable to the Engineer. When Granular Backfill for Structures is required for backfill material, it will be paid for at the Contract unit price per cubic meter (cubic yard).

The accepted quantity of Repairing Stone Masonry will be paid for at the Contract unit price per square meter (square yard). Payment will be full compensation for removing material specified from the face of stone masonry; filling cavities; furnishing, transporting, handling, and placing the materials specified; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

183. 602.11 BASIS OF PAYMENT, is hereby still further modified by adding the following pay items:

Pay Item	Pay Unit
602.35 Rebuilt Stone Masonry	Cubic Meter (Cubic Yard)
602.40 Repairing Stone Masonry	Square Meter (Square Yard)

SECTION 604 – DROP INLETS, CATCH BASINS, AND MANHOLES

184. 604.03 GENERAL CONSTRUCTION REQUIREMENTS, is hereby modified by adding the following paragraphs:

Except for components cast using the dry cast process, precast concrete components shall not have the forms removed until a minimum compressive strength of 15 Mpa (2000 psi) has been achieved. Precast components shall not be moved until two hours after they have been cast and until a minimum compressive strength of 15 Mpa (2000 psi) has been achieved. Concrete cylinders shall be made, in accordance with AASHTO T 23, at the last placement of the day.

Reinforced precast sections shall not be shipped from the manufacturing facility until the eighth day from the date of manufacture, except when the supplier provides test results demonstrating that the design strength has been achieved.

185. 604.05 CURING AND PROTECTION, is hereby modified by adding the following paragraphs:

Precast concrete shall be cured using membrane curing compound. The curing compound shall be applied to the concrete surface after finishing, as soon as the free water on the surface has disappeared and no water sheen is visible, but not so late that the liquid curing compound will be absorbed into the concrete. When curing compound cannot be applied as specified herein, the manufacturer shall instead immediately begin wet curing the unit until curing compound can be applied. When this method is used in conjunction with the dry cast process, the curing room shall be kept at 100% humidity until a minimum compressive strength of 15 Mpa (2000 psi) has been obtained.

When the forms are removed prior to 7 days, the exposed concrete surfaces shall be wet with water within one half hour of form removal and shall be kept wet until the curing compound is applied. Before application, the concrete shall be allowed to reach a uniformly damp appearance with no free water on the surface, and then the compound shall be applied immediately.

Precast concrete drainage components shall not be subjected to freezing temperatures prior to attaining the specified 28 day compressive strength. Components which are exposed to freezing before reaching the required 28 day compressive strength shall be rejected without further cause. Any additional testing on the rejected components as determined by the Engineer to gain acceptance will be at the expense of the manufacturer.

SECTION 605 - UNDERDRAINS

186. 605.04 INSTALLATION, part (e) Backfill, is hereby corrected by replacing the phrase "Subsection 704.17" with the phrase "drainage aggregate" in the first sentence of the first paragraph.

SECTION 616 – CURBS AND GUTTERS

187. 616.14 METHOD OF MEASUREMENT, is hereby modified by adding the phrase "Bituminous Concrete Curb of the type specified (linear measure);" after the phrase "Cast-in-Place Concrete Curb of the type specified;" in the first paragraph.

188. 616.14 METHOD OF MEASUREMENT, is hereby further modified by adding the phrase "(volume measure)" after the phrase "Bituminous Concrete Curb of the type specified" in the second paragraph.

189. 616.15 BASIS OF PAYMENT, is hereby modified by adding the phrase "Bituminous Concrete Curb of the type specified (linear measure);" after the phrase "Cast-in-Place Concrete Curb of the type specified;" in the first paragraph.

190. 616.15 BASIS OF PAYMENT, is hereby further modified by adding the phrase "(volume measure)" after the phrase "Bituminous Concrete Curb of the type specified" in the second paragraph.

191. 616.15 BASIS OF PAYMENT, is hereby still further modified by adding the following pay items:

Payment will be made under:

Pay Item	Pay Unit
616.305 Bituminous Concrete Curb, Type A	Meter (Linear Foot)
616.315 Bituminous Concrete Curb, Type B	Meter (Linear Foot)

SECTION 618 - SIDEWALKS

192. 618.07 BASIS OF PAYMENT, is hereby corrected by replacing the phrase "(square yard)" with the phrase "(square foot)" in the third sentence of the first paragraph.

SECTION 620 – FENCES

193. 620.02 MATERIALS, is hereby modified by changing the period to a colon at the end of the first sentence of the first paragraph (including Subsection listing).

194. 620.02 MATERIALS, is hereby further modified by deleting the word "galvanized" in the third paragraph.

195. 620.02 MATERIALS, is hereby still further modified by deleting the word "galvanized" in the first line, and by replacing the word "galvanized" with the phrase "aluminum-coated" in the second line, of the fourth paragraph.

196. 620.02 MATERIALS, is hereby still further modified by deleting the word "galvanized" before the phrase "snow barrier" in the fifth paragraph.

197. 620.09 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase ", Galvanized" after the phrase "Snow Barrier" in the first sentence of the first paragraph.

198. 620.10 BASIS OF PAYMENT, is hereby modified by deleting the phrase ", Galvanized" after the phrase "Snow Barrier" in the first paragraph.

199. 620.10 BASIS OF PAYMENT, is hereby further modified by deleting the following pay item:

Pay Item	Pay Unit
620.75 Snow Barrier, Galvanized	Meter (Linear Foot)

200. 620.10 BASIS OF PAYMENT, is hereby still further modified by adding the following pay item:

Pay Item	Pay Unit
620.75 Snow Barrier	Meter (Linear Foot)

SECTION 621 – TRAFFIC BARRIERS

201. 621.02 MATERIALS, is hereby modified by adding the following to the Subsection listing in the first paragraph:

Energy Absorption Attenuators……728.07

202. 621.02 MATERIALS, is hereby further modified by adding the following as the second sentence of the fifth paragraph (beginning "Materials for Aluminum Approach Railing…"):

Where required in the Contract Documents, Aluminum Approach Railing shall be anodized to a black satin finish in accordance with ASTM B 580 following fabrication.

203. 621.03 POSTS AND OFFSET BLOCKS, is hereby modified by adding the following as the second paragraph of the Subsection text:

Posts for Steel Backed Timber Guardrail shall be driven into pilot holes that have been punched or drilled. The dimensions of the pilot hole shall not exceed the dimensions of the post by more than 25 mm (1 inch). If impenetrable material is encountered while placing the post, the pilot shall be enlarged to provide not less than 150 mm (6 inches) of clearance on all sides and a minimum depth of 760 mm (2.5 feet). The post shall be set in concrete, the type as approved by the Engineer, to within 150 mm (6 inches) of the top of the hole. The remaining 150 mm (6 inches) shall be backfilled with a suitable material and compacted to the satisfaction of the Engineer.

