20241204 – December Specifications Committee Meeting

December Specifications Committee Meeting Agenda

Meeting Date
Wednesday, December 4, 2024 @ 9:00am
Meeting Location: Building 5, Conference Room 820, Technical Support Division Charleston, WV
Also meeting virtually via Google Meet video conference. E-mail distribution message includes instruction.

******2025 SPECIFICATION COMMITTEE MEETING UPDATE******
WE ARE GOING TO BE SWITCHING TO ODD MONTHS SO WE WILL MEET:
January (1/8), March (3/5), May (5/7), July (7/9), September (9/3), and November (11/5).
Calendar subject to change, updates will be given, as needed.

*******DEADLINE FOR JANUARY*******
December 11, 2024

Approved Permanent Specification changes from last Committee meeting (10/02/24)

- **506.3-Proportioning-**The revision adds a continuous mobile volumetric mixer as an option in lieu of a batch plant.
- **514.4-Testing-** The revision updates AASHTO T23 to AASHTO R100.
- **603.6.2.1-Class S-P Concrete Mix Design Testing-** The revision replaces the Rapid Chloride Test with the Surface Resistivity Test.
- **623.2-Materials-**Revision updates the Materials Table in 623.2 to reflect the fibers being used for shotcrete being added in section 715 Fibers for Portland Cement Concrete.
- **708.3-Joint and Crack Sealant, Hot-Poured for Concrete and Asphalt Pavements-** The revision adds AASHTO Product Evaluation and Audit Solutions and ASTM D8260 Requirements
- **712.4-Galvanized Steel Deep Beam Guardrail, Fasteners and Anchor Bolts-** The revision adds the MP reference.
- **715.3-Fibers for Portland Cement Concrete-** The specification change included the removal of requiring hybrid fibers, the alteration of the minimum required fiber reinforced cement properties was changed.

Approved Project Specific Special Provisions (SP) from last Committee meeting (10/02/24)

- **SP655-Matting for Erosion Control**

Items removed from Committee Agenda

- **716.5-Acceptance of Embankment and Subgrade:**

20241204 – December Specifications Committee Meeting

Old Business Items

SECTION	TITLE	DESCRIPTION
	SP Subcontractor Prompt Payment D. Ballard	**2nd time to Committee, discussed in October.** Update to a previously approved Special Provision (SP) for Subcontractor Prompt Payment. These revisions are due to the implementation of the Civil Rights and Labor module within the AASHTOWare Project (AWP) system. Electronic documentation of subcontractor payments will be required to be completed by contractors and subcontractors in AWP, paper forms/submissions are being eliminated, and oversight of subcontractor payment is being transferred from the Districts to the Civil Rights Compliance Division. Other minor clarifying language changes were also made.
101	**101.2-Definitions** **307.2.4.1.1-For Compaction:** **401.6.1-Quality Control Testing** **401.6.4.1-Density Testing:** **401.6.4.1.1-Gauge Comparison** **401.6.4.2-Lot-by-Lot Testing:** **401.6.4.3-Roller Pass Testing** **401.13.3-:** **410.6.1-Quailty Control Testing:** **514.4.2.3-Density Testing:** **626.5.3.4-Acceptance:** D. Brayack	**2nd time to Committee, discussed in October.** Specification Change to Section 101 Definition Of Terms, Section 307-Crushed Aggregate Base Course, Section 401-Asphalt Base, Wearing, and Patching and Leveling Courses, 410-Asphalt Base and Wearing Courses, Percent Within Limits (PWL), Section 514-Roller Compacted Concrete, Section 626-Retaining Wall Systems, and Section 716-Embankment and Subgrade Material. The revision adds the definition for Moisture/Density Gauge resulting in the removal of the word “nuclear”. 1. Section 101 a. 101.2-Definitions: 2. Section 307 a. 307.2.4.1.1-For Compaction: 3. Section 401 a. 401.6.1-Quality Control Testing b. 401.6.4.1-Density Testing: c. 401.6.4.1.1-Gauge Comparison d. 401.6.4.2-Lot-by-Lot Testing: e. 401.6.4.3-Roller Pass Testing: f. 401.13.3-: 4. Section 410 a. 410.6.1-Quailty Control Testing: 5. Section 514 a. 514.4.2.3-Density Testing: 6. Section 626 a. 626.5.3.4-Acceptance: The specification is redline copy showing the revision.

20241204 – December Specifications Committee Meeting

106	**106.3-Samples** D. Brayack	**2nd time to Committee, discussed in October.** Specification Change to 106-Control of Materials. The revision gives reference to the MP and provides e-ticketing requirements for precast concrete products, pipe, and reinforcing steel. The specification is redline copy showing the revision.
601	**601.3-Proportioning** **601.4-Testing** A. Thaxton	**2nd time to Committee, discussed in October.** Specification Change to 601-Structurual Concrete. The Revision replaces the Rapid Chloride Permeability test with the Surface Resistivity test. It also includes price adjustments based upon the results. The specification is redline copy showing the revision.
604	**604.15-Pay Items** J. Adkins	**2nd time to Committee, discussed in October.** Specification Change to 604-Pipe Culverts. Revision adds numerical value to Z2 Metal Corrugations column. The specification is redline copy showing the revision.
685	**685.1.3-Phase Three** **687.3.6-Shop Painting Metal Structures** **688.5.4-Surface Preparation.** C. Preston	**2nd time to Committee, discussed in October.** Specification Change to Section 685-Bridge Cleaning, Section 687-Shop Painting Metal Structures, and Section 688-Field Painting of Metal Structures. The revision adds/references materials acceptance requirements for soluble salt removers. Any products meeting these requirements can be placed on the MCS&T APL for Soluble Salt Removers (688.002.003). 1. 685.1.3-Phase Three 2. 687.3.6-Shop Painting Metal Structures 3. 688.5.4-Surface Preparation The specification is redline copy showing the revision.

New Business

SECTION	TITLE	DESCRIPTION
PSSP 108	**PSSP 108-Completion Dates** L. Chambers	**1st time to Committee.** A Project Specific Special Provision (PSSP) for Completion Dates. Update was made to remove the drawdown payments and start disincentive on day ten. The PSSP is redline copy showing the revision.

20241204 – December Specifications Committee Meeting

PSSP 672	**PSSP 672-Site Furnishings** D. Ahmad	**1st time to Committee.** Project Specific Special Provision (PSSP) for various Site Furnishings. 1. 672002-003-Site Furnishing, Bike Rack 2. 672002-003-Site Furnishing, Bollard 3. 672002-003-Site Furnishing, CCTV Camera 4. 672002-003-Site Furnishing, DMS 5. 672002-003-Site Furnishing, Smart Bench 6. 672002-003-Site Furnishing, Solar Light Pole 7. 672002-003-Site Furnishing, Trash Receptacle 8. 672002-002-Site Furnishing, Concrete Stain 9. 672002-006-Site Furnishing, Pavers 10. 672002-006-Site Furnishing, Photoluminescent Paint The PSSP is redline copy showing the revision.
SP 695	**SP 695-Mainline Pavement** V. Allison	**1st time to Committee.** Update to a previously approved Special Provision (SP) for Mainline Pavement. The Special Provision removes subsection 695.6-Thickness Testing. The SP is redline copy showing the revision.

Deadline for new items & updates for the January 8, 2025 Meeting are due December 11, 2024.
If you are the 'champion' of any specification changes and/or project specific special provisions currently in the Specification Committee, it is your responsibility to edit/update/modify them in a timely manner per comments and discussion in Spec Committee. *Failure to submit updates may result in removal of item and/or delays.*

Comments
Comments are requested for Specifications Changes and Project Specific Special Provisions as they help in the decision-making process. Please send comments by Friday prior to the meeting!

Please Send Comments to: **Janie.M.Adkins@wv.gov**

File Format Structure and Progression of items thru Specifications Committee
The purpose of the below protocol is to provide guidance on the file structure of Proposed Specifications & Project Specific Provisions as they progress through Specifications Committee. This procedure would facilitate a means of tracking changes from meeting to meeting as the agenda & provisions are posted publicly online on the Spec Committee website.

TYPES OF PROVISIONS:
There are three standard types of provisions typically discussed in committee:

1. **Specification Changes** – These are permanent changes to the WVDOH Standard Specifications.
    - Unless inserted into a project proposal, these changes typically go into effect in January (of subsequent year) with the Supplemental Specifications

20241204 – December Specifications Committee Meeting

2. **Special Provisions (SP)** – Are applied to an individual project or a small group of projects and require two (2) meetings for approval.
3. **Updates to previously approved SP** – Changes/edits/updated to SP that have been approved by spec committee.
4. **Project Specific Special Provisions (PSSP)** – Shown to committee, do not require two (2) meetings for approval, requires management approval. Project Specific Special Provisions are applied to only an individual project.

NEW BUSINESS ITEMS:

New items should be setup & submitted in the following format along with a brief overview of the item or reason for the change:

1. **Specification Changes** – Show as red-line copy (see note)
2. **Project Specific Special Provisions (SP)** – Will be shown in all black.
3. **Updates to approved SP** – Shown as red-line copy.

NOTE: Red-line copy is a form of editing which indicates removal or addition of text. You can redline a Microsoft Word document by using the built-in "Track Changes" feature.