204. 621.04 RAIL ELEMENTS, is hereby modified by adding the following new part (d):

(d) Steel Backed Timber Rail. Timber rails shall be cut to produce a close fit at all joints. Field cuts shall be treated with an approved material as determined by the Engineer.

205. 621.06 ENERGY ABSORPTION ATTENTUATOR, is hereby modified by adding the phrase "Temporary or permanent" at the beginning of the first paragraph.

206. 621.06 ENERGY ABSORPTION ATTENTUATOR, is hereby further modified by adding the phrase "and permanent" after the word "temporary" in the third paragraph.

207. 621.06 ENERGY ABSORPTION ATTENUATOR, is hereby still further modified by adding the following paragraph:

Should an attenuator, or component thereof, in service on the project become damaged and require replacement, as determined by the Engineer, the damaged attenuator, or component thereof, shall be replaced immediately with a backup attenuator, or component thereof, stored on the project in order that there is minimal disruption to incorporating a fully functional attenuator as required by the project traffic control plan.

208. 621.07 TEMPORARY TRAFFIC BARRIER, is hereby modified by deleting the first three paragraphs in their entirety and replacing them with the following:

209. 621.07 TEMPORARY TRAFFIC BARRIER. Temporary traffic barrier shall be one of the barriers included under FHWA's Roadside Hardware Policy and Guidance for crashworthy longitudinal barriers, at the Contractor's discretion, unless otherwise specified. The type of temporary traffic barrier shall be provided to the Engineer prior to use. All temporary traffic barrier and corresponding connections shall meet, unless otherwise specified in the Plans, Test Level 3 (TL-3) criteria as defined in NCHRP Report 350 or the AASHTO *Manual for Assessing Safety Hardware* (MASH). The appropriate resource shall be determined as described in the MASH publication.

Temporary traffic barrier components shall be in a condition satisfactory to the Engineer prior to placement on the project and maintained as such until removed from the project.

The Contractor shall provide to the Engineer verification that the barrier deflection distance is appropriate for the intended use. Where appropriate, temporary traffic barrier shall be adequately anchored to prevent movement if impacted.

210. 621.14 METHOD OF MEASUREMENT, is hereby modified by adding the following as the fourth paragraph of the Subsection text:

The quantity of Steel Backed Timber Guardrail to be measured for payment will be the number of meters (linear feet) installed in the complete and accepted work, measured from end to end along the face of rail, including terminal sections. The measured length will be multiplied by a pay factor of 1.4 for a post spacing of 1.5 m (5 feet).

211. 621.14 METHOD OF MEASUREMENT, is hereby further modified by deleting the phrase "Steel Backed Timber Guardrail," from the first sentence of the fifth paragraph of the Subsection text.

212. 621.14 METHOD OF MEASUREMENT, is hereby still further modified by replacing the word "quantity" with the word "quantities" and by adding the phrase "and Aluminum Approach Railing, Anodized" after the phrase "Aluminum Approach Railing" in the tenth paragraph of the Subsection text.

213. 621.14 METHOD OF MEASUREMENT, is hereby still further modified by adding the following as the eleventh paragraph of the Subsection text:

The Contract quantity for Energy Absorption Attenuator includes one backup attenuator to be provided by the Contractor and stored on the project in the event an attenuator, or component thereof, in service is damaged and needs replacement.

214. 621.14 BASIS OF PAYMENT, is hereby modified by re-designating the Subsection number from "621.14" to "621.15".

215. 621.15 BASIS OF PAYMENT, is hereby modified by replacing the word "quantity" with the word "quantities" and by adding the phrase "and Aluminum Approach Railing, Anodized" after the phrase "Aluminum Approach Railing" in the fourth paragraph of the Subsection text.

216. 621.15 BASIS OF PAYMENT, is hereby further modified by deleting the eighth paragraph in its entirety and replacing it with the following paragraph:

Payment will be full compensation for furnishing, transporting, handling, and placing the materials specified, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work. For Steel Backed Timber Guardrail, enlarging holes as necessary for placement of posts, furnishing and placing concrete fill and backfill material, and compacting backfill to the satisfaction of the Engineer will not be paid for separately, but will be considered incidental to the unit price bid for Contract item 621.18.

217. 621.15 BASIS OF PAYMENT, is hereby still further modified by deleting the twelfth paragraph in its entirety and replacing it with the following paragraph:

Payment for the backup attenuator will be made as follows:

(a) 50 percent of the Contract unit price will be paid when the backup attenuator is delivered to and placed in storage at the project site to the satisfaction of the Engineer.

(b) The remaining 50 percent of the Contract unit price will be paid when the stored attenuator, or component thereof, is installed on the project and/or removed from the project site, when no longer required, as determined by the Engineer.

218. 621.15 BASIS OF PAYMENT, is hereby still further modified by adding the following pay items:

Payment will be made under:

Pay Item	Pay Unit
621.206 Steel Beam Guardrail, Galvanized/Nested	Meter (Linear Foot)
621.207 Steel Beam Guardrail, Galvanized/Nested w/2.4 m (8 feet) Posts	Meter (Linear Foot)
621.216 HD Steel Beam Guardrail, Galvanized/Nested	Meter (Linear Foot)
621.217 HD Steel Beam Guardrail, Galvanized/Nested w/2.4 m (8 feet) Posts	Meter (Linear Foot)
621.745 Aluminum Approach Railing, Anodized	Meter (Linear Foot)

SECTION 625 – SLEEVES FOR UTILITIES

219. 625.03 INSTALLATION, is hereby modified by deleting the phrase "50 mm (2 inches)" and replacing it with the phrase "100 mm (4 inches)" in the fifth line (beginning "Water service lines") of the listing in the fifth paragraph.

SECTION 630 – UNIFORMED TRAFFIC OFFICERS AND FLAGGERS

220. 630.01 DESCRIPTION, part (e) Responsibility of Contractor to Protect Public and Workers, is hereby modified by being re-designated from part "(e)" to part "(f)".

221. 630.01 DESCRIPTION, is hereby modified by adding the following new part (e):

(e) Use of Railroad Flaggers. Railroad flaggers shall be used within the limits of the project whenever the Contractor's operations are such as to make it necessary as described in the Contract Special Provisions.

Flaggers used in conjunction with railroad operations shall receive approval for use by the operating Railroad. The Contractor may contact the operating Railroad for a listing of approved flaggers.

222. 630.03 CLOTHING AND EQUIPMENT, part (c) For All Traffic Control Personnel, is hereby modified by being re-designated from part "(c)" to part "(d)".