OLD BUSINESS ITEMS:

Updated provisions that were discussed at the last committee meeting should be setup in the following format:

- Redline copy from prior meeting would not be shown.
- Redline copy of new changes/updates (from previous meeting)

PROGRESSION OF ITEMS THRU COMMITTEE AND APPROVAL:

Depending on how important the project and/or comments/discussion of item at previous meeting, then several things can happen in no particular order.

- Few comments/discussion/minor changes…will recommend approval of item at next meeting.
- A lot of comments/discussion…will not recommend approval at next meeting; item will be updated and reviewed again at the next meeting.
- SPs in committee may be used in advertised project. Hope to work to address comments & finish approving at subsequent meeting.

2023 Standard Specification Roads and Bridges

Print Version:

WVDOH Employees-contact us or stop by Technical Support

Industry-We have an order form on our webpage here:

- https://transportation.wv.gov/highways/TechnicalSupport/specifications/Documents/SpecBookOrderForm_20230925.pdf

2024 Supplemental Specifications

The 2024 Supplemental is posted on our webpage.

- https://transportation.wv.gov/highways/TechnicalSupport/specifications/Pages/default.aspx

DRAFT

September 23, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

SUBCONTRACTOR PROMPT PAYMENT

1.0-GENERAL REQUIREMENTS:

Contractors shall pay subcontractors for work satisfactorily performed by the subcontractor within fourteen (14) calendar days of the Contractor's receipt of payment from the State for subcontracted work. Acceptance of the subcontracted work by the Department of Transportation/Division of Highways (Department) shall constitute satisfactory completion of subcontracted work.

Contractors must utilize the AASHTOWare Project™ Civil Rights & Labor (CRL) module to provide the Department proof of payment to all subcontractors by electronically entering all payments made for each estimate. The Contractor shall also require all subcontractors to review and endorse receipt of payments in CRL.

All subcontracting agreements made by the Contractor shall include this Special Provision. Refer to the Special Provision for Electronic Submission of Payrolls and Subcontractor Payment for information regarding CRL system requirements.

2.0-WITHHOLDING PAYMENT RESTRICTIONS:

Contractors may delay or postpone payment to a subcontractor for good cause. This may include, but shall not be limited to, failure by the subcontractor to pay for labor, supplies, or materials, or to provide any required documentation. Prior to any delay or postponement of payment, the Contractor shall provide written documentation to the Department's Civil Rights Compliance Division (Division) for approval. The Contractor shall also notify the affected subcontractor of any such good cause when it is submitted to the Division for approval. Only after written approval of the Division's acceptance of the Contractor's good cause, shall the Contractor be allowed to postpone or delay any payment.

If the subcontractor does not receive payment within fourteen (14) calendar days, the subcontractor shall give the Division written notice of non-payment.

The notice shall include:

(a) the name of the Prime Contractor, the project contract identification number, the estimate number, and the quantity in dispute.

(b) an itemized summary on which the quantity is based; and

(c) any additional information that may be relevant to the dispute concerning payment by the Prime Contractor.

3.0-PENALTIES FOR NON-COMPLIANCE:

Failure by the Contractor to pay any subcontractor within fourteen (14) calendar days may result in the suspension of any future progress estimates for payment to a Contractor by the Department until the Contractor can demonstrate that the issues preventing payment have been resolved and that prompt payment for subcontracted work will be maintained throughout the remaining life of the contract.

Additionally, continued failure to pay subcontractors promptly may result in a contractor's disqualification as non-responsible or such other penalty as the Department deems appropriate.

4.0-RESOLUTION OF DISPUTES:

When the steps from Section 2.0 result in a dispute between the Contractor and subcontractor, the procedure for resolving the dispute is as follows:

(a) The Division will verbally contact the Contractor within 48 hours to ascertain whether the amount withheld is undisputed.

(b) If the Division determines that part or all of the amount withheld is undisputed, it will instruct the Contractor to pay the subcontractor the undisputed amount within three (3) calendar days. The instructions will be confirmed in writing.

(c) The Division will verbally communicate the discussion results with the Contractor to the subcontractor and confirm the results in writing.

(d) If the Contractor fails to pay the subcontractor the undisputed amount within three (3) calendar days, the subcontractor may report the non-payment in writing to the Division.

Upon receiving notification of non-payment, the Division will schedule a meeting with the Contractor, the subcontractor, the District Construction Engineer, the Regional Construction Engineer, and the Project Supervisor to verify and discuss the issue. Representatives from the Federal Highway Administration and the Department's Contract Administration Division may also be included. This meeting will be held at a location determined by the Division no later than ten (10) calendar days after receiving notice of non-payment.

(e) The purpose of this meeting is to establish why payment was not made to the subcontractor in the required period. If it is determined that the Contractor is delinquent in payment to the subcontractor, further progress payments may be withheld until the subcontractor is paid.

5.0-LEGAL RELATIONS AND PROGRESS:

If the payment is not made to the subcontractor within seven (7) calendar days after the Division determines that the Contractor is delinquent in paying the subcontractor and the subsequent progress payment becomes due, the progress payment will not be processed, and a second meeting will be held at a location determined by the Division to address the dispute. This meeting will held no later than five (5) calendar days after the close of the seven (7) days.

If the results of this second meeting reveal that payment to the subcontractor continues to be delinquent, the Department may order a suspension of work based on the Contractor's failure

to carry out the provisions of the contract or may allow work to continue and withhold future progress payments as stated above.

The Contractor shall notify the Division when payment has been made to the subcontractor. The Division will verify the payment with the subcontractor to ensure payment was received.

Nothing in this provision will prevent the subcontractor from pursuing a claim with the surety under the Contractor's payment bond at any time.

DRAFT

August 29, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 101
DEFINITION OF TERMS

101.2-DEFINITIONS:

ADD THE FOLLOWING AS A NEW DEFINITION:

Moisture/Density Gauge-A Division approved device for testing the density and/or the moisture content of in-place material. The approval of these devices are described in MP 717.04.22.

DRAFT

August 29, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 307
CRUSHED AGGREGATE BASE COURSE

307.2-MATERIALS:

307.2.4-Acceptance Procedure:

307.2.4.1-Acceptance Plan:

307.2.4.1.1-For Compaction:

REMOVE THE FOLLOWING FROM THE FIRST PARAGRAPH OF THE SUBSECTION:

> Acceptance for compaction shall be on a lot by lot basis. A lot shall consist of a single layer of not more than 2,000 linear feet per width being placed. A lot shall be divided into five approximately equal sized sublots. One ~~nuclear~~ moisture and density measurement in accordance with applicable portions of Section 717 shall be made at a random location within each of the five sublots. The random locations shall be determined in accordance with MP 712.21.26. If the result of five density tests on a lot indicates that at least 80 percent (80%) of the material, in accordance with subsection 106.3.1 (West Virginia AP-A), has been compacted to the specified target percentage of dry density, the lot will be accepted. If less than 80 percent (80%) has been compacted to the specified target percentage of dry density, no additional material shall be placed on that layer until it has been reworked to meet the specified requirements. Reworking and retesting shall be at the expense of the Contractor. When the Division performs the testing in the evaluation of reworked lots, the testing will be at the expense of the Contractor at the unit cost specified in subsection 109.2.2.

DRAFT

September 5, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 401
ASPHALT BASE, WEARING, AND
PATCHING AND LEVELING COURSES

401.6-CONTRACTORS QUALITY CONTROL:

401.6.1-Quality Control Testing:

DELETE THE FOLLOWING IN THE SECOND PARAGRAPGH OF THE SUBSECTION:

The Contractor shall maintain necessary equipment and qualified personnel including at least one certified Asphalt Field and Compaction Technician at each project during paving operations. Additionally, a certified Asphalt Field and Compaction Technician with certification to perform ~~nuclear~~ density testing of asphalt pavements shall perform all testing necessary to assure compaction of the asphalt meets specification requirements.

401.6.4-Compaction:

401.6.4.1-Density Testing:

REMOVE AND ADD THE FOLLOWING TO THE SUBSECTION:

~~All~~ Gauge standardization and ~~procedures,~~ calibration ~~procedures and all Density testing conducted~~ shall be in accordance with the manufacturer's recommendations~~AASHTO T355 – Standard Method of Test for In-Place Density of Asphalt Mixtures by Nuclear Methods~~. Standard counts shall be within ± 2% for density and ± 4% for moisture from the manufacturer's standard counts. Density tests ~~Testing~~ shall be 1-minute tests conducted in the backscatter position ~~and follow AASHTO T355 with the exception that no gauge rotation will be required. All gauge tests shall be conducted~~ with the source end of the gauge in the direction of paving. The Gauges used for both QC and QA, shall ~~also~~ have a gauge comparison ~~tested~~ as prescribed in section 401.6.4.1.

401.6.4-Compaction:

401.6.4.1-Density Testing:

401.6.4.1.1-Gauge Comparison:

DELETE THE FOLLOWING IN THE FIRST PARAGRAPGH OF THE SUBSECTION:

For purposes of an accurate comparison, ~~nuclear~~ gauges used for QC and QA shall be compared using the following procedure. If an alternate gauge is brought to the project, repeat the following procedure. Note, this process is required for informational purposes however density readings for Acceptance testing will not be adjusted to compensate for any differences in readings between gauges. The gauge used for the Contractor's quality control testing shall be compared with the gauge used for the Division's verification testing at the same locations.

401.6.4-Compaction:

401.6.4.2-Lot-by-Lot Testing:

DELETE AND ADD THE FOLLOWING IN THE FIRST PARAGRAPGH OF THE SUBSECTION:

Density of the traveled lanes, shoulders, and Longitudinal Joint will be accepted in the field on a lot-by-lot basis. Lots will be established cumulatively and will be specific for each JMF. A normal lot size shall not exceed 1000 linear feet of paving, unless operational conditions or project size dictates otherwise. Each lot shall consist of five equal sublots. A standard sublot shall be 200 linear feet. Sublots shall be tested with randomly located ~~nuclear~~ density tests.

401.6.4-Compaction:

401.6.4.3-Roller Pass Testing:

DELETE AND ADD THE FOLLOWING TO THE SUBSECTION:

A Roller Pass Control Section shall be completed on a daily basis, when roadway conditions change where they would affect the compaction effort, or when the Engineer determines the current roller pass is unsatisfactory. A roller pass shall be established prior to the mat reaching the temperature specified in section 401.10.4.

If a project does not meet the criteria in section 401.6.4, testing for compaction shall be in accordance with the roller pass test method described in Section 401.6.4.2.

In addition, areas of trench paving, pavement widening, and pavement repairs shall be tested in accordance with the roller pass test method or to the satisfaction of the Engineer. A roller pass shall be conducted in the following manor:

1. The Roller Pass Control Section shall be conducted 100 feet beyond the initial transverse construction joint. If an additional roller pass is required by the Engineer conduct it immediately.
2. Apply four passes with the breakdown roller (a pass shall be defined as the entire roller traversing a spot on the pavement) to the roadway, then conduct two randomly located ~~nuclear~~ density test~~s~~ing within the section; record the results, the average, and the mat temperature at each test location.

3. Apply an additional two passes and repeat the ~~nuclear~~ density testing in the same locations; record the results, the average, and the mat temperature at each test location.
4. Repeat step 3 until one or more of the following conditions occur: (a) less than 5 kg/m^3 increase occurs between the average of two sets of readings, (b) the density of the material exceeds 97.0% Gmm, (c) one of the two test location "breaks over" (i.e. shows a decrease in density) after exceeding 92.0% of Gmm, or (d) the temperature of the mat has fallen below 175 °F.
5. Compute the Percent of Gmm using the average of the two readings and record on the worksheet.

If the mat begins to show signs of distress (such as excessive surface aggregate breakdown~~age~~ or mat cracking) before reaching 175 °F, then discontinue rolling and record the number of roller passes completed before the stress signs occurred. If a tender mix, as defined in Section 3.3, is encountered the Contractor may be allowed to continue rolling at lower temperatures if it can be demonstrated that additional densification can be achieved at a lower temperature without causing any pavement distress. Once ~~-~~the ~~-~~control section is completed, the density shall be equal to or greater than 92.0% of Gmm. If the density does not meet 92% of Gmm, repeat the procedure above immediately. If after two control sections the density still does not meet 92% of Gmm, the contractor shall apply the number of passes associated with the highest percent density, with a minimum of 8 passes, unless the Engineer determines more appropriate means. To help with this decision, an evaluation may be made of the existing pavement condition and any density test results obtained prior to construction of the test section will be reviewed.

If the density within the control section meets 92% of Gmm, conduct a proving section in the proceeding 1000 feet. Within the proving section, apply the established number of passes and conduct five randomly located ~~nuclear~~ density tests. The average of these five tests shall exceed a minimum density of 92% Gmm and be within ± 50.0 kg/m^3 of the average wet density determined in the Roller Ppass Ceontrol Ssection. If this is not achieved a new Rroller Ppass Control Ssection shall be conducted.

All data shall be submitted the Engineer on associated rRoller pass forms.

401.13-BASIS OF PAYMENT:

401.13.3-:

DELETE AND ADD THE FOLLOWING TO THE TABLE:

TABLE 401.13.3A

Adjustment of Contract Price for Pavement Mat Density	
Percent of Density	Percent of Contract Price to be Paid
Greater than 97 %	Note 1
93% to 97%	100
92%	99
88% to 91%	= 99 – 4*(92% - Percent density)
Less than 88%	= 834 – 10*(88% - Percent density) Note 2

DRAFT

August 29, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 410
ASPHALT BASE AND WEARING COURSES, PERCENT WITH LIMITS (PWL)

410.6-CONTRACTORS QUALITY CONTROL:

410.6.1-Quality Control Testing:

DELETE AND REMOVE THE FOLLOWING FROM THE SECOND PARAGRAPH OF THE SUBSECTION:

> The Contractor shall maintain necessary equipment and qualified personnel including at least one certified Asphalt Field and Compaction Technician at each project during paving operations. Additionally, a certified Asphalt Field and Compaction Technician with certification to perform ~~nuclear~~ density testing of asphalt pavements shall perform all testing necessary to assure compaction of the asphalt meets specification requirements.

DRAFT

August 29, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 514
ROLLER COMPACTED CONCRETE

514.4-TESTING:

514.4.1-Test Methods:

514.4.2.3-Density Testing:

REMOVE AND ADD THE FOLLOWING TO THE FIRST PARAGRAPH OF THE SUBSECTION:

Field density tests for quality control shall be performed by the contractor as soon as possible, but no later than 30 minutes after the completion of the rolling. The in-place density and moisture content shall be determined using a properly maintained ~~nuclear~~ moisture/~~-~~density gauge in accordance with the applicable provisions of MP 717.04.21. All testing shall be performed in direct transmission mode. Only wet density is used for evaluation.

DRAFT

August 29, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 626
RETAINING WALL SYSTEMS

626.5-MATERIALS:

626.5.3-Select Granular Backfill:

626.5.3.4-Acceptance:

REMOVE THE FOLLOWING FROM THE SECOND PARAGRAPH OF THE SUBSECTION:

Acceptance for compaction shall be on a lot-by-lot basis. A lot shall be divided into five approximately equal sized sub-lots. A sub-lot shall consist of the quantity of material to backfill a single lift for 100 feet of wall and at least one test per lift. One ~~nuclear~~ moisture and density measurement shall be made at a random location within each of the five sub-lots; random locations shall be determined in accordance with MP 712.21.26. For material having 40% or more retained on the ¾ inch (75mm) sieve, MP 700.00.24 shall be used to determine the target maximum dry density. For material having less than 40% retained on the ¾ inch (75 mm) sieve, the target dry density shall be the maximum dry density as determined by the AASHTO T-99 five point laboratory proctor performed on the material in accordance with section 626.5.3.1 (B). The moisture content of the material shall be maintained at a level sufficient to facilitate compaction. For applications where spread footings are used to support a bridge or other structural loads, the target percentage of dry density shall be 100% for other applications the target percentage of dry density shall be 95%. If the results of five density tests on a Lot indicates that at least 80% of the material, in accordance with 106.3.1 (West Virginia AP-A), has been compacted to the specified target percentage of dry density, the Lot will be accepted. If less than 80 % has been compacted to the specified target percentage of dry density and/or the moisture content is outside the tolerance range, no additional material shall be placed until the Lot has been reworked to meet the specified requirements. Reworking and retesting shall be at the expense of the Contractor. When the Division performs the testing in the evaluation of reworked Lots, the testing will be at the expense of the Contractor at the unit cost specified in subsection 109.2.2.

DRAFT

July 29, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 106
CONTROL OF MATERIALS

106.3-SAMPLES:

REMOVE AND ADD THE FOLLOWING TO THE FOURTH PARAGRAPH AND ADD THE FOLLOWING SUBSECTION AFTER THE FOURTH PARAGRAPH:

The Contractor may submit for acceptance, materials that appear on the Division Approved Source/Product ~~Lising~~ Listing (APL). These submissions shall include a clear and legible invoice from the manufacturer and contain the product's approved lab number. Products that are not on the approved product list may be used on projects as long as these products meet the requirements for that material. Prospective new products for the approved product list shall follow the guidelines of MP 106.00.02 and MP 106.00.03.

Acceptance of materials via the APL shall be in accordance with MP 106.00.05. APL acceptance documentation shall include an E-ticketing for the following materials: all precast concrete products, all pipe, and all reinforcing steel. These E-tickets shall follow all guidelines established in Section 109.20.

DRAFT

September 4, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 601
STRUCTURAL CONCRETE

601.3-PROPORTIONING:

REMOVE AND ADD THE FOLLOWING CONTENTS TO SUBSECTION 601.3:

The proportions for any concrete designated as modified shall be submitted by the Contractor to the Engineer for approval. The Design 28 Day Compressive Strength shall be as shown in the plans. The contractor's mix design shall utilize Table 601.3.1, except the Target Cement Factor may be revised to obtain the modified strength.

Establishment of mixture proportions shall be coordinated with the manufacturer of the silica fume admixture.