223. 630.03 CLOTHING AND EQUIPMENT, is hereby further modified by adding the following new part (c):

(c) For Railroad Flaggers.

(1) Railroad flaggers shall be trained, clothed, and equipped in accordance with guidelines, rules, and/or regulations set forth by the operating Railroad.

224. 630.05 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase "and Flaggers" and replacing it with the phrase ", Flaggers, and Flaggers, Railroad" in the first sentence.

225. 630.06 BASIS OF PAYMENT, is hereby modified by adding the following as the second paragraph of the Subsection text:

The accepted quantity of Flaggers, Railroad will be paid for at the Contract unit price per hour. Payment will be full compensation for labor hours accrued on the project by a railroad flagger in the employ of the operating Railroad. The unit price shall include the costs of any equipment, clothing, and training required for the railroad flagger(s).

226. 630.06 BASIS OF PAYMENT, is hereby further modified by deleting the phrase "and/or Flaggers" and replacing it with the phrase ", Flaggers, and/or Flaggers, Railroad" in the first and third lines of the third (last) paragraph.

227. 630.06 BASIS OF PAYMENT, is hereby still further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
630.20 Flaggers, Railroad	Hour

SECTION 631 – FIELD OFFICE

228. 631.01 DESCRIPTION, is hereby modified by adding the following paragraph:

The equipment furnished for testing of protective coatings shall be used by the Engineer as required by the Contract.

229. 631.06 TESTING EQUIPMENT, BITUMINOUS, is hereby modified by adding the following as the sixth, seventh, and eighth paragraphs (before the paragraph beginning "Black duct tape…"):

1 48 inch electronic building level.
1 Mechanical measuring wheel.

The electronic building level shall have bubble indicators as well as a digital readout capable of reading in degrees from 0.0 deg to 90.0 deg, in percent slope from 0.0 percent to 100.0 percent, and in pitch in units (inches) of rise per unit (foot) of run. The electronic level shall have the capability of being recalibrated and be accurate to 1/10 of one degree.

The measuring wheel shall have a minimum wheel circumference of 1 m (3 feet) and shall have a sealed counter capable of measuring to a minimum range of 9 999.9 ft or 9 999.9 m specific to the applicable project (Contract) design units.

230. 631.08 METHOD OF MEASUREMENT, is hereby modified by adding the following to the first paragraph:

Unless otherwise specified in the Contract Documents, no measurement for payment will be made for protective coatings testing equipment provided by the Contractor.

231. 631.08 METHOD OF MEASUREMENT, is hereby further modified by deleting the second paragraph in its entirety and replacing it with the following:

The quantity of Field Office Telephone to be measured for payment will be to the nearest hundredth of a dollar for all telephone service supplied.

232. 631.08 METHOD OF MEASUREMENT, is hereby still further modified by deleting the phrase "one with a unit price and a total price set" with the word "dollars" in the first sentence of the third paragraph.

233. 631.09 BASIS OF PAYMENT, is hereby modified by deleting the following pay item:

Pay Item	Pay Unit
631.25 Field Office Telephone	Lump Unit

234. 631.09 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Pay Item	Pay Unit
631.26 Field Office Telephone	Dollar

SECTION 649 – GEOTEXTILE FABRIC

235. 649.02 MATERIALS, is hereby modified by adding the following new part (c):

(c) Where woven wire reinforcement is used, the woven wire shall be 14 gauge minimum with a 150 mm (6 inch) maximum mesh opening.

236. 649.04 INSTALLATION, part (a) General, subpart (6) Silt Fence, is hereby modified by adding the phrase ", and when required woven wire reinforcement," after the word "geotextile" in the first sentence of the first paragraph.

237. 649.04 INSTALLATION, part (a) General, subpart (6) Silt Fence, is hereby further modified by deleting the second paragraph in its entirety and replacing it with the following paragraph:

Either wood or steel posts shall be used. The posts shall have a minimum length of 910 mm (3 feet) and shall be embedded a minimum of 405 mm (16 inches) below the ground surface. The spacing of the posts shall be as shown in the Plans, or as determined by the silt fence manufacturer or the Engineer.

238. 649.06 BASIS OF PAYMENT, is hereby modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
649.515 Geotextile for Silt Fence, Woven Wire Reinforced	Square Meter (Square Yard)

SECTION 651 – TURF ESTABLISHMENT

239. 651.02 MATERIALS, is hereby modified by adding the following as the twelfth entry of the Subsection listing in the first paragraph:

Straw Mulch……755.10(g)

240. 651.08 SEEDING, part (b) Mulch, is hereby modified by adding the following new subpart 3. directly after the last paragraph of subpart 2. Hydraulic Mulch:

3. Straw Mulch. Straw mulch shall be applied at the locations and rate indicated in the Plans.

241. 651.12 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase "and Hay Mulch" and replacing it with the phrase ", Hay Mulch, and Straw Mulch" in the first sentence of the second paragraph.

242. 651.13 BASIS OF PAYMENT, is hereby modified by deleting the phrase "and Hay Mulch" and replacing it with the phrase ", Hay Mulch, and Straw Mulch" in the first sentence of the second paragraph.

243. 651.13 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
651.29 Straw Mulch	Metric Ton (Ton)

SECTION 653 – EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

244. 653.02 MATERIALS, is hereby modified by deleting the tenth (Barrier Fence) and eleventh (Project Demarcation Fence) entries in the Subsection listing.

245. 653.02 MATERIALS, is hereby further modified by adding the following paragraphs:

Barrier Fence shall be fluorescent yellow or orange, ultraviolet stabilized, high density polyethylene mesh or grid that will not sag, corrode, rot, or conduct electricity.

Project Demarcation Fence shall be non-adhesive, ultraviolet stabilized, fluorescent yellow or orange vinyl-coated polyester mesh or polyethylene plastic tape that will not sag or tear over time due to natural weather conditions.

246. 653.05 EROSION MATTING, is hereby modified by deleting the first two paragraphs of the Subsection text in their entirety and replacing them with the following:

Temporary erosion matting shall be used to anchor loose mulch and provide temporary erosion control while vegetation is established in those areas where vegetation will provide permanent erosion protection.

Permanent erosion matting shall be used where vegetation will not sustain expected flow conditions or provide sufficient long-term erosion protection. Permanent erosion matting shall provide sufficient thickness and void space to permit soil filling and/or retention to allow for the development of vegetation.

247. 653.13 BARRIER FENCE, is hereby modified by deleting the second, third, and fourth paragraphs in their entirety and replacing them with the following:

Barrier Fence shall be installed on w-shape steel posts. The fence shall have a minimum height of 1.25 meters (4 feet). The posts shall be embedded a minimum of 600 mm (2 feet) into the ground, shall extend above the fabric, and shall be installed at a 1.5 meter (5 foot) spacing.