Design mixture testing for Class H concrete shall be in accordance with MP 711.03.23 and shall include air content, slump, compressive strength, and ~~rapid chloride permeability tests. For establishment of mixture proportions, rapid chloride permeability tests shall be made on representative samples prepared and tested in accordance with AASHTO T 277. The rapid chloride permeability test specimens shall be tested at an age of 90 days (or at any time prior to 90 days), and the results of this test shall not exceed 750 coulombs. Specimens shall be moist cured for 56 days prior to the start of specimen preparation unless specimens are to be tested prior to 56 days, in which case the specimens shall be moist cured until the time of test. The 28-day compressive strength of the test mix that satisfies the 750 coulomb threshold shall be used as the basis for acceptance of Class H concrete per Section 601.4.5.~~ , surface resistivity test. For establishment of mixture proportions, surface resistivity tests shall be conducted on representative samples prepared and tested in accordance with AASHTO T 358. The specimens shall be moist cured then tested at an age of 28 days, and the result shall be equal to or greater than 30 kΩ-cm. The cost of all test mix requirements shall be considered incidental to the cost of Class H concrete.

~~For establishment of mixture proportions, as an alternative to the curing methods for rapid chloride permeability testing outlined in the previous paragraph, specimens may be moist cured for 7 days in accordance with ASTM C192, then cured for 21 days in lime-saturated water at 100.0 ± 3.5 °F, then tested at an age of 28 days. This method of curing shall be noted as the accelerated RCPT curing method.~~

The dosage rate in lbs./cy of fibers for any application shall be the manufacturer's recommendation to meet the requirements of 715.3. The dosage rate shall not be less than the submitted rate used for product approval which can be found in the approved products list. The

dosage rate shall not exceed 5.0 lbs./cy, unless the manufacturer can demonstrate, through a field demonstration, that the concrete mixture will be workable and fiber balling is not a problem.

601.4-TESTING:

601.4.1-Sampling and Testing Methods:

DELETE AND ADD THE FOLLOWING TO THE TABLE IN 601.4.1:

Sampling fresh concrete	AASHTO R 60
Sampling aggregate	MP 700.00.06
Sieve analysis of fine and coarse aggregates	AASHTO T 27 and AASHTO T 11
Slump of portland cement concrete	AASHTO T 119 Note 1
Air content of freshly mixed concrete	AASHTO T 152 AASHTO T 196
Unit weight/Yield of concrete	AASHTO T 121
Standard Practice for Making and Curing Concrete Test Specimens in the Field	AASHTO R 100 with MP 601.04.20
Compressive strength of cylindrical concrete specimens	AASHTO T 22
Total moisture content of aggregate by drying	AASHTO T 255
Predicting potential strength of portland cement concrete	MP 711.03.31
Determination of Ā of total solids in concrete	MP 601.03.51
Determination of free moisture in fine aggregate using 20 gram or 26 gram A “Speedy Moisture Tester”	MP 702.00.20
Surface Resistivity Test ~~Rapid Chloride Permeability Test~~	AASHTO T 358~~AASHTO T 277~~

Note 1 When testing concrete produced by volumetric batching and continuous mixing, the consistency testing shall be delayed for approximately three to five minutes after mixing.

601.4.2-Contractor's Quality Control:

ADD THE FOLLOWING SENTENCE TO THE END OF THE FOURTH PARAGRAPH IN SUBSECTION 601.4.2:

Any Agency or Laboratory which tests Contractor Quality Control concrete compressive strength specimens, that may be used for acceptance by the Division, shall be evaluated by the Cement and Concrete Reference Laboratory (CCRL) and certified by the Division as meeting all the requirements of ASTM C1077 pertaining to testing concrete cylinders, as outlined in Section 4.2 of MP 601.03.50. In addition any laboratory conducting concrete surface resistivity testing must be evaluated by CCRL for AASHTO T358.

REMOVE AND REPLACE THE TITLE AND ADD THE FOLLOWING IN

SUBSECTION 601.4.5:

601.4.5-Tests for ~~Permeability~~ Surface Resistivity Acceptance of Class H Concrete:

~~The Contractor shall be required to compare the compressive strength test results obtained in Section 601.4.4, for Class H concrete, to the compressive strength of the approved test mix per Section 601.3.~~

~~The Contractor shall also be required to fabricate six (6) rapid chloride permeability~~test ~~specimens in accordance with AASHTO T 277 every time that a set of compressive strength specimens for Class H concrete is fabricated. Chloride Permeability of the in-place concrete shall be considered acceptable if the 28-day compressive strengths obtained in Section 601.4.4 are greater than eighty percent (80%) of the 28-day compressive strength of the approved test mix. Concrete represented by compressive strengths below eighty percent (80%) of the 28-day compressive strength of the approved test mix may be removed and replaced by the Contractor. If the Contractor elects to leave the material in place, it will be evaluated as to adequacy for the use intended. All concrete evaluated as unsatisfactory for the use intended shall be removed and replaced or otherwise corrected by and at the expense of the Contractor as required in Section 105.3.~~

~~The Contractor shall also be required to fabricate six rapid chloride permeability test specimens in accordance with AASHTO T 277 every time that a set of compressive strength specimens is fabricated. These test specimens shall be moist cured until as close to the time of test as possible. If the 28-day compressive strength of the in-place concrete (obtained in Section 601.4.4) is less than or equal to eighty percent (80%) of the compressive strength of the approved test mix, these rapid chloride permeability test specimens shall be tested in accordance with AASHTO T 277, otherwise testing of these specimens is not required. When testing of these specimens is required, two test specimens shall be tested at each of the following ages: 35, 56, and 90 days.~~

~~These test results shall be used by the Engineer as the basis for evaluation as to the adequacy of the material for the use intended.~~

The Contractor shall also be required to fabricate three surface resistivity test specimens in accordance with AASHTO T 358 every time that a set of compressive strength specimens for Class H is fabricated. These test specimens shall be moist cured until as close to the time of test as possible, and they shall be tested at an age of 28-days. These test results shall be used by the Engineer as the basis for evaluation as to the adequacy of the material for the use intended. The minimum surface resistivity test result for full payment shall be 30 kΩ-cm. Table 601.4.05 specifies the penalty structure for payment of material that has a surface resistivity test result lower than 30 kΩ-cm.

Table 601.4.5

Resistivity Result (kΩ-cm)	Percent of Unit Bid Price Paid
>25-29	90%
>20-25	70%
>15-20	50%
≤15	Remove & Replace

DRAFT

July 29, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 604
PIPE CULVERTS

604.15-PAY ITEMS:

ADD THE FOLLOWING TO THE TABLE BELOW:

Y	Mil Thickness	
	Steel	Aluminum
A	64	60
B	79	75
C	109	105
D	138	135
E	168	164
F	188	---
G	218	---
H	249	---
J	4 Bolts/Ft 280	--
K	6 Bolts/Ft 280	100
L	8 Bolts/Ft 280	125
M	313	150
N	375	185
P	---	200
Q	---	225
R	---	250

Z	Metal Corrugations	Pipe Class
1	1½"x ¼"	---
2	2 ⅔" x ½"	---
3	3" x 1"	---
5	5" x 1"	---
6	6" x 2"	---
7	7½" x ¾" x ¾"	---
I or 1	---	I
II or 2	---	II
III or 3	---	III
IV or 4	---	IV
V or 5	---	V

X	Concrete Pipe
H	Horizontal Elliptical
V	Vertical Elliptical

DRAFT

July 18, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 685
BRIDGE CLEANING

685.1-DESCRIPTON:

685.1.3-Phase Three:

ADD THE FOLLOWING TO THE SUBSECTION:

This phase shall consist of washing with a mixture of low pressure water and a solution of a commercial brand soluble salt remover, any areas as noted in the plans. This washing shall be accomplished with a low pressure washer at a minimum pressure of 3000 PSI and a maximum pressure of 4500 PSI, at the nozzle end with the nozzle 4" to 8" from the surface. Remove all surface abnormalities such as rust scale, peeling paint, or blistered paint that would prevent the soluble salt remover from coming into contact with the salt contamination. Typically, low pressure water washing is not capable of removing intact coating material. The nozzle type shall be a rotary nozzle. The contractor shall follow the Manufacturer's recommendations or specifications for method and rate of application of the soluble salt remover. Water shall be from an approved source of drinking water, and the soluble salt remover shall be chosen from West Virginia Division of Highways Approved Source List.

The soluble salt remover shall be acidic, biodegradable, non-toxic, non-corrosive, and contain no VOCs. It shall have a pH value of 3.3 (± 0.2) and after application, it will not interfere with primer adhesion.

The contractor is to place special emphasis on the top surface of all flanges, connection plates, bearings, and excessively rusty or pitted areas. Any areas of the structure that exhibit mineral deposits of black iron oxide called "black rust" after any abrasive blasting shall be considered contaminated with chlorides and will need an additional washing with the soluble salt remover solution and another abrasive blasting.