The Contractor shall select, inspect, and maintain Barrier Fence in accordance with the Contract Documents or as directed by the Engineer.

248. 653.14 PROJECT DEMARCATION FENCE, is hereby modified by deleting the second, third, and fourth paragraphs in their entirety and replacing them with the following:

Project Demarcation Fence shall be installed on hardwood stakes and shall have a minimum width of 75 mm (3 inches). The stakes shall be 25 mm x 25 mm x 1220 mm (1 inch x 1 inch x 4 feet), shall be embedded 300 mm (1 foot) into the ground, shall extend above the fabric, and shall be installed at a 3 meter (10 foot) spacing.

The Contractor shall select, inspect, and maintain Project Demarcation Fence in accordance with the Contract Documents or as directed by the Engineer.

SECTION 675 – TRAFFIC SIGNS

249. 675.17 METHOD OF MEASUREMENT, is hereby corrected by replacing the phrase "(square yards)" with the phrase "(square feet)" in the first paragraph.

SECTION 679 – STREET LIGHTING

250. 679.10 METHOD OF MEASUREMENT, is hereby modified by adding the following as the ninth (last) paragraph:

The accepted quantity of Power Drop Stanchion, Street Lighting to be measured for payment will be the number of each stanchion installed in the complete and accepted work.

251. 679.11 BASIS OF PAYMENT, is hereby modified by deleting the phrase "and Luminaire" and replacing it with the phrase "Luminaire, and Power Drop Stanchion, Street Lighting" in the third paragraph.

252. 679.11 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
679.55 Power Drop Stanchion, Street Lighting	Each

SECTION 701 – HYDRAULIC CEMENT

253. 701.02 PORTLAND CEMENT, is hereby modified by adding the following:

Portland cements that fail to meet all parts of AASHTO M 85 due to the dilution of the original cement with added limestone will be acceptable, provided the original portland cement used in the product met AASHTO M 85 requirements prior to the addition of limestone.

SECTION 704 - AGGREGATES

254. 704.10 AGGREGATES FOR BITUMINOUS CONCRETE PAVEMENT, part (a) Aggregate for Marshall Bituminous Concrete Pavement, subpart (1) Grading (c) Recycled Asphalt Pavement (RAP), is hereby modified by adding the following to the first paragraph:

The percentage of RAP, when stated as a percentage of the total mix, shall be limited to a maximum of 50.0 percent for both design and production purposes.

255. 704.10 AGGREGATES FOR BITUMINOUS CONCRETE PAVEMENT, part (a) Aggregate for Marshall Bituminous Concrete Pavement, subpart (1) Grading (c) Recycled Asphalt Pavement (RAP), is hereby further modified by adding the following as the fourth sentence of the fifth paragraph:

The recovered RAP binder material shall be graded according to AASHTO R 29 for all samples.

256. 704.10 AGGREGATES FOR BITUMINOUS CONCRETE PAVEMENT, part (b) Aggregate for Superpave Bituminous Concrete Pavement, subpart (1) Grading (c) Recycled Asphalt Pavement (RAP), is hereby modified by deleting the number "15" and replacing it with the number "50.0" in the second (last) sentence of the first paragraph.

257. 704.10 AGGREGATES FOR BITUMINOUS CONCRETE PAVEMENT, part (b) Aggregate for Superpave Bituminous Concrete Pavement, subpart (3) Fractured Faces, Angularity, subpart a. Coarse Aggregate is hereby modified by deleting the phrase "and usage (depth) in the pavement structure" in the first sentence.

258. 704.10 AGGREGATES FOR BITUMINOUS CONCRETE PAVEMENT, part (b) Aggregate for Superpave Bituminous Concrete Pavement, subpart (3) Fractured Faces, Angularity, subpart a. Coarse Aggregate is hereby further modified by deleting the table (retaining the table title), footnote (1), and Note 1 below the first paragraph in their entirety and replacing them with the following:

Traffic (ESALs)	CA1/CA2
<30,000,000	95/90[(1)]
≥ 30,000,000	100/100

[(1)] 95/90 denotes that 95 percent of the coarse aggregate has one fractured face and 90 percent has two or more fractured faces.

259. 704.10 AGGREGATES FOR BITUMINOUS CONCRETE PAVEMENT, part (b) Aggregate for Superpave Bituminous Concrete Pavement, subpart (3) Fractured Faces, Angularity, subpart b. Fine Aggregate is hereby modified by deleting the phrase "and usage (depth) in the pavement structure" in the first sentence.

260. 704.10 AGGREGATES FOR BITUMINOUS CONCRETE PAVEMENT, part (b) Aggregate for Superpave Bituminous Concrete Pavement, subpart (3) Fractured Faces, Angularity, subpart b. Fine Aggregate is hereby further modified by deleting the table (retaining the table title) and Note 1 below the first paragraph in their entirety and replacing them with the following:

Traffic (ESALs)	Uncompacted Void Content
All	45

261. 704.10 AGGREGATES FOR BITUMINOUS CONCRETE PAVEMENT, part (b) Aggregate for Superpave Bituminous Concrete Pavement, subpart (8) Clay Content is hereby modified by deleting the table (retaining the table title) below the first paragraph in its entirety and replacing it with the following:

Traffic (ESALs)	Sand Equivalent
≤ 30,000,000	45
> 30,000,000	50

262. 704.16 DRAINAGE AGGREGATE, part (a), TABLE 704.16A – DRAINAGE AGGREGATE text is hereby corrected by deleting the phrase "0 to 10" from the Percent By Mass (Weight) Passing the Square Mesh Sieves requirement for the 2.36 mm (No. 8) Sieve Designation and replacing it with the phrase "0 to 5".

SECTION 707 – JOINT MATERIALS

263. 707.301 MORTAR, TYPE I, Subsection heading, is hereby corrected by re-designating the Subsection number from "707.301" to "707.01".

264. 707.10 POLYVINYL CHLORIDE (PVC) WATERSTOP, part (a) Physical Properties, TABLE 707.10A – PVC WATERSTOP, ASTM Procedure, is hereby modified by deleting the entries for Tensile Strength, kPa (psi) and Ultimate Elongation, % of "D 412" and replacing them with entries of "D 638 (Type IV)".

SECTION 708 – PAINTS, STAINS, AND TRAFFIC MARKING MATERIALS

265. 708.05 COATINGS FOR WOOD, is hereby modified by adding the following new parts (b) and (c):

(b) Insecticide/Fungicide. Insecticide/fungicide coatings for interior applications shall be water/glycol-based solutions per the manufacturer's specifications. Acceptable coatings shall be those on the Approved Products List on file with the Agency's Materials and Research Section.

(c) Fire Retardant. Fire retardant coatings for interior and exterior applications shall be non-toxic, non-hazardous, and water-based solutions passing ASTM E 84/NFPA 255/UL 723 "Standard Test Method for Surface Burning Characteristics of Burning Materials." Acceptable coatings shall be those on the Approved Products List on file with the Agency's Materials and Research Section.

266. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Waterborne Traffic Paint, subpart (2) Composition, chart text is hereby corrected by deleting the phrase "25% min." from the Total Volatile Content requirement for both WHITE and YELLOW/GREEN/BLUE paints and replacing it with the phrase "25% max.".

267. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Methyl-methacrylate Paint, is hereby corrected by being re-designated from part "(d)" to part "(e)".

268. 708.09 GLASS BEADS, part (a) Properties, is hereby modified by adding the following paragraph:

All glass beads shall have a concentration of less than 75 parts per million arsenic and less than 100 parts per million lead as determined by EPA Methods 6010B and 3520.

SECTION 712 – CRIBBING MATERIALS

269. 712.03 TIMBER CRIBBING, part (c) Preservative Treatment, is hereby modified by deleting the phrase "C1, C2, and C14" in the first paragraph.

SECTION 714 – STRUCTURAL STEEL

270. 714.05 HIGH-STRENGTH BOLTS, NUTS, AND WASHERS, is hereby modified by deleting the second and third paragraphs in their entirety and replacing them with the following:

Bolts installed in painted structural components shall be Type 1, shall be provided with appropriate nuts and washers, as required, and the combination of bolt, nut, and washer shall be mechanically galvanized in accordance with AASHTO M 298, Class 50, Type I.

Bolts installed in unpainted weathering steel structural components shall be Type 3 and shall be provided with appropriate nuts and washers, as required.

SECTION 715 – MISCELLANEOUS METALS

271. 715.01 IRON CASTINGS, part (a) General Requirements, is hereby modified by adding the following as the first sentence of the first paragraph:

Castings shall conform to the requirements of AASHTO M 306.

272. 715.01 IRON CASTINGS, part (a) General Requirements, is hereby further modified by adding the following to the third paragraph:

The dimensions of the frames and covers shall substantially conform to the dimensions for cast iron covers and frames as shown in the Contract Documents. The covers shall be flush with the upper surface of the frame when seated. The seatings shall be machined or made quiet by the use of a gasket cushioning insert or supported by a three point triangular suspension. The minimum depth of insertion of the cover into the frame shall be no less than 50 mm (2 inches).

273. 715.01 IRON CASTINGS, part (a) General Requirements, is hereby still further modified by adding the following as the fourth and fifth paragraphs:

As a minimum, the covers and frames shall meet the M-18 (H 20) loading requirements of AASHTO and the proof load requirements of Federal Specification A-A-60005.

Covers shall be identified by the words "STORM SEWER", "WATER", "SEWER", "ELECTRIC", or other as applicable, in raised cast letters as indicated in the Contract Documents or as directed by the Engineer.

274. 715.01 IRON CASTINGS, part (b) Gray Iron Castings, is hereby modified by deleting the phrase "30B, unless otherwise specified" and replacing it with the phrase "35B".

275. 715.01 IRON CASTINGS, part (c) Ductile Iron Castings, is hereby modified by being deleted in its entirety and replaced with the following:

Ductile Iron Castings. Ductile iron castings for frames and covers shall conform to the requirements of ASTM A 536, Grade 80-55-06.

276. 715.01 IRON CASTINGS, part (d) Certification, is hereby modified by deleting the phrase "Type A" and replacing it with the phrase "Type D".

277. 715.05 STAY-IN-PLACE CORRUGATED METAL FORMS (SIPCMF) FOR SUPERSTRUCTURE SLABS, is hereby made a new Subsection of this Section as follows:

278. 715.05 STAY-IN-PLACE CORRUGATED METAL FORMS (SIPCMF) FOR SUPERSTRUCTURE SLABS.

(a) General. Forms and form supports shall be in conformance with ASTM A 653/A 653M, Grades A thru E, Coating Designation G165. Fabrication shall be in conformance with ASTM A 924/A 924M. Prior to the fabrication of forms, the Contractor shall submit to the Engineer certification for conformity of steel and galvanizing to ASTM A 653/A 653M.

(b) Certification. A Type D Certification shall be furnished in accordance with Subsection 700.02.

279. 715.06 METAL ROOFING, is hereby made a new Subsection of this Section as follows:

280. 715.06 METAL ROOFING.

(a) Roofing. Metal roofing shall be baked enamel, double lock standing seam metal roofing, galvanized steel ASTM A 653/A 653M Grade CS G90 coating or aluminum, 24 gauge minimum thickness. As approved by the Engineer, an alternate base coating for steel roofing may be allowed. The installer shall provide certificates of compliance for each specification.

The metal roofing system shall meet UL-580, Class 90 (wind uplift) and ASTM E 1646-95(2003) (water penetration). The installer shall provide certificates of compliance for each specification, or computation of an alternate wind load acceptable to the Engineer.

The Contractor shall provide manufacturer's color samples to the Engineer for approval. The Engineer, in consultation with the owner, will determine which, if any, of the samples are acceptable.

(b) Trim. The trim shall be of the type and size recommended by the roofing manufacturer(s).

(c) Fasteners. Fasteners shall be pancake head screws, or other low profile fasteners, with a minimum nominal penetration length of 25 mm (1 inch) into the roof boards. A minimum ultimate pullout strength shall be provided to meet uplift requirements.

(d) Certification. A Type A Certification shall be furnished in accordance with Subsection 700.02.

SECTION 719 – EPOXY RESIN MATERIALS

281. SECTION 719 - EPOXY RESIN MATERIALS, is hereby made a new Section of the Specifications.

282. 719.01 THIS SUBSECTION RESERVED

283. 719.02 EPOXY BONDING COMPOUND, is hereby made a new Subsection of the Specifications as follows:

284. 719.02 EPOXY BONDING COMPOUND. Epoxy bonding compound shall meet the requirements of AASHTO M 235M/M 235 for the type, grade, and class corresponding to the application and temperature range for which it is to be used.

Certification. A Type A Certification will be furnished in accordance with Subsection 700.02(c).

SECTION 720 - GEOTEXTILES

285. 720.04 SAMPLING, TESTING, AND ACCEPTANCE REQUIREMENTS, part (d) Minimum Average Roll Value, TABLE 720.04A – VAOT MINIMUM AVERAGE ROLL VALUES FOR GEOTEXTILES (METRIC) and TABLE 720.04A – VAOT MINIMUM AVERAGE ROLL VALUES FOR GEOTEXTILES (ENGLISH) are hereby modified by changing the column heading "Pay Item 649.51 For Silt Fence" to "Pay Items 649.51 and 649.515 For Silt Fence".