DRAFT

July 18, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 687
SHOP PAINTING METAL STRUCTURES

687.3-PAINT APPLICATION REQUIREMENTS:

687.3.6-Handling Coated Steel:

REMOVE AND ADD THE FOLLOWING TO THE SUBSECTION:

Extreme care shall be exercised when handling the steel in the shop, during shipping, erection, and subsequent construction of the bridge. Painted steel shall not be moved or handled until sufficient cure time has elapsed to insure no damage is done to the fresh coating. The steel shall be insulated from the binding chains by softeners. Hooks and slings used to hoist steel shall be padded. To prevent damage to the coating, diaphragms and similar pieces shall be spaced in such a way that no rubbing will occur during shipment. Upon arrival at the project site, if weather conditions were such that deicing materials from the roadway were thrown onto the steel during shipment, the contractor shall be responsible for washing the entire surface of the steel with low-pressure water to remove chloride contamination. This also includes unpainted portions of weathering steel. Water shall be from an approved source of drinking water. The water is to be applied at minimum pressure of 3000 PSI to a maximum of 4500 PSI at the nozzle end, with the nozzle held at a distance of 4" to 8" from the surface. After the low-pressure wash, a minimum of one area on each piece is to be tested for chloride contamination. The testing shall be by the CHLOR*TEST (chloride test kit) method. The maximum chloride contamination shall be 5 micrograms/cm^2. If the degree of contamination is above the maximum level, the steel is to be re-washed, using a mixture of low-pressure water and a solution of a commercial brand of soluble salt remover, followed by additional testing for chloride contamination. The Soluble Salt Remover shall be ~~CHLOR*RID or equal~~ Approved Source List. The soluble salt remover shall meet the requirements in section 685.1.3. The steel to be washed shall not be erected until it has been washed, tested and accepted. The testing also includes unpainted portions of weathering steel.

DRAFT

September 18, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 688
FIELD PAINTING OF METAL STRUCTURES

688.5-FIELD PAINTING OF SHOP PRIME-COATED STEEL:

688.5.4-Surface Preparation:

ADD THE FOLLOWING TO THE SUBSECTION:

Prior to field coats, surface contamination such as rust, dirt, mud, oil, concrete, loose zinc, salts, or other foreign matter shall be removed. The shop primed structural steel shall be pressure washed, with a soluble salt remover from the division's approved product list, at 2000 – 3000 psi. The soluble salt remover shall meet the requirements in section 685.1.3. Touch up of the primer shall be in accordance with section 688.2.3.3.

SECTION BREAK

NEW BUSINESS ITEMS

DRAFT

September 23, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

MABSCOTT OVERHEAD BRIDGE +1

STATE PROJECT NUMBER: S341-16-16.34 00

FEDERAL PROJECT NUMBER: HWI-0016(313)D

SECTION 108
PROSECUTION AND PROGRESS

108.7-COMPLETION DATES:

108.7.3-INCENTIVE/DISINCENTIVE FOR EARLY COMPLETION:

ADD THE FOLLOWING:

The purpose of this Special Provision on Incentive/Disincentive Payments is to encourage the Contractor to expedite the construction of County Route 16/16. The following items shall govern these Incentive/Disincentive Payments:

1. No Excuses Incentive Payment

   In the determination of the Engineer, if County Route 16/16 is complete and permanently open to uninterrupted two-way traffic on or before 10 calendar days after the road was initially closed, the Contractor shall earn a lump sum No Excuses Incentive Payment of $50,000.

   ~~If County Route 16 is not permanently open to uninterrupted two-way traffic on or before 10 calendar days after the road was initially closed the No Excuses Incentive Payment shall be reduced by per calendar day until the structure is permanently open to uninterrupted two-way traffic or the incentive amount reaches zero.~~

   Section 108.6.2 shall not apply, and for no reason will a time extension be allowed to apply to the 10 calendar days after award notification and subsequent dates for No Excuses Incentive Payment.

2. Disincentive Payment

   In the determination of the Engineer, when CR 16/16 is not complete and permanently open to uninterrupted two-way traffic, and/or otherwise substantially complete 10 calendar days after the road was initially closed, the Contractor shall be assessed a Disincentive Payment in the amount of $5,000 for each calendar day until substantial completion is achieved. There is no maximum value to the Disincentive Payment and any disincentives assessed are in addition to standard liquidated damages

penalties.

3. For the purposes of this Contract, one calendar day shall be counted from midnight to midnight and any part of the 24 hour period, including weekends and holidays.

DRAFT

February 2, 2023

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: U341-210-0.00 00

FEDERAL PROJECT NUMBER: STBG-0210(014)D

SECTION 672
BIKE RACK

ADD THE FOLLOWING:

672.1-DESCRIPTION:

This work shall consist of installing bike racks, which will consist of furnishing and installation of a certain trash receptacle, to include all fasteners, ground anchors, and appurtenances as specified.

The Contractor shall furnish and install the new bike racks and appurtenances as hereafter specified, all as to provide a complete and fully functioning trash receptacle.

672.2-MATERIALS:

The bike racks shall be a five (5) Capacity Pullman P-105 by Keystone Ridge Designs, to include all necessary fasteners, color gloss black.

672.3-CONSTRUCTION METHODS:

The bike racks shall be constructed as shown on the Plans and as detailed, located in the sidewalk or on a separate concrete pad, as per manufacture recommendations.

672.4-METHOD OF MEASUREMENT:

The quantity of bike racks will be measured per each, installed complete, anchored to the concrete, and accepted.

672.5-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit bid price for the items listed below, which prices and payments shall be full compensation for furnishing all materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, and incidentals necessary to complete the work.

DRAFT

672.6-PAY ITEM:

ITEM	DESCRIPTION	UNIT
672002-003	Site Furnishings, Bike Racks	Each

DRAFT

January 26, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: U341-210-0.00 00

FEDERAL PROJECT NUMBER: STBG-0210(014)D

SECTION 672
SITE FURNISHINGS, BOLLARD

ADD THE FOLLOWING:

672.1-DESCRIPTION:

This work is for the furnishing and installation of a traffic control fixed bollard as shown on the Roadway Construction Plans of the contract drawings.

In addition to the Plans and these Specifications, any applicable local code shall apply.

672.2-MATERIALS:

Bollard Post – ASTM Type 1 and Section 1105.02, 6’ tall above ground and 1.5’ in diameter.

Class AA Cement Concrete foundation.

HDPE Bollard Cover (fade resistant for 5 years minimum) with reflective strips

672.3-CONSTRUCTION METHODS:

Concrete shall be cast in place plain cement concrete with a minimum compression strength of 3,000 psi. Provide expansion joint as needed. The bollard shall be 72 inches above ground and of a 18” diameter after installation is complete. Install bollard shell cover. The bollard shall be primed and painted as approved by the engineer.

672.4-METHOD OF MEASUREMENT:

The quantity of bollards will be measured per each, installed complete, anchored to the concrete, and accepted.

672.5-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit price bid for the items listed below, which prices and payment shall be full compensation for furnishing all

materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies and incidentals necessary to complete the work.

672.6-PAY ITEM:

ITEM	DESCRIPTION	UNIT
672002-003	Site Furnishings, Bollard	Each

DRAFT

January 26, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: U341-210-0.00 00

FEDERAL PROJECT NUMBER: STBG-0210(014)D

SECTION 672
SITE FURNISHINGS, CCTV CAMERA

ADD THE FOLLOWING:

672.1-DESCRIPTION:

This work shall consist of installing CCTV Cameras on dedicated poles, which will consist of furnishing, construction, and installing of CCTV Cameras, at the locations shown on the plans.

In addition to the Plans and these Specifications, any applicable local code shall apply.

672.2-MATERIALS:

The CCTV cameras shall be Verkada CCTV cameras (https://www.verkada.com/) or similar product mounted on dedicated poles that are 20 feet in height. The CCTV cameras are to utilize PoE (Power over Ethernet). The CCTV cameras are to provide hybrid cloud base not requiring any NVR/IVR. With unlimited user access to view/manage camera provided information, and as recommended by manufacturer.

The concrete foundation and rebar shall be per WVDOT Standard Specifications, Roads and Bridges installed by Verkade.

672.3-CONSTRUCTION METHODS:

The CCTV cameras and poles shall be constructed as shown on the Plans and shall be followed as closely as actual site conditions will permit, as per manufacture recommendations.

672.4-METHOD OF MEASUREMENT:

The quantity of CCTV cameras and poles will be measured per each, installed complete, anchored to the concrete, and accepted.

672.5-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit price bid for the items listed below, which prices and payment shall be full compensation for furnishing all

materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies and incidentals necessary to complete the work.

672.6-PAY ITEM:

ITEM	DESCRIPTION	UNIT
672002-003	Site Furnishings, CCTV Camera	Each

DRAFT

~~January 26, 2024~~ October 30, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: U341-210-0.00 00

FEDERAL PROJECT NUMBER: STBG-0210(014)D

SECTION 672
SITE FURNISHING, PERMANENT DYNAMIC MESSAGE SIGN (DMS)

ADD THE FOLLOWING:

672~~0~~.1-DESCRIPTION:

The work is furnishing and maintaining new signs. In accordance to the Plans and these Specifications, any applicable local code shall apply.

672~~0~~.2-MATERIALS:

Message board displays should be a full matrix and visible at a minimum distance of 1000 feet.

Detailed catalog cuts of the Dynamic Message Sign must be submitted to the WVDOH for approval prior to purchase.

Provide capability of remote control operation of the sign via any communication medium that utilizes the ports specified, or locally via a laptop computer. Local connections to a laptop computer must facilitate routine repairs, diagnostics and all other operational functions. Provide the communications interface as a unit detached from the DMS controller to facilitate easy change out to other communications means. Provide, at a minimum, the following interfaces to the sign controller: a USB port, Ethernet port, and serial port. Equip controller with interface to accommodate a portable keyboard for inputting sign messages. Furnish portable keyboard that is compatible with the DMS controller, and deliver keyboard to location identified by the Representative. If Representative does not identify delivery location for the portable keyboard, place keyboard in the permanent DMS controller enclosure. Facilitate static and dynamic Internet Protocol (IP) network connections in addition to serial dial-up modem connection and cellular 3G data modem connection. Protect all data and electrical connections from the DMS controller using transient voltage surge suppression (TVSS) equipment.