286. 720.04 SAMPLING, TESTING, AND ACCEPTANCE REQUIREMENTS, part (d) Minimum Average Roll Value, TABLE 720.04A – VAOT MINIMUM AVERAGE ROLL VALUES FOR GEOTEXTILES (ENGLISH), Pay Item 649.31 Under Stone Fill, ≥50%, is hereby corrected by deleting the entries for 1. Grab Tensile Strength (lbs.), 2. Burst Strength (psi), 3. Puncture (lbs.), and 4. Trapezoidal Tear Strength (lbs.) of "315", "510", "110", and "110", respectively, and replacing them with entries of "200", "250", "80", and "80", respectively, and by correcting the description of Geotextile Property 7. by deleting the phrase "(% Strength" and replacing it with the phrase "(% Strength Retained)".

287. 720.05 PREFABRICATED CHECK DAM, is hereby modified by deleting the phrase "approved list" and replacing it with the phrase "Approved Products List".

288. 720.06 INLET PROTECTION DEVICE, TYPE II, is hereby modified by deleting the phrase "approved list" and replacing it with the phrase "Approved Products List".

289. 720.07 FILTER BAG, is hereby modified by deleting the phrase "approved list" and replacing it with the phrase "Approved Products List".

SECTION 725 – CONCRETE CURING MATERIALS AND ADMIXTURES

290. 725.01 CONCRETE CURING MATERIALS, part (d) Liquid Membrane-Forming Compounds, is hereby modified by deleting subpart (2) Certification in its entirety.

291. 725.02 CHEMICAL ADMIXTURES, is hereby modified by deleting part (a) General, subpart (3) Certification in its entirety.

SECTION 726 – PROTECTIVE COATINGS AND WATERPROOFING MATERIALS

292. 726.01 TIMBER PRESERVATIVE, is hereby modified by deleting the second sentence of the first paragraph in its entirety and replacing it with the following:

Acceptable preservatives and AWPA Preservative Standards are as follows:

293. 726.01 TIMBER PRESERVATIVE, is hereby further modified by deleting the second paragraph (beginning with "Glued laminated timber") in its entirety and replacing it with the following:

For wood components, AWPA Product Use and Commodity Specifications shall be as listed below:

Component	AWPA Use Category	AWPA Commodity Spec.
Sawn Guardrail Post	UCB4	6A
Sawn Bollard, Marker Post, Guide Post, and Fence Post	UC4B	6A
Sawn Sign Post	UC4A	6A
Sawn Structural Lumber and Timber	UC4B	6A
Sawn Nonstructural Lumber	UC4B	6A
Sawn Timber Cribbing	UC4B	6A
Structural Glued Laminated Timber	UC4B	6F
Round Fence Post	UC4B	6B
Round Timber Pole	UC4B	6D

294. 726.01 TIMBER PRESERVATIVE, is hereby still further modified by adding the word "Miscellaneous" after the phrase "AWPA" in the first sentence of the third paragraph.

SECTION 727 – FENCING MATERIALS

295. 727.01 WOVEN WIRE FENCE, part (c) Wood Posts and Braces, is hereby modified by deleting the word "Wood" at the beginning of the first paragraph and replacing it with the phrase "Round wood".

296. 727.01 WOVEN WIRE FENCE, part (c) Wood Posts and Braces, is hereby further modified by deleting the third paragraph in its entirety and replacing it with the following:

If sawn posts are used they shall be rough sawn and conform to the requirements of Subsection 728.01. The nominal dimensions shall be at least 100 mm (4 inches) square and of the length shown on the Plans.

297. 727.02 CHAIN LINK FENCE, part (a) Chain-Link Fabric, is hereby modified by adding the following sentence:

When the Contract Documents specify a 3.76 mm (0.1483 inch) diameter (9 gauge) wire woven into a 25 mm (1 inch) mesh, an aluminum-coated steel conforming to the requirements of AASHTO M 181, Type II will be allowed.

298. 727.03 BARRIER FENCE, is hereby modified by being deleted in its entirety.

299. 727.04 PROJECT DEMARCATION FENCE, is hereby modified by being deleted in its entirety.

SECTION 728 – GUARDRAIL, GUIDE POSTS, AND BARRIERS

300. 728.01 POSTS AND POST ACCESSORIES, part (a) Wood Posts and Offset Blocks for Rail, Guardrail, Barriers, and Guide Posts, is hereby modified by adding the phrase "straight and sound" before the phrase "seasoned Red (Norway) Pine" and by deleting the phrase ", straight, sound, and cut from live timber" in the first sentence of the first paragraph.

301. 728.01 POSTS AND POST ACCESSORIES, part (a) Wood Posts and Offset Blocks for Rail, Guardrail, Barriers, and Guide Posts, is hereby further modified by adding the word "stress" before the phrase "grade requirements" in both the second and third sentences of the first paragraph.

302. 728.01 POSTS AND POST ACCESSORIES, part (a) Wood Posts and Offset Blocks for Rail, Guardrail, Barriers, and Guide Posts, is hereby still further modified by adding the phrase "and care" before the phrase "of treated material" in the fourth (last) sentence of the first paragraph.

303. 728.01 POSTS AND POST ACCESSORIES, part (a) Wood Posts and Offset Blocks for Rail, Guardrail, Barriers, and Guide Posts, is hereby still further modified by deleting the word "saturated" and replacing it with the word "treated" in the second sentence of the fifth paragraph.

304. 728.01 POSTS AND POST ACCESSORIES, part (a) Wood Posts and Offset Blocks for Rail, Guardrail, Barriers, and Guide Posts, is hereby still further modified by deleting the phrase "American Lumber Standards Committee (ALSC) approved grading standards" and replacing it with the phrase "the American Softwood Lumber Standard (ASLS) developed by the American Lumber Standards Committee" in the first sentence of the sixth paragraph.

305. 728.01 POSTS AND POST ACCESSORIES, part (a) Wood Posts and Offset Blocks for Rail, Guardrail, Barriers, and Guide Posts, is hereby still further modified by deleting the phrase "ALSC" and replacing it with the phrase "ASLS" in the second (last) sentence of the sixth paragraph.

306. 728.01 POSTS AND POST ACCESSORIES, part (a) Wood Posts and Offset Blocks for Rail, Guardrail, Barriers, and Guide Posts, is hereby still further modified by deleting the seventh paragraph in its entirety.

307. 728.01 POSTS AND POST ACCESSORIES, part (a) Wood Posts and Offset Blocks for Rail, Guardrail, Barriers, and Guide Posts, is hereby still further modified by deleting the phrase "for soil use specified in AWPA Standard C2" and replacing it with the phrase "specified in AWPA Standards" in the first sentence of the tenth paragraph.

308. 728.02 RAIL ELEMENTS, part (f) Certification, is hereby modified by being re-designated from part "(f)" to part "(g)".

309. 728.02 RAIL ELEMENTS, is hereby modified by adding the following new part (f):

(f) Steel Backed Timber Guardrail. Timber for rail shall have a minimum allowable bending stress of 10 Mpa (1450 psi). Steel rails and splice plates shall conform to AASHTO M 270M/M 270 Grade 345 (Grade 50) steel and shall be galvanized in accordance with AASHTO M 111M/M 111.

310. 728.02 RAIL ELEMENTS, part (g) Certification, is hereby modified by adding the phrase "and steel backed timber guardrail" after the phrase "plank rail" in the second sentence.

311. 728.02 RAIL ELEMENTS, part (g) Certification, is hereby further modified by deleting the phrase "For cable, beam, and box beam rail," in the third (last) sentence and replacing it with the phrase "For beam and box beam rail,".

312. 728.03 HARDWARE, part (e) Certification, is hereby modified by being re-designated from part "(e)" to part "(f)".

313. 728.03 HARDWARE, is hereby modified by adding the following new part (e):

(e) Hardware for Steel Backed Timber Guardrail. Bolts and lag screws shall conform to ASTM F 568M, Class 4.6 (ASTM A 307 Grade A). Washers shall conform to ASTM F 844. Nuts shall conform to AASHTO M 291M (AASHTO M 291). All fastener hardware shall be galvanized in accordance with AASHTO M 232M/M 232.

314. 728.06 MANUFACTURED TERMINAL SECTIONS, is hereby modified by adding the following as the second paragraph of the Subsection text:

Unless noted otherwise on the Plans, Manufactured Terminal Sections shall meet as a minimum the requirements of NCHRP 350 for TL-3.

315. 728.07 ENERGY ABSORPTION ATTENUATORS, is hereby made a new Subsection of the Specifications as follows:

316. 728.07 ENERGY ABSORPTION ATTENUATORS. Acceptable stationary Energy Absorption Attenuators permanently incorporated into the work shall be one of the Energy Absorption Attenuators on the Approved Products List on file with the Agency's Materials and Research Section.

SECTION 729 – CURB MATERIALS

317. 729.01 VERTICAL GRANITE CURB, part (b) Finish and Surface Dimensions, fourth paragraph, is hereby modified by deleting the first sentence in its entirety and replacing it with the following:

The top front arris line shall be rounded to a 13 mm (1/2 inch) radius as shown in the Contract Documents.

318. 729.02 GRANITE BRIDGE CURB, part (b) Finish and Surface Dimensions, third paragraph, is hereby modified by deleting the first sentence in its entirety and replacing it with the following:

The top front arris line shall be rounded to a 13 mm (1/2 inch) radius as shown in the Contract Documents.

319. 729.05 BITUMINOUS CONCRETE CURB, part (b) Performance-Graded Asphalt Binder, is hereby modified by deleting the phrase "as directed by the Engineer" and replacing it with the phrase "as specified on the Plans or in the Contract Documents".

320. 729.06 TREATED TIMBER CURB, part (a) Miscellaneous Hardware, is hereby modified by adding the phrase "fasteners," after the phrase "spikes," in the first sentence.

SECTION 731 – BEARING PADS FOR STRUCTURES

321. 731.02 BEARING PADS, is hereby made a new Subsection of the Specifications as follows:

322. 731.02 BEARING PADS. Bearing pads shall be manufactured from all new materials comprised of high quality elastomer with a random distribution of synthetic fibers in proper proportion to maintain strength and stability. The finished product shall withstand a compressive load perpendicular to the plane of laminations of 48.2 MPa (7000 psi). The surface hardness shall have a Shore A Durometer of 80 ± 10 in accordance with ASTM D 2240.

Certification. A Type A Certification shall be furnished in accordance with Subsection 700.02.

323. 731.03 ELASTOMERIC MATERIAL, is hereby modified by deleting the first paragraph in its entirety and replacing it with the following:

Unless otherwise shown in the Plans or specified in the Contract Documents, the elastomeric compound for pot bearings shall be neoprene conforming to AASHTO *LRFD Bridge Design Specifications* Subsection 14.7.4.2.

SECTION 732 – RAILING MATERIALS

324. 732.02 ALUMINUM BRIDGE RAILING, part (b) Stainless Steel Bolts, Nuts, Washers, and Set Screws, is hereby corrected by deleting the phrase "ASTM A 593" and replacing it with the phrase "ASTM F 593" in the first and fourth paragraphs, and by deleting the phrase "ASTM A 594" and replacing it with the phrase "ASTM F 594" in the fourth paragraph.

SECTION 750 – TRAFFIC SIGNS

325. 750.01 SIGN POSTS, part (c) Wood Posts, is hereby modified by deleting the first paragraph in its entirety and replacing it with the following:

Wood posts shall be seasoned, straight, and sound sawn timber comprised of either Oak, Cedar, Spruce, Western Fir, or other approved wood. The posts shall conform to the dimensions shown on the Plans or requirements specified in the Contract Documents.

SECTION 752 – TRAFFIC CONTROL SIGNALS

326. 752.02 STRAIN POLES, part (a) Wood Poles, is hereby modified by deleting the first paragraph in its entirety and replacing it with the following:

Wood poles for span wire mounted signal heads shall be either Douglas Fir or Southern Pine. The poles to be used shall be Class 3 and shall be a minimum of 11 mm (35 feet) in length, unless otherwise specified. Wood poles shall meet the specification requirements of ANSI 05.1 "Piles and Poles, Wood."

327. 752.06 TRAFFIC SIGNAL CONTROLLERS, part (a) General, subpart (1) Controller/Auxiliary Equipment, is hereby modified by deleting the phrase "(April: first Sunday; October: last Sunday)" in the last sentence of the first paragraph.

SECTION 755 – LANDSCAPING MATERIALS

328. 755.10 MULCH MATERIALS, is hereby modified by adding the following new part (g):

(g) Straw Mulch. Straw mulch shall consist of threshed plant residue of oats, wheat, barley, rye, or rice from which the grain has been removed. The material shall be free of noxious weeds, undesirable grasses and plants, and rot or mold, and shall be approved by the Engineer prior to use.

329. 755.11 EROSION MATTING, is hereby modified by being deleted in its entirety and replaced with the following:

330. 755.11 EROSION MATTING.