Provide software for the control, monitoring, maintenance and operation of the permanent DMS from a remote location. Include provision in the controller software that enforces authentication of operator credentials for control of the Permanent DMS, for both local and remote

controls. Include provision in the controller firmware that disallows the display of words contained in a user-defined list of disallowed words. Provide controller to monitor and display battery voltage levels on the GUI. The controller must provide battery voltage levels at any remote monitoring location.

Provide DMS that is NTCIP compatible, supporting the following NTCIP standards:

NTCIP 1201 (v3.03b) – Global Object Definitions

NTCIP 1203 (v2.35a) – Object Definitions for Dynamic Message Signs (comply with all mandatory User Need and Protocol Requirements as specified in section 3.3.8)

NTCIP 2101 (v1.19) – Subnetwork Profile: PMPP over RS232

NTCIP 2104 (v1.11) – Subnetwork Profile: Internet

NTCIP 2201 (v1.15) – Transport Profile: Transportation

NTCIP 2202 (v1.05) – Transport Profile: Internet

Spinetix HMP 400 4K PoE Media Player or equivalent.

Contractor shall be responsible for all materials stored until final acceptance. Sort and handle materials to avoid damage and protect against weather, vandals, etc. Any damage caused during storage and handling will be the Contractor's responsibility and will be repaired or replaced as directed at no additional cost to the Owner.

The Contractor will be responsible for insuring that the materials supplied meet the specified standards. Any material not meeting these standards will be rejected and will be replaced with acceptable materials. All rejected materials shall be removed from site. No material shall be installed prior to approval from the Owner's Representative.

67~~0~~20.3-CONSTRUCTION METHODS:

Permanent DYNAMIC MESSAGE SIGN (DMS) shall be placed as shown on the Plans and shall be followed as closely as actual site conditions permit, as per manufacture recommendations (Spinetix).

Operational acceptance test will be completed upon delivery to determine the sign is complete and operational. Any deficiencies found or repairs needed would be at the contractors (Onyxx Communications) cost prior to acceptance. Acceptance test shall be as follows:

Test operation of sign, LED clusters, and perform diagnostic tests. Verify that all LED and fiber pixels are functioning from the control cabinet. Do this by following the manufacturer's testing procedure by using the keyboard and display in the DMS control cabinet. Visually ensure that all LEDs are illuminated and bright. Check batteries and add distilled water (record group voltage, split voltage, specific gravity). Check and thoroughly clean solar panels and power the battery packs. Clean surface of signs. Clean or replace filters; as determined by inspection. Test ground rods for 25 ohms or less resistance utilizing fall of potential test.

Replace power surge suppressors. Lubricate all hinges, jacks stands, mast and trailer hitches. Report all deficiencies and any critical deficiencies.

67~~0~~20.4-METHOD OF MEASUREMENT:

The quantity Dynamic Message Sign will be measured per each, installed complete, and accepted.

67~~0~~20.5-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit price bid for the items listed below, which prices and payment shall be full compensation for furnishing all

materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies and incidentals necessary to complete the work.

672~~0~~.6-PAY ITEM:

ITEM	DESCRIPTION	UNIT
672002-003	SITE FURNISHING, PERMANENT DYNAMIC MESSAGE SIGN (DMS)	Each

DRAFT

February 2, 2023

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: U341-210-0.00 00

FEDERAL PROJECT NUMBER: STBG-0210(014)D

SECTION 672
SITE FURNISHINGS, SMART BENCH

ADD THE FOLLOWING:

672.1-DESCRIPTION:

This work shall consist of installing smart benches, which will consist of furnishing and installation of a certain bench, to include all fasteners and appurtenances as specified.

The Contractor shall furnish and install the new smart benches and appurtenances as hereafter specified, all as to provide complete and fully functioning smart benches.

In addition to the Plans and these Specifications, any applicable local code shall apply.

672.2-MATERIALS:

The smart benches shall include all necessary fasteners, color, and concrete base to be selected by owner.

The concrete bases shall be per WVDOT Standard Specifications, Roads and Bridges.

The Contractor will be responsible for insuring that the materials supplied meet the specified standards. Any material not meeting these standards will be rejected and will be replaced with acceptable materials. All rejected materials shall be removed from the site. No material shall be installed prior to approval from the Owner's Representative.

The smart bench should provide and or meet the following requirements:

- The smart bench should provide seating for at least two persons.
- The smart bench should provide electrical outlets and wireless charging stations allowing several electronic devices to be connected and charging at the same time.
- The smart bench should provide a programmable, full color digital display
- The smart bench should provide nighttime lighting that illuminates the smart bench that is activated and deactivated based on a light sensor and a physical fallback switch.
- The smart bench should provide general covering from the elements and sunshine, over all of the smart bench's usable area.

- The smart bench should be self-powered using an at least 12V DC solar panel and internal battery system.

672.3-CONSTRUCTION METHODS:

The smart benches shall be constructed as shown on the Plans and as detailed, located as shown on the plans, as per manufacture recommendations.

The bedding and concrete base, if necessary, shall be constructed per WVDOT Standard Specifications, Roads and Bridges.

An operational acceptance test will be completed upon delivery to determine the smart bench is complete and operational. Any deficiencies found or repairs needed would be at the contractor's cost prior to acceptance. Acceptance test shall be as follows:

- Test operation of digital display.
- Verify that the digital display is functioning by following the manufacturer's testing procedures.
- Check and thoroughly clean the solar panel and power the batteries.
- Verify that any batteries are working.
- Verify that the solar panel is functioning by following the manufacturer's testing procedures.
- Verify that all of the electrical charging stations, plug-in and wireless, are functioning by following the manufacturer's testing procedures.
- Clean the surface of the smart bench and the digital display.

672.4-METHOD OF MEASUREMENT:

The quantity of smart benches will be measured per each, installed complete, anchored to the concrete, and accepted.

672.5-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit bid price for the items listed below, which prices and payments shall be full compensation for furnishing all materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, and incidentals necessary to complete the work.

672.6-PAY ITEM:

ITEM	DESCRIPTION	UNIT
672002-003	Site Furnishings, Smart Bench	Each

DRAFT

January 26, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: U341-210-0.00 00

FEDERAL PROJECT NUMBER: STBG-0210(014)D

SECTION 672
SITE FURNISHINGS, SOLAR LIGHT POLE

ADD THE FOLLOWING:

672.1-DESCRIPTION:

This work shall consist of installing solar light poles, which will consist of furnishing, construction, and installing of solar light poles, at the locations shown on the plans.

In addition to the Plans and these Specifications, any applicable local code shall apply.

672.2-MATERIALS:

The solar light poles shall be 11.5 feet in height Plantation & Oakland Solar Pedestrian Light or similar product. The Light poles needs to provide a minimum 2600 Lumens. The Light poles shall be aluminum with Powder Coating protection.

The concrete foundation and rebar shall be per WVDOT Standard Specifications, Roads and Bridges.

672.3-CONSTRUCTION METHODS:

The solar light poles shall be constructed as shown on the Plans and shall be followed as closely as actual site conditions will permit, as per manufacture recommendations.

672.4-METHOD OF MEASUREMENT:

The quantity of solar light poles will be measured per each, installed complete, anchored to the concrete, and accepted.

672.5-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit price bid for the items listed below, which prices and payment shall be full compensation for furnishing all materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies and incidentals necessary to complete the work.

672.6-PAY ITEM:

ITEM	DESCRIPTION	UNIT
672002-003	Site Furnishings, Solar Light Pole	Each

DRAFT

February 2, 2023

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: U341-210-0.00 00

FEDERAL PROJECT NUMBER: STBG-0210(014)D

SECTION 672
SITE FURNISHINGS, TRASH RECEPTACLE

ADD THE FOLLOWING:

672.1-DESCRIPTION:

This work shall consist of installing trash receptacles, which will consist of furnishing and installation of a certain trash receptacle, to include all fasteners, ground anchors, and appurtenances as specified.

The Contractor shall furnish and install the new trash receptacles and appurtenances as hereafter specified, all as to provide a complete and fully functioning trash receptacle.

672.2-MATERIALS:

The trash receptacles shall be a Midtown 22 gal., MT3-22 by Keystone Ridge Designs, to include all necessary fasteners and base, color to be selected by owner.

672.3-CONSTRUCTION METHODS:

The trash receptacles shall be constructed as shown on the Plans and as detailed, located in the sidewalk area as shown on the plans, as per manufacture recommendations.

672.4-METHOD OF MEASUREMENT:

The quantity of trash receptacles will be measured per each, installed complete, anchored to the concrete, and accepted.

672.5-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit bid price for the items listed below, which prices and payments shall be full compensation for furnishing all materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, and incidentals necessary to complete the work.

DRAFT

672.6-PAY ITEM:

ITEM	DESCRIPTION	UNIT
672002-003	Site Furnishings, Trash Receptacle	Each

DRAFT

~~February 2, 2023~~ September 16, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: U341-210-0.00 00

FEDERAL PROJECT NUMBER: STBG-0210(014)D

SECTION 672
CONCRETE STAIN

ADD THE FOLLOWING:

672.1-DESCRIPTION:

This work shall consist of applying penetrating concrete stain to concrete surfaces.

672.2-MATERIALS:

Provide penetrating stain mix color as indicated on the Contract Drawings.

Stain is to create a finish that is breathable and resists deterioration from water, acid, alkali, fungi, sunlight or weathering.

Concrete sealer to be used as recommended by manufacturer.

672.3-CONSTRUCTION METHODS:

Prepare a test area minimum 2 by 2 feet in size to verify suitability of the stain, sealer and final appearance.

Clean the surface of the concrete of all dirt, dust, grease, efflorescence and any foreign material prior to the stain application. Do not sandblast for cleaning concrete surfaces. Pressure washing with water is the preferred method. Ensure that the completed surface is free of discoloration and substantial surface voids to the satisfaction of the Inspector.

When applying the stain, strictly comply with manufacturer's installation recommendations and limits shown on the Contract Drawings. Do not apply penetrating stain when climate and concrete conditions are outside of manufacturer specification.

Protect adjacent areas from over-spray, runoff, spills and tracking prior to application as specified by manufacturer.

After concrete stain has dried at rate recommend by manufacturer, clean surface as recommended by manufacturer and apply concrete sealer with manufacturer's installation recommendations.

While drying, do not cover but protect concrete area from paint and other contaminates that could inhibit the stain.

672.4-METHOD OF MEASUREMENT:

The quantity of Concrete Stain shall be paid for by Square Yards (SY).

Concrete Sealer to be incidental to the cost of Concrete Stain.

672.5-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit bid price for the items listed below, which prices and payments shall be full compensation for furnishing all materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, and incidentals necessary to complete the work.

672.6-PAY ITEM:

ITEM	DESCRIPTION	UNIT
672002-006	Site Furnishings, Concrete Stain	Square Yard

DRAFT

September 16, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: U341-210-0.00 00

FEDERAL PROJECT NUMBER: STBG-0210(014)D

SECTION 672
SITE FURNISHINGS, PAVERS

ADD THE FOLLOWING:

672.1-DESCRIPTION:

This work shall consist of installing all specialty pavers in the intersections, and in crosswalks, which will consist of furnishing and installing of pavers, to include concrete base and setting bed, at the locations shown on the plans.

In addition to the Plans and these Specifications, any applicable local code shall apply.

672.2-MATERIALS:

The Specialty Pavers shall be applied as Detailed, and as recommended by the manufacturer, following the layout design on the Plans, and shall be as per PaverArt Enterprises, LLC, www.paverart.com (phone: 856-783-7000), or approved equal.

The concrete base beneath the specialty pavers shall be a concrete base over crushed stone sub-base, with asphalt setting bed, per details provided on plans, and per WVDOT Standard Specifications, Roads and Bridges.

672.3-CONSTRUCTION METHODS:

The Specialty Pavers shall be fabricated offsite and delivered to the project location, constructed as shown, dimensioned, and detailed on the Plans and shall match installation schematics of designs provided in the packaging materials, as per manufacture recommendations. Shop Drawings are to be provided for approval prior to construction/installation.

672.4-METHOD OF MEASUREMENT:

The quantity of Pavers will be measured per Square Yard (SY), installed complete, set into the setting bed on the concrete base, smooth within manufacture tolerances, and as accepted.

672.5-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit price bid for the items listed below, which prices and payment shall be full compensation for furnishing all materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies and incidentals necessary to complete the work.

672.6-PAY ITEM:

ITEM	DESCRIPTION	UNIT
672002-006	Site Furnishings, Pavers	Square Yard

DRAFT

September 16, 2024

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROJECT SPECIFIC SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: U341-210-0.00 00

FEDERAL PROJECT NUMBER: STBG-0210(014)D

SECTION 672
PHOTOLUMINESCENT PAINT

ADD THE FOLLOWING:

672.1-DESCRIPTION:

This work shall consist of furnishing and installing various types of Photoluminescent pavement markings. It shall include, but is not limited to, edge lines, lane lines, center lines, channelizing lines, intersection markings, stripes, curb markings, island markings, and raised markers, or combinations thereof, in accordance with Contract plans and the following specifications or as directed by the Engineer.

672.2-MATERIALS:

The pavement markings on the project shall be photoluminescent paint.

672.3-CONSTRUCTION METHODS:

The Contractor shall clean all debris from the surface to be marked by means of a power broom, compressed air or other mechanical means to the satisfaction of the Engineer. Markings and markers shall be applied only when the surface is clean and dry and when ambient and other roadway conditions are within any specified requirements herein. If pavement markings are included in the contract, they shall be applied in a timely manner and in the patterns directed by the Plans or pavement marking standards. All materials shall be applied as recommended by the material manufacturer. This shall include surface pre-treatment, if required.

The photoluminescent paint shall be installed/placed according to the manufacturer: LuminoKrom® - Photoluminescent paint (https://www.luminokrom.com/en/) or approved equal.

672.4-METHOD OF MEASUREMENT:

The quantity of photoluminescent paint will be measured per Square Yard (SY)~~LF~~, installed complete, and accepted.

672.5-BASIS OF PAYMENT:

The quantities, determined as provided above, will be paid for at the contract unit bid price for the items listed below, which prices and payments shall be full compensation for furnishing all materials and doing all the work prescribed in a workmanlike and acceptable manner, including all labor, tools, equipment, supplies, and incidentals necessary to complete the work.

672.6-PAY ITEM:

ITEM	DESCRIPTION	UNIT
672002-006	Site Furnishings, Photoluminescent Paint	Square Yard~~LF~~

DRAFT

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

SECTION 695
MAINLINE PAVEMENT

695.1-DESCRIPTION:

This Special Provision shall define the requirements to construct mainline pavement, which includes roadway pavement and full depth paved shoulders, to the limits as shown by the contract plans. The contractor shall construct one of the pavement systems as described herein and by the contract plans.

Asphalt Pavement System:

An asphalt pavement system shall be constructed as defined by the asphalt typical section(s) and all other documents referenced in the contract plans. This work and materials shall include asphalt wearing surface, asphalt base courses, free draining base, fabric for separation, subgrade, and subgrade preparation. The pay items, as shown on the typical section(s) of the contract plans, define the specification for the materials, pay adjustments and workmanship only.

Concrete Pavement System:

A concrete pavement system shall be constructed as defined by the concrete typical section(s) and all other documents referenced in the contract plans. This work and materials shall include jointed plain concrete pavement, free draining base, fabric for separation, subgrade, and subgrade preparation. The pay items, as shown on the typical section(s) of the contract plans, define the specification for the materials, pay adjustments, and workmanship only.

695.2-RESTRICTIONS:

The pavement system, selected by the Contractor, shall be the complete system as shown by the typical section(s) in the contract plans.

The entire “Mainline Pavement System” shall be constructed by a single pavement system.

No change in pavement system will be permitted once the paving operation has commenced.

DRAFT

695.3-ADJUSTMENTS:

695.3.1-Material Adjustments:

695.3.1.1-Asphalt Adjustment: This Special Provision shall make use of the latest version of the Standard Specifications, Supplemental Specifications, and applicable Special Provisions for asphalt adjustments, except as described by this special provision.

The proposed Job Mix Formula (JMF) submitted by the contractor, as described in Subsection 401.4.2, shall provide the quantity of asphalt cement, per square yard- inch (SY-IN), for each JMF. The asphalt adjustment shall be based on the lots used for thickness verification. If the pavement section is determined to be less than plan, the ratio of the average thickness to the plan thickness shall be applied to the asphalt cement quantity, for the lot considered for adjustment.

The bidding index (Ib) and the placement index (Ip) may be found posted at the Department Of Transportation's website Contract Administration's Lettings page: https://transportation.wv.gov/Highways/Contractadmin/Lettings/Pages/FuelandAsphaltPrices.aspx#AsphaltPrices

695.3.1.2-Cement Adjustment: The compensation for the quantity of Portland cement used in the Concrete Pavement System shall be adjusted based on the latest published price, in dollars per ton, for Portland Cement (Type I) quoted for the average of Cincinnati and Pittsburgh in the Engineering News Record (ENR), Construction Economics Section available at the ENR website: https://www.enr.com/economics using the posted price as published on Wednesday prior to the first day of the month, with the effective date of the index being the first day of the month. If the Wednesday prior to the first day of the month falls on a holiday or the price is otherwise not published for that date the index prices will be based on the next earliest date reported.

The adjustment shall apply regardless of an increase or decrease in the published price as described above. The contract items listed in the Proposal in the Table Of Materials To Be Adjusted For Price Of Portland Cement At The Time Of Placement will be adjusted in accordance with the Division's indices for Portland Cement.

The placement index (Ip) will be the price in effect for the first day of the month in which the specified adjustable material was actually placed. Both the bidding index (Ib) and the placement index (Ip) will be based on the average of the posted prices described above.