(a) Temporary Erosion Matting. Temporary erosion matting shall conform to one of the following specifications and corresponding properties found in Table 755.11A.

(1) Mulch Control Netting. A temporary biodegradable rolled erosion control product (RECP) composed of planar woven natural fiber.

(2) Erosion Control Blanket. A temporary all natural biodegradable rolled erosion control product composed of processed fibers mechanically bound together to form a continuous matrix.

(b) Permanent Erosion Matting. Permanent erosion matting shall be a long-term non-degradable rolled erosion control product composed of ultraviolet stabilized, non-degradable, synthetic fibers, filaments, nettings, and/or wire mesh processed into three dimensional reinforcement matrices conforming to one of the specifications and corresponding properties found in Table 755.11B.

(c) Certification. A Type A Certification shall be furnished in accordance with Subsection 700.02 for both temporary and permanent erosion matting.

TABLE 755.11A - STANDARD SPECIFICATION FOR TEMPORARY ROLLED EROSION CONTROL PRODUCTS
(For use where natural vegetation will provide permanent erosion protection)

Product Description	Material Composition	Longevity (months)	Slope Applications*		Channel Applications*	Minimum Tensile Strength[1] kN/m(lbs/ft)
			Maximum Gradient (h:v)	C Factor[2,5]	Maximum Shear Stress[3,4,6] Pa(lbs/ft^2)	
Mulch Control Nets	All natural biodegradable mesh or woven netting.	3	5:1	≤ 0.10	12 (0.25)	0.073 (5)
		12	5:1	≤ 0.10	12 (0.25)	0.073 (5)
		24	5:1	≤ 0.10	12 (0.25)	0.36 (25)
Netless Rolled Erosion Control Blankets	All natural biodegradable fibers mechanically interlocked together to form a continuous matrix.	3	4:1	≤ 0.10	24 (0.5)	0.073 (5)
		12	4:1	≤ 0.10	24 (0.5)	0.073 (5)
Single-net Erosion Control Blankets	All natural processed, biodegradable fibers mechanically bound together by a single net of yarn or twine woven into a continuous matrix.	3	3:1	≤ 0.15	72 (1.5)	0.73 (50)
		12	3:1	≤ 0.15	72 (1.5)	0.73 (50)
Double-net Erosion Control Blankets	All natural processed, biodegradable fibers mechanically bound together between two nets of yarn or twine woven into a continuous matrix.	3	2:1	≤ 0.20	84 (1.75)	1.09 (75)
		12	2:1	≤ 0.20	84 (1.75)	1.09 (75)
		24	1.5:1	≤ 0.25	96 (2.00)	1.45 (100)
		36	1:1	≤ 0.25	108 (2.25)	1.82(125)

Notes:

* "C" factor and shear stress for mulch control nettings must be obtained with netting used in conjunction with pre-applied mulch material.

1 Minimum Average Roll Values, Machine direction using Erosion Control Technology Council (ECTC) Mod. ASTM D 5035.

2 "C" Factor calculated as ratio of soil loss from RECP protected slope (tested at specified or greater gradient, h:v) to ratio of soil loss from unprotected (control) plot in large-scale testing. These performance test values should be supported by periodic bench scale testing under similar test conditions using ECTC Test Method # 2.

3 Required minimum shear stress RECP (unvegetated) can sustain without physical damage or excess erosion (> 12.7 mm (0.5 in) soil loss) during a 30-minute flow event in large-scale testing. These performance test values should be supported by periodic bench scale testing under similar test conditions and failure criteria using ECTC Test Method #3.

4 The permissible shear stress levels established for each performance category are based on historical experience with products characterized by Manning's roughness coefficients in the range of 0.01 - 0.05.

5 Acceptable large-scale test methods may include ASTM D 6459, ECTC Test Method # 2, or other independent testing deemed acceptable by the Engineer.

6 Per the Engineer’s discretion. Recommended acceptable large-scale testing protocol may include ASTM D 6460, ECTC Test Method #3 or other independent testing deemed acceptable by the Engineer.

TABLE 755.11B - STANDARD SPECIFICATION FOR PERMANENT ROLLED EROSION CONTROL PRODUCTS
(For applications where vegetation alone will not provide sufficient long-term erosion protection)

PERMANENT[1]- All categories of Turf Reinforcement Mat (TRM) must have a minimum thickness of 6.35 mm(0.25 inches) per ASTM D 6525 and ultraviolet stability of 80% per ASTM D 4355 (500 hours exposure).

Type	Product Description	Material Composition	Slope Applications	Channel Applications	Minimum Tensile Strength[2,3] kN/m(lbs/ft)
			Maximum. Gradient (h:v)	Maximum Shear Stress[4,5] Pa(lbs/ft^2)	
A	Turf Reinforcement Mat	Non-degradable synthetic fibers, filaments, nets, wire mesh and/or other elements, processed into a permanent, three-dimensional matrix of sufficient thickness.*	0.5:1	288(6.0)	1.82(125)
B	Turf Reinforcement Mat		0.5:1	384(8.0)	2.19(150)
C	Turf Reinforcement Mat		0.5:1	480(10.0)	2.55(175)

Notes:

* TRMs, which may be supplemented with degradable components, are designed to impart immediate erosion protection, enhance vegetation establishment and provide long-term functionality by permanently reinforcing vegetation during and after maturation. Note: TRMs are typically used in hydraulic applications, such as high flow ditches and channels, steep slopes, stream banks, and shorelines, where erosive forces may exceed the limits of natural, unreinforced vegetation or in areas where limited vegetation establishment is anticipated.

1 For TRMs containing degradable components, all property values must be obtained on the non-degradable portion of the matting alone.

2 Minimum Average Roll Values, machine direction only for tensile strength determination using ASTM D 6818 (Supersedes Mod. ASTM D 5035 for RECPs).

3 Field conditions with high loading and/or high survivability requirements may warrant the use of a TRM with a tensile strength of 44 kN/m(3,000 lb/ft) or greater.

4 Required minimum shear stress TRM (fully vegetated) can sustain without physical damage or excess erosion [>12.7 mm (0.5 in.) soil loss] during a 30-minute flow event in large scale testing. These performance test values should be supported by periodic bench scale testing under similar test conditions and failure criteria using ECTC Test Method #3.

5 Acceptable large-scale testing protocol may include ASTM D 6460, ECTC Test Method #3, or other independent testing deemed acceptable by the Engineer.

SECTION 780 – CONCRETE REPAIR MATERIALS

331. 780.03 RAPID SETTING CONCRETE REPAIR MATERIAL, part (b) Time of Setting, is hereby corrected by deleting the second sentence in its entirety.