The bidding Portland cement index (Ib) and the placement cement index (Ip) may be found posted at the Department Of Transportation's website Contract Administration's Lettings page:

http://www.transportation.wv.gov/Highways/Contractadmin/Lettings/Pages/FuelandAsphaltPrices.aspx#CementPrices.

Any dispute concerning the bidding index shall be resolved during the first voucher estimate review.

695.3.1.3-Price Adjustment Formula: The portion of the contract unit price which reflects the cost of the specified material will be adjusted for the change in accordance with the following formula:

DRAFT

Asphalt
Pa = Q*AC*(Ip – Ib)

Concrete
Pa = Q*Wc*Tadj*(Ip – Ib)

Where:

Pa	=	*Price Adjustment*
Ip	=	*Price Index at time of placement*
Ib	=	*Price Index for Bidding*
Q	=	*"As Constructed" Quantity (converted to CY for Cement Adj.) (converted to TN for Asphalt Adj.)*
AC	=	*Asphalt Content (see Specifications, Table 109.10.1)*
Wc	=	*tons cement per cubic yard from approved mix design*
Tadj	=	*(t_{avg}) / (t_{plan}) as per 695.3.1.3*

The price index for determining price adjustments for all work performed after the contract completion date, as revised by approved time extensions, will be determined as follows: The price index (Ip) shall be for the first day of the month in which the contract completion date (as extended), or the price index for first day of the month in which the work was performed, whichever is less.

The quantity of fly ash substitution shall not be included in the quantity eligible for adjustment.

The Portland cement adjustment shall be based on the lots used for thickness verification. If the pavement section is determined to be less than plan, the ratio of the average thickness to the plan thickness shall be applied to the Portland cement quantity, for the lot considered for adjustment.

695.3.2-Smoothness Adjustments: The smoothness for the chosen system of Mainline Pavement shall meet the criteria established in Section 720.

695.3.3-Fuel Adjustments:

695.3.3.1-Subgrade and Free Draining Base: Any fuel adjustment for these items shall be applied directly to the subgrade and free draining base layers of the pavement section as per the table in Section 109.9 of the Standard Specifications. The quantities shall be determined by the cubic yard (CY) calculation that was placed for the respective items in a given month applying the specifications formulas accordingly.

695.3.3.2-Pavement System: The Contractor shall include the unit weight per SY-IN of the pavement system placed (excluding subgrade and free draining base) for the conversion to the Fuel Adjustment as described in Subsection 109.9 *Table Of Materials To Be Adjusted And Cost Adjustment Factors For Diesel Fuel Usage*. For this adjustment the total square yardage will be the measured quantity accepted and the thickness in inches will be based upon the lots as established for thickness verification. If the pavement section

DRAFT

is determined to be less than plan, the ratio of the average thickness to the plan thickness shall be applied to the Fuel Adjustment quantity, for the lot considered for adjustment.

695.3.4-Percent Within Limits (PWL) Adjustments: Section 410 requires pay adjustments for each lift of asphalt, which is based on the bid cost of the individual lift pay item. To determine this, the following equation will be used:

Theoretical lift payment per SY used for 410 pay adjustments = (695 pay item) x 0.72 x (thickness of lift / total pavement thickness)

695.4-METHOD OF MEASUREMENT:

The quantity of Mainline Pavement to be paid for will be the number of square yards (meters) complete in place and accepted. The width for measurement will be the width of the pavement shown on the surface of the typical cross section of the Plans and additional widening where called for or as otherwise directed in writing by the Engineer. This width shall be verified by field measurements. Widths exceeding the plan dimensions shall not be paid for. The length will be measured on the surface along the centerline of each roadway ramp.

Bridge approach expansion joints will be measured separately and shall be the actual number of joints constructed, complete in place and accepted. Intersection pavement, radius returns, left and right turning lanes (including tapers), will be field verified and paid for at the completion of the project paid for in the last progress payment that includes payment for any additional pavement directed by the Engineer.

Mainline Pavement is to be placed on all side roads up to the edge of the radius return furthest from the edge of mainline traveled way as shown by the detail in the plans.

All testing and pay adjustments in each pavement section will be according to their appropriate specifications.

695.5-BASIS OF PAYMENT:

695.5.1-General: The quantities, determined as provided above, will be paid for at the contract unit prices less adjustments referred to below, which shall constitute full compensation for furnishing all materials as described in the item's specification and all labor, equipment, tools, field laboratory, supplies and incidentals necessary to complete the work.

695.5.2-Progress Payments: The Progress Payment Schedule shall be based upon the pavement system as shown below. This schedule is intended to compensate the contractor for the material and work accepted.

2 – Lane Roadway [L_T = 4 x project length] Project Length as defined on title sheet.
4 – Lane Roadway [L_T = 8 x project length**]**

DRAFT

695.5.2.1-Asphalt Pavement System:

MATERIAL IN PLACE	VALUE	L_P / L_T	Q (SY)	SUBTOTAL (SY) = Value x (L_P / L_T) x Q
HMA Mainline Pavement	**0.72**			
Free Drain. Base	**0.12**			
Fabric	**0.02**			
Subgrade	**0.12**			
Subgrade Prep.	**0.02**			
Total Progress Payment				**(SY)**

Where:

Q = Total Bid Quantity (SY)
L_P = Length placed and accepted (Ft)
L1 = A constructed length of asphalt pavement at a thickness of t_1 x L_1= ft-in
t_1 = A proposed thickness of specified lift (in)
L_T = Total Lane Lengths (Ft) for the varying widths of different lifts (lanes & shoulders)
t_T = Total Pavement Thickness (in) per Typical Section(s)

HMA **L_p/L_T** shall be calculated as follows:

$$\frac{L_1 t_1 + L_2 t_1 + L_3 t_3 \ldots}{L_T t_T}$$

Where 1, 2, 3... Represent the different lifts as shown on the typical section(s)

695.5.2.2-Concrete Pavement System:

MATERIAL IN PLACE	VALUE	L_P / L_T	Q (SY)	SUBTOTAL (SY) = Value x (L_P / L_T) x Q
PJCP Mainline Pavement	**0.72**			
Free Drain. Base	**0.12**			
Fabric	**0.02**			
Subgrade	**0.12**			
Subgrade Prep.	**0.02**			
Total Progress Payment				**(SY)**

Where:

Q = Total Bid Quantity (SY)
L_P = Length placed and accepted (Ft)
L1 = A constructed length of Cement pavement at a thickness of t_1 x L_1= ft^2
t_1 = A proposed thickness of specified lift (in)
L_T = Total Lane Lengths (Ft) for the varying widths of different lifts (lanes & shoulders)
t_T = Total Pavement Thickness (in) per Typical Section(s)

PJCP **L_p/L_T** = Length Placed/Length Total

DRAFT

~~695.6 THICKNESS TESTING:~~

~~The measurements which represent the thickness of the sampling units shall be analyzed to determine the average value of the pavement thickness. T=Pavement Thickness, all of the Pavement System above the Free Draining Base. This value will be used to determine the degree of compliance with the provisions set forth in 501.19 and to develop certain factors to be used in the derivation of equitable deductions as set forth in 501.23.1.2 and 501.23.1.3, in the event the provisions of this Specification are not met. When Scratch Course is called for on the plans, "T" shall be as defined above plus ½ inch.~~

~~No payment will be made for pavement areas that are 0.922T or less in thickness, the area being defined in the manner set forth in 501.19.2. Pavement which is deficient in thickness by more than 0.7 inches (18 mm) and is considered by the Engineer to be inadequate to perform satisfactorily shall be removed and replaced at no added cost to the Division. The balance of the item, the portion of the item not treated in the manner set forth above, will be treated in the manner set forth in 501.23.1.2 or 501.23.1.3.~~

~~695.6.1~~ ~~When the average value of the pavement thickness is equal to or greater than the specified thickness, the quantity of pavement represented by this average thickness will be paid at the contract unit price. No additional compensation will be provided for pavement thicknesses greater than as shown by the typical section(s).~~

~~695.6.2~~ ~~When the average value of the pavement thickness is less than the specified thickness, the fraction of pavement having a thickness greater than the 0.922T will be paid for at a unit price as set forth in the following schedule, and no payment will be made for the remainder of the pavement being considered.~~

~~SCHEDULE OF UNIT PRICES~~	
~~AVERAGE VALUE OF PAVEMENT THICKNESS (inch)~~	**~~UNIT PRICE AS PERCENT OF CONTRACT UNIT PRICE~~**
~~0.01 to 0.10 Less Than Specified Thickness~~	~~98.0~~
~~0.11 to 0.20 Less Than Specified Thickness~~	~~96.0~~
~~0.21 to 0.30 Less Than Specified Thickness~~	~~94.0~~
~~0.31 to 0.40 Less Than Specified Thickness~~	~~92.2~~
~~0.41 to 0.50 Less Than Specified Thickness~~	~~90.3~~
~~0.51 to 0.60 Less Than Specified Thickness~~	~~88.4~~
~~0.61 to 0.70 Less Than Specified Thickness~~	~~86.5~~
~~More Than 0.70 Less Than Specified Thickness~~	~~0~~

695.~~7~~6-PAY ITEMS:

ITEM	DESCRIPTION	UNIT
695001-002	Mainline Pavement – Asphalt System	Square Yard~~ (Meter)~~
695001-003	Mainline Pavement – Concrete System	Square Yard~~ (Meter)~~